# ISCAR **TURNING** LINES

Metric Catalog




## TURNING INDUSTRY4.0 INTELLIGENTLY



ISO TURNING | GROOVING | PARTING | FACE GROOVING | TOOL BLOCKS | THREADING | TOOL HOLDERS | GRADES

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# ISOTURN
# TOOLS AND INSERTS



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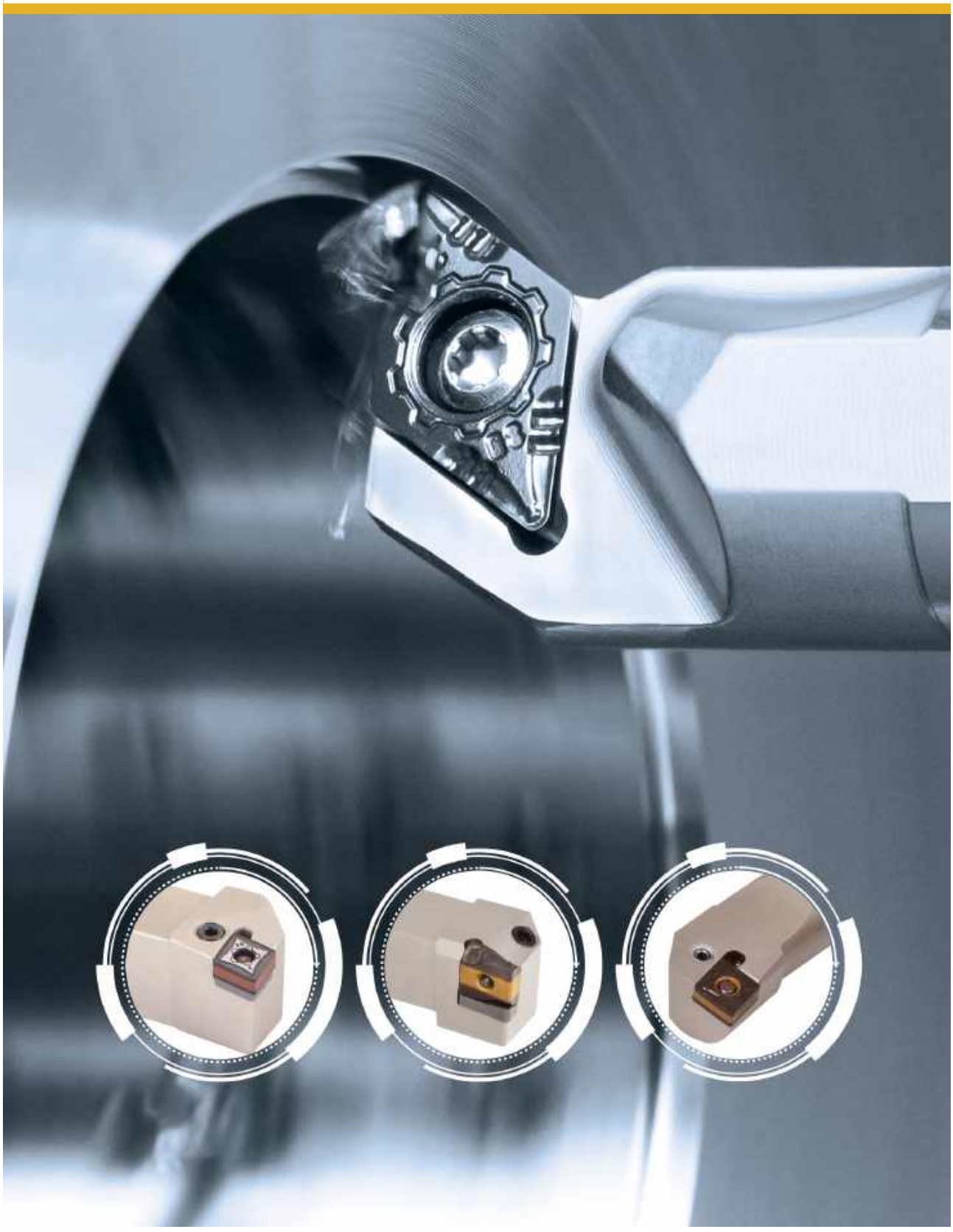
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# ISOTURN TOOLS



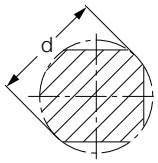
## Toolholder Identification System

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Toolholder | | | | M | W | L | N | R | 25 | 25 | M | - | 08 | W | | |
| | | | | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 3 | | 11 | 12 | | |
| Boring Bar | S | 25 | S | M | W | L | N | R | | | | - | 08 | W | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | | 11 | 12 | | |

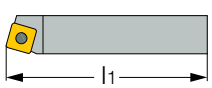
### 1 Boring Bar

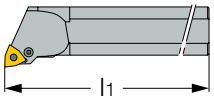
| | |
|---|---|
| S | Steel Shank |
| A | Coolant Through Steel Shank |
| C | Solid Carbide Shank |
| E | Coolant Through Carbide Shank |

### 2 Bar Diameter



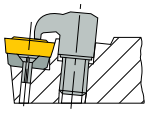
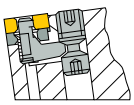
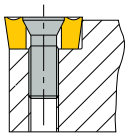
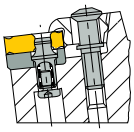
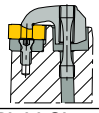

### 3 Tool Length



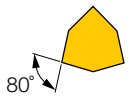
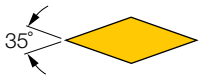
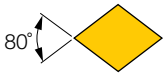
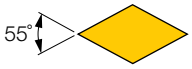
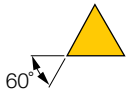
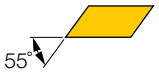




| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| A | = | 32 | H | = | 100 | Q | = | 180 |
| B | = | 40 | J | = | 110 | R | = | 200 |
| C | = | 50 | K | = | 125 | S | = | 250 |
| D | = | 60 | L | = | 140 | T | = | 300 |
| E | = | 70 | M | = | 150 | U | = | 350 |
| F | = | 80 | N | = | 160 | V | = | 400 |
| G | = | 90 | P | = | 170 | W | = | 450 |
| | | | | | | Y | = | 500 |
| | | | | | | X | = | Special |

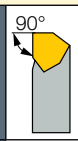
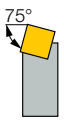
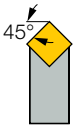
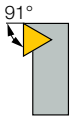
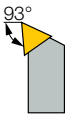
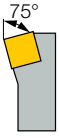
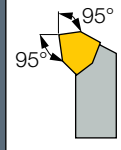
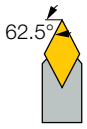
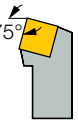
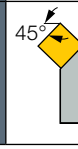
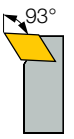
### 4 Clamping System

| | | | |
|---|---|---|---|
| C |  Top Clamp Iscadex | P |  Lever Lock |
| S |  SC-Screw Clamping | M...W |  Top Wedge Lock |
| D |  Rigid Clamp | | |

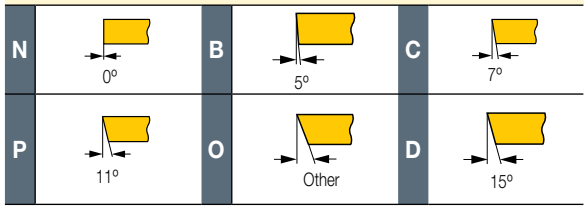
### 5 Insert Shape

| | | | |
|---|---|---|---|
| W |   | V |   |
| C |   | D |   |
| T |   | S |  |
| R |  | K |   |
| L |   | Q |   |

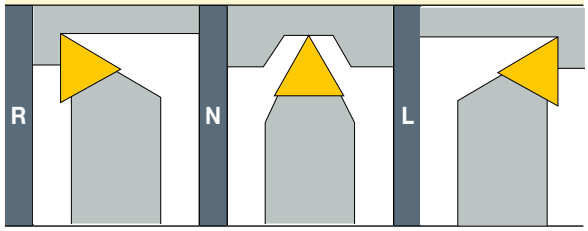
### 6 Approach Angle

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A |   | B |   | D |   | E |   |
| F |   | G |   | J |   | K |   |
| L |    | N |   | Q |   | R |   |
| S |   | U |   | V |   | X |   |

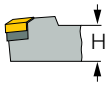
## 7 Insert Clearance Angle



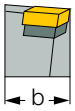

## 8 Hand of Tool




## 9 Shank Height

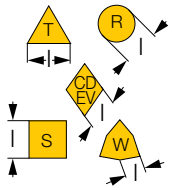



## 10 Shank Width

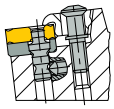
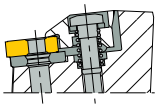



## 11 Insert Size

Cutting edge length

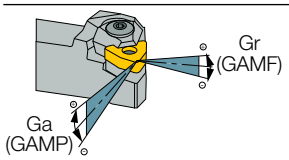
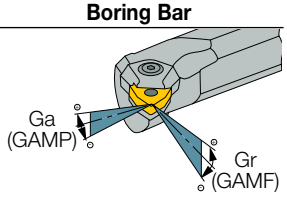



## 12 Wedge Lock

| W-Top wedge | MW-Multi-wedge |
|---|---|
|  |  |

S- for Swiss-type machines

## Axial Ga and Radial Gr Rake angles

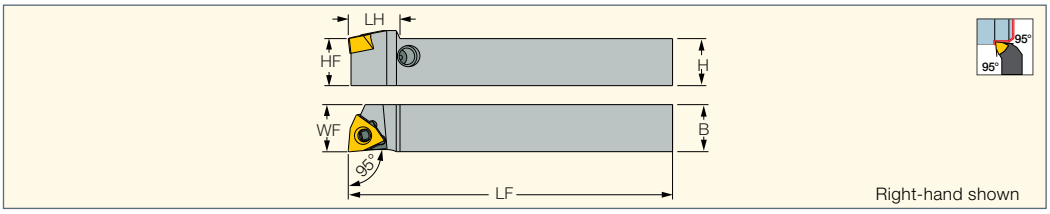
| Toolholder | Boring Bar |
|---|---|
|  |  |

# External Tools

ISOTURN

## PWLNR/L-S

Lever Lock External Turning Tools Carrying WNGP 0403.. Double-Sided Trigon Inserts




| Designation | H | HF | B | LF | LH | WF | Insert | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PWLNR/L 1010X-04S | 10.0 | 10.0 | 10.0 | 120.00 | 11.0 | 10.00 | WNGP 04 | SR 10400611 | HW 2.0/5 | SL LV-2 | SL PI-2 PIN |
| PWLNR/L 1212F-04S | 12.0 | 12.0 | 12.0 | 85.00 | 11.0 | 12.00 | WNGP 04 | SR 10400611 | HW 2.0/5 | SL LV-2 | SL PI-2 PIN |
| PWLNR/L 1212X-04S | 12.0 | 12.0 | 12.0 | 120.00 | 11.0 | 12.00 | WNGP 04 | SR 10400611 | HW 2.0/5 | SL LV-2 | SL PI-2 PIN |
| PWLNR/L 1616X-04S | 16.0 | 16.0 | 16.0 | 120.00 | 13.0 | 16.00 | WNGP 04 | SR 10400611 | HW 2.0/5 | SL LV-2 | SL PI-2 PIN |

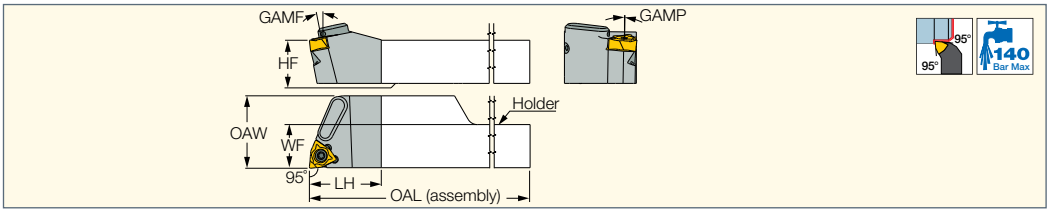
- Use a left-hand insert on a right-hand tool and vice versa.

**Inserts:** WNGP-F2M • WNGP-F2P

NEOSWISS INDEXABLE HEADS
MINIPTURN POSITIVE DOUBLE SIDED

## NQCH-SWLNR/L-S-JHP

Screw Lock Modular Heads with High-Pressure Coolant - Positive Double-Sided Trigon Inserts for SwissType Machines




| Designation | WF | HF | LH | OAL | OAW | GAMP | GAMF | Insert |
|---|---|---|---|---|---|---|---|---|
| NQCH12-SWLNR/L-04S-JHP | 12.15 | 12.0 | 20.0 | 120.00 | 20.15 | 11.0 | 1.0 | WNGP.. 0403 |
| NQCH16-SWLNR/L-04S-JHP | 16.15 | 16.0 | 20.0 | 120.00 | 20.15 | 11.0 | 1.0 | WNGP.. 0403 |

For user guide, see pages 6-7, 78-84

**Holders:** NQCH-JHP

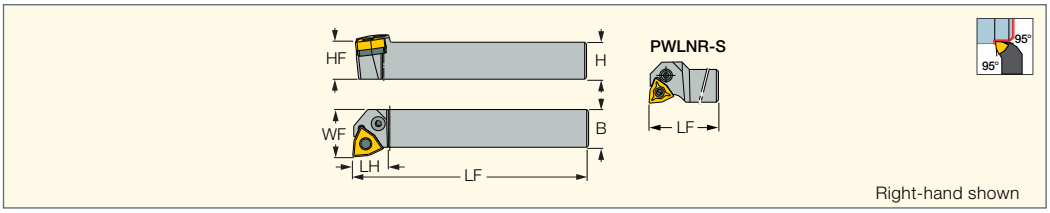
### Spare Parts

| Designation | | |
|---|---|---|
| NQCH-SWLNR/L-S-JHP | SR 34-514 | T-7/5 |

ISOTURN

## PWLNR/L

Lever Lock External Turning Tools Carrying 80° Negative Trigon Inserts




| Designation | H | HF | B | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|---|
| PWLNR/L 1616H-06 | 16.0 | 16.0 | 16.0 | 100.00 | 16.0 | 20.00 | WN..06T3 |
| PWLNR/L 1616H-06S (1) | 16.0 | 16.0 | 16.0 | 100.00 | 20.3 | 16.00 | WN..06T3 |
| PWLNR/L 2020K-06 | 20.0 | 20.0 | 20.0 | 125.00 | 20.0 | 25.00 | WN..06T3 |
| PWLNR/L 2525M-06 | 25.0 | 25.0 | 25.0 | 150.00 | 20.0 | 32.00 | WN..06T3 |
| PWLNR/L 2020K-08 | 20.0 | 20.0 | 20.0 | 125.00 | 19.0 | 25.00 | WN..0804 |
| PWLNR/L 2525M-08 | 25.0 | 25.0 | 25.0 | 150.00 | 20.5 | 32.00 | WN..0804 |
| PWLNR/L 3232P-08 | 32.0 | 32.0 | 32.0 | 170.00 | 19.0 | 40.00 | WN..0804 |

(1) Can be used on automatics

**Inserts:** WNMG-F3S • WNMG-F3P • WNMG-M3P • WNMG-F3M • WNMG-M3M • WNMG-TF • WNMG-GN • WNMG-NR • WNMG-PP • WNMG-VL • WNMG-TNM • WNMG-SF • WNMG-NF • WNMM-NM • WNMG-WF • WNMA/WNMA-WG • WNMG-WG • WNGA-Ceramic • WNGA-M3 (CBN) • WNGA-MC/M6 (CBN) • WNMG-CERMET

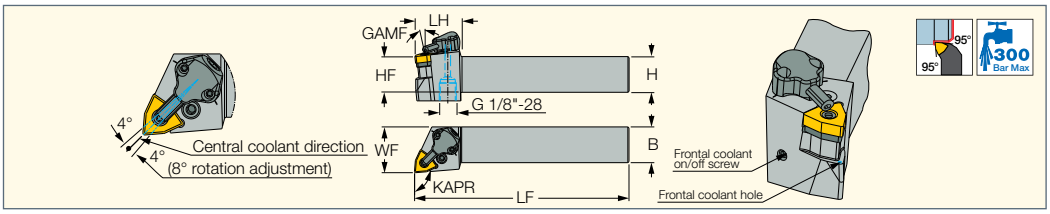
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| PWLNR/L 1616H-06 | TWN 322 | SP 3 | PN 3-4 | HW 2.5/5 | SR 117-2014 | LR 3 |
| PWLNR/L 1616H-06S | TWN 322 | SP 3 | PN 3-4 | HW 2.5/5 | SR 117-2014 | LR 3 |
| PWLNR/L 2020K-06 | TWN 322 | SP 3 | PN 3-4 | HW 2.5/5 | SR 117-2014 | LR 3 |
| PWLNR/L 2525M-06 | TWN 322 | SP 3 | PN 3-4 | HW 2.5/5 | SR 117-2014 | LR 3 |
| PWLNR/L 2020K-08 | TWN 423 | SP 4 | PN 3-4 | HW 3.0 | SR 117-2010 | LR 4 |
| PWLNR/L 2525M-08 | TWN 423 | SP 4 | PN 3-4 | HW 3.0 | SR 117-2010 | LR 4 |
| PWLNR/L 3232P-08 | TWN 423 | SP 4 | PN 3-4 | HW 3.0 | SR 117-2010 | LR 4 |

ISOTURN JETCUT

## PWLNR/L-08-JHP

Lever Lock Tools with Channels for High-Pressure Coolant Carrying Trigon Inserts




| Designation | H | HF | B | LF | LH | WF | GAMF | Insert |
|---|---|---|---|---|---|---|---|---|
| PWLNR/L 2525M-08-JHP | 25.0 | 25.0 | 25.0 | 150.00 | 33.0 | 32.00 | -6.0 | WNMG 0804.. |
| PWLNL 3232P-08-JHP | 32.0 | 32.0 | 32.0 | 170.00 | 33.0 | 40.00 | -6.0 | WNMG 0804.. |
| PWLNR 3232P-08-JHP | 32.0 | 32.0 | 32.0 | 170.00 | 33.0 | 40.00 | -6.0 | WNMG 0804 |

• For user guide, see pages 78-84

**Inserts:** WNMG-CERMET • WNMG-F3S • WNMG-F3P • WNMG-M3P • WNMG-F3M • WNMG-M3M • WNMG-TF • WNMG-GN • WNMG-NR • WNMG-PP • WNMG-VL • WNMG-TNM • WNMG-NF • WNMM-NM • WNMG-WF • WNMA/WNMA-WG • WNMG-WG • WNGA-Ceramic • WNGA-M3 (CBN) • WNGA-MC/M6 (CBN)

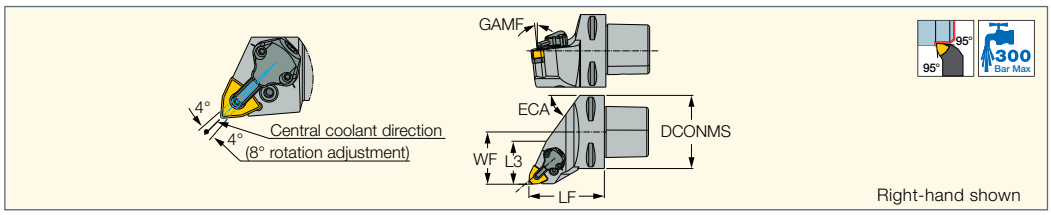
### Spare Parts

| Designation | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PWLNR/L 2525M-08-JHP | TWN 423 | SP 4 | PN 3-4 | LR 4 | SR 117-2010 | SR M4X4 DIN913 TL360 | OR 6.4X0.9N | CU-CW-JHP | HW 2.0 | HW 3.0 | T-8/5 |
| PWLNR/L 3232P-08-JHP | TWN 423 | SP 4 | PN 3-4 | LR 4 | SR 117-2010 | SR M4X4 DIN913 TL360 | OR 6.4X0.9N | CU-CW-JHP | HW 2.0 | HW 3.0 | T-8/5 |

ISOTURN JETCUT CAMFIX

## C#-PWLNR/L-08-JHP

Lever Lock Tools with CAMFIX Exchangeable Shanks and Channels for High-Pressure Coolant Carrying Trigon Inserts




| Designation | DCONMS | WF | OHN(1) | L3 | ECA | GAMF | Insert | CDI(2) | CP(3) |
|---|---|---|---|---|---|---|---|---|---|
| C6 PWLNR/L-45065-08-JHP | 63.00 | 45.00 | 65.00 | 37.00 | 55.0 | -6.0 | WNMG 08.. | 1 | 300 |

• For user guide, see pages 78-84

(1) Minimum overhang

(2) 1 - Hole for data chip, 0 - Without hole for data chip

(3) Coolant pressure (Bar)

**Inserts:** WNGG-F3N • WNMG-CERMET • WNMG-F3S • WNMG-F3P • WNMG-M3P • WNMG-F3M • WNMG-M3M • WNMG-TF • WNMG-GN • WNMG-NR • WNMG-PP • WNMG-VL • WNMG-TNM • WNMG-SF • WNMG-NF • WNMM-NM • WNMG-WF • WNMA/WNMA-WG • WNMG-WG • WNGA-Ceramic • WNGA-M3 (CBN) • WNGA-MC/M6 (CBN)

### Spare Parts

| Designation | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| C#-PWLNR/L-08-JHP | TWN 423 | SP 4 | LR 4 | SR 117-2010 | T-8/5 | PN 3-4 | CU-CW-JHP | OR 6.4X0.9N | HW 3.0 | LR 4DHTL (MR INJ)* |

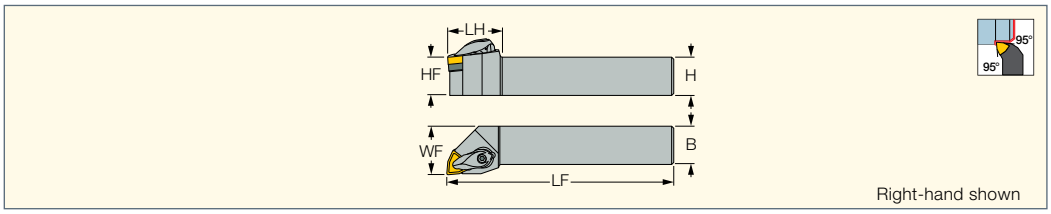
* Optional, should be ordered separately



ISOTURN

## DWLNR/L

External 95° Lead Tools Carrying Negative WNMG Trigon Inserts




| Designation | H | HF | B | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|---|
| DWLNR/L 1616H-06 | 16.0 | 16.0 | 16.0 | 100.00 | 26.0 | 16.00 | WNMG 0604 |
| DWLNR/L 2020K-06 | 20.0 | 20.0 | 20.0 | 125.00 | 26.0 | 25.00 | WNMG 0604 |
| DWLNR/L 2525M-06 | 25.0 | 25.0 | 25.0 | 150.00 | 24.0 | 32.00 | WNMG 0604 |
| DWLNR/L 2020K-08 | 20.0 | 20.0 | 20.0 | 125.00 | 35.0 | 25.00 | WNMG 0804 |
| DWLNR/L 2525M-08 | 25.0 | 25.0 | 25.0 | 150.00 | 35.0 | 32.00 | WNMG 0804 |
| DWLNR/L 3232P-08 | 32.0 | 32.0 | 32.0 | 170.00 | 35.0 | 40.00 | WNMG 0804 |

**Inserts:** WNMG-F3S • WNMX-M3/4MW • WNMX-M3/4PW • WNMG-F3P • WNMG-M3P • WNMG-CERMET • WNGG-F3N • WNMG-F3M • WNMG-M3M • WNMG-TF • WNMG-GN • WNMG-NR • WNMG-PP • WNMG-VL • WNMG-TNM • WNMG-SF • WNMG-NF • WNMM-NM • WNMG-WF • WNMA/WNMA-WG • WNMG-WG • WNGA-Ceramic • WNGA-M3 (CBN) • WNGA-MC/M6 (CBN)

### Spare Parts

| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| DWLNR/L 1616H-06 | RWT 322 | RWT 3-2[b]* | | SR 40090I | LCGR-3 | SR RC3 | KSP 3 | | HW 2.5 |
| DWLNR/L 2020K-06 | RWT 322 | RWT 3-2[b]* | | SR 40090I | LCGR-3 | SR RC3 | KSP 3 | | HW 2.5 |
| DWLNR/L 2525M-06 | RWT 322 | RWT 3-2[b]* | | SR 40090I | LCGR-3 | SR RC3 | KSP 3 | | HW 2.5 |
| DWLNR/L 2020K-08 | RWT 443 | RWT 443-TNM[a]* | TWH 4[c]* | SR 14-506 | LCGR-4 | SR 10400270-25.5 | | T-15/5 | |
| DWLNR/L 2525M-08 | RWT 443 | RWT 443-TNM[a]* | TWH 4[c]* | SR 14-506 | LCGR-4 | SR 10400270-25.5 | | T-15/5 | |
| DWLNR/L 3232P-08 | RWT 443 | RWT 443-TNM[a]* | TWH 4[c]* | SR 14-506 | LCGR-4 | SR 10400270-25.5 | | T-15/5 | |

* Optional, should be ordered separately

[a] RWT 3-2 seat, for WNMG 06T3 insert

[b] RWT 443-TNM seat, for WNMG 0804...-TNM insert

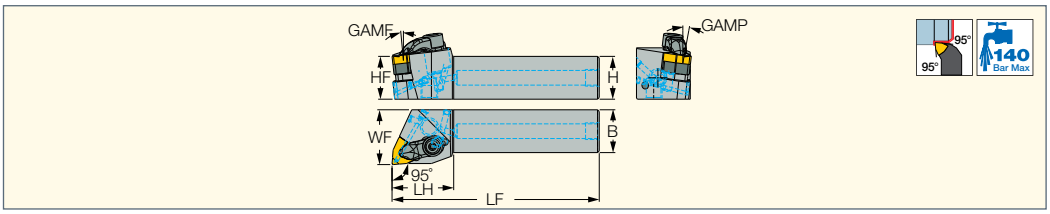
[c] TWH 4 seat, for WNMX 0807... insert

ISOTURN

JETRTURN RIGID CLAMP

## DWLNR/L-JHP-MC

Rigid Clamp Tools with Channels for High-Pressure Coolant Carrying 80° Trigon Inserts




| Designation | B | H | HF | LF | LH | WF | GAMP | GAMF | MIID[1] |
|---|---|---|---|---|---|---|---|---|---|
| DWLNR/L 2020X-08-JHP-MC | 20.0 | 20.0 | 20.0 | 106.00 | 36.0 | 25.00 | 6.0 | 6.0 | WNMG 0804 |
| DWLNR/L 2525X-08-JHP-MC | 25.0 | 25.0 | 25.0 | 121.00 | 36.0 | 32.00 | 6.0 | 6.0 | WNMG 0804 |

[1] Master insert identification

**Inserts:** WNGA-Ceramic • WNGA-M3 (CBN) • WNGA-MC/M6 (CBN) • WNMA/WNMA-WG • WNMG-CERMET • WNMG-F3M • WNMG-F3P • WNMG-F3S • WNMG-GN • WNMG-M3M • WNMG-M3P • WNMG-NF • WNMG-NR • WNMG-PP • WNMG-TF • WNMG-TNM • WNMG-VL • WNMG-WF • WNMG-WG • WNMM-NM • WNMX-M3/4MW • WNMX-M3/4PW

### Spare Parts

| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| DWLNR/L-JHP-MC | RWT 443 | TWH 4* | RWT 443-TNM* | LCGR/L-4JC SET[a] | SR 14-506 | PLG G1/8 TL360 | OR 4X3 NBR70 |

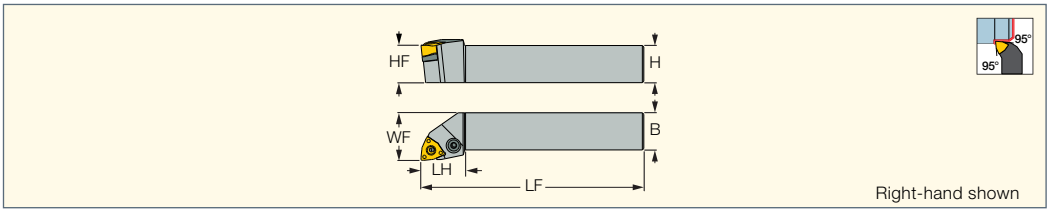
* Optional, should be ordered separately

[a] Recommended tightening torque 4Nm for R-Clamp Screw

HELITURN LD

## PWLNR/L-X

Lever Lock External Turning Tools Carrying HELITURN LD WNMX or WNMG Trigon Inserts




| Designation | H | HF | B | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|---|
| PWLNR/L 2020K-06X (1) | 20.0 | 20.0 | 20.0 | 125.00 | 25.0 | 25.00 | WNMX 0606, WNMG 0604 |
| PWLNR/L 2525M-06X (1) | 25.0 | 25.0 | 25.0 | 150.00 | 25.0 | 32.00 | WNMX 0606, WNMG 0604 |
| PWLNR/L 2020K-08X (2) | 20.0 | 20.0 | 20.0 | 125.00 | 30.0 | 25.00 | WNMX 0807, WNMG 0804 |
| PWLNR/L 2525M-08X (2) | 25.0 | 25.0 | 25.0 | 150.00 | 30.0 | 32.00 | WNMX 0807, WNMG 0804 |
| PWLNR 3232P-08X (2) | 32.0 | 32.0 | 32.0 | 170.00 | 30.0 | 40.00 | WNMX 0807, WNMG 0804 |

(1) Supplied with TWX 3 seat for WNMX 0606.. inserts and TWN 3 seat for WNMG 0604.. inserts.

(2) Supplied with TWX 4 seat for WNMX 0807.. inserts and TWN 443 seat for WNMG 0804.. inserts.

**Inserts:** WNGG-F3N • WNMG-CERMET • WNMG-F3S • WNMG-F3P • WNMG-M3P • WNMX-M3/4PW • WNMG-F3M • WNMG-M3M • WNMX-M3/4MW • WNMG-TF • WNMG-GN • WNMG-NR • WNMG-PP • WNMG-VL • WNMG-TNM • WNMG-NF • WNMM-NM • WNMG-WF • WNMA/WNMA-WG • WNMG-WG • WNGA-Ceramic • WNGA-M3 (CBN) • WNGA-MC/M6 (CBN)




## Spare Parts

| Designation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| PWLNR/L 2020K-06X | TWX 3 | TWN 3 | SP 3 | LR 3 | SR 117-2014 | HW 2.5/5 | PN 3-4 | |
| PWLNR/L 2525M-06X | TWX 3 | TWN 3 | SP 3 | LR 3 | SR 117-2014 | HW 2.5 | PN 3-4 | |
| PWLNR/L 2020K-08X | TWX 4 | TWN 443 | SP 4 | LR 4DH | SR 117-2010 | HW 3.0 | PN 3-4L | LR 4DHTL (MR INJ)* |
| PWLNR/L 2525M-08X | TWX 4 | TWN 443 | SP 4 | LR 4DH | SR 117-2010 | HW 3.0 | PN 3-4L | LR 4DHTL (MR INJ)* |
| PWLNR 3232P-08X | TWX 4 | TWN 443 | SP 4 | LR 4DH | SR 117-2010 | HW 3.0 | PN 3-4L | LR 4DHTL (MR INJ)* |

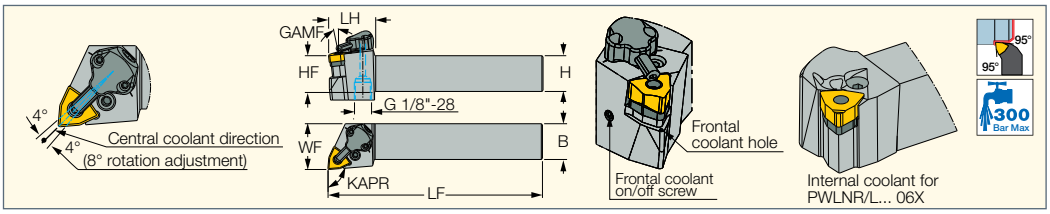
* Optional, should be ordered separately



HELITURN LD
JETCUT

## PWLNR/L-X-JHP

Lever Lock Tools with Channels for High-Pressure Coolant Carrying HELITURN LD WNMX or WNMG Trigon Inserts




| Designation | H | HF | B | LF | LH | WF | GAMF | KAPR[3] | Insert |
|---|---|---|---|---|---|---|---|---|---|
| PWLNR/L 2020K-06X-JHP [1] | 20.0 | 20.0 | 20.0 | 125.00 | 25.0 | 25.00 | -6.0 | 95.0 | WNMX 0606, WNMG 0604 |
| PWLNR/L 2525M-06X-JHP [1] | 25.0 | 25.0 | 25.0 | 150.00 | 25.0 | 32.00 | -6.0 | 95.0 | WNMX 0606, WNMG 0604 |
| PWLNR/L 2525M-08X-JHP [2] | 25.0 | 25.0 | 25.0 | 150.00 | 33.0 | 32.00 | -6.0 | 95.0 | WNMX 0807, WNMG 0804 |
| PWLNR/L 3232P-08X-JHP [2] | 32.0 | 32.0 | 32.0 | 170.00 | 33.0 | 40.00 | -6.0 | 95.0 | WNMX 0807, WNMG 0804 |

• For user guide, see pages 78-84

[1] Supplied with TWX 3 seat for WNMX 0606.. inserts and TWN 3 seat for WNMG 0604.. inserts.

[2] Supplied with TWX 4 seat for WNMX 0807.. inserts and TWN 443 seat for WNMG 0804.. inserts.

[3] Tool cutting edge angle

**Inserts:** WNGG-F3N • WNMG-CERMET • WNMG-F3S • WNMG-F3P • WNMG-M3P • WNMX-M3/4PW • WNMG-F3M • WNMG-M3M • WNMX-M3/4MW • WNMG-TF • WNMG-GN • WNMG-NR • WNMG-PP • WNMG-VL • WNMG-TNM • WNMG-NF • WNMM-NM • WNMG-WF • WNMA/WNMA-WG • WNMG-WG • WNGA-Ceramic • WNGA-M3 (CBN) • WNGA-MC/M6 (CBN)

### CU-CW-JHP

Screw: SR M3



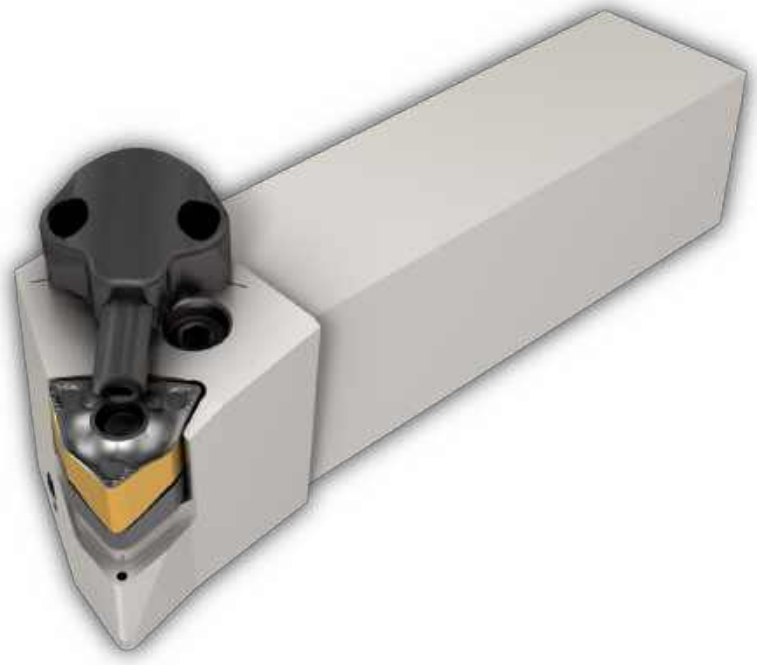




## Spare Parts

| Designation | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PWLNR/L 2020K-06X-JHP | TWX 3 | TWN 3 | SP 3 | LR 3 | SR 117-2014 | PN 3-4 | | | | HW 2.5/5 | | |
| PWLNR/L 2525M-06X-JHP | TWX 3 | TWN 3 | SP 3 | LR 3 | SR 117-2014 | PN 3-4 | | | | HW 2.5/5 | | |
| PWLNR/L 2525M-08X-JHP | TWX 4 | TWN 443 | SP 4 | LR 4DH | SR 117-2010 | PN 3-4L | CU-CW-JHP | T-8/5 | LR 4DHTL (MR INJ)* | HW 2.0 | HW 3.0 | SR M4X4 DIN913 TL360 |
| PWLNR/L 3232P-08X-JHP | TWX 4 | TWN 443 | SP 4 | LR 4DH | SR 117-2010 | PN 3-4L | CU-CW-JHP | T-8/5 | LR 4DHTL (MR INJ)* | HW 2.0 | HW 3.0 | SR M4X4 DIN913 TL360 |

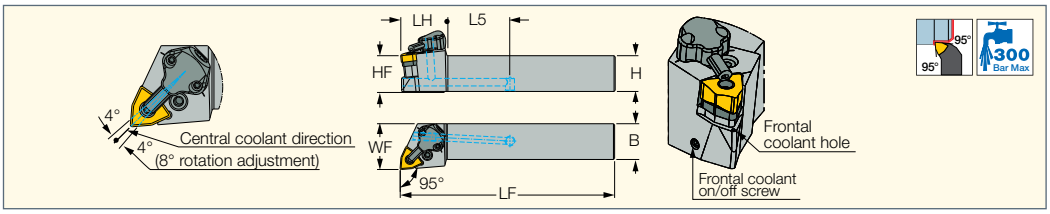
* Optional, should be ordered separately



HELITURN LD
JETCUT

## PWLNR/L-X-JHP-MC

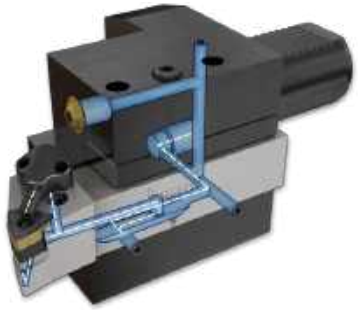
Lever Lock Tools with Bottom Inlets for High-Pressure Coolant Channels Carrying HELITURN LD WNMX and WNMG Trigon Inserts




| Designation | H | HF | B | LF | LH | L5 | WF | Insert |
|---|---|---|---|---|---|---|---|---|
| PWLNR/L 2020X-06X-JHP-MC | 20.0 | 20.0 | 20.0 | 97.00 | 27.0 | 29.00 | 25.00 | WNMX 0606, WNMG 0604 |
| PWLNR/L 2525X-06X-JHP-MC | 25.0 | 25.0 | 25.0 | 118.00 | 33.0 | 35.00 | 32.00 | WNMX 0606, WNMG 0604 |
| PWLNR/L 2020X-08X-JHP-MC | 20.0 | 20.0 | 20.0 | 97.00 | 27.0 | 29.00 | 25.00 | WNMX 0807, WNMG 0804 |
| PWLNR/L 2525X-08X-JHP-MC | 25.0 | 25.0 | 25.0 | 118.00 | 33.0 | 35.00 | 32.00 | WNMX 0807, WNMG 0804 |

• For user guide, see pages 78-84

**Inserts:** WNGG-F3N • WNMG-F3S • WNMG-F3P • WNMG-M3P • WNMX-M3/4PW • WNMG-F3M • WNMG-M3M • WNMX-M3/4MW • WNMG-TF • WNMG-GN • WNMG-NR • WNMG-PP • WNMG-TNM • WNMG-NF • WNMM-NM • WNMG-WF • WNMA/WNMA-WG • WNMG-WG • WNGA-Ceramic • WNGA-M3 (CBN) • WNGA-MC/M6 (CBN)



### Spare Parts

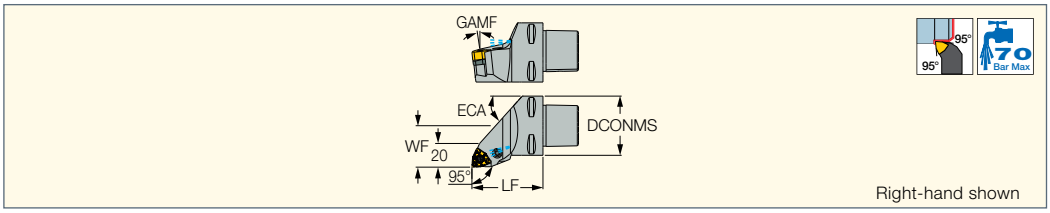
| Designation | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PWLNR/L 2020X-06X-JHP-MC | TWX 3 | TWN 3 | SP 3 | LR 3 | SR 117-2014 | PN 3-4 | HW 2.5 | CU-CW-JHP | T-8/5 | SR M5X5 DIN913 TL360 | | |
| PWLNR/L 2525X-06X-JHP-MC | TWX 3 | TWN 3 | SP 3 | LR 3 | SR 117-2014 | PN 3-4 | HW 2.5 | CU-CW-JHP | T-8/5 | SR M5X5 DIN913 TL360 | | |
| PWLNR/L 2020X-08X-JHP-MC | TWX 4 | TWN 443 | SP 4 | LR 4DH | SR 117-2010 | PN 3-4L | HW 2.5 | CU-CW-JHP | T-8/5 | SR M5X5 DIN913 TL360 | HW 3.0 | LR 4DHTL (MR INJ)* |
| PWLNR/L 2525X-08X-JHP-MC | TWX 4 | TWN 443 | SP 4 | LR 4DH | SR 117-2010 | PN 3-4L | HW 2.5 | CU-CW-JHP | T-8/5 | SR M5X5 DIN913 TL360 | HW 3.0 | LR 4DHTL (MR INJ)* |

* Optional, should be ordered separately

HELITURN LD
CAMFIX

## C#-PWLNR/L-X

Lever Lock Tools with CAMFIX Shanks Carrying HELITURN LD WNMX or WNMG Inserts




| Designation | DCONMS | WF | OHN(3) | ECA | GAMF | Insert | CDI(4) | CP(5) |
|---|---|---|---|---|---|---|---|---|
| C4 PWLNR/L-27050-06X (1) | 40.00 | 27.00 | 50.00 | 45.0 | 6.0 | WNMX 0606, WNMG 0604 | 1 | 70 |
| C5 PWLNL-25060-06X (1) | 50.00 | 25.00 | 60.00 | 48.0 | 6.0 | WNMX 0606, WNMG 0604 | 1 | 70 |
| C4 PWLNR/L-27050-08X (2) | 40.00 | 27.00 | 50.00 | 45.0 | 6.0 | WNMX 0807, WNMG 0804 | 1 | 70 |
| C5 PWLNR/L-35060-08X (2) | 50.00 | 35.00 | 60.00 | 48.0 | 6.0 | WNMX 0807, WNMG 0804 | 1 | 70 |

(1) Supplied with TWX 3 seat for WNMX 0606.. inserts and TWN 3 seat for WNMG 0604.. inserts.
(2) Supplied with TWX 4 seat for WNMX 0807.. inserts and TWN 443 seat for WNMG 0804.. inserts.
(3) Minimum overhang
(4) 1 - Hole for data chip, 0 - Without hole for data chip
(5) Coolant pressure (Bar)

**Inserts:** WNGG-F3N • WNMG-F3S • WNMX-M3/4MW • WNMX-M3/4PW • WNMG-F3P • WNMG-M3P • WNMG-F3M • WNMG-M3M • WNMG-TF • WNMG-GN • WNMG-PP • WNMG-NF • WNMG-WF • WNMA/WNMA-WG • WNMG-WG

### Spare Parts

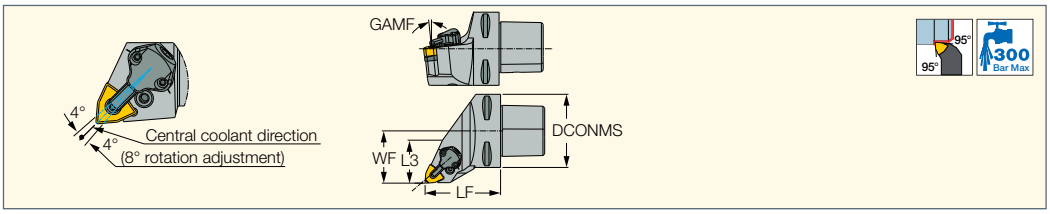
| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| C4 PWLNL-27050-06X | TWX 3 | TWN 3 | SP 3 | LR 3 | SR 117-2014 | PN 3-4 | EZ 62 | HW 2.5/5 | |
| C4 PWLNR-27050-06X | TWX 3 | TWN 3 | SP 3 | LR 3 | SR 117-2014 | PN 3-4 | EZ 62 | HW 2.5/5 | |
| C5 PWLNL-25060-06X | TWX 3 | TWN 3 | SP 3 | LR 3 | SR 117-2014 | PN 3-4 | EZ 83 | HW 2.5/5 | |
| C4 PWLNL-27050-08X | TWX 4 | TWN 443 | SP 4 | LR 4DH | SR 117-2010 | PN 3-4L | EZ 62 | HW 3.0 | LR 4DHTL (MR INJ)* |
| C4 PWLNR-27050-08X | TWX 4 | TWN 443 | SP 4 | LR 4DH | SR 117-2010 | PN 3-4L | EZ 62 | HW 3.0 | LR 4DHTL (MR INJ)* |
| C5 PWLNL-35060-08X | TWX 4 | TWN 443 | SP 4 | LR 4DH | SR 117-2010 | PN 3-4L | EZ 83 | HW 3.0 | LR 4DHTL (MR INJ)* |
| C5 PWLNR-35060-08X | TWX 4 | TWN 443 | SP 4 | LR 4DH | SR 117-2010 | PN 3-4L | EZ 83 | HW 3.0 | LR 4DHTL (MR INJ)* |

* Optional, should be ordered separately

HELITURN LD
JETCUT CAMFIX

## C#-PWLNR/L-X-JHP

Lever Lock Tools with CAMFIX Shanks and Channels for High-Pressure Coolant, Carrying WNMX or WNMG Inserts




| Designation | DCONMS | LF | WF | L3 | GAMF | Insert | CDI[3] |
|---|---|---|---|---|---|---|---|
| C3 PWLNR-22045-06X-JHP [1] | 32.00 | 45.00 | 22.00 | 26.00 | -6.0 | WNMX 0606, WNMG 0604 | 0 |
| C3 PWLNR-22045-08X-JHP [2] | 32.00 | 45.00 | 22.00 | 22.00 | -6.0 | WNMX 0807, WNMG 0804 | 0 |
| C4 PWLNR/L-27050-08X-JHP [2] | 40.00 | 50.00 | 27.00 | 22.00 | -6.0 | WNMX 0807, WNMG 0804 | 1 |
| C5 PWLNR/L-35060-08X-JHP [2] | 50.00 | 60.00 | 35.00 | 25.00 | -6.0 | WNMX 0807, WNMG 0804 | 1 |
| C6 PWLNR/L-45065-08X-JHP [2] | 63.00 | 65.00 | 45.00 | 37.00 | -6.0 | WNMX 0807, WNMG 0804 | 1 |

• For user guide, see pages 78-84

[1] Supplied with TWX 3 seat for WNMX 0606.. inserts and TWN 3 seat for WNMG 0604.. inserts.

[2] Supplied with TWX 4 seat for WNMX 0807.. inserts and TWN 443 seat for WNMG 0804.. inserts.

[3] 1 - Hole for data chip, 0 - Without hole for data chip

**Inserts:** WNMG-F3S • WNMX-M3/4MW • WNMX-M3/4PW • WNMG-F3P • WNMG-M3P • WNMG-F3M • WNMG-M3M • WNMG-TF • WNMG-GN • WNMG-PP • WNMG-NF • WNMG-WF • WNMA/WNMA-WG • WNMG-WG




## Spare Parts

| Designation | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C3 PWLNR-22045-06X-JHP | TWX 3 | TWN 3 | SP 3 | PN 3-4 | LR 3 | SR 117-2014 | CU-CW-JHP | | T-8/5 | HW 2.5 |
| C3 PWLNR-22045-08X-JHP | TWX 4 | TWN 443 | SP 4 | PN 3-4L | LR 4DH | SR 117-2010 | CU-CW-JHP | LR 4DHTL (MR INJ)* | T-8/5 | HW 3.0 |
| C4 PWLNL-27050-08X-JHP | TWX 4 | TWN 443 | SP 4 | PN 3-4L | LR 4DH | SR 117-2010 | CU-CW-JHP | LR 4DHTL (MR INJ)* | T-8/5 | HW 3.0 |
| C4 PWLNR-27050-08X-JHP | TWX 4 | TWN 443 | SP 4 | PN 3-4L | LR 4DH | SR 117-2010 | CU-CW-JHP | LR 4DHTL (MR INJ)* | T-8/5 | HW 3.0 |
| C5 PWLNL-35060-08X-JHP | TWX 4 | TWN 443 | SP 4 | PN 3-4L | LR 4DH | SR 117-2010 | CU-CW-JHP | LR 4DHTL (MR INJ)* | T-8/5 | HW 3.0 |
| C5 PWLNR-35060-08X-JHP | TWX 4 | TWN 443 | SP 4 | PN 3-4L | LR 4DH | SR 117-2010 | CU-CW-JHP | LR 4DHTL (MR INJ)* | T-8/5 | HW 3.0 |
| C6 PWLNL-45065-08X-JHP | TWX 4 | TWN 443 | SP 4 | PN 3-4L | LR 4DH | SR 117-2010 | CU-CW-JHP | LR 4DHTL (MR INJ)* | T-8/5 | HW 3.0 |
| C6 PWLNR-45065-08X-JHP | TWX 4 | TWN 443 | SP 4 | PN 3-4L | LR 4DH | SR 117-2010 | CU-CW-JHP | LR 4DHTL (MR INJ)* | T-8/5 | HW 3.0 |

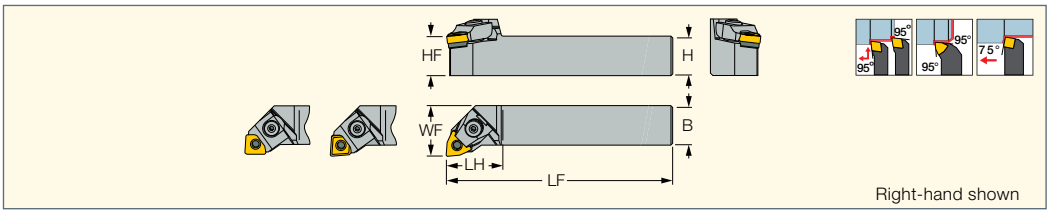
* Optional, should be ordered separately



**MULTI-WEDGE**

## MULNR/L-12MW

MULTI-WEDGE Lock
External Tools Carrying
80° Negative Rhombic or
Trigon or Square Inserts

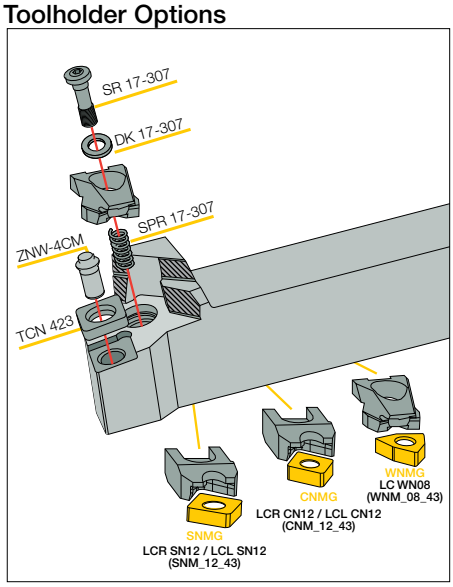



| Designation | H | HF | B | LF | LH | WF |
|---|---|---|---|---|---|---|
| MULNR/L 2525M-12MW | 25.0 | 25.0 | 25.0 | 150.00 | 35.0 | 32.00 |

- The wedge for the WNMG insert is supplied with the holder, order the others separately

**Inserts:** CNGA-J(CBN) • CNGG-J(CBN) • CNMG-CERMET • CNMG-F3S • SNMG-F3S • WNMG-CERMET • WNMG-F3S • WNMG-F3P • WNMG-M3P • WNMG-F3M • WNMG-M3M • WNMG-TF • WNMG-GN • WNMG-NR • WNMG-PP • WNMG-VL • WNMG-TNM • WNMG-NF • WNMM-NM • WNMG-WF • WNMA/WNMA-WG • WNMG-WG • WNGA-Ceramic • WNGA-M3 (CBN) • WNGA-MC/M6 (CBN) • CNMG-F3P • CNMG-M3P • CNMM-R3P • CNMM-M4PW • CNMG-F3M • CNMG-M3M • CNMG/CNGG-TF • CNMG-GN • CNMG-NR • CNMG/CNGG-PP • CNMG-VL • CNMG/CNGG-SF • CNMG-NF • CNMG-WF • CNMG-WG/NRW • CNMA • CNGA-Ceramic • CNMG-Ceramic • CNGA-2 (CBN) • CNGA-4 (CBN) • CNGG-M4HF/M4HM (CBN) • CNMA-MW4 (CBN) • CNMA-T/M1/WG (CBN) • CNMA (PCD) • SNMG-F3P • SNMG-M3P • SNMM-R3P • SNMG-F3M • SNMG-M3M • SNMG-TF • SNMG-GN • SNMG-NR • SNMG-PP • SNMG-VL • SNMA • SNGA-Ceramic • SNMA (CBN)

### Toolholder Options




### Spare Parts

| Designation | TCN 423 | ZNW 4CM | LC WN08 | LCR/L CN12* | LCR/L SN12* | SR 17-307 | SR M4X8 | HW 3.0 | DK 17-307 | SPR 17-307 |
|---|---|---|---|---|---|---|---|---|---|---|
| MULNR/L 2525M-12MW | TCN 423 | ZNW 4CM | LC WN08 | LCR/L CN12* | LCR/L SN12* | SR 17-307 | SR M4X8 | HW 3.0 | DK 17-307 | SPR 17-307 |

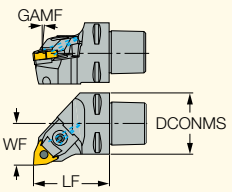
* Optional, should be ordered separately

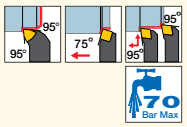


## MULTI-WEDGE CAMFIX

### C#-MULNR/L-MW

MULTI-WEDGE Tools with CAMFIX Exchangeable Shanks Carrying 80° Negative Rhombic or Trigon or Square Inserts




Right-hand shown

| Designation | DCONMS | WF | LF | GAMF | Insert | CDI(1) |
|---|---|---|---|---|---|---|
| C4 MULNR/L 27050-12MW | 40.00 | 27.00 | 50.00 | 6.0 | W/C/SNMG 1204.. | 1 |
| C5 MULNR/L 35060-12MW | 50.00 | 35.00 | 60.00 | 6.0 | W/C/SNMG 1204.. | 1 |
| C6 MULNR/L-45065-12MW | 63.00 | 45.00 | 65.00 | 6.0 | W/C/SNMG 1204.. | 1 |

- R.H. wedge for R.H. tool, L.H. wedge for L.H. tool

(1) 1 - Hole for data chip, 0 - Without hole for data chip

**Inserts:** CNGA-J(CBN) • CNGG-J(CBN) • CNMG-CERMET • CNMG-F3S • SNMG-F3S • WNMG-CERMET • WNMG-F3S • WNMG-F3P • WNMG-M3P • WNMG-F3M • WNMG-M3M • WNMG-TF • WNMG-GN • WNMG-NR • WNMG-PP • WNMG-VL • WNMG-TNM • WNMG-NF • WNMM-NM • WNMG-WF • WNMA/WNMA-WG • WNMG-WG • WNGA-Ceramic • WNGA-M3 (CBN) • WNGA-MC/M6 (CBN) • CNMG-F3P • CNMG-M3P • CNMM-R3P • CNMM-M4PW • CNMG-F3M • CNMG-M3M • CNMG/CNGG-TF • CNMG-GN • CNMG-NR • CNMG/CNGG-PP • CNMG-VL • CNMG/CNGG-SF • CNMG-NF • CNMG-WF • CNMG-WG/NRW • CNMA • CNGA-Ceramic • CNMG-Ceramic • CNGA-2 (CBN) • CNGA-4 (CBN) • CNGG-M4HF/M4HM (CBN) • CNMA-MW4 (CBN) • CNMA-T/M1/WG (CBN) • CNMA (PCD) • SNMG-F3P • SNMG-M3P • SNMM-R3P • SNMG-F3M • SNMG-M3M • SNMG-TF • SNMG-GN • SNMG-NR • SNMG-PP • SNMG-VL • SNMA • SNGA-Ceramic • SNMA (CBN)

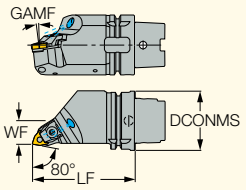
### Spare Parts

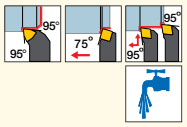
| Designation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| C4 MULNL 27050-12MW | TCN 423 | ZNW 4CMI | LC WN08 | HW 3.0 | SR 17-307 | DK 17-307 | SPR 17-307 | EZ 62 |
| C4 MULNR 27050-12MW | TCN 423 | ZNW 4CMI | LC WN08 | HW 3.0 | SR 17-307 | DK 17-307 | SPR 17-307 | EZ 62 |
| C5 MULNL 35060-12MW | TCN 423 | ZNW 4CMI | LC WN08 | HW 3.0 | SR 17-307 | DK 17-307 | SPR 17-307 | EZ 83 |
| C5 MULNR 35060-12MW | TCN 423 | ZNW 4CMI | LC WN08 | HW 3.0 | SR 17-307 | DK 17-307 | SPR 17-307 | EZ 83 |
| C6 MULNL-45065-12MW | TCN 423 | ZNW 4CMI | LC WN08 | HW 3.0 | SR 17-307 | DK 17-307 | SPR 17-307 | EZ 104 |
| C6 MULNR-45065-12MW | TCN 423 | ZNW 4CMI | LC WN08 | HW 3.0 | SR 17-307 | DK 17-307 | SPR 17-307 | EZ 104 |

## HSK MULTI-WEDGE

### HSK A63WH-MULNR/L-MW

MULTI-WEDGE Toolholders with HSK Taper Shanks for 80° Rhombic, Trigon and Square Inserts




Right-hand shown

| Designation | DCONMS | LF | WF | GAMF | Insert | CDI(1) |
|---|---|---|---|---|---|---|
| HSK A63WH MULNR/L J12MW | 63.00 | 110.00 | 25.00 | -6.0 | W/C/SNMG 1204 | 0 |

- Complies with ICTM standard (ISO 12164-3) • A cooling tube must be used with all coolant through HSK spindles (should be ordered separately)
- For shank dimensions, see page 737

(1) 1 - Hole for data chip, 0 - Without hole for data chip

**Inserts:** CNGA-J(CBN) • CNGG-J(CBN) • CNMG-CERMET • CNMG-F3S • SNMG-F3S • WNMG-CERMET • WNMG-F3S • WNMG-F3P • WNMG-M3P • WNMG-F3M • WNMG-M3M • WNMG-TF • WNMG-GN • WNMG-NR • WNMG-PP • WNMG-VL • WNMG-TNM • WNMG-NF • WNMM-NM • WNMG-WF • WNMA/WNMA-WG • WNMG-WG • WNGA-Ceramic • WNGA-M3 (CBN) • WNGA-MC/M6 (CBN) • CNMG-F3P • CNMG-M3P • CNMM-R3P • CNMM-M4PW • CNMG-F3M • CNMG-M3M • CNMG/CNGG-TF • CNMG-GN • CNMG-NR • CNMG/CNGG-PP • CNMG-VL • CNMG/CNGG-SF • CNMG-NF • CNMG-WF • CNMG-WG/NRW • CNMA • CNMG-Ceramic • CNGA-2 (CBN) • CNGA-4 (CBN) • CNGA-Ceramic • CNGG-M4HF/M4HM (CBN) • CNMA-MW4 (CBN) • CNMA-T/M1/WG (CBN) • CNMA (PCD) • SNMG-F3P • SNMG-M3P • SNMM-R3P • SNMG-F3M • SNMG-M3M • SNMG-TF • SNMG-GN • SNMG-NR • SNMG-PP • SNMG-VL • SNMA • SNGA-Ceramic • SNMA (CBN)

### Spare Parts

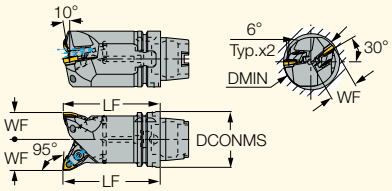
| Designation | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| HSK A63WH-MULNR/L-MW | TCN 423 | LCR/L CN12* | LCR/L SN12* | LC WN08 | ZNW 4CM | SR 17-307 | HW 3.0 | DK 17-307 | SPR 17-307 | SR M4X8 | EZ 104 |

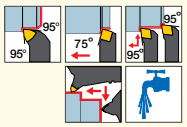
* Optional, should be ordered separately

## MULTI-WEDGE HSK

### HSK A63WH-MULNR-J12MWX2

MULTI-WEDGE Twin Toolholders with HSK Taper Shanks for 80° Rhombic, Trigon and Square Inserts




Right-hand shown

| Designation | DCONMS | LF | WF | DMIN | Insert | CDI(1) |
|---|---|---|---|---|---|---|
| HSK A63WH-MULNR-J12MWX2 | 63.00 | 110.00 | 35.00 | 72.00 | W/C/SNMG 1204 | 0 |

- Complies with ICTM standard (ISO 12164-3)
- A cooling tube must be used with all coolant through HSK spindles (should be ordered separately).
- For shank dimensions, see page 737

(1) 1 - Hole for data chip, 0 - Without hole for data chip

**Inserts:** CNGA-J(CBN) • CNGG-J(CBN) • CNMG-CERMET • CNMG-F3S • SNMG-F3S • WNMG-CERMET • WNMG-F3S • WNMG-F3P • WNMG-M3P • WNMG-F3M • WNMG-M3M • WNMG-TF • WNMG-GN • WNMG-NR • WNMG-PP • WNMG-VL • WNMG-TNM • WNMG-NF • WNMM-NM • WNMG-WF • WNMA/WNMA-WG • WNMG-WG • WNGA-Ceramic • WNGA-M3 (CBN) • WNGA-MC/M6 (CBN) • CNMG-F3P • CNMG-M3P • CNMM-R3P • CNMM-M4PW • CNMG-F3M • CNMG-M3M • CNMG/CNGG-TF • CNMG-GN • CNMG-NR • CNMG/CNGG-PP • CNMG-VL • CNMG/CNGG-SF • CNMG-NF • CNMG-WF • CNMG-WG/NRW • CNMA • CNGA-Ceramic • CNMG-Ceramic • CNGA-2 (CBN) • CNGA-4 (CBN) • CNGG-M4HF/M4HM (CBN) • CNMA-MW4 (CBN) • CNMA-T/M1/WG (CBN) • CNMA (PCD) • SNMG-F3P • SNMG-M3P • SNMM-R3P • SNMG-F3M • SNMG-M3M • SNMG-TF • SNMG-GN • SNMG-NR • SNMG-PP • SNMG-VL • SNMA • SNGA-Ceramic • SNMA (CBN)

### Spare Parts

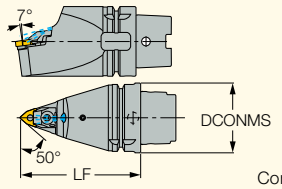
| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| HSK A63WH-MULNR-J12MWX2 | TCN 423 | LC WN08 | LCR CN12* | LCR SN12* | ZNW 4CMI | DK 17-307 | SPR 17-307 | SR 17-307 | HW 3.0 |

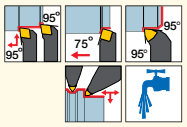
* Optional, should be ordered separately

## HSK MULTI-WEDGE

### HSK A63WH-MUMNN-MW

MULTI-WEDGE Tools with HSK Exchangeable Shanks Carrying 80° Negative Rhombic or Trigon or Square Inserts




Complies with ICTM standard (ISO 12164-3)

| Designation | DCONMS | LF | Insert | CDI(1) |
|---|---|---|---|---|
| HSK A63WH MUMNN J12MW | 63.00 | 110.00 | W/C/SNMG 1204 | 0 |

- A cooling tube must be used with all coolant through HSK spindles (should be ordered separately).
- For shank dimensions, see page 737

(1) 1 - Hole for data chip, 0 - Without hole for data chip

**Inserts:** CNGA-J(CBN) • CNGG-J(CBN) • CNMG-CERMET • CNMG-F3S • SNMG-F3S • WNMG-CERMET • WNMG-F3S • WNMG-F3P • WNMG-M3P • WNMG-F3M • WNMG-M3M • WNMG-TF • WNMG-GN • WNMG-NR • WNMG-PP • WNMG-VL • WNMG-TNM • WNMG-NF • WNMM-NM • WNMG-WF • WNMA/WNMA-WG • WNMG-WG • WNGA-Ceramic • WNGA-M3 (CBN) • WNGA-MC/M6 (CBN) • CNMG-F3P • CNMG-M3P • CNMM-R3P • CNMM-M4PW • CNMG-F3M • CNMG-M3M • CNMG/CNGG-TF • CNMG-GN • CNMG-NR • CNMG/CNGG-PP • CNMG-VL • CNMG/CNGG-SF • CNMG-NF • CNMG-WF • CNMG-WG/NRW • CNMA • CNGA-Ceramic • CNMG-Ceramic • CNGA-2 (CBN) • CNGA-4 (CBN) • CNGG-M4HF/M4HM (CBN) • CNMA-MW4 (CBN) • CNMA-T/M1/WG (CBN) • CNMA (PCD) • SNMG-F3P • SNMG-M3P • SNMM-R3P • SNMG-F3M • SNMG-M3M • SNMG-TF • SNMG-GN • SNMG-NR • SNMG-PP • SNMG-VL • SNMA • SNGA-Ceramic • SNMA (CBN)

### Spare Parts

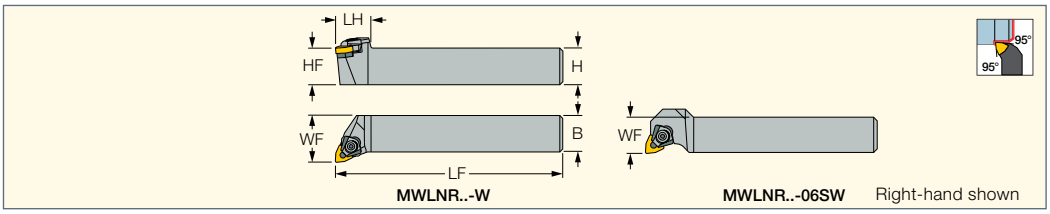
| Designation | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| HSK A63WH MUMNN J12MW | LC WN08 | LCR CN12* | LCR SN12* | TCN 423 | ZNW 4CM | SR 17-307 | HW 3.0 | DK 17-307 | SPR 17-307 | EZ 83 | SR M4X8 |

* Optional, should be ordered separately

ISOTURN

## MWLNR/L-W

Top Wedge Lock External Tools Carrying Trigon Inserts




| Designation | H | HF | B | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|---|
| MWLNR/L 1616H-06SW | 16.0 | 16.0 | 16.0 | 100.00 | 23.0 | 16.00 | WNMG 06T3 |
| MWLNR/L 2020K-06W | 20.0 | 20.0 | 20.0 | 125.00 | 25.0 | 25.00 | WNMG 06T3 |
| MWLNR/L 2525M-06W | 25.0 | 25.0 | 25.0 | 150.00 | 25.0 | 32.00 | WNMG 06T3 |
| MWLNR/L 2020K-08W | 20.0 | 20.0 | 20.0 | 125.00 | 30.0 | 25.00 | WNMG 0804 |
| MWLNR/L 2525M-08W | 25.0 | 25.0 | 25.0 | 150.00 | 30.0 | 32.00 | WNMG 0804 |
| MWLNR/L 3232P-08W | 32.0 | 32.0 | 32.0 | 170.00 | 35.0 | 40.00 | WNMG 0804 |

**Inserts:** WNGG-F3N • WNMG-CERMET • WNMG-F3S • WNMG-F3P • WNMG-M3P • WNMG-F3M • WNMG-M3M • WNMG-TF • WNMG-GN • WNMG-NR • WNMG-PP • WNMG-VL • WNMG-TNM • WNMG-SF • WNMG-NF • WNMM-NM • WNMG-WF • WNMA/WNMA-WG • WNMG-WG • WNGA-Ceramic • WNGA-M3 (CBN) • WNGA-MC/M6 (CBN)

### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| MWLNR/L 1616H-06SW | IWSN 322W | IWSN 3-2W[a]* | ZNW 3W | SR 14-564 | LC 250 SET 1 | HW 2.5 |
| MWLNR/L 2020K-06W | IWSN 322W | IWSN 3-2W[a]* | ZNW 3W | SR 14-564 | LC 250 SET 1 | HW 2.5 |
| MWLNR/L 2525M-06W | IWSN 322W | IWSN 3-2W[a]* | ZNW 3W | SR 14-564 | LC 250 SET 1 | HW 2.5 |
| MWLNR/L 2020K-08W | IWSN 433 | IWSN 433M[b]* | ZNW 4W | SR M4X8 | LC 252 SET 1 | HW 3.0 |
| MWLNR/L 2525M-08W | IWSN 433 | IWSN 433M[b]* | ZNW 4W | SR M4X8 | LC 252 SET 1 | HW 3.0 |
| MWLNR/L 3232P-08W | IWSN 433 | IWSN 433M[b]* | ZNW 4W | SR M4X8 | LC 252 SET 1 | HW 3.0 |

* Optional, should be ordered separately

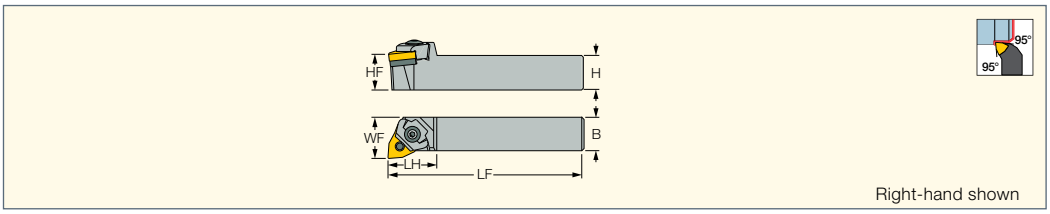
[a] Use IWSN 3-2W optional seat for WNMG 0604.. inserts

[b] Use IWSN 433M optional seat for WNMG 0804..-TNM inserts

ISOTURN

## MWLNR/L-13W

Top Wedge Lock External Toolholders for Large Trigon Inserts




| Designation | H | B | HF | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|---|
| MWLNR/L 3232P-13W | 32.0 | 32.0 | 32.0 | 170.00 | 45.0 | 40.00 | WNMG 1306 |
| MWLNR/L 4040R-13W | 40.0 | 40.0 | 40.0 | 200.00 | 45.0 | 50.00 | WNMG 1306 |

**Inserts:** WNMA/WNMA-WG • WNMG-TNM

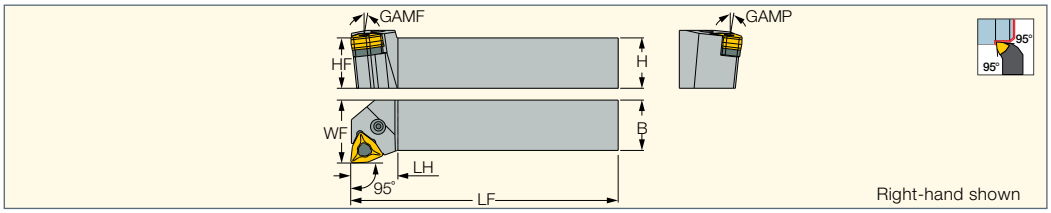
### Spare Parts

| Designation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| MWLNR/L-13W | IWSN 635 | ZNW 6W | SR 14-570 | LC 253 | HW 4P | SPR 17-362 | SR 17-362 | WA M8 |

DOVEIQTURN HEAVY DUTY LINE

## PWLOR/L-IQ

Lever Lock and Dovetail Pocket Rigid Clamping Tools Carrying Unique Double-Sided Trigon Inserts




| Designation | H | HF | B | LF | LH | WF | GAMP | GAMF | Insert |
|---|---|---|---|---|---|---|---|---|---|
| PWLOR/L 2525M-10-IQ | 25.0 | 25.0 | 25.0 | 150.00 | 25.0 | 32.00 | -6.0 | -6.0 | WOMG 1007-IQ |
| PWLOR/L 3232P-10-IQ | 32.0 | 32.0 | 32.0 | 170.00 | 30.0 | 40.00 | -6.0 | -6.0 | WOMG 1007-IQ |
| PWLOR/L 3232P-13-IQ | 32.0 | 32.0 | 32.0 | 170.00 | 30.0 | 40.00 | -6.5 | -6.5 | WOMG 1306-IQ |
| PWLOR/L 4040S-13-IQ | 40.0 | 40.0 | 40.0 | 250.00 | 30.0 | 48.00 | -6.5 | -6.5 | WOMG 1306-IQ |

**Inserts:** WOMG-10-T3P-IQ • WOMG-13-R3P-IQ

### Spare Parts

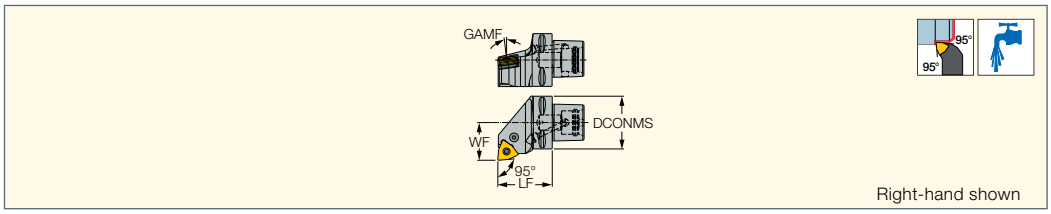
| Designation | | | | | |
|---|---|---|---|---|---|
| PWLOR/L 2525M-10-IQ | TWN 5-4-IQ | SP D1.5-L10[a] | SR LCS 5 | LR 5 | HW 3.0 |
| PWLOR/L 3232P-10-IQ | TWN 5-4-IQ | SP D1.5-L10[a] | SR LCS 5 | LR 5 | HW 3.0 |
| PWLOR/L 3232P-13-IQ | TWX 6-IQ | SP 5[a] | SR 10402352 | LCL 20C-NX | HW 4.0 |
| PWLOR/L 4040S-13-IQ | TWX 6-IQ | SP 5[a] | SR 10402352 | LCL 20C-NX | HW 4.0 |

[a] Seat Pin

DOVEIQTURN HEAVY DUTY LINE
CAMFIX

## C#-PWLOR/L-IQ

Lever Lock and Dovetail Rigid Clamping Pocket with CAMFIX Shank Tools Carrying Unique Double-Sided Trigon Inserts




| Designation | DCONMS | WF | LF | GAMF | Insert |
|---|---|---|---|---|---|
| C6 PWLOR/L-45065-13-IQ | 63.00 | 45.00 | 65.00 | -6.5 | WOMG 1306-IQ |

**Inserts:** WOMG-13-R3P-IQ

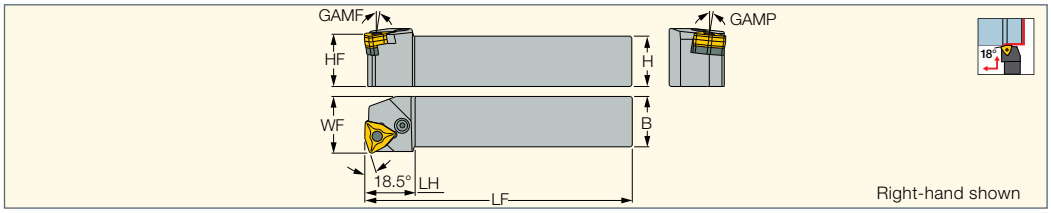
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| C#-PWLOR/L-IQ | TWX 6-IQ | LCL 20C-NX | SR 10402352 | HW 4.0 | SP 5 | SATZ-M10X1-M5 |

FEEDTURN
DOVEIQTURN HEAVY DUTY LINE

## PWXOR/L-TF-IQ

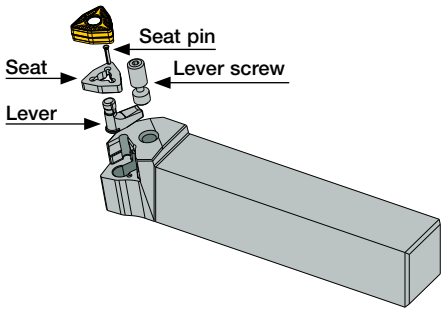
Lever Lock Tools for Fast Feed Longitudinal Turning




| Designation | H | HF | B | LF | LH | WF | GAMP | GAMF | Insert | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PWXOR/L 2525M-10-TF-IQ | 25.0 | 25.0 | 25.0 | 150.00 | 31.0 | 29.00 | -6.0 | -6.0 | WOMG 1007-IQ | TWN 5-4-IQ | SP D1.5-L10[a] | SR LCS 5 | LR 5 | HW 3.0 |
| PWXOR/L 3232P-10-TF-IQ | 32.0 | 32.0 | 32.0 | 170.00 | 31.0 | 36.00 | -6.0 | -6.0 | WOMG 1007-IQ | TWN 5-4-IQ | SP D1.5-L10[a] | SR LCS 5 | LR 5 | HW 3.0 |
| PWXOR/L 4040S-10-TF-IQ | 40.0 | 40.0 | 40.0 | 250.00 | 31.0 | 44.00 | -6.0 | -6.0 | WOMG 1007-IQ | TWN 5-4-IQ | SP D1.5-L10[a] | SR LCS 5 | LR 5 | HW 3.0 |

[a] Seat Pin

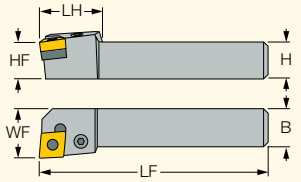
**Inserts:** WOMG-10-T3P-IQ



ISOTURN

## PCLNR/L

Lever Lock Tools Carrying 80°
Negative Rhombic Inserts







Right-hand shown

| Designation | H | HF | B | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|---|
| PCLNR/L 2020K-12 | 20.0 | 20.0 | 20.0 | 125.00 | 27.5 | 25.00 | CNMG 1204.. |
| PCLNR/L 2525M-12 | 25.0 | 25.0 | 25.0 | 150.00 | 27.8 | 32.00 | CNMG 1204.. |
| PCLNR/L 3232P-12 | 32.0 | 32.0 | 32.0 | 170.00 | 27.6 | 40.00 | CNMG 1204.. |
| PCLNR/L 3232P-19 | 32.0 | 32.0 | 32.0 | 170.00 | 38.0 | 40.00 | CNMG 1906.. |
| PCLNR/L 4040S-25 | 40.0 | 40.0 | 40.0 | 250.00 | 47.0 | 50.00 | CNMG 2509.. |
| PCLNR 5050T-25 | 50.0 | 50.0 | 50.0 | 300.00 | 47.0 | 60.00 | CNMG 2509.. |

**Inserts:** CNGA-J(CBN) • CNGG-J(CBN) • CNMG-F3S • CNMG-F3P • CNMG-M3P • CNMM-R3P • CNMM-M4PW • CNMG-CERMET • CNMG-F3M • CNMG-M3M • CNMG-R3M • CNMG/CNGG-TF • CNMG-GN • CNMG-NR • CNMM-NR • CNMG/CNGG-PP • CNMG-VL • CNMG-MR • CNMG/CNGG-SF • CNMG-NF • CNMG-WF • CNMG-WG/NRW • CNMS-12 • CNMM-H3P • CNMM-H4P • CNMM-H5P • CNMA • CNGA-Ceramic • CNMG-Ceramic • CNGA-2 (CBN) • CNGA-4 (CBN) • CNGG-M4HF/M4HM (CBN) • CNMA-MW4 (CBN) • CNMA-T/M1/WG (CBN) • CNMA (PCD)

### Spare Parts

| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| PCLNR/L 2020K-12 | TCN 423 | | SP 4 | LR 4 | SR 117-2010 | HW 3.0 | PN 3-4 |
| PCLNR/L 2525M-12 | TCN 423 | | SP 4 | LR 4 | SR 117-2010 | HW 3.0 | PN 3-4 |
| PCLNR/L 3232P-12 | TCN 423 | | SP 4 | LR 4 | SR 117-2010 | HW 3.0 | PN 3-4 |
| PCLNR/L 3232P-19 | TCN 63 | | SP 66 | LR 6 | SR 10402352 | HW 4.0 | |
| PCLNR/L 4040S-25 | TCN 84N | TCN 85N* | SP 8 | LR 8 | SR 10402264 | | |
| PCLNR 5050T-25 | TCN 84N | TCN 85N* | SP 8 | LR 8 | SR 10402264 | | |

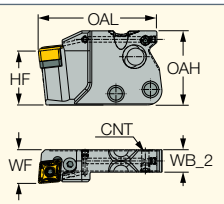
* Optional, should be ordered separately

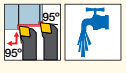


ISOTURN

## PCLNR/L-PAD-JHP

Lever Lock Adapter with
High-Pressure Coolant Mounts
80° Diamond Inserts



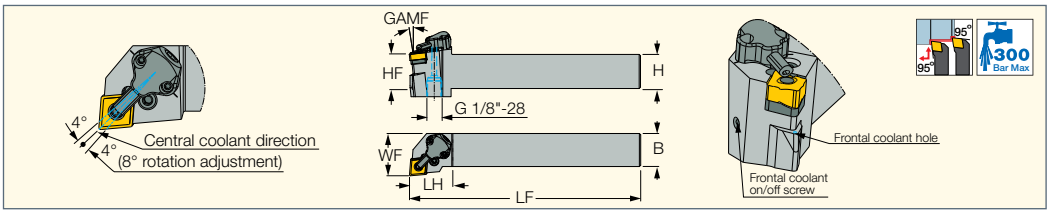

| Designation | HF | OAL | OAH | WF | WB_2 | GAMP | GAMF | Insert | CNT |
|---|---|---|---|---|---|---|---|---|---|
| PCLNR/L-09-PAD-JHP | 24.0 | 52.80 | 33.00 | 15.00 | 10.0 | 6.0 | 6.0 | CNG/CNM 0904/0906 | M4 |

**Inserts:** CNGG-F3N • CNMG-F3M • CNMG-F3P • CNMG-F3S • CNMG-M3M • CNMG-M3P • CNMG/CNGG-TF
**Holders:** ABC MAHDR-#-XL-JHP • C#-MAHD-JHP • C#-MAHPD-JHP • DT##/2 MAHD#-#-XL-JHP • MAHPR/L-JHP • MS##-##-MG-JHP • MS-ES#####-GWS-MG-JHP • TR TNK36 MAHDL-R-XL-JHP • TR45 MAHDR-#-XL-JHP • TR45TNL MAHDN-R-XL-JHP • V## MAHD#-#-XL-##-JHP • V## MAHD-XL-JHP

ISOTURN JETCUT

## PCLNR/L-12-JHP

Lever Lock Tools with Channels for High-Pressure Coolant Carrying 80° Negative Rhombic Inserts




| Designation | H | HF | B | LF | LH | WF | GAMF | Insert |
|---|---|---|---|---|---|---|---|---|
| PCLNR/L 2525M-12-JHP | 25.0 | 25.0 | 25.0 | 150.00 | 33.0 | 32.00 | -6.0 | CNMG 1204 |
| PCLNR/L 3232P-12-JHP | 32.0 | 32.0 | 32.0 | 170.00 | 33.0 | 40.00 | -6.0 | CNMG 1204 |

• For user guide, see pages 78-84

**Inserts:** CNGA-J(CBN) • CNGG-J(CBN) • CNMG-CERMET • CNMG-F3S • CNMG-F3P • CNMG-M3P • CNMM-R3P • CNMM-M4PW • CNMG-F3M • CNMG-M3M • CNMG/CNGG-TF • CNMG-GN • CNMG-NR • CNMG/CNGG-PP • CNMG-VL • CNMG/CNGG-SF • CNMG-NF • CNMG-WF • CNMG-WG/NRW • CNMS-12 • CNMA • CNGA-Ceramic • CNMG-Ceramic • CNGA-2 (CBN) • CNGA-4 (CBN) • CNGG-M4HF/M4HM (CBN) • CNMA-MW4 (CBN) • CNMA-T/M1/WG (CBN) • CNMA (PCD)

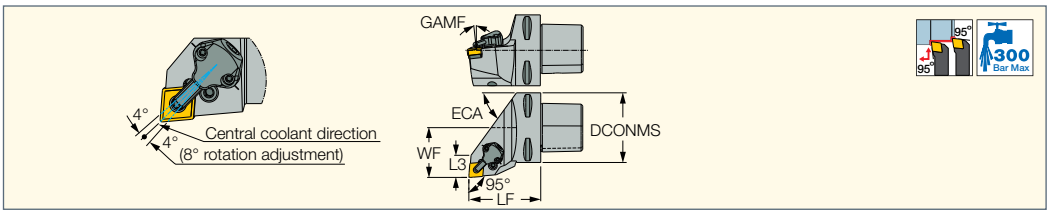
### Spare Parts

| Designation | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PCLNR/L-12-JHP | TCN 423 | SP 4 | LR 4 | SR 117-2010 | PN 3-4 | CU-CW-JHP | SR M4X4 DIN913 TL360 | HW 2.0 | HW 3.0 | T-8/5 |

ISOTURN JETCUT CAMFIX

## C#-PCLNR/L-12-JHP

Lever Lock Tools with Channels for High-Pressure Coolant and CAMFIX Shanks Carrying 80° Negative Rhombic Inserts




| Designation | DCONMS | WF | LF | L3 | ECA | GAMF | Insert | CDI(1) | CP(2) |
|---|---|---|---|---|---|---|---|---|---|
| C6 PCLNR/L-45065-12-JHP | 63.00 | 45.00 | 65.00 | 20.00 | 54.0 | -6.0 | CNMG 1204 | 1 | 300 |

• For user guide, see pages 78-84

(1) 1 - Hole for data chip, 0 - Without hole for data chip

(2) Coolant pressure (Bar)

**Inserts:** CNGA-J(CBN) • CNGG-J(CBN) • CNMG-CERMET • CNMG-F3S • CNMG-F3P • CNMG-M3P • CNMM-R3P • CNMM-M4PW • CNMG-F3M • CNMG-M3M • CNMG/CNGG-TF • CNMG-GN • CNMG-NR • CNMG/CNGG-PP • CNMG-VL • CNMG/CNGG-SF • CNMG-NF • CNMG-WF • CNMG-WG/NRW • CNMS-12 • CNMA • CNGA-Ceramic • CNMG-Ceramic • CNGA-2 (CBN) • CNGA-4 (CBN) • CNGG-M4HF/M4HM (CBN) • CNMA-MW4 (CBN) • CNMA-T/M1/WG (CBN) • CNMA (PCD)

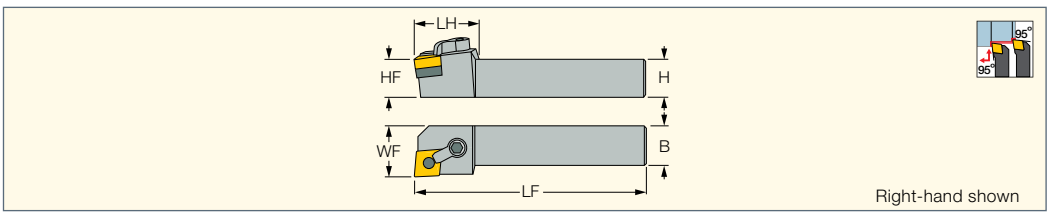
### Spare Parts

| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| C6 PCLNL-45065-12-JHP | TCN 423 | SP 4 | LR 4 | SR 117-2010 | PN 3-4 | CU-CW-JHP | HW 3.0 | T-8/5 | |
| C6 PCLNR-45065-12-JHP | TCN 423 | SP 4 | LR 4 | SR 117-2010 | PN 3-4 | CU-CW-JHP | HW 3.0 | T-8/5 | SR M5X5 DIN913 TL360 |

ISOTURN

## MCLNR/L

Pin and Clamp Tools Carrying 80° Negative Rhombic Inserts




| Designation | H | HF | B | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|---|
| MCLNR 2525M-16 | 25.0 | 25.0 | 25.0 | 150.00 | 30.0 | 32.00 | CNMG 1606.. |
| MCLNR 3232P-16 | 32.0 | 32.0 | 32.0 | 170.00 | 30.0 | 40.00 | CNMG 1606.. |
| MCLNL 3232P-19 | 32.0 | 32.0 | 32.0 | 170.00 | 35.0 | 40.00 | CNMG 1906.. |

**Inserts:** CNMG-M3P • CNMM-R3P • CNMG-M3M • CNMG-R3M • CNMG/CNGG-TF • CNMG-GN • CNMG-NR • CNMM-NR • CNMG/CNGG-PP • CNMG-MR • CNMM-H3P • CNMM-H4P • CNMA

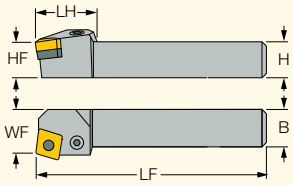
### Spare Parts

| Designation | | | | |
|---|---|---|---|---|
| MCLNR 2525M-16 | TCT 533 | LC 30 SET 1 | ZN 54M | HW 3.0 |
| MCLNR 3232P-16 | TCT 533 | LC 30 SET 1 | ZN 54M | HW 3.0 |
| MCLNL 3232P-19 | TCT 634 | LC80 SET-1 | ZN 64 | HW 4.0 |

ISOTURN

## PCBNR/L

Lever Lock Tools using the 100° Corner of CNMG Inserts







Right-hand shown

| Designation | H | HF | B | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|---|
| PCBNR/L 2525M-12 | 25.0 | 25.0 | 25.0 | 150.00 | 27.7 | 22.00 | CNMG 1204.. |
| PCBNR/L 3232P-19 | 32.0 | 32.0 | 32.0 | 170.00 | 37.0 | 27.00 | CNMG 1906.. |
| PCBNR 4040S-19 | 40.0 | 40.0 | 40.0 | 250.00 | 37.0 | 37.00 | CNMG 1906.. |

**Inserts:** CNMG-CERMET • CNMG-F3S • CNMG-F3P • CNMG-M3P • CNMM-R3P • CNMM-M4PW • CNMG-F3M • CNMG-M3M • CNMG-R3M • CNMG/CNGG-TF • CNMG-GN • CNMG-NR • CNMM-NR • CNMG/CNGG-PP • CNMG-VL • CNMG-MR • CNMG/CNGG-SF • CNMG-NF • CNMG-WF • CNMG-WG/NRW • CNMS-12 • CNMM-H3P • CNMM-H4P • CNMA • CNGA-Ceramic • CNMG-Ceramic

### Spare Parts

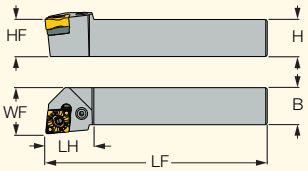
| Designation | | | | | | |
|---|---|---|---|---|---|---|
| PCBNR/L 2525M-12 | TCN 423 | SP 4 | PN 3-4 | LR 4 | SR 117-2010 | HW 3.0 |
| PCBNR/L 3232P-19 | TCN 63 | SP 66 | | LR 6 | SR 10402352 | HW 4.0 |
| PCBNR 4040S-19 | TCN 63 | SP 66 | | LR 6 | SR 10402352 | HW 4.0 |

HELITURN LD

FLASHTURN ECO LINE

## PCLNR/L-X

Lever Lock Tools Carrying CNMX/ CNMG 80° Rhombic Inserts





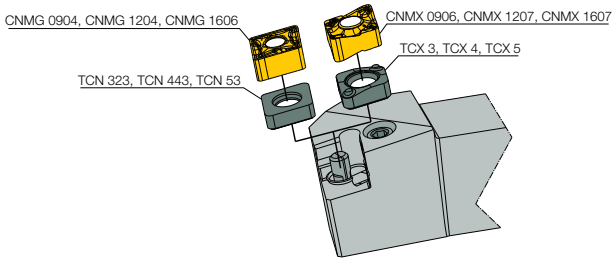


Right-hand shown

| Designation | B | H | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|
| PCLNR 1616H-09X | 16.0 | 16.0 | 150.00 | 25.0 | 25.00 | CNMX 0906 CNMG 0904 |
| PCLNR/L 2020K-09X | 20.0 | 20.0 | 125.00 | 25.0 | 25.00 | CNMX 0906 CNMG 0904 |
| PCLNR/L 2525M-09X | 25.0 | 25.0 | 150.00 | 25.0 | 32.00 | CNMX 0906 CNMG 0904 |
| PCLNR/L 2020K-12X | 20.0 | 20.0 | 125.00 | 31.0 | 25.00 | CNMX 1207 CNMG 1204 |
| PCLNR/L 2525M-12X | 25.0 | 25.0 | 150.00 | 31.0 | 32.00 | CNMX 1207 CNMG 1204 |
| PCLNR/L 3232P-12X | 32.0 | 32.0 | 170.00 | 32.0 | 40.00 | CNMX 1207 CNMG 1204 |
| PCLNR/L 3232P-16X | 32.0 | 32.0 | 170.00 | 32.0 | 40.00 | CNMX 1607 CNMG 1606 |

• Supplied with TCX 3 seat for CNMX 0906.. inserts and TCN 323 seat for CNMG 0904.. inserts, TCX 4 seat for CNMX 1207.. inserts and TCN 443 seat for CNMG 1204.. inserts, TCX 5 seat for CNMX 1607.. inserts and TCN 53 seat for CNMG 1606.. inserts.

**Inserts:** CNGA-J(CBN) • CNGG-F3N • CNGG-J(CBN) • CNGX-M3N • CNMG-CERMET • CNMG-F3S • CNMG-F3P • CNMG-M3P • CNMM-R3P • CNMX-M3/4PW • CNMM-M4PW • CNMG-F3M • CNMG-M3M • CNMG-R3M • CNMX-M3/4MW • CNMG/CNGG-TF • CNMG-GN • CNMG-NR • CNMG/CNGG-PP • CNMG-VL • CNMG-MR • CNMG/CNGG-SF • CNMG-NF • CNMG-WF • CNMG-WG/NRW • CNMS-12 • CNMA • CNGA-Ceramic • CNMG-Ceramic • CNGA-2 (CBN) • CNGA-4 (CBN) • CNGG-M4HF/M4HM (CBN) • CNMA-MW4 (CBN) • CNMA-T/M1/WG (CBN) • CNMA (PCD)




### Spare Parts

| Designation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| PCLNR/L 2020K-09X | TCX 3[a] | TCN 323 | SP 3 | LR 3 | SR 117-2014 | HW 2.5 | PN 3-4 | |
| PCLNR/L 2525M-09X | TCX 3[a] | TCN 323 | SP 3 | LR 3 | SR 117-2014 | HW 2.5 | PN 3-4 | |
| PCLNR/L 2020K-12X | TCX 4 | TCN 443 | SP 4 | LR 4DH | SR 117-2010 | HW 3.0 | PN 3-4L | LR 4DHTL (MR INJ)* |
| PCLNR/L 2525M-12X | TCX 4 | TCN 443 | SP 4 | LR 4DH | SR 117-2010 | HW 3.0 | PN 3-4L | LR 4DHTL (MR INJ)* |
| PCLNR/L 3232P-12X | TCX 4 | TCN 443 | SP 4 | LR 4DH | SR 117-2010 | HW 3.0 | PN 3-4L | LR 4DHTL (MR INJ)* |
| PCLNR/L 3232P-16X | TCX 5 | TCN 53 | SP 5 | LR 5 | SR LCS 5 | HW 3.0 | SPP 5-6 | |

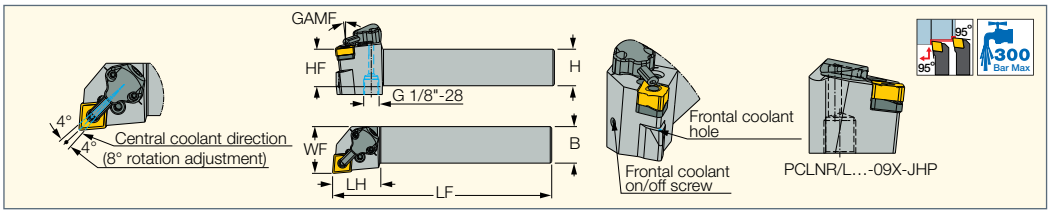
* Optional, should be ordered separately

[a] For CNMX 0906.. (CNMX 34.) inserts

HELITURN LD
JETCUT

## PCLNR/L-X-JHP

Lever Lock Tools with Channels for High-Pressure Coolant Carrying CNMX/ CNMG 80° Rhombic Inserts




| Designation | B | H | HF | LF | LH | WF | GAMF | Insert |
|---|---|---|---|---|---|---|---|---|
| PCLNR/L 1616H-09X-JHP | 16.0 | 16.0 | 16.0 | 100.00 | 20.0 | 20.00 | -6.0 | CNMX 0906, CNMG 0904 |
| PCLNR/L 2020K-09X-JHP | 20.0 | 20.0 | 20.0 | 125.00 | 25.0 | 25.00 | -6.0 | CNMX 0906, CNMG 0904 |
| PCLNR/L 2525M-09X-JHP | 25.0 | 25.0 | 25.0 | 150.00 | 25.0 | 32.00 | -6.0 | CNMX 0906, CNMG 0904 |
| PCLNR/L 2525M-12X-JHP | 25.0 | 25.0 | 25.0 | 150.00 | 25.0 | 32.00 | -6.0 | CNMX 1207, CNMG 1204 |
| PCLNR/L 3232P-12X-JHP | 32.0 | 32.0 | 32.0 | 170.00 | 33.0 | 40.00 | -6.0 | CNMX 1207, CNMG 1204 |

• Supplied with TCX 3 seat for CNMX 0906.. inserts and TCN 323 seat for CNMG 0904.. inserts. TCX 4 seat for CNMX 1207.. Inserts and TCN 443 seat for CNMG 1204.. inserts. • For user guide, see pages 78-84

**Inserts:** CNGA-J(CBN) • CNGG-J(CBN) • CNGX-M3N • CNMG-F3S • CNMG-F3P • CNMG-M3P • CNMM-R3P • CNMX-M3/4PW • CNMM-M4PW • CNGG-F3N • CNMG-CERMET • CNMG-F3M • CNMG-M3M • CNMX-M3/4MW • CNMG/CNGG-TF • CNMG-GN • CNMG-NR • CNMG/CNGG-PP • CNMG-VL • CNMG/CNGG-SF • CNMG-NF • CNMG-WF • CNMG-WG/NRW • CNMS-12 • CNMA • CNGA-Ceramic • CNMG-Ceramic • CNGA-2 (CBN) • CNGA-4 (CBN) • CNGG-M4HF/M4HM (CBN) • CNMA-MW4 (CBN) • CNMA-T/M1/WG (CBN) • CNMA (PCD)

### Spare Parts

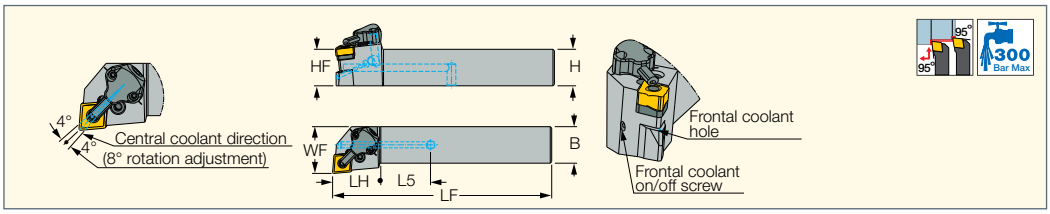
| Designation | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCLNR/L 1616H-09X-JHP | TCX 3[a] | TCN 323[d] | SP 3 | LR 3 | SR 117-2014 | PN 3-4 | | | | HW 2.5 | | |
| PCLNR/L 2020K-09X-JHP | TCX 3[a] | TCN 323[d] | SP 3 | LR 3 | SR 117-2014 | PN 3-4 | | | | HW 2.5 | | |
| PCLNR/L 2525M-09X-JHP | TCX 3[a] | TCN 323[d] | SP 3 | LR 3 | SR 117-2014 | PN 3-4 | | | | HW 2.5 | | |
| PCLNR/L 2525M-12X-JHP | TCX 4[b] | TCN 443[c] | SP 4 | LR 4DH | SR 117-2010 | PN 3-4L | CU-CW-JHP | T-8/5 | LR 4DHTL (MR INJ)* | HW 2.0 | HW 3.0 | SR M4X4 DIN913 TL360 |
| PCLNR/L 3232P-12X-JHP | TCX 4[b] | TCN 443[c] | SP 4 | LR 4DH | SR 117-2010 | PN 3-4L | CU-CW-JHP | T-8/5 | LR 4DHTL (MR INJ)* | HW 2.0 | HW 3.0 | SR M4X4 DIN913 TL360 |

* Optional, should be ordered separately [a] For CNMX 0906.. (CNMX 34.) inserts [b] For CNMX 1207.. (CNMX 45.) inserts
[c] For CNMG 0904.. (CNMG 33.) inserts [d] For CNMG 1204.. (CNMG 43.) inserts

HELITURN LD
JETCUT

## PCLNR/L-X-JHP-MC

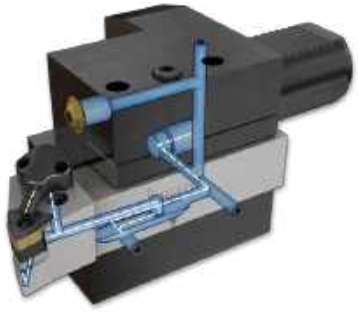
Lever Lock Tools with Bottom Inlets for High-Pressure Coolant Channels Carrying CNMX/CNMG 80° Rhombic Inserts




| Designation | B | H | HF | LF | LH | L5 | WF | Insert |
|---|---|---|---|---|---|---|---|---|
| PCLNR/L 2020X-09X-JHP-MC | 20.0 | 20.0 | 20.0 | 97.00 | 27.0 | 29.00 | 25.00 | CNMX 0906, CNMG 0904 |
| PCLNR/L 2525X-09X-JHP-MC | 25.0 | 25.0 | 25.0 | 118.00 | 33.0 | 35.00 | 32.00 | CNMX 0906, CNMG 0904 |
| PCLNR/L 2020X-12X-JHP-MC | 20.0 | 20.0 | 20.0 | 97.00 | 27.0 | 29.00 | 25.00 | CNMX 1207, CNMG 1204 |
| PCLNR/L 2525X-12X-JHP-MC | 25.0 | 25.0 | 25.0 | 118.00 | 33.0 | 35.00 | 32.00 | CNMX 1207, CNMG 1204 |

• Supplied with TCX 3 seat for CNMX 0906.. inserts and TCN 323 seat for CNMG 0904.. inserts. TCX 4 seat for CNMX 1207.. Inserts and TCN 443 seat for CNMG 1204.. inserts. • For user guide, see pages 78-84

**Inserts:** CNGA-J(CBN) • CNGG-J(CBN) • CNMG-F3S • CNMG-F3P • CNMG-M3P • CNMM-R3P • CNMG-CERMET • CNGG-F3N • CNMX-M3/4PW • CNMM-M4PW • CNGX-M3N • CNMG-F3M • CNMG-M3M • CNMX-M3/4MW • CNMG/CNGG-TF • CNMG-GN • CNMG-NR • CNMG/CNGG-PP • CNMG-VL • CNMG/CNGG-SF • CNMG-NF • CNMG-WF • CNMG-WG/NRW • CNMS-12 • CNMA • CNGA-Ceramic • CNMG-Ceramic • CNGA-2 (CBN) • CNGA-4 (CBN) • CNGG-M4HF/M4HM (CBN) • CNMA-MW4 (CBN) • CNMA-T/M1/WG (CBN) • CNMA (PCD)



### Spare Parts

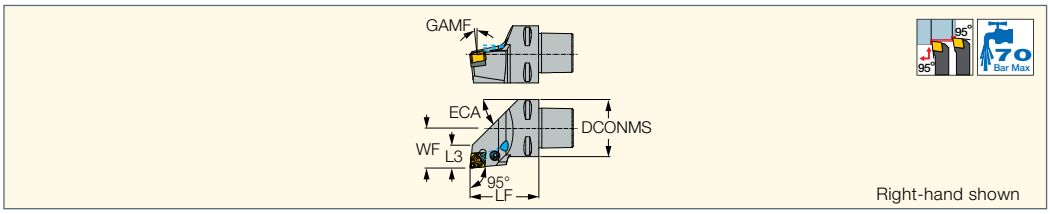
| Designation | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCLNR/L 2020X-09X-JHP-MC | TCX 3[a] | TCN 323[c] | SP 3 | LR 3 | SR 117-2014 | PN 3-4 | HW 2.5 | CU-CW-JHP | SR M5X5 DIN913 TL360 | | T-8/5 | |
| PCLNR/L 2525X-09X-JHP-MC | TCX 3[a] | TCN 323[c] | SP 3 | LR 3 | SR 117-2014 | PN 3-4 | HW 2.5 | CU-CW-JHP | SR M5X5 DIN913 TL360 | | T-8/5 | |
| PCLNR/L 2020X-12X-JHP-MC | TCX 4[a] | TCN 443[d] | SP 4 | LR 4DH | SR 117-2010 | PN 3-4L | HW 2.5 | CU-CW-JHP | SR M5X5 DIN913 TL360 | HW 3.0 | T-8/5 | LR 4DHTL (MR INJ)* |
| PCLNR/L 2525X-12X-JHP-MC | TCX 4[a] | TCN 443[d] | SP 4 | LR 4DH | SR 117-2010 | PN 3-4L | HW 2.5 | CU-CW-JHP | SR M5X5 DIN913 TL360 | HW 3.0 | T-8/5 | LR 4DHTL (MR INJ)* |

* Optional, should be ordered separately [a] For CNMX 0906.. (CNMX 34.) inserts [b] For CNMX 1207.. (CNMX 45.) inserts
[c] For CNMG 0904.. (CNMG 33.) inserts [d] For CNMG 1204.. (CNMG 43.) inserts

HELITURN LD
CAMFIX

## C#-PCLNR/L-X

Lever Lock Tools with CAMFIX Exchangeable Shanks Carrying CNMX and CNMG Rhombic Inserts




| Designation | DCONMS | WF | LF | GAMF | L3 | ECA | Insert | CDI(2) | CP(3) |
|---|---|---|---|---|---|---|---|---|---|
| C4 PCLNR/L-27050-12X (1) | 40.00 | 27.00 | 50.00 | 6.0 | 20.00 | 40.0 | CNMX 1207, CNMG 1204 | 1 | 70 |
| C5 PCLNR/L-35060-12X (1) | 50.00 | 35.00 | 60.00 | 6.0 | 20.00 | 45.0 | CNMX 1207, CNMG 1204 | 1 | 70 |
| C6 PCLNR/L-45065-12X (1) | 63.00 | 45.00 | 65.00 | 6.0 | 20.00 | 54.0 | CNMX 1207, CNMG 1204 | 1 | 70 |
| C4 PCLNR/L-27050-16X | 40.00 | 27.00 | 50.00 | 6.0 | 21.00 | 40.0 | CNMX 1607, CNMG 1606 | 1 | 70 |
| C5 PCLNR/L-35060-16X | 50.00 | 35.00 | 60.00 | 6.0 | 21.00 | 45.0 | CNMX 1607, CNMG 1606 | 1 | 70 |
| C6 PCLNR/L-45065-16X | 63.00 | 45.00 | 65.00 | 6.0 | 21.00 | 54.0 | CNMX 1607, CNMG 1606 | 1 | 70 |

(1) Supplied with TCX 4 seat for CNMX 1207.. inserts and TCN 443 seat for CNMG 1204.. inserts.
(2) 1 - Hole for data chip, 0 - Without hole for data chip
(3) Coolant pressure (Bar)

**Inserts:** CNGA-J(CBN) • CNGG-J(CBN) • CNMG-CERMET • CNMG-F3S • CNMX-M3/4PW • CNMX-M3/4MW • CNMG-F3P • CNMG-M3P • CNMM-R3P • CNMM-M4PW • CNMG-F3M • CNMG-M3M • CNMG-R3M • CNMG/CNGG-TF • CNMG-GN • CNMG-NR • CNMG/CNGG-PP • CNMG-VL • CNMG-MR • CNMG/CNGG-SF • CNMG-NF • CNMG-WF • CNMG-WG/NRW • CNMS-12 • CNMA • CNGA-Ceramic • CNMG-Ceramic • CNGA-2 (CBN) • CNGA-4 (CBN) • CNGG-M4HF/M4HM (CBN) • CNMA-MW4 (CBN) • CNMA-T/M1/WG (CBN) • CNMA (PCD)

### Spare Parts

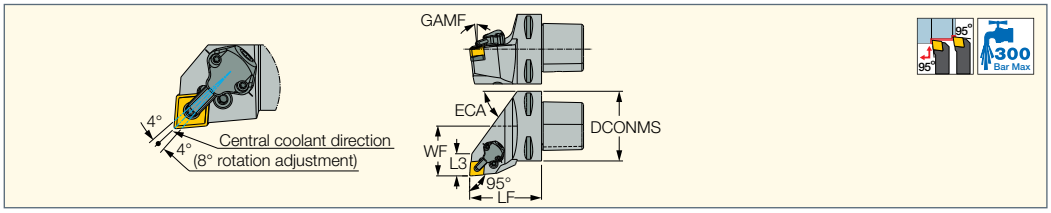
| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| C4 PCLNL-27050-12X | TCX 4 | TCN 443 | SP 4 | PN 3-4L | LR 4DH | SR 117-2010 | HW 3.0 | EZ 62 | LR 4DHTL (MR INJ)* |
| C4 PCLNR-27050-12X | TCX 4 | TCN 443 | SP 4 | PN 3-4L | LR 4DH | SR 117-2010 | HW 3.0 | EZ 62 | LR 4DHTL (MR INJ)* |
| C5 PCLNL-35060-12X | TCX 4 | TCN 443 | SP 4 | PN 3-4L | LR 4DH | SR 117-2010 | HW 3.0 | EZ 83 | LR 4DHTL (MR INJ)* |
| C5 PCLNR-35060-12X | TCX 4 | TCN 443 | SP 4 | PN 3-4L | LR 4DH | SR 117-2010 | HW 3.0 | EZ 83 | LR 4DHTL (MR INJ)* |
| C6 PCLNL-45065-12X | TCX 4 | TCN 443 | SP 4 | PN 3-4L | LR 4DH | SR 117-2010 | HW 3.0 | EZ 83 | LR 4DHTL (MR INJ)* |
| C6 PCLNR-45065-12X | TCX 4 | TCN 443 | SP 4 | PN 3-4L | LR 4DH | SR 117-2010 | HW 3.0 | EZ 83 | LR 4DHTL (MR INJ)* |
| C4 PCLNL-27050-16X | TCX 5 | TCN 53 | SP 5 | | LR 5 | SR LCS 5 | HW 3.0 | EZ 104 | |
| C4 PCLNR-27050-16X | TCX 5 | TCN 53 | SP 5 | | LR 5 | SR LCS 5 | HW 3.0 | EZ 104 | |
| C5 PCLNL-35060-16X | TCX 5 | TCN 53 | SP 5 | SPP 5-6 | LR 5 | SR LCS 5 | HW 3.0 | EZ 125 | |
| C5 PCLNR-35060-16X | TCX 5 | TCN 53 | SP 5 | | LR 5 | SR LCS 5 | HW 3.0 | EZ 125 | |
| C6 PCLNL-45065-16X | TCX 5 | TCN 53 | SP 5 | SPP 5-6 | LR 5 | SR LCS 5 | HW 3.0 | EZ 125 | |
| C6 PCLNR-45065-16X | TCX 5 | TCN 53 | SP 5 | SPP 5-6 | LR 5 | SR LCS 5 | HW 3.0 | EZ 125 | |

* Optional, should be ordered separately

HELITURN LD
JETCUT CAMFIX

## C#-PCLNR/L-X-JHP

Lever Lock Tools with CAMFIX Shanks and Channels for High-Pressure Coolant Carrying CNMX or CNMG Inserts




| Designation | DCONMS | WF | LF | L3 | ECA | GAMF | Insert | CDI(3) | CP(4) |
|---|---|---|---|---|---|---|---|---|---|
| C3 PCLNR-22045-09X-JHP (1) | 32.00 | 22.00 | 45.00 | 22.00 | 45.0 | -6.0 | CNMX 0906, CNMG 0904 | 0 | 300 |
| C4 PCLNR/L-27050-09X-JHP (1) | 40.00 | 27.00 | 50.00 | 24.00 | 45.0 | -6.0 | CNMX 0906, CNMG 0904 | 1 | 300 |
| C5 PCLNR/L-35060-09X-JHP (1) | 50.00 | 35.00 | 60.00 | 26.00 | 45.0 | -6.0 | CNMX 0906, CNMG 0904 | 1 | 300 |
| C4 PCLNR/L-27050-12X-JHP (2) | 40.00 | 27.00 | 50.00 | 18.00 | 54.0 | -6.0 | CNMX 1207, CNMG 1204 | 1 | 300 |
| C5 PCLNR/L-35060-12X-JHP (2) | 50.00 | 35.00 | 60.00 | 20.00 | 50.0 | -6.0 | CNMX 1207, CNMG 1204 | 1 | 300 |
| C6 PCLNR/L-45065-12X-JHP (2) | 63.00 | 45.00 | 65.00 | 20.00 | 54.0 | -6.0 | CNMX 1207, CNMG 1204 | 1 | 300 |

• For user guide, see pages 78-84
(1) Supplied with TCX 3 seat for CNMX 0906.. inserts and TCN 323 seat for CNMG 0904.. inserts.
(2) Supplied with TCX 4 seat for CNMX 1207.. inserts and TCN 443 seat for CNMG 1204.. inserts.
(3) 1 - Hole for data chip, 0 - Without hole for data chip
(4) Coolant pressure (Bar)

**Inserts:** CNGA-J(CBN) • CNGG-F3N • CNGG-J(CBN) • CNGX-M3N • CNMG-CERMET • CNMG-F3S • CNMX-M3/4MW • CNMX-M3/4PW • CNMG-F3P • CNMG-M3P • CNMM-R3P • CNMM-M4PW • CNMG-F3M • CNMG-M3M • CNMG/CNGG-TF • CNMG-GN • CNMG-NR • CNMG/CNGG-PP • CNMG-VL • CNMG/CNGG-SF • CNMG-NF • CNMG-WF • CNMG-WG/NRW • CNMS-12 • CNMA • CNGA-Ceramic • CNMG-Ceramic • CNGA-2 (CBN) • CNGA-4 (CBN) • CNGG-M4HF/M4HM (CBN) • CNMA-MW4 (CBN) • CNMA-T/M1/WG (CBN) • CNMA (PCD)

### Spare Parts

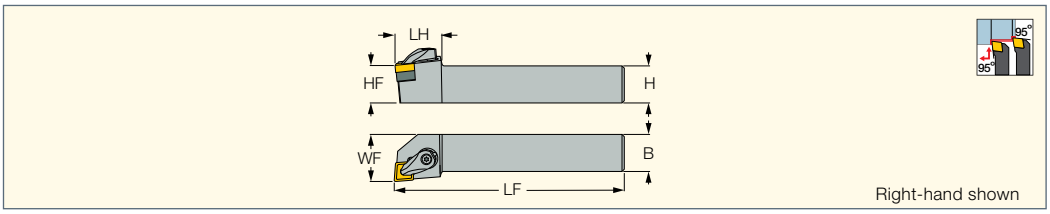
| Designation | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| C3 PCLNR-22045-09X-JHP | TCX 3(a) | TCN 323 | SP 3 | LR 3 | SR 117-2014 | PN 3-4 | CU-CW-JHP | | T-8/5 | HW 2.5 |
| C4 PCLNL-27050-09X-JHP | TCX 3(a) | TCN 323 | SP 3 | LR 3 | SR 117-2014 | PN 3-4 | CU-CW-JHP | | T-8/5 | HW 2.5 |
| C4 PCLNR-27050-09X-JHP | TCX 3(a) | TCN 323 | SP 3 | LR 3 | SR 117-2014 | PN 3-4 | CU-CW-JHP | | T-8/5 | HW 2.5 |
| C5 PCLNL-35060-09X-JHP | TCX 3(a) | TCN 323 | SP 3 | LR 3 | SR 117-2014 | PN 3-4 | CU-CW-JHP | | T-8/5 | HW 2.5 |
| C5 PCLNR-35060-09X-JHP | TCX 3(a) | TCN 323 | SP 3 | LR 3 | SR 117-2014 | PN 3-4 | CU-CW-JHP | | T-8/5 | HW 2.5 |
| C4 PCLNL-27050-12X-JHP | TCX 4 | TCN 443 | SP 4 | LR 4DH | SR 117-2010 | PN 3-4L | CU-CW-JHP | LR 4DHTL (MR INJ)* | T-8/5 | HW 3.0 |
| C4 PCLNR-27050-12X-JHP | TCX 4 | TCN 443 | SP 4 | LR 4DH | SR 117-2010 | PN 3-4L | CU-CW-JHP | LR 4DHTL (MR INJ)* | T-8/5 | HW 3.0 |
| C5 PCLNL-35060-12X-JHP | TCX 4 | TCN 443 | SP 4 | LR 4DH | SR 117-2010 | PN 3-4L | CU-CW-JHP | LR 4DHTL (MR INJ)* | T-8/5 | HW 3.0 |
| C5 PCLNR-35060-12X-JHP | TCX 4 | TCN 443 | SP 4 | LR 4DH | SR 117-2010 | PN 3-4L | CU-CW-JHP | LR 4DHTL (MR INJ)* | T-8/5 | HW 3.0 |
| C6 PCLNL-45065-12X-JHP | TCX 4 | TCN 443 | SP 4 | LR 4DH | SR 117-2010 | PN 3-4L | CU-CW-JHP | LR 4DHTL (MR INJ)* | T-8/5 | HW 3.0 |
| C6 PCLNR-45065-12X-JHP | TCX 4 | TCN 443 | SP 4 | LR 4DH | SR 117-2010 | PN 3-4L | CU-CW-JHP | LR 4DHTL (MR INJ)* | T-8/5 | HW 3.0 |

* Optional, should be ordered separately
(a) For CNMX 0906.. (CNMX 34.) inserts

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## DCLNR/L

R-Clamp Tools with 95°
Lead Angle Carrying 80°
Negative Rhombic Inserts




| Designation | H | HF | B | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|---|
| DCLNR/L-2020K-09X (1) | 20.0 | 20.0 | 20.0 | 125.00 | 25.0 | 25.00 | CNMG 0904 CNMX 0906 |
| DCLNR/L-2525M-09X (1) | 25.0 | 25.0 | 25.0 | 150.00 | 25.0 | 32.00 | CNMG 0904 CNMX 0906 |
| DCLNR/L 2020K-12 (2) | 20.0 | 20.0 | 20.0 | 125.00 | 35.0 | 25.00 | CNMG 1204 CNMX 1207 |
| DCLNR/L 2525M-12 (2) | 25.0 | 25.0 | 25.0 | 150.00 | 35.0 | 32.00 | CNMG 1204 CNMX 1207 |
| DCLNR/L 3232P-12 (2) | 32.0 | 32.0 | 32.0 | 170.00 | 35.0 | 40.00 | CNMG 1204 CNMX 1207 |
| DCLNR/L 2525M-16 | 25.0 | 25.0 | 25.0 | 150.00 | 36.0 | 32.00 | CNMG 1606.. |
| DCLNL 3232P-16 | 32.0 | 32.0 | 32.0 | 170.00 | 36.0 | 40.00 | CNMG 1606.. |
| DCLNR 3232P-16 | 32.0 | 32.0 | 32.0 | 170.00 | 33.0 | 40.00 | CNMG 1606.. |
| DCLNR/L 3232P-19 | 32.0 | 32.0 | 32.0 | 170.00 | 42.0 | 40.00 | CNMG 1906.. |
| DCLNR/L 4040S-19 | 40.0 | 40.0 | 40.0 | 250.00 | 42.0 | 50.00 | CNMG 1906.. |

(1) Supplied with TCX 3 seat for CNMX 0906.. inserts and TCN 323 seat for CNMG 0904.. inserts.
(2) Use TCH 4 seat (optional) for CNMX 1207... insert.

**Inserts:** CNMG-F3P • CNMG-M3P • CNMM-R3P • CNMM-M4PW • CNMX-M3/4PW • CNMG-F3M • CNMG-M3M • CNMG-R3M • CNMX-M3/4MW • CNGG-F3N • CNMG-CERMET • CNGX-M3N • CNMG/CNGG-TF • CNMG-GN • CNMG-NR • CNMM-NR • CNMG/CNGG-PP • CNMG-VL • CNMG-MR • CNMG/CNGG-SF • CNMG-NF • CNMG-WF • CNMG-WG/NRW • CNMM-H3P • CNMM-H4P • CNMA • CNGA-Ceramic • CNMG-Ceramic • CNGA-2 (CBN) • CNGA-4 (CBN) • CNGG-M4HF/M4HM (CBN) • CNMA-MW4 (CBN) • CNMA-T/M1/WG (CBN) • CNMA (PCD) • CNGA-J(CBN) • CNGG-J(CBN) • CNMG-F3S

### Spare Parts

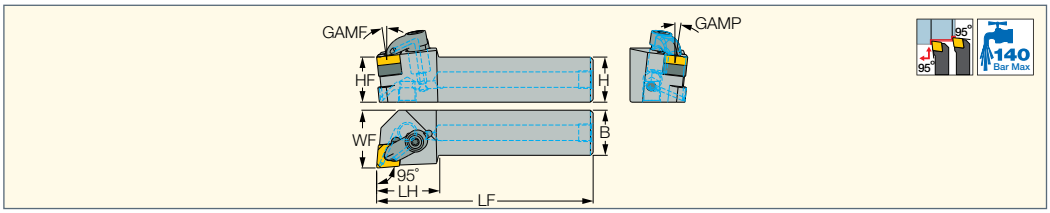
| Designation | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DCLNR/L-2525M-09X | TCN 323 | TCX 3(a) | HW 2.5 | SR RC3 | LCGR-3 | KSP 3 | | | SP 3 | PN 3-4 |
| DCLNR/L 2020K-12 | RCT 443 | TCH 4(b)* | | SR 14-506 | LCGR-4 | | SR 10400270-25.5 | T-15/5 | | |
| DCLNR/L 2525M-12 | RCT 443 | TCH 4(b)* | | SR 14-506 | LCGR-4 | | SR 10400270-25.5 | T-15/5 | | |
| DCLNR/L 3232P-12 | RCT 443 | TCH 4(b)* | | SR 14-506 | LCGR-4 | | SR 10400270-25.5 | T-15/5 | | |
| DCLNR/L 2525M-16 | RCT 544 | | HW 4.0 | SR 10402265 | LCGR-5 | KSP 5 | SR 10402267 | | | |
| DCLNR/L 3232P-16 | RCT 544 | | HW 4.0 | SR 10402265 | LCGR-5 | KSP 5 | SR 10402267 | | | |
| DCLNR/L 3232P-19 | TCN 63 | | HW 4.0 | SR 10402266 | LCGR-6 | KSP 5 | SR 10402267 | | | |
| DCLNR/L 4040S-19 | TCN 63 | | HW 4.0 | SR 10402266 | LCGR-6 | KSP 5 | SR 10402267 | | | |

* Optional, should be ordered separately
(a) For CNMX 0906.. (CNMX 34.) inserts
(b) TCH 4 seat for CNMX 1207.. (CNMX 45.) insert.

ISOTURN
JETRTURN RIGID CLAMP

## DCLNR/L-JHP-MC

Rigid Clamp Tools with Channels
for High-Pressure Coolant
Carrying 80° Rhombic Inserts




| Designation | B | H | HF | LF | LH | WF | GAMP | GAMF | Insert |
|---|---|---|---|---|---|---|---|---|---|
| DCLNR/L 2020X-12-JHP-MC | 20.0 | 20.0 | 20.0 | 105.00 | 35.0 | 25.00 | 6.0 | 6.0 | CNMG 1204 |
| DCLNR/L 2525X-12-JHP-MC | 25.0 | 25.0 | 25.0 | 120.00 | 35.0 | 32.00 | 6.0 | 6.0 | CNMG 1204 |

**Inserts:** CNGA-2 (CBN) • CNGA-4 (CBN) • CNGA-Ceramic • CNGA-J(CBN) • CNGG-J(CBN) • CNGG-M4HF/M4HM (CBN) • CNMA • CNMA (PCD) • CNMA-MW4 (CBN) • CNMA-T/M1/WG (CBN) • CNMG-Ceramic • CNMG-CERMET • CNMG-F3M • CNMG-F3P • CNMG-F3S • CNMG-GN • CNMG-M3M • CNMG-M3P • CNMG-NF • CNMG-NR • CNMG-VL • CNMG-WF • CNMG-WG/NRW • CNMG/CNGG-PP • CNMG/CNGG-SF • CNMG/CNGG-TF • CNMM-M4PW • CNMM-R3P • CNMX-M3/4MW • CNMX-M3/4PW

### Spare Parts

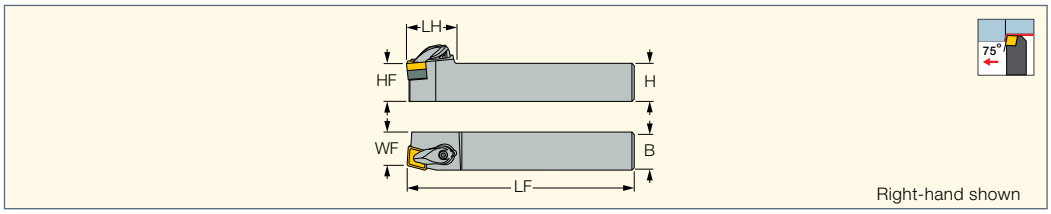
| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| DCLNL 2020X-12-JHP-MC | RCT 443 | TCH 4(a)* | LCGR/L-4JC SET(b) | PLG G1/8 TL360 | OR 4X3 NBR70 | SR 14-506 | |
| DCLNR 2020X-12-JHP-MC | RCT 443 | TCH 4(a)* | LCGR/L-4JC SET(b) | PLG G1/8 TL360 | OR 4X3 NBR70 | SR 14-506 | LCGR-C-4JC SET |
| DCLNL 2525X-12-JHP-MC | RCT 443 | TCH 4(a)* | LCGL-4JC SET(b) | PLG G1/8 TL360 | OR 4X3 NBR70 | SR 14-506 | |
| DCLNR 2525X-12-JHP-MC | RCT 443 | | | PLG G1/8 TL360 | | SR 14-506 | LCGR-C-4JC SET |

* Optional, should be ordered separately
(a) For CNMX 1207.. (CNMX 45.) inserts
(b) Recommended tightening torque 4Nm for R-Clamp Screw

ISOTURN

## DCBNR/L

R-Clamp Tools with 75° Lead Angle Using the 100° Corner of CNMG Inserts




| Designation | H | HF | B | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|---|
| DCBNR/L 2525M-12 | 25.0 | 25.0 | 25.0 | 150.00 | 36.0 | 22.00 | CNMG 1204 |
| DCBNR/L 3232P-19 | 32.0 | 32.0 | 32.0 | 170.00 | 42.0 | 27.00 | CNMG 1906 |

**Inserts:** CNMG-CERMET • CNMG-F3S • CNMG-F3P • CNMG-M3P • CNMM-R3P • CNMM-M4PW • CNMG-F3M • CNMG-M3M • CNMG-R3M • CNMG/CNGG-TF • CNMG-GN • CNMG-NR • CNMM-NR • CNMG/CNGG-PP • CNMG-VL • CNMG-MR • CNMG/CNGG-SF • CNMG-NF • CNMG-WF • CNMG-WG/NRW • CNMM-H3P • CNMM-H4P • CNMA • CNGA-Ceramic • CNMG-Ceramic

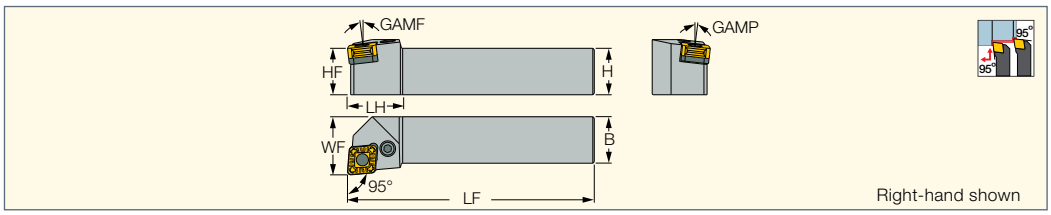
### Spare Parts

| Designation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| DCBNR/L 2525M-12 | RCT 443 | SR 14-506 | LCGR-4 | SR 10400270-25.5 | | | | T-15/5 |
| DCBNR/L 3232P-19 | TCN 63 | SR 10402266 | LCGR-6 | | KSP 5 | SR 10402267 | HW 4.0 | |

DOVEIQTURN HEAVY DUTY LINE

## PCLOR/L-IQ

Lever Lock and Dovetail Pocket Rigid Clamping Toolholders for Unique Double-Sided 80° Rhombic Inserts

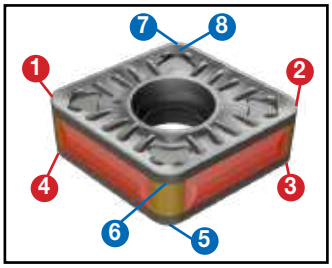



| Designation | H | HF | B | LF | LH | WF | GAMP | GAMF | Insert |
|---|---|---|---|---|---|---|---|---|---|
| PCLOR/L 3232P-16-IQ | 32.0 | 32.0 | 32.0 | 170.00 | 33.0 | 40.00 | -6.0 | -6.0 | COMG 1606 |
| PCLOR/L 3232P-19-IQ (1) | 32.0 | 32.0 | 32.0 | 170.00 | 38.0 | 40.00 | -6.0 | -6.0 | COMG 1906 |
| PCLOR/L 4040S-19-IQ (1) | 40.0 | 40.0 | 40.0 | 250.00 | 38.0 | 50.00 | -6.0 | -6.0 | COMG 1906 |
| PCLOR/L 4040S-25-IQ | 40.0 | 40.0 | 40.0 | 250.00 | 50.0 | 50.00 | -6.0 | -6.0 | COMG 2509 |
| PCLOR/L 5050T-25-IQ | 50.0 | 50.0 | 50.0 | 300.00 | 50.0 | 60.00 | -6.0 | -6.0 | COMG 2509 |

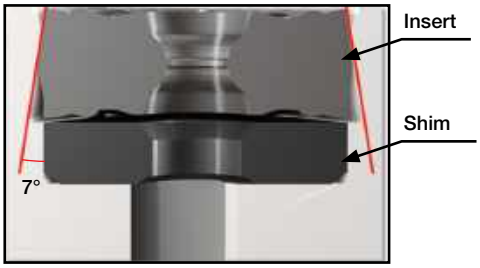
(1) Supplied with TCX 6-IQ seat for COMG inserts, optional TCN 6-IQ seat should be ordered separately for COMM inserts

**Inserts:** COMG-R3P-IQ • COMM-R3P-IQ

**4 Cutting Edges for 80° and 4 Cutting Edges for 100°**




**DOVETAIL Clamping**




### Spare Parts

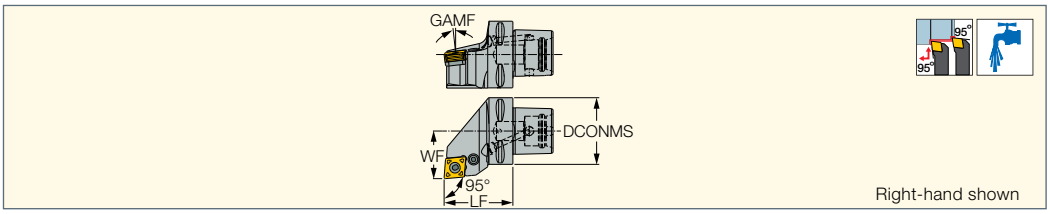
| Designation | | | | | | |
|---|---|---|---|---|---|---|
| PCLOR/L 3232P-16-IQ | TCX 5-IQ | | SR LCS 5-L25.5 | LCL 16-NX | SP 5 | HW 3.0 |
| PCLOR/L 3232P-19-IQ | TCX 6-IQ | TCN 6-IQ* | SR 10402352 | LCL 20C-NX | SP 5 | HW 4.0 |
| PCLOR/L 4040S-19-IQ | TCX 6-IQ | TCN 6-IQ* | SR 10402352 | LCL 20C-NX | SP 5 | HW 4.0 |
| PCLOR/L 4040S-25-IQ | TCX 8-IQ | | SR LCS 8-L39 | LCL 32-NX | SP 8 | HW 5.0 |
| PCLOR/L 5050T-25-IQ | TCX 8-IQ | | SR LCS 8-L39 | LCL 32-NX | SP 8 | HW 5.0 |

* Optional, should be ordered separately

DOVE IQ TURN HEAVY DUTY LINE
CAMFIX

## C#-PCLOR/L-IQ

Lever Lock and Dovetail Pocket Tools with CAMFIX Shanks Carrying Unique Double-Sided 80° Rhombic Inserts




| Designation | DCONMS | WF | LF | GAMF | Insert |
|---|---|---|---|---|---|
| C6 PCLOR/L-45065-16-IQ | 63.00 | 45.00 | 65.00 | -6.0 | COMG 1606 |
| C6 PCLOR/L-45065-19-IQ | 63.00 | 45.00 | 65.00 | -6.0 | COMG 1906 |
| C8 PCLOR/L-55080-19-IQ | 80.00 | 55.00 | 80.00 | -6.0 | COMG 1906 |
| C8 PCLOR/L-55080-25-IQ | 80.00 | 55.00 | 80.00 | -6.0 | COMG 2509 |

**Inserts:** COMG-R3P-IQ • COMM-R3P-IQ

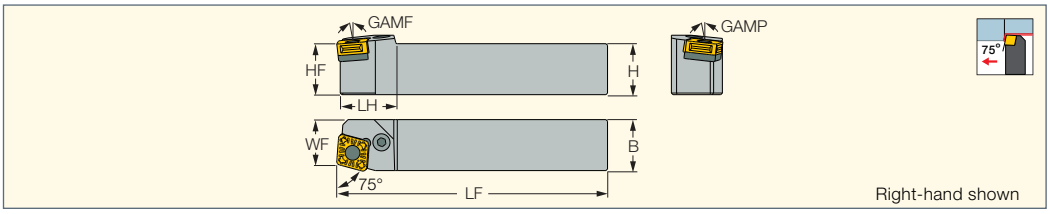
### Spare Parts

| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| C6 PCLOR/L-45065-16-IQ | TCX 5-IQ | LCL 16-NX | SP 5 | SATZ-M10X1-M5 | HW 3.0 | SR LCS 5-L25.5 | SPP 5-6 |
| C6 PCLOR/L-45065-19-IQ | TCX 6-IQ | LCL 20C-NX | SP 5 | SATZ-M10X1-M5 | HW 4.0 | SR 10402352 | |
| C8 PCLOR/L-55080-19-IQ | TCX 6-IQ | LCL 20C-NX | SP 5 | SATZ-M10X1-M5 | HW 4.0 | SR 10402352 | SPP 5-6 |
| C8 PCLOR/L-55080-25-IQ | TCX 8-IQ | LCL 32-NX | SP 8 | SATZ-M12X1-M6 | HW 5.0 | SR LCS 8-L39 | |

DOVE IQ TURN HEAVY DUTY LINE

## PCBOR/L-IQ

Lever Lock and Dovetail Pocket Rigid Clamping Tools Carrying Unique Double-Sided 80° Rhombic Inserts




| Designation | H | HF | B | LF | LH | WF | GAMP | GAMF | Insert |
|---|---|---|---|---|---|---|---|---|---|
| PCBOR/L 3232P-16-IQ | 32.0 | 32.0 | 32.0 | 170.00 | 32.0 | 27.00 | -6.0 | -6.0 | COMG 1606 |
| PCBOR/L 3232P-19-IQ | 32.0 | 32.0 | 32.0 | 170.00 | 38.0 | 28.00 | -6.0 | -6.0 | COMG 1906 |
| PCBOR/L 4040S-19-IQ | 40.0 | 40.0 | 40.0 | 250.00 | 38.0 | 37.00 | -6.0 | -6.0 | COMG 1906 |
| PCBOR/L 4040S-25-IQ | 40.0 | 40.0 | 40.0 | 250.00 | 50.0 | 35.00 | -6.0 | -6.0 | COMG 2509 |

**Inserts:** COMG-R3P-IQ • COMM-R3P-IQ

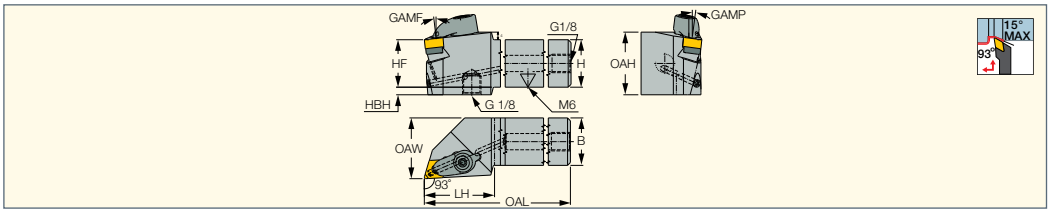
### Spare Parts

| Designation | | | | | |
|---|---|---|---|---|---|
| PCBOR/L 3232P-16-IQ | TCX 5-IQ | SP 5 | SR LCS 5-L25.5 | LCL 16-NX | HW 3.0 |
| PCBOR/L 3232P-19-IQ | TCX 6-IQ | SP 5 | SR 10402352 | LCL 20C-NX | HW 4.0 |
| PCBOR/L 4040S-19-IQ | TCX 6-IQ | SP 5 | SR 10402352 | LCL 20C-NX | HW 4.0 |
| PCBOR/L 4040S-25-IQ | TCX 8-IQ | SP 8 | SR LCS 8-L39 | LCL 32-NX | HW 5.0 |

ISOTURN

## DXJNR/L-X-JHP-MC

Rigid Clamp Tools with Channels for High-Pressure Coolant Carrying 70° Rhombic Inserts



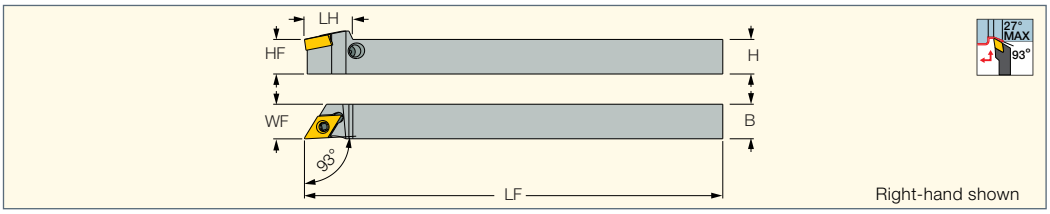

| Designation | H | HF | HBH | LH | OAW | OAH | B | OAL | GAMP | GAMF | Insert | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DXJNL 2020X-09-JHP-MC | 20.0 | 20.0 | 4.0 | 37.0 | 25.00 | 33.00 | 20.0 | 107.00 | 6.0 | 6.0 | XNMG | | | |
| DXJNL 2020X-12-JHP-MC | 20.0 | 20.0 | 4.0 | 37.0 | 25.00 | 33.00 | 20.0 | 107.00 | 6.0 | 6.0 | XNMG | | | |
| DXJNR 2020X-09-JHP-MC | 20.0 | 20.0 | 4.0 | 37.0 | 25.00 | 33.00 | 25.0 | 122.00 | 6.0 | 6.0 | XNMG | | | |
| DXJNR 2020X-12-JHP-MC | 20.0 | 20.0 | 4.0 | 37.0 | 25.00 | 33.00 | 25.0 | 122.00 | 6.0 | 6.0 | XNMG | | | |
| DXJNL 2525X-09-JHP-MC | 25.0 | 25.0 | 9.0 | 37.0 | 32.00 | 33.00 | 20.0 | 107.00 | 6.0 | 6.0 | XNMG | LCGL-3JC-SET | LCGL-3JC-AM | OR 4X3 NBR70 |
| DXJNL 2525X-12-JHP-MC | 25.0 | 25.0 | 4.0 | 37.0 | 32.00 | 33.00 | 20.0 | 107.00 | 6.0 | 6.0 | XNMG | | | |
| DXJNR 2525X-09-JHP-MC | 25.0 | 25.0 | 9.0 | 37.0 | 32.00 | 33.00 | 25.0 | 122.00 | 6.0 | 6.0 | XNMG | | | |
| DXJNR 2525X-12-JHP-MC | 25.0 | 25.0 | 4.0 | 37.0 | 32.00 | 33.00 | 25.0 | 122.00 | 6.0 | 6.0 | XNMG | | | |
| DXJNR/L 3232X-12-JHP-MC | 32.0 | 32.0 | 0.0 | 37.0 | 40.00 | 33.00 | 32.0 | 137.00 | 6.0 | 6.0 | XNMG | | | |

**Inserts:** XNMG-F3M • XNMG-F3P • XNMG-M3M • XNMG-M3P

ISOTURN

## PDJNR/L-S

Lever Lock Tools Carrying DNGP 0703.. Double-Sided 55° Rhombic Inserts




| Designation | H | HF | B | LF | LH | WF | Insert | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PDJNR/L 1010X-07S | 10.0 | 10.0 | 10.0 | 120.00 | 14.0 | 10.00 | DNGP 07 | SR 10400611 | HW 2.0/5 | SL LV-2 | SL PI-2 PIN |
| PDJNR/L 1212F-07S | 12.0 | 12.0 | 12.0 | 80.00 | 14.0 | 12.00 | DNGP 07 | SR 10400611 | HW 2.0/5 | SL LV-2 | SL PI-2 PIN |
| PDJNR/L 1212X-07S | 12.0 | 12.0 | 12.0 | 120.00 | 14.0 | 12.00 | DNGP 07 | SR 10400611 | HW 2.0/5 | SL LV-2 | SL PI-2 PIN |
| PDJNR/L 1616X-07S | 16.0 | 16.0 | 16.0 | 120.00 | 18.0 | 16.00 | DNGP 07 | SR 10400611 | HW 2.0/5 | SL LV-2 | SL PI-2 PIN |

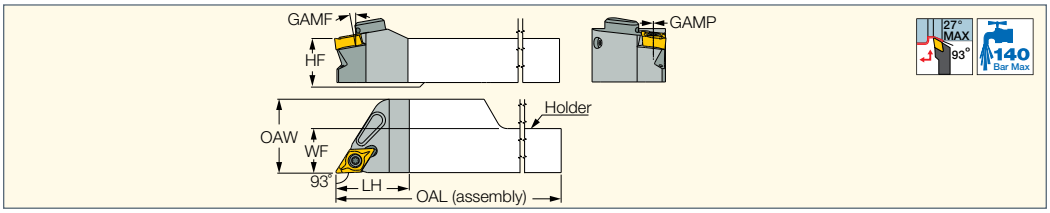
- Use a left-hand insert on a right-hand tool and vice versa.

**Inserts:** DNGP-F2M • DNGP-F2P

NEOSWISS INDEXABLE HEADS
MINIPTURN POSITIVE DOUBLE SIDED

## NQCH-SDJNR/L-S-JHP

Screw Lock Modular Heads with High-Pressure Coolant, Positive Double-Sided 55° Rhombic Inserts for Swiss-Type Machines




| Designation | WF | HF | LH | OAL | OAW | GAMP | GAMF | Insert |
|---|---|---|---|---|---|---|---|---|
| NQCH12-SDJNR/L-07S-JHP | 12.15 | 12.0 | 20.0 | 120.00 | 20.15 | 10.0 | 0.0 | DNGP.. 0703 |
| NQCH16-SDJNR/L-07S-JHP | 16.15 | 16.0 | 20.0 | 120.00 | 20.15 | 10.0 | 0.0 | DNGP.. 0703 |

For user guide, see pages 6-7, 78-84

**Holders:** NQCH-JHP

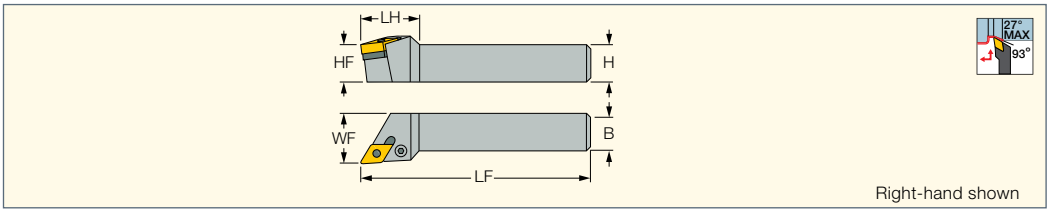
### Spare Parts

| Designation | | |
|---|---|---|
| NQCH-SDJNR/L-S-JHP | SR 34-514 | T-7/5 |

ISOTURN

## PDJNR/L

Lever Lock Tools Carrying 55° Negative Rhombic Inserts




| Designation | H | HF | B | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|---|
| PDJNR/L 1616H-11 | 16.0 | 16.0 | 16.0 | 100.00 | 30.0 | 20.00 | DNMG 1104 |
| PDJNR/L 2020K-11 | 20.0 | 20.0 | 20.0 | 125.00 | 30.0 | 25.00 | DNMG 1104 |
| PDJNR/L 2525M-11 | 25.0 | 25.0 | 25.0 | 150.00 | 30.0 | 32.00 | DNMG 1104 |
| PDJNR/L 2020K-15 | 20.0 | 20.0 | 20.0 | 125.00 | 34.0 | 25.00 | DNMG 1506 |
| PDJNR/L 2525M-15 | 25.0 | 25.0 | 25.0 | 150.00 | 34.0 | 32.00 | DNMG 1506 |
| PDJNR/L 3232P-15 | 32.0 | 32.0 | 32.0 | 170.00 | 34.0 | 40.00 | DNMG 1506 |

**Inserts:** DNGA-J(CBN) • DNGG-M3N • DNMG-CERMET • DNMG-F3S • DNMG-F3P • DNMG-M3P • DNMX-M3P • DNMM-R3P • DNMG-F3M • DNMG-M3M • DNMG/DNGG-TF • DNMG-GN • DNMG-NR • DNMG/DNGG-PP • DNMG-VL • DNMG-PF • DNMG/DNGG-SF • DNMG-NF • DNMM-NM • DNMG-WG • DNMS-12 • DNMA • DNGA-Ceramic • DNGA-2 (CBN) • DNGA-4 (CBN) • DNGG-M4HF/M4HM (CBN) • DNMA (CBN)

### Spare Parts

| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| PDJNR/L 1616H-11 | TDN 322 | | SP 3 | PN 3-4 | LR 3D | SR 117-2014 | HW 2.5/5 |
| PDJNR/L 2020K-11 | TDN 322 | | SP 3 | PN 3-4 | LR 3D | SR 117-2014 | HW 2.5/5 |
| PDJNR/L 2525M-11 | TDN 322 | | SP 3 | PN 3-4 | LR 3D | SR 117-2014 | HW 2.5/5 |
| PDJNR/L 2020K-15 | TDN 422 | TDN 432[a]* | SP 4 | PN 3-4 | LR 4D | SR 117-2010 | HW 3.0 |
| PDJNR/L 2525M-15 | TDN 422 | TDN 432[a]* | SP 4 | PN 3-4 | LR 4D | SR 117-2010 | HW 3.0 |
| PDJNR/L 3232P-15 | TDN 422 | TDN 432[a]* | SP 4 | PN 3-4 | LR 4D | SR 117-2010 | HW 3.0 |

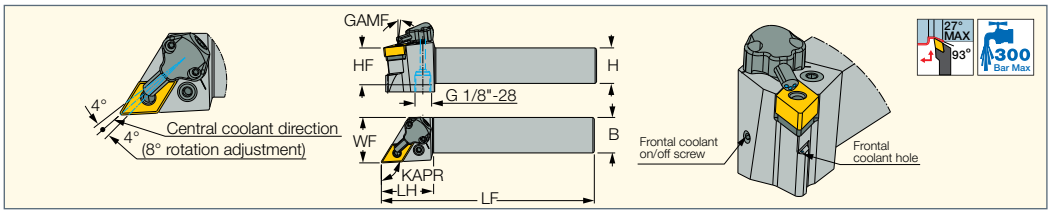
* Optional, should be ordered separately

[a] Use for DNMG 1504.. inserts.

ISOTURN JETCUT

## PDJNR/L-JHP

Lever Lock Tools with Channels for High-Pressure Coolant Carrying 55° Negative Rhombic Inserts




| Designation | B | H | HF | LF | LH | WF | GAMF | KAPR[1] | Insert |
|---|---|---|---|---|---|---|---|---|---|
| PDJNR/L 2525M-11-JHP | 25.0 | 25.0 | 25.0 | 150.00 | 36.0 | 32.00 | -6.0 | 93.0 | DNMG 1104 |
| PDJNR/L 2525M-15-JHP | 25.0 | 25.0 | 25.0 | 150.00 | 36.0 | 32.00 | -6.0 | 93.0 | DNMG 1506 |

- For user guide, see pages 78-84

(1) Tool cutting edge angle

**Inserts:** DNGA-J(CBN) • DNGG-M3N • DNMG-CERMET • DNMG-F3S • DNMG-F3P • DNMG-M3P • DNMX-M3P • DNMM-R3P • DNMG-F3M • DNMG-M3M • DNMG/DNGG-TF • DNMG-GN • DNMG-NR • DNMG/DNGG-PP • DNMG-VL • DNMG-PF • DNMG/DNGG-SF • DNMG-NF • DNMM-NM • DNMG-WG • DNMS-12 • DNMA • DNGA-Ceramic • DNGA-2 (CBN) • DNGA-4 (CBN) • DNGG-M4HF/M4HM (CBN) • DNMA (CBN)

### Spare Parts

| Designation | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PDJNR/L 2525M-11-JHP | TDN 322 | | PN 3-4 | LR 3D | SR 117-2014 | SP 3 | CU-D-JHP | SR M4X4 DIN913 TL360 | T-8/5 | HW 2.0 | HW 2.5/5 |
| PDJNR/L 2525M-15-JHP | TDN 422 | TDN 432[a]* | PN 3-4 | LR 4D | SR 117-2010 | SP 4 | CU-D-JHP | SR M4X4 DIN913 TL360 | T-8/5 | HW 2.0 | HW 3.0 |

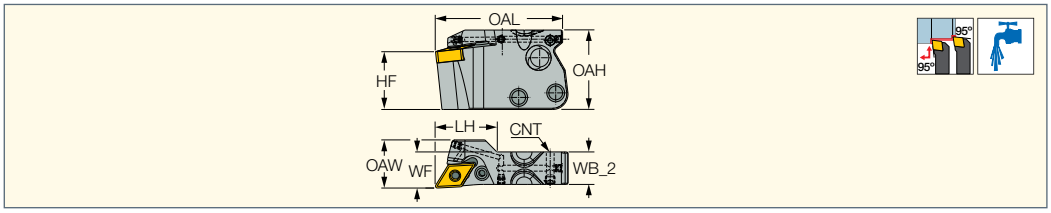
* Optional, should be ordered separately

(a) Use for DNMG 1504.. inserts

ISOTURN

## PDJNR/L-PAD-JHP

Lever Lock Adapter with High-Pressure Coolant Mounts 55° Diamond Inserts




| Designation | HF | OAL | OAH | WF | OAW | WB_2 | LH | GAMP | GAMF | Insert | CNT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PDJNR/L-11-PAD-JHP | 24.0 | 52.80 | 33.00 | 15.00 | 20.00 | 10.0 | 23.0 | 6.0 | 6.0 | DNMG/DNGG 1104 | M4 |

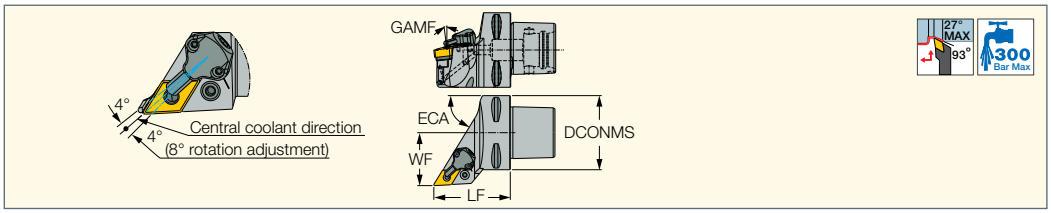
**Inserts:** DNGG-M3N • DNMG-CERMET • DNMG-F3M • DNMG-F3P • DNMG-F3S • DNMG-GN • DNMG-M3M • DNMG-M3P • DNMG-NF • DNMG-PF • DNMG-VL • DNMG/DNGG-PP • DNMG/DNGG-SF • DNMG/DNGG-TF

**Holders:** ABC MAHDR-#-XL-JHP • C#-MAHPD-JHP • DT##/2 MAHD#-#-XL-JHP • MAHPR/L-JHP • MS##-##-MG-JHP • MS-ES#####-GWS-MG-JHP • TR TNK36 MAHDL-R-XL-JHP • TR45 MAHDR-#-XL-JHP • TR45TNL MAHDN-R-XL-JHP • V## MAHD#-#-XL-##-JHP • V## MAHD-XL-JHP

ISOTURN JETCUT CAMFIX

## C#-PDJNR/L-JHP

Lever Lock Tools with CAMFIX Exchangeable Shanks and Channels for High-Pressure Coolant Carrying Negative 55° Insert




| Designation | DCONMS | WF | LF | GAMF | ECA | Insert | CDI[1] | CP[2] |
|---|---|---|---|---|---|---|---|---|
| C3 PDJNR-22045-11-JHP | 32.00 | 22.00 | 45.00 | -6.0 | 58.0 | DN.. 11.. | 0 | 300 |
| C4 PDJNL 27050-11-JHP | 40.00 | 27.00 | 55.00 | -6.0 | 58.0 | DN.. 11.. | 1 | 300 |
| C4 PDJNR 27050-11-JHP | 40.00 | 27.00 | 50.00 | -6.0 | 58.0 | DN.. 11.. | 1 | 300 |
| C5 PDJNR/L 35060-11-JHP | 50.00 | 35.00 | 60.00 | -6.0 | 58.0 | DN.. 11.. | 1 | 300 |
| C4 PDJNR/L 27055-15-JHP | 40.00 | 27.00 | 55.00 | -6.0 | 58.0 | DN.. 15.. | 1 | 300 |
| C5 PDJNR/L 35060-15-JHP | 50.00 | 35.00 | 60.00 | -6.0 | 58.0 | DN.. 15.. | 1 | 300 |
| C6 PDJNR/L 45065-15-JHP | 63.00 | 45.00 | 65.00 | -6.0 | 58.0 | DN.. 15.. | 1 | 300 |

- For user guide, see pages 78-84

(1) 1 - Hole for data chip, 0 - Without hole for data chip

(2) Coolant pressure (Bar)

**Inserts:** DNGA-J(CBN) • DNMG-F3S • DNMG-F3P • DNMG-M3P • DNMX-M3P • DNMM-R3P • DNMG-F3M • DNMG-M3M • DNMG/DNGG-TF • DNMG-GN • DNMG-NR • DNMG/DNGG-PP • DNMG-VL • DNMG-PF • DNMG/DNGG-SF • DNMG-NF • DNMM-NM • DNMG-WG • DNMS-12 • DNMA • DNGA-Ceramic • DNGA-2 (CBN) • DNGA-4 (CBN) • DNGG-M4HF/M4HM (CBN) • DNMA (CBN) • DNGG-M3N • DNMG-CERMET

### Spare Parts

| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| C3 PDJNR-22045-11-JHP | TDN 322 | | LR 3D | SR 117-2014 | SP 3 | PN 3-4 | CU-D-JHP | T-8/5 | HW 2.5/5 |
| C4 PDJNR/L 27050-11-JHP | TDN 322 | | LR 3D | SR 117-2014 | SP 3 | PN 3-4 | CU-D-JHP | T-8/5 | HW 2.5/5 |
| C5 PDJNR/L 35060-11-JHP | TDN 322 | | LR 3D | SR 117-2014 | SP 3 | PN 3-4 | CU-D-JHP | T-8/5 | HW 2.5/5 |
| C4 PDJNR/L 27055-15-JHP | TDN 422 | TDN 432[a]* | LR 4D | SR 117-2010 | SP 4 | PN 3-4 | CU-D-JHP | T-8/5 | HW 3.0 |
| C5 PDJNR/L 35060-15-JHP | TDN 422 | TDN 432[a]* | LR 4D | SR 117-2010 | SP 4 | PN 3-4 | CU-D-JHP | T-8/5 | HW 3.0 |
| C6 PDJNR/L 45065-15-JHP | TDN 422 | TDN 432[a]* | LR 4D | SR 117-2010 | SP 4 | PN 3-4 | CU-D-JHP | T-8/5 | HW 3.0 |

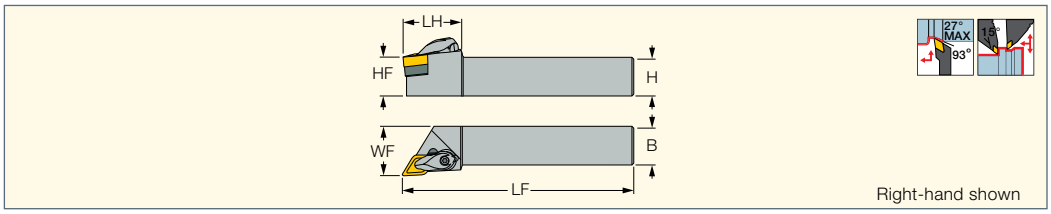
* Optional, should be ordered separately

(a) Use for DNMG 1504.. inserts

ISOTURN

## DDJNR/L

R-Clamp Tools with 93° Lead Angle Carrying 55° Negative Rhombic Inserts




| Designation | H | HF | B | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|---|
| DDJNR/L 1616H-11 | 16.0 | 16.0 | 16.0 | 100.00 | 30.0 | 20.00 | DNMG 1104 |
| DDJNR/L 2020K-11 | 20.0 | 20.0 | 20.0 | 125.00 | 30.0 | 25.00 | DNMG 1104 |
| DDJNR/L 2525M-11 | 25.0 | 25.0 | 25.0 | 150.00 | 30.0 | 32.00 | DNMG 1104 |
| DDJNR/L 2020K-15 | 20.0 | 20.0 | 20.0 | 125.00 | 39.0 | 25.00 | DNMG 1506 |
| DDJNR/L 2525M-15 | 25.0 | 25.0 | 25.0 | 150.00 | 40.0 | 32.00 | DNMG 1506 |
| DDJNR/L 3232P-15 | 32.0 | 32.0 | 32.0 | 170.00 | 41.0 | 40.00 | DNMG 1506 |

**Inserts:** DNMG-F3S • DNMG-F3P • DNMG-M3P • DNMX-M3P • DNMM-R3P • DNMG-CERMET • DNGG-M3N • DNMG-F3M • DNMG-M3M • DNMG/DNGG-TF • DNMG-GN • DNMG-NR • DNMG/DNGG-PP • DNMG-VL • DNMG-PF • DNMG/DNGG-SF • DNMG-NF • DNMM-NM • DNMG-WG • DNMA • DNGA-Ceramic • DNGA-4 (CBN) • DNMA (CBN)

### Spare Parts

| Designation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| DDJNR/L 1616H-11 | RDT 3-2 | | SR 40085I | LCGR-3 | SR RC3 | HW 2.5 | KSP 3 | |
| DDJNR/L 2020K-11 | RDT 3-2 | | SR 40085I | LCGR-3 | SR RC3 | HW 2.5 | KSP 3 | |
| DDJNR/L 2525M-11 | RDT 3-2 | | SR 40085I | LCGR-3 | SR RC3 | HW 2.5 | KSP 3 | |
| DDJNR/L 2020K-15 | RDT 433 | RDT 443* | SR 14-506 | LCGR-4 | SR 10400270-25.5 | | | T-15/5 |
| DDJNR/L 2525M-15 | RDT 433 | RDT 443* | SR 14-506 | LCGR-4 | SR 10400270-25.5 | | | T-15/5 |
| DDJNR/L 3232P-15 | RDT 433 | RDT 443* | SR 14-506 | LCGR-4 | SR 10400270-25.5 | | | T-15/5 |

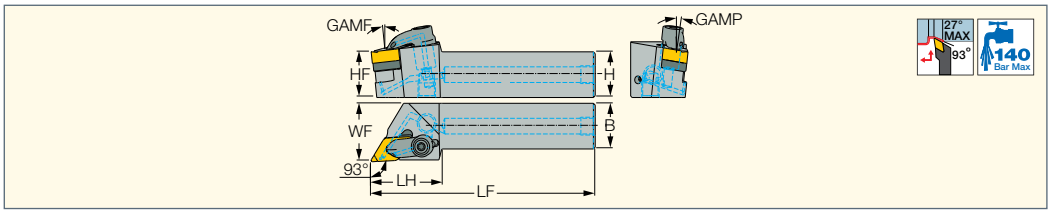
* Optional, should be ordered separately

ISOTURN

JETRTURN RIGID CLAMP

## DDJNR/L-JHP-MC

Rigid Clamp Tools with Channels for High-Pressure Coolant Carrying 55° Rhombic Inserts




| Designation | B | HF | LF | LH | WF | GAMP | GAMF | Insert |
|---|---|---|---|---|---|---|---|---|
| DDJNR/L 2020X-15-JHP-MC | 20.0 | 20.0 | 110.00 | 40.0 | 25.00 | 6.0 | 6.0 | DNMG/X 1506 |
| DDJNR/L 2525X-15-JHP-MC | 25.0 | 25.0 | 125.00 | 40.0 | 32.00 | 6.0 | 6.0 | DNMG/X 1506 |

**Inserts:** DNGA-2 (CBN) • DNGA-4 (CBN) • DNGA-Ceramic • DNGA-J(CBN) • DNGG-M4HF/M4HM (CBN) • DNMA • DNMA (CBN) • DNMG-CERMET • DNMG-F3M • DNMG-F3P • DNMG-F3S • DNMG-GN • DNMG-M3M • DNMG-M3P • DNMG-NF • DNMG-NR • DNMG-PF • DNMG-VL • DNMG-WG • DNMG/DNGG-PP • DNMG/DNGG-SF • DNMG/DNGG-TF • DNMM-NM • DNMM-R3P • DNMX-M3P

### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| DDJNR/L-JHP-MC | RDT 433 | RDT 443* | LCGR/L-4JC SET[a] | PLG G1/8 TL360 | SR 14-506 | OR 4X3 NBR70 |

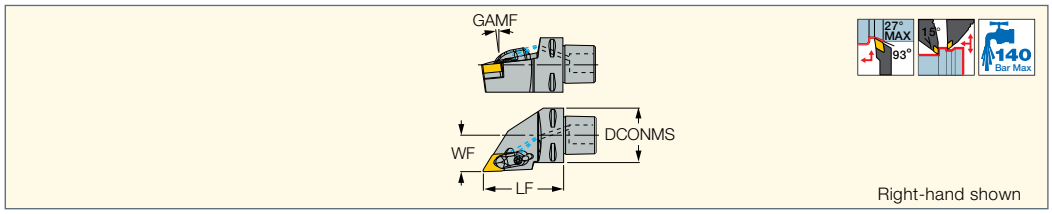
* Optional, should be ordered separately

[a] Recommended tightening torque 4Nm for R-Clamp Screw

## ISOTURN CAMFIX

### C#-DDJNR/L

Tools with CAMFIX Exchangeable Tapered Shanks Carrying Negative 55° Rhombic Inserts




| Designation | DCONMS | WF | LF | Insert | GAMF | CP(1) | CDI(2) |
|---|---|---|---|---|---|---|---|
| C4 DDJNR/L-27060-15 | 40.00 | 27.00 | 60.00 | DN..15 | 6.0 | 140 | 1 |
| C5 DDJNR/L-35060-15 | 50.00 | 35.00 | 60.00 | DN..15 | 6.0 | 140 | 1 |
| C6 DDJNR/L-45065-15 | 63.00 | 45.00 | 65.00 | DN..15 | 6.0 | 140 | 1 |

- Use RDT 443 seat for DN.. 1504.. inserts

(1) Coolant pressure (Bar)

(2) 1 - Hole for data chip, 0 - Without hole for data chip

**Inserts:** DNGA-J(CBN) • DNMG-F3S • DNMG-F3P • DNMG-M3P • DNMX-M3P • DNMM-R3P • DNMG-F3M • DNMG-M3M • DNMG/DNGG-TF • DNMG-GN • DNMG-NR • DNMG/DNGG-PP • DNMG-VL • DNMG-PF • DNMG/DNGG-SF • DNMG-NF • DNMM-NM • DNMG-WG • DNMA • DNGA-Ceramic • DNGA-2 (CBN) • DNGA-4 (CBN) • DNGG-M4HF/M4HM (CBN) • DNMA (CBN) • DNMG-CERMET

### Spare Parts

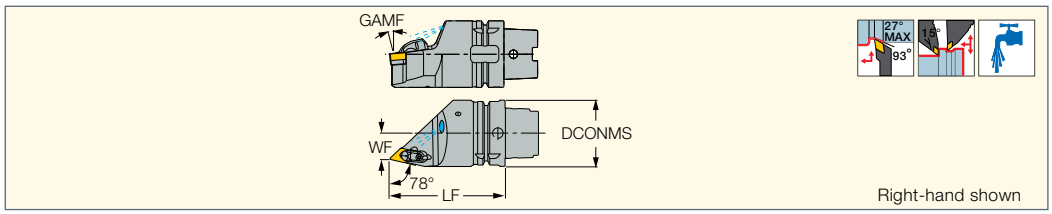
| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| C4 DDJNL-27060-15 | RDT 433 | RDT 443* | T-15/5 | LCGR-4 | SR 10400270-25.5 | SR 14-506 M4X0.7 | EZ 62 |
| C4 DDJNR-27060-15 | RDT 433 | | T-15/5 | LCGR-4 | SR 10400270-25.5 | SR 14-506 M4X0.7 | EZ 62 |
| C5 DDJNL-35060-15 | RDT 433 | | T-15/5 | LCGR-4 | SR 10400270-25.5 | SR 14-506 M4X0.7 | EZ 83 |
| C5 DDJNR-35060-15 | RDT 433 | RDT 443* | T-15/5 | LCGR-4 | SR 10400270-25.5 | SR 14-506 M4X0.7 | EZ 83 |
| C6 DDJNR/L-45065-15 | RDT 433 | RDT 443* | T-15/5 | LCGR-4 | SR 10400270-25.5 | SR 14-506 M4X0.7 | EZ 104 |

* Optional, should be ordered separately

## R-CLAMP HSK

### HSK A63WH-DDJNR/L

R-Clamp Turning Tools with HSK Taper Shank Carrying Negative DNMG Inserts for 15° Mounting on Turn-Mill Machines




| Designation | DCONMS | LF | WF | Insert | CDI(2) | GAMF | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HSK A63WH DDJNR/L J15 (1) | 63.00 | 110.00 | 25.00 | DN.. 15 | 0 | 7.5 | RDT 433 | RDT 443* | SR 14-506 M4X0.7 | LCGR-4 | SR 10400270-25.5 | T-15/5 | EZ 104 |

- Complies with ICTM standard (ISO 12164-3). • A cooling tube must be used with all coolant through HSK spindles (should be ordered separately).
- For shank dimensions, see page 737

(1) RDT 443 for DN__ 1504.. insert.

(2) 1 - Hole for data chip, 0 - Without hole for data chip

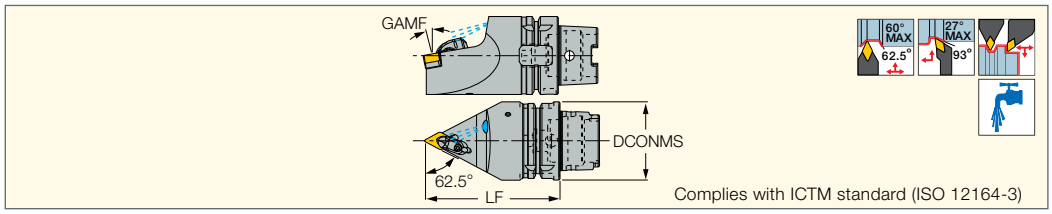
* Optional, should be ordered separately

**Inserts:** DNGA-J(CBN) • DNMG-CERMET • DNMG-F3S • DNMG-F3P • DNMG-M3P • DNMX-M3P • DNMM-R3P • DNMG-F3M • DNMG-M3M • DNMG/DNGG-TF • DNMG-GN • DNMG-NR • DNMG/DNGG-PP • DNMG-VL • DNMG-PF • DNMG/DNGG-SF • DNMG-NF • DNMM-NM • DNMA • DNGA-Ceramic • DNGA-2 (CBN) • DNGA-4 (CBN) • DNGG-M4HF/M4HM (CBN) • DNMA (CBN)

## R-CLAMP HSK

### HSK A63WH-DDNNN

R-Clamp Turning Tools with HSK Taper Shank Carrying Negative DNMG Inserts




| Designation | LF | Insert | DCONMS | GAMF | CDI(2) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HSK A63WH DDNNN J15 (1) | 110.00 | DN.. 15 | 63.00 | 10.0 | 0 | RDT 433 | RDT 443* | SR 14-506 M4X0.7 | LCGR-4 | SR 10400270-25.5[a] | T-15/5 | EZ 104 |

- A cooling tube must be used with all coolant through HSK spindles (should be ordered separately). • For shank dimensions, see page 737

(1) RDT 443 for DN__ 1504.. insert.

(2) 1 - Hole for data chip, 0 - Without hole for data chip

* Optional, should be ordered separately

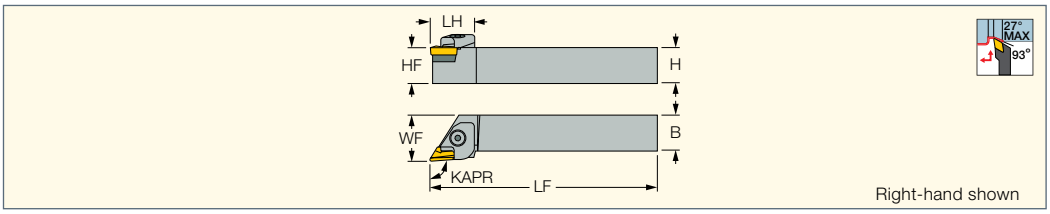
[a] Recommended tightening torque:3 N*m

**Inserts:** DNGA-J(CBN) • DNMG-CERMET • DNMG-F3S • DNMG-F3P • DNMG-M3P • DNMX-M3P • DNMM-R3P • DNMG-F3M • DNMG-M3M • DNMG/DNGG-TF • DNMG-GN • DNMG-NR • DNMG/DNGG-PP • DNMG-VL • DNMG-PF • DNMG/DNGG-SF • DNMG-NF • DNMM-NM • DNMG-WG • DNMA • DNGA-Ceramic • DNGA-2 (CBN) • DNGA-4 (CBN) • DNGG-M4HF/M4HM (CBN) • DNMA (CBN)

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## CKJNR/L

Top Clamp Tools with 93° Lead Angle Carrying 55° Negative Parallelogram Inserts




| Designation | H | HF | B | LF | LH | WF | KAPR(1) | Insert |
|---|---|---|---|---|---|---|---|---|
| CKJNR/L 2020K-16 | 20.0 | 20.0 | 20.0 | 125.00 | 32.0 | 25.00 | 93.0 | KNMX/KNUX 1604 |
| CKJNR/L 2525M-16 | 25.0 | 25.0 | 25.0 | 150.00 | 32.0 | 32.00 | 93.0 | KNMX/KNUX 1604 |
| CKJNR/L 3232P-16 | 32.0 | 32.0 | 32.0 | 170.00 | 32.0 | 40.00 | 93.0 | KNMX/KNUX 1604 |

(1) Tool cutting edge angle

**Inserts:** KNMX • KNUX

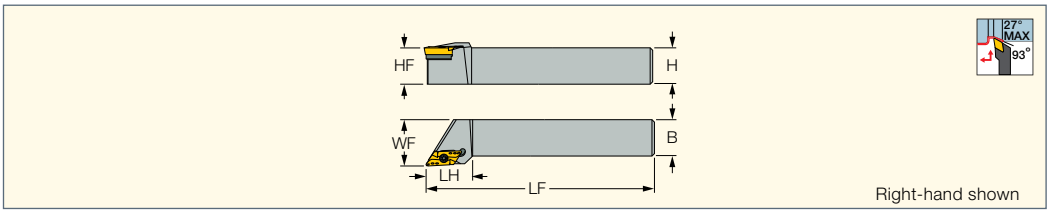
### Spare Parts

| Designation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| CKJNR/L | CSK 1604 R/L | SR M3X0.5X10DIN7991 10.9 | KSP 90 | KSP 48 | KSP 48S | CL 16KR/L | CLS 16K | HW 4.0 |

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## SKJNR/L

Screw Clamp Tools with 93° Lead Angle Carrying 55° Negative Parallelogram Inserts



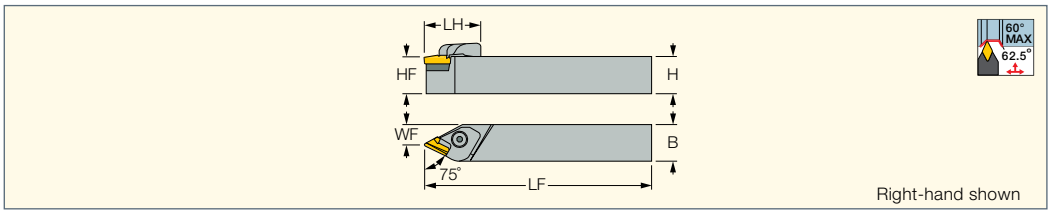

| Designation | H | HF | B | LF | LH | WF | Insert | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SKJNR/L 2525M-16 | 25.0 | 25.0 | 25.0 | 150.00 | 32.0 | 32.00 | KNMX 1604 | TKX 160310R/L | SR TC-3 | HW 2.5 | SR 16-236 P | T-15/5 |
| SKJNL 3232P-16 | 32.0 | 32.0 | 32.0 | 170.00 | 32.0 | 40.00 | KNMX 1604 | TKX 160310L | SR TC-3 | HW 2.5 | SR 16-236 P | T-15/5 |

**Inserts:** KNMX

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## CKNNR/L

Top Clamp Tools with 63° Lead Angle Carrying 55° Negative Parallelogram Inserts




| Designation | H | HF | B | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|---|
| CKNNR 2525M-16 | 25.0 | 25.0 | 25.0 | 150.00 | 33.0 | 14.40 | KNUX/KNMX 1604 |

**Inserts:** KNMX • KNUX

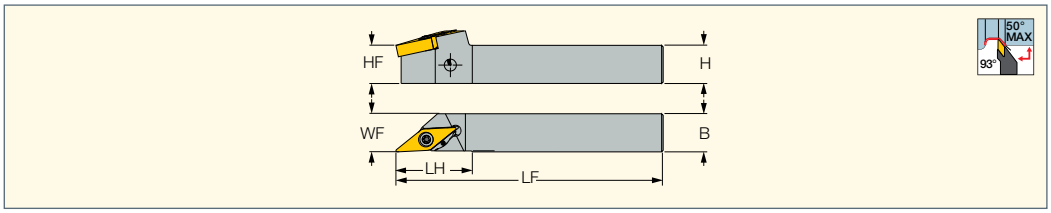
### Spare Parts

| Designation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| CKNNR/L | CSK 1604 R | CL 16KR | CLS 16K | KSP 90 | KSP 48 | KSP 48S | SR M3X0.5X10DIN7991 10.9 | HW 4.0 |

ISOTURN

## SVANR/L-FS

Screw Lock Holders for Negative, 35° Inserts with a Wedge for High Rigidity in Profiling Applications



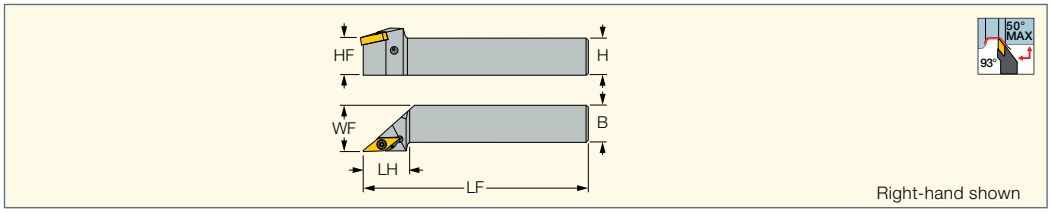

| Designation | H | HF | B | LF | LH | WF | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| SVANR/L 1212K-12FS | 12.0 | 12.0 | 12.0 | 125.00 | 25.4 | 12.20 | AV 12 | PA 12 | SR 14-551 | T-9/5 |
| SVANR/L 1616K-12FS | 16.0 | 16.0 | 16.0 | 125.00 | 25.4 | 16.20 | AV 12 | PA 12 | SR 14-551 | T-9/5 |

**Inserts:** VNMG-F3M • VNMG-F3P • VNMG-F3S • VNMG-FNF-CERMET • VNMG-M3M • VNMG-SF • VNMG/VNGG-NF • VNMM-PP

ISOTURN

## SVJNR/L-F

Screw Lock Tools with a Wedge for High Rigidity Carrying 35° Negative Inserts for Profiling Applications




| Designation | H | HF | B | LF | LH | WF | Insert | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SVJNR/L 1616H-12F | 16.0 | 16.0 | 16.0 | 100.00 | 25.0 | 20.00 | VNMG 12T3 | SR 14-551 | T-9/5 | AV 12 | PA 12 |
| SVJNR/L 2020K-12F | 20.0 | 20.0 | 20.0 | 125.00 | 25.0 | 25.00 | VNMG 12T3 | SR 14-551 | T-9/5 | AV 12 | PA 12 |
| SVJNR/L 2525M-12F | 25.0 | 25.0 | 25.0 | 150.00 | 25.0 | 32.00 | VNMG 12T3 | SR 14-551 | T-9/5 | AV 12 | PA 12 |

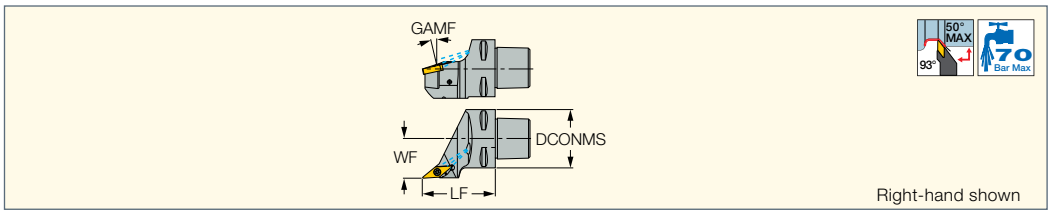
- Repeatability: for VNMG is ±0.06 mm, for VNGG is ±0.02 mm

**Inserts:** VNMG-F3M • VNMG-F3P • VNMG-F3S • VNMG-FNF-CERMET • VNMG-M3M • VNMG-SF • VNMG/VNGG-NF • VNMM-PP

ISOTURN CAMFIX

## C#-SVJNR/L-F

Screw Lock Tools with CAMFIX Exchangeable Shanks Carrying 35° Negative Rhombic Inserts




| Designation | DCONMS | WF | LF | Insert | GAMF | CDI(1) | CP(2) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C4 SVJNR/L-27050-12F | 40.00 | 27.00 | 50.00 | VN.. 12T3 | 12.0 | 1 | 70 | AV 12 | PA 12 | SR 14-551 | T-9/5 | EZ 83 |

(1) 1 - Hole for data chip, 0 - Without hole for data chip

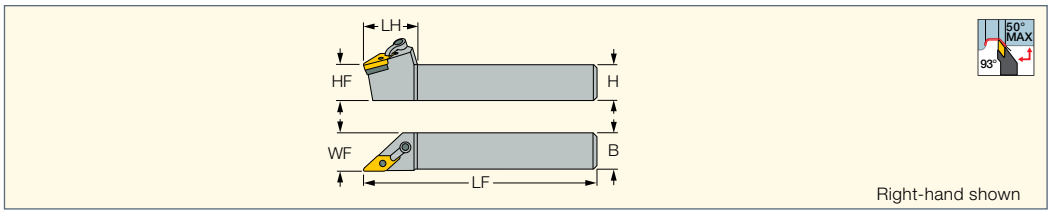
(2) Coolant pressure (Bar)

**Inserts:** VNMG-F3M • VNMG-F3P • VNMG-F3S • VNMG-FNF-CERMET • VNMG-M3M • VNMG-SF • VNMG/VNGG-NF • VNMM-PP

ISOTURN

## MVJNR/L

Pin and Clamp Tools Carrying 35° Negative Rhombic Inserts




| Designation | H | HF | B | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|---|
| MVJNR/L 2020K-16 | 20.0 | 20.0 | 20.0 | 125.00 | 41.0 | 25.00 | VNMG 1604 |
| MVJNR/L 2525M-16 | 25.0 | 25.0 | 25.0 | 150.00 | 41.0 | 32.00 | VNMG 1604 |

**Inserts:** VNGG-M3N • VNMG-F3M • VNMG-F3P • VNMG-M3M • VNMG-TF • YNMG-F3P • VNMG/VNGG-NF • VNMS-12 • VNGA-Ceramic • VNGA-2 (CBN) • VNGA-4 (CBN) • VNGG-M4HM (CBN)

### Spare Parts

| Designation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| MVJNR/L | IVSN 322 | IVSN 323(a)* | IYSN 322(b)* | NL 34-L | HW 5/32" | CL 30-INJ | XNS 510 | HW 5/64" |

* Optional, should be ordered separately

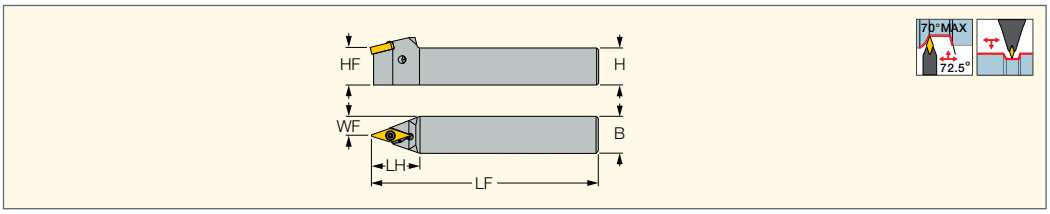
(a) Use for VNMG 160412 inserts

(b) Use for YNMG inserts

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## SVVNN-F

Screw Lock Tools with a Wedge for High Rigidity in Profiling Applications Carrying 35° Negative Inserts

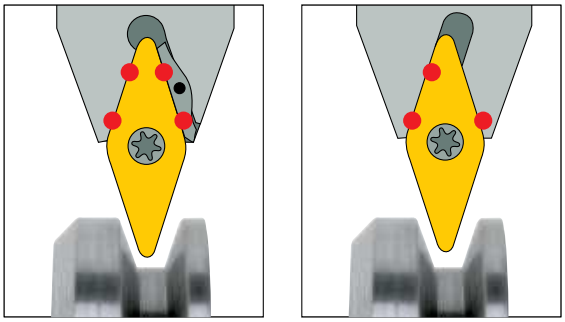



| Designation | H | HF | B | LF | LH | WF | Insert | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SVVNN 1616H-12F | 16.0 | 16.0 | 16.0 | 100.00 | 26.0 | 8.00 | VNMG 12T3 | SR 14-551 | T-9/5 | PA 12 | AV 12 |
| SVVNN 2020K-12F | 20.0 | 20.0 | 20.0 | 125.00 | 26.0 | 10.00 | VNMG 12T3 | SR 14-551 | T-9/5 | PA 12 | AV 12 |
| SVVNN 2525M-12F | 25.0 | 25.0 | 25.0 | 150.00 | 26.0 | 12.50 | VNMG 12T3 | SR 14-551 | T-9/5 | PA 12 | AV 12 |

- Repeatability: for VNMG is ±0.06 mm, for VNGG is ± 0.02 mm

**Inserts:** VNMG-F3M • VNMG-F3P • VNMG-F3S • VNMG-FNF-CERMET • MG-M3M • VNMG-SF • VNMG/VNGG-NF • VNMM-PP

**4 contact points ensure secure and precise clamping**

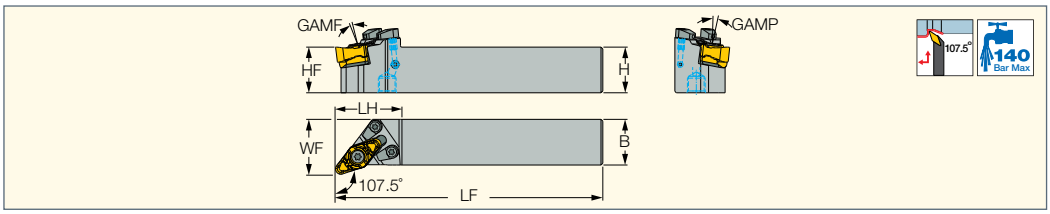


**Conventional clamping**

ISOTURN JETCUT

## SVHNR/L-AL-JHP

Screw Lock Tools with Channels for High-Pressure Coolant Carrying 35° Rhombic Inserts




| Designation | H | B | HF | LF | LH | WF | GAMP | GAMF | MIID[1] |
|---|---|---|---|---|---|---|---|---|---|
| SVHNR/L 2525M-22-AL-JHP | 25.0 | 25.0 | 25.0 | 146.34 | 36.3 | 30.03 | 7.0 | 6.0 | VNGU 220630-R3N |

- For user guide, see pages 78-84

(1) Master insert identification

**Inserts:** VNGU-R3N

### Spare Parts

| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SVHNR/L 2525M-22-AL-JHP | TVX 2230[a] | SR 14-591/L-SN | SW6-T-SH | BLD T20/S7 | HW 3.0 | SR TC-4 | CH-1.9D-JHP-A SET | TVX 2212[b]* | TVX 2216[c]* |

* Optional, should be ordered separately

(a) For VNGU 220630-R3N insert

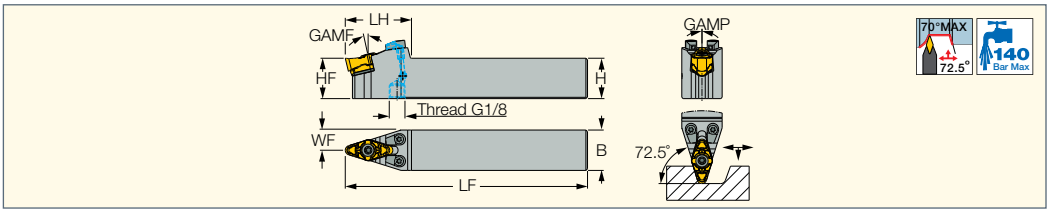
(b) For VNGU 220612-R3N insert

(c) For VNGU 220616-R3N insert

ISOTURN JETCUT

## SVVNN-AL-JHP

Screw Lock Tools with Channels for High-Pressure Coolant Carrying 35° Rhombic Inserts




| Designation | H | HF | B | LF | LH | WF | GAMP | GAMF | MIID[1] |
|---|---|---|---|---|---|---|---|---|---|
| SVVNN 2525M-22-AL-JHP | 25.0 | 25.0 | 25.0 | 150.00 | 41.0 | 12.50 | 0.0 | -13.5 | VNGU 220630-R3N |

(1) Master insert identification

**Inserts:** VNGU-R3N

### Spare Parts

| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SVVNN 2525M-22-AL-JHP | TVX 2230[a] | HW 3.0 | BLD T20/S7 | SW6-T-SH | SR TC-4 | SR 14-591/L-SN | CH-1.9D-JHP-A SET | TVX 2212[b]* | TVX 2216[c]* |

* Optional, should be ordered separately

(a) For VNGU 220630-R3N insert

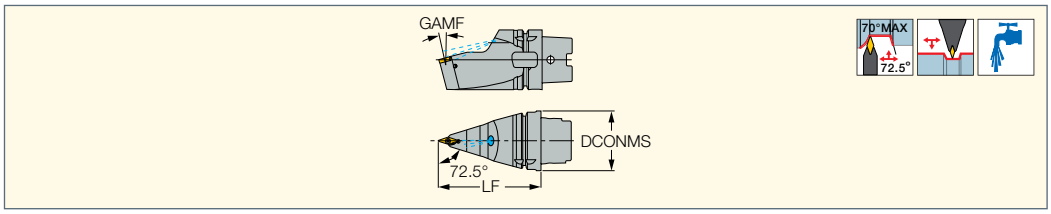
(b) For VNGU 220612-R3N insert

(c) For VNGU 220616-R3N insert

ISOTURN HSK

## HSK A63WH-SVVNN-F

72.5° Lead Angle Tools with HSK Exchangeable Tapered Shanks Carrying 35° Negative Inserts




| Designation | DCONMS | LF | Insert | GAMF | CDI[1] | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| HSK A63WH-SVVNN-J12F | 63.00 | 110.00 | VNM. 12T3 | 14.0 | 0 | SR 14-551 | T-9/5 | AV 12 | PA 12 | EZ 104 |

- Complies with ICTM standard (ISO 12164-3)
- A cooling tube must be used with all coolant through HSK spindles (should be ordered separately)
- For shank dimensions, see page 737

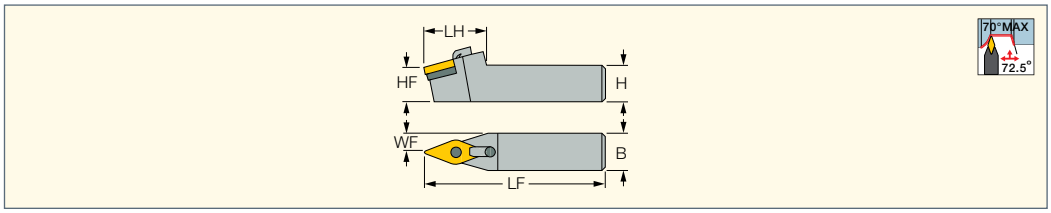
(1) 1 - Hole for data chip, 0 - Without hole for data chip

**Inserts:** VNMG-F3M • VNMG-F3P • VNMG-F3S • VNMG-FNF-CERMET • VNMG-M3M • VNMG-SF • VNMG/VNGG-NF • VNMM-PP

ISOTURN

## MVVNN

Pin and Clamp Tools Carrying 35° Negative Rhombic Inserts




| Designation | H | HF | B | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|---|
| MVVNN 2020K-16 | 20.0 | 20.0 | 20.0 | 125.00 | 48.0 | 10.00 | VNMG 1604.. |
| MVVNN 2525M-16 | 25.0 | 25.0 | 25.0 | 150.00 | 48.0 | 12.50 | VNMG 1604.. |

**Inserts:** VNGA-J(CBN) • VNGG-M3N • VNMG-F3M • VNMG-F3P • VNMG-M3M • VNMG-TF • YNMG-F3P • VNMG/VNGG-NF • VNMS-12 • VNGA-Ceramic • VNGA-2 (CBN) • VNGA-4 (CBN) • VNGG-M4HM (CBN)

### Spare Parts

| Designation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| MVVNN | IVSN 322 | IVSN 323[a]* | IYSN 322[b]* | NL 34-L | CL 30-INJ | XNS 510 | HW 5/32" | HW 5/64" |

* Optional, should be ordered separately

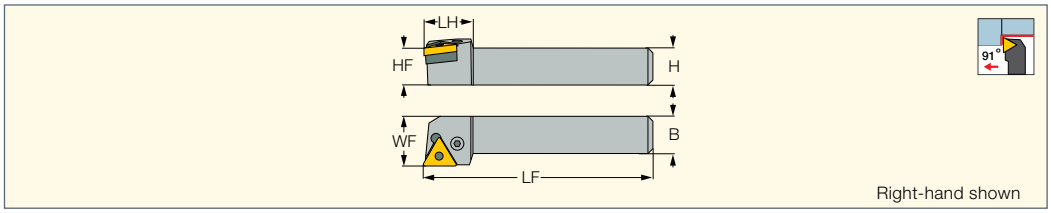
(a) Use for VNMG 160412 inserts

(b) Use for YNMG inserts

ISOTURN

## PTGNR/L

91° Lead Angle Lever Lock External Turning Tools Carrying Negative Triangular Inserts




| Designation | H | HF | B | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|---|
| PTGNR/L 2020K-16 | 20.0 | 20.0 | 20.0 | 125.00 | 22.0 | 25.00 | TNMG 16.. |
| PTGNR/L 2525M-16 | 25.0 | 25.0 | 25.0 | 150.00 | 22.0 | 32.00 | TNMG 16.. |
| PTGNR/L 2525M-22 | 25.0 | 25.0 | 25.0 | 150.00 | 32.0 | 32.00 | TNMG 2204 |
| PTGNR 3232P-22 | 32.0 | 32.0 | 32.0 | 170.00 | 32.0 | 40.00 | TNMG 2204 |

**Inserts:** TNGA-J(CBN) • TNGG-M3N • TNMG-F3S • TNMG-FFG-CERMET • TNMG-F3P • TNMG-M3P • TNMG-F3M • TNMG-M3M • TNMG-TF • TNMG-GN • TNMM-NR • TNMG/TNGG-PP • TNMG-VL • TNMG-PF • TNMG-SF • TNMG-NF • TNMS-12 • TNMA • TNGA-Ceramic • TNGA-M3 (CBN) • TNGA-MC/M6 (CBN) • TNMA (CBN)

### Spare Parts

| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| PTGNR/L 2020K-16 | TTN 322 | TTN 332[a]* | SP 3 | LR 3 | SR 117-2014 | HW 2.5/5 | PN 3-4 |
| PTGNR/L 2525M-16 | TTN 322 | TTN 332[a]* | SP 3 | LR 3 | SR 117-2014 | HW 2.5/5 | PN 3-4 |
| PTGNR/L 2525M-22 | TTN 422 | | SP 4 | LR 4 | SR 117-2010 | HW 3.0 | PN 3-4 |
| PTGNR 3232P-22 | TTN 422 | | SP 4 | LR 4 | SR 117-2010 | HW 3.0 | PN 3-4 |

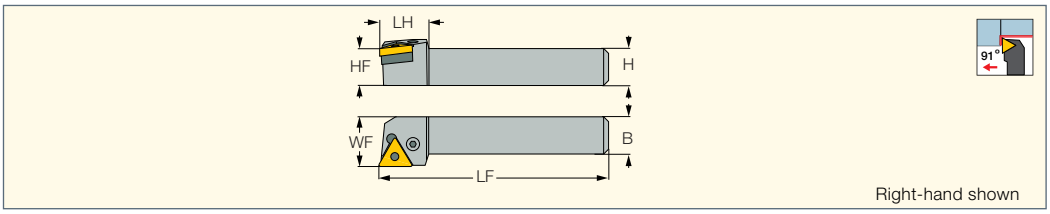
* Optional, should be ordered separately

(a) TTN 332 for inserts 3.18 mm thick

HELITURN LD

## PTGNR/L-X

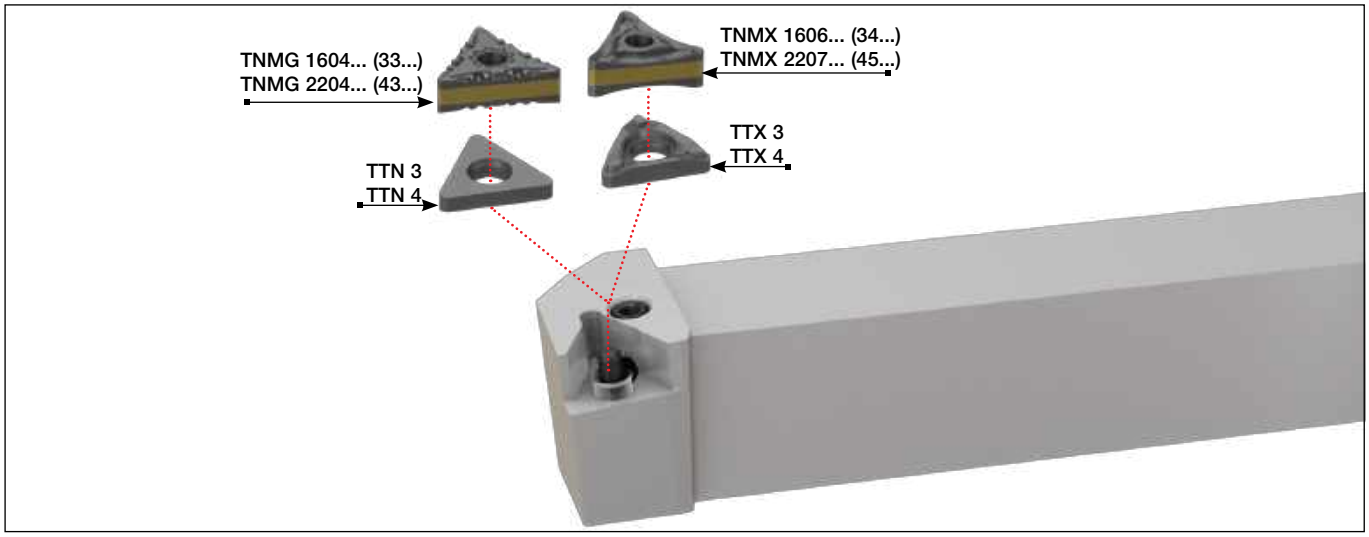
91° Lead Angle Lever Lock External Turning Tools Carrying Negative Triangular Inserts




| Designation | H | HF | B | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|---|
| PTGNR/L 2020K-16X | 20.0 | 20.0 | 20.0 | 125.00 | 20.0 | 25.00 | TNMX 1606, TNMG 1604 |
| PTGNR/L 2525M-16X | 25.0 | 25.0 | 25.0 | 150.00 | 20.0 | 32.00 | TNMX 1606, TNMG 1604 |
| PTGNR/L 2525M-22X | 25.0 | 25.0 | 25.0 | 150.00 | 32.0 | 32.00 | TNMX 2207, TNMG 2204 |
| PTGNR/L 3232P-22X | 32.0 | 32.0 | 32.0 | 170.00 | 32.0 | 40.00 | TNMX 2207, TNMG 2204 |

- Use TTX 3 seat for TNMX 1606.. inserts and TTN 3 seat for TNMG 1604.. inserts

**Inserts:** TNGA-J(CBN) • TNGG-M3N • TNMG-F3S • TNMG-FFG-CERMET • TNMG-F3P • TNMG-M3P • TNMX-M3/4PW • TNMG-F3M • TNMG-M3M • TNMX-M3/4MW • TNMG-TF • TNMG-GN • TNMM-NR • TNMG/TNGG-PP • TNMG-VL • TNMG-PF • TNMG-SF • TNMG-NF • TNMS-12 • TNMA • TNGA-Ceramic • TNGA-M3 (CBN) • TNGA-MC/M6 (CBN) • TNMA (CBN)



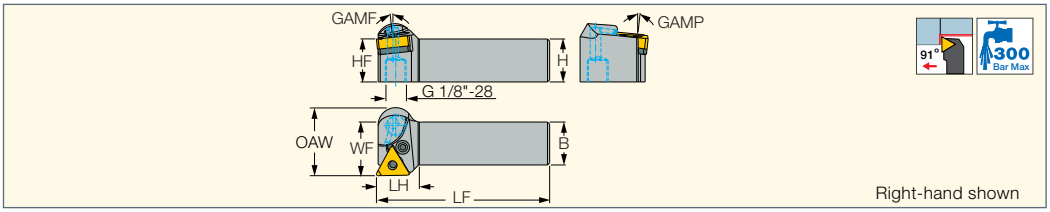

### Spare Parts

| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| PTGNR/L 2020K-16X | TTX 3 | TTN 3 | SP 3 | LR 3 | SR 117-2014 | HW 2.5 | PN 3-4 |
| PTGNR/L 2525M-16X | TTX 3 | TTN 3 | SP 3 | LR 3 | SR 117-2014 | HW 2.5 | PN 3-4 |
| PTGNR/L 2525M-22X | TTX-4 | TTN-4 | SP 4 | LR 4DH | SR 117-2010 | HW 3.0 | PN 3-4L |
| PTGNR/L 3232P-22X | TTX-4 | TTN-4 | SP 4 | LR 4DH | SR 117-2010 | HW 3.0 | PN 3-4L |

HELITURN LD JETCUT

## PTGNR/L-X-JHP

91° Lead Lever Lock Tools with Channels for High-Pressure Coolant Carrying Negative Triangular Inserts




| Designation | H | HF | B | LF | LH | WF | OAW | GAMP | GAMF | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| PTGNR/L 2020K-16X-JHP | 20.0 | 20.0 | 20.0 | 125.00 | 20.0 | 25.00 | 31.7 | -6.0 | -6.0 | TNMX 1606, TNMG 1604 |
| PTGNR/L 2525M-16X-JHP | 25.0 | 25.0 | 25.0 | 150.00 | 20.0 | 32.00 | - | -6.0 | -6.0 | TNMX 1606, TNMG 1604 |

- Supplied with TTX 3 seat for TNMX 1606.. inserts and TTN 3 seat for TNMG 1604.. inserts • For user guide, see pages 78-84

**Inserts:** TNGA-J(CBN) • TNGG-M3N • TNMG-F3S • TNMG-FFG-CERMET • TNMG-F3P • TNMG-M3P • TNMX-M3/4PW • TNMG-F3M • TNMG-M3M • TNMX-M3/4MW • TNMG-TF • TNMG-GN • TNMG/TNGG-PP • TNMG-VL • TNMG-PF • TNMG-SF • TNMG-NF • TNMS-12 • TNMA • TNGA-Ceramic • TNGA-M3 (CBN) • TNGA-MC/M6 (CBN) • TNMA (CBN)

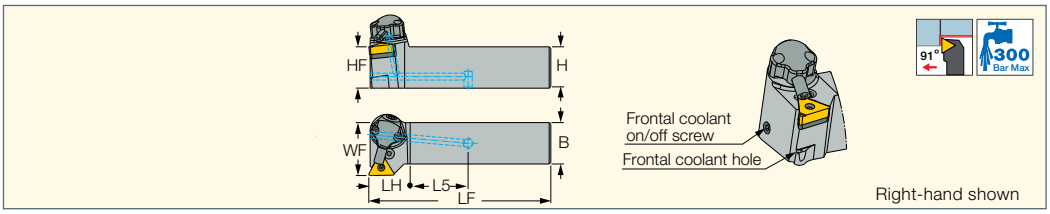
### Spare Parts

| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| PTGNR/L-X-JHP | TTX 3 | TTN 3 | SP 3 | LR 3 | SR 117-2014 | HW 2.5 | PN 3-4 |

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JETCUT

## PTGNR/L-X-JHP-MC

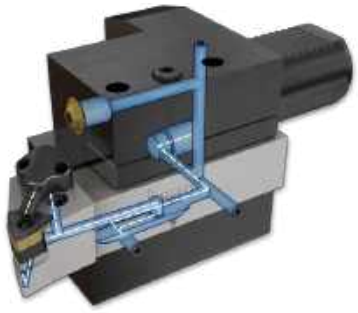
Tools with Bottom Inlets for High-Pressure Coolant Carrying TNMX and TNMG Triangular Inserts




| Designation | H | HF | B | LF | LH | L5 | WF | Insert |
|---|---|---|---|---|---|---|---|---|
| PTGNR/L 2020X-16X-JHP-MC | 20.0 | 20.0 | 20.0 | 95.00 | 25.0 | 29.00 | 25.00 | TNMX 1606, TNMG 1604 |
| PTGNR/L 2525X-16X-JHP-MC | 25.0 | 25.0 | 25.0 | 110.00 | 25.0 | 35.00 | 32.00 | TNMX 1606, TNMG 1604 |

• Supplied with TTX 3 seat for TNMX 1606.. inserts and TTN 3 seat for TNMG 1604.. inserts. • For user guide, see pages 78-84

**Inserts:** TNGA-J(CBN) • TNGG-M3N • TNMG-F3S • TNMG-FFG-CERMET • TNMG-F3P • TNMG-M3P • TNMX-M3/4PW • TNMG-F3M • TNMG-M3M • TNMX-M3/4MW • TNMG-TF • TNMG-GN • TNMG/TNGG-PP • TNMG-VL • TNMG-PF • TNMG-SF • TNMG-NF • TNMS-12 • TNMA • TNGA-Ceramic • TNGA-M3 (CBN) • TNGA-MC/M6 (CBN) • TNMA (CBN)



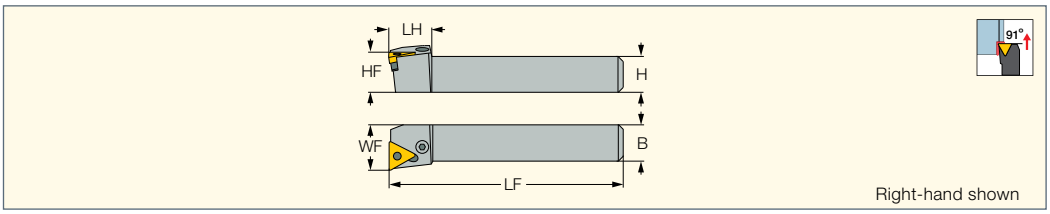
### Spare Parts

| Designation | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| PTGNR/L-X-JHP-MC | TTX 3 | TTN 3 | SP 3 | LR 3 | SR 117-2014 | T-8/5 | SR M5X5 DIN913 TL360 | PN 3-4 | HW 2.5 | CU-S-JHP |

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## PTFNR/L

91° Lead Angle Lever Lock Face Turning Tools Carrying Negative Triangular Inserts




| Designation | H | HF | B | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|---|
| PTFNR/L 2020K-16 | 20.0 | 20.0 | 20.0 | 125.00 | 20.0 | 25.00 | TNMG 16.. |
| PTFNR/L 2525M-16 | 25.0 | 25.0 | 25.0 | 150.00 | 20.0 | 32.00 | TNMG 16.. |
| PTFNR/L 2525M-22 | 25.0 | 25.0 | 25.0 | 150.00 | 26.0 | 32.00 | TNMG 2204 |

**Inserts:** TNGA-J(CBN) • TNGG-M3N • TNMG-F3S • TNMG-FFG-CERMET • TNMG-F3P • TNMG-M3P • TNMG-F3M • TNMG-M3M • TNMG-TF • TNMG-GN • TNMM-NR • TNMG/TNGG-PP • TNMG-VL • TNMG-PF • TNMG-SF • TNMG-NF • TNMS-12 • TNMA • TNGA-Ceramic • TNGA-M3 (CBN) • TNGA-MC/M6 (CBN) • TNMA (CBN)

### Spare Parts

| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| PTFNR/L 2020K-16 | TTN 322 | TTN 332[(a)]* | LR 3 | SR 117-2014 | HW 2.5/5 | SP 3 | PN 3-4 |
| PTFNR/L 2525M-16 | TTN 322 | TTN 332[(a)]* | LR 3 | SR 117-2014 | HW 2.5/5 | SP 3 | PN 3-4 |
| PTFNR/L 2525M-22 | TTN 422 | | LR 4 | SR 117-2010 | HW 3.0 | SP 4 | PN 3-4 |

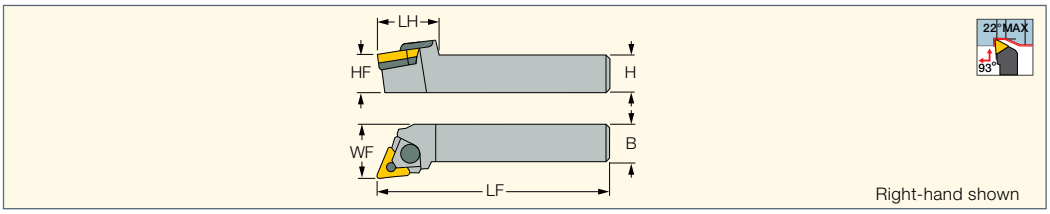
* Optional, should be ordered separately

(a) TTN 332 for inserts 3.18 mm thick.

ISOTURN

## MTJNR/L-W

93° Lead Angle Wedge Lock Turning Tools Carrying Negative Triangular Inserts




| Designation | H | HF | B | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|---|
| MTJNR/L 1616H-16W-M | 16.0 | 16.0 | 16.0 | 100.00 | 32.0 | 20.00 | TNMG 1604 |
| MTJNR/L 2020K-16W-M | 20.0 | 20.0 | 20.0 | 125.00 | 32.0 | 25.00 | TNMG 1604 |
| MTJNR/L 2525M-16W-M | 25.0 | 25.0 | 25.0 | 150.00 | 32.0 | 32.00 | TNMG 1604 |
| MTJNR/L 2525M-22W | 25.0 | 25.0 | 25.0 | 150.00 | 38.0 | 32.00 | TNMG 2204 |
| MTJNR/L 3225P-22W | 32.0 | 32.0 | 25.0 | 170.00 | 38.0 | 32.00 | TNMG 2204 |

**Inserts:** TNGA-J(CBN) • TNGG-M3N • TNMG-F3S • TNMG-FFG-CERMET • TNMG-F3P • TNMG-M3P • TNMG-F3M • TNMG-M3M • TNMG-TF • TNMG-GN • TNMM-NR • TNMG/TNGG-PP • TNMG-VL • TNMG-PF • TNMG-SF • TNMG-NF • TNMA • TNGA-Ceramic • TNGA-M3 (CBN) • TNGA-MC/M6 (CBN) • TNMA (CBN)

### Spare Parts

| Designation | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| MTJNR/L 1616H-16W-M | TTT 322N | TTT 332N[a]* | ZNW 3WNS | | | LC 291N CLAMP | | E RING N | SR 17-317NS | HW 3.0 |
| MTJNR/L 2020K-16W-M | TTT 322N | TTT 332N[a]* | ZNW 3WN | HW 2.5 | | LC 291N CLAMP | | E RING N | SR 17-317N | HW 3.0 |
| MTJNR/L 2525M-16W-M | TTT 322N | TTT 332N[a]* | ZNW 3WN | | | LC 291N CLAMP | | E RING N | SR 17-317N | HW 3.0 |
| MTJNR/L 2525M-22W | TTT 434 | | ZNW 4 | HW 2.5 | LC 281 SET 1 | | SR 17-295 | | | HW 3.0 |
| MTJNR/L 3225P-22W | TTT 434 | | ZNW 4 | HW 2.5 | LC 281 SET 1 | | SR 17-295 | | | HW 3.0 |

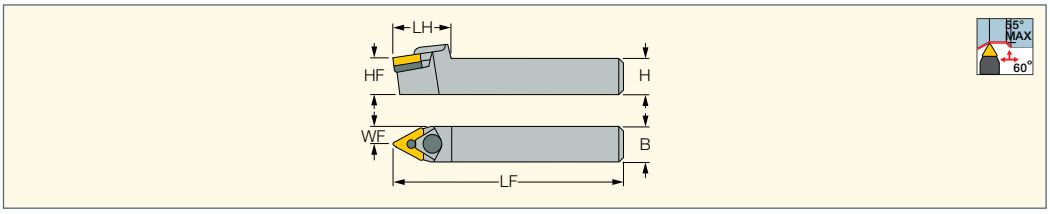
* Optional, should be ordered separately

[a] Use for inserts TNMG 1603.. 3.18 mm thick

ISOTURN

## MTENN-W

Neutral Wedge Lock Turning Tools Carrying Negative Triangular Inserts




| Designation | H | HF | B | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|---|
| MTENN 1618H-16W-M | 16.0 | 16.0 | 18.0 | 100.00 | 32.0 | 9.00 | TNMG 1604 |
| MTENN 2020K-16W-M | 20.0 | 20.0 | 20.0 | 125.00 | 35.0 | 10.00 | TNMG 1604 |
| MTENN 2525M-16W-M | 25.0 | 25.0 | 25.0 | 150.00 | 32.0 | 12.50 | TNMG 1604 |
| MTENN 2525M-22W | 25.0 | 25.0 | 25.0 | 150.00 | 40.0 | 12.50 | TNMG 2204 |
| MTENN 3232P-22W | 32.0 | 32.0 | 32.0 | 170.00 | 40.0 | 16.00 | TNMG 2204 |

**Inserts:** TNGA-J(CBN) • TNGG-M3N • TNMG-F3S • TNMG-FFG-CERMET • TNMG-F3P • TNMG-M3P • TNMG-F3M • TNMG-M3M • TNMG-TF • TNMG-GN • TNMM-NR • TNMG/TNGG-PP • TNMG-VL • TNMG-PF • TNMG-SF • TNMG-NF • TNMA • TNGA-Ceramic • TNGA-M3 (CBN) • TNGA-MC/M6 (CBN) • TNMA (CBN)

### Spare Parts

| Designation | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| MTENN 1618H-16W-M | TTT 322N | TTT 332N[a]* | ZNW 3WNS | | | LC 291N CLAMP | | E RING N | SR 17-317NS | HW 3.0 |
| MTENN 2020K-16W-M | TTT 322N | TTT 332N[a]* | ZNW 3WN | | | LC 291N CLAMP | | E RING N | SR 17-317N | HW 3.0 |
| MTENN 2525M-16W-M | TTT 322N | TTT 332N[a]* | ZNW 3WN | | | LC 291N CLAMP | | E RING N | SR 17-317N | HW 3.0 |
| MTENN 2525M-22W | TTT 434 | | ZNW 4 | HW 2.5 | LC 281 SET 1 | | SR 17-295 | | | HW 3.0 |
| MTENN 3232P-22W | TTT 434 | | ZNW 4 | HW 2.5 | LC 281 SET 1 | | SR 17-295 | | | HW 3.0 |

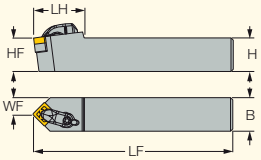
* Optional, should be ordered separately

[a] Use for inserts TNMG 1603.. 3.18 mm thick

ISOTURN

## DSDNN

45° Lead Angle R-Clamp External Turning Tools Carrying ISO Negative SNMG Inserts







| Designation | H | HF | B | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|---|
| DSDNN 2525M-12 | 25.0 | 25.0 | 25.0 | 150.00 | 38.0 | 12.80 | SNMG 1204 |
| DSDNN 2525M-15 | 25.0 | 25.0 | 25.0 | 150.00 | 42.0 | 12.50 | SNMG 1506 |
| DSDNN 3232P-19 | 32.0 | 32.0 | 32.0 | 170.00 | 44.0 | 16.00 | SNMG 1906 |

**Inserts:** SNMG-F3S • SNMG-R3M • SNMG-F3P • SNMG-M3P • SNMM-R3P • SNMG-F3M • SNMG-M3M • SNMG-TF • SNMG-GN • SNMG-NR • SNMM-NR • SNMG-PP • SNMG-VL • SNMG-EM-M/R • SNMM-NM • SNMM-H3P • SNMM-H4P • SNMA • SNGA-Ceramic • SNMA (CBN)

### Spare Parts

| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| DSDNN 2525M-12 | RST 443 | RST 443R/L SET[a]* | SR 14-506 | LCGR-4 | SR 10400270-25.5 | | | | T-15/5 |
| DSDNN 2525M-15 | RST 54 | | SR 10402265 | LCGR-5 | | SR 10402267 | KSP 5 | HW 4.0 | |
| DSDNN 3232P-19 | RST 634 | | SR 10402266 | LCGR-6 | | SR 10402267 | KSP 5 | HW 4.0 | |

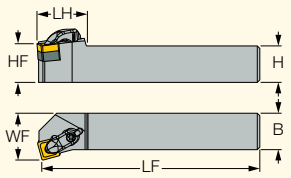
* Optional, should be ordered separately

[a] Optional, required for SNMG ...-EM-R/M inserts

ISOTURN

## DSKNR/L

75° Lead Angle R-Clamp Face Turning Tools Carrying ISO Negative SNMG Inserts







Right-hand shown

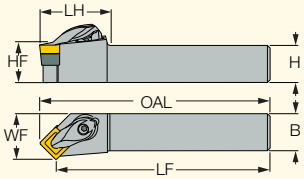
| Designation | H | HF | B | LF | LH | WF | Insert | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DSKNR/L 2525M-12 | 25.0 | 25.0 | 25.0 | 150.00 | 31.0 | 32.00 | SNMG 1204 | RST 443 | T-15/5 | SR 10400270-25.5 | LCGR-4 | SR 14-506 |

**Inserts:** SNMG-F3S • SNMG-F3P • SNMG-M3P • SNMM-R3P • SNMG-F3M • SNMG-M3M • SNMG-TF • SNMG-GN • SNMG-NR • SNMG-PP • SNMG-VL • SNMA • SNGA-Ceramic • SNMA (CBN)

ISOTURN

## DSSNR/L

45° Lead Angle R-Clamp Tools Carrying Negative Square Inserts for Longitudinal and Facing Applications







Right-hand shown

| Designation | H | HF | B | LF | LH | WF | OAL | Insert |
|---|---|---|---|---|---|---|---|---|
| DSSNR/L 2020K-12 [1] | 20.0 | 20.0 | 20.0 | 125.00 | 38.0 | 25.00 | 133.30 | SNMG 1204 |
| DSSNR/L 2525M-12 [1] | 25.0 | 25.0 | 25.0 | 150.00 | 39.0 | 32.00 | 158.30 | SNMG 1204 |
| DSSNR/L 3232P-15 | 32.0 | 32.0 | 32.0 | 170.00 | 34.0 | 40.00 | 170.00 | SNMG 1506 |
| DSSNR/L 3232P-19 | 32.0 | 32.0 | 32.0 | 170.00 | 38.0 | 40.00 | 170.00 | SNMG 1906 |

[1] Using SNMG.....-EM-M/R inserts requires the use of RST 443R/L SET.

**Inserts:** SNMG-F3S • SNMG-F3P • SNMG-M3P • SNMM-R3P • SNMG-F3M • SNMG-M3M • SNMG-TF • SNMG-GN • SNMG-NR • SNMM-NR • SNMG-PP • SNMG-R3M • SNMG-VL • SNMG-EM-M/R • SNMM-NM • SNMM-H3P • SNMM-H4P • SNMA • SNGA-Ceramic • SNMA (CBN)

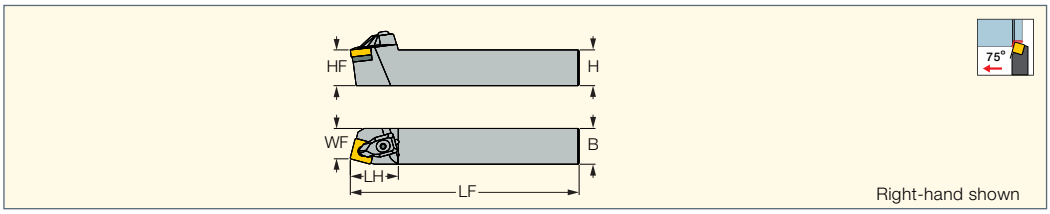
### Spare Parts

| Designation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| DSSNR/L 2020K-12 | RST 443 | SR 14-506 | LCGR-4 | SR 10400270-25.5 | | | | T-15/5 |
| DSSNR/L 2525M-12 | RST 443 | SR 14-506 | LCGR-4 | SR 10400270-25.5 | | | | T-15/5 |
| DSSNR/L 3232P-15 | RST 54 | SR 10402265 | LCGR-5 | | SR 10402267 | KSP 5 | HW 4.0 | |
| DSSNR/L 3232P-19 | RST 634 | SR 10402266 | LCGR-6 | | SR 10402267 | KSP 5 | HW 4.0 | |

ISOTURN

## DSBNR/L

75° Lead Angle R-Clamp Tools Carrying Negative Square Inserts




| Designation | H | HF | B | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|---|
| DSBNR/L 2525M-12 | 25.0 | 25.0 | 25.0 | 150.00 | 38.0 | 22.00 | SNMG 1204 |
| DSBNL 3232P-12 | 32.0 | 32.0 | 32.0 | 170.00 | 38.0 | 27.00 | SNMG 1204 |
| DSBNR/L 2525M-15 | 25.0 | 25.0 | 25.0 | 150.00 | 40.0 | 22.00 | SNMG 1506 |
| DSBNR/L 3232P-19 | 32.0 | 32.0 | 32.0 | 170.00 | 43.0 | 27.00 | SNMG 1906 |
| DSBNR/L 4040S-19 | 40.0 | 40.0 | 40.0 | 250.00 | 43.0 | 37.00 | SNMG 1906 |

**Inserts:** SNMG-F3S • SNMG-R3M • SNMG-F3P • SNMG-M3P • SNMM-R3P • SNMG-F3M • SNMG-M3M • SNMG-TF • SNMG-GN • SNMG-NR • SNMM-NR • SNMG-PP • SNMG-VL • SNMM-NM • SNMM-H3P • SNMM-H4P • SNMA • SNGA-Ceramic • SNMA (CBN)

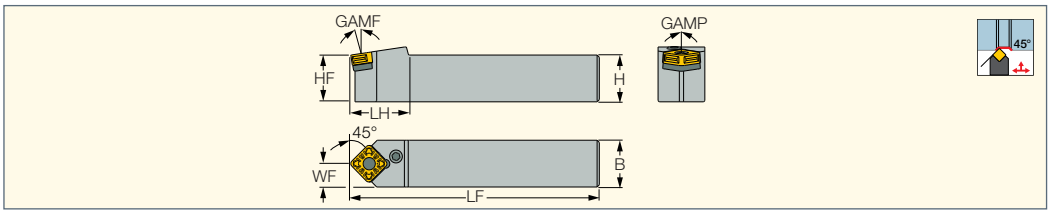
### Spare Parts

| Designation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| DSBNR/L 2525M-12 | RST 443 | SR 14-506 | LCGR-4 | SR 10400270-25.5 | | | | T-15/5 |
| DSBNL 3232P-12 | RST 443 | SR 14-506 | LCGR-4 | SR 10400270-25.5 | | | | T-15/5 |
| DSBNR/L 2525M-15 | RST 54 | SR 10402265 | LCGR-5 | | SR 10402267 | KSP 5 | HW 4.0 | |
| DSBNR/L 3232P-19 | RST 634 | SR 10402266 | LCGR-6 | | SR 10402267 | KSP 5 | HW 4.0 | |
| DSBNR/L 4040S-19 | RST 634 | SR 10402266 | LCGR-6 | | SR 10402267 | KSP 5 | HW 4.0 | |

DOVEIQTURN HEAVY DUTY LINE

## PSDON-IQ

Lever Lock and Dovetail Pocket Rigid Clamping Tools Carrying Unique Double-Sided Square Inserts




| Designation | H | HF | B | LF | LH | WF | GAMP | GAMF | Insert |
|---|---|---|---|---|---|---|---|---|---|
| PSDON 3232P-15-IQ | 32.0 | 32.0 | 32.0 | 170.00 | 35.0 | 17.00 | 0.0 | -8.5 | SOMG 1506 |
| PSDON 3232P-19-IQ | 32.0 | 32.0 | 32.0 | 170.00 | 39.5 | 17.00 | 0.0 | -8.5 | SOMG 1906 |
| PSDON 4040S-19-IQ | 40.0 | 40.0 | 40.0 | 250.00 | 39.5 | 21.00 | 0.0 | -8.5 | SOMG 1906 |

**Inserts:** SOMG-R3P-IQ

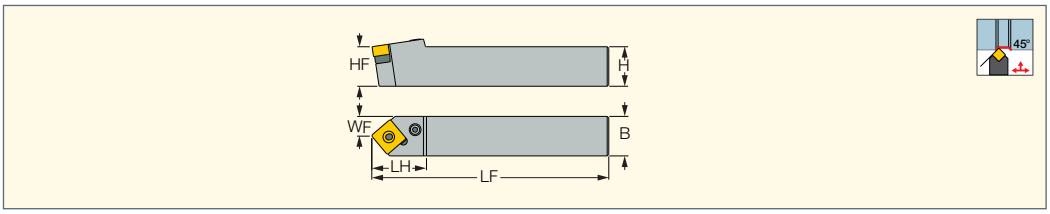
### Spare Parts

| Designation | | | | | |
|---|---|---|---|---|---|
| PSDON 3232P-15-IQ | TSX 5-IQ | SP 5 | SR LCS 5-L25.5 | LCL 16-NX | HW 3.0 |
| PSDON 3232P-19-IQ | TSX 6-IQ | SP 5 | SR 10402352 | LCL 20C-NX | HW 4.0 |
| PSDON 4040S-19-IQ | TSX 6-IQ | SP 5 | SR 10402352 | LCL 20C-NX | HW 4.0 |

ISOTURN

## PSDNN

45° Lead Angle Lever Lock External Turning Tools Carrying ISO Negative SNMG Inserts




| Designation | H | HF | B | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|---|
| PSDNN 2020K-12 | 20.0 | 20.0 | 20.0 | 125.00 | 27.0 | 10.00 | SNMG 1204/SNGA 1204 |
| PSDNN 2525M-12 | 25.0 | 25.0 | 25.0 | 150.00 | 27.0 | 12.50 | SNMG 1204/SNGA 1204 |
| PSDNN 3232P-19 | 32.0 | 32.0 | 32.0 | 170.00 | 41.0 | 16.00 | SNMG 1906 |
| PSDNN 4040S-25 (1) | 40.0 | 40.0 | 40.0 | 250.00 | 49.0 | 20.00 | SNMG 2507 |

(1) For SN.. 2509... inserts, use TSN 84 seat

**Inserts:** SNMG-F3S • SNMG-F3P • SNMG-M3P • SNMM-R3P • SNMG-F3M • SNMG-M3M • SNMG-TF • SNMG-GN • SNMG-NR • SNMM-NR • SNMG-EM-M/R • SNMG-PP • SNMG-R3M • SNMG-VL • SNMM-NM • SNMM-H3P • SNMM-H4P • SNMM-H5P • SNMA • SNGA-Ceramic • SNMA (CBN)

### Spare Parts

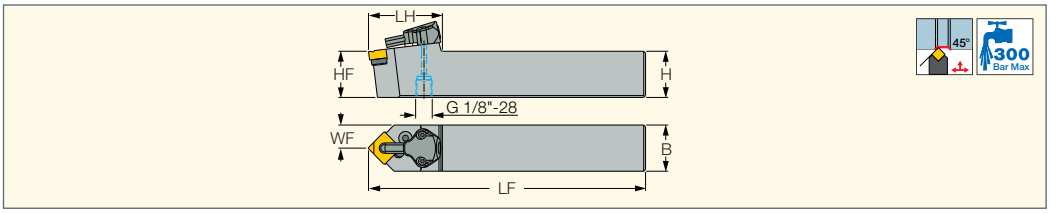
| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| PSDNN 2020K-12 | TSN 423 | | SP 4 | PN 3-4 | LR 4 | SR 117-2010 | HW 3.0 |
| PSDNN 2525M-12 | TSN 423 | | SP 4 | PN 3-4 | LR 4 | SR 117-2010 | HW 3.0 |
| PSDNN 3232P-19 | RST 634 | | SP 66 | | LR 6 | SR 10402352 | HW 4.0 |
| PSDNN 4040S-25 | TSN 84N | TSN 85N* | SP 8 | | LR 8 | SR 10402264 | |

* Optional, should be ordered separately

ISOTURN JETCUT

## PSDNN-JHP

45° Lead Angle Lever Lock Tools with Channels for High-Pressure Coolant Carrying ISO Negative SNMG Inserts




| Designation | H | HF | B | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|---|
| PSDNN 2525M-12-JHP | 25.0 | 25.0 | 25.0 | 150.00 | 40.0 | 12.50 | SNMG 1204 |

• For user guide, see pages 78-84

**Inserts:** SNMG-F3S • SNMG-F3P • SNMG-M3P • SNMM-R3P • SNMG-F3M • SNMG-M3M • SNMG-TF • SNMG-GN • SNMG-NR • SNMG-EM-M/R • SNMG-PP • SNMG-VL • SNMA • SNGA-Ceramic • SNMA (CBN)

### Spare Parts

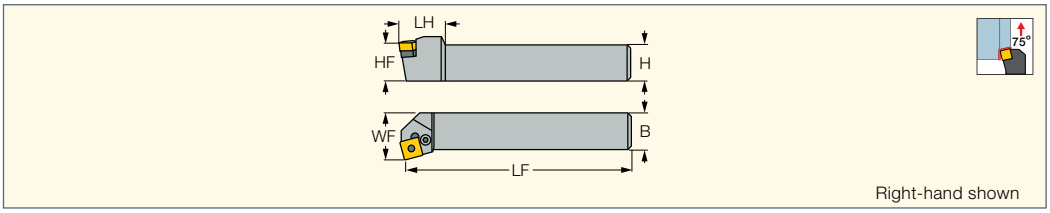
| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| PSDNN 2525M-12-JHP | TSN 423 | TSN 423M SET[a] | SP 4 | PN 3-4 | LR 4 | SR 117-2010 | CU-CW-JHP | HW 3.0 | T-8/5 |

[a] When SNMG-EM-M/-R inserts are used, replace the standard seat.

ISOTURN

## PSKNR/L

75° Lead Angle Lever Lock Tools Carrying ISO Negative Square Inserts for Face Turning




| Designation | H | HF | B | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|---|
| PSKNR/L 2525M-12 | 25.0 | 25.0 | 25.0 | 150.00 | 23.5 | 32.00 | SNMG 1204/SNGA 1204 |

**Inserts:** SNMG-F3S • SNMG-F3P • SNMG-M3P • SNMM-R3P • SNMG-F3M • SNMG-M3M • SNMG-TF • SNMG-GN • SNMG-NR • SNMG-PP • SNMG-VL • SNMA • SNGA-Ceramic • SNMA (CBN)

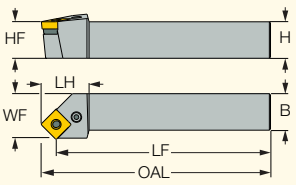
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| PSKNR/L | TSN 423 | LR 4 | SR 117-2010 | HW 3.0 | SP 4 | PN 3-4 |

ISOTURN

## PSSNR/L

45° Lead Angle Lever Lock Tools Carrying Negative Square Inserts for Longitudinal and Facing Applications







Right-hand shown

| Designation | H | HF | B | LF | LH | WF | Insert | OAL |
|---|---|---|---|---|---|---|---|---|
| PSSNR/L 2020K-09 | 20.0 | 20.0 | 20.0 | 125.00 | 25.0 | 25.00 | SNMG 0904 | 131.40 |
| PSSNR/L 2525M-09 | 25.0 | 25.0 | 25.0 | 150.00 | 25.0 | 32.00 | SNMG 0904 | 156.40 |
| PSSNR/L 2020K-12 | 20.0 | 20.0 | 20.0 | 125.00 | 29.0 | 25.00 | SNMG 1204 | 133.30 |
| PSSNR/L 2525M-12 | 25.0 | 25.0 | 25.0 | 150.00 | 29.0 | 32.00 | SNMG 1204 | 158.30 |
| PSSNR/L 3232P-19 | 32.0 | 32.0 | 32.0 | 157.50 | 42.0 | 40.00 | SNMG 1906 | 170.00 |
| PSSNR/L 4040S-19 | 40.0 | 40.0 | 40.0 | 237.50 | 42.0 | 50.00 | SNMG 1906 | 250.00 |
| PSSNR/L 4040S-2507 (1) | 40.0 | 40.0 | 40.0 | 234.00 | 53.0 | 50.00 | SNMG 2507 | 250.00 |

(1) For SN.. 2509... inserts, use TSN 84 seat

**Inserts:** SNMG-F3S • SNMG-F3P • SNMG-M3P • SNMM-R3P • SNMG-F3M • SNMG-M3M • SNMG-TF • SNMG-GN • SNMG-NR • SNMM-NR • SNMG-EM-M/R • SNMG-PP • SNMG-R3M • SNMG-VL • SNMM-NM • SNMM-H3P • SNMM-H4P • SNMM-H5P • SNMA • SNGA-Ceramic • SNMA (CBN)

### Spare Parts

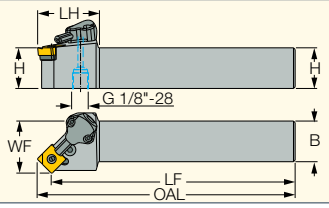
| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| PSSNR/L 2020K-09 | TSN 323 | TSN 333 | SP 3 | LR 3 | SR 117-2014 | HW 2.5 | PN 3-3L |
| PSSNR/L 2525M-09 | TSN 323 | TSN 333 | SP 3 | LR 3 | SR 117-2014 | HW 2.5 | PN 3-3L |
| PSSNR/L 2020K-12 | TSN 423 | | SP 4 | LR 4 | SR 117-2010 | HW 3.0 | PN 3-4 |
| PSSNR/L 2525M-12 | TSN 423 | | SP 4 | LR 4 | SR 117-2010 | HW 3.0 | PN 3-4 |
| PSSNR/L 3232P-19 | RST 634 | | SP 66 | LR 6 | SR 10402352 | HW 4.0 | |
| PSSNR/L 4040S-19 | RST 634 | | SP 66 | LR 6 | SR 10402352 | HW 4.0 | |
| PSSNR/L 4040S-2507 | TSN 85 | TSN 84* | SP 8 | LR 8 | SR 10402264 | HW 5.0 | |

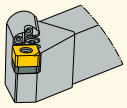
* Optional, should be ordered separately

ISOTURN JETCUT

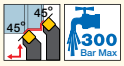
## PSSNR/L-JHP

45° Tools with Channels for High-Pressure Coolant Carrying Negative Square Inserts for Longitudinal and Facing Turning



Inside coolant for PSSNR/L... 09




Right-hand shown

| Designation | H | B | LF | LH | WF | OAL | Insert |
|---|---|---|---|---|---|---|---|
| PSSNR/L 2020K-09-JHP | 20.0 | 20.0 | 125.00 | 35.0 | 25.00 | 131.40 | SNMG 09.. |
| PSSNR/L 2525M-12-JHP | 25.0 | 25.0 | 150.00 | 38.0 | 32.00 | 158.40 | SNMG 1204 |

• For user guide, see pages 78-84

**Inserts:** SNMG-F3S • SNMG-F3P • SNMG-M3P • SNMM-R3P • SNMG-F3M • SNMG-M3M • SNMG-TF • SNMG-GN • SNMG-NR • SNMG-EM-M/R • SNMG-PP • SNMG-VL • SNMA • SNGA-Ceramic • SNMA (CBN)







### Spare Parts

| Designation | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| PSSNR/L 2020K-09-JHP | TSN 323 | TSN 333 | SP 3 | PN 3-3L | LR 3 | SR 117-2014 | | | HW 2.5 | |
| PSSNR/L 2525M-12-JHP | TSN 423 | TSN 423M SET[a]* | SP 4 | PN 3-4 | LR 4 | SR 117-2010 | OR 6.4X0.9N | CU-S-JHP | HW 3.0 | T-8/5 |

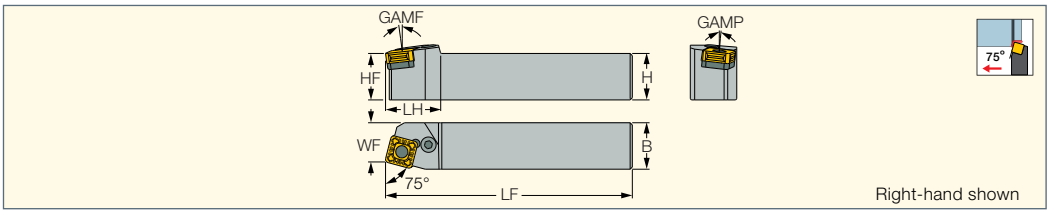
* Optional, should be ordered separately

(a) When SNMG-EM-M/-R inserts are used, replace the standard seat.

DOVE IQ TURN HEAVY DUTY LINE

## PSBOR/L-IQ

Lever Lock and Dovetail
Pocket Rigid Clamping Tools
Carrying Unique SOMG
Double-Sided Square Inserts




| Designation | H | HF | B | LF | LH | WF | GAMP | GAMF | Insert |
|---|---|---|---|---|---|---|---|---|---|
| PSBOR/L 3232P-15-IQ | 32.0 | 32.0 | 32.0 | 170.00 | 35.0 | 27.00 | -4.7 | -7.5 | SOMG 1506 |
| PSBOR/L 3232P-19-IQ | 32.0 | 32.0 | 32.0 | 170.00 | 38.0 | 27.00 | -4.7 | -7.5 | SOMG 1906 |
| PSBOR/L 4040S-19-IQ | 40.0 | 40.0 | 40.0 | 250.00 | 38.0 | 35.00 | -4.7 | -7.5 | SOMG 1906 |
| PSBOR/L 4040S-25-IQ | 40.0 | 40.0 | 40.0 | 250.00 | 50.0 | 35.00 | -4.7 | -7.5 | SOMG 2509 |

**Inserts:** SOMG-R3P-IQ

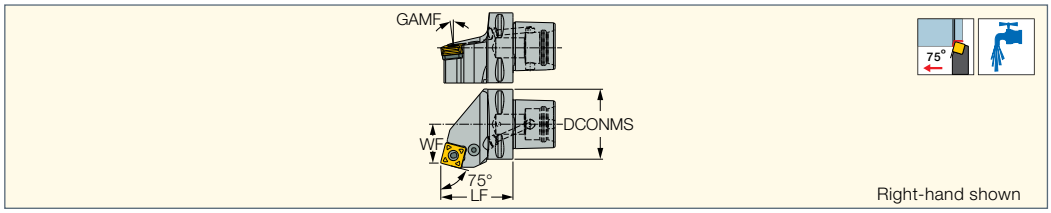
### Spare Parts

| Designation | | | | | |
|---|---|---|---|---|---|
| PSBOR/L 3232P-15-IQ | TSX 5-IQ | SP 5 | SR LCS 5-L25.5 | LCL 16-NX | HW 3.0 |
| PSBOR/L 3232P-19-IQ | TSX 6-IQ | SP 5 | SR 10402352 | LCL 20C-NX | HW 4.0 |
| PSBOR/L 4040S-19-IQ | TSX 6-IQ | SP 5 | SR 10402352 | LCL 20C-NX | HW 4.0 |
| PSBOR/L 4040S-25-IQ | TSX 8-IQ | SP 8 | SR LCS 8-L39 | LCL 32-NX | HW 5.0 |

DOVE IQ TURN HEAVY DUTY LINE
CAMFIX

## C#-PSROR/L-IQ

Lever Lock and Dovetail
Pocket Tools with CAMFIX
Shanks Carrying Unique SOMG
Double-Sided Square Inserts




| Designation | DCONMS | WF | LF | GAMP | GAMF | Insert |
|---|---|---|---|---|---|---|
| C6 PSROR/L-35065-15-IQ | 63.00 | 35.00 | 65.00 | -4.7 | -7.5 | SOMG 1506 |
| C6 PSROR/L-35065-19-IQ | 63.00 | 35.00 | 65.00 | -4.7 | -7.5 | SOMG 1906 |
| C8 PSROR/L-45080-19-IQ | 80.00 | 55.00 | 80.00 | -4.7 | -7.5 | SOMG 1906 |
| C8 PSROR/L-45085-25-IQ | 80.00 | 55.00 | 80.00 | -4.7 | -7.5 | SOMG 2509 |

**Inserts:** SOMG-R3P-IQ

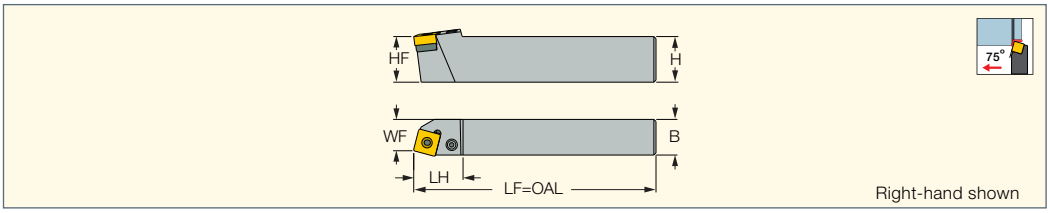
### Spare Parts

| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| C6 PSROR/L-35065-15-IQ | TSX 5-IQ | LCL 16-NX | SP 5 | SATZ-M10X1-M5 | HW 3.0 | SR LCS 5-L25.5 | |
| C6 PSROR/L-35065-19-IQ | TSX 6-IQ | LCL 20C-NX | SP 5 | SATZ-M10X1-M5 | HW 4.0 | SR 10402352 | |
| C8 PSROR/L-45080-19-IQ | TSX 6-IQ | LCL 20C-NX | SP 5 | SATZ-M10X1-M5 | HW 4.0 | SR 10402352 | SPP 5-6 |
| C8 PSROR/L-45085-25-IQ | TSX 8-IQ | LCL 32-NX | SP 8 | SATZ-M12X1-M6 | HW 5.0 | SR LCS 8-L39 | |

ISOTURN

## PSBNR/L

Lever Lock 75° Lead Angle
Turning Tools Carrying ISO
Negative Square Inserts




| Designation | H | HF | B | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|---|
| PSBNR/L 2020K-09 | 20.0 | 20.0 | 20.0 | 125.00 | 20.0 | 17.00 | SNMG 0904 |
| PSBNR/L 2525M-09 | 25.0 | 25.0 | 25.0 | 150.00 | 20.0 | 22.00 | SNMG 0904 |
| PSBNR 2525M-12 | 25.0 | 25.0 | 25.0 | 150.00 | 26.8 | 22.00 | SNMG 1204 |
| PSBNR/L 3232P-19 | 32.0 | 32.0 | 32.0 | 170.00 | 39.0 | 27.00 | SNMG 1906 |
| PSBNR/L 4040S-25 (1) | 40.0 | 40.0 | 40.0 | 250.00 | 48.0 | 35.00 | SNMG 2507 |

(1) For SN.. 2509... inserts, use TSN 84 seat

**Inserts:** SNMG-F3S • SNMG-R3M • SNMG-F3P • SNMG-M3P • SNMM-R3P • SNMG-F3M • SNMG-M3M • SNMG-TF • SNMG-GN • SNMG-NR • SNMM-NR • SNMG-PP • SNMG-VL • SNMM-NM • SNMM-H3P • SNMM-H4P • SNMM-H5P • SNMA • SNGA-Ceramic • SNMA (CBN)

### Spare Parts

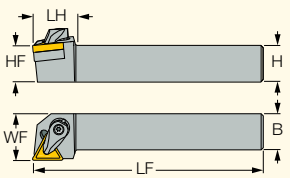
| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| PSBNR/L 2020K-09 | TSN 323 | TSN 333 | SP 3 | PN 3-3L | LR 3 | SR 117-2014 | HW 2.5 |
| PSBNR/L 2525M-09 | TSN 323 | TSN 333 | SP 3 | PN 3-3L | LR 3 | SR 117-2014 | HW 2.5 |
| PSBNR 2525M-12 | TSN 423 | | SP 4 | PN 3-4 | LR 4 | SR 117-2010 | HW 3.0 |
| PSBNR/L 3232P-19 | RST 634 | | SP 66 | | LR 6 | SR 10402352 | HW 4.0 |
| PSBNR/L 4040S-25 | TSN 84N | TSN 85N* | SP 8 | | LR 8 | SR 10402264 | HW 5.0 |

* Optional, should be ordered separately

ISOTURN

## DTGNR/L

91° Lead Angle R-Clamp External Turning Tools Carrying Negative Triangular Inserts







Right-hand shown

| Designation | H | HF | B | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|---|
| DTGNR/L 2020K-16 | 20.0 | 20.0 | 20.0 | 125.00 | 25.0 | 25.00 | TNMG 1604 |
| DTGNR/L 2525M-16 | 25.0 | 25.0 | 25.0 | 150.00 | 25.0 | 32.00 | TNMG 1604 |
| DTGNR 2525M-22 | 25.0 | 25.0 | 25.0 | 150.00 | 32.0 | 32.00 | TNMG 2204 |

**Inserts:** TNGA-J(CBN) • TNGG-M3N • TNMG-F3S • TNMG-FFG-CERMET • TNMG-F3P • TNMG-M3P • TNMG-F3M • TNMG-M3M • TNMG-TF • TNMG-GN • TNMM-NR • TNMG/TNGG-PP • TNMG-VL • TNMG-PF • TNMG-SF • TNMG-NF • TNMA • TNGA-Ceramic • TNGA-M3 (CBN) • TNGA-MC/M6 (CBN) • TNMA (CBN)

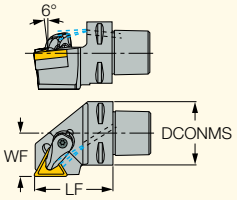
### Spare Parts

| Designation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| DTGNR/L 2020K-16 | RTT 322 | SR 35080I | LCGR-3 | | SR RC3 | KSP 3 | HW 2.5 | |
| DTGNR/L 2525M-16 | RTT 322 | SR 35080I | LCGR-3 | | SR RC3 | KSP 3 | HW 2.5 | |
| DTGNR 2525M-22 | RTT 443 | SR 14-506 | LCGR-4 | SR 10400270-25.5 | | | | T-15/5 |

ISOTURN CAMFIX

## C#-DTGNR/L

91° Lead R-Clamp External Turning Tools with CAMFIX Exchangeable Shanks Carrying Negative Triangular Inserts







Right-hand shown

| Designation | DCONMS | WF | LF | Insert | CP[1] | CDI[2] | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C6 DTGNR/L-45065-22 | 63.00 | 45.00 | 65.00 | TN.. 22 | 70 | 1 | RTT 443 | SR 14-506 M4X0.7 | LCGR-4 | SR 10400270-25.5 | T-15/5 | EZ 104 |

[1] Coolant pressure (Bar)

[2] 1 - Hole for data chip, 0 - Without hole for data chip

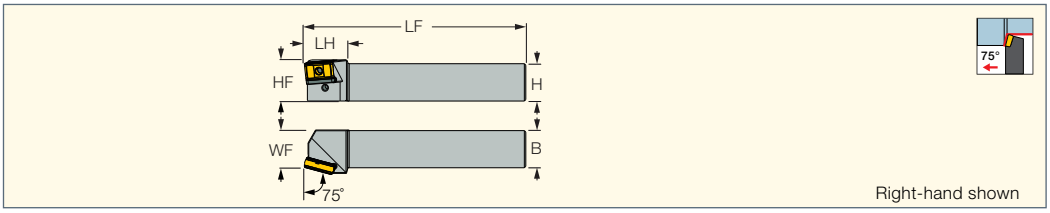
**Inserts:** TNMG-F3S • TNMG-F3P • TNMG-M3P • TNMG-F3M • TNMG-M3M • TNMG-TF • TNMG-GN • TNMM-NR • TNMG/TNGG-PP • TNMA • TNGA-Ceramic



HEAVY SUPER TURN

## PLBOR/L

Lever Lock Tools Carrying
LOMX Tangentially Clamped
Super Heavy Turning Inserts

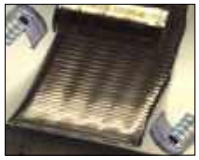


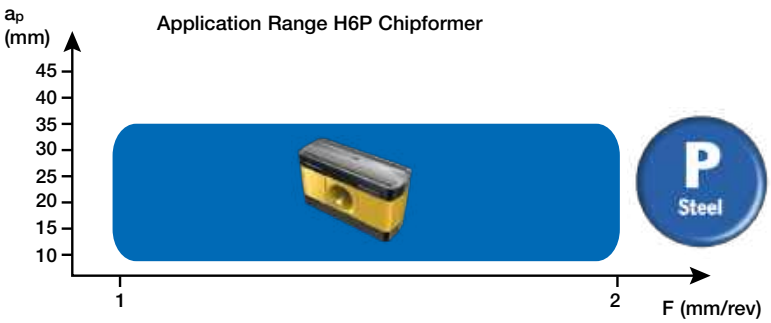

| Designation | H | HF | B | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|---|
| PLBOR/L 5050T-40 | 50.0 | 50.0 | 50.0 | 300.00 | 60.0 | 50.00 | LOMX 4022 |
| PLBOR/L 6060V-40 | 60.0 | 60.0 | 60.0 | 400.00 | 60.0 | 60.00 | LOMX 4022 |

**Inserts:** LOMX-H6P

### ISCAR's tangential LOMX 402224-H6P insert for very heavy turning applications.

This tangentially clamped insert with 4 cutting edges is made from the tough grade IC8250. It can machine at up to 35 mm depth of cut and up to 2 mm/rev feed. The insert is clamped on a very rigid lever lock pocket equipped with a protective seat.



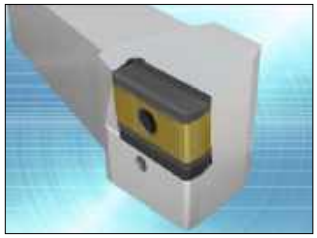



Application Range H6P Chipformer




Double-sided with
4 cutting edges

Tangentially Clamped Insert



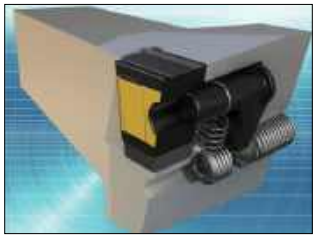
Clamping Surfaces



Protective Seat

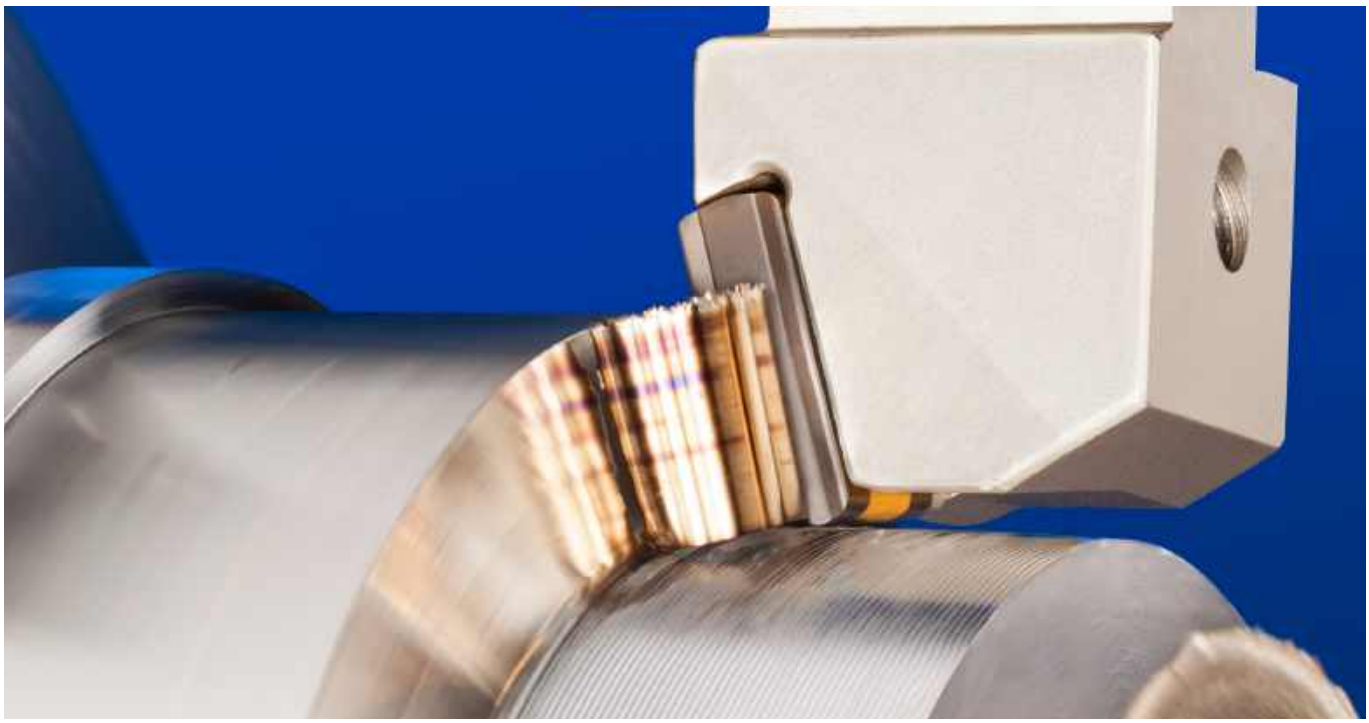


Lever Lock Accessible
from Both Tool Sides



### Spare Parts

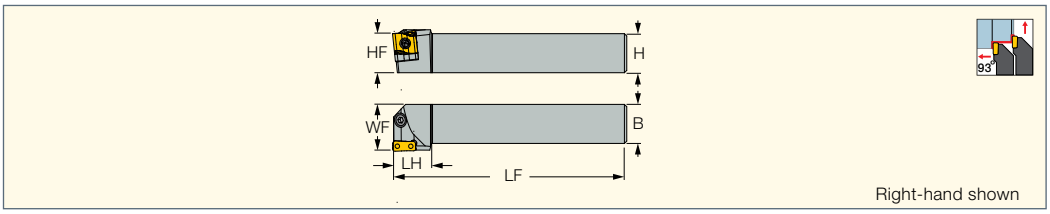
| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| PLBOR/L | TLN 40 | SR 10402265 | LR 8 | SR 10643960 | SP D7.5XL23 | T-20/5 | HW 6.0 |



HELITURN TANGENTIAL LINE

## PLANR/L-TANG

Lever Lock Tools Carrying LNMX..
Tangentially Clamped Inserts




| Designation | H | HF | B | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|---|
| PLANR/L 2525M-15 TANG | 25.0 | 25.0 | 25.0 | 150.00 | 25.0 | 30.00 | LNMX 1506..R/L |
| PLANR/L 3232P-15 TANG | 32.0 | 32.0 | 32.0 | 170.00 | 32.0 | 37.00 | LNMX 1506..R/L |
| PLANR/L 3232P-22 TANG | 32.0 | 32.0 | 32.0 | 170.00 | 32.0 | 37.00 | LNMX 2210..R/L |
| PLANR/L 4040R-22 TANG | 40.0 | 40.0 | 40.0 | 200.00 | 40.0 | 47.00 | LNMX 2210..R/L |

**Inserts:** LNMX-HM • LNMX-HT • LNMX-WG





### Spare Parts

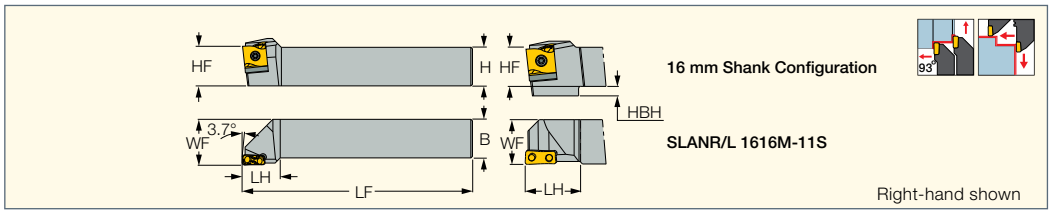
| Designation | | | | | | |
|---|---|---|---|---|---|---|
| PLANR/L 2525M-15 TANG | TLN 15R/L-HT | SR RS4 | T-6/5 | LR T15 | SR TL-15 | HW 3.5 |
| PLANR/L 3232P-15 TANG | TLN 15R/L-HT | SR RS4 | T-6/5 | LR T15 | SR TL-15 | HW 3.5 |
| PLANR/L 3232P-22 TANG | TLN 22R/L-HT | SR 10500401 | T-7/5 | LR T22 | SR TL22 | HW 5.0 |
| PLANR/L 4040R-22 TANG | TLN 22R/L-HT | SR 10500401 | T-7/5 | LR T22 | SR TL22 | HW 5.0 |



HELITURN TANGENTIAL LINE

## SLANR/L-TANG

Screw-Lock Tools Carrying the LNMX.. Tangentially Clamped Inserts




| Designation | H | HF | B | LF | LH | WF | Insert | HBH |
|---|---|---|---|---|---|---|---|---|
| SLANR/L 1616H-11 TANG | 16.0 | 16.0 | 16.0 | 100.00 | 20.0 | 20.00 | LNMX 1104.. | 4.0 |
| SLANR/L 1616M-11S TANG | 16.0 | 16.0 | 16.0 | 150.00 | 20.0 | 16.20 | LNMX 1104.. | 4.0 |
| SLANR/L 2020K-11 TANG | 20.0 | 20.0 | 20.0 | 125.00 | 20.0 | 25.00 | LNMX 1104.. | 4.0 |
| SLANR/L 2525M-11 TANG | 25.0 | 25.0 | 25.0 | 150.00 | 25.0 | 30.00 | LNMX 1104.. | 4.0 |
| SLANR/L 2020K-15 TANG | 20.0 | 20.0 | 20.0 | 125.00 | 25.0 | 25.00 | LNMX 1506.. | 4.0 |
| SLANR/L 2525M-15 TANG | 25.0 | 25.0 | 25.0 | 150.00 | 25.0 | 30.00 | LNMX 1506.. | 4.0 |
| SLANR/L 3232P-15 TANG | 32.0 | 32.0 | 32.0 | 170.00 | 35.0 | 37.00 | LNMX 1506.. | 4.0 |
| SLANR/L 4040R-15 TANG | 40.0 | 40.0 | 40.0 | 200.00 | 35.0 | 45.00 | LNMX 1506.. | 4.0 |
| SLANR/L 3232P-22 TANG | 32.0 | 32.0 | 32.0 | 170.00 | 35.0 | 38.00 | LNMX 2210.. | 4.0 |
| SLANR/L 4040R-22 TANG | 40.0 | 40.0 | 40.0 | 200.00 | 40.0 | 47.00 | LNMX 2210.. | 4.0 |

• $a_p$ max for facing: LNMX 11-2.8 mm, LNMX 15-3.8 mm, LNMX 22-5.8 mm

**Inserts:** LNMX-HM • LNMX-HT • LNMX-WG

The **HELITURN** system features a unique, double-sided insert with 4 cutting edges for Fast Metal Removal (FMR) turning.
**HELITURN** is a tangentially clamped insert with a unique helical shaped cutting edge, useful for large depths of cut and higher than normal feed rates.
The LNMX...-HT **HELITURN** insert is a screw clamped into the SLANR toolholder and supported by the TLN ..-HT carbide seat. This seat has ground surfaces on the top and bottom to ensure perfect contact of the insert with the toolholder.
The upper rake face of this insert is mounted level with the top of the toolholder to enable chips to flow across the insert without being disturbed by clamps or the toolholder body.
The 4 curved helical cutting edges ensure positive radial rake angles and soft penetration into the material being cut.
The lower forces and smaller loads ensure better tool life, higher stability and the ability to use very large depths of cut and higher feeds.
The chipformer (with small bumps), deforms and breaks the chip into rib type curved segments which can easily be removed from the cutting area.
The insert has a frontal clearance angle of 3.7° with a 6° side clearance angle to enable machining at a 90° shoulder.
Depths of cut up to 8 mm and facing depths up to 3.2 mm and up to 1.2 mm/rev are achievable with **HELITURN**.
The high positive rake angle of these tools allows 10-15% less power usage than conventional tools with the same parameters.
By using **HELITURN** tools, huge cost savings and profitability in lathe operations are guaranteed.

### Spare Parts

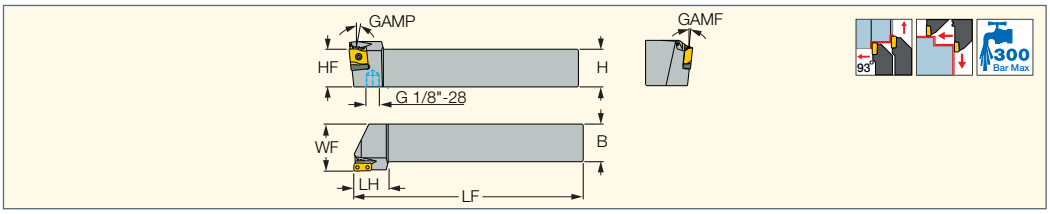
| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| SLANL 1616H-11 TANG | TLN 11R/L-HT | SR RS4 | T-6/5 | SR 34-550-C | BLD T10/S7 | | SW6-SD |
| SLANL 1616M-11S TANG | TLN 11R/L-HT | SR RS4 | T-6/5 | SR 34-550-C | BLD T10/S7 | | SW6-SD |
| SLANR 1616H-11 TANG | TLN 11R/L-HT | SR RS4 | T-6/5 | SR 34-550-C | BLD T10/S7 | | SW6-SD |
| SLANR 1616M-11S TANG | TLN 11R/L-HT | SR RS4 | T-6/5 | SR 34-550-C | BLD T10/S7 | | SW6-SD |
| SLANL 2020K-11 TANG | TLN 11R/L-HT | SR RS4 | T-6/5 | SR 34-550-C | BLD T10/S7 | | SW6-SD |
| SLANR 2020K-11 TANG | TLN 11R/L-HT | SR RS4 | T-6/5 | SR 34-550-C | BLD T10/S7 | | SW6-SD |
| SLANL 2525M-11 TANG | TLN 11R/L-HT | SR RS4 | T-6/5 | SR 34-550-C | BLD T10/S7 | | SW6-SD |
| SLANR 2525M-11 TANG | TLN 11R/L-HT | SR RS4 | T-6/5 | SR 34-550-C | BLD T10/S7 | | SW6-SD |
| SLANL 2020K-15 TANG | TLN 15R/L-HT | SR RS4 | T-6/5 | SR 34-535-SN | BLD T15/S7 | SW6-T-SH | |
| SLANR 2020K-15 TANG | TLN 15R/L-HT | SR RS4 | T-6/5 | SR 34-535-SN | BLD T15/S7 | SW6-T-SH | |
| SLANL 2525M-15 TANG | TLN 15R/L-HT | SR RS4 | T-6/5 | SR 34-535-SN | BLD T15/S7 | SW6-T-SH | |
| SLANR 2525M-15 TANG | TLN 15R/L-HT | SR RS4 | T-6/5 | SR 34-535-SN | BLD T15/S7 | SW6-T-SH | |
| SLANL 3232P-15 TANG | TLN 15R/L-HT | SR RS4 | T-6/5 | SR 34-535-SN | BLD T15/S7 | SW6-T-SH | |
| SLANR 3232P-15 TANG | TLN 15R/L-HT | SR RS4 | T-6/5 | SR 34-535-SN | BLD T15/S7 | SW6-T-SH | |
| SLANL 4040R-15 TANG | TLN 15R/L-HT | SR RS4 | T-6/5 | SR 34-535-SN | BLD T15/S7 | SW6-T-SH | |
| SLANR 4040R-15 TANG | TLN 15R/L-HT | SR RS4 | T-6/5 | SR 34-535-SN | BLD T15/S7 | SW6-T-SH | |
| SLANL 3232P-22 TANG | TLN 22R/L-HT | SR 10500401 | T-7/5 | SR 14-591/L-SN | BLD T20/S7 | SW6-T-SH | |
| SLANR 3232P-22 TANG | TLN 22R/L-HT | SR 10500401 | T-7/5 | SR 14-591/L-SN | BLD T20/S7 | SW6-T-SH | |
| SLANL 4040R-22 TANG | TLN 22R/L-HT | SR 10500401 | T-7/5 | SR 14-591/L-SN | BLD T20/S7 | SW6-T-SH | |
| SLANR 4040R-22 TANG | TLN 22R/L-HT | SR 10500401 | T-7/5 | SR 14-591/L-SN | BLD T20/S7 | SW6-T-SH | |



HELITURN JETCUT TANGENTIAL LINE

## SLANR/L-15-TANG-JHP

Screw-Lock Tools with Channels for High-Pressure Coolant Carrying LNMX Tangentially Clamped Inserts

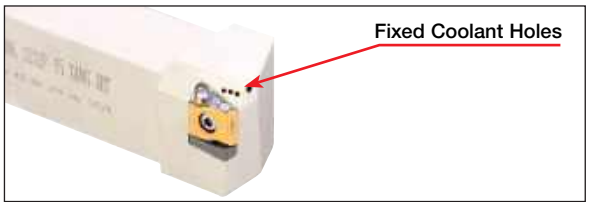



| Designation | H | HF | B | LF | LH | WF | GAMP | GAMF | Insert |
|---|---|---|---|---|---|---|---|---|---|
| SLANR/L 3232P-15 TANG-JHP | 32.0 | 32.0 | 32.0 | 170.00 | 30.0 | 40.00 | -6.0 | -6.0 | LNMX 1506 |

• $a_p$ max for facing 3.8 mm • For user guide, see pages 78-84

**Inserts:** LNMX-HM • LNMX-HT • LNMX-WG

**The tools with LNMX 1506... inserts feature fixed coolant holes**





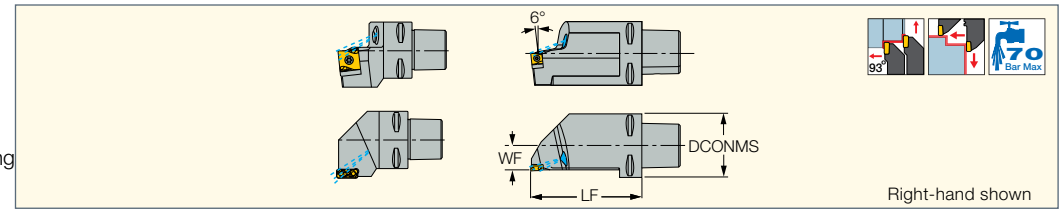

### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| SLANR/L 3232P-15 TANG-JHP | TLN 15R/L-HT | SR RS4 | SR 34-535-SN | BLD T15/S7 | SW6-T-SH | T-6/5 |

HELITURN CAMFIX TANGENTIAL LINE

## C#-SLANR/L-TANG

Tools with CAMFIX Shanks Carrying the LNMX-HT Tangentially Screw Clamped Inserts for High Production Cutting




| Designation | DCONMS | LF | WF | Insert | CP[2] | CDI[3] |
|---|---|---|---|---|---|---|
| C4 SLANR-27050-11 TANG | 40.00 | 50.00 | 27.00 | LNMX 1104.. | 70 | 1 |
| C6 SLANR 25110-11 TANG [1] | 63.00 | 110.00 | 25.00 | LNMX 1104.. | 70 | 1 |
| C4 SLANR/L-27050-15 TANG | 40.00 | 50.00 | 27.00 | LNMX 1506.. | 70 | 1 |
| C5 SLANR/L-35060-15 TANG | 50.00 | 60.00 | 35.00 | LNMX 1506.. | 70 | 1 |
| C6 SLANR 25110-15 TANG [1] | 63.00 | 110.00 | 25.00 | LNMX 1506.. | 70 | 1 |
| C6 SLANR/L-45065-15 TANG | 63.00 | 65.00 | 45.00 | LNMX 1506.. | 70 | 1 |
| C6 SLANR/L-45065-22 TANG | 63.00 | 65.00 | 45.00 | LNMX 2210.. | 70 | 1 |

• $a_p$ max for facing: LNMX 11-2.8 mm, LNMX 15-3.8 mm

[1] Designed for mill-turn machines

[2] Coolant pressure (Bar)

[3] 1 - Hole for data chip, 0 - Without hole for data chip

**Inserts:** LNMX-HM • LNMX-HT • LNMX-WG

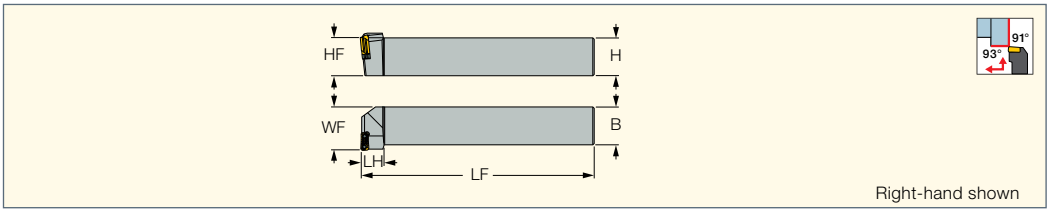
### Spare Parts

| Designation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| C4 SLANR-27050-11 TANG | TLN 11R-HT | SR RS4 | T-6/5 | SR 34-550-C | BLD T10/S7 | | SW6-SD | EZ 83 |
| C6 SLANR 25110-11 TANG | TLN 11R-HT | SR RS4 | T-6/5 | SR 34-550-C | BLD T10/S7 | | SW6-SD | EZ 146 |
| C4 SLANL-27050-15 TANG | TLN 15R/L-HT | SR RS4 | T-6/5 | SR 34-535-SN | BLD T15/S7 | SW6-T-SH | | EZ 104 |
| C4 SLANR-27050-15 TANG | TLN 15R/L-HT | SR RS4 | T-6/5 | SR 34-535-SN | BLD T15/S7 | SW6-T-SH | | EZ 104 |
| C5 SLANL-35060-15 TANG | TLN 15R/L-HT | SR RS4 | T-6/5 | SR 34-535-SN | BLD T15/S7 | SW6-T-SH | | EZ 104 |
| C5 SLANR-35060-15 TANG | TLN 15R/L-HT | SR RS4 | T-6/5 | SR 34-535-SN | BLD T15/S7 | SW6-T-SH | | EZ 104 |
| C6 SLANR 25110-15 TANG | TLN 15R/L-HT | SR RS4 | T-6/5 | SR 34-535-SN | BLD T15/S7 | SW6-T-SH | | EZ 146 |
| C6 SLANL-45065-15 TANG | TLN 15R/L-HT | SR RS4 | T-6/5 | SR 34-535-SN | BLD T15/S7 | SW6-T-SH | | EZ 104 |
| C6 SLANR-45065-15 TANG | TLN 15R/L-HT | SR RS4 | T-6/5 | SR 34-535-SN | BLD T15/S7 | SW6-T-SH | | EZ 104 |
| C6 SLANL-45065-22 TANG | TLN 22R/L-HT | SR 10500401 | T-7/5 | SR 14-591/L-SN | BLD T20/S7 | SW6-T-SH | | EZ 104 |
| C6 SLANR-45065-22 TANG | TLN 22R/L-HT | SR 10500401 | T-7/5 | SR 14-591/L-SN | BLD T20/S7 | SW6-T-SH | | EZ 104 |

HELITURN TANGENTIAL LINE

## SLFNR/L-TANG

Tools Carrying LNMX
Tangentially Clamped Inserts




| Designation | H | HF | B | LF | LH | WF | Insert(1) |
|---|---|---|---|---|---|---|---|
| SLFNR/L 2525M-15 TANG | 25.0 | 25.0 | 25.0 | 150.00 | 20.0 | 30.00 | LNMX 1506..L/R |
| SLFNR/L 3232P-15 TANG | 32.0 | 32.0 | 32.0 | 170.00 | 20.0 | 37.00 | LNMX 1506..L/R |

- $a_p$ max for longitudinal turning is 5.8 mm

(1) Right-hand insert for left-hand holder, left-hand insert for right-hand holder

**Inserts:** LNMX-HM • LNMX-HT • LNMX-WG

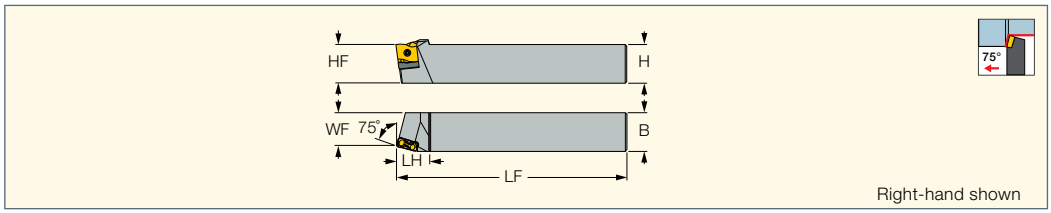
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| SLFNR/L-TANG | TLN 15R/L-HT | SR RS4 | T-6/5 | SR 34-535-SN | BLD T15/S7 | SW6-T-SH |

HELITURN TANGENTIAL LINE

## SLBNR/L-TANG

External 75° Lead Tools
Carrying Tangentially
Screw Clamped Inserts




| Designation | H | HF | B | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|---|
| SLBNR/L 4040R-22 TANG | 40.0 | 40.0 | 40.0 | 200.00 | 35.0 | 35.00 | LNMX 2210..R/L |

**Inserts:** LNMX-HT

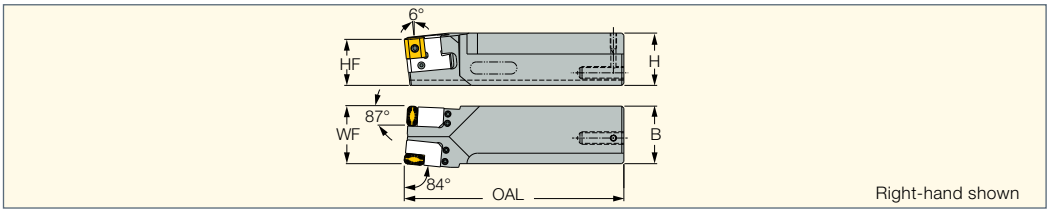
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| SLBNR/L-TANG | TLN 22R/L-HT | SR 10500401 | T-7/5 | SR 14-591/L-SN | BLD T20/S7 | SW6-T-SH |

ISOTURN

## PRWR/L

Toolholders with Cartridges for
Under Floor Railroad Wheel
Re-Turning Lathes (Model 106
Thread Profile Machine)




| Designation | H | HF | B | OAL | WF | | |
|---|---|---|---|---|---|---|---|
| PRWR/L 50-55 | 50.0 | 44.0 | 55.0 | 210.00 | 55.00 | SR M6X1X16 | HW 3.0 |

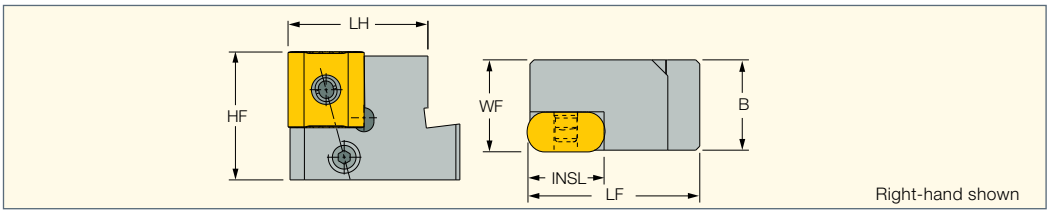
- Cartridges should be ordered separately

**Tools:** PRWR/L 175-CA • PRWR/L 177-CA

ISOTURN

## PRWR/L 175-CA

Cartridges for PRWR/L 50-55
Railroad Wheel Re-Turning Tools



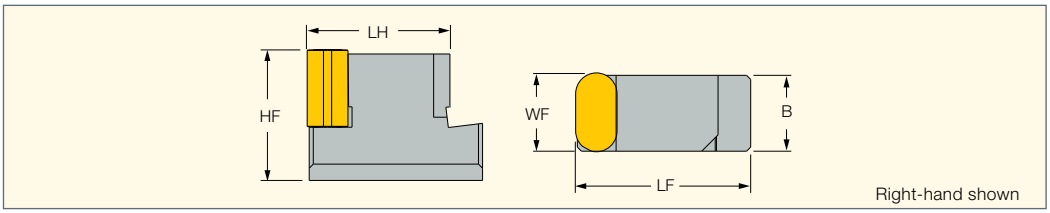

| Designation | HF | B | LF | LH | WF | INSL | Insert | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| PRWR/L 175-CA-19 | 32.0 | 22.6 | 43.00 | 35.0 | 23.00 | 19.00 | LNMX 191940 | SR LCS 5 | LR 5 | HW 3.0 |
| PRWR/L 175-CA-30 | 32.0 | 22.6 | 43.00 | 35.0 | 23.00 | 30.00 | LNMX 301940 | SR LCS 5 | LR 5 | HW 3.0 |

**Inserts:** LNMX 19/30

ISOTURN

## PRWR/L 177-CA

Cartridges for PRWR/L 50-55
Railroad Wheel Re-Turning Tools



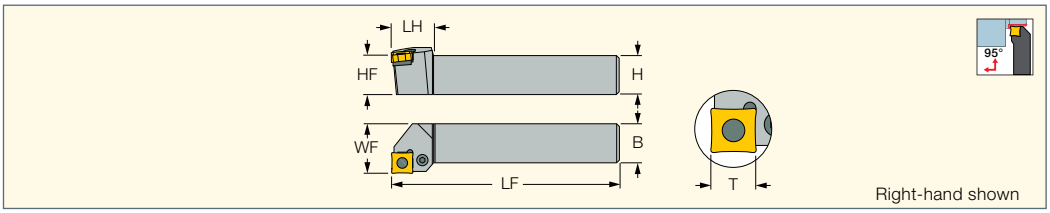

| Designation | HF | B | LF | LH | WF | Insert | | | |
|---|---|---|---|---|---|---|---|---|---|
| PRWR/L 177-CA-19 | 32.0 | 18.6 | 43.00 | 35.0 | 19.10 | LNMX 191940 | SR LCS 5 | LR 5 | HW 3.0 |

**Inserts:** LNMX 19/30

ISOTURN

## PQLNR/L

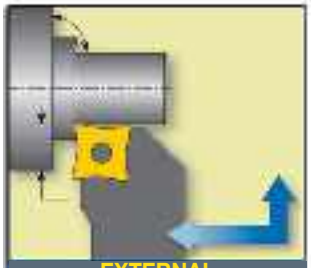
Lever Lock Tools Carrying
Negative Inserts with
Four 80° Corners




| Designation | H | HF | B | LF | LH | WF | T(1) | Insert |
|---|---|---|---|---|---|---|---|---|
| PQLNR/L 1616H-09 | 16.0 | 16.0 | 16.0 | 100.00 | 21.0 | 20.00 | 8 | QNMG 0904 |
| PQLNR/L 2020K-09 | 20.0 | 20.0 | 20.0 | 125.00 | 26.6 | 25.00 | 8 | QNMG 0904 |
| PQLNR/L 2525M-09 | 25.0 | 25.0 | 25.0 | 150.00 | 26.6 | 32.00 | 8 | QNMG 0904 |
| PQLNR/L 2020K-12 | 20.0 | 20.0 | 20.0 | 125.00 | 26.6 | 25.00 | 10 | QNMG 1204 |
| PQLNR/L 2525M-12 | 25.0 | 25.0 | 25.0 | 150.00 | 26.6 | 32.00 | 10 | QNMG 1204 |

(1) T for r 0.8

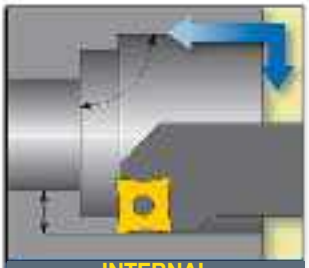
**Inserts:** QNMG-GN • QNMG-NF • QNMG-PP • QNMG-TF



EXTERNAL
LONGITUDINAL TURNING
PQLNR/L PQLCR/L
TOOLHOLDERS



EXTERNAL
FACE TURNING
PQFNR/L
TOOLHOLDERS



INTERNAL
LONGITUDINAL TURNING
S...PQLNR/L S...SQLCR/L
BORING BARS



INTERNAL
FACE TURNING
S...PQFNR/L
BORING BARS

Depth of shoulder T with angles over 92° is unlimited in both directions.

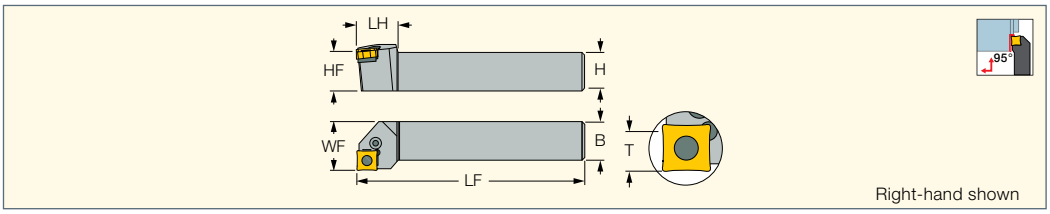
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| PQLNR/L 1616H-09 | TXC 322 | SP 3 | PN 3-4 | LR 3 | SR 117-2014 | HW 2.5 |
| PQLNR/L 2020K-09 | TXC 322 | SP 3 | PN 3-4 | LR 3 | SR 117-2014 | HW 2.5 |
| PQLNR/L 2525M-09 | TXC 322 | SP 3 | PN 3-4 | LR 3 | SR 117-2014 | HW 2.5 |
| PQLNR/L 2020K-12 | TSN 423 | SP 4 | PN 3-4 | LR 4 | SR 117-2010 | HW 3.0 |
| PQLNR/L 2525M-12 | TSN 423 | SP 4 | PN 3-4 | LR 4 | SR 117-2010 | HW 3.0 |

ISOTURN

## PQFNR/L

Lever Lock Face Turning Tools
Carrying Negative Inserts
with Four 80° Corners




| Designation | H | HF | B | LF | LH | WF | T(1) | Insert |
|---|---|---|---|---|---|---|---|---|
| PQFNR/L 2020K-09 | 20.0 | 20.0 | 20.0 | 125.00 | 26.0 | 25.00 | 8 | QNMG 0904 |
| PQFNR/L 2020K-12 | 20.0 | 20.0 | 20.0 | 125.00 | 26.0 | 25.00 | 10 | QNMG 1204 |
| PQFNR/L 2525M-12 | 25.0 | 25.0 | 25.0 | 150.00 | 26.0 | 25.00 | 10 | QNMG 1204 |

(1) T for r 0.8

**Inserts:** QNMG-GN • QNMG-NF • QNMG-PP • QNMG-TF

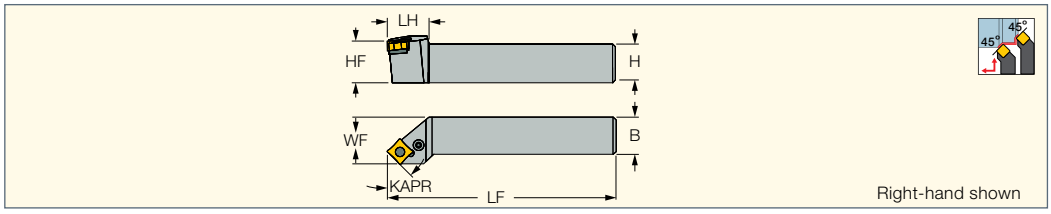
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| PQFNR/L 2020K-09 | TXC 322 | SP 3 | PN 3-4 | LR 3 | SR 117-2014 | HW 2.5 |
| PQFNR/L 2020K-12 | TSN 423 | SP 4 | PN 3-4 | LR 4 | SR 117-2010 | HW 3.0 |
| PQFNR/L 2525M-12 | TSN 423 | SP 4 | PN 3-4 | LR 4 | SR 117-2010 | HW 3.0 |

ISOTURN

## PQSNR/L

External 45° Lead Tools
Carrying Negative Inserts
with Four 80° Corners




| Designation | H | HF | B | LF | LH | WF | Insert | KAPR(1) |
|---|---|---|---|---|---|---|---|---|
| PQSNR/L 2525M-12 | 25.0 | 25.0 | 25.0 | 150.00 | 30.0 | 32.00 | QNMG 1204 | 45.0 |

(1) Tool cutting edge angle

**Inserts:** QNMG-GN • QNMG-NF • QNMG-PP • QNMG-TF

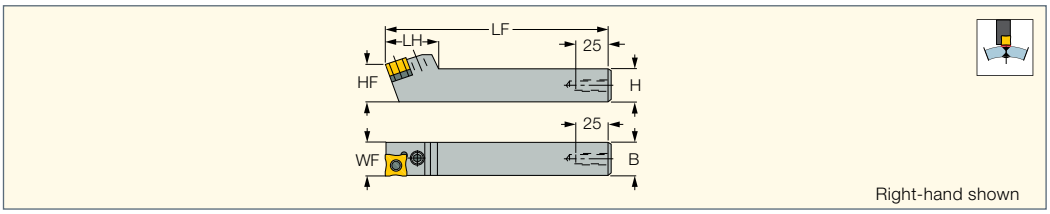
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| PQSNR/L | TSN 423 | SP 4 | PN 3-4 | LR 4 | SR 117-2010 | HW 3.0 |

ISOTURN

## PSANR/L

Lever Lock Tools Carrying
Negative Square Pipe
Skiving Inserts




| Designation | H | B | HF | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|---|
| PSANR/L 2525M-15 (1) | 25.0 | 25.0 | 26.0 | 150.00 | 38.0 | 25.00 | SNMX 1507 |

(1) TXN 5-2 for SNMX 150608R-.. inserts without chipbreaker for hard materials.

**Inserts:** SNMX 150608R-.. • SNMX 150708R-..

### Spare Parts

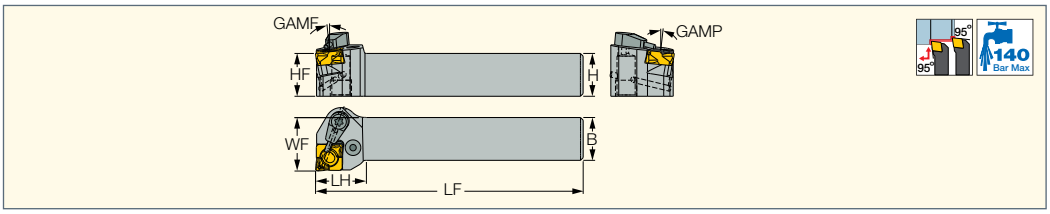
| Designation | | | | | |
|---|---|---|---|---|---|
| PSANR/L 2525M-15 | TXN 532 | TXN 5-2* | SR 117-2020 | LR 5S | HW 3.0 |

* Optional, should be ordered separately

LOGIQ4TURN POSITIVE DOUBLE SIDED
JETCUT

## PCLXR/L-JHP

Lever Lock Tools with Channels for High-Pressure Coolant Carrying CXMG 80° Rhombic Inserts




| Designation | B | H | HF | LF | LH | WF | GAMP | GAMF | Insert |
|---|---|---|---|---|---|---|---|---|---|
| PCLXR/L 1212F-09X-JHP | 12.0 | 12.0 | 12.0 | 80.00 | 20.0 | 16.00 | 6.0 | 6.0 | CXMG 09... |
| PCLXR/L 1616H-09X-JHP | 16.0 | 16.0 | 16.0 | 100.00 | 20.0 | 20.00 | 6.0 | 6.0 | CXMG 09... |
| PCLXR/L 2020K-12X-JHP | 20.0 | 20.0 | 20.0 | 125.00 | 25.0 | 25.00 | 6.0 | 6.0 | CXMG 12... |
| PCLXR/L 2525M-12X-JHP | 25.0 | 25.0 | 25.0 | 150.00 | 25.0 | 32.00 | 6.0 | 6.0 | CXMG 12... |

• For user guide, see pages 78-84

**Inserts:** CXMG-F3M • CXMG-F3P • CXMG-M3M • CXMG-M3P

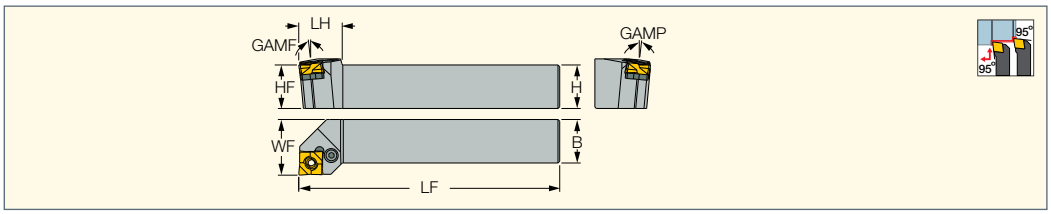
### Spare Parts

| Designation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| PCLXR/L 1212F-09X-JHP | | LR 3X SET | SR M6XL11.5V | | | T-8/5 | | S-CU-JHP-A SET |
| PCLXR/L 1616H-09X-JHP | | LR 3X SET | SR M6XL11.5V | | | T-8/5 | | S-CU-JHP-A SET |
| PCLXR/L 2020K-12X-JHP | TCNX 423 | LR 4X | SR LCS 5 | HW 3.0 | PN 3-4 | | SP 4 | CH-1.9D-JHP-A SET |
| PCLXR/L 2525M-12X-JHP | TCNX 423 | LR 4X | SR LCS 5 | HW 3.0 | PN 3-4 | | SP 4 | CH-1.9D-JHP-A SET |

LOGIQ4TURN POSITIVE DOUBLE SIDED

## PCLXR/L

Lever Lock Tools Carrying CXMG 80° Rhombic Inserts




| Designation | B | H | HF | LF | LH | WF | GAMP | GAMF | Insert |
|---|---|---|---|---|---|---|---|---|---|
| PCLXR/L 1212F-09X | 12.0 | 12.0 | 12.0 | 80.00 | 19.0 | 16.00 | 6.0 | 6.0 | CXMG 09... |
| PCLXR/L 1616H-09X | 16.0 | 16.0 | 16.0 | 100.00 | 19.0 | 20.00 | 6.0 | 6.0 | CXMG 09... |
| PCLXR/L 2020K-12X | 20.0 | 20.0 | 20.0 | 125.00 | 25.0 | 25.00 | 6.0 | 6.0 | CXMG 12... |
| PCLXR/L 2525M-12X | 25.0 | 25.0 | 25.0 | 150.00 | 25.0 | 32.00 | 6.0 | 6.0 | CXMG 12... |

**Inserts:** CXMG-F3M • CXMG-F3P • CXMG-M3M • CXMG-M3P

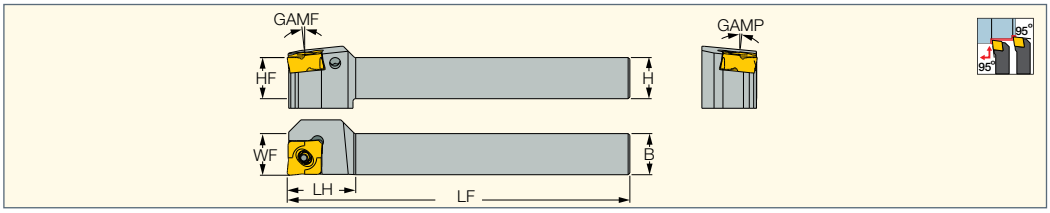
### Spare Parts

| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| PCLXR/L 1212F-09X | | LR 3X SET | SR M6XL11.5V | | | | T-8/5 |
| PCLXR/L 1616H-09X | | LR 3X SET | SR M6XL11.5V | | | | T-8/5 |
| PCLXR/L 2020K-12X | TCNX 423 | LR 4X | SR LCS 5 | HW 3.0 | PN 3-4 | SP 4 | |
| PCLXR/L 2525M-12X | TCNX 423 | LR 4X | SR LCS 5 | HW 3.0 | PN 3-4 | SP 4 | |

LOGIQ4TURN POSITIVE DOUBLE SIDED

## PCLXR/L-S

Lever Lock Tools Carrying CXMG 80° Rhombic Inserts for Swiss-Type Automatic Lathes




| Designation | B | H | HF | LF | LH | WF | GAMP | GAMF | MIID[1] |
|---|---|---|---|---|---|---|---|---|---|
| PCLXR/L 1212H-09XS | 12.0 | 12.0 | 12.0 | 100.00 | 20.0 | 12.15 | 6.0 | 6.0 | CXMG 090402-F3P |
| PCLXL 1616K-09XS | 16.0 | 16.0 | 16.0 | 125.00 | 20.0 | 16.00 | 6.0 | 6.0 | CXMG 090402-F3P |
| PCLXR 1616K-09XS | 16.0 | 16.0 | 16.0 | 125.00 | 20.0 | 16.15 | 6.0 | 6.0 | CXMG 090402-F3P |

[1] Master insert identification

**Inserts:** CXMG-F3M • CXMG-F3P • CXMG-M3M • CXMG-M3P

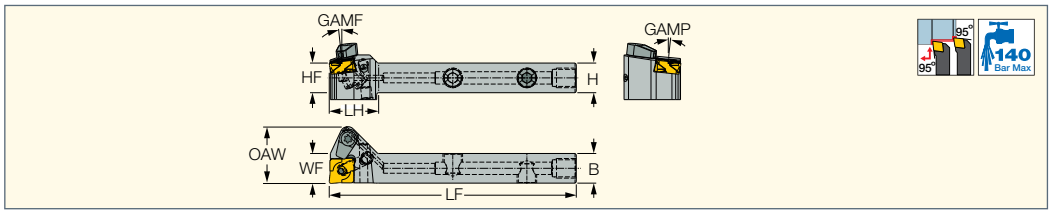
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| PCLXR/L-S | LR 3X SET | SR-SW-M4X0.7 | PIN-SW LR-3X | SR M5X5 SPR | T-8/5 | SPRING-.55X2.9X6X6.8 |

LOGIQ4TURN POSITIVE DOUBLE SIDED
JETCUT

## PCLXR/L-S-JHP

Lever Lock Tools with JETCUT Coolant System Carrying CXMG 80° Rhombic Inserts for Swiss-Type Automatic Lathes




| Designation | B | H | HF | LF | LH | WF | OAW | GAMP | GAMF | MIID(1) |
|---|---|---|---|---|---|---|---|---|---|---|
| PCLXR/L 1212H-09XS-JHP | 12.0 | 12.0 | 12.0 | 100.00 | 20.0 | 12.15 | 23.00 | 6.0 | 6.0 | CXMG 090402-F3P |
| PCLXR/L 1616K-09XS-JHP | 16.0 | 16.0 | 16.0 | 125.00 | 20.0 | 16.15 | 23.00 | 6.0 | 6.0 | CXMG 090402-F3P |

- For user guide, see pages 78-84

(1) Master insert identification

**Inserts:** CXMG-F3M • CXMG-F3P • CXMG-M3M • CXMG-M3P

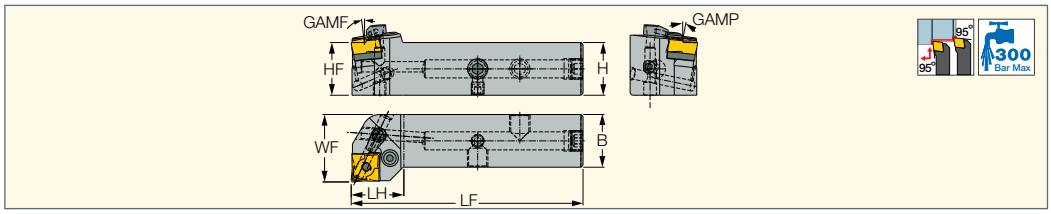
### Spare Parts

| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| PCLXR/L-S-JHP | LR 3X SET | SR-SW-M4X0.7 | PIN-SW LR-3X | SR M5X5 SPR | SR 5/16UNF TL360 | T-8/5 | SPRING-.55X2.9X6X6.8 | CH-1.9D-JHP-A SET | SR M3X3 DIN913 TL360 |

LOGIQ4TURN POSITIVE DOUBLE SIDED
JETCUT

## PCLXR/L-JHP-MC

Lever Lock Tools with Channels for High-Pressure Coolant Carrying CXMG 80° Rhombic Inserts




| Designation | B | H | HF | LF | LH | WF | GAMP | GAMF | Insert | MIID(1) |
|---|---|---|---|---|---|---|---|---|---|---|
| PCLXR/L 2020X-09X-JHP-MC | 20.0 | 20.0 | 20.0 | 90.00 | 20.0 | 25.00 | 6.0 | 6.0 | CXMG 09... | CXMG 09... |
| PCLXR/L 2525X-09X-JHP-MC | 25.0 | 25.0 | 25.0 | 105.00 | 20.0 | 32.00 | 6.0 | 6.0 | CXMG 09... | CXMG 09... |
| PCLXR/L 2020X-12X-JHP-MC | 20.0 | 20.0 | 20.0 | 95.00 | 25.0 | 25.00 | 6.0 | 6.0 | CXMG 12... | CXMG 12... |
| PCLXR/L 2525X-12X-JHP-MC | 25.0 | 25.0 | 25.0 | 110.00 | 25.0 | 32.00 | 6.0 | 6.0 | CXMG 12... | CXMG 12... |

- For user guide, see pages 78-84

(1) Master insert identification

**Inserts:** CXMG-F3M • CXMG-F3P • CXMG-M3M • CXMG-M3P

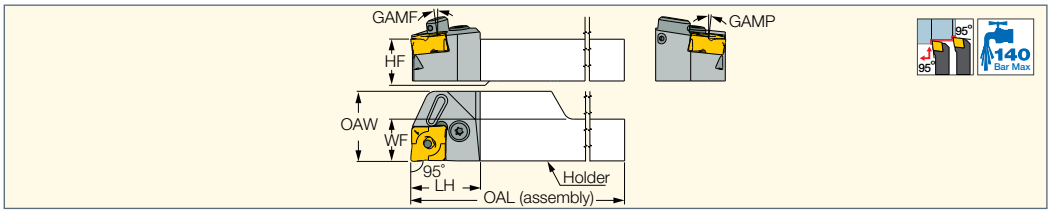
### Spare Parts

| Designation | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PCLXL 2020X-09X-JHP-MC | TSN 323 | S-CU-JHP-A SET | SR M5X5 DIN913 TL360 | SR M6X6 DIN913 TL360 | PLG G1/8 TL360 | SR 117-2014 | | PN 3-4 | SP 3 | HW 2.5/5 |
| PCLXR 2020X-09X-JHP-MC | TSN 323 | S-CU-JHP-A SET | SR M5X5 DIN913 TL360 | SR M6X6 DIN913 TL360 | PLG G1/8 TL360 | SR 117-2014 | | PN 3-4 | SP 3 | HW 2.5/5 |
| PCLXL 2525X-09X-JHP-MC | TSN 323 | S-CU-JHP-A SET | SR M5X5 DIN913 TL360 | SR M6X6 DIN913 TL360 | PLG G1/8 TL360 | SR 117-2014 | LR 3XL | PN 3-4 | SP 3 | HW 2.5/5 |
| PCLXR 2525X-09X-JHP-MC | TSN 323 | S-CU-JHP-A SET | SR M5X5 DIN913 TL360 | SR M6X6 DIN913 TL360 | PLG G1/8 TL360 | SR 117-2014 | LR 3XL | PN 3-4 | SP 3 | HW 2.5/5 |
| PCLXL 2020X-12X-JHP-MC | TCNX 423 | CH-1.9D-JHP-A SET | SR M5X5 DIN913 TL360 | SR M6X6 DIN913 TL360 | PLG G1/8 TL360 | SR LCS 5 | LR 4X | PN 3-4 | SP 4 | HW 3.0 |
| PCLXR 2020X-12X-JHP-MC | TCNX 423 | CH-1.9D-JHP-A SET | SR M5X5 DIN913 TL360 | SR M6X6 DIN913 TL360 | PLG G1/8 TL360 | SR LCS 5 | LR 4X | PN 3-4 | SP 4 | HW 3.0 |
| PCLXL 2525X-12X-JHP-MC | TCNX 423 | CH-1.9D-JHP-A SET | SR M5X5 DIN913 TL360 | SR M6X6 DIN913 TL360 | PLG G1/8 TL360 | SR LCS 5 | LR 4X | PN 3-4 | SP 4 | HW 3.0 |
| PCLXR 2525X-12X-JHP-MC | TCNX 423 | CH-1.9D-JHP-A SET | SR M5X5 DIN913 TL360 | SR M6X6 DIN913 TL360 | PLG G1/8 TL360 | SR LCS 5 | LR 4X | PN 3-4 | SP 4 | HW 3.0 |

NEOSWISS INDEXABLE HEADS
LOGIQ4TURN POSITIVE DOUBLE SIDED

## NQCH-PCLXR/L-S-JHP

Lever Lock Modular Heads with High-Pressure Coolant, Positive Double-Sided 80° Rhombic Inserts for SwissType Machines




| Designation | WF | HF | LH | OAL | OAW | GAMP | GAMF | Insert |
|---|---|---|---|---|---|---|---|---|
| NQCH12-PCLXR/L-09X-JHP | 12.15 | 12.0 | 20.0 | 120.00 | 20.15 | 6.0 | 6.0 | CXMG.. 0904 |
| NQCH16-PCLXR/L-09X-JHP | 16.15 | 16.0 | 20.0 | 120.00 | 20.15 | 6.0 | 6.0 | CXMG.. 0904 |

- For user guide, see pages 6-7, 78-84

**Inserts:** CXMG-F3M • CXMG-F3P • CXMG-M3M • CXMG-M3P

**Holders:** NQCH-JHP

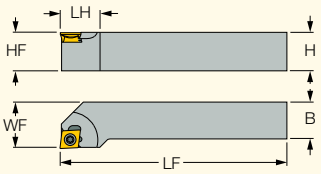
### Spare Parts

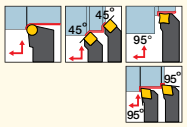
| Designation | | | |
|---|---|---|---|
| NQCH-PCLXR/L-S-JHP | LR 3X SET | SR M6XL11.5V | T-8/5 |

CHAMTURN

## SUXCR/L-CM

Screw Lock Tools Carrying Four Different 7° Clearance Geometries



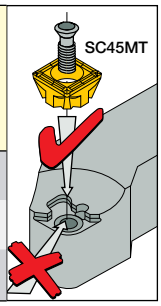




Right-hand shown

| Designation | H | HF | B | LF | LH | WF |
|---|---|---|---|---|---|---|
| SUXCR/L 1616H-10 CM | 16.0 | 16.0 | 16.0 | 100.00 | 24.0 | 20.00 |
| SUXCR/L 2020K-10 CM | 20.0 | 20.0 | 20.0 | 125.00 | 25.0 | 25.00 |
| SUXCR/L 2525M-10 CM | 25.0 | 25.0 | 25.0 | 150.00 | 25.0 | 32.00 |

**Inserts:** CC95MT-SM • SC45MT-SM

| Designation | H | HF | LF | LH | WF | Inserts |
|---|---|---|---|---|---|---|
| SUXCR/L 1616H-10 CM | 16.0 | 16.0 | 100.00 | 24.0 | 20<br>21.2 | CC95MT...<br>SC45MT... |
| SUXCR/L 2020K-10 CM | 20.0 | 20.0 | 125.00 | 25.0 | 25<br>26.2 | CC95MT...<br>SC45MT... |
| SUXCR/L 2525M-10 CM | 25.0 | 25.0 | 150.00 | 25.0 | 32<br>33.2 | CC95MT...<br>SC45MT... |




### Multifunction Tool Can Carry Two Different Inserts

- Unique, versatile **ISCAR** pocket
- For external applications
- Covers most common operations
- Simplifies tool selection
- Simple screw clamping
- Minimum spare parts

Clamping direction for SC45MT...

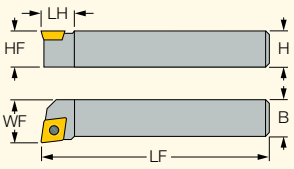
### Spare Parts

| Designation | | |
|---|---|---|
| SUXCR/L-CM | SR 14-544/S | T-15/5 |

ISOTURN

## SCLCR/L

Screw Lock Tools Carrying 80° Diamond Inserts with 7° Clearance Angle







Right-hand shown

| Designation | H | HF | B | LF | LH | WF | Insert | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SCLCR/L 0808F-06 | 8.0 | 8.0 | 8.0 | 80.00 | 10.0 | 10.00 | CC.. 0602 | SR 14-548 | T-7/5 | | | |
| SCLCR/L 1010F-06 | 10.0 | 10.0 | 10.0 | 80.00 | 10.0 | 12.00 | CC.. 0602 | SR 14-548 | T-7/5 | | | |
| SCLCR/L 1212F-09 | 12.0 | 12.0 | 12.0 | 80.00 | 14.0 | 16.00 | CC.. 09T3 | SR 16-236 | T-15/5 | | | |
| SCLCR/L 1616H-09 | 16.0 | 16.0 | 16.0 | 100.00 | 14.0 | 20.00 | CC.. 09T3 | SR 16-236 | T-15/5 | | | |
| SCLCR/L 2020K-12 | 20.0 | 20.0 | 20.0 | 125.00 | 18.0 | 25.00 | CC.. 1204 | SR 16-212 | T-20/5 | | | |
| SCLCR/L 2525M-12 | 25.0 | 25.0 | 25.0 | 150.00 | 20.0 | 32.00 | CC.. 1204 | SR 16-212 | T-20/5 | TCC 4-2 | SR TC-4 | HW 3.0 |

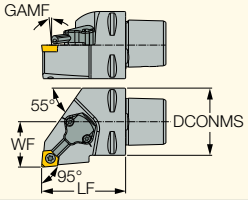
**Inserts:** CCMT-CERMET • CCMT-F3P • CCMT-M3P • CCMT-F3M • CCMT-M3M • CCMT-PF • CCMT/CCGT-SM • CCET-WF • CCMT-WG • CCGT-AS • CCGT-AF • CCMT-14 • CCMT/CCGT • CCGW/CCMT (CBN) • CCGW/CCMW-2 (CBN) • CCMT (PCD)

ISOTURN JETCUT

CAMFIX

## C#-SCLCR/L-JHP

Screw Clamp Tools with CAMFIX Shanks and Channels for High-Pressure Coolant Carrying Positive 80° Rhombic Inserts







Right-hand shown

| Designation | DCONMS | WF | LF | GAMF | Insert | CDI(1) | CP(2) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C3 SCLCR-22045-09-JHP | 32.00 | 22.00 | 45.00 | 0.0 | CC.. 09T3 | 0 | 300 | SR 16-236 | T-15/5 | CU-CW-JHP | | T-8/5 |
| C4 SCLCR/L 27050-09-JHP | 40.00 | 27.00 | 50.00 | 0.0 | CC.. 09T3 | 1 | 300 | SR 16-236 | T-15/5 | CU-CW-JHP | SR M5X5 DIN913 TL360 | T-8/5 |
| C5 SCLCR/L 35060-09-JHP | 50.00 | 35.00 | 60.00 | 0.0 | CC.. 09T3 | 1 | 300 | SR 16-236 | T-15/5 | CU-CW-JHP | SR M5X5 DIN913 TL360 | T-8/5 |

• For user guide, see pages 78-84

(1) 1 - Hole for data chip, 0 - Without hole for data chip

(2) Coolant pressure (Bar)

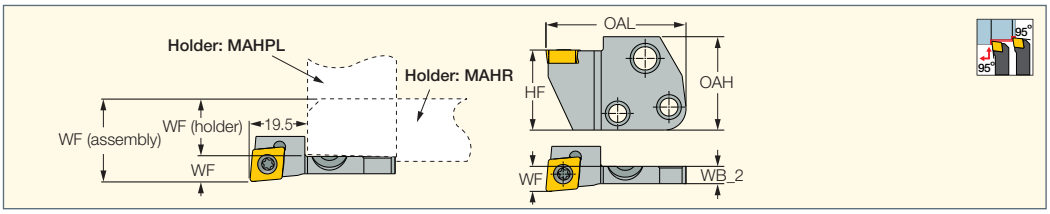
**Inserts:** CCMT-CERMET • CCMT-F3P • CCMT-M3P • CCMT-F3M • CCMT-M3M • CCMT-PF • CCMT/CCGT-SM • CCET-WF • CCMT-WG • CCGT-AS • CCGT-AF • CCMT-14 • CCMT/CCGT • CCGW/CCMT (CBN) • CCGW/CCMW-2 (CBN) • CCMT (PCD)

ISOTURN

MODULARGRIP

## SCLCR-PAD

Screw Lock Adapter Carrying 80° Diamond Inserts with 7° Clearance Angle



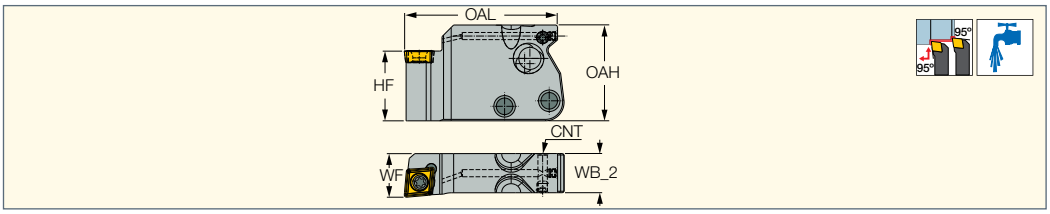

| Designation | HF | OAL | OAH | WF | WB_2 | Insert | | |
|---|---|---|---|---|---|---|---|---|
| SCLCR-09-PAD | 24.0 | 42.00 | 28.0 | 7.50 | 5.2 | CCGT/CCMT 09T3 | SR 16-236 | T-15/5 |

**Inserts:** CCMT-CERMET • CCMT-F3P • CCMT-M3P • CCMT-F3M • CCMT-M3M • CCMT-PF • CCMT/CCGT-SM • CCET-WF • CCMT-WG • CCGT-AS • CCGT-AF • CCMT-14 • CCMT/CCGT • CCGW/CCMT (CBN) • CCGW/CCMW-2 (CBN) • CCMT (PCD)
**Holders:** C#-MAHPD-JHP • MAHR/L-JHP-MC • C#-MAHD-JHP • MAHPR/L-JHP • MAHR/L-JHP • MAHR/L • MAHPR/L • C#-MAHD • C#-MAHPD • C#-MAHDR-45 • C#-MAHDOR • HSK A63WH-MAHUR/L • HSK A63WH-MAHDR-45 • HSK A63WH-MAHDOR • IM-MAHD • IM-MAHPD • HMSN-New Britain • DGHAL-DECO

ISOTURN

## SCLCR/L-PAD-JHP

Screw Lock Adapter with High-Pressure Coolant Mounts 80° Diamond Inserts with a 7° Clearance Angle



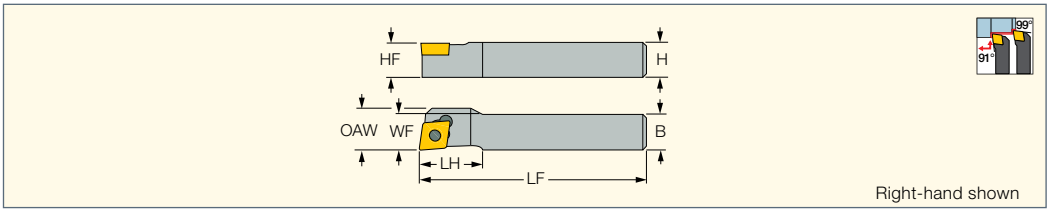

| Designation | HF | OAL | OAH | WF | WB_2 | GAMP | GAMF | Insert | CNT |
|---|---|---|---|---|---|---|---|---|---|
| SCLCR/L-09-PAD-JHP | 24.0 | 52.80 | 33.00 | 15.00 | 10.0 | 0.0 | 0.0 | CCGT/CCMT 09T3 | M4 |

**Inserts:** CCET-WF • CCGT (PCD) • CCGT MD/RD (PCD) • CCGT R/L-L (PCD) • CCGT-AF • CCGT-AS • CCGT-F1M-12P • CCGT-F1M-20P • CCGW (CBN) • CCGW (PCD) • CCGW 2MT (CBN) • CCGW 2MT MM (CBN) • CCGW MT (CBN) • CCGW MT (PCD) • CCGW R/L-L (CBN) • CCGW R/L-L (PCD) • CCGW W (CBN) • CCGW W (PCD) • CCGW W-MT (CBN) • CCGW W-MT (PCD) • CCGW/CCMT (CBN) • CCGW/CCMW-2 (CBN) • CCMT (PCD) • CCMT-14 • CCMT-CERMET • CCMT-F3M • CCMT-F3P • CCMT-M3M • CCMT-M3P • CCMT-PF • CCMT-WG • CCMT/CCGT • CCMT/CCGT-SM
**Holders:** ABC MAHDR-#-XL-JHP • C#-MAHPD-JHP • DT##/2 MAHD#-#-XL-JHP • MAHPR/L-JHP • MS##-##-MG-JHP • MS-ES#####-GWS-MG-JHP • TR TNK36 MAHDL-R-XL-JHP • TR45 MAHDR-#-XL-JHP • TR45TNL MAHDN-R-XL-JHP • V## MAHD#-#-XL-##-JHP • V## MAHD-XL-JHP

ISOTURN

## SCACR/L-S

Screw Lock Tools for Swiss-Type Machines Carrying 7° Clearance 80° Diamond Inserts




| Designation | H | HF | B | LF | LH | WF | OAW | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|
| SCACR/L 0808K-06S | 8.0 | 8.0 | 8.0 | 125.00 | 8.0 | 8.20 | - | CC.. 0602 | SR 14-548 | T-7/5 |
| SCACR 1010K-06S | 10.0 | 10.0 | 10.0 | 150.00 | - | 10.00 | - | CC.. 0602 | SR 14-548 | T-7/5 |
| SCACR/L 1616K-06S | 16.0 | 16.0 | 16.0 | 125.00 | - | 16.20 | - | CC.. 0602 | SR 14-548 | T-7/5 |
| SCACR/L 1010K-09S | 10.0 | 10.0 | 10.0 | 125.00 | 15.2 | 10.20 | - | CC.. 09T3 | SR 16-236 | T-15/5 |
| SCACR 1212K-09S | 12.0 | 12.0 | 12.0 | 125.00 | 14.0 | 12.15 | 12.5 | CC.. 09T3 | SR 16-236 | T-15/5 |
| SCACR/L 1616K-09S | 16.0 | 16.0 | 16.0 | 125.00 | - | 16.20 | - | CC.. 09T3 | SR 16-236 | T-15/5 |

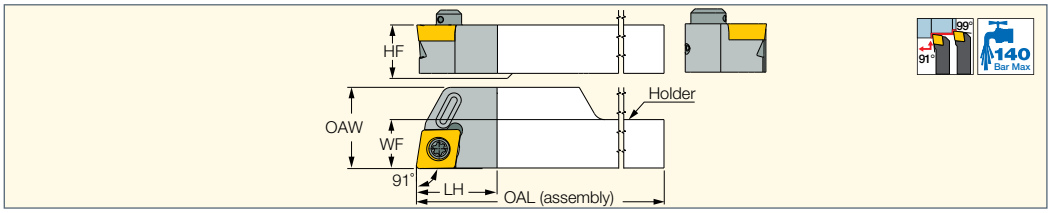
**Inserts:** CCMT-CERMET • CCMT-F3P • CCMT-M3P • CCMT-F3M • CCMT-M3M • CCMT-PF • CCMT/CCGT-SM • CCET-WF • CCMT-WG • CCGT-AS • CCMT-14 • CCMT/CCGT • CCGW/CCMT (CBN) • CCGW/CCMW-2 (CBN) • CCMT (PCD)

NEOSWISS INDEXABLE HEADS

ISOTURN

## NQCH-SCACR/L-JHP

Screw Lock Modular Heads with High-Pressure Coolant - 7° Clearance 80° Rhombic Inserts for SwissType Machines



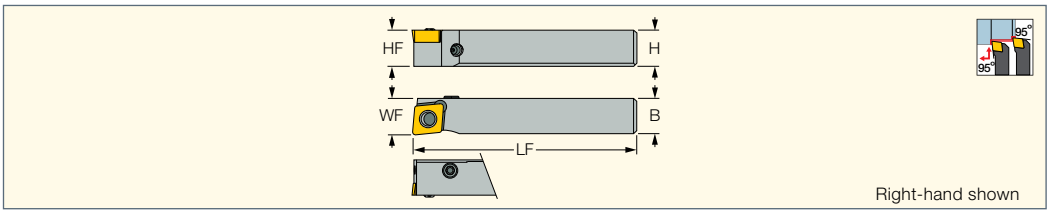

| Designation | WF | HF | LH | OAL | OAW | Insert | | |
|---|---|---|---|---|---|---|---|---|
| NQCH12-SCACR/L-09S-JHP | 12.15 | 12.0 | 20.0 | 120.00 | 20.15 | CC.. 09T3 | SR 16-236 | T-15/5 |
| NQCH16-SCACR/L-09S-JHP | 16.15 | 16.0 | 20.0 | 120.00 | 20.15 | CC.. 09T3 | SR 16-236 | T-15/5 |

For user guide, see pages 6-7, 78-84
**Holders:** NQCH-JHP

ISOTURN

## PCLCR/L-S

Side Lever Lock Tools Carrying 80° Positive Rhombic Inserts for Swiss Automatic Machines




| Designation | H | HF | B | LF | WF | Insert | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| PCLCR 0808M-06S | 8.0 | 8.0 | 8.0 | 150.00 | 8.00 | CC.. 0602 | SL LV-2 | SL PI-2 PIN | SR 10400611 | HW 2.0/5 |
| PCLCR/L 1010M-06S | 10.0 | 10.0 | 10.0 | 150.00 | 10.20 | CC.. 0602 | SL LV-2 | SL PI-2 PIN | SR 10400611 | HW 2.0/5 |
| PCLCR/L 1212M-06S | 12.0 | 12.0 | 12.0 | 150.00 | 12.20 | CC.. 0602 | SL LV-2 | SL PI-2 PIN | SR 10400611 | HW 2.0/5 |
| PCLCR/L 1616M-06S | 16.0 | 16.0 | 16.0 | 150.00 | 16.20 | CC.. 0602 | SL LV-2 | SL PI-2 PIN | SR 10400611 | HW 2.0/5 |
| PCLCR/L 1012M-09S | 10.0 | 10.0 | 12.0 | 150.00 | 12.20 | CC.. 09T3 | SL LV-3 | SL PI-3 | SR 10400150 | HW 2.5/5 |
| PCLCR/L 1212M-09S | 12.0 | 12.0 | 12.0 | 150.00 | 12.20 | CC.. 09T3 | SL LV-3 | SL PI-3 | SR 10400150 | HW 2.5/5 |
| PCLCR/L 1616M-09S | 16.0 | 16.0 | 16.0 | 150.00 | 16.20 | CC.. 09T3 | SL LV-3 | SL PI-3 | SR 10400150 | HW 2.5/5 |
| PCLCR/L 2020K-09S | 20.0 | 20.0 | 20.0 | 125.00 | 20.20 | CC.. 09T3 | SL LV-3 | SL PI-3 | SR 10400150 | HW 2.5/5 |

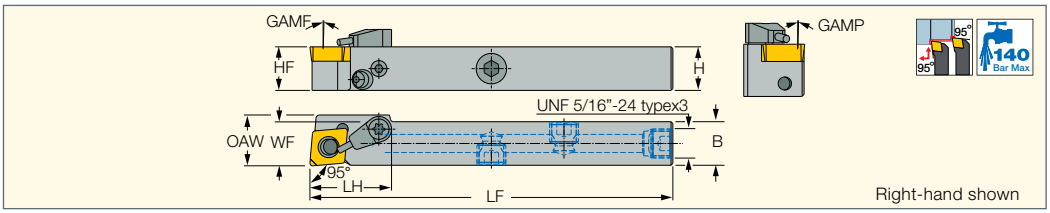
- The clamping screw may by transferred to the opposite side if needed

**Inserts:** CCMT-CERMET • CCMT-F3P • CCMT-M3P • CCMT-F3M • CCMT-M3M • CCMT-PF • CCMT/CCGT-SM • CCET-WF • CCMT-WG • CCGT-AS • CCGT-AF • CCMT-14 • CCMT/CCGT • CCGW/CCMT (CBN) • CCGW/CCMW-2 (CBN) • CCMT (PCD)

ISOTURN JETCUT

## PCLCR/L-S-JHP

Tools with Channels for High-Pressure Coolant Carrying 80° Positive Rhombic Inserts for Swiss Automatic Machines




| Designation | H | HF | B | LF | LH | WF | OAW | GAMP | GAMF | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| PCLCR/L 1010H-06S-JHP | 10.0 | 10.0 | 10.0 | 100.00 | 22.3 | 10.20 | - | 0.0 | 0.0 | CC.. 0602 |
| PCLCR/L 1212H-09S-JHP | 12.0 | 12.0 | 12.0 | 100.00 | 22.3 | 12.20 | 14.0 | 0.0 | 0.0 | CC.. 09T3 |
| PCLCR/L 1616K-09S-JHP | 16.0 | 16.0 | 16.0 | 125.00 | 22.3 | 16.20 | - | 0.0 | 0.0 | CC.. 09T3 |
| PCLCR/L 2020K-09S-JHP | 20.0 | 20.0 | 20.0 | 125.00 | 22.3 | 20.20 | - | 0.0 | 0.0 | CC.. 09T3 |

- For user guide, see pages 78-84

**Inserts:** CCMT-F3P • CCMT-M3P • CCMT-F3M • CCMT-M3M • CCMT-PF • CCMT/CCGT-SM • CCET-WF • CCMT-WG • CCGT-AS • CCGT-AF • CCMT-14 • CCMT/CCGT • CCGW/CCMT (CBN) • CCGW/CCMW-2 (CBN) • CCMT (PCD) • CCMT-CERMET

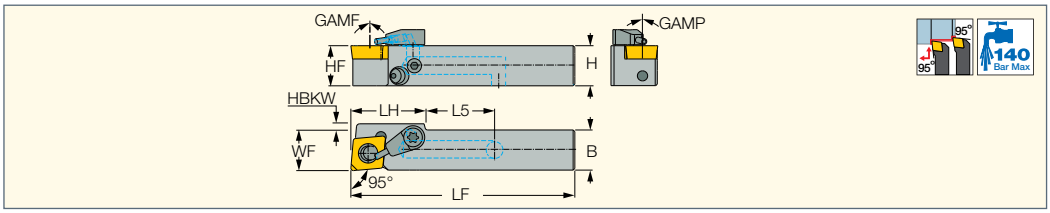
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| PCLCR/L-S-JHP | SL LV-3 | SL PI-3 | SR 10400150 | HW 2.5/5 | SR 5/16UNF TL360 | S-CU-JHP-A SET |

ISOTURN JETCUT

## PCLCR/L-JHP-MC

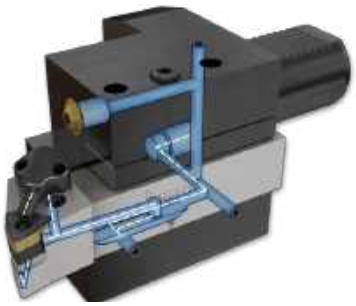
Tools with Channels for High-Pressure Coolant Carrying 80° Positive Rhombic Inserts for Swiss Automatic Machines




| Designation | H | HF | B | LF | LH | L5 | WF | HBKW | GAMP | GAMF | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PCLCR/L 1212X-09S-JHP-MC | 12.0 | 12.0 | 12.0 | 67.00 | 23.0 | 20.00 | 12.20 | 1.80 | 0.0 | 0.0 | CC.. 09T3 |
| PCLCR/L 1616X-09S-JHP-MC | 16.0 | 16.0 | 16.0 | 71.00 | 23.0 | 17.00 | 16.20 | - | 0.0 | 0.0 | CC.. 09T3 |

- For user guide, see pages 78-84

**Inserts:** CCET-WF • CCGT-AF • CCGT-AS • CCGW/CCMT (CBN) • CCGW/CCMW-2 (CBN) • CCMT (PCD) • CCMT-14 • CCMT-CERMET • CCMT-F3M • CCMT-F3P • CCMT-M3M • CCMT-M3P • CCMT-PF • CCMT-WG • CCMT/CCGT • CCMT/CCGT-SM



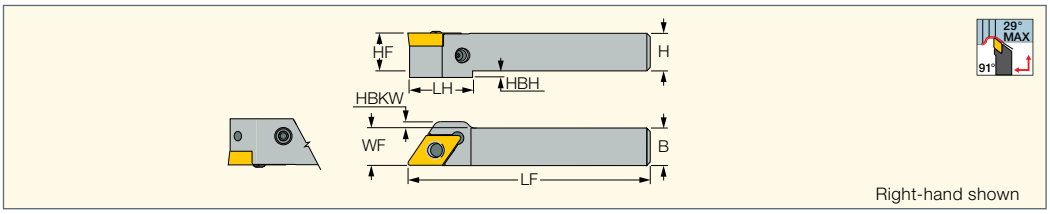
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| PCLCR/L-JHP-MC | SL LV-3 | SL PI-3 | SR 10400150 | HW 2.5/5 | SR 5/16UNF TL360 | S-CU-JHP-A SET |

ISOTURN

## PDACR/L-S

Side Lever Lock Tools Carrying 55° Positive Rhombic Inserts for Swiss Automatic Machines




| Designation | H | HF | LH | HBH | B | LF | WF | HBKW | Insert | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PDACR/L 0808M-07S | 8.0 | 8.0 | 16.0 | 2.0 | 8.0 | 150.00 | 8.00 | - | DC..0702 | SL LV-2 | SL PI-2 PIN | SR 10400611 | HW 2.0/5 |
| PDACR/L 1010M-07S | 10.0 | 10.0 | - | - | 10.0 | 150.00 | 10.00 | - | DC..0702 | SL LV-2 | SL PI-2 PIN | SR 10400611 | HW 2.0/5 |
| PDACR/L 1212M-07S | 12.0 | 12.0 | - | - | 12.0 | 150.00 | 12.00 | - | DC..0702 | SL LV-2 | SL PI-2 PIN | SR 10400611 | HW 2.0/5 |
| PDACR/L 1616M-07S | 16.0 | 16.0 | - | - | 16.0 | 150.00 | 16.00 | - | DC..0702 | SL LV-2 | SL PI-2 PIN | SR 10400611 | HW 2.0/5 |
| PDACR/L 1012M-11S | 10.0 | 10.0 | 22.0 | 2.5 | 12.0 | 150.00 | 12.00 | 2.00 | DC..11T3 | SL LV-3 | SL PI-3 | SR 10400150 | HW 2.5/5 |
| PDACR/L 1212M-11S | 12.0 | 12.0 | - | - | 12.0 | 150.00 | 12.00 | 2.00 | DC..11T3 | SL LV-3 | SL PI-3 | SR 10400150 | HW 2.5/5 |
| PDACR/L 1616M-11S | 16.0 | 16.0 | - | - | 16.0 | 150.00 | 16.00 | - | DC..11T3 | SL LV-3 | SL PI-3 | SR 10400150 | HW 2.5/5 |
| PDACR/L 2020K-11S | 20.0 | 20.0 | - | - | 20.0 | 125.00 | 20.00 | - | DC..11T3 | SL LV-3 | SL PI-3 | SR 10400150 | HW 2.5/5 |

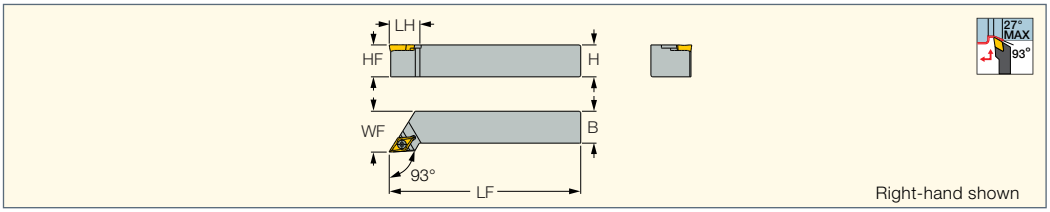
- The clamping screw may by transferred to the opposite side if needed

**Inserts:** DCGT-F1M-20P • DCMT-CERMET • DCMT-F3P • DCMT-M3M • DCMT/DCGT-PF • DCMT/DCGT-SM • DCET-WF • DCGT-AS • DCGT-AF • DCMT-14 • DCMT/DCGT • DCGW/DCMW-2 (CBN) • DCMT (CBN) • DCMT (PCD)

T-LOCK ISOTURN

## SDJCR/L-13-SL

Screw Lock Tools Carrying 55° Diamond Inserts with 7° Clearance Angle for High Rigidity in Profiling Applications




| Designation | H | HF | B | LF | LH | WF | Insert | | |
|---|---|---|---|---|---|---|---|---|---|
| SDJCR/L 1616H-13-SL | 16.0 | 16.0 | 16.0 | 100.00 | 24.0 | 21.00 | DCMT 13T5-SL | SR M4X0.7-L9.6 IP15 | TORX PLUS IP15X45 |
| SDJCR/L 2020K-13-SL | 20.0 | 20.0 | 20.0 | 125.00 | 24.0 | 27.00 | DCMT 13T5-SL | SR M4X0.7-L9.6 IP15 | TORX PLUS IP15X45 |
| SDJCR/L 2525M-13-SL | 25.0 | 25.0 | 25.0 | 150.00 | 24.0 | 32.00 | DCMT 13T5-SL | SR M4X0.7-L9.6 IP15 | TORX PLUS IP15X45 |

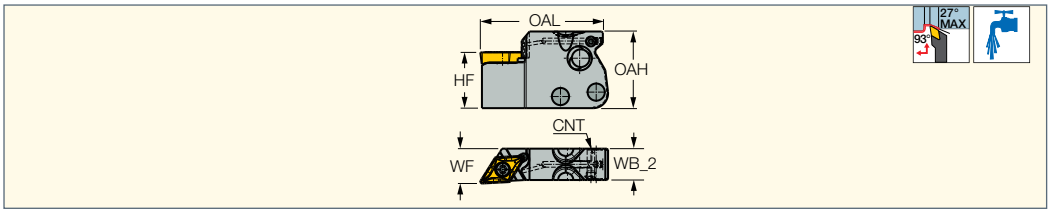
- Insert clamping torque 3 Nxm

**Inserts:** DCMT-F3P-SL • DCMT-M3M-SL • DCMT-PF-SL • DCMT-SM-SL

ISOTURN

## SDJCR/L-SL-PAD-JHP

HP Screw Adapter, Coolant, 55° Diamond Inserts, 7° Clearance. Insert Bottom Ridge, Profiling Rigidity.




| Designation | HF | OAL | OAH | WF | WB_2 | GAMP | GAMF | Insert | CNT |
|---|---|---|---|---|---|---|---|---|---|
| SDJCR-13-SL-PAD-JHP | 24.0 | 52.80 | 33.00 | 15.00 | 10.0 | 0.0 | 0.0 | DCMT 13T5-SL | M4 |

**Inserts:** DCMT-F3P-SL • DCMT-M3M-SL • DCMT-PF-SL • DCMT-SM-SL

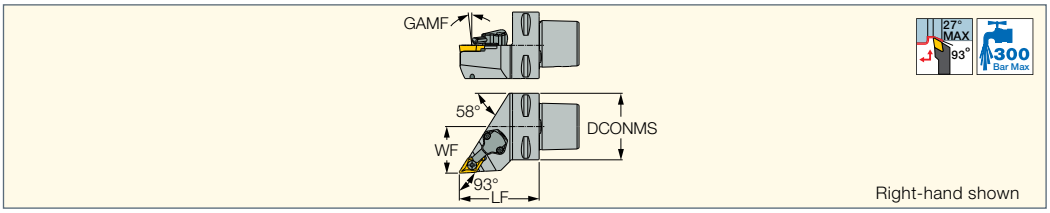
**Holders:** C#-MAHPD-JHP • MAHPR/L-JHP

T-LOCK JETCUT

CAMFIX

## C#-SDJCR/L-13-SL-JHP

Screw Clamp Tools with CAMFIX Shanks and Channels for High Pressure Coolant Carrying Positive 55° Rhombic Inserts




| Designation | DCONMS | WF | LF | GAMF | Insert | CDI(1) |
|---|---|---|---|---|---|---|
| C3 SDJCR-22040-13-SL-JHP | 32.00 | 22.00 | 40.00 | 0.0 | DCMT 13T5-SL | 0 |
| C4 SDJCR/L-27055-13-SL-JHP | 40.00 | 27.00 | 55.00 | 0.0 | DCMT 13T5-SL | 1 |
| C5 SDJCR/L-35060-13-SL-JHP | 50.00 | 35.00 | 60.00 | 0.0 | DCMT 13T5-SL | 1 |

- For user guide, see pages 78-84

(1) 1 - Hole for data chip, 0 - Without hole for data chip

**Inserts:** DCMT-F3P-SL • DCMT-M3M-SL • DCMT-PF-SL • DCMT-SM-SL

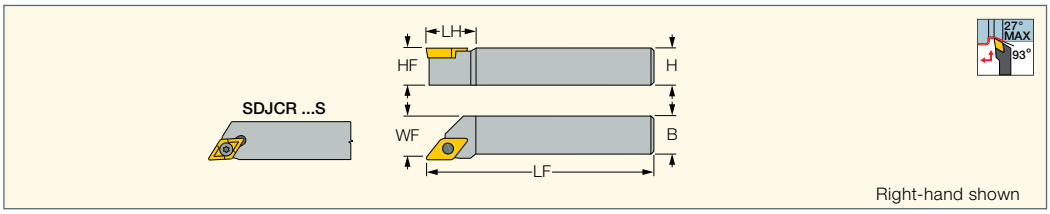
### Spare Parts

| Designation | | | | | |
|---|---|---|---|---|---|
| C3 SDJCR-22040-13-SL-JHP | CH-1.9D-JHP | SR M4X4 DIN913 TL360 | | SR M4X0.7-L9.5 IP15 | |
| C4 SDJCR/L-27055-13-SL-JHP | CU-D-JHP | SR M5X5 DIN913 TL360 | TORX PLUS IP15X45 | SR M4X0.7-L9.6 IP15 | T-8/5 |
| C5 SDJCR/L-35060-13-SL-JHP | CU-D-JHP | SR M5X5 DIN913 TL360 | TORX PLUS IP15X45 | SR M4X0.7-L9.6 IP15 | T-8/5 |

ISOTURN

## SDJCR/L

Screw Lock Tools Carrying 55° Diamond Inserts with 7° Clearance Angle




| Designation | H | HF | B | LF | LH | WF | Insert | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDJCR/L 0808F-07 | 8.0 | 8.0 | 8.0 | 80.00 | 11.5 | 10.00 | DC..0702 | SR 14-548 | T-7/5 | | | |
| SDJCR/L 1010F-07 | 10.0 | 10.0 | 10.0 | 80.00 | 11.5 | 12.00 | DC..0702 | SR 14-548 | T-7/5 | | | |
| SDJCR/L 1212K-07S (1) | 12.0 | 12.0 | 12.0 | 125.00 | - | 12.20 | DC..0702 | SR 14-548 | T-7/5 | | | |
| SDJCR/L 1616K-07S (1) | 16.0 | 16.0 | 16.0 | 125.00 | - | 16.20 | DC..0702 | SR 14-548 | T-7/5 | | | |
| SDJCR/L 1010K-11S (1) | 10.0 | 10.0 | 10.0 | 125.00 | 21.4 | 10.20 | DC..11T3 | SR 16-236 | T-15/5 | | | |
| SDJCR/L 1212F-11 | 12.0 | 12.0 | 12.0 | 80.00 | 20.0 | 16.00 | DC..11T3 | SR 16-236 P | T-15/5 | | | |
| SDJCR/L 1616H-11 | 16.0 | 16.0 | 16.0 | 100.00 | 20.0 | 20.00 | DC..11T3 | SR 16-236 P | T-15/5 | | | |
| SDJCR/L 2020K-11 | 20.0 | 20.0 | 20.0 | 125.00 | 20.0 | 25.00 | DC..11T3 | SR 16-236 P | T-15/5 | | | |
| SDJCR/L 2525M-11 | 25.0 | 25.0 | 25.0 | 150.00 | 20.0 | 32.00 | DC..11T3 | SR 16-236 P | T-15/5 | TDC 3-1P | SR TC-3P | HW 4.0 |

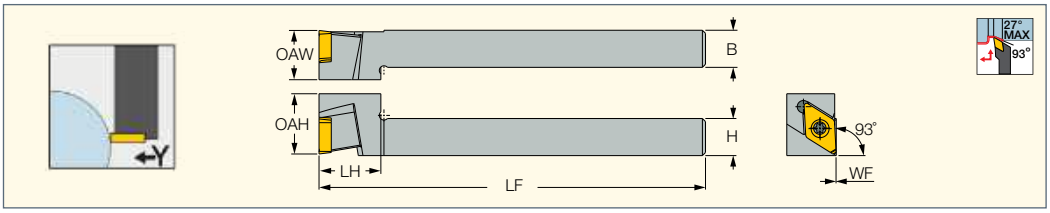
(1) For Swiss-type machines

**Inserts:** DCGT-F1M-20P • DCMT-CERMET • DCMT-F3P • DCMT-M3M • DCMT/DCGT-PF • DCMT/DCGT-SM • DCET-WF • DCGT-AS • DCGT-AF • DCMT-14 • DCMT/DCGT • DCGW/DCMW-2 (CBN) • DCMT (CBN) • DCMT (PCD)

NEOSWISS AXIS

## Y-SDJCR

Y-Axis Screw Lock Tools Carrying 55° Diamond Inserts with 7° Clearance Angle for Swiss-Type Machines



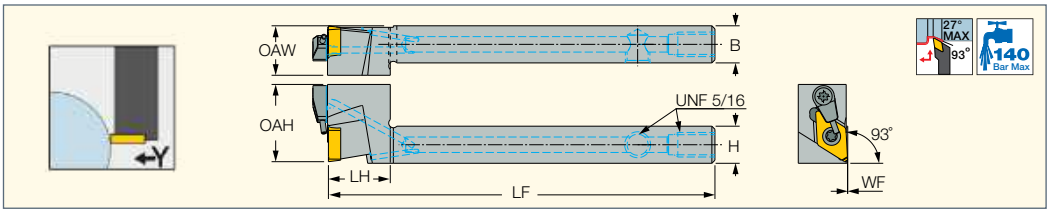

| Designation | H | B | LF | LH | OAH | OAW | WF | Insert |
|---|---|---|---|---|---|---|---|---|
| Y-SDJCR 1212K-11S | 12.0 | 12.0 | 125.00 | 21.0 | 20.00 | 16.00 | 0.00 | DCMT 11T3.. |
| Y-SDJCR 1616K-11S | 16.0 | 16.0 | 125.00 | 21.0 | 20.00 | 16.00 | 0.00 | DCMT 11T3.. |

**Inserts:** DCET-WF • DCGT-AF • DCGT-AS • DCGW/DCMW-2 (CBN) • DCMT (CBN) • DCMT (PCD) • DCMT-14 • DCMT-CERMET • DCMT-F3P • DCMT-M3M • DCMT/DCGT • DCMT/DCGT-PF • DCMT/DCGT-SM

NEOSWISS AXIS

## Y-SDJCR-JHP

Y-Axis Screw Lock Tools with High-Pressure Coolant Carrying 55° Diamond Inserts with 7° Clearance Angle




| Designation | H | B | LF | LH | OAH | OAW | WF | Insert |
|---|---|---|---|---|---|---|---|---|
| Y-SDJCR 1212K-11S-JHP | 12.0 | 12.0 | 125.00 | 21.0 | 25.50 | 16.00 | 0.00 | DCMT 11T3.. |
| Y-SDJCR 1616K-11S-JHP | 16.0 | 16.0 | 125.00 | 21.0 | 25.50 | 16.00 | 0.00 | DCMT 11T3.. |

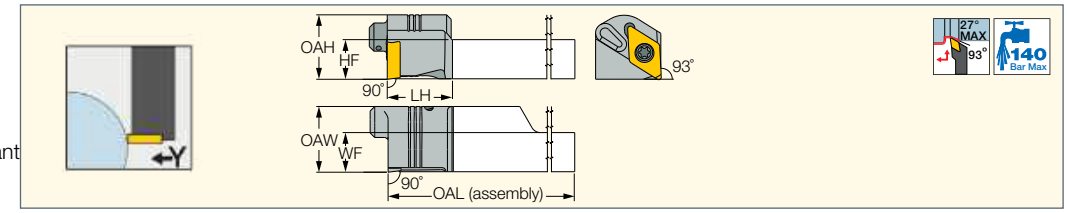
**Inserts:** DCET-WF • DCGT-AF • DCGT-AS • DCGW/DCMW-2 (CBN) • DCMT (CBN) • DCMT (PCD) • DCMT-14 • DCMT-CERMET • DCMT-F3P • DCMT-M3M • DCMT/DCGT • DCMT/DCGT-PF • DCMT/DCGT-SM

NEOSWISS INDEXABLE HEADS

ISOTURN

## NQCH-Y-SDJCR-S-JHP

Y-Axis Screw Lock Modular Heads with High-Pressure Coolant - 7° Clearance 55° Rhombic Inserts for SwissType Machines




| Designation | WF | HF | LH | OAL | OAW | Insert | | |
|---|---|---|---|---|---|---|---|---|
| NQCH12-Y-SDJCR-11S-JHP | 12.15 | 12.2 | 20.0 | 120.00 | 20.00 | DC.. 11T3 | SR 16-236 P | T-15/5 |
| NQCH16-Y-SDJCR-11S-JHP | 16.15 | 16.2 | 20.0 | 120.00 | 20.00 | DC.. 11T3 | SR 16-236 P | T-15/5 |

For user guide, see pages 6-7, 78-84

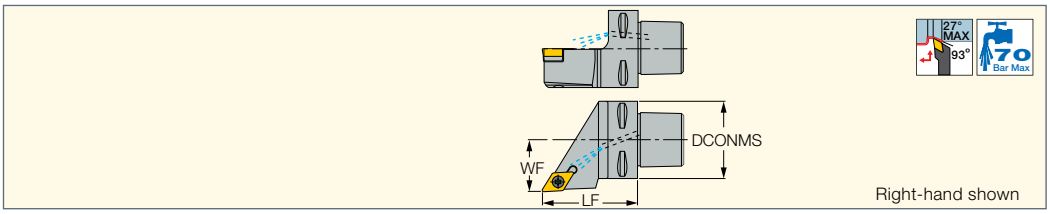
**Inserts:** DCET-WF • DCGT-AF • DCGT-AS • DCGT-F1M-20P • DCGW/DCMW-2 (CBN) • DCMT (CBN) • DCMT (PCD) • DCMT-14 • DCMT-CERMET • DCMT-F3P • DCMT-M3M • DCMT/DCGT • DCMT/DCGT-PF • DCMT/DCGT-SM

**Holders:** NQCH-JHP

ISOTURN CAMFIX

## C#-SDJCR/L

Screw Lock Tools with CAMFIX Exchangeable Shanks Carrying 55° Rhombic Inserts with 7° Clearance Angle




| Designation | DCONMS | WF | LF | Insert | CDI(1) | CP(2) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C4 SDJCR-27050-11 | 40.00 | 27.00 | 50.00 | DC.. 11T3 | 1 | 70 | TDC 3-1P | SR TC-3P | HW 4.0 | SR 16-236 P | T-15/5 | EZ 83 |
| C5 SDJCR-35060-11 | 50.00 | 35.00 | 60.00 | DC.. 11T3 | 1 | 70 | TDC 3-1P | SR TC-3P | HW 4.0 | SR 16-236 P | T-15/5 | EZ 104 |

(1) 1 - Hole for data chip, 0 - Without hole for data chip

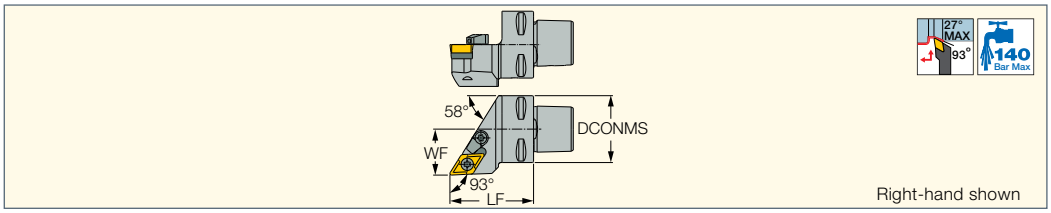
(2) Coolant pressure (Bar)

**Inserts:** DCMT-CERMET • DCMT-F3P • DCMT-M3M • DCMT/DCGT-PF • DCMT/DCGT-SM • DCET-WF • DCGT-AS • DCGT-AF • DCMT-14 • DCMT/DCGT • DCGW/DCMW-2 (CBN) • DCMT (CBN) • DCMT (PCD)

ISOTURN JETCUT CAMFIX

## C#-SDJCR-JHP

Screw Clamp Tools with CAMFIX Shanks and Channels for High Pressure Coolant Carrying Positive 55° Rhombic Inserts




| Designation | DCONMS | WF | LF | Insert | CDI(1) | CP(2) |
|---|---|---|---|---|---|---|
| C3 SDJCR-22040-11-JHP | 32.00 | 22.00 | 40.00 | DC.. 11T3 | 0 | 140 |

- For user guide, see pages 78-84

(1) 1 - Hole for data chip, 0 - Without hole for data chip

(2) Coolant pressure (Bar)

**Inserts:** DCMT-CERMET • DCMT-F3P • DCMT-M3M • DCMT/DCGT-PF • DCMT/DCGT-SM • DCET-WF • DCGT-AS • DCGT-AF • DCMT-14 • DCMT/DCGT • DCGW/DCMW-2 (CBN) • DCMT (CBN) • DCMT (PCD)

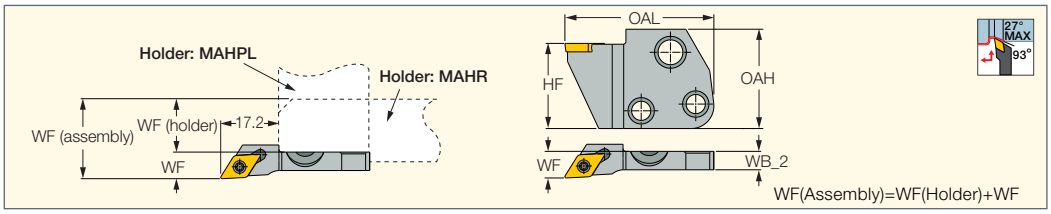
### Spare Parts

| Designation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| C3 SDJCR-22040-11-JHP | TDC 3-1P | SR TC-3P | SR 16-236 P | T-15/5 | CH-1.9D-JHP | WASHER 4.2X5.6X0.5 | SR M4X4 DIN913 TL360 | HW 4.0 |

ISOTURN MODULARGRIP

## SDJCR-PAD

Screw Lock Adapter Carrying 55° Diamond Inserts with 7° Clearance Angle




| Designation | HF | OAH | OAL | WF | WB_2 | Insert | | |
|---|---|---|---|---|---|---|---|---|
| SDJCR-07-PAD | 24.0 | 28.0 | 42.00 | 7.50 | 5.2 | DCMT/DCGT 0702 | SR 14-548 | T-7/5 |

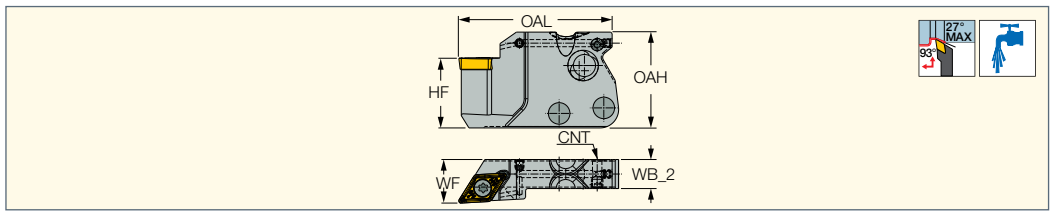
**Inserts:** • DCGT-F1M-20P • DCMT-F3P • DCMT-M3M • DCMT/DCGT-PF • DCMT/DCGT-SM • DCET-WF • DCGT-AS • DCMT/DCGT • DCGW/DCMW-2 (CBN)

**Holders:** C#-MAHPD-JHP • MAHR/L-JHP-MC • C#-MAHD-JHP • MAHPR/L-JHP • MAHR/L-JHP • MAHR/L • MAHPR/L • C#-MAHD • C#-MAHPD • C#-MAHDR-45 • C#-MAHDOR • HSK A63WH-MAHUR/L • HSK A63WH-MAHDR-45 • HSK A63WH-MAHDOR • IM-MAHD • IM-MAHPD • HMSN-New Britain • DGHAL-DECO

ISOTURN

## SDJCR/L-PAD-JHP

Screw Lock Adapter with High-Pressure Coolant Mounts 55° Diamond Inserts with a 7° Clearance Angle




| Designation | HF | OAL | OAH | WF | WB_2 | GAMP | GAMF | Insert | CNT |
|---|---|---|---|---|---|---|---|---|---|
| SDJCR/L-07-PAD-JHP | 24.0 | 52.80 | 33.00 | 15.00 | 10.0 | 0.0 | 0.0 | DCMT/DCGT 0702 | M4 |
| SDJCR/L-11-PAD-JHP | 24.0 | 52.80 | 33.00 | 15.00 | 10.0 | 0.0 | 0.0 | DCMT/DCGT 11T3 | M4 |

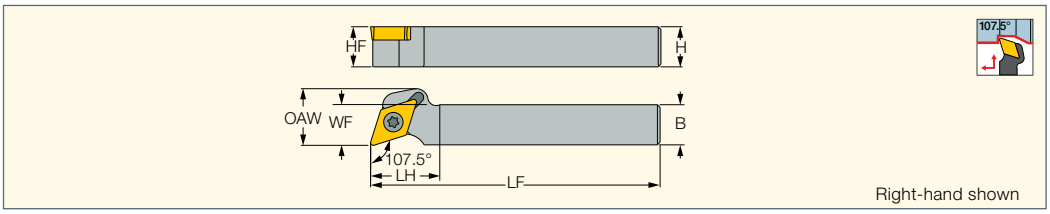
**Inserts:** DCET-WF • DCGT (PCD) • DCGT MD/RD (PCD) • DCGT-AF • DCGT-AS • DCGT-F1M-12P • DCGT-F1M-20P • DCGW (CBN) • DCGW (PCD) • DCGW 2MT (CBN) • DCGW 2MT MM (CBN) • DCGW MT (CBN) • DCGW MT (PCD) • DCGW W-2MT (CBN) • DCGW W-MT (CBN) • DCGW W-MT (PCD) • DCGW/DCMW-2 (CBN) • DCMT (CBN) • DCMT (PCD) • DCMT-14 • DCMT-CERMET • DCMT-F3P • DCMT-M3M • DCMT-M3P • DCMT/DCGT • DCMT/DCGT-PF • DCMT/DCGT-SM

**Holders:** ABC MAHDR-#-XL-JHP • C#-MAHPD-JHP • DT##/2 MAHD#-#-XL-JHP • MAHPR/L-JHP • MS##-##-MG-JHP • MS-ES#####-GWS-MG-JHP • TR TNK36 MAHDL-R-XL-JHP • TR45 MAHDR-#-XL-JHP • TR45TNL MAHDN-R-XL-JHP • V## MAHD#-#-XL-##-JHP • V## MAHD-XL-JHP

ISOTURN

## SDHCR/L

Screw Lock Tools Carrying 55° Diamond Inserts with 7° Clearance Angle for Swiss-Type Machines



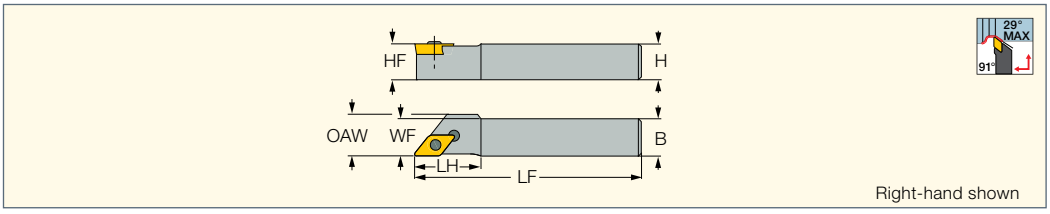

| Designation | H | HF | B | LF | LH | WF | OAW | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|
| SDHCR/L 1010K-07S | 10.0 | 10.0 | 10.0 | 125.00 | 12.5 | 10.20 | - | DC..0702 | SR 14-548 | T-7/5 |
| SDHCR/L 1212K-07S | 12.0 | 12.0 | 12.0 | 125.00 | 12.0 | 12.20 | - | DC..0702 | SR 14-548 | T-7/5 |
| SDHCR/L 1616K-07S | 16.0 | 16.0 | 16.0 | 125.00 | 12.0 | 16.20 | - | DC..0702 | SR 14-548 | T-7/5 |
| SDHCR/L 1212K-11S | 12.0 | 12.0 | 12.0 | 125.00 | 19.0 | 12.20 | 17.0 | DC..11T3 | SR 16-236 | T-15/5 |
| SDHCR/L 1616K-11S | 16.0 | 16.0 | 16.0 | 125.00 | 20.0 | 16.20 | - | DC..11T3 | SR 16-236 | T-15/5 |

**Inserts:** DCGT-F1M-20P • DCMT-CERMET • DCMT-F3P • DCMT-M3M • DCMT/DCGT-PF • DCMT/DCGT-SM • DCET-WF • DCGT-AS • DCGT-AF • DCMT-14 • DCMT/DCGT • DCGW/DCMW-2 (CBN) • DCMT (CBN) • DCMT (PCD)

ISOTURN

## SDACR/L

Screw Lock Tools Carrying 55° Diamond Inserts with 7° Clearance Angle




| Designation | H | HF | B | LF | LH | WF | OAW | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|
| SDACR/L 1010K-07S | 10.0 | 10.0 | 10.0 | 125.00 | - | 10.00 | - | DC..0702 | SR 14-548 | T-7/5 |
| SDACR/L 1212K-07S | 12.0 | 12.0 | 12.0 | 125.00 | - | 12.00 | - | DC..0702 | SR 14-548 | T-7/5 |
| SDACR/L 1212K-11S | 12.0 | 12.0 | 12.0 | 125.00 | 20.0 | 12.00 | 14.0 | DC..11T3 | SR 16-236 P | T-15/5 |
| SDACR/L 1616K-11S | 16.0 | 16.0 | 16.0 | 125.00 | - | 16.00 | - | DC..11T3 | SR 16-236 P | T-15/5 |

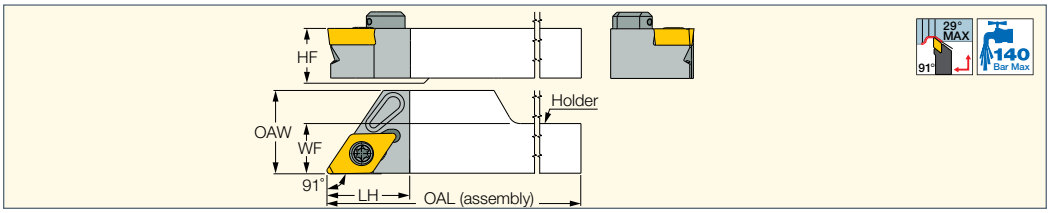
**Inserts:** DCGT-F1M-20P • DCMT-CERMET • DCMT-F3P • DCMT-M3M • DCMT/DCGT-PF • DCMT/DCGT-SM • DCET-WF • DCGT-AS • DCGT-AF • DCMT-14 • DCMT/DCGT • DCGW/DCMW-2 (CBN) • DCMT (CBN) • DCMT (PCD)

NEOSWISS INDEXABLE HEADS

ISOTURN

## NQCH-SDACR/L-S-JHP

Screw Lock Modular Heads with High-Pressure Coolant - 7° Clearance 55° Rhombic Inserts for SwissType Machines




| Designation | WF | HF | LH | OAL | OAW | Insert |
|---|---|---|---|---|---|---|
| NQCH12-SDACR/L-11S-JHP | 12.15 | 12.0 | 20.0 | 120.00 | 20.15 | DC.. 11T3 |
| NQCH16-SDACR/L-11S-JHP | 16.15 | 16.0 | 20.0 | 120.00 | 20.15 | DC.. 11T3 |

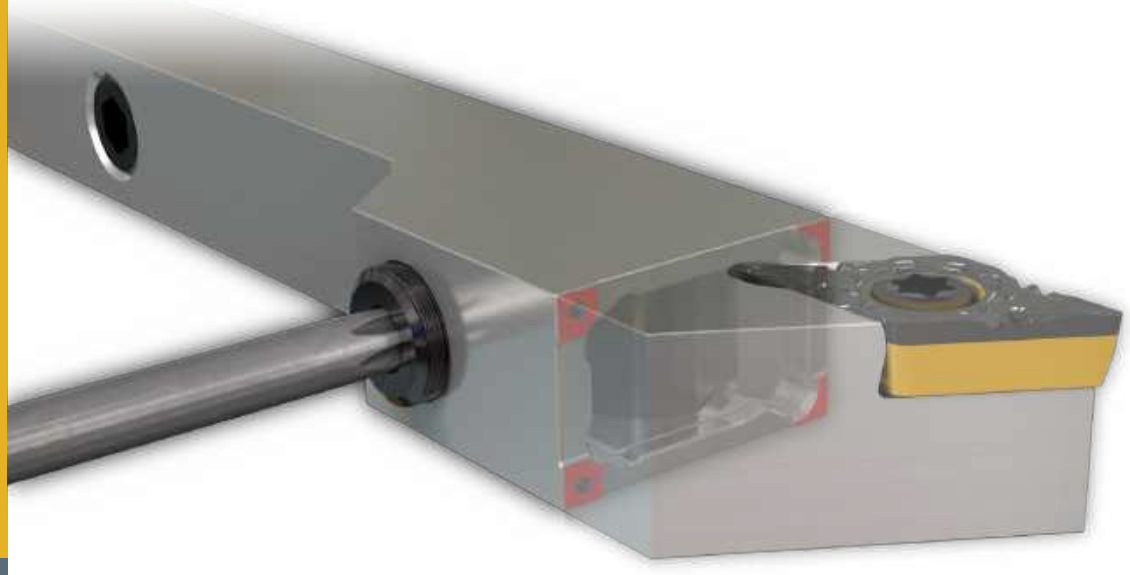
• For user guide, see pages 6-7, 78-84

**Inserts:** DCET-WF • DCGT-AF • DCGT-AS • DCGT-F1M-20P • DCGW/DCMW-2 (CBN) • DCMT (CBN) • DCMT (PCD) • DCMT-14 • DCMT-CERMET • DCMT-F3P • DCMT-M3M • DCMT/DCGT • DCMT/DCGT-PF • DCMT/DCGT-SM

**Holders:** NQCH-JHP

### Spare Parts

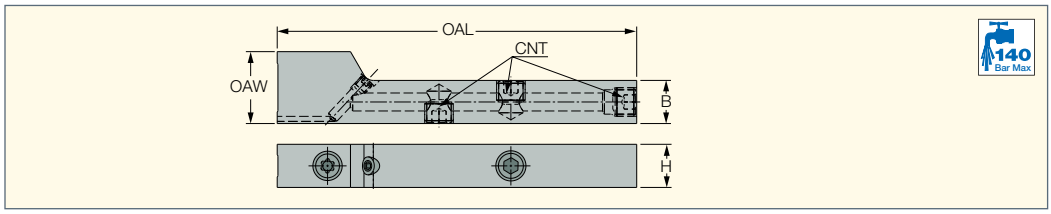
| Designation | | |
|---|---|---|
| NQCH-SDACR/L-S-JHP | SR 16-236 P | T-15/5 |



NEOSWISS INDEXABLE HEADS JETCUT

## NQCH-JHP

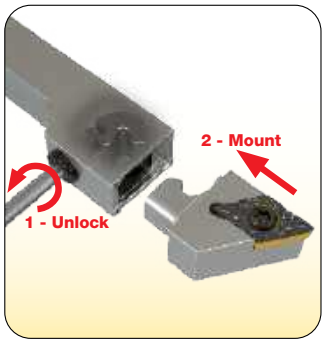
Square Shank with High-Pressure Coolant for NEOSWISS Modular Heads - Swiss Type Machines

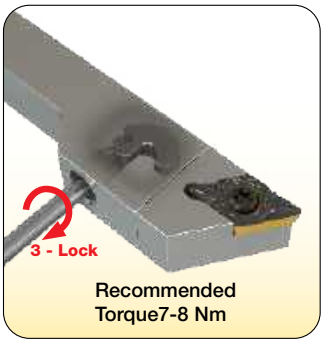



| Designation | B | H | OAL | OAW | CNT |
|---|---|---|---|---|---|
| NQCH-1212-JHP | 12.0 | 12.0 | 100.00 | 20.00 | UNF 5/16-24 |
| NQCH-1616-JHP | 16.0 | 16.0 | 100.00 | 20.00 | UNF 5/16-24 |

**Tools:** NQCH-DGTR/L-D-SH-JHP • NQCH-GHSR/L-JHP • NQCH-PCHR/L-S-JHP • NQCH-PCLXR/L-S-JHP • NQCH-SCACR/L-JHP • NQCH-SCHR/L-BF-JHP • NQCH-SDACR/L-S-JHP • NQCH-SDJNR/L-S-JHP • NQCH-SVACR/L-S-JHP • NQCH-SWLNR/L-S-JHP • NQCH-Y-SCHR-BF-JHP • NQCH-Y-SDJCR-S-JHP • NQCH-Y-SVJCR-S-JHP

### Clamping Operation Steps






**Attention: The clamping screw is not removable. To avoid undesired damage, do not apply excessive force when opening or clamping.**

| | | |
|---|---|---|
| **Supplied Accessories** | **Item No: 7003805** SW6-T-SH |  |
| | **Item No: 7002553** BLD IP20/S7 |  |
| **Recommended (Optional) Accessories** | **Item No: 7007221** TSA 6 44.1-123.5 LBF.IN (TSA 6 5-14NM) |  |
| | **Item No: 7007027** BLD 6 T20IP |  |

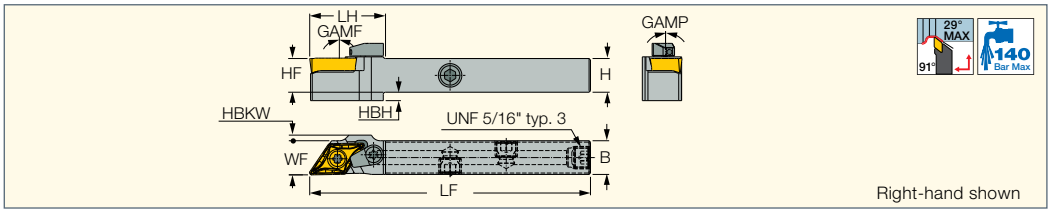
### Spare Parts

| Designation | | | | |
|---|---|---|---|---|
| NQCH-JHP | SR 5/16UNF TL360 | SW6-T-SH | BLD IP20/S7 | SR M4X4 DIN913 TL360 |

ISOTURN T-LOCK JETCUT

## SDACR/L-13S-SL-JHP

Tools with Channels for High-Pressure Coolant Carrying 55° Positive Rhombic Inserts for Swiss Automatic Machines




| Designation | H | HF | B | LF | LH | WF | HBKW | HBH | GAMP | GAMF | Insert | CNT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDACR/L 1212H-13S-SL-JHP | 12.0 | 12.0 | 12.0 | 100.00 | 27.0 | 12.15 | 2.35 | 3.0 | 0.0 | 0.0 | DCMT 13T5-SL | UNF 5/16 " |
| SDACR/L 1616K-13S-SL-JHP | 16.0 | 16.0 | 16.0 | 125.00 | 27.0 | 16.15 | - | - | 0.0 | 0.0 | DCMT 13T5-SL | UNF 5/16 " |

• For user guide, see pages 78-84

**Inserts:** DCMT-F3P-SL • DCMT-M3M-SL • DCMT-PF-SL • DCMT-SM-SL

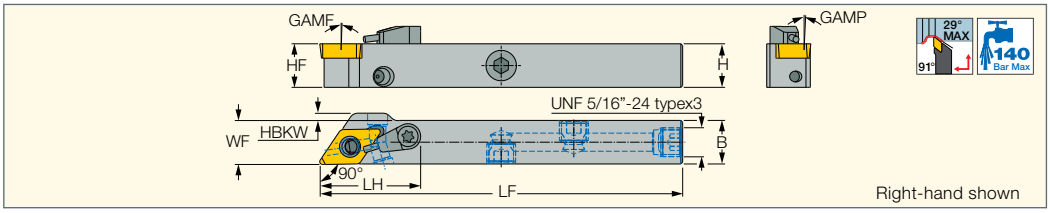
### Spare Parts

| Designation | | | | | |
|---|---|---|---|---|---|
| SDACR/L-13S-SL-JHP | CH-1.9D-JHP | SR 5/16UNF TL360 | TORX PLUS IP15X45 | SR M3 CONE | SR M4X0.7-L9.6 IP15 |

ISOTURN JETCUT

## PDACR/L-JHP

Tools with Channels for High-Pressure Coolant Carrying 55° Positive Rhombic Inserts for Swiss Automatic Machines




| Designation | H | HF | B | LF | LH | WF | HBKW | GAMP | GAMF | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| PDACR/L 1010H-07S-JHP | 10.0 | 10.0 | 10.0 | 100.00 | 20.4 | 10.20 | 6.10 | 0.0 | 0.0 | DC..0702 |
| PDACR/L 1212H-11S-JHP | 12.0 | 12.0 | 12.0 | 100.00 | 28.0 | 12.20 | 2.00 | 0.0 | 0.0 | DC..11T3 |
| PDACR/L 1616K-11S-JHP | 16.0 | 16.0 | 16.0 | 125.00 | 28.0 | 16.20 | - | 0.0 | 0.0 | DC..11T3 |
| PDACR/L 2020K-11S-JHP | 20.0 | 20.0 | 20.0 | 125.00 | 28.0 | 20.20 | - | 0.0 | 0.0 | DC..11T3 |

• For user guide, see pages 78-84

**Inserts:** DCGT-F1M-20P • DCMT-CERMET • DCMT-F3P • DCMT-M3M • DCMT/DCGT-PF • DCMT/DCGT-SM • DCET-WF • DCGT-AS • DCGT-AF • DCMT-14 • DCMT/DCGT • DCGW/DCMW-2 (CBN) • DCMT (CBN) • DCMT (PCD)

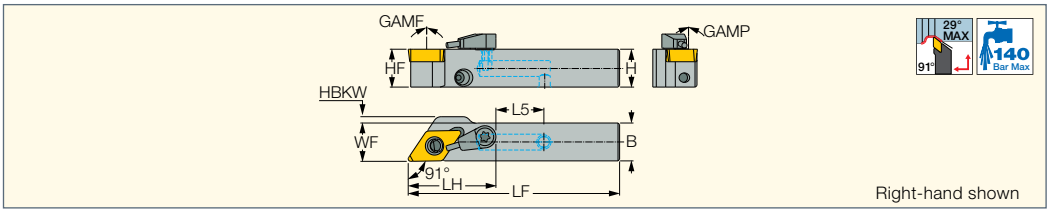
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| PDACR/L 1010H-07S-JHP | SL LV-2 | SL PI-2 PIN | SR 10400611 | HW 2.0/5 | SR 5/16XUNF-TL-S | S-CU-JHP-A SET |
| PDACR/L 1212H-11S-JHP | SL LV-3 | SL PI-3 | SR 10400150 | HW 2.5/5 | SR 5/16UNF TL360 | S-CU-JHP-A SET |
| PDACR/L 1616K-11S-JHP | SL LV-3 | SL PI-3 | SR 10400150 | HW 2.5/5 | SR 5/16UNF TL360 | S-CU-JHP-A SET |
| PDACR/L 2020K-11S-JHP | SL LV-3 | SL PI-3 | SR 10400150 | HW 2.5/5 | SR 5/16UNF TL360 | S-CU-JHP-A SET |

ISOTURN JETCUT

## PDACR/L-JHP-MC

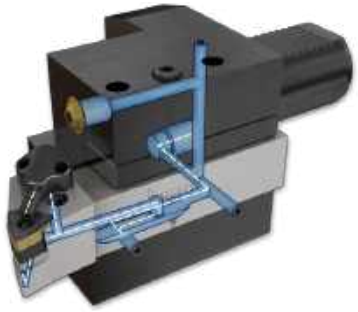
Tools with Channels for High-Pressure Coolant Carrying 55° Positive Rhombic Inserts for Swiss Automatic Machines




| Designation | H | HF | B | LF | LH | L5 | WF | HBKW | GAMP | GAMF | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PDACR/L 1212X-11S-JHP-MC | 12.0 | 12.0 | 12.0 | 67.00 | 28.0 | 15.00 | 12.20 | 2.00 | 0.0 | 0.0 | DC..11T3 |
| PDACR/L 1616X-11S-JHP-MC | 16.0 | 16.0 | 16.0 | 76.00 | 28.0 | 17.00 | 16.20 | - | 0.0 | 0.0 | DC..11T3 |

• For user guide, see pages 78-84

**Inserts:** DCET-WF • DCGT-AF • DCGT-AS • DCGW/DCMW-2 (CBN) • DCMT (CBN) • DCMT (PCD) • DCMT-14 • DCMT-CERMET • DCMT-F3P • DCMT-M3M • DCMT/DCGT • DCMT/DCGT-PF • DCMT/DCGT-SM



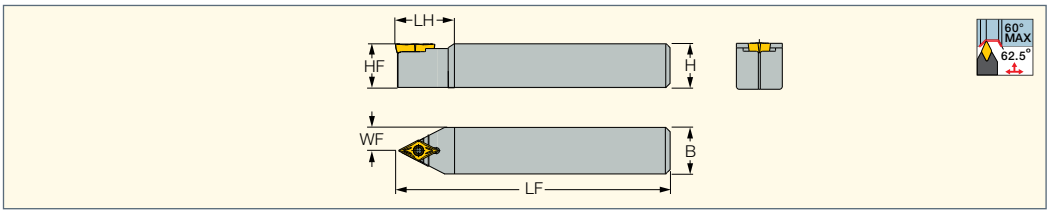
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| PDACR/L 1212X-11S-JHP-MC | SL LV-3 | SL PI-3 | SR 10400150 | HW 2.5/5 | SR 5/16UNF TL360 | S-CU-JHP-A SET |
| PDACR/L 1616X-11S-JHP-MC | SL LV-3 | SL PI-3 | SR 10400150 | HW 2.5/5 | SR 5/16UNF TL360 | S-CU-JHP-A SET |

T-LOCK ISOTURN

## SDNCN-13-SL

Screw Lock Tools Carrying 55° Diamond Inserts with 7° Clearance Angle for High Rigidity in Profiling Applications




| Designation | H | HF | B | LF | LH | WF | Insert | | |
|---|---|---|---|---|---|---|---|---|---|
| SDNCN 1616H-13-SL | 16.0 | 16.0 | 16.0 | 100.00 | 25.0 | 8.00 | DCMT 13T5-SL | SR M4X0.7-L9.6 IP15 | TORX PLUS IP15X45 |
| SDNCN 2020K-13-SL | 20.0 | 20.0 | 20.0 | 125.00 | 25.0 | 10.00 | DCMT 13T5-SL | SR M4X0.7-L9.6 IP15 | TORX PLUS IP15X45 |
| SDNCN 2525M-13-SL | 25.0 | 25.0 | 25.0 | 150.00 | 25.0 | 12.50 | DCMT 13T5-SL | SR M4X0.7-L9.6 IP15 | TORX PLUS IP15X45 |

- Insert clamping torque 3 Nxm

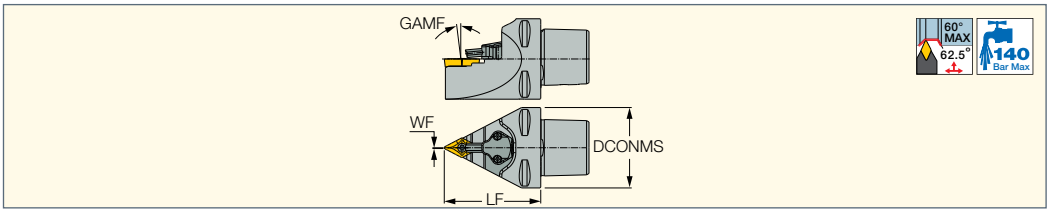
**Inserts:** DCMT-F3P-SL • DCMT-M3M-SL • DCMT-PF-SL • DCMT-SM-SL

T-LOCK JETCUT

CAMFIX

## C#-SDNCN-13-SL-JHP

Screw Clamp Tools with CAMFIX Shanks and Channels for High Pressure Coolant Carrying Positive 55° Rhombic Inserts




| Designation | DCONMS | WF | LF | GAMF | Insert | CDI(1) | CP(2) |
|---|---|---|---|---|---|---|---|
| C3 SDNCN-00045-13-SL-JHP | 32.00 | 0.50 | 45.00 | 0.0 | DCMT 13T5-SL | 0 | 140 |
| C4 SDNCN-00060-13-SL-JHP | 40.00 | 0.50 | 60.00 | 0.0 | DCMT 13T5-SL | 1 | 140 |
| C5 SDNCN-00060-13-SL-JHP | 50.00 | 0.50 | 60.00 | 0.0 | DCMT 13T5-SL | 1 | 140 |

- For user guide, see pages 78-84

(1) 1 - Hole for data chip, 0 - Without hole for data chip

(2) Coolant pressure (Bar)

**Inserts:** DCMT-F3P-SL • DCMT-M3M-SL • DCMT-PF-SL • DCMT-SM-SL

### Spare Parts

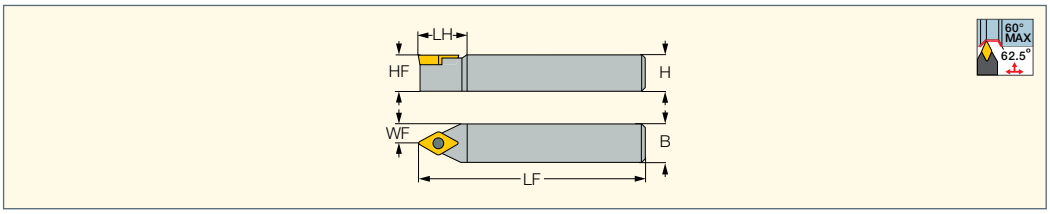
| Designation | | | | | | |
|---|---|---|---|---|---|---|
| C3 SDNCN-00045-13-SL-JHP | CH-1.9D-JHP | WASHER 4.2X5.6X0.5 | | SR M4X4 DIN913 TL360 | SR M4X0.7-L9.5 IP15 | |
| C4 SDNCN-00060-13-SL-JHP | CU-D-JHP | | TORX PLUS IP15X45 | | SR M4X0.7-L9.6 IP15 | T-8/5 |
| C5 SDNCN-00060-13-SL-JHP | CU-D-JHP | | TORX PLUS IP15X45 | | SR M4X0.7-L9.6 IP15 | T-8/5 |



ISOTURN

## SDNCN

Screw Lock Tools Carrying 55° Diamond Inserts with 7° Clearance Angle




| Designation | H | HF | B | LF | LH | WF | Insert | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDNCN 0808F-07 | 8.0 | 8.0 | 8.0 | 80.00 | 14.0 | 4.00 | DC..0702 | SR 14-548 | T-7/5 | | | |
| SDNCN 1010F-07 | 10.0 | 10.0 | 10.0 | 80.00 | 14.5 | 5.00 | DC..0702 | SR 14-548 | T-7/5 | | | |
| SDNCN 1010K-11S (1) | 10.0 | 10.0 | 10.0 | 120.00 | 20.0 | 5.00 | DC..11T3 | SR 16-236 | T-15/5 | | | |
| SDNCN 1212F-11 | 12.0 | 12.0 | 12.0 | 80.00 | 21.3 | 6.00 | DC..11T3 | SR 16-236 P | T-15/5 | | | |
| SDNCN 1616H-11 | 16.0 | 16.0 | 16.0 | 100.00 | 21.0 | 8.00 | DC..11T3 | SR 16-236 P | T-15/5 | | | |
| SDNCN 2020K-11 | 20.0 | 20.0 | 20.0 | 125.00 | 21.0 | 10.00 | DC..11T3 | SR 16-236 P | T-15/5 | | | |
| SDNCN 2525M-11 | 25.0 | 25.0 | 25.0 | 150.00 | 30.0 | 12.50 | DC..11T3 | SR 16-236 P | T-15/5 | TDC 3-1P | SR TC-3P | HW 4.0 |

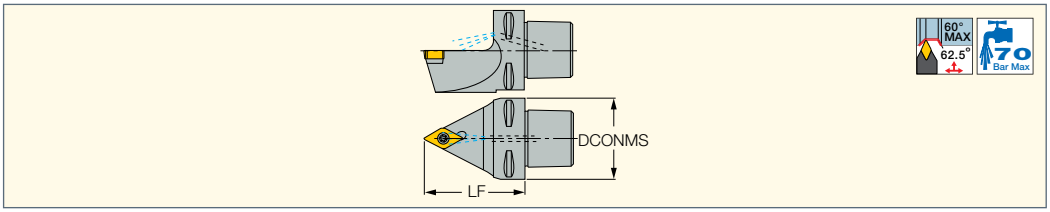
(1) For Swiss-type machines

**Inserts:** DCGT-F1M-20P • DCMT-CERMET • DCMT-F3P • DCMT-M3M • DCMT/DCGT-PF • DCMT/DCGT-SM • DCGT-AS • DCGT-AF • DCMT-14 • DCMT/DCGT • DCGW/DCMW-2 (CBN) • DCMT (CBN) • DCMT (PCD)

ISOTURN CAMFIX

## C#-SDNCN

Screw Lock Tools with CAMFIX Exchangeable Shanks Carrying 55° Rhombic Inserts with 7° Clearance Angle




| Designation | DCONMS | LF | Insert | CDI(1) | CP(2) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C4 SDNCN-00050-11 | 40.00 | 50.00 | DC.. 11T3 | 1 | 70 | TDC 3-1P | SR TC-3P | HW 4.0 | SR 16-236 P | T-15/5 | EZ 104 |

(1) 1 - Hole for data chip, 0 - Without hole for data chip

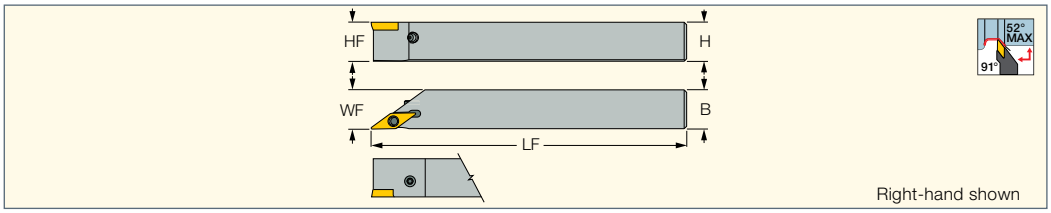
(2) Coolant pressure (Bar)

**Inserts:** DCMT-CERMET • DCMT-F3P • DCMT-M3M • DCMT/DCGT-PF • DCMT/DCGT-SM • DCGT-AS • DCGT-AF • DCMT-14 • DCMT/DCGT • DCGW/DCMW-2 (CBN) • DCMT (CBN) • DCMT (PCD)

ISOTURN

## PVACR/L-S

Side Lever Lock Tools Carrying 35° Positive Rhombic Inserts for Swiss Automatic Machines




| Designation | H | HF | B | LF | WF | Insert | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| PVACR/L 0808M-11S | 8.0 | 8.0 | 8.0 | 150.00 | 8.00 | VC..1103 | SL LV-2 | SL PI-2 PIN | SR 10400611 | HW 2.0/5 |
| PVACR/L 1010M-11S | 10.0 | 10.0 | 10.0 | 150.00 | 10.20 | VC..1103 | SL LV-2 | SL PI-2 PIN | SR 10400611 | HW 2.0/5 |
| PVACR/L 1212M-11S | 12.0 | 12.0 | 12.0 | 150.00 | 12.20 | VC..1103 | SL LV-2 | SL PI-2 PIN | SR 10400611 | HW 2.0/5 |
| PVACR/L 1616M-11S | 16.0 | 16.0 | 16.0 | 150.00 | 16.20 | VC..1103 | SL LV-2 | SL PI-2 PIN | SR 10400611 | HW 2.0/5 |
| PVACR 2020K-11S | 20.0 | 20.0 | 20.0 | 125.00 | 20.20 | VC..1103 | | | | |

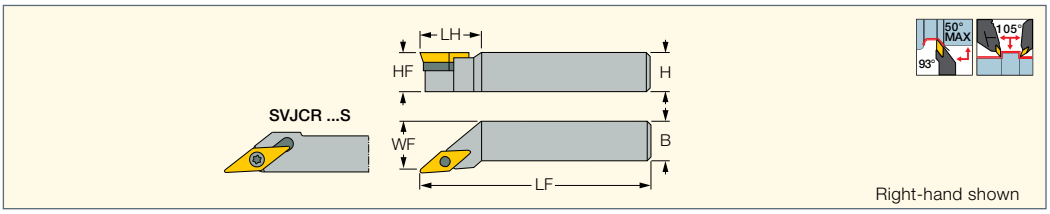
• The clamping screw may by transferred to the opposite side if needed

**Inserts:** VCGT-F1M-20P • VCMT-F3P • VCMT-F3M • VCMT-SM • VCET-WF • VCGT-AS

ISOTURN

## SVJCR/L

93° Lead Angle Screw Lock Tools Carrying 35° Diamond Inserts with 7° Clearance Angle




| Designation | H | HF | B | LF | LH | WF | Insert | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SVJCR/L 0808K-11S (1) | 8.0 | 8.0 | 8.0 | 125.00 | 11.5 | 8.20 | VC..1103 | SR 14-560 | T-8/5 | | | |
| SVJCR/L 1010K-11S (1) | 10.0 | 10.0 | 10.0 | 125.00 | 22.0 | 10.20 | VC..1103 | SR 14-560 | T-8/5 | | | |
| SVJCR/L 1212K-11S (1) | 12.0 | 12.0 | 12.0 | 125.00 | - | 12.20 | VC..1103 | SR 14-560 | T-8/5 | | | |
| SVJCR/L 1616K-11 | 16.0 | 16.0 | 16.0 | 125.00 | 25.0 | 20.00 | VC..1103 | SR 14-560 | T-8/5 | | | |
| SVJCR/L 2020K-11 | 20.0 | 20.0 | 20.0 | 125.00 | 30.0 | 25.00 | VC..1103 | SR 14-560 | T-8/5 | | | |
| SVJCR/L 2525M-11 | 25.0 | 25.0 | 25.0 | 150.00 | 30.0 | 32.00 | VC..1103 | SR 14-560 | T-8/5 | | | |
| SVJCR/L 2020K-16 | 20.0 | 20.0 | 20.0 | 125.00 | 30.0 | 25.00 | VC..1604 | SR 16-236 P | T-15/5 | TVC 3-1 | SR TC-3 | HW 2.5 |
| SVJCR/L 2525M-16 | 25.0 | 25.0 | 25.0 | 150.00 | 30.0 | 32.00 | VC..1604 | SR 16-236 P | T-15/5 | TVC 3-1 | SR TC-3 | HW 2.5 |

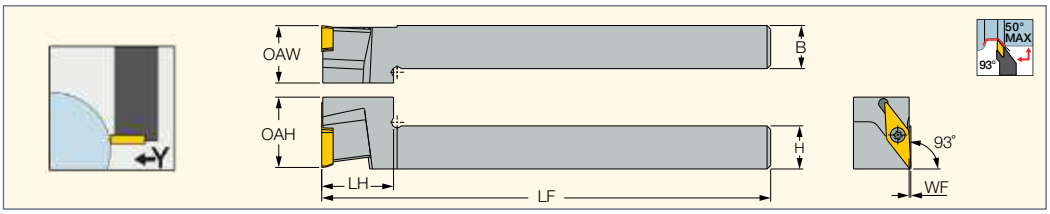
(1) For Swiss-type machines

**Inserts:** VCGT-F1M-20P • VCMT-FPC-CERMET • VCMT-F3P • VCGW-2 (CBN) • VCMT-F3M • VCMT-M3M • VCMT-SM • VCET-WF • VCGT-AS • VCMT-14 • VCMW • VCMT (CBN) • VCGT (PCD) • VCGT-DW (PCD)

NEOSWISS

## Y-SVJCR

Y-Axis 93° Lead Angle Screw Lock Tools Carrying 35° Diamond Inserts with 7° Clearance Angle for Swiss-Type Machines



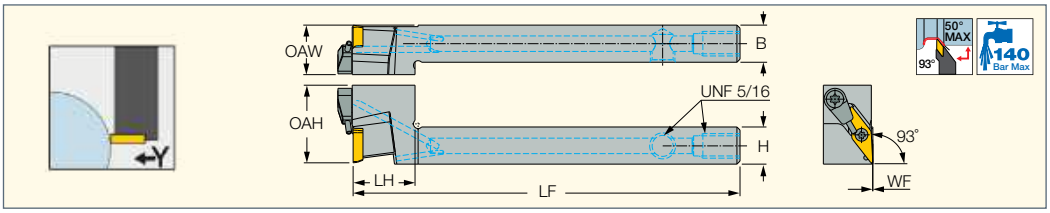

| Designation | H | B | LF | LH | OAH | OAW | WF | Insert |
|---|---|---|---|---|---|---|---|---|
| Y-SVJCR 1212K-11S | 12.0 | 12.0 | 125.00 | 21.0 | 20.00 | 16.00 | 0.00 | VCMT 1103.. |
| Y-SVJCR 1616K-11S | 16.0 | 16.0 | 125.00 | 21.0 | 20.00 | 16.00 | 0.00 | VCMT 1103.. |

**Inserts:** VCET-WF • VCGT-AS • VCGT-F1M-20P • VCMT-F3M • VCMT-F3P • VCMT-SM

NEOSWISS

## Y-SVJCR-JHP

Y-Axis 93° Lead Angle Screw Lock Tools with High-Pressure Coolant Carrying 35° Diamond Inserts with 7° Clearance Angle



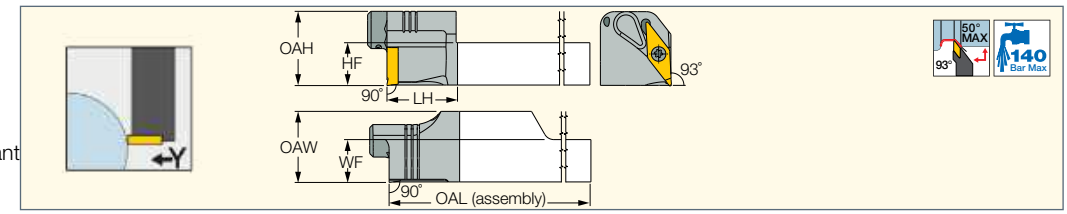

| Designation | H | B | LF | LH | OAH | OAW | WF | Insert |
|---|---|---|---|---|---|---|---|---|
| Y-SVJCR 1212K-11S-JHP | 12.0 | 12.0 | 125.00 | 21.0 | 25.50 | 16.00 | 0.00 | VCMT 1103.. |
| Y-SVJCR 1616K-11S-JHP | 16.0 | 16.0 | 125.00 | 21.0 | 25.50 | 16.00 | 0.00 | VCMT 1103.. |

**Inserts:** VCET-WF • VCGT-AS • VCGT-F1M-20P • VCMT-F3M • VCMT-F3P • VCMT-SM

NEOSWISS INDEXABLE HEADS
ISOTURN

## NQCH-Y-SVJCR-S-JHP

Y-Axis Screw Lock Modular Heads with High-Pressure Coolant - 7° Clearance 35° Rhombic Inserts for SwissType Machines




| Designation | WF | HF | LH | OAL | OAW | Insert |
|---|---|---|---|---|---|---|
| NQCH12-Y-SVJCR-11S-JHP | 12.15 | 12.2 | 20.0 | 120.00 | 20.15 | VC.. 1103 |
| NQCH16-Y-SVJCR-11S-JHP | 16.15 | 16.2 | 20.0 | 120.00 | 20.15 | VC.. 1103 |

• For user guide, see pages 6-7, 78-84

**Inserts:** VCET-WF • VCGT (PCD) • VCGT-AS • VCGT-DW (PCD) • VCGT-F1M-20P • VCGW-2 (CBN) • VCMT (CBN) • VCMT-14 • VCMT-F3M • VCMT-F3P • VCMT-FPC-CERMET • VCMT-M3M • VCMT-SM • VCMW

**Holders:** NQCH-JHP

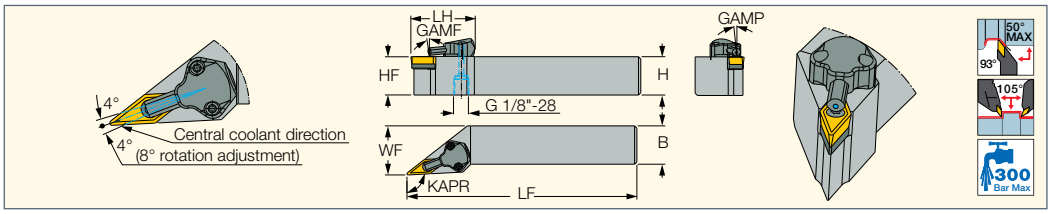
### Spare Parts

| Designation | | |
|---|---|---|
| NQCH-Y-SVJCR-S-JHP | SR 14-560 | T-8/5 |

ISOTURN JETCUT

## SVJCR/L-16-JHP

Screw Lock Tools with Channels for High-Pressure Coolant Carrying 35° Rhombic Inserts with 7° Clearance Angle




| Designation | H | B | HF | LF | LH | WF | KAPR(1) | GAMP | GAMF | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| SVJCR/L 2525M-16-JHP | 25.0 | 25.0 | 25.0 | 150.00 | 42.0 | 32.00 | 93.0 | 0.0 | 0.0 | VCMT 1604 |

- For user guide, see pages 78-84

(1) Tool cutting edge angle

**Inserts:** VCMT-FPC-CERMET • VCMT-F3P • VCGW-2 (CBN) • VCMT-F3M • VCMT-M3M • VCMT-SM • VCGT-AS • VCMT-14 • VCMW • VCMT (CBN) • VCGT (PCD) • VCGT-DW (PCD)

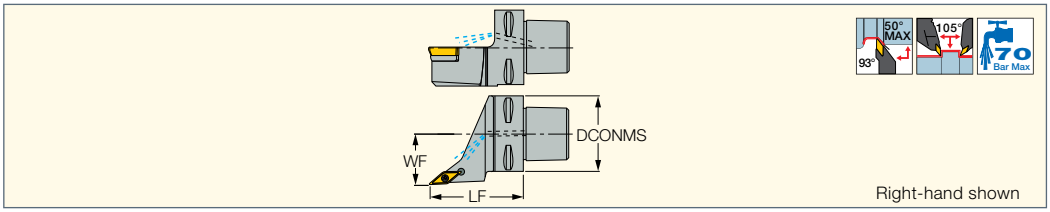
### Spare Parts

| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| SVJCR/L 2525M-16-JHP | TVC 3-1 | SR TC-3 | SR 16-236 P | CU-V-JHP | T-15/5 | HW 2.5 | T-8/5 |

ISOTURN CAMFIX

## C#-SVJCR/L

Screw Lock Tools with CAMFIX Exchangeable Shanks Carrying 35° Rhombic Inserts with 7° Clearance Angle




| Designation | DCONMS | WF | LF | Insert | CDI(1) | CP(2) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C4 SVJCR/L-27050-11 | 40.00 | 27.00 | 50.00 | VC.. 1103 | 1 | 70 | | | | SR 14-560/S M2.5X0.45 | T-8/5 | EZ 83 |
| C4 SVJCR/L-27050-16 | 40.00 | 27.00 | 50.00 | VC.. 1604 | 1 | 70 | TVC 3-1 | SR TC-3 | HW 2.5 | SR 16-236 P | T-15/5 | EZ 83 |
| C5 SVJCR-35060-11 | 50.00 | 35.00 | 60.00 | VC.. 1103 | 1 | 70 | | | | SR 14-560/S M2.5X0.45 | T-8/5 | EZ 104 |
| C5 SVJCR/L-35060-16 | 50.00 | 35.00 | 60.00 | VC.. 1604 | 1 | 70 | TVC 3-1 | SR TC-3 | HW 2.5 | SR 16-236 P | T-15/5 | EZ 104 |
| C6 SVJCR/L-45065-16 | 63.00 | 45.00 | 65.00 | VC.. 1604 | 1 | 70 | TVC 3-1 | SR TC-3 | HW 2.5 | SR 16-236 P | T-15/5 | EZ 125 |

(1) 1 - Hole for data chip, 0 - Without hole for data chip

(2) Coolant pressure (Bar)

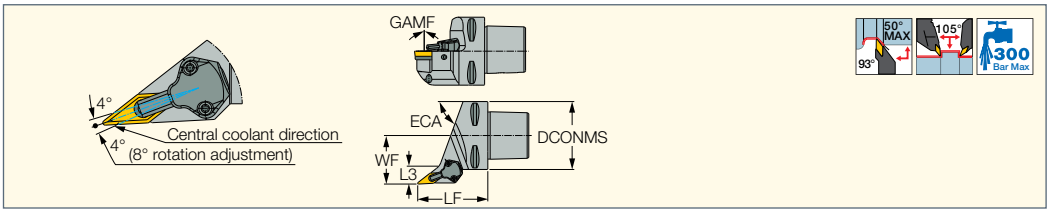
**Inserts:** VCGT-F1M-20P • VCMT-FPC-CERMET • VCMT-F3P • VCGW-2 (CBN) • VCMT-F3M • VCMT-M3M • VCMT-SM • VCET-WF • VCGT-AS • VCMT-14 • VCMW • VCMT (CBN) • VCGT (PCD) • VCGT-DW (PCD)

ISOTURN JETCUT

CAMFIX

## C#-SVJCR/L-JHP

Screw Lock Tools with CAMFIX Exchangeable Shanks Carrying 35° Rhombic Inserts with 7° Clearance Angle




| Designation | DCONMS | WF | LF | GAMF | ECA | L3 | Insert | CDI(1) | CP(2) |
|---|---|---|---|---|---|---|---|---|---|
| C3 SVJCR-22040-11-JHP | 32.00 | 22.00 | 40.00 | 0.0 | 55.0 | - | VCMT 1103 | 0 | 300 |
| C4 SVJCR/L-27055-16-JHP | 40.00 | 27.00 | 55.00 | 0.0 | 55.0 | - | VCMT 1604 | 1 | 300 |
| C5 SVJCR/L-35060-16-JHP | 50.00 | 35.00 | 60.00 | 0.0 | 55.0 | - | VCMT 1604 | 1 | 300 |
| C6 SVJCR-45065-16-JHP | 63.00 | 45.00 | 65.00 | 0.0 | 70.0 | 16.80 | VCMT 1604 | 1 | 300 |

- For user guide, see pages 78-84

(1) 1 - Hole for data chip, 0 - Without hole for data chip

(2) Coolant pressure (Bar)

**Inserts:** VCGT-F1M-20P • VCMT-FPC-CERMET • VCMT-F3P • VCGW-2 (CBN) • VCMT-F3M • VCMT-M3M • VCMT-SM • VCET-WF • VCGT-AS • VCMT-14 • VCMW • VCMT (CBN) • VCGT (PCD) • VCGT-DW (PCD)

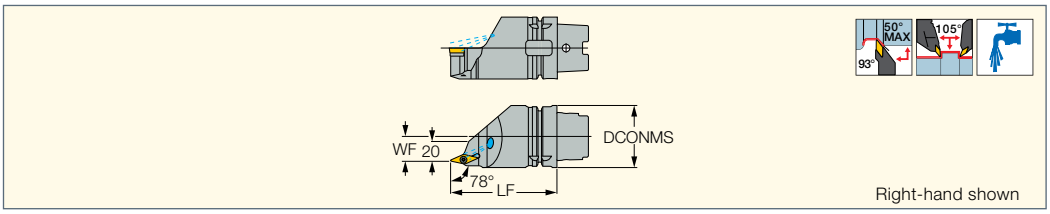
### Spare Parts

| Designation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| C3 SVJCR-22040-11-JHP | | | | SR 14-560 | CH-1.9D-JHP | | T-8/5 | |
| C4 SVJCR/L-27055-16-JHP | TVC 3-1 | SR TC-3 | T-15/5 | SR 16-236 P | CU-V-JHP | | T-8/5 | HW 2.5 |
| C5 SVJCR/L-35060-16-JHP | TVC 3-1 | SR TC-3 | T-15/5 | SR 16-236 P | CU-V-JHP | OR 6.4X0.9N | T-8/5 | HW 2.5 |
| C6 SVJCR-45065-16-JHP | TVC 3-1 | SR TC-3 | T-15/5 | SR 16-236 P | CU-V-JHP | | T-8/5 | HW 2.5 |

ISOTURN HSK

## HSK A63WH-SVJCR/L

Tools with HSK Exchangeable Tapered Shanks Carrying Positive 35° Inserts for 15° Mounting on Turn-Mill Machines




| Designation | DCONMS | LF | WF | Insert | CDI(1) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| HSK A63WH-SVJCR/L-J16 | 63.00 | 110.00 | 25.00 | VC.. 1604 | 0 | TVC 3-1 | SR TC-3 | HW 2.5 | SR 16-236 P | T-15/5 | EZ 104 |

- Complies with ICTM standard (ISO 12164-3).
- A cooling tube must be used with all coolant through HSK spindles (should be ordered separately).
- For shank dimensions, see page 737

(1) 1 - Hole for data chip, 0 - Without hole for data chip

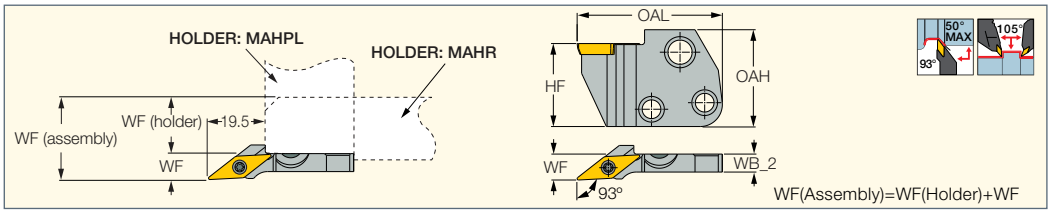
**Inserts:** VCMT-FPC-CERMET • VCMT-F3P • VCGW-2 (CBN) • VCMT-F3M • VCMT-M3M • VCMT-SM • VCGT-AS • VCMT-14 • VCMW • VCMT (CBN) • VCGT (PCD) • VCGT-DW (PCD)

ISOTURN

MODULARGRIP

## SVJCR-PAD

93° Lead Angle Screw Lock Adapters Carrying 35° Diamond Inserts with 7° Clearance Angle




| Designation | HF | OAH | OAL | WF | WB_2 | Insert | | |
|---|---|---|---|---|---|---|---|---|
| SVJCR-11-PAD | 24.0 | 28.0 | 42.00 | 7.50 | 5.2 | VC.. 1103 | SR 14-560 | T-8/5 |

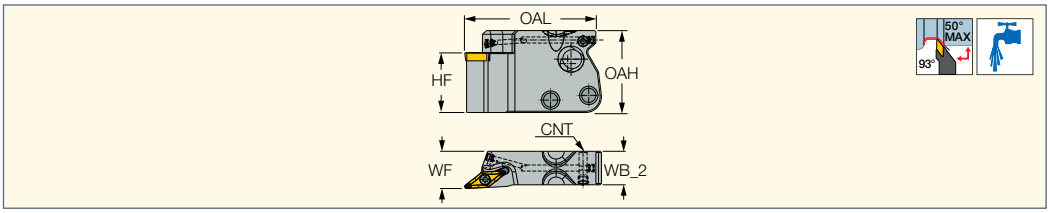
**Inserts:** VCGT-F1M-20P • VCMT-F3P • VCMT-F3M • VCMT-SM • VCET-WF • VCGT-AS

**Holders:** C#-MAHPD-JHP • MAHR/L-JHP-MC • C#-MAHD-JHP • MAHPR/L-JHP • MAHR/L-JHP • MAHR/L • MAHPR/L • C#-MAHD • C#-MAHPD • C#-MAHDR-45 • C#-MAHDOR • HSK A63WH-MAHUR/L • HSK A63WH-MAHDR-45 • HSK A63WH-MAHDOR • IM-MAHD • IM-MAHPD • HMSN-New Britain • DGHAL-DECO

ISOTURN

## SVJCR/L-PAD-JHP

Screw Lock Adapter with High-Pressure Coolant Mounts 35° Diamond Inserts with a 7° Clearance Angle




| Designation | HF | OAL | OAH | WF | WB_2 | GAMP | GAMF | Insert | CNT |
|---|---|---|---|---|---|---|---|---|---|
| SVJCL-11-PAD-JHP | 24.0 | 52.80 | 33.00 | 15.00 | 10.0 | 0.0 | 0.0 | VC.. 1103 | M4 |
| SVJCR-11-PAD-JHP | 24.0 | 52.80 | 33.00 | 15.00 | 10.0 | 0.0 | 0.0 | VC.. 1104 | M4 |

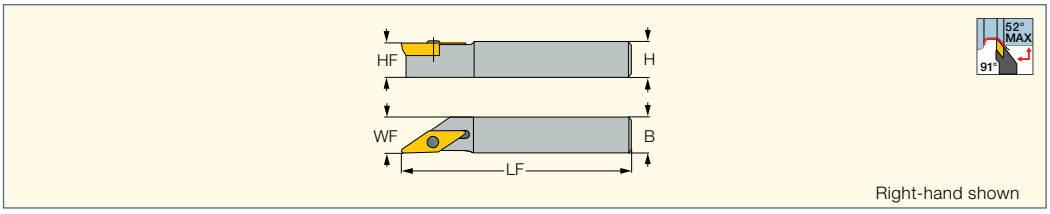
**Inserts:** VCET-WF • VCGT (PCD) • VCGT MD/RD (PCD) • VCGT-AS • VCGT-F1M-12P • VCGT-F1M-20P • VCGW (CBN) • VCGW (PCD) • VCGW 2MT (CBN) • VCGW MT (CBN) • VCGW MT (PCD) • VCMT-F3M • VCMT-F3P • VCMT-M3P • VCMT-SM

**Holders:** ABC MAHDR-#-XL-JHP • C#-MAHPD-JHP • DT##/2 MAHD#-#-XL-JHP • MAHPR/L-JHP • MS##-##-MG-JHP • MS-ES#####-GWS-MG-JHP • TR TNK36 MAHDL-R-XL-JHP • TR45 MAHDR-#-XL-JHP • TR45TNL MAHDN-R-XL-JHP • V## MAHD#-#-XL-##-JHP • V## MAHD-XL-JHP

ISOTURN

## SVACR/L

91° Lead Angle Screw Lock Tools Carrying 35° Diamond Inserts with 7° Clearance Angle



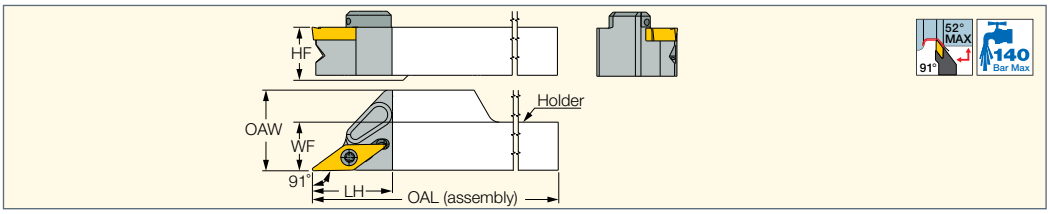

| Designation | H | B | HF | LF | WF | Insert | | |
|---|---|---|---|---|---|---|---|---|
| SVACR/L 1212K-11S | 12.0 | 12.0 | 12.0 | 125.00 | 12.00 | VC..11.. | SR 14-560 | T-8/5 |
| SVACR 1616K-11S | 16.0 | 16.0 | 16.0 | 125.00 | 16.00 | VC..11.. | SR 14-560 | T-8/5 |
| SVACR/L 1212K-13S | 12.0 | 12.0 | 12.0 | 125.00 | 12.00 | VC..13.. | SR 14-513 | T-8/5 |
| SVACR/L 1616K-13S | 16.0 | 16.0 | 16.0 | 125.00 | 16.00 | VC..13.. | SR 14-513 | T-8/5 |
| SVACR/L 2020K-13S | 20.0 | 20.0 | 20.0 | 125.00 | 20.00 | VC..13.. | SR 14-513 | T-8/5 |

**Inserts:** VCGT-F1M-20P • VCMT-F3P • VCMT-F3M • VCGT-MD/PF • VCMT-SM • VCET-WF • VCGT-AS

NEOSWISS INDEXABLE HEADS
ISOTURN

## NQCH-SVACR/L-S-JHP

Screw Lock Modular Heads with High-Pressure Coolant Carrying 7° Clearance 35° Rhombic Inserts for SwissType Machines




| Designation | WF | HF | LH | OAL | OAW | Insert | | |
|---|---|---|---|---|---|---|---|---|
| NQCH12-SVACR/L-11S-JHP | 12.15 | 12.0 | 20.0 | 120.00 | 20.15 | VC.. 1103 | SR 14-560 | T-8/5 |
| NQCH16-SVACR/L-11S-JHP | 16.15 | 16.0 | 20.0 | 120.00 | 20.15 | VC.. 1103 | SR 14-560 | T-8/5 |

• For user guide, see pages 6-7, 78-84

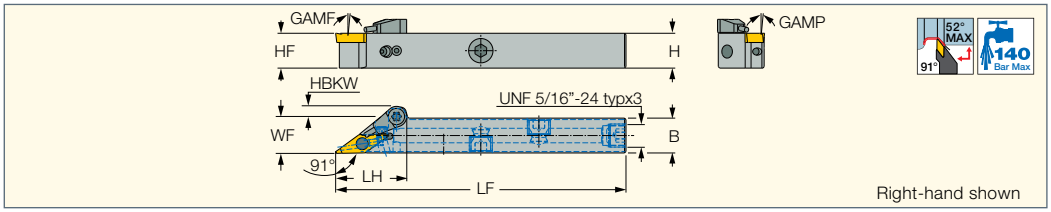
**Inserts:** VCET-WF • VCGT (PCD) • VCGT-AS • VCGT-DW (PCD) • VCGT-F1M-20P • VCGT-MD/PF • VCGW-2 (CBN) • VCMT (CBN) • VCMT-14 • VCMT-F3M • VCMT-F3P • VCMT-FPC-CERMET • VCMT-M3M • VCMT-SM • VCMW

**Holders:** NQCH-JHP

ISOTURN JETCUT

## PVACR/L-JHP

Tools with Channels for High-Pressure Coolant Carrying 35° Positive Rhombic Inserts for Swiss Automatic Machines




| Designation | H | HF | B | LF | LH | WF | HBKW | GAMP | GAMF | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| PVACR 1010H-11S-JHP | 10.0 | 10.0 | 10.0 | 100.00 | 20.0 | 10.20 | 5.80 | 0.0 | 0.0 | VC..1103 |
| PVACR/L 1212H-11S-JHP | 12.0 | 12.0 | 12.0 | 100.00 | 20.0 | 12.20 | 3.80 | 0.0 | 0.0 | VC..1103 |
| PVACR/L 1616K-11S-JHP | 16.0 | 16.0 | 16.0 | 125.00 | 20.0 | 16.20 | - | 0.0 | 0.0 | VC..1103 |
| PVACR/L 2020K-11S-JHP | 20.0 | 20.0 | 20.0 | 125.00 | 25.0 | 20.20 | - | 0.0 | 0.0 | VC..1103 |

• For user guide, see pages 78-84

**Inserts:** VCGT-F1M-20P • VCMT-F3P • VCMT-F3M • VCMT-SM • VCET-WF • VCGT-AS

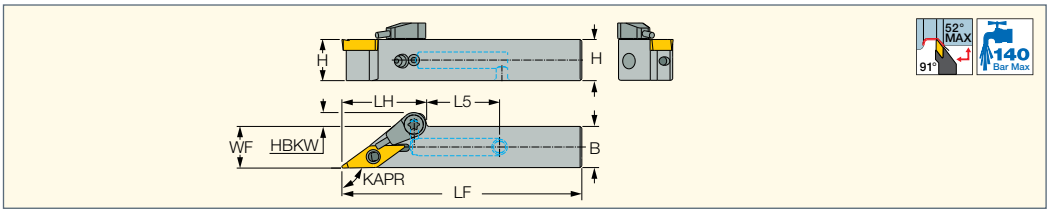
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| PVACR/L 1212H-11S-JHP | SL LV-2 | SL PI-2 PIN | SR 10400611 | HW 2.0/5 | SR 5/16UNF TL360 | S-CU-JHP-A SET |
| PVACR/L 1616K-11S-JHP | SL LV-2 | SL PI-2 PIN | SR 10400611 | HW 2.0/5 | SR 5/16UNF TL360 | S-CU-JHP-A SET |
| PVACR 2020K-11S-JHP | SL LV-2 | SL PI-2 PIN | SR 10400611 | HW 2.5/5 | SR 5/16UNF TL360 | S-CU-JHP-A SET |

ISOTURN JETCUT

## PVACR/L-JHP-MC

Tools with Channels for High-Pressure Coolant Carrying 35° Positive Rhombic Inserts for Swiss Automatic Machines

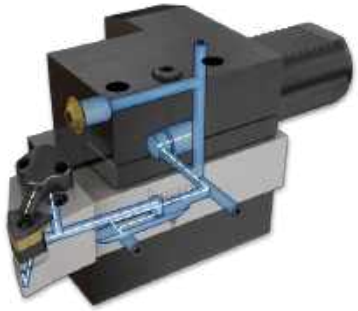



| Designation | H | B | LF | LH | L5 | WF | HBKW | Insert | KAPR(1) |
|---|---|---|---|---|---|---|---|---|---|
| PVACR/L 1212X-11S-JHP-MC | 12.0 | 12.0 | 70.00 | 25.0 | 21.00 | 12.20 | 3.80 | VC..1103 | 91.0 |
| PVACR/L 1616X-11S-JHP-MC | 16.0 | 16.0 | 73.00 | 26.0 | 16.00 | 16.20 | - | VC..1103 | 91.0 |

• For user guide, see pages 78-84

(1) Tool cutting edge angle

**Inserts:** VCET-WF • VCGT-AS • VCGT-F1M-20P • VCMT-F3M • VCMT-F3P • VCMT-SM



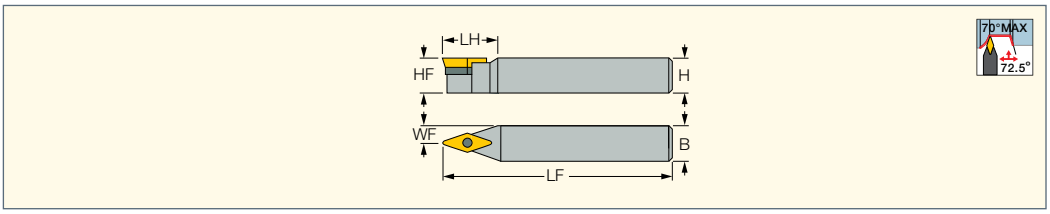
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| PVACR/L-JHP-MC | SL LV-2 | SL PI-2 PIN | SR 10400611 | HW 2.0/5 | SR 5/16UNF TL360 | S-CU-JHP-A SET |

ISOTURN

## SVVCN

72.5° Lead Angle Screw Lock Tools Carrying 35° Diamond Inserts with 7° Clearance Angle




| Designation | H | HF | B | LF | LH | WF | Insert | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SVVCN 0808K-11S (1) | 8.0 | 8.0 | 8.0 | 125.00 | - | 4.30 | VC..1103 | SR 14-560 | T-8/5 | | | |
| SVVCN 1010K-11S (1) | 10.0 | 10.0 | 10.0 | 125.00 | - | 5.30 | VC..1103 | SR 14-560 | T-8/5 | | | |
| SVVCN 1212K-11S (1) | 12.0 | 12.0 | 12.0 | 125.00 | - | 6.30 | VC..1103 | SR 14-560 | T-8/5 | | | |
| SVVCN 1616K-11S (1) | 16.0 | 16.0 | 16.0 | 125.00 | - | 8.30 | VC..1103 | SR 14-560 | T-8/5 | | | |
| SVVCN 2020K-16 | 20.0 | 20.0 | 20.0 | 125.00 | 34.0 | 10.00 | VC..1604 | SR 16-236 P | T-15/5 | TVC 3-1 | SR TC-3 | HW 2.5 |
| SVVCN 2525M-16 | 25.0 | 25.0 | 25.0 | 150.00 | 38.1 | 12.50 | VC..1604 | SR 16-236 P | T-15/5 | TVC 3-1 | SR TC-3 | HW 2.5 |

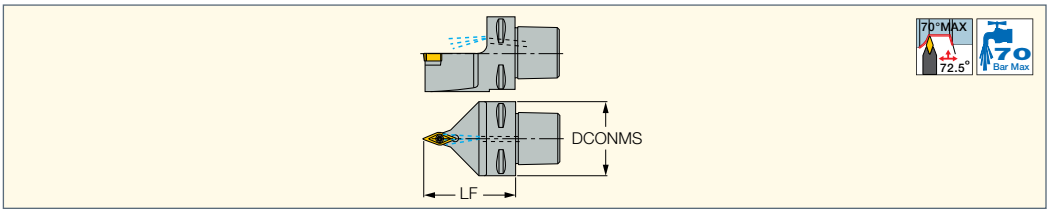
(1) For Swiss-type machines

**Inserts:** VCGT-F1M-20P • VCMT-FPC-CERMET • VCMT-F3P • VCGW-2 (CBN) • VCMT-F3M • VCMT-M3M • VCMT-SM • VCGT-AS • VCMT-14 • VCMW • VCMT (CBN) • VCGT (PCD) • VCGT-DW (PCD)

ISOTURN CAMFIX

## C#-SVVCN

Screw Lock Tools with CAMFIX Exchangeable Shanks Carrying 35° Rhombic Inserts with 7° Clearance Angle




| Designation | DCONMS | LF | Insert | CDI(1) | CP(2) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C4 SVVCN-00050-16 | 40.00 | 40.00 | VC.. 1604 | 1 | 70 | TVC 3-1 | SR TC-3 | HW 2.5 | SR 16-236 P | T-15/5 | EZ 83 |
| C5 SVVCN-00060-16 | 50.00 | 50.00 | VC.. 1604 | 1 | 70 | TVC 3-1 | SR TC-3 | HW 2.5 | SR 16-236 P | T-15/5 | EZ 125 |

(1) 1 - Hole for data chip, 0 - Without hole for data chip

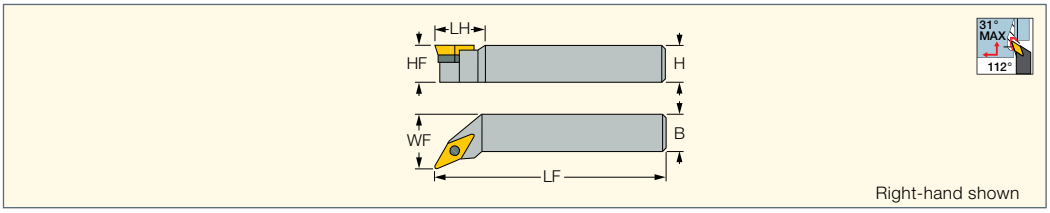
(2) Coolant pressure (Bar)

**Inserts:** VCMT-FPC-CERMET • VCMT-F3P • VCGW-2 (CBN) • VCMT-F3M • VCMT-M3M • VCMT-SM • VCGT-AS • VCMT-14 • VCMW • VCMT (CBN) • VCGT (PCD) • VCGT-DW (PCD)

ISOTURN

## SVXCR/L

112° Lead Angle Screw Lock Tools Carrying 35° Diamond Inserts with 7° Clearance Angle



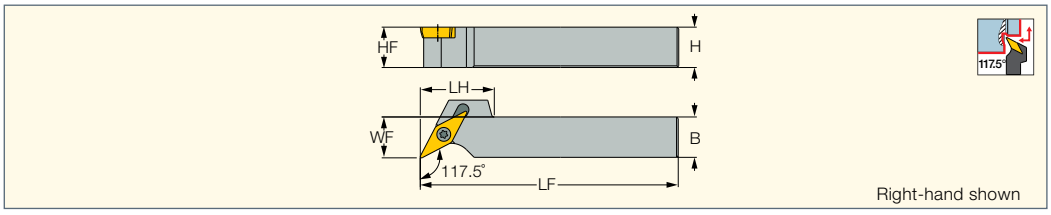

| Designation | H | HF | B | LF | LH | WF | Insert | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SVXCR/L 2020K-16 | 20.0 | 20.0 | 20.0 | 125.00 | 25.0 | 25.00 | VC..1604 | TVC 3-1 | SR TC-3 | HW 2.5 | SR 16-236 P | T-15/5 |
| SVXCR/L 2525M-16 | 25.0 | 25.0 | 25.0 | 150.00 | 30.0 | 32.00 | VC..1604 | TVC 3-1 | SR TC-3 | HW 2.5 | SR 16-236 P | T-15/5 |

**Inserts:** VCMT-FPC-CERMET • VCMT-F3P • VCGW-2 (CBN) • VCMT-F3M • VCMT-M3M • VCMT-SM • VCGT-AS • VCMT-14 • VCMW • VCMT (CBN) • VCGT (PCD) • VCGT-DW (PCD)

ISOTURN

## SVPCR/L

117° Lead Angle Screw Lock Tools Carrying 35° Diamond Inserts with 7° Clearance Angle



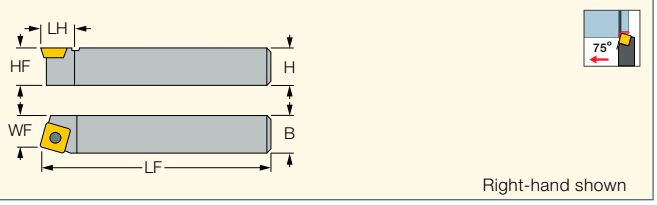

| Designation | H | HF | B | LF | LH | WF | Insert | | |
|---|---|---|---|---|---|---|---|---|---|
| SVPCR/L 1212K-11S | 12.0 | 12.0 | 12.0 | 125.00 | 19.0 | 12.20 | VC..1103 | SR 14-560 | T-8/5 |
| SVPCR/L 1616K-11S | 16.0 | 16.0 | 16.0 | 125.00 | - | 16.20 | VC..1103 | SR 14-560 | T-8/5 |

**Inserts:** VCGT-F1M-20P • VCMT-F3P • VCMT-F3M • VCMT-SM • VCGT-AS

ISOTURN

## SSBCR/L

75° Lead Angle Screw Lock Tools Carrying Square Inserts with 7° Clearance Angle



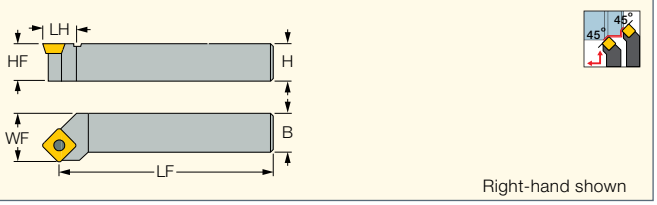

| Designation | H | HF | B | LF | LH | WF | Insert | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SSBCR/L 1616H-09 | 16.0 | 16.0 | 16.0 | 100.00 | 15.0 | 13.00 | SC.. 09T3 | SR 16-236 | T-15/5 | | | |
| SSBCR/L 2020K-12 | 20.0 | 20.0 | 20.0 | 125.00 | 19.0 | 17.00 | SC..1204 | SR 16-212 | T-20/5 | | | |
| SSBCR/L 2525M-12 | 25.0 | 25.0 | 25.0 | 150.00 | 19.0 | 22.00 | SC..1204 | SR 16-212 | T-20/5 | TSC 4-2 | SR TC-4 | HW 3.0 |

**Inserts:** SCMT-F3P • SCMT-M3P • SCMT-F3M • SCMT-M3M • SCMT-SM • SCGT-AS • SCMT-14 • SCMT-19

ISOTURN

## SSSCR/L

45° Lead Angle Screw Lock Tools Carrying Square Inserts with 7° Clearance Angle



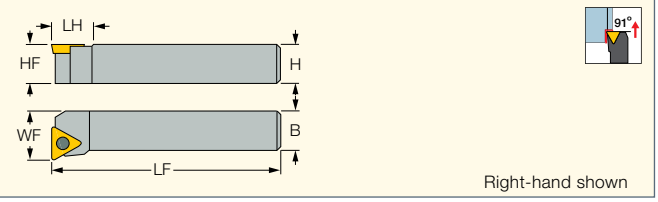

| Designation | H | HF | B | LF | LH | WF | Insert | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SSSCR/L 1212F-09 | 12.0 | 12.0 | 12.0 | 80.00 | 18.0 | 16.00 | SC.. 09T3 | SR 16-236 | T-15/5 | | | |
| SSSCR/L 1616H-09 | 16.0 | 16.0 | 16.0 | 100.00 | 18.0 | 20.00 | SC.. 09T3 | SR 16-236 | T-15/5 | | | |
| SSSCR/L 2020K-12 | 20.0 | 20.0 | 20.0 | 125.00 | 22.0 | 25.00 | SC.. 1204 | SR 16-212 | T-20/5 | | | |
| SSSCR/L 2525M-12 | 25.0 | 25.0 | 25.0 | 150.00 | 25.0 | 32.00 | SC.. 1204 | SR 16-212 | T-20/5 | TSC 4-2 | SR TC-4 | HW 3.0 |

**Inserts:** SCMT-F3P • SCMT-M3P • SCMT-F3M • SCMT-M3M • SCMT-SM • SCGT-AS • SCMT-14 • SCMT-19

ISOTURN

## STFCR/L

Screw Lock Tools Carrying Triangular Inserts with 7° Clearance Angle for Face Turning



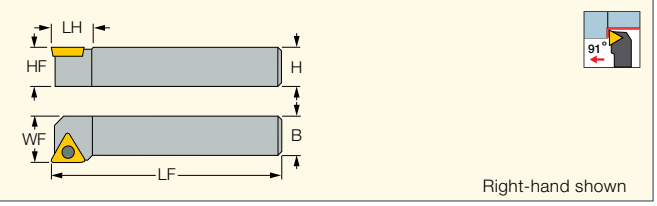

| Designation | H | HF | B | LF | LH | WF | Insert | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STFCR/L 1212F-11 | 12.0 | 12.0 | 12.0 | 80.00 | 13.0 | 16.00 | TC.. 1102 | SR 14-548 | T-7/5 | | | |
| STFCR/L 2020K-16 | 20.0 | 20.0 | 20.0 | 125.00 | 18.0 | 25.00 | TC.. 16T3 | SR 16-236 | T-15/5 | | | |
| STFCR/L 2525M-16 | 25.0 | 25.0 | 25.0 | 150.00 | 20.0 | 32.00 | TC.. 16T3 | SR 16-236 | T-15/5 | TTC 3-2 | SR TC-3 | HW 2.5 |

**Inserts:** TCMT-F3P • TCMT-M3M • TCMT-PF • TCMT-SM • TCGT-AS • TCMT (CBN) • TCMT (PCD)

ISOTURN

## STGCR/L

91° Lead Angle Screw Lock Tools Carrying Triangular Inserts with 7° Clearance Angle



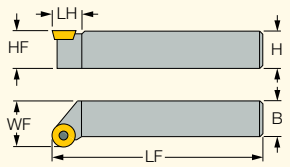

| Designation | H | HF | B | LF | LH | WF | Insert | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STGCR/L 1212F-11 | 12.0 | 12.0 | 12.0 | 80.00 | 13.0 | 16.00 | TC.. 1102 | | | | SR 14-548 | T-7/5 |
| STGCR/L 1616H-11 | 16.0 | 16.0 | 16.0 | 100.00 | 13.0 | 20.00 | TC.. 1102 | | | | SR 14-548 | T-7/5 |
| STGCR/L 2020K-16 | 20.0 | 20.0 | 20.0 | 125.00 | 18.0 | 25.00 | TC.. 16T3 | | | | SR 16-236 | T-15/5 |
| STGCR/L 2525M-16 | 25.0 | 25.0 | 25.0 | 150.00 | 18.0 | 32.00 | TC.. 16T3 | SR 16-236 | T-15/5 | TTC 3-2 | SR TC-3 | HW 2.5 |

**Inserts:** TCMT-F3P • TCMT-M3M • TCMT-PF • TCMT-SM • TCGT-AS • TCMT (CBN) • TCMT (PCD)

ISOTURN

## SRGCR/L

Screw Lock Tools Carrying Round Inserts with 7° Clearance Angle




Right-hand shown

| Designation | H | HF | B | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|---|
| SRGCR/L 1616H-08 | 16.0 | 16.0 | 16.0 | 100.00 | 11.0 | 20.00 | RCMT 0803MO |
| SRGCR/L 2020K-10 | 20.0 | 20.0 | 20.0 | 125.00 | 14.0 | 25.00 | RCMT 10T3MO |
| SRGCR 2525M-10 | 25.0 | 25.0 | 25.0 | 150.00 | 18.0 | 32.00 | RCMT 10T3MO |
| SRGCR/L 2525M-12 | 25.0 | 25.0 | 25.0 | 150.00 | 18.0 | 32.00 | RCMT 1204MO |
| SRGCR/L 2525M-16 | 25.0 | 25.0 | 25.0 | 150.00 | 20.0 | 32.00 | RCMT 1606MO |
| SRGCR/L 3232P-20 | 32.0 | 32.0 | 32.0 | 170.00 | 25.0 | 40.00 | RCMT 2006MO |

**Inserts:** RCGT-AS • RCMT-14 • RCMT-SR

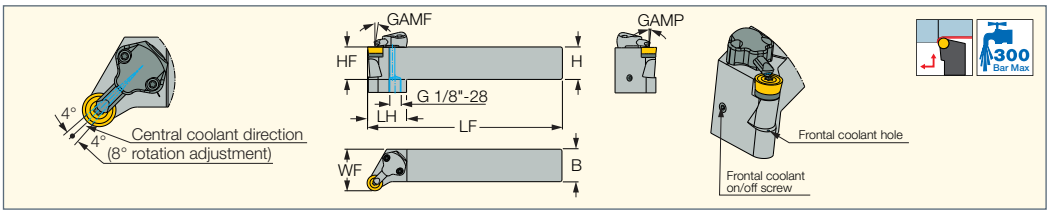
### Spare Parts

| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| SRGCR/L 1616H-08 | SR 14-513 | | | T-8/5 | | | |
| SRGCR/L 2020K-10 | | | | T-15/5 | | | |
| SRGCR 2525M-10 | | TRC 3-0 | SR TC-3 | T-15/5 | | | |
| SRGCR/L 2525M-12 | SR 16-212 | TRC 4-0 | SR TC-4 | T-20/5 | HW 3.0 | | |
| SRGCR/L 2525M-16 | SR 16-212 | TRC 5-0 | SR TC-4 | T-20/5 | HW 3.0 | | |
| SRGCR/L 3232P-20 | SR 14-519 | TRC 6-0 | SR TC-6 | | HW 4.0 | BLD T20/S7 | SW6-T-SH |

ISOTURN JETCUT

## SRGCR-12-JHP

Screw Lock Tools with Channels for High-Pressure Coolant Carrying Round Inserts with 7° Clearance Angle




| Designation | H | B | HF | LF | LH | WF | GAMP | GAMF | Insert |
|---|---|---|---|---|---|---|---|---|---|
| SRGCR 2525M-12-JHP | 25.0 | 25.0 | 25.0 | 150.00 | 30.0 | 32.00 | 0.0 | 0.0 | RCMT 1204 |

• For user guide, see pages 78-84

**Inserts:** RCMT-14

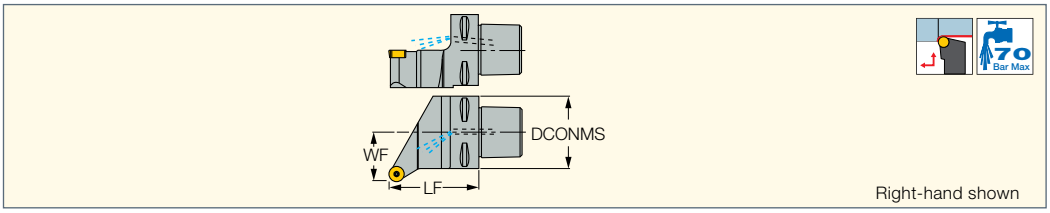
### Spare Parts

| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SRGCR 2525M-12-JHP | TRC 4-0 | SR TC-4 | T-8/5 | SR 16-212 | T-20/5 | CU-R-JHP | SR M4X4 DIN913 TL360 | HW 2.0 | HW 3.0 |

ISOTURN CAMFIX

## C#-SRGCR/L

Screw Lock Tools with CAMFIX Exchangeable Shanks Carrying Round Inserts with 7° Clearance Angle




Right-hand shown

| Designation | DCONMS | WF | LF | Insert | CDI(1) | CP(2) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C5 SRGCR-35060-12 | 50.00 | 35.00 | 60.00 | RCMT 1204MO | 1 | 70 | TRC 4-0 | SR TC-4 | HW 3.0 | SR 16-212 | T-20/5 | EZ 104 |

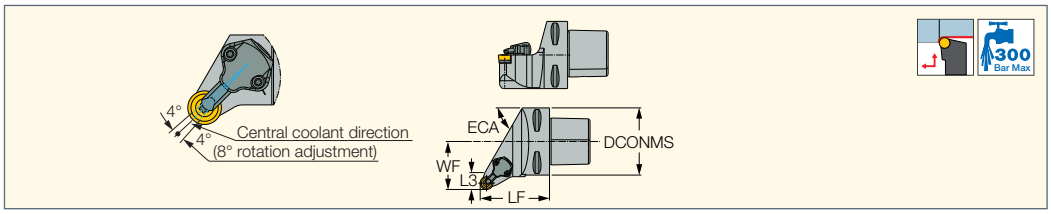
(1) 1 - Hole for data chip, 0 - Without hole for data chip

(2) Coolant pressure (Bar)

**Inserts:** RCMT-14

ISOTURN JETCUT CAMFIX

## C#-SRGCR-12-JHP
Screw Lock Tools with CAMFIX Exchangeable Shanks Carrying Round Inserts with 7° Clearance Angle




| Designation | DCONMS | WF | LF | ECA | L3 | Insert | CDI(2) | CP(1) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C6 SRGCR-45065-12-JHP | 63.00 | 45.00 | 65.00 | 60.0 | 16.00 | RCMT 1204MO | 1 | 300 | TRC 4-0 | SR TC-4 | T-20/5 | SR 16-212 | HW 3.0 | CU-R-JHP | T-8/5 |

- For user guide, see pages 78-84

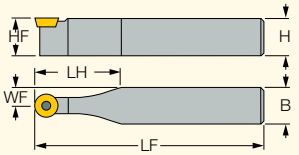
(1) Coolant pressure (Bar)

(2) 1 - Hole for data chip, 0 - Without hole for data chip

**Inserts:** RCMT-14

ISOTURN

## SRDCN
Screw Lock Neutral Tools Carrying Round Inserts with 7° Clearance Angle




| Designation | H | HF | B | LF | LH | WF | Insert |
|---|---|---|---|---|---|---|---|
| SRDCN 1616H-08 | 16.0 | 16.0 | 16.0 | 100.00 | 33.0 | 8.00 | RCMT 0803MO |
| SRDCN 2020K-10 | 20.0 | 20.0 | 20.0 | 125.00 | 38.0 | 10.00 | RCMT 10T3MO |
| SRDCN 2525M-12 | 25.0 | 25.0 | 25.0 | 150.00 | 50.0 | 12.50 | RCMT 1204MO |
| SRDCN 3225P-12 | 32.0 | 32.0 | 25.0 | 170.00 | 50.0 | 12.50 | RCMT 1204MO |
| SRDCN 3225P-16 | 32.0 | 32.0 | 25.0 | 170.00 | 50.0 | 12.50 | RCMT 1606MO |
| SRDCN 3232P-20 | 32.0 | 32.0 | 32.0 | 170.00 | 50.0 | 16.00 | RCMT 2006MO |

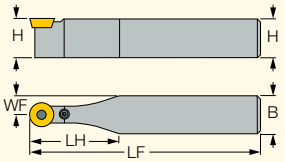
**Inserts:** RCGT-AS • RCMT-14 • RCMT-SR

### Spare Parts

| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| SRDCN 1616H-08 | SR 14-513 | T-8/5 | | | | | |
| SRDCN 2020K-10 | SR 16-236 | T-15/5 | | | | | |
| SRDCN 2525M-12 | SR 16-212 | T-20/5 | TRC 4-0 | SR TC-4 | HW 3.0 | | |
| SRDCN 3225P-12 | SR 16-212 | T-20/5 | TRC 4-0 | SR TC-4 | HW 3.0 | | |
| SRDCN 3225P-16 | SR 16-212 | T-20/5 | TRC 5-0 | SR TC-4 | HW 3.0 | | |
| SRDCN 3232P-20 | SR 14-519 | | TRC 6-0 | SR TC-6 | HW 4.0 | BLD T20/S7 | SW6-T-SH |

ISOTURN

## PRDCN
Lever Lock Tools Carrying RCMX Round Inserts

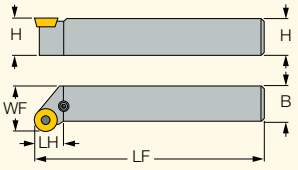



| Designation | H | HF | B | LF | LH | WF | Insert | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PRDCN 4040S-25 | 40.0 | 40.0 | 40.0 | 250.00 | 80.0 | 20.00 | RCMX 2507 | TRC 25 | SP 66 | HW 4.0 | SR 10402289 | LR 25C |
| PRDCN 5050U-32 | 50.0 | 50.0 | 50.0 | 350.00 | 90.0 | 25.00 | RCMX 3209 | TRC 32 | SP 8 | HW 5.0 | SR 10402264 | LR 32C |

**Inserts:** RCMX-NR

ISOTURN

## PRGCR
Lever Lock Tools Carrying RCMX Round Inserts




Right-hand shown

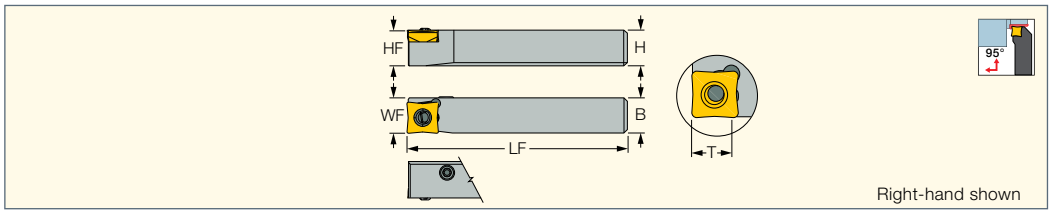
| Designation | H | B | HF | LF | LH | WF | Insert | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PRGCR 4040S-25 | 40.0 | 40.0 | 40.0 | 250.00 | 30.0 | 50.00 | RCMX 2507 | TRC 25 | SP 66 | SR 10402289 | LR 25C | HW 4.0 |

**Inserts:** RCMX-NR

ISOTURN

## PQLCR/L-S

Side Lever Lock Tools Carrying 80° Positive 4-Cornered Inserts for Swiss Automatic Machines



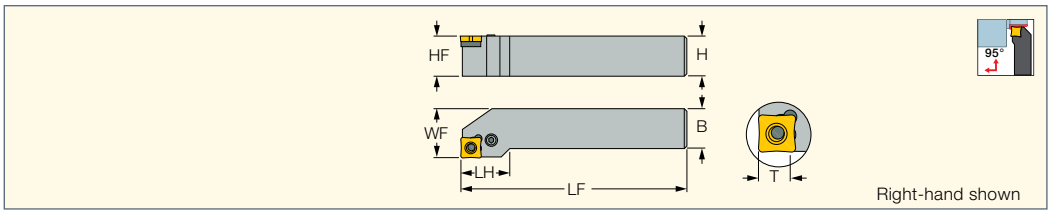

| Designation | H | B | HF | LF | WF | T | Insert | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PQLCR/L 1212M-09S | 12.0 | 12.0 | 12.0 | 150.00 | 12.00 | 8.5 | QCMT 09T3 | SL LV-3 | SL PI-3 | SR 10400150 | HW 2.5/5 |

**Inserts:** QCMT-PF • QCMT-SM

ISOTURN

## PQLCR/L

Lever Lock Tools Carrying 80° Positive 4-Cornered Inserts




| Designation | H | HF | B | LF | LH | WF | T | Insert |
|---|---|---|---|---|---|---|---|---|
| PQLCR/L 1616H-09 | 16.0 | 16.0 | 16.0 | 100.00 | 22.0 | 20.00 | 8.5 | QCMT 09T3 |
| PQLCR/L 2020K-09 | 20.0 | 20.0 | 20.0 | 125.00 | 25.0 | 25.00 | 8.5 | QCMT 09T3 |
| PQLCR/L 2525M-09 | 25.0 | 25.0 | 25.0 | 150.00 | 26.0 | 32.00 | 8.5 | QCMT 09T3 |

**Inserts:** QCMT-PF • QCMT-SM

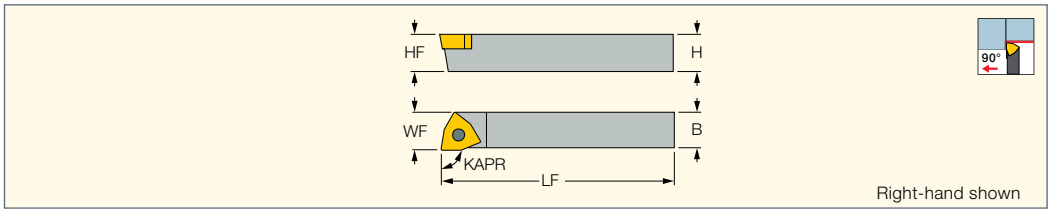
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| PQLCR/L | TXC 322 | SP 3 | PN 3-4 | LR 3 | SR 117-2014 | HW 2.5/5 |

ISOTURN

## SWAPR/L

90° Lead Angle Screw Lock Tools Carrying Trigon Inserts for Swiss Automatic Machines



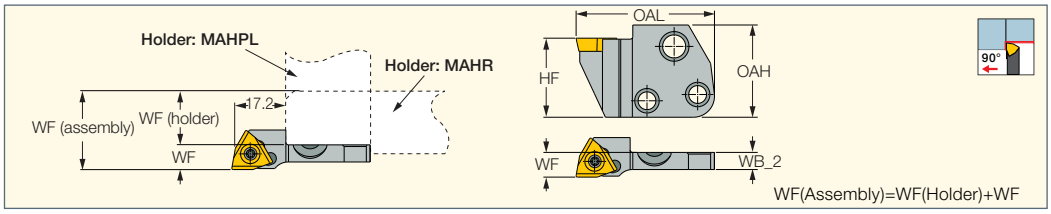

| Designation | H | HF | B | LF | WF | KAPR(1) | Insert | | |
|---|---|---|---|---|---|---|---|---|---|
| SWAPR/L 0808-04 | 8.0 | 8.0 | 8.0 | 140.00 | 8.10 | 90.0 | WPEB/X 04.. | T-8/5 | SR M3.0R/L |
| SWAPR 1010-04 | 10.0 | 10.0 | 10.0 | 150.00 | 10.10 | 90.0 | WPEB/X 04.. | T-8/5 | SR M3.0R |
| SWAPR/L 1010-05 | 10.0 | 10.0 | 10.0 | 150.00 | 10.10 | 90.0 | WPEB/X 05.. | T-8/5 | SR M3.5R/L |
| SWAPL 1212-05 | 12.0 | 12.0 | 12.0 | 150.00 | 12.10 | 90.0 | WPEB/X 05.. | T-8/5 | SR M3.5R/L |
| SWAPR/L 1212-06 | 12.0 | 12.0 | 12.0 | 150.00 | 12.10 | 90.0 | WPEB/X 06.. | T-8/5 | SR M3.5R/L |
| SWAPR 1414-06 | 14.0 | 14.0 | 14.0 | 150.00 | 14.10 | 90.0 | WPEB/X 06.. | T-8/5 | SR M3.5R/L |
| SWAPR/L 1616-06 | 16.0 | 16.0 | 16.0 | 150.00 | 16.10 | 90.0 | WPEB/X 06.. | T-8/5 | SR M3.5R/L |

• For R.H. tool use -R screw, for L.H. tool use -L screw.
(1) Tool cutting edge angle
**Inserts:** WPEX

ISOTURN
MODULAR-GRIP

## SWAPR-PAD

90° Lead Angle Screw Lock Adapters Carrying Trigon Inserts for Swiss Automatic Machines



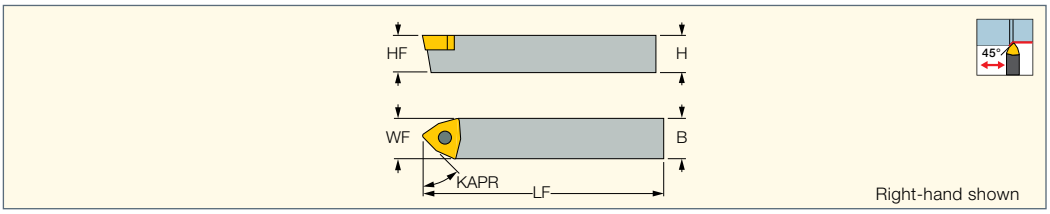

| Designation | HF | OAH | OAL | WF | WB_2 | Insert | | |
|---|---|---|---|---|---|---|---|---|
| SWAPR-06-PAD | 24.0 | 28.0 | 42.00 | 7.50 | 5.2 | WPEX/B 0604 | SR M3.5R | T-8/5 |

**Inserts:** WPEX
**Holders:** C#-MAHD-JHP • C#-MAHPD-JHP • MAHR/L-JHP-MC • MAHPR/L-JHP • MAHR/L-JHP • MAHR/L • MAHPR/L • C#-MAHD • C#-MAHPD • C#-MAHDR-45 • C#-MAHDOR • HSK A63WH-MAHUR/L • HSK A63WH-MAHDR-45 • HSK A63WH-MAHDOR • IM-MAHD • IM-MAHPD • HMSN-New Britain • DGHAL-DECO

ISOTURN

## SWDPR/L

45° Lead Angle Screw Lock Tools Carrying Trigon Inserts for Swiss Automatic Machines




| Designation | H | HF | B | LF | WF | KAPR(1) | Insert | | |
|---|---|---|---|---|---|---|---|---|---|
| SWDPR 1010-04 | 10.0 | 10.0 | 10.0 | 150.00 | 10.10 | 45.0 | WPEB/X 04.. | T-8/5 | SR M3.0R |
| SWDPR/L 1212-05 | 12.0 | 12.0 | 12.0 | 150.00 | 12.10 | 45.0 | WPEB/X 05.. | T-8/5 | SR M3.5R/L |
| SWDPR 1616-06 | 16.0 | 16.0 | 16.0 | 150.00 | 16.10 | 45.0 | WPEB/X 06.. | T-8/5 | SR M3.5R |

- For R.H. tool use -R screw, for L.H. tool use -L screw

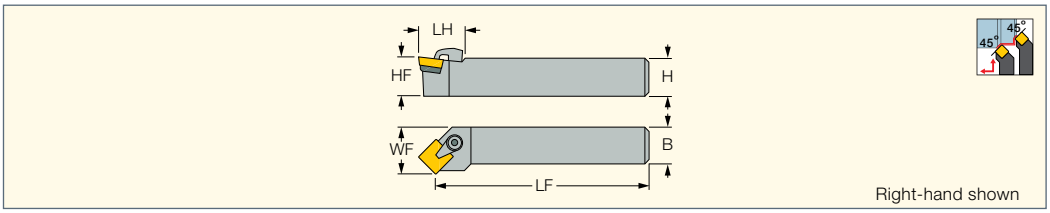
(1) Tool cutting edge angle

**Inserts:** WPEX

ISOTURN

## CSSPR/L

Clamp Lock Tools Carrying 11° Clearance Square Inserts for Longitudinal and Face Turning




| Designation | H | HF | B | LF | LH | WF | Insert | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CSSPR 1212F-09 | 12.0 | 12.0 | 12.0 | 80.00 | 21.0 | 16.00 | SPMR 0903 | | | LC 15 SET 1 | HW 2.5 |
| CSSPR 1616H-12 (1) | 16.0 | 16.0 | 16.0 | 100.00 | 26.0 | 20.00 | SPMR 1203 | ISQP 162 | SP 16 | LC 30 SET 2 | HW 3.0 |
| CSSPR 2020K-12 (1) | 20.0 | 20.0 | 20.0 | 125.00 | 26.0 | 25.00 | SPMR 1203 | ISQP 162 | SP 16 | LC 30 SET 1 | HW 3.0 |
| CSSPR/L 2525M-12 (1) | 25.0 | 25.0 | 25.0 | 150.00 | 28.0 | 32.00 | SPMR 1203 | ISQP 162 | SP 16 | LC 30 SET 1 | HW 3.0 |

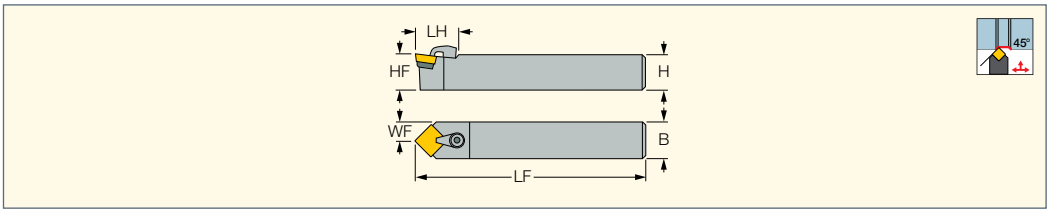
(1) ISQP 163 for inserts with corner radii 1.6-2.4 mm.

**Inserts:** SPMR

ISOTURN

## CSDPN

45° Lead Angle Clamp Lock Tools Carrying 11° Clearance Square Inserts




| Designation | H | HF | B | LF | LH | WF | Insert | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CSDPN 2020K-12 | 20.0 | 20.0 | 20.0 | 125.00 | 30.0 | 10.00 | SPMR 1203 | ISQP 162(a) | SP 16 | LC 30 SET 1 | HW 3.0 |
| CSDPN 2525M-12 | 25.0 | 25.0 | 25.0 | 150.00 | 30.0 | 12.50 | SPMR 1203 | ISQP 162(a) | SP 16 | LC 30 SET 1 | HW 3.0 |

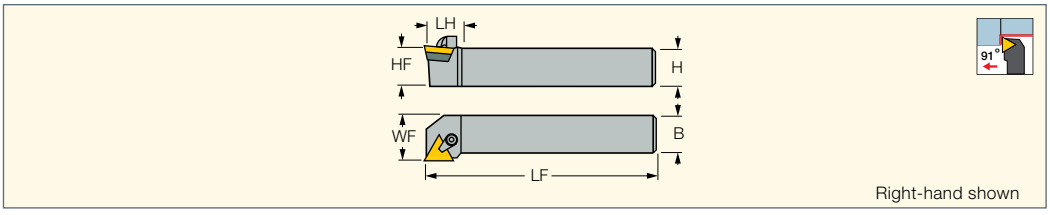
(a) Use ISQP 163 seat for inserts with corner radii 1.6-2.4 mm

**Inserts:** SPMR

ISOTURN

## CTGPR/L

Clamp Lock Tools Carrying 11° Clearance Triangular Inserts




| Designation | H | HF | B | LF | LH | WF | Insert | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CTGPR/L 1212F-11 | 12.0 | 12.0 | 12.0 | 80.00 | 17.0 | 16.00 | TPMR/TPGN 1103 | | | | LC 15 SET 1 | HW 2.5 |
| CTGPR 1616H-11 | 16.0 | 16.0 | 16.0 | 100.00 | 16.0 | 20.00 | TPMR/TPGN 1103 | | | | LC 15 SET 1 | HW 2.5 |
| CTGPR/L 2020K-16 | 20.0 | 20.0 | 20.0 | 125.00 | 26.0 | 25.00 | TPMR/TPGN 1603 | ITBP 122 | ITBP 123* | SP 16(a) | LC 30 SET 1 | HW 3.0 |
| CTGPR/L 2525M-16 | 25.0 | 25.0 | 25.0 | 150.00 | 26.0 | 32.00 | TPMR/TPGN 1603 | ITBP 122 | ITBP 123* | SP 16(a) | LC 30 SET 1 | HW 3.0 |

* Optional, should be ordered separately

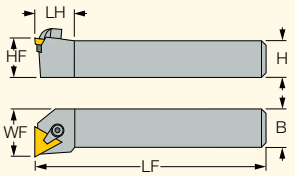
(a) Use ITBP 123 seat for inserts with corner radii 1.6-2.4 mm

**Inserts:** TPGN-Ceramic • TPMR • TPMR-FTF • TPMR-PF

ISOTURN

## CTFPR/L

Clamp Lock Tools Carrying
11° Clearance Triangular
Inserts for Face Turning







Right-hand shown

| Designation | H | HF | B | LF | LH | WF | GAMP | GAMF | Insert |
|---|---|---|---|---|---|---|---|---|---|
| CTFPR 1212F-11 | 12.0 | 12.0 | 12.0 | 80.00 | 16.0 | 16.00 | 0.0 | 6.0 | TPMR/TPGN 1103 |
| CTFPR/L 1616H-11 | 16.0 | 16.0 | 16.0 | 100.00 | 16.0 | 20.00 | 0.0 | 6.0 | TPMR/TPGN 1103 |
| CTFPR 2020K-16 | 20.0 | 20.0 | 20.0 | 125.00 | 22.0 | 25.00 | 0.0 | 6.0 | TPMR/TPGN 1603 |
| CTFPR/L 2525M-16 | 25.0 | 25.0 | 25.0 | 150.00 | 22.0 | 32.00 | 0.0 | 6.0 | TPMR/TPGN 1603 |

**Inserts:** TPGN-Ceramic • TPMR • TPMR-FTF • TPMR-PF

### Spare Parts

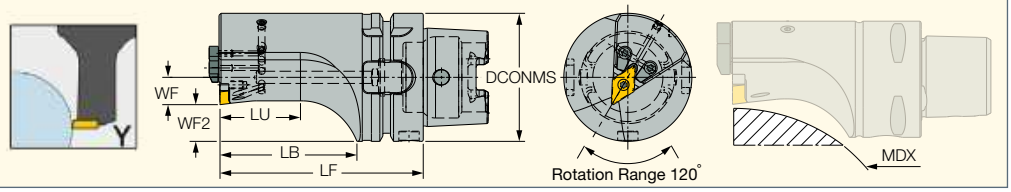
| Designation | | | | | |
|---|---|---|---|---|---|
| CTFPR 1212F-11 | | HW 2.5 | | LC 15 SET 1 | |
| CTFPR/L 1616H-11 | | HW 2.5 | | LC 15 SET 1 | |
| CTFPR 2020K-16 | ITBP 122 | HW 3.0 | SP 16 | LC 30 SET 1 | ITBP 123* |
| CTFPL 2525M-16 | ITBP 122 | HW 3.0 | SP 16 | LC 30 SET 1 | |
| CTFPR 2525M-16 | ITBP 122 | HW 3.0 | SP 16 | LC 30 SET 1 | ITBP 123* |

* Optional, should be ordered separately

HSK ISOYTURN AXIS

## HSK A63WH-SDJCN-13-Y

Y-Axis Turning Tools Carrying
55° Diamond Inserts with
7° Clearance Angle




| Designation | DCONMS | LU | LB | LF | WF | WF2 | MDX(1) | MIID(2) | CDI(3) |
|---|---|---|---|---|---|---|---|---|---|
| HSK A63WH-SDJCN-13SL-100Y | 63.00 | 39.60 | 67.40 | 100.00 | 13.44 | 18.1 | 215.00 | DCMT 13T504-F3P-SL | 0 |
| HSK A63WH-SDJCN-13SL-125Y | 63.00 | 64.60 | 92.40 | 125.00 | 13.44 | 18.1 | 390.00 | DCMT 13T504-F3P-SL | 0 |

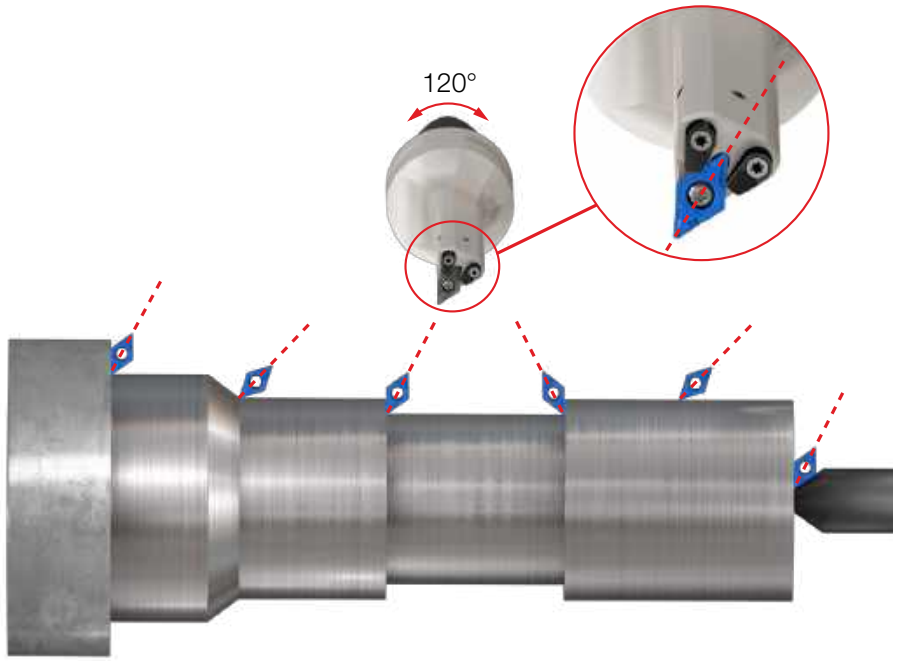
• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately). • For shank dimensions, see page 737

(1) Machinable diameter maximum

(2) Master insert identification

(3) 1 - Hole for data chip, 0 - Without hole for data chip

**Inserts:** DCMT-F3P-SL • DCMT-M3M-SL • DCMT-PF-SL • DCMT-SM-SL



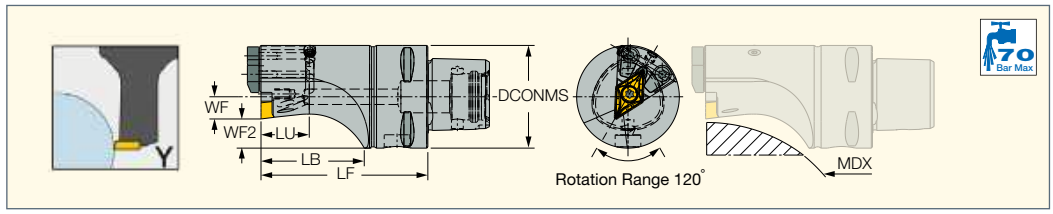

### Spare Parts

| Designation | | | | | |
|---|---|---|---|---|---|
| HSK A63WH-SDJCN-13-Y | CH-1.9D-JHP-A SET | BLD IP15/S7 | SW6-T-SH | SR M4X4 DIN913 TL360 | SR M4X0.7-L9.6 IP15 |

CAMFIX ISOY AXIS TURN

## C#-SDJCN-13-Y

Y-Axis Turning Tools Carrying 55° Diamond Inserts with 7° Clearance Angle




| Designation | DCONMS | LU | LB | LF | WF | WF2 | MDX(1) | MIID(2) | CDI(3) |
|---|---|---|---|---|---|---|---|---|---|
| C4-SDJCN-13-SL-H65-Y | 40.00 | 18.80 | 40.20 | 65.00 | 8.64 | 11.4 | 120.00 | DCMT 13T504-F3P-SL | 0 |
| C4-SDJCN-13-SL-H80-Y | 40.00 | 30.30 | 54.40 | 80.00 | 8.64 | 11.4 | 210.00 | DCMT 13T504-F3P-SL | 0 |
| C5-SDJCN-13-SL-H80-Y | 50.00 | 28.20 | 53.70 | 80.00 | 10.76 | 14.2 | 180.00 | DCMT 13T504-F3P-SL | 0 |
| C5-SDJCN-13-SL-H100-Y | 50.00 | 48.20 | 73.70 | 100.00 | 10.76 | 14.2 | 320.00 | DCMT 13T504-F3P-SL | 0 |
| C6-SDJCN-13-SL-H100-Y | 63.00 | 46.80 | 73.80 | 100.00 | 13.44 | 18.1 | 260.00 | DCMT 13T504-F3P-SL | 0 |
| C6-SDJCN-13-SL-H125-Y | 63.00 | 71.30 | 98.30 | 125.00 | 13.44 | 18.1 | 420.00 | DCMT 13T504-F3P-SL | 0 |

• For user guide, see page 624

(1) Machinable diameter maximum

(2) Master insert identification

(3) 1 - Hole for data chip, 0 - Without hole for data chip

**Inserts:** DCMT-F3P-SL • DCMT-M3M-SL • DCMT-PF-SL • DCMT-SM-SL

### Spare Parts

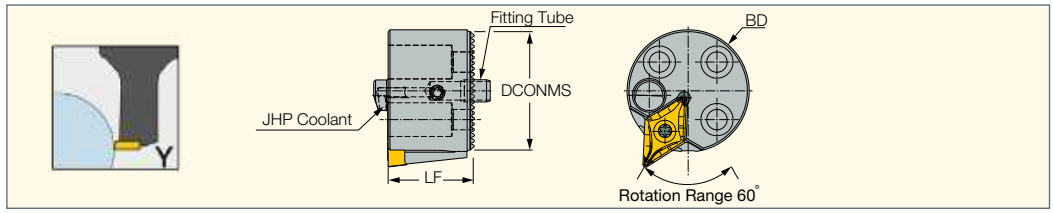
| Designation | | | | | |
|---|---|---|---|---|---|
| C#-SDJCN-13-Y | CH-1.9D-JHP-A SET | BLD IP15/S7 | SW6-T-SH | SR M4X4 DIN913 TL360 | SR M4X0.7-L9.6 IP15 |

ISOY AXIS TURN

ISOTURN

## AVC-SDJCN-Y

Interchangeable Heads Carrying 55° Rhombic Inserts




| Designation | DCONMS | BD | LF | MIID(1) | CSP(2) |
|---|---|---|---|---|---|
| AVC-D25-SDJCN-13-SL-Y | 25.00 | 26.00 | 20.00 | DCMT 13T504-F3P-SL | 1 |
| AVC-D32-SDJCN-13-SL-Y | 32.00 | 33.00 | 23.00 | DCMT 13T504-F3P-SL | 1 |
| AVC-D40-SDJCN-13-SL-Y | 40.00 | 41.00 | 25.00 | DCMT 13T504-F3P-SL | 1 |

(1) Master insert identification

(2) 0 - Without coolant supply, 1 - With coolant supply

**Inserts:** DCMT-F3P-SL • DCMT-M3M-SL • DCMT-PF-SL • DCMT-SM-SL

**Holders:** C#-SH-E-JHP • C#-SH-JHP

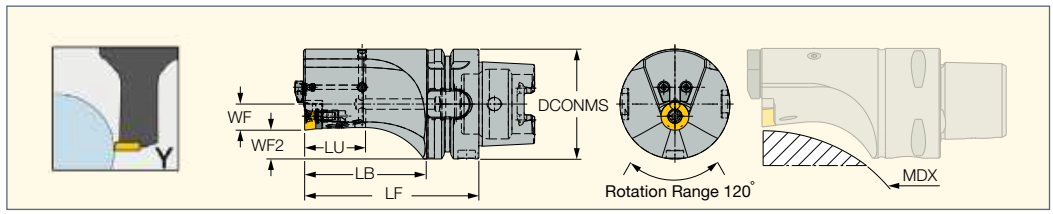
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| AVC-SDJCN-Y | CH-1.9D-JHP-A SET | SR M5X5 DIN913 TL360 | BLD IP15/S7 | SW6-T-SH | SR M4X0.7-L9.6 IP15 | PIN FT39 D6-5X11 |

HSK ISOY AXIS TURN

## HSK A63WH-RCMT-Y

Y-Axis Turning Tools Carrying Round Inserts with 7° Clearance Angle




| Designation | DCONMS | LU | LB | LF | WF | WF2 | MDX(1) | Insert | CDI(2) |
|---|---|---|---|---|---|---|---|---|---|
| HSK A63WH-SRDCN-16-100Y | 63.00 | 34.90 | 69.80 | 100.00 | 15.00 | 16.5 | 240.00 | RCMT 1606MO-14 | 0 |
| HSK A63WH-SRDCN-16-125Y | 63.00 | 60.00 | 93.40 | 125.00 | 15.00 | 16.5 | 380.00 | RCMT 1606MO-14 | 0 |

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately). • For shank dimensions, see page 737

(1) Machinable diameter maximum

(2) 1 - Hole for data chip, 0 - Without hole for data chip

**Inserts:** RCMT-14 • RCMT-SR

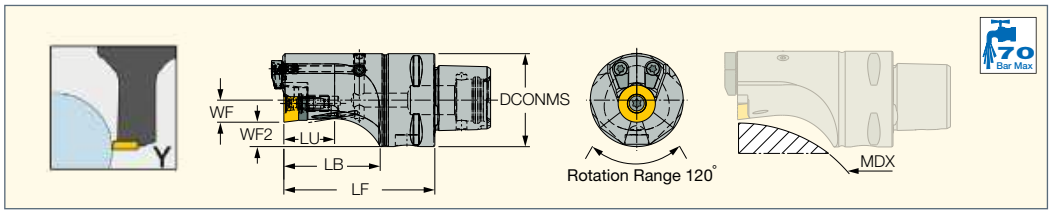
### Spare Parts

| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| HSK A63WH-RCMT-Y | TRC 5-0 | SR TC-4 | CH-1.9D-JHP-A SET | SR 16-212 | HW 3.0 | BLD T20/S7 | SW6-T-SH |

CAMFIX ISOYTURN AXIS

## C#-RCMT-16-Y

Y-Axis Turning Tools
Carrying Round Inserts
with 7° Clearance Angle




| Designation | DCONMS | LU | LB | LF | WF | WF2 | MDX(1) | Insert | CDI(2) |
|---|---|---|---|---|---|---|---|---|---|
| C4-SRDCN-16-H65-Y | 40.00 | 21.90 | 41.50 | 65.00 | 9.50 | 10.5 | 130.00 | RCMT 1606M0-14 | 0 |
| C4-SRDCN-16-H80-Y | 40.00 | 36.80 | 56.70 | 80.00 | 9.50 | 10.5 | 210.00 | RCMT 1606M0-14 | 0 |
| C5-SRDCN-16-H80-Y | 50.00 | 27.00 | 56.20 | 80.00 | 12.00 | 13.0 | 180.00 | RCMT 1606M0-14 | 0 |
| C5-SRDCN-16-H100-Y | 50.00 | 44.40 | 76.20 | 100.00 | 12.00 | 13.0 | 350.00 | RCMT 1606M0-14 | 0 |
| C6-SRDCN-16-H100-Y | 63.00 | 40.50 | 74.00 | 100.00 | 15.00 | 16.5 | 260.00 | RCMT 1606M0-14 | 0 |
| C6-SRDCN-16-H125-Y | 63.00 | 65.50 | 98.90 | 125.00 | 15.00 | 16.5 | 450.00 | RCMT 1606M0-14 | 0 |

• For user guide, see page 624
(1) Machinable diameter maximum
(2) 1 - Hole for data chip, 0 - Without hole for data chip
**Inserts:** RCMT-14 • RCMT-SR

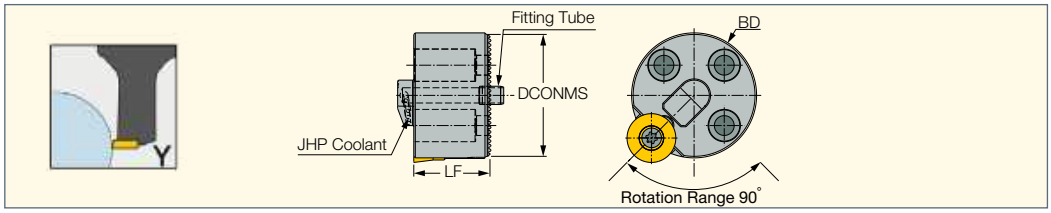
### Spare Parts

| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| C#-RCMT-16-Y | TRC 5-0 | SR TC-4 | CH-1.9D-JHP-A SET | SR 16-212 | HW 3.0 | BLD T20/S7 | SW6-T-SH |

ISOYTURN AXIS
ISOTURN

## AVC-SRDCN-Y

Interchangeable Heads
Carrying Round Inserts




| Designation | DCONMS | BD | LF | MIID(1) | CSP(2) |
|---|---|---|---|---|---|
| AVC-D16-SRDCN-08-Y | 16.00 | 17.00 | 12.00 | RCMT 0803M0-14 | 1 |
| AVC-D20-SRDCN-10-Y | 20.00 | 21.00 | 20.00 | RCMT 10T3M0-14 | 1 |
| AVC-D25-SRDCN-12-Y | 25.00 | 26.00 | 20.00 | RCMT 1204M0-14 | 1 |
| AVC-D32-SRDCN-16-Y | 32.00 | 33.00 | 23.00 | RCMT 1606M0-14 | 1 |
| AVC-D40-SRDCN-16-Y | 40.00 | 41.00 | 25.00 | RCMT 1606M0-14 | 1 |

(1) Master insert identification
(2) 0 - Without coolant supply, 1 - With coolant supply
**Holders:** C#-SH-E-JHP • C#-SH-JHP



## JET HIGH-PRESSURE TOOLS

### High-Pressure Coolant

**Important Features**

- Up to 200% increased cutting speed when machining titanium and heat resistant alloys.
- Effective chip control on problematic materials.
- Up to 100% increased tool life when machining titanium, heat resistant alloys and alloy steel.

JHP tools are essential and important for the aviation, aerospace and medical industries.

The coolant channels of the JHP tools feature outlets very close to the cutting edges, thus gaining the following advantages:

- Shorter machining time – cutting speed may be increased by up to 200% when machining titanium and heat resistant alloys.
- Longer tool life – increased tool life by up to 100% not only on titanium and heat resistant alloys, but also on stainless and alloy steels.
- Improved chip control – small chips can be obtained even on the most ductile and problematic materials
- Effective cooling down of the cutting edge, reducing sensitivity to heat fluctuations.
- Safer and more stable process.

JHP tools provide advantageous performance, also when conventional pressure is applied.

**Pressure vs. Flow**

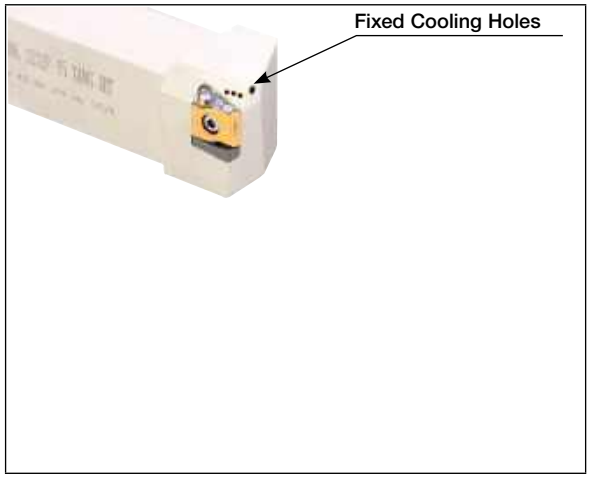
- Each JHP tool is designed to work at a certain flow rate, depending on the pressure. The flow rates are listed in the catalog pages for each tool. The user should verify that the pump can supply the required flow in order to achieve the optimal results. The pump data sheet will usually list the maximum flow rate for each pressure range.

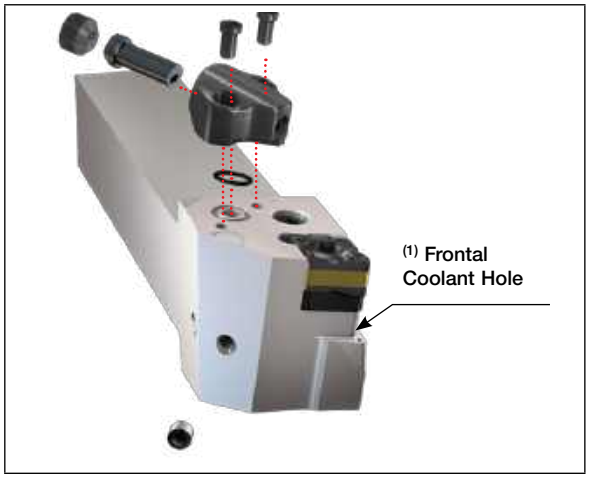
**Chips & Pressure**

- The coolant flow will start to break the chips at a certain pressure, depending on the specific tool and the workpiece material. If the chips are not breaking, the pressure should be increased until chip control is achieved. As the pressure is increased, the chips become smaller and smaller. It is possible to control the size of the chips by modifying the pressure.



There are 4 various telescopic tubes intended for various insert geometries (see attached table).
Each tube possesses a different profile optimized for the specific geometry of the insert.



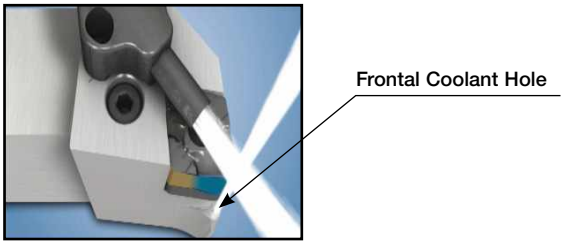

The flow rate for each tube is listed in the table below.

## Flow Rate for Various JHP Nozzles

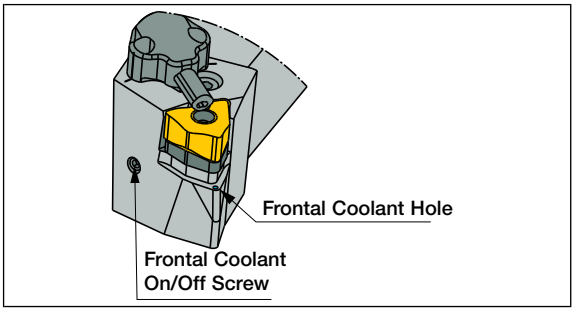
| Insert | Channel Shape Inside the Nozzle Tube | Nozzle Tube | Flow Rate liter/min | | | |
|---|---|---|---|---|---|---|
| | | | 70 Bar | 100 Bar | 140 Bar | 300 Bar |
|  |  | NZ-CW-JHP | 19-23.5 | 22.5-28 | 26.5-33 | 46-52 |
|  |  | NZ-D-JHP | 19-23.5 | 22.5-28 | 26.5-33 | 46-52 |
|  |  | NZ-V-JHP | 9.5-11.8 | 11.3-14 | 13.4-16.7 | 22-26 |
|  |  | NZ-R-JHP | 19-23.5 | 22.5-28 | 26.5-33 | 46-52 |
|  |  | Holes | 14-16 | 18-23 | 23-26 | 33-37 |
| **Frontal Coolant Hole (1)** |  | Hole | 5.4-6.6 | 6.4-8 | 7.5-9.5 | 10-14 |

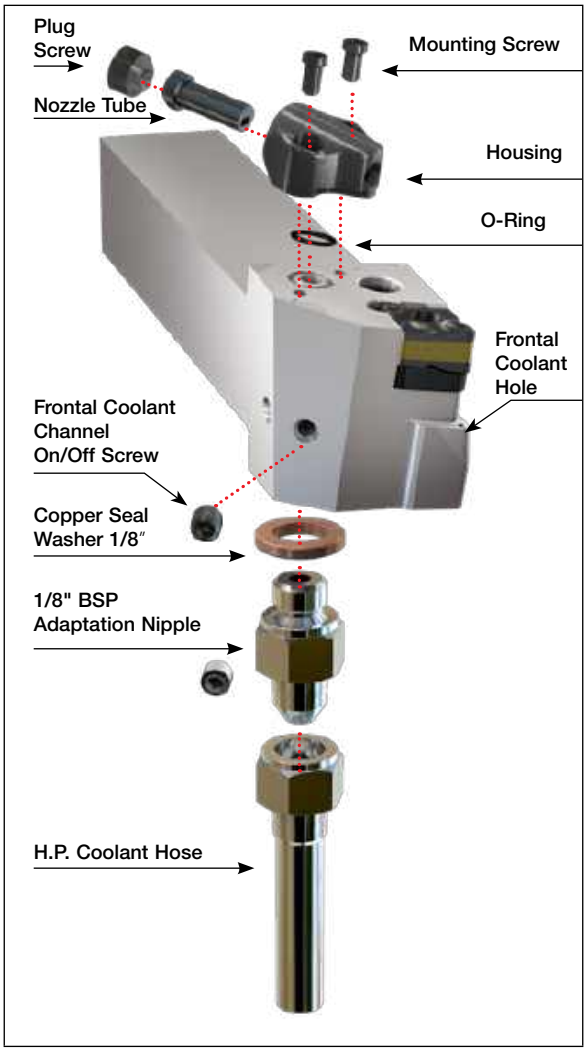
The tools with LNMX 1506… inserts feature fixed cooling channels.

For most of the tools that have a square shank, a frontal coolant hole has been added underneath the seat of the insert to enable coolant flow directed to the flank area of the insert. The frontal coolant jet increases the amount of coolant to the cutting zone. By closing or opening a screw, it acts as a valve that monitors the rate of coolant flow.




SLAN-15-TANG JHP tools for LNMX 1506... inserts, SVJCR/L-16-JHP for VCMT 1604.. inserts and all high-pressire coolant tools with **CAMFIX** shanks do not have the frontal cooling channel option.

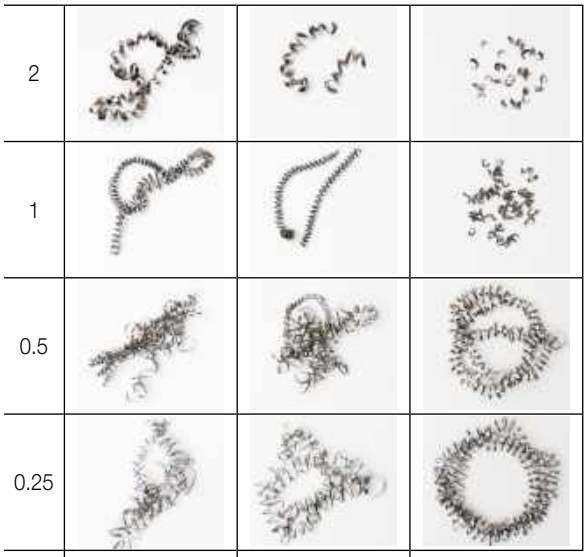


Inconel 718-Chip Control with
CNMX 120708-M4MW IC807 $V_c$ = 70 (mm/min)

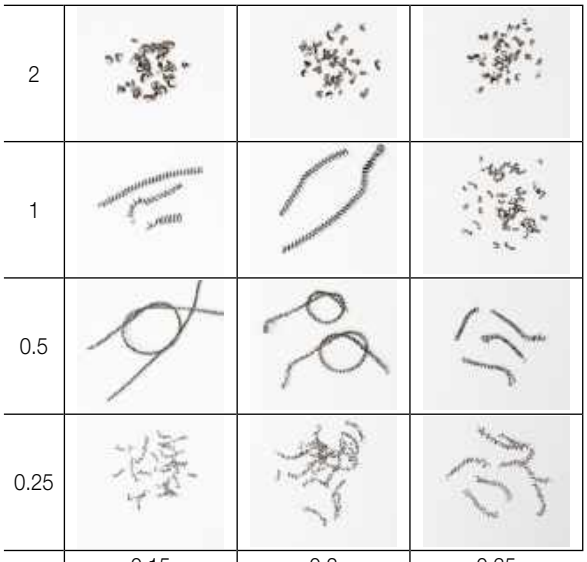
**Normal Pressure**

$a_p$ (mm)



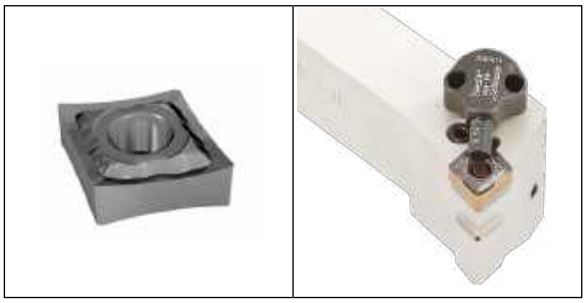

**High-Pressure 80 bar**

$a_p$ (mm)

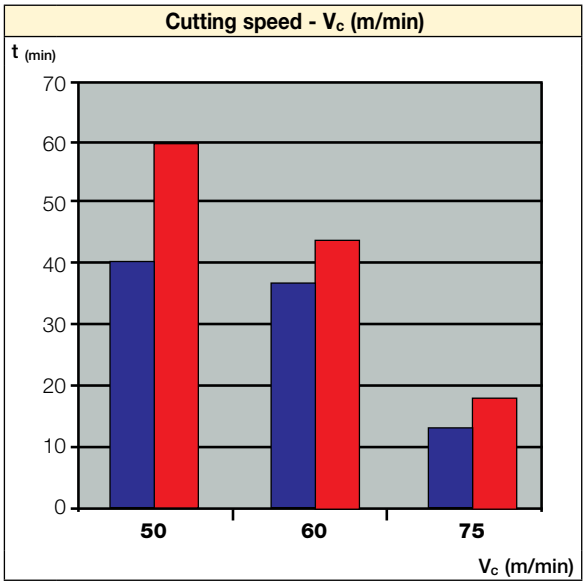



## Test Report

**Material:** Titanium (Ti6Al4V)
Operation: Turning
Tool: PCLNL 2525M-12-JHP
Insert: CNMG 120412-PP IC20
$a_p$: 2.5 (mm)
f: 0.3 (mm/rev)

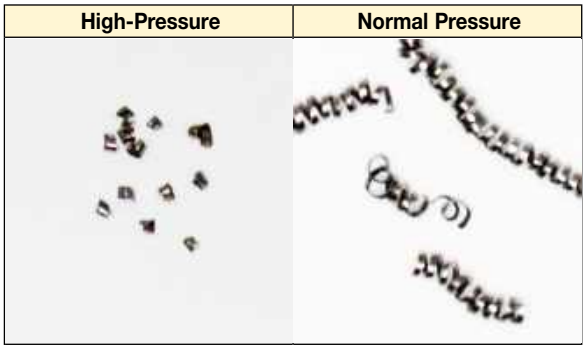


Pressure Influence on Tool Life




Normal pressure (6-8 bars)
High-Pressure (70 bars)

Pressure Influence on Chip Control

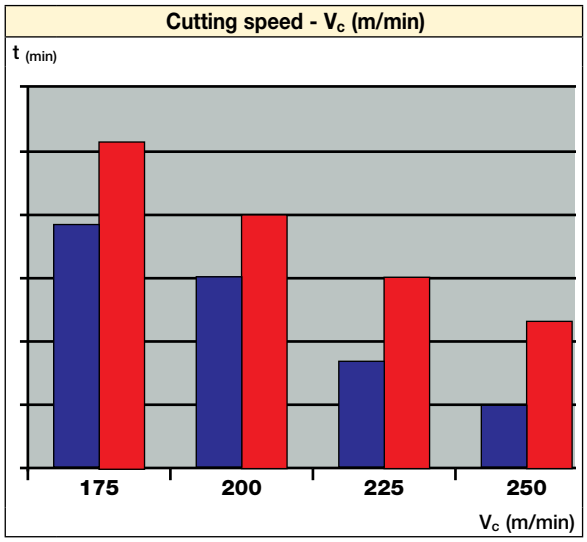


## Test Report

**Material:** Stainless steel 316L
Operation: Turning
Tool: PCLNL 2525M-12-JHP
Insert: CNMG 120408-TF IC908
$a_p$: 2.5 (mm)
f: 0.3 (mm/rev)

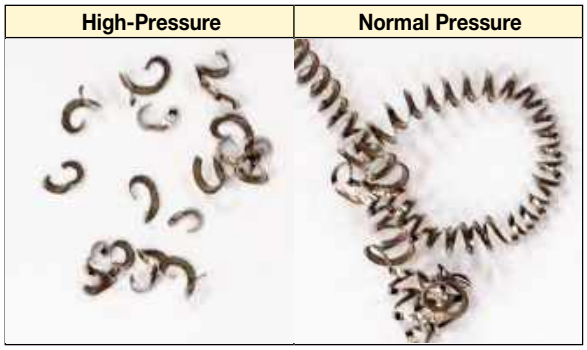


Pressure Influence on Tool Life




Normal pressure (6-8 bars)
High-Pressure (70 bars)

Pressure Influence on Chip Control

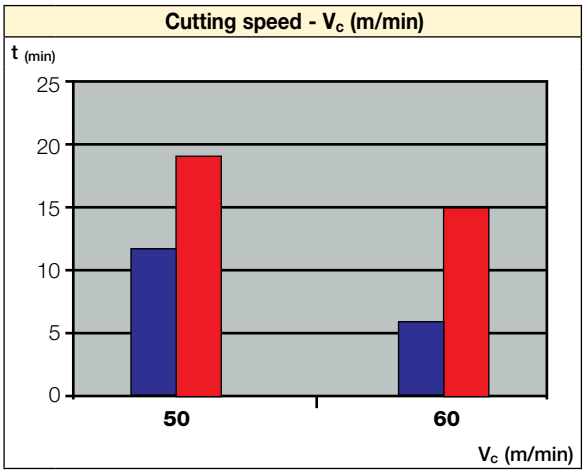



## Test Report

**Material:** Inconel 718 (46 HRC)
Operation: Turning
Tool: PCLNL 2525M-12-JHP
Insert: CNMG 120408-TF IC808
$a_p$: 2.5 (mm)
f: 0.3 (mm/rev)

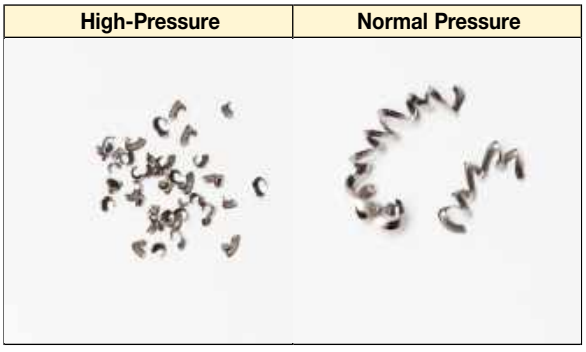


Pressure Influence on Tool Life




Normal pressure (6-8 bars)
High-Pressure (70 bars)

Pressure Influence on Chip Control



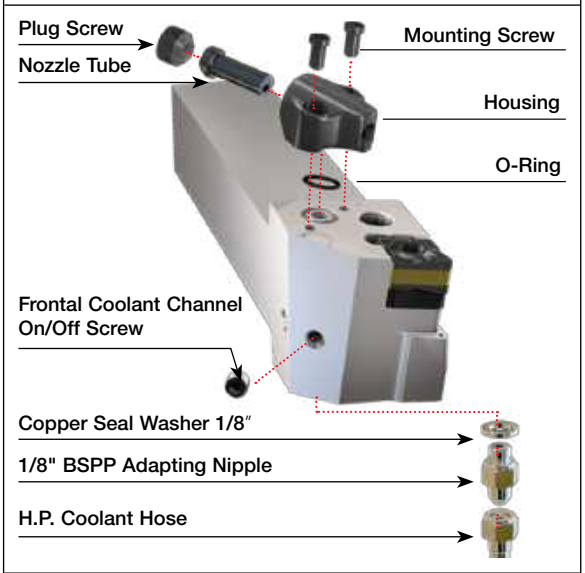
Assembly and Safety Guidelines when using JET HP ISO Turning and Grooving tools.Before use, please ensure that:

- The machine door is in a fully closed position
- The coolant hose is in the correct location and fully tightened with all seals in position
- A blank plug is inserted into the unused coolant hole
- All O-rings and washers are in place
- The coolant hose is tightened securely to the tool holder and tool block to prevent coolant leakage

**Important**
Always pay attention not to exceed the maximum safe working pressure of 300 bar.

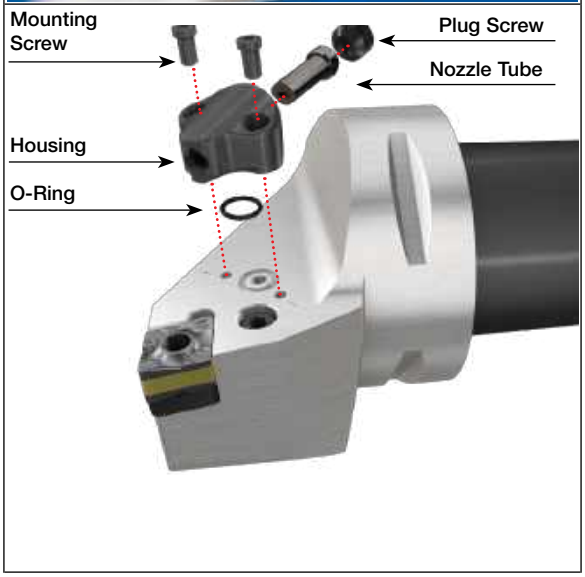
**Maximum Pressure 300 Bar**





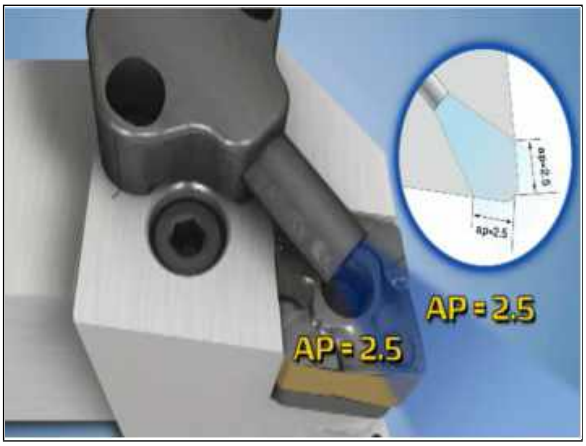

**Maximum Pressure 300 Bar**





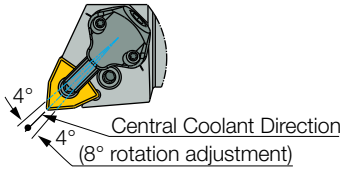
## ISOTURN JHP Tools

The unique High-Pressure coolant system is composed of a static housing and telescopic tube to direct the coolant exactly to the cutting edge of the insert. The telescopic tube embedded in the housing skews right and left, according to the working direction of the tool (see drawing). The advantage of this system is that there is no need to detach the housing of the tool when changing an insert. This reduces setup time.




To mount or change an insert, press on the telescopic tube in a backward direction.

After indexing the cutting edge of the insert, starting the coolant will extract the tube automatically to its operating position.




**Insert Indexing Procedure**

1

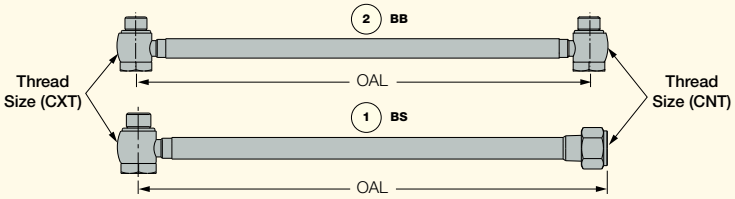

2


3


4


## Accessories

### JHP HOSE
High-Pressure Coolant Hose




| Designation | OAL | Fig. | CXT | CNT |
|---|---|---|---|---|
| JHP HOSE G1/8-7/16-200BS | 200.00 | 1 | G1/8"-28 BSPP | UNF7/16"-20FLARE 37° |
| JHP HOSE 5/16-G1/8-200BS | 200.00 | 1 | 5/16"-24 UNF | G1/8"-28 BSPP |
| JHP HOSE 5/16-7/16-200BS | 200.00 | 1 | 5/16"-24 UNF | UNF7/16"-20FLARE 37° |
| JHP HOSE G1/8-G1/8-200BB | 200.00 | 2 | G1/8"-28 BSPP | G1/8"-28 BSPP |
| JHP HOSE G1/8-7/16-250BS | 250.00 | 1 | G1/8"-28 BSPP | UNF7/16"-20FLARE 37° |
| JHP HOSE G1/8-G1/8-250BB | 250.00 | 2 | G1/8"-28 BSPP | G1/8"-28 BSPP |

### Spare Parts

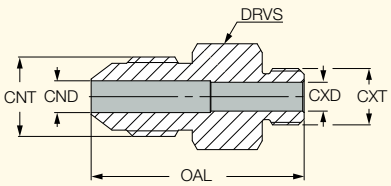
| Designation | | |
|---|---|---|
| JHP HOSE 5/16-7/16-200BS | JHP BANJO BOLT 5/16" UNF | JHP COPPER SEAL 5/16" |
| JHP HOSE G1/8-G1/8-200BB | | JHP COPPER SEAL 1/8"* |
| JHP HOSE G1/8-G1/8-250BB | JHP BANJO BOLT G1/8"* | JHP COPPER SEAL 1/8"* |

* Optional, should be ordered separately

## Accessories

### JHP NIPPLE
High-Pressure Adaptation Nipple







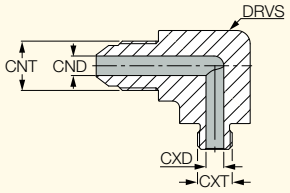


| Designation | CXT | CNT | OAL | CND | CXD | DRVS(1) |
|---|---|---|---|---|---|---|
| JHP NIPPLE G1/8"-7/16"UNF | 1/8"-28 BSPP | 7/16"-20 UNF | 28.75 | 4.00 | 4.00 | 14.3 |
| JHP NIPPLE 1/8NPT-7/16UNF | 1/8"-27 NPT | 7/16"-20 UNF | 31.00 | 4.80 | 4.40 | 12.7 |
| JHP NIPPLE 1/4NPT-7/16UNF | 1/4"-18 NPT | 7/16"-20 UNF | 36.00 | 4.40 | 4.40 | 14.3 |
| JHP NIPPLE5/16UNF-7/16UNF | 5/16"-24 UNF | 7/16"-20 UNF | 29.50 | 4.40 | 4.00 | 12.7 |

(1) Torque key size

## Accessories

### JHP ELBOW
High-Pressure Adaptation Elbow







| Designation | CNT | CND | CXT | CXD | DRVS(2) |
|---|---|---|---|---|---|
| JHP ELBOW TUB3/16-5/16UNF (1) | - | 3.10 | 5/16"-24 UNF | 4.00 | 12.7 |
| JHP ELBOW 90-5/16-7/16UNF | 7/16"-20 UNF | 4.40 | 5/16"-24 UNF | 4.00 | 12.7 |
| JHP ELBOW 90-G1/8-7/16UNF | 7/16"-20 UNF | 4.40 | 1/8"-28 BSPP | 4.00 | 15.9 |

(1) For connection to a simple 3/16" stainless or copper tube

(2) Torque key size

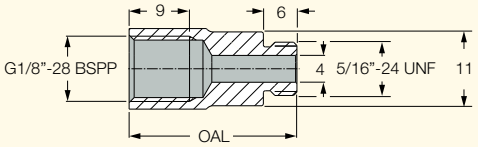
### Spare Parts

| Designation | |
|---|---|
| JHP ELBOW 90-5/16-7/16UNF | JHP COPPER SEAL 5/16"-2.5 |
| JHP ELBOW 90-G1/8-7/16UNF | JHP COPPER SEAL 1/8" |

## Accessories

### JHP CONNECTOR
High-Pressure Connector





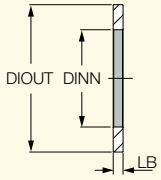

| Designation | OAL | DRVS(1) |
|---|---|---|
| JHP CONECTOR 5/16"-G1/8" | 25.00 | 12.0 |

(1) Torque key size

## Accessories

### JHP COPPER SEAL
High-Pressure Copper Seal



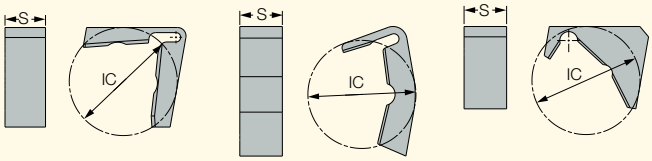



| Designation | DIOUT | DINN | LB |
|---|---|---|---|
| JHP COPPER SEAL 5/16"-2.5 | 9.40 | 8.00 | 2.50 |
| JHP COPPER SEAL 5/16" | 11.90 | 8.15 | 1.35 |
| JHP COPPER SEAL 1/8" | 15.00 | 10.00 | 1.00 |



## AD-SET
Pocket Reducer Adapter
for Turning Inserts





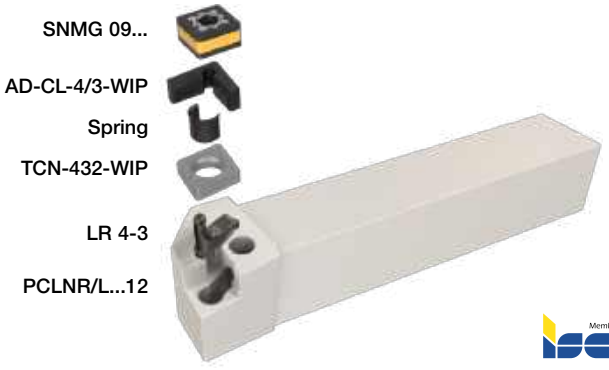

| Designation | IC | S |
|---|---|---|
| AD-CL-4/3-WIP-SET | 12.70 | 4.76 |
| AD-CL-S-4/3-WIP-SET | 12.70 | 4.76 |
| AD-CL-4/3-SET | 12.70 | 4.76 |
| AD-CL-4/3-W-SET | 12.70 | 4.76 |
| AD-CL-4/3X SET | 12.70 | 4.76 |
| AD-SS-4/3-SET | 12.70 | 4.76 |
| AD-WL-4/3-SET | 12.70 | 4.76 |
| AD-CL-6/5IQ-SET | 19.00 | 5.60 |

- Tools with K-type coolant cannot be used for facing applications

| Toolholder | Set Designation | Item No. | Pocket Size Reducer | |
|---|---|---|---|---|
| | | | From | To |
|  PCLNR/L...12 | **AD-CL-4/3-SET**<br><br>LR 4-3 AD-CL-4/3 | 3351719 |  CNMG 12... |  CNMG 09... |
|  PCLNR/L...12 | **AD-CL-4/3-W-SET**<br><br>LR 4-3 AD-CL-W-4/3 | 3362999 |  CNMG 12... |  WNMG 06... |
|  PCLNR/L...12 | **AD-CL-4/3X-SET**<br><br>LR 4-3X AD-CL-4/3X TCN 4/3X | 3362630 |  CNMG 12... |  CXMG 09... |
|  PWLNR/L...08 | **AD-WL-4/3-SET**<br><br>LR 4-3 AD-WL-4/3 | 3363000 |  WNMG 08... |  WNMG 06... |
|  PSKNR/L...12 | **AD-SS-4/3-SET**<br><br>LR 4-3 AD-SS-4/3 | 3364103 |  SNMG 12... |  SNMG 09... |
|  PCLNR/L...19 | **AD-CL-6/5IQ-SET**<br><br>LR 6/5IQ AD-CL-6/5IQ TCX 6/5IQ | 3364102 |  CNMG 19... |  COMG 16... |
|  PCLNR/L...12 | **AD-CL-4/3-WIP-SET**<br><br>LR 4-3 AD-CL-4/3-WIP TCN-432-WIP | 3373957 |  CNMG 12... |  CNMG 09... |
|  PCLNR/L...12 | **AD-CL-S-4/3-WIP-SET**<br><br>LR 4-3 AD-CL-4/3-WIP TCN-432-WIP | 3382096 |  SNMG 12... |  SNMG 09... |

## Spare Parts

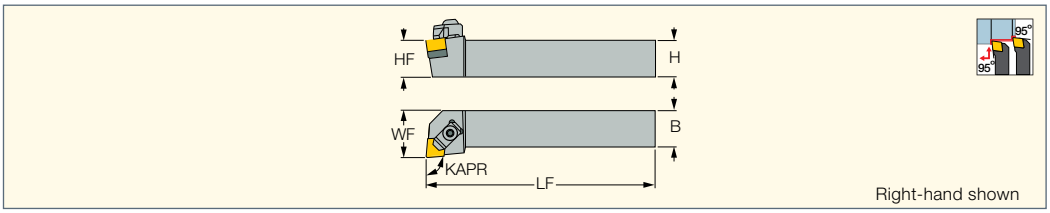
| Designation |  |  |  |
|---|---|---|---|
| AD-CL-4/3-WIP-SET | LR 4/3 | HW 3.0/5 | TCN-432-WIP |
| AD-CL-S-4/3-WIP-SET | LR 4/3 | HW 3.0/5 | TCN-432-WIP |
| AD-CL-4/3-SET | LR 4/3 | HW 3.0/5 | |
| AD-CL-4/3-W-SET | LR 4/3 | HW 3.0/5 | |
| AD-CL-4/3X SET | LR 4/3X | HW 3.0/5 | TCN 4/3X |
| AD-WL-4/3-SET | LR 4/3 | HW 3.0/5 | |
| AD-CL-6/5IQ-SET | LR 6/5IQ | | TCX 6/5IQ |



# Tools for Ceramic Inserts

ISOTURN

## CCLNR/L
Clamp Lock Tools Carrying Negative 80° Rhombic Ceramic Inserts




| Designation | H | HF | B | LF | WF | KAPR(1) | Insert |
|---|---|---|---|---|---|---|---|
| CCLNR 2020K-12CEA | 20.0 | 20.0 | 20.0 | 125.00 | 25.00 | 95.0 | CNGN 1204 |
| CCLNR/L 2525M-12CEA | 25.0 | 25.0 | 25.0 | 150.00 | 32.00 | 95.0 | CNGN 1204 |

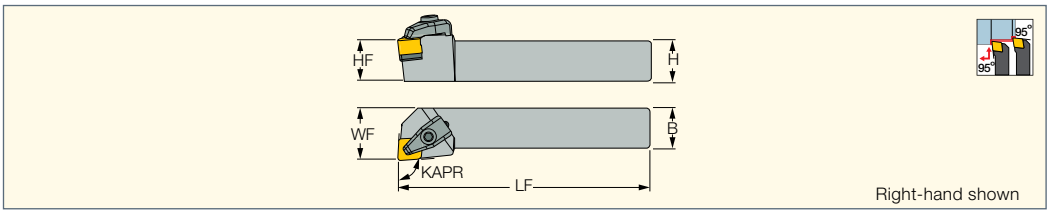
(1) Tool cutting edge angle
**Inserts:** CNGN-Ceramic

### Spare Parts

| Designation | | | | | |
|---|---|---|---|---|---|
| CCLNR/L | S 48 | HW 4.0 | BCL 6 CLAMP | SR M6X1X25ISO7380 | SR M5X0.8X10 |

ISOTURN

## TCLNR/L-CH
95° Lead Angle Tools Carrying Negative CNGX 80° Rhombic Ceramic Dimpled Inserts

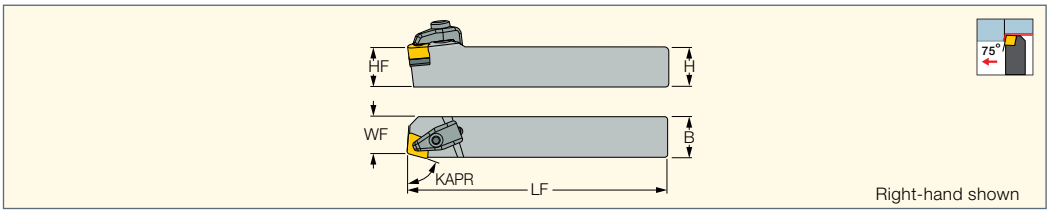



| Designation | H | HF | B | LF | WF | KAPR(1) | Insert | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLNR/L 2525M-12CH | 25.0 | 25.0 | 25.0 | 150.00 | 32.00 | 95.0 | CNGX 1207...T | S 48 | SR M5X0.8X10 | CCL 4 | KSP 5 | CSC 4 | HW 4.0 |

(1) Tool cutting edge angle
**Inserts:** CNGX-Ceramic

ISOTURN

## TCBNR/L-CH
75° Lead Angle Toolholders Using the 100° Corner of CNGX 80° Negative Rhombic Ceramic Dimpled Inserts

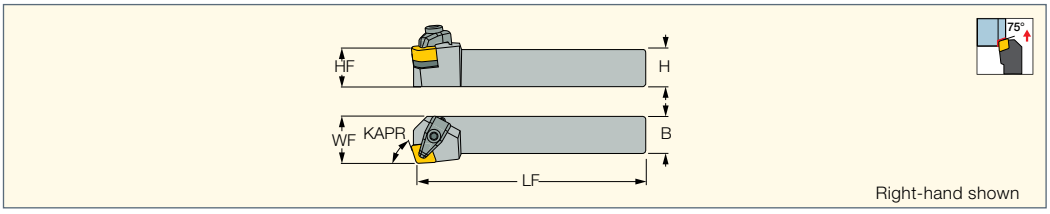



| Designation | H | HF | B | LF | WF | KAPR(1) | Insert | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCBNR/L 2525M-12CH | 25.0 | 25.0 | 25.0 | 150.00 | 22.00 | 75.0 | CNGX 1207...T | S 48 | SR M5X0.8X10 | CCL 4 | KSP 5 | CSC 4 | HW 4.0 |

(1) Tool cutting edge angle
**Inserts:** CNGX-Ceramic

ISOTURN

## TCKNR/L-CH
75° Lead Angle Tools Carrying the 100° Corner of CNGX 80° Negative Rhombic Ceramic Dimpled Inserts for Facing



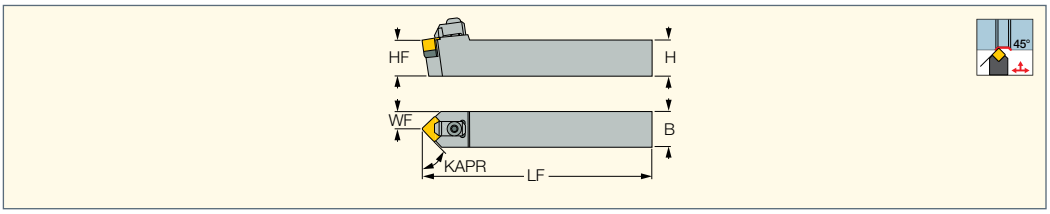

| Designation | H | HF | B | LF | WF | KAPR(1) | Insert | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCKNL 2525M-12CH | 25.0 | 25.0 | 25.0 | 150.00 | 32.00 | 75.0 | CNGX 1207...T | S 48 | SR M5X0.8X10 | CCL 4 | KSP 5 | CSC 4 | HW 4.0 |

(1) Tool cutting edge angle
**Inserts:** CNGX-Ceramic

ISOTURN

## CSDNN-CE/CEA

45° Lead Angle Tools Carrying Square Ceramic Inserts




| Designation | H | HF | B | LF | WF | KAPR(1) | Insert |
|---|---|---|---|---|---|---|---|
| CSDNN 2020K-12CEA | 20.0 | 20.0 | 20.0 | 125.00 | 10.00 | 45.0 | SNGN 1204 |
| CSDNN 2525M-12CEA | 25.0 | 25.0 | 25.0 | 150.00 | 12.50 | 45.0 | SNGN 1204 |

(1) Tool cutting edge angle

**Inserts:** SNGN-Ceramic

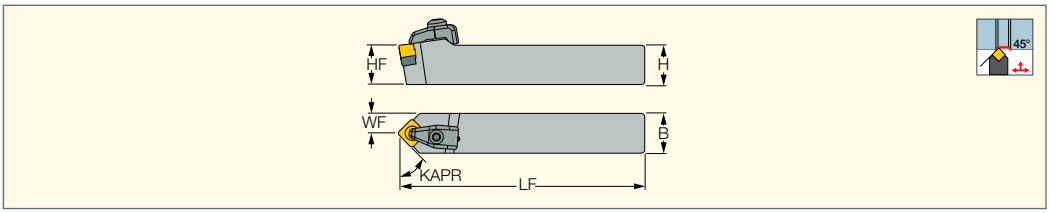
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| CSDNN 2020K-12CEA | S 40 (SEAT) | SR M5X0.8X10 | BCL 6 CLAMP | SR M6X1X25ISO7380 | HW 4.0 | |
| CSDNN 2525M-12CEA | S 40 (SEAT) | SR M5X0.8X10 | BCL 6 CLAMP | SR M6X1X25ISO7380 | HW 4.0 | HW 3.0 |

ISOTURN

## TSDNN-CH

45° Lead Angle Tools Carrying Square Ceramic Dimpled Inserts




| Designation | H | HF | B | LF | WF | KAPR(1) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TSDNN 2525M-12CH | 25.0 | 25.0 | 25.0 | 150.00 | 12.50 | 45.0 | S 40 (SEAT) | SR M5X0.8X10 | CCL 4 | KSP 5 | CSC 4 | HW 4.0 |

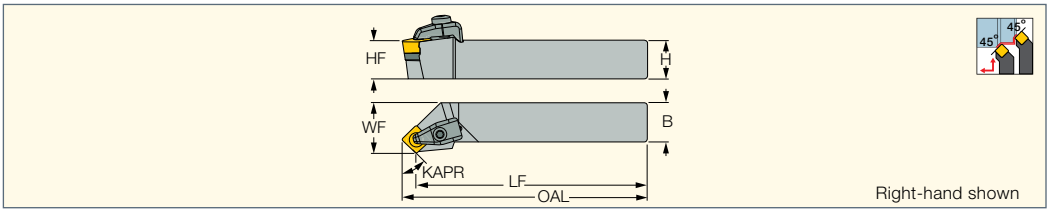
(1) Tool cutting edge angle

**Inserts:** SNGX-Ceramic

ISOTURN

## TSSNR/L-CH

45° Lead Angle Tools Carrying Square Ceramic Dimpled Inserts for Longitudinal and Face Turning




| Designation | H | HF | B | OAL | WF | KAPR(1) | Insert | LF | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TSSNR/L 2525M-12CH | 25.0 | 25.0 | 25.0 | 150.00 | 32.00 | 45.0 | SNGX 1207..T | 141.52 | S 40 (SEAT) | SR M5X0.8X10 | CCL 4 | KSP 5 | CSC 4 | HW 4.0 |

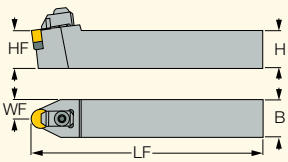
(1) Tool cutting edge angle

**Inserts:** SNGX-Ceramic

ISOTURN

## CRDNN

Clamp Lock Neutral Tools Carrying Round Negative Ceramic Inserts



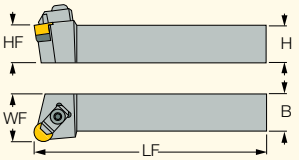

| Designation | H | HF | B | LF | WF | Insert | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CRDNN 2525M-12CE | 25.0 | 25.0 | 25.0 | 150.00 | 12.50 | RNGN 120700 | S 43 | SR M5X0.8X10 | BCL 6 CLAMP | SR M6X1X25ISO7380 | HW 4.0 |
| CRDNN 2525M-12CEA | 25.0 | 25.0 | 25.0 | 150.00 | 12.50 | RNGN 120400 | S 43 | SR M5X0.8X10 | BCL 6 CLAMP | SR M6X1X25ISO7380 | HW 4.0 |
| CRDNN 3225P-12CE | 32.0 | 32.0 | 25.0 | 170.00 | 12.50 | RNGN 120700 | | | | | |

**Inserts:** RNGN-Ceramic

ISOTURN

## CRGNR/L

Clamp Lock Tools Carrying Round Negative Ceramic Inserts




Right-hand shown

| Designation | H | HF | B | LF | WF | Insert | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CRGNR/L 2525M-12CE | 25.0 | 25.0 | 25.0 | 150.00 | 32.00 | RNGN 120700 | S 43 | SR M5X0.8X10 | BCL 6 CLAMP | SR M6X1X25ISO7380 | HW 4.0 |
| CRGNR/L 2525M-12CEA | 25.0 | 25.0 | 25.0 | 150.00 | 32.00 | RNGN 120400 | S 43 | SR M5X0.8X10 | BCL 6 CLAMP | SR M6X1X25ISO7380 | HW 4.0 |
| CRGNR/L 3225P-12CE | 32.0 | 32.0 | 25.0 | 170.00 | 32.00 | RNGN 120700 | S 43 | SR M5X0.8X10 | BCL 6 CLAMP | SR M6X1X25ISO7380 | HW 4.0 |

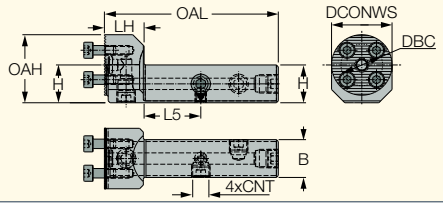
**Inserts:** RNGN-Ceramic

## Straight Shank

ISOTURN

## SH-S#-N-AVC

Square shank with serrated connection




| Designation | DCONWS | LH | OAH | OAL | H | B | DBC | L5 | CNT |
|---|---|---|---|---|---|---|---|---|---|
| SH-S2020-N-AVC-D20-JHP-MC | 20.00 | 21.0 | 30.00 | 92.00 | 20.0 | 20.0 | 13.00 | 30.00 | G 1/8 |
| SH-S2020-N-AVC-D25-JHP-MC | 25.00 | 21.0 | 32.50 | 92.00 | 20.0 | 20.0 | 16.00 | 30.00 | G 1/8 |
| SH-S2020-N-AVC-D32-JHP-MC | 32.00 | 21.0 | 36.00 | 92.00 | 20.0 | 20.0 | 22.00 | 30.00 | G 1/8 |
| SH-S2525-N-AVC-D25-JHP-MC | 25.00 | 21.0 | 37.50 | 107.00 | 25.0 | 25.0 | 16.00 | 36.00 | G 1/8 |
| SH-S2525-N-AVC-D32-JHP-MC | 32.00 | 21.0 | 41.00 | 107.00 | 25.0 | 25.0 | 22.00 | 36.00 | G 1/8 |
| SH-S2525-N-AVC-D40-JHP-MC | 40.00 | 21.0 | 45.00 | 107.00 | 25.0 | 25.0 | 28.00 | 36.00 | G 1/8 |
| SH-S3232-N-AVC-D32-JHP-MC | 32.00 | 21.0 | 48.00 | 152.00 | 32.0 | 32.0 | 22.00 | - | G 1/8 |
| SH-S3232-N-AVC-D40-JHP-MC | 40.00 | 26.0 | 52.00 | 152.00 | 32.0 | 32.0 | 28.00 | - | G 1/8 |
| SH-S4040-N-AVC-D40-JHP-MC | 40.00 | 26.0 | 60.00 | 200.00 | 40.0 | 40.0 | 28.00 | - | G 1/8 |

**Tools:** AVC-DDUNR/L • AVC-DVUNR/L • AVC-GAIR/L • AVC-GEAIR/L • AVC-PCLNR/L • AVC-PCLXR/L • AVC-SCLCR/L • AVC-SDUCR/L • AVC-SVLCR/L • AVC-SVUCR/L

### Spare Parts

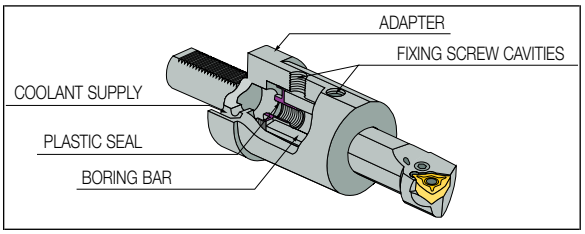
| Designation | | | | | |
|---|---|---|---|---|---|
| SH-S2020-N-AVC-D20-JHP-MC | SR M3.5X10 DIN912 | SR M6X6 DIN913 TL360 | HW 2.5 | OR 5.6X1.8 NBR | PLG G1/8 TL360 |
| SH-S2020-N-AVC-D25-JHP-MC | SR M4X12DIN912 | SR M6X6 DIN913 TL360 | HW 3.0 | OR 5.6X1.8 NBR | PLG G1/8 TL360 |
| SH-S2020-N-AVC-D32-JHP-MC | SR M5X12 DIN912 | SR M6X6 DIN913 TL360 | HW 4.0 | OR 5.6X1.8 NBR | PLG G1/8 TL360 |
| SH-S2525-N-AVC-D25-JHP-MC | SR M4X12DIN912 | SR M6X6 DIN913 TL360 | HW 3.0 | OR 5.6X1.8 NBR | PLG G1/8 TL360 |
| SH-S2525-N-AVC-D32-JHP-MC | SR M5X12 DIN912 | SR M6X6 DIN913 TL360 | HW 4.0 | OR 5.6X1.8 NBR | PLG G1/8 TL360 |
| SH-S2525-N-AVC-D40-JHP-MC | SR M6X16 DIN912 | SR M6X6 DIN913 TL360 | HW 5.0 | OR 5.6X1.8 NBR | PLG G1/8 TL360 |

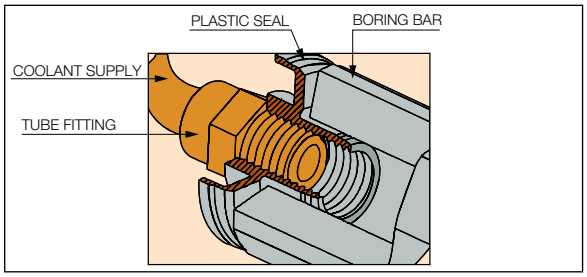
## ISOTURN Boring Bars

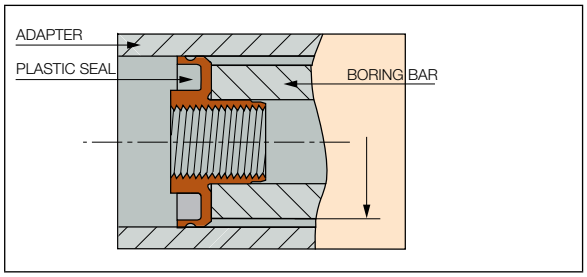
**ISCAR** boring bars are equipped with internal coolant. A unique plastic seal is supplied for insertion into the channel which:

- Features a threaded tube fitting connection
- Performs a sealing role while clamped in a cylindrical adapter
- Requires no re-threading after shortening the bar

This unique design is a simple and versatile solution for installing coolant supply and extends tool life, improves chip flow and machining reliability.



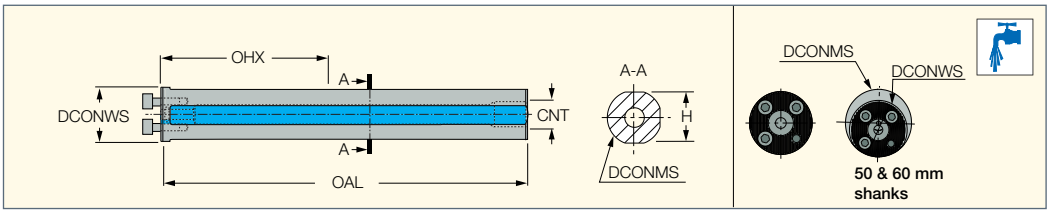






## *Straight Shank*

ISOTURN

**SH-D**
Steel boring bars with serrated connection for AVC Heads




| Designation | DCONWS | DCONMS | OAL | OHX[1] | CNT | H | BMC[2] |
|---|---|---|---|---|---|---|---|
| **SH-D16-4D-A** | 16.00 | 16.00 | 105.00 | 44.0 | UNC-2B 3/8"-16 | 15.0 | S |
| **SH-D20-4D-A** | 20.00 | 20.00 | 140.00 | 60.0 | UNFC-2B 3/8"-24 | 18.0 | S |
| **SH-D25-4D-A** | 25.00 | 25.00 | 200.00 | 80.0 | UNF-2B 1/2"-20 | 23.0 | S |
| **SH-D32-4D-A** | 32.00 | 32.00 | 218.00 | 96.0 | UNF-2B 1/2"-20 | 29.0 | S |
| **SH-D40-4D-A** | 40.00 | 40.00 | 283.00 | 128.0 | UNF-2B 1/2"-20 | 36.0 | S |
| **SH-D50-4D-40-A** | 40.00 | 50.00 | 368.00 | 168.0 | UNF-2B 1/2"-20 | 46.0 | S |
| **SH-D60-4D-40-A** | 40.00 | 60.00 | 468.00 | 208.0 | UNF-2B 1/2"-20 | 57.0 | S |

[1] Maximum overhang
[2] S-steel body, H-solid carbide body

**Tools:** AVC-D-SIR/L • AVC-DDUNR/L • AVC-DVUNR/L • AVC-GAIR/L • AVC-GEAIR/L • AVC-PCLNR/L • AVC-PCLXR/L • AVC-SCLCR/L • AVC-SDUCR/L • AVC-SVLCR/L • AVC-SVUCR/L

### Spare Parts

| Designation | | | | |
|---|---|---|---|---|
| **SH-D16-4D-A** | SR M3X10DIN912 | HW 2.5 | PL 16 | |
| **SH-D20-4D-A** | | HW 2.5 | PL 20 | OR 5.6X1.8 NBR |
| **SH-D25-4D-A** | SR M4X12DIN912 | HW 3.0 | PL 25 | OR 5.6X1.8 NBR |
| **SH-D32-4D-A** | SR M5X12 DIN912 | HW 4.0 | PL 32 | OR 5.6X1.8 NBR |
| **SH-D40-4D-A** | SR M6X16 DIN912 | HW 5.0 | PL 40 | OR 5.6X1.8 NBR |
| **SH-D50-4D-40-A** | SR M6X16 DIN912 | HW 5.0 | PL 40 | OR 5.6X1.8 NBR |
| **SH-D60-4D-40-A** | SR M6X16 DIN912 | HW 5.0 | PL 40 | OR 5.6X1.8 NBR |



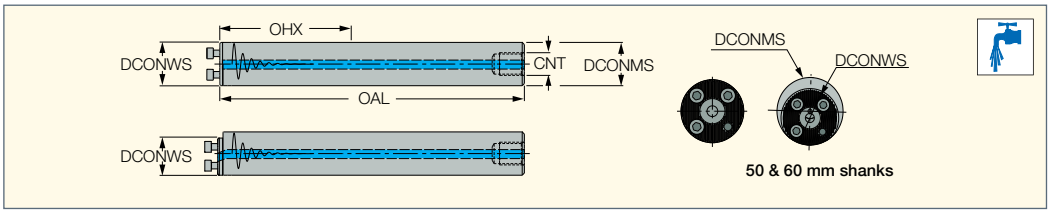
WHISPERLINE ANTI-VIBRATION

## Straight Shank

ISOTURN

### AV-D

Anti-Vibration Bars with Through Coolant for Interchangeable Turning Heads




| Designation | DCONWS | DCONMS | OAL | OHN[1] | OHX[2] | CNT | BMC[3] | CP[4] |
|---|---|---|---|---|---|---|---|---|
| AV-D16-7D-C | 16.00 | 16.00 | 156.30 | 55.0 | 92.0 | G1/8 | S | 30 |
| AV-D16-10D-E | 16.00 | 16.00 | 204.30 | 96.0 | 140.0 | - | H | 30 |
| AV-D20-7D-C | 20.00 | 20.00 | 200.30 | 70.0 | 120.0 | G1/4 | S | 30 |
| AV-D20-10D-E | 20.00 | 20.00 | 260.30 | 120.0 | 180.0 | - | H | 30 |
| AV-D25-7D-C | 25.00 | 25.00 | 257.50 | 88.0 | 155.0 | G1/4 | S | 40 |
| AV-D25-10D-C | 25.00 | 25.00 | 332.50 | 155.0 | 230.0 | G1/4 | S | 40 |
| AV-D32-7D-C | 32.00 | 32.00 | 323.00 | 120.0 | 192.0 | G3/8 | S | 50 |
| AV-D32-10D-C | 32.00 | 32.00 | 419.00 | 192.0 | 288.0 | G3/8 | S | 50 |
| AV-D40-7D-C | 40.00 | 40.00 | 411.00 | 128.0 | 251.0 | G1/2 | S | 70 |
| AV-D40-10D-C | 40.00 | 40.00 | 531.00 | 248.0 | 368.0 | G1/2 | S | 70 |
| AV-D50-7D-C | 40.00 | 50.00 | 523.00 | 168.0 | 318.0 | G1/2 | S | 70 |
| AV-D50-10D-C | 40.00 | 50.00 | 673.00 | 318.0 | 468.0 | G1/2 | S | 70 |
| AV-D60-7D-C | 40.00 | 60.00 | 633.00 | 208.0 | 388.0 | G3/4 | S | 70 |
| AV-D60-10D-C | 40.00 | 60.00 | 813.00 | 388.0 | 568.0 | G3/4 | S | 70 |

- The bars can be shortened. For details, see table below

(1) Minimum overhang

(2) Maximum overhang

(3) S-steel body, H-solid carbide body

(4) Coolant pressure (Bar)

**Tools:** AVC-D-SIR/L • AVC-DDUNR/L • AVC-DVUNR/L • AVC-GAIR/L • AVC-GEAIR/L • AVC-PCLNR/L • AVC-PCLXR/L • AVC-SCLCR/L • AVC-SDUCR/L • AVC-SVLCR/L • AVC-SVUCR/L

| Bar Diameter | Minimum Length After Shortening | |
|---|---|---|
| DCONMS (mm) | OAL 7D (mm) | OAL 10D (mm) |
| 16 | 100 | - (1) |
| 20 | 125 | - (1) |
| 25 | 155 | 255 |
| 32 | 190 | 320 |
| 40 | 240 | 410 |
| 50 | 305 | 520 |
| 60 | 380 | 630 |

(1) Cannot be shortened

## Spare Parts

| Designation | |
|---|---|
| AV-D16-7D-C | SR M3X10DIN912 |
| AV-D16-10D-E | SR M3X10DIN912 |
| AV-D20-7D-C | SR M3.5XL10-D5.5 |
| AV-D20-10D-E | SR M3.5XL10-D5.5 |
| AV-D25-7D-C | SR M4X12DIN912 |
| AV-D25-10D-C | SR M4X12DIN912 |
| AV-D32-7D-C | SR M5X12 DIN912 |
| AV-D32-10D-C | SR M5X12 DIN912 |
| AV-D40-7D-C | SR M6X16 DIN912 |
| AV-D40-10D-C | SR M6X16 DIN912 |
| AV-D50-7D-C | SR M6X16 DIN912 |
| AV-D50-10D-C | SR M6X16 DIN912 |
| AV-D60-7D-C | SR M6X16 DIN912 |
| AV-D60-10D-C | SR M6X16 DIN912 |

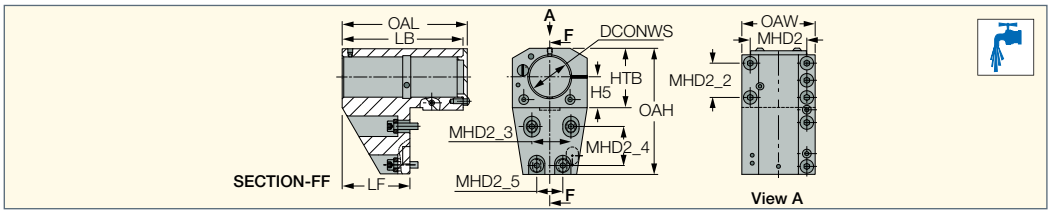




WHISPERLINE ANTI-VIBRATION

## BLKT AV-JHP

BLKT Sleeve Type Blocks for DMG Machines




| Designation | DCONWS | OAW | OAH | OAL | H5 | LB | LF | HTB | MHD2 | MHD2_2 | MHD2_3 | MHD2_4 | MHD2_5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BLKT AV-2540-JHP | 40.00 | 92.00 | 145.00 | 145.00 | 30.00 | 140.00 | 74.00 | 63.0 | 71.0 | 43.0 | 48.0 | 48.0 | 32.0 |
| BLKT AV-3240-JHP | 40.00 | 135.00 | 172.00 | 145.00 | 40.00 | 140.00 | 58.00 | 75.0 | 115.0 | 63.0 | 50.0 | 63.0 | 50.0 |
| BLKT AV-3250-JHP | 50.00 | 135.00 | 172.00 | 155.00 | 40.00 | 150.00 | 68.00 | 75.0 | 115.0 | 63.0 | 50.0 | 63.0 | 50.0 |
| BLKT AV-3260-JHP | 60.00 | 135.00 | 177.00 | 165.00 | 40.00 | 160.00 | 78.00 | 80.0 | 115.0 | 63.0 | 50.0 | 63.0 | 50.0 |
| BLKT AV-3280-JHP | 80.00 | 134.00 | 179.00 | 185.00 | 50.00 | 180.00 | 98.00 | 100.0 | 115.0 | 63.0 | 50.0 | 63.0 | 50.0 |

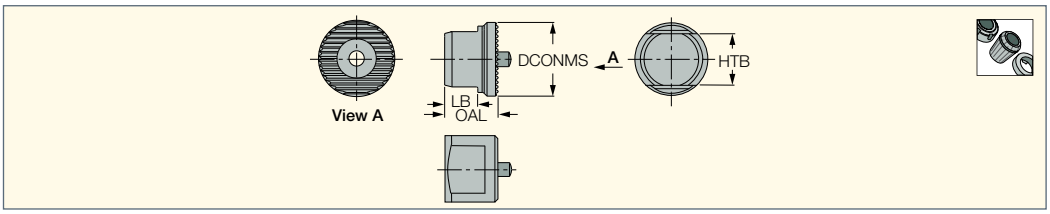
**Holders:** AV-D • AV FLEX-SLEEVE

ISOTURN

WHISPERLINE ANTI-VIBRATION

## AVC-SET

Center Height Set Up Device



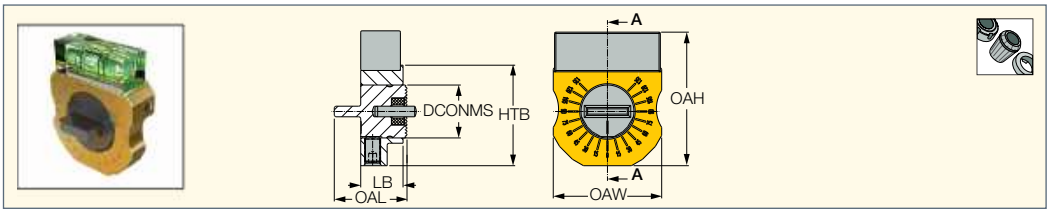

| Designation | DCONMS | HTB | OAL | LB | Shank |
|---|---|---|---|---|---|
| AVC-SET 16-25 | 20.00 | 15.0 | 14.50 | 9.00 | 16, 20, 25 |
| AVC-SET 32-60 | 29.00 | 16.0 | 17.50 | 11.50 | 32, 40, 50, 60 |

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## AVC-SET-LEV

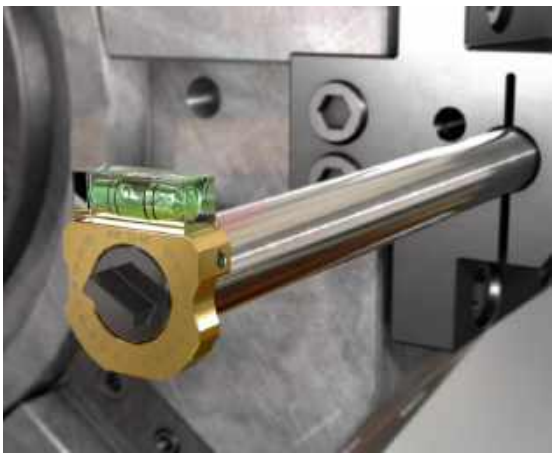
Center Height Set Up Device




| Designation | DCONMS | HTB | OAL | LB | Shank | OAH | OAW |
|---|---|---|---|---|---|---|---|
| AVC-SET 16-25-LEV | 20.00 | 38.0 | 27.50 | 16.00 | 16, 20, 25 | 50.50 | 41.00 |
| AVC-SET 32-60-LEV | 29.00 | 49.0 | 28.00 | 16.00 | 32, 40, 50, 60 | 59.00 | 49.00 |

### Features

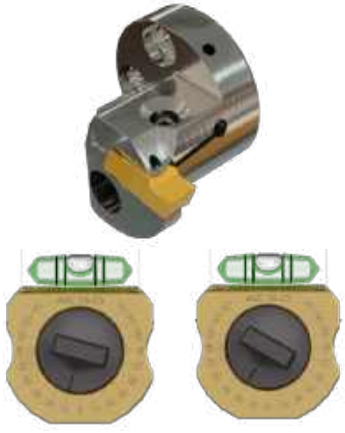
- Serrated head with magnetic core ensures fixed position of the shank.
- The setting head is simply connected to the shank without screws.
- The bubble level indicates the tool position and easily enables adjustment of the boring bar to the center.
- Significant time saving can be achieved by using this unique setting head.
- High setting accuracy can be easily attained and ensure excellent performance for ***WHISPERLINE*** boring bars.
- During tool assembly and the positioning process on the machine, please pay attention to the angle position selector. It must be set to the angle that is defined for each head - while most ISO turning heads have a 0° angle, **CUT-GRIP** heads need to be set to 15° or 30°.



ISO turning head



CUT-GRIP head



### Spare Parts

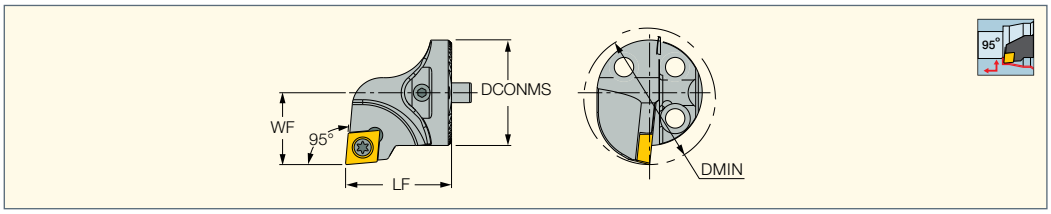
| Designation | | |
|---|---|---|
| AVC-SET-LEV | SR M6X10 DIN1835B | HW 3.0 |

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WHISPERLINE ANTI-VIBRATION

## AVC-SCLCR/L

Interchangeable Boring Heads Carrying 80° Rhombic Inserts with 7° Clearance




| Designation | WF | DCONMS | DMIN | LF | CSP(2) | MIID(3) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| AVC-D16-SCLCR/L-06 | 11.00 | 16.00 | 20.00 | 20.00 | 0 | CCMT 2-1-14 | SR 14-548* | T-7/5* | | |
| AVC-D20-SCLCR/L-09 | 13.00 | 20.00 | 25.00 | 20.00 | 0 | CCMT 3-2-M3M | SR 16-236* | T-15/5* | | |
| AVC-D25-SCLCR/L-09 | 17.00 | 25.00 | 32.00 | 20.00 | 1 | CCMT 3-2-M3M | SR 16-236* | T-15/5* | | |
| AVC-D32-SCLCR/L-09 | 22.00 | 32.00 | 40.00 | 32.00 | 1 | CCMT 3-2-M3M | SR 16-236* | T-15/5 | | |
| AVC-D40-SCLCR/L-12T (1) | 27.00 | 40.00 | 50.00 | 38.00 | 1 | CCMT 432-SM | SR 16-212* | T-20/5* | SR TC-4* | TCC 4-2* |

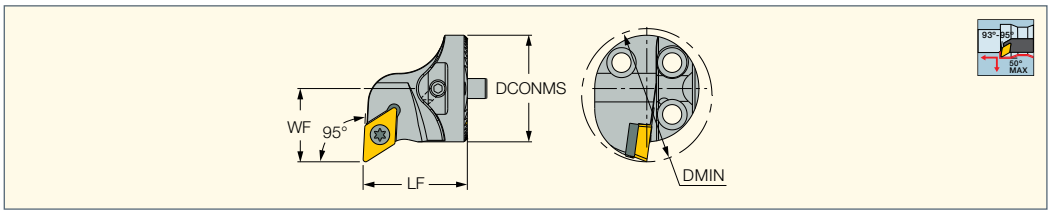
(1) DMIN of 50mm shank is DMIN of requested head + 10mm • DMIN of 60mm shanks is DMIN of requested head + 20mm
(2) 0 - Without coolant supply, 1 - With coolant supply
(3) Master insert identification
* Optional, should be ordered separately
**Inserts:** CCET-WF • CCGT-AF • CCGT-AS • CCGW/CCMT (CBN) • CCGW/CCMW-2 (CBN) • CCMT (PCD) • CCMT-14 • CCMT-F3M • CCMT-M3M • CCMT-M3P • CCMT-PF • CCMT-WG • CCMT/CCGT • CCMT/CCGT-SM
**Holders:** AV-D • C#-SH-E-JHP • C#-SH-JHP • SH-D • SH-S#-N-AVC

ISOTURN

WHISPERLINE ANTI-VIBRATION

## AVC-SDUCR/L

Interchangeable Boring Heads Carrying 55° Rhombic Inserts with 7° Clearance




| Designation | WF | DCONMS | DMIN | LF | CSP(2) | MIID(3) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| AVC-D16-SDUCR/L-07 | 11.00 | 16.00 | 20.00 | 20.00 | 0 | DCMT 2-1 | SR 14-548* | T-7/5* | | |
| AVC-D20-SDUCR/L-11 | 13.00 | 20.00 | 25.00 | 20.00 | 0 | DCMT 3-2-14 | SR 16-236 P* | T-15/5* | | |
| AVC-D25-SDUCR/L-11 | 17.00 | 25.00 | 32.00 | 20.00 | 1 | DCMT 3-2-14 | SR 16-236 P* | T-15/5* | | |
| AVC-D32-SDUCR/L-11T | 22.00 | 32.00 | 40.00 | 32.00 | 1 | DCMT 3-2-14 | SR 16-236 P* | T-15/5* | SR TC-3P* | TDC 3-1P* |
| AVC-D40-SDUCR/L-11T (1) | 27.00 | 40.00 | 50.00 | 32.00 | 1 | DCMT 3-2-14 | SR 16-236 P* | T-15/5* | SR TC-3P* | TDC 3-1P* |

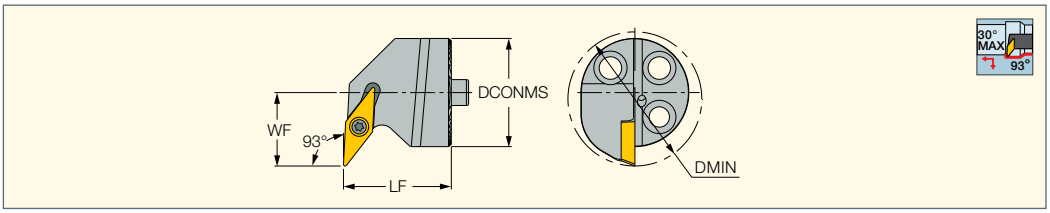
(1) DMIN of 50mm shank is DMIN of requested head + 10mm • DMIN of 60mm shanks is DMIN of requested head + 20mm
(2) 0 - Without coolant supply, 1 - With coolant supply
(3) Master insert identification
* Optional, should be ordered separately
**Inserts:** DCET-WF • DCGT-AF • DCGT-AS • DCGT-F1M-20P • DCGW/DCMW-2 (CBN) • DCMT (CBN) • DCMT (PCD) • DCMT-14 • DCMT-CERMET • DCMT-F3P • DCMT-M3M • DCMT/DCGT • DCMT/DCGT-PF • DCMT/DCGT-SM
**Holders:** AV-D • C#-SH-E-JHP • C#-SH-JHP • SH-D • SH-S#-N-AVC

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WHISPERLINE ANTI-VIBRATION

## AVC-SVUCR/L

Interchangeable Boring Heads Carrying 35° Rhombic Inserts with 7° Clearance



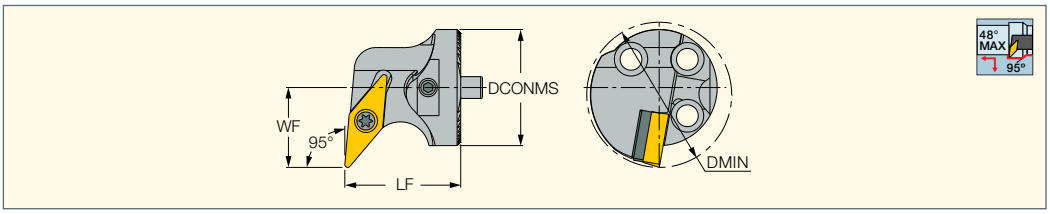

| Designation | WF | DCONMS | DMIN | LF | CSP(1) | MIID(2) | | |
|---|---|---|---|---|---|---|---|---|
| AVC-D20-SVUCR/L-11 | 16.00 | 20.00 | 27.00 | 20.00 | 0 | CVMT 221-F3P | SR 14-560* | T-8/5* |
| AVC-D25-SVUCR/L-11 | 17.00 | 25.00 | 32.00 | 25.00 | 1 | CVMT 221-F3P | SR 14-560* | T-8/5* |

(1) 0 - Without coolant supply, 1 - With coolant supply
(2) Master insert identification
* Optional, should be ordered separately
**Inserts:** VCGT-AS • VCGT-F1M-20P • VCMT-F3M • VCMT-SM
**Holders:** AV-D • C#-SH-E-JHP • C#-SH-JHP • SH-D • SH-S#-N-AVC

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## AVC-SVLCR/L

Interchangeable Boring Heads Carrying 35° Rhombic Inserts with 7° Clearance




| Designation | WF | DCONMS | DMIN | LF | CSP[2] | MIID[3] | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| AVC-D32-SVLCR/L-16T | 22.00 | 32.00 | 40.00 | 32.00 | 1 | VCMT 332-F3M | SR 16-236 P* | T-15/5* | SR TC-3P* | TVC 3-1P* |
| AVC-D40-SVLCR/L-16T [1] | 27.00 | 40.00 | 50.00 | 32.00 | 1 | VCMT 332-F3M | SR 16-236 P* | T-15/5* | SR TC-3P* | TVC 3-1P* |

- For positive "V" insert geometry with radius 1.2mm please use set: TVC 3-76 * 3312824

* Optional, should be ordered separately [1] DMIN of 50mm shank is DMIN of requested head + 10mm • DMIN of 60mm shanks is DMIN of requested head + 20mm

[2] 0 - Without coolant supply, 1 - With coolant supply

[3] Master insert identification

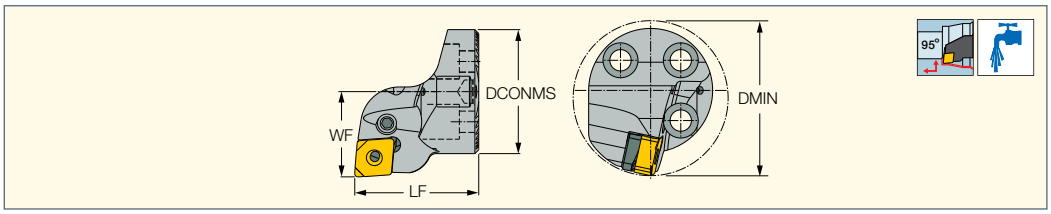
**Inserts:** VCGT (PCD) • VCGT-AS • VCGT-DW (PCD) • VCGW-2 (CBN) • VCMT (CBN) • VCMT-14 • VCMT-F3M • VCMT-F3P • VCMT-FPC-CERMET • VCMT-M3M • VCMT-SM • VCMW

**Holders:** AV-D • C#-SH-E-JHP • C#-SH-JHP • SH-D • SH-S#-N-AVC

FLASHTURN ECO LINE
WHISPERLINE ANTI-VIBRATION

## AVC-PCLNR/L

Interchangeable Boring Heads Carrying 80° Rhombic Inserts




| Designation | WF | DCONMS | DMIN | LF | MIID[1] | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AVC-D20-PCLNR/L-09 | 13.00 | 20.00 | 25.00 | 26.00 | CNMG 09 | | | LR 3S | SR 117-2009 | HW 2.0 | | |
| AVC-D25-PCLNR/L-09 | 17.00 | 25.00 | 32.00 | 28.00 | CNMG 09 | | | LR 3S | SR 117-2009 | HW 2.0 | | |
| AVC-D32-PCLNR/L-09 | 22.00 | 32.00 | 40.00 | 32.00 | CNMG 09 | TCN 323 | TCX 3[a] | LR 3 | SR 117-2014 | HW 2.5 | SP 3 | PN 3-4 |

[1] Master insert identification

[a] For CNMX 0906.. (CNMX 34.) inserts

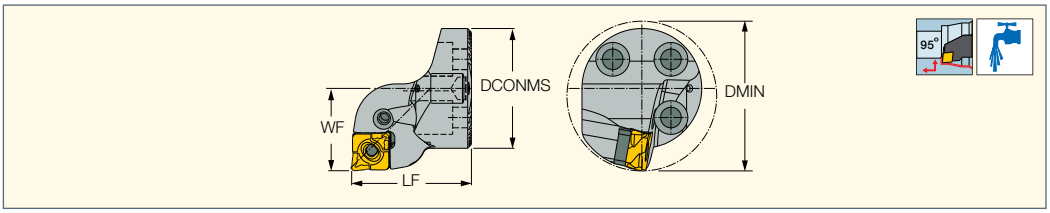
**Inserts:** CNMG-F3S • CNGG-F3N • CNMG-F3M • CNMG-F3P • CNMG-M3M • CNMG-M3P

**Holders:** AV-D • C#-SH-E-JHP • C#-SH-JHP • SH-D • SH-S#-N-AVC

LOGIQ4TURN POSITIVE DOUBLE SIDED
WHISPERLINE ANTI-VIBRATION

## AVC-PCLXR/L

Interchangeable Boring Heads Carrying 80° Rhombic Inserts




| Designation | WF | DCONMS | DMIN | LF | MIID[2] | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AVC-D20-PCLXR/L-09X | 13.00 | 20.00 | 25.00 | 26.00 | CXMG 09 | | LR 3X SET | SR M6XL11.5V | | T-8/5 | | |
| AVC-D25-PCLXR/L-09X | 17.00 | 25.00 | 32.00 | 28.00 | CXMG 09 | | LR 3X SET | SR M6XL11.5V | | T-8/5 | | |
| AVC-D32-PCLXR/L-09X | 22.00 | 32.00 | 40.00 | 32.00 | CXMG 09 | TSN 323 | LR 3XL | SR 117-2014 | HW 2.5/5 | | SP 3 | PN 3-4 |
| AVC-D40-PCLXR/L-12X [1] | 27.00 | 40.00 | 50.00 | 35.00 | CXMG 12 | TCNX 423 | LR 4X | SR LCS 5 | HW 3.0 | | SP 4 | PN 3-4 |

[1] DMIN of 50mm shank is DMIN of requested head + 10mm • DMIN of 60mm shanks is DMIN of requested head + 20mm

[2] Master insert identification

**Inserts:** CXMG-F3M • CXMG-F3P • CXMG-M3M • CXMG-M3P

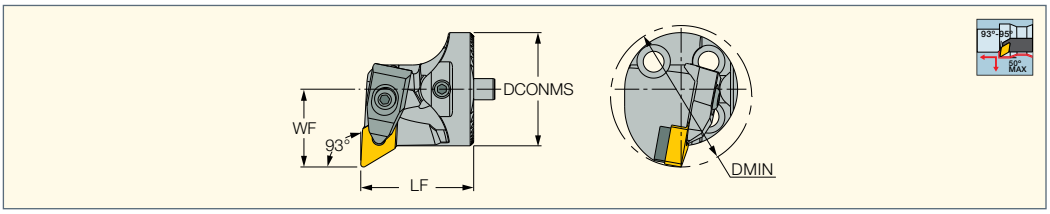
**Holders:** AV-D • C#-SH-E-JHP • C#-SH-JHP • SH-D • SH-S#-N-AVC

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## AVC-DDUNR/L

Interchangeable Boring Heads
Carrying 55° Rhombic Inserts




| Designation | WF | DCONMS | DMIN | LF | MIID(2) | CSP(3) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AVC-D32-DDUNR/L-11T | 22.00 | 32.00 | 40.00 | 32.00 | DNMG 332-NF | 1 | RDT 3-2* | SR RC3* | SR 40085I* | HW 2.5* | T-15/5* | LCGR-3* | KSP 3* |
| AVC-D40-DDUNR/L-15T (1) | 27.00 | 40.00 | 50.00 | 38.00 | DNMG 442-F3M | 1 | RDT 433* | DLS 4* | SR 14-506* | | T-15/5* | DLM 4* | DSP 4* |

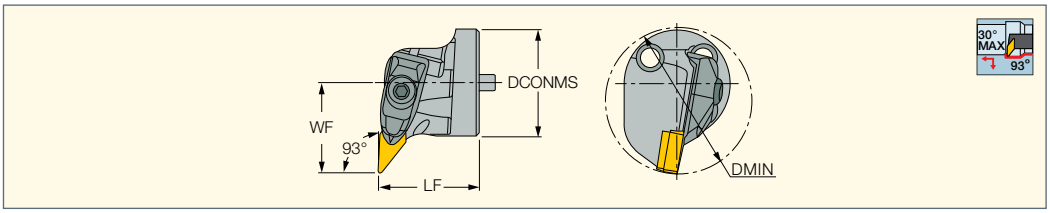
* Optional, should be ordered separately (1) DMIN of 50mm shank is DMIN of requested head + 10mm • DMIN of 60mm shanks is DMIN of requested head + 20mm
(2) Master insert identification
(3) 0 - Without coolant supply, 1 - With coolant supply
**Inserts:** DNGA-4 (CBN) • DNGA-Ceramic • DNGG-M3N • DNMA • DNMA (CBN) • DNMG-F3M • DNMG-F3P • DNMG-F3S • DNMG-GN • DNMG-M3M • DNMG-M3P • DNMG-NF • DNMG-NR • DNMG-PF • DNMG-VL • DNMG-WG • DNMG/DNGG-PP • DNMG/DNGG-SF • DNMG/DNGG-TF • DNMM-NM • DNMM-R3P
**Holders:** AV-D • C#-SH-E-JHP • C#-SH-JHP • SH-D • SH-S#-N-AVC

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## AVC-DVUNR/L

Interchangeable Boring Heads
Carrying 35° Rhombic Inserts




| Designation | WF | DCONMS | DMIN | LF | CSP | MIID(3) |
|---|---|---|---|---|---|---|
| AVC-D40-DVUNR/L-16T (1) | 34.00 | 40.00 | 56.00 | 38.00 | 1 | VNMG 332-F3M |

(1) DMIN of 50mm shank is DMIN of requested head + 10mm • DMIN of 60mm shanks is DMIN of requested head + 20mm
(2) 0 - Without coolant supply, 1 - With coolant supply
(3) Master insert identification
**Inserts:** VNGG-M3N • VNMG-F3M • VNMG-F3P • VNMG-M3M • VNMG-TF • VNMG/VNGG-NF
**Holders:** AV-D • C#-SH-E-JHP • C#-SH-JHP • SH-D • SH-S#-N-AVC

### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| AVC-D40-DVUNL-16T | DLM 3V | SR 10402267 | HW 4.0 | KSP 5 | T-15/5 | SR 35080I |
| AVC-D40-DVUNR-16T | DLM 3V* | SR 10402267* | HW 4.0* | KSP 5* | T-15/5* | SR 35080I* |

* Optional, should be ordered separately

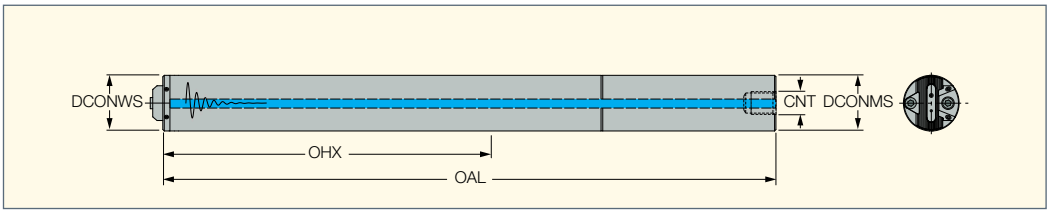
WHISPERLINE ANTI-VIBRATION

## Straight Shank

ISOTURN

## AV-D-VH

Anti-Vibration Bars with
Through Coolant for
Interchangeable Turning Heads




| Designation | DCONMS | DCONWS | OAL | OHX(1) | CNT | CP(2) |
|---|---|---|---|---|---|---|
| AV-D80-7D-C-VH | 80.00 | 80.00 | 880.00 | 515.0 | G3/4" | 70 |
| AV-D80-10D-C-VH | 80.00 | 80.00 | 1200.00 | 755.0 | G3/4" | 70 |

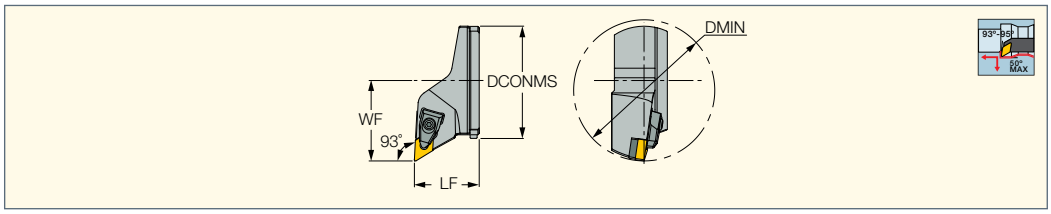
• The bars can be shortened. For details, see table below
(1) Maximum overhang
(2) Coolant pressure (Bar)
**Tools:** AVC-DDUNR/L-VH • AVC-SDUCR/L-VH • AVC-SVLCR/L-VH

| Bar Diameter | Minimum Length After Shortening | |
|---|---|---|
| DCONMS (mm) | AV-D80-7D-C-VH | AV-D80-10D-V-AV |
| 80 | 630 | 630 |

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## AVC-DDUNR/L-VH

Interchangeable Boring Heads Carrying 55° Rhombic Inserts




| Designation | WF | DCONMS | DMIN | LF | MIID[1] |
|---|---|---|---|---|---|
| AVC-D80-DDUNR/L-15T-VH | 57.00 | 77.00 | 100.00 | 46.00 | DNMG 442-F3M |

[1] Master insert identification

**Inserts:** DNGA-4 (CBN) • DNGA-Ceramic • DNMA • DNMA (CBN) • DNMG-F3M • DNMG-F3P • DNMG-F3S • DNMG-GN • DNMG-M3M • DNMG-M3P • DNMG-NF • DNMG-NR • DNMG-PF • DNMG-WG • DNMG/DNGG-PP • DNMG/DNGG-TF • DNMM-NM • DNMM-R3P

**Holders:** AV-D-VH

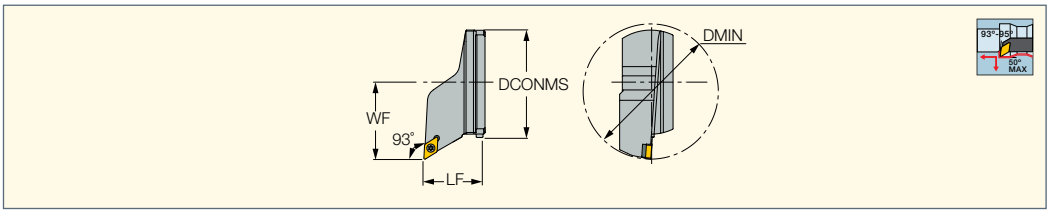
### Spare Parts

| Designation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| AVC-D80-DDUNL-15T-VH | RDT 443 | RDT 433 | HW 3.0 | SR 14-506 | T-15/5 | DSP 4 | DLS 4 | DLM 4 |

ISOTURN
WHISPERLINE ANTI-VIBRATION

## AVC-SDUCR/L-VH

Interchangeable Boring Heads Carrying 55° Rhombic Inserts with 7° Clearance




| Designation | WF | DCONMS | DMIN | LF | MIID[1] |
|---|---|---|---|---|---|
| AVC-D80-SDUCR/L-11T-VH | 57.00 | 77.00 | 100.00 | 45.00 | DCMT 11T304 |

[1] Master insert identification

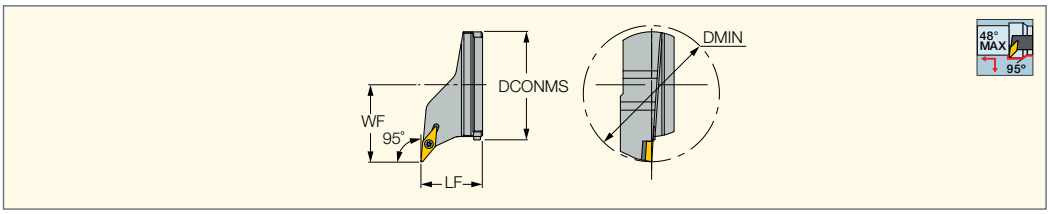
**Inserts:** DCET-WF • DCGT-AF • DCGT-AS • DCGW/DCMW-2 (CBN) • DCMT (CBN) • DCMT (PCD) • DCMT-14 • DCMT-CERMET • DCMT-F3P • DCMT-M3M • DCMT/DCGT • DCMT/DCGT-PF • DCMT/DCGT-SM

**Holders:** AV-D-VH

ISOTURN
WHISPERLINE ANTI-VIBRATION

## AVC-SVLCR/L-VH

Interchangeable Boring Heads Carrying 35° Rhombic Inserts with 7° Clearance




| Designation | WF | DCONMS | DMIN | LF | MIID[1] | | | | |
|---|---|---|---|---|---|---|---|---|---|
| AVC-D80-SVLCR/L-16T-VH | 57.00 | 77.00 | 100.00 | 45.00 | VCMT 160404 | T-15/5 | SR 16-236 P | TVC 3-1P | SR TC-3P |

[1] Master insert identification

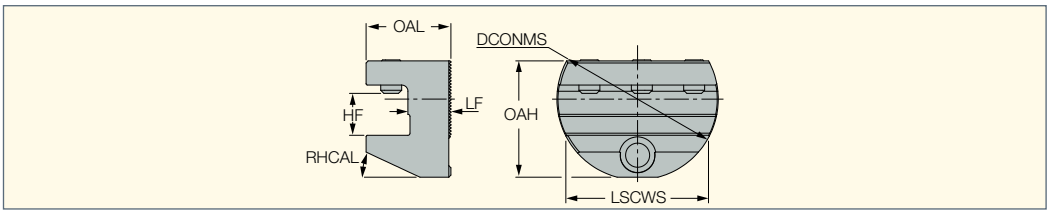
**Inserts:** VCGT (PCD) • VCGT-AS • VCGT-DW (PCD) • VCGW-2 (CBN) • VCMT (CBN) • VCMT-14 • VCMT-F3M • VCMT-F3P • VCMT-FPC-CERMET • VCMT-M3M • VCMT-SM • VCMW

**Holders:** AV-D-VH

ISOTURN
WHISPERLINE ANTI-VIBRATION

## AVC-D80-VH

Perpendicular Adaptor for External Square-Shank Tools




| Designation | LSCWS | OAH | DCONMS | LF | HF | OAL | RHCAL |
|---|---|---|---|---|---|---|---|
| AVC-D80-2020-80-VH | 67.80 | 55.50 | 77.00 | 20.50 | 20.0 | 40.50 | 25.0 |

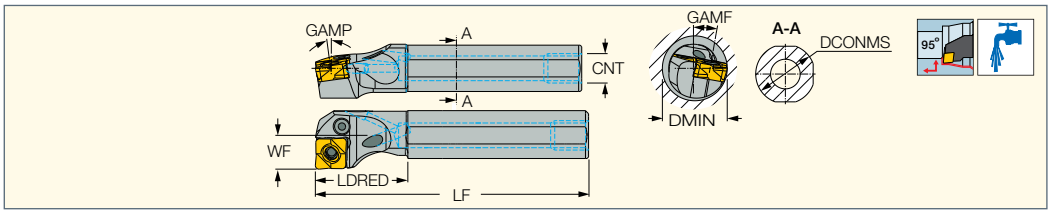
### Spare Parts

| Designation | |
|---|---|
| AVC-D80-VH | SR M10X16 DIN913 |

LOGIQ4TURN POSITIVE DOUBLE SIDED

## A-PCLXR/L

Lever Lock Boring Bars
Carrying Negative CXMG
80° Rhombic Inserts




| Designation | DCONMS | LF | LDRED | WF | GAMP | GAMF | DMIN | CNT | Insert |
|---|---|---|---|---|---|---|---|---|---|
| A16Q PCLXR/L-09X | 16.00 | 180.00 | 30.0 | 11.00 | 8.0 | 10.0 | 20.00 | UNC 3/8"-16 | CXMG 09.. |
| A20R PCLXR/L-09X | 20.00 | 200.00 | 30.0 | 13.00 | 5.0 | 10.0 | 25.00 | UNC 3/8"-24 | CXMG 09.. |
| A25S PCLXR/L-09X | 25.00 | 250.00 | 40.0 | 17.00 | 5.0 | 10.0 | 32.00 | UNC 1/2"-20 | CXMG 09.. |
| A25R PCLXR/L-12X | 25.00 | 200.00 | 40.0 | 17.00 | 6.0 | 9.0 | 32.00 | UNF-2B 1/2"-20 | CXMG 12.. |
| A32T PCLXR/L-12X | 32.00 | 300.00 | 48.0 | 22.00 | 6.0 | 9.0 | 40.00 | UNF-2B 1/2"-20 | CXMG 12.. |
| A40U PCLXR/L-12X | 40.00 | 350.00 | 50.0 | 27.00 | 6.0 | 10.0 | 50.00 | UNF-2B 1/2"-20 | CXMG 12.. |

**Inserts:** CXMG-F3M • CXMG-F3P • CXMG-M3M • CXMG-M3P

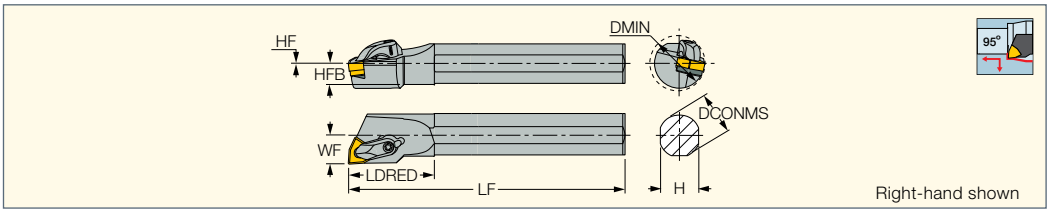
### Spare Parts

| Designation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| A16Q PCLXR/L-09X | LR 3X SET | PL 16 | SR M6XL11.5V | T-8/5 | | | | |
| A20R PCLXR/L-09X | LR 3X SET | PL 20 | SR M6XL11.5V | T-8/5 | | | | |
| A25S PCLXR/L-09X | LR 3X SET | PL 25 | SR M6XL11.5V | T-8/5 | | | | |
| A25R PCLXR/L-12X | LR 4MX | PL 25 | SR 117-2010-S | | HW 3.0 | | | |
| A32T PCLXR/L-12X | LR 4MX | PL 32 | SR 117-2010-S | | HW 3.0 | | | |
| A40U PCLXR/L-12X | LR 4X | PL 40 | SR LCS 5 | | HW 3.0 | TCNX 423 | PN 3-4 | SP 4 |

ISOTURN

## S-DWLNR/L

R-Clamp Boring Bars Carrying
Negative Trigon Inserts




| Designation | DCONMS | LF | LDRED | H | HFB | HF | WF | DMIN | Insert |
|---|---|---|---|---|---|---|---|---|---|
| S25T DWLNR/L-08 | 25.00 | 300.00 | 50.0 | 23.0 | 12.3 | 0.8 | 17.00 | 32.00 | WNMG 0804 |
| S32U DWLNR/L-08 | 32.00 | 350.00 | 55.0 | 29.0 | 15.8 | 1.3 | 22.00 | 40.00 | WNMG 0804 |
| S40V DWLNR/L-08 | 40.00 | 400.00 | 55.0 | 36.0 | 19.8 | 1.8 | 27.00 | 60.00 | WNMG 0804 |

**Inserts:** WNMG-CERMET • WNMG-F3S • WNMG-F3P • WNMG-M3P • WNMG-F3M • WNMG-M3M • WNMG-TF • WNMG-GN • WNMG-NR • WNMG-PP • WNMG-VL • WNMG-TNM • WNMG-NF • WNMM-NM • WNMG-WF • WNMA/WNMA-WG • WNMG-WG • WNGA-Ceramic • WNGA-M3 (CBN) • WNGA-MC/M6 (CBN)

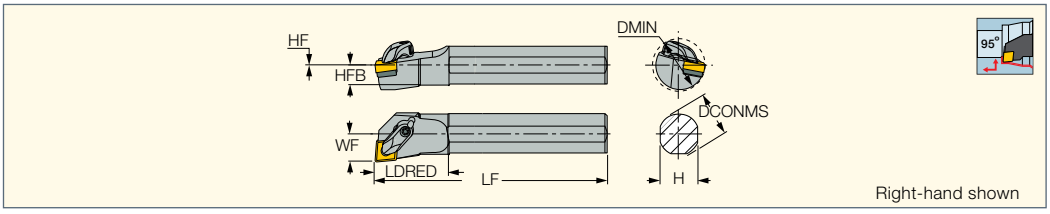
### Spare Parts

| Designation | | | | | |
|---|---|---|---|---|---|
| S-DWLNR/L | TWN 423 | SP 4 | LCGR-4 | SR 10400270-25.5 | T-15/5 |

ISOTURN

## S-DCLNR/L

R-Clamp Boring Bars Carrying
Negative 80° Diamond Inserts




| Designation | DCONMS | LF | LDRED | H | HFB | WF | DMIN | HF | Insert |
|---|---|---|---|---|---|---|---|---|---|
| S25R DCLNR-12 | 25.00 | 200.00 | 45.0 | 23.0 | 12.3 | 17.00 | 32.00 | 0.8 | CNMG 1204.. |
| S32T DCLNR/L-12 | 32.00 | 300.00 | 45.0 | 28.0 | 15.8 | 22.00 | 40.00 | 1.8 | CNMG 1204.. |
| S40U DCLNR/L-12 | 40.00 | 350.00 | 55.0 | 36.0 | 19.8 | 27.00 | 48.00 | 1.8 | CNMG 1204.. |

**Inserts:** CNGA-J(CBN) • CNGG-J(CBN) • CNMG-CERMET • CNMG-F3S • CNMG-F3P • CNMG-M3P • CNMM-R3P • CNMM-M4PW • CNMG-F3M • CNMG-M3M • CNMG/CNGG-TF • CNMG-GN • CNMG-NR • CNMG/CNGG-PP • CNMG-VL • CNMG/CNGG-SF • CNMG-NF • CNMG-WF • CNMG-WG/NRW • CNMA • CNGA-Ceramic • CNMG-Ceramic • CNGA-2 (CBN) • CNGA-4 (CBN) • CNGG-M4HF/M4HM (CBN) • CNMA-MW4 (CBN) • CNMA-T/M1/WG (CBN) • CNMA (PCD)

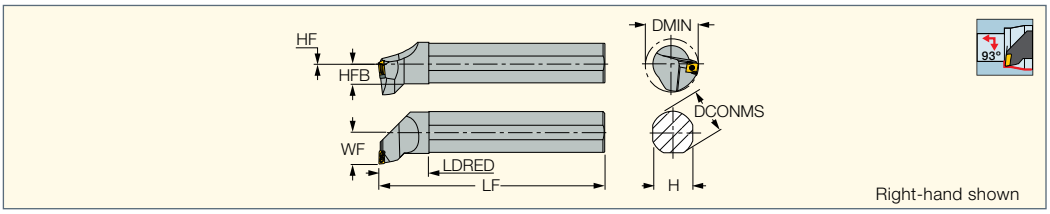
### Spare Parts

| Designation | | | | | |
|---|---|---|---|---|---|
| S-DCLNR/L | TCN 423 | SP 4 | LCGR-4 | SR 10400270-25.5 | T-15/5 |

HELITURN TANGENTIAL LINE

## S-SLANR/L-TANG

Boring Bars Carrying LNMX Tangentially Screw Clamped Inserts with 4 Cutting Edges for High Metal Removal Rates




| Designation | DCONMS | LF | LDRED | H | HFB | WF | DMIN | HF | Insert |
|---|---|---|---|---|---|---|---|---|---|
| S25T SLANR/L-11 TANG | 25.00 | 300.00 | 40.0 | 23.0 | 1.0 | 17.00 | 53.00 | 1.0 | LNMX 1104.. |
| S32U SLANR-11 TANG | 32.00 | 350.00 | 45.0 | 30.0 | 1.0 | 22.00 | 53.00 | 1.0 | LNMX 1104.. |
| S40V SLANR/L-11 TANG | 40.00 | 400.00 | 60.0 | 37.0 | 1.5 | 27.00 | 53.00 | 1.5 | LNMX 1104.. |
| S50U SLANR/L-15 TANG | 50.00 | 350.00 | 60.0 | 47.0 | 1.5 | 37.00 | 85.00 | 1.5 | LNMX 1506.. |

• Right-hand inserts for left-hand bars. Left-hand inserts for right-hand bars. • $a_p$ max for facing: LNMX 11-2.8 mm, LNMX 15-3.8 mm.

**Inserts:** LNMX-HM • LNMX-HT • LNMX-WG

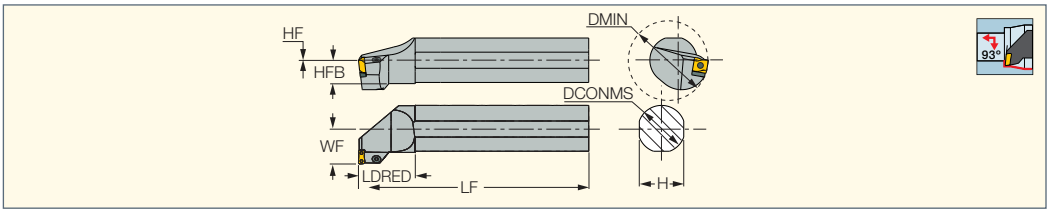
### Spare Parts

| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| S25T SLANR/L-11 TANG | TLN 11R/L-HTI | SR RS4 | T-6/5 | SR 34-550-C | BLD T10/S7 | | SW6-SD |
| S32U SLANR-11 TANG | TLN 11R/L-HTI | SR RS4 | T-6/5 | SR 34-550-C | BLD T10/S7 | | SW6-SD |
| S40V SLANR/L-11 TANG | TLN 11R/L-HTI | SR RS4 | T-6/5 | SR 34-550-C | BLD T10/S7 | | SW6-SD |
| S50U SLANR/L-15 TANG | TLN 15R/L-HTI | SR RS4 | T-6/5 | SR 34-535-SN | BLD T15/S7 | SW6-T-SH | |

HELITURN TANGENTIAL LINE

## S-PLANR-TANG

Boring Bars Carrying LNMX ... Tangentially Clamped Inserts with 4 Cutting Edges for High Production Rates




| Designation | DCONMS | LF | LDRED | H | HFB | WF | DMIN | HF | Insert |
|---|---|---|---|---|---|---|---|---|---|
| S50U PLANR-15 TANG | 50.00 | 350.00 | 60.0 | 47.0 | 1.5 | 37.00 | 85.00 | 1.5 | LNMX 1506... |

• Right-hand inserts for left-hand bars. Left-hand inserts for right-hand bars. • $a_p$ max for facing 3.8 mm.

**Inserts:** LNMX-HM • LNMX-HT • LNMX-WG

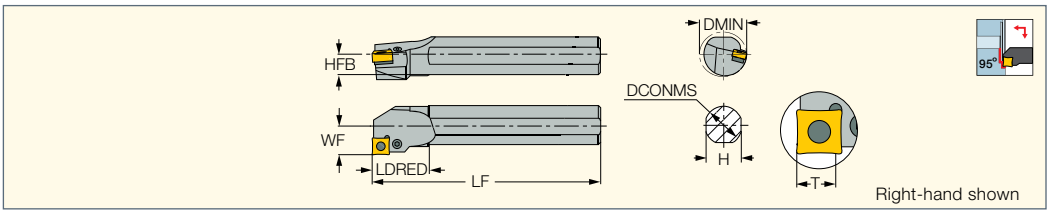
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| S50U PLANR-15 TANG | TLN 15L-HTI | SR RS4 | T-6/5 | LR T15 | SR TL-15 | HW 3.5 |

ISOTURN

## S-PQFNR/L

Lever Lock Boring Bars Carrying Negative Square Inserts with 80° Corners for Internal Facing




| Designation | DCONMS | LF | LDRED | H | HFB | WF | T | DMIN | Insert |
|---|---|---|---|---|---|---|---|---|---|
| S20Q PQFNR/L-09 | 20.00 | 180.00 | 40.0 | 18.0 | 9.0 | 13.00 | 7.5 | 28.00 | QNMG 0904... |
| S32R PQFNR-09 | 32.00 | 200.00 | 45.0 | 29.0 | 14.5 | 22.00 | 7.5 | 40.00 | QNMG 0904... |
| S25R PQFNL-12 | 25.00 | 200.00 | 40.0 | 23.0 | 11.5 | 17.00 | 9.0 | 32.00 | QNMG 1204... |
| S32R PQFNR-12 | 32.00 | 200.00 | 45.0 | 29.0 | 14.5 | 22.00 | 9.0 | 40.00 | QNMG 1204... |
| S40S PQFNL-12 | 40.00 | 250.00 | 50.0 | 36.0 | 18.0 | 27.00 | 9.0 | 50.00 | QNMG 1204... |

**Inserts:** QNMG-GN • QNMG-NF • QNMG-PP • QNMG-TF

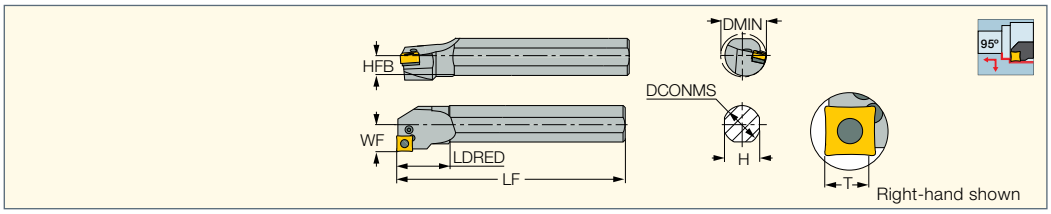
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| S20Q PQFNR/L-09 | | | | LR 3S | SR 117-2016 | HW 2.0 |
| S32R PQFNR-09 | TXC 322 | SP 3 | PN 3-4 | LR 3 | SR 117-2014 | HW 2.5 |
| S25R PQFNL-12 | | | | LR 4M | SR 117-2011 | HW 2.5/5 |
| S32R PQFNR-12 | TSN 423 | SP 4 | PN 3-4 | LR 4 | SR 117-2010 | HW 3.0 |
| S40S PQFNL-12 | TSN 423 | SP 4 | PN 3-4 | LR 4 | SR 117-2010 | HW 3.0 |

ISOTURN

## S-PQLNR/L

Lever Lock Boring Bars Carrying Negative Square Inserts with 80° Corners




| Designation | DCONMS | LF | LDRED | H | HFB | WF | T | DMIN | Insert |
|---|---|---|---|---|---|---|---|---|---|
| S20S PQLNR/L-09 | 20.00 | 250.00 | 40.0 | 18.0 | 9.0 | 13.00 | 6.5 | 25.00 | QNMG 0904 |
| S25T PQLNR-09 | 25.00 | 300.00 | 40.0 | 23.0 | 11.5 | 17.00 | 6.5 | 32.00 | QNMG 0904 |
| S32U PQLNR-09 | 32.00 | 350.00 | 45.0 | 29.0 | 14.5 | 22.00 | 6.5 | 40.00 | QNMG 0904 |
| S25T PQLNR/L-12 | 25.00 | 300.00 | 40.0 | 23.0 | 11.5 | 17.00 | 8.5 | 32.00 | QNMG 1204 |
| S32U PQLNR/L-12 | 32.00 | 350.00 | 45.0 | 29.0 | 14.5 | 22.00 | 8.5 | 40.00 | QNMG 1204 |
| S40V PQLNR/L-12 | 40.00 | 400.00 | 50.0 | 36.0 | 18.0 | 27.00 | 8.5 | 50.00 | QNMG 1204 |

**Inserts:** QNMG-GN • QNMG-NF • QNMG-PP • QNMG-TF

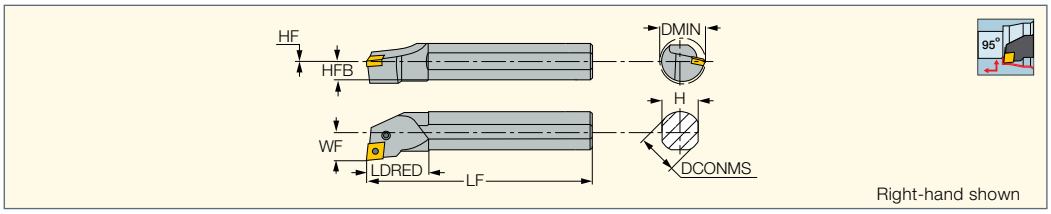
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| S20S PQLNR/L-09 | | | | LR 3S | SR 117-2016 | HW 2.0 |
| S25T PQLNR-09 | | | | LR 3S | SR 117-2016 | HW 2.0 |
| S32U PQLNR-09 | TXC 322 | SP 3 | PN 3-4 | LR 3 | SR 117-2014 | HW 2.5 |
| S25T PQLNR/L-12 | | | | LR 4M | SR 117-2011 | HW 2.5/5 |
| S32U PQLNR/L-12 | TSN 423 | SP 4 | PN 3-4 | LR 4 | SR 117-2010 | HW 3.0 |
| S40V PQLNR/L-12 | TSN 423 | SP 4 | PN 3-4 | LR 4 | SR 117-2010 | HW 3.0 |

ISOTURN

## A/S-PCLNR/L

Lever Lock Boring Bars Carrying Negative 80° Rhombic Inserts




| Designation | DCONMS | LF | LDRED | H | HFB | WF | HF | CSP(1) | DMIN | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| A25R PCLNR/L-12 | 25.00 | 200.00 | 40.0 | 23.0 | 11.5 | 17.00 | 0.0 | 1 | 32.00 | CNMG 1204.. |
| S25S PCLNR/L-12 | 25.00 | 250.00 | 48.0 | 23.0 | 11.5 | 17.00 | 0.0 | 0 | 32.00 | CNMG 1204.. |
| A32T PCLNR/L-12 | 32.00 | 300.00 | 45.0 | 30.0 | 14.5 | 22.00 | -0.5 | 1 | 40.00 | CNMG 1204.. |
| S32T PCLNR/L-12 | 32.00 | 300.00 | 51.0 | 30.0 | 14.5 | 22.00 | -0.5 | 0 | 40.00 | CNMG 1204.. |
| S40U PCLNR/L-12 | 40.00 | 350.00 | 51.0 | 36.0 | 18.0 | 27.00 | 0.0 | 0 | 49.00 | CNMG 1204.. |
| S50W PCLNR-19 | 50.00 | 450.00 | 70.0 | 47.0 | 23.5 | 35.00 | 0.0 | 0 | 63.00 | CNMG 1906.. |

(1) 0 - Without coolant supply, 1 - With coolant supply

**Inserts:** CNGA-J(CBN) • CNGG-J(CBN) • CNMG-CERMET • CNMG-F3S • CNMG-F3P • CNMG-M3P • CNMM-R3P • CNMM-M4PW • CNMG-F3M • CNMG-M3M • CNMG-R3M • CNMG/CNGG-TF • CNMG-GN • CNMG-NR • CNMG/CNGG-PP • CNMG-VL • CNMG/CNGG-SF • CNMG-NF • CNMG-WF • CNMG-WG/NRW • CNMS-12 • CNMM-H3P • CNMM-H4P • CNMA • CNGA-Ceramic • CNMG-Ceramic • CNGA-2 (CBN) • CNGA-4 (CBN) • CNGG-M4HF/M4HM (CBN) • CNMA-MW4 (CBN) • CNMA-T/M1/WG (CBN) • CNMA (PCD)

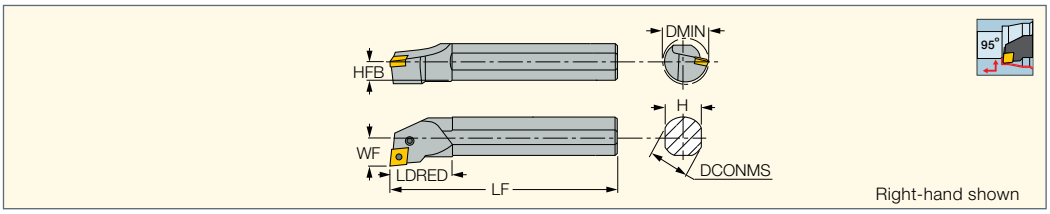
### Spare Parts

| Designation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| A25R PCLNR/L-12 | | | | LR 4M | SR 117-2011 | HW 2.5/5 | HW 2.0 | PL 25 |
| S25S PCLNL-12 | | | | LR 4M | SR 117-2011 | HW 2.5/5 | HW 2.5 | |
| S25S PCLNR-12 | | | | LR 4M | SR 117-2011 | HW 2.5/5 | | |
| A32T PCLNR/L-12 | TCN 423 | SP 4 | PN 3-4 | LR 4 | SR 117-2010 | HW 2.0 | HW 3.0 | PL 32 |
| S32T PCLNR/L-12 | TCN 423 | SP 4 | PN 3-4 | LR 4 | SR 117-2010 | HW 3.0 | | |
| S40U PCLNR/L-12 | TCN 423 | SP 4 | PN 3-4 | LR 4 | SR 117-2010 | HW 3.0 | | |
| S50W PCLNR-19 | TCN 63 | SP 66 | | LR 6 | SR 10402352 | HW 4.0 | | |

HELITURN LD

## A/S-PCLNR/L-X/G

Lever Lock Boring Bars Carrying Negative CNMX/CNMG 80° Rhombic Inserts




| Designation | DCONMS | LF | LDRED | H | HFB | WF | DMIN | CSP[5] | Insert |
|---|---|---|---|---|---|---|---|---|---|
| A16M PCLNR/L-09G [1] | 16.00 | 150.00 | 30.0 | 15.0 | 7.5 | 11.00 | 21.00 | 1 | CNMG 0904.. |
| A20Q PCLNR/L-09G [1] | 20.00 | 180.00 | 30.0 | 18.0 | 9.0 | 13.00 | 25.00 | 1 | CNMG 0904.. |
| A25R PCLNR/L-09X [2] | 25.00 | 200.00 | 35.0 | 23.0 | 11.5 | 17.00 | 32.00 | 1 | CNMX 0906, CNMG 0904 |
| A32S PCLNR/L-09X [2] | 32.00 | 250.00 | 40.0 | 29.0 | 14.5 | 22.00 | 40.00 | 1 | CNMX 0906, CNMG 0904 |
| A25R PCLNR/L-12X [3] | 25.00 | 200.00 | 51.0 | 23.0 | 11.5 | 21.00 | 50.00 | 1 | CNMX 1207, CNMG 1204 |
| A32S PCLNR/L-12X [3] | 32.00 | 250.00 | 51.0 | 29.0 | 14.5 | 21.00 | 54.00 | 1 | CNMX 1207, CNMG 1204 |
| S50W PCLNR-16X [4] | 50.00 | 450.00 | 70.0 | 47.0 | 23.5 | 35.00 | 63.00 | 0 | CNMX 1607, CNMG 1606 |

[1] For CNMG 0904.. inserts only

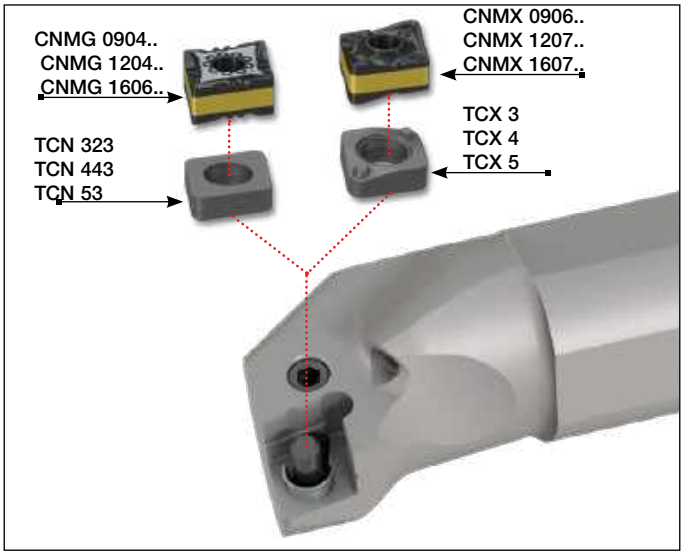
[2] Supplied with TCX 3 seat for CNMX 0906.. inserts and TCN 323 seat for CNMG 0904.. inserts.

[3] Supplied with TCX 4 seat for CNMX 1207.. inserts and TCN 443 seat for CNMG 1204.. inserts.

[4] Supplied with TCN 53 seat for CNMG 1606.. inserts. Use TCX 5 seat (optional) for CNMX 1607.. inserts.

[5] 0 - Without coolant supply, 1 - With coolant supply

**Inserts:** CNGA-J(CBN) • CNGG-J(CBN) • CNGX-M3N • CNMG-F3S • CNMX-M3/4MW • CNMX-M3/4PW • CNMG-F3P • CNMG-M3P • CNMG-F3M • CNMG-M3M • CNMG-R3M • CNMM-R3P • CNGA-2 (CBN) • CNGA-4 (CBN) • CNGA-Ceramic • CNGG-M4HF/M4HM (CBN) • CNMA • CNMA (PCD) • CNMA-MW4 (CBN) • CNMA-T/M1/WG (CBN) • CNMG-Ceramic • CNMG-GN • CNMG-MR • CNMG-NF • CNMG-NR • CNMG-VL • CNMG-WF • CNMG-WG/NRW • CNMG/CNGG-PP • CNMG/CNGG-SF • CNMG/CNGG-TF • CNMS-12 • CNGG-F3N • CNMG-CERMET




## Spare Parts

| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| A16M PCLNR/L-09G | | | | | LR 3S | SR 117-2009 | HW 2.0 | PL 16 | |
| A20Q PCLNR/L-09G | | | | | LR 3S | SR 117-2009 | HW 2.0 | PL 20 | |
| A25R PCLNR/L-09X | TCX 3[a] | TCN 323 | SP 3 | PN 3-4 | LR 3 | SR 117-2014 | HW 2.5 | PL 25 | |
| A32S PCLNR/L-09X | TCX 3[a] | TCN 323 | SP 3 | PN 3-4 | LR 3 | SR 117-2014 | HW 2.5 | PL 32 | |
| A25R PCLNR/L-12X | TCX 4 | TCN 443 | SP 4 | PN 3-4L | LR 4DH | SR 117-2010 | HW 3.0 | PL 25 | LR 4DHTL (MR INJ)* |
| A32S PCLNR/L-12X | TCX 4 | TCN 443 | SP 4 | PN 3-4L | LR 4DH | SR 117-2010 | HW 3.0 | PL 32 | LR 4DHTL (MR INJ)* |
| S50W PCLNR-16X | TCX 5* | TCN 53 | SP 5 | | LR 5 | SR LCS 5 | HW 3.0 | | |

* Optional, should be ordered separately

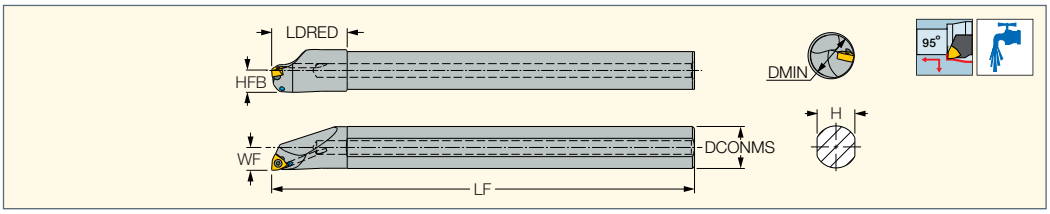
[a] For CNMX 0906.. (CNMX 34.) inserts

ISOTURN

MINIPTURN POSITIVE DOUBLE SIDED

## A/E-SWLNR/L-04

Boring Bars Carrying
WNGP 0403.. Double-Sided
Trigon Inserts for Small Diameters



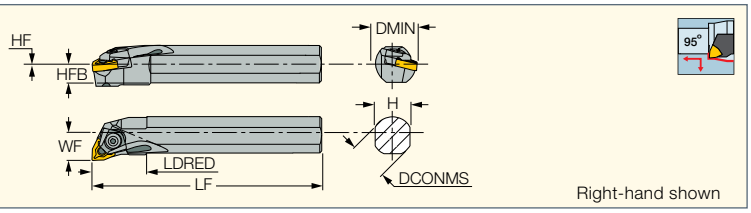

| Designation | DCONMS | LF | LDRED | H | HFB | WF | DMIN | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|
| A10K SWLNR/L-04 | 10.00 | 125.00 | 20.0 | 9.0 | 5.5 | 6.00 | 12.00 | WNGP 04 | SR 34-514 | T-7F |
| A12M SWLNR/L-04 | 12.00 | 150.00 | 24.0 | 11.0 | 6.5 | 7.00 | 14.00 | WNGP 04 | SR 34-514 | T-7F |
| A16Q SWLNR/L-04 | 16.00 | 180.00 | 32.0 | 15.0 | 8.5 | 9.00 | 18.00 | WNGP 04 | SR 34-514 | T-7F |
| A20R SWLNR/L-04 | 20.00 | 200.00 | 36.0 | 18.0 | 10.5 | 11.00 | 22.00 | WNGP 04 | SR 34-514 | T-7F |
| E10M SWLNR/L-04 | 10.00 | 150.00 | 25.0 | 9.0 | 5.5 | 6.00 | 12.00 | WNGP 04 | SR 34-514 | T-7F |
| E12Q SWLNR/L-04 | 12.00 | 180.00 | 27.0 | 11.0 | 6.5 | 7.00 | 14.00 | WNGP 04 | SR 34-514 | T-7F |
| E16R SWLNR/L-04 | 16.00 | 200.00 | 32.0 | 15.0 | 8.5 | 9.00 | 18.00 | WNGP 04 | SR 34-514 | T-7F |
| E20S SWLNR/L-04 | 20.00 | 250.00 | 36.0 | 18.0 | 10.5 | 11.00 | 22.00 | WNGP 04 | SR 34-514 | T-7F |

• Use left-hand inserts on right-hand bars and vice versa. • A - steel shank with coolant hole, E - carbide shank with coolant hole.
**Inserts:** WNGP-F2M • WNGP-F2P

ISOTURN

## A/S-MWLNR/L-W

Top Wedge Lock Boring Bars
Carrying Double-Sided
Trigon Inserts




| Designation | DCONMS | LF | LDRED | H | HFB | WF | DMIN | HF | CSP[2] | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| A20 MWLNR/L-06W-AD [1] | 20.00 | 100.00 | 28.0 | 18.0 | 9.0 | 13.00 | 25.00 | 0.0 | 1 | WNMG 06T3 |
| A20Q MWLNR/L-06W | 20.00 | 180.00 | 28.0 | 18.0 | 9.2 | 13.00 | 25.00 | 0.2 | 1 | WNMG 06T3 |
| A25R MWLNR/L-06W | 25.00 | 200.00 | 34.0 | 23.0 | 11.7 | 17.00 | 32.00 | 0.2 | 1 | WNMG 06T3 |
| A32S MWLNR/L-06W | 32.00 | 250.00 | 28.0 | 29.0 | 14.7 | 19.00 | 36.00 | 0.2 | 1 | WNMG 06T3 |
| S20S MWLNR/L-06W | 20.00 | 250.00 | 28.0 | 18.0 | 9.2 | 13.00 | 25.00 | 0.2 | 0 | WNMG 06T3 |
| S25T MWLNL-06W | 25.00 | 300.00 | 28.0 | 23.0 | 11.7 | 17.00 | 32.00 | 0.2 | 0 | WNMG 06T3 |
| S25T MWLNR-06W | 25.00 | 300.00 | 28.0 | 23.0 | 11.7 | 17.00 | 32.00 | 0.2 | 0 | WNMG 06T3 |
| S32U MWLNL-06W | 32.00 | 350.00 | 40.0 | 29.0 | 14.7 | 19.00 | 36.00 | 0.2 | 0 | WNMG 06T3 |
| S32U MWLNR-06W | 32.00 | 350.00 | 28.0 | 29.0 | 14.7 | 19.00 | 36.00 | 0.2 | 0 | WNMG 06T3 |
| A25R MWLNR/L-08W | 25.00 | 200.00 | 40.0 | 23.0 | 11.7 | 17.00 | 32.00 | 0.2 | 1 | WNMG 0804 |
| A25 MWLNR-08W-AD [1] | 25.00 | 120.00 | 35.0 | 23.0 | 11.7 | 17.00 | 32.00 | 0.2 | 1 | WNMG 0804 |
| A32S MWLNR/L-08W | 32.00 | 250.00 | 45.0 | 29.0 | 14.7 | 22.00 | 40.00 | 0.2 | 1 | WNMG 0804 |
| A40T MWLNR/L-08W | 40.00 | 300.00 | 50.0 | 36.0 | 18.2 | 27.00 | 50.00 | 0.2 | 1 | WNMG 0804 |
| S25T MWLNR/L-08W | 25.00 | 300.00 | 35.0 | 23.0 | 11.7 | 17.00 | 32.00 | 0.2 | 0 | WNMG 0804 |
| S32U MWLNR/L-08W | 32.00 | 350.00 | 45.0 | 28.0 | 14.7 | 22.00 | 40.00 | 0.7 | 0 | WNMG 0804 |
| S40V MWLNR/L-08W | 40.00 | 400.00 | 50.0 | 36.0 | 18.2 | 27.00 | 50.00 | 0.2 | 0 | WNMG 0804 |
| S50V MWLNR/L-13W | 50.00 | 400.00 | 63.0 | 47.0 | 23.5 | 35.00 | 63.00 | 0.0 | 0 | WNMG 1306 |

[1] AD - short tool for adapter holders
[2] 0 - Without coolant supply, 1 - With coolant supply
**Inserts:** WNMG-F3P • WNMG-M3P • WNMG-F3S • WNMG-F3M • WNMG-M3M • WNMM-NM • WNMG-TF • WNMG-GN • WNMG-NR • WNMG-PP • WNMG-VL • WNMG-TNM • WNMG-SF • WNMG-NF • WNMG-WF • WNMA/WNMA-WG • WNMG-WG • WNGA-Ceramic • WNGA-M3 (CBN) • WNGA-MC/M6 (CBN) • WNMG-CERMET • WNGG-F3N

### Spare Parts

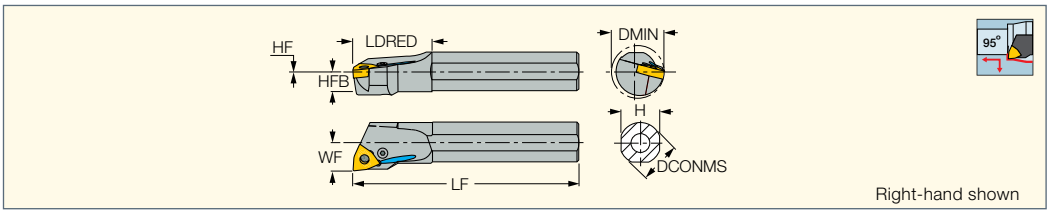
| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| A20 MWLNR/L-06W-AD | | | ZNW 3WI | LC 250 SET 1 | | | | HW 2.5 | PL 20 |
| A20Q MWLNR/L-06W | | | ZNW 3WI | LC 250 SET 1 | | | | HW 2.5 | PL 20 |
| A25R MWLNR/L-06W | IWSN 322W | IWSN 3-2W[a]* | ZNW 3W | LC 250 SET 1 | | | | HW 2.5 | PL 25 |
| A32S MWLNR/L-06W | IWSN 322W | IWSN 3-2W[a]* | ZNW 3W | LC 250 SET 1 | | | | HW 2.5 | PL 32 |
| S20S MWLNR/L-06W | | | ZNW 3WI | LC 250 SET 1 | | | | HW 2.5 | |
| S25T MWLNR/L-06W | IWSN 322W | IWSN 3-2W[a]* | ZNW 3W | LC 250 SET 1 | | | | HW 2.5 | |
| S32U MWLNR/L-06W | IWSN 322W | IWSN 3-2W[a]* | ZNW 3W | LC 250 SET 1 | | | | HW 2.5 | |
| A25R MWLNR/L-08W | TWN 423 | | ZNW-4WI | LC 252 SET 2 | | | | HW 3.0 | PL 25 |
| A25 MWLNR-08W-AD | TWN 423 | | ZNW-4WI | LC 252 SET 2 | | | | HW 3.0 | PL 25 |
| A32S MWLNR/L-08W | TWN 423 | | ZNW-4WI | LC 252 SET 1 | | | | HW 3.0 | PL 32 |
| A40T MWLNR/L-08W | IWSN 433 | IWSN 433M[b]* | ZNW 4W | LC 252 SET 1 | | | | HW 3.0 | PL 40 |
| S25T MWLNR/L-08W | TWN 423 | | ZNW-4WI | LC 252 SET 2 | | | | HW 3.0 | |
| S32U MWLNR/L-08W | TWN 423 | | ZNW-4WI | LC 252 SET 1 | | | | HW 3.0 | |
| S40V MWLNR/L-08W | IWSN 433 | IWSN 433M[b]* | ZNW 4W | LC 252 SET 1 | | | | HW 3.0 | |
| S50V MWLNL-13W | IWSN 635 | | ZNW 6W | | LC 253 | SPR 17-362 | WA M8 | HW 4P | |
| S50V MWLNR-13W | IWSN 635 | | ZNW 6W | | LC 253 | SPR 17-362 | WA M8 | HW 4P | |

* Optional, should be ordered separately
[a] Use IWSN 3-2W optional seat for WNMG 0604.. inserts
[b] Use IWSN 433M optional seat for WNMG 0804..-TNM inserts

ISOTURN

## A/S-PWLNR/L

Lever Lock Boring Bars Carrying Double-Sided Trigon Inserts




| Designation | DCONMS | LF | LDRED | H | HFB | WF | DMIN | HF | CSP(1) | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| A16M PWLNR/L-06 | 16.00 | 150.00 | 27.0 | 15.0 | 8.0 | 11.00 | 20.00 | 0.5 | 1 | WNMG 06T3 |
| A20Q PWLNR/L-06 | 20.00 | 180.00 | 36.0 | 18.0 | 9.2 | 13.00 | 25.00 | 0.2 | 1 | WNMG 06T3 |
| A25R PWLNR/L-06 | 25.00 | 200.00 | 35.0 | 23.0 | 11.7 | 17.00 | 32.00 | 0.2 | 1 | WNMG 06T3 |
| S16Q PWLNR/L-06 | 16.00 | 180.00 | 27.0 | 15.0 | 8.0 | 11.00 | 20.00 | 0.5 | 0 | WNMG 06T3 |
| S20R PWLNR/L-06 | 20.00 | 200.00 | 36.0 | 18.0 | 9.0 | 13.00 | 27.00 | 0.0 | 0 | WNMG 06T3 |
| S25S PWLNR/L-06 | 25.00 | 250.00 | 40.4 | 23.0 | 11.5 | 17.00 | 32.00 | 0.0 | 0 | WNMG 06T3 |
| S32T PWLNR-06 | 32.00 | 300.00 | 50.0 | 29.0 | 14.5 | 19.00 | 39.00 | 0.0 | 0 | WNMG 06T3 |
| A25R PWLNL-08 | 25.00 | 200.00 | 47.0 | 23.0 | 11.5 | 17.00 | 32.00 | 0.5 | 1 | WNMG 0804 |
| A25R PWLNR-08 | 25.00 | 200.00 | 47.5 | 23.0 | 11.7 | 17.00 | 32.00 | 0.2 | 1 | WNMG 0804 |
| A32S PWLNR/L-08 | 32.00 | 250.00 | 50.0 | 28.0 | 14.7 | 22.00 | 39.00 | 0.7 | 1 | WNMG 0804 |
| S25S PWLNR/L-08 | 25.00 | 250.00 | 47.0 | 23.0 | 11.5 | 17.00 | 32.00 | 0.0 | 0 | WNMG 0804 |
| S32T PWLNR/L-08 | 32.00 | 300.00 | 50.0 | 29.0 | 14.5 | 22.00 | 39.00 | 0.0 | 0 | WNMG 0804 |
| S40U PWLNR/L-08 | 40.00 | 350.00 | 59.0 | 36.0 | 18.0 | 27.00 | 49.00 | 0.0 | 0 | WNMG 0804 |

(1) 0 - Without coolant supply, 1 - With coolant supply

**Inserts:** WNMG-F3S • WNMG-F3P • WNMG-M3P • WNMG-F3M • WNMG-M3M • WNMG-TF • WNMG-GN • WNMG-NR • WNMG-PP • WNMG-VL • WNMG-TNM • WNMG-SF • WNMG-NF • WNMM-NM • WNMG-WF • WNMA/WNMA-WG • WNMG-WG • WNGA-Ceramic • WNGA-M3 (CBN) • WNGA-MC/M6 (CBN) • WNMG-CERMET

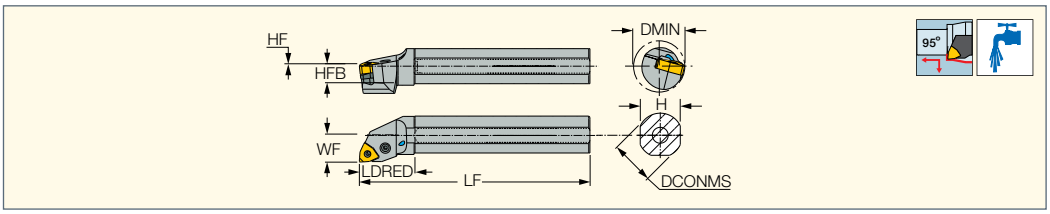
### Spare Parts

| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| A16M PWLNR/L-06 | | | | LR 3S | SR 117-2009 | PL 16 | HW 2.0/5 |
| A20Q PWLNR/L-06 | TWN 322 | SP 3 | PN 3-4 | LR 3W | SR 117-2014 | PL 20 | HW 2.5/5 |
| A25R PWLNR/L-06 | TWN 322 | SP 3 | PN 3-4 | LR 3 | SR 117-2014 | PL 25 | HW 2.5/5 |
| S16Q PWLNR/L-06 | | | | LR 3S | SR 117-2009 | | HW 2.0/5 |
| S20R PWLNR/L-06 | TWN 322 | SP 3 | PN 3-4 | LR 3W | SR 117-2014 | | HW 2.5/5 |
| S25S PWLNR/L-06 | TWN 322 | SP 3 | PN 3-4 | LR 3 | SR 117-2014 | | HW 2.5/5 |
| S32T PWLNR-06 | TWN 322 | SP 3 | PN 3-4 | LR 3 | SR 117-2014 | | HW 2.5/5 |
| A25R PWLNR/L-08 | | | | LR 4M | SR 117-2011 | PL 25 | HW 2.5/5 |
| A32S PWLNR/L-08 | TWN 423 | SP 4 | PN 3-4 | LR 4 | SR 117-2010 | PL 32 | HW 3.0 |
| S25S PWLNR/L-08 | | | | LR 4M | SR 117-2011 | | HW 2.5/5 |
| S32T PWLNR/L-08 | TWN 423 | SP 4 | PN 3-4 | LR 4 | SR 117-2010 | | HW 3.0 |
| S40U PWLNR/L-08 | TWN 423 | SP 4 | PN 3-4 | LR 4 | SR 117-2010 | | HW 3.0 |

HELITURN LD

## A-PWLNR/L-X/G

Lever Lock Boring Bars with Coolant Holes Carrying HELITURN LD WNMX or WNMG Trigon Inserts




| Designation | DCONMS | H | HFB | LF | LDRED | WF | DMIN | HF | Insert |
|---|---|---|---|---|---|---|---|---|---|
| A16M PWLNR/L-06G (1) | 16.00 | 15.0 | 8.0 | 150.00 | 30.0 | 11.00 | 25.00 | 0.5 | WNMG 0604 |
| A20Q PWLNR/L-06G (1) | 20.00 | 18.0 | 9.2 | 180.00 | 35.0 | 13.00 | 25.00 | 0.2 | WNMG 0604 |
| A25R PWLNR-06G (1) | 25.00 | 23.0 | 11.5 | 200.00 | 35.0 | 17.00 | 32.00 | 0.0 | WNMG 0604 |
| A32S PWLNR-06G (1) | 32.00 | 29.0 | 14.5 | 250.00 | 48.0 | 22.00 | 40.00 | 0.0 | WNMG 0604 |
| A32S PWLNR/L-08X (2) | 32.00 | 29.0 | 14.5 | 250.00 | 51.0 | 21.00 | 54.00 | 0.0 | WNMX 0807, WNMG 0804 |

(1) For WNMG 0604.. inserts only

(2) Supplied with TWX 4 seat for WNMX 0807.. inserts and TWN 443 seat for WNMG 0804.. inserts

**Inserts:** WNGG-F3N • WNMA/WNMA-WG • WNMG-F3M • WNMG-F3P • WNMG-F3S • WNMG-GN • WNMG-M3M • WNMG-M3P • WNMG-NF • WNMG-PP • WNMG-TF • WNMG-WF • WNMG-WG • WNMX-M3/4MW • WNMX-M3/4PW

### Spare Parts

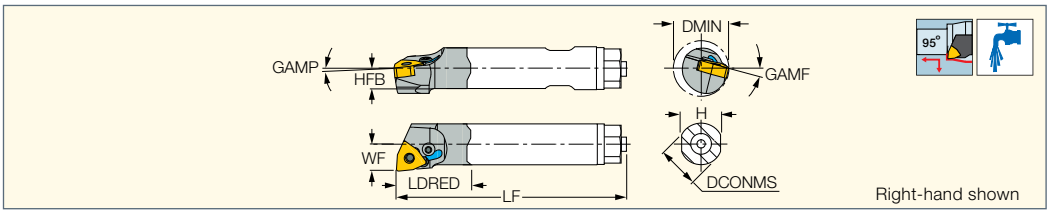
| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| A16M PWLNR/L-06G | | | | | LR 3S | SR 117-2009 | PL 16 | HW 2.0 | |
| A20Q PWLNR/L-06G | | | | | LR 3S | SR 117-2009 | PL 20 | HW 2.0 | |
| A25R PWLNR-06G | | TWN 3 | SP 3 | PN 3-4 | LR 3W | SR 117-2014 | PL 25 | HW 2.5 | |
| A32S PWLNR-06G | | TWN 3 | SP 3 | PN 3-4 | LR 3W | SR 117-2014 | PL 32 | HW 2.5 | |
| A32S PWLNR/L-08X | TWX 4 | TWN 443 | SP 4 | PN 3-4L | LR 4DH | SR 117-2010 | PL 32 | HW 3.0 | LR 4DHTL (MR INJ)* |

* Optional, should be ordered separately

ISOTURN

## E-PWLNR/L-HEAD

Lever Lock Interchangeable Boring Heads Clamped on a Solid Carbide Shank Carrying Negative WNMG Trigon Inserts




| Designation | DCONMS | LF | LDRED | H | HFB | WF | GAMP | GAMF | DMIN | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| E16 PWLNR-06 HEAD | 16.00 | 200.00 | 37.0 | 15.0 | 8.0 | 11.00 | -14.0 | -6.0 | 20.00 | WNMG/WNGG 06T3 |

**Inserts:** WNMG-CERMET • WNMG-M3P • WNMG-TF • WNMG-GN • WNMG-PP • WNMG-VL • WNMG-SF • WNMG-NF • WNMA/WNMA-WG • WNMG-WG

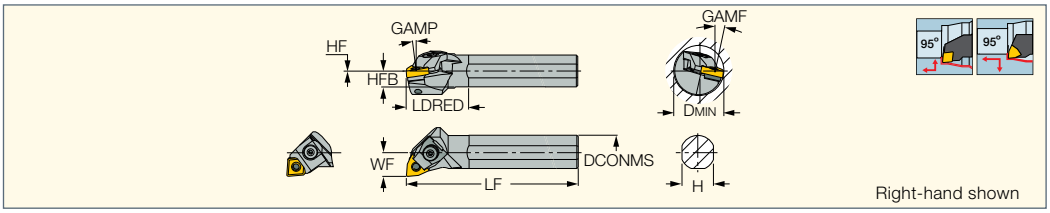
### Spare Parts

| Designation | | | |
|---|---|---|---|
| E-PWLNR/L-HEAD | LR 3S | SR 117-2009 | HW 2.0/5 |

MULTI-WEDGE

## S-MULNR-MW

MULTI-WEDGE Lock Boring Bars Carrying 80° Negative Rhombic or Trigon or Square Inserts

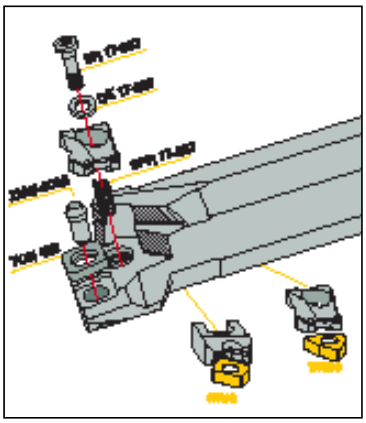



| Designation | DCONMS | LF | LDRED | H | HFB | WF | HF | GAMP | GAMF | DMIN | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| S25T MULNR-12MW | 25.00 | 300.00 | 45.0 | 23.0 | 11.6 | 17.00 | -11.4 | -6.0 | -12.0 | 36.00 | WM..0804/CN..1204 |

- Only LC WN08 is supplied with the boring bar. The other wedge should be ordered separately.

**Inserts:** CNGA-J(CBN) • CNGG-J(CBN) • CNMG-CERMET • CNMG-F3S • WNMG-CERMET • WNMG-F3S • WNMG-F3P • WNMG-M3P • WNMG-F3M • WNMG-M3M • WNMG-TF • WNMG-GN • WNMG-NR • WNMG-PP • WNMG-VL • WNMG-TNM • WNMG-NF • WNMM-NM • WNMG-WF • WNMA/WNMA-WG • WNMG-WG • WNGA-Ceramic • WNGA-M3 (CBN) • WNGA-MC/M6 (CBN) • CNMG-F3P • CNMG-M3P • CNMM-R3P • CNMM-M4PW • CNMG-F3M • CNMG-M3M • CNMG/CNGG-TF • CNMG-GN • CNMG-NR • CNMG/CNGG-PP • CNMG-VL • CNMG/CNGG-SF • CNMG-NF • CNMG-WF • CNMG-WG/NRW • CNMA • CNGA-Ceramic • CNMG-Ceramic • CNGA-2 (CBN) • CNGA-4 (CBN) • CNGG-M4HF/M4HM (CBN) • CNMA-MW4 (CBN) • CNMA-T/M1/WG (CBN) • CNMA (PCD)

### Toolholder Options



### Spare Parts

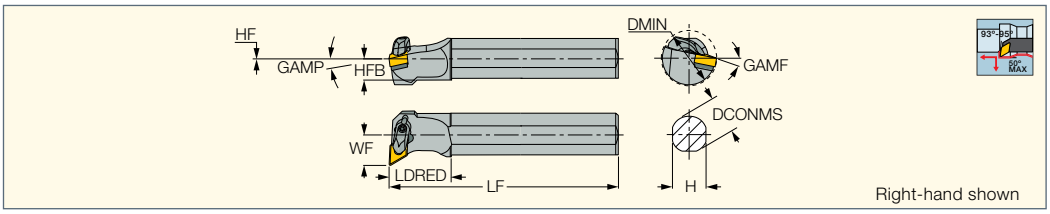
| Designation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| S-MULNR-MW | TCN 423 | ZNW 4CMI | LC WN08 | LCR CN12* | SR 17-307 | SPR 17-307 | DK 17-307 | HW 3.0 |

* Optional, should be ordered separately

ISOTURN

## S-DDUNR/L

R-Clamp Boring Bars Carrying
ISO Negative DNMG Inserts




| Designation | DCONMS | LF | LDRED | H | HFB | WF | DMIN | HF | GAMP | GAMF | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| S32T DDUNR/L-15 | 32.00 | 300.00 | 45.0 | 29.0 | 15.8 | 22.00 | 42.00 | 1.3 | -6.0 | -11.0 | DNMG 1506 |
| S40U DDUNR/L-15 | 40.00 | 350.00 | 50.0 | 36.0 | 19.8 | 27.00 | 48.00 | 1.8 | -6.0 | -10.0 | DNMG 1506 |

**Inserts:** DNGA-J(CBN) • DNMG-F3S • DNMG-F3P • DNMG-M3P • DNMX-M3P • DNMM-R3P • DNMG-CERMET • DNMG-F3M • DNMG-M3M • DNMG/DNGG-TF • DNMG-GN • DNMG-NR • DNMG/DNGG-PP • DNMG-VL • DNMG-PF • DNMG-NF • DNMM-NM • DNMA • DNGA-Ceramic • DNGA-2 (CBN) • DNGA-4 (CBN) • DNGG-M4HF/M4HM (CBN) • DNMA (CBN)

### Spare Parts

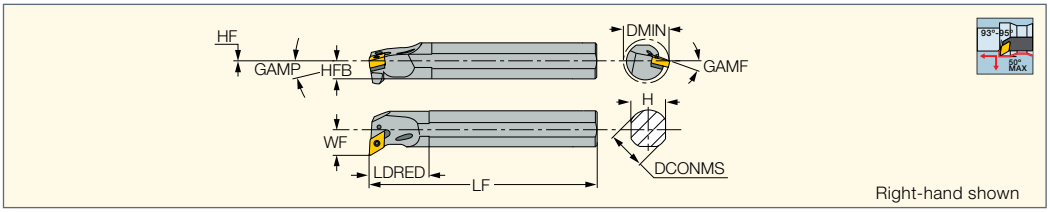
| Designation | | | | | | |
|---|---|---|---|---|---|---|
| S-DDUNR/L | TDN 422[a] | TDN 432[b]* | SP 4 | LCGR-4 | SR 10400270-25.5 | T-15/5 |

* Optional, should be ordered separately
[a] Use for DNMG 1506.. inserts
[b] Use for DNMG 1504.. inserts

ISOTURN

## A/S-PDUNR/L

Lever Lock Boring Bars Carrying
55° Negative Rhombic Inserts




| Designation | DCONMS | LF | LDRED | H | HFB | HF | WF | GAMP | GAMF | DMIN | CSP[1] | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A20Q PDUNR/L-11 | 20.00 | 180.00 | 35.0 | 18.0 | 9.2 | 0.2 | 16.00 | -6.0 | -14.0 | 27.00 | 1 | DNMG 1104 |
| A25R PDUNR/L-11 | 25.00 | 200.00 | 40.0 | 23.0 | 11.5 | 0.0 | 17.00 | -6.0 | -13.0 | 32.00 | 1 | DNMG 1104 |
| A32S PDUNR/L-11 | 32.00 | 250.00 | 45.0 | 29.0 | 14.5 | 0.0 | 22.00 | -6.0 | -11.0 | 40.00 | 1 | DNMG 1104 |
| S32T PDUNR/L-15 | 32.00 | 300.00 | 51.0 | 29.0 | 15.5 | 1.0 | 22.00 | -6.0 | -13.0 | 40.00 | 0 | DNMG 1506 |
| S40U PDUNR/L-15 | 40.00 | 350.00 | 50.0 | 36.0 | 18.0 | 0.0 | 27.00 | -6.0 | -11.5 | 50.00 | 0 | DNMG 1506 |

[1] 0 - Without coolant supply, 1 - With coolant supply
**Inserts:** DNGA-J(CBN) • DNGG-M3N • DNMG-CERMET • DNMG-F3S • DNMG-F3P • DNMG-M3P • DNMX-M3P • DNMM-R3P • DNMG-F3M • DNMG-M3M • DNMG/DNGG-TF • DNMG-GN • DNMG-NR • DNMG/DNGG-PP • DNMG-VL • DNMG-PF • DNMG/DNGG-SF • DNMG-NF • DNMM-NM • DNMG-WG • DNMS-12 • DNMA • DNGA-Ceramic • DNGA-4 (CBN) • DNMA (CBN)

### Spare Parts

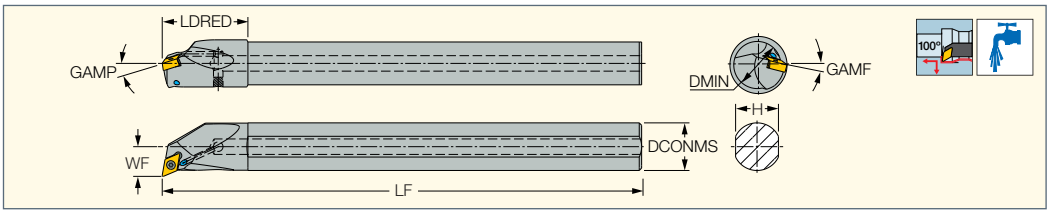
| Designation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| A20Q PDUNR/L-11 | | | | LR 3DS | SR 117-2011 | HW 2.5/5 | PL 20 | |
| A25R PDUNR/L-11 | TDN 3P2 | | SP 3 | LR 3D | SR 117-2014 | HW 2.5/5 | PL 25 | PN 3-4 |
| A32S PDUNR/L-11 | TDN 322 | | SP 3 | LR 3D | SR 117-2014 | HW 2.5/5 | PL 32 | PN 3-4 |
| S32T PDUNR/L-15 | TDN 422[a] | TDN 432[b]* | SP 4 | LR 4D | SR 117-2010 | HW 3.0 | | PN 3-4 |
| S40U PDUNR/L-15 | TDN 422[a] | TDN 432[b]* | SP 4 | LR 4D | SR 117-2010 | HW 3.0 | | PN 3-4 |

* Optional, should be ordered separately
[a] Use for DNMG 1506.. inserts
[b] Use for DNMG 1504.. inserts

ISOTURN

## A/E-SDXNR/L-07

Boring Bars Carrying DNGP 0703.. Double-Sided 55° Rhombic Inserts for Small Diameters




| Designation | DCONMS | LF | LDRED | H | WF | DMIN | GAMP | GAMF | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A10K SDXNR/L-07 | 10.00 | 125.00 | 20.0 | 9.0 | 7.60 | 13.00 | -14.0 | -16.0 | DNGP 07 | SR 34-514 | T-7F |
| A12M SDXNR/L-07 | 12.00 | 150.00 | 24.0 | 11.0 | 8.60 | 16.00 | -14.0 | -14.0 | DNGP 07 | SR 34-514 | T-7F |
| A16Q SDXNR/L-07 | 16.00 | 180.00 | 32.0 | 15.0 | 10.60 | 20.00 | -13.0 | -13.0 | DNGP 07 | SR 34-514 | T-7F |
| A20R SDXNR/L-07 | 20.00 | 200.00 | 36.0 | 18.0 | 12.60 | 24.00 | -13.0 | -12.0 | DNGP 07 | SR 34-514 | T-7F |
| E10M SDXNR/L-07 | 10.00 | 150.00 | 20.0 | 9.0 | 7.60 | 13.00 | -14.0 | -16.0 | DNGP 07 | SR 34-514 | T-7F |
| E12Q SDXNR/L-07 | 12.00 | 180.00 | 24.0 | 11.0 | 8.60 | 16.00 | -14.0 | -14.0 | DNGP 07 | SR 34-514 | T-7F |
| E16R SDXNR/L-07 | 16.00 | 200.00 | 32.0 | 15.0 | 10.60 | 20.00 | -13.0 | -13.0 | DNGP 07 | SR 34-514 | T-7F |
| E20S SDXNR/L-07 | 20.00 | 250.00 | 36.0 | 18.0 | 12.60 | 24.00 | -13.0 | -12.0 | DNGP 07 | SR 34-514 | T-7F |

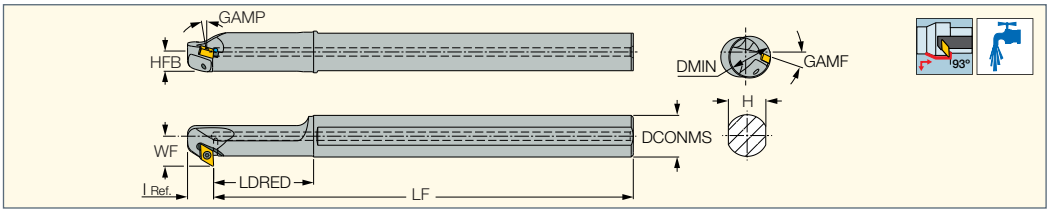
• Use left-hand inserts on right-hand bars and vice versa. • A - steel shank with coolant hole, E - carbide shank with coolant hole.

**Inserts:** DNGP-F2M • DNGP-F2P

ISOTURN

## A/E-SDZNR/L-07

Back Turning Boring Bars Carrying DNGP 0703.. Double-Sided 55° Rhombic Inserts for Small Diameters




| Designation | DCONMS | LF | LDRED | l Ref. | H | HFB | WF | DMIN | GAMP | GAMF | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A12M SDZNR/L-07 | 12.00 | 150.00 | 38.0 | 13.00 | 11.0 | 5.5 | 10.50 | 14.00 | -10.0 | -14.0 | DNGP 07 | SR 34-514 | T-7F |
| A16Q SDZNR/L-07 | 16.00 | 180.00 | 43.0 | 13.00 | 15.0 | 7.5 | 12.50 | 16.00 | -10.0 | -12.5 | DNGP 07 | SR 34-514 | T-7F |
| A20R SDZNR/L-07 | 20.00 | 200.00 | 48.0 | 12.50 | 18.0 | 9.0 | 14.50 | 20.00 | -10.0 | -10.5 | DNGP 07 | SR 34-514 | T-7F |
| E12Q SDZNR/L-07 | 12.00 | 180.00 | - | 13.00 | 11.0 | 5.5 | 10.50 | 18.00 | -11.0 | -11.0 | DNGP 07 | SR 34-514 | T-7F |
| E16R SDZNR/L-07 | 16.00 | 200.00 | - | 13.00 | 15.0 | 7.5 | 12.50 | 22.00 | -11.0 | -9.0 | DNGP 07 | SR 34-514 | T-7F |

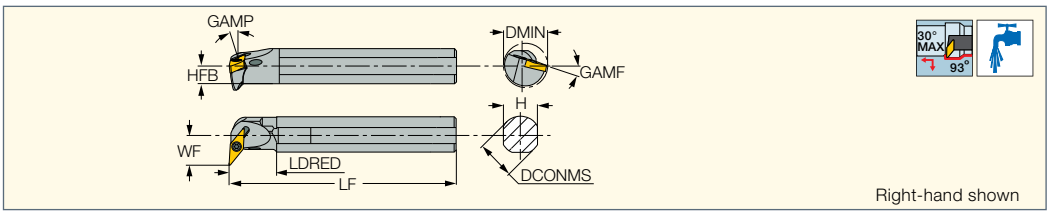
• Use right-hand inserts on right-hand bars and vice versa. • A - steel shank with coolant hole, E - carbide shank with coolant hole.

**Inserts:** DNGP-F2M • DNGP-F2P

ISOTURN

## A-SVUNR/L

Boring Bars with Internal Coolant Holes Carrying 35° Negative Rhombic Inserts




| Designation | DCONMS | LF | LDRED | H | HFB | WF | DMIN | GAMP | GAMF | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A20Q SVUNR/L-12 | 20.00 | 180.00 | 38.0 | 18.0 | 9.0 | 16.00 | 26.50 | -6.5 | -14.0 | SR 14-551 | T-9/5 | PL 20 |
| A25R SVUNR/L-12 | 25.00 | 200.00 | 35.0 | 23.0 | 11.5 | 18.50 | 31.50 | -6.5 | -14.0 | SR 14-551 | T-9/5 | PL 25 |
| A32S SVUNR/L-12 | 32.00 | 250.00 | 50.0 | 29.0 | 14.5 | 23.00 | 37.00 | -6.5 | -14.0 | SR 14-551 | T-9/5 | PL 32 |

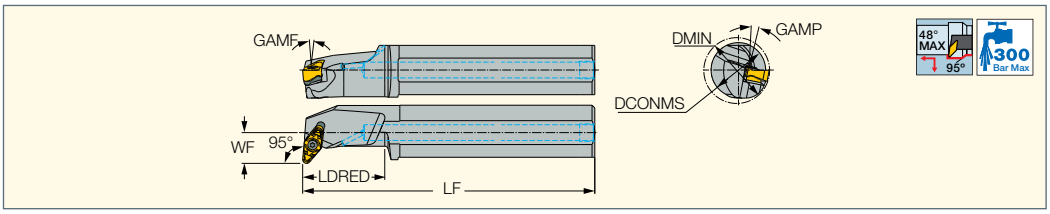
• For inserts with corner radius of 0.8 mm and larger, seat needs to be modified to ensure clearance.

**Inserts:** VNMG-F3M • VNMG-F3P • VNMG-F3S • VNMG-FNF-CERMET • VNMG-M3M • VNMG-SF • VNMG/VNGG-NF • VNMM-PP

ISOTURN

## A-SVLFNR-AL-JHP

Screw Lock Boring Bars
Carrying 35° Rhombic
Inserts with 7° Clearance




| Designation | DCONMS | LF | LDRED | H | WF | DMIN | GAMP | GAMF | MIID(1) |
|---|---|---|---|---|---|---|---|---|---|
| A40U SVLFNR-22-AL-JHP | 40.00 | 350.00 | 60.0 | 36.0 | 22.50 | 48.00 | 4.5 | 11.0 | VNGU 220630-R3N |

(1) Master insert identification
**Inserts:** VNGU-R3N

### Spare Parts

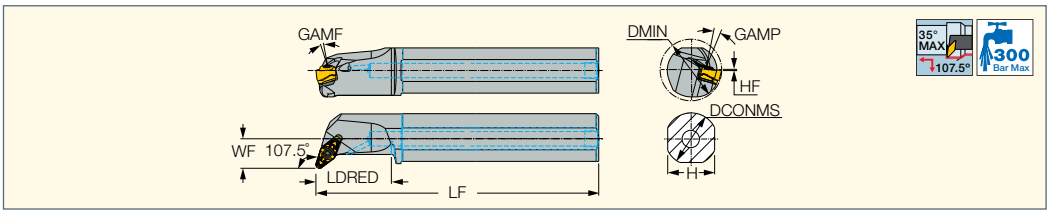
| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| A40U SVLFNR-22-AL-JHP | TVX 2230[a] | SR 14-591/L-SN | HW 3.0 | PL 40 | SW6-T-SH | BLD T20/S7 | SR TC-4 | TVX 2212[b]* | TVX 2216[c]* |

* Optional, should be ordered separately
(a) For VNGU 220630-R3N insert
(b) For VNGU 220612-R3N insert
(c) For VNGU 220616-R3N insert

ISOTURN

## A-SVQNR/L-AL-JHP

Screw Lock Boring Bars
Carrying 35° Rhombic Inserts




| Designation | DCONMS | LF | LDRED | H | HF | WF | DMIN | GAMP | GAMF | MIID(1) |
|---|---|---|---|---|---|---|---|---|---|---|
| A40U SVQNR/L-22-AL-JHP | 40.00 | 348.10 | 60.0 | 36.0 | 0.1 | 23.40 | 49.00 | 14.5 | 6.5 | VNGU 220630-R3N |

(1) Master insert identification
**Inserts:** VNGU-R3N

### Spare Parts

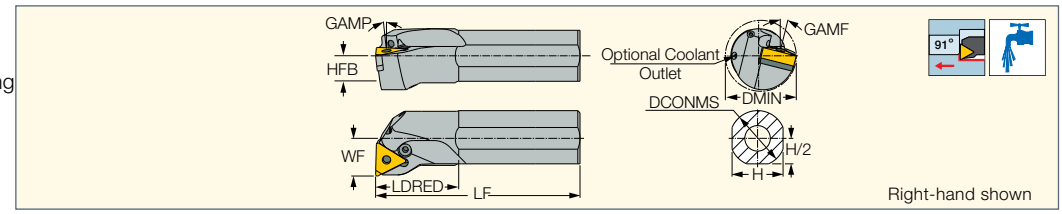
| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| A40U SVQNR/L-22-AL-JHP | TVX 2230[a] | SR 14-591/L-SN | HW 3.0 | SW6-T-SH | BLD T20/S7 | PL 40 | SR TC-4 | TVX 2212[b]* | TVX 2216[c]* |

* Optional, should be ordered separately
(a) For VNGU 220630-R3N insert
(b) For VNGU 220612-R3N insert
(c) For VNGU 220616-R3N insert

HELITURN LD

## A-PTFNR/L-X/G

91° Lead Angle Lever Lock Boring
Bars Carrying Negative TNMX
or TNMG Triangular Inserts




| Designation | DCONMS | LF | LDRED | H | HFB | WF | GAMP | GAMF | DMIN | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| A16M PTFNR/L-16G | 16.00 | 150.00 | 31.0 | 15.0 | 7.5 | 11.00 | -12.0 | -16.0 | 20.00 | TNMG 1604 |
| A20Q PTFNR/L-16G | 20.00 | 180.00 | 31.0 | 18.0 | 9.0 | 13.00 | -6.0 | -14.0 | 25.00 | TNMG 1604 |
| A25S PTFNR/L-16X | 25.00 | 250.00 | 37.5 | 23.0 | 11.5 | 17.00 | -6.0 | -14.0 | 32.00 | TNMX 1606, TNMG 1604 |
| A32T PTFNR/L-16X | 32.00 | 300.00 | 48.0 | 29.0 | 14.5 | 22.00 | -6.0 | -12.0 | 40.00 | TNMX 1606, TNMG 1604 |
| A40U PTFNR/L-16X | 40.00 | 350.00 | 50.0 | 36.0 | 18.0 | 27.00 | -6.0 | -12.0 | 50.00 | TNMX 1606, TNMG 1604 |

- Use TTX 3 seat for TNMX 1606.. inserts and TTN 3 seat for TNMG 1604.. inserts

**Inserts:** TNGA-J(CBN) • TNMG-F3S • TNMX-M3/4PW • TNMX-M3/4MW • TNMG-F3P • TNMG-M3P • TNMG-F3M • TNMG-M3M • TNMG-FFG-CERMET • TNGG-M3N • TNMG-TF • TNMG-GN • TNMG/TNGG-PP • TNMG-VL • TNMG-PF • TNMG-SF • TNMG-NF • TNMS-12 • TNMA • TNGA-Ceramic • TNGA-M3 (CBN) • TNGA-MC/M6 (CBN) • TNMA (CBN)

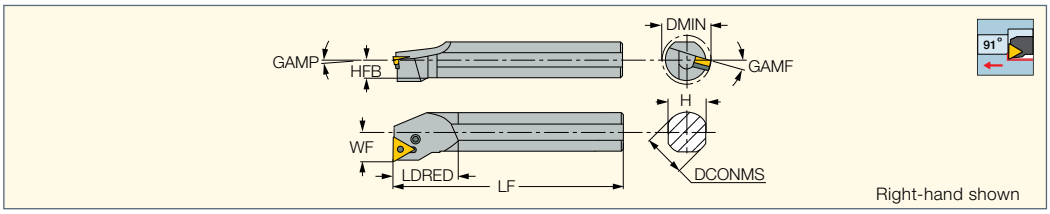
### Spare Parts

| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| A16M PTFNR/L-16G | | | | | LR 3S | SR 117-2009 | | HW 2.0 | PL 16 |
| A20Q PTFNR/L-16G | | | | | LR 3S | SR 117-2009 | SR M4X4 DIN913 TL360 | HW 2.0 | PL 20 |
| A25S PTFNR/L-16X | TTX 3 | TTN 3 | SP 3 | PN 3-4 | LR 3 | SR 117-2014 | SR M4X4 DIN913 TL360 | HW 2.5 | PL 25 |
| A32T PTFNR/L-16X | TTX 3 | TTN 3 | SP 3 | PN 3-4 | LR 3 | SR 117-2014 | SR M4X4 DIN913 TL360 | HW 2.5 | PL 32 |
| A40U PTFNR/L-16X | TTX 3 | TTN 3 | SP 3 | PN 3-4 | LR 3 | SR 117-2014 | SR M4X4 DIN913 TL360 | HW 2.5 | PL 40 |

ISOTURN

## S-PTFNR/L

91° Lead Angle Lever
Lock Boring Bars Carrying
Negative Triangular Inserts




| Designation | DCONMS | LF | LDRED | H | HFB | WF | GAMP | GAMF | DMIN | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| S20R PTFNR/L-11 | 20.00 | 200.00 | 32.0 | 18.0 | 9.0 | 13.00 | -6.0 | -14.0 | 24.00 | TNMG 1103 |
| S25S PTFNR/L-16 | 25.00 | 250.00 | 48.0 | 23.0 | 11.5 | 17.00 | -6.0 | -13.0 | 32.50 | TNMG 1604 |
| S32T PTFNL-16 | 32.00 | 300.00 | 63.0 | 30.0 | 15.0 | 22.00 | -6.0 | -13.0 | 40.00 | TNMG 1604 |
| S32T PTFNR-16 | 32.00 | 300.00 | 63.0 | 30.0 | 15.0 | 22.00 | -6.0 | -10.0 | 40.00 | TNMG 1604 |
| S40U PTFNR-16 | 40.00 | 350.00 | 30.0 | 36.0 | 18.0 | 27.00 | -6.0 | -10.0 | 49.00 | TNMG 1604 |
| S40U PTFNR-22 | 40.00 | 350.00 | 62.0 | 36.0 | 18.0 | 27.00 | -6.0 | -10.0 | 49.00 | TNMG 2204 |

**Inserts:** TNGA-J(CBN) • TNGG-M3N • TNMG-F3S • TNMG-FFG-CERMET • TNMG-F3P • TNMG-M3P • TNMG-F3M • TNMG-M3M • TNMG-TF • TNMG-GN • TNMM-NR • TNMG/TNGG-PP • TNMG-VL • TNMG-PF • TNMG-SF • TNMG-NF • TNMS-12 • TNMA • TNGA-Ceramic • TNGA-M3 (CBN) • TNGA-MC/M6 (CBN) • TNMA (CBN)

### Spare Parts

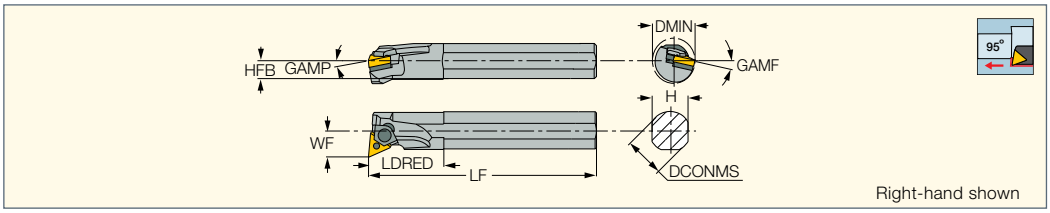
| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| S20R PTFNR/L-11 | | | | LR 2 | SR 117-2015 | HW 2.0/5 | |
| S25S PTFNR/L-16 | TTN 322 | TTN 332* | SP 3 | LR 3 | SR 117-2014 | HW 2.5/5 | PN 3-4 |
| S32T PTFNR/L-16 | TTN 322 | TTN 332* | SP 3 | LR 3 | SR 117-2014 | HW 2.5/5 | PN 3-4 |
| S40U PTFNR-16 | TTN 322 | | SP 3 | LR 3 | SR 117-2014 | HW 2.5/5 | PN 3-4 |
| S40U PTFNR-22 | TTN 422 | | SP 4 | LR 4 | SR 117-2010 | HW 3.0 | PN 3-4 |

* Optional, should be ordered separately

ISOTURN

## S-MTLNR/L-W

95° Lead Angle Wedge
Lock Boring Bars Carrying
Negative Triangular Inserts




| Designation | DCONMS | LF | LDRED | H | HFB | WF | GAMP | GAMF | DMIN | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| S25S MTLNR/L-16W-M | 25.00 | 250.00 | 40.0 | 23.0 | 11.5 | 17.00 | -6.0 | -12.0 | 32.00 | TNMG 1604 |
| S32T MTLNR/L-16W-M | 32.00 | 300.00 | 50.0 | 30.0 | 15.0 | 22.00 | -6.0 | -12.0 | 40.00 | TNMG 1604 |
| S40U MTLNR/L-22W | 40.00 | 350.00 | 50.0 | 36.0 | 18.0 | 27.00 | -6.0 | -10.0 | 49.00 | TNMG 2204 |

**Inserts:** TNGA-J(CBN) • TNGG-M3N • TNMG-F3S • TNMG-FFG-CERMET • TNMG-F3P • TNMG-M3P • TNMG-F3M • TNMG-M3M • TNMG-TF • TNMG-GN • TNMM-NR • TNMG/TNGG-PP • TNMG-VL • TNMG-PF • TNMG-SF • TNMG-NF • TNMA • TNGA-Ceramic • TNGA-M3 (CBN) • TNGA-MC/M6 (CBN) • TNMA (CBN)

### Spare Parts

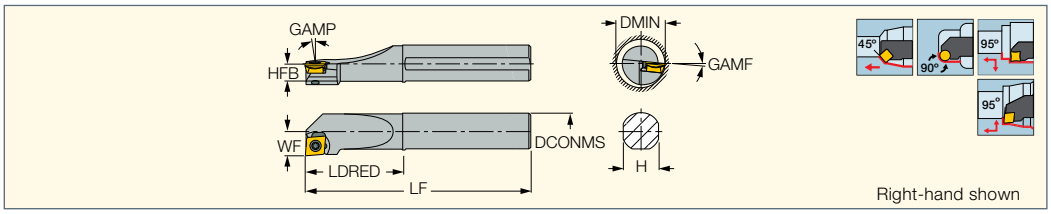
| Designation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| S25S MTLNR/L-16W-M | | | ZNW 3WNS | SR 17-317NS | | LC 291N CLAMP | HW 3.0 | E RING N |
| S32T MTLNR/L-16W-M | TTT 322N | TTT 332N[(a)]* | ZNW 3WN | SR 17-317N | | LC 291N CLAMP | HW 3.0 | E RING N |
| S40U MTLNR/L-22W | | TTT 434 | ZNW 4 | SR 17-295 | HW 2.5 | LC 281 SET 1 | HW 3.0 | |

* Optional, should be ordered separately
[(a)] Use for TNMG 1603.. inserts

CHAMTURN

## S-SUXCR/L-CM

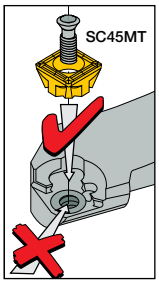
Screw Lock Boring Bars
Carrying Four Different 7° Clearance Geometries




| Designation | DCONMS | LF | LDRED | H | HFB | DMIN | GAMP | GAMF | WF |
|---|---|---|---|---|---|---|---|---|---|
| S16Q SUXCR/L-10 CM | 16.00 | 180.00 | 45.0 | 15.0 | 7.5 | 20.00 | 0.0 | -12.0 | 11.00 |
| S20R SUXCR/L-10 CM | 20.00 | 200.00 | 52.0 | 18.0 | 9.0 | 25.00 | 0.0 | -6.0 | 13.00 |
| S25S SUXCR/L-10 CM | 25.00 | 250.00 | 55.0 | 23.0 | 11.5 | 32.00 | 0.0 | -4.0 | 17.00 |

**Inserts:** CC95MT-SM • SC45MT-SM

| Designation | DCONMS | LF | LDRED | H | HEB | DMIN | GAMP | GAMF | WF | Inserts |
|---|---|---|---|---|---|---|---|---|---|---|
| S16Q SUXCR/L-10 CM | 16.00 | 180.00 | 45.0 | 15.0 | 7.5 | 20.00 | 0 | -12 | 11<br>12.14 | CC95MT...<br>SC45MT... |
| S20R SUXCR/L-10 CM | 20.00 | 200.00 | 52.0 | 18.0 | 9.0 | 25.00 | 0 | -6 | 13<br>14.14 | CC95MT...<br>SC45MT... |
| S25S SUXCR/L-10 CM | 25.00 | 250.00 | 55.0 | 23.0 | 11.5 | 32.00 | 0 | -4 | 17<br>18.14 | CC95MT...<br>SC45MT... |




Clamping direction for SC45MT...

### Multifunction Tool Can Carry Two Different Inserts

- Unique, versatile **ISCAR** pocket
- For external applications
- Covers most common operations
- Simplifies tool selection
- Simple screw clamping
- Minimum spare parts

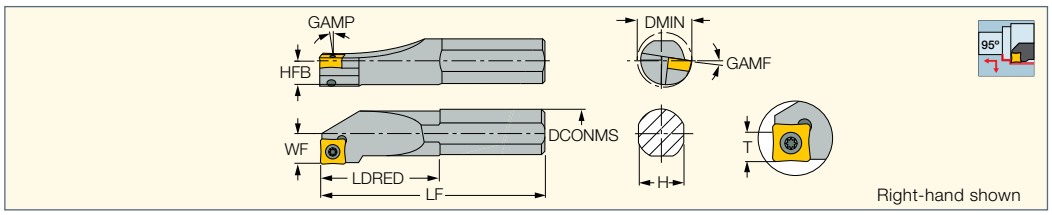
### Spare Parts

| Designation | | |
|---|---|---|
| S-SUXCR/L-CM | SR 14-544/S | T-15/5 |

ISOTURN

## S/A-SQLCR/L

Screw Lock Boring Bars
Carrying 80° Square Inserts with 7° Clearance




| Designation | DCONMS | LF | LDRED | H | HFB | WF | T | GAMP | GAMF | DMIN | CSP(1) | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S16Q SQLCR/L-09 | 16.00 | 180.00 | 45.0 | 15.0 | 7.5 | 11.00 | 8.5 | 0.0 | -12.0 | 20.00 | 0 | QCMT 09T304 |
| S20R SQLCR-09 | 20.00 | 200.00 | 45.0 | 15.0 | 7.5 | 13.00 | 8.5 | 0.0 | -6.0 | 25.00 | 0 | QCMT 09T304 |
| S25S SQLCR-09 | 25.00 | 250.00 | 55.0 | 15.0 | 7.5 | 17.00 | 8.5 | 0.0 | -6.0 | 32.00 | 0 | QCMT 09T304 |

(1) 0 - Without coolant supply, 1 - With coolant supply

**Inserts:** QCMT-PF • QCMT-SM

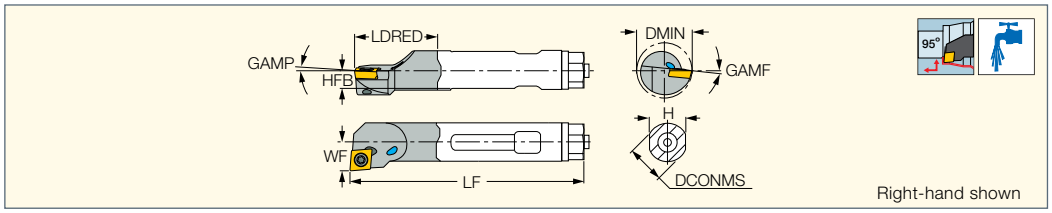
### Spare Parts

| Designation | | |
|---|---|---|
| S/A-SQLCR/L | SR 16-236 | T-15/5 |

ISOTURN

## E-SCLCR/L-HEAD

Screw Clamped Boring Heads Carrying 80° Rhombic Inserts with Positive 7° Clearance Mounted on Carbide Bars



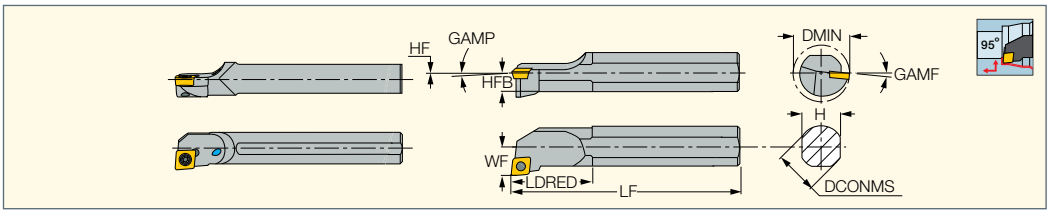

| Designation | DCONMS | LF | LDRED | H | HFB | WF | GAMP | GAMF | DMIN | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| E12 SCLCR/L-06 HEAD | 12.00 | 179.00 | 24.8 | 11.0 | 5.5 | 9.00 | 0.0 | -7.0 | 15.80 | CCMT/CCGT 0602 | SR 14-548 | T-7/5 |
| E16 SCLCR-09 HEAD | 16.00 | 200.00 | 37.0 | 15.0 | 7.5 | 11.00 | 0.0 | -9.0 | 20.00 | CCMT/CCGT 09T3 | SR 16-236 | T-15/5 |

**Inserts:** CCMT-CERMET • CCMT-F3P • CCMT-M3P • CCMT-F3M • CCMT-M3M • CCMT-PF • CCMT/CCGT-SM • CCET-WF • CCMT-WG • CCGT-AS • CCGT-AF • CCMT-14 • CCMT/CCGT • CCGW/CCMT (CBN) • CCGW/CCMW-2 (CBN) • CCMT (PCD)

ISOTURN

## A/E/S-SCLCR/L

Screw Lock Boring Bars
Carrying 80° Rhombic Inserts
with 7° Clearance for 20 mm
Minimum Bore Diameter




| Designation | DCONMS | LF | LDRED | WF | H | HFB | HF | DMIN | CSP(1) | GAMP | GAMF | TQ | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A04F SCLCR/L-03 | 4.00 | 80.00 | 8.0 | 2.50 | 3.8 | 1.9 | 0.0 | 5.00 | 1 | 0.0 | -15.0 | 0.6 | CCGT 03X1 |
| A05F SCLCR/L-03 | 5.00 | 80.00 | 9.0 | 3.00 | 4.8 | 2.4 | 0.0 | 6.00 | 1 | 0.0 | -13.0 | 0.6 | CCGT 03X1 |
| A06G SCLCR/L-04 | 6.00 | 90.00 | 10.0 | 3.50 | 5.8 | 2.9 | 0.0 | 7.00 | 1 | 0.0 | -13.0 | 0.6 | CCGT 04T1 |
| A07G SCLCR/L-04 | 7.00 | 90.00 | 11.0 | 4.00 | 6.8 | 3.4 | 0.0 | 8.00 | 1 | 0.0 | -11.0 | 0.6 | CCGT 04T1 |
| A20R SCLCR/L-09 | 20.00 | 200.00 | 35.0 | 13.00 | 18.0 | 9.0 | 0.0 | 25.00 | 1 | 0.0 | -4.0 | 3.0 | CC.. 09T3 |
| A25S SCLCR/L-09 | 25.00 | 250.00 | 35.0 | 17.00 | 23.0 | 11.5 | 0.0 | 32.00 | 1 | 0.0 | -4.0 | 3.0 | CC.. 09T3 |
| E04G SCLCR/L-03 | 4.00 | 90.00 | 9.0 | 2.50 | 3.8 | 1.9 | 0.0 | 5.00 | 1 | 0.0 | -15.0 | 0.6 | CCGT 03X1 |
| E05G SCLCR/L-03 | 5.00 | 90.00 | 10.0 | 3.00 | 4.8 | 2.4 | 0.0 | 6.00 | 1 | 0.0 | -13.0 | 0.6 | CCGT 03X1 |
| E06H SCLCR/L-04 | 6.00 | 100.00 | 12.0 | 3.50 | 5.8 | 2.9 | 0.0 | 7.00 | 1 | 0.0 | -13.0 | 0.6 | CCGT 04T1 |
| E07H SCLCR/L-04 | 7.00 | 100.00 | 14.0 | 4.00 | 6.8 | 3.4 | 0.0 | 8.00 | 1 | 0.0 | -11.0 | 0.6 | CCGT 04T1 |
| E08K SCLCR/L-06 | 8.00 | 125.00 | - | 5.00 | 7.6 | 3.8 | 0.0 | 10.00 | 1 | 3.0 | -11.0 | 1.0 | CC.. 0602 |
| E10M SCLCR/L-06 | 10.00 | 150.00 | - | 7.00 | 9.2 | 4.6 | 0.0 | 14.00 | 1 | 3.0 | -7.0 | 1.0 | CC.. 0602 |
| E12Q SCLCR/L-06 | 12.00 | 180.00 | - | 9.00 | 11.0 | 5.5 | 0.0 | 16.00 | 1 | 0.0 | -7.0 | 1.0 | CC.. 0602 |
| E16R SCLCR/L-06 | 16.00 | 200.00 | - | 11.00 | 14.0 | 7.0 | 0.0 | 20.00 | 1 | 0.0 | -7.0 | 1.0 | CC.. 0602 |
| E16R SCLCR/L-09 | 16.00 | 200.00 | - | 11.00 | 15.0 | 7.5 | 0.0 | 20.00 | 1 | 0.0 | -6.0 | 3.0 | CC.. 09T3 |
| S08K SCLCR/L-06 | 8.00 | 125.00 | 12.0 | 5.00 | 8.0 | 3.8 | 0.0 | 10.50 | 0 | 0.0 | -11.0 | 1.0 | CC.. 0602 |
| S10L SCLCL-06 | 10.00 | 140.00 | 20.0 | 7.00 | 9.0 | 4.5 | 0.0 | 13.00 | 0 | 0.0 | -7.0 | 1.0 | CC.. 0602 |
| S10L SCLCR-06 | 10.00 | 140.00 | 20.0 | 7.00 | 9.0 | 4.5 | 0.0 | 13.00 | 0 | 3.0 | -7.0 | 1.0 | CC.. 0602 |
| S12M SCLCR/L-06 | 12.00 | 150.00 | 12.0 | 9.00 | 12.0 | 5.5 | 0.0 | 16.00 | 0 | 0.0 | -7.0 | 1.0 | CC.. 0602 |
| S16Q SCLCR/L-09 | 16.00 | 180.00 | 45.0 | 11.00 | 15.0 | 7.5 | 0.0 | 20.00 | 0 | 0.0 | -6.0 | 3.0 | CC.. 09T3 |
| S20R SCLCR/L-09 | 20.00 | 200.00 | 50.0 | 13.00 | 18.0 | 9.0 | 0.0 | 25.00 | 0 | 0.0 | -4.0 | 3.0 | CC.. 09T3 |
| S25S SCLCR/L-09 | 25.00 | 250.00 | 55.0 | 17.00 | 23.0 | 11.5 | 0.0 | 35.00 | 0 | 0.0 | -4.0 | 3.0 | CC.. 09T3 |

• S - steel shank, A - steel shank with coolant hole, E - carbide shank with coolant hole

(1) 0 - Without coolant supply, 1 - With coolant supply

**Inserts:** • CCGT-F1M-20P • CCMT-CERMET • CCGT-F1P • CCMT-F3P • CCMT-M3P • CCMT-F3M • CCMT-M3M • CCMT-PF • CCMT/CCGT-SM • CCET-WF • CCMT-WG • CCGT-AS • CCGT-AF • CCMT-14 • CCMT/CCGT • CCGW/CCMT (CBN) • CCGW/CCMW-2 (CBN) • CCMT (PCD)





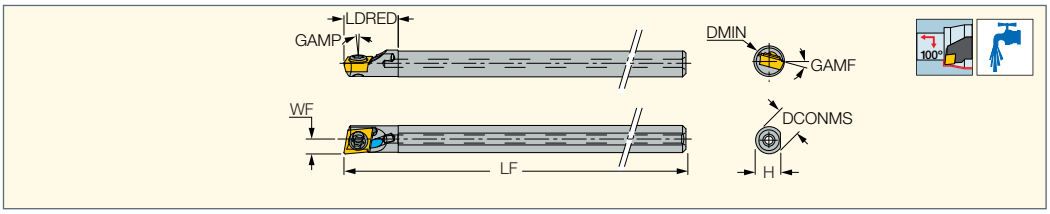
## Spare Parts

| Designation | | | | |
|---|---|---|---|---|
| A04F SCLCR/L-03 | CSTA-1.6 | T-6F | | |
| A05F SCLCR/L-03 | CSTA-1.6 | T-6F | | |
| A06G SCLCR/L-04 | CSTB-2 | T-6F | | |
| A07G SCLCR/L-04 | CSTB-2 | T-6F | | |
| A20R SCLCR/L-09 | SR 16-236 | T-15/5 | HW 2.0 | PL 20 |
| A25S SCLCR/L-09 | SR 16-236 | T-15/5 | HW 2.0 | PL 25 |
| E04G SCLCR/L-03 | CSTA-1.6 | T-6F | | |
| E05G SCLCR/L-03 | CSTA-1.6 | T-6F | | |
| E06H SCLCR/L-04 | CSTB-2 | T-6F | | |
| E07H SCLCR/L-04 | CSTB-2 | T-6F | | |
| E08K SCLCR/L-06 | SR 14-548 | T-7/5 | | |
| E10M SCLCR/L-06 | SR 14-548 | T-7/5 | | |
| E12Q SCLCR/L-06 | SR 14-548 | T-7/5 | | |
| E16R SCLCR/L-06 | SR 14-548 | T-7/5 | | |
| E16R SCLCR/L-09 | SR 16-236 | T-15/5 | | |
| S08K SCLCR/L-06 | SR 14-548 | T-7/5 | | |
| S10L SCLCR/L-06 | SR 14-548 | T-7/5 | | |
| S12M SCLCR/L-06 | SR 14-548 | T-7/5 | | |
| S16Q SCLCR/L-09 | SR 16-236/L8.6 | T-15/5 | | |
| S20R SCLCR/L-09 | SR 16-236 | T-15/5 | | |
| S25S SCLCR/L-09 | SR 16-236 | T-15/5 | | |

ISOTURN

## A/E-SEXPR/L-03

Screw Lock Boring Bars Carrying 75° Rhombic Inserts with 11° Clearance for 4.5 mm Minimum Bore Diameter




| Designation | DCONMS | LF | LDRED | H | WF | DMIN | GAMP | GAMF | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A04F SEXPR/L-03 | 4.00 | 80.00 | 8.0 | 3.8 | 2.30 | 4.50 | 0.0 | -15.0 | EPGT03 | CSTA-1.6 | T-6F |
| E04G SEXPR/L-03 | 4.00 | 90.00 | 9.0 | 3.8 | 2.30 | 4.50 | 0.0 | -15.0 | EPGT03 | CSTA-1.6 | T-6F |

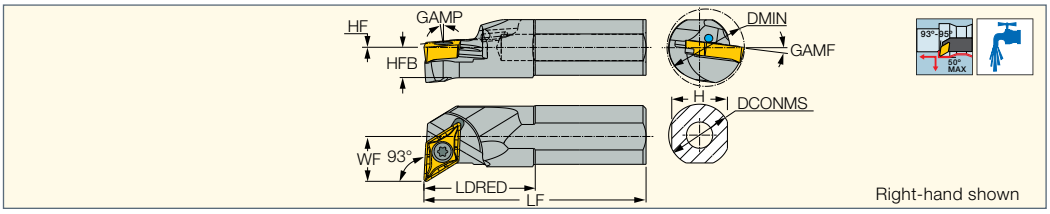
- A - steel shank with coolant hole, E - carbide shank with coolant hole

**Inserts:** EPGT-F1P

ISOTURN

## A-SDUCR/L-13-SL

Boring Bars Carrying 55° Rhombic Inserts with 7° Clearance Angle for High Rigidity in Profiling Applications




| Designation | DCONMS | LF | LDRED | H | HFB | WF | HF | DMIN | GAMP | GAMF | Shank m.(1) | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A20R SDUCR/L-13-SL | 20.00 | 200.00 | 36.0 | 18.0 | 9.1 | 14.50 | 0.1 | 25.00 | 0.0 | -7.0 | S | DCMT 13T5-SL |
| A25S SDUCR/L-13-SL | 25.00 | 250.00 | 45.0 | 23.0 | 11.5 | 17.00 | 0.0 | 32.00 | 0.0 | -6.0 | S | DCMT 13T5-SL |

(1) S-Steel

**Inserts:** DCMT-F3P-SL • DCMT-M3M-SL • DCMT-PF-SL • DCMT-SM-SL

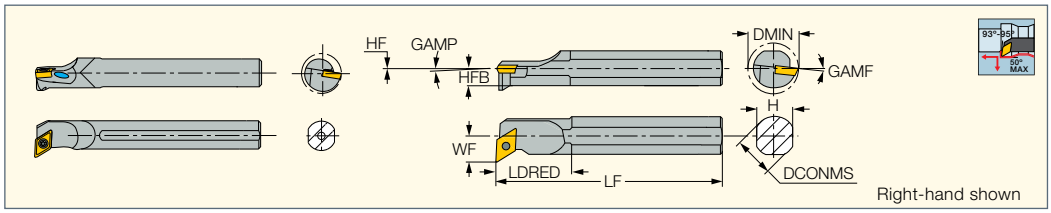
### Spare Parts

| Designation | | | |
|---|---|---|---|
| A20R SDUCR/L-13-SL | SR M4X0.7-L9.6 IP15 | TORX PLUS IP15X45 | PL 20 |
| A25S SDUCR/L-13-SL | SR M4X0.7-L9.6 IP15 | TORX PLUS IP15X45 | PL 25 |

ISOTURN

## A/E/S-SDUCR/L

Screw Lock Boring Bars Carrying 55° Rhombic Inserts with 7° Clearance




| Designation | DCONMS | LF | LDRED | H | HFB | WF | HF | DMIN | GAMP | GAMF | Shank m.(1) | CSP(2) | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A20R SDUCR/L-11 | 20.00 | 200.00 | 50.0 | 18.0 | 8.5 | 14.50 | -0.5 | 25.00 | 0.0 | -6.0 | S | 1 | DC.. 11T3 |
| A25S SDUCR/L-11 | 25.00 | 250.00 | 45.0 | 23.0 | 12.0 | 17.00 | 0.5 | 32.00 | 0.0 | -5.0 | S | 1 | DC.. 11T3 |
| E10M SDUCR/L-07 | 10.00 | 150.00 | 25.0 | 9.2 | 5.1 | 8.00 | 0.5 | 14.00 | 3.0 | -7.0 | C | 1 | DC.. 0702 |
| E12Q SDUCR/L-07 | 12.00 | 180.00 | - | 11.0 | 5.5 | 9.00 | 0.0 | 16.00 | 0.0 | -7.0 | C | 1 | DC.. 0702 |
| E16R SDUCR/L-07 | 16.00 | 200.00 | - | 15.0 | 8.1 | 11.00 | 0.6 | 20.00 | 0.0 | -8.0 | C | 1 | DC.. 0702 |
| S10L SDUCR/L-07 | 10.00 | 140.00 | 18.0 | 9.2 | 5.0 | 8.00 | 0.4 | 14.00 | -3.0 | -9.0 | S | 0 | DC.. 0702 |
| S12M SDUCR/L-07 | 12.00 | 150.00 | 20.0 | 12.0 | 5.5 | 9.00 | -0.5 | 16.00 | -7.0 | -9.0 | S | 0 | DC.. 0702 |
| S16Q SDUCR/L-07 | 16.00 | 180.00 | 25.0 | 15.0 | 8.0 | 11.00 | 0.5 | 20.00 | 0.0 | -8.0 | S | 0 | DC.. 0702 |
| S20R SDUCR/L-11 | 20.00 | 200.00 | 50.0 | 18.0 | 8.5 | 13.00 | -0.5 | 25.00 | 0.0 | -6.0 | S | 0 | DC.. 11T3 |
| S25S SDUCR/L-11 | 25.00 | 250.00 | 55.0 | 23.0 | 12.0 | 17.00 | 0.5 | 32.00 | 0.0 | -5.0 | S | 0 | DC.. 11T3 |

- S - steel shank, A - steel shank with coolant hole, E - carbide shank with coolant hole

(1) S-Steel, C-carbide

(2) 0 - Without coolant supply, 1 - With coolant supply

**Inserts:** DCGT-F1M-20P • DCMT-F3P • DCMT-M3M • DCMT/DCGT-PF • DCMT/DCGT-SM • DCET-WF • DCGT-AS • DCGT-AF • DCMT-14 • DCMT/DCGT • DCGW/DCMW-2 (CBN) • DCMT (CBN) • DCMT (PCD) • DCMT-CERMET

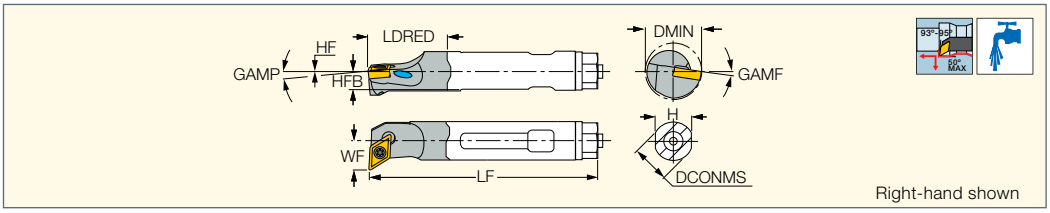
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| A20R SDUCR/L-11 | | | HW 2.0 | SR 16-236 P | T-15/5 | PL 20 |
| A25S SDUCR/L-11 | | | HW 2.0 | SR 16-236 P | T-15/5 | PL 25 |
| E10M SDUCR/L-07 | | | | SR 14-548 | T-7/5 | |
| E12Q SDUCR/L-07 | | | | SR 14-548 | T-7/5 | |
| E16R SDUCR/L-07 | | | | SR 14-548 | T-7/5 | |
| S10L SDUCR/L-07 | | | | SR 14-548 | T-7/5 | |
| S12M SDUCR/L-07 | | | | SR 14-548 | T-7/5 | |
| S16Q SDUCR/L-07 | | | | SR 14-548 | T-7/5 | |
| S20R SDUCR/L-11 | | | | SR 16-236 P | T-15/5 | |
| S25S SDUCR/L-11 | TDC 3-1P | SR TC-3P | HW 4.0 | SR 16-236 P | T-15/5 | |

ISOTURN

## E-SDUCR/L-HEAD

Interchangeable Screw Clamped Boring Heads Carrying Positive 7° Clearance 55° Rhombic Inserts Mounted on Carbide Bars




Right-hand shown

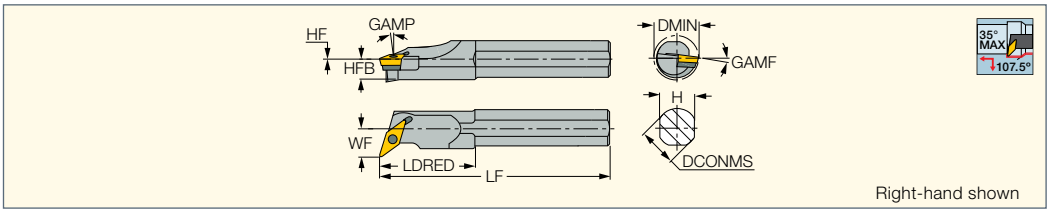
| Designation | DCONMS | LF | LDRED | H | HFB | WF | HF | GAMP | GAMF | DMIN | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| E12 SDUCR/L-07 HEAD | 12.00 | 179.00 | 24.8 | 11.0 | 5.5 | 9.00 | 0.0 | 0.0 | -9.0 | 15.80 | DCMT/DCGT 0702 | SR 14-548 | T-7/5 |
| E16 SDUCR/L-07 HEAD | 16.00 | 200.00 | 29.7 | 15.0 | 8.0 | 11.00 | 0.5 | 0.0 | -9.0 | 20.00 | DCMT/DCGT 0702 | SR 14-548 | T-7/5 |

**Inserts:** • DCGT-F1M-20P • DCMT-F3P • DCMT-M3M • DCMT/DCGT-PF • DCMT/DCGT-SM • DCET-WF • DCGT-AS • DCMT/DCGT • DCGW/DCMW-2 (CBN)

ISOTURN

## A/S-SVQCR/L

Screw Lock Boring Bars Carrying 35° Rhombic Inserts with 7° Clearance




Right-hand shown

| Designation | DCONMS | LF | LDRED | H | HFB | WF | HF | DMIN | GAMP | GAMF | CSP[1] | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S25S SVQCR/L-16 | 25.00 | 250.00 | 61.0 | 23.0 | 12.0 | 17.00 | 0.5 | 32.00 | 0.0 | -5.0 | 0 | VC.. 1604 |
| S32T SVQCR/L-16 | 32.00 | 300.00 | 70.0 | 30.0 | 15.0 | 22.00 | 0.0 | 40.00 | 0.0 | -5.0 | 0 | VC.. 1604 |
| A40U SVQCR/L-22 | 40.00 | 350.00 | 64.0 | 36.0 | 18.0 | 27.00 | 0.0 | 47.50 | 0.0 | -8.0 | 1 | VCGT 2205 |

[1] 0 - Without coolant supply, 1 - With coolant supply

**Inserts:** VCMT-FPC-CERMET • VCMT-F3P • VCGW-2 (CBN) • VCMT-F3M • VCMT-M3M • VCMT-SM • VCGT-AS • VCGT-AF • VCMT-14 • VCMW • VCMT (CBN) • VCGT (PCD) • VCGT-DW (PCD)

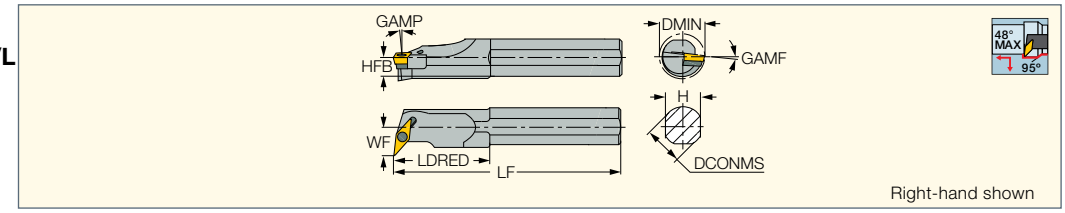
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| S25S SVQCR/L-16 | SR 16-236 P | T-15/5 | | | | |
| S32T SVQCR/L-16 | SR 16-236 P | T-15/5 | TVC 3-1P | SR TC-3P | HW 4.0 | |
| A40U SVQCR/L-22 | SR 14-536 | T-20/5 | TVC 22T330 | SR TC-3 | HW 2.5 | PL 40 |

ISOTURN

## A/S-SVLFCR/L; A-SVUCR/L

Screw Lock Boring Bars Carrying 35° Rhombic Inserts with 7° Clearance




Right-hand shown

| Designation | DCONMS | LF | LDRED | H | HFB | WF | DMIN | GAMP | GAMF | CSP[2] | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A32T SVUCR/L-16 [1] | 32.00 | 300.00 | 50.0 | 29.0 | 14.5 | 22.00 | 40.00 | 0.0 | -8.0 | 1 | VC.. 1604 |
| S32T SVLFCR/L-16 | 32.00 | 300.00 | 56.0 | 29.0 | 14.5 | 22.00 | 39.50 | 0.0 | -8.0 | 0 | VC.. 1604 |
| S40U SVLFCR/L-16 | 40.00 | 350.00 | - | 36.0 | 18.0 | 27.00 | 49.00 | 0.0 | -5.0 | 0 | VC.. 1604 |
| A40U SVLFCR/L-22 | 40.00 | 350.00 | 70.0 | 36.0 | 18.0 | 27.00 | 48.00 | 0.0 | -8.0 | 1 | VC.. 2205 |

[1] 93° approach angle

[2] 0 - Without coolant supply, 1 - With coolant supply

**Inserts:** VCMT-F3P • VCMT-F3M • VCMT-M3M • VCMT-SM • VCGT-AS • VCGT-AF • VCMT-14 • VCMW • VCMT (CBN) • VCGT (PCD) • VCGT-DW (PCD) • VCMT-FPC-CERMET • VCGW-2 (CBN)

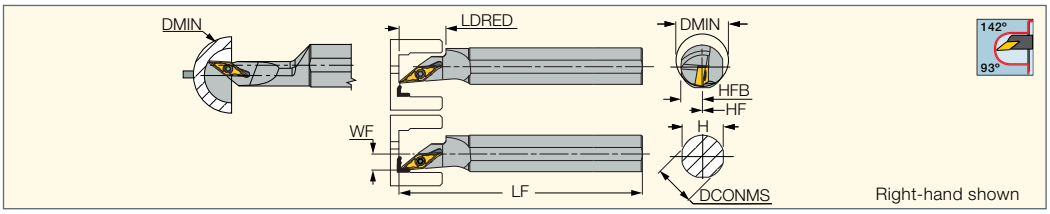
### Spare Parts

| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| A32T SVUCR/L-16 | TVC 3-1P | SR TC-3P | HW 1.5 | HW 4.0 | SR 16-236 P | PL 32 | T-15/5 |
| S32T SVLFCR/L-16 | TVC 3-1P | SR TC-3P | HW 4.0 | | SR 16-236 P | | T-15/5 |
| S40U SVLFCR/L-16 | TVC 3-1P | SR TC-3P | HW 4.0 | | SR 16-236 P | | T-15/5 |
| A40U SVLFCR/L-22 | TVC 22T330 | SR TC-3 | HW 2.5 | | SR 14-536 | PL 40 | T-20/5 |

ISOTURN

## S/A-SVJCR/L

Screw Lock Boring Bars Carrying 35° Rhombic Inserts with 7° Clearance




| Designation | DCONMS | LF | LDRED | H | HFB | WF | HF | DMIN | CSP(2) | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| A16R SVJCR/L-11 | 16.00 | 200.00 | 47.5 | 15.0 | 7.5 | 8.50 | 0.0 | 20.00 | 1 | VC.. 1103 |
| S16R SVJCR/L-11 (1) | 16.00 | 200.00 | 20.0 | 15.0 | 8.0 | 7.00 | 0.5 | 19.00 | 0 | VC.. 1103 |
| A20R SVJCR/L-11 | 20.00 | 200.00 | 43.0 | 18.0 | 9.0 | 11.00 | 0.0 | 25.00 | 1 | VC.. 1103 |
| S20R SVJCR/L-11 | 20.00 | 200.00 | 37.0 | 19.0 | 9.5 | 2.00 | 0.0 | 25.00 | 0 | VC.. 1103 |

(1) Cannot be used for internal sphere turning • Center height - 0.5mm above the center

(2) 0 - Without coolant supply, 1 - With coolant supply

**Inserts:** VCGT-F1M-20P • VCMT-F3P • VCMT-F3M • VCMT-SM • VCET-WF • VCGT-AS

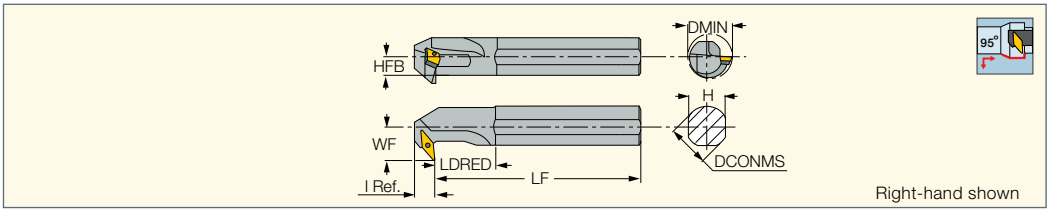
### Spare Parts

| Designation | | | |
|---|---|---|---|
| A16R SVJCR/L-11 | SR 14-560/S | T-8/5 | PL 16 |
| S16R SVJCR/L-11 | SR 14-560/S | T-8/5 | |
| A20R SVJCR/L-11 | SR 14-560 | T-8/5 | PL 20 |
| S20R SVJCR/L-11 | SR 14-560 | T-8/5 | |

ISOTURN

## A/S-SVLBCR/L

Screw Lock Back Boring Bars Carrying 35° Rhombic Inserts with 7° Clearance




| Designation | DCONMS | LF | LDRED | I Ref. | H | HFB | WF | DMIN | CSP(1) | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| A32T SVLBCL-16 | 32.00 | 300.00 | 76.5 | 18.50 | 29.0 | 14.5 | 27.50 | 40.00 | 1 | VC.. 1604 |
| A32T SVLBCR-16 | 32.00 | 300.00 | 76.5 | 18.50 | 29.0 | 14.5 | 27.50 | 40.00 | 0 | VC.. 1604 |
| S32T SVLBCR/L-16 | 32.00 | 300.00 | 63.2 | 18.50 | 29.0 | 14.5 | 22.00 | 40.00 | 0 | VC.. 1604 |
| S40U SVLBCR/L-16 | 40.00 | 350.00 | 60.0 | 20.00 | 36.0 | 18.0 | 27.00 | 49.50 | 0 | VC.. 1604 |

(1) 0 - Without coolant supply, 1 - With coolant supply

**Inserts:** VCMT-FPC-CERMET • VCMT-F3P • VCGW-2 (CBN) • VCMT-F3M • VCMT-M3M • VCMT-SM • VCGT-AS • VCMT-14 • VCMW • VCMT (CBN) • VCGT (PCD) • VCGT-DW (PCD)

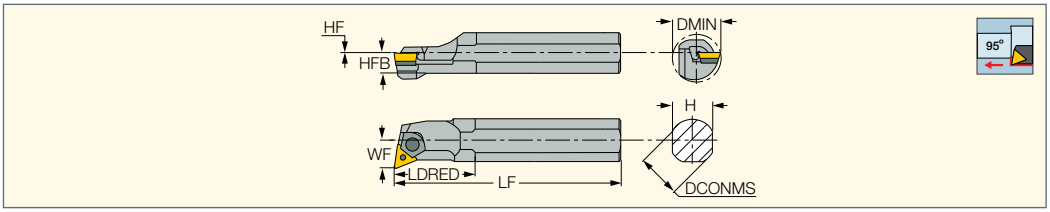
### Spare Parts

| Designation | | | | | |
|---|---|---|---|---|---|
| A/S-SVLBCR/L | TVC 3-1P | SR TC-3P | HW 4.0 | SR 16-236 P | T-15/5 |

ISOTURN

## S-MTLCR/L-W

Wedge Lock Boring Bars Carrying 7° Clearance Triangular Inserts




| Designation | DCONMS | LF | LDRED | H | HFB | WF | HF | DMIN | Insert |
|---|---|---|---|---|---|---|---|---|---|
| S25S MTLCR/L-16W | 25.00 | 250.00 | 43.0 | 23.0 | 13.1 | 17.00 | 1.6 | 34.00 | TC.. 16T3 |
| S32T MTLCR/L-16W | 32.00 | 300.00 | 45.0 | 29.0 | 14.5 | 22.00 | 0.0 | 39.00 | TC.. 16T3 |

**Inserts:** TCMT-F3P • TCMT-M3M • TCMT-SM • TCGT-AS

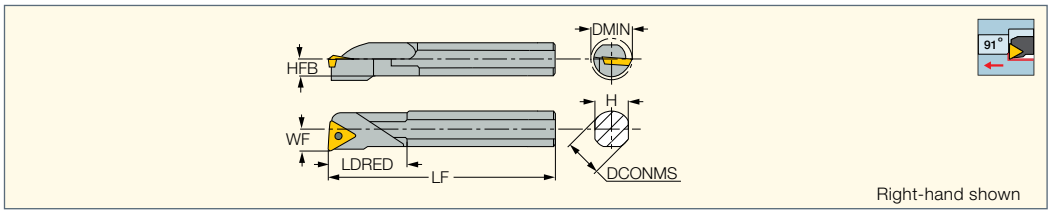
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| S-MTLCR/L-W | TTC 331 | HW 2.0 | ZNW 3C | LC 291-MIM SET 1 | SR 17-319 | HW 2.5 |

ISOTURN

## S-STFCR/L

Screw Lock Boring Bars Carrying 7° Clearance Triangular Inserts



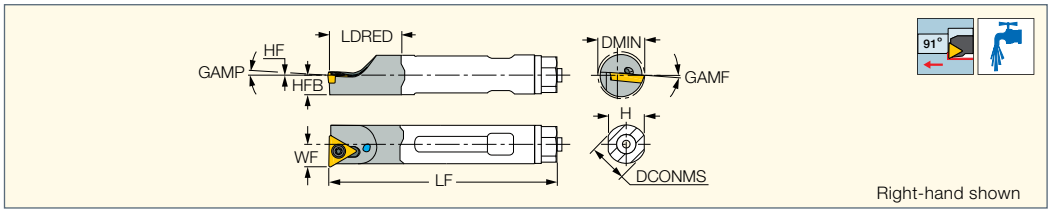

| Designation | DCONMS | LF | LDRED | H | HFB | WF | DMIN | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|
| S10K STFCR/L-11 | 10.00 | 125.00 | 29.0 | 9.0 | 4.5 | 7.00 | 13.00 | TC.. 1102 | SR 14-548 | T-7/5 |
| S12M STFCR/L-11 | 12.00 | 150.00 | 30.0 | 11.0 | 5.5 | 9.00 | 15.80 | TC.. 1102 | SR 14-548 | T-7/5 |

**Inserts:** TCMT-F3P • TCMT-M3M • TCMT-PF • TCMT-SM • TCGT-AS • TCMT (CBN) • TCMT (PCD)

ISOTURN

## E-STFCR-HEAD

Interchangeable Screw Clamped Boring Heads Carrying Positive 7° Clearance Triangular Inserts Mounted on Carbide Bars



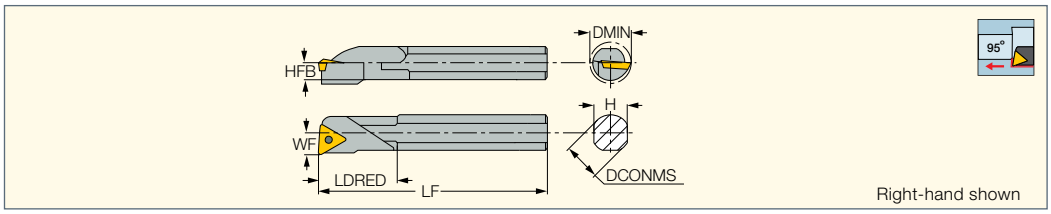

| Designation | DCONMS | LF | LDRED | H | HFB | WF | HF | GAMP | GAMF | DMIN | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| E12 STFCR-11 HEAD | 12.00 | 179.00 | 24.8 | 11.0 | 6.0 | 6.80 | 0.0 | 0.0 | -6.0 | 13.80 | TCMT 1102 | SR 14-548 | T-7/5 |
| E16 STFCR-11 HEAD | 16.00 | 200.00 | 37.0 | 15.0 | 8.0 | 9.00 | 0.0 | 0.0 | -6.0 | 20.00 | TCMT 1102 | SR 14-548 | T-7/5 |

**Inserts:** TCMT-F3P • TCMT-M3M • TCMT-PF • TCMT-SM • TCGT-AS • TCMT (CBN) • TCMT (PCD)

ISOTURN

## S-STLCR/L

Screw Clamp Boring Bars Carrying 7° Clearance Triangular Inserts



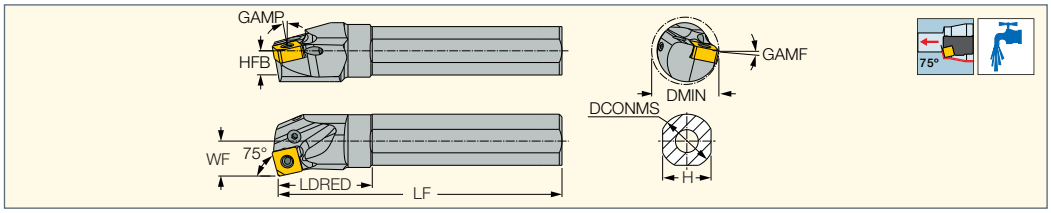

| Designation | DCONMS | LF | LDRED | H | HFB | WF | DMIN | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|
| S16Q STLCR/L-11 | 16.00 | 180.00 | 45.0 | 15.0 | 7.5 | 11.00 | 20.00 | TC.. 1102 | SR 14-548 | T-7/5 |
| S20R STLCR/L-16 | 20.00 | 200.00 | 50.0 | 18.0 | 9.0 | 13.00 | 25.00 | TC.. 16T3 | SR 16-236 | T-15/5 |

**Inserts:** TCMT-F3P • TCMT-M3M • TCMT-PF • TCMT-SM • TCGT-AS • TCMT (CBN) • TCMT (PCD)

ISOTURN

## A-PSKNR/L-09

Lever Lock Boring Bars Carrying 90° Negative Square Inserts




| Designation | DCONMS | LF | LDRED | H | HFB | WF | GAMP | GAMF | DMIN | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| A25R PSKNR/L-09 | 25.00 | 200.00 | 35.0 | 23.0 | 11.5 | 17.00 | -6.0 | -15.0 | 32.00 | SNMG 0903 SNMG 0904 |
| A32S PSKNR/L-09 | 32.00 | 250.00 | 43.0 | 30.0 | 15.0 | 22.00 | -6.0 | -13.0 | 40.00 | SNMG 0903 SNMG 0904 |

**Inserts:** SNMG-F3S • SNMG-F3P • SNMG-M3P • SNMG-F3M • SNMG-M3M

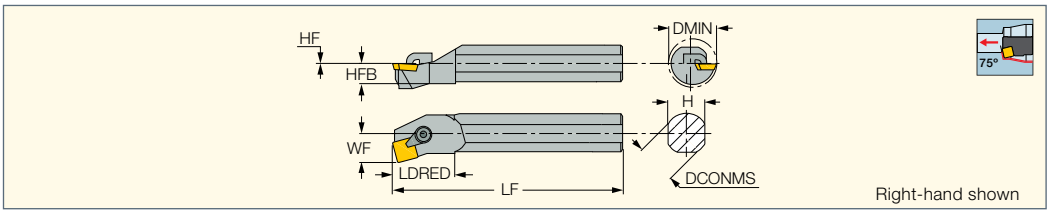
### Spare Parts

| Designation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| A25R PSKNR/L-09 | TSN 323 | TSN 333 | SP 3 | PN 3-3L | LR 3 | SR 117-2014 | HW 2.5 | PL 25 |
| A32S PSKNR/L-09 | TSN 323 | TSN 333 | SP 3 | PN 3-3L | LR 3 | SR 117-2014 | HW 2.5 | PL 32 |

ISOTURN

## S-CSKPR

Clamp Lock Boring Bars Carrying 11° Clearance Square Inserts



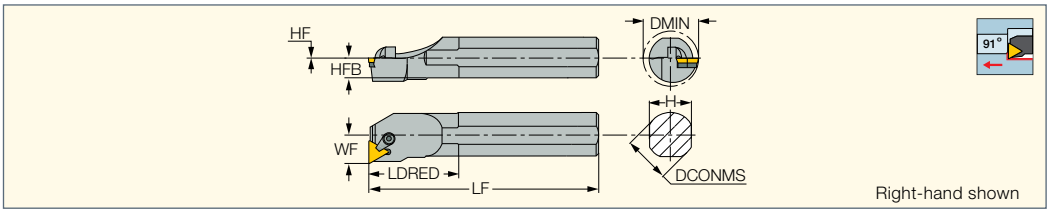

| Designation | DCONMS | LF | LDRED | H | HFB | WF | HF | DMIN | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| S16Q CSKPR-09 | 16.00 | 180.00 | 34.0 | 15.0 | 8.0 | 11.00 | 0.5 | 20.00 | SPMR 0903 | LC 15 SET 1 | HW 2.5 |
| S25S CSKPR-12 | 25.00 | 250.00 | 48.0 | 23.0 | 11.5 | 17.00 | 0.0 | 30.00 | SPMR 1203 | LC 30 SET 2 | HW 3.0 |

**Inserts:** SPMR

ISOTURN

## S-CTFPR/L

Clamp Lock Boring Bars Carrying 11° Clearance Triangular Inserts




| Designation | DCONMS | LF | LDRED | H | HFB | WF | HF | DMIN | Insert |
|---|---|---|---|---|---|---|---|---|---|
| S12L CTFPR/L-09 | 12.00 | 140.00 | 34.0 | 11.0 | 6.0 | 9.00 | 0.5 | 15.60 | TPMR 0902 |
| S16Q CTFPR/L-11 | 16.00 | 180.00 | 38.0 | 15.0 | 8.0 | 11.00 | 0.5 | 20.00 | TPMR 1103 |
| S20Q CTFPR-16 | 20.00 | 180.00 | 38.0 | 18.0 | 9.5 | 13.00 | 0.5 | 24.00 | TPMR 1603 |
| S20R CTFPR/L-16 | 20.00 | 200.00 | 46.0 | 18.0 | 9.5 | 13.00 | 0.5 | 24.00 | TPMR 1603 |
| S25R CTFPR-16 | 25.00 | 200.00 | 48.0 | 23.0 | 11.5 | 17.00 | 0.0 | 31.00 | TPMR 1603 |
| S25S CTFPR-16 | 25.00 | 250.00 | 48.0 | 23.0 | 11.5 | 17.00 | 0.0 | 31.00 | TPMR 1603 |
| S32T CTFPR/L-16 | 32.00 | 300.00 | 62.0 | 29.0 | 14.5 | 22.00 | 0.0 | 40.00 | TPMR 1603 |
| S40T CTFPR-16 | 40.00 | 300.00 | 62.0 | 36.0 | 18.0 | 27.00 | 0.0 | 48.00 | TPMR 1603 |

**Inserts:** TPGN-Ceramic • TPMR • TPMR-FTF • TPMR-PF

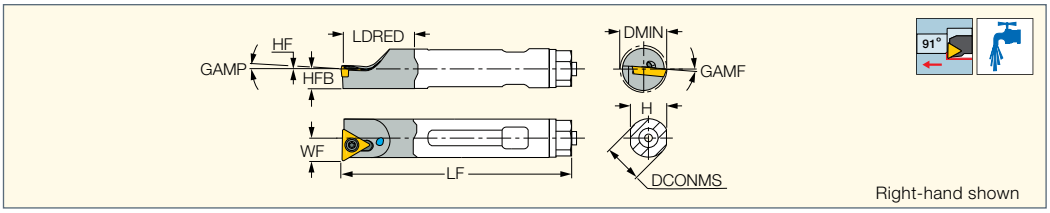
### Spare Parts

| Designation | | | | |
|---|---|---|---|---|
| S12L CTFPR/L-09 | LC12 SET1 | HW 2.5 | | |
| S16Q CTFPR/L-11 | LC 15 SET 1 | HW 2.5 | | |
| S20Q CTFPR-16 | LC 30 SET 2 | HW 3.0 | | |
| S20R CTFPR/L-16 | LC 30 SET 2 | HW 3.0 | | |
| S25R CTFPR-16 | LC 30 SET 2 | HW 3.0 | | |
| S25S CTFPR-16 | LC 30 SET 2 | HW 3.0 | | |
| S32T CTFPR/L-16 | LC 30 SET 1 | HW 3.0 | ITBP 122 | SP 16 |
| S40T CTFPR-16 | LC 30 SET 1 | HW 3.0 | ITBP 122 | SP 16 |

ISOTURN

## E-STFPR-HEAD

Interchangeable Boring Heads Carrying Positive 11° Clearance Triangular Inserts on a Carbide Bar



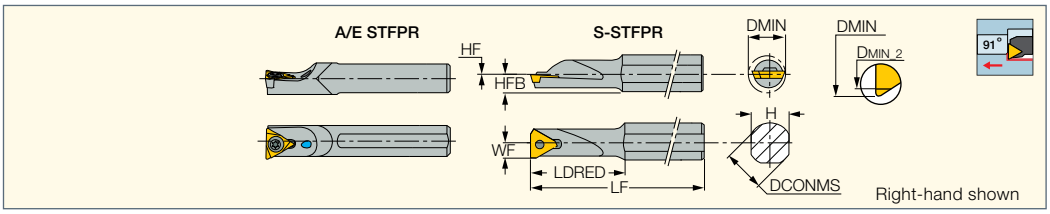

| Designation | DCONMS | LF | LDRED | H | HFB | WF | HF | GAMP | GAMF | DMIN | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| E12 STFPR-11 HEAD | 12.00 | 179.00 | 24.8 | 11.0 | 6.0 | 6.80 | 0.0 | 4.0 | -6.0 | 13.00 | TPMT/TPGH 1102 | SR 14-505 | T-7/5 |
| E16 STFPR-11 HEAD | 16.00 | 200.00 | 37.0 | 15.0 | 8.0 | 8.80 | 0.5 | 4.0 | -6.0 | 20.00 | TPGB 1102 | SR 14-505 | T-7/5 |

**Inserts:** TPMT-PF • TPGT-SP • TPGB-XL • TPGH-XL • TPGB • TPMT

ISOTURN

## A/E/S-STFPR/L

Screw Lock Boring Bars Carrying Triangular Inserts with 11° Clearance




| Designation | DCONMS | LF | LDRED | H | HFB | HF | WF | DMIN | DMIN_2 | CSP(1) | Shank m.(2) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A10K STFPR-11 | 10.00 | 125.00 | - | 9.0 | 5.3 | 0.8 | 6.00 | 11.00 | 12.00 | 1 | S | SR 14-505 | T-7/5 |
| A12Q STFPR-11 | 12.00 | 180.00 | - | 11.0 | 6.3 | 0.8 | 7.00 | 13.00 | 14.00 | 1 | S | SR 14-505 | T-7/5 |
| E10M STFPR-11 | 10.00 | 150.00 | - | 9.0 | 5.3 | 0.8 | 6.00 | 12.00 | 12.00 | 1 | C | SR 14-505 | T-7/5 |
| E12Q STFPR/L-11 | 12.00 | 180.00 | - | 11.0 | 6.3 | 0.8 | 7.00 | 14.00 | 14.00 | 1 | C | SR 14-505 | T-7/5 |
| S12K STFPR/L-11 | 12.00 | 125.00 | 35.0 | 11.0 | 6.3 | 0.8 | 5.60 | 11.00 | 11.00 | 0 | S | SR 14-505 | T-7/5 |
| S12M STFPR/L-11 | 12.00 | 150.00 | 27.0 | 11.0 | 6.3 | 0.8 | 7.00 | 15.00 | 15.00 | 0 | S | SR 14-505 | T-7/5 |
| S16Q STFPR/L-11 | 16.00 | 180.00 | 27.0 | 15.0 | 8.0 | 0.5 | 9.20 | 18.00 | 18.00 | 0 | S | SR 14-505 | T-7/5 |
| S20R STFPR/L-16 | 20.00 | 200.00 | 63.0 | 18.0 | 10.0 | 1.0 | 10.20 | 21.50 | 21.50 | 0 | S | SR 14-541 | T-15/5 |

• (a1) When used with insert TPG. 110204-XL (a2) When used with insert TP.. 110204-..

(1) 0 - Without coolant supply, 1 - With coolant supply

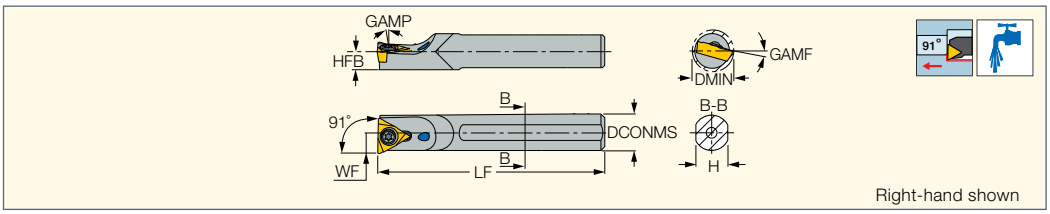
(2) S-Steel, C-Carbide

**Inserts:** TPMT-PF • TPGB-XL • TPGH-R/L • TPGH-XL • TPGB • TPMT

ISOTURN

## A/E-STFPR-X

Boring Bars Carrying Triangular TPGX 11° Clearance Inserts for Small Diameters




| Designation | DCONMS | LF | WF | H | HFB | DMIN | GAMP | GAMF | Shank m.(1) | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A08J STFPR-09X | 8.00 | 110.00 | 5.00 | 7.2 | 3.6 | 9.50 | 5.0 | -15.0 | S | TPGX 0902 | SR 14-298 | T-8/5 |
| A10K STFPR-09X | 10.00 | 125.00 | 5.70 | 9.0 | 4.5 | 10.90 | 5.0 | -8.0 | S | TPGX 0902 | SR 14-298 | T-8/5 |
| A12M STFPR-09X | 12.00 | 150.00 | 6.70 | 11.0 | 5.5 | 13.00 | 5.0 | -8.0 | S | TPGX 0902 | SR 14-298 | T-8/5 |
| A10K STFPR-11X | 10.00 | 125.00 | 6.00 | 9.0 | 4.5 | 11.40 | 3.0 | -15.0 | S | TPGX 1103 | SR 10400052 | T-8/5 |
| A12M STFPR-11X | 12.00 | 150.00 | 6.80 | 11.0 | 5.5 | 13.50 | 3.0 | -10.0 | S | TPGX 1103 | SR 10400052 | T-8/5 |
| A16Q STFPR-11X | 16.00 | 180.00 | 8.80 | 14.0 | 7.0 | 17.30 | 3.0 | -5.0 | S | TPGX 1103 | SR 10400052 | T-8/5 |
| E08K STFPR-09X | 8.00 | 125.00 | 5.00 | 7.2 | 3.6 | 9.50 | 5.0 | -15.0 | C | TPGX 0902 | SR 14-298 | T-8/5 |
| E10M STFPR-09X | 10.00 | 150.00 | 5.70 | 9.0 | 4.5 | 10.90 | 5.0 | -8.0 | C | TPGX 0902 | SR 14-298 | T-8/5 |
| E12Q STFPR-09X | 12.00 | 180.00 | 6.70 | 11.0 | 5.5 | 13.00 | 5.0 | -8.0 | C | TPGX 0902 | SR 14-298 | T-8/5 |
| E10M STFPR-11X | 10.00 | 150.00 | 6.00 | 9.0 | 4.5 | 11.40 | 3.0 | -15.0 | C | TPGX 1103 | SR 10400052 | T-8/5 |
| E12Q STFPR-11X | 12.00 | 180.00 | 6.80 | 11.0 | 5.5 | 13.50 | 3.0 | -10.0 | C | TPGX 1103 | SR 10400052 | T-8/5 |
| E16R STFPR-11X | 16.00 | 200.00 | 8.80 | 14.0 | 7.0 | 17.30 | 3.0 | -5.0 | C | TPGX 1103 | SR 10400052 | T-8/5 |

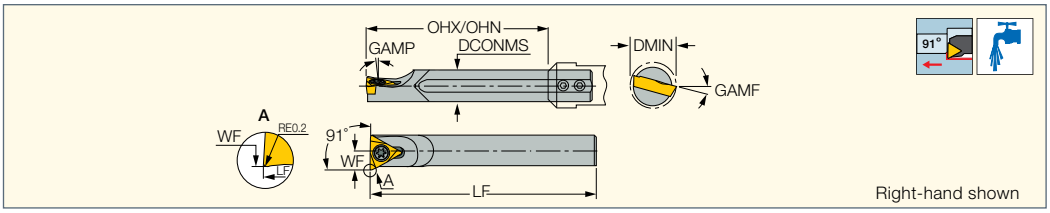
(1) S-Steel, C-Carbide

**Inserts:** TPGW-M3 (CBN) • TPGX • TPGX (CBN) • TPGX (PCD)

ISOTURN

## MG STFPR-X

Solid Carbide Boring Bar Carrying TPGX Inserts for Small Diameters




| Designation | DCONMS | LF | OHN(1) | OHX(2) | WF | GAMP | GAMF | DMIN | | |
|---|---|---|---|---|---|---|---|---|---|---|
| MG 08-STFPR-09X | 8.00 | 79.00 | 20.0 | 56.0 | 4.90 | 5.0 | -15.0 | 9.50 | SR 14-298 | T-8/5 |

(1) Minimum overhang in adjustment range

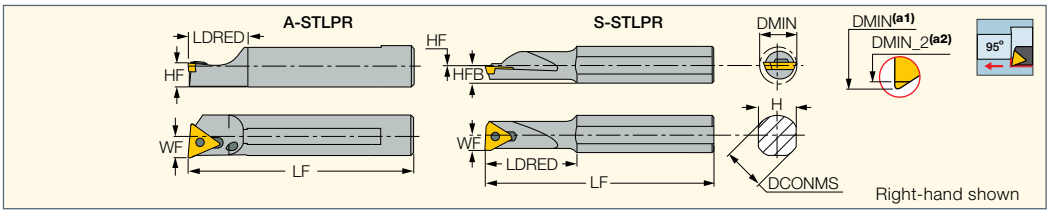
(2) Maximum overhang in adjustment range

**Inserts:** TPGX • TPGX (CBN) • TPGX (PCD)

ISOTURN

## A/S-STLPR/L

Screw Lock Boring Bars Carrying Triangular Inserts with 11° Clearance




| Designation | DCONMS | LF | LDRED | H | HFB | HF | WF | DMIN | DMIN_2 | CSP(1) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A10K STLPR-11 | 10.00 | 125.00 | 18.0 | 9.5 | 5.8 | 1.1 | 6.00 | 12.00 | 11.00 | 1 | SR 14-505 | T-7/5 |
| A12Q STLPR-11 | 12.00 | 180.00 | 18.0 | 11.5 | 6.0 | 0.3 | 7.00 | 14.00 | 13.00 | 1 | SR 14-505 | T-7/5 |
| S12K STLPR/L-11 | 12.00 | 125.00 | 35.0 | 11.0 | 6.3 | 0.8 | 5.60 | 11.00 | 9.70 | 0 | SR 14-505 | T-7/5 |
| S12M STLPR/L-11 | 12.00 | 150.00 | 27.0 | 11.0 | 6.3 | 0.8 | 7.00 | 15.00 | 14.00 | 0 | SR 14-505 | T-7/5 |
| S16Q STLPR-11 | 16.00 | 180.00 | 27.0 | 15.0 | 8.0 | 0.5 | 9.00 | 18.00 | 17.00 | 0 | SR 14-505 | T-7/5 |
| S20R STLPR-16 | 20.00 | 200.00 | 63.0 | 18.0 | 10.0 | 1.0 | 10.20 | 21.50 | 21.50 | 0 | SR 14-541 | T-15/5 |

- (a1) When used with insert TP.. 110204-.. (a2) When used with insert TPG. 110204-XL

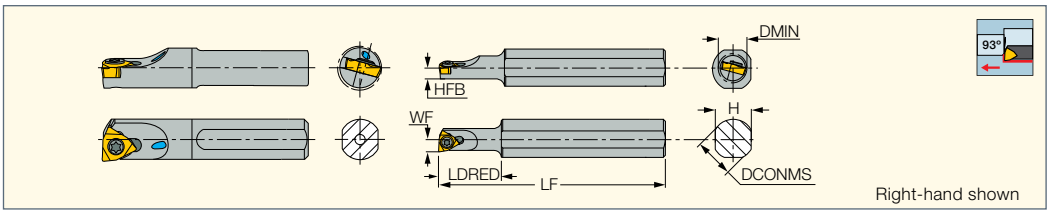
(1) 0 - Without coolant supply, 1 - With coolant supply

**Inserts:** TPMT-PF • TPGB-XL • TPGH-R/L • TPGH-XL • TPGB • TPMT

ISOTURN

## E/S-SWUBR/L

Screw Clamp Miniature Boring Bars Carrying Small WBMT Trigon Inserts




| Designation | DCONMS | LF | LDRED | H | HFB | WF | DMIN | CSP(1) | Shank m.(2) | MIID(3) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| E06H SWUBL-06 | 6.00 | 100.00 | - | 5.2 | 2.6 | 3.30 | 6.50 | 1 | C | WBMT 060101R | SR 14-552 | T-6/5 |
| E06H SWUBR-06 | 6.00 | 100.00 | - | 5.2 | 2.6 | 3.30 | 6.50 | 1 | C | WBMT 060101L | | |
| E08K SWUBR-06 | 8.00 | 125.00 | - | 7.6 | 3.8 | 4.30 | 8.70 | 1 | C | WBMT 060101L | SR 14-552 | T-6/5 |
| E10M SWUBR-06 | 10.00 | 150.00 | - | 9.0 | 4.5 | 5.20 | 10.90 | 1 | C | WBMT 060101L | SR 14-552 | T-6/5 |
| S0606H SWUBR-06 | 6.00 | 100.00 | - | 5.2 | 2.6 | 3.30 | 6.50 | 0 | S | WBMT 060101L | SR 14-552 | T-6/5 |
| S0610H SWUBL-06 | 10.00 | 100.00 | 20.0 | 9.0 | 4.5 | 3.00 | 6.00 | 0 | S | WBMT 060101R | SR 14-552 | T-6/5 |
| S0610H SWUBR-06 | 10.00 | 100.00 | 20.0 | 9.0 | 4.5 | 3.00 | 6.00 | 0 | S | WBMT 060101L | | |
| S0710H SWUBL-06 | 10.00 | 100.00 | 24.0 | 9.0 | 4.5 | 3.50 | 7.00 | 0 | S | WBMT 060101R | SR 14-552 | T-6/5 |
| S0710H SWUBR-06 | 10.00 | 100.00 | 24.0 | 9.0 | 4.5 | 3.50 | 7.00 | 0 | S | WBMT 060101L | | |
| S0808J SWUBR-06 | 8.00 | 100.00 | - | 7.4 | 3.7 | 4.30 | 8.50 | 0 | S | WBMT 060101L | SR 14-552 | T-6/5 |
| S0812J SWUBL-06 | 12.00 | 110.00 | 32.0 | 11.0 | 5.5 | 4.00 | 8.00 | 0 | S | WBMT 060101R | SR 14-552 | T-6/5 |
| S0812J SWUBR-06 | 12.00 | 110.00 | 32.0 | 11.0 | 5.5 | 4.00 | 8.00 | 0 | S | WBMT 060101L | | |
| S1010K SWUBL-06 | 10.00 | 125.00 | - | 9.0 | 4.5 | 5.20 | 11.00 | 0 | S | WBMT 060101R | SR 14-552 | T-6/5 |
| S1010K SWUBR-06 | 10.00 | 125.00 | - | 9.0 | 4.5 | 5.20 | 11.00 | 0 | S | WBMT 060101L | | |

- Use right-hand WBMT 06...R inserts on left-hand tools and left-hand WBMT 06...L inserts on right-hand tools.

(1) 0 - Without coolant supply, 1 - With coolant supply

(2) S-Steel, C-Carbide

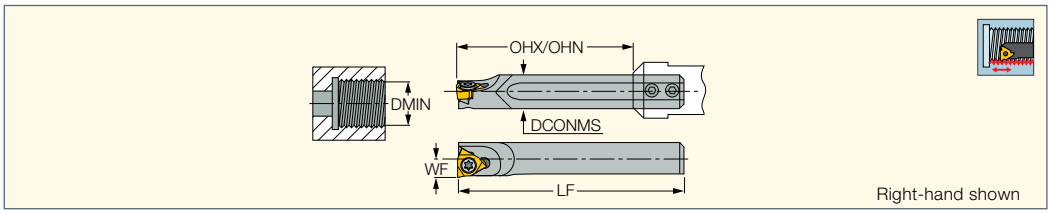
(3) Master insert identification

**Inserts:** WBGT • WBMT

ISCARTHREAD

## MGSIR/L

Solid Carbide Bars for Internal Turning and Threading




| Designation | DCONMS | LF | OHN(1) | OHX(2) | WF | DMIN | | |
|---|---|---|---|---|---|---|---|---|
| MGSIR/L 06-06 | 6.00 | 59.00 | 16.0 | 42.0 | 3.90 | 7.00 | SR 14-552 | T-6/5 |
| MGSIR/L 08-06 | 8.00 | 72.00 | 20.0 | 56.0 | 5.00 | 9.20 | SR 14-552 | T-6/5 |

- In order to maintain high machining reliability, we strongly recommend replacing the clamping screw every 10 insert indexes

(1) Minimum overhang in adjustment range

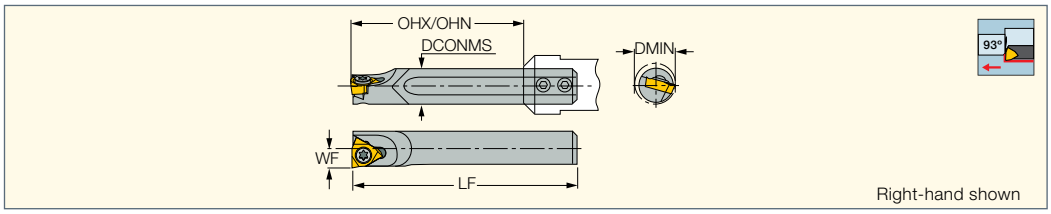
(2) Maximum overhang in adjustment range

**Inserts:** IR/L-55° • IR/L-60° • IR/L-BSPT • IR/L-ISO • IR/L-NPT • IR/L-NPTF • IR/L-UN • IR/L-W

ISOTURN

## MG-SWUBR/L

Solid Carbide Bars for Internal Turning




| Designation | DCONMS | LF | OHN(1) | OHX(2) | WF | DMIN | | |
|---|---|---|---|---|---|---|---|---|
| MG 06-SWUBR/L-06 | 6.00 | 59.00 | 16.0 | 42.0 | 3.30 | 6.60 | SR 14-552 | T-6/5 |
| MG 08-SWUBR/L-06 | 8.00 | 72.00 | 20.0 | 56.0 | 4.30 | 8.70 | SR 14-552 | T-6/5 |

- Use right-hand WBMT 06...R inserts on left-hand tools and left-hand WBMT 06...L inserts on right-hand tools

(1) Minimum overhang in adjustment range

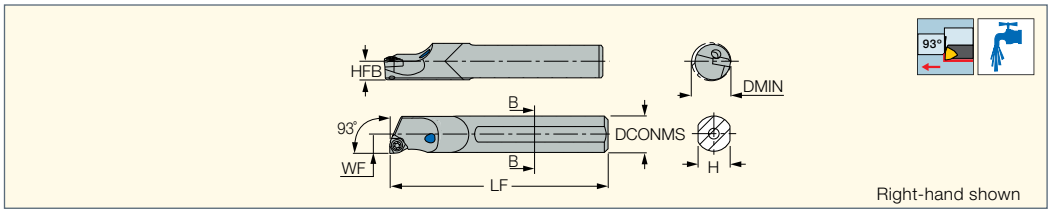
(2) Maximum overhang in adjustment range

**Inserts:** WBGT • WBMT

ISOTURN

## A/E-SWUCR

Boring Bars Carrying WCGT Trigon Inserts for Small Diameters




| Designation | DCONMS | LF | H | HFB | WF | DMIN | Shank m.(1) | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|
| A06H SWUCR-02 | 6.00 | 100.00 | 5.4 | 2.7 | 3.30 | 6.60 | S | WCGT 0201 | SR 14-299 | T-6/5 |
| A08J SWUCR-02 | 8.00 | 110.00 | 7.2 | 3.6 | 4.25 | 8.70 | S | WCGT 0201 | SR 14-299 | T-6/5 |
| A10K SWUCR-02 | 10.00 | 125.00 | 9.0 | 4.5 | 5.20 | 10.90 | S | WCGT 0201 | SR 14-299 | T-6/5 |
| E06H SWUCR-02 | 6.00 | 100.00 | 5.4 | 2.7 | 3.30 | 6.60 | C | WCGT 0201 | SR 14-299 | T-6/5 |
| E08K SWUCR-02 | 8.00 | 125.00 | 7.2 | 3.6 | 4.30 | 8.70 | C | WCGT 0201 | SR 14-299 | T-6/5 |
| E10M SWUCR-02 | 10.00 | 150.00 | 9.0 | 4.5 | 5.20 | 10.90 | C | WCGT 0201 | SR 14-299 | T-6/5 |

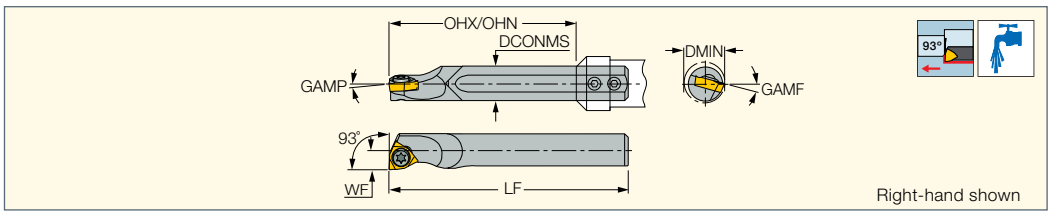
(1) S-Steel, C-Carbide

**Inserts:** WCGT

ISOTURN

## MG-SWUCR

Solid Carbide Boring Bars Carrying WCGT Trigon Inserts for Small Diameters




| Designation | DCONMS | LF | OHN(1) | OHX(2) | WF | GAMP | GAMF | DMIN | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MG 06-SWUCR-02 | 6.00 | 60.00 | 16.0 | 42.0 | 3.30 | 0.0 | 15.0 | 6.60 | WCGT 0201 | SR 14-299 | T-6/5 |
| MG 08-SWUCR-02 | 8.00 | 75.70 | 20.0 | 56.0 | 4.30 | 0.0 | 12.0 | 8.80 | WCGT 0201 | SR 14-299 | T-6/5 |

(1) Minimum overhang in adjustment range

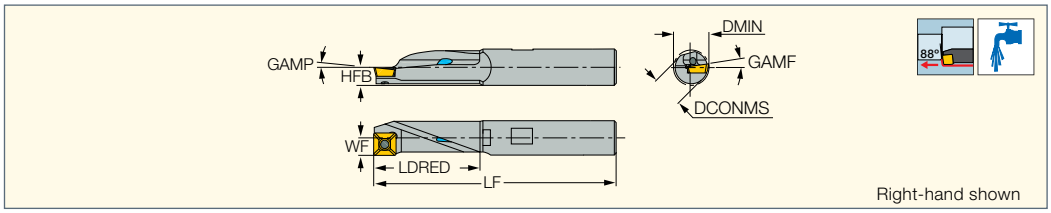
(2) Maximum overhang in adjustment range

**Inserts:** WCGT

ISOTURN

## A-SXFOR/L

Boring Bars with Coolant Holes Carrying XOMT Inserts

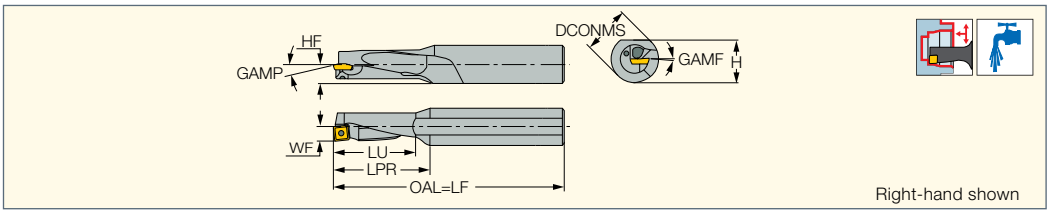



| Designation | DCONMS | LF | LDRED | HFB | WF | GAMP | GAMF | DMIN | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A10J SXFOR/L-06 | 10.00 | 110.00 | 28.5 | 5.0 | 4.90 | 6.0 | 1.8 | 10.00 | XOMT 0602 | SR 34-508 | T-7/5 |
| A12K SXFOR/L-06 | 12.00 | 125.00 | 28.5 | 5.0 | 4.90 | 6.0 | 1.8 | 10.00 | XOMT 0602 | SR 34-508 | T-7/5 |

**Inserts:** XOMT-DT

## MULTIFUNCTION TOOLS

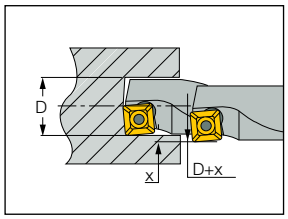
### A-SXFOR-DR
Boring and Drilling Bars
with Coolant Holes
Carrying XOMT Inserts




| Designation | DCONMS | LF | LPR | LU | WF | HF | GAMP | GAMF | H | DCN(1) | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A1612M SXFOR-06DR | 16.00 | 180.00 | 31.0 | 21.0 | 6.00 | 8.5 | 0.0 | 0.0 | 15.0 | 12.50 | XOMT 0602 |

(1) Cutting diameter minimum

**Inserts:** XOMT-DT



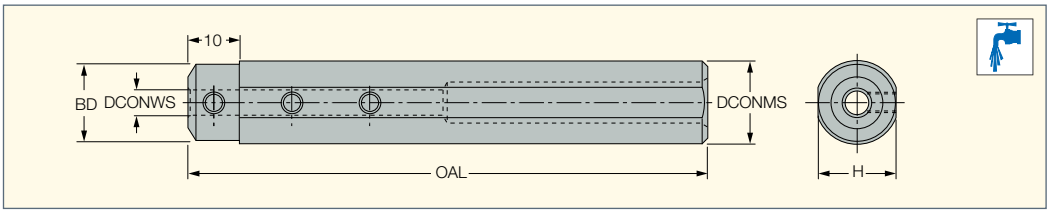

**Drilling Solid Material**
Range:
**Dmin**=12.5 mm
**Dmax**=14 mm
To achieve required diameter øD, position tool as shown at D + x (x=0.10) to compensate for tool deflection.
Use pecking cycle, pulling back 0.1 mm after each 1 mm of DOC.
Maximum feed for steel: 0.05 mm/rev;
For stainless steel: 0.03 mm/rev

### Spare Parts

| Designation | | | |
|---|---|---|---|
| A-SXFOR-DR | SR 34-508 | T-7/51 | PL 16 |

## ISOTURN

### SBB
Holders for Small
Diameter Boring Bars



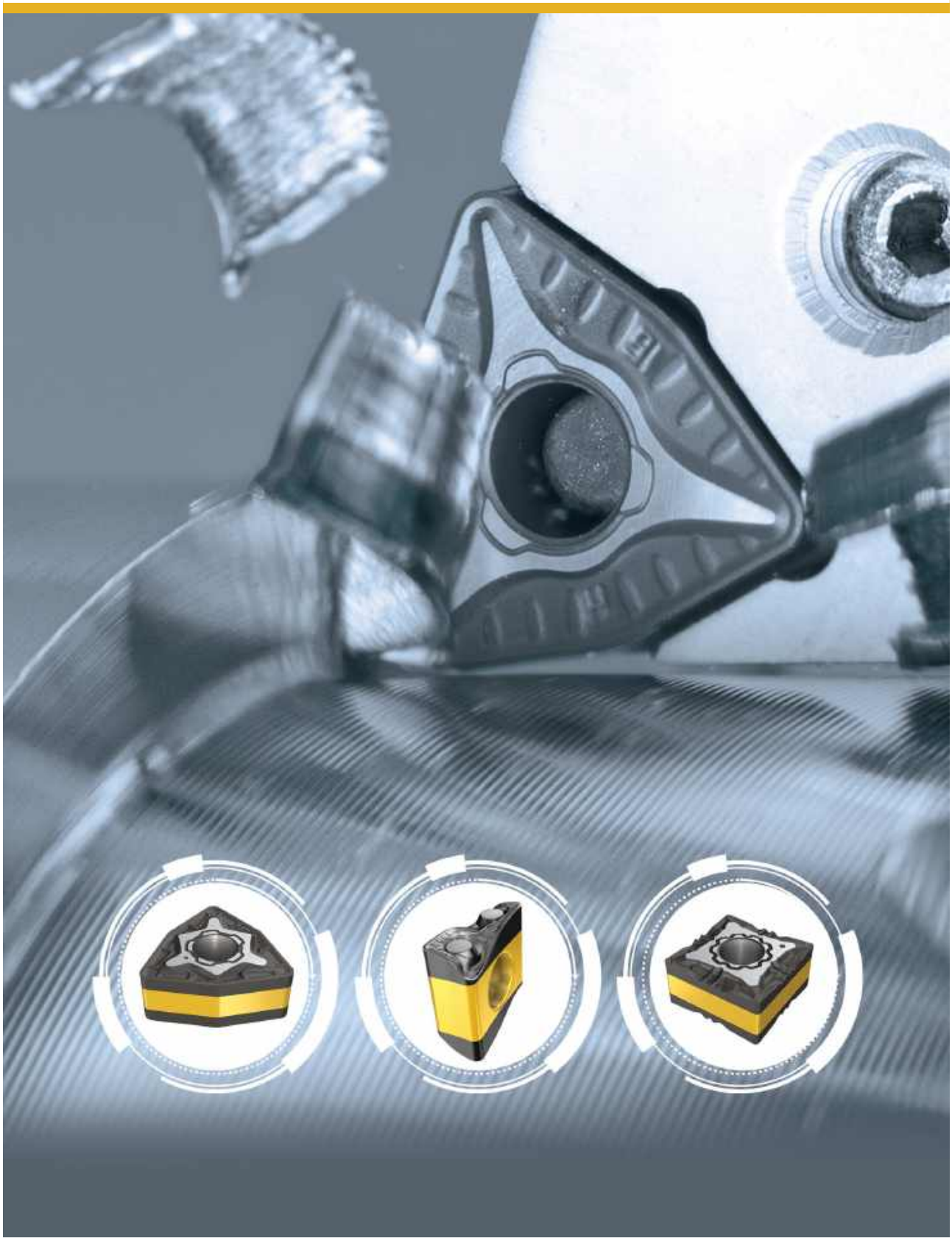

| Designation | DCONMS | DCONWS | BD | H | OAL | | | |
|---|---|---|---|---|---|---|---|---|
| SBB D16-4 | 16.00 | 4.00 | 15.00 | 15.0 | 100.00 | SR M4X4 | HW 2.0 | PL 16* |
| SBB D16-5 | 16.00 | 5.00 | 15.00 | 15.0 | 100.00 | SR M4X4 | HW 2.0 | PL 16* |
| SBB D16-6 | 16.00 | 6.00 | 15.00 | 15.0 | 100.00 | SR M4X4 | HW 2.0 | PL 16* |
| SBB D16-7 | 16.00 | 7.00 | 15.00 | 15.0 | 100.00 | SR M4X4 | HW 2.0 | PL 16* |
| SBB D20-4 | 20.00 | 4.00 | 13.00 | 19.0 | 100.00 | SR M4X4 | HW 2.0 | PL 16* |
| SBB D20-5 | 20.00 | 5.00 | 14.00 | 19.0 | 100.00 | SR M4X4 | HW 2.0 | PL 16* |
| SBB D20-6 | 20.00 | 6.00 | 15.00 | 19.0 | 100.00 | SR M4X4 | HW 2.0 | PL 16* |
| SBB D20-7 | 20.00 | 7.00 | 16.00 | 19.0 | 100.00 | SR M4X4 | HW 2.0 | PL 16* |
| SBB D22-4 | 22.00 | 4.00 | 13.00 | 21.0 | 125.00 | SR M4X4 | HW 2.0 | PL 16* |
| SBB D22-5 | 22.00 | 5.00 | 14.00 | 21.0 | 125.00 | SR M4X4 | HW 2.0 | PL 16* |
| SBB D22-6 | 22.00 | 6.00 | 15.00 | 21.0 | 125.00 | SR M4X4 | HW 2.0 | PL 16* |
| SBB D22-7 | 22.00 | 7.00 | 16.00 | 21.0 | 125.00 | SR M4X4 | HW 2.0 | PL 16* |
| SBB D25-4 | 25.00 | 4.00 | 13.00 | 24.0 | 125.00 | | HW 2.0 | |
| SBB D25-5 | 25.00 | 5.00 | 14.00 | 24.0 | 125.00 | | HW 2.0 | |
| SBB D25-6 | 25.00 | 6.00 | 15.00 | 24.0 | 125.00 | | HW 2.0 | |
| SBB D25-7 | 25.00 | 7.00 | 16.00 | 24.0 | 125.00 | | HW 2.0 | |

- Holders are suitable for right- and left-hand inserts, and boring bars

* Optional, should be ordered separately

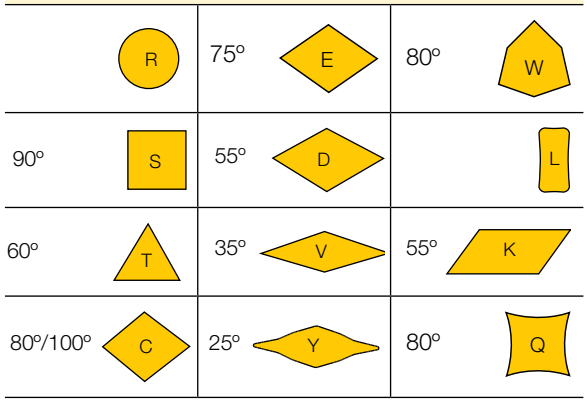
**Tools:** A/E-SEXPR/L-03 • A/E-SWUCR • A/E/S-SCLCR/L • E/S-SWUBR/L • MG-SWUBR/L • MG-SWUCR • MGCH • MGSIR/L

# ISOTURN INSERTS

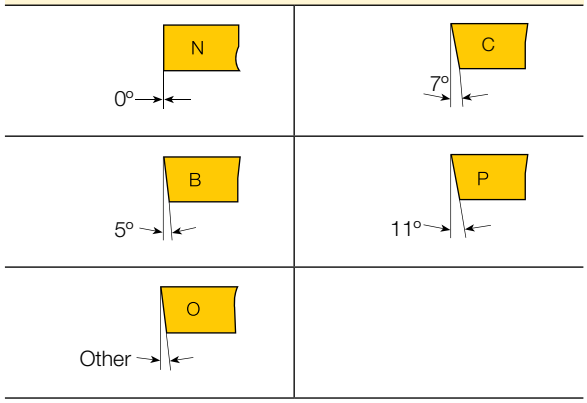


| W | N | M | G | 08 | 04 | 08 | E | GN |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

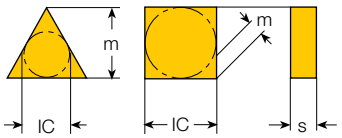
## 1. Shape




## 2. Clearance Angle




## 3. Tolerance




| | m | | s | IC | |
|---|---|---|---|---|---|
| E | | ±0.025 | ±0.025 | | ±0.025 |
| G | | ±0.025 | ±0.13 | | ±0.025 |
| M | from | ±0.08 | ±0.13 | from | ±0.05 |
| | to | ±0.18(1) | | to | ±0.13(1) |
| U | from | ±0.13 | ±0.13 | from | ±0.08 |
| | to | ±0.38(1) | | to | ±0.25(1) |

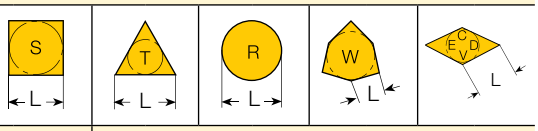
(1) Exact tolerance depends on insert size

| IC | Tolerance in mm | | | |
|---|---|---|---|---|
| | On m | | On IC | |
| | Class M | Class U | Class M | Class U |
| 6.35 | ±0.08 | ±0.13 | ±0.05 | ±0.08 |
| 9.52 | ±0.08 | ±0.13 | ±0.05 | ±0.08 |
| 12.70 | ±0.13 | ±0.20 | ±0.08 | ±0.13 |
| 15.87 | ±0.15 | ±0.27 | ±0.10 | ±0.18 |
| 19.05 | ±0.15 | ±0.27 | ±0.10 | ±0.18 |
| 25.40 | ±0.18 | ±0.38 | ±0.13 | ±0.25 |

## 4. Type

| | | |
|---|---|---|
|  | A | Without chipbreaker, with hole |
|  | G | Chipbreaker on both sides, with hole |
|  | M, S | Chipbreaker on one side, with hole |
|  | R | Chipbreaker on one side, without hole |
|  | B, W | Countersink on one side, with hole |
|  | T, H | Chipbreaker on one side, with hole and countersink |
|  | P | Neg./pos. on one or both sides, with hole |
| | Z, X | Special |

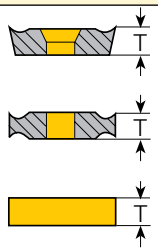
## 5. Cutting Edge Length




| IC | | Symbol (L) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| inch | mm | C | D | R | S | T | V | W | Q |
| 5/32 | 3.97 | | 04 | | 03 | 06 | 06 | 02(1) | |
| 7/32 | 5.56 | 05 | | | | 09 | | | |
| 1/4 | 6.35 | 06 | 07 | | | 11 | 11 | | |
| 9/32 | 7.15 | | | | | | 12 | | |
| | 8.00 | | | 08 | | | | | |
| 3/8 | 9.52 | 09 | 11 | | 09 | 16 | 16 | 06 | 09 |
| | 10.00 | | | 10 | | | | | |
| | 12.00 | | | 12 | | | | | |
| 1/2 | 12.70 | 12 | 15 | | 12 | 22 | 22 | 08 | 12 |
| 5/8 | 15.88 | 16 | | | 15 | 27 | | | |
| | 16.00 | | | 16 | | | | | |
| 3/4 | 19.05 | 19 | | | 19 | 33 | | 13 | |
| | 20.00 | | | 20 | | | | | |
| | 25.00 | | | 25 | | | | | |
| 1 | 25.40 | | | | 25 | | | | |

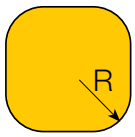
(1) WBMT 06...

## 6. Thickness




| | | |
|---|---|---|
| 01 | = | 1.59 mm |
| T1 | = | 1.98 mm |
| 02 | = | 2.38 mm |
| 03 | = | 3.18 mm |
| T3 | = | 3.97 mm |
| 04 | = | 4.76 mm |
| 06 | = | 6.35 mm |
| 07 | = | 7.94 mm |

## 7. Corner Radius




| | | |
|---|---|---|
| 02 | = | 0.2 mm |
| 04 | = | 0.4 mm |
| 08 | = | 0.8 mm |
| 12 | = | 1.2 mm |
| 16 | = | 1.6 mm |
| 20 | = | 2.0 mm |
| 24 | = | 2.4 mm |

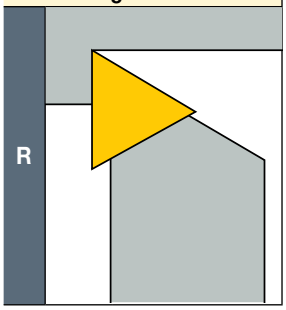
## 8. Cutting Edge (Optional)

| | | |
|---|---|---|
|  | F | Sharp |
|  | E | Honed (Rounded) |
|  | T | Chamfered (Negative Land) |
|  | S | Chamfered + Honed |

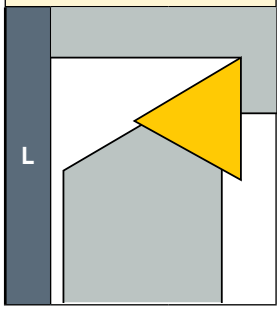
## 9. Chipformer Designation

| | | | |
|---|---|---|---|
| SF | AS/AF | TF | NM |
| PF | ../Z-RF/LF(1) | PP | TNM |
| NF | WF | GN | NR |
| SM | WG | NMS | RP |
| 14 | VL | | |

**Right-hand**




**Left-hand**



## Selection Guide for Chipformers and Grades

**ISO P-Steel**

**Negative**

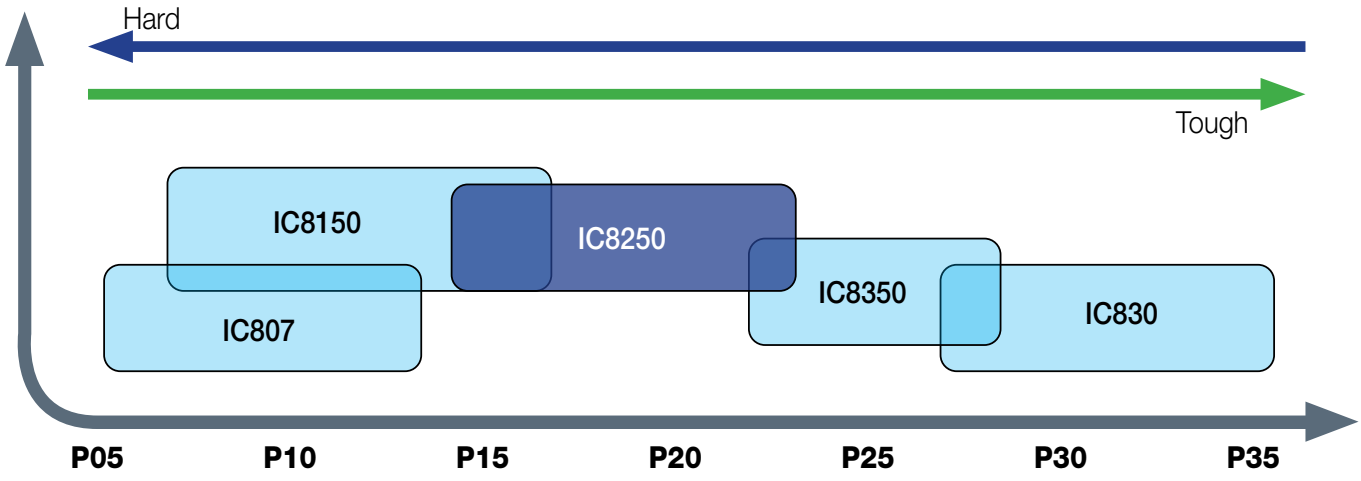
| Finishing | | Medium | | Roughing | | Heavy | |
|---|---|---|---|---|---|---|---|
| Tight | SF | Tight | M4PW | Tight | GN | Tight | H3P |
| | **F3P** | | TF | | **R3P** | | **H4P** |
| | NF | | **M3P** | | NR | | H5P |
| | | | GN | | | | |
| Open | | Open | PP | Open | | Open | |

**Positive**

| Finishing | | Medium | |
|---|---|---|---|
| Tight | **F3P** | Tight | SM |
| | PF | | **M3P** |
| | SM | | |
| Open | 14 | Open | |

First Choice

## Recommended Carbide Grades




* For CBN and Ceramic grades for hardend steel see page 239

## ISO M- Stainless Steel

### Negative

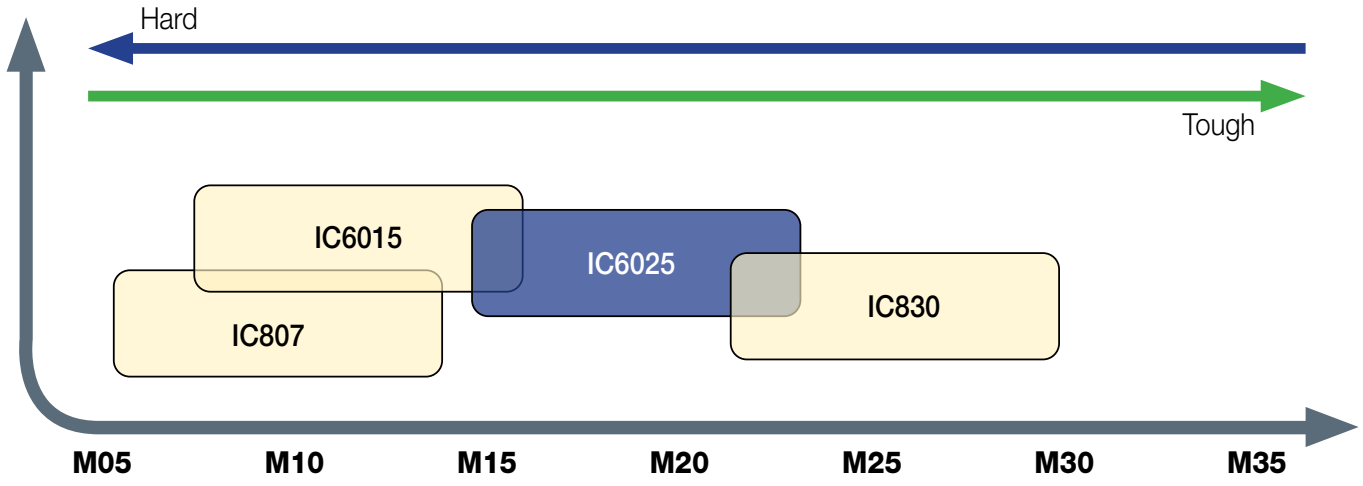
| Finishing | | Medium | | Roughing | |
|---|---|---|---|---|---|
| Tight | SF | Tight | M4MW | Tight | GN |
| | **F3M** | | TF | | **R3M** |
| | NF | | **M3M** | | NR |
| | | | VL | | |
| Open | | Open | PP | Open | |

### Positive

| Finishing | | Medium | |
|---|---|---|---|
| Tight | SM | Tight | **M3M** |
| | PF | | SM |
| | **F3M** | | |
| Open | 14 | Open | |

First Choice

### Recommended Carbide Grades



## Selection Guide for Chipformers and Grades

**ISO K-Cast Iron**

**Negative**

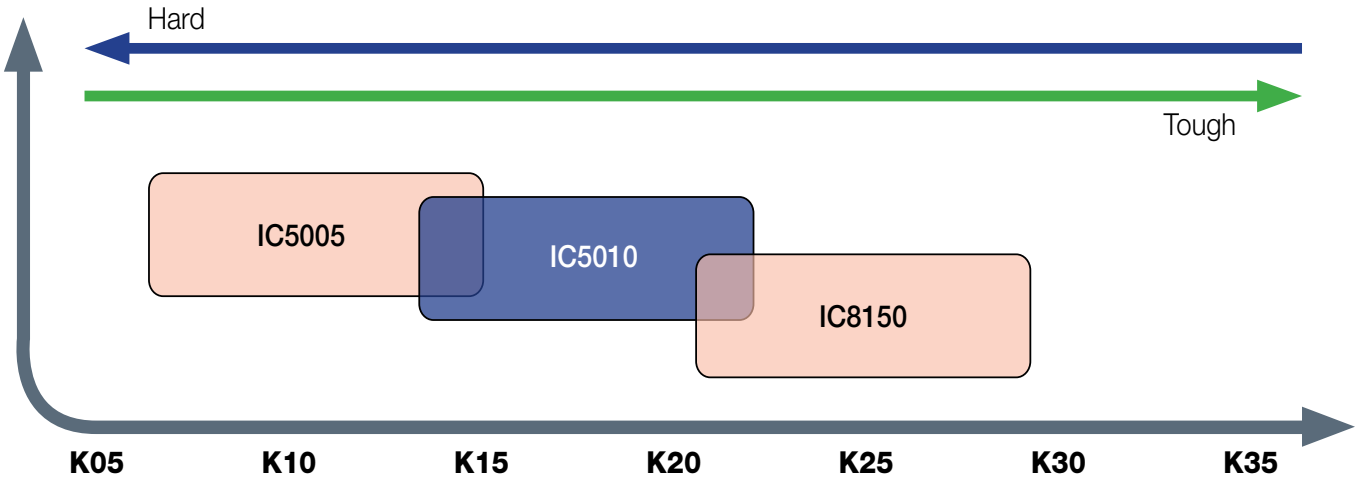
| Finishing | | Medium | | Roughing | |
|---|---|---|---|---|---|
| Tight | M3P | Tight | GN | Tight | NR |
| Open | GN | Open | A | Open | A |

**Positive**

| Finishing | | Medium | |
|---|---|---|---|
| Tight | SM | Tight | SM |
| Open | 14 | Open | 14 |

First Choice

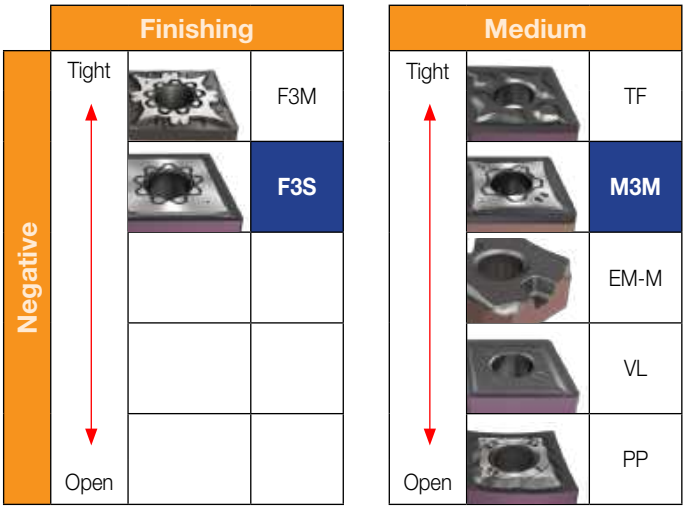
## Recommended Carbide Grades

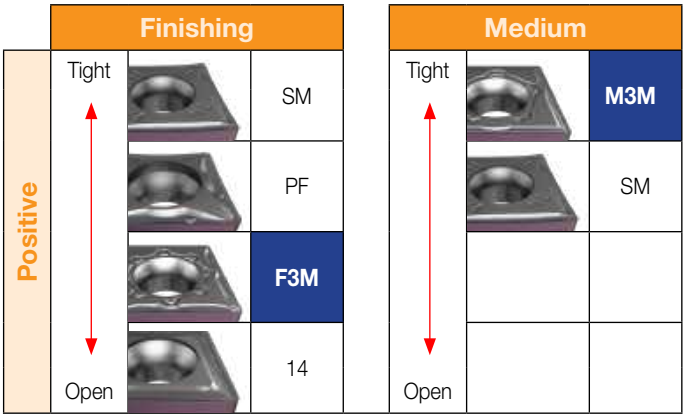



* For CBN and Ceramic grades for hardend steel see page 239

## Selection Guide for Chipformers and Grades

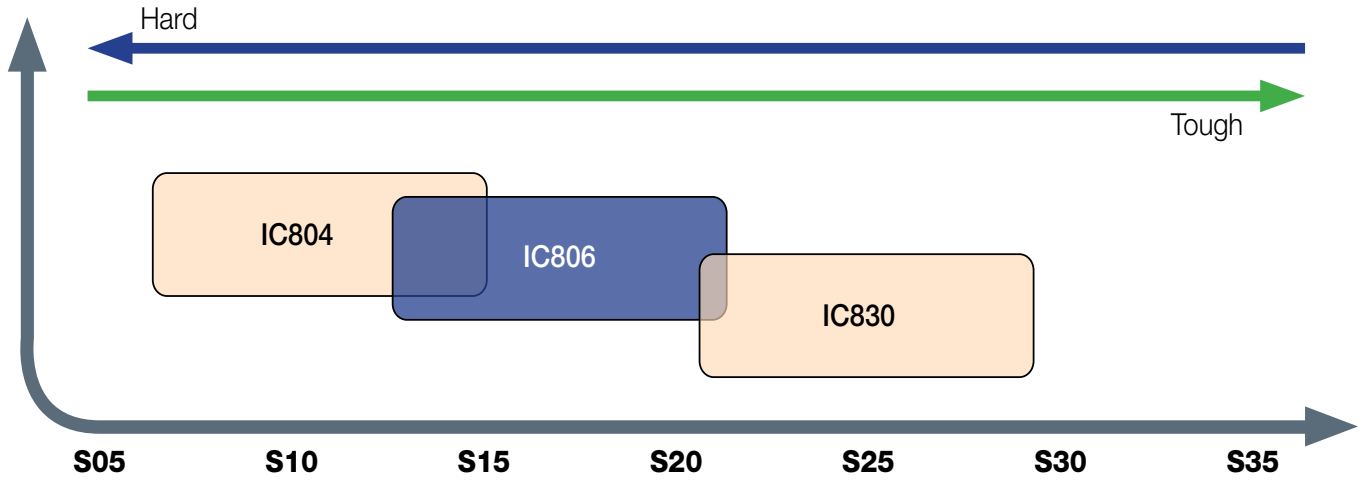
**ISO S-High Temp. Alloys**




First Choice

## Recommended Carbide Grades




* For CBN and Ceramic grades for hardend steel see page 239

## Selection Guide for Chipformers and Grades

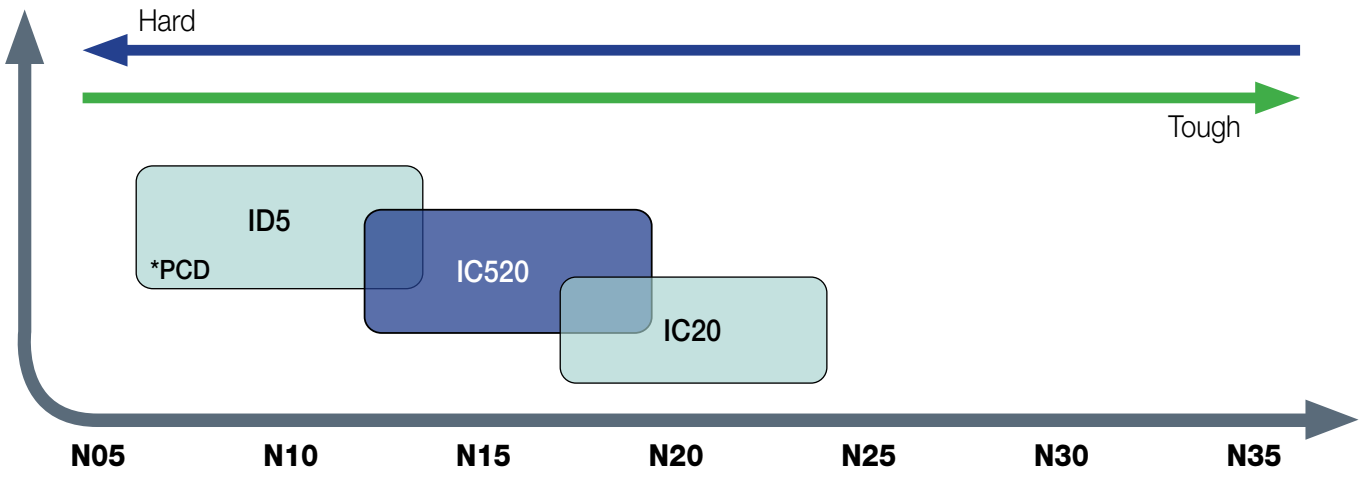
**ISO N-Aluminum**

| | Finishing | Medium | Roughing |
|---|---|---|---|
| Negative | Tight ↕ Open | Tight ↕ Open | Tight ↕ Open |
| |  NF |  PP |  NMS12 |
| |  **F3N** |  **M3N** | |

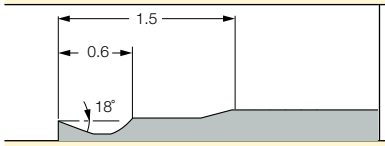
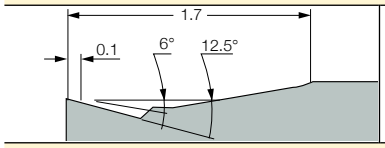
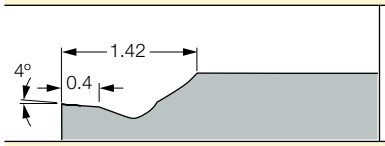
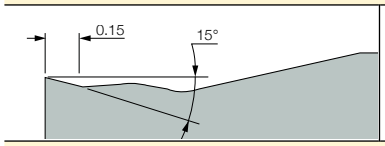
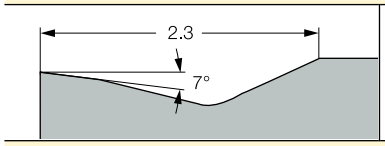
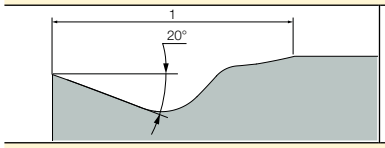
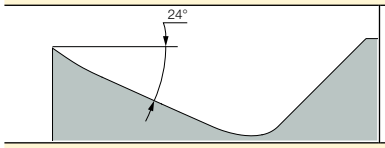
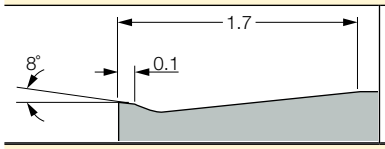
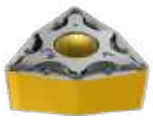
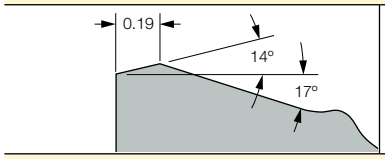
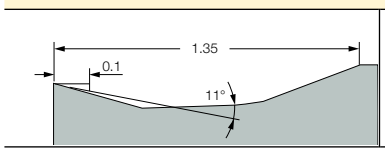
| | Finishing |
|---|---|
| Positive | Tight ↕ Open |
| |  AS |

First Choice

## Recommended Carbide Grades

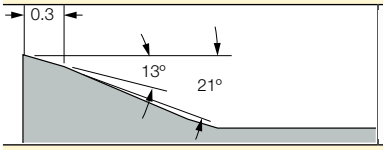


## Chipformers
### Negative Chipformers

| | | |
|---|---|---|
| **SF Chipformer** | | |
|  |  | A unique super finishing chipformer that controls chip flow at very low feeds and cutting depths. Designed to reduce crater wear. |
| **F3P Chipformer** | | |
|  |  | Double-sided insert with a positive rake angle to reduce cutting forces for finish machining on steel. |
| **NF Chipformer** | | |
|  |  | Double-sided for semi-finishing and finishing applications. Low cutting forces are due to a very sharp edge and positive rake. |
| **F3M Chipformer** | | |
|  |  | Double-sided insert with a positive rake angle for finish machining on stainless steel. Its unique deflector geometry with a wavy surface prevents chip hammering. |
| **GN Chipformer** | | |
|  |  | Double-sided for general applications. Secure cutting edge for medium and semi-roughing on steel and cast iron. |
| **F3S Chipformer** | | |
|  |  | Chipbreaker with positive rake angle for finish machining superalloys and exotic materials. |
| **F3N Chipformer** | | |
|  |  | Polished and extra sharp positive insert for machining aluminum and non-ferrous materials for finishing applications. |
| **WF Chipformer** | | |
|  |  | Wiper geometry for high feed finishing on soft and gummy materials. Small depths of cut. |
| **M4PW Chipformer** | | |
|  |  | Double-sided for roughing applications. Feed range: 0.25 mm/rev to 0.8 mm/rev. Depth of cut from 2.00 to 10.0 mm. |
| **M3P Chipformer** | | |
|  |  | Double-sided insert for medium machining on steel with a reinforced cutting edge to increase tool life. |

## Negative Chipformers

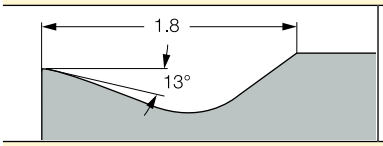
### M4MW Chipformer





Chipformer for heavy machining applications on stainless steel. The inserts feature a very positive radial helical cutting edge and a positive rake angle.

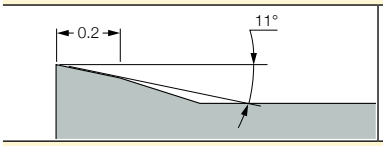
### TF Chipformer





Double-sided positive rake angles to prevent strain hardening. The rake angle varies along the edge to a negative angle which prevents chipping. Special design reduces cratering. Used for carbon and alloy steel, stainless steel and high-temp alloys.

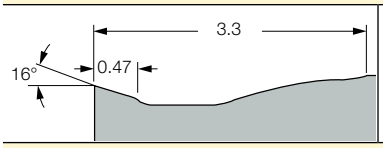
### M3M Chipformer





Double-sided insert for medium machining on stainless steel with a reinforced cutting edge that prevents notch wear at tight radii to increase tool life.

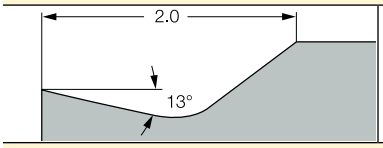
### VL Chipformer





High positive rake and a special edge preparation used for rough and finish turning on high temperature alloys. Excellent performance on parts such as automotive valves.

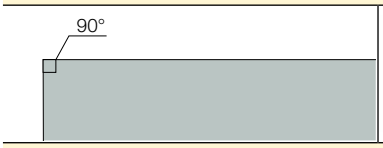
### PP Chipformer





Double-sided, very positive rake, sharp- and positive radial edge for heat-resistant alloys, stainless steel, aluminum alloys and soft, low carbon steel.

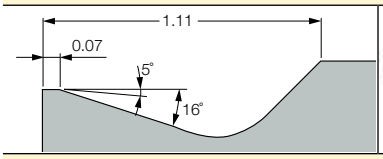
### A Chipformer





Flat inserts, used for short chipping materials such as cast iron.

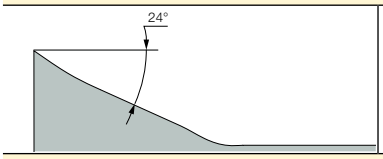
### EM-M Chipformer





Double-sided sharp cutting edge with a 16º positive rake angle for machining high temperature alloys at $a_p$<3 mm.

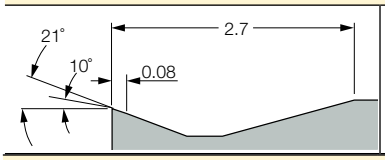
### M3N Chipformer





Polished and extra sharp positive insert for machining aluminum and non-ferrous materials for medium applications.

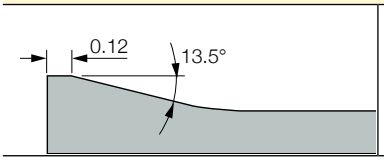
### 12 Chipformer





Single-sided for medium to rough machining on aluminum and soft materials.

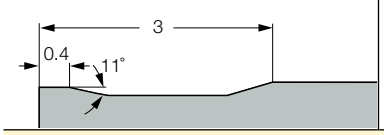
### R3P Chipformer





Chipbreaker for rough machining on steel with a positive rake angle and reinforced cutting edge for better performance and longer tool life.

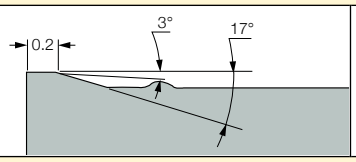
## NR Chipformer






Double-sided sharp cutting edge with a 13º positive rake angle for machining high temperature alloys at $a_p$ < 6 mm.

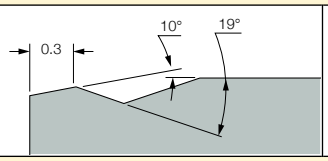
## R3M Chipformer






Double-sided insert for rough machining on stainless steel with a unique deflector geometry to improve chip control. Includes a wavy surface to prevent chip hammering.

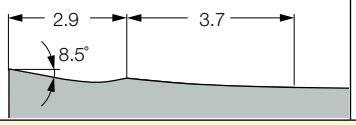
## T3P Chipformer






Double-sided 6˚ negative flank trigone insert for high feed turning on steel.

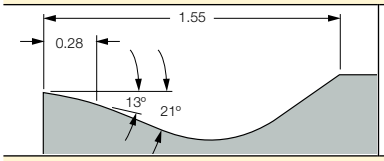
## TNM Chipformer






Double-sided trigon for roughing applications. Feed ranges: from 0.25 to 0.65 mm/rev. Depth of cut from 2 to 7 mm.

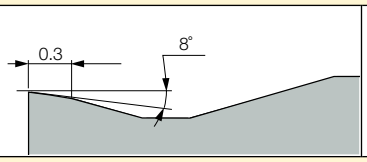
## EM-R Chipformer






Double-sided sharp cutting edge with a 13º positive rake angle for machining high temperature alloys at $a_p$ < 6 mm.

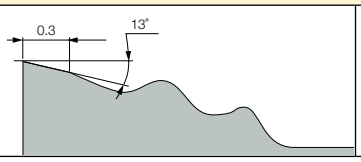
## HT/WG Chipformer






Double-sided for roughing applications. Feed range: 0.25 mm/rev to 0.8 mm/rev. Depth of cut from 2.00 to 10.0 mm.

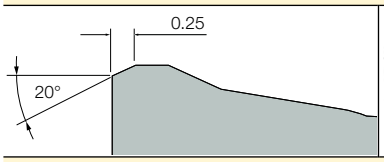
## HM Chipformer






Feed range: 0.08 mm/rev to 0.75 mm/rev. Depth of cut from 1.5 mm to 8.0 mm.

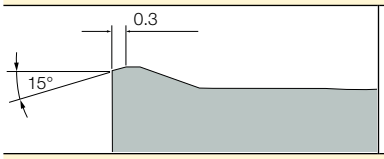
## H3P Chipformer

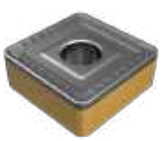





- For heavy roughing applications
- Low cutting force for low horse power machines
- Excellent chip control due to changeable land and a flexible chip breaker

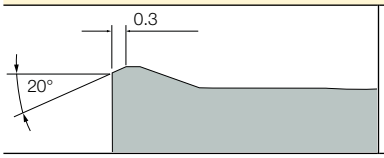
## H4P Chipformer



- For heavy roughing applications
- For large depth of cut and high feed
- Strong cutting edge credit to a wide land and large land angle

## H5P Chipformer

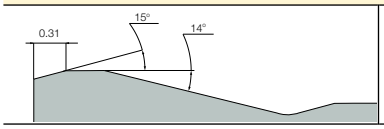





- For heavy roughing applications
- For large depth of cut and high feed
- Extremely strong cutting edge credit to a wide land and large land angle
- Suitable for high cutting conditions

## Negative Chipformers

### H6P Chipformer

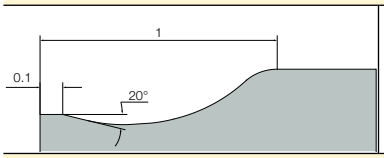




Tangential insert with 4 cutting edges for high metal removal on steel up to 35 mm DOC

## Positive Chipformers

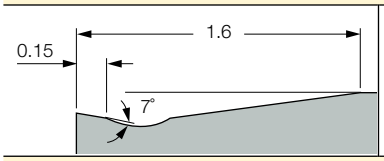
### F3P Chipformer





Super finishing and finishing applications, mainly on positive inserts.
Feed range: 0.03-0.20 mm/rev. DOC 0.25-3.0 mm.

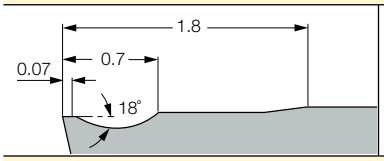
### PF Chipformer





Super finishing and finishing applications, mainly on positive inserts.
Feed range: 0.03-0.20 mm/rev. DOC 0.25-3.0 mm.

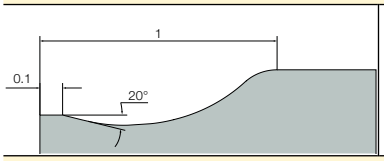
### SM Chipformer





Finishing and boring applications. Feed range: 0.06-0.25 mm/rev. DOC 0.5-2.5 mm.

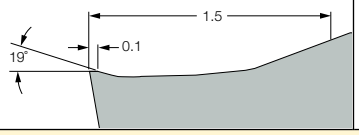
### F3M Chipformer





Chipbreaker with positive rake angle for finishing machining of stainless steel, also suitable for superalloys and exotic materials.

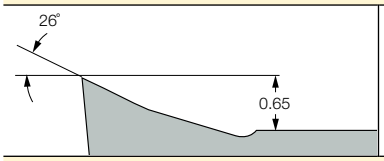
### 14 Chipformer





Semi-finishing and finishing. Medium feeds.

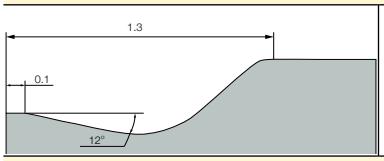
### AS Chipformer





For general use machining on aluminum and soft materials.

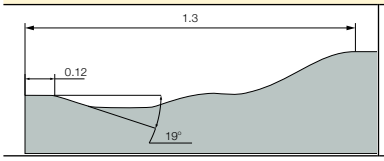
### M3P Chipformer





Chipbreaker with reinforced cutting edge and positive rake angles for medium machining steel conditions.

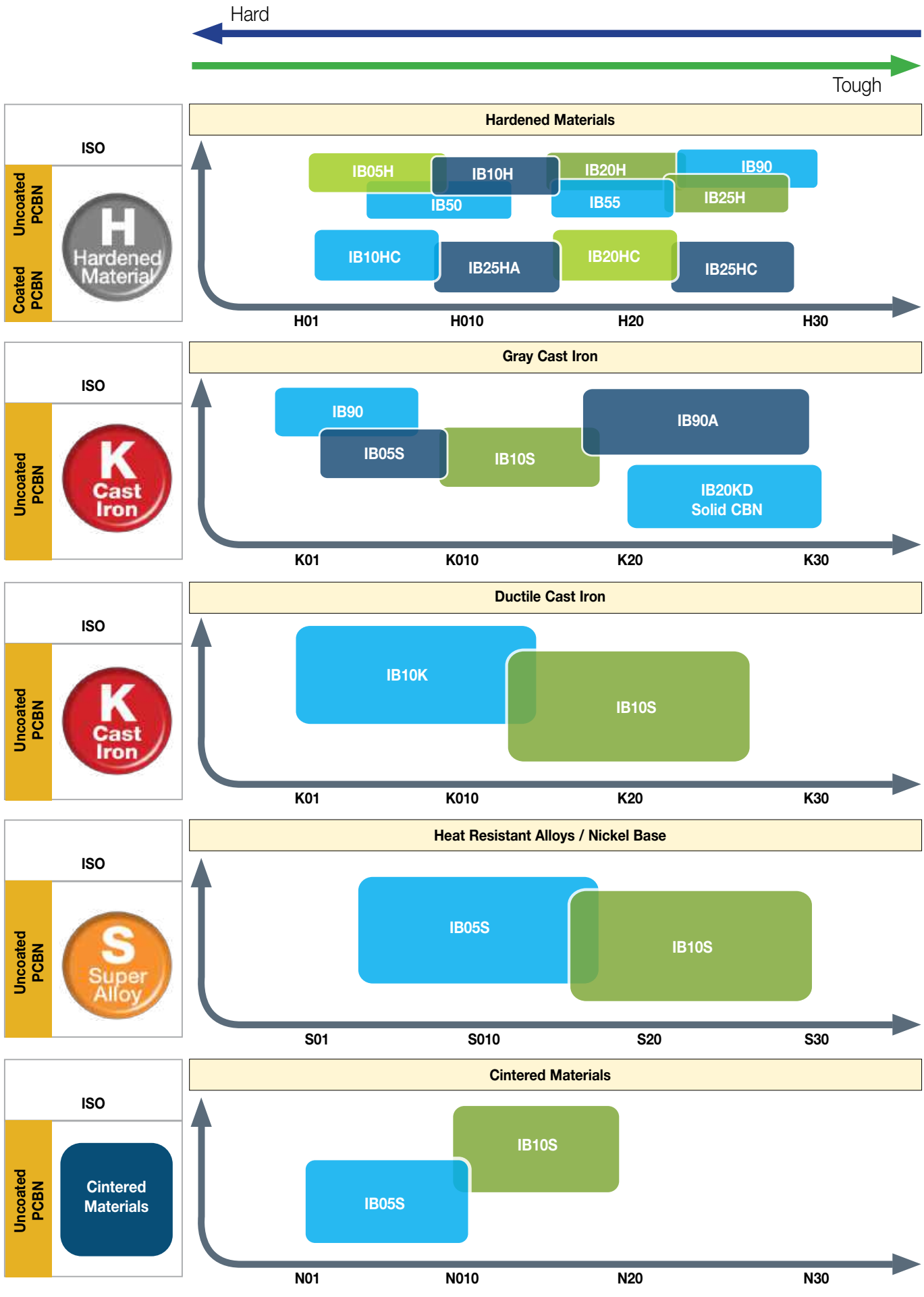
### M3M Chipformer



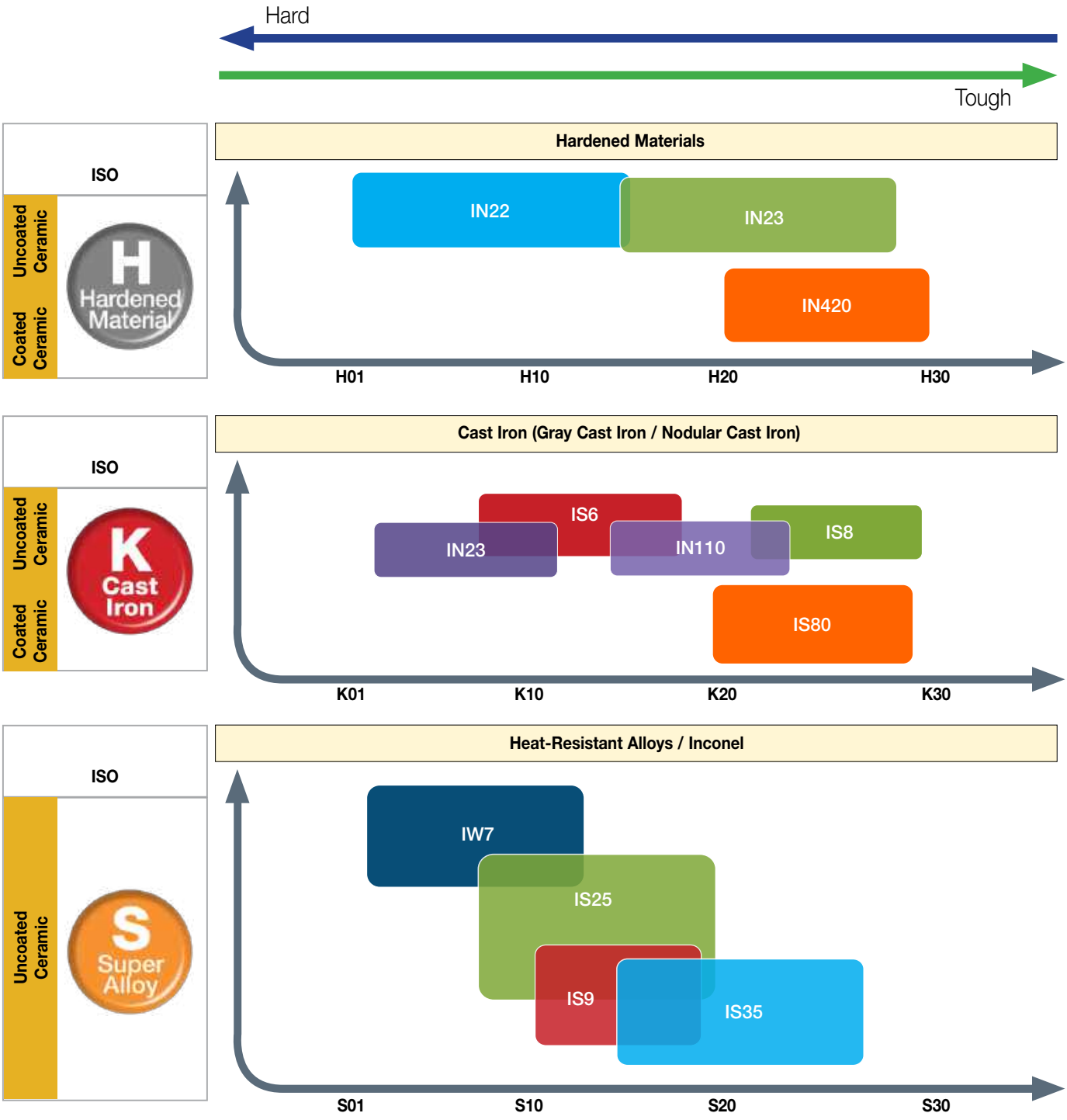


Chipbreaker with reinforced cutting edge and positive rake angles for medium machining stainless steel conditions.

## PCBN Grades


Hard
Tough
ISO
Uncoated PCBN
Coated PCBN
H
Hardened Material
Hardened Materials
IB05H
IB10H
IB20H
IB90
IB50
IB55
IB25H
IB10HC
IB25HA
IB20HC
IB25HC
H01
H010
H20
H30
ISO
Uncoated PCBN
K
Cast Iron
Gray Cast Iron
IB90
IB05S
IB10S
IB90A
IB20KD
Solid CBN
K01
K010
K20
K30
ISO
Uncoated PCBN
K
Cast Iron
Ductile Cast Iron
IB10K
IB10S
K01
K010
K20
K30
ISO
Uncoated PCBN
S
Super Alloy
Heat Resistant Alloys / Nickel Base
IB05S
IB10S
S01
S010
S20
S30
ISO
Uncoated PCBN
Cintered Materials
Cintered Materials
IB10S
IB05S
N01
N010
N20
N30

## Ceramic Grades

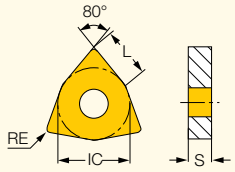


ISOTURN
MINIPTURN POSITIVE DOUBLE SIDED

## WNGP-F2P

Double-Sided Trigon Inserts for Super Finish Machining Conditions on Alloyed Steel









| Designation | Dimensions L | IC | S | RE | IC530N | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| WNGP 040302R/L-F2P | 4.35 | 6.35 | 3.18 | 0.20 | ● | 0.30-2.00 | 0.08-0.30 |
| WNGP 040304R/L-F2P | 4.35 | 6.35 | 3.18 | 0.40 | ● | 0.30-2.00 | 0.08-0.30 |
| WNGP 040308R/L-F2P | 4.35 | 6.35 | 3.18 | 0.80 | ● | 0.30-2.00 | 0.08-0.30 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

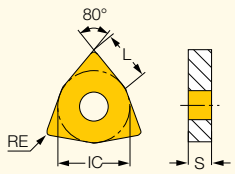
**Tools:** A/E-SWLNR/L-04 • NQCH-SWLNR/L-S-JHP • PWLNR/L-S

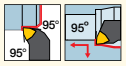
ISOTURN

## WNMG-F3P

Double-Sided Trigon Inserts for Semi-Finishing and Finishing Applications






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC8250 | IC8150 | IC20N | IC520N | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WNMG 060404-F3P | 6.52 | 9.52 | 4.76 | 0.40 | ● | ● | ● | ● | ● | ● | 0.50-2.50 | 0.07-0.25 |
| WNMG 060408-F3P | 6.52 | 9.52 | 4.76 | 0.80 | ● | ● | ● | ● | ● | ● | 0.90-3.00 | 0.08-0.25 |
| WNMG 060412-F3P | 6.52 | 9.52 | 4.76 | 1.20 | ● | ● | ● | | | ● | 1.30-3.00 | 0.10-0.25 |
| WNMG 080404-F3P | 8.70 | 12.70 | 4.76 | 0.40 | ● | ● | ● | | | ● | 0.50-3.50 | 0.07-0.25 |
| WNMG 080408-F3P | 8.70 | 12.70 | 4.76 | 0.80 | ● | ● | ● | | | ● | 0.90-3.50 | 0.08-0.25 |
| WNMG 080412-F3P | 8.70 | 12.70 | 4.76 | 1.20 | ● | ● | ● | | | ● | 1.30-3.50 | 0.10-0.25 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

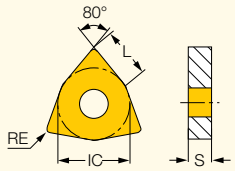
**Tools:** A-PWLNR/L-X/G • A/S-MWLNR/L-W • A/S-PWLNR/L • C#-MULNR/L-MW • C#-PWLNR/L-08-JHP • C#-PWLNR/L-X • C#-PWLNR/L-X-JHP • DWLNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • MWLNR/L-W • PWLNR/L • PWLNR/L-08-JHP • PWLNR/L-X • PWLNR/L-X-JHP • PWLNR/L-X-JHP-MC • S-DWLNR/L • S-MULNR-MW • DWLNR/L-JHP-MC

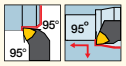
ISOTURN

## WNMG-M3P

Double-Sided Trigon Inserts for Medium Machining Conditions on Steel






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC8250 | IC8150 | IC5010 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WNMG 06T304-M3P | 6.52 | 9.52 | 3.97 | 0.40 | ● | ● | ● | | | 0.45-2.50 | 0.10-0.45 |
| WNMG 06T308-M3P | 6.52 | 9.52 | 3.97 | 0.80 | ● | ● | ● | | | 0.50-3.00 | 0.15-0.50 |
| WNMG 06T312-M3P | 6.52 | 9.52 | 3.97 | 1.20 | ● | ● | | | | 0.80-3.00 | 0.18-0.60 |
| WNMG 060404-M3P | 6.52 | 9.52 | 4.76 | 0.40 | ● | ● | ● | | ● | 0.45-2.50 | 0.10-0.45 |
| WNMG 060408-M3P | 6.52 | 9.52 | 4.76 | 0.80 | ● | ● | ● | | ● | 0.50-3.00 | 0.15-0.50 |
| WNMG 060412-M3P | 6.52 | 9.52 | 4.76 | 1.20 | ● | | ● | | ● | 0.80-3.00 | 0.18-0.60 |
| WNMG 080404-M3P | 8.70 | 12.70 | 4.76 | 0.40 | ● | ● | ● | | ● | 0.40-3.50 | 0.10-0.45 |
| WNMG 080408-M3P | 8.70 | 12.70 | 4.76 | 0.80 | ● | ● | ● | ● | ● | 0.50-4.00 | 0.15-0.50 |
| WNMG 080412-M3P | 8.70 | 12.70 | 4.76 | 1.20 | ● | ● | ● | ● | ● | 0.80-4.00 | 0.18-0.60 |
| WNMG 080416-M3P | 8.70 | 12.70 | 4.76 | 1.60 | ● | ● | | | ● | 1.00-4.00 | 0.23-0.65 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

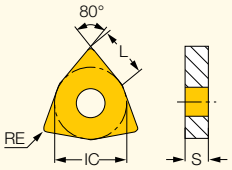
**Tools:** A-PWLNR/L-X/G • A/S-MWLNR/L-W • A/S-PWLNR/L • C#-MULNR/L-MW • C#-PWLNR/L-08-JHP • C#-PWLNR/L-X • C#-PWLNR/L-X-JHP • DWLNR/L • E-PWLNR/L-HEAD • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • MWLNR/L-W • PWLNR/L • PWLNR/L-08-JHP • PWLNR/L-X • PWLNR/L-X-JHP • PWLNR/L-X-JHP-MC • S-DWLNR/L • S-MULNR-MW • DWLNR/L-JHP-MC

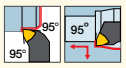
ISOTURN

## WNMG-CERMET

Double-Sided Trigon Cermet Grade Inserts for Semi-Finishing and Finishing Applications





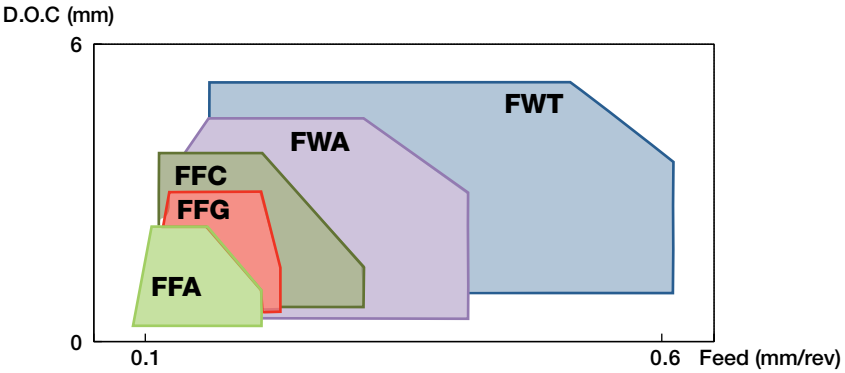




| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC20N | IC520N | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| WNMG 06T302-FFC | 6.52 | 9.52 | 3.97 | 0.20 | • | • | 1.00-2.50 | 0.05-0.25 |
| WNMG 06T304-FFC | 6.52 | 9.52 | 3.97 | 0.40 | • | • | 1.00-2.50 | 0.05-0.25 |
| WNMG 06T304-FFG | 6.52 | 9.52 | 3.97 | 0.40 | | • | 1.00-2.50 | 0.05-0.25 |
| WNMG 06T304-FWA (1) | 6.52 | 9.52 | 3.97 | 0.40 | | • | 0.50-3.00 | 0.12-0.50 |
| WNMG 06T308-FFC | 6.52 | 9.52 | 3.97 | 0.80 | • | | 1.00-2.50 | 0.05-0.25 |
| WNMX 060404-FWA (1) | 6.52 | 9.52 | 4.76 | 0.40 | | • | 0.50-3.00 | 0.12-0.50 |
| WNMG 06T302-FFA | 6.52 | 9.92 | 3.97 | 0.20 | | • | 0.30-1.50 | 0.05-0.16 |
| WNMG 080404-FFC | 8.70 | 12.70 | 4.76 | 0.40 | • | • | 1.00-2.50 | 0.05-0.25 |
| WNMG 080408-FFC | 8.70 | 12.70 | 4.76 | 0.80 | | • | 1.00-2.50 | 0.05-0.25 |
| WNMG 080408-FWT | 8.70 | 12.70 | 4.76 | 0.80 | | • | 1.40-5.00 | 0.15-0.60 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

(1) Insert with wiper geometry

**Tools:** A/S-MWLNR/L-W • A/S-PWLNR/L • C#-MULNR/L-MW • C#-PWLNR/L-08-JHP • DWLNR/L • E-PWLNR/L-HEAD • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • MWLNR/L-W • PWLNR/L • PWLNR/L-08-JHP • PWLNR/L-X • PWLNR/L-X-JHP • S-DWLNR/L • S-MULNR-MW • DWLNR/L-JHP-MC



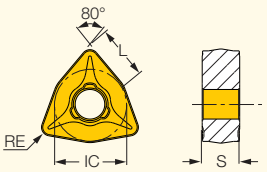

DOVEIQTURN HEAVY DUTY LINE

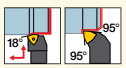
FEEDTURN

## WOMG-10-T3P-IQ

Double-Sided 6° Negative Side Flank Trigon Inserts for High Feed Turning of Steel






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC8350 | IC8250 | IC8150 | Recommended Machining Data $a_p$ (mm)(2) | f (mm/rev)(1) |
|---|---|---|---|---|---|---|---|---|---|
| WOMG 100716-T3P-IQ | 10.86 | 15.88 | 7.94 | 1.60 | • | • | • | 1.00-2.80 | 1.50-3.00 |

• The specified machining recommendations in the above table are valid only for PWXOR/L-TF-IQ tools. For PWLOR/L-IQ **tools:** $a_p$= 3-7 mm, ft= 0.3-0.8 mm/rev.

• For user guide, see pages 122-134, 236-254

(1) Fast feed cutting condition. For 95° app. See more info.

(2) Fast feed cutting condition. For 95° app. See more info.

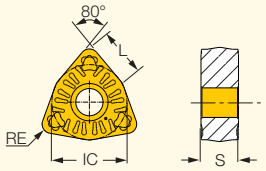
**Tools:** PWLOR/L-IQ • PWXOR/L-TF-IQ

DOVEIQTURN HEAVY DUTY LINE

## WOMG-13-R3P-IQ

Double-Sided 7° Negative Side Flank Trigon Inserts for Heavy Turning of Steel









| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC8250 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| WOMG 130612-R3P-IQ | 13.03 | 19.05 | 6.35 | 1.20 | ● | ● | 3.50-8.00 | 0.30-0.80 |
| WOMG 130616-R3P-IQ | 13.03 | 19.05 | 6.35 | 1.60 | ● | ● | 4.00-8.00 | 0.40-0.85 |
| WOMG 130624-R3P-IQ | 13.03 | 19.05 | 6.35 | 2.40 | ● | ● | 4.00-8.00 | 0.40-1.00 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

**Tools:** C#-PWLOR/L-IQ • PWLOR/L-IQ

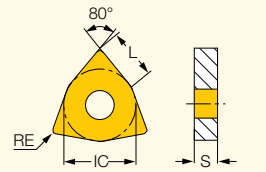
ISOTURN

MINIPTURN POSITIVE DOUBLE SIDED

## WNGP-F2M

Double-Sided Trigon Inserts for Super Finish Machining Conditions on Stainless Steel









| Designation | Dimensions L | IC | S | RE | IC908 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| WNGP 040302R/L-F2M | 4.35 | 6.35 | 3.18 | 0.20 | ● | 0.30-2.00 | 0.08-0.30 |
| WNGP 040304R/L-F2M | 4.35 | 6.35 | 3.18 | 0.40 | ● | 0.30-2.00 | 0.08-0.30 |
| WNGP 040308R/L-F2M | 4.35 | 6.35 | 3.18 | 0.80 | ● | 0.30-2.00 | 0.08-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

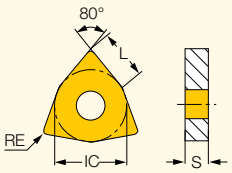
**Tools:** A/E-SWLNR/L-04 • NQCH-SWLNR/L-S-JHP • PWLNR/L-S

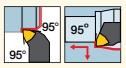
ISOTURN

## WNMG-F3M

Double-Sided Trigon Inserts for Stainless Steel Finishing Applications






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC6025 | IC6015 | IC806 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WNMG 060404-F3M | 6.52 | 9.52 | 4.76 | 0.40 | ● | ● | ● | ● | ● | 0.10-1.50 | 0.05-0.30 |
| WNMG 060408-F3M | 6.52 | 9.52 | 4.76 | 0.80 | ● | ● | ● | ● | ● | 0.10-1.50 | 0.10-0.40 |
| WNMG 060412-F3M | 6.52 | 9.52 | 4.76 | 1.20 | | ● | ● | ● | ● | 0.20-2.50 | 0.15-0.50 |
| WNMG 080404-F3M | 8.70 | 12.70 | 4.76 | 0.40 | ● | ● | ● | ● | ● | 0.10-1.50 | 0.05-0.30 |
| WNMG 080408-F3M | 8.70 | 12.70 | 4.76 | 0.80 | ● | ● | ● | ● | ● | 0.10-1.50 | 0.10-0.40 |
| WNMG 080412-F3M | 8.70 | 12.70 | 4.76 | 1.20 | ● | ● | ● | ● | ● | 0.20-2.50 | 0.15-0.50 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

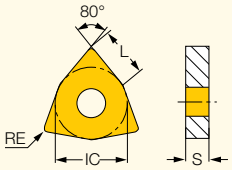
**Tools:** A-PWLNR/L-X/G • A/S-MWLNR/L-W • A/S-PWLNR/L • C#-MULNR/L-MW • C#-PWLNR/L-08-JHP • C#-PWLNR/L-X • C#-PWLNR/L-X-JHP • DWLNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • MWLNR/L-W • PWLNR/L • PWLNR/L-08-JHP • PWLNR/L-X • PWLNR/L-X-JHP • PWLNR/L-X-JHP-MC • S-DWLNR/L • S-MULNR-MW • DWLNR/L-JHP-MC

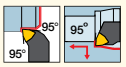
ISOTURN

## WNMG-M3M

Double-Sided Trigon Inserts for Machining Stainless and Low Carbon Steel






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC6025 | IC6015 | IC806 | IC807 | IC804 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WNMG 060404-M3M | 6.52 | 9.52 | 4.76 | 0.40 | ● | ● | ● | ● | ● | | 0.50-3.50 | 0.12-0.40 |
| WNMG 060408-M3M | 6.52 | 9.52 | 4.76 | 0.80 | ● | ● | ● | ● | ● | | 0.50-3.50 | 0.15-0.50 |
| WNMG 060412-M3M | 6.52 | 9.52 | 4.76 | 1.20 | ● | ● | ● | ● | ● | | 0.50-3.50 | 0.20-0.60 |
| WNMG 080404-M3M | 8.70 | 12.70 | 4.76 | 0.40 | ● | | | | ● | | 0.50-5.00 | 0.12-0.40 |
| WNMG 080408-M3M | 8.70 | 12.70 | 4.76 | 0.80 | ● | ● | ● | ● | ● | ● | 0.50-5.00 | 0.15-0.50 |
| WNMG 080412-M3M | 8.70 | 12.70 | 4.76 | 1.20 | ● | ● | ● | ● | ● | | 0.50-5.00 | 0.20-0.60 |
| WNMG 080416-M3M | 8.70 | 12.70 | 4.76 | 1.60 | | | | | ● | | 0.50-5.00 | 0.25-0.70 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

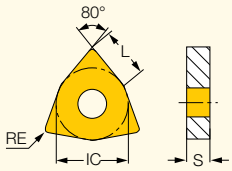
**Tools:** A-PWLNR/L-X/G • A/S-MWLNR/L-W • A/S-PWLNR/L • C#-MULNR/L-MW • C#-PWLNR/L-08-JHP • C#-PWLNR/L-X • C#-PWLNR/L-X-JHP • DWLNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • MWLNR/L-W • PWLNR/L • PWLNR/L-08-JHP • PWLNR/L-X • PWLNR/L-X-JHP • PWLNR/L-X-JHP-MC • S-DWLNR/L • S-MULNR-MW • DWLNR/L-JHP-MC

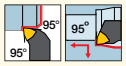
ISOTURN

## WNMG-F3S

Double-Sided 80° Trigon Inserts for Titanium and Heat Resistant Materials for Finishing Applications






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC806 | IC804 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| WNMG 060404-F3S | 6.52 | 9.52 | 4.76 | 0.40 | ● | ● | 0.10-1.50 | 0.05-0.30 |
| WNMG 060408-F3S | 6.52 | 9.52 | 4.76 | 0.80 | ● | ● | 0.10-1.50 | 0.10-0.35 |
| WNMG 080404-F3S | 8.70 | 12.70 | 4.76 | 0.40 | ● | ● | 0.10-1.50 | 0.05-0.30 |
| WNMG 080408-F3S | 8.70 | 12.70 | 4.76 | 0.80 | ● | ● | 0.10-1.50 | 0.10-0.35 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

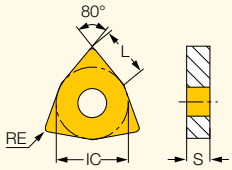
**Tools:** A-PWLNR/L-X/G • A/S-MWLNR/L-W • A/S-PWLNR/L • C#-MULNR/L-MW • C#-PWLNR/L-08-JHP • C#-PWLNR/L-X • C#-PWLNR/L-X-JHP • DWLNR/L • DWLNR/L-JHP-MC • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • MWLNR/L-W • PWLNR/L • PWLNR/L-08-JHP • PWLNR/L-X • PWLNR/L-X-JHP • PWLNR/L-X-JHP-MC • S-DWLNR/L • S-MULNR-MW

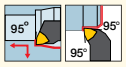
ISOTURN

## WNMG-SF

Double-Sided Trigon Inserts for Super Finishing






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC530N | IC520N | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| WNMG 06T302-SF | 6.52 | 9.52 | 3.97 | 0.20 | ● | | | | 0.30-1.50 | 0.02-0.15 |
| WNMG 06T304-SF | 6.52 | 9.52 | 3.97 | 0.40 | ● | ● | ● | ● | 0.30-1.50 | 0.05-0.15 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

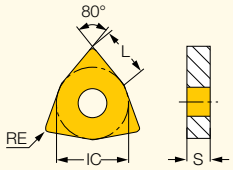
**Tools:** A/S-MWLNR/L-W • A/S-PWLNR/L • DWLNR/L • E-PWLNR/L-HEAD • MWLNR/L-W • PWLNR/L

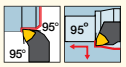
ISOTURN

## WNMG-NF

Double-Sided Trigon Inserts for Semi-Finishing and Finishing Applications






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC8350 | IC8250 | IC908 | IC30N | IC530N | IC10 | IC8150 | IC20 | IC20N | IC520N | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WNMG 06T301-NF | 6.52 | 9.52 | 3.97 | 0.10 | | | ● | | | | | | | | | | 0.20-1.00 | 0.05-0.15 |
| WNMG 06T302-NF | 6.52 | 9.52 | 3.97 | 0.20 | ● | ● | | ● | ● | ● | ● | | ● | | ● | ● | 0.30-1.50 | 0.08-0.17 |
| WNMG 06T304-NF | 6.52 | 9.52 | 3.97 | 0.40 | ● | ● | | ● | ● | ● | ● | ● | ● | ● | ● | ● | 0.40-2.50 | 0.07-0.25 |
| WNMG 06T308-NF | 6.52 | 9.52 | 3.97 | 0.80 | ● | ● | | | | ● | ● | ● | ● | | | | 0.60-3.00 | 0.08-0.25 |
| WNMG 060402-NF | 6.52 | 9.52 | 4.76 | 0.20 | | | | | | | | | | | ● | ● | 0.30-3.00 | 0.05-0.20 |
| WNMG 060404-NF | 6.52 | 9.52 | 4.76 | 0.40 | | ● | | | | | | | | | ● | ● | 0.60-3.00 | 0.08-0.25 |
| WNMG 060408-NF | 6.52 | 9.52 | 4.76 | 0.80 | | | | | | | ● | | | | | | 0.80-3.00 | 0.08-0.25 |
| WNMG 080404-NF | 8.70 | 12.70 | 4.76 | 0.40 | | ● | | | ● | | | | ● | | | | 0.40-3.50 | 0.07-0.25 |
| WNMG 080408-NF | 8.70 | 12.70 | 4.76 | 0.80 | | ● | | | ● | | ● | | | | | | 0.80-3.50 | 0.08-0.25 |
| WNMG 080412-NF | 8.70 | 12.70 | 4.76 | 1.20 | | | | | | | ● | | | | | | 1.20-3.50 | 0.08-0.25 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

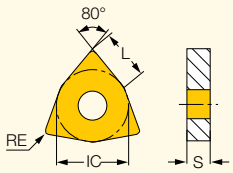
**Tools:** A-PWLNR/L-X/G • A/S-MWLNR/L-W • A/S-PWLNR/L • C#-MULNR/L-MW • C#-PWLNR/L-08-JHP • C#-PWLNR/L-X • C#-PWLNR/L-X-JHP • DWLNR/L • E-PWLNR/L-HEAD • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • MWLNR/L-W • PWLNR/L • PWLNR/L-08-JHP • PWLNR/L-X • PWLNR/L-X-JHP • PWLNR/L-X-JHP-MC • S-DWLNR/L • S-MULNR-MW • DWLNR/L-JHP-MC

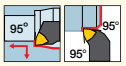
ISOTURN

## WNMG-VL

Double-Sided Trigon Inserts with a Chipformer for High Temperature Alloys and Stainless Steel Valves






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC908 | IC806 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| WNMG 06T308-VL | 6.52 | 9.52 | 3.97 | 0.80 | ● | | | 0.50-3.00 | 0.07-0.25 |
| WNMG 080404-VL | 8.70 | 12.70 | 4.76 | 0.40 | | ● | ● | 0.30-3.00 | 0.05-0.15 |
| WNMG 080408-VL | 8.70 | 12.70 | 4.76 | 0.80 | ● | ● | | 0.50-4.00 | 0.10-0.25 |
| WNMG 080412-VL | 8.70 | 12.70 | 4.76 | 1.20 | ● | | | 1.00-4.50 | 0.12-0.25 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

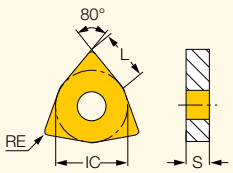
**Tools:** A/S-MWLNR/L-W • A/S-PWLNR/L • C#-MULNR/L-MW • C#-PWLNR/L-08-JHP • DWLNR/L • E-PWLNR/L-HEAD • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • MWLNR/L-W • PWLNR/L • PWLNR/L-08-JHP • PWLNR/L-X • PWLNR/L-X-JHP • S-DWLNR/L • S-MULNR-MW • DWLNR/L-JHP-MC

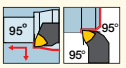
ISOTURN

## WNMG-WG

Double-Sided Trigon Wiper Inserts for High Surface Finish at High Feed Turning






| Designation | Dimensions IC | L | S | RE | Tough ↔ Hard IC8250 | IC530N | IC8150 | IC20N | IC520N | IC428 | IC5005 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WNMG 06T304-WG | 9.52 | 6.52 | 3.97 | 0.40 | ● | ● | ● | ● | ● | | | | | 0.40-3.00 | 0.10-0.35 |
| WNMG 06T308-WG | 9.52 | 6.52 | 3.97 | 0.80 | ● | | ● | | ● | | | ● | ● | 0.60-3.50 | 0.10-0.50 |
| WNMG 060404-WG | 9.52 | 6.52 | 4.76 | 0.40 | ● | ● | ● | | | | | ● | | 0.40-3.00 | 0.10-0.35 |
| WNMG 060408-WG | 9.52 | 6.52 | 4.76 | 0.80 | ● | | ● | | | | | ● | | 0.60-3.50 | 0.10-0.50 |
| WNMG 080408-WG | 12.70 | 8.70 | 4.76 | 0.80 | ● | ● | ● | | ● | ● | ● | ● | ● | 1.00-3.50 | 0.10-0.50 |
| WNMG 080412-WG | 12.70 | 8.70 | 4.76 | 1.20 | ● | | ● | | | ● | ● | | | 1.20-4.00 | 0.30-0.80 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

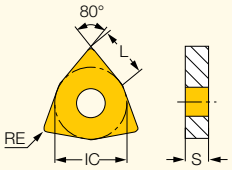
**Tools:** A-PWLNR/L-X/G • A/S-MWLNR/L-W • A/S-PWLNR/L • C#-MULNR/L-MW • C#-PWLNR/L-08-JHP • C#-PWLNR/L-X • C#-PWLNR/L-X-JHP • DWLNR/L • E-PWLNR/L-HEAD • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • MWLNR/L-W • PWLNR/L • PWLNR/L-08-JHP • PWLNR/L-X • PWLNR/L-X-JHP • PWLNR/L-X-JHP-MC • S-DWLNR/L • S-MULNR-MW • DWLNR/L-JHP-MC

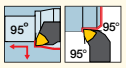
ISOTURN

## WNMG-WF

Double-Sided Trigon
Wiper Inserts for Finishing
Operations at High Feeds






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC530N | IC8150 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| WNMG 060402-WF | 6.52 | 9.52 | 4.76 | 0.20 | | | | ● | 0.20-3.00 | 0.05-0.25 |
| WNMG 060404-WF | 6.52 | 9.52 | 4.76 | 0.40 | | | ● | ● | 0.50-3.00 | 0.05-0.30 |
| WNMG 060408-WF | 6.52 | 9.52 | 4.76 | 0.80 | | | | ● | 0.80-3.50 | 0.07-0.30 |
| WNMG 080408-WF | 8.70 | 12.70 | 4.76 | 0.80 | ● | ● | | | 0.80-3.50 | 0.07-0.35 |
| WNMG 080412-WF | 8.70 | 12.70 | 4.76 | 1.20 | | ● | | | 0.80-3.50 | 0.07-0.35 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

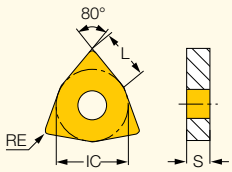
**Tools:** A-PWLNR/L-X/G • A/S-MWLNR/L-W • A/S-PWLNR/L • C#-MULNR/L-MW • C#-PWLNR/L-08-JHP • C#-PWLNR/L-X • C#-PWLNR/L-X-JHP • DWLNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • MWLNR/L-W • PWLNR/L • PWLNR/L-08-JHP • PWLNR/L-X • PWLNR/L-X-JHP • PWLNR/L-X-JHP-MC • S-DWLNR/L • S-MULNR-MW • DWLNR/L-JHP-MC

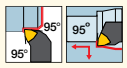
ISOTURN

## WNMG-PP

Double-Sided Trigon Inserts for
Machining Very Ductile Materials
at Medium Cutting Conditions






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC28 | IC830 | IC8350 | IC6025 | IC8250 | IC30N | IC530N | IC10 | IC6015 | IC8150 | IC520M | IC20 | IC20N | IC806 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WNMG 06T304-PP | 6.52 | 9.52 | 3.97 | 0.40 | | | ● | | ● | | ● | ● | | ● | | | | | ● | ● | 1.00-3.00 | 0.14-0.30 |
| WNMG 06T308-PP | 6.52 | 9.52 | 3.97 | 0.80 | | ● | ● | | ● | | | | | ● | | | | | ● | ● | 1.00-3.00 | 0.14-0.30 |
| WNMG 060404-PP | 6.52 | 9.52 | 4.76 | 0.40 | | | ● | | ● | | | | | | | | | | ● | ● | 1.00-3.00 | 0.14-0.30 |
| WNMG 060408-PP | 6.52 | 9.52 | 4.76 | 0.80 | | | ● | | | | | | | | | | | | ● | ● | 1.00-3.00 | 0.14-0.30 |
| WNMG 080404-PP | 8.70 | 12.70 | 4.76 | 0.40 | | ● | ● | ● | ● | | | ● | ● | ● | | | | | ● | ● | 1.00-3.50 | 0.14-0.30 |
| WNMG 080408-PP | 8.70 | 12.70 | 4.76 | 0.80 | ● | ● | ● | ● | ● | | | ● | ● | ● | ● | | ● | ● | ● | ● | 1.00-4.00 | 0.14-0.30 |
| WNMG 080412-PP | 8.70 | 12.70 | 4.76 | 1.20 | | | | | ● | ● | | | | | | ● | | | | | 1.50-5.00 | 0.18-0.40 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

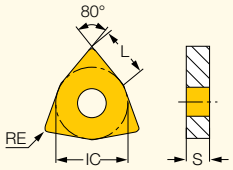
**Tools:** A-PWLNR/L-X/G • A/S-MWLNR/L-W • A/S-PWLNR/L • C#-MULNR/L-MW • C#-PWLNR/L-08-JHP • C#-PWLNR/L-X • C#-PWLNR/L-X-JHP • DWLNR/L • E-PWLNR/L-HEAD • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • MWLNR/L-W • PWLNR/L • PWLNR/L-08-JHP • PWLNR/L-X • PWLNR/L-X-JHP • PWLNR/L-X-JHP-MC • S-DWLNR/L • S-MULNR-MW • DWLNR/L-JHP-MC

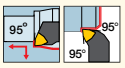
ISOTURN

## WNMG-TF

Double-Sided Trigon Inserts for Machining a Wide Range of Materials at Medium Cutting Conditions






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC8350 | IC6025 | IC8250 | IC908 | IC6015 | IC8150 | IC520M | IC20 | IC20N | IC5010 | IC806 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WNMG 06T304-TF | 6.52 | 9.52 | 3.97 | 0.40 | ● | | | ● | | | | | ● | | | | ● | ● | 1.00-3.00 | 0.12-0.35 |
| WNMG 06T308-TF | 6.52 | 9.52 | 3.97 | 0.80 | ● | | | ● | | | ● | | ● | ● | | ● | ● | ● | 1.00-3.00 | 0.12-0.35 |
| WNMG 06T312-TF | 6.52 | 9.52 | 3.97 | 1.20 | | | | | | | | | | | | | ● | ● | 1.00-4.00 | 0.15-0.40 |
| WNMG 060404-TF | 6.52 | 9.52 | 4.76 | 0.40 | | | | ● | | | | | | | | | ● | ● | 1.00-3.00 | 0.12-0.35 |
| WNMG 060408-TF | 6.52 | 9.52 | 4.76 | 0.80 | ● | | | ● | | | ● | | | | | | ● | ● | 1.00-3.00 | 0.12-0.35 |
| WNMG 060412-TF | 6.52 | 9.52 | 4.76 | 1.20 | | | | | | | | | | | | | ● | ● | 1.00-4.00 | 0.15-0.35 |
| WNMG 080404-TF | 8.70 | 12.70 | 4.76 | 0.40 | ● | | ● | ● | | ● | ● | | ● | | | ● | ● | ● | 1.00-4.00 | 0.12-0.35 |
| WNMG 080408-TF | 8.70 | 12.70 | 4.76 | 0.80 | ● | ● | ● | ● | ● | ● | ● | ● | ● | | ● | ● | ● | ● | 1.00-4.00 | 0.12-0.35 |
| WNMG 080412-TF | 8.70 | 12.70 | 4.76 | 1.20 | ● | | ● | ● | ● | ● | ● | | ● | | | | ● | ● | 1.50-4.50 | 0.15-0.40 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

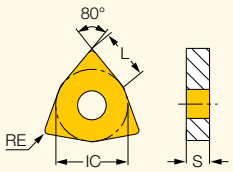
**Tools:** A-PWLNR/L-X/G • A/S-MWLNR/L-W • A/S-PWLNR/L • C#-MULNR/L-MW • C#-PWLNR/L-08-JHP • C#-PWLNR/L-X • C#-PWLNR/L-X-JHP • DWLNR/L • E-PWLNR/L-HEAD • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • MWLNR/L-W • PWLNR/L • PWLNR/L-08-JHP • PWLNR/L-X • PWLNR/L-X-JHP • PWLNR/L-X-JHP-MC • S-DWLNR/L • S-MULNR-MW • DWLNR/L-JHP-MC

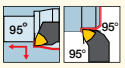
ISOTURN

## WNMG-GN

Double-Sided Trigon Inserts for General Applications






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC928 | IC8350 | IC6025 | IC8250 | IC6015 | IC8150 | IC20 | IC5010 | IC5005 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WNMG 06T304-GN | 6.52 | 9.52 | 3.97 | 0.40 | ● | | | | ● | | ● | ● | | | | | 1.00-3.50 | 0.14-0.40 |
| WNMG 06T308-GN | 6.52 | 9.52 | 3.97 | 0.80 | ● | | ● | | ● | | ● | | | | | | 1.00-3.50 | 0.16-0.45 |
| WNMG 06T312-GN | 6.52 | 9.52 | 3.97 | 1.20 | | | | | ● | | | | | | | | 1.50-4.00 | 0.18-0.45 |
| WNMG 060404-GN | 6.52 | 9.52 | 4.76 | 0.40 | | | | | ● | | | | | | | | 1.00-3.50 | 0.14-0.40 |
| WNMG 060408-GN | 6.52 | 9.52 | 4.76 | 0.80 | | | | | ● | | | | | | | | 1.00-3.50 | 0.16-0.45 |
| WNMG 060412-GN | 6.52 | 9.52 | 4.76 | 1.20 | | | | | | | ● | | | | | | 1.50-4.00 | 0.18-0.45 |
| WNMG 080404-GN | 8.70 | 12.70 | 4.76 | 0.40 | ● | | | | ● | | ● | | ● | ● | | | 1.00-4.50 | 0.14-0.40 |
| WNMG 080408-GN | 8.70 | 12.70 | 4.76 | 0.80 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | 1.00-4.50 | 0.16-0.45 |
| WNMG 080412-GN | 8.70 | 12.70 | 4.76 | 1.20 | ● | | ● | | ● | | ● | | ● | ● | | | 1.50-4.50 | 0.22-0.50 |
| WNMG 080416-GN | 8.70 | 12.70 | 4.76 | 1.60 | | | | | ● | | | | | | | | 2.00-6.00 | 0.25-0.60 |
| WNMG 130612-GN | 13.03 | 19.05 | 6.35 | 1.20 | | | ● | | ● | | | | | | | | 2.50-5.50 | 0.30-0.50 |
| WNMG 130616-GN | 13.03 | 19.05 | 6.35 | 1.60 | | | | | ● | | | | | | | | 2.50-6.00 | 0.30-0.50 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

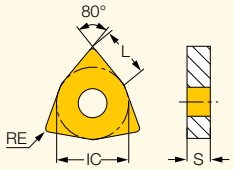
**Tools:** A-PWLNR/L-X/G • A/S-MWLNR/L-W • A/S-PWLNR/L • C#-MULNR/L-MW • C#-PWLNR/L-08-JHP • C#-PWLNR/L-X • C#-PWLNR/L-X-JHP • DWLNR/L • E-PWLNR/L-HEAD • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • MWLNR/L-W • PWLNR/L • PWLNR/L-08-JHP • PWLNR/L-X • PWLNR/L-X-JHP • PWLNR/L-X-JHP-MC • S-DWLNR/L • S-MULNR-MW • DWLNR/L-JHP-MC

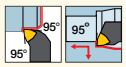
ISOTURN

## WNMM-NM

Single-Sided Trigon Inserts
for Roughing Applications






| Designation | Dimensions L | IC | S | RE | IC8250 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| WNMM 080408-NM | 8.70 | 12.70 | 4.76 | 0.80 | ● | 1.50-5.00 | 0.20-0.50 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

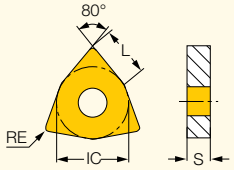
**Tools:** A/S-MWLNR/L-W • A/S-PWLNR/L • C#-MULNR/L-MW • C#-PWLNR/L-08-JHP • DWLNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • MWLNR/L-W • PWLNR/L • PWLNR/L-08-JHP • PWLNR/L-X • PWLNR/L-X-JHP • PWLNR/L-X-JHP-MC • S-DWLNR/L • S-MULNR-MW • DWLNR/L-JHP-MC

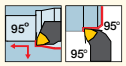
ISOTURN

## WNMG-NR

Double-Sided Trigon Inserts
with a Special Chipformer
for Heavy Machining






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC8250 | IC8150 | IC5010 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WNMG 080408-NR | 8.70 | 12.70 | 4.76 | 0.80 | ● | | ● | ● | ● | 1.00-5.00 | 0.18-0.50 |
| WNMG 080412-NR | 8.70 | 12.70 | 4.76 | 1.20 | ● | ● | ● | ● | ● | 2.00-5.00 | 0.23-0.55 |
| WNMG 080416-NR | 8.70 | 12.70 | 4.76 | 1.60 | ● | ● | | | | 2.00-5.00 | 0.30-0.60 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

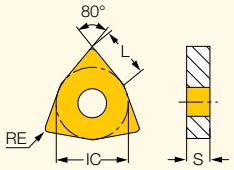
**Tools:** A/S-MWLNR/L-W • A/S-PWLNR/L • C#-MULNR/L-MW • C#-PWLNR/L-08-JHP • DWLNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • MWLNR/L-W • PWLNR/L • PWLNR/L-08-JHP • PWLNR/L-X • PWLNR/L-X-JHP • PWLNR/L-X-JHP-MC • S-DWLNR/L • S-MULNR-MW • DWLNR/L-JHP-MC

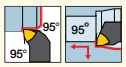
ISOTURN

## WNMG-TNM

Double-Sided Trigon Inserts
for Semi-Roughing and
Roughing Applications






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC8350 | IC8250 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WNMG 080408-TNM | 8.70 | 12.70 | 4.76 | 0.80 | | | ● | | | 2.00-4.50 | 0.25-0.45 |
| WNMG 080412-TNM | 8.70 | 12.70 | 4.76 | 1.20 | | | ● | | | 2.00-4.50 | 0.25-0.45 |
| WNMG 130612-TNM | 13.03 | 19.05 | 6.35 | 1.20 | | ● | ● | ● | ● | 2.50-7.00 | 0.25-0.65 |
| WNMG 130616-TNM | 13.03 | 19.05 | 6.35 | 1.60 | | ● | ● | | | 2.50-7.00 | 0.25-0.65 |
| WNMG 130624-TNM | 13.03 | 19.05 | 6.35 | 2.40 | ● | | ● | | | 3.00-7.00 | 0.30-0.65 |

• This inserts should be used with SEAT IWSN 635M3 only! • For user guide and cutting speed recommendations, see pages 122-134, 236-254

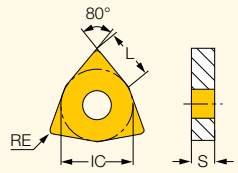
**Tools:** A/S-MWLNR/L-W • A/S-PWLNR/L • C#-MULNR/L-MW • C#-PWLNR/L-08-JHP • DWLNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • MWLNR/L-13W • MWLNR/L-W • PWLNR/L • PWLNR/L-08-JHP • PWLNR/L-X • PWLNR/L-X-JHP • PWLNR/L-X-JHP-MC • S-DWLNR/L • S-MULNR-MW • DWLNR/L-JHP-MC

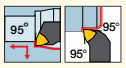
ISOTURN

## WNMA/WNMA-WG

Double-Sided Trigon Inserts
for Short Chipping Materials
such as Cast Iron






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC8150 | IC5010 | IC428 | IC5005 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| WNMA 06T304 | 6.52 | 9.52 | 3.97 | 0.40 | | ● | ● | ● | 0.50-2.00 | 0.03-0.30 |
| WNMA 06T308 | 6.52 | 9.52 | 3.97 | 0.80 | | ● | ● | ● | 1.00-3.00 | 0.03-0.40 |
| WNMA 06T312 | 6.52 | 9.52 | 3.97 | 1.20 | | | ● | | 1.50-3.50 | 0.03-0.45 |
| WNMA 060404 | 6.52 | 9.52 | 4.76 | 0.40 | | ● | | ● | 1.00-3.00 | 0.03-0.50 |
| WNMA 060408 | 6.52 | 9.52 | 4.76 | 0.80 | | ● | ● | ● | 1.00-3.00 | 0.03-0.50 |
| WNMA 060412 | 6.52 | 9.52 | 4.76 | 1.20 | | ● | | ● | 1.00-3.00 | 0.03-0.50 |
| WNMA 080408 | 8.70 | 12.70 | 4.76 | 0.80 | ● | ● | ● | ● | 1.00-4.00 | 0.03-0.48 |
| WNMA 080408-WG | 8.70 | 12.70 | 4.76 | 0.80 | | | ● | | 1.00-3.50 | 0.10-0.60 |
| WNMA 080412 | 8.70 | 12.70 | 4.76 | 1.20 | | ● | ● | ● | 1.50-4.00 | 0.03-0.55 |
| WNMA 080416 | 8.70 | 12.70 | 4.76 | 1.60 | | ● | | ● | 2.00-5.00 | 0.03-0.55 |
| WNMA 130616 | 13.03 | 19.05 | 6.35 | 1.60 | | | ● | ● | 3.00-8.00 | 0.03-0.80 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

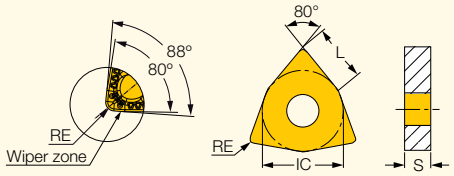
**Tools:** A-PWLNR/L-X/G • A/S-MWLNR/L-W • A/S-PWLNR/L • C#-MULNR/L-MW • C#-PWLNR/L-08-JHP • C#-PWLNR/L-X • C#-PWLNR/L-X-JHP • DWLNR/L • E-PWLNR/L-HEAD • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • MWLNR/L-13W • MWLNR/L-W • PWLNR/L • PWLNR/L-08-JHP • PWLNR/L-X • PWLNR/L-X-JHP • PWLNR/L-X-JHP-MC • S-DWLNR/L • S-MULNR-MW • DWLNR/L-JHP-MC

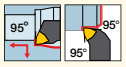
HELITURN LD

## WNMX-M3/4PW

Double-Sided Trigon Inserts
with High Helical Cutting Edge
for High Metal Removal Rates






| Designation | Dimensions IC | RE | S | L | Tough ↔ Hard IC830 | IC8250 | IC8150 | IC520N | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WNMX 060604-M3PW | 9.52 | 0.40 | 4.41 | 6.50 | ● | ● | ● | | | 1.00-4.00 | 0.20-0.50 |
| WNMX 060608-M3PW | 9.52 | 0.80 | 4.41 | 6.50 | ● | ● | ● | ● | ● | 1.50-4.00 | 0.25-0.60 |
| WNMX 080708-M4PW | 12.70 | 0.80 | 6.78 | 8.70 | | ● | ● | | ● | 1.50-5.00 | 0.25-0.60 |
| WNMX 080712-M4PW | 12.70 | 1.20 | 6.78 | 8.70 | | ● | ● | | | 2.00-5.00 | 0.30-0.80 |
| WNMX 080716-M4PW | 12.70 | 1.60 | 6.78 | 8.70 | | ● | ● | | | 2.00-5.00 | 0.30-1.00 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

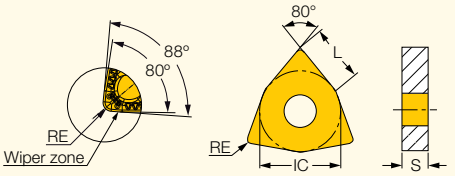
**Tools:** A-PWLNR/L-X/G • C#-PWLNR/L-X • C#-PWLNR/L-X-JHP • DWLNR/L • DWLNR/L-JHP-MC • PWLNR/L-X • PWLNR/L-X-JHP • PWLNR/L-X-JHP-MC

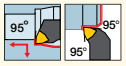
HELITURN LD

## WNMX-M3/4MW

Double-Sided Trigon Inserts
for Machining Stainless Steel,
High Temperature Alloys and
Soft, Low Carbon Steel






| Designation | Dimensions IC | RE | S | L | Tough ↔ Hard IC830 | IC6025 | IC8250 | IC6015 | IC8150 | IC806 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WNMX 060604-M3MW | 9.52 | 0.40 | 4.41 | 6.50 | ● | ● | | ● | | | | 0.80-4.00 | 0.15-0.50 |
| WNMX 060608-M3MW | 9.52 | 0.80 | 4.41 | 6.50 | ● | ● | | ● | | | | 1.00-5.00 | 0.20-0.60 |
| WNMX 080704-M4MW | 12.70 | 0.40 | 6.78 | 8.70 | | ● | ● | ● | ● | ● | ● | 0.80-5.00 | 0.15-0.50 |
| WNMX 080708-M4MW | 12.70 | 0.80 | 6.78 | 8.70 | | ● | ● | ● | ● | ● | ● | 1.00-5.00 | 0.20-0.60 |
| WNMX 080712-M4MW | 12.70 | 1.20 | 6.78 | 8.70 | | ● | | ● | | ● | ● | 1.20-5.00 | 0.25-0.70 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

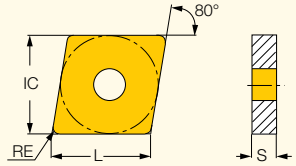
**Tools:** A-PWLNR/L-X/G • C#-PWLNR/L-X • C#-PWLNR/L-X-JHP • DWLNR/L • DWLNR/L-JHP-MC • PWLNR/L-X • PWLNR/L-X-JHP • PWLNR/L-X-JHP-MC

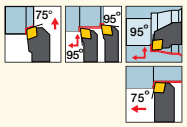
ISOTURN

## CNMG-F3P

Double-Sided 80° Rhombic Inserts for Semi-Finishing and Finishing Applications






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC6025 | IC8250 | IC8150 | IC20N | IC520N | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CNMG 090404-F3P | 9.67 | 9.52 | 4.76 | 0.40 | ● | | ● | ● | ● | ● | ● | 0.50-3.50 | 0.07-0.25 |
| CNMG 090408-F3P | 9.67 | 9.52 | 4.76 | 0.80 | ● | | ● | ● | ● | ● | ● | 0.90-3.50 | 0.08-0.25 |
| CNMG 120404-F3P | 12.90 | 12.70 | 4.76 | 0.40 | ● | ● | ● | ● | | | ● | 0.50-3.50 | 0.07-0.25 |
| CNMG 120408-F3P | 12.90 | 12.70 | 4.76 | 0.80 | ● | | ● | ● | | ● | ● | 0.90-3.50 | 0.08-0.25 |
| CNMG 120412-F3P | 12.90 | 12.70 | 4.76 | 1.20 | ● | | ● | ● | | | ● | 1.30-3.50 | 0.10-0.25 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

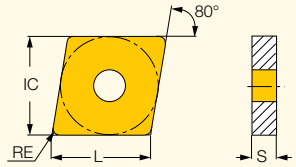
**Tools:** A/S-PCLNR/L • A/S-PCLNR/L-X/G • C#-MULNR/L-MW • C#-PCLNR/L-12-JHP • C#-PCLNR/L-X • C#-PCLNR/L-X-JHP • DCBNR/L • DCLNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PCBNR/L • PCLNR/L • PCLNR/L-12-JHP • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC • S-DCLNR/L • S-MULNR-MW • AVC-PCLNR/L • DCLNR/L-JHP-MC

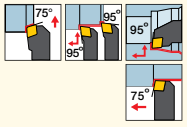
ISOTURN

## CNMG-M3P

Double-Sided 80° Rhombic Inserts for Medium Machining Conditions on Steel






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC8250 | IC8150 | IC5010 | IC5005 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CNMG 090404-M3P | 9.67 | 9.52 | 4.76 | 0.40 | ● | ● | ● | | | ● | 0.40-4.00 | 0.10-0.30 |
| CNMG 090408-M3P | 9.67 | 9.52 | 4.76 | 0.80 | ● | ● | ● | | | ● | 0.50-4.50 | 0.15-0.50 |
| CNMG 120404-M3P | 12.90 | 12.70 | 4.76 | 0.40 | ● | ● | ● | | | ● | 0.40-5.50 | 0.10-0.30 |
| CNMG 120408-M3P | 12.90 | 12.70 | 4.76 | 0.80 | ● | ● | ● | ● | ● | ● | 0.50-5.50 | 0.15-0.50 |
| CNMG 120412-M3P | 12.90 | 12.70 | 4.76 | 1.20 | ● | ● | ● | | | ● | 0.80-5.50 | 0.18-0.60 |
| CNMG 160612-M3P | 16.12 | 15.88 | 6.35 | 1.20 | ● | ● | ● | | | ● | 0.80-7.20 | 0.18-0.60 |
| CNMG 160616-M3P | 16.12 | 15.88 | 6.35 | 1.60 | ● | ● | ● | | | ● | 0.80-7.20 | 0.18-0.60 |
| CNMG 190608-M3P | 19.30 | 19.05 | 6.35 | 0.80 | ● | ● | | | | ● | 0.50-8.60 | 0.15-0.50 |
| CNMG 190612-M3P | 19.30 | 19.05 | 6.35 | 1.20 | ● | ● | | | | ● | 0.80-8.60 | 0.18-0.60 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

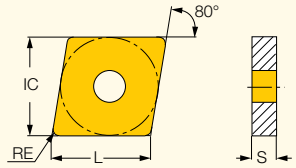
**Tools:** A/S-PCLNR/L • A/S-PCLNR/L-X/G • C#-MULNR/L-MW • C#-PCLNR/L-12-JHP • C#-PCLNR/L-X • C#-PCLNR/L-X-JHP • DCBNR/L • DCLNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MCLNR/L • MULNR/L-12MW • PCBNR/L • PCLNR/L • PCLNR/L-12-JHP • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC • S-DCLNR/L • S-MULNR-MW • AVC-PCLNR/L • DCLNR/L-JHP-MC

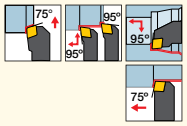
ISOTURN

## CNMG-R3P

Double-Sided 80° Rhombic Inserts with a Chipformer for Rough Machining






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC8250 | IC8150 | IC5010 | IC5005 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CNMG 120408-R3P | 12.90 | 12.70 | 4.76 | 0.80 | ● | | | | | | 1.00-5.00 | 0.18-0.50 |
| CNMG 120412-R3P | 12.90 | 12.70 | 4.76 | 1.20 | | | | | | ● | 1.00-5.00 | 0.23-0.55 |
| CNMG 120416-R3P | 12.90 | 12.70 | 4.76 | 1.60 | | ● | | | | | 1.00-5.00 | 0.30-0.60 |
| CNMG 160608-R3P | 16.12 | 15.88 | 6.35 | 0.80 | ● | | | ● | ● | | 1.50-6.00 | 0.25-0.50 |
| CNMG 160612-R3P | 16.12 | 15.88 | 6.35 | 1.20 | ● | | | ● | ● | | 2.00-7.00 | 0.30-0.60 |
| CNMG 160616-R3P | 16.12 | 15.88 | 6.35 | 1.60 | | ● | ● | ● | ● | | 2.50-7.00 | 0.30-0.70 |
| CNMG 160624-R3P | 16.12 | 15.88 | 6.35 | 2.40 | | ● | ● | | | | 2.50-7.00 | 0.30-0.70 |
| CNMG 150616-R3P | 16.12 | 15.88 | 6.35 | 1.60 | | | | | | ● | 2.50-7.00 | 0.30-0.70 |
| CNMG 190612-R3P | 19.30 | 19.05 | 6.35 | 1.20 | | | ● | | | | 3.50-8.00 | 0.30-0.80 |
| CNMG 190616-R3P | 19.30 | 19.05 | 6.35 | 1.60 | | ● | ● | ● | ● | | 4.00-10.00 | 0.40-0.85 |
| CNMG 190624-R3P | 19.30 | 19.05 | 6.35 | 2.40 | | | | | ● | | 4.00-10.00 | 0.40-0.85 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

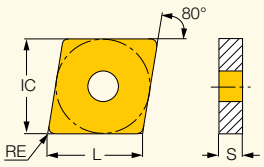
**Tools:** A/S-PCLNR/L • A/S-PCLNR/L-X/G • C#-MULNR/L-MW • C#-PCLNR/L-12-JHP • C#-PCLNR/L-X • C#-PCLNR/L-X-JHP • DCBNR/L • DCLNR/L • DCLNR/L-JHP-MC • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • IHSR • MCLNR/L • MULNR/L-12MW • PCBNR/L • PCLNR/L • PCLNR/L-12-JHP • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC • S-DCLNR/L • S-MULNR-MW

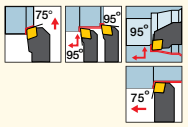
ISOTURN

## CNMG-CERMET

Double-Sided 80° Rhombic Cermet Grade Inserts for Semi-Finishing and Finishing Applications



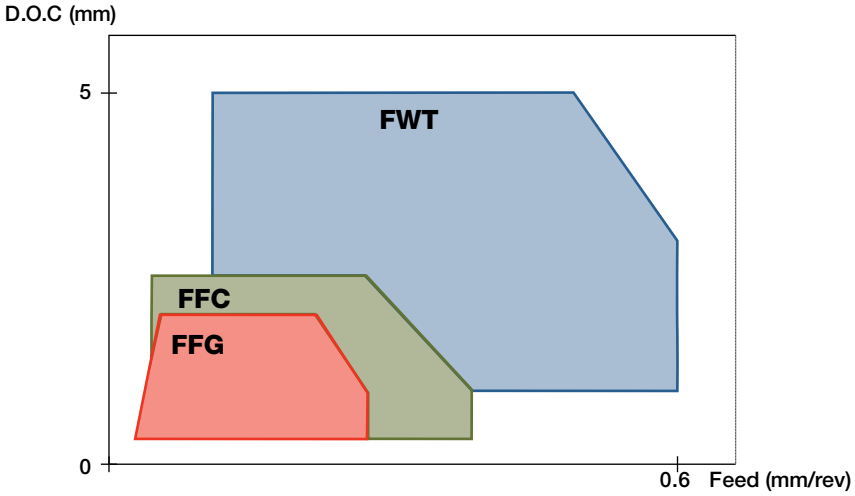




| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC20N | IC520N | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| CNMG 120402-FFG | 12.90 | 12.70 | 4.76 | 0.20 | | ● | 0.40-3.50 | 0.07-0.25 |
| CNMG 120404-FFC | 12.90 | 12.70 | 4.76 | 0.40 | ● | ● | 0.50-3.50 | 0.07-0.25 |
| CNMG 120408-FFC | 12.90 | 12.70 | 4.76 | 0.80 | ● | | 1.00-2.50 | 0.05-0.25 |
| CNMG 120408-FWT | 12.90 | 12.70 | 4.76 | 0.80 | | ● | 0.00-5.00 | 0.15-0.00 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

**Tools:** A/S-PCLNR/L • A/S-PCLNR/L-X/G • C#-MULNR/L-MW • C#-PCLNR/L-12-JHP • C#-PCLNR/L-X • C#-PCLNR/L-X-JHP • DCBNR/L • DCLNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PCBNR/L • PCLNR/L • PCLNR/L-12-JHP • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC • S-DCLNR/L • S-MULNR-MW • DCLNR/L-JHP-MC

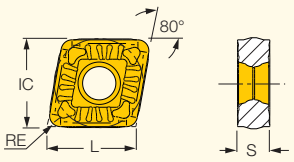


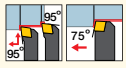

DOVE IQ TURN HEAVY DUTY LINE

## COMG-R3P-IQ

Double-Sided 7° Negative Side Flank 80° Rhombic Inserts for Heavy Turning of Steel






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC8250 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| COMG 160608-R3P-IQ | 16.12 | 15.88 | 6.35 | 0.80 | ● | ● | 2.00-9.00 | 0.25-0.50 |
| COMG 160612-R3P-IQ | 16.12 | 15.88 | 6.35 | 1.20 | ● | ● | 2.00-9.00 | 0.30-0.60 |
| COMG 160616-R3P-IQ | 16.12 | 15.88 | 6.35 | 1.60 | ● | ● | 2.00-9.00 | 0.30-0.70 |
| COMG 190612-R3P-IQ | 19.34 | 19.05 | 6.35 | 1.20 | ● | ● | 3.00-12.00 | 0.30-0.80 |
| COMG 190616-R3P-IQ | 19.34 | 19.05 | 6.35 | 1.60 | ● | ● | 3.50-12.00 | 0.35-0.90 |
| COMG 190624-R3P-IQ | 19.34 | 19.05 | 6.35 | 2.40 | ● | ● | 3.50-12.00 | 0.35-0.90 |
| COMG 250924-R3P-IQ | 25.79 | 25.40 | 9.52 | 2.40 | ● | ● | 4.00-15.00 | 0.40-1.00 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

**Tools:** C#-PCLOR/L-IQ • PCBOR/L-IQ • PCLOR/L-IQ





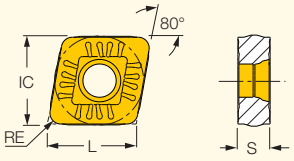

DOVE TAIL GEOMETRY

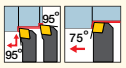
DOVEIQTURN HEAVY DUTY LINE

## COMM-R3P-IQ

Single-Sided 7° Negative Side Flank 80° Rhombic Inserts for Heavy Turning of Steel






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC8250 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| COMM 190624-R3P-IQ | 19.34 | 19.05 | 6.35 | 2.40 | ● | ● | 3.50-12.00 | 0.35-1.20 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

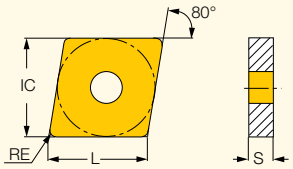
**Tools:** C#-PCLOR/L-IQ • PCBOR/L-IQ • PCLOR/L-IQ

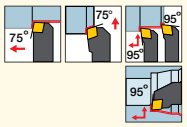
ISOTURN

## CNMG-F3M

Double-sided 80° Rhombic Inserts for Stainless Steel Finishing Applications






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC6025 | IC6015 | IC806 | IC807 | IC4 | IC804 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CNMG 090404-F3M | 9.67 | 9.52 | 4.76 | 0.40 | ● | ● | ● | ● | ● | | | 0.10-1.50 | 0.05-0.30 |
| CNMG 090408-F3M | 9.67 | 9.52 | 4.76 | 0.80 | ● | ● | ● | ● | ● | | | 0.10-1.50 | 0.10-0.40 |
| CNMG 120404-F3M | 12.90 | 12.70 | 4.76 | 0.40 | ● | ● | ● | ● | ● | | | 0.10-1.50 | 0.05-0.30 |
| CNMG 120408-F3M | 12.90 | 12.70 | 4.76 | 0.80 | ● | ● | ● | ● | ● | | ● | 0.10-1.50 | 0.10-0.40 |
| CNMG 120412-F3M | 12.90 | 12.70 | 4.76 | 1.20 | ● | ● | ● | ● | ● | ● | ● | 0.20-2.00 | 0.15-0.50 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

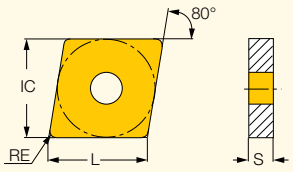
**Tools:** A/S-PCLNR/L • A/S-PCLNR/L-X/G • C#-MULNR/L-MW • C#-PCLNR/L-12-JHP • C#-PCLNR/L-X • C#-PCLNR/L-X-JHP • DCBNR/L • DCLNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PCBNR/L • PCLNR/L • PCLNR/L-12-JHP • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC • S-DCLNR/L • S-MULNR-MW • AVC-PCLNR/L • DCLNR/L-JHP-MC

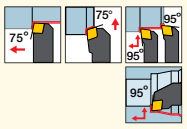
ISOTURN

## CNMG-M3M

Double-Sided 80° Rhombic Inserts for Machining Stainless and Low Carbon Steel






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC6025 | IC6015 | IC806 | IC807 | IC804 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CNMG 090404-M3M | 9.67 | 9.52 | 4.76 | 0.40 | ● | ● | ● | ● | ● | | 0.40-4.00 | 0.12-0.40 |
| CNMG 090408-M3M | 9.67 | 9.52 | 4.76 | 0.80 | ● | ● | ● | ● | ● | | 0.50-4.50 | 0.15-0.50 |
| CNMG 120404-M3M | 12.90 | 12.70 | 4.76 | 0.40 | ● | | | | ● | | 0.50-5.00 | 0.15-0.50 |
| CNMG 120408-M3M | 12.90 | 12.70 | 4.76 | 0.80 | ● | ● | ● | ● | ● | ● | 0.50-5.00 | 0.15-0.50 |
| CNMG 120412-M3M | 12.90 | 12.70 | 4.76 | 1.20 | ● | ● | ● | ● | ● | ● | 0.50-5.00 | 0.20-0.60 |
| CNMG 120416-M3M | 12.90 | 12.70 | 4.76 | 1.60 | ● | ● | ● | ● | | | 0.50-5.00 | 0.25-0.70 |
| CNMG 160608-M3M | 16.12 | 15.88 | 6.35 | 0.80 | ● | ● | ● | ● | | | 0.50-7.00 | 0.15-0.50 |
| CNMG 160612-M3M | 16.12 | 15.88 | 6.35 | 1.20 | ● | ● | ● | ● | ● | | 0.50-7.00 | 0.20-0.60 |
| CNMG 160616-M3M | 16.12 | 15.88 | 6.35 | 1.60 | ● | ● | ● | ● | ● | | 0.50-7.00 | 0.25-0.70 |
| CNMG 190608-M3M | 19.34 | 19.05 | 6.35 | 0.80 | ● | ● | ● | | ● | | 3.00-10.00 | 0.30-0.70 |
| CNMG 190612-M3M | 19.34 | 19.05 | 6.35 | 1.20 | ● | ● | ● | | ● | | 3.00-10.00 | 0.35-0.80 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

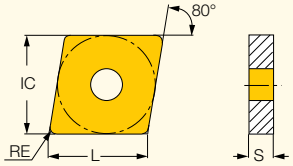
**Tools:** A/S-PCLNR/L • A/S-PCLNR/L-X/G • C#-MULNR/L-MW • C#-PCLNR/L-12-JHP • C#-PCLNR/L-X • C#-PCLNR/L-X-JHP • DCBNR/L • DCLNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MCLNR/L • MULNR/L-12MW • PCBNR/L • PCLNR/L • PCLNR/L-12-JHP • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC • S-DCLNR/L • S-MULNR-MW • AVC-PCLNR/L • DCLNR/L-JHP-MC

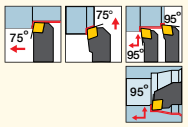
ISOTURN

## CNMG-R3M

Double-Sided 80° Rhombic Inserts for Rough Machining of Stainless and Low Carbon Steel






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC6025 | IC806 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| CNMG 160612-R3M | 16.12 | 15.88 | 6.35 | 1.20 | ● | ● | | 2.00-9.00 | 0.30-0.90 |
| CNMG 160616-R3M | 16.12 | 15.88 | 6.35 | 1.60 | ● | ● | | 2.00-10.00 | 0.40-1.00 |
| CNMG 160624-R3M | 16.12 | 15.88 | 6.35 | 2.40 | | ● | | 2.00-11.00 | 0.50-1.20 |
| CNMG 190612-R3M | 19.34 | 19.05 | 6.35 | 1.20 | ● | ● | ● | 2.00-9.00 | 0.30-0.90 |
| CNMG 190616-R3M | 19.34 | 19.05 | 6.35 | 1.60 | ● | ● | ● | 2.00-10.00 | 0.40-1.00 |
| CNMG 190624-R3M | 19.34 | 19.05 | 6.35 | 2.40 | ● | ● | | 2.00-11.00 | 0.50-1.20 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

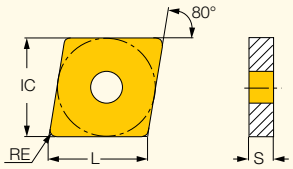
**Tools:** A/S-PCLNR/L • C#-PCLNR/L-X • DCBNR/L • DCLNR/L ) • MCLNR/L • PCBNR/L • PCLNR/L • PCLNR/L-X • A/S-PCLNR/L-X/G

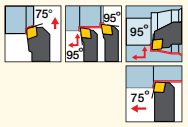
ISOTURN

## CNMG-F3S

Double-Sided 80° Rhombic Inserts for Titanium and Heat Resistant Materials for Finishing Applications






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC806 | IC804 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| CNMG 090404-F3S | 9.67 | 9.52 | 4.76 | 0.40 | ● | ● | 0.10-1.50 | 0.05-0.30 |
| CNMG 090408-F3S | 9.67 | 9.52 | 4.76 | 0.80 | ● | ● | 0.10-1.50 | 0.05-0.30 |
| CNMG 120404-F3S | 12.90 | 12.70 | 4.76 | 0.40 | ● | ● | 0.10-1.50 | 0.05-0.30 |
| CNMG 120408-F3S | 12.90 | 12.70 | 4.76 | 0.80 | ● | ● | 0.10-1.50 | 0.05-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

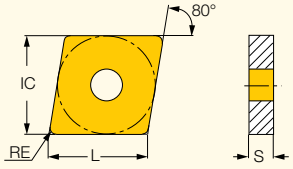
**Tools:** A/S-PCLNR/L • A/S-PCLNR/L-X/G • AVC-PCLNR/L • C#-MULNR/L-MW • C#-PCLNR/L-12-JHP • C#-PCLNR/L-X • C#-PCLNR/L-X-JHP • DCBNR/L • DCLNR/L • DCLNR/L-JHP-MC • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PCBNR/L • PCLNR/L • PCLNR/L-12-JHP • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC • S-DCLNR/L • S-MULNR-MW

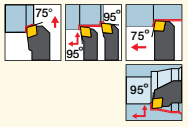
ISOTURN

## CNMG-VL

Double-Sided 80° Rhombic Inserts with a Chipformer for High Temperature Alloys and Stainless Steel Valves






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC806 | IC804 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| CNMG 120404-VL | 12.90 | 12.70 | 4.76 | 0.40 | ● | | 0.30-3.00 | 0.05-0.15 |
| CNMG 120408-VL | 12.90 | 12.70 | 4.76 | 0.80 | ● | ● | 0.50-4.00 | 0.10-0.25 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

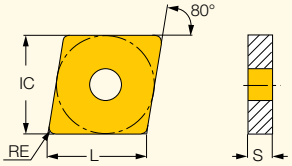
**Tools:** A/S-PCLNR/L • C#-MULNR/L-MW • C#-PCLNR/L-12-JHP • C#-PCLNR/L-X • C#-PCLNR/L-X-JHP • DCBNR/L • DCLNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PCBNR/L • PCLNR/L • PCLNR/L-12-JHP • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC • S-DCLNR/L • S-MULNR-MW • A/S-PCLNR/L-X/G • DCLNR/L-JHP-MC

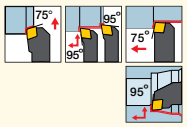
ISOTURN

## CNMG/CNGG-SF

Double-Sided 80° Rhombic Inserts for Super-Finishing; Controls Chip Flow at Very Low Feeds and Depths of Cut






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC6015 | IC520N | IC428 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| CNMG 120402-SF | 12.90 | 12.70 | 4.76 | 0.20 | | ● | ● | | 0.30-2.00 | 0.03-0.25 |
| CNMG 120404-SF | 12.90 | 12.70 | 4.76 | 0.40 | ● | | | | 0.30-2.00 | 0.05-0.25 |
| CNGG 120401-SF | 12.90 | 12.70 | 4.76 | 0.10 | | | | ● | 0.20-1.50 | 0.03-0.15 |
| CNGG 120402-SF | 12.90 | 12.70 | 4.76 | 0.20 | | | | ● | 0.30-2.00 | 0.03-0.20 |
| CNGG 120404-SF | 12.90 | 12.70 | 4.76 | 0.40 | | | | ● | 0.30-2.00 | 0.03-0.20 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

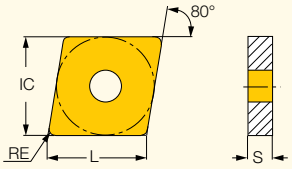
**Tools:** A/S-PCLNR/L • C#-MULNR/L-MW • C#-PCLNR/L-12-JHP • C#-PCLNR/L-X • C#-PCLNR/L-X-JHP • DCBNR/L • DCLNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PCBNR/L • PCLNR/L • PCLNR/L-12-JHP • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC • S-DCLNR/L • S-MULNR-MW • A/S-PCLNR/L-X/G • DCLNR/L-JHP-MC

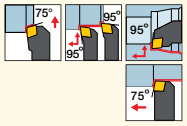
ISOTURN

## CNMG-NF

Double-Sided 80° Rhombic Inserts for Semi-Finishing and Finishing Applications






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC8250 | IC530N | IC6015 | IC8150 | IC20N | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CNMG 120404-NF | 12.90 | 12.70 | 4.76 | 0.40 | ● | ● | ● | ● | ● | ● | ● | 0.40-3.50 | 0.08-0.25 |
| CNMG 120408-NF | 12.90 | 12.70 | 4.76 | 0.80 | ● | | | ● | ● | ● | ● | 0.80-3.50 | 0.08-0.25 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

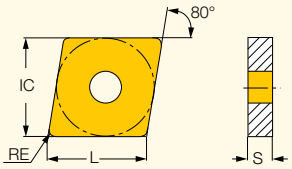
**Tools:** A/S-PCLNR/L • C#-MULNR/L-MW • C#-PCLNR/L-12-JHP • C#-PCLNR/L-X • C#-PCLNR/L-X-JHP • DCBNR/L • DCLNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PCBNR/L • PCLNR/L • PCLNR/L-12-JHP • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC • S-DCLNR/L • S-MULNR-MW • A/S-PCLNR/L-X/G • DCLNR/L-JHP-MC

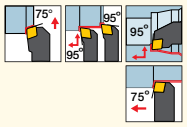
ISOTURN

## CNMG-WF

Double-Sided 80° Rhombic Wiper Inserts for Finishing Operations at High Feeds






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC8250 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| CNMG 120408-WF | 12.90 | 12.70 | 4.76 | 0.80 | ● | ● | 0.80-3.50 | 0.10-0.35 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

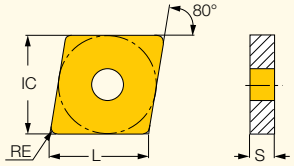
**Tools:** A/S-PCLNR/L • C#-MULNR/L-MW • C#-PCLNR/L-12-JHP • C#-PCLNR/L-X • C#-PCLNR/L-X-JHP • DCBNR/L • DCLNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PCBNR/L • PCLNR/L • PCLNR/L-12-JHP • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC • S-DCLNR/L • S-MULNR-MW • A/S-PCLNR/L-X/G • DCLNR/L-JHP-MC

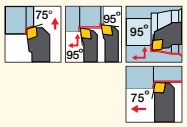
ISOTURN

## CNMG-WG/NRW

Double-Sided 80° Rhombic Wiper Inserts for High Feed Turning and High Surface Finish






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC8250 | IC8150 | IC520N | IC428 | IC5005 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CNMG 120408-WG** | 12.90 | 12.70 | 4.76 | 0.80 | ● | ● | ● | ● | ● | ● | ● | 0.80-3.50 | 0.10-0.50 |
| **CNMG 120412-WG** | 12.90 | 12.70 | 4.76 | 1.20 | ● | ● | | | | | | 1.50-4.00 | 0.30-0.80 |
| **CNMG 120416-NRW** | 12.90 | 12.70 | 4.76 | 1.60 | ● | ● | | | | | | 2.00-4.50 | 0.30-0.80 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

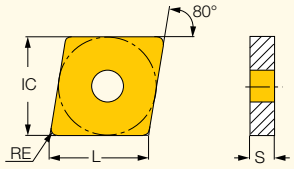
**Tools:** A/S-PCLNR/L • C#-MULNR/L-MW • C#-PCLNR/L-12-JHP • C#-PCLNR/L-X • C#-PCLNR/L-X-JHP • DCBNR/L • DCLNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PCBNR/L • PCLNR/L • PCLNR/L-12-JHP • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC • S-DCLNR/L • S-MULNR-MW • A/S-PCLNR/L-X/G • DCLNR/L-JHP-MC

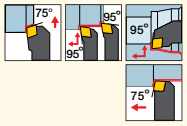
ISOTURN

## CNMA

Double-Sided 80° Rhombic Inserts for Short Chipping Materials such as Cast Iron






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC8150 | IC20 | IC5010 | IC428 | IC5005 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CNMA 120404** | 12.90 | 12.70 | 4.76 | 0.40 | | | ● | ● | ● | | | 1.00-4.00 | 0.03-0.34 |
| **CNMA 120408** | 12.90 | 12.70 | 4.76 | 0.80 | ● | ● | ● | ● | ● | | | 1.00-4.00 | 0.05-0.43 |
| **CNMA 120408F** (1) | 12.90 | 12.70 | 4.76 | 0.80 | | | | | | ● | ● | 1.00-4.00 | 0.05-0.50 |
| **CNMA 120412** | 12.90 | 12.70 | 4.76 | 1.20 | ● | ● | ● | ● | ● | | | 1.50-4.50 | 0.08-0.60 |
| **CNMA 120416** | 12.90 | 12.70 | 4.76 | 1.60 | | | ● | ● | ● | | | 2.00-6.00 | 0.30-0.60 |
| **CNMA 160612** | 16.12 | 15.88 | 6.35 | 1.20 | | | ● | | ● | | | 2.00-10.00 | 0.10-0.80 |
| **CNMA 160616** | 16.12 | 15.88 | 6.35 | 1.60 | | | ● | | ● | | | 2.00-10.00 | 0.30-0.60 |
| **CNMA 190612** | 19.30 | 19.05 | 6.35 | 1.20 | | ● | | ● | ● | | | 2.00-10.00 | 0.10-0.80 |
| **CNMA 190616** | 19.30 | 19.05 | 6.35 | 1.60 | | | | | ● | | | 2.50-10.00 | 0.30-1.00 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

(1) Sharp edge

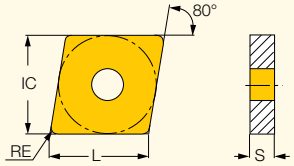
**Tools:** A/S-PCLNR/L • A/S-PCLNR/L-X/G • C#-MULNR/L-MW • C#-PCLNR/L-12-JHP • C#-PCLNR/L-X • C#-PCLNR/L-X-JHP • DCBNR/L • DCLNR/L • DCLNR/L-JHP-MC • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MCLNR/L • MULNR/L-12MW • PCBNR/L • PCLNR/L • PCLNR/L-12-JHP • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC • S-DCLNR/L • S-MULNR-MW

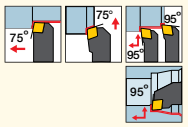
ISOTURN

## CNMG/CNGG-PP

Double-Sided 80° Rhombic Inserts for Machining Very Ductile Materials at Medium Cutting Conditions






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC28 | IC830 | IC8350 | IC6025 | IC8250 | IC10 | IC6015 | IC8150 | IC428 | IC806 | IC807 | IC907 | IC804 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CNMG 120404-PP** | 12.90 | 12.70 | 4.76 | 0.40 | | ● | ● | ● | ● | ● | ● | | | | ● | ● | | 1.00-4.00 | 0.14-0.30 |
| **CNMG 120408-PP** | 12.90 | 12.70 | 4.76 | 0.80 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | 1.00-4.00 | 0.14-0.30 |
| **CNMG 120412-PP** | 12.90 | 12.70 | 4.76 | 1.20 | | | | | ● | | | | | | ● | ● | | 1.50-4.00 | 0.18-0.40 |
| **CNMG 190612-PP** | 19.30 | 19.05 | 6.35 | 1.20 | | | | | | | | | | | ● | ● | | 2.00-8.00 | 0.30-0.60 |
| **CNGG 120401-PP** | 12.90 | 12.70 | 4.76 | 0.10 | | | | | | | | | | | | ● | | 0.40-2.00 | 0.05-0.20 |
| **CNGG 120402-PP** | 12.90 | 12.70 | 4.76 | 0.20 | | | | | | | | | | | | ● | | 0.40-2.50 | 0.08-0.25 |
| **CNGG 120404-PP** | 12.90 | 12.70 | 4.76 | 0.40 | | | | | | | | | | | | ● | | 0.80-3.00 | 0.10-0.30 |
| **CNGG 120408-PP** | 12.90 | 12.70 | 4.76 | 0.80 | | | | | | | | | | ● | | ● | ● | 1.00-4.00 | 0.10-0.30 |
| **CNGG 120412-PP** | 12.90 | 12.70 | 4.76 | 1.20 | | | | | | | | | | ● | | | | 1.00-4.00 | 0.10-0.30 |
| **CNGG 190612-PP** | 19.30 | 19.05 | 6.35 | 1.20 | | | | | | | | | | | | ● | | 2.00-9.00 | 0.30-0.60 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

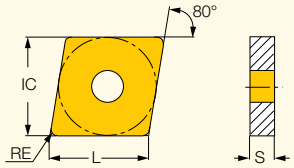
**Tools:** A/S-PCLNR/L • A/S-PCLNR/L-X/G • C#-MULNR/L-MW • C#-PCLNR/L-12-JHP • C#-PCLNR/L-X • C#-PCLNR/L-X-JHP • DCBNR/L • DCLNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MCLNR/L • MULNR/L-12MW • PCBNR/L • PCLNR/L • PCLNR/L-12-JHP • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC • S-DCLNR/L • S-MULNR-MW • DCLNR/L-JHP-MC

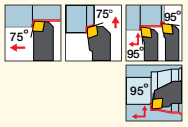
ISOTURN

## CNMG/CNGG-TF

Double-Sided 80° Rhombic Inserts for Machining a Wide Range of Materials at Medium Cutting Conditions






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC8350 | IC6025 | IC8250 | IC908 | IC6015 | IC8150 | IC20 | IC20N | IC806 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CNMG 090304-TF** | 9.70 | 9.52 | 3.18 | 0.40 | | | | ● | | | ● | | | | | | 1.00-3.00 | 0.12-0.35 |
| **CNMG 090308-TF** | 9.70 | 9.52 | 3.18 | 0.80 | ● | | | ● | | | ● | | | | | | 1.00-4.00 | 0.12-0.35 |
| **CNMG 120404-TF** | 12.90 | 12.70 | 4.76 | 0.40 | ● | | ● | ● | | ● | | ● | | ● | ● | ● | 1.00-4.00 | 0.12-0.35 |
| **CNMG 120408-TF** | 12.90 | 12.70 | 4.76 | 0.80 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | 1.00-4.00 | 0.12-0.35 |
| **CNMG 120412-TF** | 12.90 | 12.70 | 4.76 | 1.20 | ● | | ● | ● | ● | ● | ● | ● | | ● | ● | ● | 1.50-4.50 | 0.15-0.40 |
| **CNMG 160608-TF** | 16.12 | 15.88 | 6.35 | 0.80 | | | | | | | | | | | ● | ● | 1.00-6.00 | 0.12-0.35 |
| **CNMG 160612-TF** | 16.12 | 15.88 | 6.35 | 1.20 | | | | ● | | | | | | | | | 1.50-6.00 | 0.15-0.45 |
| **CNMG 190612-TF** | 19.30 | 19.05 | 6.35 | 1.20 | | | | ● | | | | | | | | | 1.50-6.50 | 0.20-0.55 |
| **CNGG 120408-TF** | 12.96 | 12.70 | 4.76 | 0.80 | | | | | | | | | | | | ● | 1.00-4.00 | 0.12-0.35 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

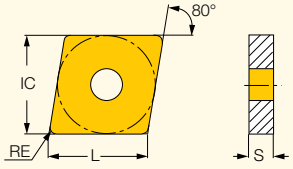
**Tools:** A/S-PCLNR/L • A/S-PCLNR/L-X/G • C#-MULNR/L-MW • C#-PCLNR/L-12-JHP • C#-PCLNR/L-X • C#-PCLNR/L-X-JHP • DCBNR/L • DCLNR/L • DCLNR/L-JHP-MC • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MCLNR/L • MULNR/L-12MW • PCBNR/L • PCLNR/L • PCLNR/L-12-JHP • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC • S-DCLNR/L • S-MULNR-MW

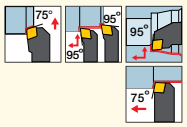
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## CNMG-GN

Double-Sided 80° Rhombic Inserts for General Applications






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC8350 | IC6025 | IC8250 | IC6015 | IC8150 | IC20 | IC5010 | IC428 | IC5005 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CNMG 120404-GN | 12.90 | 12.70 | 4.76 | 0.40 | ● | ● | | ● | | ● | ● | | ● | | | | 1.00-4.00 | 0.14-0.40 |
| CNMG 120408-GN | 12.90 | 12.70 | 4.76 | 0.80 | ● | ● | ● | ● | ● | ● | ● | ● | | ● | ● | ● | 1.00-4.50 | 0.16-0.45 |
| CNMG 120412-GN | 12.90 | 12.70 | 4.76 | 1.20 | ● | ● | | ● | | ● | | | ● | ● | ● | ● | 1.50-5.00 | 0.22-0.50 |
| CNMG 160612-GN | 16.12 | 15.88 | 6.35 | 1.20 | ● | | | ● | | ● | | ● | | | | | 2.00-7.00 | 0.22-0.60 |
| CNMG 160616-GN | 16.12 | 15.88 | 6.35 | 1.60 | | | | ● | | | | | | | | | 2.00-7.00 | 0.22-0.75 |
| CNMG 190608-GN | 19.30 | 19.05 | 6.35 | 0.80 | | | | ● | | | | | | | | | 1.50-8.00 | 0.20-0.70 |
| CNMG 190612-GN | 19.30 | 19.05 | 6.35 | 1.20 | ● | ● | | ● | | ● | | | | | | | 2.00-7.98 | 0.25-0.70 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

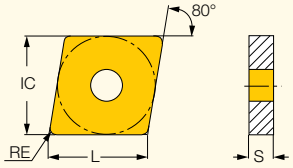
**Tools:** A/S-PCLNR/L • A/S-PCLNR/L-X/G • C#-MULNR/L-MW • C#-PCLNR/L-12-JHP • C#-PCLNR/L-X • C#-PCLNR/L-X-JHP • DCBNR/L • DCLNR/L • DCLNR/L-JHP-MC • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MCLNR/L • MULNR/L-12MW • PCBNR/L • PCLNR/L • PCLNR/L-12-JHP • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC • S-DCLNR/L • S-MULNR-MW

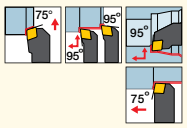
ISOTURN

## CNMG-NR

Double-Sided 80° Rhombic Inserts with a Special Chipformer for Heavy Machining






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC8350 | IC6025 | IC8250 | IC6015 | IC8150 | IC5010 | IC428 | IC5005 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CNMG 120408-NR | 12.90 | 12.70 | 4.76 | 0.80 | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | 1.00-5.00 | 0.15-0.50 |
| CNMG 120412-NR | 12.90 | 12.70 | 4.76 | 1.20 | ● | ● | | ● | | ● | ● | | ● | | | 1.00-5.00 | 0.23-0.55 |
| CNMG 120416-NR | 12.90 | 12.70 | 4.76 | 1.60 | | | | | | ● | | | | | | 1.00-5.00 | 0.30-0.60 |
| CNMG 160608-NR | 16.12 | 15.88 | 6.35 | 0.80 | | ● | | ● | | | | | | | | 1.50-6.00 | 0.25-0.50 |
| CNMG 160612-NR | 16.12 | 15.88 | 6.35 | 1.20 | | ● | | ● | | | | | | ● | ● | 2.00-7.00 | 0.30-0.60 |
| CNMG 160616-NR | 16.12 | 15.88 | 6.35 | 1.60 | ● | ● | | ● | | ● | | ● | ● | ● | ● | 2.50-7.00 | 0.30-0.70 |
| CNMG 190608-NR | 19.30 | 19.05 | 6.35 | 0.80 | | ● | | ● | | | | | | | | 3.50-8.00 | 0.30-0.72 |
| CNMG 190612-NR | 19.30 | 19.05 | 6.35 | 1.20 | | ● | | ● | | | | | | ● | ● | 3.50-8.00 | 0.30-0.80 |
| CNMG 190616-NR | 19.30 | 19.05 | 6.35 | 1.60 | ● | ● | | ● | | ● | | | | ● | ● | 4.00-10.00 | 0.40-0.85 |
| CNMG 190624-NR | 19.30 | 19.05 | 6.35 | 2.40 | | | | ● | | | | | | | | 4.00-10.00 | 0.40-1.20 |
| CNMG 250924-NR | 25.79 | 25.40 | 9.52 | 2.40 | | | | ● | | | | | | | | 6.00-12.00 | 0.40-1.20 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

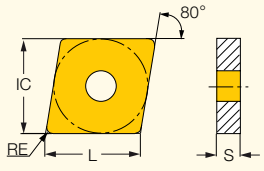
**Tools:** A/S-PCLNR/L • C#-MULNR/L-MW • C#-PCLNR/L-12-JHP • C#-PCLNR/L-X • C#-PCLNR/L-X-JHP • DCBNR/L • DCLNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MCLNR/L • MULNR/L-12MW • PCBNR/L • PCLNR/L • PCLNR/L-12-JHP • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC • S-DCLNR/L • S-MULNR-MW • A/S-PCLNR/L-X/G • DCLNR/L-JHP-MC

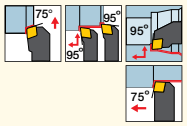
ISOTURN

## CNMG-MR

Double-Sided 80° Rhombic Inserts for Rough Turning on Stainless Steel and Soft Materials






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC8350 | IC8250 | IC8150 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| CNMG 160612-MR | 16.12 | 15.88 | 6.35 | 1.20 | ● | | ● | ● | 2.00-10.00 | 0.30-0.90 |
| CNMG 190612-MR | 19.03 | 19.05 | 6.35 | 1.20 | ● | ● | ● | ● | 2.00-10.00 | 0.30-0.90 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

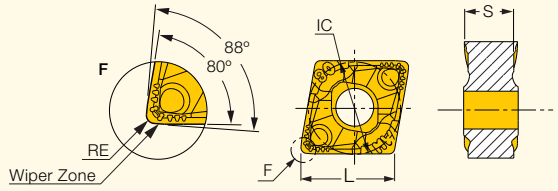
**Tools:** C#-PCLNR/L-X • DCBNR/L • DCLNR/L • MCLNR/L • PCBNR/L • PCLNR/L • PCLNR/L-X • A/S-PCLNR/L-X/G

HELITURN LD

## CNMX-M3/4PW

Double-Sided 80° Rhombic Inserts with a High Helical Cutting Edge for High Metal Removal Rates






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC8350 | IC8250 | IC8150 | IC20N | IC520N | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CNMX 090604-M3PW** | 9.67 | 9.52 | 4.40 | 0.40 | ● | | ● | ● | | | | | 1.00-4.50 | 0.20-0.50 |
| **CNMX 090608-M3PW** | 9.67 | 9.52 | 4.40 | 0.80 | ● | | ● | ● | ● | ● | | | 1.50-5.00 | 0.25-0.60 |
| **CNMX 120708-M4PW** | 12.90 | 12.70 | 6.78 | 0.80 | | ● | ● | ● | | | ● | ● | 1.50-6.00 | 0.25-0.60 |
| **CNMX 120712-M4PW** | 12.90 | 12.70 | 6.78 | 1.20 | | ● | ● | ● | | | ● | ● | 2.00-6.00 | 0.30-0.80 |
| **CNMX 120716-M4PW** | 12.90 | 12.70 | 6.78 | 1.60 | | ● | ● | ● | | | ● | ● | 2.00-6.00 | 0.30-1.00 |
| **CNMX 160712-M4PW** | 16.12 | 15.88 | 6.40 | 1.20 | | | ● | ● | | | ● | | 2.00-8.00 | 0.30-0.80 |
| **CNMX 160716-M4PW** | 16.12 | 15.88 | 6.40 | 1.60 | | | ● | ● | | | ● | | 2.00-8.00 | 0.30-1.00 |

- PCLNR/L...X and A..-PCLNR/L-X are most recommended as they were designed especially for this insert
- For user guide and cutting speed recommendations, see pages 122-134, 236-254

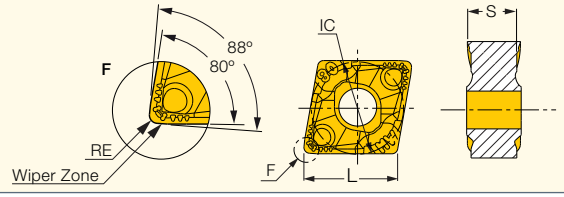
**Tools:** A/S-PCLNR/L-X/G • C#-PCLNR/L-X • C#-PCLNR/L-X-JHP • DCLNR/L • DCLNR/L-JHP-MC • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC

HELITURN LD

## CNMX-M3/4MW

Double-Sided 80° Rhombic Inserts with a High Helical Cutting Edge for High Metal Removal Rates of Stainless Steel






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC6025 | IC6015 | IC8150 | IC806 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CNMX 090604-M3MW** | 9.67 | 9.52 | 4.40 | 0.40 | ● | ● | ● | | | | 0.80-4.00 | 0.15-0.45 |
| **CNMX 090608-M3MW** | 9.67 | 9.52 | 4.40 | 0.80 | ● | ● | ● | | | | 1.00-5.00 | 0.20-0.60 |
| **CNMX 120704-M4MW** | 12.90 | 12.70 | 6.78 | 0.40 | | | ● | | ● | ● | 0.80-5.00 | 0.15-0.45 |
| **CNMX 120708-M4MW** | 12.90 | 12.70 | 6.78 | 0.80 | ● | ● | ● | ● | ● | ● | 1.00-6.00 | 0.20-0.60 |
| **CNMX 120712-M4MW** | 12.90 | 12.70 | 6.78 | 1.20 | | ● | ● | ● | ● | ● | 2.00-6.00 | 0.30-0.80 |

- PCLNR/L...X and A..-PCLNR/L-X are most recommended as they were designed especially for this insert
- For user guide and cutting speed recommendations, see pages 122-134, 236-254

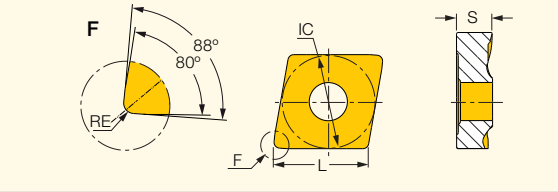
**Tools:** A/S-PCLNR/L-X/G • C#-PCLNR/L-X • C#-PCLNR/L-X-JHP • DCLNR/L • DCLNR/L-JHP-MC • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC

HELITURN LD

## CNMM-M4PW

Very Positive Radial Insert with a Helical Cutting Edge and Positive Rake for Heavy Machining Applications






| Designation | Dimensions IC | S | RE | L | Tough ↔ Hard IC8250 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| **CNMM 120408-M4PW** | 12.70 | 4.76 | 0.80 | 12.90 | ● | ● | 1.50-5.00 | 0.24-0.59 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

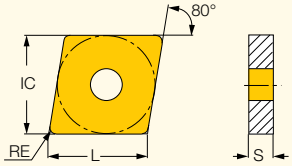
**Tools:** A/S-PCLNR/L • C#-MULNR/L-MW • C#-PCLNR/L-12-JHP • C#-PCLNR/L-X • C#-PCLNR/L-X-JHP • DCBNR/L • DCLNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PCBNR/L • PCLNR/L • PCLNR/L-12-JHP • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC • S-DCLNR/L • S-MULNR-MW • DCLNR/L-JHP-MC

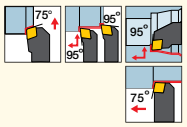
ISOTURN

## CNMM-R3P

Single-Sided 80° Rhombic Inserts for Rough Turning Applications on Steel






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC8250 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| CNMM 120408-R3P | 12.90 | 12.70 | 4.76 | 0.80 | • | • | • | 0.70-7.50 | 0.20-0.55 |
| CNMM 120412-R3P | 12.90 | 12.70 | 4.76 | 1.20 | • | • | • | 1.00-7.50 | 0.25-0.70 |
| CNMM 120416-R3P | 12.90 | 12.70 | 4.76 | 1.60 | • | • | • | 1.50-7.50 | 0.30-0.90 |
| CNMM 160608-R3P | 16.12 | 15.88 | 6.35 | 0.80 | • | • | • | 2.00-9.50 | 0.20-0.55 |
| CNMM 160612-R3P | 16.12 | 15.88 | 6.35 | 1.20 | • | • | • | 2.00-9.50 | 0.30-0.70 |
| CNMM 160616-R3P | 16.12 | 15.88 | 6.35 | 1.60 | • | • | • | 2.00-9.50 | 0.30-0.90 |
| CNMM 190612-R3P | 19.34 | 19.05 | 6.35 | 1.20 | • | • | • | 3.00-12.00 | 0.25-0.80 |
| CNMM 190616-R3P | 19.34 | 19.05 | 6.35 | 1.60 | • | • | • | 3.50-12.00 | 0.30-0.90 |
| CNMM 190624-R3P | 19.34 | 19.05 | 6.35 | 2.40 | • | • | • | 3.50-12.00 | 0.30-1.20 |
| CNMM 250924-R3P | 25.79 | 25.40 | 9.52 | 2.40 | • | • | • | 4.00-15.00 | 0.40-1.20 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

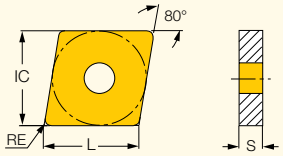
**Tools:** A/S-PCLNR/L • C#-MULNR/L-MW • C#-PCLNR/L-12-JHP • C#-PCLNR/L-X • C#-PCLNR/L-X-JHP • DCBNR/L • DCLNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MCLNR/L • MULNR/L-12MW • PCBNR/L • PCLNR/L • PCLNR/L-12-JHP • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC • S-DCLNR/L • S-MULNR-MW • A/S-PCLNR/L-X/G • DCLNR/L-JHP-MC

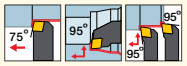
ISOTURN

## CNMM-H3P

Single-Sided 80° Rhombic Insert with a Strong Cutting Edge for Extra Rough Turning






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC8250 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| CNMM 190624-H3P | 19.34 | 19.05 | 6.35 | 2.40 | • | • | 4.00-9.00 | 0.55-1.20 |
| CNMM 250924-H3P | 25.79 | 25.40 | 9.52 | 2.40 | • | • | 5.00-12.00 | 0.55-1.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

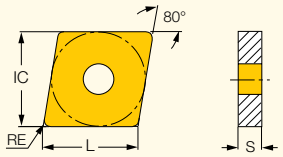
**Tools:** A/S-PCLNR/L • DCBNR/L • DCLNR/L • MCLNR/L • PCBNR/L • PCLNR/L

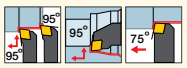
ISOTURN

## CNMM-H4P

Single-Sided 80° Rhombic Insert with a Strong Cutting Edge for Extra Rough Turning






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC8250 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| CNMM 190624-H4P | 19.34 | 19.05 | 6.35 | 2.40 | • | • | 4.00-12.00 | 0.50-1.10 |
| CNMM 250924-H4P | 25.79 | 25.40 | 9.52 | 2.40 | • | • | 5.00-15.00 | 0.55-1.50 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

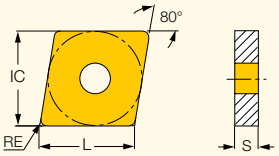
**Tools:** A/S-PCLNR/L • DCBNR/L • DCLNR/L • MCLNR/L • PCBNR/L • PCLNR/L

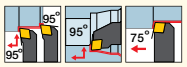
ISOTURN

## CNMM-H5P

Single-Sided 80° Rhombic Insert with a Strong Cutting Edge for Extra Rough Turning






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC8250 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| CNMM 250924-H5P | 25.79 | 25.40 | 9.52 | 2.40 | ● | ● | 5.00-15.00 | 0.55-1.50 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

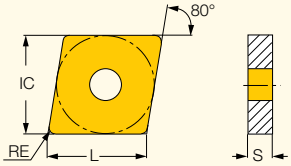
**Tools:** PCLNR/L

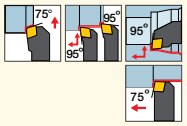
ISOTURN

## CNMM-NR

Single-Sided 80° Rhombic Inserts for Rough Turning Applications






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC8150 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| CNMM 190616-NR | 19.03 | 19.05 | 6.35 | 1.60 | ● | ● | 2.00-10.00 | 0.40-1.00 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

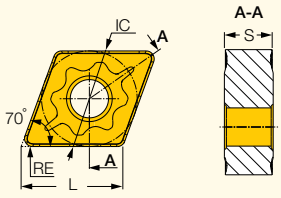
**Tools:** DCBNR/L • DCLNR/L • MCLNR/L • PCBNR/L • PCLNR/L

ISOTURN

## XNMG-F3P

Double-Sided 70° Rhombic Inserts for Semi-Finishing and Finishing Applications









| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC8250 | IC8150 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| XNMG 090404-F3P | 10.14 | 9.53 | 4.76 | 0.40 | ● | ● | ● | ● | 0.50-3.50 | 0.07-0.25 |
| XNMG 090408-F3P | 10.14 | 9.53 | 4.76 | 0.80 | ● | ● | ● | ● | 0.90-3.50 | 0.08-0.25 |
| XNMG 120404-F3P | 13.52 | 12.70 | 4.76 | 0.40 | ● | ● | ● | ● | 0.50-3.50 | 0.07-0.25 |
| XNMG 120408-F3P | 13.52 | 12.70 | 4.76 | 0.80 | ● | ● | ● | ● | 0.90-3.50 | 0.08-0.25 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

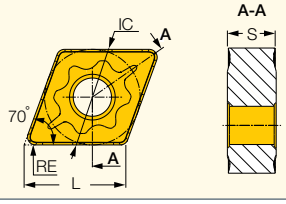
**Tools:** DXJNR/L-X-JHP-MC

ISOTURN

## XNMG-M3P

Double-Sided 70° Rhombic Inserts for Medium Machining Conditions on Steel









| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC8250 | IC8150 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| XNMG 090404-M3P | 10.14 | 9.53 | 4.76 | 0.40 | ● | ● | ● | ● | 0.50-3.50 | 0.07-0.25 |
| XNMG 090408-M3P | 10.14 | 9.53 | 4.76 | 0.80 | ● | ● | ● | ● | 0.90-3.50 | 0.08-0.25 |
| XNMG 120404-M3P | 13.52 | 12.70 | 4.76 | 0.40 | ● | ● | ● | ● | 0.50-3.50 | 0.07-0.25 |
| XNMG 120408-M3P | 13.52 | 12.70 | 4.76 | 0.80 | ● | | ● | ● | 0.90-3.50 | 0.08-0.25 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

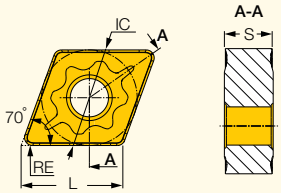
**Tools:** DXJNR/L-X-JHP-MC

ISOTURN

## XNMG-F3M

Double-sided 70° Rhombic Inserts for Stainless Steel Finishing Applications









| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC6025 | IC6015 | IC806 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| XNMG 090404-F3M | 10.14 | 9.53 | 4.76 | 0.40 | ● | ● | ● | ● | ● | 0.10-1.50 | 0.05-0.30 |
| XNMG 090408-F3M | 10.14 | 9.53 | 4.76 | 0.80 | ● | ● | ● | ● | ● | 0.10-1.50 | 0.10-0.40 |
| XNMG 120404-F3M | 13.52 | 12.70 | 4.76 | 0.40 | ● | ● | ● | ● | ● | 0.10-1.50 | 0.05-0.30 |
| XNMG 120408-F3M | 13.52 | 12.70 | 4.76 | 0.80 | ● | ● | ● | ● | ● | 0.10-1.50 | 0.10-0.40 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

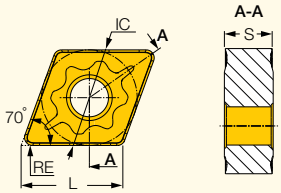
**Tools:** DXJNR/L-X-JHP-MC

ISOTURN

## XNMG-M3M

Double-Sided 70° Rhombic Inserts for Machining Stainless and Low Carbon Steel









| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC6025 | IC6015 | IC806 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| XNMG 090404-M3M | 10.14 | 9.53 | 4.76 | 0.40 | ● | ● | ● | ● | ● | 0.40-4.00 | 0.12-0.40 |
| XNMG 090408-M3M | 10.14 | 9.53 | 4.76 | 0.80 | ● | ● | ● | ● | ● | 0.50-4.50 | 0.15-0.50 |
| XNMG 120404-M3M | 13.52 | 12.70 | 4.76 | 0.40 | ● | ● | ● | ● | ● | 0.50-5.00 | 0.15-0.50 |
| XNMG 120408-M3M | 13.52 | 12.70 | 4.76 | 0.80 | ● | ● | ● | ● | ● | 0.50-5.00 | 0.15-0.50 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

**Tools:** DXJNR/L-X-JHP-MC

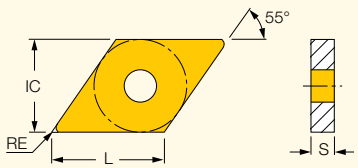
ISOTURN

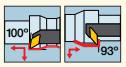
MINIPTURN POSITIVE DOUBLE SIDED

## DNGP-F2P

Double-Sided 55° Rhombic Inserts for Semi-Finishing and Finishing Applications on Alloyed Steel






| Designation | Dimensions L | IC | S | RE | IC530N | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| DNGP 070302R/L-F2P | 7.70 | 6.35 | 3.18 | 0.20 | ● | 0.30-2.00 | 0.08-0.30 |
| DNGP 070304R/L-F2P | 7.70 | 6.35 | 3.18 | 0.40 | ● | 0.30-2.00 | 0.08-0.30 |
| DNGP 070308R/L-F2P | 7.70 | 6.35 | 3.18 | 0.80 | ● | 0.30-2.00 | 0.08-0.30 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

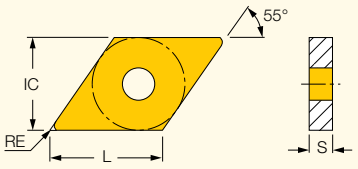
**Tools:** A/E-SDXNR/L-07 • A/E-SDZNR/L-07 • NQCH-SDJNR/L-S-JHP • PDJNR/L-S

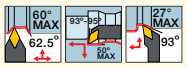
ISOTURN

## DNMG-F3P

Double-Sided 55° Rhombic Inserts for Semi-Finishing and Finishing on Steel






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC8250 | IC8150 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| DNMG 110404-F3P | 11.63 | 9.52 | 4.76 | 0.40 | ● | ● | ● | ● | 0.80-3.00 | 0.07-0.25 |
| DNMG 110408-F3P | 11.63 | 9.52 | 4.76 | 0.80 | ● | ● | ● | ● | 1.00-3.50 | 0.08-0.25 |
| DNMG 110412-F3P | 11.63 | 9.52 | 4.76 | 1.20 | ● | ● | ● | ● | 1.40-4.00 | 0.10-0.25 |
| DNMG 150404-F3P | 15.50 | 12.70 | 4.76 | 0.40 | ● | ● | ● | ● | 0.80-3.00 | 0.07-0.25 |
| DNMG 150408-F3P | 15.50 | 12.70 | 4.76 | 0.80 | ● | ● | ● | ● | 1.00-3.50 | 0.08-0.25 |
| DNMG 150412-F3P | 15.50 | 12.70 | 4.76 | 1.20 | ● | ● | ● | ● | 1.40-4.00 | 0.10-0.25 |
| DNMG 150604-F3P | 15.50 | 12.70 | 6.35 | 0.40 | ● | ● | ● | ● | 0.80-3.00 | 0.07-0.25 |
| DNMG 150608-F3P | 15.50 | 12.70 | 6.35 | 0.80 | ● | ● | ● | ● | 1.00-3.50 | 0.08-0.25 |
| DNMG 150612-F3P | 15.50 | 12.70 | 6.35 | 1.20 | ● | ● | ● | ● | 1.40-4.00 | 0.10-0.25 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

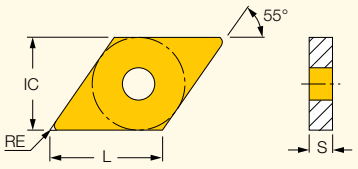
**Tools:** A/S-PDUNR/L • AVC-DDUNR/L-VH • C#-DDJNR/L • C#-PDJNR/L-JHP • DDJNR/L • HSK A63WH-DDJNR/L • HSK A63WH-DDNNN • PDJNR/L • PDJNR/L-JHP • S-DDUNR/L • AVC-DDUNR/L • DDJNR/L-JHP-MC

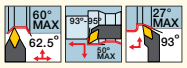
ISOTURN

## DNMG-M3P

Double-Sided 55° Rhombic Inserts for Medium Machining Conditions on Steel






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC8250 | IC8150 | IC5010 | IC5005 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DNMG 110408-M3P | 11.63 | 9.52 | 4.76 | 0.80 | ● | ● | ● | | | ● | 0.50-5.00 | 0.15-0.50 |
| DNMG 110412-M3P | 11.63 | 9.52 | 4.76 | 1.20 | ● | | ● | | | ● | 0.80-5.00 | 0.18-0.60 |
| DNMG 150408-M3P | 15.50 | 12.70 | 4.76 | 0.80 | ● | ● | ● | ● | ● | ● | 0.50-6.00 | 0.15-0.50 |
| DNMG 150412-M3P | 15.50 | 12.70 | 4.76 | 1.20 | ● | | | | | ● | 0.80-6.00 | 0.18-0.60 |
| DNMG 150608-M3P | 15.50 | 12.70 | 6.35 | 0.80 | ● | ● | ● | | | ● | 0.50-6.00 | 0.15-0.50 |
| DNMG 150612-M3P | 15.50 | 12.70 | 6.35 | 1.20 | ● | ● | ● | | | ● | 0.80-6.00 | 0.18-0.60 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

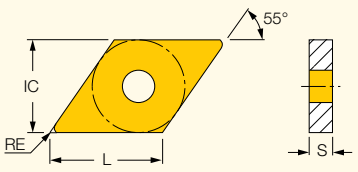
**Tools:** A/S-PDUNR/L • AVC-DDUNR/L • AVC-DDUNR/L-VH • C#-DDJNR/L • C#-PDJNR/L-JHP • DDJNR/L • HSK A63WH-DDJNR/L • HSK A63WH-DDNNN • PDJNR/L • PDJNR/L-JHP • S-DDUNR/L • DDJNR/L-JHP-MC

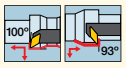
ISOTURN

## DNGP-F2M

Double-Sided 55° Rhombic Inserts for Semi-Finishing and Finishing on Stainless Steel






| Designation | Dimensions L | IC | S | RE | IC908 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| DNGP 070302R/L-F2M | 7.70 | 6.35 | 3.18 | 0.20 | ● | 0.30-2.00 | 0.08-0.30 |
| DNGP 070304R/L-F2M | 7.70 | 6.35 | 3.18 | 0.40 | ● | 0.30-2.00 | 0.08-0.30 |
| DNGP 070308R/L-F2M | 7.70 | 6.35 | 3.18 | 0.80 | ● | 0.30-2.00 | 0.08-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

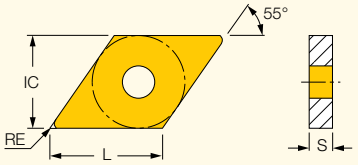
**Tools:** A/E-SDXNR/L-07 • A/E-SDZNR/L-07 • NQCH-SDJNR/L-S-JHP • PDJNR/L-S

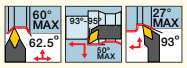
ISOTURN

## DNMG-F3M

Double-Sided 55° Rhombic Inserts for Finish on Turning Stainless and Low Carbon Steel






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC6025 | IC6015 | IC806 | IC807 | IC804 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DNMG 110404-F3M | 11.63 | 9.52 | 4.76 | 0.40 | • | • | • | • | • | | 0.10-1.50 | 0.05-0.32 |
| DNMG 110408-F3M | 11.63 | 9.52 | 4.76 | 0.80 | • | • | • | • | • | | 0.10-1.50 | 0.10-0.42 |
| DNMG 110412-F3M | 11.63 | 9.52 | 4.76 | 1.20 | | • | • | • | • | | 0.15-2.00 | 0.15-0.52 |
| DNMG 150404-F3M | 15.50 | 12.70 | 4.76 | 0.40 | • | • | • | • | • | • | 0.10-1.50 | 0.05-0.30 |
| DNMG 150408-F3M | 15.50 | 12.70 | 4.76 | 0.80 | • | • | • | • | • | | 0.10-1.50 | 0.10-0.40 |
| DNMG 150412-F3M | 15.50 | 12.70 | 4.76 | 1.20 | | • | • | • | • | | 0.20-2.50 | 0.15-0.50 |
| DNMG 150604-F3M | 15.50 | 12.70 | 6.35 | 0.40 | • | • | • | • | • | | 0.10-1.50 | 0.05-0.30 |
| DNMG 150608-F3M | 15.50 | 12.70 | 6.35 | 0.80 | • | • | • | • | • | | 0.10-1.50 | 0.10-0.40 |
| DNMG 150612-F3M | 15.50 | 12.70 | 6.35 | 1.20 | • | • | • | • | • | | 0.20-2.50 | 0.15-0.50 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

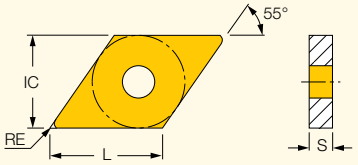
**Tools:** A/S-PDUNR/L • AVC-DDUNR/L-VH • C#-DDJNR/L • C#-PDJNR/L-JHP • DDJNR/L • HSK A63WH-DDJNR/L • HSK A63WH-DDNNN • PDJNR/L • PDJNR/L-JHP • S-DDUNR/L • AVC-DDUNR/L • DDJNR/L-JHP-MC

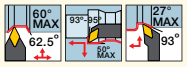
ISOTURN

## DNMG-M3M

Double-Sided 55° Rhombic Inserts for Machining Stainless and Low Carbon Steel






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC6025 | IC6015 | IC806 | IC807 | IC804 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DNMG 110404-M3M | 11.63 | 9.52 | 4.76 | 0.40 | • | • | • | • | • | | 0.50-3.50 | 0.12-0.40 |
| DNMG 110408-M3M | 11.63 | 9.52 | 4.76 | 0.80 | • | • | • | • | • | | 0.50-4.00 | 0.15-0.50 |
| DNMG 110412-M3M | 11.63 | 9.52 | 4.76 | 1.20 | • | • | • | • | • | | 0.50-4.00 | 0.20-0.60 |
| DNMG 150408-M3M | 15.50 | 12.70 | 4.76 | 0.80 | • | • | • | • | • | • | 0.50-5.00 | 0.15-0.50 |
| DNMG 150412-M3M | 15.50 | 12.70 | 4.76 | 1.20 | • | • | • | • | • | | 0.50-5.00 | 0.20-0.60 |
| DNMG 150608-M3M | 15.50 | 12.70 | 6.35 | 0.80 | • | • | • | • | • | | 0.50-5.00 | 0.15-0.50 |
| DNMG 150612-M3M | 15.50 | 12.70 | 6.35 | 1.20 | • | • | • | • | • | | 0.50-5.00 | 0.20-0.60 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

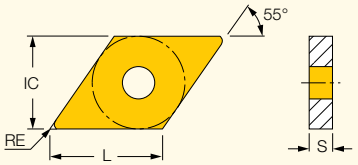
**Tools:** A/S-PDUNR/L • AVC-DDUNR/L-VH • C#-DDJNR/L • C#-PDJNR/L-JHP • DDJNR/L • HSK A63WH-DDJNR/L • HSK A63WH-DDNNN • PDJNR/L • PDJNR/L-JHP • S-DDUNR/L • AVC-DDUNR/L • DDJNR/L-JHP-MC

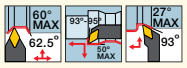
ISOTURN

## DNMG-F3S

Double-Sided 55° Rhombic Inserts for Titanium and Heat Resistant Materials for Finishing Applications






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC806 | IC804 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| DNMG 110404-F3S | 11.63 | 9.52 | 4.76 | 0.40 | • | • | 0.10-1.50 | 0.05-0.32 |
| DNMG 110408-F3S | 11.63 | 9.52 | 4.76 | 0.80 | • | • | 0.10-1.50 | 0.10-0.40 |
| DNMG 150404-F3S | 15.50 | 12.70 | 4.76 | 0.40 | • | • | 0.10-1.50 | 0.05-0.32 |
| DNMG 150408-F3S | 15.50 | 12.70 | 4.76 | 0.80 | • | • | 0.10-1.50 | 0.10-0.40 |
| DNMG 150604-F3S | 15.50 | 12.70 | 6.35 | 0.40 | • | • | 0.10-1.50 | 0.05-0.32 |
| DNMG 150608-F3S | 15.50 | 12.70 | 6.35 | 0.80 | • | • | 0.10-1.50 | 0.10-0.40 |

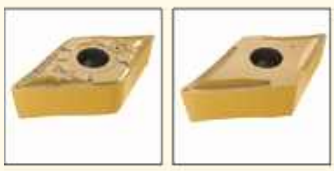
• For user guide and cutting speed recommendations, see pages 122-134, 236-254

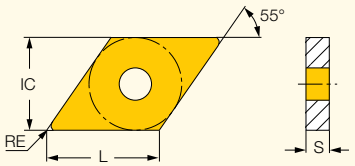
**Tools:** A/S-PDUNR/L • AVC-DDUNR/L • AVC-DDUNR/L-VH • C#-DDJNR/L • C#-PDJNR/L-JHP • DDJNR/L • DDJNR/L-JHP-MC • HSK A63WH-DDJNR/L • HSK A63WH-DDNNN • PDJNR/L • PDJNR/L-JHP • S-DDUNR/L

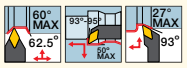
ISOTURN

## DNMG-CERMET

Double-Sided 55° Rhombic Cermet Grade Inserts for Semi-Finishing and Finishing Applications



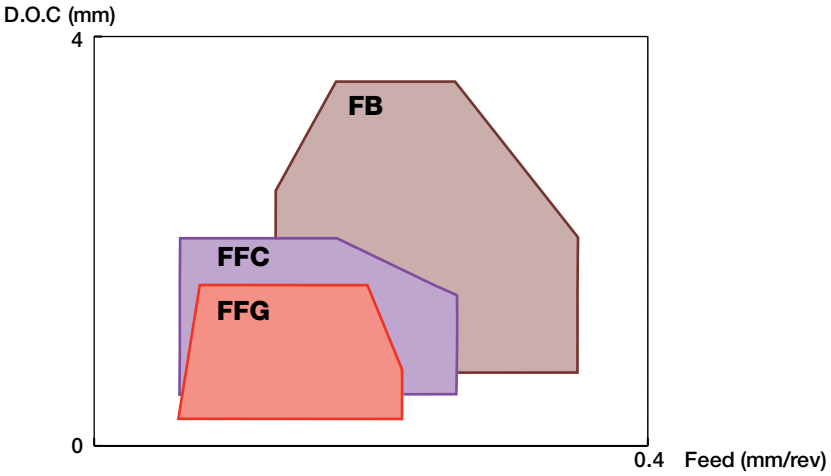



| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC20N | IC520N | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| DNMG 110404-FFG | 11.63 | 9.52 | 4.76 | 0.40 | | ● | 0.70-2.00 | 0.07-0.22 |
| DNMG 110402-FFC | 11.63 | 9.52 | 4.76 | 0.20 | ● | | 0.40-2.50 | 0.05-0.20 |
| DNMG 110404-FFC | 11.63 | 9.52 | 4.76 | 0.40 | ● | ● | 0.80-3.00 | 0.07-0.25 |
| DNMG 110408-FFC | 11.63 | 9.52 | 4.76 | 0.80 | ● | ● | 1.00-3.50 | 0.08-0.25 |
| DNMG 150404-FFC | 15.50 | 12.70 | 4.76 | 0.40 | | ● | 0.80-3.00 | 0.07-0.25 |
| DNMG 150604-FB | 15.50 | 12.70 | 6.35 | 0.40 | ● | | 0.50-3.00 | 0.07-0.23 |
| DNMG 150604-FFC | 15.50 | 12.70 | 6.35 | 0.40 | | ● | 0.80-3.00 | 0.08-0.25 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

**Tools:** A/S-PDUNR/L • C#-DDJNR/L • C#-PDJNR/L-JHP • DDJNR/L • HSK A63WH-DDJNR/L • HSK A63WH-DDNNN • PDJNR/L • PDJNR/L-JHP • S-DDUNR/L • DDJNR/L-JHP-MC

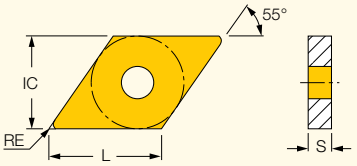


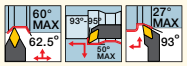

ISOTURN

## DNMG-NF

Double-Sided 55° Rhombic Inserts for Semi-Finishing and Finishing Applications






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC8350 | IC8250 | IC530N | IC8150 | IC20N | IC520N | IC5010 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DNMG 110402-NF | 11.63 | 9.52 | 4.76 | 0.20 | | ● | ● | | ● | ● | | | ● | ● | 0.40-2.50 | 0.07-0.18 |
| DNMG 110404-NF | 11.63 | 9.52 | 4.76 | 0.40 | ● | | ● | | ● | ● | ● | ● | ● | ● | 0.80-3.00 | 0.07-0.25 |
| DNMG 110408-NF | 11.63 | 9.52 | 4.76 | 0.80 | ● | | ● | ● | ● | ● | | | ● | ● | 1.00-3.50 | 0.08-0.25 |
| DNMG 150404-NF | 15.50 | 12.70 | 4.76 | 0.40 | | | ● | ● | | | | | ● | ● | 0.80-3.50 | 0.07-0.25 |
| DNMG 150408-NF | 15.50 | 12.70 | 4.76 | 0.80 | | | ● | | ● | | | | | | 1.00-3.51 | 0.08-0.25 |
| DNMG 150604-NF | 15.50 | 12.70 | 6.35 | 0.40 | | | ● | ● | | | | | ● | ● | 0.80-3.50 | 0.07-0.25 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

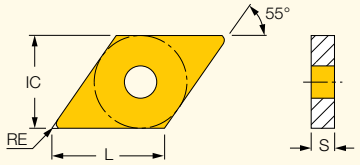
**Tools:** A/S-PDUNR/L • AVC-DDUNR/L-VH • C#-DDJNR/L • C#-PDJNR/L-JHP • DDJNR/L • HSK A63WH-DDJNR/L • HSK A63WH-DDNNN • PDJNR/L • PDJNR/L-JHP • S-DDUNR/L • AVC-DDUNR/L • DDJNR/L-JHP-MC

ISOTURN

## DNMG/DNGG-SF

Double-Sided 55° Rhombic Inserts for Super Finishing; Controls Chip Flow at Very Low Feeds and Depths of Cut









| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC530N | IC520N | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| DNMG 110404-SF | 11.63 | 9.52 | 4.76 | 0.40 | ● | ● | | 0.50-3.00 | 0.05-0.25 |
| DNGG 150401-SF | 15.50 | 12.70 | 4.76 | 0.10 | | | ● | 0.25-2.00 | 0.03-0.15 |
| DNGG 150402-SF | 15.50 | 12.70 | 4.76 | 0.20 | | | ● | 0.40-2.50 | 0.05-0.20 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

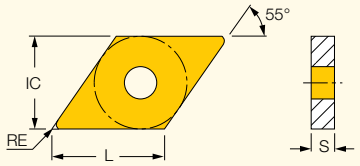
**Tools:** A/S-PDUNR/L • C#-DDJNR/L • C#-PDJNR/L-JHP • DDJNR/L • HSK A63WH-DDJNR/L • HSK A63WH-DDNNN • PDJNR/L • PDJNR/L-JHP • AVC-DDUNR/L • DDJNR/L-JHP-MC

ISOTURN

## DNMG-WG

Double-Sided 55° Rhombic Wiper Inserts for High Surface Finish at High Feed Turning









| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC8250 | IC5010 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| DNMG 150408-WG | 15.50 | 12.70 | 4.76 | 0.80 | ● | | | 1.00-2.50 | 0.20-0.50 |
| DNMG 150608-WG | 15.50 | 12.70 | 6.35 | 0.80 | ● | | ● | 1.00-2.50 | 0.18-0.40 |
| DNMG 150612-WG | 15.50 | 12.70 | 6.35 | 1.20 | ● | ● | | 1.00-3.00 | 0.20-0.80 |

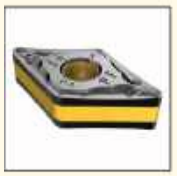
• For user guide and cutting speed recommendations, see pages 122-134, 236-254

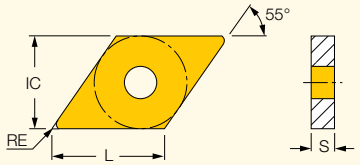
**Tools:** A/S-PDUNR/L • AVC-DDUNR/L-VH • C#-DDJNR/L • C#-PDJNR/L-JHP • DDJNR/L • HSK A63WH-DDNNN • PDJNR/L • PDJNR/L-JHP • AVC-DDUNR/L • DDJNR/L-JHP-MC

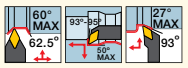
ISOTURN

## DNMG-PF

Double-Sided 55° Rhombic Inserts for Finishing Applications on Alloyed and Stainless Steel






| Designation | Dimensions L | IC | S | RE | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| DNMG 110408-PF | 11.63 | 9.52 | 4.76 | 0.80 | ● | 0.30-3.00 | 0.07-0.30 |
| DNMG 150612-PF | 15.50 | 12.70 | 6.35 | 1.20 | ● | 1.00-4.00 | 0.10-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

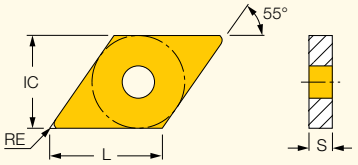
**Tools:** A/S-PDUNR/L • AVC-DDUNR/L-VH • C#-DDJNR/L • C#-PDJNR/L-JHP • DDJNR/L • HSK A63WH-DDJNR/L • HSK A63WH-DDNNN • PDJNR/L • PDJNR/L-JHP • S-DDUNR/L • AVC-DDUNR/L • DDJNR/L-JHP-MC

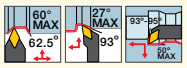
ISOTURN

## DNMG/DNGG-PP

55° Double-Sided Rhombic Inserts for Machining Very Ductile Materials at Medium Cutting Conditions






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC8350 | IC6025 | IC8250 | IC10 | IC6015 | IC8150 | IC20 | IC806 | IC807 | IC907 | IC804 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DNMG 110404-PP | 11.63 | 9.52 | 4.76 | 0.40 | | ● | | ● | | | | ● | | | | | 0.40-3.00 | 0.12-0.30 |
| DNMG 110408-PP | 11.63 | 9.52 | 4.76 | 0.80 | ● | | | ● | ● | | ● | | | | | | 1.00-3.50 | 0.12-0.30 |
| DNMG 150408-PP | 15.50 | 12.70 | 4.76 | 0.80 | ● | | | ● | | | | ● | | | | | 1.00-4.00 | 0.12-0.30 |
| DNMG 150604-PP | 15.50 | 12.70 | 6.35 | 0.40 | | | | | | | | | | ● | ● | | 0.50-4.00 | 0.12-0.30 |
| DNMG 150608-PP | 15.50 | 12.70 | 6.35 | 0.80 | ● | ● | ● | ● | | ● | | ● | | ● | ● | | 1.00-3.50 | 0.12-0.30 |
| DNGG 150604-PP | 15.50 | 12.70 | 6.35 | 0.40 | | | | | | | | | | | ● | | 0.50-4.00 | 0.12-0.30 |
| DNGG 150608-PP | 15.50 | 12.70 | 6.35 | 0.80 | | | | | | | | | ● | | ● | ● | 1.00-4.00 | 0.12-0.30 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

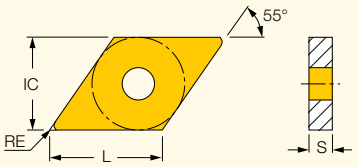
**Tools:** A/S-PDUNR/L • AVC-DDUNR/L • AVC-DDUNR/L-VH • C#-DDJNR/L • C#-PDJNR/L-JHP • DDJNR/L • HSK A63WH-DDJNR/L • HSK A63WH-DDNNN • PDJNR/L • PDJNR/L-JHP • S-DDUNR/L • DDJNR/L-JHP-MC

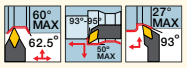
ISOTURN

## DNMG-VL

Double-Sided 55° Rhombic Inserts with a Chipformer for High Temperature Alloys and Stainless Steel Valves






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC908 | IC806 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| DNMG 110404-VL | 11.63 | 9.52 | 4.76 | 0.40 | ● | ● | 0.50-3.50 | 0.10-0.25 |
| DNMG 110408-VL | 11.63 | 9.52 | 4.76 | 0.80 | ● | ● | 0.50-3.50 | 0.10-0.25 |
| DNMG 150404-VL | 15.50 | 12.70 | 4.76 | 0.40 | | ● | 0.50-3.50 | 0.10-0.25 |
| DNMG 150408-VL | 15.50 | 12.70 | 4.76 | 0.80 | ● | ● | 0.50-3.50 | 0.10-0.25 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

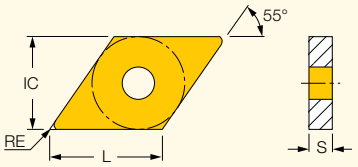
**Tools:** A/S-PDUNR/L • C#-DDJNR/L • C#-PDJNR/L-JHP • DDJNR/L • HSK A63WH-DDJNR/L • HSK A63WH-DDNNN • PDJNR/L • PDJNR/L-JHP • S-DDUNR/L • AVC-DDUNR/L • DDJNR/L-JHP-MC

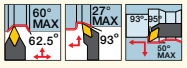
ISOTURN

## DNMG/DNGG-TF

Double-Sided 55° Rhombic Inserts for Machining a Wide Range of Materials at Medium Cutting Conditions






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC6025 | IC8250 | IC530N | IC6015 | IC8150 | IC20 | IC20N | IC806 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DNMG 110404-TF | 11.63 | 9.52 | 4.76 | 0.40 | | | ● | ● | | | ● | | | | | 1.00-3.00 | 0.12-0.30 |
| DNMG 110412-TF | 11.63 | 9.52 | 4.76 | 1.20 | | | ● | | | | | | | | | 1.50-4.00 | 0.15-0.35 |
| DNMG 150404-TF | 15.50 | 12.70 | 4.76 | 0.40 | ● | | ● | | | | ● | | | ● | ● | 1.00-3.00 | 0.15-0.30 |
| DNMG 150408-TF | 15.50 | 12.70 | 4.76 | 0.80 | ● | ● | ● | | ● | ● | ● | | ● | ● | ● | 1.00-3.50 | 0.15-0.30 |
| DNMG 150412-TF | 15.50 | 12.70 | 4.76 | 1.20 | | | ● | | | | | | | | | 1.50-4.00 | 0.12-0.40 |
| DNMG 150604-TF | 15.50 | 12.70 | 6.35 | 0.40 | | ● | ● | | ● | ● | ● | ● | | ● | ● | 1.00-3.00 | 0.14-0.30 |
| DNMG 150608-TF | 15.50 | 12.70 | 6.35 | 0.80 | ● | ● | ● | | ● | ● | ● | ● | ● | ● | ● | 1.00-3.50 | 0.15-0.30 |
| DNMG 150612-TF | 15.50 | 12.70 | 6.35 | 1.20 | ● | ● | ● | | ● | ● | ● | | ● | ● | ● | 1.50-4.00 | 0.11-0.35 |
| DNGG 150404-TF | 15.50 | 12.70 | 4.76 | 0.40 | | | | | | | | | | | ● | 1.00-3.00 | 0.15-0.30 |
| DNGG 150408-TF | 15.50 | 12.70 | 4.76 | 0.80 | | | | | | | | | | | ● | 1.00-3.50 | 0.15-0.30 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

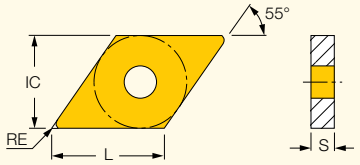
**Tools:** A/S-PDUNR/L • AVC-DDUNR/L-VH • C#-DDJNR/L • C#-PDJNR/L-JHP • DDJNR/L • HSK A63WH-DDJNR/L • HSK A63WH-DDNNN • PDJNR/L • PDJNR/L-JHP • S-DDUNR/L • AVC-DDUNR/L • DDJNR/L-JHP-MC

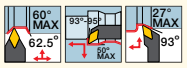
ISOTURN

## DNMG-GN

Double-Sided 55° Rhombic Inserts for General Applications






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC8350 | IC8250 | IC8150 | IC20N | IC5010 | IC428 | IC5005 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DNMG 110408-GN | 11.63 | 9.52 | 4.76 | 0.80 | | | ● | ● | | ● | | | 1.00-4.00 | 0.18-0.38 |
| DNMG 110412-GN | 11.63 | 9.52 | 4.76 | 1.20 | | | ● | ● | | | | | 1.50-4.50 | 0.18-0.38 |
| DNMG 150408-GN | 15.50 | 12.70 | 4.76 | 0.80 | ● | | ● | ● | | | | | 1.00-4.00 | 0.18-0.18 |
| DNMG 150412-GN | 15.50 | 12.70 | 4.76 | 1.20 | ● | ● | ● | ● | | ● | | | 1.50-5.00 | 0.18-0.43 |
| DNMG 150608-GN | 15.50 | 12.70 | 6.35 | 0.80 | ● | ● | ● | ● | ● | | ● | ● | 1.00-4.00 | 0.18-0.38 |
| DNMG 150612-GN | 15.50 | 12.70 | 6.35 | 1.20 | ● | | ● | ● | | | ● | ● | 1.50-5.00 | 0.18-0.43 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

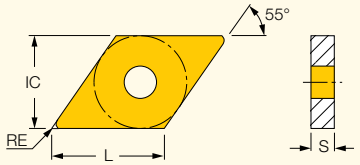
**Tools:** A/S-PDUNR/L • AVC-DDUNR/L-VH • C#-DDJNR/L • C#-PDJNR/L-JHP • DDJNR/L • HSK A63WH-DDJNR/L • HSK A63WH-DDNNN • PDJNR/L • PDJNR/L-JHP • S-DDUNR/L • AVC-DDUNR/L • DDJNR/L-JHP-MC

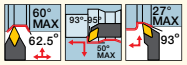
ISOTURN

## DNMG-NR

Double-Sided 55° Rhombic Inserts with a Special Chipformer for Heavy Machining






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC8250 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| DNMG 150612-NR | 15.50 | 12.70 | 6.35 | 1.20 | ● | ● | 2.00-6.00 | 0.23-0.50 |
| DNMG 150616-NR | 15.50 | 12.70 | 6.35 | 1.60 | ● | ● | 2.00-6.00 | 0.25-0.50 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

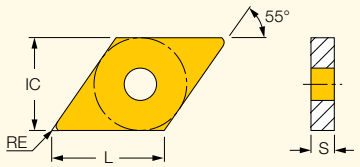
**Tools:** A/S-PDUNR/L • AVC-DDUNR/L-VH • C#-DDJNR/L • C#-PDJNR/L-JHP • DDJNR/L • HSK A63WH-DDJNR/L • HSK A63WH-DDNNN • PDJNR/L • PDJNR/L-JHP • S-DDUNR/L • AVC-DDUNR/L • DDJNR/L-JHP-MC

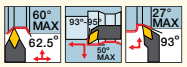
ISOTURN

## DNMA

Double-Sided 55° Rhombic Inserts for Short Chipping Materials such as Cast Iron






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC5010 | IC428 | IC5005 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| DNMA 150412 | 15.50 | 12.70 | 4.76 | 1.20 | | ● | ● | 1.50-4.00 | 0.05-0.40 |
| DNMA 150608 | 15.50 | 12.70 | 6.35 | 0.80 | ● | ● | ● | 1.50-4.00 | 0.03-0.40 |
| DNMA 150612 | 15.50 | 12.70 | 6.35 | 1.20 | ● | ● | ● | 1.50-4.00 | 0.05-0.40 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

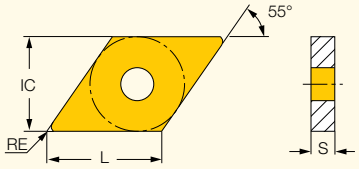
**Tools:** A/S-PDUNR/L • AVC-DDUNR/L-VH • C#-DDJNR/L • C#-PDJNR/L-JHP • DDJNR/L • HSK A63WH-DDJNR/L • HSK A63WH-DDNNN • PDJNR/L • PDJNR/L-JHP • S-DDUNR/L • AVC-DDUNR/L • DDJNR/L-JHP-MC

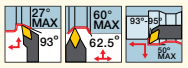
ISOTURN

## DNMM-R3P

Single-Sided 55° Rhombic Inserts for Rough Turning Applications on Steel






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC8250 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| DNMM 150608-R3P | 15.50 | 12.70 | 6.35 | 0.80 | • | • | 0.70-6.00 | 0.20-0.55 |
| DNMM 150612-R3P | 15.50 | 12.70 | 6.35 | 1.20 | • | • | 1.00-6.00 | 0.25-0.70 |
| DNMM 150616-R3P | 15.50 | 12.70 | 6.35 | 1.60 | • | • | 1.50-6.00 | 0.32-0.90 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

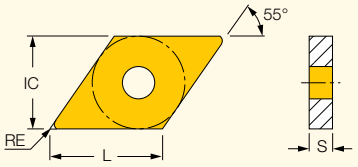
**Tools:** A/S-PDUNR/L • AVC-DDUNR/L-VH • C#-DDJNR/L • C#-PDJNR/L-JHP • DDJNR/L • HSK A63WH-DDJNR/L • HSK A63WH-DDNNN • PDJNR/L • PDJNR/L-JHP • S-DDUNR/L • AVC-DDUNR/L • DDJNR/L-JHP-MC

ISOTURN

## DNMM-NM

Single-Sided 55° Rhombic Inserts for Roughing Applications









| Designation | Dimensions L | IC | S | RE | IC8250 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| DNMM 150612-NM | 15.50 | 12.70 | 6.35 | 1.20 | • | 1.50-4.50 | 0.25-0.40 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

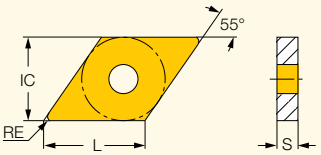
**Tools:** A/S-PDUNR/L • AVC-DDUNR/L-VH • C#-DDJNR/L • C#-PDJNR/L-JHP • DDJNR/L • HSK A63WH-DDJNR/L • HSK A63WH-DDNNN • PDJNR/L • PDJNR/L-JHP • S-DDUNR/L • AVC-DDUNR/L • DDJNR/L-JHP-MC

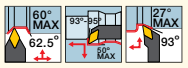
HELITURN LD

## DNMX-M3P

Double-Sided 55° Rhombic Inserts with High Helical Cutting Edge for High Metal Removal Rates






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC8350 | IC6025 | IC8250 | IC6015 | IC8150 | IC806 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DNMX 150608-M3P | 15.50 | 12.70 | 6.35 | 0.80 | • | | • | • | • | • | • | • | 2.00-7.00 | 0.25-0.50 |
| DNMX 150612-M3P | 15.50 | 12.70 | 6.35 | 1.20 | • | • | • | • | • | • | • | • | 2.50-7.00 | 0.30-0.60 |
| DNMX 150616-M3P | 15.50 | 12.70 | 6.35 | 1.60 | • | | | • | | • | | | 2.50-5.50 | 0.30-0.60 |

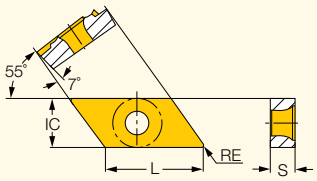
• For user guide and cutting speed recommendations, see pages 122-134, 236-254

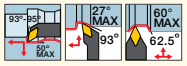
**Tools:** A/S-PDUNR/L • C#-DDJNR/L • C#-PDJNR/L-JHP • DDJNR/L • HSK A63WH-DDJNR/L • HSK A63WH-DDNNN • PDJNR/L • PDJNR/L-JHP • S-DDUNR/L • DDJNR/L-JHP-MC

ISOTURN

## KNMX
55° Parallelogram Profiling Inserts






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC8250 | IC8150 | IC5010 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| KNMX 160405-LP | 19.72 | 9.52 | 4.76 | 0.50 | ● | ● | | ● | | 1.00-4.00 | 0.10-0.40 |
| KNMX 160405-RP | 19.72 | 9.52 | 4.76 | 0.50 | ● | ● | | ● | ● | 1.00-4.00 | 0.10-0.40 |
| KNMX 160410-LP | 19.72 | 9.52 | 4.76 | 1.00 | | ● | ● | | | 1.50-4.00 | 0.15-0.45 |
| KNMX 160410-RP | 19.72 | 9.52 | 4.76 | 1.00 | ● | ● | | | ● | 1.50-4.00 | 0.15-0.45 |

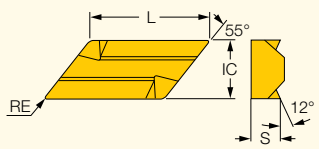
• For user guide and cutting speed recommendations, see pages 122-134, 236-254

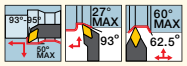
**Tools:** CKJNR/L • CKNNR/L • SKJNR/L

ISOTURN

## KNUX
55° Parallelogram Profiling Inserts






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC9250 | IC9025 | IC9015 | IC20 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| KNUX 160405 L11 | 19.72 | 9.52 | 4.76 | 0.50 | | ● | ● | ● | 1.00-4.00 | 0.10-0.40 |
| KNUX 160405 R11 | 19.72 | 9.52 | 4.76 | 0.50 | ● | ● | ● | ● | 1.00-4.00 | 0.10-0.40 |
| KNUX 160405 L12 | 19.72 | 9.52 | 4.76 | 0.50 | | | ● | | 1.50-4.00 | 0.10-0.40 |
| KNUX 160405 R12 | 19.72 | 9.52 | 4.76 | 0.50 | | ● | | | 1.50-4.00 | 0.10-0.40 |
| KNUX 160410 L11 | 19.72 | 9.52 | 4.76 | 1.00 | | | ● | | 1.50-4.00 | 0.15-0.45 |
| KNUX 160410 R11 | 19.72 | 9.52 | 4.76 | 1.00 | | ● | ● | | 1.50-4.00 | 0.15-0.45 |
| KNUX 160410 R/L12 | 19.72 | 9.52 | 4.76 | 1.00 | | | ● | | 1.50-4.00 | 0.15-0.45 |

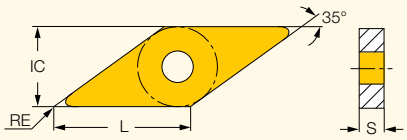
• For user guide and cutting speed recommendations, see pages 122-134, 236-254

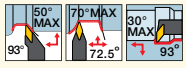
**Tools:** CKJNR/L • CKNNR/L

ISOTURN

## VNMG-F3P
Double-Sided 35° Rhombic Inserts for Semi-Finishing and Finishing Applications on Steel






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC8250 | IC8150 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| VNMG 12T302-F3P | 12.40 | 7.15 | 3.89 | 0.20 | ● | ● | ● | | 0.40-2.00 | 0.08-0.20 |
| VNMG 160404-F3P | 16.60 | 9.52 | 4.76 | 0.40 | ● | ● | ● | ● | 0.70-2.00 | 0.07-0.24 |
| VNMG 160408-F3P | 16.60 | 9.52 | 4.76 | 0.80 | ● | ● | ● | ● | 1.00-3.00 | 0.08-0.24 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

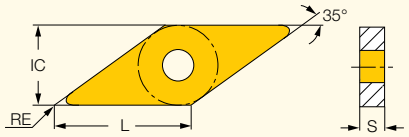
**Tools:** A-SVUNR/L • AVC-DVUNR/L • C#-SVJNR/L-F • HSK A63WH-SVVNN-F • MVJNR/L • MVVNN • SVANR/L-FS • SVJNR/L-F • SVVNN-F

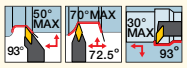
ISOTURN

## VNMG-F3M

Double-Sided 35° Rhombic Inserts for Finishing on Stainless Steel






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC6025 | IC6015 | IC806 | IC807 | IC804 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VNMG 12T302-F3M | 12.40 | 7.15 | 3.97 | 0.20 | | | | ● | | ● | 0.10-1.50 | 0.03-0.20 |
| VNMG 12T304-F3M | 12.40 | 7.15 | 3.97 | 0.40 | | | | ● | | ● | 0.10-1.50 | 0.05-0.30 |
| VNMG 12T308-F3M | 12.40 | 7.15 | 3.97 | 0.80 | | | | ● | | ● | 0.10-1.50 | 0.05-0.30 |
| VNMG 160404-F3M | 16.60 | 9.52 | 4.76 | 0.40 | ● | ● | ● | | ● | | 0.10-1.50 | 0.05-0.30 |
| VNMG 160408-F3M | 16.60 | 9.52 | 4.76 | 0.80 | ● | ● | | | ● | | 0.10-1.50 | 0.05-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

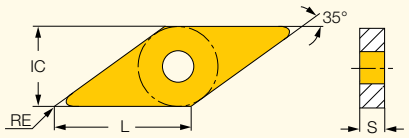
**Tools:** A-SVUNR/L • AVC-DVUNR/L • C#-SVJNR/L-F • HSK A63WH-SVVNN-F • MVJNR/L • MVVNN • SVANR/L-FS • SVJNR/L-F • SVVNN-F

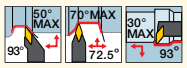
ISOTURN

## VNMG-M3M

Double-Sided 35° Rhombic Inserts for Machining Stainless and Low Carbon Steel






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC6025 | IC6015 | IC806 | IC807 | IC4 | IC804 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VNMG 12T308-M3M | 12.40 | 7.15 | 3.89 | 0.80 | ● | ● | ● | ● | ● | | | 0.70-2.00 | 0.08-0.20 |
| VNMG 160404-M3M | 16.60 | 9.52 | 4.76 | 0.40 | ● | ● | ● | ● | | | | 0.70-3.00 | 0.07-0.20 |
| VNMG 160408-M3M | 16.60 | 9.52 | 4.76 | 0.80 | ● | ● | ● | ● | | ● | ● | 0.10-1.50 | 0.05-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

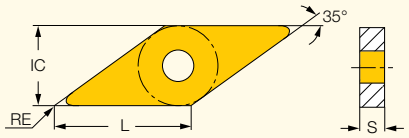
**Tools:** A-SVUNR/L • AVC-DVUNR/L • C#-SVJNR/L-F • HSK A63WH-SVVNN-F • MVJNR/L • MVVNN • SVANR/L-FS • SVJNR/L-F • SVVNN-F

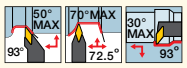
ISOTURN

## VNMG-F3S

Double-Sided 35° Rhombic Inserts for Titanium and Heat Resistant Materials for Finishing Applications






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC806 | IC804 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| VNMG 12T302-F3S | 12.40 | 7.15 | 3.97 | 0.20 | ● | ● | 0.10-1.50 | 0.05-0.20 |
| VNMG 12T304-F3S | 12.40 | 7.15 | 3.97 | 0.40 | ● | ● | 0.10-1.50 | 0.05-0.30 |
| VNMG 12T308-F3S | 12.40 | 7.15 | 3.97 | 0.80 | ● | ● | 0.10-1.50 | 0.05-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

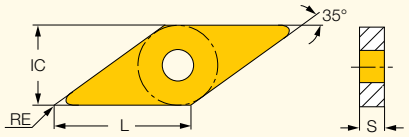
**Tools:** A-SVUNR/L • C#-SVJNR/L-F • HSK A63WH-SVVNN-F • SVANR/L-FS • SVJNR/L-F • SVVNN-F

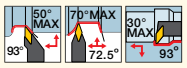
ISOTURN

## VNMG-SF

Double-Sided 35° Rhombic Inserts for Super Finishing






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC908 | IC570 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| VNMG 12T302-SF | 12.40 | 7.15 | 3.97 | 0.20 | • | • | 0.30-2.00 | 0.03-0.20 |
| VNMG 12T304-SF | 12.40 | 7.15 | 3.97 | 0.40 | • | • | 0.50-3.00 | 0.05-0.25 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

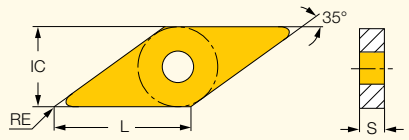
**Tools:** A-SVUNR/L • C#-SVJNR/L-F • HSK A63WH-SVVNN-F • SVANR/L-FS • SVJNR/L-F • SVVNN-F

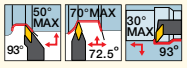
ISOTURN

## VNMG-FNF-CERMET

Double-Sided 35° Rhombic Cermet Inserts for Semi-Finishing and Finishing Applications






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC20N | IC520N | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| VNMG 12T302-FNF | 12.40 | 7.15 | 3.97 | 0.20 | • | | 0.50-3.00 | 0.07-0.23 |
| VNMG 12T304-FNF | 12.40 | 7.15 | 3.97 | 0.40 | • | • | 0.50-3.00 | 0.07-0.23 |
| VNMG 12T308-FNF | 12.40 | 7.15 | 3.89 | 0.80 | • | | 0.50-3.00 | 0.07-0.23 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

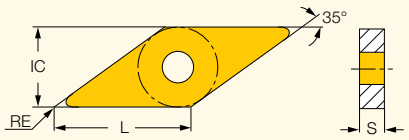
**Tools:** A-SVUNR/L • C#-SVJNR/L-F • HSK A63WH-SVVNN-F • SVANR/L-FS • SVJNR/L-F • SVVNN-F

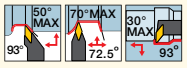
ISOTURN

## VNMG/VNGG-NF

Double-Sided 35° Rhombic Inserts for Semi-Finishing and Finishing Applications






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC8350 | IC6025 | IC8250 | IC530N | IC10 | IC6015 | IC8150 | IC20 | IC20N | IC5010 | IC428 | IC5005 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VNMG 12T302-NF | 12.40 | 7.15 | 3.97 | 0.20 | • | | • | • | | • | • | | | • | | | | • | • | 0.40-2.50 | 0.07-0.18 |
| VNMG 12T304-NF | 12.40 | 7.15 | 3.97 | 0.40 | • | • | • | • | • | • | • | • | | • | | • | | • | • | 0.70-2.00 | 0.07-0.24 |
| VNMG 12T308-NF | 12.40 | 7.15 | 3.97 | 0.80 | • | • | • | • | | • | • | • | | • | • | • | • | • | • | 1.00-3.00 | 0.08-0.24 |
| VNMG 160404-NF | 16.60 | 9.52 | 4.76 | 0.40 | • | | • | • | | | • | • | | | | | | • | • | 0.70-2.50 | 0.07-0.24 |
| VNMG 160408-NF | 16.60 | 9.52 | 4.76 | 0.80 | | | | • | | | | | • | | | | | | | 1.00-3.00 | 0.08-0.25 |
| VNGG 12T302-NF | 12.40 | 7.15 | 3.90 | 0.20 | | | | | | | | | | | | | | | • | 0.40-2.50 | 0.05-0.17 |
| VNGG 12T304-NF | 12.40 | 7.15 | 3.90 | 0.40 | | | | | | | | | | | | | | | • | 0.50-3.00 | 0.05-0.25 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

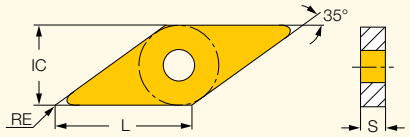
**Tools:** A-SVUNR/L • AVC-DVUNR/L • C#-SVJNR/L-F • HSK A63WH-SVVNN-F • MVJNR/L • MVVNN • SVANR/L-FS • SVJNR/L-F • SVVNN-F

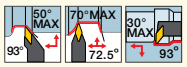
ISOTURN

## VNMM-PP

Single-Sided 35° Rhombic Inserts for Machining Very Ductile Materials at Medium Cutting Conditions






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC8250 | IC20 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| VNMM 12T304-PP | 12.40 | 7.15 | 3.97 | 0.40 | ● | ● | 0.80-2.50 | 0.12-0.20 |
| VNMM 12T308-PP | 12.40 | 7.15 | 3.97 | 0.80 | ● | ● | 1.00-2.50 | 0.12-0.25 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

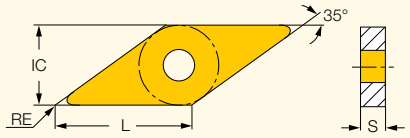
**Tools:** A-SVUNR/L • C#-SVJNR/L-F • HSK A63WH-SVVNN-F • SVANR/L-FS • SVJNR/L-F • SVVNN-F

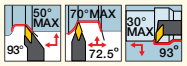
ISOTURN

## VNMG-TF

Double-Sided 35° Rhombic Inserts for Machining a Wide Range of Materials at Medium Cutting Conditions






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC6025 | IC8250 | IC6015 | IC8150 | IC806 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VNMG 160408-TF | 16.60 | 9.52 | 4.76 | 0.80 | ● | ● | ● | ● | ● | ● | ● | ● | 1.00-3.50 | 0.10-0.30 |
| VNMG 160412-TF | 16.60 | 9.52 | 4.76 | 1.20 | | | | | | | ● | ● | 1.00-4.00 | 0.12-0.38 |
| VNMG 220408-TF | 22.00 | 12.70 | 4.76 | 0.80 | | | ● | | | | | | 1.00-3.50 | 0.14-0.36 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

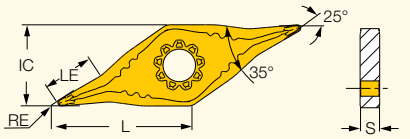
**Tools:** AVC-DVUNR/L • MVJNR/L • MVVNN

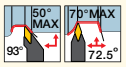
ISOTURN

## YNMG-F3P

Double-Sided 25° Corner Inserts for Internal and External Deep and Narrow Profiling and Undercutting






| Designation | Dimensions L | IC | LE | S | RE | Tough ↔ Hard IC8250 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| YNMG 160404-F3P | 16.60 | 9.52 | 5.7 | 4.76 | 0.40 | ● | ● | 0.40-3.00 | 0.03-0.12 |
| YNMG 160408-F3P | 16.60 | 9.52 | 5.3 | 4.76 | 0.80 | ● | ● | 0.90-4.00 | 0.05-0.15 |

• Use IYSN 323 seat for these inserts • For user guide, see pages 122-134, 236-254

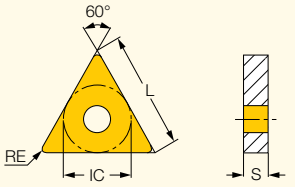
**Tools:** MVJNR/L • MVVNN

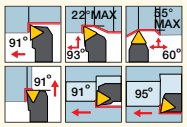
ISOTURN

## TNMG-F3P

Double-Sided Triangular Inserts for Semi-Finishing and Finishing Applications






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC8250 | IC8150 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| TNMG 160404-F3P | 16.50 | 9.52 | 4.76 | 0.40 | • | • | • | • | 0.50-2.00 | 0.07-0.25 |
| TNMG 160408-F3P | 16.50 | 9.52 | 4.76 | 0.80 | • | • | • | • | 0.90-3.00 | 0.08-0.25 |
| TNMG 160412-F3P | 16.50 | 9.52 | 4.76 | 1.20 | • | • | • | • | 1.30-4.00 | 0.10-0.25 |
| TNMG 220408-F3P | 22.00 | 12.70 | 4.76 | 0.80 | • | • | • | • | 0.90-3.00 | 0.08-0.25 |
| TNMG 220412-F3P | 22.00 | 12.70 | 4.76 | 1.20 | • | • | • | • | 1.30-4.00 | 0.10-0.25 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

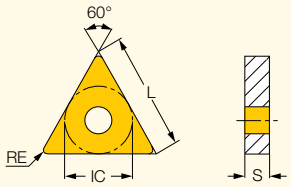
**Tools:** A-PTFNR/L-X/G • C#-DTGNR/L • DTGNR/L • MTENN-W • MTJNR/L-W • PTFNR/L • PTGNR/L • PTGNR/L-X • PTGNR/L-X-JHP • PTGNR/L-X-JHP-MC • S-MTLNR/L-W • S-PTFNR/L

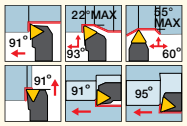
ISOTURN

## TNMG-M3P

Double-Sided Triangular Inserts for Medium Machining Conditions on Steel






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC8250 | IC8150 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| TNMG 160404-M3P | 16.50 | 9.52 | 4.76 | 0.40 | • | • | • | • | 0.40-5.00 | 0.10-0.30 |
| TNMG 160408-M3P | 16.50 | 9.52 | 4.76 | 0.80 | • | • | • | • | 0.50-5.00 | 0.15-0.50 |
| TNMG 160412-M3P | 16.50 | 9.52 | 4.76 | 1.20 | • | • | • | • | 0.80-5.00 | 0.18-0.60 |
| TNMG 220408-M3P | 22.00 | 12.70 | 4.76 | 0.80 | • | • | • | • | 0.50-6.60 | 0.15-0.50 |
| TNMG 220412-M3P | 22.00 | 12.70 | 4.76 | 1.20 | • | | • | • | 0.80-6.60 | 0.18-0.60 |
| TNMG 220416-M3P | 22.00 | 12.70 | 4.76 | 1.60 | • | • | • | • | 1.00-6.60 | 0.23-0.65 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

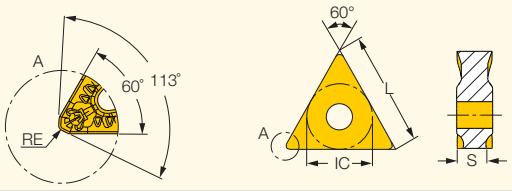
**Tools:** A-PTFNR/L-X/G • C#-DTGNR/L • DTGNR/L • MTENN-W • MTJNR/L-W • PTFNR/L • PTGNR/L • PTGNR/L-X • PTGNR/L-X-JHP • PTGNR/L-X-JHP-MC • S-MTLNR/L-W • S-PTFNR/L

HELITURN LD

## TNMX-M3/4PW

Double-Sided Triangular Inserts with High Helical Cutting Edge for High Metal Removal Rates on Steel









| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC8250 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| TNMX 160604-M3PW | 16.50 | 9.52 | 4.40 | 0.40 | • | • | • | 2.00-5.00 | 0.25-0.40 |
| TNMX 160608-M3PW | 16.50 | 9.52 | 4.40 | 0.80 | • | • | • | 2.50-5.50 | 0.30-0.50 |
| TNMX 220712-M4PW | 22.00 | 12.70 | 7.40 | 1.20 | | • | • | 3.00-6.00 | 0.35-0.60 |
| TNMX 220716-M4PW | 22.00 | 12.70 | 7.40 | 1.60 | | • | • | 3.50-6.50 | 0.40-0.70 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

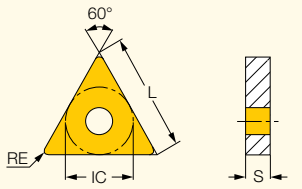
**Tools:** A-PTFNR/L-X/G • PTGNR/L-X • PTGNR/L-X-JHP • PTGNR/L-X-JHP-MC

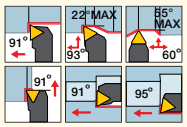
ISOTURN

## TNMG-F3M

Double-Sided Triangular Inserts for Finish Turning on Stainless and Low Carbon Steel






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC6025 | IC6015 | IC20N | IC520N | IC806 | IC807 | IC804 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TNMG 160404-F3M | 16.50 | 9.52 | 4.76 | 0.40 | ● | ● | ● | ● | ● | ● | ● | | 0.10-1.50 | 0.05-0.32 |
| TNMG 160408-F3M | 16.50 | 9.52 | 4.76 | 0.80 | ● | ● | ● | ● | ● | ● | ● | ● | 0.10-1.50 | 0.10-0.42 |
| TNMG 160412-F3M | 16.50 | 9.52 | 4.76 | 1.20 | ● | ● | ● | | | ● | ● | | 0.15-2.00 | 0.15-0.52 |
| TNMG 220404-F3M | 22.00 | 12.70 | 4.76 | 0.40 | ● | ● | ● | | | ● | ● | | 0.10-1.50 | 0.05-0.32 |
| TNMG 220408-F3M | 22.00 | 12.70 | 4.76 | 0.80 | ● | ● | ● | | | ● | ● | | 0.10-1.50 | 0.10-0.42 |
| TNMG 220412-F3M | 22.00 | 12.70 | 4.76 | 1.20 | | ● | ● | | | ● | ● | | 0.15-2.00 | 0.15-0.52 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

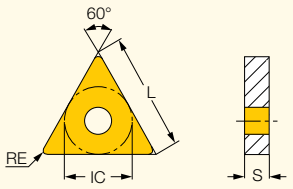
**Tools:** A-PTFNR/L-X/G • C#-DTGNR/L • DTGNR/L • MTENN-W • MTJNR/L-W • PTFNR/L • PTGNR/L • PTGNR/L-X • PTGNR/L-X-JHP • PTGNR/L-X-JHP-MC • S-MTLNR/L-W • S-PTFNR/L

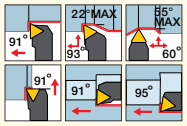
ISOTURN

## TNMG-M3M

Double-Sided Triangular Inserts for Machining Stainless and Low Carbon Steel






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC5500 | IC6025 | IC6015 | IC807 | IC804 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TNMG 160404-M3M | 16.50 | 9.52 | 4.76 | 0.40 | ● | | | | ● | | 0.50-4.00 | 0.15-0.50 |
| TNMG 160408-M3M | 16.50 | 9.52 | 4.76 | 0.80 | ● | ● | ● | ● | ● | ● | 0.50-4.00 | 0.15-0.50 |
| TNMG 160412-M3M | 16.50 | 9.52 | 4.76 | 1.20 | ● | | ● | ● | ● | | 0.50-4.00 | 0.20-0.60 |
| TNMG 220408-M3M | 22.00 | 12.70 | 4.76 | 0.80 | ● | | ● | ● | ● | | 0.50-5.00 | 0.15-0.50 |
| TNMG 220412-M3M | 22.00 | 12.70 | 4.76 | 1.20 | ● | | ● | ● | ● | | 0.50-5.00 | 0.20-0.60 |
| TNMG 220416-M3M | 22.00 | 12.70 | 4.76 | 1.60 | ● | | ● | ● | ● | | 0.50-5.00 | 0.30-0.65 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

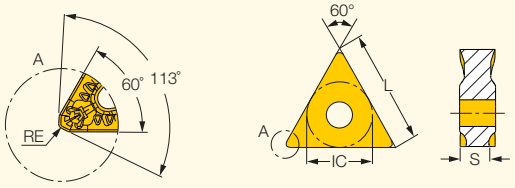
**Tools:** A-PTFNR/L-X/G • C#-DTGNR/L • DTGNR/L • MTENN-W • MTJNR/L-W • PTFNR/L • PTGNR/L • PTGNR/L-X • PTGNR/L-X-JHP • PTGNR/L-X-JHP-MC • S-MTLNR/L-W • S-PTFNR/L

HELITURN LD

## TNMX-M3/4MW

Double-Sided Triangular Inserts with High Helical Cutting Edge for High Metal Removal Rates on Stainless Steel









| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC6025 | IC6015 | IC806 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| TNMX 160604-M3MW | 16.50 | 9.52 | 4.40 | 0.40 | ● | ● | | | 2.00-5.00 | 0.12-0.40 |
| TNMX 160608-M3MW | 16.50 | 9.52 | 4.40 | 0.80 | ● | ● | | | 2.50-5.50 | 0.15-0.50 |
| TNMX 220704-M4MW | 22.00 | 12.70 | 7.94 | 0.40 | ● | ● | ● | ● | 2.00-5.00 | 0.12-0.40 |
| TNMX 220708-M4MW | 22.00 | 12.70 | 7.94 | 0.80 | ● | | ● | ● | 2.50-5.50 | 0.15-0.50 |
| TNMX 220712-M4MW | 22.00 | 12.70 | 7.94 | 1.20 | ● | ● | ● | ● | 3.00-6.00 | 0.18-0.50 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

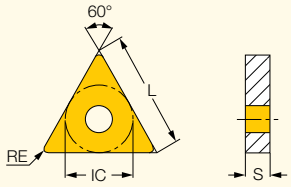
**Tools:** A-PTFNR/L-X/G • PTGNR/L-X • PTGNR/L-X-JHP • PTGNR/L-X-JHP-MC

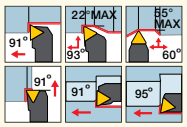
ISOTURN

## TNMG-F3S

Double-Sided 60° Triangular Inserts for Titanium and Heat Resistant Materials for Finishing Applications






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC806 | IC804 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| TNMG 160404-F3S | 16.50 | 9.52 | 4.76 | 0.40 | • | • | 0.10-1.50 | 0.05-0.32 |
| TNMG 160408-F3S | 16.50 | 9.52 | 4.76 | 0.80 | • | • | 0.10-1.50 | 0.10-0.40 |
| TNMG 220404-F3S | 22.00 | 12.70 | 4.76 | 0.40 | • | • | 0.10-1.50 | 0.05-0.32 |
| TNMG 220408-F3S | 22.00 | 12.70 | 4.76 | 0.80 | • | • | 0.10-1.50 | 0.10-0.40 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

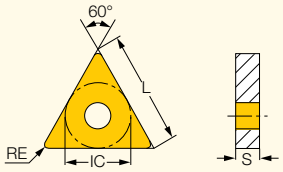
**Tools:** A-PTFNR/L-X/G • C#-DTGNR/L • DTGNR/L • MTENN-W • MTJNR/L-W • PTFNR/L • PTGNR/L • PTGNR/L-X • PTGNR/L-X-JHP • PTGNR/L-X-JHP-MC • S-MTLNR/L-W • S-PTFNR/L

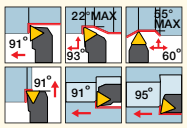
ISOTURN

## TNMG-FFG-CERMET

Double-Sided Triangular Cermet Inserts for Semi-Finishing and Finishing Applications on Steel and Cast Iron






| Designation | Dimensions L | IC | S | RE | IC520N | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| TNMG 160404-FFG | 16.50 | 9.52 | 4.76 | 0.40 | • | 0.50-2.00 | 0.07-0.25 |
| TNMG 160408-FFG | 16.50 | 9.52 | 4.76 | 0.80 | • | 0.90-2.50 | 0.08-0.25 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

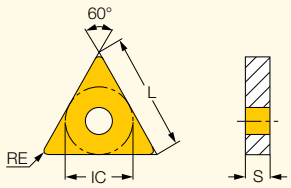
**Tools:** A-PTFNR/L-X/G • DTGNR/L • MTENN-W • MTJNR/L-W • PTFNR/L • PTGNR/L • PTGNR/L-X • PTGNR/L-X-JHP • PTGNR/L-X-JHP-MC • S-MTLNR/L-W • S-PTFNR/L

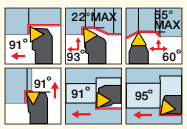
ISOTURN

## TNMG-SF

Triangular Double-Sided Inserts for Super Finishing; Controls Chip Flow at Very Low Feeds and Depths of Cut






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC8250 | IC530N | IC520N | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| TNMG 160404-SF | 16.50 | 9.52 | 4.76 | 0.40 | | • | • | 0.40-2.00 | 0.04-0.25 |
| TNMG 160408-SF | 16.50 | 9.52 | 4.76 | 0.80 | • | • | | 1.00-3.00 | 0.06-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

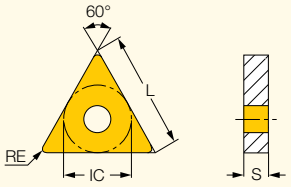
**Tools:** A-PTFNR/L-X/G • DTGNR/L • MTENN-W • MTJNR/L-W • PTFNR/L • PTGNR/L • PTGNR/L-X • PTGNR/L-X-JHP • PTGNR/L-X-JHP-MC • S-MTLNR/L-W • S-PTFNR/L

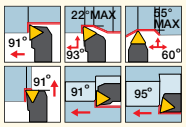
ISOTURN

## TNMG-PF

Triangular Double-Sided Inserts for Finishing on Alloyed and Stainless Steel






| Designation | Dimensions L | IC | S | RE | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| TNMG 160408-PF | 16.50 | 9.52 | 4.76 | 0.80 | ● | 0.80-3.00 | 0.08-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

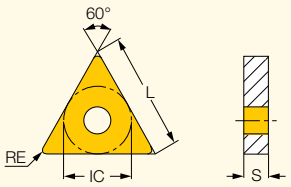
**Tools:** A-PTFNR/L-X/G • DTGNR/L • MTENN-W • MTJNR/L-W • PTFNR/L • PTGNR/L • PTGNR/L-X • PTGNR/L-X-JHP • PTGNR/L-X-JHP-MC • S-MTLNR/L-W • S-PTFNR/L

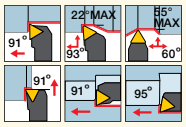
ISOTURN

## TNMG-TF

Double-Sided Triangular Inserts for Machining a Wide Range of Materials at Medium Cutting Conditions






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC8250 | IC908 | IC6015 | IC8150 | IC20 | IC20N | IC806 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TNMG 160304-TF | 16.50 | 9.52 | 3.18 | 0.40 | | ● | | | | | | | | | 1.00-3.00 | 0.12-0.30 |
| TNMG 160308-TF | 16.50 | 9.52 | 3.18 | 0.80 | | | | | | | | | | ● | 1.00-3.00 | 0.12-0.30 |
| TNMG 160404-TF | 16.50 | 9.52 | 4.76 | 0.40 | ● | ● | | ● | ● | ● | | ● | ● | ● | 1.00-3.00 | 0.12-0.30 |
| TNMG 160408-TF | 16.50 | 9.52 | 4.76 | 0.80 | ● | ● | ● | ● | ● | | ● | ● | ● | ● | 1.00-3.00 | 0.12-0.30 |
| TNMG 160412-TF | 16.50 | 9.52 | 4.76 | 1.20 | | ● | | | ● | | | | ● | ● | 1.00-5.00 | 0.12-0.40 |
| TNMG 220404-TF | 22.00 | 12.70 | 4.76 | 0.40 | ● | ● | | | ● | | | | ● | ● | 1.00-3.50 | 0.14-0.35 |
| TNMG 220408-TF | 22.00 | 12.70 | 4.76 | 0.80 | | ● | | | ● | | | ● | ● | ● | 1.00-4.00 | 0.15-0.40 |
| TNMG 220412-TF | 22.00 | 12.70 | 4.76 | 1.20 | | ● | | | | | | | ● | ● | 1.00-4.50 | 0.18-0.40 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

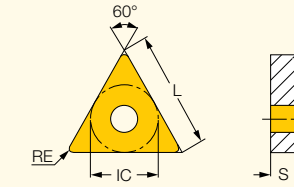
**Tools:** A-PTFNR/L-X/G • C#-DTGNR/L • DTGNR/L • MTENN-W • MTJNR/L-W • PTFNR/L • PTGNR/L • PTGNR/L-X • PTGNR/L-X-JHP • PTGNR/L-X-JHP-MC • S-MTLNR/L-W • S-PTFNR/L

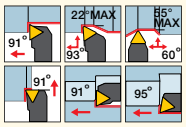
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## TNMG-VL

Double-Sided Triangular Inserts with a Chipformer for High Temperature Alloys and Stainless Steel Valves






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC908 | IC806 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| TNMG 160404-VL | 16.50 | 9.52 | 4.76 | 0.40 | | ● | | | 0.80-3.50 | 0.10-0.25 |
| TNMG 160408-VL | 16.50 | 9.52 | 4.76 | 0.80 | ● | ● | ● | ● | 0.80-3.50 | 0.10-0.25 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

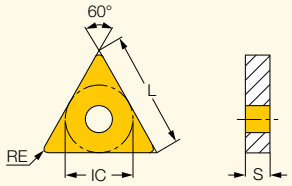
**Tools:** A-PTFNR/L-X/G • DTGNR/L • MTENN-W • MTJNR/L-W • PTFNR/L • PTGNR/L • PTGNR/L-X • PTGNR/L-X-JHP • PTGNR/L-X-JHP-MC • S-MTLNR/L-W • S-PTFNR/L

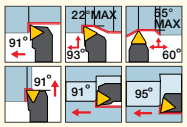
ISOTURN

## TNMG/TNGG-PP

Double-Sided Triangular Inserts for Machining Very Ductile Materials at Medium Cutting Conditions






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC8350 | IC8250 | IC8150 | IC20 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TNGG 160402-PP | 16.50 | 9.52 | 4.76 | 0.20 | | | | | | ● | 0.50-1.50 | 0.05-0.25 |
| TNMG 160404-PP | 16.50 | 9.52 | 4.76 | 0.40 | | ● | ● | | ● | | 0.50-3.00 | 0.13-0.30 |
| TNMG 160408-PP | 16.50 | 9.52 | 4.76 | 0.80 | ● | | ● | ● | ● | | 1.00-3.00 | 0.12-0.30 |
| TNMG 220404-PP | 22.00 | 12.70 | 4.76 | 0.40 | ● | | ● | | | | 0.50-3.50 | 0.14-0.32 |
| TNMG 220408-PP | 22.00 | 12.70 | 4.76 | 0.80 | | | ● | ● | ● | | 1.00-3.50 | 0.14-0.32 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

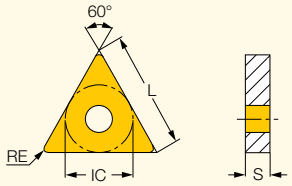
**Tools:** A-PTFNR/L-X/G • C#-DTGNR/L • DTGNR/L • MTENN-W • MTJNR/L-W • PTFNR/L • PTGNR/L • PTGNR/L-X • PTGNR/L-X-JHP • PTGNR/L-X-JHP-MC • S-MTLNR/L-W • S-PTFNR/L

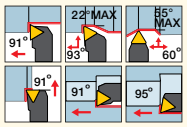
ISOTURN

## TNMG-NF

Double-Sided Triangular Inserts for Semi-Finishing and Finishing Applications






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC8250 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| TNMG 110304-NF | 11.00 | 6.35 | 3.18 | 0.40 | ● | | 0.40-2.00 | 0.07-0.25 |
| TNMG 160408-NF | 16.50 | 9.52 | 4.76 | 0.80 | ● | ● | 1.00-3.00 | 0.08-0.25 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

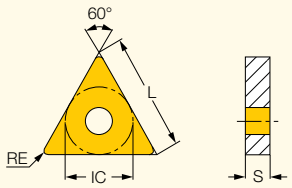
**Tools:** A-PTFNR/L-X/G • DTGNR/L • MTENN-W • MTJNR/L-W • PTFNR/L • PTGNR/L • PTGNR/L-X • PTGNR/L-X-JHP • PTGNR/L-X-JHP-MC • S-MTLNR/L-W • S-PTFNR/L

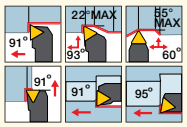
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## TNMG-GN

Double-Sided Triangular Inserts for General Applications






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC8350 | IC8250 | IC8150 | IC20 | IC5010 | IC428 | IC5005 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TNMG 160404-GN | 16.50 | 9.52 | 4.76 | 0.40 | | | | | | | ● | ● | | | 1.00-3.00 | 0.12-0.30 |
| TNMG 160408-GN | 16.50 | 9.52 | 4.76 | 0.80 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | 1.00-3.50 | 0.18-0.39 |
| TNMG 160412-GN | 16.50 | 9.52 | 4.76 | 1.20 | | | ● | ● | | | | | | | 1.50-4.00 | 0.18-0.43 |
| TNMG 220408-GN | 22.00 | 12.70 | 4.76 | 0.80 | ● | ● | ● | ● | | | | | | | 1.00-4.00 | 0.18-0.40 |
| TNMG 220412-GN | 22.00 | 12.70 | 4.76 | 1.20 | ● | ● | ● | | | | | | | | 1.50-4.50 | 0.18-0.45 |
| TNMG 220416-GN | 22.00 | 12.70 | 4.76 | 1.60 | | | ● | | | | | | | | 2.00-5.00 | 0.25-0.45 |
| TNMG 270612-GN | 27.50 | 15.88 | 6.35 | 1.20 | ● | | ● | | | | | | | | 2.00-6.00 | 0.25-0.45 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

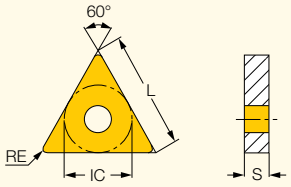
**Tools:** A-PTFNR/L-X/G • C#-DTGNR/L • DTGNR/L • MTENN-W • MTJNR/L-W • PTFNR/L • PTGNR/L • PTGNR/L-X • PTGNR/L-X-JHP • PTGNR/L-X-JHP-MC • S-MTLNR/L-W • S-PTFNR/L

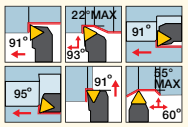
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## TNMM-NR

Single-Sided Triangular Inserts with a Special Chipformer for Heavy Machining






| Designation | Dimensions L | IC | S | RE | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| TNMM 220416-NR | 22.00 | 12.70 | 4.76 | 1.60 | ● | 2.50-6.00 | 0.30-0.50 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

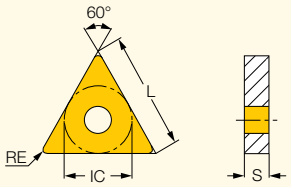
**Tools:** C#-DTGNR/L • DTGNR/L • MTENN-W • MTJNR/L-W • PTFNR/L • PTGNR/L • PTGNR/L-X • S-MTLNR/L-W • S-PTFNR/L

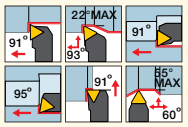
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## TNMA

Double-Sided Triangular Inserts with no Chipformer for Short Chipping Materials






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC20 | IC5010 | IC428 | IC5005 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| TNMA 160404 | 16.50 | 9.52 | 4.76 | 0.40 | | ● | ● | ● | 0.50-3.00 | 0.05-0.21 |
| TNMA 160408 | 16.50 | 9.52 | 4.76 | 0.80 | ● | ● | ● | ● | 1.00-4.00 | 0.05-0.25 |
| TNMA 160412 | 16.50 | 9.52 | 4.76 | 1.20 | | ● | ● | ● | 1.50-4.50 | 0.10-0.29 |
| TNMA 160416 | 16.50 | 9.52 | 4.76 | 1.60 | | ● | | | 1.50-4.50 | 0.10-0.40 |
| TNMA 220408 | 22.00 | 12.70 | 4.76 | 0.80 | ● | | ● | ● | 1.50-5.00 | 0.05-0.33 |
| TNMA 220412 | 22.00 | 12.70 | 4.76 | 1.20 | | ● | ● | ● | 1.50-5.00 | 0.10-0.33 |
| TNMA 220416 | 22.00 | 12.70 | 4.76 | 1.60 | | | | ● | 1.50-5.00 | 0.10-0.37 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

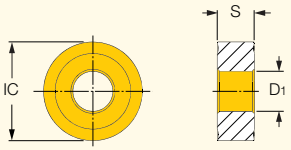
**Tools:** A-PTFNR/L-X/G • C#-DTGNR/L • DTGNR/L • MTENN-W • MTJNR/L-W • PTFNR/L • PTGNR/L • PTGNR/L-X • PTGNR/L-X-JHP • PTGNR/L-X-JHP-MC • S-MTLNR/L-W • S-PTFNR/L

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## RNMG

Double-Sided Round Negative Insert for Medium and Rough Profiling








| Designation | Dimensions IC | S | D1 | Tough ↔ Hard IC8250 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| RNMG 120400 | 12.70 | 4.76 | 5.15 | ● | ● | 2.00-5.00 | 0.30-0.60 |

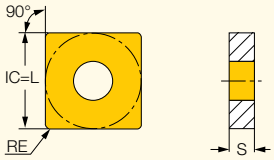
• For user guide and cutting speed recommendations, see pages 122-134, 236-254

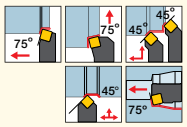
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## SNMG-F3P

Double-Sided Square Inserts for Semi-Finishing and Finishing on Steel






| Designation | Dimensions IC | S | RE | Tough ↔ Hard IC830 | IC8250 | IC8150 | IC20N | IC520N | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SNMG 090404-F3P | 9.52 | 4.76 | 0.40 | • | • | • | • | | • | 0.50-3.50 | 0.07-0.25 |
| SNMG 090408-F3P | 9.52 | 4.76 | 0.80 | • | | | • | • | • | 0.90-3.50 | 0.08-0.25 |
| SNMG 120408-F3P | 12.70 | 4.76 | 0.80 | • | • | • | | | • | 0.90-3.50 | 0.08-0.25 |
| SNMG 120412-F3P | 12.70 | 4.76 | 1.20 | • | • | • | | | • | 0.90-3.50 | 0.10-0.25 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

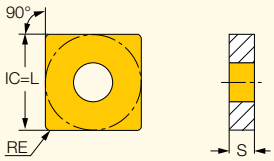
**Tools:** A-PSKNR/L-09 • C#-MULNR/L-MW • DSBNR/L • DSDNN • DSKNR/L • DSSNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PSBNR/L • PSDNN • PSDNN-JHP • PSKNR/L • PSSNR/L • PSSNR/L-JHP

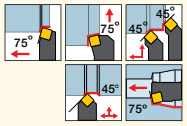
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## SNMG-M3P

Double-Sided Square Inserts for Medium Machining Conditions on Steel






| Designation | Dimensions IC | S | RE | Tough ↔ Hard IC830 | IC8250 | IC8150 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| SNMG 090404-M3P | 9.52 | 4.76 | 0.40 | • | • | • | • | 0.50-3.50 | 0.15-0.50 |
| SNMG 090408-M3P | 9.52 | 4.76 | 0.80 | • | • | • | • | 0.50-3.50 | 0.15-0.55 |
| SNMG 120408-M3P | 12.70 | 4.76 | 0.80 | • | • | • | • | 0.50-6.00 | 0.15-0.50 |
| SNMG 120412-M3P | 12.70 | 4.76 | 1.20 | • | | • | • | 0.80-6.00 | 0.18-0.60 |
| SNMG 150612-M3P | 15.88 | 6.35 | 1.20 | • | • | | • | 0.80-7.50 | 0.18-0.60 |
| SNMG 150616-M3P | 15.88 | 6.35 | 1.60 | • | | • | • | 1.20-7.50 | 0.20-0.70 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

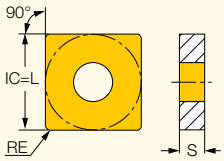
**Tools:** A-PSKNR/L-09 • C#-MULNR/L-MW • DSBNR/L • DSDNN • DSKNR/L • DSSNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PSBNR/L • PSDNN • PSDNN-JHP • PSKNR/L • PSSNR/L • PSSNR/L-JHP

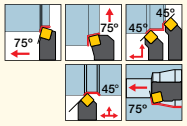
ISOTURN

## SNMG-R3P

Double-Sided Square Inserts with Chipformer for rough Machining






| Designation | Dimensions IC | S | RE | Tough ↔ Hard IC830 | IC8250 | IC8150 | IC5010 | IC5005 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SNMG 120408-R3P | 12.70 | 4.76 | 0.80 | | • | • | | | | 2.00-5.00 | 0.20-0.60 |
| SNMG 120412-R3P | 12.70 | 4.76 | 1.20 | | • | | • | • | | 2.00-5.00 | 0.30-0.70 |
| SNMG 120416-R3P | 12.70 | 4.76 | 1.60 | | • | • | | | | 2.50-6.00 | 0.30-0.70 |
| SNMG 150608-R3P | 15.88 | 6.35 | 0.80 | • | • | • | • | • | • | 2.50-8.00 | 0.30-0.70 |
| SNMG 150612-R3P | 15.88 | 6.35 | 1.20 | • | • | • | • | • | | 2.50-8.00 | 0.30-0.70 |
| SNMG 150616-R3P | 15.88 | 6.35 | 1.20 | • | • | • | • | • | | 2.50-8.00 | 0.30-0.70 |
| SNMG 190612-R3P | 19.05 | 6.35 | 1.20 | • | • | • | • | • | • | 3.00-8.00 | 0.40-0.70 |
| SNMG 190616-R3P | 19.05 | 6.35 | 1.60 | | • | • | • | • | • | 3.50-10.00 | 0.40-0.70 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

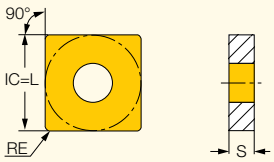
**Tools:** C#-MULNR/L-MW • DSBNR/L • DSDNN • DSKNR/L • DSSNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • IHPR • MULNR/L-12MW • PSBNR/L • PSDNN • PSDNN-JHP • PSKNR/L • PSSNR/L • PSSNR/L-JHP

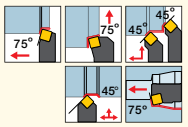
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## SNMG-F3M

Double-Sided Square Inserts for Stainless Steel Finishing Applications






| Designation | Dimensions IC | S | RE | Tough ↔ Hard IC830 | IC6025 | IC6015 | IC806 | IC807 | IC804 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SNMG 090404-F3M | 9.52 | 4.76 | 0.40 | | ● | ● | ● | ● | | 0.50-3.50 | 0.05-0.30 |
| SNMG 090408-F3M | 9.52 | 4.76 | 0.80 | ● | | | ● | ● | | 0.50-3.50 | 0.05-0.30 |
| SNMG 120404-F3M | 12.70 | 4.76 | 0.40 | ● | | | ● | ● | | 0.90-3.50 | 0.10-0.40 |
| SNMG 120408-F3M | 12.70 | 4.76 | 0.80 | ● | ● | ● | ● | ● | ● | 0.90-3.50 | 0.10-0.40 |
| SNMG 120412-F3M | 12.70 | 4.76 | 1.20 | ● | ● | ● | ● | ● | | 0.90-3.50 | 0.10-0.40 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

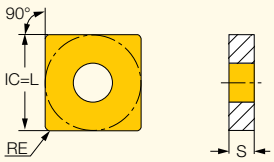
**Tools:** A-PSKNR/L-09 • C#-MULNR/L-MW • DSBNR/L • DSDNN • DSKNR/L • DSSNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PSBNR/L • PSDNN • PSDNN-JHP • PSKNR/L • PSSNR/L • PSSNR/L-JHP

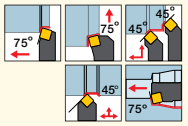
ISOTURN

## SNMG-M3M

Double-Sided Square Inserts with a Special Chipformer for Heavy Machining






| Designation | Dimensions IC | S | RE | Tough ↔ Hard IC830 | IC6025 | IC6015 | IC806 | IC807 | IC804 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SNMG 090404-M3M | 9.52 | 4.76 | 0.40 | ● | | | | ● | | 0.50-4.50 | 0.15-0.50 |
| SNMG 090408-M3M | 9.52 | 4.76 | 0.80 | ● | ● | ● | | ● | | 0.50-4.50 | 0.15-0.50 |
| SNMG 120408-M3M | 12.70 | 4.76 | 0.80 | ● | ● | ● | | ● | ● | 0.50-5.00 | 0.15-0.50 |
| SNMG 120412-M3M | 12.70 | 4.76 | 1.20 | ● | ● | ● | ● | ● | | 0.50-5.00 | 0.20-0.60 |
| SNMG 120416-M3M | 12.70 | 4.76 | 1.60 | ● | ● | ● | | | | 0.50-5.00 | 0.25-0.70 |
| SNMG 150612-M3M | 15.88 | 6.35 | 1.20 | ● | ● | ● | | ● | | 0.50-8.00 | 0.10-0.60 |
| SNMG 150616-M3M | 15.88 | 6.35 | 1.60 | ● | ● | ● | | ● | | 0.50-8.00 | 0.10-0.65 |
| SNMG 190612-M3M | 19.05 | 6.35 | 1.20 | | ● | ● | | | | 0.10-9.50 | 0.10-0.60 |
| SNMG 190616-M3M | 19.05 | 6.35 | 1.60 | | ● | ● | | | | 0.10-9.50 | 0.10-0.65 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

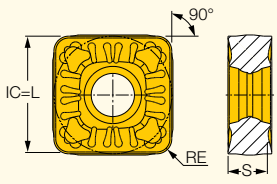
**Tools:** A-PSKNR/L-09 • C#-MULNR/L-MW • DSBNR/L • DSDNN • DSKNR/L • DSSNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PSBNR/L • PSDNN • PSDNN-JHP • PSKNR/L • PSSNR/L • PSSNR/L-JHP

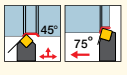
DOVEIQTURN HEAVY DUTY LINE

## SOMG-R3P-IQ

Double-Sided 7° Negative Side Flank Square Inserts for Heavy Turning on Steel






| Designation | Dimensions IC | S | RE | Tough ↔ Hard IC8250 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| SOMG 150612-R3P-IQ | 15.88 | 6.35 | 1.20 | ● | ● | 2.00-9.00 | 0.30-0.60 |
| SOMG 150616-R3P-IQ | 15.88 | 6.35 | 1.60 | ● | ● | 2.00-9.00 | 0.30-0.70 |
| SOMG 190612-R3P-IQ | 19.05 | 6.35 | 1.20 | ● | ● | 3.00-12.00 | 0.30-0.80 |
| SOMG 190616-R3P-IQ | 19.05 | 6.35 | 1.60 | ● | ● | 3.50-12.00 | 0.35-0.85 |
| SOMG 190624-R3P-IQ | 19.05 | 6.35 | 2.40 | ● | ● | 3.50-12.00 | 0.40-1.00 |
| SOMG 250924-R3P-IQ | 25.40 | 9.52 | 2.40 | ● | ● | 4.00-15.00 | 0.40-1.00 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

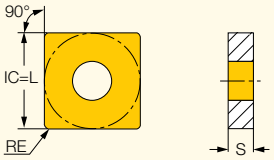
**Tools:** C#-PSROR/L-IQ • PSBOR/L-IQ • PSDON-IQ

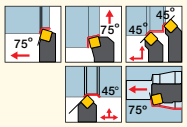
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## SNMG-R3M

Double-Sided 90° Square Inserts for Rough Machining on Stainless and Low Carbon Steel






| Designation | Dimensions IC | S | RE | Tough ↔ Hard IC830 | IC806 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| SNMG 190612 R3M | 19.05 | 6.35 | 1.20 | | ● | 2.00-11.00 | 0.30-0.90 |
| SNMG 190616-R3M | 19.05 | 6.35 | 1.60 | ● | ● | 2.00-11.00 | 0.30-0.90 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

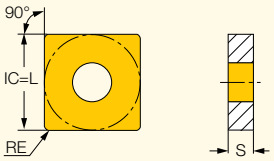
**Tools:** DSBNR/L • DSDNN • DSSNR/L • PSBNR/L • PSDNN • PSSNR/L

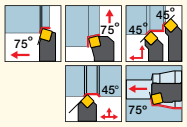
ISOTURN

## SNMG-F3S

Double-Sided 90° Rhombic Inserts for Titanium and Heat Resistant Materials for Finishing Applications






| Designation | Dimensions IC | S | RE | Tough ↔ Hard IC806 | IC804 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| SNMG 090404-F3S | 9.52 | 4.76 | 0.40 | ● | ● | 0.10-1.50 | 0.05-0.35 |
| SNMG 090408-F3S | 9.52 | 4.76 | 0.80 | ● | ● | 0.10-1.50 | 0.05-0.35 |
| SNMG 120404-F3S | 12.70 | 4.76 | 0.40 | ● | ● | 0.10-1.50 | 0.05-0.35 |
| SNMG 120408-F3S | 12.70 | 4.76 | 0.80 | ● | ● | 0.10-1.50 | 0.05-0.35 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

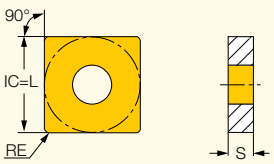
**Tools:** A-PSKNR/L-09 • C#-MULNR/L-MW • DSBNR/L • DSDNN • DSKNR/L • DSSNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PSBNR/L • PSDNN • PSDNN-JHP • PSKNR/L • PSSNR/L • PSSNR/L-JHP

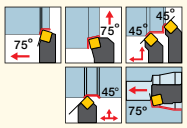
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## SNMG-VL

Double-Sided Square Inserts with a Chipformer for High Temperature Alloys and Stainless Steel Valves






| Designation | Dimensions IC | S | RE | Tough ↔ Hard IC806 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| SNMG 120404-VL | 12.70 | 4.76 | 0.40 | ● | | 1.00-5.00 | 0.10-0.25 |
| SNMG 120408-VL | 12.70 | 4.76 | 0.80 | ● | ● | 1.00-5.00 | 0.10-0.25 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

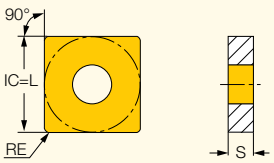
**Tools:** C#-MULNR/L-MW • DSBNR/L • DSDNN • DSKNR/L • DSSNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PSBNR/L • PSDNN • PSDNN-JHP • PSKNR/L • PSSNR/L • PSSNR/L-JHP

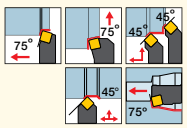
ISOTURN

## SNMG-PP

Double-Sided Square Inserts for Machining Very Ductile Materials at Medium Cutting Conditions






| Designation | Dimensions IC | S | RE | IC830 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|
| SNMG 120408-PP | 12.70 | 4.76 | 0.80 | ● | 1.00-4.00 | 0.14-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

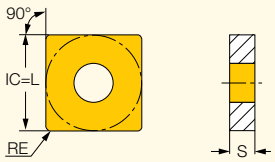
**Tools:** C#-MULNR/L-MW • DSBNR/L • DSDNN • DSKNR/L • DSSNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PSBNR/L • PSDNN • PSDNN-JHP • PSKNR/L • PSSNR/L • PSSNR/L-JHP

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## SNMG-TF

Double-Sided Square Inserts for Machining a Wide Range of Materials at Medium Cutting Conditions






| Designation | Dimensions IC | S | RE | Tough ↔ Hard IC830 | IC8250 | IC6015 | IC8150 | IC20 | IC806 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SNMG 090304-TF | 9.52 | 3.17 | 0.40 | | • | | | | | | | 0.80-3.00 | 0.10-0.30 |
| SNMG 120404-TF | 12.70 | 4.76 | 0.40 | | • | | | | | | • | 1.00-4.00 | 0.12-0.35 |
| SNMG 120408-TF | 12.70 | 4.76 | 0.80 | • | • | • | | | • | • | • | 1.00-4.00 | 0.13-0.35 |
| SNMG 120412-TF | 12.70 | 4.76 | 1.20 | • | • | | • | • | | • | • | 1.50-4.00 | 0.15-0.40 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

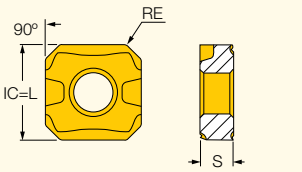
**Tools:** C#-MULNR/L-MW • DSBNR/L • DSDNN • DSKNR/L • DSSNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PSBNR/L • PSDNN • PSDNN-JHP • PSKNR/L • PSSNR/L • PSSNR/L-JHP

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## SNMG-EM-M/R

Double-Sided Square Inserts for Medium Machining on High Temperature Alloys






| Designation | Dimensions IC | S | RE | Tough ↔ Hard IC806 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| SNMG 120408-EM-M | 12.70 | 4.76 | 0.80 | • | | 1.00-3.00 | 0.20-0.40 |
| SNMG 120408-EM-R | 12.70 | 4.76 | 0.80 | • | • | 3.00-6.00 | 0.25-0.50 |

- Requires the use of RST 443R/L SET - seat when used on DSSNR/L tools and TSN 423-PIN SET seat when used on PSSNR/L-JHP and PSDNN-JHP tools
- For user guide and cutting speed recommendations, see pages 122-134, 236-254

**Tools:** DSDNN • DSSNR/L • PSDNN • PSDNN-JHP • PSSNR/L • PSSNR/L-JHP

The inserts have 4 cutting edges (2 on each side) with truncated radii – a configuration which facilitates heat transfer from the cutting area. The two edges without chipbreakers (flat) are not used.

### Toolholders

These inserts require the use of **RST 443R/L SET** - special seat when used on DSSNR/L tools and **TSN 423-PIN SET** seat when used on PSSNR/L-JHP and PSDNN–JHP tools. The standard seats should be replaced with the special ones which have a pin whose purpose is to prevent using the non-working flat cutting corners.



Correct insert position



Wrong positioning

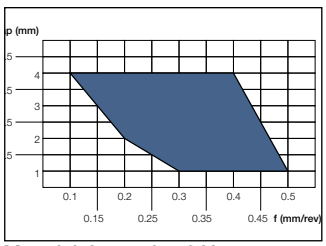


Orientation pin

### Advantages

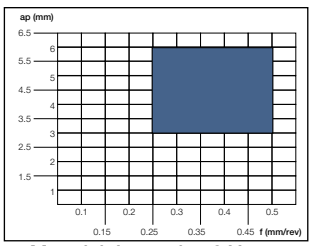
- Increased cutting speed (due to better heat transfer)
- Reduced notch wear (due to 45° approach angle)
- Increased feed (the 45° approach angle produces a thin chip)
- Increased productivity of up to 50%
- Ability to machine in two directions with the same tool, longitudinal and face turning

**Chipbreaking Range SNMG 120408-EM-M**




Material: Inconel 718 $V_c$: 50 m/min With coolant

**Chipbreaking Range SNMG 120408-EM-R**



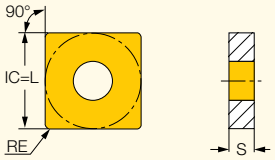

Material: Inconel 718 $V_c$: 50 m/min With coolant

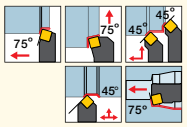
ISOTURN

## SNMG-GN

Double-Sided Square Inserts
for General Applications






| Designation | Dimensions IC | S | RE | Tough ↔ Hard IC830 | IC8350 | IC8250 | IC8150 | IC20 | IC5010 | IC428 | IC5005 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SNMG 120408-GN | 12.70 | 4.76 | 0.80 | | ● | ● | ● | ● | ● | ● | ● | 1.00-5.00 | 0.20-0.45 |
| SNMG 120412-GN | 12.70 | 4.76 | 1.20 | | | | ● | | | | | 1.40-5.00 | 0.25-0.50 |
| SNMG 150612-GN | 15.88 | 6.35 | 1.20 | ● | | ● | | ● | | | | 2.00-7.00 | 0.30-0.60 |
| SNMG 190612-GN | 19.05 | 6.35 | 1.20 | ● | ● | ● | | | | | | 2.00-7.00 | 0.30-0.60 |
| SNMG 190616-GN | 19.05 | 6.35 | 1.60 | ● | | | | | | | | 2.00-9.00 | 0.30-0.65 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

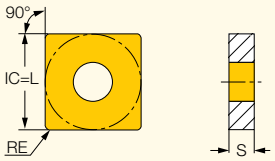
**Tools:** C#-MULNR/L-MW • DSBNR/L • DSDNN • DSKNR/L • DSSNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PSBNR/L • PSDNN • PSDNN-JHP • PSKNR/L • PSSNR/L • PSSNR/L-JHP

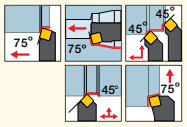
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## SNMA

Double-Sided Square Inserts
Without a Chipformer for
Short Chipping Materials






| Designation | Dimensions IC | S | RE | Tough ↔ Hard IC20 | IC5010 | IC428 | IC5005 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| SNMA 120408 | 12.70 | 4.76 | 0.80 | ● | ● | ● | ● | 1.50-5.00 | 0.05-0.50 |
| SNMA 120412 | 12.70 | 4.76 | 1.20 | ● | ● | ● | ● | 1.50-5.00 | 0.10-0.50 |
| SNMA 120416 | 12.70 | 4.76 | 1.60 | | ● | ● | ● | 2.00-6.00 | 0.10-0.60 |
| SNMA 190612 | 19.05 | 6.35 | 1.20 | ● | ● | | ● | 2.00-7.00 | 0.10-0.60 |
| SNMA 190616 | 19.05 | 6.35 | 1.60 | | ● | ● | | 2.50-10.00 | 0.10-0.60 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

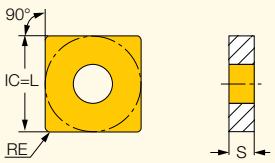
**Tools:** C#-MULNR/L-MW • DSBNR/L • DSDNN • DSKNR/L • DSSNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PSBNR/L • PSDNN • PSDNN-JHP • PSKNR/L • PSSNR/L • PSSNR/L-JHP

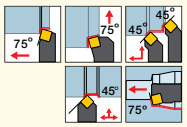
ISOTURN

## SNMG-NR

Double-Sided Square Inserts
with a Special Chipformer
for Heavy Machining






| Designation | Dimensions IC | S | RE | Tough ↔ Hard IC830 | IC8350 | IC8250 | IC8150 | IC5010 | IC428 | IC5005 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SNMG 120412-NR | 12.70 | 4.76 | 1.20 | | | ● | | | ● | ● | | | 2.00-5.00 | 0.30-0.70 |
| SNMG 120416-NR | 12.70 | 4.76 | 1.60 | | ● | ● | ● | | | | | | 2.50-6.00 | 0.30-0.70 |
| SNMG 150608-NR | 15.88 | 6.35 | 0.80 | | | ● | | | | | | | 2.50-8.00 | 0.30-0.70 |
| SNMG 150612-NR | 15.88 | 6.35 | 1.20 | | ● | ● | | | | | | | 2.50-8.00 | 0.30-0.70 |
| SNMG 150616-NR | 15.88 | 6.35 | 1.60 | | | ● | ● | ● | | ● | | | 2.50-8.00 | 0.30-0.70 |
| SNMG 190612-NR | 19.05 | 6.35 | 1.20 | | | ● | | | | | ● | ● | 3.00-8.00 | 0.40-0.70 |
| SNMG 190616-NR | 19.05 | 6.35 | 1.60 | ● | ● | ● | ● | | | | | | 3.50-10.00 | 0.40-0.70 |
| SNMG 250724-NR | 25.40 | 7.94 | 2.40 | | ● | | | | | | | | 5.00-15.00 | 0.40-1.00 |
| SNMG 250924-NR | 25.40 | 9.52 | 2.40 | ● | ● | ● | | | | | | | 5.00-15.00 | 0.40-1.00 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

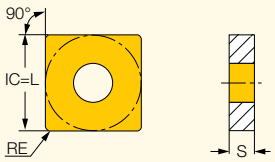
**Tools:** C#-MULNR/L-MW • DSBNR/L • DSDNN • DSKNR/L • DSSNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PSBNR/L • PSDNN • PSDNN-JHP • PSKNR/L • PSSNR/L • PSSNR/L-JHP

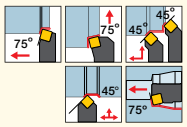
ISOTURN

## SNMM-R3P

Single-Sided Square Inserts for Rough Turning Applications on Steel






| Designation | Dimensions IC | S | RE | Tough ↔ Hard IC830 | IC8250 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| SNMM 120408-R3P | 12.70 | 4.76 | 0.80 | ● | ● | ● | 0.70-7.50 | 0.20-0.55 |
| SNMM 120412-R3P | 12.70 | 4.76 | 1.20 | ● | ● | ● | 1.00-7.50 | 0.25-0.70 |
| SNMM 120416-R3P | 12.70 | 4.76 | 1.60 | ● | ● | | 2.00-7.50 | 0.30-0.90 |
| SNMM 150612-R3P | 15.88 | 6.35 | 1.20 | ● | ● | ● | 2.00-9.50 | 0.30-0.70 |
| SNMM 150616-R3P | 15.88 | 6.35 | 1.60 | ● | ● | ● | 2.50-9.50 | 0.30-0.90 |
| SNMM 190612-R3P | 19.05 | 6.35 | 1.20 | ● | ● | ● | 3.00-12.00 | 0.25-0.80 |
| SNMM 190616-R3P | 19.05 | 6.35 | 1.60 | ● | ● | ● | 3.50-12.00 | 0.30-0.90 |
| SNMM 190624-R3P | 19.05 | 6.35 | 2.40 | ● | ● | ● | 3.50-12.00 | 0.30-1.20 |
| SNMM 250924-R3P | 25.40 | 9.52 | 2.40 | ● | ● | ● | 4.00-15.00 | 0.40-1.20 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

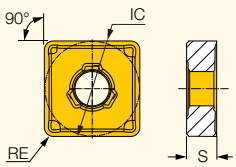
**Tools:** C#-MULNR/L-MW • DSBNR/L • DSDNN • DSKNR/L • DSSNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PSBNR/L • PSDNN • PSDNN-JHP • PSKNR/L • PSSNR/L • PSSNR/L-JHP

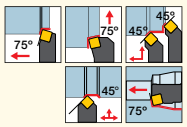
ISOTURN

## SNMM-R4P

Single-Sided Square Inserts for Heavy Turning Applications






| Designation | Dimensions IC | S | RE | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|
| SNMM 250724-R4P | 25.40 | 9.52 | 2.40 | ● | 4.00-17.00 | 0.60-1.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

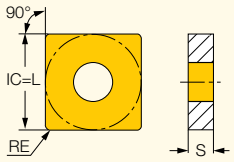
**Tools:** PSBNR/L • PSDNN • PSSNR/L

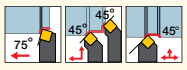
ISOTURN

## SNMM-H3P

Single-Sided Square Inserts with a Strong Cutting Edge for Extra Rough Turning






| Designation | Dimensions IC | RE | S | Tough ↔ Hard IC8250 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| SNMM 190624-H3P | 19.05 | 2.40 | 6.35 | ● | ● | 4.00-9.00 | 0.55-1.20 |
| SNMM 250924-H3P | 25.40 | 2.40 | 9.52 | ● | ● | 5.00-12.00 | 0.55-1.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

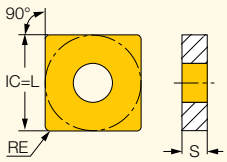
**Tools:** DSBNR/L • DSDNN • DSSNR/L • PSBNR/L • PSDNN • PSSNR/L

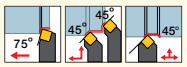
ISOTURN

## SNMM-H4P

Single-Sided Square Inserts
with a Strong Cutting Edge
for Extra Rough Turning






| Designation | Dimensions IC | RE | S | Tough ↔ Hard IC8250 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| SNMM 190624-H4P | 19.05 | 2.40 | 6.35 | ● | ● | 4.00-12.00 | 0.50-1.10 |
| SNMM 250924-H4P | 25.40 | 2.40 | 9.52 | ● | ● | 5.00-15.00 | 0.55-1.50 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

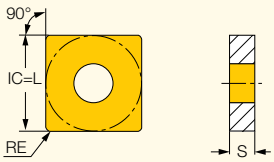
**Tools:** DSBNR/L • DSDNN • DSSNR/L • PSBNR/L • PSDNN • PSSNR/L

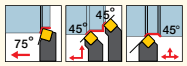
ISOTURN

## SNMM-H5P

Single-Sided Square Insert
with a Strong Cutting Edge
for Extra Rough Turning






| Designation | Dimensions IC | RE | S | Tough ↔ Hard IC8250 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| SNMM 250924-H5P | 25.40 | 2.40 | 9.52 | ● | ● | 3.60-16.00 | 0.60-1.50 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

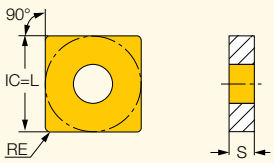
**Tools:** PSBNR/L • PSDNN • PSSNR/L

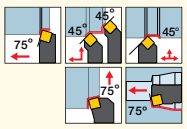
ISOTURN

## SNMM-NM

Single-Sided Square Inserts
for Roughing Applications






| Designation | Dimensions IC | S | RE | Tough ↔ Hard IC830 | IC8250 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| SNMM 190616-NM | 19.05 | 6.35 | 1.60 | ● | ● | 2.50-10.00 | 0.30-0.70 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

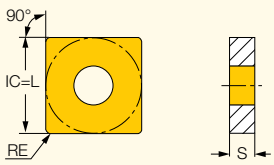
**Tools:** DSBNR/L • DSDNN • DSSNR/L • PSBNR/L • PSDNN • PSSNR/L

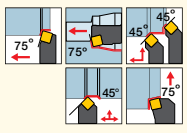
ISOTURN

## SNMM-NR

Single-Sided Square Inserts
with a Special Chipformer
for Heavy Machining






| Designation | Dimensions IC | S | RE | Tough ↔ Hard IC8350 | IC8250 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| SNMM 190616-NR | 19.05 | 6.35 | 1.60 | | ● | | 2.50-8.00 | 0.35-1.00 |
| SNMM 250724-NR | 25.40 | 7.94 | 2.40 | ● | ● | ● | 5.00-15.00 | 0.35-1.00 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

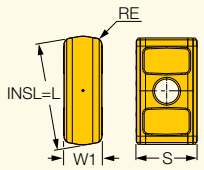
**Tools:** DSBNR/L • DSDNN • DSSNR/L • PSBNR/L • PSDNN • PSSNR/L

HEAVY SUPER TURN

## LOMX-H6P

Tangential Inserts with 4 Cutting Edges for High Metal Removal of up to 35 mm D.O.C. on Steel









| Designation | Dimensions W1 | INSL | S | RE | Tough ↔ Hard IC8250 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| LOMX 402224-H6P | 14.40 | 40.30 | 22.60 | 2.40 | ● | ● | 7.00-35.00 | 1.00-2.00 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

**Tools:** PLBOR/L

### Application Range H6P Chipformer

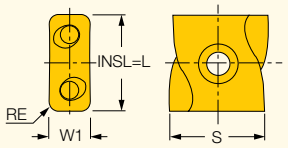


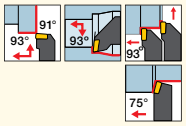

HELITURN TANGENTIAL LINE

## LNMX-HT

Tangential Inserts with 4 Cutting Edges and a Positive Rake Angle for High Metal Removal Rates






| Designation | Dimensions W1 | INSL | S | RE | Tough ↔ Hard IC830 | IC8350 | IC8250 | IC908 | IC8150 | IC428 | IC5005 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LNMX 110408L-HT | 4.75 | 11.00 | 11.40 | 0.80 | ● | ● | ● | ● | ● | ● | | | ● | 0.50-5.00 | 0.15-0.60 |
| LNMX 110408R-HT | 4.75 | 11.00 | 11.40 | 0.80 | ● | ● | ● | ● | ● | ● | | ● | ● | 0.50-5.00 | 0.15-0.60 |
| LNMX 110412L-HT | 4.75 | 11.00 | 11.40 | 1.20 | | | ● | ● | ● | ● | | | | 0.80-5.00 | 0.20-0.80 |
| LNMX 110412R-HT | 4.75 | 11.00 | 11.40 | 1.20 | ● | | ● | ● | ● | ● | | | | 0.80-5.00 | 0.20-0.80 |
| LNMX 150608L-HT | 6.40 | 15.00 | 13.40 | 0.80 | ● | | ● | ● | ● | ● | ● | | ● | 1.00-6.00 | 0.25-0.60 |
| LNMX 150608R-HT | 6.40 | 15.00 | 13.40 | 0.80 | ● | ● | ● | ● | ● | ● | ● | ● | ● | 1.00-6.00 | 0.25-0.60 |
| LNMX 150612L-HT | 6.40 | 15.00 | 13.40 | 1.20 | | ● | ● | ● | ● | ● | | | ● | 1.50-7.00 | 0.30-0.80 |
| LNMX 150612R-HT | 6.40 | 15.00 | 13.40 | 1.20 | ● | ● | ● | ● | ● | ● | ● | | ● | 1.50-7.00 | 0.30-0.80 |
| LNMX 150616L-HT | 6.40 | 15.00 | 13.40 | 1.60 | ● | | ● | ● | ● | ● | ● | | | 2.00-8.00 | 0.30-1.00 |
| LNMX 150616R-HT | 6.40 | 15.00 | 13.40 | 1.60 | | ● | ● | ● | ● | ● | | | ● | 2.00-8.00 | 0.30-1.00 |
| LNMX 221016R/L-HT | 9.40 | 22.00 | 20.00 | 1.60 | | ● | ● | | ● | | | | | 4.00-15.00 | 0.30-1.00 |
| LNMX 221024R/L-HT | 9.40 | 22.00 | 20.00 | 2.40 | | ● | ● | | ● | | | | | 5.00-15.00 | 0.30-1.10 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

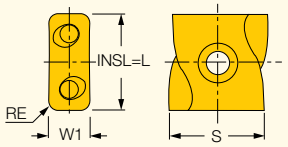
**Tools:** C#-SLANR/L-TANG • PLANR/L-TANG • S-PLANR-TANG • S-SLANR/L-TANG • SLANR/L-15-TANG-JHP • SLANR/L-TANG • SLBNR/L-TANG • SLFNR/L-TANG

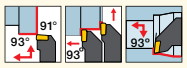
HELITURN TANGENTIAL LINE

## LNMX-HM

Tangential Inserts with a Positive Rake Angle for High Metal Removal on Soft and Ductile Materials






| Designation | Dimensions INSL | W1 | S | RE | Tough ↔ Hard IC8250 | IC6015 | IC806 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| LNMX 110408L-HM | 11.00 | 4.75 | 11.40 | 0.80 | | ● | | ● | | 1.00-5.00 | 0.10-0.40 |
| LNMX 110408R-HM | 11.00 | 4.75 | 11.40 | 0.80 | ● | ● | | ● | | 1.00-5.00 | 0.10-0.40 |
| LNMX 110412L-HM | 11.00 | 4.75 | 11.40 | 1.20 | ● | | | | | 1.00-5.00 | 0.10-0.40 |
| LNMX 110412R-HM | 11.00 | 4.75 | 11.40 | 1.20 | | ● | | | | 1.00-5.00 | 0.10-0.40 |
| LNMX 150608L-HM | 15.00 | 6.40 | 13.40 | 0.80 | ● | | ● | | ● | 1.00-6.00 | 0.10-0.50 |
| LNMX 150608R-HM | 15.00 | 6.40 | 13.40 | 0.80 | ● | | ● | ● | ● | 1.00-6.00 | 0.10-0.50 |
| LNMX 150612R/L-HM | 15.00 | 6.40 | 13.40 | 1.20 | ● | | ● | | ● | 1.50-7.00 | 0.15-0.70 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

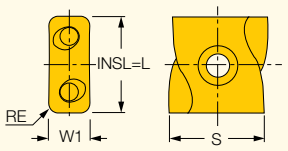
**Tools:** C#-SLANR/L-TANG • PLANR/L-TANG • S-PLANR-TANG • S-SLANR/L-TANG • SLANR/L-15-TANG-JHP • SLANR/L-TANG • SLFNR/L-TANG

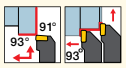
HELITURN TANGENTIAL LINE

## LNMX-WG

Tangentially Clamped Inserts with a Wiper Corner Design for High Production Cutting and Excellent Surface Finish






| Designation | Dimensions INSL | W1 | S | RE | IC8250 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| LNMX 150612R/L-WG | 15.00 | 6.40 | 13.40 | 1.20 | ● | 1.50-7.00 | 0.30-0.80 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

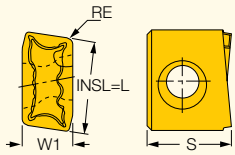
**Tools:** C#-SLANR/L-TANG • PLANR/L-TANG • S-PLANR-TANG • S-SLANR/L-TANG • SLANR/L-15-TANG-JHP • SLANR/L-TANG • SLFNR/L-TANG

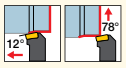
FEEDTURN

## LNMX-HF

Tangentially Clamped Rough Turning Inserts for High Feed (up to 2.4 mm/Rev)






| Designation | Dimensions W1 | INSL | S | RE | Tough ↔ Hard IC830 | IC8250 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| LNMX 1608L-HF | 8.50 | 16.00 | 14.00 | 1.20 | | ● | ● | 0.50-2.40 | 1.50-2.40 |
| LNMX 1608R-HF | 8.50 | 16.00 | 14.00 | 1.20 | ● | ● | ● | 0.50-2.40 | 1.50-2.40 |

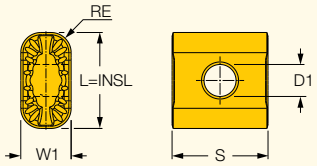
• For user guide and cutting speed recommendations, see pages 122-134, 236-254

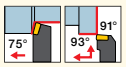
ISOTURN

## LNMX 19/30

Tangentially Clamped Inserts
for Railroad Wheel Re-Turning






| Designation | Dimensions W1 | INSL | S | RE | D1 | Tough ↔ Hard IC8250 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| LNMX 191940-WF | 10.00 | 19.05 | 19.05 | 4.00 | 6.35 | ● | ● | 0.30-5.00 | 0.25-1.30 |
| LNMX 191940-WM | 10.00 | 19.05 | 19.05 | 4.00 | 6.35 | ● | ● | 0.30-5.00 | 0.40-1.50 |
| LNMX 301940-WM | 12.00 | 30.00 | 19.05 | 4.00 | 6.35 | ● | ● | 0.50-12.00 | 0.70-1.90 |
| LNMX 301940-WR | 12.00 | 30.00 | 19.05 | 4.00 | 6.35 | ● | ● | 0.50-12.00 | 0.80-1.90 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

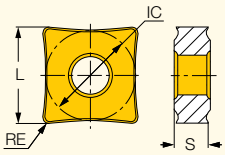
**Tools:** PRWR/L 175-CA • PRWR/L 177-CA

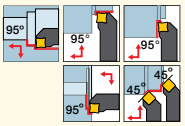
ISOTURN

## QNMG-NF

Double-Sided Inserts
with Four 80° Corners for
Finishing Applications






| Designation | Dimensions L | IC | S | RE | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| QNMG 120408-NF | 13.33 | 12.70 | 4.76 | 0.80 | ● | 0.80-3.00 | 0.08-0.25 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

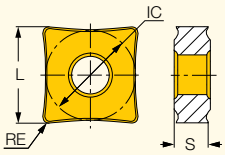
**Tools:** PQFNR/L • PQLNR/L • PQSNR/L • S-PQFNR/L • S-PQLNR/L

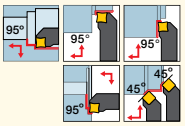
ISOTURN

## QNMG-TF

Double-Sided Inserts
with Four 80° Corners for
General Applications






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC8250 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| QNMG 090404-TF | 10.32 | 9.52 | 4.76 | 0.40 | ● | ● | ● | 1.00-4.00 | 0.12-0.35 |
| QNMG 090408-TF | 10.32 | 9.52 | 4.76 | 0.80 | ● | ● | ● | 1.00-4.00 | 0.12-0.35 |
| QNMG 120404-TF | 13.41 | 12.70 | 4.76 | 0.40 | ● | ● | | 1.00-4.00 | 0.12-0.35 |
| QNMG 120408-TF | 13.33 | 12.70 | 4.76 | 0.80 | ● | ● | ● | 1.00-4.00 | 0.12-0.35 |
| QNMG 120412-TF | 13.25 | 12.70 | 4.76 | 1.20 | | | ● | 1.50-4.50 | 0.15-0.40 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

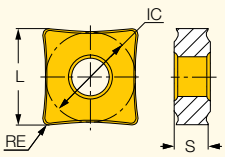
**Tools:** PQFNR/L • PQLNR/L • PQSNR/L • S-PQFNR/L • S-PQLNR/L

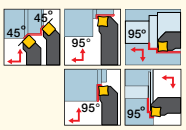
ISOTURN

## QNMG-PP

Double-Sided Inserts
with Four 80° Corners for
General Applications






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC8250 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| QNMG 090408-PP | 10.32 | 9.52 | 4.76 | 0.80 | ● | | 1.00-4.00 | 0.14-0.30 |
| QNMG 120408-PP | 13.33 | 12.70 | 4.76 | 0.80 | ● | ● | 1.00-4.00 | 0.14-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

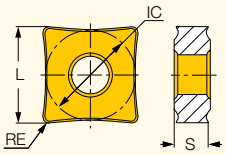
**Tools:** PQFNR/L • PQLNR/L • PQSNR/L • S-PQFNR/L • S-PQLNR/L

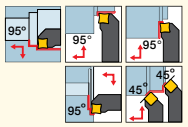
ISOTURN

## QNMG-GN

Double-Sided Inserts with Four 80° Corners for General Applications






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC8250 | IC8150 | IC428 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| QNMG 090408-GN | 10.32 | 9.52 | 4.76 | 0.80 | ● | | ● | | 1.00-4.50 | 0.16-0.45 |
| QNMG 120408-GN | 13.33 | 12.70 | 4.76 | 0.80 | ● | ● | ● | ● | 1.00-4.50 | 0.16-0.45 |
| QNMG 120412-GN | 13.25 | 12.70 | 4.76 | 1.20 | ● | ● | ● | ● | 1.50-5.00 | 0.22-0.50 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

**Tools:** PQFNR/L • PQLNR/L • PQSNR/L • S-PQFNR/L • S-PQLNR/L

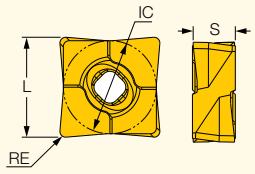
# Positive Inserts

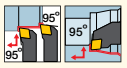
LOGIQ4TURN POSITIVE DOUBLE SIDED

## CXMG-F3P

80° Double-Sided and Double-Positive Inserts with a Positive Rake for Finishing on Alloyed Steel






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC8150 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| CXMG 090402-F3P | 10.40 | 9.35 | 4.66 | 0.20 | ● | ● | 0.30-2.00 | 0.03-0.15 |
| CXMG 090404-F3P | 10.40 | 9.35 | 4.65 | 0.40 | ● | | 0.40-2.00 | 0.05-0.25 |
| CXMG 12T504-F3P | 13.83 | 12.50 | 5.80 | 0.40 | ● | ● | 0.40-2.00 | 0.05-0.25 |
| CXMG 12T508-F3P | 13.75 | 12.50 | 5.80 | 0.80 | ● | ● | 0.80-2.00 | 0.05-0.25 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

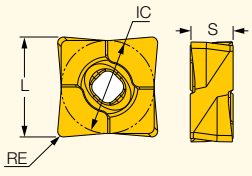
**Tools:** A-PCLXR/L • AVC-PCLXR/L • PCLXR/L • PCLXR/L-JHP • PCLXR/L-JHP-MC • PCLXR/L-S • PCLXR/L-S-JHP

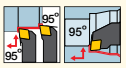
LOGIQ4TURN POSITIVE DOUBLE SIDED

## CXMG-M3P

80° Double-Sided and Double-Positive Inserts with a Positive Rake for Medium Machining on Alloyed Steel






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC8250 | IC8150 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| CXMG 090408-M3P | 10.32 | 9.35 | 4.65 | 0.80 | ● | ● | ● | 0.80-3.00 | 0.10-0.50 |
| CXMG 12T508-M3P | 13.75 | 12.50 | 5.80 | 0.80 | ● | ● | ● | 0.80-5.00 | 0.10-0.50 |
| CXMG 12T512-M3P | 13.68 | 12.50 | 5.80 | 1.20 | ● | ● | ● | 1.20-5.00 | 0.10-0.50 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

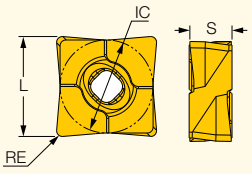
**Tools:** A-PCLXR/L • AVC-PCLXR/L • PCLXR/L • PCLXR/L-JHP • PCLXR/L-JHP-MC • PCLXR/L-S • PCLXR/L-S-JHP

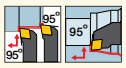
LOGIQ4TURN POSITIVE DOUBLE SIDED

## CXMG-F3M

80° Double-Sided and Double-Positive Inserts with a Positive Rake for Finishing on Stainless Steel and H.T.A.






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC6025 | IC6015 | IC806 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| CXMG 090402-F3M | 10.40 | 9.35 | 4.66 | 0.20 | | ● | ● | ● | 0.30-2.00 | 0.03-0.15 |
| CXMG 090404-F3M | 10.40 | 9.35 | 4.65 | 0.40 | ● | ● | ● | ● | 0.40-2.00 | 0.05-0.25 |
| CXMG 12T504-F3M | 13.83 | 12.50 | 5.80 | 0.40 | ● | | ● | ● | 0.40-2.00 | 0.05-0.25 |
| CXMG 12T508-F3M | 13.75 | 12.50 | 5.80 | 0.80 | ● | | ● | ● | 0.80-2.00 | 0.05-0.25 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

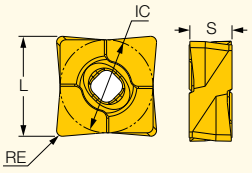
**Tools:** A-PCLXR/L • AVC-PCLXR/L • PCLXR/L • PCLXR/L-JHP • PCLXR/L-JHP-MC • PCLXR/L-S • PCLXR/L-S-JHP

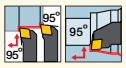
LOGIQ4TURN POSITIVE DOUBLE SIDED

## CXMG-M3M

80° Double-Sided and Double-Positive Inserts with a Positive Rake for Medium Machining on Stainless Steel and H.T.A.






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC6025 | IC806 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| CXMG 090408-M3M | 10.32 | 9.35 | 4.65 | 0.80 | ● | ● | ● | 0.80-3.00 | 0.15-0.50 |
| CXMG 12T508-M3M | 13.75 | 12.50 | 5.80 | 0.80 | ● | ● | ● | 0.80-5.00 | 0.15-0.50 |
| CXMG 12T512-M3M | 13.68 | 12.50 | 5.80 | 1.20 | ● | ● | ● | 1.20-5.00 | 0.15-0.50 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

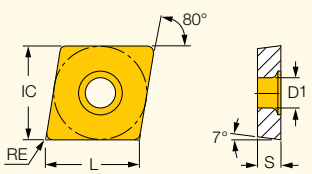
**Tools:** A-PCLXR/L • AVC-PCLXR/L • PCLXR/L • PCLXR/L-JHP • PCLXR/L-JHP-MC • PCLXR/L-S • PCLXR/L-S-JHP

ISOTURN

## CCGT-F1P

80° Rhombic Inserts with a Positive Flank for Very Low Finish Turning Conditions on Steel







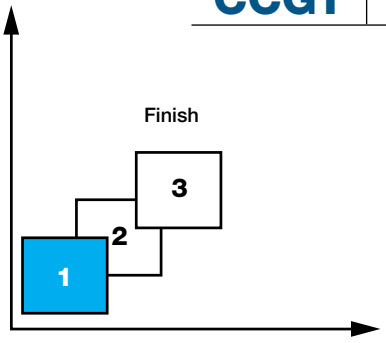


| Designation | Dimensions L | IC | S | RE | D1 | IC908 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| CCGT 03X101-F1P | 3.60 | 3.57 | 1.39 | 0.10 | 1.90 | ● | 0.10-0.50 | 0.01-0.05 |
| CCGT 03X102-F1P | 3.60 | 3.57 | 1.39 | 0.20 | 1.90 | ● | 0.10-0.50 | 0.02-0.10 |
| CCGT 03X104-F1P | 3.60 | 3.57 | 1.39 | 0.40 | 1.90 | ● | 0.10-0.50 | 0.05-0.15 |
| CCGT 04T101-F1P | 4.40 | 4.37 | 1.79 | 0.10 | 2.30 | ● | 0.10-0.50 | 0.01-0.05 |
| CCGT 04T102-F1P | 4.40 | 4.37 | 1.79 | 0.20 | 2.30 | ● | 0.10-0.50 | 0.02-0.10 |
| CCGT 04T104-F1P | 4.40 | 4.37 | 1.79 | 0.40 | 2.30 | ● | 0.10-0.50 | 0.05-0.15 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

**Tools:** A/E/S-SCLCR/L • PICIN-SCLCR/L

| ISO Standard Designation | | | | - | 1 | 2 | 3 |
|---|---|---|---|---|---|---|---|
| CCGT | 04 | T1 | 04 | - | F | 1 | P |




| 1. Application | |
|---|---|
| F | Finishing |

| 2. Chip Load | |
|---|---|
| 1 | For super finish |
| 2 | For low range |
| 3 | For general range |

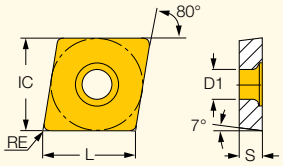
| 3. Workpiece Material Group | |
|---|---|
| P | Steel |
| M | Stainless Steel |
| K | Cast Iron |
| N | Nonferrous & Aluminum |
| S | High Temperature Alloys |

ISOTURN

## CCGT-F1M-20P

80° Rhombic Inserts with a Positive Flank for Very Low Finish Turning Conditions on Steel









| Designation | Dimensions L | IC | S | RE | D1 | IC1008 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| CCGT 0602005-F1M-20P | 6.45 | 6.35 | 2.38 | 0.05 | 2.80 | ● | 0.04-4.00 | 0.03-0.15 |
| CCGT 060201-F1M-20P | 6.45 | 6.35 | 2.38 | 0.10 | 2.80 | ● | 0.07-4.00 | 0.03-0.15 |
| CCGT 060202-F1M-20P | 6.45 | 6.35 | 2.38 | 0.20 | 2.80 | ● | 0.15-4.00 | 0.03-0.15 |
| CCGT 060204-F1M-20P | 6.45 | 6.35 | 2.38 | 0.40 | 2.80 | ● | 0.30-4.00 | 0.03-0.15 |
| CCGT 09T3005-F1M-20P | 9.67 | 9.53 | 3.97 | 0.05 | 4.40 | ● | 0.04-4.00 | 0.03-0.15 |
| CCGT 09T301-F1M-20P | 9.67 | 9.53 | 3.97 | 0.10 | 4.40 | ● | 0.07-4.00 | 0.03-0.15 |
| CCGT 09T302-F1M-20P | 9.67 | 9.53 | 3.97 | 0.20 | 4.40 | ● | 0.15-4.00 | 0.03-0.15 |
| CCGT 09T304-F1M-20P | 9.67 | 9.53 | 3.97 | 0.40 | 4.40 | ● | 0.30-4.00 | 0.03-0.15 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

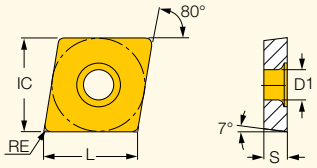
**Tools:** A/E/S-SCLCR/L

ISOTURN

## CCMT-F3P

80° Rhombic Positive Flank Inserts for Semi-Finishing and Finishing Turning of Steel









| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC8250 | IC8150 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| CCMT 060202-F3P | 6.30 | 6.35 | 2.38 | 0.20 | 2.80 | ● | ● | ● | 0.06-1.70 | 0.03-0.12 |
| CCMT 060204-F3P | 6.30 | 6.35 | 2.38 | 0.40 | 2.80 | ● | ● | ● | 0.10-1.70 | 0.05-0.18 |
| CCMT 09T302-F3P | 9.70 | 9.52 | 3.97 | 0.20 | 4.40 | ● | ● | ● | 0.08-2.00 | 0.04-0.16 |
| CCMT 09T304-F3P | 9.70 | 9.52 | 3.97 | 0.40 | 4.40 | ● | ● | ● | 0.11-2.00 | 0.06-0.25 |
| CCMT 09T308-F3P | 9.70 | 9.52 | 3.97 | 0.80 | 4.40 | ● | ● | ● | 0.15-2.00 | 0.08-0.32 |
| CCMT 120404-F3P | 12.90 | 12.70 | 4.76 | 0.40 | 5.50 | ● | ● | ● | 0.11-2.00 | 0.06-0.25 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

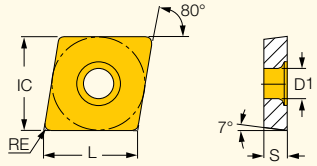
**Tools:** A/E/S-SCLCR/L • C#-SCLCR/L-JHP • E-SCLCR/L-HEAD • NQCH-SCACR/L-JHP • PCLCR/L-JHP-MC • PCLCR/L-S • PCLCR/L-S-JHP • SCACR/L-S • SCLCR-PAD • SCLCR/L

ISOTURN

## CCMT-M3P

80° Rhombic Positive Flank Inserts for Medium Machining Conditions on Steel









| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC8250 | IC8150 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| CCMT 060204-M3P | 6.30 | 6.35 | 2.38 | 0.40 | 2.80 | ● | ● | ● | 0.50-2.00 | 0.10-0.25 |
| CCMT 060208-M3P | 6.30 | 6.35 | 2.38 | 0.80 | 2.80 | ● | ● | ● | 1.00-4.00 | 0.10-0.30 |
| CCMT 09T304-M3P | 9.70 | 9.52 | 3.97 | 0.40 | 4.40 | ● | ● | ● | 0.50-3.00 | 0.10-0.20 |
| CCMT 09T308-M3P | 9.70 | 9.52 | 3.97 | 0.80 | 4.40 | ● | ● | ● | 1.00-4.00 | 0.10-0.30 |
| CCMT 09T312-M3P | 9.70 | 9.52 | 3.97 | 1.20 | 4.40 | ● | ● | ● | 1.30-5.00 | 0.15-0.40 |
| CCMT 120404-M3P | 12.90 | 12.70 | 4.76 | 0.40 | 5.50 | ● | ● | ● | 0.50-3.00 | 0.10-0.20 |
| CCMT 120408-M3P | 12.90 | 12.70 | 4.76 | 0.80 | 5.50 | ● | ● | ● | 1.00-4.00 | 0.15-0.40 |
| CCMT 120412-M3P | 12.90 | 12.70 | 4.76 | 1.20 | 5.50 | ● | ● | ● | 1.30-5.00 | 0.15-0.40 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

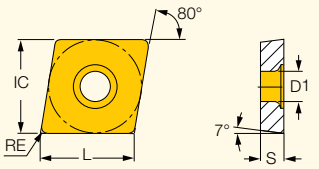
**Tools:** A/E/S-SCLCR/L • C#-SCLCR/L-JHP • E-SCLCR/L-HEAD • NQCH-SCACR/L-JHP • PCLCR/L-S • PCLCR/L-S-JHP • SCACR/L-S • SCLCR-PAD • SCLCR/L • AVC-SCLCR/L • PCLCR/L-JHP-MC

ISOTURN

## CCMT-F3M

80° Rhombic Positive Flank Inserts for Stainless Steel Finishing Applications









| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC6025 | IC6015 | IC806 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CCMT 060202-F3M | 6.30 | 6.35 | 2.38 | 0.20 | 2.80 | ● | ● | ● | ● | 0.06-1.70 | 0.03-0.12 |
| CCMT 060204-F3M | 6.30 | 6.35 | 2.38 | 0.40 | 2.80 | ● | ● | ● | ● | 0.10-1.70 | 0.05-0.18 |
| CCMT 060208-F3M | 6.30 | 6.35 | 2.38 | 0.80 | 2.80 | ● | ● | ● | ● | 0.12-1.70 | 0.08-0.22 |
| CCMT 09T302-F3M | 9.70 | 9.52 | 3.97 | 0.20 | 4.40 | ● | ● | ● | ● | 0.08-2.00 | 0.04-0.16 |
| CCMT 09T304-F3M | 9.70 | 9.52 | 3.97 | 0.40 | 4.40 | ● | ● | ● | ● | 0.11-2.00 | 0.06-0.25 |
| CCMT 09T308-F3M | 9.70 | 9.52 | 3.97 | 0.80 | 4.40 | ● | ● | ● | ● | 0.15-2.00 | 0.08-0.32 |
| CCMT 120402-F3M | 12.90 | 12.70 | 4.76 | 0.20 | 5.50 | ● | ● | ● | ● | 0.11-2.00 | 0.06-0.18 |
| CCMT 120404-F3M | 12.90 | 12.70 | 4.76 | 0.40 | 5.50 | ● | ● | ● | ● | 0.15-2.00 | 0.08-0.25 |
| CCMT 120408-F3M | 12.90 | 12.70 | 4.76 | 0.80 | 5.50 | ● | ● | ● | ● | 0.18-2.00 | 0.10-0.32 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

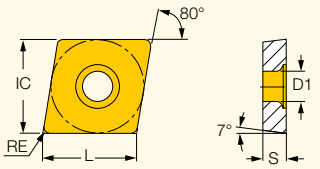
**Tools:** A/E/S-SCLCR/L • C#-SCLCR/L-JHP • E-SCLCR/L-HEAD • NQCH-SCACR/L-JHP • PCLCR/L-S • PCLCR/L-S-JHP • SCACR/L-S • SCLCR-PAD • SCLCR/L • AVC-SCLCR/L • PCLCR/L-JHP-MC

ISOTURN

## CCMT-M3M

80° Rhombic Positive Flank Inserts for Machining Stainless and Low Carbon Steel









| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC6025 | IC6015 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| CCMT 060204-M3M | 6.30 | 6.35 | 2.38 | 0.40 | 2.80 | ● | ● | ● | 0.40-2.50 | 0.07-0.23 |
| CCMT 060208-M3M | 6.30 | 6.35 | 2.38 | 0.80 | 2.80 | ● | ● | ● | 0.80-2.50 | 0.10-0.25 |
| CCMT 09T304-M3M | 9.70 | 9.52 | 3.97 | 0.40 | 4.40 | ● | ● | ● | 0.40-3.00 | 0.07-0.25 |
| CCMT 09T308-M3M | 9.70 | 9.52 | 3.97 | 0.80 | 4.40 | ● | ● | ● | 0.80-3.00 | 0.10-0.30 |
| CCMT 120404-M3M | 12.90 | 12.70 | 4.76 | 0.40 | 5.50 | ● | ● | ● | 0.40-3.50 | 0.10-0.30 |
| CCMT 120408-M3M | 12.90 | 12.70 | 4.76 | 0.80 | 5.50 | ● | ● | ● | 0.80-3.50 | 0.12-0.34 |
| CCMT 120412-M3M | 12.90 | 12.70 | 4.76 | 1.20 | 5.50 | ● | ● | ● | 1.20-3.50 | 0.14-0.40 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

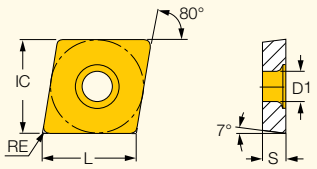
**Tools:** A/E/S-SCLCR/L • C#-SCLCR/L-JHP • E-SCLCR/L-HEAD • NQCH-SCACR/L-JHP • PCLCR/L-S • PCLCR/L-S-JHP • SCACR/L-S • SCLCR-PAD • SCLCR/L • AVC-SCLCR/L • PCLCR/L-JHP-MC

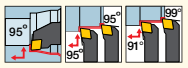
ISOTURN

## CCMT-CERMET

Single-Sided 80° Rhombic Cermet Grade Inserts for Semi-Finishing and Finishing Applications



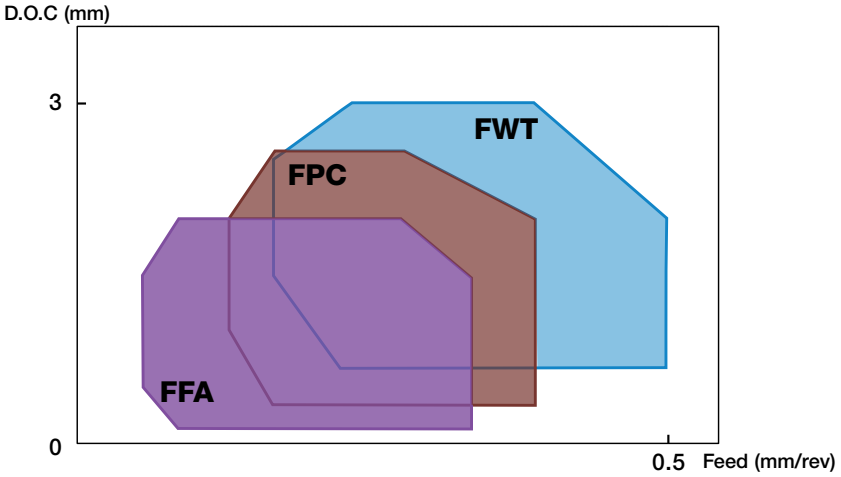



| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC20N | IC520N | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| CCMT 09T302-FFA | 9.70 | 9.52 | 3.97 | 0.20 | 4.40 | • | • | 0.03-2.00 | 0.04-0.15 |
| CCMT 09T302-FWT | 9.70 | 9.52 | 3.97 | 0.20 | 4.40 | • | | 1.50-3.00 | 0.00-0.50 |
| CCMT 09T304-FPC | 9.70 | 9.52 | 3.97 | 0.40 | 4.40 | • | • | 0.50-2.50 | 0.03-0.20 |
| CCMT 09T308-FPC | 9.70 | 9.52 | 3.97 | 0.80 | 4.40 | | • | 0.50-2.80 | 0.03-0.22 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

**Tools:** A/E/S-SCLCR/L • C#-SCLCR/L-JHP • E-SCLCR/L-HEAD • NQCH-SCACR/L-JHP • PCLCR/L-JHP-MC • PCLCR/L-S • PCLCR/L-S-JHP • SCACR/L-S • SCLCR-PAD • SCLCR/L

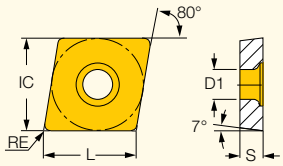


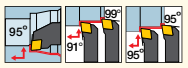

ISOTURN

## CCMT/CCGT-SM

Single-Sided Turning Inserts for Semi-Finishing and Finishing on Soft Materials and Exotic Alloys






| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC6025 | IC8250 | IC6015 | IC8150 | IC20 | IC5010 | IC428 | IC5005 | IC806 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CCGT 060201-SM | 6.45 | 6.35 | 2.38 | 0.10 | 2.80 | | | | | | | | | | | • | 0.25-2.00 | 0.05-0.20 |
| CCGT 060202-SM | 6.45 | 6.35 | 2.38 | 0.20 | 2.80 | | | | | | | | | | | • | 0.25-2.00 | 0.05-0.25 |
| CCMT 060202-SM | 6.45 | 6.35 | 2.38 | 0.20 | 2.80 | | • | | • | | | | | • | | | 0.25-2.00 | 0.05-0.25 |
| CCMT 060204-SM | 6.45 | 6.35 | 2.38 | 0.40 | 2.80 | • | • | • | • | | | | | • | • | • | 0.50-2.50 | 0.07-0.25 |
| CCMT 060208-SM | 6.45 | 6.35 | 2.38 | 0.80 | 2.80 | • | | • | | | | | | | • | • | 0.50-2.50 | 0.07-0.25 |
| CCMT 09T302-SM | 9.70 | 9.52 | 3.97 | 0.20 | 4.40 | • | • | • | | | | | | • | • | • | 0.50-2.50 | 0.06-0.25 |
| CCMT 09T304-SM | 9.70 | 9.52 | 3.97 | 0.40 | 4.40 | • | • | | • | • | • | • | • | • | • | • | 0.50-2.50 | 0.06-0.25 |
| CCMT 09T308-SM | 9.70 | 9.52 | 3.97 | 0.80 | 4.40 | • | • | • | • | | • | | • | • | • | • | 0.50-3.00 | 0.07-0.25 |
| CCMT 120404-SM | 12.90 | 12.70 | 4.76 | 0.40 | 5.50 | | • | | • | | | | | • | • | • | 0.70-3.50 | 0.07-0.25 |
| CCMT 120408-SM | 12.90 | 12.70 | 4.76 | 0.80 | 5.50 | • | • | • | • | | | | | | • | • | 0.70-3.50 | 0.07-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

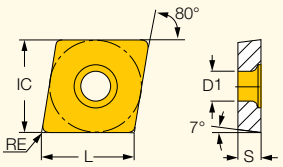
**Tools:** A/E/S-SCLCR/L • C#-SCLCR/L-JHP • E-SCLCR/L-HEAD • NQCH-SCACR/L-JHP • PCLCR/L-S • PCLCR/L-S-JHP • SCACR/L-S • SCLCR-PAD • SCLCR/L • AVC-SCLCR/L • PCLCR/L-JHP-MC

ISOTURN

## CCMT-PF

80° Rhombic Inserts with a Positive Flank for Semi-Finishing and Finishing on Soft Materials and Exotic Alloys









| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC830 | IC6025 | IC6015 | IC806 | IC807 | IC907 | IC804 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CCMT 060202-PF | 6.30 | 6.35 | 2.38 | 0.20 | 2.80 | ● | ● | ● | | ● | ● | ● | 0.20-2.50 | 0.04-0.25 |
| CCMT 060204-PF | 6.30 | 6.35 | 2.38 | 0.40 | 2.80 | ● | ● | ● | ● | ● | ● | | 0.40-2.50 | 0.04-0.30 |
| CCMT 09T302-PF | 9.70 | 9.52 | 3.97 | 0.20 | 4.40 | ● | | | ● | ● | ● | ● | 0.50-3.00 | 0.05-0.30 |
| CCMT 09T304-PF | 9.70 | 9.52 | 3.97 | 0.40 | 4.40 | ● | ● | ● | ● | ● | ● | ● | 0.50-3.50 | 0.05-0.35 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

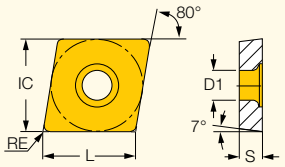
**Tools:** A/E/S-SCLCR/L • C#-SCLCR/L-JHP • E-SCLCR/L-HEAD • NQCH-SCACR/L-JHP • PCLCR/L-S • PCLCR/L-S-JHP • SCACR/L-S • SCLCR-PAD • SCLCR/L • AVC-SCLCR/L • PCLCR/L-JHP-MC

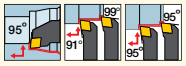
ISOTURN

## CCMT-14

80° Rhombic Inserts with a 7° Positive Flank for Semi-Finishing and Finish Turning






| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC830 | IC8250 | IC20 | IC428 | IC5005 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CCMT 060204-14 | 6.30 | 6.35 | 2.38 | 0.40 | 2.80 | ● | | ● | ● | ● | ● | ● | 0.50-2.50 | 0.14-0.25 |
| CCMT 09T304-14 | 9.70 | 9.52 | 3.97 | 0.40 | 4.40 | | ● | | | | ● | ● | 0.50-3.00 | 0.14-0.25 |
| CCMT 09T308-14 | 9.70 | 9.52 | 3.97 | 0.80 | 4.40 | ● | ● | ● | ● | ● | | | 0.80-3.00 | 0.14-0.30 |
| CCMT 120408-14 | 12.90 | 12.70 | 4.76 | 0.80 | 5.50 | ● | | ● | | | | | 0.80-3.00 | 0.14-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

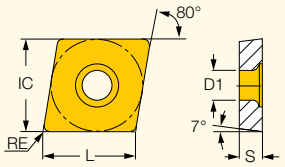
**Tools:** A/E/S-SCLCR/L • AVC-SCLCR/L • C#-SCLCR/L-JHP • E-SCLCR/L-HEAD • NQCH-SCACR/L-JHP • PCLCR/L-JHP-MC • PCLCR/L-S • PCLCR/L-S-JHP • SCACR/L-S • SCLCR-PAD • SCLCR/L

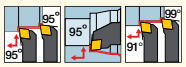
ISOTURN

## CCMT/CCGT

80° Rhombic Inserts with a 7° Positive Flank for Semi-Finishing and Finish Turning






| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC8250 | IC30N | IC20 | IC20N | IC520N | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CCGT 060202 | 6.45 | 6.35 | 2.38 | 0.20 | 2.80 | | ● | | | | 0.50-2.00 | 0.10-0.20 |
| CCGT 060202L (1) | 6.45 | 6.35 | 2.38 | 0.20 | 2.80 | | ● | ● | | | 0.50-2.00 | 0.10-0.20 |
| CCGT 060204 | 6.45 | 6.35 | 2.38 | 0.40 | 2.80 | | ● | | | | 0.50-2.00 | 0.10-0.20 |
| CCGT 060204L (1) | 6.45 | 6.35 | 2.38 | 0.40 | 2.80 | | ● | | | | 0.50-2.00 | 0.10-0.20 |
| CCMT 060202 | 6.45 | 6.35 | 2.38 | 0.20 | 2.80 | ● | | | ● | | 0.50-2.00 | 0.10-0.20 |
| CCMT 060204 | 6.45 | 6.35 | 2.38 | 0.40 | 2.80 | | ● | | ● | ● | 0.50-2.00 | 0.12-0.22 |
| CCMT 09T302 | 9.70 | 9.52 | 3.97 | 0.20 | 4.40 | | | | ● | ● | 0.50-2.50 | 0.12-0.25 |
| CCMT 09T304 | 9.70 | 9.52 | 3.97 | 0.40 | 4.40 | | | | ● | ● | 0.50-2.50 | 0.12-0.25 |
| CCMT 09T308 | 9.70 | 9.52 | 3.97 | 0.80 | 4.40 | | | | ● | ● | 0.80-3.00 | 0.14-0.25 |

• Use left-hand inserts for left-hand external tools and for right-hand internal tools • For user guide and cutting speed recommendations, see pages 122-134, 236-254

(1) Left-hand insert

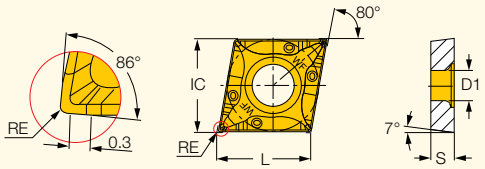
**Tools:** A/E/S-SCLCR/L • C#-SCLCR/L-JHP • E-SCLCR/L-HEAD • NQCH-SCACR/L-JHP • PCLCR/L-S • PCLCR/L-S-JHP • SCACR/L-S • SCLCR-PAD • SCLCR/L • AVC-SCLCR/L • PCLCR/L-JHP-MC

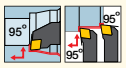
ISOTURN

## CCET-WF

80° Rhombic Inserts with a 7° Positive Flank and a Wiper Near the Corner for High Feed Finishing






| Designation | Dimensions L | IC | S | RE | D1 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| CCET 0602005-WF | 6.30 | 6.35 | 2.38 | 0.05 | 2.80 | ● | 0.05-2.00 | 0.01-0.20 |
| CCET 09T3005-WF | 9.50 | 9.52 | 3.97 | 0.05 | 4.40 | ● | 0.05-2.00 | 0.01-0.20 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

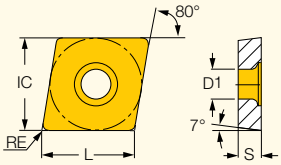
**Tools:** A/E/S-SCLCR/L • C#-SCLCR/L-JHP • E-SCLCR/L-HEAD • NQCH-SCACR/L-JHP • PCLCR/L-S • PCLCR/L-S-JHP • SCACR/L-S • SCLCR-PAD • SCLCR/L • AVC-SCLCR/L • PCLCR/L-JHP-MC

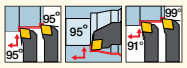
ISOTURN

## CCMT-WG

80° Rhombic Inserts with a 7° Positive Flank and a Wiper Near the Corner for High Feed Finishing






| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC8250 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| CCMT 060204-WG | 6.30 | 6.35 | 2.38 | 0.40 | 2.80 | | ● | ● | 0.40-2.00 | 0.10-0.35 |
| CCMT 09T304-WG | 9.70 | 9.52 | 3.97 | 0.40 | 4.40 | ● | | | 0.40-2.00 | 0.14-0.30 |
| CCMT 09T308-WG | 9.70 | 9.52 | 3.97 | 0.80 | 4.40 | ● | | | 0.50-2.50 | 0.20-0.38 |
| CCMT 120408-WG | 12.90 | 12.70 | 4.76 | 0.80 | 5.50 | ● | | | 0.50-3.00 | 0.20-0.36 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

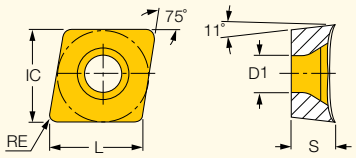
**Tools:** A/E/S-SCLCR/L • C#-SCLCR/L-JHP • E-SCLCR/L-HEAD • NQCH-SCACR/L-JHP • PCLCR/L-S • PCLCR/L-S-JHP • SCACR/L-S • SCLCR-PAD • SCLCR/L • AVC-SCLCR/L • PCLCR/L-JHP-MC

ISOTURN

## EPGT-F1P

75° Rhombic Inserts with a Positive Flank for Very Low Finish Turning Conditions on Steel









| Designation | Dimensions L | IC | S | RE | D1 | IC908 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| EPGT 03X101-F1P | 3.70 | 3.57 | 1.39 | 0.10 | 1.90 | ● | 0.10-0.50 | 0.01-0.05 |
| EPGT 03X102-F1P | 3.70 | 3.57 | 1.39 | 0.20 | 1.90 | ● | 0.10-0.50 | 0.02-0.10 |
| EPGT 03X104-F1P | 3.70 | 3.57 | 1.39 | 0.40 | 1.90 | ● | 0.10-0.50 | 0.05-0.15 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

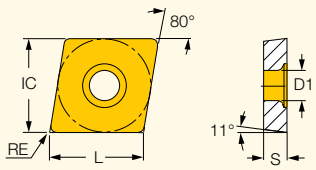
**Tools:** A/E-SEXPR/L-03

ISOTURN

## CPGT-SM

80° Rhombic Inserts with an 11° Positive Flank for Semi-Finishing and Finish Turning on Soft Materials and Exotic Alloys









| Designation | Dimensions L | IC | S | RE | D1 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| CPGT 060201-SM | 6.45 | 6.35 | 2.38 | 0.10 | 2.80 | ● | 0.25-2.00 | 0.05-0.20 |
| CPGT 060202-SM | 6.45 | 6.35 | 2.38 | 0.20 | 2.80 | ● | 0.25-2.00 | 0.05-0.30 |
| CPGT 060204-SM | 6.45 | 6.35 | 2.38 | 0.40 | 2.80 | ● | 0.50-3.00 | 0.10-0.35 |
| CPGT 09T301-SM | 9.67 | 9.52 | 3.97 | 0.10 | 4.40 | ● | 0.25-2.00 | 0.05-0.25 |
| CPGT 09T302-SM | 9.67 | 9.52 | 3.97 | 0.20 | 4.40 | ● | 0.50-2.50 | 0.10-0.30 |
| CPGT 09T304-SM | 9.67 | 9.52 | 3.97 | 0.40 | 4.40 | ● | 0.60-3.50 | 0.10-0.35 |

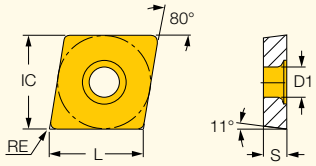
• For user guide and cutting speed recommendations, see pages 122-134, 236-254

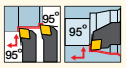
ISOTURN

## CPMT-PF

80° Rhombic Inserts with a Positive Flank for Semi-Finishing and Finishing on Soft Materials and Exotic Alloys






| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC830 | IC6025 | IC6015 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CPMT 060204-PF | 6.30 | 6.35 | 2.38 | 0.40 | 2.80 | ● | ● | ● | ● | ● | 0.50-2.50 | 0.04-0.30 |
| CPMT 060208-PF | 6.30 | 6.35 | 2.38 | 0.80 | 2.80 | ● | | | ● | ● | 0.50-2.50 | 0.08-0.30 |
| CPMT 09T304-PF | 9.50 | 9.52 | 3.97 | 0.40 | 4.40 | ● | | | ● | ● | 0.50-3.00 | 0.05-0.35 |
| CPMT 09T308-PF | 9.50 | 9.52 | 3.97 | 0.80 | 4.40 | ● | ● | ● | ● | ● | 0.50-3.50 | 0.10-0.35 |

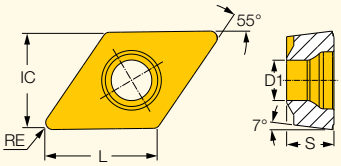
• For user guide and cutting speed recommendations, see pages 122-134, 236-254

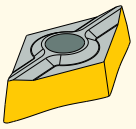
T-LOCK

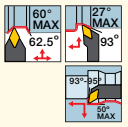
## DCMT-F3P-SL

55° Rhombic Inserts with a Positive Flank with a Locating Bottom Ridge for Semi-Finishing and Finishing on Steel








Bottom view

| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC8250 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| DCMT 13T504-F3P-SL | 13.40 | 11.00 | 5.11 | 0.40 | 4.50 | ● | ● | 0.50-3.00 | 0.05-0.25 |
| DCMT 13T508-F3P-SL | 13.40 | 11.00 | 5.11 | 0.80 | 4.50 | ● | ● | 0.90-3.50 | 0.10-0.25 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

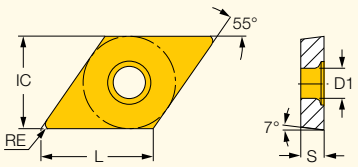
**Tools:** A-SDUCR/L-13-SL • AVC-SDJCN-Y • C#-SDJCN-13-Y • C#-SDJCR/L-13-SL-JHP • C#-SDNCN-13-SL-JHP • HSK A63WH-SDJCN-13-Y • SDACR/L-13S-SL-JHP • SDJCR/L-13-SL • SDNCN-13-SL

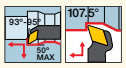
ISOTURN

## DCMT-F3P

55° Rhombic Inserts with a Positive Flank for Semi-Finishing and Finish Turning on Steel






| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC830 | IC8250 | IC8150 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DCMT 070202-F3P | 7.70 | 6.35 | 2.38 | 0.20 | 2.80 | ● | ● | ● | ● | 0.06-1.50 | 0.03-0.12 |
| DCMT 070204-F3P | 7.70 | 6.35 | 2.38 | 0.40 | 2.80 | ● | ● | ● | ● | 0.08-1.50 | 0.05-0.18 |
| DCMT 11T302-F3P | 11.60 | 9.52 | 3.97 | 0.20 | 4.40 | ● | ● | ● | ● | 0.08-2.00 | 0.04-0.16 |
| DCMT 11T304-F3P | 11.60 | 9.52 | 3.97 | 0.40 | 4.40 | ● | ● | ● | ● | 0.11-2.00 | 0.06-0.25 |
| DCMT 11T308-F3P | 11.60 | 9.52 | 3.97 | 0.80 | 4.40 | ● | ● | ● | ● | 0.15-2.00 | 0.08-0.32 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

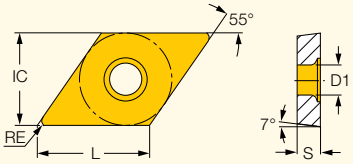
**Tools:** A/E/S-SDUCR/L • AVC-SDUCR/L • AVC-SDUCR/L-VH • C#-SDJCR-JHP • C#-SDJCR/L • C#-SDNCN • E-SDUCR/L-HEAD • NQCH-SDACR/L-S-JHP • NQCH-Y-SDJCR-S-JHP • PDACR/L-JHP • PDACR/L-JHP-MC • PDACR/L-S • SDACR/L • SDHCR/L • SDJCR-PAD • SDJCR/L • SDNCN • Y-SDJCR • Y-SDJCR-JHP

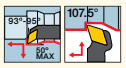
ISOTURN

## DCMT-M3M

55° Rhombic Positive Flank Inserts for Machining Stainless and Low Carbon Steel






| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC6025 | IC6015 | IC806 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DCMT 070204-M3M** | 7.70 | 6.35 | 2.38 | 0.40 | 2.80 | ● | ● | | ● | | 0.40-2.50 | 0.07-0.23 |
| **DCMT 070208-M3M** | 7.70 | 6.35 | 2.38 | 0.80 | 2.80 | ● | ● | | ● | | 0.80-2.50 | 0.10-0.25 |
| **DCMT 11T304-M3M** | 11.60 | 9.52 | 3.97 | 0.40 | 4.40 | ● | ● | | ● | | 0.40-3.00 | 0.07-0.25 |
| **DCMT 11T308-M3M** | 11.60 | 9.52 | 3.97 | 0.40 | 4.40 | ● | ● | ● | ● | ● | 0.80-3.00 | 0.10-0.30 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

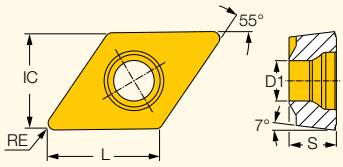
**Tools:** A/E/S-SDUCR/L • AVC-SDUCR/L • AVC-SDUCR/L-VH • C#-SDJCR-JHP • C#-SDJCR/L • C#-SDNCN • E-SDUCR/L-HEAD • NQCH-SDACR/L-S-JHP • NQCH-Y-SDJCR-S-JHP • PDACR/L-JHP • PDACR/L-S • SDACR/L • SDHCR/L • SDJCR-PAD • SDJCR/L • SDNCN • Y-SDJCR • Y-SDJCR-JHP • PDACR/L-JHP-MC

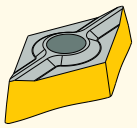
T-LOCK

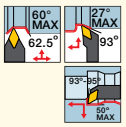
## DCMT-M3M-SL

55° Rhombic Inserts with a Positive Flank and Locating Bottom Ridge for Machining Stainless and Low Carbon Steel








Bottom view

| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC6025 | IC6015 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| **DCMT 13T508-M3M-SL** | 13.40 | 11.00 | 5.11 | 0.80 | 4.50 | ● | ● | 0.90-3.50 | 0.10-0.25 |
| **DCMT 13T512-M3M-SL** | 13.40 | 11.00 | 5.11 | 1.20 | 4.50 | ● | ● | 0.90-3.50 | 0.15-0.30 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

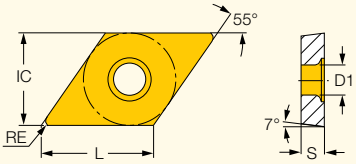
**Tools:** A-SDUCR/L-13-SL • AVC-SDJCN-Y • C#-SDJCN-13-Y • C#-SDJCR/L-13-SL-JHP • C#-SDNCN-13-SL-JHP • HSK A63WH-SDJCN-13-Y • SDACR/L-13S-SL-JHP • SDJCR/L-13-SL • SDNCN-13-SL

ISOTURN

## DCMT-CERMET

Single-Sided 55° Rhombic Cermet Grade Inserts for Semi-Finishing and Finishing Applications

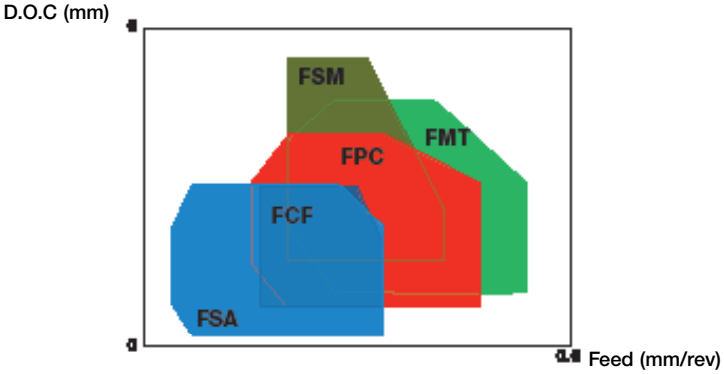





| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC20N | IC520N | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| DCGT 11T302-FSA | 11.60 | 9.52 | 3.97 | 0.20 | 4.40 | • | | 0.30-2.00 | 0.02-0.15 |
| DCGT 11T304-FSA | 11.60 | 9.52 | 3.97 | 0.40 | 4.40 | • | | 0.40-2.00 | 0.03-0.15 |
| DCMT 11T302-FCF | 11.60 | 9.52 | 3.97 | 0.20 | 4.40 | • | • | 0.50-2.50 | 0.07-0.22 |
| DCMT 11T302-FSM | 11.60 | 9.52 | 3.97 | 0.20 | 4.40 | | • | 0.50-3.00 | 0.05-0.22 |
| DCMT 11T304-FPC | 11.60 | 9.52 | 3.97 | 0.40 | 4.40 | • | • | 0.50-2.70 | 0.04-0.25 |
| DCMT 11T304-FSM | 11.60 | 9.52 | 3.97 | 0.40 | 4.40 | | • | 0.50-3.00 | 0.07-0.25 |
| DCMT 11T308-FPC | 11.60 | 9.52 | 3.97 | 0.80 | 4.40 | • | • | 0.50-2.70 | 0.04-0.25 |
| DCMT 11T312-FMT | 11.60 | 9.52 | 3.97 | 1.20 | 4.40 | | • | 1.50-5.00 | 0.15-0.50 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

**Tools:** A/E/S-SDUCR/L • AVC-SDUCR/L • AVC-SDUCR/L-VH • C#-SDJCR-JHP • C#-SDJCR/L • C#-SDNCN • NQCH-SDACR/L-S-JHP • NQCH-Y-SDJCR-S-JHP • PDACR/L-JHP • PDACR/L-JHP-MC • PDACR/L-S • SDACR/L • SDHCR/L • SDJCR/L • SDNCN • Y-SDJCR • Y-SDJCR-JHP

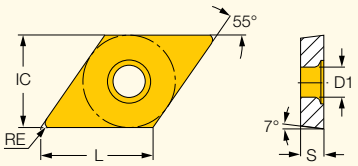



ISOTURN

## DCGT-F1M-20P

55° Rhombic Inserts with a 7° Positive Flank for Semi-Finishing and Finish Turning on Soft Materials and Exotic Alloys






| Designation | Dimensions L | IC | S | RE | D1 | IC1008 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| DCGT 0702005-F1M-20P | 7.75 | 6.35 | 2.38 | 0.05 | 2.80 | • | 0.03-0.15 | 0.04-4.00 |
| DCGT 070201-F1M-20P | 7.75 | 6.35 | 2.38 | 0.10 | 2.80 | • | 0.03-0.15 | 0.07-4.00 |
| DCGT 070202-F1M-20P | 7.75 | 6.35 | 2.38 | 0.20 | 2.80 | • | 0.03-0.15 | 0.15-4.00 |
| DCGT 070204-F1M-20P | 7.75 | 6.35 | 2.38 | 0.40 | 2.80 | • | 0.03-0.15 | 0.30-4.00 |
| DCGT 11T3005-F1M-20P | 11.63 | 9.53 | 3.97 | 0.05 | 4.40 | • | 0.03-0.15 | 0.04-4.00 |
| DCGT 11T301-F1M-20P | 11.63 | 9.53 | 3.97 | 0.10 | 4.40 | • | 0.03-0.15 | 0.07-4.00 |
| DCGT 11T302-F1M-20P | 11.63 | 9.53 | 3.97 | 0.20 | 4.40 | • | 0.03-0.15 | 0.15-4.00 |
| DCGT 11T304-F1M-20P | 11.63 | 9.53 | 3.97 | 0.40 | 4.40 | • | 0.03-0.15 | 0.30-4.00 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

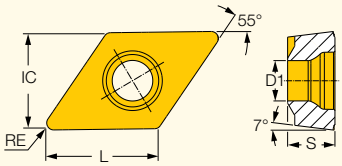
**Tools:** A/E/S-SDUCR/L • AVC-SDUCR/L • E-SDUCR/L-HEAD • PDACR/L-JHP • PDACR/L-S • SDACR/L • SDHCR/L • SDJCR-PAD • SDJCR/L • SDNCN

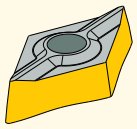
## T-LOCK

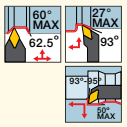
### DCMT-PF-SL

55° Rhombic Inserts with a Positive Flank and Locating Bottom Ridge for Finish Turning on Soft Materials & Exotic Alloys








| Designation | Dimensions L | IC | S | RE | D1 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| DCMT 13T504-PF-SL | 13.40 | 11.00 | 5.11 | 0.40 | 4.50 | ● | 0.50-3.00 | 0.05-0.25 |
| DCMT 13T508-PF-SL | 13.40 | 11.00 | 5.11 | 0.80 | 4.50 | ● | 0.70-3.00 | 0.05-0.25 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

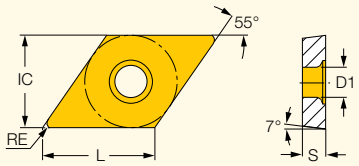
**Tools:** A-SDUCR/L-13-SL • AVC-SDJCN-Y • C#-SDJCN-13-Y • C#-SDJCR/L-13-SL-JHP • C#-SDNCN-13-SL-JHP • HSK A63WH-SDJCN-13-Y • SDACR/L-13S-SL-JHP • SDJCR/L-13-SL • SDNCN-13-SL

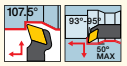
## ISOTURN

### DCMT/DCGT-PF

55° Rhombic Inserts with a Positive Flank for Semi-Finishing and Finishing on Soft Materials and Exotic Alloys






| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC830 | IC6025 | IC8250 | IC908 | IC6015 | IC806 | IC807 | IC907 | IC804 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DCGT 070201-PF | 7.70 | 6.35 | 2.38 | 0.10 | 2.80 | | | | ● | | | | | | 0.30-3.00 | 0.02-0.25 |
| DCGT 070202-PF | 7.70 | 6.35 | 2.38 | 0.20 | 2.80 | | | | ● | | | | | | 0.40-3.00 | 0.03-0.25 |
| DCGT 070204-PF | 7.70 | 6.35 | 2.38 | 0.40 | 2.80 | | | | ● | | | | | | 0.50-3.00 | 0.05-0.25 |
| DCMT 070201-PF | 7.70 | 6.35 | 2.38 | 0.10 | 2.80 | | | | | | | ● | ● | | 0.30-3.00 | 0.02-0.25 |
| DCMT 070202-PF | 7.70 | 6.35 | 2.38 | 0.20 | 2.80 | ● | | | | | | | | | 0.40-3.00 | 0.03-0.25 |
| DCMT 070204-PF | 7.70 | 6.35 | 2.38 | 0.40 | 2.80 | ● | | | | | | | | | 0.50-3.00 | 0.05-0.25 |
| DCMT 070208-PF | 7.70 | 6.35 | 2.38 | 0.80 | 2.80 | | | | | | | ● | ● | | 0.70-3.00 | 0.08-0.25 |
| DCGT 11T301-PF | 11.60 | 9.52 | 3.97 | 0.10 | 4.40 | | | | ● | | | | | | 0.30-3.00 | 0.03-0.25 |
| DCGT 11T302-PF | 11.60 | 9.52 | 3.97 | 0.20 | 4.40 | | | | ● | | | | | | 0.40-3.00 | 0.04-0.25 |
| DCGT 11T304-PF | 11.60 | 9.52 | 3.97 | 0.40 | 4.40 | | | | ● | | | | | | 0.50-3.00 | 0.05-0.25 |
| DCGT 11T308-PF | 11.60 | 9.52 | 3.97 | 0.80 | 4.40 | | | | ● | | | | | | 0.70-3.00 | 0.10-0.25 |
| DCMT 11T302-PF | 11.60 | 9.52 | 3.97 | 0.20 | 4.40 | ● | | | | | ● | ● | ● | ● | 0.30-3.00 | 0.04-0.25 |
| DCMT 11T304-PF | 11.60 | 9.52 | 3.97 | 0.40 | 4.40 | ● | ● | ● | | ● | ● | ● | ● | ● | 0.50-3.00 | 0.05-0.25 |
| DCMT 11T308-PF | 11.60 | 9.52 | 3.97 | 0.80 | 4.40 | ● | ● | ● | | ● | ● | ● | ● | ● | 0.70-3.00 | 0.10-0.25 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

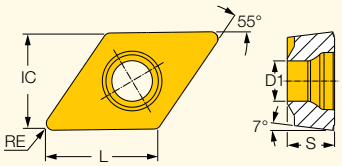
**Tools:** A/E/S-SDUCR/L • AVC-SDUCR/L • AVC-SDUCR/L-VH • C#-SDJCR-JHP • C#-SDJCR/L • C#-SDNCN • E-SDUCR/L-HEAD • NQCH-SDACR/L-S-JHP • NQCH-Y-SDJCR-S-JHP • PDACR/L-JHP • PDACR/L-S • SDACR/L • SDHCR/L • SDJCR-PAD • SDJCR/L • SDNCN • Y-SDJCR • Y-SDJCR-JHP • PDACR/L-JHP-MC

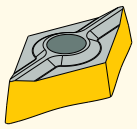
## T-LOCK

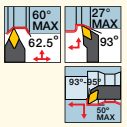
### DCMT-SM-SL

55° Rhombic Inserts with a Positive Flank and Locating Bottom Ridge for Finish Turning on Soft Materials & Exotic Alloys








| Designation | Dimensions L | IC | S | RE | D1 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| DCMT 13T504-SM-SL | 13.40 | 11.00 | 5.11 | 0.40 | 4.50 | ● | 0.50-2.50 | 0.07-0.27 |
| DCMT 13T508-SM-SL | 13.40 | 11.00 | 5.11 | 0.80 | 4.50 | ● | 1.00-3.00 | 0.07-0.27 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

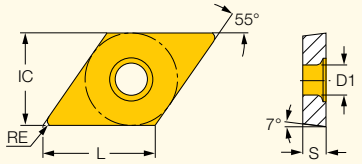
**Tools:** A-SDUCR/L-13-SL • AVC-SDJCN-Y • C#-SDJCN-13-Y • C#-SDJCR/L-13-SL-JHP • C#-SDNCN-13-SL-JHP • HSK A63WH-SDJCN-13-Y • SDACR/L-13S-SL-JHP • SDJCR/L-13-SL • SDNCN-13-SL

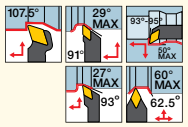
ISOTURN

## DCMT/DCGT-SM

55° Rhombic Inserts with a 7° Positive Flank for Semi-Finishing and Finish Turning on Soft Materials and Exotic Alloys






| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC8350 | IC6025 | IC8250 | IC530N | IC6015 | IC8150 | IC520N | IC806 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DCMT 070202-SM | 7.70 | 6.35 | 2.38 | 0.20 | 2.80 | | ● | | | ● | | | | ● | ● | 0.50-2.00 | 0.04-0.20 |
| DCMT 070204-SM | 7.70 | 6.35 | 2.38 | 0.40 | 2.80 | | ● | ● | | ● | ● | | ● | ● | ● | 0.50-2.50 | 0.05-0.25 |
| DCMT 070208-SM | 7.70 | 6.35 | 2.38 | 0.80 | 2.80 | | | ● | | | | | | | | 0.50-3.00 | 0.07-0.25 |
| DCGT 11T302-SM | 11.60 | 9.52 | 3.97 | 0.20 | 4.40 | | | | | | | | | | ● | 0.50-2.50 | 0.05-0.25 |
| DCGT 11T304-SM | 11.60 | 9.52 | 3.97 | 0.40 | 4.40 | | | | | | | | | | ● | 0.50-2.50 | 0.05-0.25 |
| DCMT 11T302-SM | 11.60 | 9.52 | 3.97 | 0.20 | 4.40 | | ● | ● | ● | ● | | | | ● | ● | 0.50-2.50 | 0.05-0.25 |
| DCMT 11T304-SM | 11.60 | 9.52 | 3.97 | 0.40 | 4.40 | ● | ● | ● | ● | | ● | | ● | ● | ● | 0.50-2.50 | 0.07-0.25 |
| DCMT 11T308-SM | 11.60 | 9.52 | 3.97 | 0.80 | 4.40 | ● | ● | ● | | ● | ● | | | ● | ● | 1.00-3.00 | 0.07-0.25 |
| DCMT 11T312-SM | 11.60 | 9.52 | 3.97 | 1.20 | 4.40 | | | | | | | ● | | | | 1.00-3.50 | 0.10-0.28 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

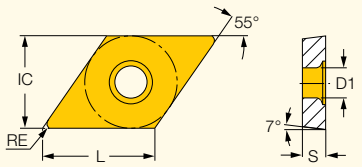
**Tools:** A/E/S-SDUCR/L • AVC-SDUCR/L • AVC-SDUCR/L-VH • C#-SDJCR-JHP • C#-SDJCR/L • C#-SDNCN • E-SDUCR/L-HEAD • NQCH-SDACR/L-S-JHP • NQCH-Y-SDJCR-S-JHP • PDACR/L-JHP • PDACR/L-JHP-MC • PDACR/L-S • SDACR/L • SDHCR/L • SDJCR-PAD • SDJCR/L • SDNCN • Y-SDJCR • Y-SDJCR-JHP

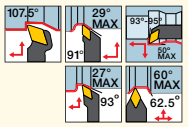
ISOTURN

## DCMT/DCGT

55° Rhombic Inserts with a 7° Positive Clearance for Finishing Applications






| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC830 | IC8250 | IC908 | IC30N | IC530N | IC8150 | IC20N | IC520N | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DCGT 070201R [1] | 7.70 | 6.35 | 2.38 | 0.10 | 2.80 | | | ● | | | | | | 0.25-1.50 | 0.05-0.15 |
| DCGT 070202 | 7.70 | 6.35 | 2.38 | 0.20 | 2.80 | | | | ● | | | | | 0.50-2.00 | 0.08-0.20 |
| DCGT 070204 | 7.70 | 6.35 | 2.38 | 0.40 | 2.80 | | | | ● | | | | | 0.80-2.50 | 0.10-0.25 |
| DCMT 070202 | 7.70 | 6.35 | 2.38 | 0.20 | 2.80 | ● | ● | | | | ● | ● | ● | 0.50-2.00 | 0.08-0.20 |
| DCMT 070204 | 7.70 | 6.35 | 2.38 | 0.40 | 2.80 | ● | ● | | ● | | ● | ● | ● | 0.50-2.00 | 0.08-0.22 |
| DCGT 11T302 | 11.60 | 9.52 | 3.97 | 0.20 | 4.40 | | | | ● | | | | | 0.50-2.00 | 0.08-0.20 |
| DCGT 11T304 | 11.60 | 9.52 | 3.97 | 0.40 | 4.40 | | | | ● | | | ● | | 1.00-2.50 | 0.12-0.25 |
| DCMT 11T302 | 11.60 | 9.52 | 3.97 | 0.20 | 4.40 | | | | ● | ● | | ● | ● | 0.50-2.00 | 0.08-0.20 |
| DCMT 11T304 | 11.60 | 9.52 | 3.97 | 0.40 | 4.40 | | | | ● | | | ● | ● | 0.50-2.00 | 0.12-0.25 |
| DCMT 11T308 | 11.60 | 9.52 | 3.97 | 0.80 | 4.40 | ● | | | | | | ● | ● | 1.50-3.00 | 0.14-0.29 |

- Right-hand inserts for right-hand external tools and for left-hand internal tools • For user guide and cutting speed recommendations, see pages 122-134, 236-254

[1] Right-hand insert

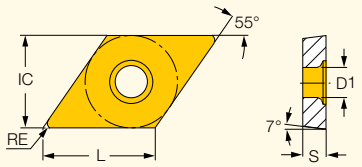
**Tools:** A/E/S-SDUCR/L • AVC-SDUCR/L • AVC-SDUCR/L-VH • C#-SDJCR-JHP • C#-SDJCR/L • C#-SDNCN • E-SDUCR/L-HEAD • NQCH-SDACR/L-S-JHP • NQCH-Y-SDJCR-S-JHP • PDACR/L-JHP • PDACR/L-S • SDACR/L • SDHCR/L • SDJCR-PAD • SDJCR/L • SDNCN • Y-SDJCR • Y-SDJCR-JHP • PDACR/L-JHP-MC

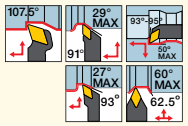
ISOTURN

## DCMT-14

55° Rhombic Inserts with a Positive Flank for Semi-Finishing and Finish Turning on Soft Materials and Exotic Alloys






| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC830 | IC8150 | IC20 | IC428 | IC5005 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DCMT 11T304-14 | 11.60 | 9.52 | 3.97 | 0.40 | 4.40 | ● | ● | ● | | | 1.00-2.50 | 0.14-0.25 |
| DCMT 11T308-14 | 11.60 | 9.52 | 3.97 | 0.80 | 4.40 | | ● | ● | ● | ● | 1.50-3.00 | 0.14-0.29 |

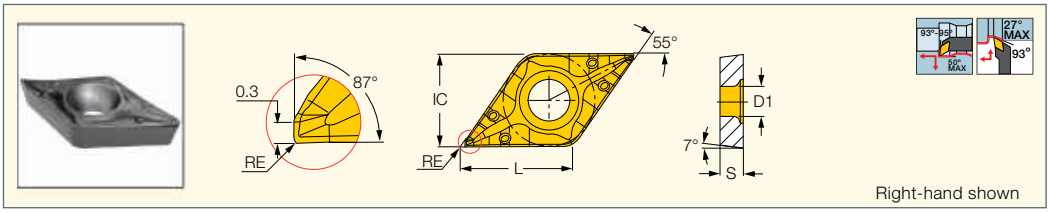
- For user guide and cutting speed recommendations, see pages 122-134, 236-254

**Tools:** A/E/S-SDUCR/L • AVC-SDUCR/L • AVC-SDUCR/L-VH • C#-SDJCR-JHP • C#-SDJCR/L • C#-SDNCN • NQCH-SDACR/L-S-JHP • NQCH-Y-SDJCR-S-JHP • PDACR/L-JHP • PDACR/L-S • SDACR/L • SDHCR/L • SDJCR/L • SDNCN • Y-SDJCR • Y-SDJCR-JHP • PDACR/L-JHP-MC

ISOTURN

## DCET-WF

55° Rhombic Wiper Inserts for Finishing Operations at High Feeds




| Designation | Dimensions L | IC | S | RE | D1 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| DCET 0702005R/L-WF | 7.70 | 6.35 | 2.38 | 0.05 | 2.80 | ● | 0.05-3.00 | 0.01-0.20 |
| DCET 11T3005R/L-WF | 11.60 | 9.52 | 3.97 | 0.05 | 4.40 | ● | 0.05-3.00 | 0.01-0.20 |

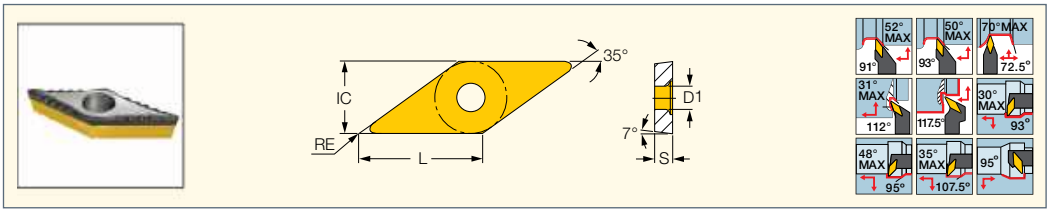
• For user guide and cutting speed recommendations, see pages 122-134, 236-254

**Tools:** A/E/S-SDUCR/L • AVC-SDUCR/L • AVC-SDUCR/L-VH • C#-SDJCR-JHP • C#-SDJCR/L • E-SDUCR/L-HEAD • NQCH-SDACR/L-S-JHP • NQCH-Y-SDJCR-S-JHP • PDACR/L-JHP • PDACR/L-S • SDACR/L • SDHCR/L • SDJCR-PAD • SDJCR/L • Y-SDJCR • Y-SDJCR-JHP • PDACR/L-JHP-MC

ISOTURN

## VCMT-F3P

35° Rhombic Positive Flank Inserts for Semi-Finishing and Finish Turning of Steel




| Designation | Dimensions L | IC | S | RE | D1 | IC8150 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| VCMT 110302-F3P | 11.10 | 6.35 | 3.18 | 0.20 | 2.80 | ● | ● | 0.06-1.70 | 0.03-0.14 |
| VCMT 110304-F3P | 11.10 | 6.35 | 3.18 | 0.40 | 2.80 | ● | ● | 0.10-1.70 | 0.05-0.20 |
| VCMT 110308-F3P | 11.10 | 6.35 | 3.18 | 0.80 | 2.80 | ● | ● | 0.13-1.70 | 0.07-0.28 |
| VCMT 110312-F3P | 11.10 | 6.35 | 3.18 | 1.20 | 2.80 | ● | ● | 0.13-1.70 | 0.08-0.33 |
| VCMT 160402-F3P | 16.60 | 9.52 | 4.76 | 0.20 | 4.40 | ● | ● | 0.07-1.80 | 0.04-0.15 |
| VCMT 160404-F3P | 16.60 | 9.52 | 4.76 | 0.40 | 4.40 | ● | ● | 0.10-1.80 | 0.05-0.20 |
| VCMT 160408-F3P | 16.60 | 9.52 | 4.76 | 0.80 | 4.40 | ● | ● | 0.14-1.80 | 0.07-0.29 |
| VCMT 160412-F3P | 16.60 | 9.52 | 4.76 | 1.20 | 4.40 | ● | ● | 0.14-1.80 | 0.09-0.34 |

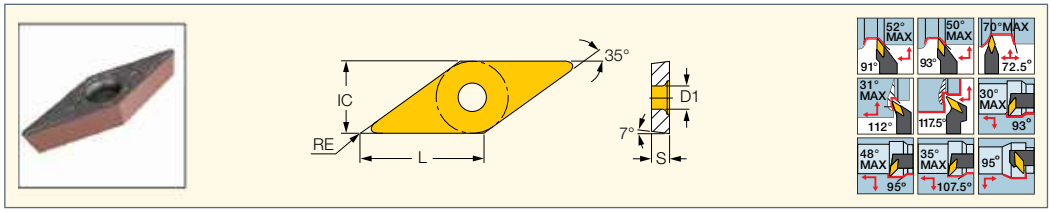
• For user guide and cutting speed recommendations, see pages 122-134, 236-254

**Tools:** A/S-SVLBCR/L • A/S-SVLFCR/L; A-SVUCR/L • A/S-SVQCR/L • AVC-SVLCR/L-VH • C#-SVJCR/L • C#-SVJCR/L-JHP • C#-SVVCN • HSK A63WH-SVJCR/L • NQCH-SVACR/L-S-JHP • NQCH-Y-SVJCR-S-JHP • PVACR/L-JHP • PVACR/L-JHP-MC • PVACR/L-S • S/A-SVJCR/L • SVACR/L • SVJCR-PAD • SVJCR/L • SVJCR/L-16-JHP • SVPCR/L • SVVCN • SVXCR/L • Y-SVJCR • Y-SVJCR-JHP • AVC-SVLCR/L

ISOTURN

## VCMT-F3M

35° Rhombic Positive Flank Inserts for Stainless Steel Finishing Applications




| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC6025 | IC6015 | IC806 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VCMT 110302-F3M | 11.10 | 6.35 | 3.18 | 0.20 | 2.85 | ● | ● | ● | ● | 0.06-1.70 | 0.03-0.14 |
| VCMT 110304-F3M | 11.10 | 6.35 | 3.18 | 0.40 | 2.85 | ● | ● | ● | ● | 0.10-1.70 | 0.05-0.20 |
| VCMT 110308-F3M | 11.10 | 6.35 | 3.18 | 0.80 | 2.85 | ● | ● | ● | ● | 0.13-1.70 | 0.07-0.28 |
| VCMT 160402-F3M | 16.60 | 9.52 | 4.76 | 0.20 | 4.50 | ● | ● | ● | ● | 0.06-1.80 | 0.03-0.14 |
| VCMT 160404-F3M | 16.60 | 9.52 | 4.76 | 0.40 | 4.50 | ● | ● | ● | ● | 0.10-1.80 | 0.05-0.20 |
| VCMT 160408-F3M | 16.60 | 9.52 | 4.76 | 0.80 | 4.50 | ● | ● | ● | ● | 0.13-1.80 | 0.07-0.28 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

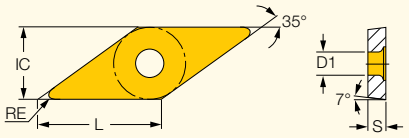
**Tools:** A/S-SVLBCR/L • A/S-SVLFCR/L; A-SVUCR/L • A/S-SVQCR/L • AVC-SVLCR/L • AVC-SVLCR/L-VH • AVC-SVUCR/L • C#-SVJCR/L • C#-SVJCR/L-JHP • C#-SVVCN • HSK A63WH-SVJCR/L • NQCH-SVACR/L-S-JHP • NQCH-Y-SVJCR-S-JHP • PVACR/L-JHP • PVACR/L-JHP-MC • PVACR/L-S • S/A-SVJCR/L • SVACR/L • SVJCR-PAD • SVJCR/L • SVJCR/L-16-JHP • SVPCR/L • SVVCN • SVXCR/L • Y-SVJCR • Y-SVJCR-JHP

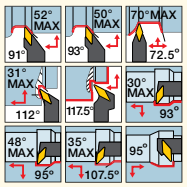
ISOTURN

## VCMT-M3M

35° Rhombic Positive Flank Inserts for Machining Stainless and Low Carbon Steel






| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC6025 | IC6015 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| VCMT 160404-M3M | 16.60 | 9.52 | 4.76 | 0.40 | 4.40 | ● | ● | ● | 1.00-5.00 | 0.07-0.25 |
| VCMT 160408-M3M | 16.60 | 9.52 | 4.76 | 0.80 | 4.40 | ● | ● | | 1.00-5.00 | 0.10-0.30 |
| VCMT 160412-M3M | 16.60 | 9.52 | 4.76 | 1.20 | 4.40 | ● | ● | ● | 1.00-5.00 | 0.13-0.35 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

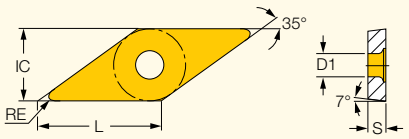
**Tools:** A/S-SVLBCR/L • A/S-SVLFCR/L; A-SVUCR/L • A/S-SVQCR/L • AVC-SVLCR/L-VH • C#-SVJCR/L • C#-SVJCR/L-JHP • C#-SVVCN • HSK A63WH-SVJCR/L • SVJCR/L • SVJCR/L-16-JHP • SVVCN • SVXCR/L • AVC-SVLCR/L

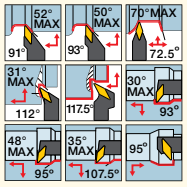
ISOTURN

## VCMT-FPC-CERMET

35° Rhombic 7° Cermet Positive Flank Inserts for Semi-Finishing Turning of steel and Automotive Components






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC20N | IC520N | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| VCMT 160404-FPC | 16.60 | 9.52 | 4.76 | 0.40 | ● | ● | 0.70-2.00 | 0.04-0.22 |
| VCMT 160408-FPC | 16.60 | 9.52 | 4.76 | 0.80 | | ● | 0.70-2.00 | 0.04-0.22 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

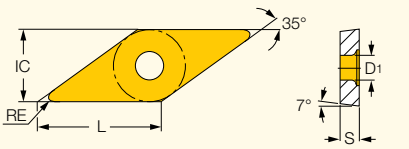
**Tools:** A/S-SVLBCR/L • A/S-SVLFCR/L; A-SVUCR/L • A/S-SVQCR/L • AVC-SVLCR/L-VH • C#-SVJCR/L • C#-SVJCR/L-JHP • C#-SVVCN • HSK A63WH-SVJCR/L • SVJCR/L • SVJCR/L-16-JHP • SVVCN • SVXCR/L • AVC-SVLCR/L

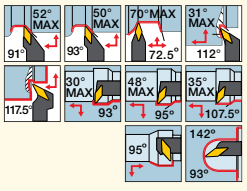
ISOTURN

## VCGT-F1M-20P

35° Rhombic Inserts with a 7° Positive Flank for Semi-Finishing and Finish Turning on Soft Materials and Exotic Alloys






| Designation | Dimensions L | IC | S | RE | D1 | IC1008 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| VCGT 1103005-F1M-20P | 11.07 | 6.35 | 3.18 | 0.10 | 2.90 | ● | 0.03-0.18 | 0.07-4.50 |
| VCGT 110301-F1M-20P | 11.07 | 6.35 | 3.18 | 0.40 | 2.90 | ● | 0.03-0.18 | 0.30-4.50 |
| VCGT 110302-F1M-20P | 11.07 | 6.35 | 3.18 | 0.10 | 2.90 | ● | 0.03-0.15 | 0.07-4.00 |
| VCGT 110304-F1M-20P | 11.07 | 6.35 | 3.18 | 0.40 | 2.90 | ● | 0.03-0.15 | 0.30-4.00 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

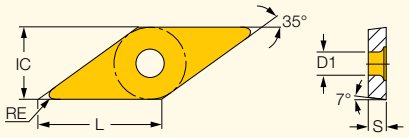
**Tools:** AVC-SVUCR/L • C#-SVJCR/L • C#-SVJCR/L-JHP • NQCH-SVACR/L-S-JHP • NQCH-Y-SVJCR-S-JHP • PVACR/L-JHP • PVACR/L-JHP-MC • PVACR/L-S • S/A-SVJCR/L • SVACR/L • SVJCR-PAD • SVJCR/L • SVPCR/L • SVVCN • Y-SVJCR • Y-SVJCR-JHP

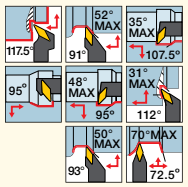
ISOTURN

## VCGT-MD/PF

35° Rhombic Inserts with a Positive Flank for Semi-Finishing and Finishing on Soft Materials and Exotic Alloys






| Designation | Dimensions L | IC | S | RE | D1 | IC830 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| VCGT 110301-PF | 11.10 | 6.35 | 3.18 | 0.10 | 2.90 | • | 0.20-2.50 | 0.03-0.25 |
| VCGT 110302-PF | 11.40 | 6.35 | 3.18 | 0.20 | 2.90 | • | 0.30-2.50 | 0.03-0.25 |
| VCGT 110304-PF | 11.40 | 6.35 | 3.18 | 0.40 | 2.90 | • | 0.50-3.00 | 0.05-0.25 |
| VCGT 130304-PF | 13.00 | 7.94 | 3.18 | 0.40 | 3.40 | • | 0.50-3.00 | 0.05-0.25 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

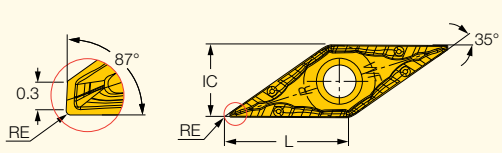
**Tools:** NQCH-SVACR/L-S-JHP • SVACR/L

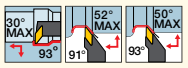
ISOTURN

## VCET-WF

35° Rhombic Wiper Inserts for Finishing Operations at High Feeds






Right-hand shown

| Designation | Dimensions L | IC | S | RE | D1 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| VCET 1103005R/L-WF | 11.10 | 6.35 | 3.18 | 0.05 | 2.90 | • | 0.05-4.00 | 0.01-0.20 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

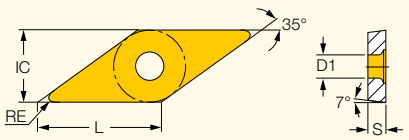
**Tools:** C#-SVJCR/L • C#-SVJCR/L-JHP • NQCH-SVACR/L-S-JHP • NQCH-Y-SVJCR-S-JHP • PVACR/L-JHP • PVACR/L-S • S/A-SVJCR/L • SVACR/L • SVJCR-PAD • SVJCR/L • Y-SVJCR • Y-SVJCR-JHP • PVACR/L-JHP-MC

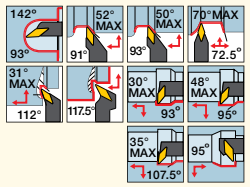
ISOTURN

## VCMT-SM

35° Rhombic Inserts with a 7° Positive Flank for Semi-Finishing and Finish Turning on Soft Materials and Exotic Alloys






| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC830 | IC6025 | IC8250 | IC908 | IC6015 | IC8150 | IC806 | IC807 | IC907 | IC4 | IC804 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VCMT 110302-SM | 11.10 | 6.35 | 3.18 | 0.20 | 2.90 | | | | • | | | | • | • | | | 0.20-2.50 | 0.04-0.20 |
| VCMT 110304-SM | 11.10 | 6.35 | 3.18 | 0.40 | 2.90 | | • | | • | • | | • | • | • | | | 0.50-3.00 | 0.07-0.24 |
| VCMT 110308-SM | 11.10 | 6.35 | 3.18 | 0.80 | 2.90 | | | | • | | | | | | | | 0.50-2.00 | 0.07-0.25 |
| VCMT 160402-SM | 16.60 | 9.52 | 4.76 | 0.20 | 4.40 | | • | | | • | | | • | • | | | 0.50-2.50 | 0.05-0.20 |
| VCMT 160404-SM | 16.60 | 9.52 | 4.76 | 0.40 | 4.40 | | • | • | | | • | • | • | • | | | 0.50-2.50 | 0.05-0.25 |
| VCMT 160408-SM | 16.60 | 9.52 | 4.76 | 0.80 | 4.40 | • | • | • | | • | • | • | • | • | • | • | 0.90-2.50 | 0.07-0.25 |
| VCMT 160412-SM | 16.60 | 9.52 | 4.76 | 1.20 | 4.40 | | | | | | | | • | • | | | 0.50-3.00 | 0.10-0.25 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

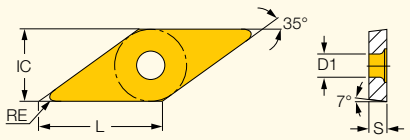
**Tools:** A/S-SVLBCR/L • A/S-SVLFCR/L; A-SVUCR/L • A/S-SVQCR/L • AVC-SVLCR/L • AVC-SVLCR/L-VH • AVC-SVUCR/L • C#-SVJCR/L • C#-SVJCR/L-JHP • C#-SVVCN • HSK A63WH-SVJCR/L • NQCH-SVACR/L-S-JHP • NQCH-Y-SVJCR-S-JHP • PVACR/L-JHP • PVACR/L-JHP-MC • PVACR/L-S • S/A-SVJCR/L • SVACR/L • SVJCR-PAD • SVJCR/L • SVJCR/L-16-JHP • SVPCR/L • SVVCN • SVXCR/L • Y-SVJCR • Y-SVJCR-JHP

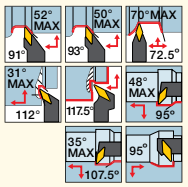
ISOTURN

## VCMT-14

35° Rhombic Inserts with a 7° Positive Flank for Semi-Finishing and Finish Turning on Soft Materials and Exotic Alloys






| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC830 | IC20 | IC20N | IC520N | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VCMT 160404-14 | 16.60 | 9.52 | 4.76 | 0.40 | 4.40 | ● | ● | ● | ● | 1.00-5.00 | 0.12-0.25 |
| VCMT 160408-14 | 16.60 | 9.52 | 4.76 | 0.80 | 4.40 | ● | ● | | ● | 1.00-5.00 | 0.12-0.30 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

**Tools:** A/S-SVLBCR/L • A/S-SVLFCR/L; A-SVUCR/L • A/S-SVQCR/L • AVC-SVLCR/L • AVC-SVLCR/L-VH • C#-SVJCR/L • C#-SVJCR/L-JHP • C#-SVVCN • HSK A63WH-SVJCR/L • SVJCR/L • SVJCR/L-16-JHP • SVVCN • SVXCR/L

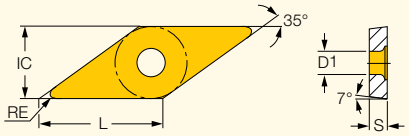
ISOTURN

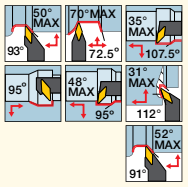
## VCMW

35° Rhombic Inserts with a 7° Positive Flank for Short Chipping Materials such as Cast Iron



Tolerances:
IC= ±0.05
S= ±0.13




| Designation | Dimensions L | IC | S | RE | D1 | IC20 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| VCMW 160404 | 16.60 | 9.52 | 4.76 | 0.40 | 4.40 | ● | 0.70-4.00 | 0.05-0.25 |
| VCMW 160408 | 16.60 | 9.52 | 4.76 | 0.80 | 4.40 | ● | 1.00-5.00 | 0.05-0.25 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

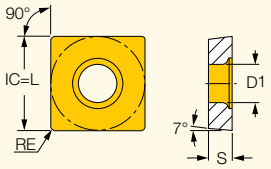
**Tools:** A/S-SVLBCR/L • A/S-SVLFCR/L; A-SVUCR/L • A/S-SVQCR/L • AVC-SVLCR/L-VH • C#-SVJCR/L • C#-SVJCR/L-JHP • C#-SVVCN • HSK A63WH-SVJCR/L • SVJCR/L • SVJCR/L-16-JHP • SVVCN • SVXCR/L • AVC-SVLCR/L

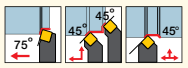
ISOTURN

## SCMT-F3P

Square Positive Flank Inserts for Semi-Finishing and Finish Turning of Steel






| Designation | Dimensions L | S | RE | D1 | Tough ↔ Hard IC8250 | IC8150 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| SCMT 09T304-F3P | 9.52 | 3.97 | 0.40 | 4.40 | ● | ● | ● | 0.11-2.00 | 0.06-0.25 |
| SCMT 09T308-F3P | 9.52 | 3.97 | 0.80 | 4.40 | ● | ● | ● | 0.15-2.00 | 0.08-0.32 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

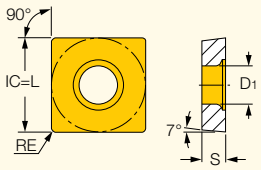
**Tools:** SSBCR/L • SSSCR/L

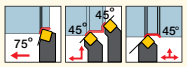
ISOTURN

## SCMT-M3P

Square Positive Flank Inserts for Medium Machining Conditions on Steel






| Designation | Dimensions L | S | RE | D1 | Tough ↔ Hard IC8250 | IC8150 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| SCMT 09T304-M3P | 9.52 | 3.97 | 0.40 | 4.40 | ● | ● | ● | 0.50-3.00 | 0.07-0.25 |
| SCMT 09T308-M3P | 9.52 | 3.97 | 0.80 | 4.40 | ● | ● | ● | 0.50-3.00 | 0.10-0.30 |
| SCMT 120404-M3P | 12.70 | 4.76 | 0.40 | 5.50 | ● | ● | ● | 0.50-3.50 | 0.10-0.25 |
| SCMT 120408-M3P | 12.70 | 4.76 | 0.80 | 5.50 | ● | ● | ● | 1.00-4.00 | 0.10-0.30 |
| SCMT 120412-M3P | 12.70 | 4.76 | 1.20 | 5.50 | ● | ● | ● | 1.20-4.00 | 0.12-0.34 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

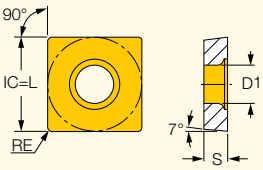
**Tools:** SSBCR/L • SSSCR/L

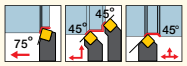
ISOTURN

## SCMT-F3M

Square Positive Flank Inserts for Stainless Steel Finishing Applications






| Designation | Dimensions L | S | RE | D1 | Tough ↔ Hard IC6025 | IC6015 | IC806 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| SCMT 09T302-F3M | 9.52 | 3.97 | 0.20 | 4.40 | ● | ● | ● | ● | 0.08-2.00 | 0.04-0.16 |
| SCMT 09T304-F3M | 9.52 | 3.97 | 0.40 | 4.40 | ● | ● | ● | ● | 0.11-2.00 | 0.06-0.25 |
| SCMT 09T308-F3M | 9.52 | 3.97 | 0.80 | 4.40 | ● | ● | ● | ● | 0.15-2.00 | 0.08-0.32 |
| SCMT 120402-F3M | 12.70 | 4.76 | 0.20 | 5.50 | ● | ● | ● | ● | 0.11-2.00 | 0.06-0.18 |
| SCMT 120404-F3M | 12.70 | 4.76 | 0.40 | 5.50 | ● | ● | ● | ● | 0.15-2.00 | 0.08-0.25 |
| SCMT 120408-F3M | 12.70 | 4.76 | 0.80 | 5.50 | ● | ● | ● | ● | 0.18-2.00 | 0.10-0.32 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

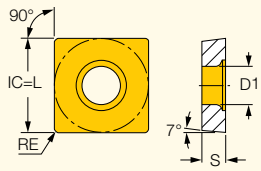
**Tools:** SSBCR/L • SSSCR/L

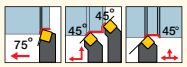
ISOTURN

## SCMT-M3M

Square Positive Flank Inserts, for Machining Stainless and Low Carbon Steel






| Designation | Dimensions L | S | RE | D1 | Tough ↔ Hard IC6025 | IC6015 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| SCMT 09T304-M3M | 9.52 | 3.97 | 0.40 | 4.40 | ● | ● | ● | 0.40-3.80 | 0.07-0.25 |
| SCMT 09T308-M3M | 9.52 | 3.97 | 0.80 | 4.40 | ● | ● | ● | 0.80-3.80 | 0.10-0.30 |
| SCMT 120404-M3M | 12.70 | 4.76 | 0.40 | 5.50 | ● | ● | ● | 0.40-4.00 | 0.10-0.25 |
| SCMT 120408-M3M | 12.70 | 4.76 | 0.80 | 5.50 | ● | ● | ● | 0.80-4.00 | 0.12-0.34 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

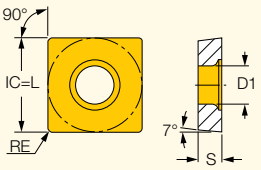
**Tools:** SSBCR/L • SSSCR/L

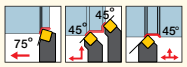
ISOTURN

## SCMT-SM

Square Inserts with a 7° Positive Flank for Semi-Finishing and Finish Turning on Soft Materials and Exotic Alloys






| Designation | Dimensions L | S | RE | D1 | Tough ↔ Hard IC830 | IC6025 | IC8250 | IC8150 | IC5005 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SCMT 09T304-SM | 9.52 | 3.97 | 0.40 | 4.40 | | | ● | ● | | ● | ● | 0.50-3.00 | 0.07-0.25 |
| SCMT 09T308-SM | 9.52 | 3.97 | 0.80 | 4.40 | ● | ● | ● | ● | ● | ● | ● | 0.50-3.00 | 0.10-0.30 |
| SCMT 120404-SM | 12.70 | 4.76 | 0.40 | 5.50 | | | | ● | | | | 0.50-3.50 | 0.10-0.25 |
| SCMT 120408-SM | 12.70 | 4.76 | 0.80 | 5.50 | | | ● | ● | | ● | ● | 1.00-4.00 | 0.10-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

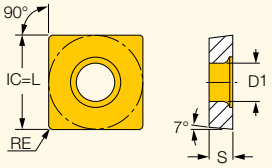
**Tools:** SSBCR/L • SSSCR/L

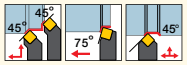
ISOTURN

## SCMT-14

Square Inserts with a 7° Positive Flank for Semi-Finishing and Finish Turning on Soft Materials and Exotic Alloys






| Designation | Dimensions L | S | RE | D1 | Tough ↔ Hard IC8250 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| SCMT 09T304-14 | 9.52 | 3.97 | 0.40 | 4.40 | | ● | ● | 1.00-3.50 | 0.12-0.30 |
| SCMT 120404-14 | 12.70 | 4.76 | 0.40 | 5.50 | ● | | | 1.00-4.00 | 0.12-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

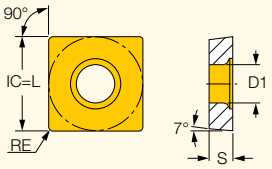
**Tools:** SSBCR/L • SSSCR/L

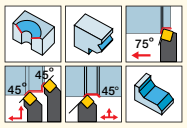
ISOTURN

## SCMT-19

Square Inserts with a 7° Positive Flank for Semi-Roughing at Medium to High Feeds






| Designation | Dimensions L | S | RE | D1 | Tough ↔ Hard IC830 | IC20 | IC5005 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | $f_z$ (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SCMT 120408-19 | 12.70 | 4.76 | 0.80 | 5.50 | ● | ● | ● | ● | ● | 3.00-8.00 | 0.08-0.15 |
| SCMT 120412-19 | 12.70 | 4.76 | 1.20 | 5.50 | | ● | | | | 3.00-8.00 | 0.08-0.15 |

• For cutting speed recommendations, see pages 246-247

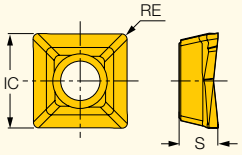
**Tools:** SSBCR/L • SSSCR/L

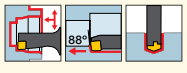
DRDRILLS

## XOMT-DT

Inserts for DR Drills and Boring Bars






| Designation | Dimensions IC | S | RE | Tough ↔ Hard IC28 | IC328 | IC250 | IC350 | IC908 | IC520M |
|---|---|---|---|---|---|---|---|---|---|
| XOMT 060204-DT | 6.16 | 2.56 | 0.40 | ● | ● | ● | ● | ● | ● |

• Two cutting edges • For hard materials and interrupted cut

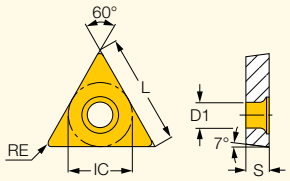
**Tools:** A-SXFOR-DR • A-SXFOR/L

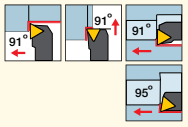
ISOTURN

## TCMT-F3P

Triangular Inserts with a Positive Flank for Semi-Finishing and Finish Turning on Steel






| Designation | Dimensions L | S | RE | D1 | Tough ↔ Hard IC830 | IC8250 | IC8150 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| TCMT 090202-F3P | 9.60 | 2.38 | 0.20 | 2.50 | • | • | • | • | 0.06-1.70 | 0.03-0.14 |
| TCMT 090204-F3P | 9.60 | 2.38 | 0.40 | 2.50 | • | • | • | • | 0.10-1.70 | 0.05-0.20 |
| TCMT 110202-F3P | 11.00 | 2.38 | 0.20 | 2.80 | • | • | • | • | 0.06-1.70 | 0.03-0.14 |
| TCMT 110204-F3P | 11.00 | 2.38 | 0.40 | 2.80 | • | • | • | • | 0.10-1.70 | 0.05-0.20 |
| TCMT 110208-F3P | 11.00 | 2.38 | 0.80 | 2.80 | • | • | • | • | 0.13-1.70 | 0.07-0.28 |
| TCMT 16T304-F3P | 16.50 | 3.97 | 0.40 | 4.40 | • | • | • | • | 0.10-1.70 | 0.05-0.20 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

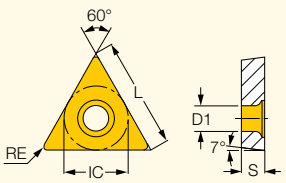
**Tools:** E-STFCR-HEAD • S-MTLCR/L-W • S-STFCR/L • S-STLCR/L • STFCR/L • STGCR/L

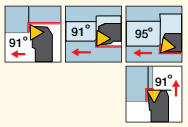
ISOTURN

## TCMT-M3M

Triangular Positive Flank Inserts, for Machining Stainless and Low Carbon Steel






| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC6025 | IC6015 | IC807 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| TCMT 110204-M3M | 11.00 | 6.35 | 2.38 | 0.40 | 2.80 | • | • | • | 0.40-2.50 | 0.07-0.23 |
| TCMT 110208-M3M | 11.00 | 6.35 | 2.38 | 0.80 | 2.80 | • | • | • | 0.80-2.50 | 0.10-0.25 |
| TCMT 16T304-M3M | 16.50 | 9.52 | 3.97 | 0.40 | 4.40 | • | • | • | 0.40-3.00 | 0.07-0.25 |
| TCMT 16T308-M3M | 16.50 | 9.52 | 3.97 | 0.80 | 4.40 | • | • | • | 0.80-3.00 | 0.10-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

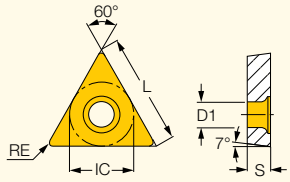
**Tools:** E-STFCR-HEAD • S-MTLCR/L-W • S-STFCR/L • S-STLCR/L • STFCR/L • STGCR/L

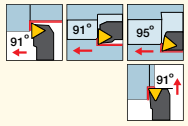
ISOTURN

## TCMT-PF

Triangular Inserts with a Positive Flank for Semi-Finishing and Finishing on Soft Materials and Exotic Alloys






| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| TCMT 110202-PF | 11.00 | 6.35 | 2.38 | 0.20 | 2.85 | • | • | 0.20-3.00 | 0.05-0.25 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

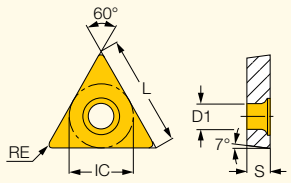
**Tools:** E-STFCR-HEAD • S-STFCR/L • S-STLCR/L • STFCR/L • STGCR/L

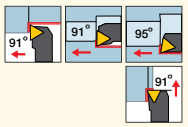
ISOTURN

## TCMT-SM

Triangular Inserts with a 7° Positive Flank for Semi-Finishing and Finish Turning on Soft Materials and Exotic Alloys






| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC830 | IC8350 | IC8250 | IC908 | IC8150 | IC5010 | IC428 | IC5005 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCMT 110204-SM | 11.00 | 6.35 | 2.38 | 0.40 | 2.80 | | ● | ● | ● | ● | ● | | ● | ● | ● | 0.20-3.00 | 0.05-0.25 |
| TCMT 110208-SM | 11.00 | 6.35 | 2.38 | 0.80 | 2.80 | | | ● | | | | | | ● | ● | 0.50-2.50 | 0.07-0.25 |
| TCMT 16T304-SM | 16.50 | 9.52 | 3.97 | 0.40 | 4.40 | ● | | ● | | ● | | ● | ● | ● | ● | 0.50-3.00 | 0.06-0.25 |
| TCMT 16T308-SM | 16.50 | 9.52 | 3.97 | 0.80 | 4.40 | ● | | ● | | ● | | | ● | ● | ● | 0.50-3.00 | 0.08-0.28 |
| TCMT 16T308-SM* | 16.50 | 9.52 | 3.97 | 0.80 | 4.40 | | ● | | | | | | | | | 0.50-3.00 | 0.08-0.28 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

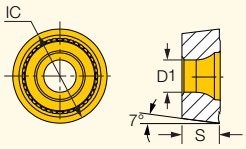
**Tools:** E-STFCR-HEAD S-MTLCR/L-W • S-STFCR/L • S-STLCR/L • STFCR/L • STGCR/L

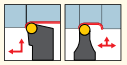
ISOTURN

## RCMT-M3P

Round Inserts with a 7° Positive Flank for Medium Profiling on a Wide Range of Materials





| Designation | Dimensions IC | S | D1 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|
| RCMT 1204M0-M3P-R | 12.00 | 4.76 | 5.50 | ● | 1.50-6.00 | 0.30-0.55 |
| RCMT 1606M0-M3P-R | 16.00 | 6.35 | 5.50 | ● | 2.00-8.00 | 0.40-0.80 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

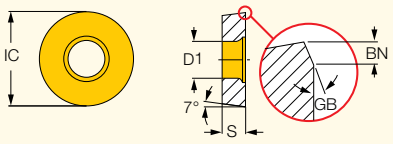
**Tools:** C#-RCMT-16-Y • C#-SRGCR/L • HSK A63WH-RCMT-Y • SRDCN • SRGCR/L

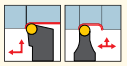
ISOTURN

## RCMT-SR

Round Inserts with a 7° Positive Flank for Medium Profiling on a Wide Range of Materials





| Designation | Dimensions IC | S | D1 | GB | BN | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| RCMT 0803M0-SR | 8.00 | 3.18 | 3.40 | 15.0 | 0.15 | ● | 1.00-4.50 | 0.30-0.45 |
| RCMT 1606M0-SR | 16.00 | 6.35 | 5.50 | 15.0 | 0.18 | ● | 2.00-8.00 | 0.40-0.60 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

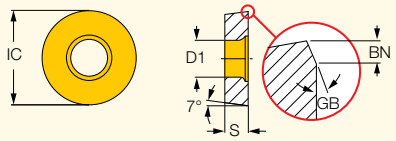
**Tools:** C#-RCMT-16-Y • HSK A63WH-RCMT-Y • SRDCN • SRGCR/L

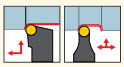
ISOTURN

## RCMT-14

Round Inserts with a 7° Positive Flank for Medium and Finish Profiling on a Wide Range of Materials





| Designation | Dimensions IC | S | D1 | GB | BN | Tough ↔ Hard IC354 | IC8250 | IC8150 | IC20 | IC5010 | IC806 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RCMT 0803M0-14 | 8.00 | 3.18 | 3.40 | 15.0 | 0.15 | | | | ● | | | | | 1.00-4.00 | 0.30-0.45 |
| RCMT 0803M0-14* | 8.00 | 3.18 | 3.40 | 15.0 | 0.15 | | ● | | | | | | | 1.00-4.00 | 0.30-0.45 |
| RCMT 10T3M0-14 | 10.00 | 3.97 | 4.40 | 15.0 | 0.15 | ● | ● | ● | ● | | | | | 1.50-5.00 | 0.30-0.50 |
| RCMT 1204M0-14 | 12.00 | 4.76 | 5.50 | 15.0 | 0.15 | | ● | ● | ● | | ● | ● | ● | 1.50-6.00 | 0.30-0.50 |
| RCMT 1606M0-14 | 16.00 | 6.35 | 5.50 | 15.0 | 0.25 | | ● | ● | ● | | | | | 2.00-8.00 | 0.40-0.60 |
| RCMT 2006M0-14 | 20.00 | 6.35 | 6.50 | 15.0 | 0.25 | | | ● | ● | ● | | | | 2.50-10.00 | 0.50-0.70 |
| RCMT 2006M0E-14 | 20.00 | 6.35 | 6.50 | 15.0 | 0.25 | | | ● | | | | | | 2.50-10.00 | 0.50-0.70 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

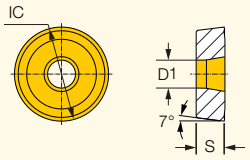
**Tools:** AVC-SRDCN-Y • C#-RCMT-16-Y • C#-SRGCR-12-JHP • C#-SRGCR/L • HSK A63WH-RCMT-Y • SRDCN • SRGCR-12-JHP • SRGCR/L

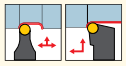
ISOTURN

## RCMX-M3P-R

Round 7° Insert with a Positive Cutting Edge for Machining Wheels





| Designation | Dimensions IC | S | D1 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|
| RCMX 200600-M3P-R | 20.00 | 6.35 | 5.50 | ● | 1.50-10.00 | 0.40-0.80 |
| RCMX 320900-M3P-R | 32.00 | 9.52 | 9.50 | ● | 7.00-13.00 | 0.70-2.00 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

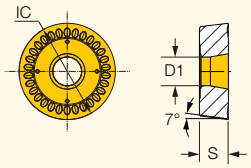
**Tools:** PRDCN

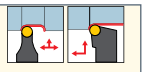
ISOTURN

## RCMX-R3P-R

Round 7° Insert with a Positive Cutting Edge for Machining Wheels





| Designation | Dimensions IC | S | D1 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|
| RCMX 320900-R3P-R | 32.00 | 9.52 | 9.50 | ● | 7.00-13.00 | 0.70-2.00 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

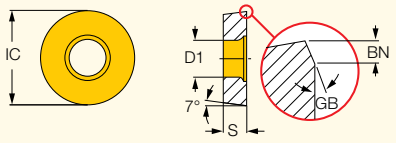
**Tools:** PRDCN

ISOTURN

## RCMX

Round Inserts with a 7° Positive Flank and Reinforced Cutting Edge for Semi-Roughing and Rough Profiling






| Designation | Dimensions IC | S | D1 | GB | BN | Tough ↔ Hard IC8250 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| RCMX 100300 | 10.00 | 3.18 | 3.60 | 15.0 | 0.01 | ● | | 1.50-5.00 | 0.30-0.50 |
| RCMX 120400 | 12.00 | 4.76 | 4.20 | 15.0 | 0.15 | | ● | 1.50-6.00 | 0.30-0.50 |
| RCMX 200600 | 20.00 | 6.35 | 6.50 | 15.0 | 0.01 | ● | | 2.50-10.00 | 0.50-0.50 |

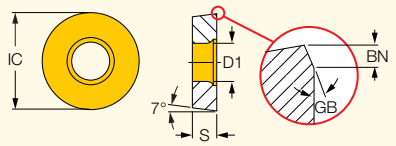
• For user guide and cutting speed recommendations, see pages 122-134, 236-254

ISOTURN

## RCMX-NR

Round 7° Inserts with a Positive Flank and Strong Cutting Edge for Rough Turning






| Designation | Dimensions IC | S | D1 | GB | BN | IC8250 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| RCMX 250700-NR | 25.00 | 7.94 | 7.20 | 17.0 | 0.30 | ● | 4.00-10.00 | 0.50-1.50 |
| RCMX 3209M0-NR | 32.00 | 9.52 | 10.00 | 17.0 | 0.30 | ● | 7.00-13.00 | 0.70-2.00 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

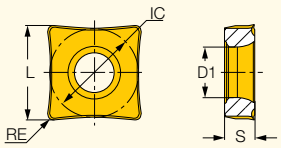
**Tools:** PRDCN • PRGCR

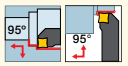
ISOTURN

## QCMT-PF

Four 80° Cornered Insert with a Positive 7° Clearance and Chipformer for Finishing Applications






| Designation | Dimensions IC | S | RE | D1 | IC908 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| QCMT 09T302-PF | 9.65 | 3.97 | 0.20 | 4.40 | ● | 0.50-2.50 | 0.05-0.30 |

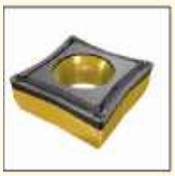
• For user guide and cutting speed recommendations, see pages 122-134, 236-254

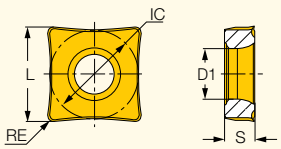
**Tools:** PQLCR/L • PQLCR/L-S • S/A-SQLCR/L

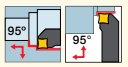
ISOTURN

## QCMT-SM

Inserts with a Positive 7° Clearance and Chipformer for Finishing Applications






| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC830 | IC8250 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| QCMT 09T304-SM | 10.40 | 9.65 | 3.97 | 0.40 | 4.40 | ● | ● | ● | 0.50-2.50 | 0.06-0.25 |

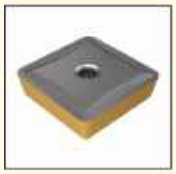
• For user guide and cutting speed recommendations, see pages 122-134, 236-254

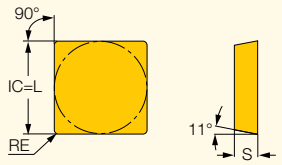
**Tools:** PQLCR/L • PQLCR/L-S • S/A-SQLCR/L

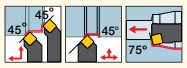
ISOTURN

## SPMR

Square Inserts with a Positive Chipformer Exerting Low Cutting Forces for Semi-Finishing and Finishing Applications






| Designation | Dimensions L | S | RE | Tough ↔ Hard IC830 | IC8250 | IC8150 | IC20N | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| SPMR 090304 | 9.52 | 3.18 | 0.40 | | ● | | ● | 1.50-5.00 | 0.15-0.30 |
| SPMR 090308 | 9.52 | 3.18 | 0.80 | ● | ● | | | 1.50-6.00 | 0.16-0.35 |
| SPMR 120304 | 12.70 | 3.18 | 0.40 | ● | ● | | | 1.50-5.00 | 0.15-0.35 |
| SPMR 120308 | 12.70 | 3.18 | 0.80 | | ● | | | 1.50-6.00 | 0.16-0.40 |
| SPMR 120312 | 12.70 | 3.18 | 1.20 | | ● | ● | | 1.50-6.00 | 0.20-0.40 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

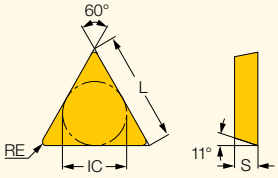
**Tools:** CSDPN • CSSPR/L • S-CSKPR

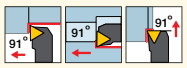
ISOTURN

## TPMR

Triangular 11° Positive Inserts with a Positive Chipformer Exerting Low Cutting Forces for Internal Finish Turning






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC8350 | IC8250 | IC20N | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TPMR 090202 | 9.60 | 5.56 | 2.38 | 0.20 | | | | | | ● | 1.00-3.00 | 0.10-0.20 |
| TPMR 090204 | 9.60 | 5.56 | 2.38 | 0.40 | | | ● | | | | 1.00-3.50 | 0.15-0.20 |
| TPMR 110304 | 11.00 | 6.35 | 3.18 | 0.40 | ● | | | ● | | | 1.00-3.50 | 0.15-0.25 |
| TPMR 110308 | 11.00 | 6.35 | 3.18 | 0.80 | ● | | | | | | 1.00-3.50 | 0.15-0.30 |
| TPMR 160304 | 16.50 | 9.52 | 3.18 | 0.40 | ● | ● | | ● | ● | ● | 1.00-4.00 | 0.15-0.33 |
| TPMR 160308 | 16.50 | 9.52 | 3.18 | 0.80 | ● | | | ● | ● | ● | 1.00-4.00 | 0.15-0.35 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

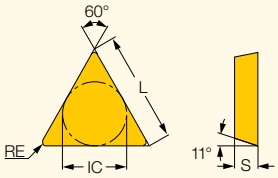
**Tools:** CTFPR/L • CTGPR/L • S-CTFPR/L

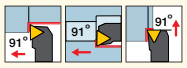
ISOTURN

## TPMR-PF

Triangular 11° Positive Inserts with a Positive Chipformer Exerting Low Cutting Forces for Internal Finish Turning






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC8250 | IC8150 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| TPMR 110304-PF | 11.00 | 6.35 | 3.18 | 0.40 | ● | | ● | ● | 0.40-3.00 | 0.08-0.25 |
| TPMR 110308-PF | 11.00 | 6.35 | 3.18 | 0.80 | ● | | | ● | 0.50-3.50 | 0.07-0.28 |
| TPMR 160304-PF | 16.50 | 9.52 | 3.18 | 0.40 | ● | ● | ● | ● | 0.50-3.50 | 0.06-0.25 |
| TPMR 160308-PF | 16.50 | 9.52 | 3.18 | 0.80 | ● | ● | | ● | 0.80-3.00 | 0.08-0.28 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

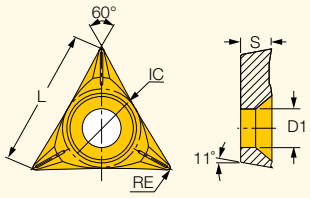
**Tools:** CTFPR/L • CTGPR/L • S-CTFPR/L

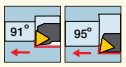
ISOTURN

## TPGT-SP

Super Positive Triangular Inserts with 11° Clearance for Fine Boring and Finish Turning






| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC908 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| TPGT 110202-SP | 11.00 | 6.35 | 2.38 | 0.20 | 3.00 | • | • | 0.40-1.00 | 0.05-0.15 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

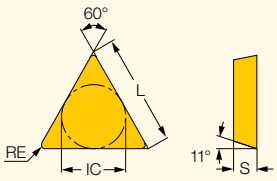
**Tools:** E-STFPR-HEAD

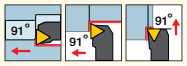
ISOTURN

## TPMR-FTF

Triangular 11° Positive Inserts with a Positive Chipformer Exerting, Low Cutting Forces for Finish Turning Applications






| Designation | Dimensions L | IC | S | RE | IC20N | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| TPMR 110304-FTF | 11.00 | 6.35 | 3.18 | 0.40 | • | 0.50-3.00 | 0.07-0.25 |
| TPMR 160304-FTF | 16.50 | 9.52 | 3.18 | 0.40 | • | 0.50-3.00 | 0.07-0.25 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

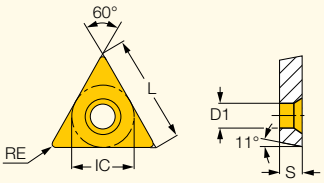
**Tools:** CTFPR/L • CTGPR/L • S-CTFPR/L

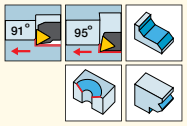
ISOTURN

## TPMT

Triangular 11° Positive Inserts with a Positive Chipformer Exerting Low Cutting Forces for Internal Finish Turning






| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC830 | IC635 | IC50M | IC8350 | IC8250 | IC8150 | IC520M | IC20 | IC806 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm)[1] | f (mm/rev)[2] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TPMT 110202 | 11.00 | 6.35 | 2.38 | 0.20 | 3.00 | • | | | | | | | | | • | • | 0.20-2.00 | 0.05-0.25 |
| TPMT 110204 | 11.00 | 6.35 | 2.38 | 0.40 | 3.00 | • | | | | • | • | | • | | • | • | 1.00-3.00 | 0.12-0.30 |
| TPMT 110208 | 11.00 | 6.35 | 2.38 | 0.80 | 3.00 | • | | | | • | • | | • | | | | 1.00-4.00 | 0.15-0.30 |
| TPMT 160304 | 16.50 | 9.52 | 3.18 | 0.40 | 4.30 | • | | | • | • | | | • | | • | • | 1.00-4.00 | 0.12-0.30 |
| TPMT 160308 | 16.50 | 9.52 | 3.18 | 0.80 | 4.30 | • | • | • | | • | | • | • | • | • | • | 5.00-12.00 | 0.15-0.35 |

• For cutting speed recommendations, see pages 246-247

(1) For turning

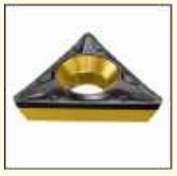
(2) For turning

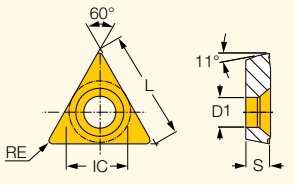
**Tools:** A/E/S-STFPR/L • A/S-STLPR/L • E-STFPR-HEAD

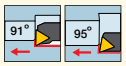
ISOTURN

## TPMT-PF

Triangular 11° Positive Inserts for Semi-Finishing and Finishing Applications






| Designation | Dimensions L | IC(1) | S | RE | D1 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| TPMT 110204-PF | 11.00 | 6.35 | 2.38 | 0.40 | 3.00 | • | 0.50-3.00 | 0.10-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

(1) Actual di=6.28, to be used in 6.35mm pocket size

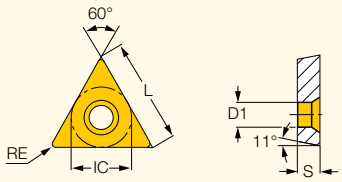
**Tools:** A/E/S-STFPR/L • A/S-STLPR/L • E-STFPR-HEAD

ISOTURN

## TPGB

Triangular Inserts with an 11° Positive Flank for Short Chipping Materials






| Designation | Dimensions L | IC | S | RE | D1 | IC20 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| TPGB 110204 | 11.00 | 6.35 | 2.38 | 0.40 | 3.00 | ● | 1.00-3.00 | 0.05-0.25 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

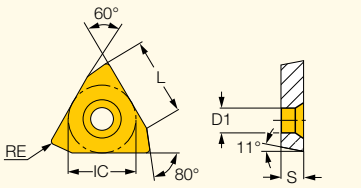
**Tools:** A/E/S-STFPR/L • A/S-STLPR/L • E-STFPR-HEAD

ISOTURN

## TPGB-XL

Triangular Inserts with an 11° Positive Flank for Short Chipping Materials






| Designation | Dimensions L | IC | S | RE | D1 | IC20 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| TPGB 110204-XL | 11.00 | 6.35 | 2.38 | 0.40 | 3.00 | ● | 1.00-3.00 | 0.05-0.25 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

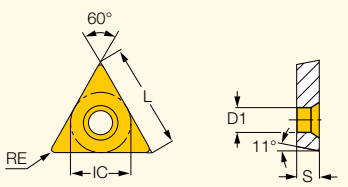
**Tools:** A/E/S-STFPR/L • A/S-STLPR/L • E-STFPR-HEAD

ISOTURN

## TPGH-R/L

Triangular Inserts with an 11° Positive and Ground Chipformer for Finish Turning






| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC908 | IC20 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| TPGH 110204-L | 11.00 | 6.35 | 2.38 | 0.40 | 3.00 | | ● | 1.00-3.00 | 0.05-0.25 |
| TPGH 110208-L | 11.00 | 6.35 | 2.38 | 0.80 | 3.00 | ● | | 1.00-3.00 | 0.05-0.25 |
| TPGH 160304-L | 16.50 | 9.52 | 3.18 | 0.40 | 4.30 | | ● | 1.00-4.00 | 0.05-0.30 |
| TPGH 160304-R | 16.50 | 9.52 | 3.18 | 0.40 | 4.30 | | | 1.00-4.00 | 0.05-0.30 |
| TPGH 160308-L | 16.50 | 9.52 | 3.18 | 0.80 | 4.30 | | ● | 1.00-4.00 | 0.05-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

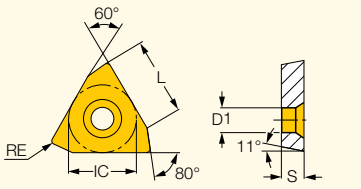
**Tools:** A/E/S-STFPR/L • A/S-STLPR/L

ISOTURN

## TPGH-XL

Triangular Inserts with an 11° Positive and Ground Chipformer for Finish Turning






| Designation | Dimensions L | IC | S | RE | D1 | IC20 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| TPGH 110204-XL | 11.00 | 6.35 | 2.38 | 0.40 | 3.00 | ● | 1.00-3.00 | 0.05-0.25 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

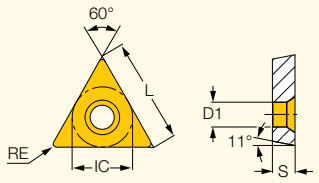
**Tools:** A/E/S-STFPR/L • A/S-STLPR/L • E-STFPR-HEAD

ISOTURN

## TPGX

Triangular Inserts with an 11° Positive Flank and Ground Chipformer for Finish Turning









| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC908 | IC20 | IC20N | IC520N | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TPGX 090202-L | 9.52 | 5.56 | 2.38 | 0.20 | 3.00 | ● | ● | ● | ● | 1.00-2.00 | 0.10-0.20 |
| TPGX 090204-L | 9.52 | 5.56 | 2.38 | 0.40 | 3.00 | ● | ● | ● | ● | 1.00-2.50 | 0.15-0.20 |
| TPGX 110302-L | 11.00 | 6.35 | 3.18 | 0.20 | 3.50 | ● | ● | ● | ● | 1.00-2.50 | 0.10-0.20 |
| TPGX 110304-L | 11.00 | 6.35 | 3.18 | 0.40 | 3.50 | ● | ● | ● | ● | 1.00-3.00 | 0.15-0.20 |
| TPGX 110308-L | 11.00 | 6.35 | 3.18 | 0.80 | 3.50 | | ● | | | 1.00-3.50 | 0.15-0.25 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

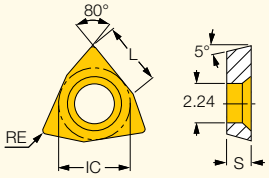
**Tools:** A/E-STFPR-X • MG STFPR-X

ISOTURN

## WBGT

Trigon Inserts with a 5° Positive Flank Ground Chipformer for Finish Turning









| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC908 | IC807 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| WBGT 060102L | 2.18 | 3.97 | 1.59 | 0.20 | ● | ● | ● | ● | 0.10-1.00 | 0.05-0.10 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

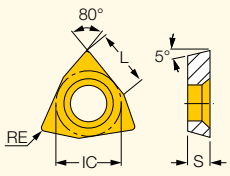
**Tools:** E/S-SWUBR/L • MG-SWUBR/L • PICIN-SWUBR/L

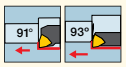
ISOTURN

## WBMT

Trigon Inserts with a 5° Positive Flank Ground Chipformer for Finish Turning






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC830 | IC354 | IC350 | IC908 | IC30N | IC530N | IC20N | IC520N | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WBMT 060101R/L | 2.18 | 3.97 | 1.59 | 0.10 | | | | ● | | | | | 0.40-2.00 | 0.10-0.15 |
| WBMT 060102L | 2.18 | 3.97 | 1.59 | 0.20 | ● | ● | ● | | ● | ● | ● | ● | 0.40-2.00 | 0.10-0.15 |
| WBMT 060102R | 2.18 | 3.97 | 1.59 | 0.20 | | ● | ● | | | ● | | ● | 0.40-2.00 | 0.10-0.15 |

- WBMT 06...R right-hand inserts used on left-hand tools and WBMT 06...L left-hand inserts used on right-hand tools
- For user guide and cutting speed recommendations, see pages 122-134, 236-254

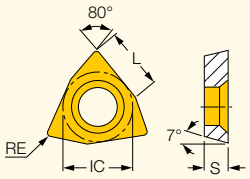
**Tools:** E/S-SWUBR/L • MG-SWUBR/L • PICIN-SWUBR/L

ISOTURN

## WCGT

Trigon Inserts with a 7° Positive Flank and Chipformer for Finish Turning









| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IC908 | IC30N | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| WCGT 020102L | 2.18 | 3.97 | 1.59 | 0.20 | • | • | 0.40-2.00 | 0.05-0.10 |
| WCGT 020104L | 2.18 | 3.97 | 1.59 | 0.40 | • | • | 0.40-2.00 | 0.10-0.15 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

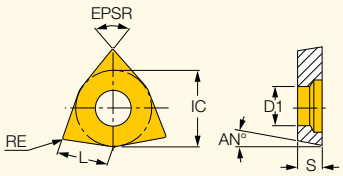
**Tools:** A/E-SWUCR • MG-SWUCR

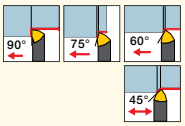
ISOTURN

## WPEX

80° and 84° Precision Trigon Inserts with Positive 8° and 12° Clearance for Finishing Applications






| Designation | Dimensions L | S | RE | IC | D1 | EPSR | AN | Tough ↔ Hard IC08 | IC908 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WPEX 040200R/L08 | 4.00 | 2.50 | 0.00 | 6.60 | 3.20 | 84.0 | 8.0 | • | | 0.20-2.00 | 0.05-0.20 |
| WPEX 040200R12 | 4.00 | 2.50 | 0.00 | 6.60 | 3.20 | 84.0 | 12.0 | • | | 0.20-2.00 | 0.05-0.20 |
| WPEX 040202R/L08 | 4.00 | 2.50 | 0.20 | 6.60 | 3.20 | 84.0 | 8.0 | • | | 0.20-2.00 | 0.05-0.20 |
| WPEX 050300R/L08 | 5.00 | 3.18 | 0.00 | 7.94 | 3.70 | 80.0 | 8.0 | • | • | 0.20-2.50 | 0.05-0.20 |
| WPEX 050300R12 | 5.00 | 3.18 | 0.00 | 7.94 | 3.70 | 80.0 | 12.0 | • | • | 0.20-2.50 | 0.05-0.20 |
| WPEX 050302R/L08 | 5.00 | 3.18 | 0.20 | 7.94 | 3.70 | 80.0 | 8.0 | • | • | 0.20-2.50 | 0.05-0.20 |
| WPEX 050302R12 | 5.00 | 3.18 | 0.20 | 7.94 | 3.70 | 80.0 | 12.0 | | • | 0.20-2.50 | 0.05-0.20 |
| WPEX 050304R/L08 | 5.00 | 3.18 | 0.40 | 7.94 | 3.70 | 80.0 | 8.0 | • | • | 0.20-2.50 | 0.05-0.20 |
| WPEX 050304R12 | 5.00 | 3.18 | 0.40 | 7.94 | 3.70 | 80.0 | 12.0 | | • | 0.20-2.50 | 0.05-0.20 |
| WPEX 060400R/L08 | 6.00 | 4.00 | 0.00 | 9.52 | 3.70 | 80.0 | 8.0 | • | • | 0.20-3.00 | 0.05-0.20 |
| WPEX 060400R/L12 | 6.00 | 4.00 | 0.00 | 9.52 | 3.70 | 80.0 | 12.0 | • | • | 0.20-3.00 | 0.05-0.20 |
| WPEX 060402R/L08 | 6.00 | 4.00 | 0.20 | 9.52 | 3.70 | 80.0 | 8.0 | • | • | 0.20-3.00 | 0.05-0.20 |
| WPEX 060402R/L12 | 6.00 | 4.00 | 0.20 | 9.52 | 3.70 | 80.0 | 12.0 | • | • | 0.20-3.00 | 0.05-0.20 |
| WPEX 060404R/L08 | 6.00 | 4.00 | 0.40 | 9.52 | 3.70 | 80.0 | 8.0 | • | • | 0.20-3.00 | 0.05-0.20 |
| WPEX 060404R12 | 6.00 | 4.00 | 0.40 | 9.52 | 3.70 | 80.0 | 12.0 | • | • | 0.20-3.00 | 0.05-0.20 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

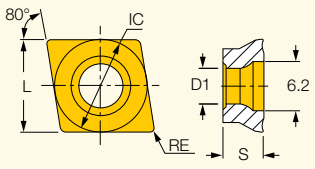
**Tools:** SWAPR-PAD • SWAPR/L • SWDPR/L

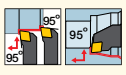
CHAMTURN

## CC95MT-SM

Single-Sided 80° Rhombic Inserts for Finishing (CHAMELEON Multifunction Pocket System)






| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC830 | IC8250 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| CC95MT 100504-SM | 9.50 | 9.52 | 5.00 | 0.40 | 4.50 | • | • | • | 0.50-3.00 | 0.07-0.24 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

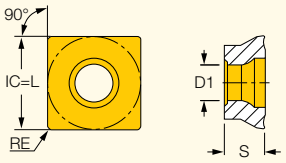
**Tools:** S-SUXCR/L-CM • SUXCR/L-CM

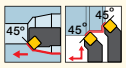
CHAMTURN

## SC45MT-SM

Single-Sided Square Inserts for Finishing Applications (CHAMELEON Multifunction Pocket System)






| Designation | Dimensions L | S | RE | D1 | Tough ↔ Hard IC830 | IC8250 | IC8150 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| SC45MT 100508-SM | 9.53 | 5.00 | 0.80 | 4.50 | ● | ● | ● | 0.50-3.00 | 0.10-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

**Tools:** S-SUXCR/L-CM • SUXCR/L-CM

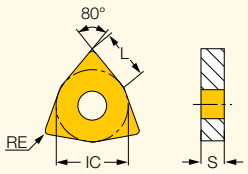
# Inserts for Machining Aluminum

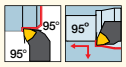
ISOTURN ALUPTURN POSITIVE DOUBLE SIDED

## WNGG-F3N

Double-Sided Sharp-Edged Positive and Polished Rake Inserts for Finishing on Aluminum and Other Non-Ferrous Materials






| Designation | Dimensions L | IC | S | RE | IC20 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| WNGG 060402-F3N-P | 6.52 | 9.52 | 4.76 | 0.20 | ● | 0.20-3.00 | 0.10-0.30 |
| WNGG 060404-F3N-P | 6.52 | 9.52 | 4.76 | 0.40 | ● | 0.40-3.00 | 0.12-0.35 |
| WNGG 060408-F3N-P | 6.52 | 9.52 | 4.76 | 0.80 | ● | 0.80-3.00 | 0.15-0.40 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

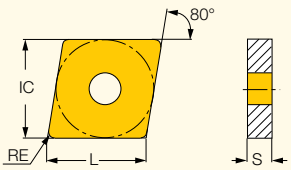
**Tools:** A-PWLNR/L-X/G • A/S-MWLNR/L-W • DWLNR/L • MWLNR/L-W • PWLNR/L-X • PWLNR/L-X-JHP • PWLNR/L-X-JHP-MC

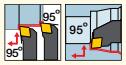
ISOTURN ALUPTURN POSITIVE DOUBLE SIDED

## CNGG-F3N

Double-Sided Sharp-Edged Positive and Polished Rake Inserts for Finishing on Aluminum and Other Non-Ferrous Materials






| Designation | Dimensions L | IC | S | RE | IC20 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| CNGG 090402-F3N-P | 9.70 | 9.52 | 4.76 | 0.20 | ● | 0.30-3.00 | 0.10-0.30 |
| CNGG 090404-F3N-P | 9.70 | 9.52 | 4.76 | 0.40 | ● | 0.40-3.00 | 0.10-0.30 |
| CNGG 090408-F3N-P | 9.70 | 9.52 | 4.76 | 0.80 | ● | 0.80-3.00 | 0.10-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

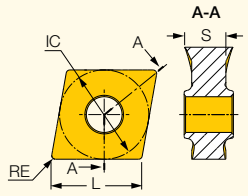
**Tools:** A/S-PCLNR/L-X/G • C#-PCLNR/L-X-JHP • DCLNR/L • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC • AVC-PCLNR/L

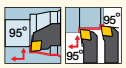
HELITURN LD

## CNGX-M3N

Double-Sided Positive Rake Inserts with High Helical and Sharp Edge for Medium Machining on Non-Ferrous Materials






| Designation | Dimensions L | IC | S | RE | IC20 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| CNGX 090604-M3N-P | 9.70 | 9.52 | 4.40 | 0.40 | ● | 0.40-3.00 | 0.10-0.30 |
| CNGX 090608-M3N-P | 9.70 | 9.52 | 4.40 | 0.80 | ● | 0.80-3.00 | 0.10-0.30 |

• PCLNR/L...X and A..-PCLNR/L-X are most recommended as they were designed especially for this insert

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

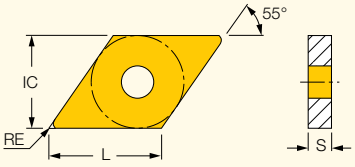
**Tools:** A/S-PCLNR/L-X/G • C#-PCLNR/L-X-JHP • DCLNR/L • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC

ISOTURN
ALUPTURN POSITIVE DOUBLE SIDED

## DNGG-M3N

Double-Sided Sharp-Edged Positive and Polished Rake Inserts for Finishing on Aluminum and Other Non-Ferrous Materials









| Designation | Dimensions L | IC | S | RE | IC20 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| DNGG 110402-M3N-P | 11.63 | 9.52 | 4.76 | 0.20 | ● | 0.30-3.00 | 0.10-0.30 |
| DNGG 110404-M3N-P | 11.63 | 9.52 | 4.76 | 0.40 | ● | 0.30-3.00 | 0.10-0.30 |
| DNGG 110408-M3N-P | 11.63 | 9.52 | 4.76 | 0.80 | ● | 0.30-3.00 | 0.10-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

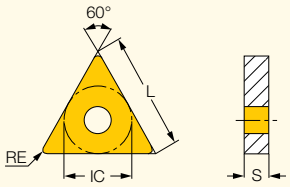
**Tools:** A/S-PDUNR/L • AVC-DDUNR/L • C#-PDJNR/L-JHP • DDJNR/L • PDJNR/L • PDJNR/L-JHP

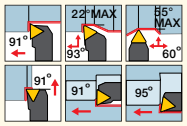
ISOTURN
ALUPTURN POSITIVE DOUBLE SIDED

## TNGG-M3N

Double-Sided Sharp-Edged Positive and Polished Rake Inserts for Finishing on Aluminum and Other Non-Ferrous Materials






| Designation | Dimensions L | IC | S | RE | IC20 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| TNGG 160402-M3N-P | 16.50 | 9.52 | 4.76 | 0.20 | ● | 0.30-3.00 | 0.10-0.30 |
| TNGG 160404-M3N-P | 16.50 | 9.52 | 4.76 | 0.40 | ● | 0.30-3.00 | 0.10-0.30 |
| TNGG 160408-M3N-P | 16.50 | 9.52 | 4.76 | 0.80 | ● | 0.30-3.00 | 0.10-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

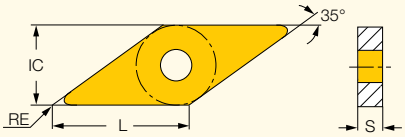
**Tools:** A-PTFNR/L-X/G • DTGNR/L • MTENN-W • MTJNR/L-W • PTFNR/L • PTGNR/L • PTGNR/L-X • PTGNR/L-X-JHP • PTGNR/L-X-JHP-MC • S-MTLNR/L-W • S-PTFNR/L

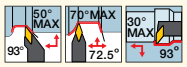
ISOTURN
ALUPTURN POSITIVE DOUBLE SIDED

## VNGG-M3N

Double-Sided Sharp-Edged Positive and Polished Rake Inserts for Finishing on Aluminum and Other Non-Ferrous Materials






| Designation | Dimensions L | IC | S | RE | IC20 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| VNGG 160402-M3N-P | 16.60 | 9.52 | 4.76 | 0.20 | ● | 0.20-3.00 | 0.10-0.25 |
| VNGG 160404-M3N-P | 16.60 | 9.52 | 4.76 | 0.40 | ● | 0.40-3.00 | 0.12-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

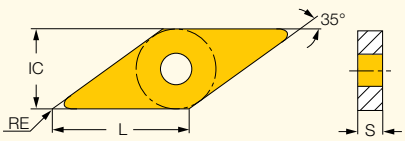
**Tools:** AVC-DVUNR/L • MVJNR/L • MVVNN

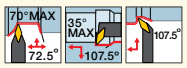
ISOTURN
ALUPTURN POSITIVE DOUBLE SIDED

## VNGU-R3N

Double-Sided Sharp-Edged Positive Rake Inserts for Rough Machining on Aluminum and Other Non-Ferrous Materials






| Designation | Dimensions L | IC | S | RE | IC20 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| VNGU 220612-R3N | 22.00 | 12.70 | 6.77 | 1.20 | ● | 1.00-4.50 | 0.10-0.30 |
| VNGU 220616-R3N | 22.00 | 12.70 | 6.51 | 1.60 | ● | 1.50-4.50 | 0.10-0.35 |
| VNGU 220630-R3N | 22.00 | 12.70 | 6.35 | 3.00 | ● | 1.50-4.50 | 0.15-0.40 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

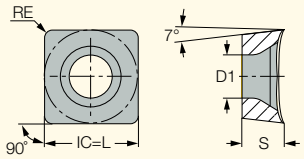
**Tools:** A-SVLFNR-AL-JHP • A-SVQNR/L-AL-JHP • SVHNR/L-AL-JHP • SVVNN-AL-JHP

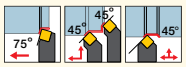
ISOTURN

## SCGT-AS

Square Inserts with a 7° Positive Flank, Very Positive Rake Angle and Sharp Cutting Edge for Machining Aluminum






| Designation | Dimensions IC | S | RE | D1 | IC20 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| SCGT 09T308-AS | 9.52 | 3.97 | 0.80 | 4.40 | ● | 0.50-3.00 | 0.10-0.30 |
| SCGT 120404-AS | 12.70 | 4.76 | 0.40 | 5.50 | ● | 1.00-4.00 | 0.10-0.30 |
| SCGT 120408-AS | 12.70 | 4.76 | 0.80 | 5.50 | ● | 1.00-4.00 | 0.10-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

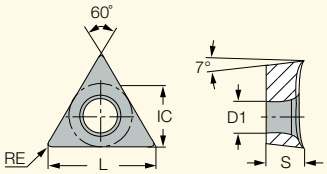
**Tools:** SSBCR/L • SSSCR/L

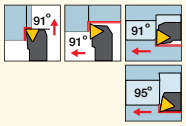
ISOTURN

## TCGT-AS

Triangular Inserts with a 7° Positive Flank, Very Positive Rake Angle and Sharp Cutting Edge for Machining Aluminum






| Designation | Dimensions L | IC | S | RE | D1 | IC20 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| TCGT 110204-AS | 11.00 | 6.35 | 2.38 | 0.40 | 2.80 | ● | 0.20-3.00 | 0.05-0.30 |
| TCGT 16T304-AS | 16.50 | 9.52 | 3.97 | 0.40 | 4.40 | ● | 0.50-3.00 | 0.05-0.30 |
| TCGT 16T308-AS | 16.50 | 9.52 | 3.97 | 0.80 | 4.40 | ● | 0.50-3.00 | 0.10-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

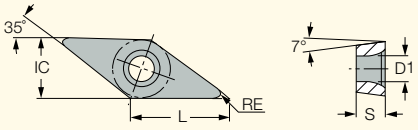
**Tools:** E-STFCR-HEAD • S-MTLCR/L-W • S-STFCR/L • S-STLCR/L • STFCR/L • STGCR/L

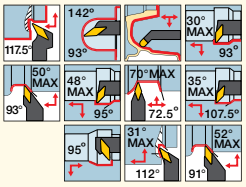
ISOTURN

## VCGT-AS

35° Rhombic Inserts with a 7° Positive Flank, Very Positive Rake Angle and Sharp Cutting Edge for Machining Aluminum






| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC920 | IC20 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| VCGT 110302-AS | 11.10 | 6.35 | 3.18 | 0.20 | 2.90 | ● | ● | 0.20-2.50 | 0.05-0.20 |
| VCGT 110304-AS | 11.10 | 6.35 | 3.18 | 0.40 | 2.90 | | ● | 0.50-3.00 | 0.05-0.25 |
| VCGT 160401-AS | 16.60 | 9.52 | 4.76 | 0.10 | 4.40 | | ● | 0.20-2.50 | 0.05-0.20 |
| VCGT 160402-AS | 16.60 | 9.52 | 4.76 | 0.20 | 4.40 | | ● | 0.50-2.50 | 0.05-0.25 |
| VCGT 160404-AS | 16.60 | 9.52 | 4.76 | 0.40 | 4.40 | | ● | 0.50-3.00 | 0.05-0.25 |
| VCGT 160408-AS | 16.60 | 9.52 | 4.76 | 0.80 | 4.40 | | ● | 0.50-3.00 | 0.10-0.25 |
| VCGT 160412-AS | 16.60 | 9.52 | 4.76 | 1.20 | 4.40 | | ● | 0.50-3.00 | 0.10-0.25 |
| VCGT 220530-AS | 22.10 | 12.70 | 5.56 | 3.00 | 5.50 | | ● | 1.50-4.50 | 0.15-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

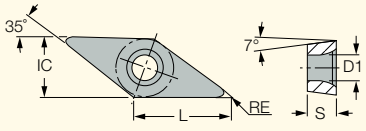
**Tools:** A/S-SVLBCR/L • A/S-SVLFCR/L; A-SVUCR/L • A/S-SVQCR/L • AVC-SVLCR/L-VH • AVC-SVUCR/L • C#-SVJCR/L • C#-SVJCR/L-JHP • C#-SVVCN • DTF50 SVXCR-16X2 • DTF50 SVXCR-22 • HSK A63WH-SVJCR/L • NQCH-SVACR/L-S-JHP • NQCH-Y-SVJCR-S-JHP • PVACR/L-JHP • PVACR/L-S • S/A-SVJCR/L • SVACR/L • SVJCR-PAD • SVJCR/L • SVJCR/L-16-JHP • SVPCR/L • SVVCN • SVXCR/L • Y-SVJCR • Y-SVJCR-JHP • AVC-SVLCR/L • PVACR/L-JHP-MC

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## VCGT-AF

Inserts with a Very Positive Rake Angle and Sharp Cutting Edge for Semi-Finishing and Finishing on Aluminum








| Designation | Dimensions L | IC | S | RE | D1 | IC20 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| VCGT 220508-AF | 22.10 | 12.70 | 5.56 | 0.80 | 5.50 | ● | 1.00-4.50 | 0.10-0.25 |
| VCGT 220512-AF | 22.10 | 12.70 | 5.56 | 1.20 | 5.50 | ● | 1.00-4.50 | 0.10-0.30 |
| VCGT 220516-AF | 22.10 | 12.70 | 5.56 | 1.60 | 5.50 | ● | 1.50-4.50 | 0.10-0.35 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

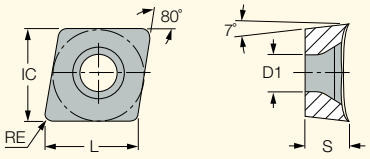
**Tools:** A/S-SVLFCR/L; A-SVUCR/L • A/S-SVQCR/L • DTF50 SVXCR-22

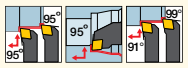
ISOTURN

## CCGT-AS

80° Rhombic Inserts with a 7° Positive Flank, Very Positive Rake Angle and Sharp Cutting Edge for Machining Aluminum






| Designation | Dimensions L | IC | S | RE | D1 | IC20 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| CCGT 060201-AS | 6.40 | 6.35 | 2.38 | 0.10 | 2.80 | ● | 0.50-2.00 | 0.10-0.20 |
| CCGT 060202-AS | 6.40 | 6.35 | 2.38 | 0.20 | 2.80 | ● | 0.50-2.00 | 0.10-0.20 |
| CCGT 060204-AS | 6.40 | 6.35 | 2.38 | 0.40 | 2.80 | ● | 0.50-2.00 | 0.10-0.25 |
| CCGT 09T301-AS | 9.70 | 9.52 | 3.97 | 0.10 | 4.40 | ● | 0.50-2.50 | 0.10-0.25 |
| CCGT 09T302-AS | 9.70 | 9.52 | 3.97 | 0.20 | 4.40 | ● | 0.50-2.50 | 0.10-0.25 |
| CCGT 09T304-AS | 9.70 | 9.52 | 3.97 | 0.40 | 4.40 | ● | 0.50-2.50 | 0.10-0.25 |
| CCGT 09T308-AS | 9.70 | 9.52 | 3.97 | 0.80 | 4.40 | ● | 0.80-3.00 | 0.10-0.30 |
| CCGT 120402-AS | 12.90 | 12.70 | 4.76 | 0.20 | 5.50 | ● | 0.50-2.50 | 0.10-0.25 |
| CCGT 120404-AS | 12.90 | 12.70 | 4.76 | 0.40 | 5.50 | ● | 0.50-2.50 | 0.10-0.25 |
| CCGT 120408-AS | 12.90 | 12.70 | 4.76 | 0.80 | 5.50 | ● | 1.00-3.50 | 0.10-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

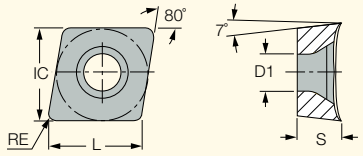
**Tools:** A/E/S-SCLCR/L • C#-SCLCR/L-JHP • E-SCLCR/L-HEAD • NQCH-SCACR/L-JHP • PCLCR/L-S • PCLCR/L-S-JHP • SCACR/L-S • SCLCR-PAD • SCLCR/L • AVC-SCLCR/L • PCLCR/L-JHP-MC

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## CCGT-AF

80° Rhombic Inserts with a 7° Positive Flank, Very Positive Rake Angle and Sharp Cutting Edge for Machining Aluminum









| Designation | Dimensions L | IC | S | RE | D1 | IC20 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| CCGT 09T308-AF | 9.70 | 9.52 | 3.97 | 0.80 | 4.40 | ● | 0.80-3.00 | 0.15-0.25 |
| CCGT 120408-AF | 12.90 | 12.70 | 4.76 | 0.80 | 5.50 | ● | 1.00-3.50 | 0.15-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

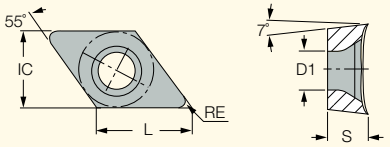
**Tools:** A/E/S-SCLCR/L • C#-SCLCR/L-JHP • E-SCLCR/L-HEAD • PCLCR/L-S • PCLCR/L-S-JHP • SCLCR-PAD • SCLCR/L • AVC-SCLCR/L • PCLCR/L-JHP-MC

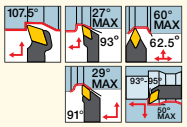
ISOTURN

## DCGT-AS

55° Rhombic Inserts with a 7° Positive Flank, Very Positive Rake Angle and Sharp Cutting Edge for Machining Aluminum






| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC920 | IC20 | IC320 | IC907 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DCGT 070201-AS | 7.75 | 6.35 | 2.38 | 0.10 | 2.80 | | ● | | | 0.50-2.00 | 0.03-0.20 |
| DCGT 070202-AS | 7.75 | 6.35 | 2.38 | 0.20 | 2.80 | ● | ● | | | 0.50-2.00 | 0.05-0.20 |
| DCGT 070204-AS | 7.75 | 6.35 | 2.38 | 0.40 | 2.80 | | ● | | | 0.50-2.50 | 0.05-0.25 |
| DCGT 11T301-AS | 11.60 | 9.52 | 3.97 | 0.10 | 4.40 | | ● | | | 0.50-2.50 | 0.05-0.25 |
| DCGT 11T302-AS | 11.60 | 9.52 | 3.97 | 0.20 | 4.40 | | ● | ● | ● | 0.50-2.50 | 0.05-0.26 |
| DCGT 11T304-AS | 11.60 | 9.52 | 3.97 | 0.40 | 4.40 | | ● | ● | ● | 0.50-2.50 | 0.05-0.25 |
| DCGT 11T308-AS | 11.60 | 9.52 | 3.97 | 0.80 | 4.40 | | ● | ● | | 0.80-3.00 | 0.08-0.30 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

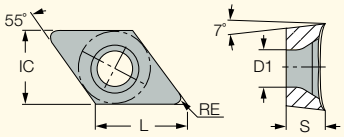
**Tools:** A/E/S-SDUCR/L • AVC-SDUCR/L • AVC-SDUCR/L-VH • C#-SDJCR-JHP • C#-SDJCR/L • C#-SDNCN • E-SDUCR/L-HEAD • NQCH-SDACR/L-S-JHP • NQCH-Y-SDJCR-S-JHP • PDACR/L-JHP • PDACR/L-S • SDACR/L • SDHCR/L • SDJCR-PAD • SDJCR/L • SDNCN • Y-SDJCR • Y-SDJCR-JHP • PDACR/L-JHP-MC

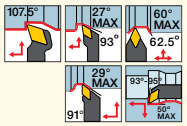
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## DCGT-AF

Inserts with a Very Positive Rake Angle and Sharp Cutting Edge for Semi-Finishing and Finishing on Aluminum






| Designation | Dimensions L | IC | S | RE | D1 | IC20 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| DCGT 11T304-AF | 11.60 | 9.52 | 3.97 | 0.40 | 4.40 | ● | 0.50-2.50 | 0.05-0.25 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

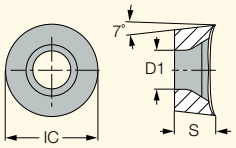
**Tools:** A/E/S-SDUCR/L • AVC-SDUCR/L • AVC-SDUCR/L-VH • C#-SDJCR-JHP • C#-SDJCR/L • C#-SDNCN • NQCH-SDACR/L-S-JHP • NQCH-Y-SDJCR-S-JHP • PDACR/L-JHP • PDACR/L-S • SDACR/L • SDHCR/L • SDJCR/L • SDNCN • Y-SDJCR • Y-SDJCR-JHP • PDACR/L-JHP-MC

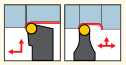
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## RCGT-AS

Round Inserts with a 7° Positive Flank, Very Positive Rake Angle and Sharp Cutting Edge for Machining Aluminum





| Designation | Dimensions IC | S | D1 | IC20 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|
| RCGT 0803M0-AS | 8.00 | 3.18 | 3.40 | ● | 1.00-4.00 | 0.20-0.40 |
| RCGT 1003M0-AS | 10.00 | 3.18 | 4.00 | ● | 1.00-5.00 | 0.20-0.40 |
| RCGT 10T3M0-AS | 10.00 | 3.97 | 4.40 | ● | 1.00-5.00 | 0.20-0.40 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

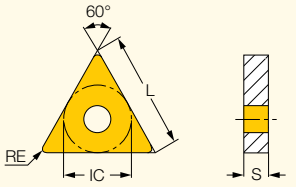
**Tools:** SRDCN • SRGCR/L

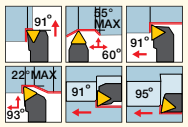
ISOTURN

## TNMS-12

Triangular Single-Sided Inserts for Soft and Nonferrous Materials






| Designation | Dimensions L | IC | S | RE | IC20 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| TNMS 160404-12 | 16.50 | 9.52 | 4.76 | 0.40 | ● | 0.50-3.00 | 0.07-0.32 |
| TNMS 160408-12 | 16.50 | 9.52 | 4.76 | 0.80 | ● | 0.50-3.00 | 0.10-0.35 |
| TNMS 220404-12 | 22.00 | 12.70 | 4.76 | 0.40 | ● | 1.00-4.00 | 0.07-0.32 |
| TNMS 220408-12 | 22.00 | 12.70 | 4.76 | 0.80 | ● | 1.00-4.00 | 0.10-0.35 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

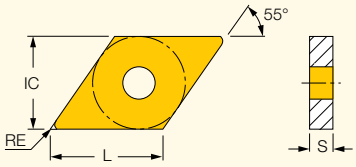
**Tools:** A-PTFNR/L-X/G • PTFNR/L • PTGNR/L • PTGNR/L-X • PTGNR/L-X-JHP • PTGNR/L-X-JHP-MC • S-PTFNR/L

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## DNMS-12

55° Rhombic Single-Sided Inserts for Soft and Nonferrous Materials









| Designation | Dimensions L | IC | S | RE | IC20 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| DNMS 150408-12 | 15.50 | 12.70 | 4.76 | 0.80 | ● | 1.00-4.00 | 0.07-0.35 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

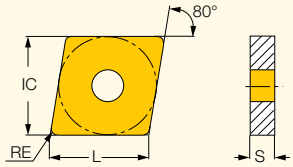
**Tools:** A/S-PDUNR/L • C#-PDJNR/L-JHP • PDJNR/L • PDJNR/L-JHP

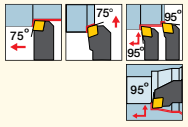
ISOTURN

## CNMS-12

80° Rhombic Single-Sided Inserts for Soft and Nonferrous Materials






| Designation | Dimensions L | IC | S | RE | IC20 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| CNMS 120408-12 | 12.90 | 12.70 | 4.76 | 0.80 | ● | 1.00-4.00 | 0.10-0.35 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

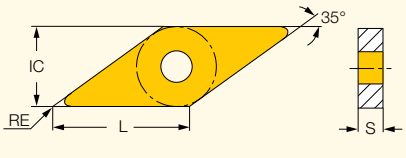
**Tools:** A/S-PCLNR/L • A/S-PCLNR/L-X/G • C#-PCLNR/L-12-JHP • C#-PCLNR/L-X • C#-PCLNR/L-X-JHP • PCBNR/L • PCLNR/L • PCLNR/L-12-JHP • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC

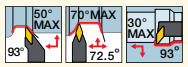
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## VNMS-12

35° Rhombic Single-Sided Inserts for Soft and Nonferrous Materials






| Designation | Dimensions L | IC | S | RE | IC20 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| VNMS 160404-12 | 16.60 | 9.52 | 4.76 | 0.40 | ● | 1.00-3.00 | 0.07-0.30 |
| VNMS 160408-12 | 16.60 | 9.52 | 4.76 | 0.80 | ● | 1.00-3.50 | 0.07-0.33 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

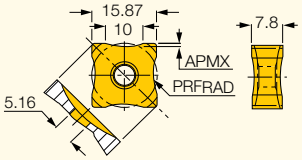
**Tools:** MVJNR/L • MVVNN

# Pipe Skiving Inserts

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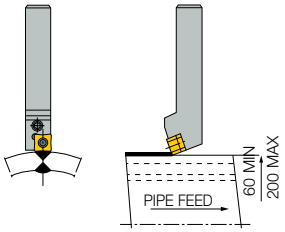
**SNMX 150708R-..**
Pipe Skiving Inserts with a Positive Rake Used to Remove the Burr of Welded Tubes






| Designation | Dimensions PRFRAD | Dimensions APMX | Tough ↔ Hard IC8150 | IC418 |
|---|---|---|---|---|
| SNMX 150708R-11 | 11.00 | 1.20 | ● | |
| SNMX 150708R-13 | 13.00 | 1.00 | ● | |
| SNMX 150708R-15 | 15.00 | 0.86 | ● | |
| SNMX 150708R-18 | 18.00 | 0.71 | ● | |
| SNMX 150708R-20 | 20.00 | 0.64 | ● | |
| SNMX 150708R-22 | 22.00 | 0.58 | ● | |
| SNMX 150708R-25 | 25.00 | 0.50 | ● | |
| SNMX 150708R-27 | 27.00 | 0.47 | ● | |
| SNMX 150708R-30 | 30.00 | 0.42 | ● | |
| SNMX 150708R-35 | 35.00 | 0.36 | ● | |
| SNMX 150708R-40 | 40.00 | 0.31 | ● | |
| SNMX 150708R-45 | 45.00 | 0.28 | ● | |
| SNMX 150708R-50 | 50.00 | 0.25 | ● | ● |
| SNMX 150708R-60 | 60.00 | 0.21 | ● | |
| SNMX 150708R-65 | 65.00 | 0.19 | ● | |
| SNMX 150708R-70 | 70.00 | 0.18 | ● | |
| SNMX 150708R-75 | 75.00 | 0.17 | ● | |
| SNMX 150708R-90 | 90.00 | 0.14 | ● | |

**Tools:** PSANR/L




These inserts remove the burr immediately after the welding process (material temperature is usually 300-400°C). Cutting speed varies from 40 to 150 m/min, depending on the diameter of the tube.

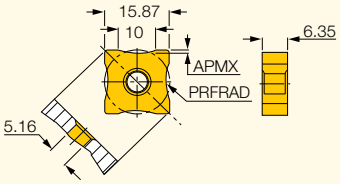
Recommended:

$$R = \frac{D\ (pipe)}{2} + (1\text{-}2\ mm)$$

ISOTURN

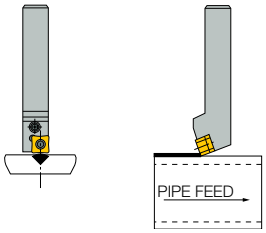
**SNMX 150608R-..**
Pipe Skiving Inserts Used to Remove the Burr of Welded Tubes






| Designation | Dimensions PRFRAD | Dimensions APMX | IC418 |
|---|---|---|---|
| SNMX 150608R-15 | 15.00 | 0.86 | ● |
| SNMX 150608R-90 | 90.00 | 0.14 | ● |

**Tools:** PSANR/L




These inserts remove the burr immediately after the welding process (material temperature is usually 300-400° C). Cutting speed varies from 40 to 150 m/min, depending on the diameter of the tube.

Recommended:

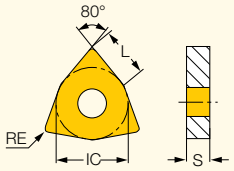
$$R = \frac{D\ (pipe)}{2} + (1\text{-}2\ mm)$$

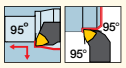
ISOTURN

## WNGA-Ceramic

Double-Sided Flat Rake Ceramic Inserts for Machining Cast Iron






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IS8 | IS80 | IS6 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| WNGA 080408T | 8.70 | 12.70 | 4.76 | 0.80 | • | | | 2.00-4.00 | 0.20-0.60 |
| WNGA 080412T | 8.70 | 12.70 | 4.76 | 1.20 | • | • | • | 2.00-5.00 | 0.03-0.95 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

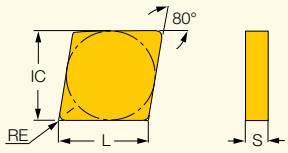
**Tools:** A/S-MWLNR/L-W • A/S-PWLNR/L • C#-MULNR/L-MW • C#-PWLNR/L-08-JHP • DWLNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • MWLNR/L-W • PWLNR/L • PWLNR/L-08-JHP • PWLNR/L-X • PWLNR/L-X-JHP • PWLNR/L-X-JHP-MC • S-DWLNR/L • S-MULNR-MW • DWLNR/L-JHP-MC

ISOTURN

## CNGN-Ceramic

80° Rhombic Double-Sided Ceramic Inserts with a T-Land for Machining Cast Iron, Hardened Steel and Nickel Based Alloys









| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IW7 | IS35 | IS25 | IS8 | IS80 | IN23 | IN22 | IN420 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CNGN 120404T | 12.90 | 12.70 | 4.76 | 0.40 | • | | | | | • | | | 1.00-3.00 | 0.10-0.43 |
| CNGN 120408E | 12.90 | 12.70 | 4.76 | 0.80 | | • | | | | | | | 1.00-3.00 | 0.10-0.50 |
| CNGN 120408T | 12.90 | 12.70 | 4.76 | 0.80 | • | | | • | | • | • | • | 1.00-3.00 | 0.10-0.50 |
| CNGN 120412E | 12.90 | 12.70 | 4.76 | 1.20 | | • | | | | | | | 1.00-5.00 | 0.10-0.50 |
| CNGN 120412T | 12.90 | 12.70 | 4.76 | 1.20 | • | | | | | • | | | 1.00-4.00 | 0.10-0.50 |
| CNGN 120416T | 12.90 | 12.70 | 4.76 | 1.60 | • | | | | | | | | 1.00-5.00 | 0.10-0.50 |
| CNGN 120708E | 12.90 | 12.70 | 7.94 | 0.80 | | • | | | | | | | 1.00-4.00 | 0.10-0.50 |
| CNGN 120708T | 12.90 | 12.70 | 7.94 | 0.80 | • | • | • | | | • | | | 1.00-4.00 | 0.10-0.50 |
| CNGN 120712E | 12.90 | 12.70 | 7.94 | 1.20 | | • | | | | | | | 1.00-5.00 | 0.10-0.50 |
| CNGN 120712T | 12.90 | 12.70 | 7.94 | 1.20 | • | | • | • | | | | | 1.00-4.00 | 0.10-0.50 |
| CNGN 120716T | 12.90 | 12.70 | 7.94 | 1.60 | • | | • | | • | | | | 1.00-5.00 | 0.10-0.50 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

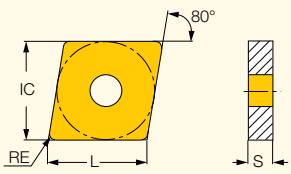
**Tools:** CCLNR/L

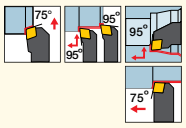
ISOTURN

## CNMG-Ceramic

80° Rhombic Double-Sided Inserts with a T-Land for Machining Cast Iron and Hardened Steel






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IN23 | IN22 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| CNMG 120404T | 12.90 | 12.70 | 4.76 | 0.40 | • | | 1.00-3.00 | 0.05-0.20 |
| CNMG 120408T | 12.90 | 12.70 | 4.76 | 0.80 | • | • | 1.00-3.00 | 0.05-0.20 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

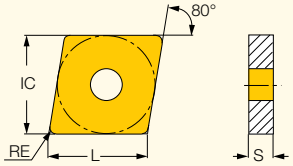
**Tools:** A/S-PCLNR/L • C#-MULNR/L-MW • C#-PCLNR/L-12-JHP • C#-PCLNR/L-X • C#-PCLNR/L-X-JHP • DCBNR/L • DCLNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PCBNR/L • PCLNR/L • PCLNR/L-12-JHP • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC • S-DCLNR/L • S-MULNR-MW • A/S-PCLNR/L-X/G • DCLNR/L-JHP-MC

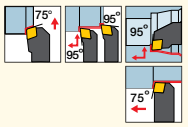
ISOTURN

## CNGA-Ceramic

80° Rhombic Double-Sided Inserts with a T-Land for Machining Cast Iron and Hardened Steel






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IS35 | IS25 | IS8 | IS80 | IS6 | IN23 | IN22 | IN420 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CNGA 120404T | 12.90 | 12.70 | 4.76 | 0.40 | | | | | | ● | ● | ● | 1.00-3.00 | 0.05-0.20 |
| CNGA 120408T | 12.90 | 12.70 | 4.76 | 0.80 | ● | ● | ● | ● | ● | ● | ● | ● | 1.00-4.00 | 0.05-0.20 |
| CNGA 120412T | 12.90 | 12.70 | 4.76 | 1.20 | | | ● | | ● | ● | ● | ● | 1.00-4.00 | 0.05-0.20 |
| CNGA 120416T | 12.90 | 12.70 | 4.76 | 1.60 | | | ● | ● | | ● | | | 1.00-5.00 | 0.05-0.20 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

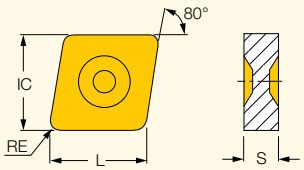
**Tools:** A/S-PCLNR/L • A/S-PCLNR/L-X/G • C#-MULNR/L-MW • C#-PCLNR/L-12-JHP • C#-PCLNR/L-X • C#-PCLNR/L-X-JHP • DCBNR/L • DCLNR/L • DCLNR/L-JHP-MC • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PCBNR/L • PCLNR/L • PCLNR/L-12-JHP • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC • S-DCLNR/L • S-MULNR-MW

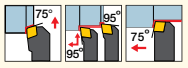
ISOTURN

## CNGX-Ceramic

80° Rhombic Double-Sided Dimpled Ceramic Inserts with a T-Land for Machining Cast Iron






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IS8 | IS80 | IS6 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| CNGX 120712T | 12.90 | 12.70 | 7.94 | 1.20 | ● | ● | ● | 1.00-3.00 | 0.07-0.43 |
| CNGX 120716T | 12.90 | 12.70 | 7.94 | 1.60 | ● | ● | ● | 1.00-3.00 | 0.07-0.43 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

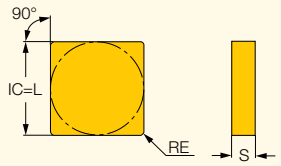
**Tools:** TCBNR/L-CH • TCKNR/L-CH • TCLNR/L-CH

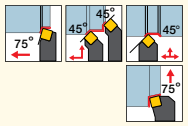
ISOTURN

## SNGN-Ceramic

Square Double-Sided Ceramic Inserts with a Flat Rake for Machining Cast Iron, Hardened Steel and Super Alloys






| Designation | Dimensions IC | S | RE | Tough ↔ Hard IW7 | IS8 | IS80 | IS6 | IN23 | IN22 | IN420 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SNGN 120404T | 12.70 | 4.76 | 0.40 | | | | | | ● | | 0.10-3.50 | 0.10-0.50 |
| SNGN 120408T | 12.70 | 4.76 | 0.80 | ● | ● | | | ● | ● | ● | 0.10-3.50 | 0.10-0.50 |
| SNGN 120412T | 12.70 | 4.76 | 1.20 | ● | ● | ● | ● | ● | ● | ● | 0.10-5.00 | 0.10-0.50 |
| SNGN 120416T | 12.70 | 4.76 | 1.60 | ● | ● | ● | | | ● | ● | 0.10-5.00 | 0.10-0.50 |
| SNGN 120708T | 12.70 | 7.94 | 0.80 | ● | | | | | ● | ● | 0.10-5.00 | 0.10-0.50 |
| SNGN 120712T | 12.70 | 7.94 | 1.20 | ● | | ● | | ● | | | 0.10-5.00 | 0.10-0.50 |
| SNGN 120716T | 12.70 | 7.94 | 1.60 | | ● | | | | ● | | 0.10-5.00 | 0.10-0.50 |
| SNGN 150712T | 15.88 | 6.35 | 1.20 | ● | | | | | | | 0.10-5.00 | 0.10-0.50 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

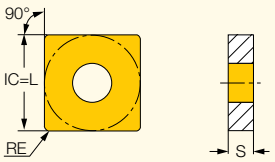
**Tools:** CSDNN-CE/CEA

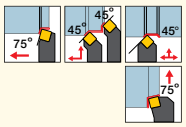
ISOTURN

## SNGA-Ceramic

Square Double-Sided Ceramic Inserts with a Flat Rake for Machining Cast Iron and Hardened Steel






| Designation | Dimensions IC | S | RE | Tough ↔ Hard IS8 | IN23 | IN22 | IN420 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| SNGA 120404T | 12.70 | 4.76 | 0.40 | | | ● | | 0.10-3.00 | 0.05-0.30 |
| SNGA 120408T | 12.70 | 4.76 | 0.80 | | ● | ● | ● | 0.10-3.50 | 0.05-0.30 |
| SNGA 120412T | 12.70 | 4.76 | 1.20 | ● | ● | | | 0.10-4.00 | 0.05-0.30 |
| SNGA 120416T | 12.70 | 4.76 | 1.60 | ● | | | | 0.10-4.50 | 0.05-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

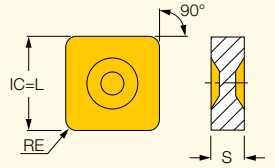
**Tools:** C#-MULNR/L-MW • DSBNR/L • DSDNN • DSKNR/L • DSSNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PSBNR/L • PSDNN • PSDNN-JHP • PSKNR/L • PSSNR/L • PSSNR/L-JHP

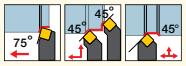
ISOTURN

## SNGX-Ceramic

Square Double-Sided Dimpled Ceramic Inserts with a Flat Rake for Machining Cast Iron






| Designation | Dimensions IC | S | RE | Tough ↔ Hard IS8 | IS80 | IS6 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| SNGX 120712T | 12.70 | 7.94 | 1.20 | ● | ● | ● | 0.10-5.00 | 0.10-0.50 |
| SNGX 120716T | 12.70 | 7.94 | 1.60 | ● | ● | ● | 0.10-5.00 | 0.10-0.50 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

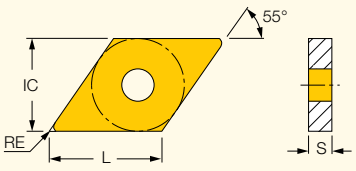
**Tools:** TSDNN-CH

ISOTURN

## DNGA-Ceramic

55° Rhombic Double-Sided Ceramic Inserts for Machining Cast Iron and Hardened Steel









| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IS8 | IN23 | IN22 | IN420 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| DNGA 150404T | 15.50 | 12.70 | 4.76 | 0.40 | | ● | ● | | 0.10-3.00 | 0.07-0.50 |
| DNGA 150408T | 15.50 | 12.70 | 4.76 | 0.80 | ● | ● | ● | ● | 0.10-3.50 | 0.07-0.50 |
| DNGA 150412T | 15.50 | 12.70 | 4.76 | 1.20 | | ● | | | 0.10-4.00 | 0.07-0.50 |
| DNGA 150604T | 15.50 | 12.70 | 6.35 | 0.40 | | ● | | ● | 0.10-3.50 | 0.07-0.50 |
| DNGA 150608T | 15.50 | 12.70 | 6.35 | 0.80 | | ● | ● | ● | 0.10-4.00 | 0.07-0.50 |
| DNGA 150612T | 15.50 | 12.70 | 6.35 | 1.20 | | | ● | ● | 0.10-5.00 | 0.07-0.50 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

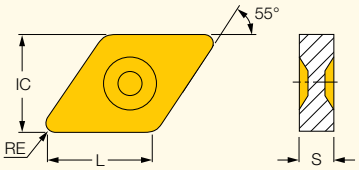
**Tools:** A/S-PDUNR/L • AVC-DDUNR/L-VH • C#-DDJNR/L • C#-PDJNR/L-JHP • DDJNR/L • HSK A63WH-DDJNR/L • HSK A63WH-DDNNN • PDJNR/L • PDJNR/L-JHP • S-DDUNR/L • AVC-DDUNR/L • DDJNR/L-JHP-MC

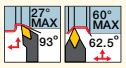
ISOTURN

## DNGX-Ceramic

55° Rhombic Double-Sided Dimpled Ceramic Inserts for Machining Cast Iron






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IS8 | IS80 | IS6 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| DNGX 150712T | 15.50 | 12.70 | 7.94 | 1.20 | ● | ● | ● | 0.10-4.00 | 0.10-0.50 |
| DNGX 150716T | 15.50 | 12.70 | 7.94 | 1.60 | ● | | ● | 0.10-5.00 | 0.10-0.50 |

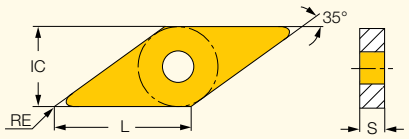
• For user guide and cutting speed recommendations, see pages 122-134, 236-254

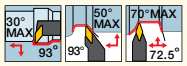
ISOTURN

## VNGA-Ceramic

35° Rhombic Double-Sided Ceramic Inserts with a T-Land for Machining Cast Iron and Hardened Steel






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IN22 | IN420 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| VNGA 160404T | 16.60 | 9.52 | 4.76 | 0.40 | ● | ● | 0.70-2.50 | 0.06-0.30 |
| VNGA 160408T | 16.60 | 9.52 | 4.76 | 0.80 | | ● | 0.80-3.00 | 0.08-0.35 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

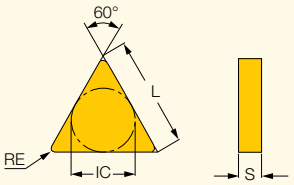
**Tools:** MVJNR/L • MVVNN

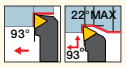
ISOTURN

## TNGN-Ceramic

Triangular Double-Sided Ceramic Inserts for Machining Cast Iron, Hardened Steel and Nickel Based Alloys






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IW7 | IS8 | IS80 | IN23 | IN22 | IN420 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TNGN 160408T | 16.50 | 9.52 | 4.76 | 0.80 | | | | ● | ● | ● | 1.00-3.50 | 0.10-0.35 |
| TNGN 160412T | 16.50 | 9.52 | 4.76 | 1.20 | ● | ● | ● | | | | 0.10-4.00 | 0.10-0.40 |

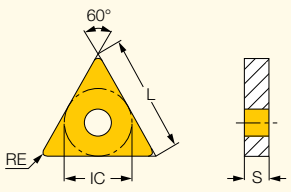
• For user guide and cutting speed recommendations, see pages 122-134, 236-254

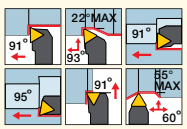
ISOTURN

## TNGA-Ceramic

Triangular Double-Sided Ceramic Inserts for Machining Super Alloys and Hardened Steel






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IN23 | IN22 | IN420 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| TNGA 160404T | 16.50 | 9.52 | 4.76 | 0.40 | ● | ● | ● | 0.10-3.00 | 0.07-0.50 |
| TNGA 160408T | 16.50 | 9.52 | 4.76 | 0.80 | ● | ● | ● | 0.10-3.50 | 0.07-0.50 |
| TNGA 160412T | 16.50 | 9.52 | 4.76 | 1.20 | ● | | | 0.10-4.00 | 0.07-0.50 |
| TNGA 220408T | 22.00 | 12.70 | 4.76 | 0.80 | ● | ● | ● | 0.10-5.00 | 0.07-0.50 |
| TNGA 220416T | 22.00 | 12.70 | 4.76 | 1.60 | ● | | | 0.10-5.00 | 0.07-0.50 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

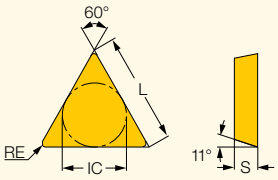
**Tools:** A-PTFNR/L-X/G • C#-DTGNR/L • DTGNR/L • MTENN-W • MTJNR/L-W • PTFNR/L • PTGNR/L • PTGNR/L-X • PTGNR/L-X-JHP • PTGNR/L-X-JHP-MC • S-MTLNR/L-W • S-PTFNR/L

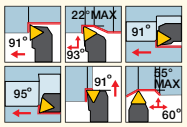
ISOTURN

## TPGN-Ceramic

Triangular Ceramic Inserts with an 11° Positive Flank for Machining Hardened Steel






| Designation | Dimensions L | IC | S | RE | Tough ↔ Hard IN23 | IN22 | IN420 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| TPGN 090204T | 9.60 | 5.56 | 2.38 | 0.40 | | • | | 0.10-1.50 | 0.07-0.30 |
| TPGN 110304T | 11.00 | 6.35 | 3.18 | 0.40 | • | • | • | 0.10-1.50 | 0.07-0.30 |
| TPGN 110308T | 11.00 | 6.35 | 3.18 | 0.80 | • | • | • | 0.10-3.00 | 0.07-0.40 |
| TPGN 160304T | 16.50 | 9.52 | 3.18 | 0.40 | • | • | • | 0.10-4.00 | 0.07-0.50 |
| TPGN 160308T | 16.50 | 9.52 | 3.18 | 0.80 | • | • | • | 0.10-4.00 | 0.07-0.50 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

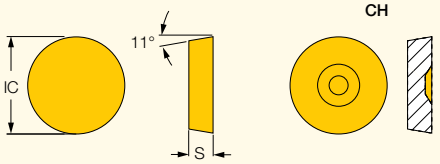
**Tools:** CTFPR/L • CTGPR/L • S-CTFPR/L

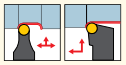
ISOTURN

## RPGN-Ceramic

Round Ceramic Inserts for Machining Nickel Based Alloys and Hardened Steel





| Designation | Dimensions IC | S | Tough ↔ Hard IW7 | IS35 | IS25 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| RPGN 090300E | 9.52 | 3.17 | • | | | 0.10-2.00 | 0.07-0.20 |
| RPGN 120400E | 12.70 | 4.76 | | • | • | 0.10-3.00 | 0.07-0.20 |
| RPGN 120400E-CH (1) | 12.70 | 4.76 | | • | • | 0.10-3.00 | 0.07-0.20 |
| RPGN 120400T | 12.70 | 4.76 | • | • | • | 0.10-3.00 | 0.07-0.20 |
| RPGN 120400T-CH (1) | 12.70 | 4.76 | | • | • | 0.10-3.00 | 0.07-0.20 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

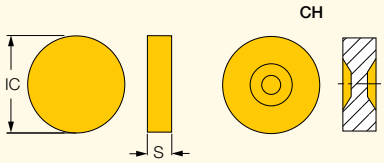
(1) Insert with a dimple

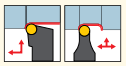
ISOTURN

## RNGN-Ceramic

Round Double-Sided Ceramic Inserts for Machining Cast Iron, Nickel Based Alloys and Hardened Steel





| Designation | Dimensions IC | S | Tough ↔ Hard IW7 | IS35 | IS25 | IN23 | IN22 | IN420 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| RNGN 090300T | 9.52 | 3.18 | • | | | | • | | 0.10-2.00 | 0.07-0.20 |
| RNGN 090400T | 9.52 | 4.76 | • | | | | | | 0.10-2.00 | 0.07-0.20 |
| RNGN 120400T | 12.70 | 4.76 | • | | | | • | • | 0.10-3.50 | 0.07-0.50 |
| RNGN 120700 S6 (1) | 12.70 | 7.94 | • | | | | | | 0.10-2.00 | - |
| RNGN 120700E | 12.70 | 7.94 | • | • | • | | | | 0.10-2.00 | 0.07-0.20 |
| RNGN 120700E-CH (2) | 12.70 | 7.94 | | • | • | | | | 0.10-2.00 | 0.07-0.20 |
| RNGN 120700T | 12.70 | 7.94 | • | • | • | • | • | • | 0.10-4.50 | 0.07-0.50 |
| RNGN 120700T-CH (2) | 12.70 | 7.94 | | • | • | | | | 0.10-4.50 | 0.07-0.50 |
| RNGN 120700TE | 12.70 | 7.94 | | • | • | | | | 0.10-4.50 | 0.07-0.50 |
| RNGN 120700T02020 | 12.70 | 7.94 | • | | | | | | 0.10-2.00 | 0.07-0.20 |
| RNGN 150700T | 15.88 | 7.94 | • | | | | | | 0.10-3.00 | 0.07-0.20 |
| RNGN 190700T | 19.05 | 7.94 | • | | | | | | 0.10-3.00 | 0.07-0.20 |
| RNGN 190700TE | 19.05 | 7.94 | | • | • | | | | 0.10-3.00 | 0.07-0.20 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

(1) For milling nickel based superalloys; reference recommendations for milling Inconel 718: 0.12 mm/t 900-1000 m/min

(2) Insert with a dimple

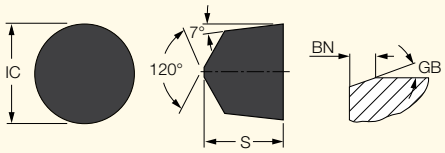
**Tools:** CRDNN • CRGNR/L

ISOTURN

## RCGX-Ceramic

Round Ceramic Inserts for Machining Nickel Based Alloys and Hardened Steel






| Designation | Dimensions IC | S | GB | BN | Tough ↔ Hard IW7 | IS35 | IS25 | IN23 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| RCGX 090700E | 9.52 | 7.94 | 25.0 | 0.20 | ● | ● | ● | | 0.10-3.00 | 0.07-0.50 |
| RCGX 090700T | 9.52 | 7.94 | 25.0 | 0.20 | ● | ● | ● | ● | 0.10-3.00 | 0.07-0.50 |
| RCGX 090700TE | 9.52 | 7.94 | 25.0 | 0.20 | | | ● | | 0.10-3.00 | 0.07-0.50 |
| RCGX 120700E | 12.70 | 7.94 | 25.0 | 0.20 | ● | ● | ● | | 0.10-4.00 | 0.07-0.50 |
| RCGX 120700T | 12.70 | 7.94 | 25.0 | 0.20 | ● | | | ● | 0.10-4.00 | 0.07-0.50 |

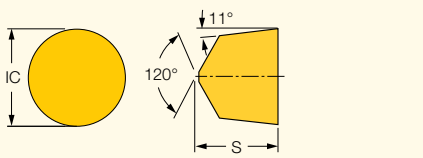
• For user guide and cutting speed recommendations, see pages 122-134, 236-254

ISOTURN

## RPGX-Ceramic

Round Ceramic Inserts for Machining Nickel Based Alloys and Hardened Steel






| Designation | Dimensions IC | S | Tough ↔ Hard IW7 | IS35 | IS25 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| RPGX 090700E | 9.52 | 7.94 | | ● | ● | 0.50-3.00 | 0.10-0.45 |
| RPGX 090700T | 9.52 | 7.94 | ● | ● | ● | 0.50-3.00 | 0.10-0.45 |
| RPGX 120700E | 12.70 | 7.94 | | ● | ● | 0.50-4.50 | 0.10-0.45 |
| RPGX 120700T | 12.70 | 7.94 | ● | ● | ● | 0.50-4.50 | 0.10-0.45 |

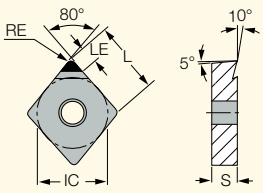
• Tools can be supplied on request. • For user guide and cutting speed recommendations, see pages 122-134, 236-254

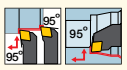
ISOTURN

## CNMA (PCD)

80° Rhombic Inserts with a Single PCD Top Corner Tip and Positive Rake for Finishing Applications






| Designation | Dimensions L | IC | S | RE | LE | ID5 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| CNMA 120404D | 12.90 | 12.70 | 4.76 | 0.40 | 3.9 | ● | 0.10-3.00 | 0.05-0.26 |
| CNMA 120408D | 12.90 | 12.70 | 4.76 | 0.80 | 3.6 | ● | 0.10-3.00 | 0.05-0.26 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

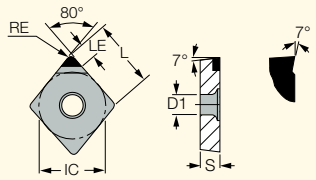
**Tools:** A/S-PCLNR/L • C#-MULNR/L-MW • C#-PCLNR/L-12-JHP • C#-PCLNR/L-X • C#-PCLNR/L-X-JHP • DCLNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PCLNR/L • PCLNR/L-12-JHP • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC • S-DCLNR/L • S-MULNR-MW • A/S-PCLNR/L-X/G • DCLNR/L-JHP-MC

ISOTURN

## CCMT (PCD)

Inserts with a Single PCD Top Corner Tip, 7° Clearance and Positive Rake Angle for Finishing Aluminum






| Designation | Dimensions L | IC | S | RE | LE | D1 | ID5 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| CCMT 060202D | 6.30 | 6.35 | 2.38 | 0.20 | 3.1 | 2.80 | ● | 0.08-3.00 | 0.05-0.30 |
| CCMT 060204D | 6.30 | 6.35 | 2.38 | 0.40 | 3.0 | 2.80 | ● | 0.10-3.00 | 0.05-0.30 |
| CCMT 09T304D | 9.70 | 9.52 | 3.97 | 0.40 | 3.9 | 4.40 | ● | 0.10-3.00 | 0.05-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

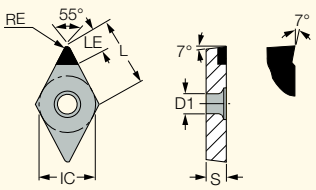
**Tools:** A/E/S-SCLCR/L • C#-SCLCR/L-JHP • E-SCLCR/L-HEAD • NQCH-SCACR/L-JHP • PCLCR/L-S • PCLCR/L-S-JHP • SCACR/L-S • SCLCR-PAD • SCLCR/L • AVC-SCLCR/L • PCLCR/L-JHP-MC

ISOTURN

## DCMT (PCD)

55° Rhombic Inserts with a PCD Single Top Corner Tip, 7° Clearance and Positive Rake Angle for Finishing Applications






| Designation | Dimensions L | IC | S | RE | LE | D1 | ID5 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| DCMT 11T302D | 11.60 | 9.52 | 3.97 | 0.20 | 3.7 | 4.40 | ● | 0.10-3.00 | 0.05-0.30 |
| DCMT 11T304D | 11.60 | 9.52 | 3.97 | 0.40 | 3.6 | 4.40 | ● | 0.10-3.00 | 0.05-0.30 |
| DCMT 11T308D | 11.60 | 9.52 | 3.97 | 0.80 | 3.3 | 4.40 | ● | 0.10-3.00 | 0.05-0.29 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

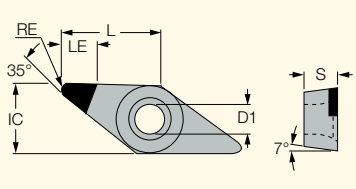
**Tools:** A/E/S-SDUCR/L • AVC-SDUCR/L • AVC-SDUCR/L-VH • C#-SDJCR-JHP • C#-SDJCR/L • C#-SDNCN • NQCH-SDACR/L-S-JHP • NQCH-Y-SDJCR-S-JHP • PDACR/L-JHP • PDACR/L-S • SDACR/L • SDHCR/L • SDJCR/L • SDNCN • Y-SDJCR • Y-SDJCR-JHP • PDACR/L-JHP-MC

ISOTURN

## VCMT (CBN)

35° Rhombic Single Brazed Tip Corner Inserts for Finishing Cast Iron






| Designation | Dimensions IC | S | RE | L | LE | D1 | IB55 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| VCMT 160404T | 9.52 | 4.76 | 0.40 | 16.60 | 4.40 | 4.40 | ● | 0.10-3.00 | 0.05-0.30 |
| VCMT 160408T | 9.52 | 4.76 | 0.80 | 16.60 | 4.00 | 4.40 | ● | 0.10-3.00 | 0.05-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

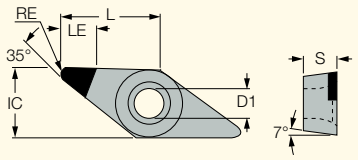
**Tools:** A/S-SVLBCR/L • A/S-SVLFCR/L; A-SVUCR/L • A/S-SVQCR/L • AVC-SVLCR/L-VH • C#-SVJCR/L • C#-SVJCR/L-JHP • C#-SVVCN • HSK A63WH-SVJCR/L • SVJCR/L • SVJCR/L-16-JHP • SVVCN • SVXCR/L • AVC-SVLCR/L

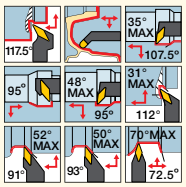
ISOTURN

## VCGT-DW (PCD)

Inserts with 7° Clearance and a Single PCD Top Corner Tip Chipformer for Machining Aluminum






| Designation | Dimensions L | IC | S | RE | LE | D1 | ID5 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| VCGT 160404-DW | 16.60 | 9.52 | 4.76 | 0.40 | 6.60 | 4.40 | ● | 0.10-3.00 | 0.05-0.30 |
| VCGT 160408-DW | 16.60 | 9.52 | 4.76 | 0.80 | 6.40 | 4.40 | ● | 0.10-3.00 | 0.05-0.30 |
| VCGT 160412-DW | 16.60 | 9.52 | 4.76 | 1.20 | 6.30 | 4.40 | ● | 0.10-3.00 | 0.05-0.30 |
| VCGT 220516-DW | 22.10 | 12.70 | 5.56 | 1.60 | 6.30 | 5.50 | ● | 0.10-3.00 | 0.05-0.30 |
| VCGT 220520-DW | 22.10 | 12.70 | 5.56 | 2.00 | 6.20 | 5.50 | ● | 0.10-3.00 | 0.05-0.30 |
| VCGT 220530-DW | 22.10 | 12.70 | 5.56 | 3.00 | 6.00 | 5.50 | ● | 0.10-3.00 | 0.05-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

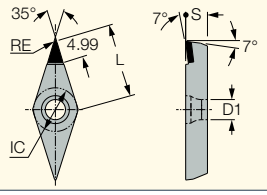
**Tools:** A/S-SVLBCR/L • A/S-SVLFCR/L; A-SVUCR/L • A/S-SVQCR/L • AVC-SVLCR/L-VH • C#-SVJCR/L • C#-SVJCR/L-JHP • C#-SVVCN • DTF50 SVXCR-16X2 • DTF50 SVXCR-22 • HSK A63WH-SVJCR/L • SVJCR/L • SVJCR/L-16-JHP • SVVCN • SVXCR/L • AVC-SVLCR/L

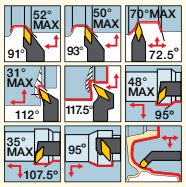
ISOTURN

## VCGT (PCD)

35° Rhombic Single Brazed Tip Corner Inserts for Finishing Aluminum (PCD)






| Designation | Dimensions IC | S | RE | L | D1 | ID5 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| VCGT 160404D | 9.52 | 4.76 | 0.40 | 16.60 | 4.40 | ● | 0.10-3.00 | 0.05-0.30 |
| VCGT 160408D | 9.52 | 4.76 | 0.80 | 16.60 | 4.40 | ● | 0.10-3.00 | 0.05-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

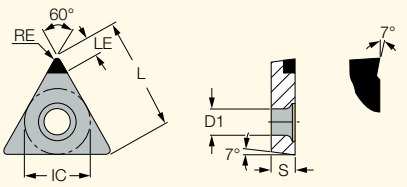
**Tools:** A/S-SVLBCR/L • A/S-SVLFCR/L; A-SVUCR/L • A/S-SVQCR/L • AVC-SVLCR/L-VH • C#-SVJCR/L • C#-SVJCR/L-JHP • C#-SVVCN • HSK A63WH-SVJCR/L • SVJCR/L • SVJCR/L-16-JHP • SVVCN • SVXCR/L • AVC-SVLCR/L

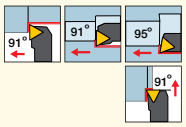
ISOTURN

## TCMT (PCD)

Inserts with a Single PCD Top Corner Tip, 7° Clearance and Positive Rake Angle for Finishing Aluminum






| Designation | Dimensions L | IC | S | RE | LE | D1 | ID5 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| TCMT 110204D | 11.00 | 6.35 | 2.38 | 0.40 | 3.8 | 2.80 | ● | 0.10-3.00 | 0.05-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

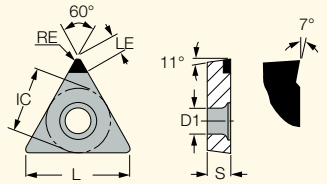
**Tools:** E-STFCR-HEAD • S-STFCR/L • S-STLCR/L • STFCR/L • STGCR/L

ISOTURN

## TPGX (PCD)

Triangular Inserts with PCD Single Top Corner Brazed Tip, 11° Clearance and Positive Rake Angle for Finishing Aluminum









| Designation | Dimensions L | IC | S | RE | LE | D1 | ID5 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| TPGX 090202 | 9.52 | 5.56 | 2.38 | 0.20 | 3.0 | 2.50 | • | 0.10-3.00 | 0.05-0.30 |
| TPGX 090204 | 9.52 | 5.56 | 2.38 | 0.40 | 3.0 | 2.50 | • | 0.10-3.00 | 0.05-0.30 |
| TPGX 110302 | 11.00 | 6.35 | 3.18 | 0.20 | 3.4 | 3.50 | • | 0.10-3.00 | 0.05-0.30 |
| TPGX 110304 | 11.00 | 6.35 | 3.18 | 0.40 | 3.8 | 3.50 | • | 0.10-3.00 | 0.05-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

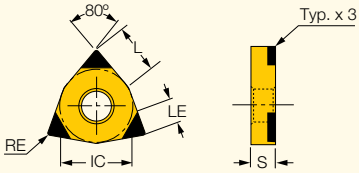
**Tools:** A/E-STFPR-X • MG STFPR-X

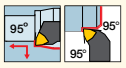
ISOTURN

## WNGA-M3 (CBN)

Multi-Cornered CBN Inserts for Machining Hardened Steel






| Designation | Dimensions L | IC | S | RE | LE | IB20H | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| WNGA 080408-M3 | 8.70 | 12.70 | 4.76 | 0.80 | 2.2 | • | 0.05-0.50 | 0.05-0.20 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

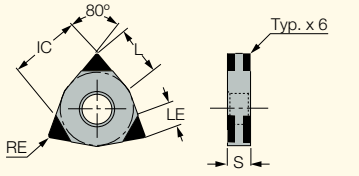
**Tools:** A/S-MWLNR/L-W • A/S-PWLNR/L • C#-MULNR/L-MW • C#-PWLNR/L-08-JHP • DWLNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • MWLNR/L-W • PWLNR/L • PWLNR/L-08-JHP • PWLNR/L-X • PWLNR/L-X-JHP • PWLNR/L-X-JHP-MC • S-DWLNR/L • S-MULNR-MW • DWLNR/L-JHP-MC

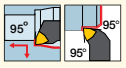
ISOTURN

## WNGA-MC/M6 (CBN)

Multi-Cornered CBN Inserts for Machining Hardened Steel






| Designation | Dimensions L | IC | S | RE | LE | Tough ↔ Hard IB55 | IB10HC | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| WNGA 080404T-MC | 8.70 | 12.70 | 4.76 | 0.40 | 3.1 | • | | 0.05-0.50 | 0.05-0.20 |
| WNGA 080408-M6 | 8.70 | 12.70 | 4.76 | 0.80 | 2.2 | | • | 0.05-0.50 | 0.05-0.20 |
| WNGA 080408T-MC | 8.70 | 12.70 | 4.76 | 0.80 | 3.1 | • | | 0.05-0.50 | 0.05-0.20 |
| WNGA 080412T-MC | 8.70 | 12.70 | 4.76 | 1.20 | 3.1 | • | | 0.05-0.50 | 0.05-0.20 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

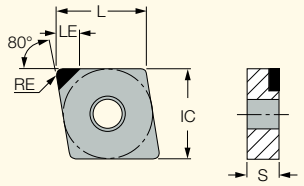
**Tools:** A/S-MWLNR/L-W • A/S-PWLNR/L • C#-MULNR/L-MW • C#-PWLNR/L-08-JHP • DWLNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • MWLNR/L-W • PWLNR/L • PWLNR/L-08-JHP • PWLNR/L-X • PWLNR/L-X-JHP • PWLNR/L-X-JHP-MC • S-DWLNR/L • S-MULNR-MW • DWLNR/L-JHP-MC

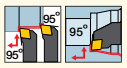
ISOTURN

## CNMA-T/M1/WG (CBN)

80° Rhombic Inserts with a Single CBN Top Corner Tip for Machining Cast Iron, Hardened Steel and Super Alloys






| Designation | Dimensions L | IC | S | RE | LE | Tough ↔ Hard IB90 | IB85 | IB20H | IB55 | IB50 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CNMA 120404T | 12.90 | 12.70 | 4.76 | 0.40 | 3.2 | ● | | | ● | ● | 0.05-0.50 | 0.05-0.26 |
| CNMA 120408-M1 | 12.90 | 12.70 | 4.76 | 0.80 | 3.5 | | | ● | | | 0.05-0.50 | 0.05-0.30 |
| CNMA 120408T | 12.90 | 12.70 | 4.76 | 0.80 | 3.4 | ● | ● | | ● | | 0.05-0.50 | 0.05-0.30 |
| CNMA 120408T-WG (1) | 12.90 | 12.70 | 4.76 | 0.80 | 3.5 | ● | ● | | ● | ● | 0.05-0.50 | 0.05-0.30 |
| CNMA 120412-M1 | 12.90 | 12.70 | 4.76 | 1.20 | 3.5 | | | ● | | | 0.05-0.50 | 0.05-0.30 |
| CNMA 120412T | 12.90 | 12.70 | 4.76 | 1.20 | 4.0 | | | | ● | | 0.05-0.50 | 0.05-0.30 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

(1) Wiper insert for high feed finishing, eliminates grinding.

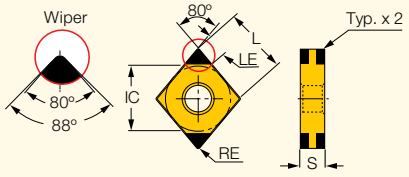
**Tools:** A/S-PCLNR/L • C#-MULNR/L-MW • C#-PCLNR/L-12-JHP • C#-PCLNR/L-X • C#-PCLNR/L-X-JHP • DCLNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PCLNR/L • PCLNR/L-12-JHP • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC • S-DCLNR/L • S-MULNR-MW • A/S-PCLNR/L-X/G • DCLNR/L-JHP-MC

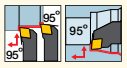
ISOTURN

## CNMA-MW4 (CBN)

80° Rhombic Inserts with 4 CBN Wiper Edge Tips for Machining Hardened Steel






| Designation | Dimensions L | IC | S | RE | LE | IB25HC | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| CNMA 120408-MW4 | 12.90 | 12.70 | 4.76 | 0.80 | 2.2 | ● | 0.05-0.50 | 0.05-0.40 |
| CNMA 120412-MW4 | 12.90 | 12.70 | 4.76 | 1.20 | 2.4 | ● | 0.05-0.50 | 0.05-0.40 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

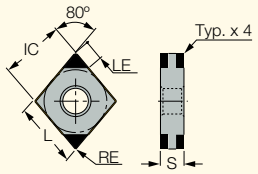
**Tools:** A/S-PCLNR/L • C#-MULNR/L-MW • C#-PCLNR/L-12-JHP • C#-PCLNR/L-X • C#-PCLNR/L-X-JHP • DCLNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PCLNR/L • PCLNR/L-12-JHP • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC • S-DCLNR/L • S-MULNR-MW • A/S-PCLNR/L-X/G • DCLNR/L-JHP-MC

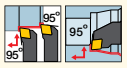
ISOTURN

## CNGA-4 (CBN)

4-Cornered CBN Inserts for Machining Hardened Steel






| Designation | Dimensions L | IC | S | RE | LE | Tough ↔ Hard IB25HC | IB55 | IB10HC | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| CNGA 120404T-MC | 12.90 | 12.70 | 4.76 | 0.40 | 3.1 | | ● | | 0.05-0.50 | 0.05-0.20 |
| CNGA 120408-M4 | 12.90 | 12.70 | 4.76 | 0.80 | 2.2 | ● | | ● | 0.05-0.50 | 0.05-0.20 |
| CNGA 120408T-MC | 12.90 | 12.70 | 4.76 | 0.80 | 3.1 | | ● | | 0.05-0.50 | 0.05-0.20 |
| CNGA 120408T-WG-MC (1) | 12.90 | 12.70 | 4.76 | 0.80 | 3.1 | | ● | | 0.05-0.50 | 0.05-0.20 |
| CNGA 120412-M4 | 12.90 | 12.70 | 4.76 | 1.20 | 2.4 | ● | | ● | 0.05-0.50 | 0.05-0.20 |
| CNGA 120412T-MC | 12.90 | 12.70 | 4.76 | 1.20 | 3.1 | | ● | | 0.05-0.50 | 0.05-0.20 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

(1) Wiper corner configuration

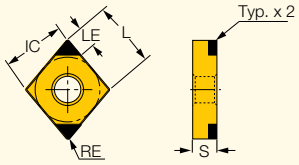
**Tools:** A/S-PCLNR/L • C#-MULNR/L-MW • C#-PCLNR/L-12-JHP • C#-PCLNR/L-X • C#-PCLNR/L-X-JHP • DCLNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PCLNR/L • PCLNR/L-12-JHP • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC • S-DCLNR/L • S-MULNR-MW • A/S-PCLNR/L-X/G • DCLNR/L-JHP-MC

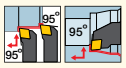
ISOTURN

## CNGA-2 (CBN)

80° Rhombic Inserts with 2 CBN Tips for Machining Hardened Steel, Sintered Metals and High Temperature Alloys






| Designation | Dimensions L | IC | S | RE | LE | Tough ↔ Hard IB10S | IB05S | IB20H | IB20HC | IB10H | IB10HC | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CNGA 120404-F2** | 12.90 | 12.70 | 4.76 | 0.40 | 2.3 | | | | ● | | ● | 0.05-0.50 | 0.05-0.20 |
| **CNGA 120404-M2** | 12.90 | 12.70 | 4.76 | 0.40 | 2.3 | ● | ● | | ● | | ● | 0.05-0.30 | 0.05-0.20 |
| **CNGA 120404-R2** | 12.90 | 12.70 | 4.76 | 0.40 | 2.2 | | | ● | | | | 0.05-0.50 | 0.05-0.20 |
| **CNGA 120408-F2** | 12.90 | 12.70 | 4.76 | 0.80 | 2.2 | | ● | | ● | ● | | 0.05-0.30 | 0.05-0.18 |
| **CNGA 120408-MW2** | 12.90 | 12.70 | 4.76 | 0.80 | 2.2 | | | | ● | | ● | 0.05-0.50 | 0.05-0.20 |
| **CNGA 120408-M2** | 12.90 | 12.70 | 4.76 | 0.80 | 2.2 | ● | | ● | | ● | | 0.05-0.30 | 0.05-0.18 |
| **CNGA 120408-R2** | 12.90 | 12.70 | 4.76 | 0.80 | 2.2 | | | ● | | | | 0.05-0.50 | 0.05-0.20 |
| **CNGA 120408-S2** | 12.90 | 12.70 | 4.76 | 0.80 | 2.2 | | ● | | | | | 0.05-0.50 | 0.05-0.20 |
| **CNGA 120412-F2** | 12.90 | 12.70 | 4.76 | 1.20 | 2.4 | | | | ● | | ● | 0.05-0.50 | 0.05-0.20 |
| **CNGA 120412-M2** | 12.90 | 12.70 | 4.76 | 1.20 | 2.4 | ● | | ● | | ● | ● | 0.05-0.30 | 0.05-0.20 |
| **CNGA 120412-R2** | 12.90 | 12.70 | 4.76 | 1.20 | 2.4 | | | | ● | | | 0.05-0.50 | 0.05-0.20 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

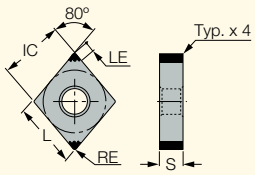
**Tools:** A/S-PCLNR/L • C#-MULNR/L-MW • C#-PCLNR/L-12-JHP • C#-PCLNR/L-X • C#-PCLNR/L-X-JHP • DCLNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PCLNR/L • PCLNR/L-12-JHP • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC • S-DCLNR/L • S-MULNR-MW • A/S-PCLNR/L-X/G • DCLNR/L-JHP-MC

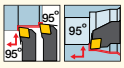
ISOTURN

## CNGA-J(CBN)

Multi-Cornered CBN Inserts for Machining Hardened Steel






| Designation | Dimensions L | IC | S | RE | LE | Recommended Machining Data ap (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| **CNGA 120408-M4-J** | 12.90 | 12.70 | 4.76 | 0.80 | 1.50 | 0.12-0.80 | 0.10-0.30 |
| **CNGA 120408-R4-J** | 12.90 | 12.70 | 4.76 | 0.80 | 1.50 | 0.12-0.80 | 0.10-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

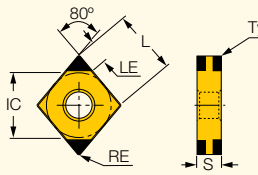
**Tools:** A/S-PCLNR/L • A/S-PCLNR/L-X/G • C#-MULNR/L-MW • C#-PCLNR/L-12-JHP • C#-PCLNR/L-X • C#-PCLNR/L-X-JHP • DCLNR/L • DCLNR/L-JHP-MC • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PCLNR/L • PCLNR/L-12-JHP • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC • S-DCLNR/L • S-MULNR-MW

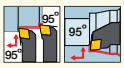
ISOTURN

## CNGG-M4HF/M4HM (CBN)

80° Rhombic Inserts with 4 Chipbreaking CBN Tips for Machining Hardened Steel






| Designation | Dimensions L | IC | S | RE | LE | IB25HA | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| **CNGG 120408-M4HF** | 12.90 | 12.70 | 4.76 | 0.80 | 2.2 | ● | 0.20-0.75 | 0.05-0.20 |
| **CNGG 120412-M4HM** | 12.90 | 12.70 | 4.76 | 1.20 | 2.4 | ● | 0.50-1.00 | 0.05-0.20 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

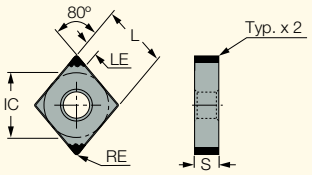
**Tools:** A/S-PCLNR/L • C#-MULNR/L-MW • C#-PCLNR/L-12-JHP • C#-PCLNR/L-X • C#-PCLNR/L-X-JHP • DCLNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PCLNR/L • PCLNR/L-12-JHP • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC • S-DCLNR/L • S-MULNR-MW • A/S-PCLNR/L-X/G • DCLNR/L-JHP-MC

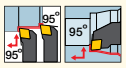
ISOTURN

## CNGG-J(CBN)

80° Rhombic Inserts with 4 Chipbreaking CBN Tips for Machining Hardened Steel






| Designation | Dimensions L | IC | S | RE | LE | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| CNGG 120408-M4HM-J | 12.90 | 12.70 | 4.76 | 0.80 | 1.50 | 0.12-0.80 | 0.10-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

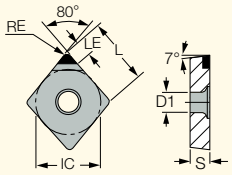
**Tools:** A/S-PCLNR/L • A/S-PCLNR/L-X/G • C#-MULNR/L-MW • C#-PCLNR/L-12-JHP • C#-PCLNR/L-X • C#-PCLNR/L-X-JHP • DCLNR/L • DCLNR/L-JHP-MC • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PCLNR/L • PCLNR/L-12-JHP • PCLNR/L-X • PCLNR/L-X-JHP • PCLNR/L-X-JHP-MC • S-DCLNR/L • S-MULNR-MW

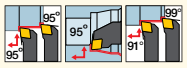
ISOTURN

## CCGW/CCMT (CBN)

80° Rhombic Inserts with a Single CBN Top Corner Tip and 7° Clearance for Machining Hardened Steel






| Designation | Dimensions L | IC | S | RE | LE | D1 | Tough ↔ Hard IB05H | IB55 | IB10H | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CCGW 03X102T01015-1 | 3.63 | 3.57 | 1.39 | 0.20 | 2.0 | 1.90 | ● | | ● | 0.05-0.50 | 0.05-0.20 |
| CCGW 03X104T01015-1 | 3.63 | 3.57 | 1.39 | 0.40 | 2.3 | 1.90 | ● | | ● | 0.05-0.50 | 0.05-0.20 |
| CCGW 04T102T01015-1 | 4.44 | 4.37 | 1.79 | 0.20 | 2.0 | 2.30 | ● | | ● | 0.05-0.50 | 0.05-0.20 |
| CCGW 04T104T01015-1 | 4.44 | 4.37 | 1.79 | 0.40 | 2.3 | 2.30 | ● | | ● | 0.05-0.50 | 0.05-0.20 |
| CCMT 060202T | 6.30 | 6.35 | 2.38 | 0.20 | 2.6 | 2.80 | | ● | | 0.05-0.50 | 0.05-0.20 |
| CCMT 060204T | 6.30 | 6.35 | 2.38 | 0.40 | 2.7 | 2.80 | | ● | | 0.05-0.50 | 0.05-0.20 |
| CCMT 09T304T | 9.70 | 9.52 | 3.97 | 0.40 | 2.9 | 4.40 | | ● | | 0.05-0.50 | 0.05-0.20 |
| CCMT 09T308T | 9.70 | 9.52 | 3.97 | 0.80 | 3.6 | 4.40 | | ● | | 0.05-0.50 | 0.05-0.20 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

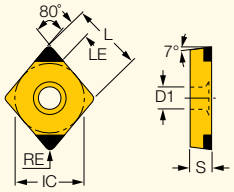
**Tools:** A/E/S-SCLCR/L • C#-SCLCR/L-JHP • E-SCLCR/L-HEAD • NQCH-SCACR/L-JHP • PCLCR/L-S • PCLCR/L-S-JHP • PICIN-SCLCR/L • SCACR/L-S • SCLCR-PAD • SCLCR/L • AVC-SCLCR/L • PCLCR/L-JHP-MC

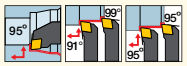
ISOTURN

## CCGW/CCMW-2 (CBN)

80° Positive Rhombic Inserts with 2 CBN Tips for Machining Hardened Steel, Sintered Metals and High Temperature Alloys






| Designation | Dimensions IC | L | S | RE | LE | D1 | Tough ↔ Hard IB05S | IB20H | IB20HC | IB10H | IB10HC | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CCGW 060202-F2 | 6.35 | 6.30 | 2.38 | 0.20 | 2.3 | 2.80 | | | ● | | ● | 0.05-0.50 | 0.05-0.20 |
| CCGW 060204-F2 | 6.35 | 6.30 | 2.38 | 0.40 | 2.3 | 2.80 | | | ● | | ● | 0.05-0.50 | 0.05-0.20 |
| CCGW 09T304-F2 | 9.52 | 9.70 | 3.97 | 0.40 | 2.3 | 4.40 | | | ● | | ● | 0.05-0.50 | 0.05-0.20 |
| CCGW 09T308-F2 | 9.52 | 9.70 | 3.97 | 0.80 | 2.2 | 4.40 | | | ● | | ● | 0.05-0.50 | 0.05-0.20 |
| CCGW 060202-M2 | 6.35 | 6.30 | 2.38 | 0.20 | 2.3 | 2.80 | | | | | ● | 0.05-0.50 | 0.05-0.20 |
| CCGW 060204-M2 | 6.35 | 6.30 | 2.38 | 0.40 | 2.3 | 2.80 | ● | | | | ● | 0.05-0.50 | 0.05-0.20 |
| CCMW 060202-M2 | 6.35 | 6.30 | 2.38 | 0.20 | 2.3 | 2.80 | | ● | | ● | | 0.05-0.50 | 0.05-0.20 |
| CCMW 060204-M2 | 6.35 | 6.30 | 2.38 | 0.40 | 2.3 | 2.80 | | ● | | ● | | 0.05-0.50 | 0.05-0.20 |
| CCGW 09T304-M2 | 9.52 | 9.70 | 3.97 | 0.40 | 2.3 | 4.40 | ● | | | | ● | 0.05-0.50 | 0.05-0.30 |
| CCGW 09T308-M2 | 9.52 | 9.70 | 3.97 | 0.80 | 2.2 | 4.40 | ● | | ● | | ● | 0.05-0.50 | 0.05-0.30 |
| CCMW 09T304-M2 | 9.52 | 9.70 | 3.97 | 0.40 | 2.3 | 4.40 | | ● | | ● | | 0.05-0.50 | 0.05-0.15 |
| CCMW 09T308-M2 | 9.52 | 9.70 | 3.97 | 0.80 | 2.2 | 4.40 | | ● | | ● | | 0.05-0.50 | 0.05-0.30 |
| CCGW 060204-R2 | 6.35 | 6.30 | 2.38 | 0.40 | 2.3 | 2.80 | | | ● | | | 0.05-0.50 | 0.05-0.20 |
| CCGW 09T304-R2 | 9.52 | 9.70 | 3.97 | 0.40 | 2.3 | 4.40 | | | ● | | | 0.05-0.50 | 0.05-0.20 |
| CCGW 09T308-R2 | 9.52 | 9.70 | 3.97 | 0.80 | 2.2 | 4.40 | | | ● | | | 0.05-0.50 | 0.05-0.20 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

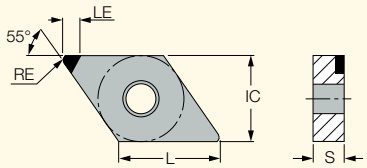
**Tools:** A/E/S-SCLCR/L • C#-SCLCR/L-JHP • E-SCLCR/L-HEAD • NQCH-SCACR/L-JHP • PCLCR/L-S • PCLCR/L-S-JHP • SCACR/L-S • SCLCR-PAD • SCLCR/L • AVC-SCLCR/L • PCLCR/L-JHP-MC

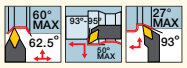
ISOTURN

## DNMA (CBN)

CBN Inserts with a Flat Rake for Machining Hardened Steel






| Designation | Dimensions L | IC | S | RE | LE | Tough ↔ Hard IB55 | IB50 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| DNMA 150404T | 15.50 | 12.70 | 4.76 | 0.40 | 2.8 | ● | | 0.05-0.50 | 0.05-0.20 |
| DNMA 150408T | 15.50 | 12.70 | 4.76 | 0.80 | 3.2 | ● | ● | 0.05-0.50 | 0.05-0.20 |
| DNMA 150412T | 15.50 | 12.70 | 4.76 | 1.20 | 3.0 | ● | | 0.05-0.50 | 0.05-0.20 |
| DNMA 150604T | 15.50 | 12.70 | 6.35 | 0.40 | 2.8 | ● | | 0.05-0.50 | 0.05-0.20 |
| DNMA 150608T | 15.50 | 12.70 | 6.35 | 0.80 | 3.2 | ● | | 0.05-0.50 | 0.05-0.20 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

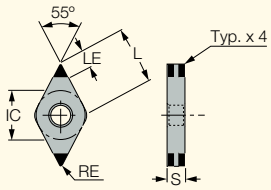
**Tools:** A/S-PDUNR/L • AVC-DDUNR/L-VH • C#-DDJNR/L • C#-PDJNR/L-JHP • DDJNR/L • HSK A63WH-DDJNR/L • HSK A63WH-DDNNN • PDJNR/L • PDJNR/L-JHP • S-DDUNR/L • AVC-DDUNR/L • DDJNR/L-JHP-MC

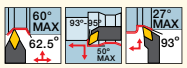
ISOTURN

## DNGA-4 (CBN)

55° Rhombic 4-Cornered CBN Inserts for Machining Hardened Steel






| Designation | Dimensions L | IC | S | RE | LE | Tough ↔ Hard IB25HC | IB55 | IB10HC | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| DNGA 150404T-MC | 15.50 | 12.70 | 4.76 | 0.40 | 2.9 | | ● | | 0.05-0.50 | 0.05-0.18 |
| DNGA 150408-M4 | 15.50 | 12.70 | 4.76 | 0.80 | 2.1 | ● | | ● | 0.05-0.50 | 0.05-0.18 |
| DNGA 150408T-MC | 15.50 | 12.70 | 4.76 | 0.80 | 3.0 | | ● | | 0.05-0.50 | 0.05-0.18 |
| DNGA 150412-M4 | 15.50 | 12.70 | 4.76 | 1.20 | 2.0 | ● | | ● | 0.05-0.50 | 0.05-0.18 |
| DNGA 150412T-MC | 15.50 | 12.70 | 4.76 | 1.20 | 3.0 | | ● | | 0.05-0.50 | 0.05-0.18 |
| DNGA 150604T-MC | 15.50 | 12.70 | 6.35 | 0.40 | 2.9 | | ● | | 0.05-0.50 | 0.05-0.18 |
| DNGA 150608T-MC | 15.50 | 12.70 | 6.35 | 0.80 | 3.0 | | ● | | 0.05-0.50 | 0.05-0.18 |
| DNGA 150612T-MC | 15.50 | 12.70 | 6.35 | 1.20 | 3.0 | | ● | | 0.05-0.50 | 0.05-0.18 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

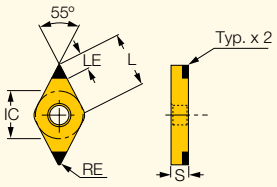
**Tools:** A/S-PDUNR/L • AVC-DDUNR/L-VH • C#-DDJNR/L • C#-PDJNR/L-JHP • DDJNR/L • HSK A63WH-DDJNR/L • HSK A63WH-DDNNN • PDJNR/L • PDJNR/L-JHP • S-DDUNR/L • AVC-DDUNR/L • DDJNR/L-JHP-MC

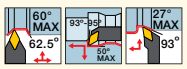
ISOTURN

## DNGA-2 (CBN)

55° Rhombic Inserts with 2 CBN Tips for Machining Hardened Steel, Sintered Metals and High Temperature Alloys






| Designation | Dimensions L | IC | S | RE | LE | Tough ↔ Hard IB10S | IB20H | IB20HC | IB10H | IB10HC | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DNGA 150404-F2 | 15.50 | 12.70 | 4.76 | 0.40 | 2.5 | | | ● | | ● | 0.10-0.50 | 0.05-0.30 |
| DNGA 150404-M2 | 15.50 | 12.70 | 4.76 | 0.40 | 2.5 | ● | | ● | | ● | 0.10-0.50 | 0.05-0.30 |
| DNGA 150408-F2 | 15.50 | 12.70 | 4.76 | 0.80 | 2.1 | | | ● | | ● | 0.10-0.50 | 0.05-0.30 |
| DNGA 150408-M2 | 15.50 | 12.70 | 4.76 | 0.80 | 2.1 | ● | | ● | | ● | 0.10-0.50 | 0.05-0.30 |
| DNGA 150408-R2 | 15.50 | 12.70 | 4.76 | 0.80 | 2.1 | | ● | | | | 0.05-0.50 | 0.05-0.20 |
| DNGA 150412-F2 | 15.50 | 12.70 | 4.76 | 1.20 | 2.0 | | | ● | ● | | 0.10-0.50 | 0.05-0.30 |
| DNGA 150412-M2 | 15.50 | 12.70 | 4.76 | 1.20 | 2.0 | ● | | ● | | ● | 0.10-0.50 | 0.05-0.30 |
| DNGA 150412-R2 | 15.50 | 12.70 | 4.76 | 1.20 | 2.0 | | ● | | | | 0.05-0.50 | 0.05-0.20 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

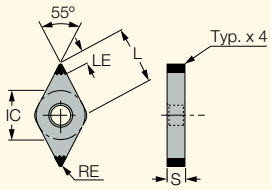
**Tools:** C#-DDJNR/L • C#-PDJNR/L-JHP • HSK A63WH-DDJNR/L • HSK A63WH-DDNNN • PDJNR/L • PDJNR/L-JHP • S-DDUNR/L • DDJNR/L-JHP-MC

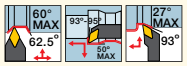
ISOTURN

## DNGA-J(CBN)

55° Rhombic Multi-Cornered CBN Inserts for Machining Hardened Steel






| Designation | Dimensions L | IC | RE | LE | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|
| DNGA 150408-R4-J | 15.50 | 12.70 | 0.80 | 1.60 | 0.12-0.80 | 0.10-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

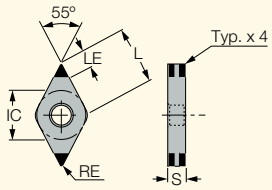
**Tools:** A/S-PDUNR/L • C#-DDJNR/L • C#-PDJNR/L-JHP • DDJNR/L-JHP-MC • HSK A63WH-DDJNR/L • HSK A63WH-DDNNN • PDJNR/L • PDJNR/L-JHP • S-DDUNR/L

ISOTURN

## DNGG-M4HF/M4HM (CBN)

55° Rhombic Inserts with 4 Chipbreaking CBN Tips for Machining Hardened Steel









| Designation | Dimensions L | IC | S | RE | LE | IB25HA | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| DNGG 150408-M4HF | 15.50 | 12.70 | 4.76 | 0.80 | 2.1 | ● | 0.20-0.75 | 0.05-0.20 |
| DNGG 150412-M4HM | 15.50 | 12.70 | 4.76 | 1.20 | 2.0 | ● | 0.50-1.00 | 0.05-0.20 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

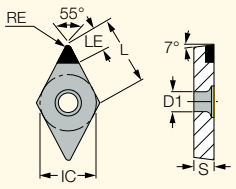
**Tools:** C#-DDJNR/L • C#-PDJNR/L-JHP • HSK A63WH-DDJNR/L • HSK A63WH-DDNNN • PDJNR/L • PDJNR/L-JHP • S-DDUNR/L • DDJNR/L-JHP-MC

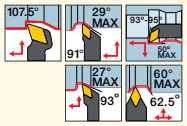
ISOTURN

## DCMT (CBN)

55° Rhombic Inserts with a Single CBN Top Corner Tip and 7° Clearance for Machining Hardened Steel






| Designation | Dimensions L | IC | S | RE | LE | D1 | IB55 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| DCMT 11T304T | 11.60 | 9.52 | 3.97 | 0.40 | 3.4 | 4.40 | ● | 0.05-0.50 | 0.05-0.20 |
| DCMT 11T308T | 11.60 | 9.52 | 3.97 | 0.80 | 3.1 | 4.40 | ● | 0.05-0.50 | 0.05-0.20 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

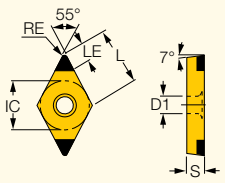
**Tools:** A/E/S-SDUCR/L • AVC-SDUCR/L • AVC-SDUCR/L-VH • C#-SDJCR-JHP • C#-SDJCR/L • C#-SDNCN • NQCH-SDACR/L-S-JHP • NQCH-Y-SDJCR-S-JHP • PDACR/L-JHP • PDACR/L-S • SDACR/L • SDHCR/L • SDJCR/L • SDNCN • Y-SDJCR • Y-SDJCR-JHP • PDACR/L-JHP-MC

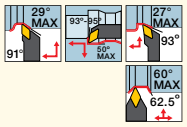
ISOTURN

## DCGW/DCMW-2 (CBN)

55° Positive Rhombic Inserts with 2 CBN Tips for Machining Hardened Steel, Sintered Metals and High Temperature Alloys






| Designation | Dimensions L | IC | S | RE | LE | D1 | Tough ↔ Hard IB05S | IB20H | IB20HC | IB10H | IB10HC | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DCGW 070202-F2 | 7.70 | 6.35 | 2.38 | 0.20 | 2.5 | 2.80 | | | ● | | ● | 0.05-0.50 | 0.05-0.30 |
| DCGW 070204-F2 | 7.70 | 6.35 | 2.38 | 0.40 | 2.5 | 2.80 | | | ● | | ● | 0.05-0.50 | 0.05-0.30 |
| DCGW 11T302-F2 | 11.60 | 9.52 | 3.97 | 0.20 | 2.5 | 4.40 | | | ● | | ● | 0.05-0.50 | 0.05-0.30 |
| DCGW 11T304-F2 | 11.60 | 9.52 | 3.97 | 0.40 | 2.5 | 4.40 | | | ● | | ● | 0.05-0.50 | 0.05-0.30 |
| DCGW 11T308-F2 | 11.60 | 9.52 | 3.97 | 0.80 | 2.1 | 4.40 | | | ● | | ● | 0.05-0.50 | 0.05-0.30 |
| DCGW 070202-M2 | 7.70 | 6.35 | 2.38 | 0.20 | 2.5 | 2.80 | | | ● | | ● | 0.05-0.50 | 0.05-0.30 |
| DCGW 070204-M2 | 7.70 | 6.35 | 2.38 | 0.40 | 2.5 | 2.80 | ● | | ● | | ● | 0.05-0.50 | 0.05-0.30 |
| DCGW 070208-M2 | 7.70 | 6.35 | 2.38 | 0.80 | 2.5 | 2.80 | ● | | | | | 0.05-0.50 | 0.05-0.30 |
| DCGW 11T302-M2 | 11.60 | 9.52 | 3.97 | 0.20 | 2.1 | 4.40 | | | ● | | ● | 0.05-0.50 | 0.05-0.30 |
| DCMW 11T304-M2 | 11.60 | 9.52 | 3.97 | 0.40 | 2.5 | 4.40 | | ● | | ● | ● | 0.05-0.50 | 0.05-0.12 |
| DCGW 11T308-M2 | 11.60 | 9.52 | 3.97 | 0.80 | 2.1 | 4.40 | ● | | | | | 0.05-0.50 | 0.05-0.30 |
| DCMW 11T308-M2 | 11.60 | 9.52 | 3.97 | 0.80 | 2.1 | 4.40 | | ● | | ● | ● | 0.05-0.50 | 0.05-0.15 |
| DCGW 11T304T01315 | 11.60 | 9.52 | 3.97 | 0.40 | 2.5 | 4.40 | ● | | | | | 0.05-0.50 | 0.05-0.30 |
| DCGW 11T304-S2 | 11.60 | 9.52 | 3.97 | 0.40 | 2.5 | 4.40 | ● | | | | | 0.05-0.50 | 0.05-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

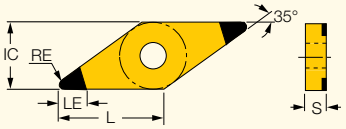
**Tools:** A/E/S-SDUCR/L • AVC-SDUCR/L • AVC-SDUCR/L-VH • C#-SDJCR-JHP • C#-SDJCR/L • C#-SDNCN • E-SDUCR/L-HEAD • NQCH-SDACR/L-S-JHP • NQCH-Y-SDJCR-S-JHP • PDACR/L-JHP • PDACR/L-S • SDACR/L • SDHCR/L • SDJCR-PAD • SDJCR/L • SDNCN • Y-SDJCR • Y-SDJCR-JHP • PDACR/L-JHP-MC

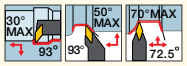
ISOTURN

## VNGA-2 (CBN)

35° Rhombic Inserts with 2 CBN Tips for Machining Hardened Steel, Sintered Metals and High Temperature Alloys






| Designation | Dimensions L | IC | S | RE | LE | Tough ↔ Hard IB10S | IB20H | IB20HC | IB10H | IB10HC | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VNGA 160404-F2 | 16.60 | 9.52 | 4.76 | 0.40 | 3.1 | | | ● | | ● | 0.05-0.50 | 0.05-0.30 |
| VNGA 160404-M2 | 16.60 | 9.52 | 4.76 | 0.40 | 3.1 | ● | | ● | | ● | 0.05-0.50 | 0.05-0.30 |
| VNGA 160408-F2 | 16.60 | 9.52 | 4.76 | 0.80 | 2.2 | | | ● | | ● | 0.05-0.50 | 0.05-0.30 |
| VNGA 160408-M2 | 16.60 | 9.52 | 4.76 | 0.80 | 2.2 | ● | | ● | ● | | 0.05-0.50 | 0.05-0.30 |
| VNGA 160408-R2 | 16.60 | 9.52 | 4.76 | 0.80 | 2.2 | | ● | | | | 0.05-0.50 | 0.05-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

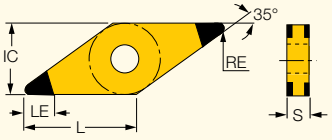
**Tools:** MVJNR/L • MVVNN

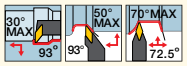
ISOTURN

## VNGA-4 (CBN)

35° Rhombic Inserts with 4 CBN Tips for Machining Hardened Steel






| Designation | Dimensions L | IC | S | RE | LE | Tough ↔ Hard IB25HC | IB10HC | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| VNGA 160408-M4 | 16.60 | 9.52 | 4.76 | 0.80 | 2.2 | ● | ● | 0.05-0.30 | 0.02-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

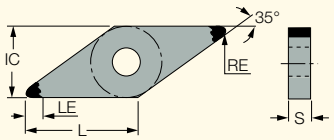
**Tools:** MVJNR/L • MVVNN

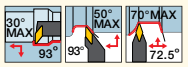
ISOTURN

## VNGA-J(CBN)

35° Rhombic Inserts with 4 CBN Tips for Machining Hardened Steel






| Designation | Dimensions L | IC | S | RE | LE | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| VNGA 160408-R4-J | 16.60 | 9.53 | 4.76 | 0.80 | 1.70 | 0.12-0.80 | 0.10-0.30 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

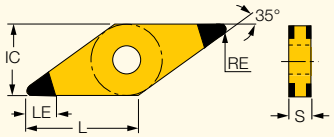
**Tools:** MVVNN

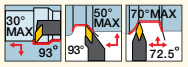
ISOTURN

## VNGG-M4HM (CBN)

35° Rhombic Insert with 4 Chipbreaking CBN Tips for Machining Hardened Steel






| Designation | Dimensions L | IC | S | RE | LE | IB25HA | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| VNGG 160408-M4HM | 16.60 | 9.52 | 4.76 | 0.80 | 2.2 | ● | 0.50-0.80 | 0.05-0.20 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

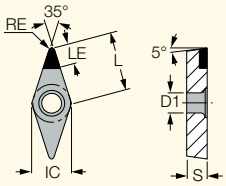
**Tools:** MVJNR/L • MVVNN

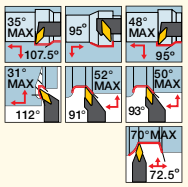
ISOTURN

## VBMT (CBN)

Single Corner CBN Tipped Inserts with a Flat Rake for Machining Hardened Steel






| Designation | Dimensions L | IC | S | RE | LE | D1 | Tough ↔ Hard IB55 | IB50 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| VBMT 160404T | 16.60 | 9.52 | 4.76 | 0.40 | 4.5 | 4.40 | ● | ● | 0.05-0.39 | 0.05-0.11 |

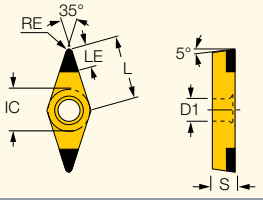
- For user guide and cutting speed recommendations, see pages 122-134, 236-254

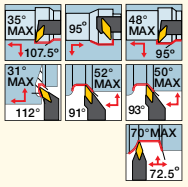
ISOTURN

## VBGW/VBMW-2 (CBN)

35° Positive Rhombic Inserts with 2 CBN Tips for Machining Hardened Steel






| Designation | Dimensions L | IC | S | RE | LE | D1 | Tough ↔ Hard IB20H | IB20HC | IB10H | IB10HC | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VBGW 110304-F2 | 11.10 | 6.35 | 3.18 | 0.40 | 3.1 | 2.80 | | ● | | ● | 0.10-0.50 | 0.05-0.20 |
| VBGW 160404-F2 | 16.60 | 9.52 | 4.76 | 0.40 | 3.1 | 4.40 | | ● | | ● | 0.10-0.50 | 0.05-0.20 |
| VBGW 160408-F2 | 16.60 | 9.52 | 4.76 | 0.80 | 2.2 | 4.40 | | ● | | ● | 0.10-0.50 | 0.05-0.20 |
| VBMW 110304-M2 | 11.10 | 6.35 | 3.18 | 0.40 | 3.1 | 2.80 | ● | | ● | ● | 0.05-0.50 | 0.05-0.20 |
| VBGW 160404-M2 | 16.60 | 9.52 | 4.76 | 0.40 | 3.1 | 4.40 | | | | ● | 0.05-0.50 | 0.05-0.20 |
| VBMW 160404-M2 | 16.60 | 9.52 | 4.76 | 0.40 | 3.1 | 4.40 | ● | | ● | | 0.05-0.50 | 0.05-0.20 |
| VBGW 160408-M2 | 16.60 | 9.52 | 4.76 | 0.80 | 2.2 | 4.40 | | | | ● | 0.05-0.50 | 0.05-0.20 |
| VBMW 160408-M2 | 16.60 | 9.52 | 4.76 | 0.80 | 2.2 | 4.40 | ● | | ● | | 0.05-0.39 | 0.05-0.11 |

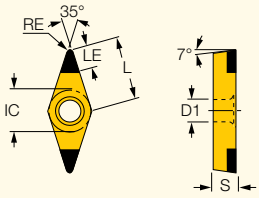
- For user guide and cutting speed recommendations, see pages 122-134, 236-254

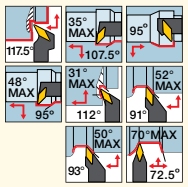
ISOTURN

## VCGW-2 (CBN)

35° Positive Rhombic Inserts with 2 CBN Tips for Machining Hardened Steel






| Designation | Dimensions L | IC | S | RE | LE | D1 | Tough ↔ Hard IB20HC | IB10HC | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| VCGW 160404-F2 | 16.60 | 9.52 | 4.76 | 0.40 | 3.1 | 4.40 | • | • | 0.10-0.50 | 0.05-0.30 |
| VCGW 160404-M2 | 16.60 | 9.52 | 4.76 | 0.40 | 3.1 | 4.40 | • | • | 0.10-0.50 | 0.05-0.30 |
| VCGW 160408-F2 | 16.60 | 9.52 | 4.76 | 0.80 | 2.2 | 4.40 | • | • | 0.10-0.50 | 0.05-0.30 |
| VCGW 160408-M2 | 16.60 | 9.52 | 4.76 | 0.80 | 2.2 | 4.40 | • | • | 0.10-0.50 | 0.05-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

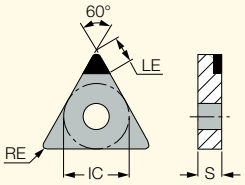
**Tools:** AVC-SVLCR/L-VH • A/S-SVLBCR/L • A/S-SVLFCR/L; A-SVUCR/L • A/S-SVQCR/L • AVC-SVLCR/L • C#-SVJCR/L • C#-SVJCR/L-JHP • C#-SVVCN • HSK A63WH-SVJCR/L • SVJCR/L • SVJCR/L-16-JHP • SVVCN • SVXCR/L

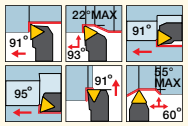
ISOTURN

## TNMA (CBN)

Triangular Inserts with a Single Corner CBN Tip for Machining Cast Iron and Hardened Steel






| Designation | Dimensions L | IC | S | RE | LE | Tough ↔ Hard IB85 | IB55 | IB50 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| TNMA 160404T | 16.50 | 9.52 | 4.76 | 0.40 | 3.9 | • | • | • | 0.05-0.50 | 0.05-0.25 |
| TNMA 160408T | 16.50 | 9.52 | 4.76 | 0.80 | 3.5 | | • | | 0.05-0.50 | 0.05-0.25 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

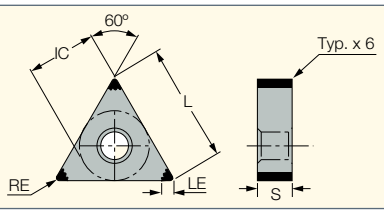
**Tools:** A-PTFNR/L-X/G • DTGNR/L • MTENN-W • MTJNR/L-W • PTFNR/L • PTGNR/L • PTGNR/L-X • PTGNR/L-X-JHP • PTGNR/L-X-JHP-MC • S-MTLNR/L-W • S-PTFNR/L

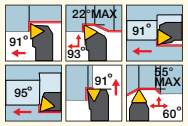
ISOTURN

## TNGA-J(CBN)

Triangular Multi-Cornered CBN Inserts for Machining Hardened Steel






| Designation | Dimensions L | IC | RE | LE | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|
| TNGA 160408-R6-J | 16.50 | 9.52 | 0.80 | 1.60 | 0.12-0.80 | 0.10-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

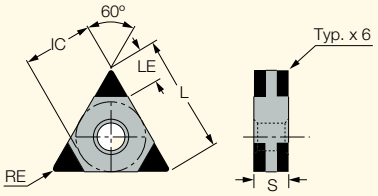
**Tools:** A-PTFNR/L-X/G • DTGNR/L • MTENN-W • MTJNR/L-W • PTFNR/L • PTGNR/L • PTGNR/L-X • PTGNR/L-X-JHP • PTGNR/L-X-JHP-MC • S-MTLNR/L-W • S-PTFNR/L

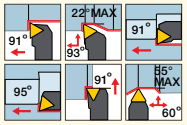
ISOTURN

## TNGA-MC/M6 (CBN)

Triangular Multi-Cornered CBN Inserts for Machining Hardened Steel






| Designation | Dimensions L | IC | S | RE | LE | Tough ↔ Hard IB25HC | IB55 | IB10HC | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| TNGA 160404T-MC | 16.50 | 9.52 | 4.76 | 0.40 | 3.2 | | ● | | 0.05-0.50 | 0.05-0.20 |
| TNGA 160408-M6 | 16.50 | 9.52 | 4.76 | 0.80 | 1.9 | ● | | ● | 0.05-0.50 | 0.05-0.20 |
| TNGA 160408T-MC | 16.50 | 9.52 | 4.76 | 0.80 | 1.9 | | ● | | 0.05-0.50 | 0.05-0.20 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

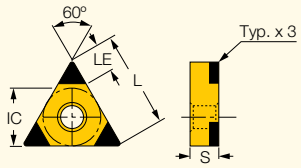
**Tools:** A-PTFNR/L-X/G • DTGNR/L • MTENN-W • MTJNR/L-W • PTFNR/L • PTGNR/L • PTGNR/L-X • PTGNR/L-X-JHP • PTGNR/L-X-JHP-MC • S-MTLNR/L-W • S-PTFNR/L

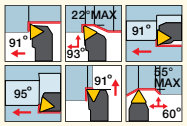
ISOTURN

## TNGA-M3 (CBN)

Triangular Inserts with 3 CBN Tips for Machining Hardened Steel, Sintered Metals and High Temperature Alloys






| Designation | Dimensions L | IC | S | RE | LE | Tough ↔ Hard IB10S | IB20H | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| TNGA 160404-M3 | 16.50 | 9.52 | 4.76 | 0.40 | 2.2 | ● | | 0.10-0.50 | 0.05-0.30 |
| TNGA 160408-M3 | 16.50 | 9.52 | 4.76 | 0.80 | 1.9 | ● | ● | 0.05-0.50 | 0.05-0.30 |
| TNGA 160412-M3 | 16.50 | 9.52 | 4.76 | 1.20 | 2.4 | ● | | 0.10-0.50 | 0.05-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

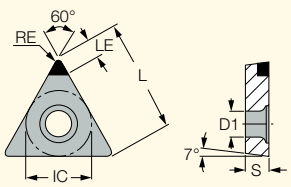
**Tools:** A-PTFNR/L-X/G • DTGNR/L • MTENN-W • MTJNR/L-W • PTFNR/L • PTGNR/L • PTGNR/L-X • PTGNR/L-X-JHP • PTGNR/L-X-JHP-MC • S-MTLNR/L-W • S-PTFNR/L

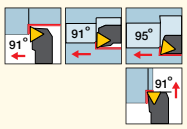
ISOTURN

## TCMT (CBN)

Triangular Positive Inserts with a Single CBN Flat Rake Tip for Machining Hardened Steel






| Designation | Dimensions L | IC | S | RE | LE | D1 | Tough ↔ Hard IB55 | IB50 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| TCMT 110204T | 11.00 | 6.35 | 2.38 | 0.40 | 3.5 | 2.85 | ● | ● | 0.05-0.50 | 0.05-0.13 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

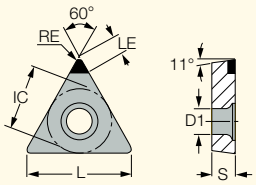
**Tools:** E-STFCR-HEAD • S-STFCR/L • S-STLCR/L • STFCR/L • STGCR/L

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## TPGX (CBN)

Triangular Inserts with CBN Single Top Corner Brazed Tip, 11° Clearance for Machining Cast Iron and Hardened Steel









| Designation | Dimensions L | IC | S | RE | LE | D1 | Tough ↔ Hard IB90 | IB50 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| TPGX 090202T | 9.52 | 5.56 | 2.38 | 0.20 | 2.5 | 2.50 | ● | ● | 0.05-0.50 | 0.03-0.20 |
| TPGX 090204T | 9.52 | 5.56 | 2.38 | 0.40 | 2.6 | 2.50 | ● | ● | 0.05-0.50 | 0.03-0.20 |
| TPGX 110302T | 11.00 | 6.35 | 3.18 | 0.20 | 3.3 | 3.50 | ● | ● | 0.05-0.50 | 0.03-0.20 |
| TPGX 110304T | 11.00 | 6.35 | 3.18 | 0.40 | 3.0 | 3.50 | ● | ● | 0.05-0.50 | 0.03-0.20 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

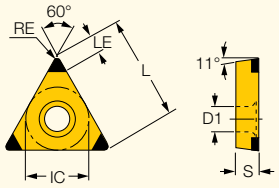
**Tools:** A/E-STFPR-X • MG STFPR-X

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## TPGW-M3 (CBN)

Triangular Positive Inserts with 3 CBN Tips for Machining Sintered Metals and High Temperature Alloys









| Designation | Dimensions L | IC | S | RE | LE | D1 | Tough ↔ Hard IB05S | IB10HC | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| TPGW 110204-M3 | 11.00 | 6.35 | 2.38 | 0.40 | 2.2 | 2.80 | ● | | 0.05-0.50 | 0.05-0.30 |
| TPGW 110208-M3 | 11.00 | 6.35 | 2.38 | 0.80 | 2.2 | 2.80 | ● | | 0.05-0.50 | 0.05-0.30 |
| TPGW 110304-M3 | 11.00 | 6.35 | 3.18 | 0.40 | 2.2 | 3.40 | ● | ● | 0.05-0.50 | 0.05-0.30 |
| TPGW 110308-M3 | 11.00 | 6.35 | 3.18 | 0.80 | 2.1 | 3.40 | ● | | 0.05-0.50 | 0.05-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

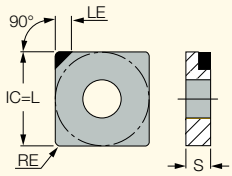
**Tools:** A/E-STFPR-X

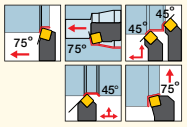
ISOTURN

## SNMA (CBN)

Square CBN Tipped Inserts with a Single Flat Rake for Machining Cast Iron and Hardened Steel






| Designation | Dimensions IC | S | RE | LE | IB55 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| SNMA 120408T | 12.70 | 4.76 | 0.80 | 4.5 | ● | 0.05-0.50 | 0.05-0.30 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

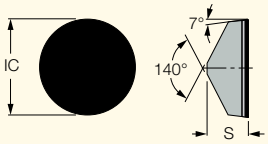
**Tools:** C#-MULNR/L-MW • DSBNR/L • DSDNN • DSKNR/L • DSSNR/L • HSK A63WH-MULNR-J12MWX2 • HSK A63WH-MULNR/L-MW • HSK A63WH-MUMNN-MW • MULNR/L-12MW • PSBNR/L • PSDNN • PSDNN-JHP • PSKNR/L • PSSNR/L • PSSNR/L-JHP

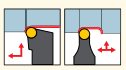
ISOTURN

## RCGX (CBN)

CBN Round Inserts with a Flat Rake for Machining Cast Iron and Hardened Steel





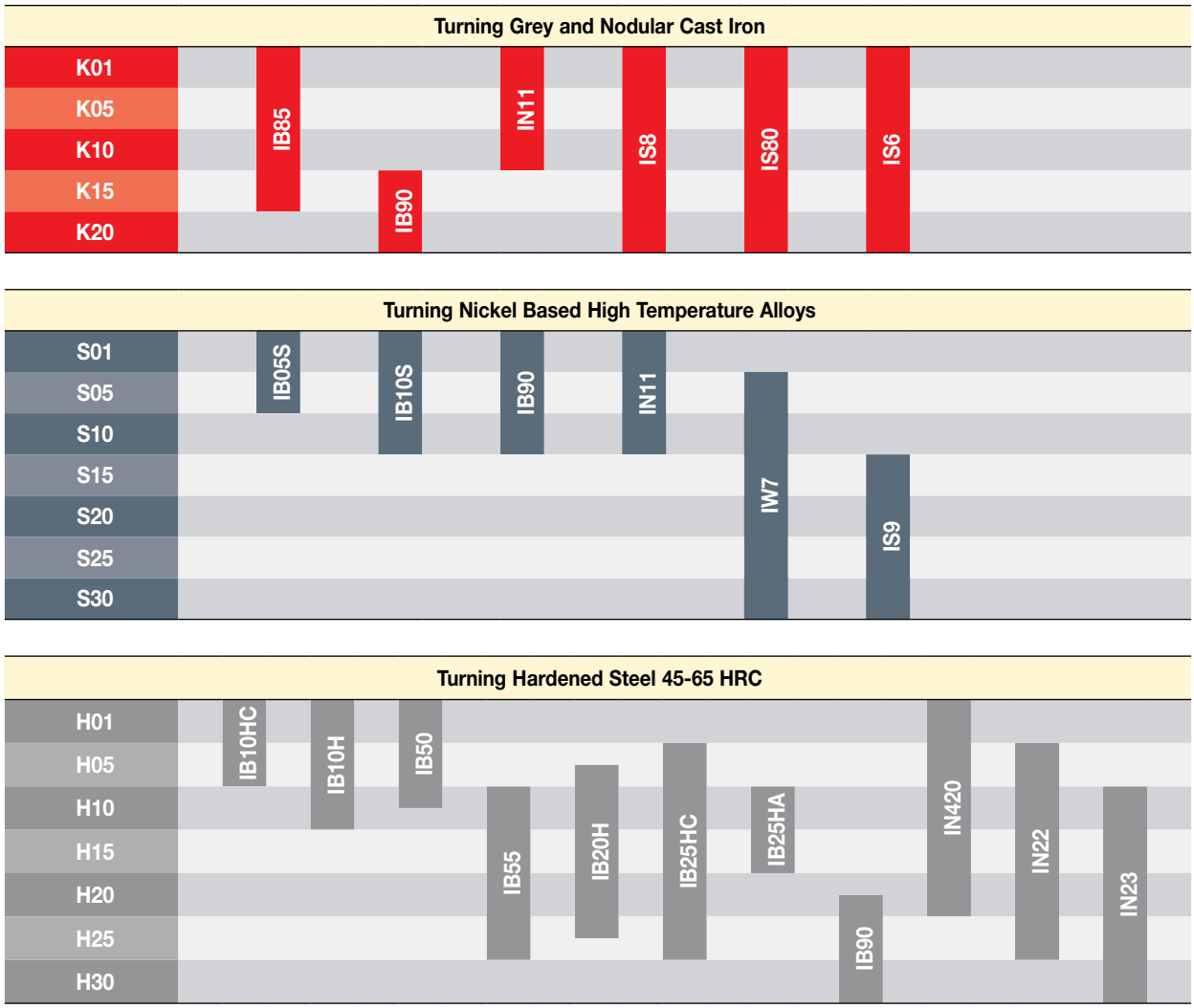



| Designation | Dimensions IC | S | IB90 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|
| RCGX 060300T | 6.35 | 3.18 | ● | 0.05-0.50 | 0.05-0.25 |
| RCGX 090300T | 9.52 | 3.18 | ● | 0.05-0.50 | 0.05-0.25 |
| RCGX 120400T | 12.70 | 4.76 | ● | 0.05-0.50 | 0.05-0.25 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

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## Application Range of Ceramic Inserts According to ISO Standard

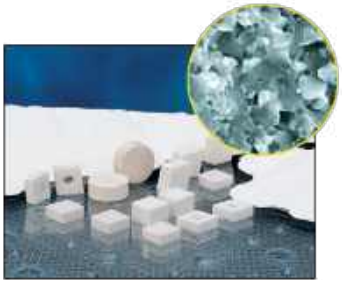


## Ceramic Cutting Tools

### IN11 $Al_2O_3$

**High Speed Finishing on Cast Iron and Steel**

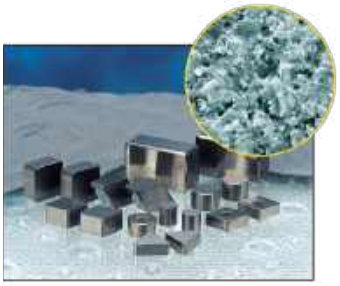
- Improves toughness and wear resistance
- ZrO2 additive
- Good for high speed turning on steel and cast iron



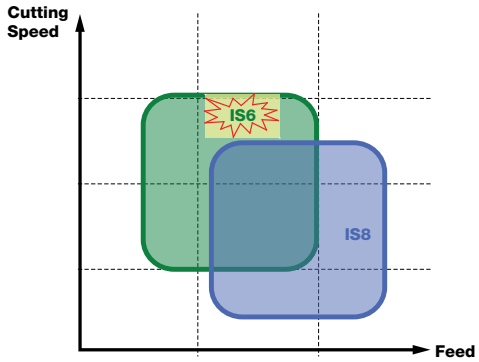
### IN22 $Al_2O_3$-TiCN

**Turning of Hardened Steel and Difficult-to-Cut Material**

- High speed machining of steel, tool steel, hardened steel, chilled cast iron, high chromium steel, etc.
- Suitable for light roughing-to-finishing of cast iron



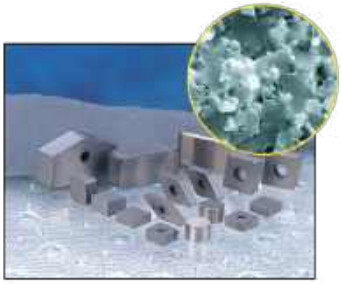
**Application Range for Machining Cast Iron**




### IN23 $Al_2O_3$-TiC

**Medium-to-Finishing Cutting on Cast Iron**

- Light interrupted turning on grey cast iron and nodular cast iron
- Milling with finishing conditions on grey cast iron



### IS6 SiAlON

**Features**

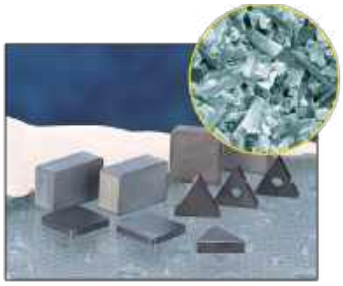
- High speed roughing and finish machining on cast iron
- Higher cutting speeds, when compared to SiN based ceramic grades
- Can be used for both wet and dry machining
- Suitable for turning automotive parts such as brake drums, brake disks, etc.
- High productivity in rough turning on steel mill rolls composed of high-Cr steel, HSS (High Speed Steel) and adamite



### IS8 Si3N4

**Turning and Milling of Grey Cast Iron**

- Roughing and interrupted cutting of cast iron
- Machining on nodular cast iron and superalloy



## Ceramic Cutting Tools

### IS80 CVD Coated Si3N4

**High Speed Rough Turning on Grey Cast Iron**

- Multi-layered coating on IS8 matrix
- Roughing and interrupted cutting of cast iron

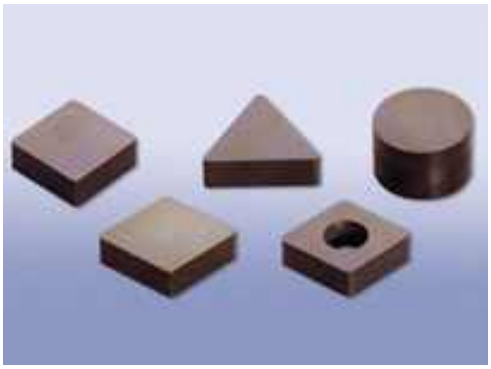


* Coolant is not recommended for interrupted cutting

### IS9 Si3N4

**Turning Nickel Based Alloys**

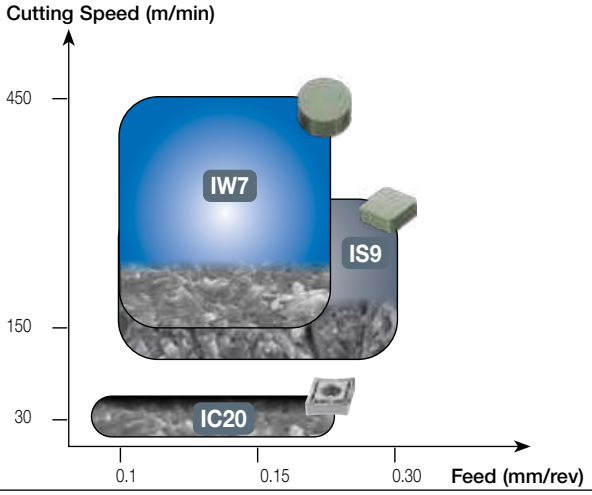
- Very tough Si3N4 ceramic grade with high cutting edge stability
- Machining on nickel based high temprature alloys, in roughing to finishing applications
- Honing is the standard edge preparation



### IW7 $AL2O_3$+Sic Whiskers

**Main Advantages**

- High hardness (HV 2,100)
- High fracture toughness due to SiC (silicon carbide) whisker - reinforced ceramics
- Excellent thermal shock resistance, which enables using coolant and interrupted cut machining
- Excellent for roughing and semi-finishing operations at 8-10 times faster cutting speeds when compared with carbide grades
- Good oxidation resistance due to its alumina substrate



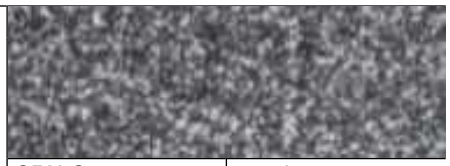
## ISO-H Hard Materials Turning

### IB10H (fine grain 0.5µm)

Uncoated, fine grain PCBN grade.

**Application**
Used at medium cutting speed, continuous or light interrupted cut on hardened steels. Provides excellent surface finish. Workpiece hardness range: 50-65 HRC.





| | |
|---|---|
| **CBN Content** | 53.5% |
| **Binder** | TiN-Al |

### IB20H

Uncoated, general purpose PCBN grade. Good balance between wear and impact resistance. Composed of both fine and medium CBN grain sizes.

**Application**
Continuous to medium interrupted cut on hardened steel.





| | |
|---|---|
| **CBN Content** | 65% |
| **Binder** | TiN-Al |

### IB10HC

TiN coated, PCBN grade with excellent wear resistance. Composed of very fine grain CBN.

**Application**
Medium to high speed, continuous machining on hardened steel.





| | |
|---|---|
| **CBN Content** | 53.5% |
| **Binder** | TiN-Al |

### IB25HC

Ti (C, N, O) coated grade, composed of medium CBN grain.

**Application**
High speed, continuous to light interrupted machining.





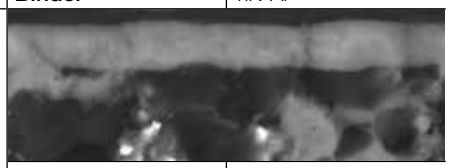
| | |
|---|---|
| **CBN Content** | 75% |
| **Binder** | TiN-Al |

### IB25HA

Ti (C,N,O) coated grade composed of medium CBN grain.

**Application**
General purpose machining on hardened steel.





| | |
|---|---|
| **CBN Content** | 65% |
| **Binder** | TiN-Al |

## ISO-S

### IB05S

Super fine, CBN grain with a very high CBN content.

**Application**
Turning on ferrous sintered metals.





| | |
|---|---|
| **CBN Content** | 95% |
| **Binder** | Co-Al-WC |

### IB10S

A very high CBN content grade, featuring high hardness.

**Application**
Turning on ferrous sintered metals such as valve seats and Ti alloys components.



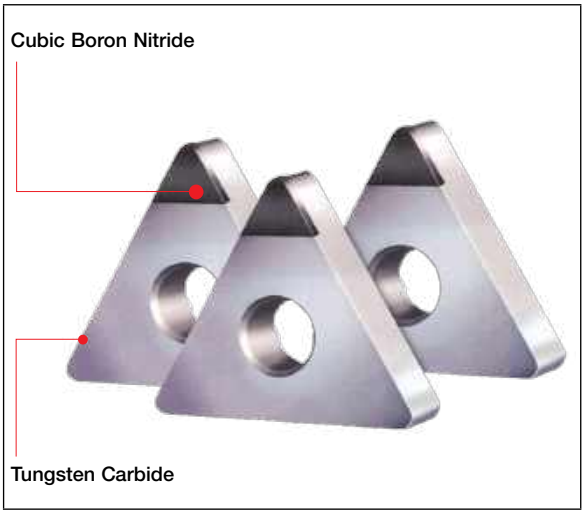


| | |
|---|---|
| **CBN Content** | 95% |
| **Binder** | Co-Al-WC |

## CBN Inserts

### Features

- Suitable for difficult-to-cut materials such as sintered metal, hardened steel and super alloys.
- Saves machining costs and shortens the work cycle by enabling machining of hardened steel.
- Provides an excellent surface finish.
- Significant improvement in productivity by high speed machining on hardened steel.
- Capable of high speed cutting of cast iron.




**ISCAR**'s CBN upgrade supports the worldwide increase in demand for CBN tipped inserts.

**ISCAR** features 7 CBN (Cubic Boron Nitride) grades for two main workpiece material groups:

**For hardened steel:**
ISO-H: IB10H, IB20H, IB10HC, IB25HC, IB25HA

**For high temperature alloys:**
ISO-S: IB05S, IB10S



## CBN Grades

### Grades & Applications for Hardened Steel

| | Material | | New Grade | Composition (% CBN) | Features and Applications |
|---|---|---|---|---|---|
| ISO-H UNCOATED | Hardened Steels | Wear Resistance ↑ / Toughness ↓ | IB10H | 53.5 | Excellent surface finish. Super fine grain. Continuous cut. |
| | | | IB20H | 65 | Composed of both fine and medium CBN grains. General-purpose grade for continuous to light interrupted machining. |
| | | | IB50 | 50 | Finishing on hardened steel (45-65 HRC) and nodular cast iron. Continuous cutting. |
| | | | IB55 | 60 | Semi-finishing on hardened steel (45-65 HRC) and nodular cast iron. Interrupted cutting. |
| ISO-H COATED | | Wear Resistance ↑ / Toughness ↓ | IB10HC | 53.5 | TiN coated grade very fine CBN grain. High speed continuous machining. |
| | | | IB25HC | 75 | Ti (C, N, O) coated CBN grade. High speed continuous to interrupted machining. |
| | | | IB25HA | 65 | Ti (C, N) coated CBN grade. High toughness. General purpose coated grade. Available with two types of chipbreakers (HF, HM). |

### Grades & Applications for Cast Iron

| | Material | | New Grade | Composition (% CBN) | Features and Applications |
|---|---|---|---|---|---|
| ISO-K | Cast Iron & Hard Metal | Wear Resistance ↑ / Toughness ↓ | IB85 | 85 | Hardened steel and cast iron (>45 HRC). Grey cast iron and nodular cast irons. Powdered metal/sintered iron. Super alloys/heat resistant alloys. Sintered tungsten carbide >17% Co. High speed cutting of cast iron. |
| | | | IB90 | 90 | High speed cutting on cast iron, cutting cemented tungsten carbide, sintered metal and super alloy. |

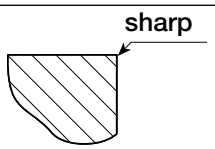
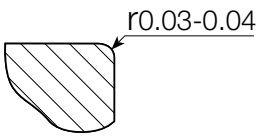
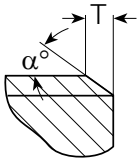
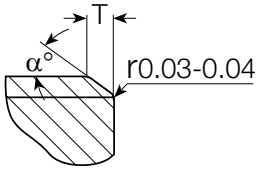
### Grades & Applications for High Temperature Alloys

| | Material | | New Grade | Composition (% CBN) | Features and Applications |
|---|---|---|---|---|---|
| ISO-S | Exotic Materials | Wear Resistance ↑ / Toughness ↓ | IB05S | 95 | Super fine grain CBN for machining ferrous sintered metals. |
| | | | IB10S | 95 | For machining valve seats, sintered metals and Ti alloys. |
| | | | IB90 | 90 | Cutting cemented tungsten carbide, sintered metal and super alloy. |

## Edge Preparation and Recommended Applications

### T-Land Sizes for Standard Items

| Grade | T (mm) | a° |
|---|---|---|
| IN22 | 0.20 | 25° |
| IN23 | 0.20 | 25° |
| IS80 | 0.20 | 25° |
| IS8 | 0.20 | 25° |
| IS9 | 0.10 | 25° |
| IN11 | 0.20 | 20° |
| IB50 | 0.14 | 20° |
| IB55 | 0.14 | 20° |
| IB85 | 0.14 | 20° |
| IB90 | 0.14 | 20° |
| IS6 | 0.20 | 25° |
| IW7 | 0.10 | 25° |
| IN420 | 0.2 | 25° |

| | | |
|---|---|---|
| F |  | For finishing and super finishing |
| E |  | For semi-finishing and finishing f < 0.2 mm/rev |
| T |  | For semi-roughing and roughing f > 0.2 mm/rev |
| S |  | For heavy roughing and interrupted cutting |

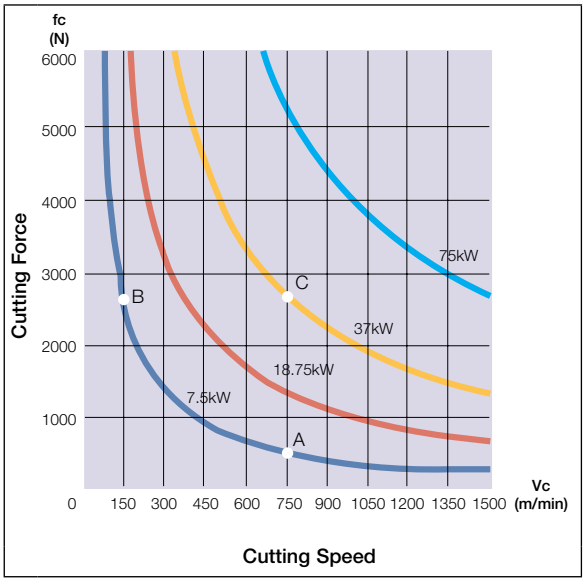
### Silicon Nitride for Cast Iron and High Temperature Alloys

**What is ISCANITE?**
ISCANITE is a cutting tool material containing over 90 percent silicon nitride. ISCANITE is produced by unique hot pressing methods to achieve full density, and provides superior toughness along with high thermal-shock resistance. These characteristics make ISCANITE an ideal cutting tool material with impact resistance near that of coated carbides, and the heat and wear resistance of aluminum-oxide ceramics.

**Which material can ISCANITE machine?**
ISCANITE is primarily used on cast iron and high temperature alloys, brass and composites. Steel is the only material usually avoided because of various chemical incompatibilities.

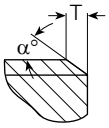
**ISCANITE Benefits**
ISCANITE will increase your productivity, reduce your machining costs and can drastically reduce tool forces. ISCANITE increases productivity through additional metal removal rates and can fully utilize the machine's potential. Machining costs are reduced with increased tool life, along with less downtime for indexing, gauging, and adjustments.

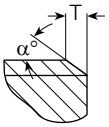
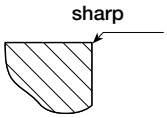
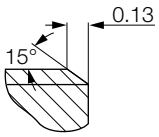
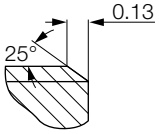
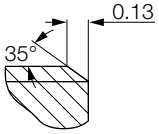
**Cutting Speed and Cutting Force**
It is preferable to machine at higher cutting speeds and lower cutting forces (Point A is preferred over Point B.) In this case, pressure is reduced on the workpiece and any tendency of the workpiece to move or vibrate. If the available machine power is higher, or the machine can be stepped up, the use higher cutting speeds of 750 m/min is possible, with the same cutting force as at Point B. (See Point C.) The positive influence of the cutting speed and feed on machining conditions: higher cutting speeds are recommended and possible for silicon nitride inserts.



## New Edge Preparations

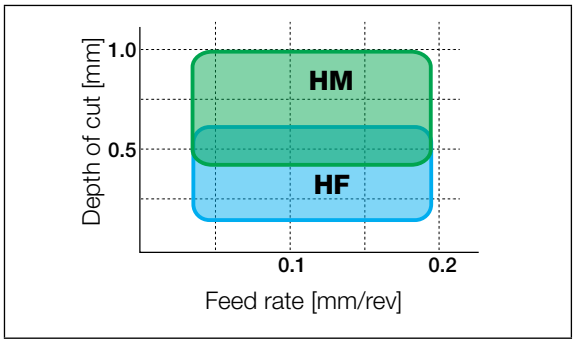
For the following grades: IB10HC, IB10H, IB20H, IB25HC, IB25HA, IB05S, IB10S.

| | Existing | |
|---|---|---|
| T |  | For continuous and interrupted cut |

| | New Edge Preparation Program | |
|---|---|---|
| T |  | For continuous and interrupted cut |
| S |  | For high surface finish |
| F |  | For finishing at continuous cut |
| M |  | For medium, continuous up to light interrupted cut |
| R |  | For light to heavy interrupted cut-rough machining |

### Chip Breaking Area for Hardened Steel



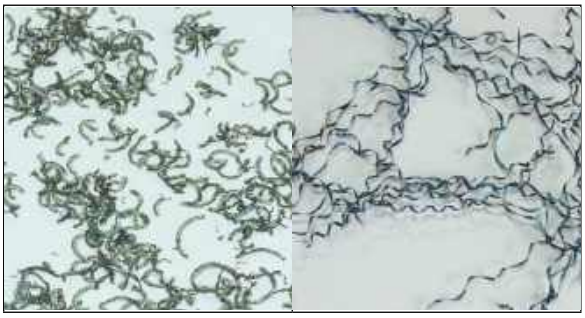



### New Innovative Chipbreakers for Hardened Steel

CBN inserts with two types of chipbreakers: HF and HM

| Existing Method | New Chipbreakers |
|---|---|
|  No chip control suitable for long linear cuts | **HF Type** Excellent chip control at small depths of cut  **HM Type** Used for large depth of cut  |

When turning hard materials, long and tangled chips are produced. The HF or HM chipformers provide excellent chip control at various depths of cut.



### PCD Inserts

**Features**

- Excellent surface finishing on aluminum, nonferrous metals and non-metal materials.
- Longer tool life in high speed machining, due to high wear resistance and excellent thermal conductivity.

**Note:** Not for use on steel or cast iron




### Grades and Application

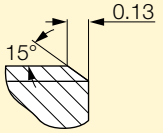
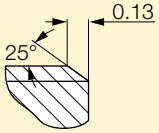
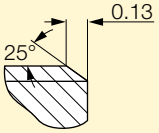
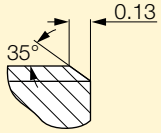
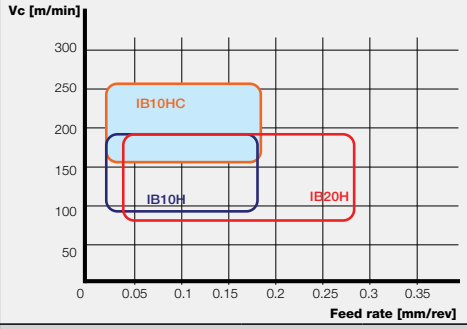
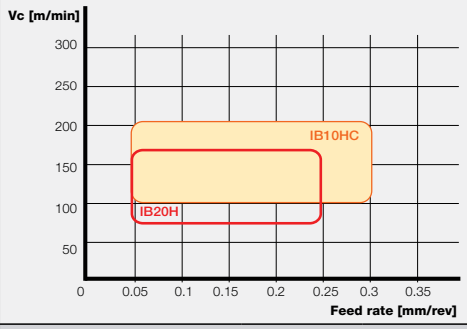
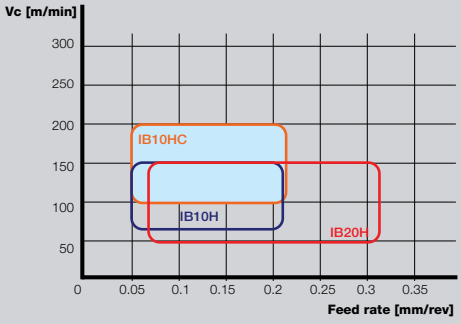
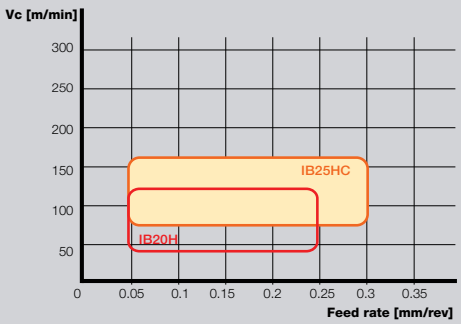
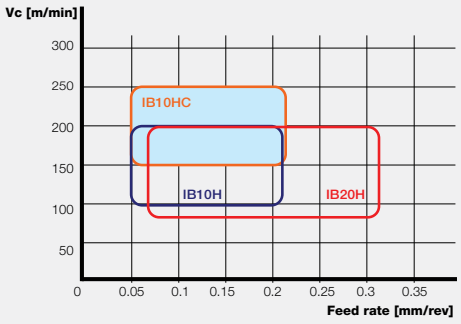
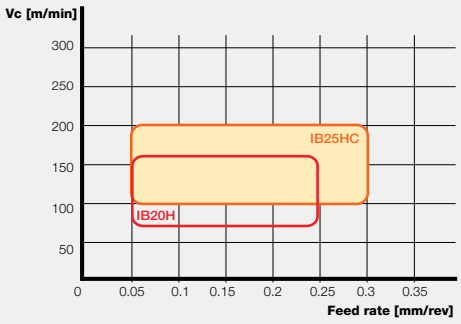
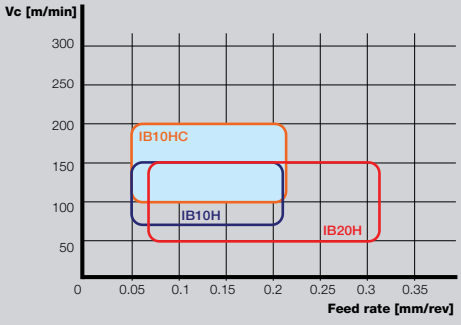
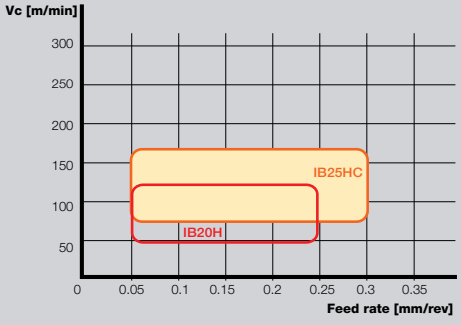
| Binder | Diamond Size | Grade | Feature and Application |
|---|---|---|---|
| High Cobalt | 8-9 µm | ID5 | Suitable for Al alloy (Si < 12%), Cu alloy General purpose cutting of nonferrous metal |

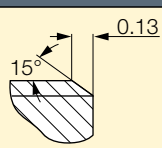
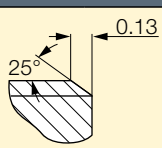
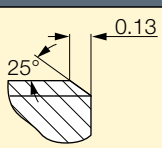
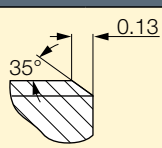
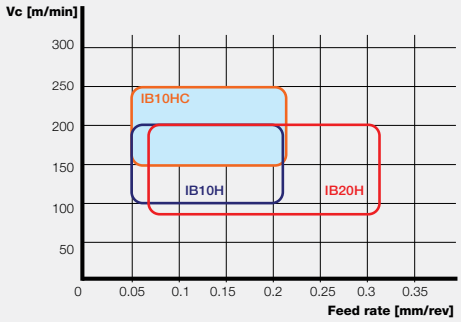
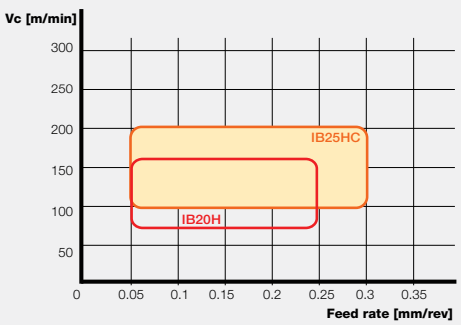
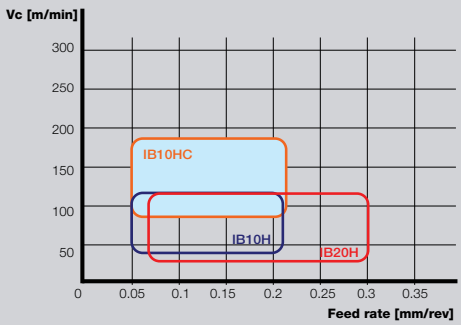
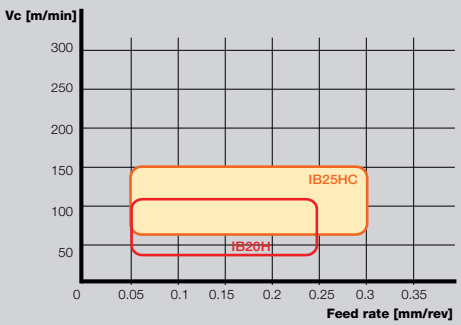
### Recommended Cutting Condition Turning

| Workpiece | Cutting Speed (m/min) | Feed (mm/rev) | Depth of Cut (mm) | Grades |
|---|---|---|---|---|
| Al alloy (4-9% Si) | 800-2500 | 0.1-0.3 | | ID5 |
| Al alloy (9-14% Si) | 600-1280 | 0.1-0.3 | 0.05-3.0 | ID5 |
| Cu alloy | 600-1000 | 0.05-0.2 | 0.05-3.0 | ID5 |

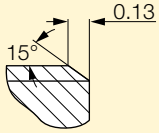
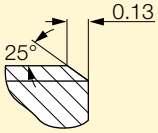
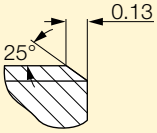
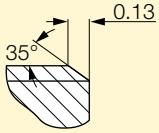
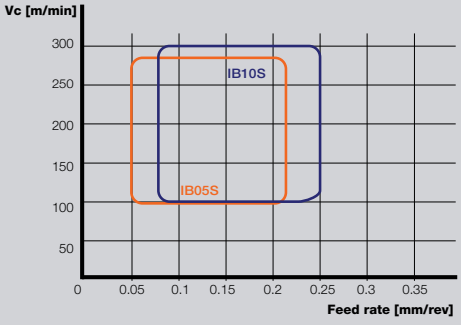
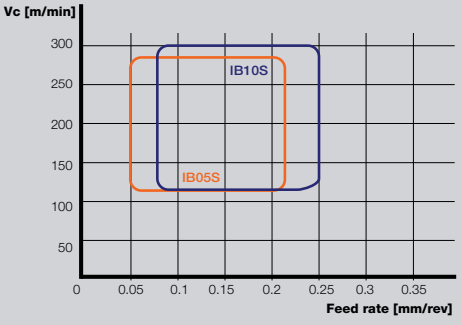
## Cutting Parameters and Application Recommendations

### Machining Areas of ISO-H Grades

| | Continuous Cut | | Interrupted Cut | |
|---|---|---|---|---|
| | F | M | M | R |
| Recommended Edge Preparation |  |  |  |  |
| Case Hardenend Steel (55-62 HRC) |  | |  | |
| Bearing Steel (58-65 HRC) |  | |  | |
| High Tensile Steel (45-56 HRC) |  | |  | |
| Cold Work Tool Steel (55-64 HRC) |  | |  | |

| | Continuous Cut | | Interrupted Cut | |
|---|---|---|---|---|
| | F | M | M | R |
| Recommended Edge Preparation |   |   |   |   |
| Hot Work Tool Steel (45-56 HRC) |   | |   | |
| High Speed Steel (58-66 HRC) |   | |   | |

## Machining Areas of ISO-S Grades

| | Continuous Cut | | Interrupted Cut | |
|---|---|---|---|---|
| | F | M | M | R |
| Recommended Edge Preparation |   |   |   |   |
| Sintered Metal (45-68 HRC) |   | |   | |

## Machining Data and Speed Recommendations for Turning

| ISO | Material | | Condition | Tensile Strength Rm [N/mm²=MPa] | Hardness HB | Material Group No. |
|---|---|---|---|---|---|---|
| P | Non-alloy steel and cast steel, free cutting steel | < 0.25 %C | Annealed | 420 | 125 | 1 |
| | | >= 0.25 %C | Annealed | 650 | 190 | 2 |
| | | < 0.55 %C | Quench and temper | 850 | 250 | 3 |
| | | >= 0.55 %C | Annealed | 750 | 220 | 4 |
| | | | Quench and temper | 1000 | 300 | 5 |
| | Low alloy steel and cast steel (less than 5% all element) | | Annealed | 600 | 200 | 6 |
| | | | | 930 | 275 | 7 |
| | | | Quench and tempered | 1000 | 300 | 8 |
| | | | | 1200 | 350 | 9 |
| | High alloyed steel, cast steel and tool steel | | Annealed | 680 | 200 | 10 |
| | | | Quench and temper | 1100 | 325 | 11 |
| | | | Ferritic/martensitic | 680 | 200 | 12 |
| | | | Martensitic | 820 | 240 | 13 |

| ISO | Material | Condition | Tensile Strength Rm [N/mm²=MPa] | Hardness HB | Material No. |
|---|---|---|---|---|---|
| M | Stainless steel | Austenitic | 600 | 180 | 14 |

| ISO | Material | | Condition | Tensile Strength Rm [N/mm²=MPa] | Hardness HB | Material No. |
|---|---|---|---|---|---|---|
| K | Grey cast iron (GG) | | Pearlitic/ferritic | | 180 | 15 |
| | | | Pearlitic/martensitic | | 260 | 16 |
| | Ductile cast iron (nodular) (GGG) | | Ferritic | | 160 | 17 |
| | | | Pearlitic | | 250 | 18 |
| | Malleable cast iron | | Ferritic | | 130 | 19 |
| | | | Pearlitic | | 230 | 20 |

| ISO | Material | | Condition | Tensile Strength Rm [N/mm²=MPa] | Hardness HB | Material No. |
|---|---|---|---|---|---|---|
| N | Aluminum-wrought alloys | | Not cureable | | 60 | 21 |
| | | | cured | | 100 | 22 |
| | Aluminum-cast alloys | <=12% Si | Not cureable | | 75 | 23 |
| | | | cured | | 90 | 24 |
| | | >12% Si | High temp. | | 130 | 25 |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 |
| | | | Brass | | 90 | 27 |
| | | | Electrolitic copper | | 100 | 28 |
| | Non-metallic | | Duroplastics, fiber plastics | | | 29 |
| | | | hard rubber | | | 30 |

| ISO | Material | | Condition | Tensile Strength Rm [N/mm²=MPa] | Hardness HB | Material No. |
|---|---|---|---|---|---|---|
| S | High temp. alloys | Fe based | Annealed | | 200 | 31 |
| | | | Cured | | 280 | 32 |
| | Super alloys | Ni or Co based | Annealed | | 250 | 33 |
| | | | Cured | | 350 | 34 |
| | | | Cast | | 320 | 35 |
| | Titanium Ti alloys | | | Rm 400 | | 36 |
| | | | Alpha+beta alloys cured | Rm 1050 | | 37 |

| ISO | Material | Condition | Tensile Strength Rm [N/mm²=MPa] | Hardness HB | Material |
|---|---|---|---|---|---|
| H | Hardened steel | Hardened | | 55 HRC | 38 |
| | | Hardened | | 60 HRC | 39 |
| | Chilled cast iron | Cast | | 400 | 40 |
| | Cast iron | Hardened | | 55 HRC | 41 |

| Cermet | | Cermet + PVD | | Carbide + PVD | Carbide + CVD | | | | |
|---|---|---|---|---|---|---|---|---|---|
| IC20N | IC30N | IC520N | IC530N | IC3028/830 | IC8250 | IC8150 | IC5005/428 | IC807/907 | IC8350 |
| 250-400 | 230-380 | 250-420 | 230-400 | 120-200 | 230-380 | 280-420 | 300-450 | 140-230 | 125-210 |
| 220-350 | 200-330 | 220-380 | 200-350 | 100-170 | 200-340 | 240-380 | 260-400 | 120-205 | 110-185 |
| 180-320 | 160-300 | 180-350 | 160-320 | 80-150 | 170-300 | 200-340 | 220-360 | 100-180 | 95-165 |
| 210-340 | 190-320 | 210-370 | 190-340 | 90-160 | 190-320 | 220-360 | 240-380 | 115-190 | 105-175 |
| 160-300 | 140-280 | 160-330 | 140-300 | 80-130 | 160-280 | 180-320 | 200-340 | 95-170 | 90-155 |
| 180-320 | 160-300 | 180-350 | 160-320 | 80-150 | 170-300 | 200-340 | 220-360 | 100-180 | 95-165 |
| 170-300 | 150-280 | 170-330 | 150-300 | 70-130 | 160-280 | 200-320 | 220-340 | 95-170 | 90-155 |
| 160-250 | 140-230 | 160-280 | 140-250 | 60-120 | 140-250 | 190-300 | 210-320 | 85-150 | 75-135 |
| 150-220 | 130-200 | 150-250 | 130-230 | 50-100 | 120-220 | 180-280 | 200-300 | 70-130 | 65-120 |
| 180-300 | 160-280 | 180-330 | 160-300 | 80-130 | 170-280 | 200-320 | 220-340 | 100-170 | 95-155 |
| 150-220 | 130-200 | 150-250 | 130-230 | 50-100 | 120-220 | 180-280 | 200-300 | 70-30 | 65-120 |
| 210-340 | 190-320 | 210-370 | 190-340 | 90-160 | 190-320 | 220-360 | 240-380 | | |
| 180-320 | 160-300 | 180-350 | 160-320 | 80-150 | 170-300 | 240-380 | 260-400 | | |

| Cermet + PVD | | Carbide + PVD | | | Carbide + CVD | |
|---|---|---|---|---|---|---|
| IC520N | IC530N | IC807/907 | IC808/908 | IC3028/830 | IC6015 | IC6025 |
| 150-280 | 140-250 | 100-200 | 90-200 | 50-120 | 140-250 | 120-180 |

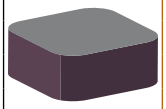
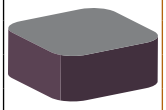
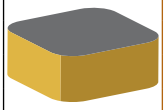
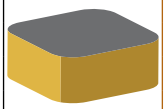
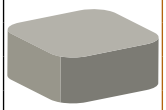
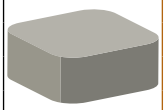
| Carbide + CVD | | | Ceramics | | | | Ceramics + CVD | CBN | |
|---|---|---|---|---|---|---|---|---|---|
| IC5005/ 428 | IC5010/ 4028 | IC8150 | IN11 | IN23 | IS6 | IS8 | IS80 | IB90/85 | IB50 |
| 160-300 | 160-300 | 140-280 | | 150-400 | 500-900 | 80-300 | | | 200-400 |
| 140-280 | 140-280 | 120-240 | | 100-350 | 500-900 | 50-250 | | | 150-350 |
| 350-700 | 300-600 | 250-350 | 300-800 | 300-600 | 500-1200 | 300-1000 | 400-1000 | 500-12000 | |
| 300-600 | 250-500 | 200-300 | 200-600 | 200-500 | 500-1200 | 250-800 | 300-800 | 400-1000 | |
| 200-350 | 250-400 | 180-320 | | | | | | | 350-500 |
| 180-280 | 200-320 | 150-250 | | | | | | | 150-400 |

| Carbide | PCD |
|---|---|
| IC20 | ID5 |
| 1000-2500 | 600-2500 |
| 300-1000 | 600-2500 |
| 300-1000 | 600-2500 |
| 200-600 | 600-2500 |
| | |
| 250-600 | 600-1000 |
| 180-400 | 600-800 |
| 150-300 | 600-800 |
| | |
| | |

| Carbide | | Carbide + PVD | | | | Whiskers | CBN | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| IC07 | IC20 | IC804 | IC806 | IC907 | IC3028 | IW7 | IB05S | IB10S | IB90 | IB85 |
| 40-55 | 35-45 | | | 50-80 | 30-40 | | | | | |
| 30-45 | 25-35 | | | 40-65 | 20-30 | | | | | |
| 30-40 | 25-30 | 65 - 105 | 50-80 | 45-60 | 20-25 | 150-450 | | | | |
| 20-30 | 15-25 | 50 - 90 | 40-70 | 35-45 | 10-20 | | 100-250 | 100-250 | 100-200 | 120-240 |
| 25-35 | 20-30 | 40 - 85 | 30-65 | 30-50 | 15-25 | | | | | |
| 100-160 | 80-160 | | | 150-200 | 130-160 | | | | | |
| 50-60 | 50-60 | | | 50-100 | 30-60 | | | | | |

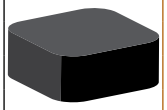
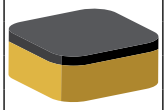
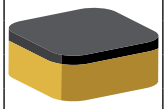
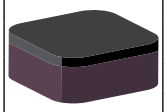
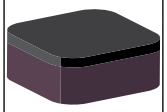
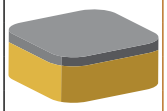
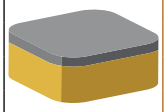
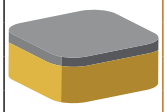
| Ceramics | | | | CBN | | | | | | | Carbide + PVD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| IN22 | IN420 | IN23 | IS8 | IB10HC | IB10H | IB50/55 | IB20H | IB25HC | IB25HA | IB85/90 | IC907 |
| 50-150 | 60 - 170 | 40-120 | | 150-350 | 100-220 | 100-140 | 100-220 | 100-220 | 90-200 | 80-140 | 40-100 |
| 50-120 | 60 - 140 | 40-100 | | 150-350 | 100-220 | 80-120 | 100-220 | 100-220 | 90-200 | 60-120 | 30-60 |
| 30-200 | 30 - 230 | | | | | | | | | 70-150 | |
| | | 80-120 | 60-100 | | | | | | | 100-140 | |

## ISCAR Turning Grades Chart

| | Grade | ISO | Grade Description | Coating Layers | Coating Color* | Uncoated |
|---|---|---|---|---|---|---|
| PVD COATED | IC520N | P05-P25<br>M05-M15 | A hard cermet grade with PVD coating. Suitable for finishing operations on steels and stainless steel at high cutting speeds and low feeds. Features excellent surface finish, very good wear resistance and prevents built-up edge. | TiN<br>TiCN<br>Base |  | |
| | IC530N | P25-P35<br>M20-M30 | Tough cermet grade with PVD coating. Recommended for Semi-Finishing and finishing operations on steels at medium to high cutting speeds and low feeds. Features excellent surface finish, high wear resistance, plastic deformation durability and prevents built-up edge. | TiN<br>TiCN<br>Base |  | |
| | IC804 | S05-S15 | A very hard submicron grain size substrate with PVD coating and a special SUMOTEC surface treatment. Suitable for semi-finishing and finishing operations under stable conditions on high temperature alloys and Titanium alloys moderate to relatively high cutting speeds. Features high wear resistance and plastic deformation durability. | TiAlN<br>AlTiN<br>Base |  | |
| | IC806 | M05-M15<br>S10-S20 | A hard submicron grain size substrate with PVD coating and a special SUMOTEC surface treatment. Excellent for machining high temperature alloys and Titanium alloys, at moderate to relatively high cutting speeds. Features high wear resistance and plastic deformation durability. | TiAlN<br>AlTiN<br>Base |  | |
| | IC807 | P10-P20<br>M05-M15<br>K15-K30<br>S10-S20<br>H05-H15 | A hard submicron grain size substrate with PVD coating and a special SUMOTEC surface treatment. Suitable for machining steels, alloy steels, austenitic stainless steel, high temperature alloys and hard steels at moderate to relatively high cutting speeds under stable conditions. Features high wear resistance and plastic deformation durability. | TiN<br>TiAlN<br>Base |  | |
| | IC830 | P30-P45<br>M25-M40<br>S20-S30 | A tough substrate with PVD coating and a special SUMOTEC surface treatment. Suitable for machining steel and stainless steel at low to medium cutting speeds and moderate to high feeds. The grade features high toughness and recommended for interrupted cuts and machining under unstable conditions. May be used on high temperature alloys at low cutting speeds. | TiN<br>TiAlN<br>Base |  | |
| | IC907 | P10-P20<br>M05-M15<br>K15-K30<br>S10-S20<br>H05-H15 | A hard submicron grain size substrate with PVD coating suitable for a wide range of materials such as steels, alloy steels, hard steels, austenitic stainless steel and heat resistant alloys at moderate to relatively high cutting speeds under stable conditions. Features high wear resistance and plastic deformation durability. | TiAlN<br>Base |  | |
| | IC908 | P15-P30<br>M20-M30<br>K20-K40<br>S15-S30<br>H20-H30 | A tough submicron grain size substrate with PVD coating, recommended for general use in a large variety of operations and materials such as steels, alloy steels, austenitic stainless steel and high temperature alloys at moderate cutting speeds. Features high wear resistance and chipping durability. | TiAlN<br>Base |  | |

* For coated grades

## ISCAR Turning Grades Chart

| | Grade | ISO | Grade Description | Coating Layers | Coating Color* | Uncoated |
|---|---|---|---|---|---|---|
| CVD COATED | IC428 | K05-K20<br>H15-H25 | A hard substrate with multilayer CVD coating. Recommended for machining gray and nodular cast iron at moderate to high cutting speeds. | $Al_2O_3$<br>TiC<br>Base |  | |
| | IC5005 | P05-P15<br>K05-K15<br>H15-H25 | A very hard substrate with MTCVD coating with a special SUMOTEC surface treatment. Suitable for machining gray and nodular cast iron at high cutting speeds under stable conditions. | TiN<br>$Al_2O_3$<br>TiCN<br>Base |  | |
| | IC5010 | K10-K20 | A hard substrate with MTCVD coating with a special SUMOTEC surface treatment. Recommended for machining gray and nodular cast iron at moderate to high cutting speeds, provides very good resistance to chipping. | TiN<br>$Al_2O_3$<br>TiCN<br>Base |  | |
| | IC6015 | M05-M25<br>S10-S20 | A hard substrate with cobalt enriched outer layer and MTCVD coating and a special SUMOTEC surface treatment. Suitable for finishing and medium turning of stainless steel at high cutting speeds. Features long tool life and high wear resistance. | TiN<br>$Al_2O_3$<br>TiCN<br>Base |  | |
| | IC6025 | M15-M35<br>S20-S30 | A very tough substrate with MTCVD coating with a special SUMOTEC surface treatment. Recommended for machining stainless steel at moderate cutting speeds and medium to high feeds. Features very high toughness with excellent results in heavy machining operations, unstable conditions, and interrupted cut. | TiN<br>$Al_2O_3$<br>TiCN<br>Base |  | |
| | IC8150 | P10-P25<br>M10-M20<br>K10-K25 | A hard substrate with a cobalt enriched layer, MTCVD coating with a special SUMOTEC surface treatment. Recommended for high speed machining of steels, alloy steels and martensitic stainless steel with moderate feeds under stable conditions. Features excellent thermal stability, resistance to wear and plastic deformation durability. | TiN<br>$Al_2O_3$<br>TiCN<br>Base |  | |
| | IC8250 | P15-P35<br>M15-M25 | A tough substrate with a cobalt enriched layer and MTCVD coating with a special SUMOTEC surface treatment. Recommended for general use machining of steels, alloy steels and martensitic stainless steel in a wide range of conditions. Features high toughness and good wear resistance. | TiN<br>$Al_2O_3$<br>TiCN<br>Base |  | |
| | IC8350 | P2O-P45<br>M20-M30 | A very tough substrate with cobalt enriched layer and MTCVD coating and a special SUMOTEC surface treatment. Suitable for machining steels and alloy steels at low to medium cutting speeds and medium to high feeds. Features very high toughness with excellent results in heavy machining, unstable conditions, and interrupted cuts. | TiN<br>$Al_2O_3$<br>TiCN<br>Base |  | |

* For coated grades

## ISCAR Turning Grades Chart

| | Grade | ISO | Grade Description | Coating Layers | Coating Color* | Uncoated |
|---|---|---|---|---|---|---|
| UNCOATED | IC4 | N01-N15<br>S05-S15 | A very hard-uncoated carbide grade, suitable for machining aluminum alloys, aluminum alloys with high silicon content and other non-ferrous materials at high cutting speeds. | Base | |  |
| | IC08 | M15-M30<br>N10-N25<br>S20-S30 | A tough uncoated submicron carbide grade, suitable for steels, stainless steel and high temperature alloys at low cutting speeds. Good choice for non-ferrous materials. | Base | |  |
| | IC20 | K10-K20<br>N05-N25<br>S10-S20<br>H10-H20 | A hard-uncoated carbide grade for machining aluminum and other non-ferrous materials at medium to high cutting speeds. Can be used for cast iron at low cutting speeds. Suitable also for machining high temperature and Titanium alloys, at low cutting speeds. | Base | |  |
| CERMET | IC20N | P05-P25<br>M05-M15 | A very hard cermet grade for turning and grooving. Recommended for finishing operations on steels and alloy steels at high cutting speeds and low feeds. Features excellent surface finish, high wear resistance, plastic deformation durability and prevents built-up edge. | Base | |  |
| | IC30N | P10-P30<br>M10-M20 | A hard cermet grade, suitable for machining, steels and stainless steel at medium to high cutting speeds and low feeds. Features excellent surface finish, very good wear resistance and prevents built-up edge. | Base | |  |

* For coated grades

## Advanced Cutting Materials

| | Grade | ISO | Grade Description | Coating Layers | Coating Color* | Uncoated |
|---|---|---|---|---|---|---|
| CBN | IB05H | H05-H10 | A high speed grade for continuous machining. The binding force between the particles is now improved by use of coarse PCBN grains which provide excellent wear resistance results. | Base | |  |
| | IB05S | S05 | A high speed grade for continuous machining. The binding force between the particles is now improved by use of coarse PCBN grains which provide excellent wear resistance results. | Base | |  |
| | IB10H | H10 | Extra fine PCBN grain size. Suitable for high speed machining of hardened steels (45-65 HRC) under stable conditions. | Base | |  |
| | IB10S | S10 | Very hard PCBN grade with fine grain size. Suitable for machining auto engine valve seats, sintered metals and Titanium alloys. | Base | |  |
| | IB10HC | H10 | Extra fine PCBN grain size with PVD coating. Suitable for high speed machining of hardened steels (45-65 HRC) under stable conditions. | TiN<br>Base |  | |
| | IB20H | H20 | A combination of coarse and fine PCBN grain. Suitable for general and interrupted cutting of hardened steels. | Base | |  |
| | IB20HC | H15-H25 | Coated PCBN grade for hardened steel turning. High chipping resistance & extremely tough substrate for all-round use. | TiN<br>Base |  | |
| | IB25HA | H25 | A tough PCBN grade with PVD coating suitable for general cutting of hardened steels. | TiN<br>Base |  | |
| | IB25HC | H25 | Medium PCBN grain size with PVD coating suitable for light and medium interrupted cutting of hardened steels. | TiN<br>Base |  | |

* For coated grades

## Advanced Cutting Materials

| | Grade | ISO | Grade Description | Coating Layers | Coating Color* | Uncoated |
|---|---|---|---|---|---|---|
| CBN | IB50 | K01-K10<br>H01-H10 | A PCBN grade, suitable for finish turning and grooving operations on hardened steels 45-65 HRC and nodular cast iron in continuous cutting. | Base | |  |
| | IB55 | K05-K15<br>H10-H25 | A PCBN grade, suitable for finishing operations on hardened steels 45-65 HRC and nodular cast iron under continuous conditions and light interrupted cuts. | Base | |  |
| | IB85 | K01-K15<br>S05-S10<br>H05-H10 | A PCBN grade, suitable for high speed machining of cast iron, cemented tungsten carbide, heavy alloys and sintered metals. Excellent for interrupted cutting of hardened steels. | Base | |  |
| | IB90 | K05-K15<br>S01-S10<br>H05-H10 | A PCBN grade, suitable for high speed machining of cast iron, cemented tungsten carbide, heavy alloys and sintered metals. Excellent for interrupted cutting of hardened steels. | Base | |  |
| PCD | ID5 | N01-N10 | A PCD brazed tip, suitable for machining aluminum alloys (Si < 12%) and other non-ferrous materials. Features very high wear resistance with high toughness. Suitable for finishing operations and can be used for semi roughning operations and interrupted cut. | Base | |  |
| CERAMICS | IN22 | K05-K10<br>H05-H25 | Black ceramic ($Al_2O_3$ + TiCN), suitable for semi-roughing and finishing operations at relatively high cutting speeds of hardened steels and chilled cast iron. | Base | |  |
| | IN23 | K05-K15<br>H10-H30 | Black ceramic ($Al_2O_3$ + TiCN), suitable for moderate machining conditions and finishing operations of nodular and gray cast iron. | Base | |  |
| | IN110 | K01-K10<br>S01-S10 | White ceramic. Features high toughness and wear resistance. Used for high speed turning of cast iron. | Base | |  |
| | IN420 | K05-K10<br>H05-H25 | Black ceramic ($Al_2O_3$ + TiCN) with PVD coating suitable for semi-roughing and finishing operations at relatively high cutting speeds ofhardened steels and chilled cast iron. | TiN<br>Base |  | |

* For coated grades

## Advanced Cutting Materials

| | Grade | ISO | Grade Description | Coating Layers | Coating Color* | Uncoated |
|---|---|---|---|---|---|---|
| CERAMICS | IS6 | K01-K10 | SiAlON based ceramic grade for high speed machining of cast iron. Used for roughing and finishing under both wet and dry conditions of automotive parts like brake drum, brake discs and more. Provides high productivity also in rough turning of mill rolls made of high-chromium steel and HSS. | Base | |  |
| | IS25 | S10-S20 | Reinforced SiAlON composite grade, features high hardness, suitable for machining high temperature alloys such as Inconel, Waspaloy and Rene under continuous conditions. | Base | |  |
| | IS35 | S15-S25 | Reinforced SiAlON composite grade, features high hardness with excellent toughness. Suitable for machining high temperature alloys such as Inconel, Waspaloy and Rene under continuous and light interrupted cutting conditions. | Base | |  |
| | IS80 | K01-K20 | A silicon nitride ($Si_3N_4$) ceramic grade, with CVD coating suitable for turning of grey and nodular cast iron at high cutting speeds in roughing and finishing operations. Features high wear resistance and good toughness. | TiN<br>Base |  | |
| | IW7 | S20-S30<br>H05-H25 | Whisker reinforced ceramic grade for roughing and semi finishing operations of high temperature alloys such as Inconel and Waspaloy on high cutting speeds under stable conditions. Can be used also for hardened steels machining. | Base | |  |

* For coated grades

## Key Points for Turning with CBN

**Benefits of using CBN inserts**

1 Can replace grinding operations, which reduces machining costs.
2 Dimensional stability, which is especially important in mass production. Minimizes the amount of scrapped parts.
3 "Green" approach, due to minimized usage of coolant.

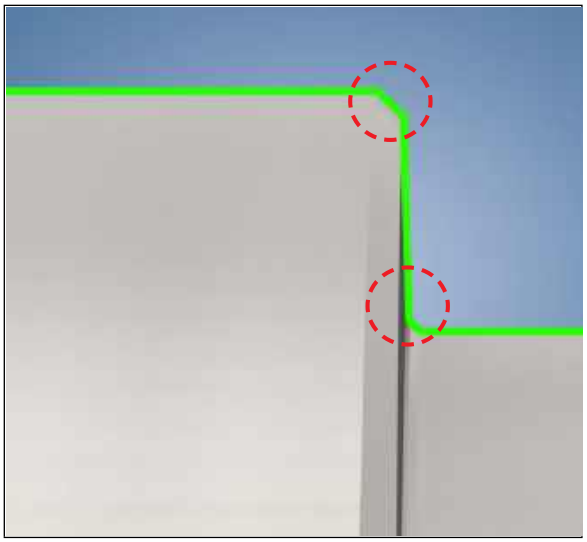
There are a few guidelines to follow to achieve the best results and high productivity when machining hard materials:

- CBN is characterized by hardness of 4500 HV. The high hardness of CBN enables it to machine hard materials at high speeds and feeds.
- Successful HPT (Hard Part Turning) demands not only suitable cutting tools, but also the right conditions, preparation and environment.
- HPT begins with a correct "soft" state machining design that will create the best possible conditions for HPT.

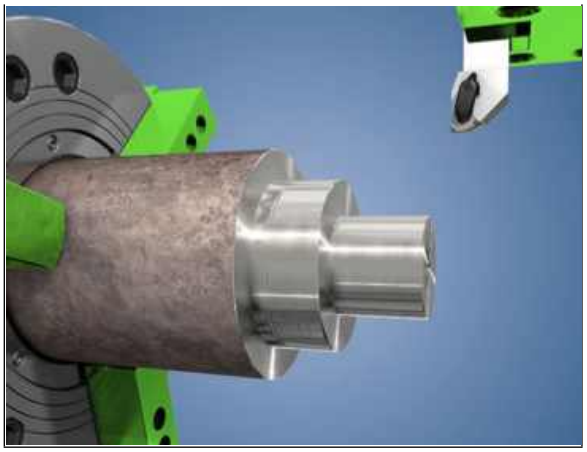
The "soft" state (around 20-40 HRC) is the state in which the workpiece material is yet to be hardened to its final hardness.

**Important points when planning the "soft" machining process:**

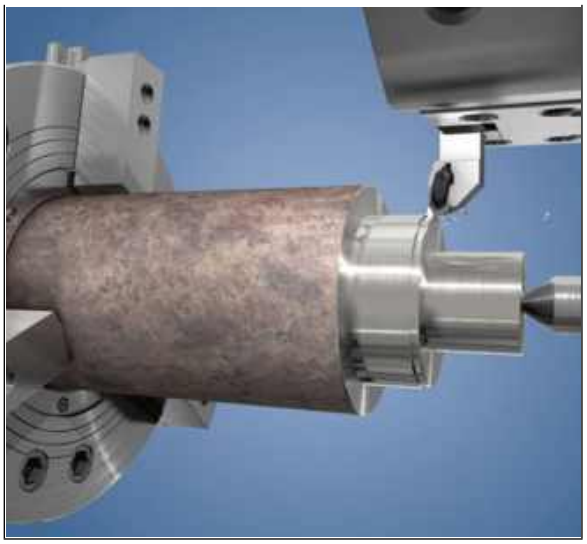
- Avoid burrs
- Keep close dimensional tolerances
- Do not enter or exit a cut suddenly
- Enter and exit by planning radius movements
- Use wiper inserts to achieve superior surface finish
- Do not leave sharp corners (round or chamfer)
- Machine stability, rigidity and thermal stability are vital conditions for producing a high quality finished part. The better the stability of the overall machine concept, the closer the tolerances will be achieved.
- Clamping the workpiece with sufficient force will prevent its movement and improve surface finish. Make sure that you employ wide clamping jaws which offer better grip on the workpiece, compared to ordinary three point jaws.
- Using tailstock in long parts will add even more stability and rigidity to the machining process.
- Large cross section tools further add to system rigidity.
- Coolant-Generally, do not use coolant when machining hard materials. CBN inserts tolerate high cutting temperatures, and therefore have no need for coolant. Avoiding coolant is more economical, environmentally friendly and better because as the material heats up during the turning process, it becomes slightly softer and easier to machine. However, there may be some applications that require using coolant: in cases of continuous turning when high surface finish is required.



Rounding and chamfering at the "soft" state



Rigid clamping of the workpiece and toolholder



Use tailstock in long parts

# GROOVE-TURN



Member IMC Group

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## GROOVETURN

### Information to Select the Correct Insert

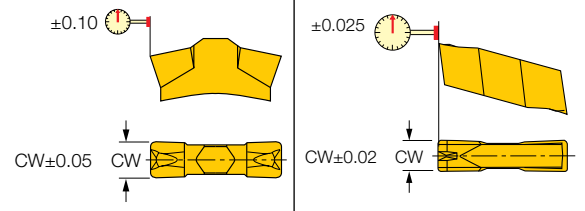
**ISCAR** has an extensive variety of GROOVE-TURN products. In many cases, you can perform your operation by using several different products. In order to make the optimal selection, these basic parameters need to be defined:

- Insert width **[CW]**
- Necessary tolerance on the insert
- Maximum depth of grooving **[CDX]**
- Application requirement grooving and turning, or only grooving (**E-Type** or not)

According to these parameters:

- Select the most suitable product according to the tables on pages 259-260.
- Select the most suitable chipformer according to the information on pages 261-262.

| Utility Inserts | | Precision Grooving Inserts | |
|---|---|---|---|
| Pressed to Size Inserts | | Peripheral Ground Inserts | |
| Width | ± 0.05 | Width | ± 0.02 |
| Repeatability | ± 0.10 | Repeatability | ± 0.025 |




If you don't need the tight tolerance, save money and select a utillity insert (less expensive).

### What is an E-type GROOVE-TURN Insert?

**E-type** inserts are precision ground grooving inserts with **turning** capability.

These inserts include the letter **E** in their description. (example: GIP 3.00**E**-0.4). This is to distinguish them from precision ground inserts which are not suitable for turning operations and don't include an **E** in their description. (example: GIP 3.00-0.2)

- E-type inserts usually have a larger corner radius
- E-type inserts have a larger honing size



**Precision Grooving Insert**



**E-Type GROOVE-TURN**

## External GROOVE-TURN Insert Type

| | Insert | | Properties | | | | CW range | CDX | Page |
|---|---|---|---|---|---|---|---|---|---|
| | | | Precision Ground | Utility | Number of Cutting Edges | Option for Turning | | | |
| PENTACUT |  | PENTACUT Size 17 | ✔ | | 5 | | 0.25-3.18 | 4 | 310-312 |
| |  | PENTACUT Size 24 | ✔ | | 5 | | 0.5-4.23 | 1-6.5 | 320-324 |
| |  | PENTACUT Size 34 | ✔ | | 5 | | 1.5-4.0 | 5-10 | 325-326 |
| HELI-GRIP |  | HELI-GRIP | | ✔ | 2 | ✔ | 3-6.35 | No depth limit | 269-270 |
| TOP-GRIP |  | TOP-GRIP | | ✔ | 2 | ✔ | 3-6.35 | 10.5-18.6 | 270-272 |
| CUTGRIP |  | Short Pocket | | ✔ | 1 | ✔ | 3-12 | No depth limit | 288-292 |
| |  | Short Pocket | ✔ | | 2 | ✔* | 0.5-11.0 | 13** | 293-302 |
| |  | Long Pocket | | ✔ | 2 | ✔* | 8.0 | 27 | 289-292 |
| | | Long Pocket | ✔ | | 2 | ✔ | 8.0-11.0 | 27 | 293-299 |
| HEAVY DUTY |  | SUMO-GRIP | | ✔ | 1 | ✔ | 6-14 | No depth limit | 344 |
| |  | TIGER | | ✔ | 1 | | 10-20 | No depth limit | 330, 335 |

* Not on all the products

** On most items

## Internal GROOVE-TURN Insert Type

| | Insert | Tool | Insert | Utility | Precision | Dmin | CDX | CW | Page |
|---|---|---|---|---|---|---|---|---|---|
| PICCOCUT |  | PICCO/ MG PCO | PICCO | | ✔ | 2.0-7.0 | 0.4-2.5 | 0.5-2 | 390-411 |
| CHAMGROOVE |  | MG/MGCH | GIQR 8 | | ✔ | 8.0 | 0.7-1.5 | 0.5-4 | 416 |
| |  | MG/MGCH | GIQR 11 | | ✔ | 11.0 | 1.5-2.3 | 0.75-5 | 417 |
| |  | MGCH | GIQR 11-15 | | ✔ | 15.0 | 6.3 | 1-3 | 418 |
| CUTGRIP |  | GEHIR/L | GEPI/ GEMI | ✔ | ✔ | 12.5-16 | 2.4-3.0 | 1-3.18 | 342-344 |
| |  | GHIR/L | GIFI/GIPI/ GINI/GIMIY | ✔ | ✔ | 20-49 | 2.5-8.0 | 1.53-6.35 | 345, 350-353 |
| TOP-GRIP |  | TGIR/L | TGMF | ✔ | | 20.5-57 | 5.5-17.5 | 3-6.35 | 354, 272 |
| HELIGRIP |  | HELIIR/L | GRIP | ✔ | | 26-53 | 5-12 | 3-6.35 | 356, 270 |
| CUTGRIP |  | GHIR/L 40-8 | GDMF/ GDMY/ GDMN... | ✔ | ✔ | 65 | 15-20 | 8-11 | 356, 289-290 |
| |  | GHIC/CGHN | GIP/GIF/GIMN/GIMF/ GIA... | ✔ | ✔ | 70-250 | 10-26 | 2.8-6.35 | 356-359 293-301 |

## Chipbreaker Selection

### T-Type

- Optimal performance in a wide range of materials and cutting conditions
- High efficiency in full grooving, partial grooving and turning applications
- Utility inserts only
- Width range External: 2.39-6.35 mm



## General Use

### P-Type

- Very "open" geometry
- Medium to high feed in turning and grooving
- Large variety of standard sizes
- Precision ground inserts only
- Width range External: 2.39-6.35 mm Internal: 2.39-6.35 mm



### F-Type

- First choice in grooving
- Low to medium feeds in grooving and turning
- Both precision ground and utility inserts
- Width range External: 3.0-10 mm Internal: 3-6 mm



### G-Type

- Efficient chipbreaker for narrow width grooves
- Width range: 1-2.3 mm
- No option for turning



### Y-Type

- General use in grooving and turning
- Positive top rake reduces cutting forces
- Excellent for long shafts
- Eliminates vibrations
- Both precision ground and utility inserts
- Width range External: 8-20 mm



### HG-Y-Type

- General use in grooving and turning
- Efficient for a wide range of materials and cutting conditions
- Utility inserts only
- Width range External: 3-6.35 mm Internal: 3-6.35 mm



## Chipbreaker Selection

### Problematic and Specific Materials

**N-Type**
- First choice in grooving of problematic, soft & gummy materials
- Very low to medium feeds (from 0.05 mm/rev)
- Both precision ground and utility inserts
- Option for turning
- Width range External: 3-8 mm Internal: 2-5 mm



**M-Type**
- Unique chipbreaker with splitter chips are split into 3 segments
- Efficient for problematic, soft & gummy materials
- Option for light turning
- Width 8 mm



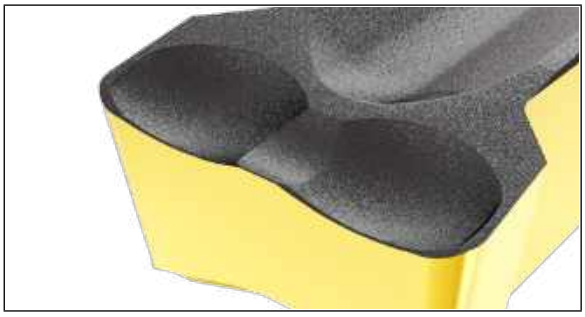
**A-Type**
- First choice for machining cast Iron
- Peripheral 15° T-land on a flat top
- Exerts high cutting forces, therefore suitable for stable conditions
- Precision ground inserts only
- Width range External: 3-8 mm



**PA-Type**
- First choice for machining aluminum
- High positive rake
- Peripheral ground and polished top rake with a very sharp edge
- Suitable also for finish operations on titanium and heat resistant alloys
- Width range External: 3-8 mm



**CW-Type**
- Unique chipformer for heavy-duty grooving
- Very wide chipbreaking range on carbon and alloy steel
- Width range 14, 17 and 20 mm



## Chipbreaker Selection

### Profiling (full radius)

**Y-Type**
- First choice in profiling
- Positive top rake reduces cutting forces
- Excellent for long shafts
- Eliminates vibrations
- Both precision ground and utility inserts
- Width range External: 3-12 mm Internal: 2-3 mm



**YF-Type**
- First choice for profiling ductile materials
- Utility inserts only
- Width range External: 3-8 mm



**PA-Type**
- First choice for profiling aluminum
- High positive rake
- Peripheral ground and polished top rake with a very sharp edge
- Suitable also for finish operations on titanium and heat resistant alloys
- Width range External: 3-8 mm



**YZ-Type**
- First choice for profiling ductile aluminum
- Peripheral ground and polished top rake with a very sharp edge
- Width range External: 3-8 mm



**H-Type**
- Unique chipbreaker for heavy-duty profiling
- Negative T-land for extra edge toughness
- Suitable for heavy interrupted cuts and cast iron machining
- Width: 12 mm



## Chipbreaker Width Range

External

| Insert Width | G | P | F | Y | N | HG-Y | M | A | PA | T |
|---|---|---|---|---|---|---|---|---|---|---|
| 12 | | | | 20 | | | | | | |
| 11 | | | | | | | | | | |
| 10 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 8 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 6 | | 6.35 | | | | 6.35 | | | | |
| 5 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 3 | | | 3.48 | | | | | | | |
| 2 | 2.3 | 2.39 | | | | | | | | |
| 1 | | | | | | | | | | |

Internal

| Insert Width | P | F | N | HG-Y |
|---|---|---|---|---|
| 7 | | | | |
| 6 | 6.35 | | | 6.35 |
| 5 | | | | |
| 4 | | | | |
| 3 | | | | |
| 2 | 2.39 | | | |
| 1 | | | | |

Suitable Chipbreaker and Required Feed Range for Workpiece Material

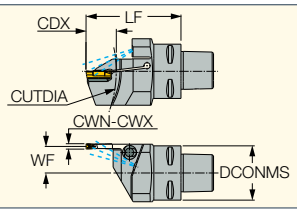
| | | Alloy Steel | Austenitic Stainless | High Temp. Alloys | Nonferrous Materials | Cast Iron |
|---|---|---|---|---|---|---|
| High |  | P | P | P | | |
| |  | HG-Y | HG-Y | Y | PA* | A* |
| Feed |  | Y | Y | F | P | P |
| |  | F | F | PA (finish only) | | HG |
| |  | T* | T* | T | T | |
| Low |  | N | | | | F |

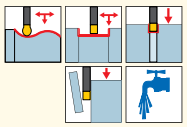
* First Choice

# HELI-GRIP Tools and Inserts

HELI-GRIP CAMFIX

**C#-HELIR/L**
External Tools for Turning, Grooving and Parting with CAMFIX Exchangeable Shanks



Left-hand shown

| Designation | DCONMS | CWN(1) | CWX(2) | WF | LF | CUTDIA(3) | Insert | CP(4) | CDI | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C4 HELIR/L 3T20 | 40.00 | 3.00 | 3.18 | 20.00 | 65.00 | 40.0 | GRIP 3, HGN 3 | 100 | 1 | SR M6X16 DIN912 | HW 5.0 | EZ 104 |
| C4 HELIR/L 4T25 | 40.00 | 4.00 | 4.76 | 19.60 | 70.00 | 50.0 | GRIP 4, DGN 4 | 100 | 1 | SR M6X16 DIN912 | HW 5.0 | EZ 104 |
| C5 HELIR/L 3T20 | 50.00 | 3.00 | 3.18 | 25.30 | 65.00 | 40.0 | GRIP 3, HGN 3 | 100 | 1 | SR M6X16 DIN912 | HW 5.0 | EZ 104 |
| C5 HELIR/L 4T25 | 50.00 | 4.00 | 4.76 | 24.90 | 70.00 | 50.0 | GRIP 4, DGN 4 | 100 | 1 | SR M6X16 DIN912 | HW 5.0 | EZ 104 |
| C5 HELIR/L 5T25 | 50.00 | 5.00 | 5.00 | 24.40 | 70.00 | 50.0 | GRIP 5, DGN 5 | 100 | 1 | SR M6X16 DIN912 | HW 5.0 | EZ 104 |
| C6 HELIR/L 3T20 | 63.00 | 3.00 | 3.18 | 31.80 | 65.00 | 40.0 | GRIP 3, HGN 3 | 100 | 1 | SR M6X16 DIN912 | HW 5.0 | EZ 104 |
| C6 HELIR/L 4T25 | 63.00 | 4.00 | 4.76 | 31.40 | 70.00 | 50.0 | GRIP 4, DGN 4 | 100 | 1 | SR M6X16 DIN912 | HW 5.0 | EZ 104 |
| C6 HELIR/L 5T25 | 63.00 | 5.00 | 5.00 | 30.90 | 70.00 | 50.0 | GRIP 5, DGN 5 | 100 | 1 | SR M6X16 DIN912 | HW 5.0 | EZ 104 |
| C6 HELIR/L 6T30 | 63.00 | 6.00 | 6.35 | 30.40 | 85.00 | 60.0 | GRIP 6, DGN 6 | 100 | 1 | SR M6X16 DIN912 | HW 5.0 | EZ 104 |

- The depth of cut (CDX) for grooving is limited by the part diameter Dmax, for grooving depth capacity, see table below

(1) Minimum cutting width
(2) Maximum cutting width
(3) Maximum parting diameter
(4) Coolant pressure (Bar)

**Inserts:** GRIP • GRIP (full radius) • DGN/DGNC/DGNM-C • HGN-C • DGR/L-C DGRC/LC-C • DGN/DGNM-J/JS/JT • HGN-J • HGR/L-C • HGR/L-J/JS • DGR/L-J/JS • DGN-MF • DGN-UT/UA • DGN-W • HGN-UT

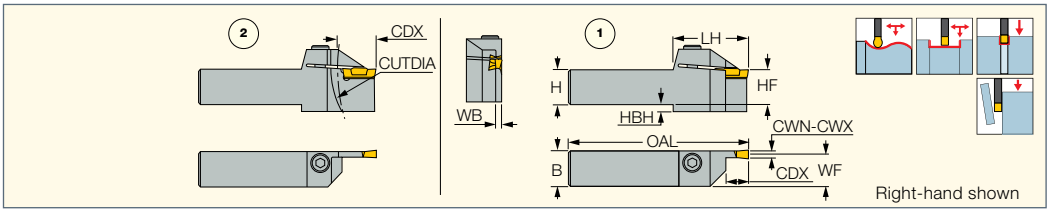
## Grooving Depth Capacity

| Designation | ØDmax | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C4 HELIR/L 3T20 | ∞ | ∞ | ∞ | ∞ | 1151 | 384 | 231 | 167 | 131 | 109 | 94 | 83 | — | — | — | — | — | — | — | — | — | — |
| C4 HELIR/L 4T25 | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | 1127 | 376 | 227 | 163 | 128 | 107 | — | — | — | — | — |
| C5 HELIR/L 3T20 | ∞ | ∞ | ∞ | 1277 | 426 | 257 | 185 | 145 | 120 | 103 | 91 | 82 | — | — | — | — | — | — | — | — | — | — |
| C5 HELIR/L 4T25 | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | 1301 | 434 | 261 | 188 | 148 | 122 | 105 | — | — | — | — | — |
| C5 HELIR/L 5T25 | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | 1301 | 434 | 261 | 188 | 148 | 122 | 105 | — | — | — | — | — |
| C6 HELIR/L 3T20 | ∞ | 787 | 394 | 264 | 199 | 161 | 136 | 118 | 105 | 95 | 87 | 81 | — | — | — | — | — | — | — | — | — | — |
| C6 HELIR/L 4T25 | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | 1957 | 653 | 393 | 282 | 221 | 182 | 156 | 137 | 122 | 111 | 102 | — | — | — | — | — |
| C6 HELIR/L 5T25 | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | 1957 | 653 | 393 | 282 | 221 | 182 | 156 | 137 | 122 | 111 | 102 | — | — | — | — | — |
| C6 HELIR/L 6T30 | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | 1879 | 627 | 377 | 271 | 212 | 175 | 150 | 131 | 118 | 107 | 99 |
| CDX | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |

HELI-GRIP

## HELIR/L

External Holders for Turning, Grooving and Parting




| Designation | CDX(2) | CWN(3) | CWX(4) | Fig. | CUTDIA(5) | H | HF | B | WF | OAL | LH | WB | HBH | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HELIR/L 1212-3T12 | 12.00 | 3.00 | 3.18 | 1. | - | 12.0 | 12.0 | 12.0 | 10.80 | 135.00 | 30.0 | 2.40 | 4.0 | GRIP-3..., HG.-3 |
| HELIR/L 1616-3T12 | 12.00 | 3.00 | 3.18 | 1. | - | 16.0 | 16.0 | 16.0 | 14.80 | 135.00 | 30.0 | 2.40 | - | GRIP-3..., HG.-3 |
| HELIR/L 2020-3T12 | 12.00 | 3.00 | 3.18 | 1. | - | 20.0 | 20.0 | 20.0 | 18.80 | 135.00 | 29.0 | 2.40 | - | GRIP-3..., HG.-3 |
| HELIR/L 2525-3T12 | 12.00 | 3.00 | 3.18 | 1. | - | 25.0 | 25.0 | 25.0 | 23.80 | 135.00 | 29.0 | 2.40 | - | GRIP-3..., HG.-3 |
| HELIR/L 1616-4T12 | 12.00 | 4.00 | 4.76 | 1. | - | 16.0 | 16.0 | 16.0 | 14.40 | 135.00 | 29.0 | 3.20 | - | GRIP-4..., DG.-4 |
| HELIR/L 2020-4T12 | 12.00 | 4.00 | 4.76 | 1. | - | 20.0 | 20.0 | 20.0 | 18.40 | 135.00 | 29.0 | 3.20 | - | GRIP-4..., DG.-4 |
| HELIR/L 2525-4T12 | 12.00 | 4.00 | 4.76 | 1. | - | 25.0 | 25.0 | 25.0 | 23.40 | 135.00 | 29.0 | 3.20 | - | GRIP-4..., DG.-4 |
| HELIR/L 2020-5T12 | 12.00 | 5.00 | 5.00 | 1. | - | 20.0 | 20.0 | 20.0 | 17.90 | 135.00 | 29.0 | 4.20 | - | GRIP-5..., DG.-5 |
| HELIR/L 2525-5T12 | 12.00 | 5.00 | 5.00 | 1. | - | 25.0 | 25.0 | 25.0 | 22.90 | 135.00 | 29.0 | 4.20 | - | GRIP-5..., DG.-5 |
| HELIR/L 2525-6T12 | 12.00 | 6.00 | 6.35 | 1. | - | 25.0 | 25.0 | 25.0 | 22.40 | 135.00 | 29.0 | 5.20 | - | GRIP-6..., DG.-6 |
| HELIR/L 1616-3T20 (1) | - | 3.00 | 3.18 | 2. | 40.0 | 16.0 | 16.0 | 16.0 | 14.80 | 140.00 | 36.4 | 2.40 | - | GRIP-3..., HG.-3 |
| HELIR/L 2020-3T20 (1) | - | 3.00 | 3.18 | 2. | 40.0 | 20.0 | 20.0 | 20.0 | 18.80 | 140.00 | 36.4 | 2.40 | - | GRIP-3..., HG.-3 |
| HELIR/L 2525-3T20 (1) | - | 3.00 | 3.18 | 2. | 40.0 | 25.0 | 25.0 | 25.0 | 23.80 | 140.00 | 36.4 | 2.40 | - | GRIP-3..., HG.-3 |
| HELIR/L 3232-3T20 (1) | - | 3.00 | 3.18 | 2. | 40.0 | 32.0 | 32.0 | 32.0 | 30.80 | 150.00 | 36.4 | 2.40 | - | GRIP-3..., HG.-3 |
| HELIR/L 1616-4T20 | - | 4.00 | 4.76 | 2. | 40.0 | 16.0 | 16.0 | 16.0 | 14.40 | 140.00 | 38.0 | 3.20 | 4.0 | GRIP-4..., DG.-4 |
| HELIR/L 2020-4T25 | - | 4.00 | 4.76 | 2. | 50.0 | 20.0 | 20.0 | 20.0 | 18.40 | 140.00 | 42.0 | 3.20 | - | GRIP-4..., DG.-4 |
| HELIR/L 2525-4T25 | - | 4.00 | 4.76 | 2. | 50.0 | 25.0 | 25.0 | 25.0 | 23.40 | 140.00 | 42.0 | 3.20 | - | GRIP-4..., DG.-4 |
| HELIR/L 3232-4T25 | - | 4.00 | 4.76 | 2. | 50.0 | 32.0 | 32.0 | 32.0 | 30.40 | 150.00 | 43.0 | 3.20 | - | GRIP-4..., DG.-4 |
| HELIR/L 2020-5T25 | - | 5.00 | 5.00 | 2. | 50.0 | 20.0 | 20.0 | 20.0 | 17.90 | 140.00 | 42.0 | 4.20 | - | GRIP-5..., DG.-5 |
| HELIR/L 2525-5T25 | - | 5.00 | 5.00 | 2. | 50.0 | 25.0 | 25.0 | 25.0 | 22.90 | 140.00 | 42.0 | 4.20 | - | GRIP-5..., DG.-5 |
| HELIR/L 3232-5T25 | - | 5.00 | 5.00 | 2. | 50.0 | 32.0 | 32.0 | 32.0 | 29.90 | 150.00 | 43.0 | 4.20 | - | GRIP-5..., DG.-5 |
| HELIR/L 2525-6T30 | - | 6.00 | 6.35 | 2. | 60.0 | 25.0 | 25.0 | 25.0 | 22.40 | 140.00 | 51.4 | 5.20 | - | GRIP-6..., DG.-6 |
| HELIR/L 3232-6T30 | - | 6.00 | 6.35 | 2. | 60.0 | 32.0 | 32.0 | 32.0 | 29.40 | 150.00 | 51.4 | 5.20 | - | GRIP-6..., DG.-6 |

- For tool type as shown in Fig.2, CDX for grooving is limited by the part diameter Dmax, for grooving depth capacity, see table below
- For user guide, see pages 440-457

(1) DGN inserts are not suitable for this tool
(2) Does not depend on the workpiece diameter
(3) Minimum cutting width
(4) Maximum cutting width
(5) Maximum parting diameter

**Inserts:** GRIP • GRIP (full radius) • DGN/DGNC/DGNM-C • HGN-C • DGR/L-C DGRC/LC-C • DGN/DGNM-J/JS/JT • HGN-J • HGR/L-C • HGR/L-J/JS • DGR/L-J/JS • DGN-UT/UA • DGN-W • HGN-UT • DGN-MF

### Spare Parts

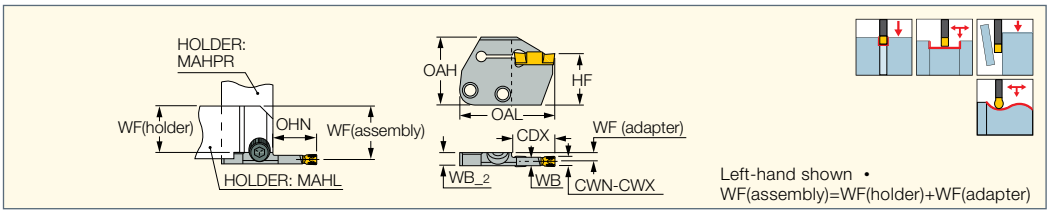
| Designation | | |
|---|---|---|
| HELIR/L 1212-3T12 | SR M5X16 DIN912 | HW 4.0 |
| HELIR/L 1616-3T12 | SR M5X16 DIN912 | HW 4.0 |
| HELIR/L 2020-3T12 | SR M5X16 DIN912 | HW 4.0 |
| HELIR/L 2525-3T12 | SR M5X16 DIN912 | HW 4.0 |
| HELIR/L 1616-4T12 | SR M5X16 DIN912 | HW 4.0 |
| HELIR/L 2020-4T12 | SR M5X16 DIN912 | HW 4.0 |
| HELIR/L 2525-4T12 | SR M5X16 DIN912 | HW 4.0 |
| HELIR/L 2020-5T12 | SR M6X16 DIN912 | HW 5.0 |
| HELIL 2525-5T12 | SR M6X16 DIN912 | HW 5.0 |
| HELIR 2525-5T12 | SR M6X20 DIN912 | HW 5.0 |
| HELIL 2525-6T12 | SR M6X20 DIN912 | HW 5.0 |
| HELIR 2525-6T12 | SR M6X16 DIN912 | HW 5.0 |
| HELIL 1616-3T20 | SR M6X20 DIN912 | HW 5.0 |
| HELIR 1616-3T20 | SR M6X16 DIN912 | HW 5.0 |
| HELIR/L 2020-3T20 | SR M6X16 DIN912 | HW 5.0 |
| HELIR/L 2525-3T20 | SR M6X20 DIN912 | HW 5.0 |
| HELIR/L 3232-3T20 | SR M6X20 DIN912 | HW 5.0 |
| HELIR/L 1616-4T20 | SR M6X20 DIN912 | HW 5.0 |
| HELIR/L 2020-4T25 | SR M6X16 DIN912 | HW 5.0 |
| HELIR/L 2525-4T25 | SR M6X20 DIN912 | HW 5.0 |
| HELIR/L 3232-4T25 | SR M6X20 DIN912 | HW 5.0 |
| HELIR/L 2020-5T25 | SR M6X16 DIN912 | HW 5.0 |
| HELIR/L 2525-5T25 | SR M6X20 DIN912 | HW 5.0 |
| HELIR/L 3232-5T25 | SR M6X20 DIN912 | HW 5.0 |
| HELIR/L 2525-6T30 | SR M6X20 DIN912 | HW 5.0 |
| HELIR/L 3232-6T30 | SR M6X20 DIN912 | HW 5.0 |

### Depth Capacity

| Designation | ØDmax | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HELIR/L 1616-3T20 | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | 194 | 80 | – | – | – | – | – |
| HELIR/L 2020-3T20 | ∞ | ∞ | ∞ | ∞ | ∞ | 299 | 123 | 80 | – | – | – | – | – |
| HELIR/L 2525-3T20 | ∞ | ∞ | ∞ | 815 | 229 | 136 | 99 | 79 | – | – | – | – | – |
| HELIR/L 3232-3T20 | ∞ | 604 | 261 | 169 | 127 | 103 | 89 | 79 | – | – | – | – | – |
| HELIR/L 1616-4T20 | ∞ | ∞ | ∞ | ∞ | ∞ | 505 | 132 | 78 | – | – | – | – | – |
| HELIR/L 2020-4T20 | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | 185 | 98 | – | – |
| HELIR/L 2525-4T20 | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | 368 | 233 | 136 | 98 | – | – |
| HELIR/L 3232-4T20 | ∞ | ∞ | ∞ | ∞ | ∞ | 626 | 270 | 175 | 149 | – | 98 | – | – |
| HELIR/L 2020-5T20 | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | 182 | 98 | – | – |
| HELIR/L 2525-5T20 | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | 368 | 233 | 136 | 98 | – | – |
| HELIR/L 3232-5T20 | ∞ | ∞ | ∞ | ∞ | ∞ | 626 | 270 | 175 | 149 | – | 98 | – | – |
| HELIR/L 2525-6T20 | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | 354 | 135 | 98 |
| HELIR/L 3232-6T20 | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | ∞ | 1718 | 345 | 194 | 121 | 98 |
| CDX | 6.5 | 8.0 | 10.0 | 12.0 | 14.0 | 16.0 | 18.0 | 20.0 | 21.0 | 23.0 | 25.0 | 28.0 | 30.0 |

HELI-GRIP
MODULAR-GRIP

## HGPAD
Adapters for Turning, Grooving and Parting

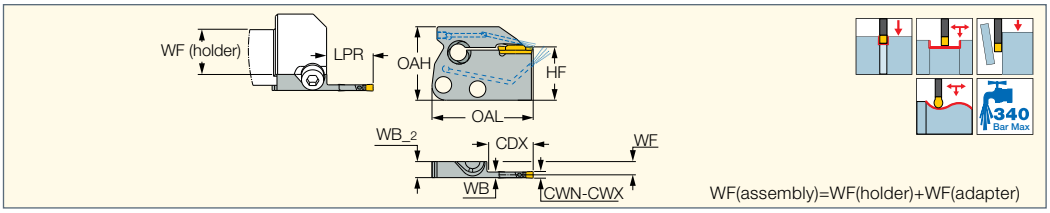



| Designation | CWN(1) | CWX(2) | CDX(3) | OHN(4) | WF(5) | WB | WB_2 | OAL | OAH | HF | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| HGPAD 3R/L-T12 | 3.00 | 3.20 | 12.00 | 15.2 | 4.80 | 2.50 | 6.0 | 39.70 | 32.0 | 24.0 | GRIP 3, HGN 3 |
| HGPAD 3R/L-T20 | 3.00 | 3.20 | 20.00 | 21.2 | 4.80 | 2.50 | 6.0 | 45.70 | 32.0 | 24.0 | GRIP 3, HGN 3 |
| HGPAD 4R/L-T12 | 4.00 | 4.76 | 12.00 | 18.7 | 4.40 | 3.30 | 6.0 | 43.20 | 32.0 | 24.0 | GRIP 4, DGN 4 |
| HGPAD 4R/L-T20 | 4.00 | 4.76 | 20.00 | 21.2 | 4.40 | 3.30 | 6.0 | 45.70 | 32.0 | 24.0 | GRIP 4, DGN 4 |
| HGPAD 5R/L-T12 | 5.00 | 5.00 | 12.00 | 18.7 | 3.90 | 4.20 | 6.0 | 43.20 | 32.0 | 24.0 | GRIP 5, DGN 5 |
| HGPAD 5R/L-T20 | 5.00 | 5.00 | 20.00 | 21.2 | 3.90 | 4.20 | 6.0 | 45.70 | 32.0 | 24.0 | GRIP 5, DGN 5 |
| HGPAD 6R/L-T12 | 6.00 | 6.35 | 12.00 | 18.7 | 3.40 | 5.20 | 6.0 | 43.20 | 32.0 | 24.0 | GRIP 6, DGN 6 |
| HGPAD 6R/L-T22 | 6.00 | 6.35 | 22.00 | 23.2 | 3.40 | 5.20 | 6.0 | 47.70 | 32.0 | 24.0 | GRIP 6, DGN 6 |

• DO-GRIP DGN, HGN inserts can be used for grooving only • For user guide, see pages 440-457
(1) Minimum cutting width
(2) Maximum cutting width
(3) Cutting depth maximum
(4) Minimum overhang
(5) WF(adapter)
**Inserts:** GRIP • GRIP (full radius) • DGN/DGNC/DGNM-C • HGN-C • DGN/DGNM-J/JS/JT • HGN-J • HGR/L-C • HGR/L-J/JS • DGN-MF • DGN-UT/UA • DGN-W • HGN-UT

HELI-GRIP JET-CUT
MODULAR-GRIP

## HGPAD-JHP
Adapters with High-Pressure Coolant Channels Carrying HELI-GRIP Inserts




| Designation | CWN(1) | CWX(2) | CDX(3) | LPR | WF | WB | WB_2 | OAL | OAH | HF |
|---|---|---|---|---|---|---|---|---|---|---|
| HGPAD 3R/L-T20-JHP | 3.00 | 3.20 | 20.00 | 21.0 | 5.95 | 2.50 | 7.2 | 45.70 | 33.0 | 24.0 |
| HGPAD 4R/L-T20-JHP | 4.00 | 4.76 | 20.00 | 21.0 | 5.55 | 3.30 | 7.2 | 45.70 | 33.0 | 24.0 |
| HGPAD 5R/L-T20-JHP | 5.00 | 5.00 | 20.00 | 21.0 | 5.10 | 4.20 | 7.2 | 45.70 | 33.0 | 24.0 |
| HGPAD 6R/L-T22-JHP | 6.00 | 6.35 | 22.00 | 23.0 | 4.60 | 5.20 | 7.2 | 47.70 | 33.0 | 24.0 |

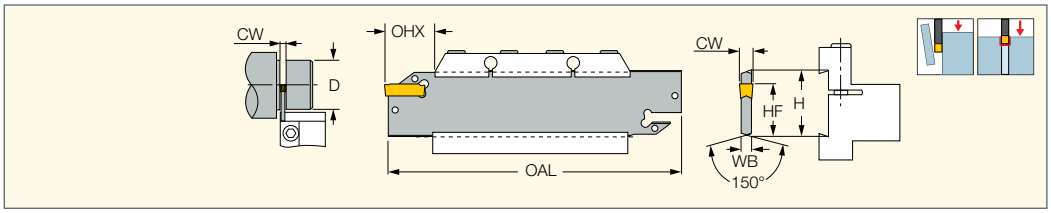
• For user guide and accessories, see pages 440-457
(1) Minimum cutting width
(2) Maximum cutting width
(3) Cutting depth maximum
**Inserts:** DGN-MF • GRIP • GRIP (full radius) • DGN/DGNC/DGNM-C • HGN-C • DGN/DGNM-J/JS/JT • HGN-J • HGR/L-C • HGR/L-J/JS • DGN-UT/UA • HGN-UT • DGN-W
**Holders:** ABC MAHDR-#-XL-JHP • C#-MAHD-JHP • C#-MAHPD-JHP • MAHR/L-JHP-MC • MS##-##-MG-JHP • MS-ES#####-GWS-MG-JHP • TR TNK36 MAHDL-R-XL-JHP • TR45 MAHDR-#-XL-JHP • TR45TNL MAHDN-R-XL-JHP • V## MAHD#-#-XL-##-JHP • V## MAHD-XL-JHP • MAHPR/L-JHP • MAHR/L-JHP

### Flow Rate vs. Pressure

| Designation | 70 Bar Flow Rate (liters/min) | 100 Bar Flow Rate (liters/min) | 140 Bar Flow Rate (liters/min) |
|---|---|---|---|
| HGPAD 3R/L-T20-JHP | 5-7 | 6-8 | 7-9 |
| HGPAD 4R/L-T20-JHP | 9-11 | 10-12 | 11-13 |
| HGPAD 5R/L-T20-JHP | 11-13 | 12-14 | 13-15 |
| HGPAD 6R/L-T22-JHP | 16-18 | 16-18 | 19-21 |

DO-GRIP TWISTED 2-SIDED HELI-GRIP

## HGFH
Parting and Grooving Blades for 3 mm GRIP Inserts



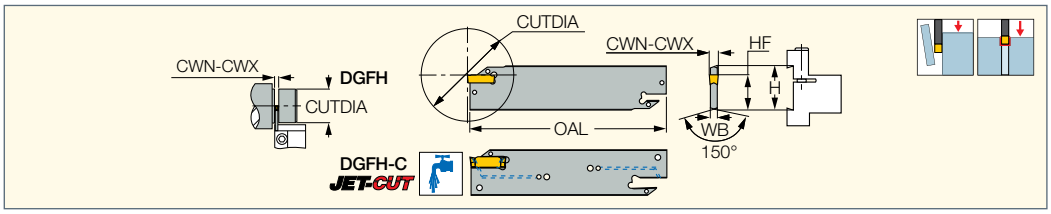

| Designation | H | CW | WB | OAL | HF | OHX(1) | CUTDIA(2) | |
|---|---|---|---|---|---|---|---|---|
| HGFH 26-3 | 26.0 | 3.00 | 2.40 | 110.00 | 21.4 | 37.5 | 75.0 | EDG 23B* |
| HGFH 32-3 | 32.0 | 3.00 | 2.40 | 150.00 | 24.8 | 50.0 | 100.0 | EDG 23B* |

(1) Maximum overhang
(2) Maximum parting diameter
* Optional, should be ordered separately
**Inserts:** GRIP • GRIP (full radius) • HGN-C • HGR/L-C • HGN-J • HGN-UT • HGR/L-J/JS
**Holders:** C#-TBK-R/L • HSK A-WH-TBK-R/L • SGTBF • SGTBR/L • SGTBU/SGTBN • UBHCR/L

DO-GRIP TWISTED 2-SIDED HELI-GRIP

## DGFH

Parting and Grooving Blades with and without Coolant Channels Carrying DO-GRIP and HELI-GRIP Inserts




| Designation | H | CWN[4] | CWX[5] | WB | OAL | HF | CUTDIA | Insert |
|---|---|---|---|---|---|---|---|---|
| DGFH 26-1.4 | 26.0 | 1.40 | 1.40 | 2.50 [7] | 110.00 | 21.4 | 26.0 | DG. 14.. |
| DGFH 26-2 [1] | 26.0 | 1.90 [6] | 2.50 | 1.60 | 110.00 | 21.4 | 39.0 [8] | DG. 1.../DG. 2... |
| DGFH 26-3 [1] | 26.0 | 3.00 [6] | 3.18 | 2.40 | 110.00 | 21.4 | 39.0 [8] | DG. 1.../DG. 3... |
| DGFH 26C-3 [2] | 26.0 | 3.00 | 3.18 | 2.40 | 110.00 | 21.4 | 39.0 [8] | DGNC/DGRC/DGLC 3... |
| DGFH 26-4 | 26.0 | 4.00 | 4.00 | 3.20 | 110.00 | 21.4 | 80.0 | DG. 4.../GRIP 4... |
| DGFH 32-1.4 | 32.0 | 1.40 | 1.40 | 2.50 [7] | 150.00 | 24.8 | 26.0 | DG. 14 |
| DGFH 32-2 [1] | 32.0 | 1.90 [6] | 2.50 | 1.80 | 150.00 | 24.8 | 39.0 [8] | DG. 1.../DG. 2... |
| DGFH 32-3 [1] | 32.0 | 3.00 [6] | 3.18 | 2.40 | 150.00 | 24.8 | 39.0 [8] | DG. 1.../DG. 3... |
| DGFH 32C-3 [2] | 32.0 | 3.00 | 3.18 | 2.40 | 150.00 | 24.8 | 39.0 [8] | DGNC/DGRC/DGLC 3... |
| DGFH 32-4 | 32.0 | 4.00 | 4.00 | 3.20 | 150.00 | 24.8 | 100.0 | DG. 4.../GRIP 4... |
| DGFH 32C-4 [3] | 32.0 | 4.00 | 4.00 | 3.20 | 150.00 | 24.8 | 69.0 | DGNC/DGRC/DGLC 4... |
| DGFH 32-5 | 32.0 | 5.00 | 5.00 | 4.00 | 150.00 | 24.8 | 120.0 | DG. 5.../GRIP 5... |
| DGFH 32-6 | 32.0 | 6.00 | 6.35 | 5.20 | 150.00 | 24.8 | 120.0 | DG. 6.../GRIP 6... |
| DGFH 45-3 | 45.0 | 3.00 [6] | 3.18 | 2.40 | 225.00 | 38.0 | 160.0 | DG. 1.../DG. 3... |
| DGFH 45-4 | 45.0 | 4.00 | 4.10 | 3.20 | 225.00 | 38.0 | 160.0 | DG. 4.../GRIP 4... |
| DGFH 45-5 | 45.0 | 4.80 | 5.00 | 4.00 | 225.00 | 38.0 | 160.0 | DG. 5.../GRIP 5... |
| DGFH 45-6 | 45.0 | 6.00 | 6.40 | 5.20 | 225.00 | 38.0 | 160.0 | DG. 6.../GRIP 6... |

• DG..1.0 insert can be mounted into pocket sizes 2 and 3, in which case the pocket width has to be modified • For user guide, see pages 440-457

[1] For CUTDIA 50 mm, use single-ended insert (should be modified by the user)

[2] Blades with frontal coolant holes (JET-CUT) • For CUTDIA 50 mm, use single-ended insert (should be modified by the user)

[3] These blades are suitable for turning, using GRIP 4 inserts • Blades with frontal coolant holes (JET-CUT) Minimum cutting width Maximum cutting width For DG. 1... insert, modify holder Thickness at the D.O.C. area is 1.0 mm Maximum diameter with double-sided inserts.

**Inserts:** DGN-LF/LFT • DGN-MF • DGN/DGNC/DGNM-C • DGR/L-C DGRC/LC-C • DGN/DGNM-J/JS/JT • DGR/L-J/JS • DGN-P • DGN-UT/UA • DGN-W • DGN-WP • DGN-Z • DGR-P • DGR-WP • DGR-Z/ZS • GRIP • GRIP (full radius)

**Holders:** C#-TBK-R/L • HSK A-WH-TBK-R/L • SGTBF • SGTBK • SGTBR/L • SGTBU/SGTBN • UBHCR/L

### Spare Parts

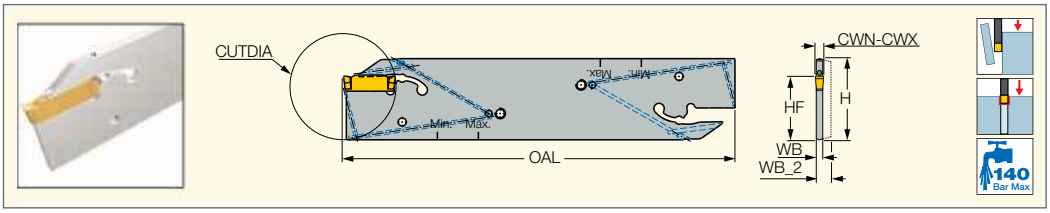
| Designation | | | | | | |
|---|---|---|---|---|---|---|
| DGFH 26-1.4 | EDG 23B* | | | | | |
| DGFH 26-2 | EDG 23A* | | | | | |
| DGFH 26-3 | EDG 23A* | | | | | |
| DGFH 26C-3 | EDG 23A* | SGC 340 | SGCU 341* | CGF 343* | CF 343* | CGM 343* |
| DGFH 26-4 | EDG 23A* | | | | | |
| DGFH 32-1.4 | EDG 23B* | | | | | |
| DGFH 32-2 | EDG 33A* | | | | | |
| DGFH 32-3 | EDG 33A* | | | | | |
| DGFH 32C-3 | EDG 33A* | SGC 340 | SGCU 341* | CGF 343* | CF 343* | CGM 343* |
| DGFH 32-4 | EDG 33A* | | | | | |
| DGFH 32C-4 | EDG 33A* | SGC 340 | SGCU 341* | CGF 343* | CF 343* | CGM 343* |
| DGFH 32-5 | EDG 33A* | | | | | |
| DGFH 32-6 | EDG 33A* | | | | | |
| DGFH 45-3 | EDG 33A* | | | | | |
| DGFH 45-4 | EDG 33A* | | | | | |
| DGFH 45-5 | EDG 33A* | | | | | |
| DGFH 45-6 | EDG 33A* | | | | | |

* Optional, should be ordered separately

DO-GRIP TWISTED 2-SIDED JET-CUT

## DGFH-JHP

Parting and Grooving Blades with Channels for Low and High-Pressure Coolant Carrying DO-GRIP Inserts




| Designation | CWN[2] | CWX[3] | WB | WB_2 | OAL | H | HF | CUTDIA | Insert | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DGFH 32-2-JHP [1] | 1.90 [4] | 2.50 | 1.80 | 2.5 | 150.00 | 32.0 | 24.8 | 39.0 | DG. 1.../DG. 2... | | SGC 340 | EDG 33A-JHP* |
| DGFH 32-3-JHP | 3.00 [4] | 3.18 | 2.50 | - | 152.00 | 32.0 | 24.8 | 90.0 | DG. 1.../DG. 3... | SR M2.0X2.5DIN916 | SGC 340 | EDG 33A-JHP* |
| DGFH 32-4-JHP | 4.00 | 4.00 | 3.20 | - | 152.00 | 32.0 | 24.9 | 90.0 | DG. 4.../GRIP 4... | SR M2.0X2.5DIN916 | SGC 340 | EDG 33A-JHP* |
| DGFH 32-5-JHP | 5.00 | 5.00 | 4.00 | - | 152.00 | 32.0 | 24.9 | 90.0 | DG. 5.../GRIP 5... | SR M2.0X2.5DIN916 | SGC 340 | EDG 33A-JHP* |
| DGFH 32-6-JHP [1] | 6.00 | 6.35 | 5.20 | - | 160.00 | 32.0 | 24.9 | 90.0 | DG. 6.../GRIP 6... | | SGC 340 | EDG 33A-JHP* |

• For user guide and accessories, see pages 440-457

[1] Only an upper channel

[2] Minimum cutting width

[3] Maximum cutting width

[4] For DG. 1... insert, modify holder

* Optional, should be ordered separately

**Inserts:** DGN-LF/LFT • DGN-MF • DGN-P • DGN-UT/UA • DGN-W • DGN-WP • DGN-Z • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGR-P • DGR-WP • DGR-Z/ZS • DGR/L-C DGRC/LC-C • DGR/L-J/JS • GRIP • GRIP (full radius)

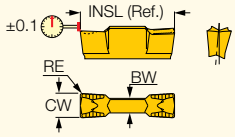
**Holders:** TGTBU-JHP

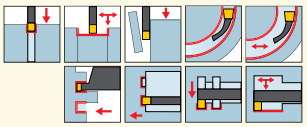
HELI-GRIP

## GRIP

Utility Double-Ended Inserts for External, Internal and Face Machining



No depth penetration limit

| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | INSL | BW | Tough ↔ Hard IC830 | IC8250 | IC08 | IC808 | IC908 | IC418 | IC5010 | IC806 | IC807 | IC804 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) | f face-groove (mm/rev) | f face-turn (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRIP 3002Y | 3.00 | 0.20 | 0.05 | 0.050 | 15.80 | 2.30 | ● | ● | ● | ● | ● | | | ● | ● | ● | 0.25-1.80 | 0.14-0.18 | 0.07-0.11 | 0.08-0.20 | 0.10-0.20 |
| GRIP 3003Y | 3.00 | 0.30 | 0.05 | 0.050 | 15.80 | 2.30 | ● | ● | ● | ● | ● | ● | ● | ● | | | 0.40-1.80 | 0.15-0.19 | 0.07-0.11 | 0.08-0.20 | 0.10-0.20 |
| GRIP 318-040Y | 3.18 | 0.40 | 0.05 | 0.050 | 15.80 | 2.30 | ● | | | ● | ● | ● | | ● | | | 0.50-1.90 | 0.17-0.22 | 0.07-0.12 | 0.08-0.20 | 0.10-0.20 |
| GRIP 4002Y | 4.00 | 0.20 | 0.05 | 0.050 | 19.00 | 2.80 | ● | ● | ● | ● | ● | | | ● | ● | | 0.25-2.40 | 0.16-0.21 | 0.09-0.14 | 0.10-0.24 | 0.15-0.30 |
| GRIP 4004Y | 4.00 | 0.40 | 0.05 | 0.050 | 19.00 | 2.80 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | 0.50-2.40 | 0.18-0.24 | 0.09-0.15 | 0.10-0.24 | 0.15-0.30 |
| GRIP 476-080Y | 4.76 | 0.80 | 0.05 | 0.050 | 19.00 | 3.10 | ● | ● | | ● | ● | ● | | ● | | | 1.00-2.80 | 0.21-0.33 | 0.10-0.20 | 0.10-0.24 | 0.15-0.30 |
| GRIP 5005Y | 5.00 | 0.50 | 0.05 | 0.050 | 19.00 | 3.30 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | 0.60-3.00 | 0.20-0.30 | 0.11-0.20 | 0.12-0.24 | 0.15-0.35 |
| GRIP 5008Y | 5.00 | 0.80 | 0.05 | 0.050 | 19.00 | 3.40 | ● | ● | | ● | ● | ● | ● | ● | ● | | 1.00-3.00 | 0.23-0.35 | 0.11-0.21 | 0.12-0.24 | 0.15-0.35 |
| GRIP 6005Y | 6.00 | 0.50 | 0.05 | 0.050 | 19.00 | 4.20 | ● | ● | | ● | ● | ● | ● | ● | ● | | 0.60-3.60 | 0.22-0.36 | 0.13-0.23 | 0.12-0.28 | 0.15-0.40 |
| GRIP 6008Y | 6.00 | 0.80 | 0.05 | 0.050 | 19.00 | 4.20 | ● | ● | | ● | ● | ● | ● | ● | ● | | 1.00-3.60 | 0.24-0.42 | 0.13-0.25 | 0.12-0.28 | 0.15-0.40 |
| GRIP 635-080Y | 6.35 | 0.80 | 0.05 | 0.050 | 19.00 | 4.20 | | ● | | ● | ● | ● | | ● | | | 1.00-3.80 | 0.25-0.44 | 0.14-0.27 | 0.12-0.28 | 0.15-0.40 |

- For cutting speed recommendations and user guide, see pages 440-457

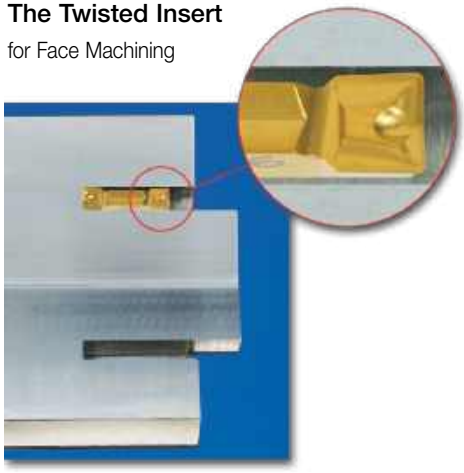
(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

**Tools:** C#-HELIR/L • C#-HFIR/L-MC • CR HFIR-M • D/HGAD RE/LE-JHP • DGAD/HGAD • DGFH • DGFH-JHP • DGFS • DGTR/L • HELIIR/L • HELIR/L • HFAER/L-4 • HFAER/L-5T, 6T • HFAIR/L-4 • HFAIR/L-DG • HFFR/L-T • HFHR/L-4T • HFHR/L-5T • HFIR/L-MC • HFPAD-3 • HFPAD-4 • HFPAD-5 • HFPAD-6 • HFPAD-JHP • HGAER/L-3 • HGAIR/L-3 • HGFH • HGHR/L-3 • HGPAD • HGPAD-JHP • IM-HFIR-MC

## The Twisted Insert

for Face Machining



The double-ended, twisted insert body makes it possible to machine deeper than the insert's length.
A unique chipformer for controlled chip flow in axial and radial directions.
The rear angle is slanted in relation to the frontal edge so it does not come into contact with the machined groove surface as the tool penetrates deeply into the workpiece.

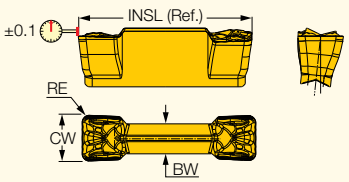


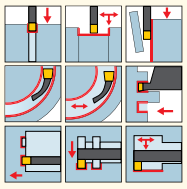
HELI-GRIP

## GRIP-T

Utility Double-Ended Inserts for External, Internal and Face Machining





| Designation | Dimensions CW | CWTOL(1) | RE | RETOL(2) | INSL | BW | Tough ↔ Hard IC830 | IC8250 | IC808 | IC806 | IC807 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRIP 3002T | 3.00 | 0.050 | 0.20 | 0.050 | 15.80 | 2.30 | ● | ● | ● | ● | ● | 0.25-1.80 | 0.14-0.18 | 0.07-0.11 |
| GRIP 3003T | 3.00 | 0.050 | 0.30 | 0.050 | 15.80 | 2.30 | ● | ● | ● | ● | ● | 0.40-1.80 | 0.14-0.18 | 0.07-0.11 |
| GRIP 4004T | 4.00 | 0.050 | 0.40 | 0.050 | 19.00 | 2.80 | ● | ● | ● | ● | ● | 0.50-2.40 | 0.18-0.24 | 0.09-0.15 |
| GRIP 5005T | 5.00 | 0.050 | 0.50 | 0.050 | 19.00 | 3.40 | ● | ● | ● | ● | ● | 0.60-3.00 | 0.20-0.30 | 0.11-0.20 |
| GRIP 5008T | 5.00 | 0.050 | 0.80 | 0.050 | 19.00 | 3.40 | ● | ● | ● | ● | ● | 1.00-3.00 | 0.23-0.35 | 0.11-0.21 |
| GRIP 6008T | 6.00 | 0.050 | 0.80 | 0.050 | 19.00 | 4.20 | ● | ● | | ● | ● | 1.00-3.60 | 0.24-0.42 | 0.13-0.25 |

- For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

**Tools:** C#-HELIR/L • D/HGAD RE/LE-JHP • DGAD/HGAD • DGFH • DGFH-JHP • DGFS • DGTR/L • HELIIR/L • HELIR/L • HFAER/L-4 • HFAER/L-5T, 6T • HFAIR/L-4 • HFAIR/L-DG • HFFR/L-T • HFHR/L-4T • HFHR/L-5T • HFPAD-3 • HFPAD-4 • HFPAD-5 • HFPAD-6 • HFPAD-JHP • HGAIR/L-3 • HGFH • HGPAD • HGPAD-JHP

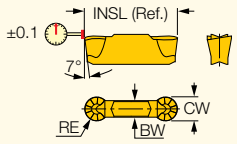
# TOP-GRIP Tools and Inserts

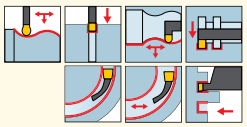
HELI-GRIP

## GRIP (full radius)

Utility Double-Ended Full Radius Inserts for External, Internal and Face Machining



No depth penetration limit

| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | INSL | BW | Tough ↔ Hard IC830 | IC8250 | IC08 | IC808 | IC908 | IC418 | IC5010 | IC806 | IC807 | IC804 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) | f face-groove (mm/rev) | f face-turn (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRIP 3015Y | 3.00 | 1.50 | 0.05 | 0.050 | 15.80 | 2.10 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | 0.00-1.50 | 0.18-0.26 | 0.07-0.13 | 0.08-0.20 | 0.10-0.20 |
| GRIP 318-159Y | 3.18 | 1.59 | 0.05 | 0.050 | 15.80 | 2.30 | | | | ● | ● | | | ● | | | 0.00-1.50 | 0.19-0.28 | 0.07-0.13 | 0.08-0.20 | 0.10-0.20 |
| GRIP 4020Y | 4.00 | 2.00 | 0.05 | 0.050 | 19.00 | 2.80 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | 0.00-2.00 | 0.20-0.34 | 0.09-0.17 | 0.10-0.24 | 0.15-0.30 |
| GRIP 476-238Y | 4.76 | 2.38 | 0.05 | 0.050 | 19.00 | 3.20 | | | | ● | ● | ● | | ● | | | 0.00-2.30 | 0.21-0.40 | 0.10-0.20 | 0.10-0.24 | 0.15-0.30 |
| GRIP 5025Y | 5.00 | 2.50 | 0.05 | 0.050 | 19.00 | 3.40 | ● | ● | | ● | ● | ● | | ● | ● | ● | 0.00-2.50 | 0.23-0.42 | 0.11-0.21 | 0.12-0.24 | 0.15-0.35 |
| GRIP 6030Y | 6.00 | 3.00 | 0.05 | 0.050 | 19.00 | 4.20 | ● | ● | ● | ● | ● | ● | ● | ● | ● | | 0.00-3.00 | 0.24-0.50 | 0.13-0.25 | 0.12-0.28 | 0.15-0.40 |
| GRIP 635-318Y | 6.35 | 3.18 | 0.05 | 0.050 | 19.00 | 4.00 | | | | ● | ● | | | ● | | | 0.00-3.10 | 0.25-0.53 | 0.14-0.27 | 0.12-0.28 | 0.15-0.40 |

- For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

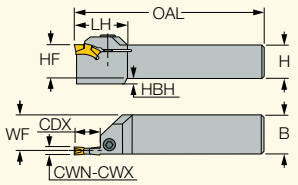
(2) Corner radius tolerance (+/-)

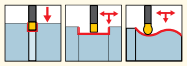
**Tools:** C#-HELIR/L • C#-HFIR/L-MC • CR HFIR-M • D/HGAD RE/LE-JHP • DGAD/HGAD • DGFH • DGFH-JHP • DGFS • DGTR/L • HELIIR/L • HELIR/L • HFAER/L-4 • HFAER/L-5T, 6T • HFAIR/L-4 • HFAIR/L-DG • HFFR/L-T • HFHR/L-4T • HFHR/L-5T • HFHR/L-6T • HFIR/L-MC • HFPAD-3 • HFPAD-4 • HFPAD-5 • HFPAD-6 • HFPAD-JHP • HGAER/L-3 • HGAIR/L-3 • HGFH • HGHR/L-3 • HGPAD • HGPAD-JHP • IM-HFIR-MC

TOP-GRIP

## TGDR/L

External Holders for Turning, Grooving and Profiling



Right-hand shown

| Designation | CWN(1) | CWX(2) | CDX(3) | H | HF | B | OAL | LH | WF | HBH | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TGDR/L 1616-3M | 3.00 | 3.00 | 7.50 | 16.0 | 16.0 | 16.0 | 100.00 | 30.5 | 14.80 | 6.0 | TGMF 3 | SR M5X12 DIN912 | HW 4.0(a) |
| TGDR/L 2020-3M | 3.00 | 3.00 | 7.50 | 20.0 | 20.0 | 20.0 | 125.00 | 30.5 | 18.70 | - | TGMF 3 | SR M5X12 DIN912 | HW 4.0(a) |
| TGDR/L 2525-3M | 3.00 | 3.00 | 7.50 | 25.0 | 25.0 | 25.0 | 140.00 | 30.5 | 23.70 | - | TGMF 3 | SR M5X12 DIN912 | HW 4.0(a) |
| TGDR/L 1616-4M | 4.00 | 5.00 | 9.00 | 16.0 | 16.0 | 16.0 | 100.00 | 32.2 | 14.20 | 6.0 | TGMF 4/TGMF 5 | SR M5X12 DIN912 | HW 4.0(a) |
| TGDR/L 2020-4M | 4.00 | 5.00 | 9.00 | 20.0 | 20.0 | 20.0 | 125.00 | 32.2 | 18.20 | 6.0 | TGMF 4/TGMF 5 | SR M5X12 DIN912 | HW 4.0(a) |
| TGDR/L 2525-4M | 4.00 | 5.00 | 15.50 | 25.0 | 25.0 | 25.0 | 140.00 | 34.0 | 23.20 | - | TGMF 4/TGMF 5 | SR M5X12 DIN912 | HW 4.0(a) |
| TGDR/L 2525-5M | 5.00 | 5.00 | 18.00 | 25.0 | 25.0 | 25.0 | 140.00 | 37.0 | 22.70 | - | TGMF 5 | SR M5X12 DIN912 | HW 4.0(a) |
| TGDR/L 3232-5M | 5.00 | 5.00 | 22.00 | 32.0 | 32.0 | 32.0 | 150.00 | 45.0 | 29.80 | - | TGMF 5 | SR M6X12DIN912 | HW 5.0(a) |
| TGDR/L 2525-6M | 6.00 | 6.35 | 22.00 | 25.0 | 25.0 | 25.0 | 150.00 | 43.0 | 22.50 | - | TGMF 6 | SR M6X16 DIN912 | HW 5.0(a) |
| TGDR/L 3232-6M | 6.00 | 6.35 | 22.00 | 32.0 | 32.0 | 32.0 | 150.00 | 43.0 | 29.50 | - | TGMF 6 | SR M6X16 DIN912 | HW 5.0(a) |

- For user guide, see pages 440-457

(1) Minimum cutting width

(2) Maximum cutting width

(3) Grooving depth is limited by the insert

(a) For optional key with limited tightening torque see pages 448-449

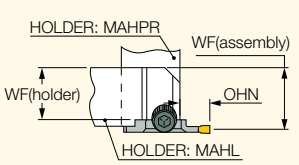
**Inserts:** TGMA • TGMF (full radius) • TGMF/P

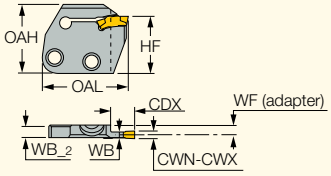
TOP-GRIP

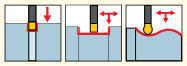
MODULAR-GRIP

## TGPAD

Adapters Carrying TGMF / TGMP Groove-Turn Inserts



Left-hand shown • WF(assembly)=WF(holder)+WF(adapter)

| Designation | CWN(1) | CWX(2) | CDX(3) | WF(4) | WB | WB_2 | OHN(5) | OAL | HF | OAH |
|---|---|---|---|---|---|---|---|---|---|---|
| TGPAD 3R/L-T9 | 3.00 | 3.00 | 9.00 | 4.00 | 2.40 | 5.2 | 12.7 | 37.20 | 24.0 | 30.0 |
| TGPAD 4R/L-T16 | 4.00 | 5.00 | 16.00 | 3.50 | 3.40 | 5.2 | 17.2 | 41.70 | 24.0 | 30.0 |
| TGPAD 5R/L-T16 | 5.00 | 5.00 | 16.00 | 3.00 | 4.40 | 5.2 | 17.2 | 41.70 | 24.0 | 30.0 |
| TGPAD 6R/L-T22 | 6.00 | 6.35 | 22.00 | 3.50 | 5.00 | 6.0 | 23.2 | 47.10 | 24.0 | 32.0 |

- For user guide, see pages 440-457

(1) Minimum cutting width

(2) Maximum cutting width

(3) Grooving depth is limited by the insert

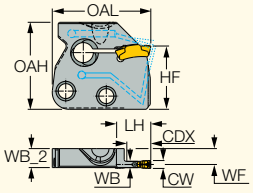
(4) WF(adapter)

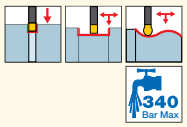
(5) Minimum overhang

**Inserts:** TGMA • TGMF (full radius) • TGMF/P

TOP-GRIP JETCUT
MODULAR-GRIP

## TGPAD-JHP
Adapters with Channels
for High-Pressure Coolant
Carrying TGMF / TGMP
Groove-Turn Inserts




Left-hand shown

| Designation | CWN(1) | CWX(2) | CDX(3) | WF | WB | WB_2 | LH | OAL | HF | OAH |
|---|---|---|---|---|---|---|---|---|---|---|
| TGPAD 3R/L-T9-JHP | 3.00 | 3.00 | 9.00 | 4.00 | 2.40 | 5.2 | 12.7 | 37.20 | 24.0 | 30.00 |
| TGPAD 4R/L-T16-JHP | 4.00 | 5.00 | 16.00 | 3.50 | 3.40 | 5.2 | 17.2 | 41.70 | 24.0 | 30.00 |
| TGPAD 5R/L-T16-JHP | 5.00 | 5.00 | 16.00 | 3.00 | 4.40 | 5.2 | 17.2 | 41.70 | 24.0 | 30.00 |
| TGPAD 6R/L-T22-JHP | 6.00 | 6.35 | 22.00 | 3.50 | 5.00 | 6.0 | 23.2 | 47.10 | 24.0 | 32.00 |

- For user guide, see pages 440-457

(1) Minimum cutting width
(2) Maximum cutting width
(3) Grooving depth is limited by the insert
**Inserts:** TGMF (full radius) • TGMF/P

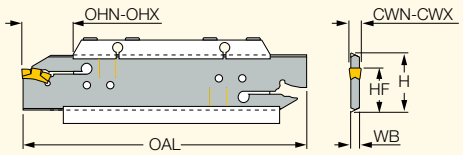
### Flow Rate vs. Pressure

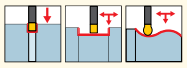
| Designation | 70 Bar Flow Rate (liters/min) | 100 Bar Flow Rate (liters/min) | 140 Bar Flow Rate (liters/min) |
|---|---|---|---|
| tgpad 3R/L-T9-JHP | 11-17 | 17-23 | 23-26 |
| tgpad 4R/L-T16-JHP | 20-25 | 25-31 | 31-34 |
| tgpad 5R/L-T16-JHP | 27-33 | 33-39 | 39-43 |
| tgpad 6R/L-T22-JHP | 30-35 | 35-41 | 41-44 |



TOP-GRIP

## TGHN-D
Double-Ended Blades
Carrying Utility Inserts for
Grooving and Turning



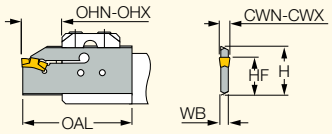
| Designation | H | CWN(1) | CWX(2) | OHN(3) | OHX(4) | HF | OAL | WB | Insert |
|---|---|---|---|---|---|---|---|---|---|
| TGHN 26-3D | 26.0 | 3.00 | 3.00 | 10.0 | 15.0 | 21.4 | 110.00 | 2.40 | TGMF 3 |
| TGHN 26-4D | 26.0 | 4.00 | 5.00 | 10.0 | 15.0 | 21.4 | 110.00 | 3.20 | TGMF 4, TGMF/P 5 |
| TGHN 26-5D | 26.0 | 5.00 | 5.00 | 10.0 | 20.0 | 21.4 | 110.00 | 4.00 | TGMF/P 5 |
| TGHN 32-3D | 32.0 | 3.00 | 3.00 | 10.0 | 18.0 | 24.8 | 150.00 | 2.40 | TGMF 3 |
| TGHN 32-4D | 32.0 | 4.00 | 5.00 | 12.0 | 21.0 | 24.8 | 150.00 | 3.20 | TGMF 4, TGMF/P 5 |
| TGHN 32-5D | 32.0 | 5.00 | 5.00 | 12.0 | 26.0 | 24.8 | 150.00 | 4.00 | TGMF/P 5 |
| TGHN 32-6D | 32.0 | 6.00 | 6.35 | 16.0 | 26.0 | 24.8 | 150.00 | 5.20 | TGMF 6 |

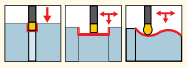
- Use the drilled holes on blade for min. and max. overhang • Grooving depth is limited by the insert • For user guide, see pages 440-457

(1) Minimum cutting width
(2) Maximum cutting width
(3) Minimum overhang
(4) Maximum overhang
**Inserts:** TGMA • TGMF (full radius) • TGMF/P
**Holders:** SGTBU/SGTBN • UBHCR/L

TOP-GRIP

## TGHN-S
Single-Ended Blades
Carrying Utility Inserts for
Grooving and Turning



| Designation | H | CWN(1) | CWX(2) | OHN(3) | OHX(4) | HF | OAL | WB | Insert |
|---|---|---|---|---|---|---|---|---|---|
| TGHN 32-3S | 32.0 | 3.00 | 3.00 | 10.0 | 18.0 | 24.8 | 48.30 | 2.40 | TGMF 3 |
| TGHN 32-5S | 32.0 | 5.00 | 5.00 | 12.0 | 25.0 | 24.8 | 54.00 | 4.00 | TGMF/P 5 |
| TGHN 32-6S | 32.0 | 6.00 | 6.35 | 16.0 | 25.0 | 24.8 | 55.70 | 5.20 | TGMF 6 |

- Use the drilled holes on blade for min. and max. overhang • Grooving depth is limited by the insert • For user guide, see pages 440-457

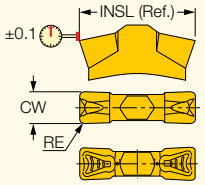
(1) Minimum cutting width
(2) Maximum cutting width
(3) Minimum overhang
(4) Maximum overhang
**Inserts:** TGMA • TGMF (full radius) • TGMF/P
**Holders:** C#-TBU • IM-TBU • UBHCR/L

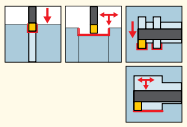
TOP-GRIP

## TGMF/P

Utility Double-Ended Inserts for External and Internal Grooving and Turning



| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | INSL | CDX(3) | Tough ↔ Hard IC830 | IC8250 | IC808 | IC20 | IC20N | IC428 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TGMF 302** | 3.00 | 0.20 | 0.05 | 0.050 | 13.50 | 10.50 | ● | ● | ● | ● | ● | ● | 0.25-1.80 | 0.14-0.18 | 0.07-0.11 |
| **TGMF 304** | 3.00 | 0.40 | 0.05 | 0.050 | 13.55 | 10.30 | ● | ● | ● | ● | ● | ● | 0.50-1.80 | 0.16-0.20 | 0.07-0.12 |
| **TGMF 402** | 4.00 | 0.20 | 0.05 | 0.050 | 17.70 | 14.70 | ● | ● | ● | ● | ● | ● | 0.20-2.40 | 0.16-0.21 | 0.09-0.14 |
| **TGMF 404** | 4.00 | 0.40 | 0.05 | 0.050 | 17.70 | 14.60 | ● | ● | ● | ● | ● | ● | 0.50-2.40 | 0.18-0.24 | 0.09-0.15 |
| **TGMP 506** | 5.00 | 0.60 | 0.05 | 0.050 | 17.60 | 15.00 | | ● | | | ● | | 0.75-3.00 | 0.21-0.32 | 0.11-0.20 |
| **TGMF 508** | 5.00 | 0.80 | 0.05 | 0.050 | 17.80 | 14.20 | ● | ● | ● | ● | ● | ● | 1.00-3.00 | 0.23-0.35 | 0.11-0.21 |
| **TGMF 635-080** | 6.35 | 0.80 | 0.05 | 0.050 | 22.15 | 18.60 | ● | ● | ● | ● | ● | ● | 1.00-3.80 | 0.25-0.44 | 0.14-0.27 |

• DMIN for internal application=20.5 mm • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Cutting depth maximum

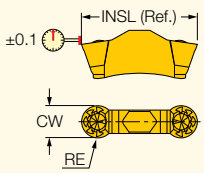
**Tools:** TGDR/L • TGHN 26-M • TGHN-D • TGHN-S • TGIR/L-C • TGPAD • TGPAD-JHP

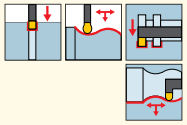
TOP-GRIP

## TGMF (full radius)

Utility Double-Ended Full Radius Inserts for External and Internal Grooving and Profiling





| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | INSL | CDX(3) | Tough ↔ Hard IC830 | IC8250 | IC808 | IC20 | IC5010 | IC428 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TGMF 315** | 3.00 | 1.50 | 0.05 | 0.050 | 13.50 | 11.40 | ● | ● | ● | ● | ● | | 0.00-1.50 | 0.18-0.26 | 0.07-0.13 |
| **TGMF 420** | 4.00 | 2.00 | 0.05 | 0.050 | 17.80 | 14.90 | ● | ● | ● | ● | ● | ● | 0.00-2.00 | 0.20-0.34 | 0.09-0.17 |
| **TGMF 525** | 5.00 | 2.50 | 0.05 | 0.050 | 17.75 | 14.30 | ● | ● | ● | ● | | ● | 0.00-2.50 | 0.23-0.42 | 0.11-0.21 |
| **TGMF 630** | 6.00 | 3.00 | 0.05 | 0.050 | 22.15 | 18.30 | ● | ● | ● | ● | | | 0.00-3.00 | 0.24-0.50 | 0.13-0.25 |

• Can cut arcs to 250° • DMIN for internal application=20.5 mm • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Cutting depth maximum

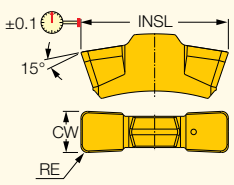
**Tools:** TGDR/L • TGHN 26-M • TGHN-D • TGHN-S • TGIR/L-C • TGPAD • TGPAD-JHP

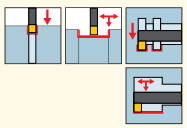
TOP-GRIP

## TGMA

Utility Double-Ended Inserts for External and Internal Grooving and Turning of Cast Iron





| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | INSL | CDX(3) | IC5010 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| **TGMA 304K** | 3.00 | 0.40 | 0.05 | 0.050 | 13.50 | 10.30 | ● | 0.50-1.80 | 0.12-0.20 | 0.07-0.13 |
| **TGMA 404K** | 4.00 | 0.40 | 0.05 | 0.050 | 18.00 | 14.60 | ● | 0.50-2.40 | 0.16-0.27 | 0.09-0.18 |
| **TGMA 408K** | 4.00 | 0.80 | 0.05 | 0.050 | 18.00 | 14.50 | ● | 1.00-2.40 | 0.18-0.32 | 0.09-0.19 |
| **TGMA 508K** | 5.00 | 0.80 | 0.05 | 0.050 | 18.00 | 15.00 | ● | 1.00-3.00 | 0.23-0.40 | 0.11-0.24 |
| **TGMA 608K** | 6.00 | 0.80 | 0.05 | 0.050 | 22.40 | 18.60 | ● | 1.00-3.60 | 0.27-0.48 | 0.14-0.29 |

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Cutting depth maximum

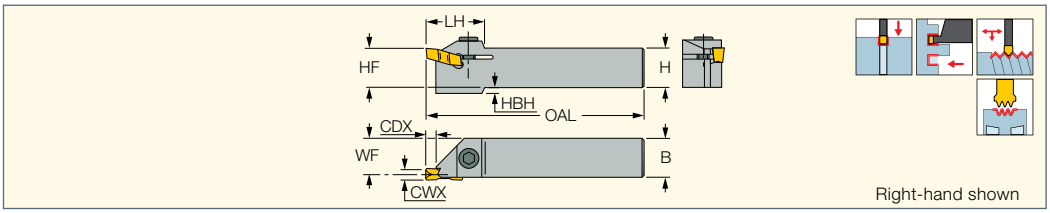
**Tools:** TGDR/L • TGHN 26-M • TGHN-D • TGHN-S • TGIR/L-C • TGPAD

# CUT-GRIP Tools and Inserts

CUT-GRIP

## GHMR/L

Toolholders for Shallow Radial and Axial Grooving with Narrow and Special Profile Inserts




| Designation | CWX(2) | CDX(3) | H | HF | B | OAL | LH | WF | HBH | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GHML 12 | 4.00 | 4.80 | 12.0 | 12.0 | 12.0 | 110.00 | 25.0 | 10.80 | 4.0 | SR 76-1021 | T-20/5 |
| GHMR 12 | 4.80 | 4.80 | 12.0 | 12.0 | 12.0 | 110.00 | 25.0 | 10.80 | 4.0 | | |
| GHMR/L 16 | 4.80 | 4.80 | 16.0 | 16.0 | 16.0 | 115.00 | 25.0 | 14.50 | - | SR M6X16 DIN912 | HW 5.0 |
| GHMR 16-3 ST (1) | 5.00 | 4.80 | 16.0 | 16.0 | 16.0 | 78.00 | 25.0 | 15.00 | - | SR M6X16 DIN912 | HW 5.0 |
| GHMR/L 20 | 6.40 | 4.80 | 20.0 | 20.0 | 20.0 | 125.00 | 25.0 | 18.50 | - | SR M6X16 DIN912 | HW 5.0 |
| GHMR/L 25 | 6.40 | 4.80 | 25.0 | 25.0 | 25.0 | 140.00 | 25.0 | 23.50 | - | SR M6X16 DIN912 | HW 5.0 |
| GHMR/L 32 | 6.40 | 4.80 | 32.0 | 32.0 | 32.0 | 150.00 | 25.0 | 30.20 | - | SR M6X16 DIN912 | HW 5.0 |

• Use for recessing: light turning, small depth of cut ($a_p$=0.1-0.5 mm) and small feed (f=0.1 mm/rev) • For user guide, see pages 440-457

(1) For Star and multi-spindle machines

(2) Maximum cutting width

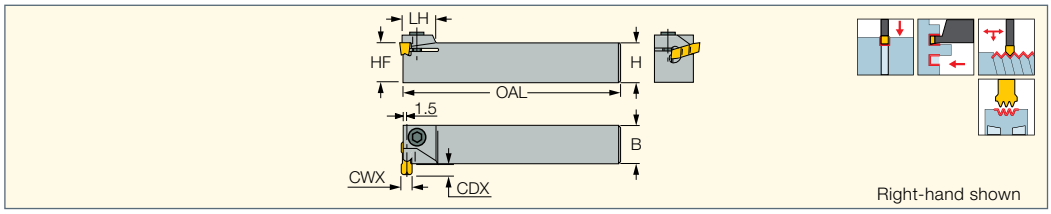
(3) Cutting depth maximum

**Inserts:** GIA-K (W=3-6) • GIF • GIF (full radius) • GIF-E (W=4-6 full radius) • GIF-E (W=4-6) • GIG • GIM-C • GIM-J • GIM-J-RA/LA • GIM-UT • GIM-UT-RA/LA • GIM-W • GIM-W-RA/LA • GIMF • GIMN • GIMT • GIMY • GIMY (full radius) • GIMY-F • GIP • GIP (flat top W<M) • GIP (full radius W<M) • GIP (full radius) • GIP-E • GIP-E (full radius) • GIP-RX/LX • GIP-UN • GIPA (full radius W=3-6) • GIPA (W=3-6) • GIPM-A46 / GIP-1250 • GIPY • GITM • GITM (full radius) • GPV • TIP-MT • TIP-P-BSPT • TIP-P-BSW • TIP-P-ISO • TIP-P-NPT • TIP-P-UN • TIP-WT

CUT-GRIP

## GHMPR/L

Perpendicular Toolholders for Shallow Radial and Axial Grooving with Narrow and Special Profile Inserts




| Designation | CWX(1) | CDX(2) | H | HF | B | OAL | LH | | |
|---|---|---|---|---|---|---|---|---|---|
| GHMPR/L 16 | 4.80 | 4.80 | 16.0 | 16.0 | 16.0 | 110.00 | 17.0 | SR M6X16 DIN912 | HW 5.0 |
| GHMPR/L 20 | 6.40 | 4.80 | 20.0 | 20.0 | 20.0 | 120.00 | 17.0 | SR M6X16 DIN912 | HW 5.0 |
| GHMPR/L 25 | 6.40 | 4.80 | 25.0 | 25.0 | 25.0 | 135.00 | 17.0 | SR M6X16 DIN912 | HW 5.0 |

• Use for recessing: light turning, small depth of cut ($a_p$=0.1-0.5 mm) and small feed (f=0.1 mm/rev) • For user guide, see pages 440-457

(1) Maximum cutting width

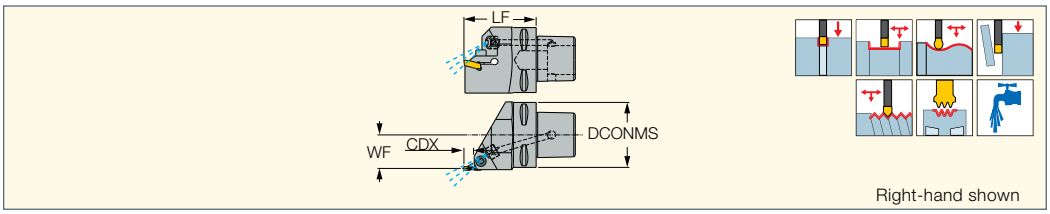
(2) Cutting depth maximum

**Inserts:** GIA-K (W=3-6) • GIF • GIF (full radius) • GIF-E (W=4-6 full radius) • GIF-E (W=4-6) • GIG • GIM-C • GIM-J • GIM-J-RA/LA • GIM-UT • GIM-UT-RA/LA • GIM-W • GIM-W-RA/LA • GIMF • GIMN • GIMT • GIMY • GIMY (full radius) • GIMY-F • GIP • GIP (flat top W<M) • GIP (full radius W<M) • GIP (full radius) • GIP-E • GIP-E (full radius) • GIP-RX/LX • GIP-UN • GIPA (full radius W=3-6) • GIPA (W=3-6) • GIPM-A46 / GIP-1250 • GIPY • GITM • GITM (full radius) • GPV • TIP-MT • TIP-P-BSPT • TIP-P-BSW • TIP-P-ISO • TIP-P-NPT • TIP-P-UN • TIP-WT

CUTGRIP CAMFIX

## C#-GHDR/L

External Grooving, Turning and Parting Toolholders with CAMFIX Exchangeable Tapered Shanks




| Designation | CWN[2] | CWX[3] | DCONMS | CDX[4] | LF | WF | CP[5] | CDI |
|---|---|---|---|---|---|---|---|---|
| C4 GHDR/L-3 | 2.80 | 4.00 | 40.00 | 9.00 | 55.00 | 20.00 | 100 | 1 |
| C5 GHDR/L-3 | 2.80 | 4.00 | 50.00 | 9.00 | 55.00 | 24.00 | 100 | 1 |
| C6 GHDR-3 | 2.80 | 4.00 | 63.00 | 9.00 | 55.00 | 32.00 | 100 | 1 |
| C4 GHDR/L-4 | 4.00 | 5.00 | 40.00 | 10.00 | 55.00 | 20.00 | 100 | 1 |
| C5 GHDR/L-4 | 4.00 | 5.00 | 50.00 | 10.00 | 55.00 | 24.00 | 100 | 1 |
| C6 GHDR/L-4 | 4.00 | 5.00 | 63.00 | 10.00 | 55.00 | 32.00 | 100 | 1 |
| C5 GHDR/L-5 | 5.00 | 6.40 | 50.00 | 12.00 | 55.00 | 24.00 | 100 | 1 |
| C6 GHDR/L-5 | 5.00 | 6.40 | 63.00 | 12.00 | 55.00 | 32.00 | 100 | 1 |
| C6 GHDR/L-8 [1] | 7.00 | 8.40 | 63.00 | 25.00 | 70.00 | 30.00 | 100 | 1 |

- When using GPV and TIP inserts, toolholder must be modified according to insert profile to ensure clearance

[1] Used with GIF 8, GIA 8, GIPA 8, GDMM, GIDA, GDMY, GDMF, GDMU inserts
[2] Minimum cutting width
[3] Maximum cutting width
[4] Cutting depth maximum
[5] Coolant pressure (Bar)

**Inserts:** GDMF • GDMM-CC • GDMN • GDMU • GDMY • GDMY (full radius) • GDMY-F • GIA-K (long pocket) • GIA-K (W=3-6) • GIF • GIF (full radius) • GIF (long pocket) • GIF-E (W=4-6 full radius) • GIF-E (W=4-6) • GIF-E (W=8,10 full radius) • GIF-E (W=8,10) • GIM-C • GIM-J • GIM-J-RA/LA • GIM-UT • GIM-UT-RA/LA • GIM-W • GIM-W-RA/LA • GIMF • GIMN • GIMT • GIMY • GIMY (full radius) • GIMY-F • GIP • GIP (full radius) • GIP-E • GIP-E (full radius) • GIP-UN • GIPA (full radius W=3-6) • GIPA (W=3-6) • GIPA/GIDA 8 (full radius) • GIPM-A46 / GIP-1250 • GIPY • GITM • GITM (full radius) • GPV • TIP-MT • TIP-P-BSPT • TIP-P-BSW • TIP-P-ISO • TIP-P-NPT • TIP-P-UN • TIP-WT

### Spare Parts

| Designation |  |  |  |
|---|---|---|---|
| C4 GHDR/L-3 | SR M5X20DIN912 | HW 4.0[a] | EZ 104 |
| C5 GHDR/L-3 | SR M5X20DIN912 | HW 4.0[a] | EZ 104 |
| C6 GHDR-3 | SR M5X16 DIN912 | HW 4.0[a] | EZ 125 |
| C4 GHDR/L-4 | SR M6X20 DIN912 | HW 5.0[a] | EZ 104 |
| C5 GHDR/L-4 | SR M6X20 DIN912 | HW 5.0[a] | EZ 104 |
| C6 GHDR/L-4 | SR M6X16 DIN912 | HW 5.0[a] | EZ 125 |
| C5 GHDR/L-5 | SR M6X25 DIN912 | HW 5.0[a] | EZ 104 |
| C6 GHDR/L-5 | SR M6X16 DIN912 | HW 5.0[a] | EZ 125 |
| C6 GHDL-8 | SR M6X20 DIN912 | HW 5.0[a] | EZ 146 |
| C6 GHDR-8 | SR M6X25 DIN912 | HW 5.0[a] | EZ 146 |

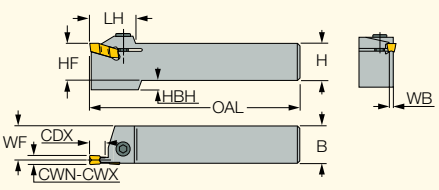
[a] For optional key with limited tightening torque see pages 448-449

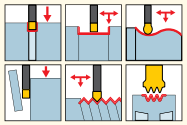


# Tools, Adapters and Blades (Short Pocket)

CUTGRIP

**GHDR/L (short pocket)**
External Tools for Turning, Grooving and Parting



Right-hand shown

| Designation | CWN[4] | CWX[5] | CDX[6] | H | HF | B | OAL | LH | WF | WB | HBH | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GHDR/L 12-3 | 2.80 | 4.00 | 8.00 | 12.0 | 12.0 | 12.0 | 110.00 | 25.0 | 10.80 | 2.40 | 4.0 | SR 76-1021 | T-20/5[a] |
| GHDR/L 16-3 | 2.80 | 4.00 | 9.00 | 16.0 | 16.0 | 16.0 | 110.00 | 26.0 | 14.80 | 2.40 | 4.0 | SR M5X16 DIN912 | HW 4.0[a] |
| GHDR/L 16-3 ST [1] | 2.80 | 4.00 | 9.00 | 16.0 | 16.0 | 16.0 | 78.00 | 24.0 | 15.00 | 2.20 | 4.0 | SR M5X16 DIN912 | HW 4.0[a] |
| GHDR/L 20-3 | 2.80 | 4.00 | 9.00 | 20.0 | 20.0 | 20.0 | 120.00 | 26.0 | 18.80 | 2.40 | - | SR M5X16 DIN912 | HW 4.0[a] |
| GHDR/L 25-3 | 2.80 | 4.00 | 9.00 | 25.0 | 25.0 | 25.0 | 135.00 | 26.0 | 23.80 | 2.40 | - | SR M5X16 DIN912 | HW 4.0[a] |
| GHDR/L 16-4 | 4.00 | 5.00 | 10.00 | 16.0 | 16.0 | 16.0 | 110.00 | 26.0 | 14.40 | 3.20 | 4.0 | SR M6X16 DIN912 | HW 5.0[a] |
| GHDR 16-4 ST [1] | 4.00 | 5.40 | 10.00 | 16.0 | 16.0 | 16.0 | 78.00 | 24.6 | 14.00 | 3.40 | 4.0 | SR M6X16 DIN912 | HW 5.0[a] |
| GHDR/L 20-4 | 4.00 | 5.00 | 10.00 | 20.0 | 20.0 | 20.0 | 120.00 | 26.0 | 18.40 | 3.20 | - | SR M6X16 DIN912 | HW 5.0[a] |
| GHDR/L 25-4 | 4.00 | 5.00 | 10.00 | 25.0 | 25.0 | 25.0 | 135.00 | 27.0 | 23.40 | 3.20 | - | SR M6X16 DIN912 | HW 5.0[a] |
| GHDR/L 32-4 | 4.00 | 5.00 | 10.00 | 32.0 | 32.0 | 32.0 | 150.00 | 27.0 | 30.40 | 3.20 | - | SR M6X16 DIN912 | HW 5.0[a] |
| GHDR/L 20-5 | 5.00 | 6.40 | 12.00 | 20.0 | 20.0 | 20.0 | 120.00 | 29.0 | 17.90 | 4.20 | - | SR M6X16 DIN912 | HW 5.0[a] |
| GHDR/L 25-5 | 5.00 | 6.40 | 12.00 | 25.0 | 25.0 | 25.0 | 135.00 | 29.0 | 22.90 | 4.20 | - | SR M6X16 DIN912 | HW 5.0[a] |
| GHDR/L 32-5 | 5.00 | 6.40 | 12.00 | 32.0 | 32.0 | 32.0 | 150.00 | 29.0 | 29.90 | 4.20 | - | SR M6X16 DIN912 | HW 5.0[a] |
| GHDR/L 25-6 | 6.00 | 6.40 | 12.00 | 25.0 | 25.0 | 25.0 | 135.00 | 29.0 | 22.30 | 5.40 | - | SR M6X16 DIN912 | HW 5.0[a] |
| GHDR/L 25-P8 [2] | 7.00 | 10.00 | 16.50 | 25.0 | 25.0 | 25.0 | 150.00 | 35.7 | 21.80 | 6.50 | - | SR M8X20DIN912 | HW 6.0[a] |
| GHDR/L 32-P8 [3] | 7.00 | 10.00 | 16.50 | 32.0 | 32.0 | 32.0 | 170.00 | 35.7 | 28.80 | 6.50 | - | SR M8X20DIN912 | HW 6.0[a] |

- For using TIP and GPV inserts, toolholder seat needs to be modified according to insert profile to ensure clearance.
- For user guide, see pages 440-457

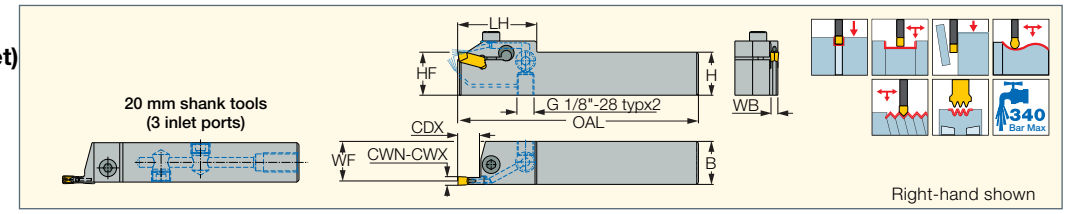
[1] For Star and multi-spindle machines.
[2] Used with GIMF, GIMY, GIPY, GIMM, GITM, GPV inserts.
[3] Used with GIMT, GIMN, GIMF, GIMY, GIPY, GIMM,GITM,GPV Inserts
[4] Minimum cutting width
[5] Maximum cutting width
[6] Cutting depth maximum
[a] For optional key with limited tightening torque see pages 448-449

**Inserts:** GIA-K (W=3-6) • GIF • GIF (full radius) • GIF-E (W=4-6 full radius) • GIF-E (W=4-6) • GIG • GIM-C • GIM-J • GIM-J-RA/LA • GIM-UT • GIM-UT-RA/LA • GIM-W • GIM-W-RA/LA • GIMF • GIMM 8CC • GIMN • GIMT • GIMY • GIMY (full radius) • GIMY-F • GIP • GIP (flat top W<M) • GIP (full radius W<M) • GIP (full radius) • GIP-E • GIP-E (full radius) • GIP-UN • GIPA (full radius W=3-6) • GIPA (W=3-6) • GIPM-A46 / GIP-1250 • GIPY • GITM • GITM (full radius) • GPV • TIP-MT • TIP-P-BSPT • TIP-P-BSW • TIP-P-ISO • TIP-P-NPT • TIP-P-UN • TIP-WT

CUTGRIP JETCUT

## GHDR/L-JHP (short pocket)

Grooving and Turning Tools with Channels for High-Pressure Coolant




| Designation | CWN[2] | CWX[3] | H | CDX[4] | B | OAL | LH | WF | WB | HF |
|---|---|---|---|---|---|---|---|---|---|---|
| GHDR/L 20-3-JHP | 2.80 | 4.00 | 20.0 | 9.00 | 20.0 | 120.00 | 29.0 | 18.80 | 2.40 | 20.0 |
| GHDR/L 25-3-JHP | 2.80 | 4.00 | 25.0 | 9.00 | 25.0 | 140.00 | 44.0 | 23.80 | 2.40 | 25.0 |
| GHDR/L 20-4-JHP | 4.00 | 5.00 | 20.0 | 10.00 | 20.0 | 120.00 | 29.0 | 18.40 | 3.20 | 20.0 |
| GHDR/L 25-4-JHP | 4.00 | 5.00 | 25.0 | 10.00 | 25.0 | 140.00 | 45.0 | 23.40 | 3.20 | 25.0 |
| GHDR/L 25-5-JHP | 5.00 | 6.40 | 25.0 | 12.00 | 25.0 | 140.00 | 46.0 | 22.90 | 4.20 | 25.0 |
| GHDR/L 25-P8-JHP [1] | 7.00 | 10.00 | 25.0 | 16.50 | 25.0 | 150.00 | 50.0 | 21.80 | 6.50 | 25.0 |

- For using TIP and GPV inserts, toolholder seat needs to be modified according to insert profile to ensure clearance
- For user guide and accessories see pages 440-457

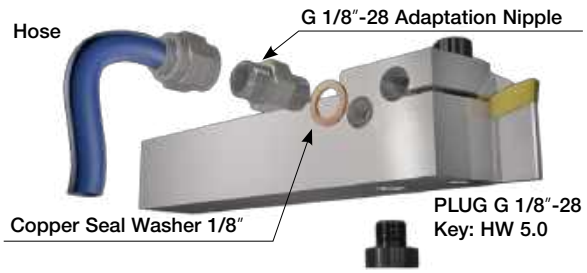
[1] Used with GIMF, GIMY, GIPY, GIMM, GITM, GPV, GIMY-F, GIMM 8CC,GIMT,GIMN,GITM (full radius), GIMY (full radius) inserts.
[2] Minimum cutting width
[3] Maximum cutting width
[4] Cutting depth maximum

**Inserts:** GIA-K (W=3-6) • GIF • GIF (full radius) • GIF-E (W=4-6 full radius) • GIF-E (W=4-6) • GIM-C • GIM-J • GIM-J-RA/LA • GIM-UT • GIM-UT-RA/LA • GIM-W • GIM-W-RA/LA • GIMF • GIMM 8CC • GIMN • GIMT • GIMY • GIMY (full radius) • GIMY-F • GIP • GIP (full radius) • GIP-E • GIP-E (full radius) • GIP-UN • GIPA (full radius W=3-6) • GIPA (W=3-6) • GIPM-A46 / GIP-1250 • GIPY • GITM • GITM (full radius) • GPV • TIP-MT • TIP-P-BSPT • TIP-P-BSW • TIP-P-ISO • TIP-P-NPT • TIP-P-UN • TIP-WT

### Flow Rate vs. Pressure

| Designation | 70 Bar Flow Rate (liters/min) | 100 Bar Flow Rate (liters/min) | 140 Bar Flow Rate (liters/min) |
|---|---|---|---|
| GHDR/L 20-3-JHP | 5-7 | 7-9 | 9-11 |
| GHDR/L 20-4-JHP | 6-8 | 10-12 | 12-14 |
| GHDR/L 25-3-JHP | 6-8 | 8-10 | 10-12 |
| GHDR/L 25-4-JHP | 10-12 | 14-16 | 16-18 |
| GHDR/L 25-5-JHP | 13-16 | 19-21 | 22-24 |

### GHDR...-JHP




### Spare Parts

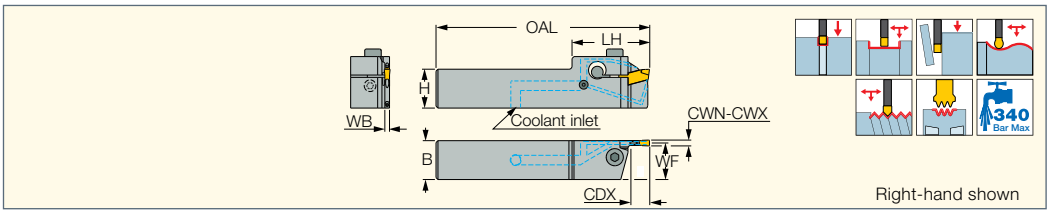
| Designation | | | | |
|---|---|---|---|---|
| GHDR/L 20-3-JHP | SR M5X16 DIN912 | HW 4.0[a] | PLG G1/8 TL360 | HW 5.0 |
| GHDR/L 25-3-JHP | SR M5X20DIN912 | HW 4.0[a] | PLG 1/8ISO1179 | HW 5.0 |
| GHDR/L 20-4-JHP | SR M6X16 DIN912 | | PLG G1/8 TL360 | HW 5.0 |
| GHDR/L 25-4-JHP | SR M6X20 DIN912 | | PLG 1/8ISO1179 | HW 5.0 |
| GHDR/L 25-5-JHP | SR M6X20 DIN912 | | PLG 1/8ISO1179 | HW 5.0 |
| GHDR/L 25-P8-JHP | SR M6X20 DIN912 | | PLG 1/8ISO1179 | HW 5.0 |

[a] For optional key with limited tightening torque see pages 448-449

CUTGRIP JETCUT

## GHDR/L-JHP-MC
## (short pocket)

Grooving and Turning Tools with Bottom Inlet Coolant Channels




| Designation | CWN(1) | CWX(2) | H | CDX | B | OAL | LH | WF | WB |
|---|---|---|---|---|---|---|---|---|---|
| GHDR/L 20-3-JHP-MC | 2.80 | 4.00 | 20.0 | 9.00 | 20.0 | 110.00 | 40.0 | 18.80 | 2.40 |
| GHDR/L 25-3-JHP-MC | 2.80 | 4.00 | 25.0 | 9.00 | 25.0 | 123.00 | 37.0 | 23.80 | 2.40 |
| GHDR/L 20-4-JHP-MC | 4.00 | 5.00 | 20.0 | 10.00 | 20.0 | 110.00 | 40.0 | 18.40 | 3.20 |
| GHDR/L 25-4-JHP-MC | 4.00 | 5.00 | 25.0 | 10.00 | 25.0 | 123.00 | 37.0 | 23.40 | 3.20 |
| GHDR/L 25-5-JHP-MC | 5.00 | 6.40 | 25.0 | 12.00 | 25.0 | 123.00 | 37.0 | 22.90 | 4.20 |

- For using TIP and GPV inserts, toolholder seat needs to be modified according to insert profile to ensure clearance
- For user guide and accessories see pages 440-457

(1) Minimum cutting width

(2) Maximum cutting width

**Inserts:** GIA-K (W=3-6) • GIF • GIF (full radius) • GIF-E (W=4-6 full radius) • GIF-E (W=4-6) • GIM-C • GIM-J • GIM-J-RA/LA • GIM-UT • GIM-UT-RA/LA • GIM-W • GIM-W-RA/LA • GIMF • GIMM 8CC • GIMN • GIMT • GIMY • GIMY (full radius) • GIMY-F • GIP • GIP (full radius) • GIP-E • GIP-E (full radius) • GIP-UN • GIPA (full radius W=3-6) • GIPA (W=3-6) • GIPM-A46 / GIP-1250 • GIPY • GITM • GITM (full radius) • GPV • TIP-MT • TIP-P-BSPT • TIP-P-BSW • TIP-P-ISO • TIP-P-NPT • TIP-P-UN • TIP-WT

### Spare Parts

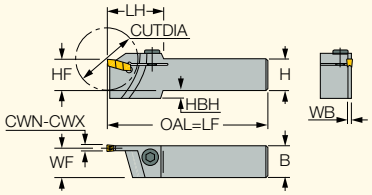
| Designation |  |  |
|---|---|---|
| GHDR/L 20-3-JHP-MC | SR M5X16 DIN912 | HW 4.0 |
| GHDR/L 25-3-JHP-MC | SR M5X20DIN912 | HW 4.0 |
| GHDR/L 20-4-JHP-MC | SR M6X20 DIN912 | HW 5.0 |
| GHDR/L 25-4-JHP-MC | SR M6X20 DIN912 | HW 5.0 |
| GHDR/L 25-5-JHP-MC | SR M6X20 DIN912 | HW 5.0 |

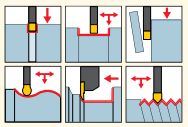


CUTGRIP

## GHGR/L

External Holders for Deep Grooving and Parting



Left-hand shown

| Designation | CWN[3] | CWX[4] | CUTDIA[5] | H | HF | B | OAL | LH | WF | WB | HBH | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GHGR/L 20-2 [1] | 0.40 | 2.40 | 34.0 | 20.0 | 20.0 | 20.0 | 120.00 | 33.0 | 19.20 | 1.70 | - | SR M5X16 DIN912 | HW 4.0[a] |
| GHGR/L 25-2 [1] | 0.40 | 2.40 | 34.0 | 25.0 | 25.0 | 25.0 | 140.00 | 33.0 | 24.20 | 1.70 | - | SR M5X16 DIN912 | HW 4.0[a] |
| GHGL 16-3 | 3.00 | 4.00 | 40.0 | 16.0 | 16.0 | 16.0 | 110.00 | 36.0 | 14.70 | 2.50 | 4.0 | SR M6X16 DIN912 | HW 5.0[a] |
| GHGR 16-3 | 3.00 | 4.00 | 40.0 | 16.0 | 16.0 | 16.0 | 110.00 | 36.0 | 14.70 | 2.50 | - | | |
| GHGR/L 16-3 ST [2] | 3.00 | 4.00 | 34.0 | 16.0 | 16.0 | 16.0 | 78.00 | 33.0 | 15.00 | 2.40 | 4.0 | SR M6X16 DIN912 | HW 5.0[a] |
| GHGR/L 20-3 | 3.00 | 4.00 | 40.0 | 20.0 | 20.0 | 20.0 | 120.00 | 36.0 | 18.70 | 2.50 | - | SR M6X16 DIN912 | HW 5.0[a] |
| GHGR/L 25-3 | 3.00 | 4.00 | 40.0 | 25.0 | 25.0 | 25.0 | 140.00 | 36.0 | 23.70 | 2.50 | - | SR M6X16 DIN912 | HW 5.0[a] |
| GHGR 16-4 | 4.00 | 5.00 | 40.0 | 16.0 | 16.0 | 16.0 | 110.00 | 36.0 | 14.40 | 3.20 | 4.0 | SR M6X16 DIN912 | HW 5.0[a] |
| GHGR/L 20-4 | 4.00 | 5.00 | 40.0 | 20.0 | 20.0 | 20.0 | 120.00 | 36.0 | 18.20 | 3.50 | - | SR M6X16 DIN912 | HW 5.0[a] |
| GHGR/L 25-4 | 4.00 | 5.00 | 40.0 | 25.0 | 25.0 | 25.0 | 140.00 | 36.0 | 23.20 | 3.50 | - | SR M6X16 DIN912 | HW 5.0[a] |
| GHGR/L 25-425 | 4.00 | 5.00 | 50.0 | 25.0 | 25.0 | 25.0 | 140.00 | 41.0 | 23.20 | 3.50 | - | SR M6X16 DIN912 | HW 5.0[a] |
| GHGR/L 25-5 | 5.00 | 6.40 | 50.0 | 25.0 | 25.0 | 25.0 | 140.00 | 41.0 | 22.90 | 4.20 | - | SR M6X16 DIN912 | HW 5.0[a] |
| GHGR/L 32-5 | 5.00 | 6.40 | 50.0 | 32.0 | 32.0 | 32.0 | 150.00 | 41.0 | 29.90 | 4.20 | - | SR M6X16 DIN912 | HW 5.0[a] |
| GHGR/L 25-630 | 6.00 | 8.00 | 60.0 | 25.0 | 25.0 | 25.0 | 140.00 | 45.0 | 22.30 | 5.40 | - | SR M6X16 DIN912 | HW 5.0[a] |
| GHGR/L 32-632 | 6.00 | 8.00 | 64.0 | 32.0 | 32.0 | 32.0 | 170.00 | 50.0 | 29.40 | 5.40 | - | SR M6X16 DIN912 | HW 5.0[a] |

- For machining depth over 13 mm, a single-ended insert is required (GIM, GIMF,GIMY,GIMT,GIMN)
- CDX for grooving depth depends on part diameter Dmax
- For grooving a part with a diameter larger than CUTDIA, see next table
- For using TIP inserts, tool holder seat needs to be modified according to insert profile to ensure clearance
- For user guide, see pages 440-457

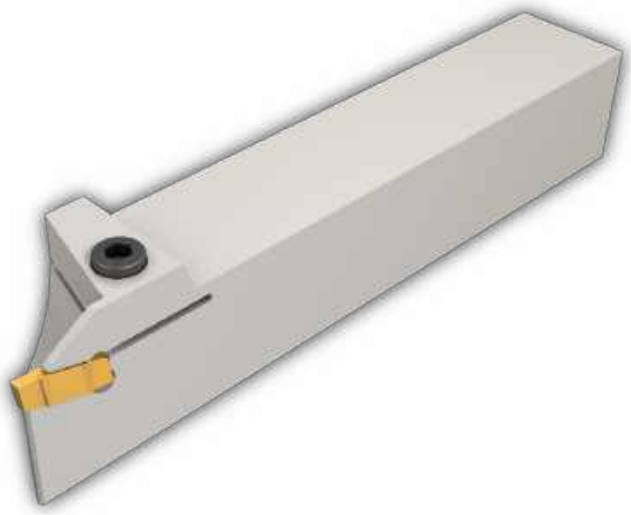
[1] In the case of inserts with CW<2 mm, tool pocket should be ground to 0.3 mm thinner than the insert's grooving width.
[2] For Star and multi-spindle machines.
[3] Minimum cutting width
[4] Maximum cutting width
[5] Maximum parting diameter
[a] For optional key with limited tightening torque see pages 448-449

**Inserts:** GIA-K (W=3-6) • GIF • GIF (full radius) • GIF-E (W=4-6 full radius) • GIF-E (W=4-6) • GIG • GIM-C • GIM-J • GIM-J-RA/LA • GIM-UT • GIM-UT-RA/LA • GIM-W • GIM-W-RA/LA • GIMF • GIMM 8CC • GIMN • GIMT • GIMY • GIMY (full radius) • GIMY-F • GIP • GIP (flat top W<M) • GIP (full radius W<M) • GIP (full radius) • GIP-E • GIP-E (full radius) • GIPA (full radius W=3-6) • GIPA (W=3-6) • GIPM-A46 / GIP-1250 • GIPY • GITM • GITM (full radius) • TIP-MT • TIP-P-BSPT • TIP-P-BSW • TIP-P-ISO • TIP-P-NPT • TIP-P-UN • TIP-WT

### Depth Capacity*

| Designation | ØDmax | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GHGR/L 16-3 | — | — | — | — | 40 | 50 | 68 | 80 | 120 | 290 | 1000 | — | — |
| GHGR/L 20-2 | — | — | — | — | — | — | 66 | 80 | 120 | 270 | 1000 | — | — |
| GHGR/L 20-3 | — | — | — | — | 40 | 50 | 68 | 80 | 120 | 290 | 1000 | — | — |
| GHGR/L 20-4 | — | — | — | — | 40 | 50 | 68 | 80 | 120 | 290 | 1000 | — | — |
| GHGR/L 25-2 | — | — | — | — | — | — | 66 | 72 | 86 | 110 | 130 | 220 | 320 |
| GHGR/L 25-3 | — | — | — | — | 40 | 80 | 105 | 120 | 190 | 450 | 1500 | — | — |
| GHGR/L 25-4 | — | — | — | — | 40 | 80 | 105 | 120 | 190 | 450 | 1500 | — | — |
| GHGR/L 25-425 | — | — | 99 | 135 | 350 | 700 | — | — | — | — | — | — | — |
| GHGR/L 25-5 | — | — | 50 | 130 | 300 | 600 | — | — | — | — | — | — | — |
| GHGR/L 25-630 | — | 100 | 350 | — | — | — | — | — | — | — | — | — | — |
| GHGR/L 32-5 | — | — | 50 | 130 | 300 | 600 | — | — | — | — | — | — | — |
| GHGR 32-632 | — | — | — | — | — | — | — | — | — | — | — | — | — |
| CDX | 32 | 30 | 25 | 23 | 20 | 19 | 17 | 16 | 14 | 12 | 11 | 9 | 8 |

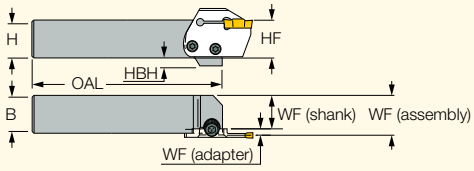
* For over 13 mm depth: GIM, GIMF,GIMT,GIMN and GIMY, GPV (single ended insert) only.



MODULAR-GRIP

## MAHR/L

Adapter Holders for
all GRIP Systems




Left-hand shown •
WF(assembly)=WF(shank)+WF(adapter)

| Designation | H | B | HF | OAL | HBH | WF[1] |
|---|---|---|---|---|---|---|
| MAHR/L 20 | 20.0 | 20.0 | 20.0 | 130.00 | 10.0 | 17.1 |
| MAHR/L 25 | 25.0 | 25.0 | 25.0 | 130.00 | 5.0 | 22.1 |
| MAHR/L 32 | 32.0 | 32.0 | 32.0 | 140.00 | - | 29.1 |

[1] WF(shank)

**Tools:** CGPAD • DGAD-B-D • DGAD/HGAD • HFPAD-3 • HFPAD-4 • HFPAD-5 • HFPAD-6 • HGPAD • PCADR/L • SCLCR-PAD • SDJCR-PAD • SVJCR-PAD • SWAPR-PAD • TGAD • TGPAD

### Spare Parts

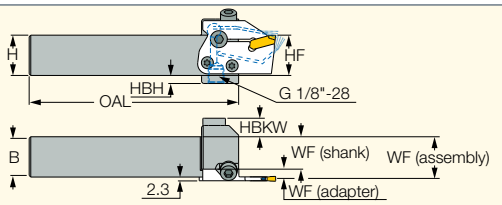
| Designation | | | | | | |
|---|---|---|---|---|---|---|
| MAHR/L | SR M5-04451 | T-20/5 | SR 14-519 | SR M6X20-XT[a] | HW 5.0 | SR M6X6DIN551 14H/22H |

[a] For CGPAD, HGPAD, TGPAD and HFPAD adapters; supplied with the tools

MODULAR-GRIP
JETCUT

## MAHR/L-JHP

Holders with High-Pressure
Coolant Channels for
MODULAR-GRIP Adapters



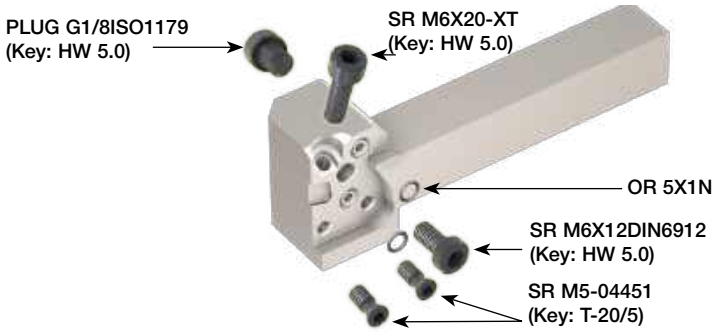

Left-hand shown •
WF(assembly)=WF(shank)+WF(adapter)

| Designation | H | B | OAL | HBH | WF[1] | HBKW | HF |
|---|---|---|---|---|---|---|---|
| MAHR/L 20-JHP | 20.0 | 20.0 | 130.00 | 10.0 | 15.1 | 16.50 | 20.0 |
| MAHR/L 25-JHP | 25.0 | 25.0 | 130.00 | 5.0 | 20.1 | 11.50 | 25.0 |
| MAHR/L 32-JHP | 32.0 | 32.0 | 140.00 | - | 27.1 | 4.50 | 32.0 |

• For user guide and accessories, see pages 440-457

[1] WF(shank)

**Tools:** HFPAD-JHP • PCADRS/LS-JHP • TGPAD-JHP • CGPAD-JHP • DGPAD-JHP • TAGPAD-JHP • HGPAD-JHP • PCADR/L-JHP • CGPAD • DGAD-B-D • DGAD/HGAD • HFPAD-3 • HFPAD-4 • HFPAD-5 • HFPAD-6 • HGPAD • PCADR/L • SCLCR-PAD • SDJCR-PAD • SVJCR-PAD • SWAPR-PAD • TGAD • TGPAD



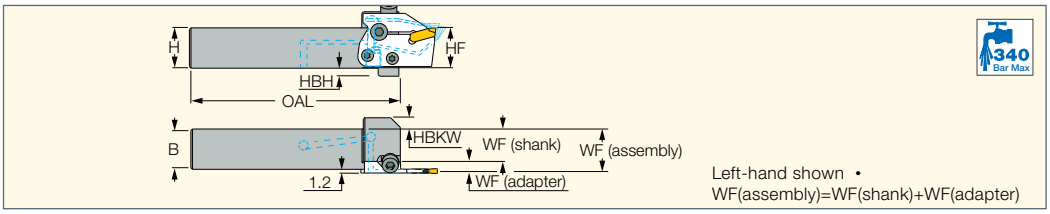

### Spare Parts

| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| MAHR/L-JHP | SR M5-04451 | T-20/5 | SR M6X12DIN6912 | SR M6X20-XT | HW 5.0 | OR 5X1N | PLG 1/8ISO1179 |

MODULAR-GRIP
JETCUT

## MAHR/L-JHP-MC

Holders with Bottom Inlets for High-Pressure Coolant Channels Carrying MODULAR-GRIP Grooving and Turning Adapters




Left-hand shown •
WF(assembly)=WF(shank)+WF(adapter)

| Designation | H | B | OAL | HBH | WF[1] | HBKW | HF |
|---|---|---|---|---|---|---|---|
| MAHR/L 20-JHP-MC | 20.0 | 20.0 | 98.00 | 10.0 | 14.0 | 6.00 | 20.0 |
| MAHR/L 25-JHP-MC | 25.0 | 25.0 | 98.00 | 5.0 | 19.0 | - | 25.0 |

• For CDX, refer to the adapters data.

(1) WF(shank)

**Tools:** HFPAD-JHP • PCADRS/LS-JHP • TGPAD-JHP • CGPAD-JHP • DGPAD-JHP • HGPAD-JHP • PCADR/L-JHP • TAGPAD-JHP • CGPAD • DGAD-B-D • DGAD/HGAD • HFPAD-3 • HFPAD-4 • HFPAD-5 • HFPAD-6 • HGPAD • PCADR/L • SCLCR-PAD • SDJCR-PAD • SVJCR-PAD • SWAPR-PAD • TGAD • TGPAD



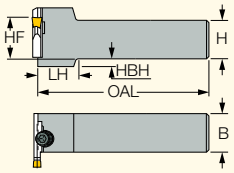
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| MAHR/L-JHP-MC | SR M6X20-XT | HW 5.0 | SR M5-04451 | T-20/5 | SR M6X12DIN6912 | OR 5X1N |

MODULAR-GRIP

## MAHPR/L

Holders for Perpendicularly Mounted Adapters for all GRIP Systems




Right-hand shown

| Designation | H | B | HF | OAL | LH | HBH |
|---|---|---|---|---|---|---|
| MAHPR/L 20 | 20.0 | 20.0 | 20.0 | 140.00 | 25.0 | 10.0 |
| MAHPR/L 25 | 25.0 | 25.0 | 25.0 | 140.00 | 25.0 | 5.0 |
| MAHPR/L 32 | 32.0 | 32.0 | 32.0 | 150.00 | 25.0 | - |

**Tools:** CGPAD • DGAD-B-D • DGAD/HGAD • HFPAD-3 • HFPAD-4 • HFPAD-5 • HFPAD-6 • HGPAD • PCADR/L • SCLCR-PAD • SDJCR-PAD • SVJCR-PAD • SWAPR-PAD • TGAD • TGPAD

### Spare Parts

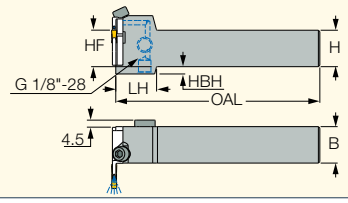
| Designation | | | | | | |
|---|---|---|---|---|---|---|
| MAHPR/L | SR M5-04451 | T-20/5 | SR 14-519 | SR M6X20-XT[a] | HW 5.0 | SR M6X6DIN551 14H/22H |

(a) For CGPAD, HGPAD, TGPAD and HFPAD adapters. Supplied with the tools.

MODULAR-GRIP
JET-CUT

## MAHPR/L-JHP

Holders with High-Pressure Coolant Channels for MODULAR-GRIP Perpendicularly Mounted Adapters




Right-hand shown

| Designation | H | B | OAL | LH | HBH | HF |
|---|---|---|---|---|---|---|
| MAHPR/L 20-JHP | 20.0 | 20.0 | 140.00 | 28.0 | 10.0 | 20.0 |
| MAHPR/L 25-JHP | 25.0 | 25.0 | 140.00 | 28.0 | 5.0 | 25.0 |
| MAHPR/L 32-JHP | 32.0 | 32.0 | 150.00 | - | - | 32.0 |

• For user guide and accessories, see pages 440-457

**Tools:** DGPAD-JHP • HFPAD-JHP • PCADRS/LS-JHP • TAGPAD-JHP • TGPAD-JHP • CGPAD-JHP • HGPAD-JHP • PCADR/L-JHP • CGPAD • DGAD-B-D • DGAD/HGAD • HFPAD-3 • HFPAD-4 • HFPAD-5 • HFPAD-6 • HGPAD • PCADR/L • SCLCR-PAD • SDJCR-PAD • SVJCR-PAD • SWAPR-PAD • TGAD • TGPAD



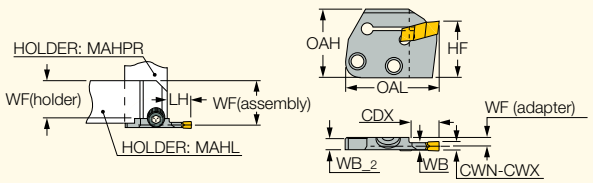

### Spare Parts

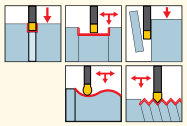
| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| MAHPR/L-JHP | SR M5-04451 | T-20/5 | SR M6X12DIN6912 | SR M6X20-XT | HW 5.0 | OR 5X1N | PLG 1/8ISO1179 |

CUT-GRIP
MODULAR-GRIP

## CGPAD

Adapters for CUT-GRIP Inserts



Left-hand shown
• WF(assembly)=WF(holder)+WF(adapter)

| Designation | CWN(1) | CWX(2) | CDX(3) | LH | WF(4) | WB | WB_2 | OAL | OAH | HF |
|---|---|---|---|---|---|---|---|---|---|---|
| CGPAD 3R/L-T16 | 2.80 | 4.00 | 16.00 | 17.3 | 4.00 | 2.40 | 5.2 | 42.00 | 30.0 | 24.0 |
| CGPAD 3R/L-T22 | 2.80 | 4.00 | 22.00 | 23.0 | 4.00 | 2.40 | 5.2 | 47.70 | 30.0 | 24.0 |
| CGPAD 4R/L-T16 | 4.00 | 5.00 | 16.00 | 17.3 | 3.60 | 3.50 | 5.2 | 42.00 | 30.0 | 24.0 |
| CGPAD 4R/L-T22 | 4.00 | 5.00 | 22.00 | 23.0 | 3.50 | 3.50 | 5.2 | 47.70 | 30.0 | 24.0 |
| CGPAD 5R/L-T16 | 5.00 | 6.40 | 16.00 | 17.3 | 3.10 | 4.50 | 5.2 | 42.00 | 30.0 | 24.0 |
| CGPAD 5R/L-T22 | 5.00 | 6.40 | 22.00 | 23.0 | 3.00 | 4.50 | 5.2 | 47.70 | 30.0 | 24.0 |
| CGPAD 8R/L-T16 | 6.40 | 8.00 | 16.00 | 17.3 | 3.00 | 6.00 | 6.0 | 42.00 | 30.0 | 24.0 |
| CGPAD 8R/L-T22 | 6.40 | 8.00 | 22.00 | 23.0 | 3.00 | 6.00 | 6.0 | 47.70 | 30.0 | 24.0 |

• For using TIP insert, toolholder seat needs to be modified according to insert profile to ensure clearance • For user guide, see pages 440-457

(1) Minimum cutting width
(2) Maximum cutting width
(3) Cutting depth maximum
(4) WF(adapter)

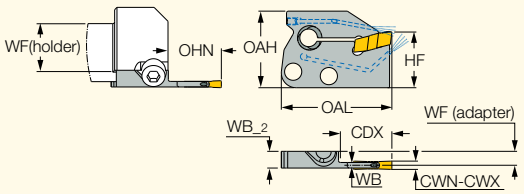
**Inserts:** GIF • GIF (full radius) • GIF-E (W=4-6 full radius) • GIF-E (W=4-6) • GIM-C • GIM-J • GIM-J-RA/LA • GIM-UT • GIM-UT-RA/LA • GIM-W • GIM-W-RA/LA • GIMF • GIMM 8CC • GIMN • GIMT • GIMY • GIMY (full radius) • GIMY-F • GIP • GIP (full radius) • GIP-E • GIP-E (full radius) • GIP-UN • GIPA (full radius W=3-6) • GIPA (W=3-6) • GIPM-A46 / GIP-1250 • GIPY • GITM • GITM (full radius) • TIP-MT • TIP-P-BSPT • TIP-P-BSW • TIP-P-ISO • TIP-P-NPT • TIP-P-UN • TIP-WT

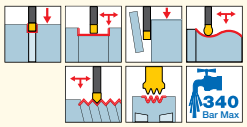
**Holders:** C#-MAHD-JHP • C#-MAHPD-JHP • MAHR/L-JHP-MC • MAHPR/L-JHP • MAHR/L-JHP • MAHR/L • MAHPR/L • C#-MAHD • C#-MAHPD • C#-MAHDR-45 • HSK A63WH-MAHUR/L • HSK A63WH-MAHDR-45 • HSK A63WH-MAHDOR • IM-MAHD • IM-MAHPD

CUT-GRIP JET CUT
MODULAR-GRIP

## CGPAD-JHP

Adapters with High-Pressure Coolant Channels Carrying CUT-GRIP Inserts




Left-hand shown
• WF(assembly)=WF(holder)+WF(adapter)

| Designation | CWN(1) | CWX(2) | CDX(3) | OHN(4) | WF(5) | WB | WB_2 | OAL | OAH | HF |
|---|---|---|---|---|---|---|---|---|---|---|
| CGPAD 3R/L-T16-JHP | 2.80 | 4.00 | 16.00 | 17.3 | 6.00 | 2.40 | 7.2 | 42.00 | 33.0 | 24.0 |
| CGPAD 3R/L-T22-JHP | 2.80 | 4.00 | 22.00 | 23.0 | 6.00 | 2.40 | 7.2 | 47.70 | 33.0 | 24.0 |
| CGPAD 4R/L-T16-JHP | 4.00 | 5.00 | 16.00 | 17.3 | 5.45 | 3.50 | 7.2 | 42.00 | 33.0 | 24.0 |
| CGPAD 4R-T22-JHP | 4.00 | 5.00 | 22.00 | 23.0 | 5.45 | 3.50 | 7.2 | 47.70 | 33.0 | 24.0 |
| CGPAD 5R/L-T16-JHP | 5.00 | 6.40 | 16.00 | 17.3 | 4.95 | 4.50 | 7.2 | 42.00 | 33.0 | 24.0 |
| CGPAD 5R-T22-JHP | 5.00 | 6.40 | 22.00 | 23.0 | 4.95 | 4.50 | 7.2 | 47.70 | 33.0 | 24.0 |
| CGPAD 8R/L-T22-JHP | 6.40 | 8.00 | 22.00 | 23.0 | 4.20 | 6.00 | 7.2 | 47.00 | 33.0 | 24.0 |

• For using TIP insert, toolholder seat needs to be modified according to insert profile to ensure clearance • For user guide and accessories see pages 440-457

(1) Minimum cutting width
(2) Maximum cutting width
(3) Cutting depth maximum
(4) Minimum overhang
(5) WF(adapter)

**Inserts:** GIA-K (W=3-6) • GIF • GIF (full radius) • GIF-E (W=4-6 full radius) • GIF-E (W=4-6) • GIM-C • GIM-J • GIM-J-RA/LA • GIM-UT • GIM-UT-RA/LA • GIM-W • GIM-W-RA/LA • GIMF • GIMN • GIMT • GIMY • GIMY (full radius) • GIMY-F • GIP • GIP (full radius) • GIP-E • GIP-E (full radius) • GIP-UN • GIPA (full radius W=3-6) • GIPA (W=3-6) • GIPM-A46 / GIP-1250 • GIPY • GITM • GITM (full radius) • GPV • TIP-MT • TIP-P-BSPT • TIP-P-BSW • TIP-P-ISO • TIP-P-NPT • TIP-P-UN • TIP-WT

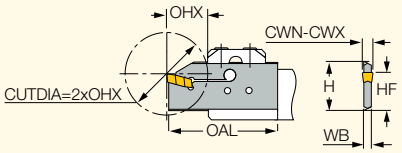
### Flow Rate vs. Pressure

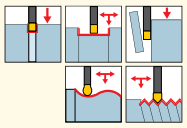
| Designation | 70 Bar Flow Rate (liters/min) | 100 Bar Flow Rate (liters/min) | 140 Bar Flow Rate (liters/min) |
|---|---|---|---|
| CGPAD 3R/L-T16-JHP | 6-8 | 7-9 | 8-10 |
| CGPAD 3R-T22-JHP | 5-7 | 6-8 | 7-9 |
| CGPAD 4R/L-T16-JHP | 10-12 | 11-13 | 12-14 |
| CGPAD 5R/L-T16-JHP | 12-14 | 16-18 | 19-21 |

CUT-GRIP

## CGHN-S

Single-Ended Blades for External Machining



| Designation | H | CWN(1) | CWX(2) | OHN(3) | OHX(4) | HF | OAL | WB |
|---|---|---|---|---|---|---|---|---|
| CGHN 32-3S | 32.0 | 2.80 | 4.00 | 10.0 | 19.0 | 24.8 | 51.00 | 2.40 |
| CGHN 32-4S | 32.0 | 3.50 | 5.00 | 12.0 | 21.0 | 24.8 | 53.00 | 3.20 |
| CGHN 32-5S | 32.0 | 4.40 | 6.40 | 12.0 | 25.0 | 24.8 | 56.00 | 4.00 |
| CGHN 32-6S | 32.0 | 5.50 | 6.40 | 12.0 | 25.0 | 24.8 | 56.00 | 5.20 |

• When using a double-ended insert, grooving depth is limited by the insert • For user guide, see pages 440-457

(1) Minimum cutting width
(2) Maximum cutting width
(3) Minimum overhang
(4) Maximum overhang

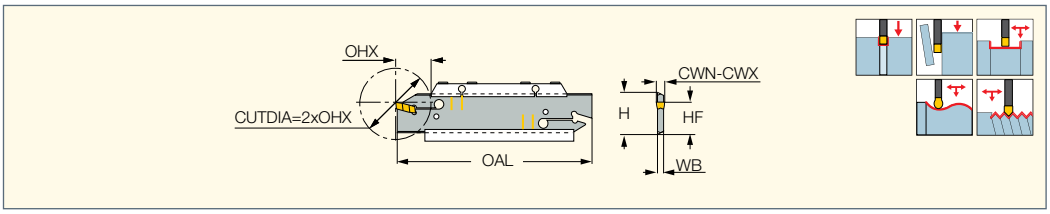
**Inserts:** GIA-K (W=3-6) • GIF • GIF (full radius) • GIF-E (W=4-6 full radius) • GIF-E (W=4-6) • GIM-C • GIM-J • GIM-J-RA/LA • GIM-UT • GIM-UT-RA/LA • GIM-W • GIM-W-RA/LA • GIMF • GIMN • GIMT • GIMY • GIMY (full radius) • GIMY-F • GIP • GIP (full radius) • GIP-E • GIP-E (full radius) • GIPA (full radius W=3-6) • GIPA (W=3-6) • GIPM-A46 / GIP-1250 • GIPY • GITM • GITM (full radius) • TIP-MT • TIP-P-BSPT • TIP-P-BSW • TIP-P-ISO • TIP-P-NPT • TIP-P-UN • TIP-WT

**Holders:** C#-TBU • IM-TBU • UBHCR/L

CUT-GRIP

## CGHN-D

Double-Ended Blades for External Grooving and Turning




| Designation | H | CWN(1) | CWX(2) | OHN(3) | OHX(4) | HF | OAL | WB |
|---|---|---|---|---|---|---|---|---|
| CGHN 26-3D | 26.0 | 2.80 | 4.00 | 10.0 | 15.0 | 21.4 | 110.00 | 2.40 |
| CGHN 26-4D | 26.0 | 3.50 | 4.50 | 10.0 | 15.0 | 21.4 | 110.00 | 3.20 |
| CGHN 26-5D | 26.0 | 4.40 | 6.40 | 10.0 | 20.0 | 21.4 | 110.00 | 4.00 |
| CGHN 32-3D | 32.0 | 2.80 | 4.00 | 10.0 | 19.0 | 24.8 | 150.00 | 2.40 |
| CGHN 32-4D | 32.0 | 3.50 | 5.00 | 12.0 | 21.0 | 24.8 | 150.00 | 3.20 |
| CGHN 32-5D | 32.0 | 4.40 | 6.40 | 12.0 | 26.0 | 24.8 | 150.00 | 4.00 |
| CGHN 32-6D | 32.0 | 5.50 | 6.40 | 12.0 | 26.0 | 24.8 | 150.00 | 5.20 |

- Use the yellow lines on blade for min. and max. overhang • When using TIP inserts, toolholder seat needs to be modified according to insert profile to ensure clearance
- When using a double-ended insert, grooving depth is limited by the insert • For user guide, see pages 440-457

(1) Minimum cutting width
(2) Maximum cutting width
(3) Minimum overhang
(4) Maximum overhang

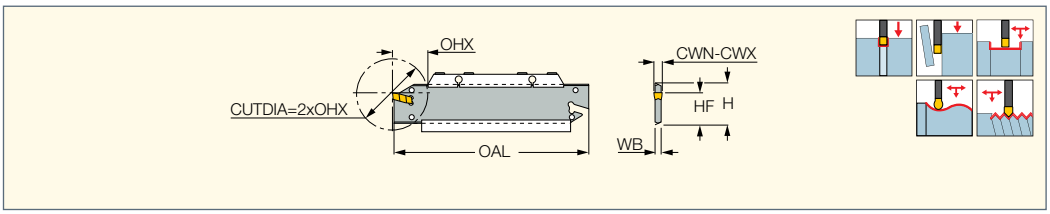
**Inserts:** GIA-K (W=3-6) • GIF • GIF (full radius) • GIF-E (W=4-6 full radius) • GIF-E (W=4-6) • GIM-C • GIM-J • GIM-J-RA/LA • GIM-UT • GIM-UT-RA/LA • GIM-W • GIM-W-RA/LA • GIMF • GIMN • GIMT • GIMY • GIMY (full radius) • GIMY-F • GIP • GIP (full radius) • GIP-E • GIP-E (full radius) • GIPA (full radius W=3-6) • GIPA (W=3-6) • GIPM-A46 / GIP-1250 • GIPY • GITM • GITM (full radius) • TIP-MT • TIP-P-BSPT • TIP-P-BSW • TIP-P-ISO • TIP-P-NPT • TIP-P-UN • TIP-WT

**Holders:** SGTBU/SGTBN • UBHCR/L

CUT-GRIP

## CGHN-DG

Double-Ended Blades for External Grooving and Turning Self-Clamped Inserts




| Designation | H | CWN(1) | CWX(2) | OHX(3) | OHX_2(4) | HF | OAL | WB | |
|---|---|---|---|---|---|---|---|---|---|
| CGHN 32-3DG | 32.0 | 2.80 | 4.00 | 50.0 | 25.0 | 24.8 | 150.00 | 2.40 | EDG 44A* |
| CGHN 32-4DG | 32.0 | 3.50 | 5.00 | 50.0 | 30.0 | 24.8 | 150.00 | 3.20 | EDG 44A* |
| CGHN 32-5DG | 32.0 | 4.40 | 6.40 | 60.0 | 33.0 | 24.8 | 150.00 | 4.00 | EDG 44A* |
| CGHN 32-6DG | 32.0 | 5.50 | 6.40 | 60.0 | 35.0 | 24.8 | 150.00 | 5.20 | EDG 44A* |

- DO-GRIP clamping insert is self-retained for long overhang • When using TIP inserts, toolholder seat needs to be modified according to insert profile to ensure clearance
- When using a double-ended insert, grooving depth is limited by the insert • For user guide, see pages 440-457

(1) Minimum cutting width
(2) Maximum cutting width
(3) Maximum overhang for grooving
(4) Maximum overhang for turning
* Optional, should be ordered separately

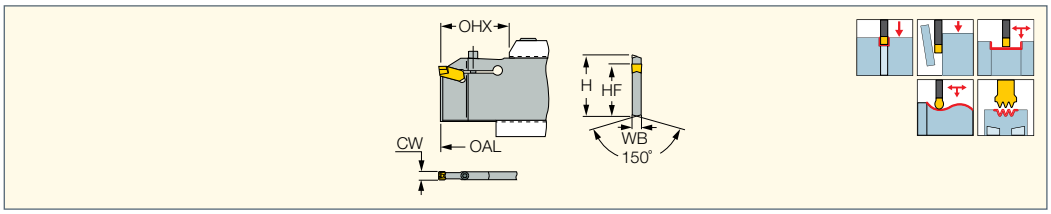
**Inserts:** GIA-K (W=3-6) • GIF • GIF (full radius) • GIF-E (W=4-6 full radius) • GIF-E (W=4-6) • GIM-C • GIM-J • GIM-J-RA/LA • GIM-UT • GIM-UT-RA/LA • GIM-W • GIM-W-RA/LA • GIMF • GIMN • GIMT • GIMY • GIMY (full radius) • GIMY-F • GIP • GIP (full radius) • GIP-E • GIP-E (full radius) • GIP-UN • GIPA (full radius W=3-6) • GIPA (W=3-6) • GIPM-A46 / GIP-1250 • GIPY • GITM • GITM (full radius) • TIP-MT • TIP-P-BSPT • TIP-P-BSW • TIP-P-ISO • TIP-P-NPT • TIP-P-UN • TIP-WT

**Holders:** C#-TBK-R/L • HSK A-WH-TBK-R/L • SGTBU/SGTBN • UBHCR/L

CUT-GRIP

## CGHN-P8

Blades for Deep Grooving and Turning




| Designation | CW | OHX(3) | CDX(4) | WB | HF | H | OAL | | |
|---|---|---|---|---|---|---|---|---|---|
| CGHN 52-P8 (1) | 8.00 | 50.0 | 43.00 | 7.40 | 45.0 | 52.6 | 190.00 | SR 76-1637 | HW 4.0 |
| CGHN 53-P8 (2) | 8.00 | 70.0 | 63.00 | 7.40 | 45.0 | 52.6 | 260.00 | SR 76-1637 | HW 4.0 |

- For user guide, see pages 440-457

(1) If CUTDIA (workpiece) is smaller than 200 mm, then CDX=48; if CUTDIA (workpiece) is larger than 200 mm, then CDX=43
(2) If CUTDIA (workpiece) is smaller than 200 mm, then CDX=68; if CUTDIA (workpiece) is larger than 200 mm, then CDX=63
(3) Maximum overhang
(4) Cutting depth maximum

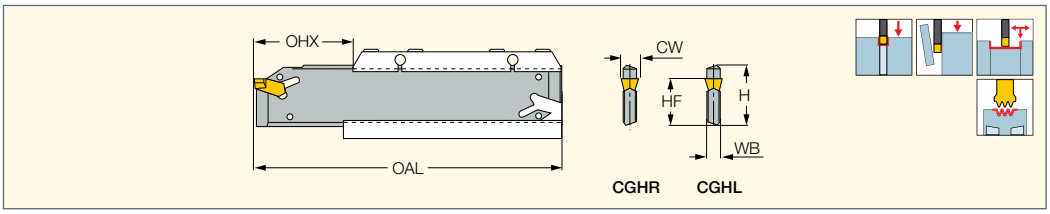
**Inserts:** GIMF • GIMM 8CC • GIMY • GIMY (full radius) • GIMY-F • GIPY

**Holders:** SGTBK • SGTBU/SGTBN

CUTGRIP

## CGHR/L-P8DG

Double-Ended Heavy Duty Self-Clamped Grooving and Turning Blades




| Designation | CW | OHX(1) | WB | HF | H | OAL | |
|---|---|---|---|---|---|---|---|
| CGHR/L 32-P8DG | 8.00 | 40.0 | 6.80 | 24.8 | 32.0 | 150.00 | EDG 44A* |

- For user guide, see pages 440-457

(1) Minimum overhang • If CUTDIA (workpiece) is smaller than 200 mm, then CDX=48; if CUTDIA (workpiece) is larger than 200 mm, then CDX=43

* Optional, should be ordered separately

**Inserts:** GIMF • GIMM 8CC • GIMY • GIMY (full radius) • GIMY-F • GIPY

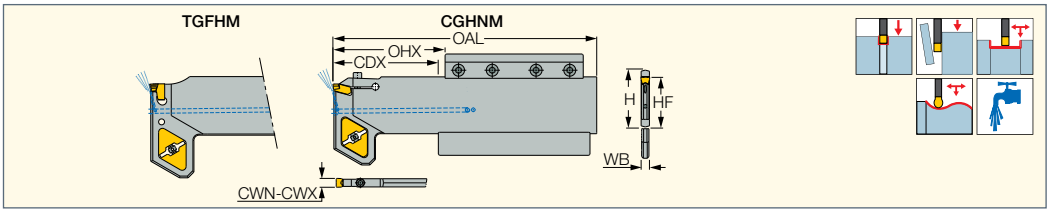
**Holders:** C#-TBK-R/L • HSK A-WH-TBK-R/L • SGTBK • SGTBU/SGTBN

CUTGRIP

WHISPERLINE ANTI-VIBRATION

## Anti-Vibration Blades

Anti-Vibration Blades for Deep Grooving and Turning




| Designation | CWN(1) | CWX(2) | OHX(3) | CDX(4) | WB | HF | H | OAL | Insert | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CGHNM 53-6DG-AV | 5. 50 | 6.40 | 100.0 | 93.00 | 5.20 | 45.0 | 52.6 | 235.00 | GIMF/N/T/Y 6 GIM 6 | SGCU 341 | OR 30X3 NBR | EDG 44A* | T-6/5 | SGC 340 | |
| TGFHM 53K-8-AV | 7.70 | 9.00 | 100.0 | 93.00 | 7.40 | 45.0 | 52.6 | 235.00 | TAG/TAGB 8 | SGCU 341 | OR 30X3 NBR | ETG 8-12* | T-6/5 | SGC 340 | |
| CGHNM 53-P8-AV | 8.00 | 8.00 | 100.0 | 93.00 (5) | 7.40 | 45.0 | 52.6 | 235.00 | GIMY/F/MM 8 | SGCU 341 | OR 30X3 NBR | | T-6/5 | SGC 340 | HW 4.0 |

- For user guide, see pages 440-457

(1) Minimum cutting width

(2) Maximum cutting width

(3) Maximum overhang

(4) Cutting depth maximum

(5) For CUTDIA<200 CDX=98

* Optional, should be ordered separately

**Inserts:** GIA-K (W=3-6) • GIF • GIF (full radius) • GIF-E (W=4-6 full radius) • GIF-E (W=4-6) • GIM-C • GIMF • GIMM 8CC • GIMN • GIMT • GIMY • GIMY (full radius) • GIMY-F • GIP • GIP-E • GIPA (full radius W=3-6) • GIPA (W=3-6) • GIPY • GITM • GITM (full radius) • TAG N-C/W/M • TAGB/TAGBA

**Holders:** SGTBK • SGTBU/SGTBN

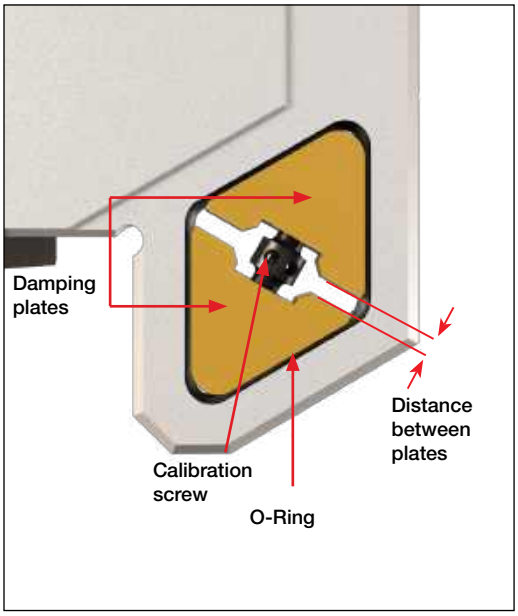
### User Guide

- To maintain a stable and controlled machining process use constant RPM (G97).
- Each blade is pre-calibrated in laboratory conditions for an overhang of 100 mm.
- Although the pre-calibration is suitable for a wide range of overhangs, sometimes fine-tuning calibration is necessary, depends on the overhang and clamping rigidity of the machine.
- Before making fine tuning calibration try to optimize the cutting conditions. First step should be reducing the RPM.

### Fine-Tuning Calibration

For shorter overhangs / more rigid clamping conditions, it is recommended to increase the compression of the O-ring by rotating the calibration screw clockwise (make sure the distance between the damping plates increases).

- For longer overhangs / less rigid clamping conditions, it is recommended to decrease the compression of the O-ring by rotating the calibration screw counter clockwise (make sure the distance between the damping plates decreases).
- The fine-tuning resolution should be about a half-turn for each 30 mm difference in the overhang.
- To restore the initial setup, use the distance between the damping plates imprinted on the blade.

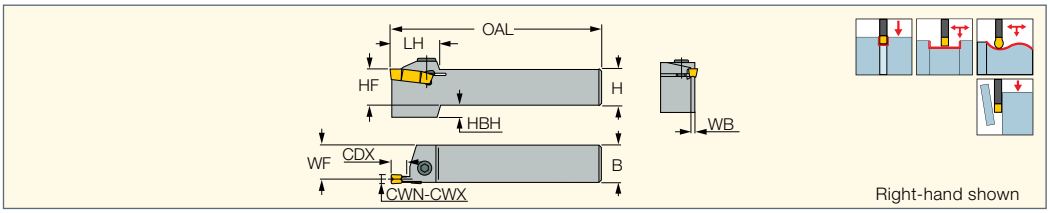


# Tools, Adapters and Blades (Long Pocket)

CUT-GRIP

## GHDR/L (long pocket)

External Tools for Grooving, Turning and Parting




| Designation | CWN(1) | CWX(2) | CDX(3) | H | B | OAL | WF | WB | LH | HBH | HF | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GHDR/L 25-8 | 6.60 | 8.30 | 25.00 | 25.0 | 25.0 | 150.00 | 22.00 | 6.00 | 40.0 | 7.6 | 25.0 | SR M6X16 DIN912 | HW 5.0(a) |
| GHDR/L 3225-8 | 6.60 | 8.30 | 25.00 | 32.0 | 25.0 | 168.50 | 22.00 | 5.90 | 40.0 | - | 32.0 | SR M6X16 DIN912 | HW 5.0(a) |
| GHDR/L 25-812 | 6.60 | 8.30 | 12.00 | 25.0 | 25.0 | 140.00 | 22.00 | 5.90 | 33.0 | - | 25.0 | SR M6X16 DIN912 | HW 5.0(a) |
| GHDR/L 32-8 | 6.60 | 8.30 | 25.00 | 32.0 | 32.0 | 170.00 | 29.00 | 6.00 | 40.0 | - | 32.0 | SR M6X16 DIN912 | HW 5.0(a) |
| GHDL 32-812 | 6.60 | 8.30 | 12.00 | 32.0 | 32.0 | 160.00 | 29.00 | 5.90 | 33.0 | - | 32.0 | SR M6X16 DIN912 | HW 5.0(a) |
| GHDR/L 32-836 | 7.00 | 8.30 | 36.00 | 32.0 | 32.0 | 170.00 | 28.90 | 6.30 | 56.0 | 8.0 | 32.0 | SR M8X20DIN912 | HW 6.0(a) |
| GHDR/L 25-10 | 8.60 | 11.10 | 25.00 | 25.0 | 25.0 | 150.00 | 21.30 | 7.40 | 43.0 | 7.6 | 25.0 | SR M8X20DIN912 | HW 6.0(a) |
| GHDR/L 32-10 | 8.60 | 11.10 | 25.00 | 32.0 | 32.0 | 170.00 | 28.30 | 7.40 | 43.0 | - | 32.0 | SR M8X20DIN912 | HW 6.0(a) |
| GHDR/L 40-10 | 8.60 | 11.10 | 25.00 | 40.0 | 40.0 | 200.00 | 36.30 | 7.40 | 43.0 | - | 40.0 | SR M8X20DIN912 | HW 6.0(a) |

- For user guide, see pages 440-457

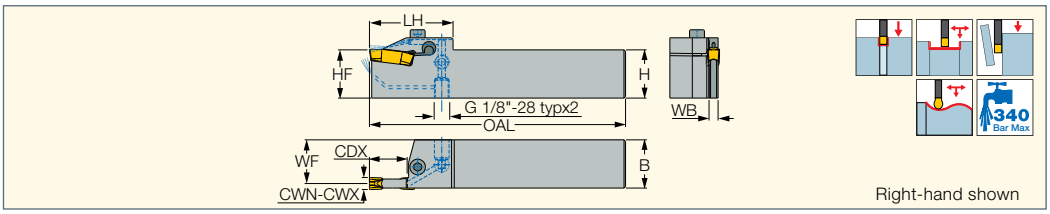
(1) Minimum cutting width
(2) Maximum cutting width
(3) Cutting depth maximum
(a) For optional key with limited tightening torque see pages 448-449

**Inserts:** GDMF • GDMM-CC • GDMN • GDMU • GDMY • GDMY (full radius) • GDMY-F • GDPY • GIA-K (long pocket) • GIF (long pocket) • GIF-E (W=8,10 full radius) • GIF-E (W=8,10) • GIPA/GIDA 8 (full radius)

CUT-GRIP JET CUT

## GHDR/L-JHP (long pocket)

CUT-GRIP Tools with Channels for High-Pressure Coolant for Grooving and Turning




| Designation | CWN(1) | CWX(2) | CDX(3) | H | B | OAL | LH | WF | WB | HF |
|---|---|---|---|---|---|---|---|---|---|---|
| GHDL 32-8-JHP | 6.60 | 8.30 | 25.00 | 32.0 | 32.0 | 170.00 | 55.5 | 29.00 | 6.00 | 32.0 |
| GHDR 32-8-JHP | 6.60 | 8.30 | 25.00 | 32.0 | 32.0 | 170.00 | 55.0 | 29.00 | 6.00 | 32.0 |

- For user guide and accessories see pages 440-457

(1) Minimum cutting width
(2) Maximum cutting width
(3) Cutting depth maximum

**Inserts:** GDMF • GDMM-CC • GDMN • GDMU • GDMY • GDMY (full radius) • GDMY-F • GIA-K (long pocket) • GIF (long pocket) • GIF-E (W=8,10 full radius) • GIF-E (W=8,10) • GIPA/GIDA 8 (full radius)

### Flow Rate vs. Pressure

| Designation | 70 Bar Flow Rate (liters/min) | 100 Bar Flow Rate (liters/min) | 140 Bar Flow Rate (liters/min) |
|---|---|---|---|
| GHDR/L 32-8-JHP | 13-16 | 19-21 | 22-24 |

### Spare Parts

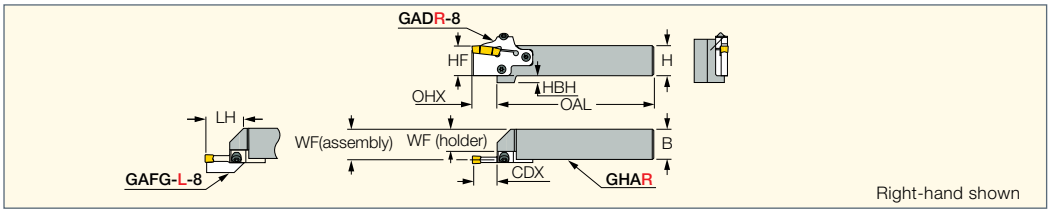
| Designation | | | |
|---|---|---|---|
| GHDR/L 32-8-JHP | SR M6X25 DIN912 | HW 5.0(a) | PLG 1/8ISO1179 |

(a) For optional key with limited tightening torque see pages 448-449

CUT-GRIP

## GHAR/L-8

External Holders for Grooving and Turning Adapters




| Designation | H | HF | B | WF(1) | OAL | LH | OHX(2) | HBH | TGA(3) | CDX(4) | FG(5) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GHAR/L 25-8 | 25.0 | 25.0 | 25.0 | 16.0 | 124.50 | 45.0 | 25.50 | 14.0 | GADR/L 8 | 25.50 | GAFG...R/L-8 | SR 14-519 | T-20/5 | SR M6X25 DIN912 | HW 5.0 |
| GHAR/L 32-8 | 32.0 | 32.0 | 32.0 | 23.0 | 144.50 | 45.0 | 25.50 | 7.0 | GADR/L 8 | 25.50 | GAFG...R/L-8 | SR 14-519 | T-20/5 | SR M6X25 DIN912 | HW 5.0 |

- Adapters GADR/L-8 for turning and grooving, GAFG-R/L-8 for face-grooving (to be ordered separately)

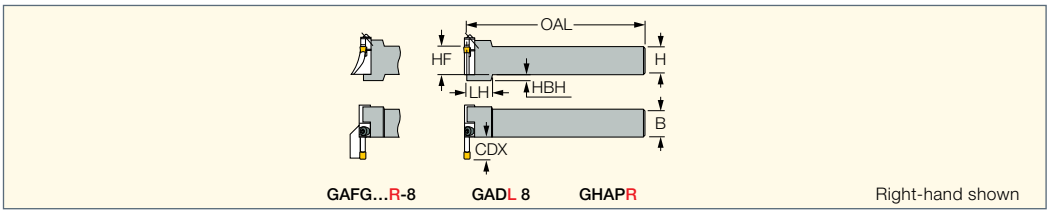
(1) WF(holder)
(2) Maximum overhang
(3) Adapter for Turning & Grooving
(4) See specific adapter dimensions
(5) Adapter for Face Grooving

**Tools:** GADR/L-8 • GAFG-R/L-8 • PCADR/L 34N-RE

CUTGRIP

## GHAPR/L-8

External Holders for Grooving and Turning Perpendicularly Oriented Adapters




| Designation | H | HF | B | OAL | LH | HBH | TGA(1) | CDX(2) | FG(3) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GHAPR/L 32-8 | 32.0 | 32.0 | 32.0 | 155.00 | 30.0 | 7.0 | GADR/L 8 | 25.50 | GAFG...R/L-8 | SR 14-519 | T-20/5 | SR M6X25 DIN912 | HW 5.0 |

- Adapters GADR/L-8 for turning and grooving, GAFG-R/L-8 for face-grooving (to be ordered separately)

(1) Adapter for Turning & Grooving

(2) See specific adapter dimensions

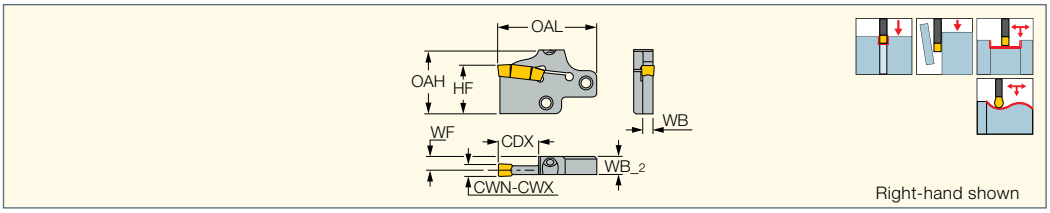
(3) Adapter for Face Grooving

**Tools:** GADR/L-8 • GAFG-R/L-8 • PCADR/L 34N-RE

CUTGRIP

## GADR/L-8

Adapters for up to 25 mm Deep Machining




| Designation | CWN(1) | CWX(2) | CDX(3) | WB | HF | OAH | OAL | WB_2 | WF |
|---|---|---|---|---|---|---|---|---|---|
| GADR/L 8 | 6.60 | 8.30 | 25.50 | 6.00 | 32.0 | 42.0 | 63.00 | 12.0 | 9.00 |

- For user guide, see pages 440-457

(1) Minimum cutting width

(2) Maximum cutting width

(3) Cutting depth maximum

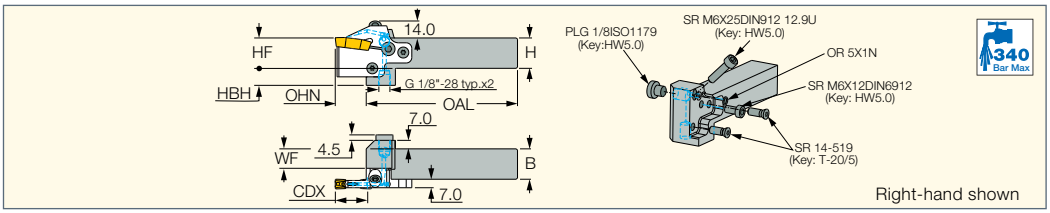
**Inserts:** GDMA • GDMF • GDMM-CC • GDMN • GDMU • GDMY • GDMY (full radius) • GDMY-F • GIA-K (long pocket) • GIF-E (W=8,10 full radius) • GIF-E (W=8,10) • GIPA/GIDA 8 (full radius)

**Holders:** C#-GHAD-8 • C#-GHAPR/L-8 • GHAPR/L-8 • GHAR/L-8 • IM-GHAD-8

CUTGRIP JETCUT

## GHAR/L-JHP

Holders with High-Pressure Coolant Channels for Grooving and Turning Adapters




| Designation | H | HF | B | WF | OAL | OHN(1) | HBH | CDX(2) |
|---|---|---|---|---|---|---|---|---|
| GHAR/L 25-8-JHP | 25.0 | 25.0 | 25.0 | 16.0 | 124.50 | 25.00 | 14.0 | 25.50 |

- For user guide and accessories see pages 440-457

(1) Minimum overhang

(2) See specific adapter dimensions

**Tools:** GADR/L-JHP

### Spare Parts

| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| GHAR/L-JHP | SR 14-519 | T-20/5 | OR 5X1N | SR M6X12DIN6912 | SR M6X25 DIN912 | PLG 1/8ISO1179 | HW 5.0X120 MM |

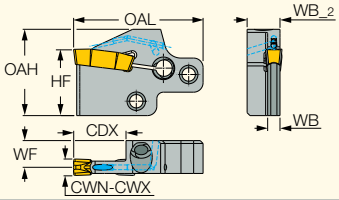
# Utility Inserts

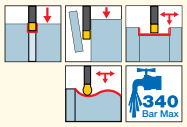
CUTGRIP JETCUT

## GADR/L-JHP

Adapters with High-Pressure Coolant Channels Carrying Groove-Turn Inserts for up to 25 mm Deep Machining






Right-hand shown

| Designation | CWN(1) | CWX(2) | CDX(3) | WB | HF | OAH | OAL | WB_2 | WF |
|---|---|---|---|---|---|---|---|---|---|
| GADR/L 8-JHP | 6.60 | 8.30 | 25.50 | 6.00 | 32.0 | 42.0 | 63.00 | 17.0 | 14.00 |
| GADR/L 10-JHP | 8.60 | 10.30 | 25.50 | 7.40 | 32.0 | 42.0 | 63.00 | 17.7 | 14.00 |

- For user guide and accessories see pages 440-457

(1) Minimum cutting width

(2) Maximum cutting width

(3) Cutting depth maximum

**Inserts:** GDMA • GDMF • GDMM-CC • GDMN • GDMU • GDMY • GDMY (full radius) • GDMY-F • GDPY • GIA-K (long pocket) • GIF (long pocket) • GIF-E (W=8,10 full radius) • GIF-E (W=8,10) • GIPA/GIDA 8 (full radius)

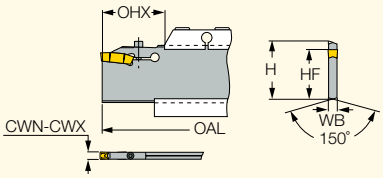
### Flow Rate vs. Pressure

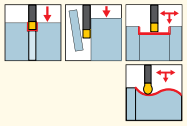
| Designation | 70 Bar Flow Rate (liters/min) | 100 Bar Flow Rate (liters/min) | 140 Bar Flow Rate (liters/min) |
|---|---|---|---|
| GADR/L-JHP | 15-17 | 23-25 | 27-29 |

CUTGRIP

## CGHN-8-10D

Heavy Duty Deep Grooving and Turning Blades



| Designation | CWN(1) | CWX(2) | OHX(3) | WB | HF | H | OAL | | |
|---|---|---|---|---|---|---|---|---|---|
| CGHN 52-8D | 8.00 | 8.30 | 50.0 | 7.40 | 45.0 | 52.6 | 190.00 | SR 76-1637 | HW 4.0 |
| CGHN 53-8D | 8.00 | 8.30 | 70.0 | 7.40 | 45.0 | 52.6 | 260.00 | SR 76-1637 | HW 4.0 |
| CGHN 52-10D | 10.00 | 11.00 | 70.0 | 9.20 | 45.0 | 52.6 | 190.00 | SR 76-1289 | HW 5.0 |
| CGHN 53-10D | 10.00 | 11.00 | 100.0 | 9.20 | 45.0 | 52.6 | 260.00 | SR 76-1289 | HW 5.0 |

- For user guide, see pages 440-457

(1) Minimum cutting width

(2) Maximum cutting width

(3) Minimum overhang • When using a double-ended insert, grooving depth is limited by the insert

**Inserts:** GDMF • GDMN • GDMU • GDMY • GDMY (full radius) • GDMY-F • GDPY • GIA-K (long pocket) • GIF (long pocket) • GIF-E (W=8,10 full radius) • GIF-E (W=8,10) • GIPA/GIDA 8 (full radius)

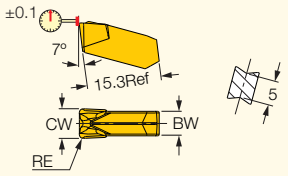
**Holders:** SGTBK • SGTBU/SGTBN

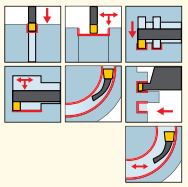
CUTGRIP

## GIMT

Utility Single-Ended Inserts for Grooving and Turning





| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | Tough ↔ Hard IC830 | IC8250 | IC808 | IC07 | IC806 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GIMT 302** | 3.00 | 0.20 | 0.05 | 0.050 | 2.40 | ● | ● | ● | ● | ● | 0.50-1.80 | 0.10-0.22 | 0.07-0.15 |
| **GIMT 304** | 3.00 | 0.40 | 0.05 | 0.050 | 2.40 | ● | ● | ● | ● | ● | 0.50-1.80 | 0.10-0.22 | 0.07-0.15 |
| **GIMT 402** | 4.00 | 0.20 | 0.05 | 0.050 | 3.40 | ● | ● | ● | ● | ● | 0.50-2.40 | 0.15-0.25 | 0.09-0.20 |
| **GIMT 404** | 4.00 | 0.40 | 0.05 | 0.050 | 3.40 | ● | ● | ● | ● | ● | 0.50-2.40 | 0.15-0.25 | 0.09-0.20 |
| **GIMT 508** | 5.00 | 0.80 | 0.05 | 0.050 | 4.00 | ● | ● | ● | ● | ● | 1.00-3.00 | 0.20-0.35 | 0.11-0.22 |
| **GIMT 608** | 6.00 | 0.80 | 0.05 | 0.050 | 5.00 | ● | ● | ● | ● | ● | 1.00-3.60 | 0.22-0.40 | 0.13-0.25 |

• DMIN for internal applications = 70 mm • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

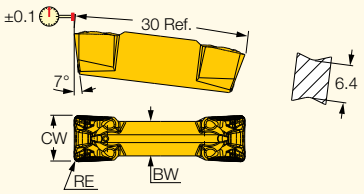
**Tools:** Anti-Vibration Blades • C#-GHDR/L • CGHN 26-M • CGHN 32-DGM • CGHN 32-M • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L

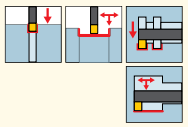
CUTGRIP

## GDMT

Utility Double-Ended Inserts for Grooving and Turning





| Designation | Dimensions CW | CWTOL(1) | RE | RETOL(2) | BW | CDX | Tough ↔ Hard IC830 | IC8250 | IC808 | IC806 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GDMT 808** | 8.00 | 0.050 | 0.80 | 0.050 | 6.00 | 27.00 | ● | ● | ● | ● | 1.00-4.80 | 0.32-0.56 | 0.18-0.34 |

• For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

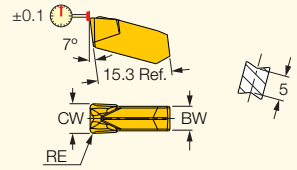
**Tools:** C#-GHDR/L • CGHN-8-10D • GADR/L-8 • GADR/L-JHP • GAFG-R/L-8 • GHDR/L (long pocket) • GHDR/L-JHP (long pocket) • GHFG-R/L-8 • GHFGR/L-8 • GHIR/L (W=7.0-8.3)

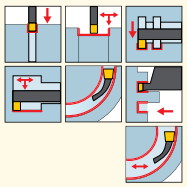
CUTGRIP

## GIMF

Utility Single-Ended Inserts
for Grooving and Turning



| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | Tough ↔ Hard IC830 | IC1030 | IC8250 | IC1010 | IC808 | IC908 | IC20 | IC5010 | IC428 | IC806 | IC907 | IC4 | IC804 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GIMF 406 | 4.00 | 0.60 | 0.05 | 0.050 | 3.40 | ● | | ● | | ● | ● | ● | ● | ● | ● | ● | ● | ● | 0.75-2.40 | 0.19-0.25 | 0.09-0.16 |
| GIMF 502 | 5.00 | 0.20 | 0.05 | 0.050 | 4.00 | | | ● | | | | ● | | | | | | | 0.25-3.00 | 0.18-0.26 | 0.11-0.18 |
| GIMF 508 | 5.00 | 0.80 | 0.05 | 0.050 | 4.00 | ● | | ● | | ● | ● | ● | ● | ● | ● | | ● | ● | 1.00-3.00 | 0.23-0.35 | 0.11-0.21 |
| GIMF 605 | 6.00 | 0.50 | 0.05 | 0.050 | 5.00 | ● | | | | ● | | | | | | | | | 0.60-3.60 | 0.22-0.36 | 0.13-0.23 |
| GIMF 608 | 6.00 | 0.80 | 0.05 | 0.050 | 5.00 | ● | ● | ● | ● | ● | ● | ● | ● | | ● | | ● | ● | 1.00-3.60 | 0.24-0.42 | 0.13-0.25 |
| GIMF 808 | 8.00 | 0.80 | 0.05 | 0.050 | 6.00 | ● | | ● | | ● | | | | | | | | | 1.00-4.80 | 0.32-0.56 | 0.18-0.34 |

• DMIN for internal applications = 70 mm • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

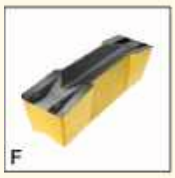
(2) Corner radius tolerance (+/-)

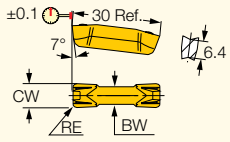
**Tools:** Anti-Vibration Blades • C#-GHDR/L • CGFG 51-P8 • CGHN 26-M • CGHN 32-DGM • CGHN 32-M • CGHN-D • CGHN-DG • CGHN-P8 • CGHN-S • CGHR/L-P8DG • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L

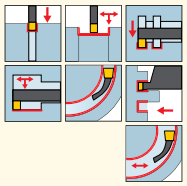
CUTGRIP

## GDMF

Utility Double-Ended Inserts
for Grooving and Turning



| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | BW | Tough ↔ Hard IC830 | IC8250 | IC808 | IC5010 | IC428 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GDMF 808 | 8.00 | 0.80 | 0.05 | 0.050 | 27.00 | 6.00 | ● | ● | ● | ● | ● | 1.00-4.80 | 0.32-0.56 | 0.18-0.34 |

• DMIN for internal machining = 65 mm • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Cutting depth maximum

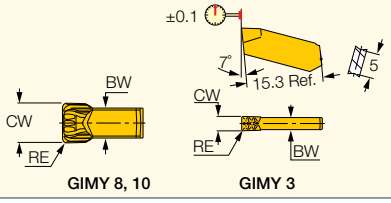
**Tools:** C#-GHDR/L • CGHN-8-10D • GADR/L-8 • GADR/L-JHP • GAFG-R/L-8 • GHDR/L (long pocket) • GHDR/L-JHP (long pocket) • GHFG-R/L-8 • GHFGR/L-8 • GHIR/L (W=7.0-8.3)

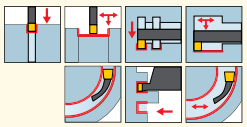
CUTGRIP

## GIMY

Utility Single-Ended Inserts
for Grooving and Turning



| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | Tough ↔ Hard IC830 | IC8250 | IC808 | IC908 | IC20 | IC806 | IC4 | IC804 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GIMY 304 | 3.00 | 0.40 | 0.05 | 0.050 | 2.40 | ● | ● | | | ● | ● | ● | ● | 0.50-1.80 | 0.16-0.20 | 0.07-0.12 |
| GIMY 808 | 8.00 | 0.80 | 0.05 | 0.050 | 6.00 | ● | ● | ● | ● | ● | ● | | | 1.00-4.80 | 0.32-0.56 | 0.18-0.34 |
| GIMY 1008 | 10.00 | 0.80 | 0.05 | 0.050 | 8.00 | ● | | ● | | | | | | 1.00-6.00 | 0.35-0.65 | 0.22-0.40 |

• DMIN for internal applications =70 mm • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

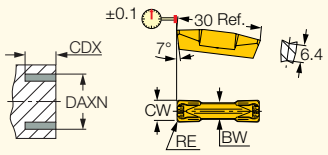
(2) Corner radius tolerance (+/-)

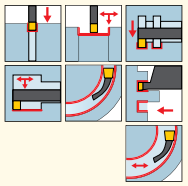
**Tools:** Anti-Vibration Blades • C#-GHDR/L • CGFG 51-P8 • CGHN 26-M • CGHN 32-DGM • CGHN 32-M • CGHN-D • CGHN-DG • CGHN-P8 • CGHN-S • CGHR/L-P8DG • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L • GHSR/L • GHSR/L-JHP-SL • NQCH-GHSR/L-JHP

CUTGRIP

## GDMY
Utility Double-Ended Inserts for Grooving and Turning



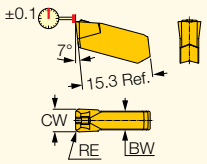
| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | DAXN(3) | CDX(4) | Tough ↔ Hard IC830 | IC8250 | IC808 | IC908 | IC20 | IC5010 | IC428 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GDMY 808** | 8.00 | 0.80 | 0.05 | 0.050 | 6.00 | 50.0 | 27.00 | • | • | • | • | • | • | • | 1.00-4.80 | 0.32-0.56 | 0.18-0.34 |

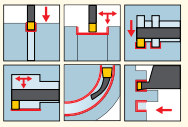
• DMIN for internal machining = 65 mm • For cutting speed recommendations and user guide, see pages 440-457
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Minimum axial grooving diameter
(4) Cutting depth maximum
**Tools:** C#-GHDR/L • CGHN-8-10D • GADR/L-8 • GADR/L-JHP • GAFG-R/L-8 • GHDR/L (long pocket) • GHDR/L-JHP (long pocket) • GHFG-R/L-8 • GHFGR/L-8 • GHIR/L (W=7.0-8.3)

CUTGRIP

## GIMN
Utility Single-Ended Inserts for Grooving and Turning Ductile Materials



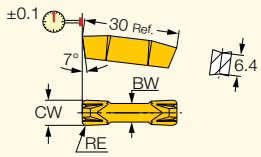
| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | Tough ↔ Hard IC908 | IC907 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| **GIMN 302** | 3.00 | 0.20 | 0.05 | 0.050 | 2.40 | | • | 0.30-1.20 | 0.07-0.11 | 0.04-0.09 |
| **GIMN 406** | 4.00 | 0.60 | 0.05 | 0.050 | 3.40 | | • | 0.75-1.60 | 0.11-0.18 | 0.05-0.14 |
| **GIMN 508** | 5.00 | 0.80 | 0.05 | 0.050 | 4.10 | • | • | 1.00-2.00 | 0.15-0.25 | 0.06-0.18 |
| **GIMN 608** | 6.00 | 0.80 | 0.05 | 0.050 | 5.00 | | • | 1.00-2.40 | 0.18-0.30 | 0.07-0.22 |

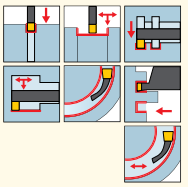
• DMIN for internal applications = 70 mm • For cutting speed recommendations and user guide, see pages 440-457
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
**Tools:** Anti-Vibration Blades • C#-GHDR/L • CGHN 26-M • CGHN 32-DGM • CGHN 32-M • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L

CUTGRIP

## GDMN
Utility Double-Ended Inserts for Grooving and Turning Ductile Materials



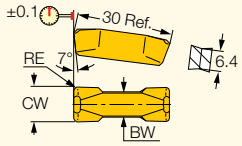
| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | BW | Tough ↔ Hard IC830 | IC8250 | IC808 | IC907 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GDMN 808** | 8.00 | 0.80 | 0.05 | 0.050 | 27.00 | 6.00 | • | • | • | • | 1.00-3.20 | 0.20-0.35 | 0.10-0.30 |

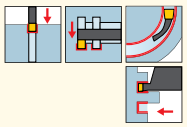
• DMIN for internal machining = 65 mm • For cutting speed recommendations and user guide, see pages 440-457
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum
**Tools:** C#-GHDR/L • CGHN-8-10D • GADR/L-8 • GADR/L-JHP • GAFG-R/L-8 • GHDR/L (long pocket) • GHDR/L-JHP (long pocket) • GHFG-R/L-8 • GHFGR/L-8 • GHIR/L (W=7.0-8.3)

CUTGRIP

## GDMU
Utility Inserts for Heavy Grooving on Ductile Materials





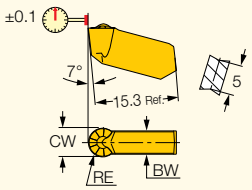
| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | Tough ↔ Hard IC830 | IC8250 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| GDMU 808 | 8.00 | 0.80 | 0.05 | 0.050 | 6.00 | • | • | 0.10-0.24 |

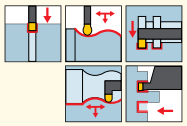
• For cutting speed recommendations and user guide, see pages 440-457
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
**Tools:** C#-GHDR/L • CGHN-8-10D • GADR/L-8 • GADR/L-JHP • GAFG-R/L-8 • GHDR/L (long pocket) • GHDR/L-JHP (long pocket) • GHFG-R/L-8 • GHFGR/L-8 • GHIR/L (W=7.0-8.3)

CUTGRIP

## GIMY (full radius)
Utility Single-Ended Inserts for Grooving and Profiling





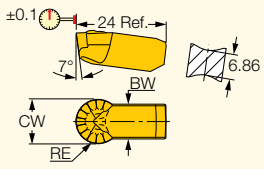
| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | Tough ↔ Hard IC830 | IC8250 | IC808 | IC908 | IC20 | IC20N | IC806 | IC804 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GIMY 315 | 3.00 | 1.50 | 0.05 | 0.050 | 2.40 | • | • | • | • | • | • | • | • | 0.00-1.50 | 0.18-0.26 | 0.07-0.13 |
| GIMY 420 | 4.00 | 2.00 | 0.05 | 0.050 | 3.20 | • | • | • | • | • | • | • | • | 0.00-2.00 | 0.20-0.28 | 0.09-0.17 |
| GIMY 525 | 5.00 | 2.50 | 0.05 | 0.050 | 3.90 | • | • | • | • | • | • | • | • | 0.00-2.50 | 0.23-0.42 | 0.11-0.21 |
| GIMY 630 | 6.00 | 3.00 | 0.05 | 0.050 | 5.00 | • | • | • | • | • | • | • | • | 0.00-3.00 | 0.24-0.50 | 0.13-0.25 |
| GIMY 635-318 | 6.35 | 3.18 | 0.05 | 0.050 | 5.10 | • | • | • | | • | | | | 0.00-3.10 | 0.25-0.53 | 0.14-0.27 |
| GIMY 840 | 8.00 | 4.00 | 0.05 | 0.050 | 5.60 | • | • | • | • | • | | | | 0.00-4.00 | 0.32-0.67 | 0.18-0.34 |

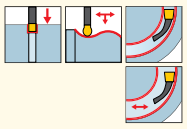
• DMIN for internal application=70 mm • Can cut arcs to 250° • For cutting speed recommendations and user guide, see pages 440-457
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
**Tools:** Anti-Vibration Blades • C#-GHDR/L • CGFG 51-P8 • CGHN 26-M • CGHN 32-DGM • CGHN 32-M • CGHN-D • CGHN-DG • CGHN-P8 • CGHN-S • CGHR/L-P8DG • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L • GHSR/L • GHSR/L-JHP-SL • NQCH-GHSR/L-JHP

CUTGRIP

## GIMY 1260
Utility Single-Ended Inserts for External Grooving and Profiling





| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | Tough ↔ Hard IC830 | IC8250 | IC808 | IC908 | IC20 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GIMY 1260 | 12.00 | 6.00 | 0.05 | 0.050 | 9.50 | • | • | • | • | • | 0.00-6.00 | 0.42-0.86 | 0.26-0.45 |

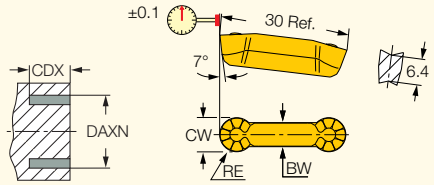
• Toolholder seat needs to be modified according to insert profile to ensure clearance • For cutting speed recommendations and user guide, see pages 440-457
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
**Tools:** CGHR/L-12-14D • GHDR/L/N 12/14

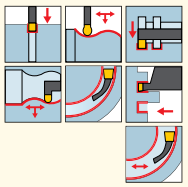
CUTGRIP

## GDMY (full radius)

Utility Double-Ended Full Radius Inserts for Grooving and Profiling





| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | DAXN(3) | CDX | Tough ↔ Hard IC830 | IC8250 | IC808 | IC908 | IC20 | IC5010 | IC428 | IC806 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GDMY 840 | 8.00 | 4.00 | 0.05 | 0.050 | 5.60 | 50.0 | 25.00 | • | • | • | • | • | • | • | • | 0.00-4.00 | 0.32-0.67 | 0.18-0.34 |

• Can cut arcs to 250° • DMIN for internal machining = 65 mm • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Minimum axial grooving diameter

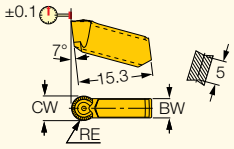
**Tools:** C#-GHDR/L • CGHN-8-10D • GADR/L-8 • GADR/L-JHP • GAFG-R/L-8 • GHDKR/L • GHDR/L (long pocket) • GHDR/L-JHP (long pocket) • GHFG-R/L-8 • GHFGR/L-8 • GHIR/L (W=7.0-8.3)

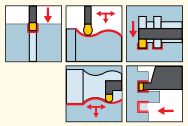
CUTGRIP

## GIMY-F

Utility Single-Ended Inserts for Grooving and Profiling Ductile Materials



| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | Tough ↔ Hard IC8250 | IC808 | IC908 | IC806 | IC804 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GIMY 315F | 3.00 | 1.50 | 0.05 | 0.050 | 2.40 | | • | | | | 0.00-1.50 | 0.18-0.26 | 0.07-0.13 |
| GIMY 525F | 5.00 | 2.50 | 0.05 | 0.050 | 3.90 | | • | | • | | 0.00-2.50 | 0.23-0.42 | 0.11-0.21 |
| GIMY 630F | 6.00 | 3.00 | 0.05 | 0.050 | 5.00 | | • | • | • | • | 0.00-3.00 | 0.24-0.50 | 0.13-0.25 |
| GIMY 840F | 8.00 | 4.00 | 0.05 | 0.050 | 5.60 | • | | | | | 0.00-4.00 | 0.32-0.67 | 0.18-0.34 |

• DMIN for internal applications =70 mm • Can cut arcs to 250° • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

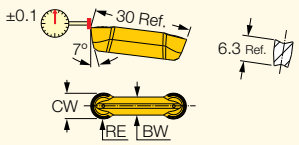
**Tools:** Anti-Vibration Blades • C#-GHDR/L • CGFG 51-P8 • CGHN 26-M • CGHN 32-DGM • CGHN 32-M • CGHN-D • CGHN-DG • CGHN-P8 • CGHN-S • CGHR/L-P8DG • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L • GHSR/L • GHSR/L-JHP-SL • NQCH-GHSR/L-JHP

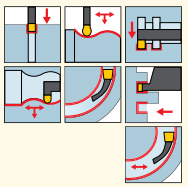
CUTGRIP

## GDMY-F

Utility Double-Ended Inserts for Grooving and Profiling Ductile Materials



| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | CDX(3) | Tough ↔ Hard IC808 | IC908 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GDMY 840F | 8.00 | 4.00 | 0.05 | 0.050 | 5.60 | 25.00 | • | • | 0.00-4.00 | 0.32-0.67 | 0.18-0.34 |

• DMIN for internal applications = 65 mm • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Cutting depth maximum

**Tools:** C#-GHDR/L • CGHN-8-10D • GADR/L-8 • GADR/L-JHP • GAFG-R/L-8 • GHDR/L (long pocket) • GHDR/L-JHP (long pocket) • GHFG-R/L-8 • GHFGR/L-8 • GHIR/L (W=7.0-8.3)

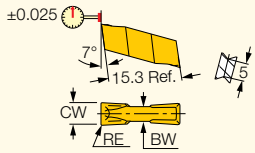
# Precision Ground Inserts

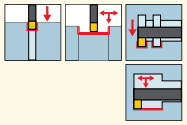
CUTGRIP

## GIF-E (W=4-6)

Precision Double-Ended Inserts
for Grooving and Turning





| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | CDX(3) | Tough ↔ Hard IC830 | IC8250 | IC808 | IC908 | IC20 | IC807 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GIF 4.00E-0.40 | 4.00 | 0.40 | 0.02 | 0.030 | 3.20 | 13.00 | • | • | • | • | • | • | 0.50-2.40 | 0.18-0.24 | 0.09-0.15 |
| GIF 4.00E-0.60 | 4.00 | 0.60 | 0.02 | 0.050 | 3.20 | 13.00 | • | • | | | • | | 0.75-2.40 | 0.19-0.25 | 0.09-0.16 |
| GIF 4.00E-0.80 | 4.00 | 0.80 | 0.02 | 0.050 | 3.20 | 13.00 | • | • | • | • | • | • | 1.00-2.40 | 0.20-0.28 | 0.09-0.17 |
| GIF 5.00E-0.40 | 5.00 | 0.40 | 0.02 | 0.030 | 4.00 | 13.00 | • | • | • | | • | | 0.50-3.00 | 0.20-0.30 | 0.11-0.19 |
| GIF 5.00E-0.60 | 5.00 | 0.60 | 0.02 | 0.050 | 4.00 | 13.00 | • | • | | | • | | 0.75-3.00 | 0.21-0.32 | 0.11-0.20 |
| GIF 5.00E-0.80 | 5.00 | 0.80 | 0.02 | 0.050 | 4.00 | 13.00 | • | • | • | • | • | • | 1.00-3.00 | 0.23-0.35 | 0.11-0.21 |
| GIF 6.00E-0.40 | 6.00 | 0.40 | 0.02 | 0.030 | 4.80 | 13.00 | • | • | • | | • | | 0.50-3.60 | 0.22-0.36 | 0.13-0.23 |
| GIF 6.00E-0.80 | 6.00 | 0.80 | 0.02 | 0.050 | 4.80 | 13.00 | • | • | • | • | • | | 1.00-3.60 | 0.24-0.42 | 0.13-0.25 |
| GIF 6.00E-1.20 | 6.00 | 1.20 | 0.02 | 0.050 | 4.80 | 13.00 | | • | | | • | | 1.45-3.60 | 0.24-0.46 | 0.13-0.25 |

• DMIN for internal machining = 70 mm • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Cutting depth maximum

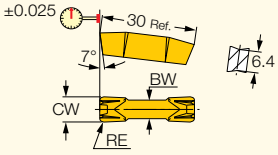
**Tools:** Anti-Vibration Blades • C#-GHDR/L • CGHN 26-M • CGHN 32-DGM • CGHN 32-M • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L

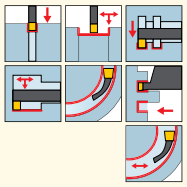
CUTGRIP

## GIF-E (W=8,10)

Precision Double-Ended Inserts
for Grooving and Turning



| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | CDX(3) | Tough ↔ Hard IC830 | IC8250 | IC808 | IC908 | IC20 | IC5010 | IC428 | IC806 | IC807 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GIF 8.00E-0.40 | 8.00 | 0.40 | 0.02 | 0.030 | 6.00 | 27.00 | | • | • | • | | | | | | 0.50-4.80 | 0.29-0.48 | 0.18-0.31 |
| GIF 8.00E-0.80 | 8.00 | 0.80 | 0.02 | 0.050 | 6.00 | 27.00 | • | • | • | • | • | • | • | • | • | 1.00-4.80 | 0.32-0.56 | 0.18-0.34 |
| GIF 8.00E-1.20 | 8.00 | 1.20 | 0.02 | 0.050 | 6.00 | 27.00 | • | • | • | • | • | • | • | | | 1.45-4.80 | 0.32-0.62 | 0.18-0.34 |
| GIF 10.00E-0.80 | 10.00 | 0.80 | 0.02 | 0.050 | 8.00 | 27.00 | • | • | • | • | • | • | • | | • | 1.00-6.00 | 0.35-0.65 | 0.22-0.40 |
| GIF 10.00E-1.20 | 10.00 | 1.20 | 0.02 | 0.050 | 8.00 | 27.00 | • | • | • | • | • | | | • | | 1.45-6.00 | 0.35-0.72 | 0.22-0.40 |

• DMIN for internal machining = 65 mm • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Cutting depth maximum

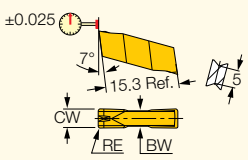
**Tools:** C#-GHDR/L • CGHN-8-10D • GADR/L-8 • GADR/L-JHP • GAFG-R/L-8 • GHDR/L (long pocket) • GHDR/L-JHP (long pocket) • GHFG-R/L-8 • GHFGR/L-8 • GHIR/L (W=7.0-8.3)

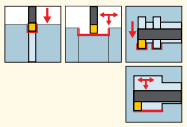
CUTGRIP

## GIP-E

Precision Double-Ended Inserts for Grooving and Turning



| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | CDX(3) | Tough ↔ Hard IC830 | IC8250 | IC808 | IC908 | IC20 | IC20N | IC5010 | IC428 | IC806 | IC807 | IC804 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GIP 3.00E-0.00 | 3.00 | 0.00 | 0.02 | 0.030 | 2.40 | 13.00 | ● | | | | | | | | | | | 0.00-1.80 | 0.12-0.16 | 0.07-0.11 |
| GIP 3.00E-0.20 | 3.00 | 0.20 | 0.02 | 0.030 | 2.40 | 13.00 | ● | ● | ● | ● | | ● | | | ● | ● | ● | 0.25-1.80 | 0.15-0.20 | 0.08-0.13 |
| GIP 3.00E-0.40 | 3.00 | 0.40 | 0.02 | 0.030 | 2.40 | 13.00 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | 0.50-1.80 | 0.17-0.22 | 0.08-0.14 |
| GIP 3.00E-0.80 | 3.00 | 0.80 | 0.02 | 0.050 | 2.40 | 13.00 | | ● | | | | | | | | | | 1.00-1.80 | 0.19-0.26 | 0.08-0.15 |
| GIP 4.00E-0.40 | 4.00 | 0.40 | 0.02 | 0.030 | 3.20 | 13.00 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | 0.50-2.40 | 0.19-0.26 | 0.10-0.18 |
| GIP 4.00E-0.60 | 4.00 | 0.60 | 0.02 | 0.050 | 3.20 | 13.00 | ● | ● | ● | ● | ● | | ● | ● | | | | 0.75-2.40 | 0.21-0.28 | 0.10-0.19 |
| GIP 4.00E-0.80 | 4.00 | 0.80 | 0.02 | 0.050 | 3.20 | 13.00 | ● | ● | ● | ● | ● | | ● | ● | ● | ● | | 1.00-2.40 | 0.22-0.31 | 0.10-0.20 |
| GIP 4.78E-0.55 | 4.78 | 0.55 | 0.02 | 0.050 | 4.00 | 13.00 | ● | ● | ● | | ● | | ● | ● | | | | 0.70-2.80 | 0.21-0.31 | 0.12-0.20 |
| GIP 5.00E-0.40 | 5.00 | 0.40 | 0.02 | 0.030 | 4.00 | 13.00 | ● | ● | ● | | ● | | | | ● | | | 0.50-3.00 | 0.22-0.33 | 0.13-0.21 |
| GIP 5.00E-0.60 | 5.00 | 0.60 | 0.02 | 0.050 | 4.00 | 13.00 | ● | ● | ● | | ● | ● | | | | | | 0.75-3.00 | 0.23-0.35 | 0.13-0.22 |
| GIP 5.00E-0.80 | 5.00 | 0.80 | 0.02 | 0.050 | 4.00 | 13.00 | ● | ● | ● | | ● | | ● | ● | | | | 1.00-3.00 | 0.24-0.39 | 0.13-0.23 |
| GIP 5.55E-0.55 | 5.55 | 0.55 | 0.02 | 0.050 | 4.80 | 13.00 | | ● | | | | | | | | | | 0.70-3.30 | 0.21-0.36 | 0.14-0.23 |
| GIP 6.00E-0.80 | 6.00 | 0.80 | 0.02 | 0.050 | 4.80 | 13.00 | | ● | ● | | ● | | ● | ● | | | | 1.00-3.60 | 0.26-0.46 | 0.15-0.27 |
| GIP 6.00E-1.20 | 6.00 | 1.20 | 0.02 | 0.050 | 4.80 | 13.00 | | ● | | | ● | | | | | | | 1.45-3.60 | 0.26-0.51 | 0.15-0.27 |
| GIP 6.35E-0.80 | 6.35 | 0.80 | 0.02 | 0.050 | 4.80 | 13.00 | ● | ● | ● | | ● | | | | | | | 1.00-3.80 | 0.27-0.49 | 0.16-0.29 |

• DMIN for internal machining = 70 mm • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Cutting depth maximum

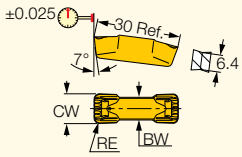
**Tools:** Anti-Vibration Blades • C#-GHDR/L • CGHN 26-M • CGHN 32-DGM • CGHN 32-M • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L • GHSR/L • GHSR/L-JHP-SL • NQCH-GHSR/L-JHP

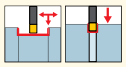
CUTGRIP

## GDPY

Precision Double-Ended Inserts for External Heavy-Duty Grooving and Turning



| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | Tough ↔ Hard IC830 | IC8250 | IC20 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GDPY 10.00-0.80 | 10.00 | 0.80 | 0.02 | 0.050 | 8.00 | ● | ● | ● | 1.00-6.00 | 0.35-0.65 | 0.22-0.40 |
| GDPY 10.00-1.20 | 10.00 | 1.20 | 0.02 | 0.050 | 8.00 | ● | | | 1.45-6.00 | 0.45-0.80 | 0.22-0.40 |
| GDPY 10.00-2.00 | 10.00 | 2.00 | 0.02 | 0.050 | 8.00 | ● | | ● | 2.40-6.00 | 0.35-0.78 | 0.22-0.40 |
| GDPY 11.00-1.20 | 11.00 | 1.20 | 0.02 | 0.050 | 8.00 | ● | | | 1.45-6.60 | 0.39-0.73 | 0.24-0.41 |
| GDPY 11.00-2.00 | 11.00 | 2.00 | 0.02 | 0.050 | 8.00 | ● | | | 2.40-6.60 | 0.39-0.79 | 0.24-0.41 |

• For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

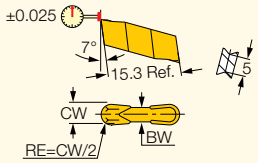
**Tools:** CGHN-8-10D • GADR/L-JHP • GHDR/L (long pocket)

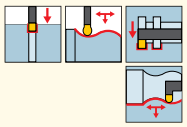
CUTGRIP

## GIF-E (W=4-6 full radius)

Precision Double-Ended
Full Radius Inserts for
Profiling and Grooving



| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | CDX(3) | Tough ↔ Hard IC830 | IC8250 | IC808 | IC20 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GIF 4.00E-2.00 | 4.00 | 2.00 | 0.02 | 0.050 | 3.20 | 11.80 | ● | ● | ● | ● | 0.00-2.00 | 0.20-0.34 | 0.09-0.17 |
| GIF 5.00E-2.50 | 5.00 | 2.50 | 0.02 | 0.050 | 4.00 | 11.30 | ● | ● | | ● | 0.00-2.50 | 0.23-0.42 | 0.11-0.21 |
| GIF 6.00E-3.00 | 6.00 | 3.00 | 0.02 | 0.050 | 4.80 | 10.80 | ● | ● | | ● | 0.00-3.00 | 0.24-0.50 | 0.13-0.25 |

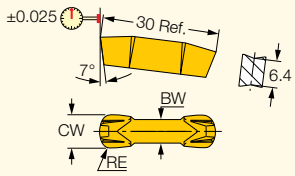
• DMIN for internal machining = 70 mm • For cutting speed recommendations and user guide, see pages 440-457
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum
**Tools:** Anti-Vibration Blades • C#-GHDR/L • CGHN 26-M • CGHN 32-DGM • CGHN 32-M • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L

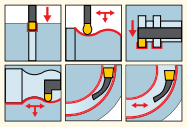
CUTGRIP

## GIF-E (W=8,10 full radius)

Precision Double-Ended
Full Radius Inserts for
Profiling and Grooving





| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | Tough ↔ Hard IC830 | IC8250 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| GIF 8.00E-4.00 | 8.00 | 4.00 | 0.02 | 0.050 | 6.00 | | ● | 0.00-4.00 | 0.32-0.67 | 0.18-0.34 |
| GIF 10.00E-5.00 | 10.00 | 5.00 | 0.02 | 0.050 | 8.00 | ● | ● | 0.00-5.00 | 0.35-0.78 | 0.22-0.40 |

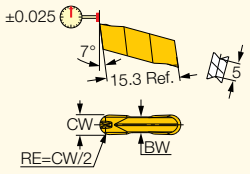
• DMIN for internal machining = 65 mm • For cutting speed recommendations and user guide, see pages 440-457
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
**Tools:** C#-GHDR/L • CGHN-8-10D • GADR/L-8 • GADR/L-JHP • GAFG-R/L-8 • GHDR/L (long pocket) • GHDR/L-JHP (long pocket) • GHFG-R/L-8 • GHFGR/L-8 • GHIR/L (W=7.0-8.3)

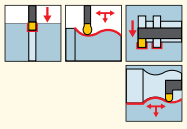
CUTGRIP

## GIP-E (full radius)

Precision Double-Ended
Full Radius Inserts for
Profiling and Grooving



| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | CDX(3) | Tough ↔ Hard IC830 | IC8250 | IC808 | IC908 | IC20 | IC5010 | IC428 | IC807 | IC804 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GIP 3.00E-1.50 | 3.00 | 1.50 | 0.02 | 0.050 | 2.40 | 12.30 | ● | ● | ● | ● | ● | | | ● | ● | 0.00-1.50 | 0.18-0.28 | 0.08-0.15 |
| GIP 4.00E-2.00 | 4.00 | 2.00 | 0.02 | 0.050 | 3.20 | 11.80 | ● | ● | ● | ● | ● | ● | ● | ● | | 0.00-2.00 | 0.20-0.34 | 0.10-0.20 |
| GIP 5.00E-2.50 | 5.00 | 2.50 | 0.02 | 0.050 | 4.00 | 11.30 | | ● | | | ● | ● | ● | | | 0.00-2.50 | 0.25-0.42 | 0.13-0.23 |
| GIP 6.00E-3.00 | 6.00 | 3.00 | 0.02 | 0.050 | 4.80 | 10.80 | | ● | | | ● | | | | | 0.00-3.00 | 0.27-0.54 | 0.15-0.27 |
| GIP 6.35E-3.18 | 6.35 | 3.18 | 0.02 | 0.050 | 4.80 | 10.63 | | ● | | | ● | | | | | 0.00-3.10 | 0.29-0.57 | 0.16-0.29 |

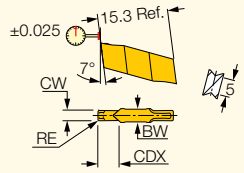
• DMIN for internal machining = 70 mm • For cutting speed recommendations and user guide, see pages 440-457
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum
**Tools:** C#-GHDR/L • CGHN 26-M • CGHN 32-DGM • CGHN 32-M • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L • GHSR/L • GHSR/L-JHP-SL • NQCH-GHSR/L-JHP

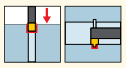
CUTGRIP

## GIP (flat top W<M)

Flat Top Precision
Double-Ended Inserts
for Grooving





| Designation | Dimensions | | | | | | Tough ↔ Hard | | | | | | Recommended Machining Data |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | BW | IC830 | IC808 | IC908 | IC20 | IC20N | IC807 | f groove (mm/rev) |
| **GIP 0.50-0.00** | 0.50 | 0.00 | 0.02 | 0.030 | 1.00 | 2.20 | | • | | • | | | 0.02-0.04 |
| **GIP 0.80-0.00** | 0.80 | 0.00 | 0.02 | 0.030 | 1.60 | 2.20 | | • | | • | | | 0.02-0.04 |
| **GIP 1.04-0.00** | 1.04 | 0.00 | 0.02 | 0.030 | 2.00 | 2.20 | • | • | • | • | | • | 0.02-0.05 |
| **GIP 1.20-0.00** | 1.20 | 0.00 | 0.02 | 0.030 | 2.00 | 2.20 | • | • | • | • | | • | 0.03-0.05 |
| **GIP 1.40-0.00** | 1.40 | 0.00 | 0.02 | 0.030 | 2.00 | 2.20 | • | • | • | • | | | 0.03-0.06 |
| **GIP 1.47-0.00** | 1.47 | 0.00 | 0.02 | 0.030 | 2.50 | 2.20 | • | • | • | • | | | 0.03-0.06 |
| **GIP 1.57-0.15** | 1.57 | 0.15 | 0.02 | 0.030 | 2.70 | 2.20 | • | • | • | • | | • | 0.04-0.06 |
| **GIP 1.70-0.10** | 1.70 | 0.10 | 0.02 | 0.030 | 3.00 | 2.20 | • | • | • | • | • | | 0.04-0.07 |
| **GIP 1.78-0.18** | 1.78 | 0.18 | 0.02 | 0.030 | 3.00 | 2.20 | • | • | • | • | | | 0.04-0.07 |
| **GIP 1.96-0.15** | 1.96 | 0.15 | 0.02 | 0.030 | 3.00 | 2.20 | • | • | • | • | • | • | 0.04-0.08 |

• DMIN for internal machining = 70 mm • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Cutting depth maximum

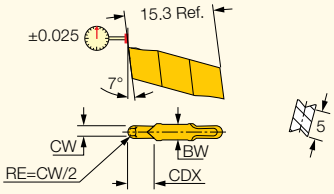
**Tools:** GHDR/L (short pocket) • GHGR/L • GHMPR/L • GHMR/L

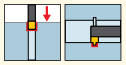
CUTGRIP

## GIP (full radius W<M)

Flat Top Precision
Double-Ended Inserts with
Full Radius for Grooving





| Designation | Dimensions | | | | | | Tough ↔ Hard | | | | | | Recommended Machining Data |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | BW | IC830 | IC808 | IC908 | IC20 | IC806 | IC807 | f groove (mm/rev) |
| **GIP 1.00-0.50** | 1.00 | 0.50 | 0.02 | 0.050 | 2.00 | 2.20 | | • | • | | | • | 0.03-0.06 |
| **GIP 1.40-0.70** | 1.40 | 0.70 | 0.02 | 0.050 | 2.00 | 2.20 | | • | • | | | | 0.04-0.07 |
| **GIP 1.57-0.79** | 1.57 | 0.79 | 0.02 | 0.050 | 2.70 | 2.20 | • | • | • | • | | • | 0.04-0.08 |
| **GIP 2.00-1.00** | 2.00 | 1.00 | 0.02 | 0.050 | 3.00 | 2.20 | • | • | • | • | • | • | 0.05-0.11 |
| **GIP 2.39-1.20** | 2.39 | 1.20 | 0.02 | 0.050 | 4.70 | 2.40 | | • | • | • | | • | 0.06-0.12 |

• DMIN for internal machining = 70 mm • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Cutting depth maximum

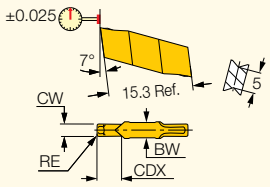
**Tools:** GHDR/L (short pocket) • GHGR/L • GHMPR/L • GHMR/L • GHSR/L • GHSR/L-JHP-SL • NQCH-GHSR/L-JHP

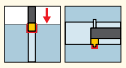
CUTGRIP

## GIG

Precision Double-Ended Inserts for Grooving



| Designation | Dimensions | | | | | | Tough ↔ Hard | | | Recommended Machining Data |
|---|---|---|---|---|---|---|---|---|---|---|
| | CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | BW | IC830 | IC808 | IC20 | f groove (mm/rev) |
| GIG 1.04-0.00 | 1.04 | 0.00 | 0.02 | 0.030 | 2.00 | 2.20 | | • | | 0.02-0.03 |
| GIG 1.20-0.00 | 1.20 | 0.00 | 0.02 | 0.030 | 2.00 | 2.20 | | • | | 0.02-0.03 |
| GIG 1.25-0.10 | 1.25 | 0.10 | 0.02 | 0.030 | 2.00 | 2.20 | • | • | | 0.02-0.04 |
| GIG 1.40-0.00 | 1.40 | 0.00 | 0.02 | 0.030 | 2.00 | 2.20 | | • | | 0.02-0.04 |
| GIG 1.45-0.10 | 1.45 | 0.10 | 0.02 | 0.030 | 2.00 | 2.20 | • | • | | 0.02-0.04 |
| GIG 1.47-0.00 | 1.47 | 0.00 | 0.02 | 0.030 | 2.50 | 2.20 | | • | | 0.02-0.04 |
| GIG 1.50-0.10 | 1.50 | 0.10 | 0.02 | 0.030 | 2.50 | 2.20 | • | • | | 0.02-0.04 |
| GIG 1.57-0.15 | 1.57 | 0.15 | 0.02 | 0.030 | 2.70 | 2.20 | | • | | 0.03-0.05 |
| GIG 1.70-0.10 | 1.70 | 0.10 | 0.02 | 0.030 | 3.00 | 2.20 | | • | | 0.03-0.05 |
| GIG 1.78-0.18 | 1.78 | 0.18 | 0.02 | 0.030 | 3.00 | 2.20 | | • | | 0.03-0.05 |
| GIG 1.85-0.15 | 1.85 | 0.15 | 0.02 | 0.030 | 3.00 | 2.20 | • | • | | 0.03-0.05 |
| GIG 1.86-0.15 | 1.86 | 0.15 | 0.02 | 0.030 | 3.00 | 2.20 | | • | | 0.03-0.05 |
| GIG 1.96-0.15 | 1.96 | 0.15 | 0.02 | 0.030 | 3.00 | 2.20 | | • | | 0.03-0.06 |
| GIG 2.00-0.20 | 2.00 | 0.20 | 0.02 | 0.030 | 3.00 | 2.20 | • | • | • | 0.04-0.06 |
| GIG 2.22-0.15 | 2.22 | 0.15 | 0.02 | 0.030 | 3.50 | 2.20 | | • | | 0.04-0.06 |
| GIG 2.30-0.20 | 2.30 | 0.20 | 0.02 | 0.030 | 3.50 | 2.20 | • | • | | 0.04-0.07 |

• DMIN for internal machining = 70 mm • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Cutting depth maximum

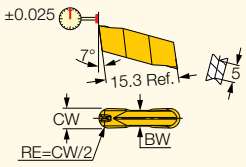
**Tools:** GHDR/L (short pocket) • GHGR/L • GHMPR/L • GHMR/L • GHSR/L • GHSR/L-JHP-SL • NQCH-GHSR/L-JHP

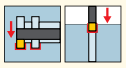
CUTGRIP

## GIP (full radius)

Precision Double-Ended Full Radius Inserts for Grooving



| Designation | Dimensions | | | | | | Tough ↔ Hard | | | | | Recommended Machining Data |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | BW | IC830 | IC8250 | IC808 | IC20 | IC804 | f groove (mm/rev) |
| GIP 3.00-1.50 | 3.00 | 1.50 | 0.02 | 0.050 | 12.30 | 2.40 | | | | • | • | 0.08-0.15 |
| GIP 3.18-1.59 | 3.18 | 1.59 | 0.02 | 0.050 | 12.20 | 2.40 | • | • | • | • | | 0.08-0.16 |
| GIP 3.98-1.99 | 3.98 | 1.99 | 0.02 | 0.050 | 11.80 | 3.20 | | • | | • | | 0.10-0.20 |
| GIP 4.78-2.39 | 4.78 | 2.39 | 0.02 | 0.050 | 11.40 | 4.80 | | • | | • | | 0.12-0.22 |
| GIP 5.00-2.50 | 5.00 | 2.50 | 0.02 | 0.050 | 11.30 | 4.00 | | | | • | | 0.13-0.23 |

• For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

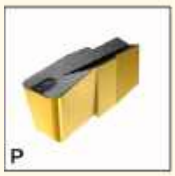
(2) Corner radius tolerance (+/-)

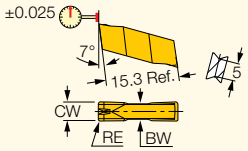
(3) Cutting depth maximum

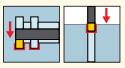
**Tools:** C#-GHDR/L • CGHN 26-M • CGHN 32-DGM • CGHN 32-M • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L • GHSR/L • GHSR/L-JHP-SL • NQCH-GHSR/L-JHP

CUTGRIP

## GIP
Precision Double-Ended Inserts for Grooving



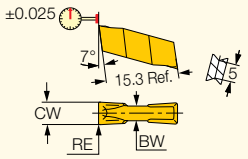
| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | BW | Tough ↔ Hard IC830 | IC8250 | IC808 | IC908 | IC20 | IC20N | IC806 | IC807 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GIP 2.22-0.15 | 2.22 | 0.15 | 0.02 | 0.030 | 3.50 | 2.20 | • | | • | • | • | | | • | 0.05-0.09 |
| GIP 2.39-0.15 | 2.39 | 0.15 | 0.02 | 0.030 | 4.70 | 2.40 | • | | • | • | • | | | • | 0.05-0.09 |
| GIP 2.47-0.20 | 2.47 | 0.20 | 0.02 | 0.030 | 5.00 | 2.40 | • | | • | • | • | • | | • | 0.06-0.10 |
| GIP 2.70-0.10 | 2.70 | 0.10 | 0.02 | 0.030 | 13.00 | 2.40 | • | | • | • | • | | | • | 0.06-0.10 |
| GIP 2.70-0.20 | 2.70 | 0.20 | 0.02 | 0.030 | 13.00 | 2.40 | | | • | | • | | | | 0.07-0.11 |
| GIP 2.87-0.20 | 2.87 | 0.20 | 0.02 | 0.030 | 13.00 | 2.40 | • | | • | • | • | | | | 0.07-0.12 |
| GIP 3.00-0.00 | 3.00 | 0.00 | 0.02 | 0.030 | 13.00 | 2.40 | • | | • | | • | | | | 0.07-0.11 |
| GIP 3.00-0.20 | 3.00 | 0.20 | 0.02 | 0.030 | 13.00 | 2.40 | • | | • | • | • | | • | • | 0.08-0.13 |
| GIP 3.00-0.40 | 3.00 | 0.40 | 0.02 | 0.030 | 13.00 | 2.40 | | | | | • | | | | 0.08-0.14 |
| GIP 3.15-0.15 | 3.15 | 0.15 | 0.02 | 0.030 | 13.00 | 2.40 | • | • | • | • | • | • | | | 0.07-0.12 |
| GIP 3.18-0.20 | 3.18 | 0.20 | 0.02 | 0.030 | 13.00 | 2.40 | • | • | • | | • | | | • | 0.08-0.13 |
| GIP 3.30-0.10 | 3.30 | 0.10 | 0.02 | 0.030 | 13.00 | 2.40 | • | • | • | | • | | | | 0.07-0.12 |
| GIP 3.48-0.20 | 3.48 | 0.20 | 0.02 | 0.030 | 13.00 | 3.20 | | • | | | • | | | | 0.09-0.15 |
| GIP 3.56-0.20 | 3.56 | 0.20 | 0.02 | 0.030 | 13.00 | 3.20 | | • | | | • | | | | 0.09-0.15 |
| GIP 3.74-0.20 | 3.74 | 0.20 | 0.02 | 0.030 | 13.00 | 3.20 | | • | • | | • | | | | 0.09-0.16 |
| GIP 3.98-0.20 | 3.98 | 0.20 | 0.02 | 0.030 | 13.00 | 3.20 | • | • | • | • | • | | | • | 0.10-0.17 |
| GIP 4.00-0.80 | 4.00 | 0.80 | 0.02 | 0.050 | 13.00 | 3.20 | | | | | • | | | | 0.10-0.20 |
| GIP 4.23-0.10 | 4.23 | 0.10 | 0.02 | 0.030 | 13.00 | 3.20 | • | • | • | | • | | | | 0.10-0.16 |
| GIP 5.00-0.40 | 5.00 | 0.40 | 0.02 | 0.030 | 13.00 | 4.00 | | | | | • | | | | 0.13-0.21 |
| GIP 6.00-0.40 | 6.00 | 0.40 | 0.02 | 0.030 | 13.00 | 4.80 | | | | | • | | | | 0.15-0.25 |
| GIP 6.00-0.80 | 6.00 | 0.80 | 0.02 | 0.050 | 13.00 | 4.80 | | | | | • | | | | 0.15-0.27 |

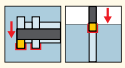
• DMIN for internal machining = 70 mm • For cutting speed recommendations and user guide, see pages 440-457
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum
**Tools:** Anti-Vibration Blades • C#-GHDR/L • CGHN 26-M • CGHN 32-DGM • CGHN 32-M • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L • GHSR/L • GHSR/L-JHP-SL • NQCH-GHSR/L-JHP

CUTGRIP

## GIF
Precision Double-Ended Inserts for Grooving



| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | CDX(3) | Tough ↔ Hard IC830 | IC8250 | IC808 | IC20 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GIF 3.48-0.20 | 3.48 | 0.20 | 0.02 | 0.030 | 3.20 | 13.00 | • | • | • | • | 0.08-0.12 |
| GIF 3.56-0.20 | 3.56 | 0.20 | 0.02 | 0.030 | 3.20 | 13.00 | | • | • | | 0.08-0.13 |
| GIF 3.74-0.20 | 3.74 | 0.20 | 0.02 | 0.030 | 3.20 | 13.00 | | • | • | | 0.08-0.13 |
| GIF 3.98-0.20 | 3.98 | 0.20 | 0.02 | 0.030 | 3.20 | 13.00 | • | • | • | • | 0.09-0.14 |
| GIF 4.23-0.10 | 4.23 | 0.10 | 0.02 | 0.030 | 3.20 | 13.00 | • | • | • | | 0.08-0.13 |
| GIF 4.45-0.15 | 4.45 | 0.15 | 0.02 | 0.030 | 4.00 | 13.00 | • | • | • | • | 0.09-0.14 |
| GIF 4.78-0.55 | 4.78 | 0.55 | 0.02 | 0.050 | 4.00 | 13.00 | | • | • | • | 0.11-0.18 |
| GIF 4.86-0.30 | 4.86 | 0.30 | 0.02 | 0.030 | 4.00 | 13.00 | | • | • | • | 0.11-0.18 |
| GIF 5.28-0.20 | 5.28 | 0.20 | 0.02 | 0.030 | 4.00 | 13.00 | | • | • | • | 0.12-0.18 |
| GIF 5.39-0.20 | 5.39 | 0.20 | 0.02 | 0.030 | 4.00 | 13.00 | | • | • | • | 0.12-0.19 |
| GIF 5.90-0.20 | 5.90 | 0.20 | 0.02 | 0.030 | 4.80 | 13.00 | | • | • | | 0.12-0.21 |
| GIF 6.35-0.50 | 6.35 | 0.50 | 0.02 | 0.050 | 4.80 | 13.00 | | • | • | • | 0.14-0.24 |
| GIF 6.35-0.55 | 6.35 | 0.55 | 0.02 | 0.050 | 4.80 | 13.00 | | • | • | | 0.14-0.24 |

• DMIN for internal machining = 70 mm • For cutting speed recommendations and user guide, see pages 440-457
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum
**Tools:** Anti-Vibration Blades • C#-GHDR/L • CGHN 26-M • CGHN 32-DGM • CGHN 32-M • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L

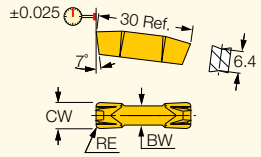
# Inserts for Specific Applications and Materials

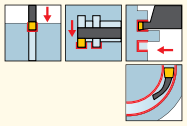
## Cast Iron

CUTGRIP

### GIF (long pocket)
Precision Double-Ended Inserts for Grooving





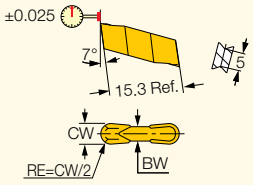
| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | CDX(3) | Tough ↔ Hard IC20 | IC806 | Recommended Machining Data f groove (mm/rev) | f face-groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| GIF 8.00-0.40 | 8.00 | 0.40 | 0.02 | 0.030 | 6.00 | 27.00 | ● | ● | 0.18-0.31 | 0.14-0.23 |
| GIF 8.00-0.80 | 8.00 | 0.80 | 0.02 | 0.050 | 6.00 | 27.00 | ● | ● | 0.18-0.34 | 0.14-0.25 |

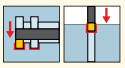
• DMIN for internal machining = 65 mm • For cutting speed recommendations and user guide, see pages 440-457
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum
**Tools:** C#-GHDR/L • CGHN-8-10D • GADR/L-JHP • GAFG-R/L-8 • GHDR/L (long pocket) • GHDR/L-JHP (long pocket) • GHFG-R/L-8 • GHFGR/L-8

CUTGRIP

### GIF (full radius)
Precision Double-Ended Full Radius Inserts for Grooving



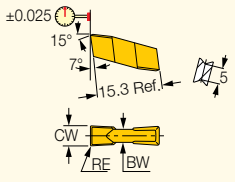
| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | CDX(3) | Tough ↔ Hard IC8250 | IC808 | IC20 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| GIF 4.78-2.39 | 4.78 | 2.39 | 0.02 | 0.050 | 4.00 | 11.40 | ● | ● | | 0.11-0.20 |
| GIF 6.35-3.18 | 6.35 | 3.18 | 0.02 | 0.050 | 4.80 | 10.60 | | | ● | 0.14-0.27 |

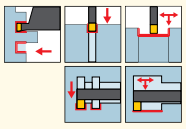
• DMIN for internal machining = 70 mm • For cutting speed recommendations and user guide, see pages 440-457
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum
**Tools:** Anti-Vibration Blades • C#-GHDR/L • CGHN 26-M • CGHN 32-DGM • CGHN 32-M • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L

CUTGRIP

### GIA-K (W=3-6)
Flat Top Precision Double-Ended Inserts with T-Land for Machining Cast Iron



| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | CDX(3) | Tough ↔ Hard IC5010 | IC428 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GIA 3.00K-0.40 | 3.00 | 0.40 | 0.02 | 0.030 | 2.40 | 13.00 | ● | ● | 0.50-1.80 | 0.12-0.20 | 0.07-0.13 |
| GIA 4.00K-0.40 | 4.00 | 0.40 | 0.02 | 0.030 | 3.20 | 13.00 | ● | ● | 0.50-2.40 | 0.16-0.27 | 0.09-0.18 |
| GIA 4.00K-0.80 | 4.00 | 0.80 | 0.02 | 0.050 | 3.20 | 13.00 | ● | ● | 1.00-2.40 | 0.18-0.32 | 0.09-0.19 |
| GIA 5.00K-0.80 | 5.00 | 0.80 | 0.02 | 0.050 | 4.00 | 13.00 | ● | ● | 1.00-3.00 | 0.23-0.40 | 0.11-0.24 |
| GIA 6.00K-0.80 | 6.00 | 0.80 | 0.02 | 0.050 | 4.80 | 13.00 | ● | ● | 1.00-3.60 | 0.27-0.48 | 0.14-0.29 |

• DMIN for internal machining = 70 mm • For cutting speed recommendations and user guide, see pages 440-457
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum
**Tools:** Anti-Vibration Blades • C#-GHDR/L • CGHN 26-M • CGHN 32-DGM • CGHN 32-M • CGHN-D • CGHN-DG • CGHN-S • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L

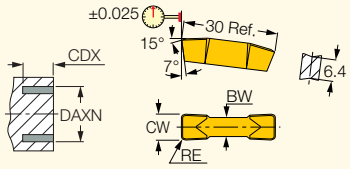
# Hardened Steel

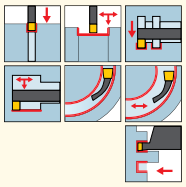
CUTGRIP

## GIA-K (long pocket)

Flat Top Precision Double-Ended Inserts with T-Land for Machining Cast Iron



| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | CDX(3) | DAXN(4) | Tough ↔ Hard IC5010 | IC428 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GIA 8.00K-0.80 | 8.00 | 0.80 | 0.02 | 0.050 | 6.00 | 25.00 | 160.0 | ● | ● | 1.00-4.80 | 0.36-0.64 | 0.18-0.38 |
| GIA 8.00K-1.20 | 8.00 | 1.20 | 0.02 | 0.050 | 6.00 | 25.00 | 160.0 | ● | ● | 1.45-4.80 | 0.36-0.70 | 0.18-0.38 |

• DMIN for internal machining = 65 mm • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Cutting depth maximum

(4) Minimum axial grooving diameter

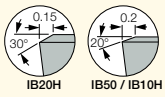
**Tools:** C#-GHDR/L • CGHN-8-10D • GADR/L-8 • GADR/L-JHP • GAFG-R/L-8 • GHDR/L (long pocket) • GHDR/L-JHP (long pocket) • GHFG-R/L-8 • GHFGR/L-8 • GHIR/L (W=7.0-8.3)

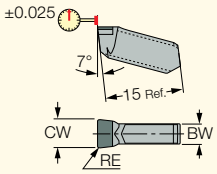
CUTGRIP

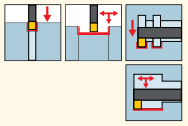
## GITM

CBN Tipped Inserts for Turning and Grooving on Hard Ferrous Materials





HARD MATERIALS

| Designation | Dimensions CW | RE | RETOL(1) | CWTOL(2) | BW | Tough ↔ Hard IB20H | IB50 | IB10H | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GITM 3.00K-0.20 | 3.00 | 0.20 | 0.050 | 0.02 | 2.40 | ● | ● | ● | 0.00-0.30 | 0.02-0.07 | 0.02-0.05 |
| GITM 4.00K-0.20 | 4.00 | 0.20 | 0.050 | 0.02 | 3.20 | ● | ● | ● | 0.00-0.40 | 0.03-0.09 | 0.02-0.07 |
| GITM 5.00K-0.40 | 5.00 | 0.40 | 0.050 | 0.02 | 4.00 | ● | ● | ● | 0.00-0.50 | 0.05-0.13 | 0.03-0.10 |
| GITM 6.00K-0.40 | 6.00 | 0.40 | 0.050 | 0.02 | 4.95 | ● | ● | ● | 0.00-0.60 | 0.05-0.15 | 0.04-0.12 |
| GITM 8.00K-0.40 | 8.00 | 0.40 | 0.050 | 0.02 | 6.00 | | ● | | 0.00-0.80 | 0.07-0.20 | 0.05-0.16 |

• DMIN for internal machining = 70 mm • For cutting speed recommendations and user guide, see pages 440-457

(1) Corner radius tolerance (+/-)

(2) Cutting width tolerance (+/-)

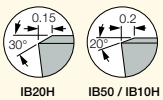
**Tools:** Anti-Vibration Blades • C#-GHDR/L • CGHN 26-M • CGHN 32-DGM • CGHN 32-M • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L • GHSR/L • GHSR/L-JHP-SL

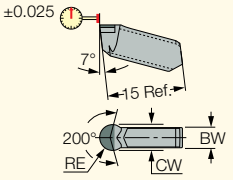
CUTGRIP

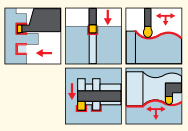
## GITM (full radius)

Full Radius CBN Tipped Inserts for Grooving and Turning on Hard Ferrous Materials





HARD MATERIALS

| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | DAXN(3) | Tough ↔ Hard IB20H | IB50 | IB10H | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GITM 3.00K-1.50 | 3.00 | 1.50 | 0.02 | 0.050 | 2.40 | 160.0 | ● | ● | ● | 0.00-0.30 | 0.03-0.10 | 0.02-0.06 |
| GITM 4.00K-2.00 | 4.00 | 2.00 | 0.02 | 0.050 | 3.20 | 160.0 | ● | ● | ● | 0.00-0.40 | 0.04-0.14 | 0.02-0.09 |
| GITM 5.00K-2.50 | 5.00 | 2.50 | 0.02 | 0.050 | 3.90 | 160.0 | ● | ● | | 0.00-0.50 | 0.05-0.18 | 0.03-0.11 |
| GITM 6.00K-3.00 | 6.00 | 3.00 | 0.02 | 0.050 | 5.00 | 160.0 | ● | ● | ● | 0.00-0.60 | 0.06-0.22 | 0.04-0.13 |
| GITM 8.00K-4.00 | 8.00 | 4.00 | 0.02 | 0.050 | 5.60 | 160.0 | | ● | | 0.00-0.80 | 0.08-0.29 | 0.05-0.17 |

• DMIN for internal machining = 70 mm • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Minimum axial grooving diameter

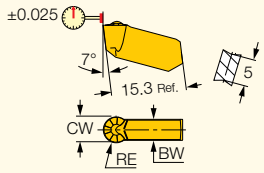
**Tools:** Anti-Vibration Blades • C#-GHDR/L • CGHN 26-M • CGHN 32-DGM • CGHN 32-M • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L • GHSR/L • GHSR/L-JHP-SL

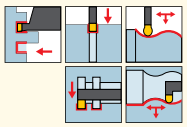
# High Temperature Alloys

CUTGRIP

**GIPY**
Single-Ended Full Radius Sharp Edged Precision Inserts for Profiling High Temperature Alloys



| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | Tough ↔ Hard IC20 | IC320 | IC07 | IC806 | IC907 | IC4 | IC804 | Recommended Machining Data f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GIPY 3.00-1.50** | 3.00 | 1.50 | 0.02 | 0.050 | 2.40 | ● | ● | | ● | ● | ● | ● | 0.19-0.28 | 0.08-0.15 |
| **GIPY 4.00-2.00** | 4.00 | 2.00 | 0.02 | 0.050 | 3.20 | ● | ● | | ● | ● | ● | ● | 0.22-0.37 | 0.10-0.20 |
| **GIPY 5.00-2.50** | 5.00 | 2.50 | 0.02 | 0.050 | 3.90 | ● | ● | | ● | ● | ● | ● | 0.24-0.46 | 0.13-0.23 |
| **GIPY 6.00-3.00** | 6.00 | 3.00 | 0.02 | 0.050 | 5.00 | ● | ● | | ● | ● | ● | | 0.26-0.55 | 0.15-0.27 |
| **GIPY 8.00-4.00** | 8.00 | 4.00 | 0.02 | 0.050 | 5.60 | ● | ● | ● | ● | ● | | | 0.34-0.74 | 0.20-0.36 |

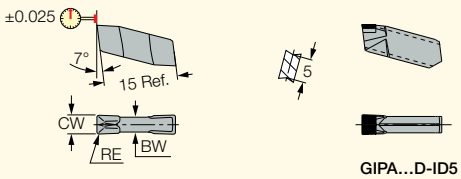
• Can cut arcs to 250° • DMIN for internal machining = 70 mm • For cutting speed recommendations and user guide, see pages 440-457
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
**Tools:** Anti-Vibration Blades • C#-GHDR/L • CGFG 51-P8 • CGHN 26-M • CGHN 32-DGM • CGHN 32-M • CGHN-D • CGHN-DG • CGHN-P8 • CGHN-S • CGHR/L-P8DG • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L • GHSR/L • GHSR/L-JHP-SL • NQCH-GHSR/L-JHP

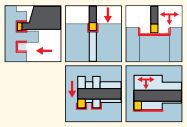
# Aluminum

CUTGRIP

**GIPA (W=3-6)**
Double-Ended Precision Ground Inserts with a Polished Top Rake for Machining Aluminum



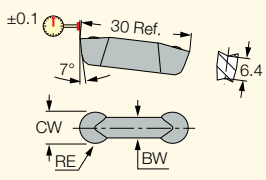
| Designation | Dimensions CW | RE | CWTOL(2) | RETOL(3) | BW | Tough ↔ Hard IC20 | ID5 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| **GIPA 3.00-0.20** | 3.00 | 0.20 | 0.02 | 0.030 | 2.40 | ● | | 0.25-1.80 | 0.12-0.20 | 0.08-0.14 |
| **GIPA 3.00-0.20-D (1)** | 3.00 | 0.20 | 0.02 | 0.030 | 2.40 | | ● | 0.25-1.80 | 0.12-0.25 | 0.09-0.16 |
| **GIPA 4.00-0.40** | 4.00 | 0.40 | 0.02 | 0.030 | 3.20 | ● | | 0.50-2.40 | 0.14-0.31 | 0.10-0.20 |
| **GIPA 5.00-0.40** | 5.00 | 0.40 | 0.02 | 0.030 | 4.00 | ● | | 0.50-3.00 | 0.16-0.34 | 0.11-0.23 |
| **GIPA 6.00-0.40** | 6.00 | 0.40 | 0.02 | 0.030 | 4.80 | ● | | 0.50-3.60 | 0.19-0.41 | 0.11-0.26 |

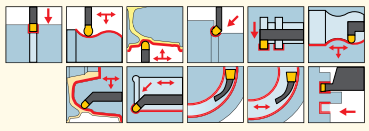
• DMIN for internal machining = 70 mm • For cutting speed recommendations and user guide, see pages 440-457
(1) Single-ended PCD tipped insert
(2) Cutting width tolerance (+/-)
(3) Corner radius tolerance (+/-)
**Tools:** Anti-Vibration Blades • C#-GHDR/L • CGHN 26-M • CGHN 32-DGM • CGHN 32-M • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L • GHSR/L • GHSR/L-JHP-SL • NQCH-GHSR/L-JHP

CUTGRIP

**GDMA**
Utility Double-Ended Insert with a Polished Top Rake for Machining Aluminum



Can cut arcs to 250°

| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | Tough ↔ Hard IC07 | IC507 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| **GDMA 840** | 8.00 | 4.00 | 0.05 | 0.050 | 5.60 | ● | ● | 0.00-4.00 | 0.24-0.67 | 0.14-0.38 |

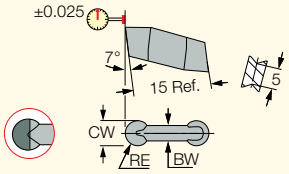
• For heavy-duty machining • DMIN for internal machining = 65 mm • For cutting speed recommendations and user guide, see pages 440-457
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
**Tools:** GADR/L-8 • GADR/L-JHP • GAFG-R/L-8 • GHDKR/L • GHIFR/L-A • GHIR/L (W=7.0-8.3) • GHIUR/L-C-A (15° & 27.5°) Bars • GHIUR/L-UC

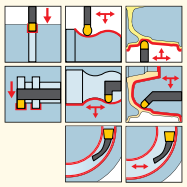
CUTGRIP

## GIPA (full radius W=3-6)

Precision Double-Ended Inserts with Polished Top Rake for Machining Aluminum



| Designation | Dimensions CW | RE | CWTOL[4] | RETOL[5] | BW | Tough ↔ Hard IC20 | IC806 | IC4 | ID5 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GIPA 3.00-1.50** | 3.00 | 1.50 | 0.02 | 0.050 | 2.40 | ● | | | | 0.00-1.50 | 0.15-0.30 | 0.08-0.16 |
| **GIPA 3.00-1.50-D [1]** | 3.00 | 1.50 | 0.02 | 0.050 | 2.40 | | | | ● | 0.00-1.50 | 0.19-0.36 | 0.09-0.19 |
| **GIPA 4.00-2.00** | 4.00 | 2.00 | 0.02 | 0.050 | 3.20 | ● | ● | | | 0.00-2.00 | 0.20-0.43 | 0.10-0.22 |
| **GIPA 4.00-2.00-D [1]** | 4.00 | 2.00 | 0.02 | 0.050 | 3.20 | | | | ● | 0.00-2.00 | 0.25-0.53 | 0.12-0.26 |
| **GIPA 4.00-2.00YZ-D [2]** | 4.00 | 2.00 | 0.02 | 0.050 | 3.20 | | | | ● | 0.00-2.00 | 0.25-0.53 | 0.12-0.26 |
| **GIPA 5.00-2.50** | 5.00 | 2.50 | 0.02 | 0.050 | 3.90 | ● | ● | | | 0.00-2.50 | 0.21-0.48 | 0.09-0.24 |
| **GIPA 5.00-2.50-D [1]** | 5.00 | 2.50 | 0.02 | 0.050 | 3.90 | | | | ● | 0.00-2.50 | 0.22-0.60 | 0.11-0.30 |
| **GIPA 5.00-2.50YZ-D [2]** | 5.00 | 2.50 | 0.02 | 0.050 | 3.90 | | | | ● | 0.00-2.50 | 0.22-0.60 | 0.11-0.30 |
| **GIPA 6.00-3.00** | 6.00 | 3.00 | 0.02 | 0.050 | 4.80 | ● | | ● | | 0.00-3.00 | 0.21-0.58 | 0.11-0.29 |
| **GIPA 6.00-3.00-D [1]** | 6.00 | 3.00 | 0.02 | 0.050 | 4.80 | | | | ● | 0.00-3.00 | 0.26-0.72 | 0.13-0.36 |
| **GIPA 6.00-3.00YZ** | 6.00 | 3.00 | 0.02 | 0.050 | 4.80 | ● | | | | 0.00-3.00 | 0.21-0.58 | 0.11-0.29 |
| **GIPA 6.00-3.00YZ-D [2]** | 6.00 | 3.00 | 0.02 | 0.050 | 4.80 | | | | ● | 0.00-3.00 | 0.26-0.72 | 0.13-0.36 |
| **GIPA 6.00-3.00CB [3]** | 6.00 | 3.00 | 0.02 | 0.050 | 4.80 | | | | ● | 0.00-3.00 | 0.21-0.58 | 0.11-0.29 |

- For cutting speed recommendations and user guide, see pages 440-457

[1] Single-ended PCD tipped insert

[2] Single-ended molded PCD chipformer tipped insert

[3] Single-ended flat PCD tipped insert with chip deflector

[4] Cutting width tolerance (+/-)

[5] Corner radius tolerance (+/-)

**Tools:** Anti-Vibration Blades • C#-GHDR/L • CGHN 26-M • CGHN 32-DGM • CGHN 32-M • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDKR/L • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHIFR/L-A • GHIUR/L-C-A (15° & 27.5°) Bars • GHIUR/L-UC • GHMPR/L • GHMR/L • GHSR/L • GHSR/L-JHP-SL • NQCH-GHSR/L-JHP











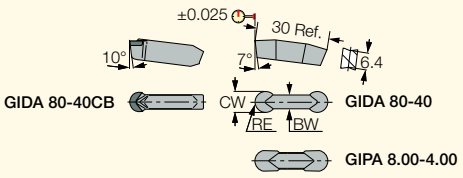

# Next to Shoulder

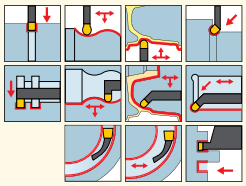
CUTGRIP

## GIPA/GIDA 8 (full radius)

Precision Double-Ended Inserts with Polished Top Rake for Machining Aluminum



| Designation | Dimensions CW | RE | CWTOL(2) | RETOL(3) | BW | Tough ↔ Hard IC20 | IC4 | ID5 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GIDA 80-40 | 8.00 | 4.00 | 0.02 | 0.050 | 5.60 | ● | ● | | 0.00-4.00 | 0.24-0.67 | 0.14-0.38 |
| GIDA 80-40-D | 8.00 | 4.00 | 0.02 | 0.050 | 5.60 | | | ● | 0.00-4.00 | 0.24-0.67 | 0.14-0.38 |
| GIDA 80-40CB-D (1) | 8.00 | 4.00 | 0.02 | 0.050 | 5.60 | | | ● | 0.00-4.00 | 0.24-0.67 | 0.14-0.38 |
| GIDA 80-40YZ | 8.00 | 4.00 | 0.02 | 0.050 | 5.60 | ● | ● | | 0.00-4.00 | 0.24-0.67 | 0.14-0.38 |
| GIDA 80-40YZ-D | 8.00 | 4.00 | 0.02 | 0.050 | 5.60 | | | ● | 0.00-4.00 | 0.35-0.96 | 0.18-0.48 |
| GIPA 8.00-4.00 | 8.00 | 4.00 | 0.02 | 0.050 | 6.00 | ● | | | 0.00-4.00 | 0.24-0.67 | 0.14-0.38 |

• ID5 is a single-ended PCD tipped insert • For cutting speed recommendations and user guide, see pages 440-457

(1) Should not be clamped on tools with "A" suffix

(2) Cutting width tolerance (+/-)

(3) Corner radius tolerance (+/-)

**Tools:** C#-GHDR/L • CGHN-8-10D • GADR/L-8 • GADR/L-JHP • GAFG-R/L-8 • GHDKR/L • GHDR/L (long pocket) • GHDR/L-8A • GHDR/L-JHP (long pocket) • GHFGR/L-8 • GHIFR/L-A • GHIR/L (W=7.0-8.3) • GHIUR/L-C-A (15° & 27.5°) Bars • GHIUR/L-UC

















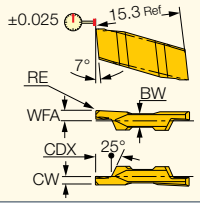


CUTGRIP

## GIP-RX/LX

Precision Double-Ended Inserts for External Grooving Next to a Shoulder






| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | BW | WFA | Tough ↔ Hard IC830 | IC808 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| GIP 0.80-0.00R/LX | 0.80 | 0.00 | 0.02 | 0.030 | 1.60 | 2.40 | 1.6 | ● | | 0.02-0.04 |
| GIP 1.00-0.00R/LX | 1.00 | 0.00 | 0.02 | 0.030 | 2.00 | 2.40 | 1.6 | ● | | 0.02-0.05 |
| GIP 1.19-0.1RX | 1.19 | 0.10 | 0.02 | 0.030 | 2.00 | 2.40 | 1.6 | | ● | 0.03-0.05 |
| GIP 1.57-0.15 R/LX | 1.57 | 0.15 | 0.02 | 0.030 | 2.70 | 2.40 | 1.7 | ● | | 0.04-0.06 |
| GIP 1.57-0.79RX | 1.57 | 0.79 | 0.02 | 0.030 | 2.80 | 2.40 | 1.7 | | ● | 0.04-0.08 |
| GIP 2.00-0.15 R/LX | 2.00 | 0.15 | 0.02 | 0.030 | 3.00 | 2.40 | 1.7 | ● | | 0.05-0.08 |
| GIP 2.39-0.15 RX | 2.39 | 0.15 | 0.02 | 0.030 | 3.50 | 2.40 | 1.7 | ● | | 0.05-0.09 |
| GIP 2.39-1.19RX | 2.39 | 1.19 | 0.02 | 0.050 | 3.90 | 2.40 | 1.7 | | ● | 0.06-0.12 |

• Toolholder seat needs to be modified according to insert profile to ensure clearance. • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

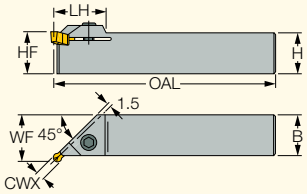
(3) Cutting depth maximum

**Tools:** GHMPR/L • GHMR/L

# Undercutting

CUTGRIP

## GHMUR/L
External Holders for
45° Undercutting




Right-hand shown

| Designation | CWX[1] | H | HF | B | OAL | LH | WF | | |
|---|---|---|---|---|---|---|---|---|---|
| GHMUR/L 16 | 4.80 | 16.0 | 16.0 | 16.0 | 112.00 | 25.0 | 19.00 | SR M6X16 DIN912 | HW 5.0 |
| GHMUR/L 20 | 6.40 | 20.0 | 20.0 | 20.0 | 122.00 | 25.0 | 23.00 | SR M6X16 DIN912 | HW 5.0 |
| GHMUR/L 25 | 6.40 | 25.0 | 25.0 | 25.0 | 137.00 | 25.0 | 28.00 | SR M6X16 DIN912 | HW 5.0 |

- For D>100 mm, GIP/GIF inserts can be used (clearance types UN, D or G are not required).

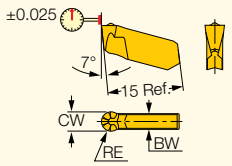
[1] Maximum cutting width

**Inserts:** GIMY-UN • GIP-UN

CUTGRIP

## GIMY-UN
Utility Single-Ended Inserts
for External Undercutting




| Designation | Dimensions CW | RE | CWTOL[1] | RETOL[2] | BW | CDX[3] | IC8250 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| GIMY 315-UN | 3.00 | 1.50 | 0.05 | 0.050 | 2.40 | 2.00 | ● | 0.05-0.15 |
| GIMY 420-UN | 4.00 | 2.00 | 0.05 | 0.050 | 3.20 | 2.50 | ● | 0.05-0.15 |

- For 45° undercutting on D 100 mm, regular GIMY inserts may be used. • For cutting speed recommendations and user guide, see pages 440-457

[1] Cutting width tolerance (+/-)

[2] Corner radius tolerance (+/-)

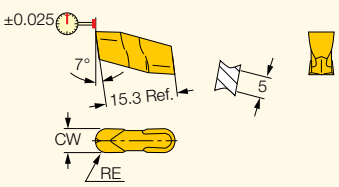
[3] Cutting depth maximum

**Tools:** GHMUR/L

CUTGRIP

## GIP-UN
Precision Double-Ended Inserts
for External Undercutting




| Designation | Dimensions CW | RE | CWTOL[1] | RETOL[2] | DMIN | BW | CDX[3] | Tough ↔ Hard IC830 | IC8250 | IC808 | IC20 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GIP 3.00-1.50UN | 3.00 | 1.50 | 0.05 | 0.050 | 35.00 | 2.40 | 4.00 | ● | ● | ● | ● | 0.05-0.15 |
| GIP 4.00-2.0UN | 4.00 | 2.00 | 0.05 | 0.050 | 35.00 | 3.20 | 4.00 | | ● | | ● | 0.05-0.15 |

- Not recommended for turning. • For undercutting at 45° and D100 mm, other GIP inserts apply as well
- For cutting speed recommendations and user guide, see pages 440-457

[1] Cutting width tolerance (+/-)

[2] Corner radius tolerance (+/-)

[3] Cutting depth maximum

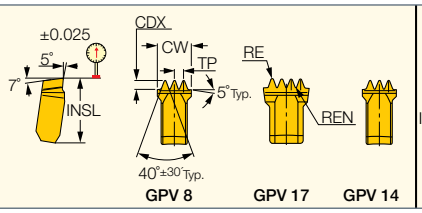
**Tools:** C#-GHDR/L • CGHN-DG • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket)
• GHMPR/L • GHMR/L • GHMUR/L

# Pulley V Grooves

CUTGRIP

## GPV
Precision Inserts for Grooving
Multi V-Ribbed Pulleys






| Designation | Dimensions CW | TP[5] | CDX[6] | RE | REN | NT | INSL | Tough ↔ Hard IC8250 | IC5010 | IC428 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GPV 3-2.34-1 [1] | 2.80 | 2.34 | 2.21 | 0.32 | 0.20 | 1 | 15.30 | ● | ● | | 0.06-0.15 |
| GPV 4-3.56-1 [1] | 4.03 | 3.56 | 3.42 | 0.45 | 0.30 | 1 | 15.30 | ● | ● | ● | 0.06-0.15 |
| GPV 8-2.34-3 [2] | 7.48 | 2.34 | 2.21 | 0.32 | 0.20 | 3 | 15.30 | ● | | ● | 0.06-0.15 |
| GPV 14-2.34-4 [3] | 9.82 | 2.34 | 2.21 | 0.32 | 0.20 | 4 | 24.00 | ● | ● | ● | 0.06-0.15 |
| GPV 14-3.56-3 [3] | 11.14 | 3.56 | 3.42 | 0.45 | 0.30 | 3 | 24.00 | ● | ● | ● | 0.06-0.15 |
| GPV 17-3.56-4 [4] | 14.68 | 3.56 | 3.42 | 0.45 | 0.30 | 4 | 24.00 | ● | ● | ● | 0.06-0.15 |

• Toolholder seat needs to be modified according to insert profile to ensure clearance. • For cutting speed recommendations and user guide, see pages 440-457

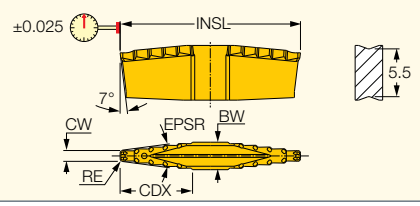
[1] Use holders which are suitable for GIP 3 / GIP 4
[2] Use holders which are suitable for GIMY 808
[3] Use holders which are suitable for TIGER 14
[4] Use holders which are suitable for TIGER 17
[5] Thread pitch
[6] Cutting depth maximum

**Tools:** C#-GHDR/L • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHDR/L/N 12/14 • GHMPR/L • GHMR/L

CUTGRIP

## GDK
Inserts for Rough Grooving
V-Shaped Piston Grooves






| Designation | Dimensions CW | RE | CWTOL[1] | RETOL[2] | CDX[3] | EPSR | INSL | BW | IC808 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| GDK 1.5-MS | 1.50 | 0.50 | 0.02 | 0.000 | 8.40 | 14.0 | 21.00 | 3.50 | ● | 0.15-0.25 |
| GDK 1.81-MS | 1.81 | 0.50 | 0.02 | 0.000 | 8.40 | 12.0 | 19.70 | 3.50 | ● | 0.15-0.25 |

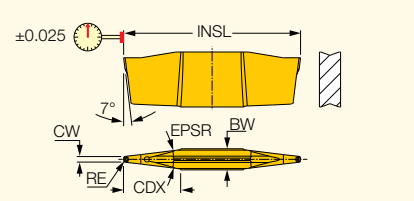
• For steel grooves

[1] Cutting width tolerance (+/-)
[2] Corner radius tolerance (+/-)
[3] Cutting depth maximum

CUTGRIP

## GDP
Inserts for Precision Grooving
of V-Shaped Piston Grooves





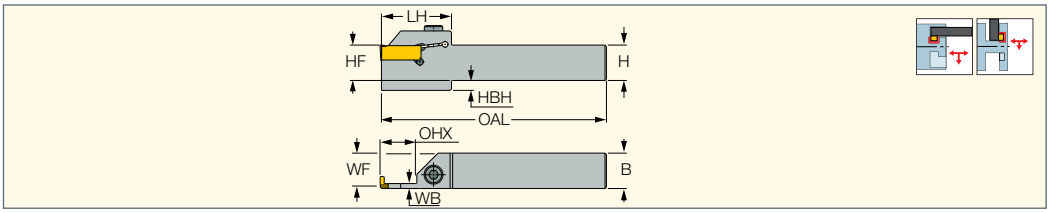

| Designation | Dimensions CW | RE | CWTOL[1] | RETOL[2] | CDX[3] | EPSR | INSL | BW | Tough ↔ Hard IC308 | IC908 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GDP 1.20-0.30-4768V2Q | 1.20 | 0.30 | 0.02 | 0.000 | 6.50 | 11.0 | 25.00 | 2.40 | ● | | 0.12-0.18 |
| GDP 1.55-0.30-1404Q | 1.55 | 0.30 | 0.02 | 0.000 | 6.50 | 10.0 | 20.90 | 3.50 | | ● | 0.12-0.18 |

[1] Cutting width tolerance (+/-)
[2] Corner radius tolerance (+/-)
[3] Cutting depth maximum

# T/L Grooves

CUTGRIP

## HLPGR/L
Tools for L-Type LPGIR/L Inserts




| Designation | OHX(1) | H | HF | HBH | B | WB | WF | OAL | LH | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HLPGR/L 2525-12-A3.5-T25 | 25.00 | 25.0 | 25.0 | 7.0 | 25.0 | 3.50 | 23.30 | 160.00 | 50.0 | LPGIR/L 12 | SR M6X20 DIN912 | HW 5.0 |
| HLPGR/L 3225-12-A3.5-T25 | 25.00 | 32.0 | 32.0 | - | 25.0 | 3.50 | 23.30 | 160.00 | 50.0 | LPGIR/L 12 | SR M6X20 DIN912 | HW 5.0 |
| HLPGR/L 2525-12-A4.5-T30 | 30.00 | 25.0 | 25.0 | 7.0 | 25.0 | 4.50 | 22.80 | 160.00 | 55.0 | LPGIR/L 12 | SR M6X20 DIN912 | HW 5.0 |
| HLPGR/L 3225-12-A4.5-T30 | 30.00 | 32.0 | 32.0 | - | 25.0 | 4.50 | 22.80 | 160.00 | 55.0 | LPGIR/L 12 | SR M6X20 DIN912 | HW 5.0 |
| HLPGR/L 2525-16-A6-T30 | 30.00 | 25.0 | 25.0 | 7.0 | 25.0 | 6.00 | 22.00 | 160.00 | 55.0 | LPGIR/L 16 | SR M6X20 DIN912 | HW 5.0 |
| HLPGR/L 3225-16-A6-T30 | 30.00 | 32.0 | 32.0 | - | 25.0 | 6.00 | 22.00 | 160.00 | 55.0 | LPGIR/L 16 | SR M6X20 DIN912 | HW 5.0 |

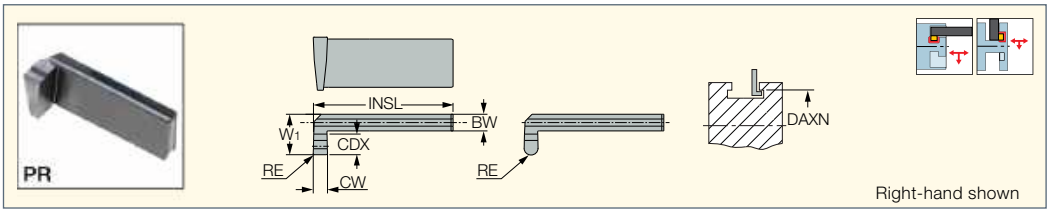
- In case of face penetration prior to radial grooving, please check that the lower insert support is relieved from the groove's outer diameter

(1) Cutting depth maximum

**Inserts:** LPGIR/L

CUTGRIP

## LPGIR/L
Inserts for Axial Grooves Inside Radial Grooves and for Radial Grooves Inside Axial Grooves




| Designation | Dimensions | | | | | | | | | IC907 |
|---|---|---|---|---|---|---|---|---|---|---|
| | CW | RE | CWTOL(1) | RETOL(2) | BW | CDX | INSL | W1 | DAXN(3) | |
| LPGIR/L 12-8-2T4PR | 2.00 | 0.20 | 0.02 | 0.030 | 4.00 | 3.50 | 30.00 | 8.00 | 200.0 | ● |
| LPGIR/L 12-8-210T4 | 2.00 | 1.00 | 0.02 | 0.030 | 4.00 | 3.50 | 30.00 | 8.00 | 200.0 | ● |
| LPGIR/L 12-8.5-3T5PR | 3.00 | 0.30 | 0.02 | 0.030 | 3.50 | 4.50 | 30.00 | 8.50 | 200.0 | ● |
| LPGIR/L 12-8.5-315T5 | 3.00 | 1.50 | 0.02 | 0.030 | 3.50 | 4.50 | 30.00 | 8.50 | 200.0 | ● |
| LPGIR/L 12-9.5-4T6PR | 4.00 | 0.40 | 0.02 | 0.030 | 3.50 | 5.50 | 30.00 | 9.50 | 200.0 | ● |
| LPGIR/L 12-9.5-420T6 | 4.00 | 2.00 | 0.02 | 0.030 | 3.50 | 5.50 | 30.00 | 9.50 | 200.0 | ● |
| LPGIR/L 12-11-5T6.5PR | 5.00 | 0.40 | 0.02 | 0.030 | 4.50 | 6.00 | 30.00 | 11.00 | 200.0 | ● |
| LPGIR/L 12-11-525T6.5 | 5.00 | 2.50 | 0.02 | 0.030 | 4.50 | 6.00 | 30.00 | 11.00 | 200.0 | ● |
| LPGIR/L 16-15.5-3T9PR | 3.00 | 0.30 | 0.02 | 0.030 | 6.00 | 8.50 | 30.60 | 15.50 | 200.0 | ● |
| LPGIR/L 16-15.5-315T9 | 3.00 | 1.50 | 0.02 | 0.030 | 6.00 | 8.50 | 30.60 | 15.50 | 200.0 | ● |
| LPGIR/L 16-15.5-4T9PR | 4.00 | 0.40 | 0.02 | 0.030 | 6.00 | 8.50 | 30.60 | 15.50 | 200.0 | ● |
| LPGIR/L 16-15.5-420T9 | 4.00 | 2.00 | 0.02 | 0.030 | 6.00 | 8.50 | 30.60 | 15.50 | 200.0 | ● |
| LPGIR/L 16-15.5-5T9PR | 5.00 | 0.40 | 0.02 | 0.030 | 6.00 | 8.50 | 30.60 | 15.50 | 200.0 | ● |
| LPGIR/L 16-15.5-525T9 | 5.00 | 2.50 | 0.02 | 0.030 | 6.00 | 8.50 | 30.60 | 15.50 | 200.0 | ● |

- For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

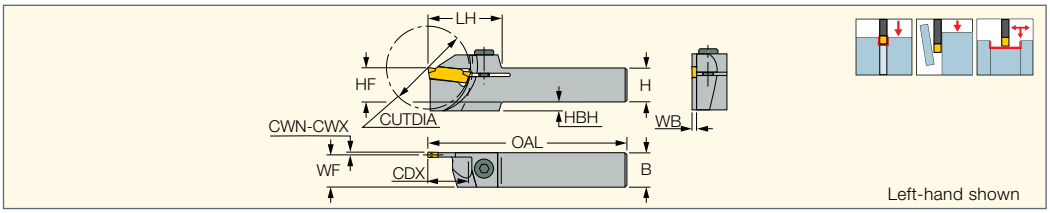
(2) Corner radius tolerance (+/-)

(3) Minimum axial grooving diameter

**Tools:** HLPGR/L

CUTGRIP

## PHGR/L
Holders for External Grooving and Turning




| Designation | CWN(1) | CWX(2) | CUTDIA(3) | CDX(4) | H | HF | B | OAL | LH | WF | HBH | WB | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHGR/L 16-2.4 | 2.40 | 3.18 | 34.0 | 17.00 | 16.0 | 16.0 | 16.0 | 110.00 | 33.0 | 15.10 | 5.5 | 1.90 | GDMW 2.4 | SR M5X16 DIN912 | HW 4.0 |
| PHGR/L 20-2.4 | 2.40 | 3.18 | 34.0 | 17.00 | 20.0 | 20.0 | 20.0 | 120.00 | 33.0 | 19.10 | - | 1.90 | GDMW 2.4 | SR M5X16 DIN912 | HW 4.0 |
| PHGR/L 25-2.4 | 2.40 | 3.18 | 34.0 | 17.00 | 25.0 | 25.0 | 25.0 | 140.00 | 33.0 | 24.10 | - | 1.90 | GDMW 2.4 | SR M5X16 DIN912 | HW 4.0 |

- For user guide, see pages 440-457

(1) Minimum cutting width

(2) Maximum cutting width

(3) Maximum parting diameter.

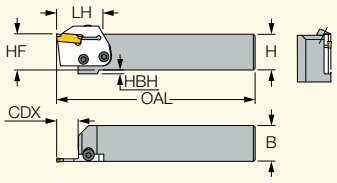
(4) Cutting depth maximum

**Inserts:** GDMW 2.4

# GDMW Tools and Inserts

CUTGRIP

## PHAR/L
External Machining Holders
for PADR/L Adapters



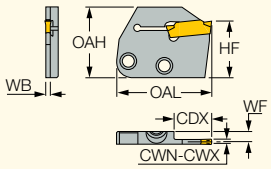

Right-hand shown

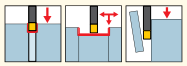
| Designation | CDX(1) | H | HF | B | OAL | HBH | Adapter(2) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PHAR/L 20 | 16.30 | 20.0 | 20.0 | 20.0 | 140.00 | 10.0 | PADR/L 2.4 | SR 76-1368 | HW 4.0 | SR M5-04451 | T-20/5 |
| PHAR/L 25 | 16.30 | 25.0 | 25.0 | 25.0 | 140.00 | 5.0 | PADR/L 2.4 | SR 76-1368 | HW 4.0 | SR M5-04451 | T-20/5 |

(1) Cutting depth maximum
(2) Adapters to be ordered separately.
**Tools:** PADR/L

CUTGRIP

## PADR/L
Adapters for GDMW/GDMY
Groove-Turn Inserts



Left-hand shown

| Designation | CWN(1) | CWX(2) | CDX(3) | OAL | WB | HF | OAH | WF | Insert |
|---|---|---|---|---|---|---|---|---|---|
| PADR/L 2.4 | 2.40 | 3.18 | 16.30 | 41.00 | 1.90 | 24.0 | 30.0 | 4.20 | GDMW 2.4 |

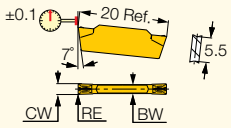
- For user guide, see pages 440-457

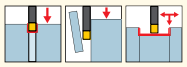
(1) Minimum cutting width
(2) Maximum cutting width
(3) Cutting depth maximum
**Inserts:** GDMW 2.4
**Holders:** PHAR/L

CUTGRIP

## GDMW 2.4
Utility Double-Ended
Inserts for External Turning,
Grooving and Parting



| Designation | Dimensions | | | | | | Tough ↔ Hard | | | | | Recommended Machining Data | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CW | RE | CWTOL(1) | RETOL(2) | BW | CDX(3) | IC830 | IC808 | IC908 | IC20 | IC20N | $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
| GDMW 2.4 | 2.40 | 0.18 | 0.04 | 0.030 | 2.00 | 18.00 | ● | ● | ● | ● | ● | 0.25-1.50 | 0.07-0.12 | 0.05-0.08 |

- For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum
**Tools:** PADR/L • PHGR/L • PHSR/L

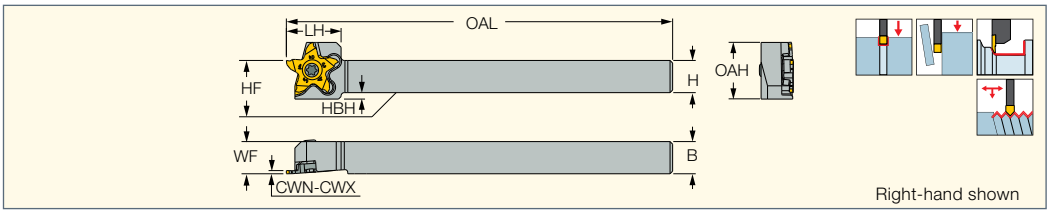
# Multi-Corner Grooving Tools and Inserts

## PENTACUT (5 Cutting Edges)

PENTACUT PARTING & GROOVING LINE

### PCHRS/LS-17

Tools Carrying Inserts with 5 Cutting Edges for Grooving, Parting and Recessing Next to High Shoulders




| Designation | H | B | CWN(1) | CWX(2) | WF | OAL | LH | HBH | OAH | HF |
|---|---|---|---|---|---|---|---|---|---|---|
| PCHR/LS 0810-17 | 8.0 | 10.0 | 0.25 | 3.18 | 10.00 | 120.00 | 17.0 | 4.0 | 13.60 | 8.0 |
| PCHR/LS 10-17 | 10.0 | 10.0 | 0.25 | 3.18 | 10.00 | 120.00 | 17.0 | 2.0 | 15.60 | 10.0 |
| PCHR/LS 12-17 | 12.0 | 12.0 | 0.25 | 3.18 | 12.00 | 120.00 | 17.0 | - | 17.60 | 12.0 |
| PCHR/LS 16-17 | 16.0 | 16.0 | 0.25 | 3.18 | 16.00 | 120.00 | 17.0 | - | 21.60 | 16.0 |
| PCHR/LS 20-17 | 20.0 | 20.0 | 0.25 | 3.18 | 20.00 | 120.00 | 17.0 | - | 25.60 | 20.0 |
| PCHR/LS 25-17 | 25.0 | 25.0 | 0.25 | 3.18 | 25.00 | 120.00 | 17.0 | - | 30.60 | 25.0 |

- Use right-hand inserts on right-hand tools and vice versa

(1) Minimum cutting width

(2) Maximum cutting width

**Inserts:** PENTA 17-ER/EL • PENTA 17-MT-RS/LS • PENTA 17-NP-RS/LS • PENTA 17-P-RS/LS • PENTA 17-P-RS/LS (full radius) • PENTA 17-WT-RS/LS • PENTA 17R/L-P-RS

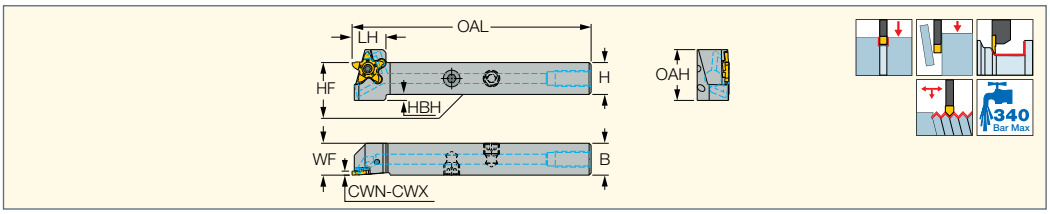
### Spare Parts

| Designation | | |
|---|---|---|
| PCHLS 0810-17 | SR M4-39432 | T-1508/5 |
| PCHRS 0810-17 | SR M4-39432L | T-1508/5 |
| PCHLS 10-17 | SR M4-39432 | T-1508/5 |
| PCHRS 10-17 | SR M4-39432L | T-1508/5 |
| PCHLS 12-17 | SR M4-39432 | T-1508/5 |
| PCHRS 12-17 | SR M4-39432L | T-1508/5 |
| PCHLS 16-17 | SR M4-39432 | T-1508/5 |
| PCHRS 16-17 | SR M4-39432L | T-1508/5 |
| PCHLS 20-17 | SR M4-39432 | T-1508/5 |
| PCHRS 20-17 | SR M4-39432L | T-1508/5 |
| PCHLS 25-17 | SR M4-39432 | T-1508/5 |
| PCHRS 25-17 | SR M4-39432L | T-1508/5 |

PENTACUT PARTING & GROOVING LINE

### PCHRS/LS-17-JHP

Tools Carrying Inserts with 5 Cutting Edges for Shallow Profiling Next to High Shoulders




| Designation | H | B | WF | OAL | LH | HBH | HF | OAH |
|---|---|---|---|---|---|---|---|---|
| PCHR/LS 10-17-JHP | 10.0 | 10.0 | 10.00 | 100.00 | 17.0 | 8.0 | 10.0 | 24.50 |
| PCHR/LS 12-17-JHP | 12.0 | 12.0 | 12.00 | 100.00 | 17.0 | 6.0 | 12.0 | 24.50 |
| PCHR/LS 16-17-JHP | 16.0 | 16.0 | 16.00 | 120.00 | 17.0 | 3.0 | 16.0 | 25.50 |
| PCHR/LS 20-17-JHP | 20.0 | 20.0 | 20.00 | 120.00 | 17.0 | - | 20.0 | 26.50 |
| PCHR/LS 25-17-JHP | 25.0 | 25.0 | 25.00 | 120.00 | 17.0 | - | 25.0 | 31.50 |

- Use right-hand inserts on right-hand tools and vice versa

**Inserts:** PENTA 17-ER/EL • PENTA 17-MT-RS/LS • PENTA 17-NP-RS/LS • PENTA 17-P-RS/LS • PENTA 17-P-RS/LS (full radius) • PENTA 17-WT-RS/LS • PENTA 17R/L-P-RS • PENTA 17R/L-SP-RS

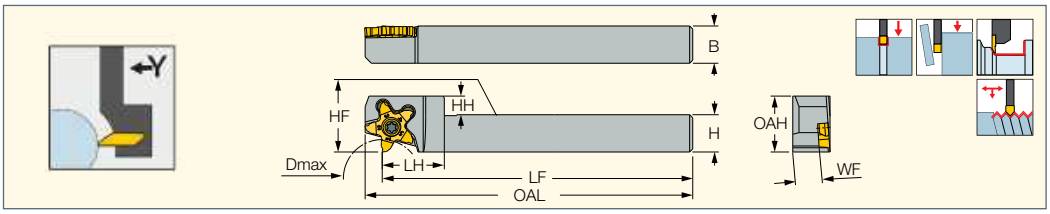
### Spare Parts

| Designation | | | | |
|---|---|---|---|---|
| PCHLS 10-17-JHP | SR M4-39432 | T-1508/5 | HW 5/32" | SR 5/16UNF TL360 |
| PCHRS 10-17-JHP | SR M4-39432L | T-1508/5 | HW 5/32" | SR 5/16UNF TL360 |
| PCHLS 12-17-JHP | SR M4-39432 | T-1508/5 | HW 5/32" | SR 5/16UNF TL360 |
| PCHRS 12-17-JHP | SR M4-39432L | T-1508/5 | HW 5/32" | SR 5/16UNF TL360 |
| PCHLS 16-17-JHP | SR M4-39432 | T-1508/5 | HW 5/32" | SR 5/16UNF TL360 |
| PCHRS 16-17-JHP | SR M4-39432L | T-1508/5 | HW 5/32" | SR 5/16UNF TL360 |
| PCHLS 20-17-JHP | SR M4-39432 | T-1508/5 | HW 5.0 | PLG G1/8 TL360 |
| PCHRS 20-17-JHP | SR M4-39432L | T-1508/5 | HW 5.0 | PLG G1/8 TL360 |
| PCHLS 25-17-JHP | SR M4-39432 | T-1508/5 | | |
| PCHRS 25-17-JHP | SR M4-39432L | T-1508/5 | | |

NEOYSWISS AXIS
PENTACUT PARTING & GROOVING LINE

## Y-PCHRS-17

Y Axis Swiss Type Tools
- 5 Cutting Edged Inserts for Grooving, Parting and Recessing Next to High Shoulders




| Designation | H | B | HH | LH | HF | WF | OAH | LF | OAL | D max |
|---|---|---|---|---|---|---|---|---|---|---|
| Y-PCHRS 12-17 | 12.0 | 12.0 | 6.0 | 20.0 | 12.0 | 8.60 | 18.00 | 100.00 | 105.50 | 25.0 (1) |
| Y-PCHRS 16-17 | 16.0 | 16.0 | 2.0 | 20.0 | 16.0 | 12.30 | 18.00 | 125.00 | 130.50 | 38.0 (1) |

- Use right-hand inserts on right-hand tools and vice versa

(1) for grooving

**Inserts:** PENTA 17-ER/EL • PENTA 17-MT-RS/LS • PENTA 17-NP-RS/LS • PENTA 17-P-RS/LS • PENTA 17-P-RS/LS (full radius) • PENTA 17-WT-RS/LS • PENTA 17R/L-P-RS

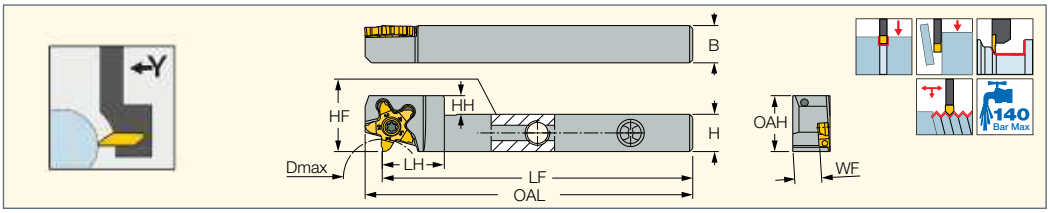
### Spare Parts

| Designation | | |
|---|---|---|
| Y-PCHRS-17 | T-1508/5 | SR M4-39432L |

NEOYSWISS AXIS
PENTACUT PARTING & GROOVING LINE

## Y-PCHRS-17-JHP

Y Axis Swiss Type JETCUT Tools
- 5 Cutting Edged Inserts for Grooving, Parting and Recessing Next to High Shoulders




| Designation | H | B | HH | LH | HF | WF | OAH | LF | OAL | D max |
|---|---|---|---|---|---|---|---|---|---|---|
| Y-PCHRS 12-17-JHP | 12.0 | 12.0 | 6.0 | 20.0 | 12.0 | 8.60 | 18.00 | 100.00 | 105.50 | 25.0 (1) |
| Y-PCHRS 16-17-JHP | 16.0 | 16.0 | 2.0 | 20.0 | 16.0 | 12.30 | 18.00 | 125.00 | 130.50 | 38.0 (1) |

- Use right-hand inserts on right-hand tools and vice versa

(1) for grooving

**Inserts:** PENTA 17-ER/EL • PENTA 17-MT-RS/LS • PENTA 17-NP-RS/LS • PENTA 17-P-RS/LS • PENTA 17-P-RS/LS (full radius) • PENTA 17-WT-RS/LS • PENTA 17R/L-P-RS

### Spare Parts

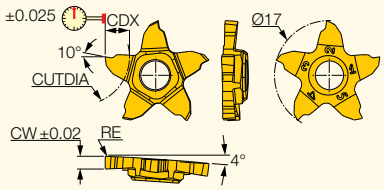
| Designation | | |
|---|---|---|
| Y-PCHRS-17-JHP | HW 5/32" | T-1508/5 |

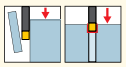
PENTACUT PARTING & GROOVING LINE

## PENTA 17-P-RS/LS

Pentagonal Inserts for Grooving and Parting Soft Materials, Thin and Miniature Parts





| Designation | Dimensions CW | RE | CDX | CUTDIA | IC1008 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|
| PENTA 17N025P000R/LS | 0.25 | 0.00 | 0.60 | 1.2 | ● | 0.02-0.03 |
| PENTA 17N030P000R/LS | 0.30 | 0.00 | 0.60 | 1.2 | ● | 0.02-0.03 |
| PENTA 17N033P000R/LS | 0.33 | 0.00 | 0.60 | 1.2 | ● | 0.02-0.03 |
| PENTA 17N043P000R/LS | 0.43 | 0.00 | 1.00 | 2.0 | ● | 0.02-0.04 |
| PENTA 17N050P000R/LS | 0.50 | 0.00 | 2.00 | 4.0 | ● | 0.02-0.04 |
| PENTA 17N075P000R/LS | 0.75 | 0.00 | 2.50 | 5.0 | ● | 0.02-0.04 |
| PENTA 17N080P000R/LS | 0.80 | 0.00 | 2.50 | 5.0 | ● | 0.02-0.04 |
| PENTA 17N095P000R/LS | 0.95 | 0.00 | 3.00 | 6.0 | ● | 0.02-0.05 |
| PENTA 17N100P010R/LS | 1.00 | 0.10 | 3.00 | 6.0 | ● | 0.02-0.05 |
| PENTA 17N120P010R/LS | 1.20 | 0.10 | 3.00 | 6.0 | ● | 0.02-0.05 |
| PENTA 17N140P010R/LS | 1.40 | 0.10 | 3.00 | 6.0 | ● | 0.02-0.05 |
| PENTA 17N150P010R/LS | 1.50 | 0.10 | 4.00 | 8.0 | ● | 0.02-0.07 |
| PENTA 17N157P010R/LS | 1.57 | 0.10 | 4.00 | 8.0 | ● | 0.02-0.07 |
| PENTA 17N170P010R/LS | 1.70 | 0.10 | 4.00 | 8.0 | ● | 0.02-0.07 |
| PENTA 17N178P010R/LS | 1.78 | 0.10 | 4.00 | 8.0 | ● | 0.02-0.07 |
| PENTA 17N196P010R/LS | 1.96 | 0.10 | 4.00 | 8.0 | ● | 0.02-0.08 |
| PENTA 17N200P010R/LS | 2.00 | 0.10 | 4.00 | 8.0 | ● | 0.02-0.08 |
| PENTA 17N222P010R/LS | 2.22 | 0.10 | 4.00 | 8.0 | ● | 0.02-0.08 |
| PENTA 17N230P010R/LS | 2.30 | 0.10 | 4.00 | 8.0 | ● | 0.02-0.08 |
| PENTA 17N239P010R/LS | 2.39 | 0.10 | 4.00 | 8.0 | ● | 0.02-0.08 |
| PENTA 17N247P010R/LS | 2.47 | 0.10 | 4.00 | 8.0 | ● | 0.02-0.08 |
| PENTA 17N250P010R/LS | 2.50 | 0.10 | 4.00 | 8.0 | ● | 0.02-0.08 |
| PENTA 17N270P010R/LS | 2.70 | 0.10 | 4.00 | 8.0 | ● | 0.02-0.09 |
| PENTA 17N287P010R/LS | 2.87 | 0.10 | 4.00 | 8.0 | ● | 0.02-0.10 |
| PENTA 17N300P010R/LS | 3.00 | 0.10 | 4.00 | 8.0 | ● | 0.02-0.10 |
| PENTA 17N318P010R/LS | 3.18 | 0.10 | 4.00 | 8.0 | ● | 0.02-0.10 |

- For cutting speed recommendations and user guide, see pages 440-457

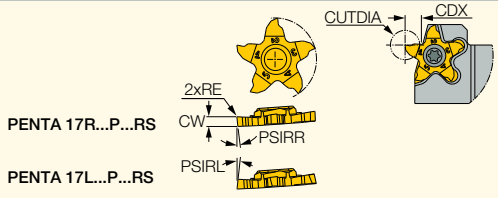
**Tools:** NQCH-PCHR/L-S-JHP • PCADRS/LS-JHP • PCHRS/LS-17 • PCHRS/LS-17-JHP • Y-PCHRS-17 • Y-PCHRS-17-JHP

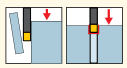
PENTACUT PARTING & GROOVING LINE

## PENTA 17R/L-P-RS

Lead Angle Edge Pentagonal Inserts (5 edges) for Parting Miniature Parts





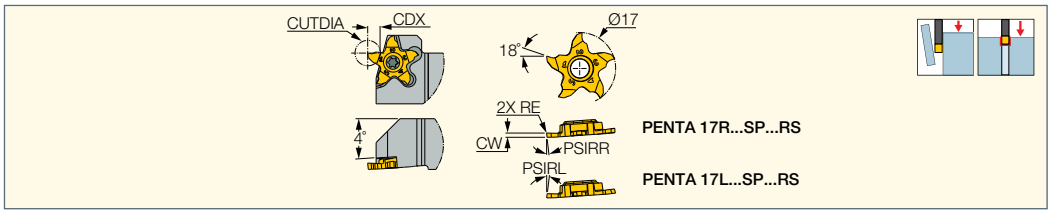
| Designation | Dimensions CW | RE | CDX | CUTDIA | PSIRL | PSIRR | IC1008 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| PENTA 17L100P-15D-RS | 1.00 | 0.05 | 3.00 | 6.0 | 15.0 | - | ● | 0.02-0.03 |
| PENTA 17L100P-6D-RS | 1.00 | 0.05 | 3.00 | 6.0 | 6.0 | - | ● | 0.02-0.04 |
| PENTA 17R100P-15D-RS | 1.00 | 0.05 | 3.00 | 6.0 | - | 15.0 | ● | 0.02-0.03 |
| PENTA 17R100P-6D-RS | 1.00 | 0.05 | 3.00 | 6.0 | - | 6.0 | ● | 0.02-0.04 |
| PENTA 17L150P-15D-RS | 1.50 | 0.05 | 4.00 | 8.0 | 15.0 | - | ● | 0.02-0.03 |
| PENTA 17L150P-6D-RS | 1.50 | 0.05 | 4.00 | 8.0 | 6.0 | - | ● | 0.02-0.04 |
| PENTA 17R150P-15D-RS | 1.50 | 0.05 | 4.00 | 8.0 | - | 15.0 | ● | 0.02-0.03 |
| PENTA 17R150P-6D-RS | 1.50 | 0.05 | 4.00 | 8.0 | - | 6.0 | ● | 0.02-0.04 |
| PENTA 17L200P-15D-RS | 2.00 | 0.05 | 4.00 | 8.0 | 15.0 | - | ● | 0.02-0.03 |
| PENTA 17L200P-6D-RS | 2.00 | 0.05 | 4.00 | 8.0 | 6.0 | - | ● | 0.02-0.04 |
| PENTA 17R200P-15D-RS | 2.00 | 0.05 | 4.00 | 8.0 | - | 15.0 | ● | 0.02-0.03 |
| PENTA 17R200P-6D-RS | 2.00 | 0.05 | 4.00 | 8.0 | - | 6.0 | ● | 0.02-0.04 |

**Tools:** NQCH-PCHR/L-S-JHP • PCADRS/LS-JHP • PCHRS/LS-17 • PCHRS/LS-17-JHP • Y-PCHRS-17 • Y-PCHRS-17-JHP

PENTACUT PARTING & GROOVING LINE

## PENTA 17R/L-SP-RS

Pentagonal Inserts (5 edges) with a High Positive Rake for Parting Soft Materials




| Designation | Dimensions CW | RE | CDX | CUTDIA | PSIRL | PSIRR | IC1007 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| PENTA 17L03SP6D-RS | 0.30 | 0.00 | 0.60 | 1.2 | 6.0 | - | ● | 0.02-0.03 |
| PENTA 17R03SP6D-RS | 0.30 | 0.00 | 0.60 | 1.2 | - | 6.0 | ● | 0.02-0.03 |
| PENTA 17L05SP6D-RS | 0.50 | 0.00 | 2.00 | 4.0 | 6.0 | - | ● | 0.02-0.04 |
| PENTA 17R05SP6D-RS | 0.50 | 0.00 | 2.00 | 4.0 | - | 6.0 | ● | 0.02-0.04 |
| PENTA 17L08SP6D-RS | 0.80 | 0.00 | 2.50 | 5.0 | 6.0 | - | ● | 0.02-0.04 |
| PENTA 17R08SP6D-RS | 0.80 | 0.00 | 2.50 | 5.0 | - | 6.0 | ● | 0.02-0.04 |
| PENTA 17L10SP6D-RS | 1.00 | 0.00 | 3.00 | 6.0 | 6.0 | - | ● | 0.02-0.05 |
| PENTA 17R10SP6D-RS | 1.00 | 0.00 | 3.00 | 6.0 | - | 6.0 | ● | 0.02-0.05 |

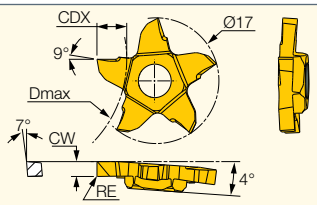
**Tools:** PCADRS/LS-JHP • PCHRS/LS-17-JHP

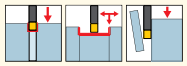
PENTACUT PARTING & GROOVING LINE

## PENTA 17-NP-RS/LS

Pentagonal Inserts for Precision Grooving and Turning Next to High Shoulder Applications





| Designation | Dimensions CW | CWTOL(1) | RE | RETOL(2) | CDX | D max | IC1008 | Recommended Machining Data ap (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| PENTA 17-100NP08R/LS | 1.00 | 0.020 | 0.08 | 0.020 | 3.00 | 32.0 (3) | ● | 0.05-0.70 | 0.02-0.06 | 0.03-0.06 |
| PENTA 17-200NP08R/LS | 2.00 | 0.020 | 0.08 | 0.020 | 4.00 | 32.0 (3) | ● | 0.05-2.50 | 0.05-0.15 | 0.05-0.09 |
| PENTA 17-300NP08R/LS | 3.00 | 0.020 | 0.08 | 0.020 | 4.00 | 32.0 (3) | ● | 0.05-3.10 | 0.05-0.19 | 0.05-0.11 |

• When turning to the opposite side of chipformer, maximum CDX is 0.5 mm • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) for grooving

**Tools:** NQCH-PCHR/L-S-JHP • PCHRS/LS-17 • PCHRS/LS-17-JHP • Y-PCHRS-17 • Y-PCHRS-17-JHP

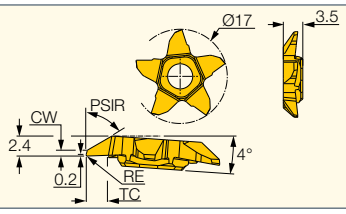
| Designation | Dimensions CW | RE | CDX | Dmax as a function of depth of cut (CDX) CDX≤2.5 | CDX≤3.0 | CDX≤3.5 | CDX≤3.8 | CDX≤4.0 |
|---|---|---|---|---|---|---|---|---|
| PENTA 17-100NP08-R/LS | 1.00 | 0.08 | 3.00 | N.L. | 100 | - | - | - |
| PENTA 17-200NP08-R/LS | 2.00 | 0.08 | 4.00 | N.L. | 100 | 75 | 45 | 32 |
| PENTA 17-300NP08-R/LS | 3.00 | 0.08 | 4.00 | N.L. | 100 | 75 | 45 | 32 |

PENTACUT PARTING & GROOVING LINE

## PENTA 17-ER/EL

Back Turning Pentagonal Inserts for Short Chipping Materials








| Designation | Dimensions CW | RE | PSIR | Tc | IC1008 | Recommended Machining Data ap (mm) | f turn (mm/rev) |
|---|---|---|---|---|---|---|---|
| PENTA 17EL00-07K0LS | 0.70 | 0.00 | 60.0 | 4.0 | ● | 0.05-2.50 | 0.01-0.15 |
| PENTA 17ER00-07K0RS | 0.70 | 0.00 | 60.0 | 4.0 | ● | 0.05-2.50 | 0.01-0.15 |
| PENTA 17EL08-07K0LS | 0.70 | 0.08 | 60.0 | 4.0 | ● | 0.05-2.50 | 0.01-0.15 |
| PENTA 17ER08-07K0RS | 0.70 | 0.08 | 60.0 | 4.0 | ● | 0.05-2.50 | 0.01-0.15 |

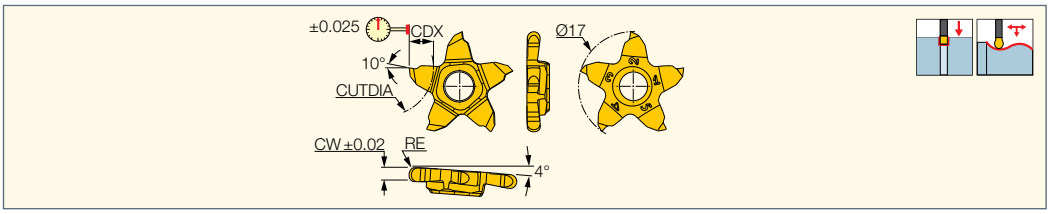
• For cutting speed recommendations and user guide, see pages 440-457

**Tools:** PCHRS/LS-17 • PCHRS/LS-17-JHP • Y-PCHRS-17 • Y-PCHRS-17-JHP

PENTACUT
PARTING & GROOVING LINE

## PENTA 17-P-RS/LS (full radius)

Precision Grooving
Pentagonal Full Radius
Inserts for Soft Materials




| Designation | Dimensions CW | RE | CDX | CUTDIA | IC1008 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|
| PENTA 17N080P040R/LS | 0.80 | 0.40 | 2.50 | 5.0 | • | 0.02-0.04 |
| PENTA 17N100P050R/LS | 1.00 | 0.50 | 3.00 | 6.0 | • | 0.02-0.05 |
| PENTA 17N157P079R/LS | 1.57 | 0.79 | 4.00 | 8.0 | • | 0.02-0.07 |
| PENTA 17N200P100R/LS | 2.00 | 1.00 | 4.00 | 8.0 | • | 0.02-0.08 |
| PENTA 17N239P120R/LS | 2.39 | 1.20 | 4.00 | 8.0 | • | 0.02-0.08 |

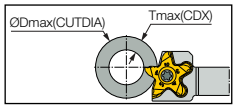
• For cutting speed recommendations and user guide, see pages 440-457

**Tools:** NQCH-PCHR/L-S-JHP • PCHRS/LS-17 • PCHRS/LS-17-JHP • Y-PCHRS-17 • Y-PCHRS-17-JHP

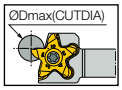
| Designation | Dmax as a function of depth of cut (T) W ±0.02 | R | Tmax | T<2.3 | T<2.5 | T<3.0 | T<3.5 | T<3.8 | T<4.0 | Parting to center Dmax. |
|---|---|---|---|---|---|---|---|---|---|---|
| PENTA 17N025P000RS/LS | 0.25 | 0.00 | 0.6* | --- | --- | --- | --- | --- | --- | 1.2 |
| PENTA 17N030P000RS/LS | 0.30 | 0.00 | 0.6* | --- | --- | --- | --- | --- | --- | 1.2 |
| PENTA 17N033P000RS/LS | 0.33 | 0.00 | 0.6* | --- | --- | --- | --- | --- | --- | 1.2 |
| PENTA 17N043P000RS/LS | 0.43 | 0.00 | 1.0* | --- | --- | --- | --- | --- | --- | 2 |
| PENTA 17N050P000RS/LS | 0.50 | 0.00 | 2.0* | --- | --- | --- | --- | --- | --- | 4 |
| PENTA 17N075P000RS/LS | 0.75 | 0.00 | 2.5 | N.L. | | --- | --- | --- | --- | 5 |
| PENTA 17N080P000RS/LS | 0.80 | 0.00 | 2.5 | N.L. | | --- | --- | --- | --- | |
| PENTA 17N095P000RS/LS | 0.95 | 0.00 | | N.L. | | | --- | --- | --- | |
| PENTA 17N100P010RS/LS | 1.00 | 0.10 | | N.L. | 400 | | --- | --- | --- | |
| PENTA 17N100P050RS/LS | 1.00 | 0.50 | 3.0 | N.L. | | 100 | --- | --- | --- | 6 |
| PENTA 17N120P010RS/LS | 1.20 | 0.10 | | N.L. | | | --- | --- | --- | |
| PENTA 17N140P010RS/LS | 1.40 | 0.10 | | N.L. | | | --- | --- | --- | |
| PENTA 17N150P010RS/LS | 1.50 | 0.10 | | N.L. | | | | | | |
| PENTA 17N157P010RS/LS | 1.57 | 0.10 | | N.L. | | | | | | |
| PENTA 17N157P079RS/LS | 1.57 | 0.79 | | N.L. | | | | | | |
| PENTA 17N170P010RS/LS | 1.70 | 0.10 | | N.L. | | | | | | |
| PENTA 17N178P010RS/LS | 1.78 | 0.10 | | N.L. | | | | | | |
| PENTA 17N196P010RS/LS | 1.96 | 0.10 | | N.L. | | | | | | |
| PENTA 17N200P010RS/LS | 2.00 | 0.10 | | N.L. | | | | | | |
| PENTA 17N200P100RS/LS | 2.00 | 1.00 | | N.L. | | | | | | |
| PENTA 17N222P010RS/LS | 2.22 | 0.10 | 4.0 | N.L. | 400 | 100 | 55 | 32 | 20 | 8 |
| PENTA 17N230P010RS/LS | 2.30 | 0.10 | | N.L. | | | | | | |
| PENTA 17N239P010RS/LS | 2.39 | 0.10 | | N.L. | | | | | | |
| PENTA 17N239P120RS/LS | 2.39 | 1.20 | | N.L. | | | | | | |
| PENTA 17N247P010RS/LS | 2.47 | 0.10 | | N.L. | | | | | | |
| PENTA 17N250P010RS/LS | 2.50 | 0.10 | | N.L. | | | | | | |
| PENTA 17N270P010RS/LS | 2.70 | 0.10 | | N.L. | | | | | | |
| PENTA 17N287P010RS/LS | 2.87 | 0.10 | | N.L. | | | | | | |
| PENTA 17N300P010RS/LS | 3.00 | 0.10 | | N.L. | | | | | | |
| PENTA 17N318P010RS/LS | 3.18 | 0.10 | | N.L. | 400 | 100 | 55 | 32 | 25 | |

1. N.L. = NO LIMIT
2. *For precision grooving Dmax = N.L.
3. PENTA 17...RS to be clamped on PCHRS ...-17 holders, PENTA 17...LS to be clamped on PCHLS ...-17 holders.

**Parting Hollow Bars**




**Parting to Center**



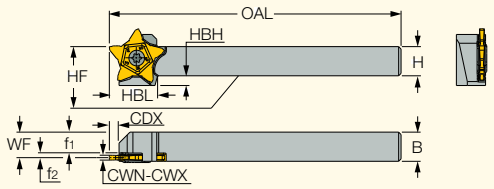
PENTACUT
PARTING & GROOVING LINE

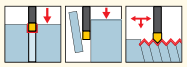
## PCHR/L-24

Grooving, Parting and Recessing Holders Carrying Inserts with 5 Cutting Edges

| CWN-CWX | f2 |
|---|---|
| 0.50-3.20 | 2.0 |
| 3.21-4.23 | 2.5 |
| 4.24-5.20 | 3.0 |
| 5.21-6.20 | 3.5 |
| 6.21-8.20 | 4.5 |

WF=f1+f2



Right-hand shown

| Designation | H | HF | B | CWN(2) | CWX(3) | f1 | CDX(4) | OAL | LH | HBH |
|---|---|---|---|---|---|---|---|---|---|---|
| PCHR/L 10-24 | 10.0 | 10.0 | 10.0 | 0.50 | 3.20 | 6.5 | 6.50 | 120.00 | 19.5 | 6.0 |
| PCHR/L 12-24 | 12.0 | 12.0 | 12.0 | 0.50 | 3.20 | 8.5 | 6.50 | 120.00 | 19.5 | 4.0 |
| PCHR/L 16-24 | 16.0 | 16.0 | 16.0 | 0.50 | 3.20 | 12.5 | 6.50 | 120.00 | 19.5 | - |
| PCHR/L 20-24 | 20.0 | 20.0 | 20.0 | 0.50 | 3.20 | 16.5 | 6.50 | 120.00 | 19.5 | - |
| PCHR/L 25-24 | 25.0 | 25.0 | 25.0 | 0.50 | 3.20 | 21.5 | 6.50 | 135.00 | 19.5 | - |
| PCHR/L 16-24-5 | 16.0 | 16.0 | 16.0 | 3.21 | 5.20 | 11.5 | 6.40 | 120.00 | 21.5 | 4.0 |
| PCHR/L 20-24-5 | 20.0 | 20.0 | 20.0 | 3.21 | 5.20 | 15.5 | 6.40 | 120.00 | 21.5 | - |
| PCHR/L 25-24-5 | 25.0 | 25.0 | 25.0 | 3.21 | 5.20 | 20.5 | 6.40 | 135.00 | 21.5 | - |
| PCHR/L 25-24-8 (1) | 25.0 | 25.0 | 25.0 | 5.21 | 8.20 | 18.5 | 6.50 | 135.00 | 19.5 | - |

- WF=f1+f2 (according to insert width (CW) being used)

(1) Used with special inserts only
(2) Minimum cutting width
(3) Maximum cutting width
(4) For specific information, refer to insert data

**Inserts:** PENTA 24-BSPT • PENTA 24-ISO • PENTA 24-MT • PENTA 24-NPT • PENTA 24-UN • PENTA 24-W • PENTA 24-WT • PENTA 24N-C • PENTA 24N-C (full radius) • PENTA 24N-J • PENTA 24N-J (full radius) • PENTA 24N-PF (full radius) • PENTA 24N-PF/P • PENTA 24N-Z • PENTA 24R-C • PENTA 24R-P • PENTA 24R/L-J • PENTA 24R/L-Z

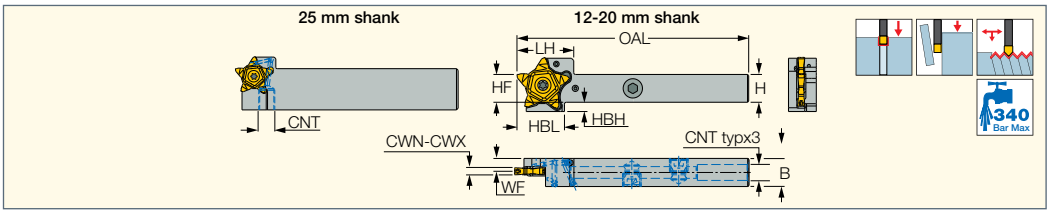
## Spare Parts

| Designation |  |  |
|---|---|---|
| PCHL 10-24 | SR 16-212-01397L | |
| PCHR 10-24 | SR 16-212-01397 | |
| PCHL 12-24 | SR 16-212-01397L | |
| PCHR 12-24 | SR 16-212-01397 | |
| PCHL 16-24 | SR 16-212-01397L | |
| PCHR 16-24 | SR 16-212-01397 | |
| PCHL 20-24 | SR 16-212-01397L | |
| PCHR 20-24 | SR 16-212-01397 | |
| PCHL 25-24 | SR 16-212-01397L | |
| PCHR 25-24 | SR 16-212-01397 | |
| PCHR/L 16-24-5 | SR PCHR/L-8-06642 | T-15/5 |
| PCHR/L 20-24-5 | SR PCHR/L-8-06642 | T-15/5 |
| PCHR/L 25-24-5 | SR PCHR/L-8-06642 | T-15/5 |
| PCHR/L 25-24-8 | SR PCHR/L-8-06642 | T-15/5 |

PENTACUT JETCUT PARTING & GROOVING LINE

## PCHR/L-24-JHP

Grooving, Parting and Recessing Tools Carrying PENTA Inserts with Channels for High-Pressure Coolant




| Designation | H | HF | B | CWN(1) | CWX(2) | CDX(3) | WF | OAL | LH | HBL | HBH | CNT | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCHR/L 12-24-JHP | 12.0 | 12.0 | 12.0 | 0.50 | 3.20 | 6.50 | 5.50 | 100.00 | 24.5 | 20.50 | 4.0 | UNF 5/16-24 | PENTA 24 |
| PCHR/L 16-24-JHP | 16.0 | 16.0 | 16.0 | 0.50 | 3.20 | 6.50 | 9.50 | 120.00 | 24.5 | - | - | UNF 5/16-24 | PENTA 24 |
| PCHR/L 20-24-JHP | 20.0 | 20.0 | 20.0 | 0.50 | 3.20 | 6.50 | 13.50 | 135.00 | 24.5 | - | - | G 1/8-28 | PENTA 24 |
| PCHR/L 25-24-JHP | 25.0 | 25.0 | 25.0 | 0.50 | 3.20 | 6.50 | 18.50 | 135.00 | 24.5 | - | - | G 1/8-28 | PENTA 24 |

- For user guide and accessories see pages 440-457

(1) Minimum cutting width

(2) Maximum cutting width • Up to 6.2 mm width may be ordered on request.

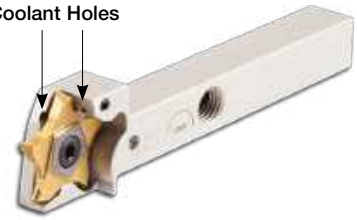
(3) For specific information, refer to insert data.

**Inserts:** PENTA 24-BSPT • PENTA 24-ISO • PENTA 24-MT • PENTA 24-NPT • PENTA 24-UN • PENTA 24-W • PENTA 24-WT • PENTA 24N-C • PENTA 24N-C (full radius) • PENTA 24N-J • PENTA 24N-J (full radius) • PENTA 24N-PF (full radius) • PENTA 24N-PF/P • PENTA 24N-Z • PENTA 24R-C • PENTA 24R-P • PENTA 24R/L-J • PENTA 24R/L-Z

### Flow Rate vs. Pressure

| Designation | 70 Bar Flow Rate (liters/min) | 100 Bar Flow Rate (liters/min) | 140 Bar Flow Rate (liters/min) |
|---|---|---|---|
| PCHR/L 12-24-JHP | 5-8 | 9-11 | 11-13 |
| PCHR/L 16/20/25-24-JHP | 12-14 | 14-16 | 16-18 |

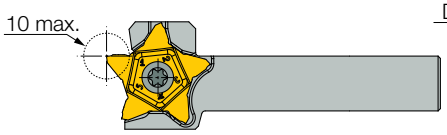
Coolant Holes



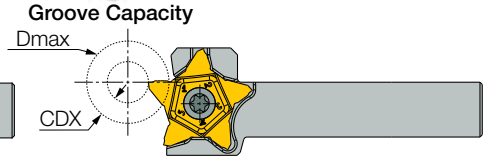
### (2) Grooving Depth CDX Relative to Dmax

| CDX | 3.5 | 4 | 4.5 | 5 |
|---|---|---|---|---|
| Dmax | No-limit | 210 | 135 | 50 |

Cut-off to Center




Groove Capacity



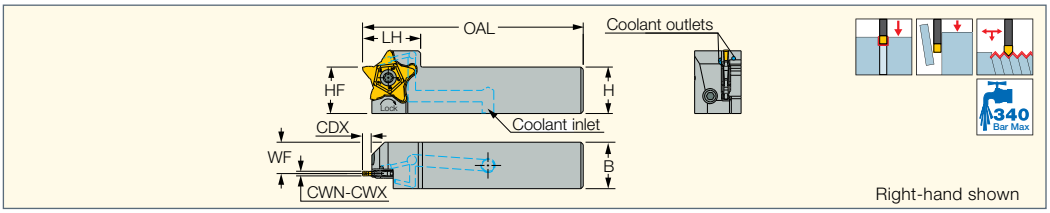

### Spare Parts

| Designation | | | | |
|---|---|---|---|---|
| PCHL 12-24-JHP | SR 16-212-01397L-L8.5 | T-2010/5 | SR 5/16UNF TL360 | HW 5/32" |
| PCHR 12-24-JHP | SR 16-212-01397-L8.5 | T-2010/5 | SR 5/16UNF TL360 | HW 5/32" |
| PCHL 16-24-JHP | SR 16-212-01397L | | SR 5/16UNF TL360 | HW 5/32" |
| PCHR 16-24-JHP | SR 16-212-01397 | | SR 5/16UNF TL360 | HW 5/32" |
| PCHL 20-24-JHP | SR 16-212-01397L | | PLG G1/8 TL360 | HW 5.0 |
| PCHR 20-24-JHP | SR 16-212-01397 | | PLG G1/8 TL360 | HW 5.0 |
| PCHL 25-24-JHP | SR 16-212-01397L | | | |
| PCHR 25-24-JHP | SR 16-212-01397 | | | |

PENTACUT JETCUT PARTING & GROOVING LINE

## PCHR/L-24-JHP-MC

Grooving, Parting and Recessing Tools Carrying PENTA Inserts with Bottom Inlets for High-Pressure Coolant




| Designation | H | HF | B | CWN(1) | CWX(2) | CDX(3) | WF | OAL | LH | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| PCHR/L 20-24-JHP-MC | 20.0 | 20.0 | 20.0 | 0.50 | 3.20 | 6.50 | 13.50 | 95.00 | 25.0 | PENTA 24 |
| PCHR/L 25-24-JHP-MC | 25.0 | 25.0 | 25.0 | 0.50 | 3.20 | 6.50 | 18.50 | 110.00 | 25.0 | PENTA 24 |

- For user guide and accessories see pages 440-457

(1) Minimum cutting width

(2) Maximum cutting width • Up to 6.2 mm width may be ordered on request.

(3) For specific information, refer to insert data.

**Inserts:** PENTA 24-BSPT • PENTA 24-ISO • PENTA 24-MT • PENTA 24-NPT • PENTA 24-UN • PENTA 24-W • PENTA 24-WT • PENTA 24N-C • PENTA 24N-C (full radius) • PENTA 24N-J • PENTA 24N-J (full radius) • PENTA 24N-PF (full radius) • PENTA 24N-PF/P • PENTA 24N-Z • PENTA 24R-C • PENTA 24R-P • PENTA 24R/L-J • PENTA 24R/L-Z

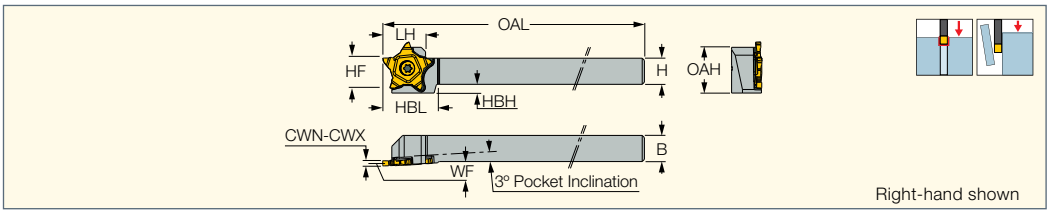
### Spare Parts

| Designation | |
|---|---|
| PCHL 20-24-JHP-MC | SR 16-212-01397L |
| PCHR 20-24-JHP-MC | SR 16-212-01397 |
| PCHL 25-24-JHP-MC | SR 16-212-01397L |
| PCHR 25-24-JHP-MC | SR 16-212-01397 |

PENTACUT PARTING & GROOVING LINE

## PCHRS/LS

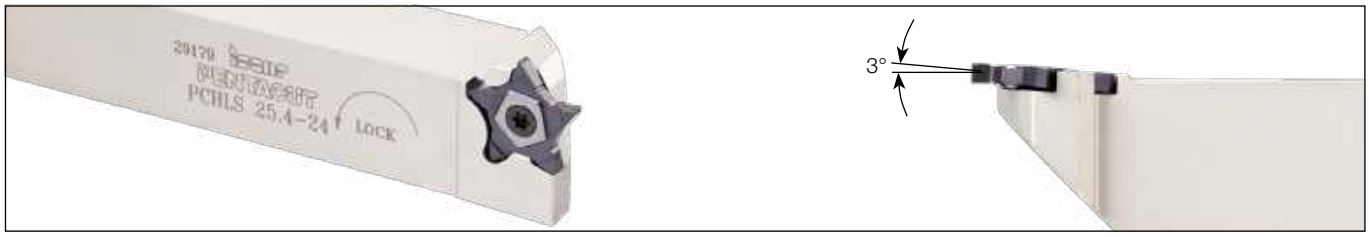
Holders Carrying Inserts with 5 Cutting Edges for Grooving, Parting and Recessing Next to High Shoulders




| Designation | H | B | CWN(1) | CWX(2) | OAL | LH | HBL | HBH | OAH | HF | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCHR/LS 12-24 | 12.0 | 12.0 | 0.80 | 4.80 | 120.00 | 19.5 | 24.50 | 4.0 | 21.0 | 12.0 | SR 16-212-01397R/LS | T-2010/5 |
| PCHR/LS 16-24 | 16.0 | 16.0 | 0.80 | 4.80 | 120.00 | 19.5 | - | - | 21.0 | 16.0 | SR 16-212-01397R/LS | T-2010/5 |
| PCHR/LS 20-24 | 20.0 | 20.0 | 0.80 | 4.80 | 120.00 | 19.5 | - | - | 25.0 | 20.0 | SR 16-212-01397R/LS | T-2010/5 |
| PCHR/LS 25-24 | 25.0 | 25.0 | 0.80 | 4.80 | 135.00 | 19.5 | - | - | 30.0 | 25.0 | SR 16-212-01397R/LS | T-2010/5 |

(1) Minimum cutting width
(2) Maximum cutting width

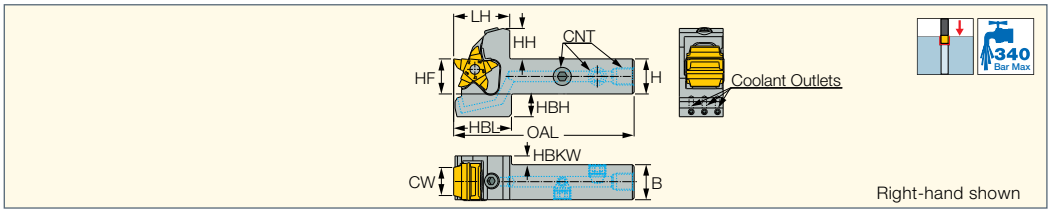
**Inserts:** PENTA 24N-J-RS • PENTA 24N-RS/LS




PENTACUT PARTING & GROOVING LINE

## PCHR/L-27-JHP-MC

Tools Carrying Pentagonal Wide Inserts for Specially Tailored Profiles




| Designation | CW | H | B | HF | LH | HBL | HH | HBH | HBKW | OAL | CNT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PCHR/L 20-27-10-JHP-MC | 10.00 | 20.0 | 20.0 | 20.0 | 32.0 | 33.0 | 17.4 | 13.0 | 5.00 | 103.00 | G1/8 |
| PCHR/L 25-27-10-JHP-MC | 10.00 | 25.0 | 25.0 | 25.0 | 32.0 | 33.0 | 17.4 | 8.0 | - | 118.00 | G1/8 |
| PCHR/L 20-27-15-JHP-MC | 15.00 | 20.0 | 20.0 | 20.0 | 32.0 | 33.0 | 17.4 | 13.0 | 5.00 | 103.00 | G1/8 |
| PCHR/L 25-27-15-JHP-MC | 15.00 | 25.0 | 25.0 | 25.0 | 32.0 | 33.0 | 17.4 | 8.0 | - | 118.00 | G1/8 |
| PCHR/L 20-27-20-JHP-MC | 20.00 | 20.0 | 20.0 | 20.0 | 32.0 | 33.0 | 17.4 | 13.0 | 5.00 | 103.00 | G1/8 |
| PCHR/L 25-27-20-JHP-MC | 20.00 | 25.0 | 25.0 | 25.0 | 32.0 | 33.0 | 17.4 | 8.0 | - | 118.00 | G1/8 |

**Inserts:** PENTAS 27 blanks

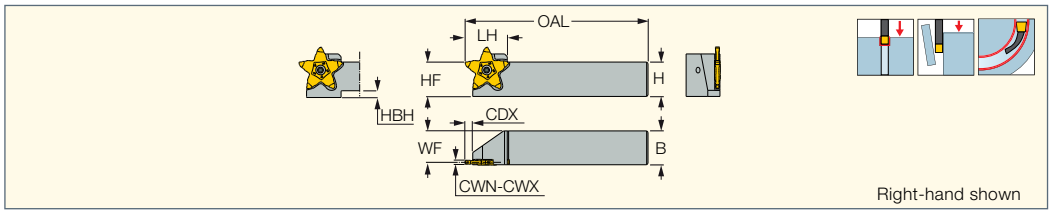
### Spare Parts

| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| PCHR/L 20-27-20-JHP-MC | SR M3X6 ISO7380 SS | HW 3.0 | SR M6X6 DIN913 | SR M6X6 DIN913 TL360 | PUSH ROD - 40529 | HW 4.0 | PLG G1/8 TL360 | HW 5.0 |
| PCHL 25-27-20-JHP-MC | SR M3X6 ISO7380 SS | HW 3.0 | SR M6X6 DIN913 | SR M6X6 DIN913 TL360 | PUSH ROD - 40529 | HW 4.0 | PLG G1/8 TL360 | HW 5.0 |
| PCHR 25-27-20-JHP-MC | | | | | PUSH ROD - 40529 | HW 4.0 | | |

PENTACUT PARTING & GROOVING LINE

## PCHR/L-34

Grooving, Parting and Recessing Holders Carrying Inserts with 5 Cutting Edges




| Designation | H | HF | B | CWN(2) | CWX(3) | WF | CDX(4) | OAL | LH | HBH | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCHR/L 16-34 | 16.0 | 16.0 | 16.0 | 1.50 | 4.00 | 14.20 | 10.00 | 120.00 | 31.0 | 9.0 | SR 16-212-01397 | |
| PCHR/L 20-34 | 20.0 | 20.0 | 20.0 | 1.50 | 4.00 | 18.20 | 10.00 | 120.00 | 31.0 | 6.0 | SR 16-212-01397 | |
| PCHR/L 25-34 | 25.0 | 25.0 | 25.0 | 1.50 | 4.00 | 23.20 | 10.00 | 135.00 | 31.0 | - | SR 16-212-01397 | |
| PCHR/L 25-34-8 (1) | 25.0 | 25.0 | 25.0 | 3.19 | 8.20 | 22.50 | 10.00 | 135.00 | 31.0 | - | SR PCHR-8-06642 | T-15/5 |
| PCHR/L 32-34 | 32.0 | 32.0 | 32.0 | 1.50 | 4.00 | 30.10 | 10.00 | 135.00 | 31.0 | - | SR 16-212-01397 | |

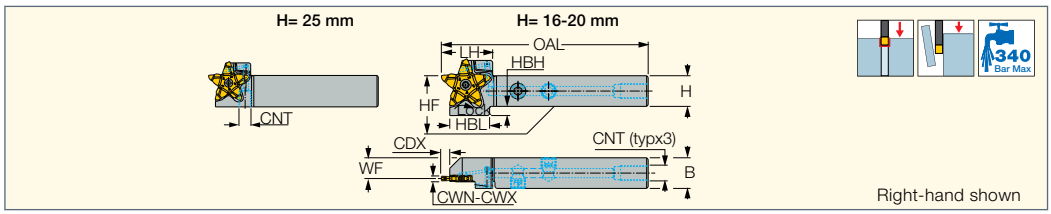
(1) Used with special inserts only
(2) Minimum cutting width
(3) Maximum cutting width
(4) For specific information, refer to insert data

**Inserts:** PENTA 34F-R/L • PENTA 34N-C • PENTA 34N-J • PENTA 34N-PB • PENTA 34R/L-C • PENTA 34R/L-J • PENTA 34R/L-PB

PENTACUT PARTING & GROOVING LINE JETCUT

## PCHR/L-34-JHP

Grooving, Parting and Recessing Tools Carrying PENTA Inserts with Channels for High-Pressure Coolant




| Designation | H | HF | B | CWN(1) | CWX(2) | CDX(3) | WF | OAL | LH | HBH | CNT | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCHR/L 16-34-JHP | 16.0 | 16.0 | 16.0 | 1.50 | 4.00 | 10.00 | 9.60 | 120.00 | 33.5 | 9.0 | UNF 5/16-24 | PENTA 34 |
| PCHR/L 20-34-JHP | 20.0 | 20.0 | 20.0 | 1.50 | 4.00 | 10.00 | 13.60 | 135.00 | 33.5 | 6.0 | G1/8-28 | PENTA 34 |
| PCHR/L 25-34-JHP | 25.0 | 25.0 | 25.0 | 1.50 | 4.00 | 10.00 | 18.60 | 135.00 | 33.5 | - | G1/8-28 | PENTA 34 |

• For user guide and accessories, see pages 440-457

(1) Minimum cutting width
(2) Maximum cutting width
(3) For specific information, refer to insert data

**Inserts:** PENTA 34F-R/L • PENTA 34N-C • PENTA 34N-J • PENTA 34N-PB • PENTA 34R/L-C • PENTA 34R/L-J • PENTA 34R/L-PB

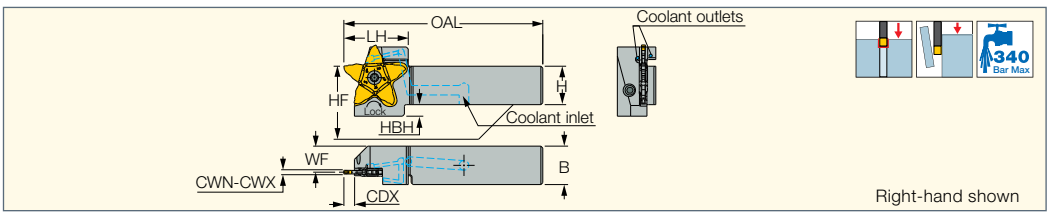
### Spare Parts

| Designation | | | |
|---|---|---|---|
| PCHR/L 16-34-JHP | SR 16-212-01397 | SR 5/16UNF TL360 | HW 5/32" |
| PCHR/L 20-34-JHP | SR 16-212-01397 | PLG G1/8 TL360 | HW 5.0 |
| PCHR/L 25-34-JHP | SR 16-212-01397 | | |

PENTACUT PARTING & GROOVING LINE JETCUT

## PCHR/L-34-JHP-MC

Grooving, Parting and Recessing Tools Carrying PENTA Inserts with Bottom Inlets for High-Pressure Coolant




| Designation | H | HF | B | CWN(1) | CWX(2) | CDX(3) | WF | OAL | LH | HBH | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PCHR/L 20-34-JHP-MC | 20.0 | 20.0 | 20.0 | 1.50 | 4.00 | 10.00 | 13.55 | 103.50 | 33.5 | 6.0 | PENTA 34 |
| PCHR/L 25-34-JHP-MC | 25.0 | 25.0 | 25.0 | 1.50 | 4.00 | 10.00 | 18.55 | 118.50 | 33.5 | - | PENTA 34 |

• For user guide and accessories, see pages 440-457

(1) Minimum cutting width
(2) Maximum cutting width
(3) For specific information, refer to insert data

**Inserts:** PENTA 34F-R/L • PENTA 34N-C • PENTA 34N-J • PENTA 34N-PB • PENTA 34R/L-C • PENTA 34R/L-J • PENTA 34R/L-PB

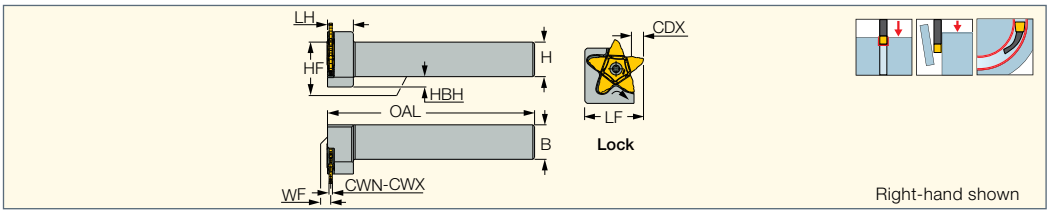
### Spare Parts

| Designation | |
|---|---|
| PCHR/L-34-JHP-MC | SR 16-212-01397 |

PENTACUT PARTING & GROOVING LINE

## PCHPR/L

Perpendicular Holders Carrying Inserts with 5 Cutting Edges for Facing, Grooving, Parting and Recessing




| Designation | H | B | CWN(1) | CWX(2) | CDX(3) | HF | WF | LF | OAL | LH | HBH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PCHPR/L 16-24 | 16.0 | 16.0 | 0.50 | 3.20 (4) | 6.50 | 16.0 | 1.50 (5) | 23.5 | 120.00 | 11.5 | - |
| PCHPR/L 20-24 | 20.0 | 20.0 | 0.50 | 3.20 (4) | 6.50 | 20.0 | 1.50 (5) | 28.0 | 120.00 | 11.5 | - |
| PCHPR/L 25-24 | 25.0 | 25.0 | 0.50 | 3.20 (4) | 6.50 | 25.0 | 1.50 (5) | 33.0 | 135.00 | 11.5 | - |
| PCHPR/L 20-34 | 20.0 | 20.0 | 1.40 | 4.00 | 10.00 | 20.0 | 1.90 | 34.0 | 120.00 | 15.0 | 6.0 |
| PCHPR/L 25-34 | 25.0 | 25.0 | 1.40 | 4.00 | 10.00 | 25.0 | 1.90 | 34.0 | 135.00 | 15.0 | - |

(1) Minimum cutting width
(2) Maximum cutting width
(3) For specific information, refer to insert data
(4) Up to 6.2 mm width may be ordered on request
(5) Valid for inserts with CW<3.2 mm

**Inserts:** PENTA 24-BSPT • PENTA 24-ISO • PENTA 24-MT • PENTA 24-NPT • PENTA 24-UN • PENTA 24-W • PENTA 24-WT • PENTA 24N-C • PENTA 24N-C (full radius) • PENTA 24N-J • PENTA 24N-J (full radius) • PENTA 24N-PF (full radius) • PENTA 24N-PF/P • PENTA 24N-Z • PENTA 24R-C • PENTA 24R-P • PENTA 24R/L-J • PENTA 24R/L-Z • PENTA 34F-R/L • PENTA 34N-C • PENTA 34N-J • PENTA 34N-PB • PENTA 34R/L-C • PENTA 34R/L-J • PENTA 34R/L-PB

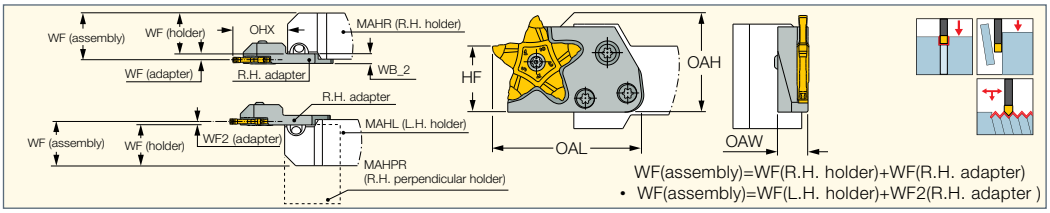
### Spare Parts

| Designation | | |
|---|---|---|
| PCHPL 16-24 | SR 16-212-01397 | T-20/5 |
| PCHPR 16-24 | SR 16-212-01397L | T-20/5 |
| PCHPL 20-24 | SR 16-212-01397 | T-20/5 |
| PCHPR 20-24 | SR 16-212-01397L | T-20/5 |
| PCHPL 25-24 | SR 16-212-01397 | T-20/5 |
| PCHPR 25-24 | SR 16-212-01397L | T-20/5 |
| PCHPR/L 20-34 | SR 16-212-01397 | T-20/5 |
| PCHPR/L 25-34 | SR 16-212-01397 | T-20/5 |

PENTACUT PARTING & GROOVING LINE
MODULAR-GRIP

## PCADR/L

Adapters for PENTACUT Grooving Inserts




| Designation | CWN(1) | CWX(2) | OHX(3) | OAL | WF(4) | WF2 | OAW | WB_2 | HF | OAH |
|---|---|---|---|---|---|---|---|---|---|---|
| PCADR/L 24N | 0.50 | 3.18 (5) | 17.00 | 41.50 | 3.20 | 2.00 | 9.00 | 5.2 | 24.0 | 30.3 |
| PCADR/L 34N | 1.50 | 4.00 | 29.60 | 54.20 | 3.35 | 1.85 | 11.00 | 5.2 | 24.0 | 31.0 |

• CDX and CUTDIA according to insert limitation
(1) Minimum cutting width
(2) Maximum cutting width
(3) Maximum overhang
(4) WF (adapter)
(5) Up to 6.2 mm width may be ordered on request

**Inserts:** PENTA 24-BSPT • PENTA 24-ISO • PENTA 24-MT • PENTA 24-NPT • PENTA 24-UN • PENTA 24-W • PENTA 24-WT • PENTA 24N-C • PENTA 24N-C (full radius) • PENTA 24N-J • PENTA 24N-J (full radius) • PENTA 24N-PF (full radius) • PENTA 24N-PF/P • PENTA 24N-Z • PENTA 24R-C • PENTA 24R-P • PENTA 24R/L-J • PENTA 24R/L-Z • PENTA 34F-R/L • PENTA 34N-C • PENTA 34N-J • PENTA 34N-PB • PENTA 34R/L-C • PENTA 34R/L-J • PENTA 34R/L-PB

**Holders:** MAHPR/L-JHP • MAHR/L-JHP • MAHR/L • MAHPR/L • C#-MAHD • C#-MAHPD • C#-MAHDR-45 • HSK A63WH-MAHUR/L • HSK A63WH-MAHDR-45 • HSK A63WH-MAHDOR • IM-MAHD • IM-MAHPD • C#-MAHD-JHP • C#-MAHPD-JHP • MAHR/L-JHP-MC

### Spare Parts

| Designation | |
|---|---|
| PCADL 24N | SR 16-212-01397L(a) |
| PCADR 24N | SR 16-212-01397 |
| PCADR/L 34N | SR 16-212-01397 |

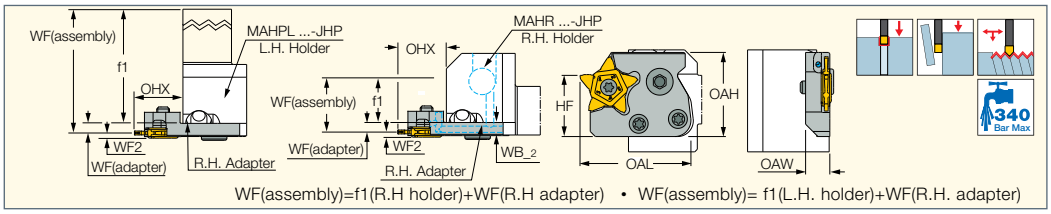
(a) For left-hand holders

PENTACUT PARTING & GROOVING LINE JETCUT

MODULARGRIP

## PCADR/L-JHP

Adapters with High-Pressure Coolant Holes for PENTACUT Grooving Inserts




| Designation | CWN(1) | CWX(2) | OHX(3) | OAL | WF(4) | WF2 | OAW | WB_2 | HF | OAH | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PCADR/L 24-JHP | 0.50 | 3.18 (5) | 19.30 | 43.80 | 5.20 | 2.00 | 10.00 | 7.2 | 24.0 | 33.0 | PENTA 24 |
| PCADR/L 34-JHP | 1.50 | 4.00 | 27.80 | 54.20 | 5.35 | 2.15 | 11.00 | 7.2 | 24.0 | 33.0 | PENTA 34 |

• CDX and CUTDIA according to insert limitation • For user guide and accessores, see pages 440-457

(1) Minimum cutting width

(2) Maximum cutting width

(3) Maximum overhang

(4) WF(adapter)

(5) Up to 6.2 mm width can be ordered on request

**Inserts:** PENTA 24-BSPT • PENTA 24-ISO • PENTA 24-MT • PENTA 24-NPT • PENTA 24-UN • PENTA 24-W • PENTA 24-WT • PENTA 24N-C • PENTA 24N-C (full radius) • PENTA 24N-J • PENTA 24N-J (full radius) • PENTA 24N-PF (full radius) • PENTA 24N-PF/P • PENTA 24N-Z • PENTA 24R-C • PENTA 24R-P • PENTA 24R/L-J • PENTA 24R/L-Z • PENTA 34F-R/L • PENTA 34N-C • PENTA 34N-J • PENTA 34N-PB • PENTA 34R/L-C • PENTA 34R/L-J • PENTA 34R/L-PB

**Holders:** ABC MAHDR-#-XL-JHP • C#-MAHD-JHP • C#-MAHPD-JHP • MAHPR/L-JHP • MAHR/L-JHP • MAHR/L-JHP-MC • MS##-##-MG-JHP • MS-ES#####-GWS-MG-JHP • TR TNK36 MAHDL-R-XL-JHP • TR45 MAHDR-#-XL-JHP • TR45TNL MAHDN-R-XL-JHP • V## MAHD#-#-XL-##-JHP • V## MAHD-XL-JHP

### Flow Rate vs. Pressure

| Designation | 70 Bar Flow Rate (liters/min) | 100 Bar Flow Rate (liters/min) | 140 Bar Flow Rate (liters/min) |
|---|---|---|---|
| PCADR/L 24-JHP | 9-11 | 11-13 | 12-14 |

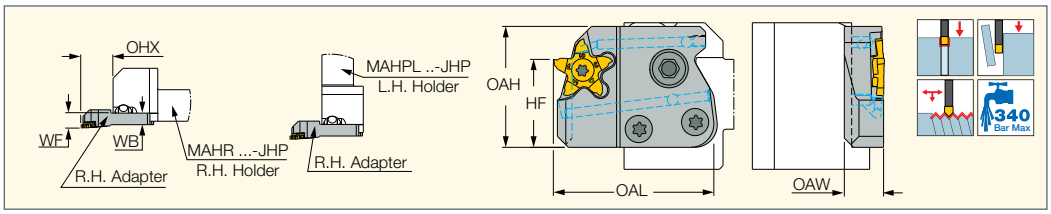
### Spare Parts

| Designation | |
|---|---|
| PCADL 24-JHP | SR 16-212-01397L |
| PCADR 24-JHP | SR 16-212-01397 |
| PCADR/L 34-JHP | SR 16-212-01397 |

PENTACUT PARTING & GROOVING LINE JETCUT

## PCADRS/LS-JHP

Adapters with High-Pressure Coolant Holes for PENTACUT 17




| Designation | CWN(1) | CWX(2) | OHX(3) | OAL | WF | OAW | WB | HF | OAH | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| PCADR/LS 17-JHP | 0.25 | 3.18 | 19.30 | 43.80 | 8.95 | 10.70 | 7.0 | 24.0 | 33.0 | PENTA 17 |

• CDX and CUTDIA according to insert limitation • For user guide and accessores, see pages 440-457

(1) Minimum cutting width

(2) Maximum cutting width

(3) Maximum overhang

**Inserts:** PENTA 17-MT-RS/LS • PENTA 17-P-RS/LS • PENTA 17-WT-RS/LS • PENTA 17R/L-P-RS • PENTA 17R/L-SP-RS

**Holders:** ABC MAHDR-#-XL-JHP • C#-MAHD-JHP • C#-MAHPD-JHP • DT##/2 MAHD#-#-XL-JHP • MAHPR/L-JHP • MAHR/L-JHP • MAHR/L-JHP-MC • MS##-##-MG-JHP • MS-ES#####-GWS-MG-JHP • TR TNK36 MAHDL-R-XL-JHP • TR45 MAHDR-#-XL-JHP • TR45TNL MAHDN-R-XL-JHP • V## MAHD#-#-XL-##-JHP • V## MAHD-XL-JHP

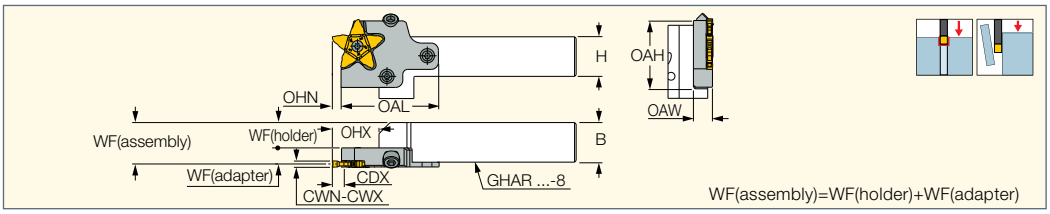
### Spare Parts

| Designation | | |
|---|---|---|
| PCADLS 17-JHP | SR M4-39432 | T-1508/5 |
| PCADRS 17-JHP | SR M4-39432L | T-1508/5 |

PENTACUT PARTING & GROOVING LINE

## PCADR/L 34N-RE

Reinforced Adapters for PENTACUT Grooving Inserts




| Designation | CWN(1) | CWX(2) | OHN(3) | OHX(4) | OAL | WF(5) | OAH | OAW | |
|---|---|---|---|---|---|---|---|---|---|
| PCADR/L 34N-RE | 1.50 | 4.00 | 5.50 | 29.50 | 61.50 | 10.15 | 42.0 | 12.00 | SR 16-212-01397 |

- CDX and CUTDIA according to insert limitation
- H, B, and WF(holder) according to holder being used

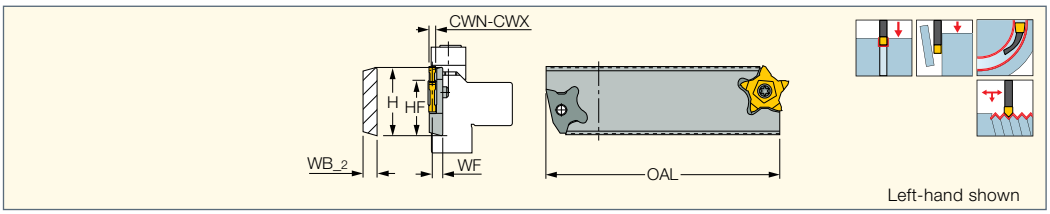
(1) Minimum cutting width
(2) Maximum cutting width
(3) Minimum overhang
(4) Maximum overhang
(5) WF(adapter)

**Inserts:** PENTA 34F-R/L • PENTA 34N-C • PENTA 34N-J • PENTA 34N-PB • PENTA 34R/L-C • PENTA 34R/L-J • PENTA 34R/L-PB
**Holders:** C#-GHAD-8 • C#-GHAPR/L-8 • GHAPR/L-8 • GHAR/L-8 • IM-GHAD-8

PENTACUT PARTING & GROOVING LINE

## PCHBR/L

Double-Ended Parting and Grooving Blades for PENTACUT Inserts



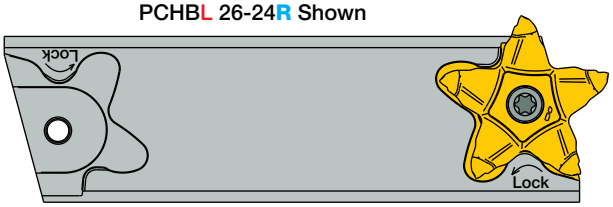

| Designation | H | CWN(2) | CWX(3) | HF | WF(4) | OAL | WB_2 | Insert | |
|---|---|---|---|---|---|---|---|---|---|
| PCHBL 26-24R | 26.0 | 0.50 | 6.20 | 21.4 | 7.00 | 110.00 | 8.5 | PENTA 24 | SR 16-212-01397L |
| PCHBR 26-24L | 26.0 | 0.50 | 6.20 | 21.4 | 7.00 | 110.00 | 8.5 | PENTA 24 | SR 16-212-01397 |
| PCHBR 26-24R | 26.0 | 0.50 | 6.20 | 21.4 | 1.50 | 110.00 | 8.5 | PENTA 24 | |
| PCHBL 32-24R | 32.0 | 0.50 | 6.20 | 24.8 | 7.00 | 110.00 | 8.5 | PENTA 24 | SR 16-212-01397L |
| PCHBR 32-24L | 32.0 | 0.50 | 6.20 | 24.8 | 7.00 | 110.00 | 8.5 | PENTA 24 | SR 16-212-01397 |
| PCHBL 26-34R (1) | 26.0 | 1.50 | 4.00 | 21.4 | 7.15 | 110.00 | 8.5 | PENTA 34 | SR 16-212-01397 |
| PCHBR 26-34L (1) | 26.0 | 1.50 | 4.00 | 21.4 | 7.15 | 110.00 | 8.5 | PENTA 34 | SR 16-212-01397 |
| PCHBR 26-34R (1) | 26.0 | 1.50 | 4.00 | 21.4 | 1.35 | 110.00 | 8.5 | PENTA 34 | |
| PCHBL 32-34R | 32.0 | 1.50 | 4.00 | 24.8 | 7.15 | 110.00 | 8.5 | PENTA 34 | SR 16-212-01397 |
| PCHBR 32-34L | 32.0 | 1.50 | 4.00 | 24.8 | 7.15 | 110.00 | 8.5 | PENTA 34 | SR 16-212-01397 |

- For insert/blade orientation, see the following drawings

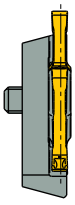
(1) Single pocket blade
(2) Minimum cutting width
(3) Maximum cutting width
(4) To the center of inserts up to 4.15 mm width

**Inserts:** PENTA 24-BSPT • PENTA 24-ISO • PENTA 24-MT • PENTA 24-NPT • PENTA 24-UN • PENTA 24-W • PENTA 24-WT • PENTA 24N-C
• PENTA 24N-C (full radius) • PENTA 24N-J • PENTA 24N-J (full radius) • PENTA 24N-PF (full radius) • PENTA 24N-PF/P
• PENTA 24N-Z • PENTA 24R-C • PENTA 24R-P • PENTA 24R/L-J • PENTA 24R/L-Z • PENTA 34F-R/L • PENTA 34N-C • PENTA 34N-J
• PENTA 34N-PB • PENTA 34R/L-C • PENTA 34R/L-J • PENTA 34R/L-PB

**PCHBL 26-24R Shown**

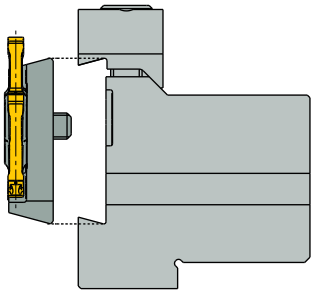



**PCHBL 26-24L**

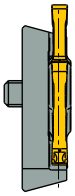


Left-hand blade

**PCHBL 26-24R**

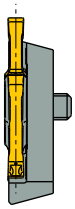


**PCHBR 26-24L**



Right-hand blade

**PCHBR 26-24R**



Pocket location on the blade

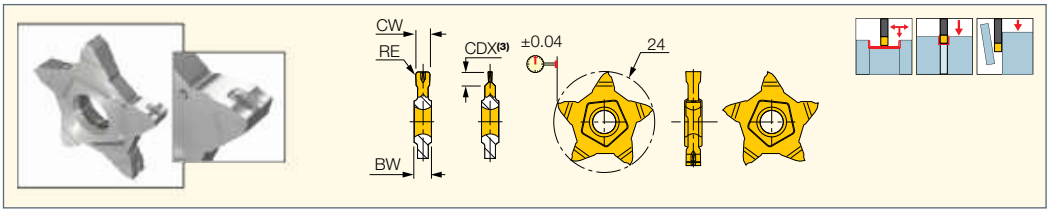
## Identification System for Standard Inserts

| PENTA | 24 | N | 150 | J | 010 |
|---|---|---|---|---|---|
| Family name | Circular circumference of the insert | Insert lead angle (K) N, R, L | Cutting edge width CW(mm) x100 | Chipbreaker style J, Z | Corner radius RE (mm)x100 for neutral insert. (k=0) Or lead angle for right- or left-hand inserts. |

PENTACUT PARTING & GROOVING LINE

### PENTA 24N-J

Inserts with 5 Cutting Edges for Parting and Grooving Soft Materials, Tubes, Small and Thin-Walled Parts




| Designation | Dimensions | | | | | | Tough ↔ Hard | | | | Recommended Machining Data |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | CW | RE | CWTOL(1) | RETOL(2) | BW | CDX(3) | IC1010 | IC1008 | IC908 | IC807G | f groove (mm/rev) |
| PENTA 24N050J000 | 0.50 | 0.00 | 0.02 | 0.020 | 4.00 | 1.00 | | | • | | 0.02-0.04 |
| PENTA 24N050J004 | 0.50 | 0.04 | 0.02 | 0.020 | 4.00 | 2.50 | | • | | | 0.02-0.05 |
| PENTA 24N080J000 | 0.80 | 0.00 | 0.02 | 0.020 | 4.00 | 1.60 | | | • | | 0.02-0.05 |
| PENTA 24N100J004 | 1.00 | 0.04 | 0.02 | 0.020 | 4.00 | 3.50 | | | • | | 0.03-0.07 |
| PENTA 24N100J006 | 1.00 | 0.06 | 0.02 | 0.020 | 4.00 | 3.50 | | • | | • | 0.03-0.07 |
| PENTA 24N104J000 | 1.04 | 0.00 | 0.02 | 0.020 | 4.00 | 2.00 | | | • | | 0.02-0.07 |
| PENTA 24N120J000 | 1.20 | 0.00 | 0.02 | 0.020 | 4.00 | 2.00 | | | • | • | 0.03-0.07 |
| PENTA 24N125J010 | 1.25 | 0.10 | 0.02 | 0.020 | 4.00 | 2.00 | | | • | | 0.03-0.07 |
| PENTA 24N140J000 | 1.40 | 0.00 | 0.02 | 0.020 | 4.00 | 2.00 | | | • | | 0.03-0.08 |
| PENTA 24N147J000 | 1.47 | 0.00 | 0.02 | 0.020 | 4.00 | 2.50 | | | • | | 0.03-0.08 |
| PENTA 24N150J010 | 1.50 | 0.10 | 0.00 | 0.020 | 4.00 | 5.00 | • | • | • | • | 0.03-0.10 |
| PENTA 24N157J015 | 1.57 | 0.15 | 0.02 | 0.030 | 4.00 | 3.00 | | | • | • | 0.00-0.12 |
| PENTA 24N170J010 | 1.70 | 0.10 | 0.02 | 0.030 | 4.00 | 3.00 | | | • | • | 0.03-0.12 |
| PENTA 24N178J018 | 1.78 | 0.18 | 0.02 | 0.030 | 4.00 | 3.00 | | | • | • | 0.04-0.12 |
| PENTA 24N185J015 | 1.85 | 0.15 | 0.02 | 0.030 | 4.00 | 3.00 | | | • | | 0.04-0.12 |
| PENTA 24N196J015 | 1.96 | 0.15 | 0.02 | 0.030 | 4.00 | 3.00 | | | • | • | 0.04-0.12 |
| PENTA 24N196J040 | 1.96 | 0.40 | 0.02 | 0.030 | 4.00 | 3.00 | | | • | | 0.03-0.10 |
| PENTA 24N200J020 | 2.00 | 0.20 | 0.02 | 0.030 | 4.00 | 6.00 | • | • | • | • | 0.04-0.12 |
| PENTA 24N222J015 | 2.22 | 0.15 | 0.02 | 0.030 | 4.00 | 3.50 | | | • | • | 0.04-0.16 |
| PENTA 24N230J020 | 2.30 | 0.20 | 0.02 | 0.030 | 4.00 | 3.50 | | | • | • | 0.04-0.16 |
| PENTA 24N239J015 | 2.39 | 0.15 | 0.02 | 0.030 | 4.00 | 5.00 | | | • | • | 0.04-0.16 |
| PENTA 24N247J020 | 2.47 | 0.20 | 0.02 | 0.030 | 4.00 | 5.00 | | | • | • | 0.04-0.16 |
| PENTA 24N270J010 | 2.70 | 0.10 | 0.02 | 0.020 | 4.00 | 5.00 | | | • | | 0.04-0.16 |
| PENTA 24N287J020 | 2.87 | 0.20 | 0.02 | 0.030 | 4.00 | 6.50 | | | • | | 0.04-0.16 |
| PENTA 24N300J000 | 3.00 | 0.00 | 0.02 | 0.020 | 4.00 | 6.50 | | | • | | 0.04-0.10 |
| PENTA 24N300J020 | 3.00 | 0.20 | 0.02 | 0.030 | 4.00 | 6.50 | • | | • | • | 0.04-0.16 |
| PENTA 24N300J040 | 3.00 | 0.40 | 0.02 | 0.030 | 4.00 | 6.50 | | | • | • | 0.04-0.16 |
| PENTA 24N315J015 | 3.15 | 0.15 | 0.02 | 0.030 | 4.00 | 6.50 | | | • | | 0.04-0.16 |
| PENTA 24N318J020 | 3.18 | 0.20 | 0.02 | 0.030 | 4.00 | 6.50 | | | • | • | 0.04-0.16 |
| PENTA 24N330J010 | 3.30 | 0.10 | 0.02 | 0.030 | 5.00 | 6.40 | | | • | | 0.04-0.16 |
| PENTA 24N348J020 | 3.48 | 0.20 | 0.02 | 0.030 | 5.00 | 6.40 | | | • | | 0.04-0.18 |
| PENTA 24N356J020 | 3.56 | 0.20 | 0.02 | 0.030 | 5.00 | 6.40 | | | • | | 0.04-0.18 |
| PENTA 24N374J020 | 3.74 | 0.20 | 0.02 | 0.030 | 5.00 | 6.40 | | | • | | 0.04-0.18 |
| PENTA 24N398J020 | 3.98 | 0.20 | 0.02 | 0.030 | 5.00 | 6.20 | | | • | | 0.04-0.18 |
| PENTA 24N400J040 | 4.00 | 0.40 | 0.02 | 0.030 | 5.00 | 6.20 | | | • | | 0.04-0.18 |
| PENTA 24N423J010 | 4.23 | 0.10 | 0.02 | 0.030 | 5.00 | 6.20 | | | • | | 0.04-0.18 |

• Recessing is possible only with 2.39 mm and wider inserts • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) For grooving and parting depth relative to part diameter, see page 323

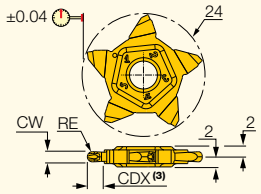
**Tools:** PCAD RE/LE-JHP • PCADR/L • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-24 • PCHR/L-24-JHP • PCHR/L-24-JHP-MC

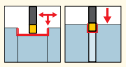
PENTACUT PARTING & GROOVING LINE

## PENTA 24N-J (full radius)

Precision Grooving
Pentagonal Full Radius
Inserts for Soft Materials





| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | Tough ↔ Hard IC908 | IC807G | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| PENTA 24N100J050 | 1.00 | 0.50 | 0.02 | 0.050 | 3.50 | • | | 0.03-0.07 |
| PENTA 24N120J060 | 1.20 | 0.60 | 0.02 | 0.050 | 2.00 | • | | 0.03-0.07 |
| PENTA 24N140J070 | 1.40 | 0.70 | 0.02 | 0.050 | 2.00 | • | | 0.05-0.08 |
| PENTA 24N157J079 | 1.57 | 0.79 | 0.02 | 0.050 | 3.00 | • | • | 0.05-0.08 |
| PENTA 24N200J100 | 2.00 | 1.00 | 0.02 | 0.050 | 3.00 | • | • | 0.05-0.12 |
| PENTA 24N239J120 | 2.39 | 1.20 | 0.02 | 0.050 | 5.00 | • | | 0.06-0.16 |
| PENTA 24N300J150 | 3.00 | 1.50 | 0.02 | 0.050 | 6.50 | • | • | 0.06-0.20 |
| PENTA 24N318J159 | 3.18 | 1.59 | 0.02 | 0.050 | 6.50 | • | | 0.06-0.20 |
| PENTA 24N400J200 | 4.00 | 2.00 | 0.02 | 0.050 | 6.25 | • | | 0.06-0.20 |

• Recessing is possible only with 2.39 mm and wider inserts. • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) For grooving depth relative to part diameter, see page 323

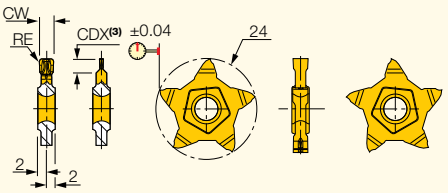
**Tools:** PCAD RE/LE-JHP • PCADR/L • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-24 • PCHR/L-24-JHP • PCHR/L-24-JHP-MC

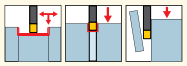
PENTACUT PARTING & GROOVING LINE

## PENTA 24N-C

Parting and Grooving Inserts
with 5 Cutting Edges for
Parting Bars, Hard Materials
and Tough Applications





| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | IC908 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|
| PENTA 24N150C010 | 1.50 | 0.10 | 0.02 | 0.050 | 5.00 | • | 0.05-0.11 |
| PENTA 24N157C015 | 1.57 | 0.15 | 0.02 | 0.050 | 3.00 | • | 0.05-0.12 |
| PENTA 24N170C010 | 1.70 | 0.10 | 0.02 | 0.050 | 3.00 | • | 0.05-0.13 |
| PENTA 24N178C018 | 1.78 | 0.18 | 0.02 | 0.050 | 3.00 | • | 0.05-0.14 |
| PENTA 24N196C015 | 1.96 | 0.15 | 0.02 | 0.050 | 3.00 | • | 0.05-0.15 |
| PENTA 24N200C020 | 2.00 | 0.20 | 0.02 | 0.050 | 6.00 | • | 0.05-0.16 |
| PENTA 24N222C015 | 2.22 | 0.15 | 0.02 | 0.050 | 3.50 | • | 0.05-0.16 |
| PENTA 24N230C020 | 2.30 | 0.20 | 0.02 | 0.050 | 3.50 | • | 0.06-0.17 |
| PENTA 24N239C015 | 2.39 | 0.15 | 0.02 | 0.050 | 5.00 | • | 0.07-0.18 |
| PENTA 24N247C020 | 2.47 | 0.20 | 0.02 | 0.050 | 5.00 | • | 0.08-0.18 |
| PENTA 24N270C010 | 2.70 | 0.10 | 0.02 | 0.050 | 6.20 | • | 0.09-0.18 |
| PENTA 24N287C020 | 2.87 | 0.20 | 0.02 | 0.050 | 6.20 | • | 0.10-0.18 |
| PENTA 24N300C020 | 3.00 | 0.20 | 0.02 | 0.050 | 6.20 | • | 0.10-0.20 |
| PENTA 24N300C040 | 3.00 | 0.40 | 0.02 | 0.050 | 6.20 | • | 0.10-0.20 |
| PENTA 24N318C020 | 3.18 | 0.20 | 0.02 | 0.050 | 6.20 | • | 0.10-0.20 |
| PENTA 24N478C055 | 4.78 | 0.55 | 0.02 | 0.050 | 6.20 | • | 0.10-0.25 |
| PENTA 24N486C040 | 4.86 | 0.40 | 0.02 | 0.050 | 6.20 | • | 0.10-0.25 |
| PENTA 24N500C040 | 5.00 | 0.40 | 0.02 | 0.050 | 6.20 | • | 0.10-0.25 |

• Recessing is possible only with 2.39 mm and wider inserts • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) For grooving and parting depths relative to part diameter, see page 323

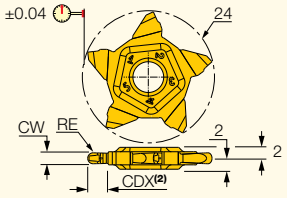
**Tools:** PCAD RE/LE-JHP • PCADR/L • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-24 • PCHR/L-24-JHP • PCHR/L-24-JHP-MC

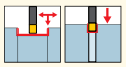
PENTACUT PARTING & GROOVING LINE

## PENTA 24N-C (full radius)

Full Radius Grooving Inserts with 5 Cutting Edges for Hard Materials and Tough Applications





| Designation | Dimensions CW | RE | CWTOL(1) | CDX(2) | IC908 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|
| PENTA 24N157C079 | 1.57 | 0.79 | 0.02 | 3.00 | ● | 0.04-0.12 |
| PENTA 24N200C100 | 2.00 | 1.00 | 0.02 | 3.00 | ● | 0.04-0.16 |
| PENTA 24N239C120 | 2.39 | 1.20 | 0.02 | 5.00 | ● | 0.06-0.18 |
| PENTA 24N300C150 | 3.00 | 1.50 | 0.02 | 6.20 | ● | 0.10-0.25 |

• Recessing is possible only with 2.39 mm and wider inserts • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

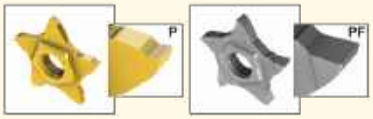
(2) For grooving depth relative to part diameter, see page 323

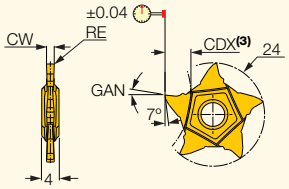
**Tools:** PCAD RE/LE-JHP • PCADR/L • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-24 • PCHR/L-24-JHP • PCHR/L-24-JHP-MC

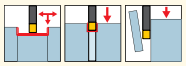
PENTACUT PARTING & GROOVING LINE

## PENTA 24N-PF/P

Pentagonal Inserts with a High Positive Flat Rake for Parting and Precision Grooving



| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | GAN | Tough ↔ Hard IC1008 | IC908 | IC30N | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| PENTA 24N050PF005 | 0.50 | 0.05 | 0.02 | 0.020 | 2.50 | 6.0 | | | ● | 0.01-0.04 |
| PENTA 24N075PF005 | 0.75 | 0.05 | 0.02 | 0.020 | 2.50 | 6.0 | | | ● | 0.02-0.05 |
| PENTA 24N095PF005 | 0.95 | 0.05 | 0.02 | 0.020 | 4.00 | 6.0 | | | ● | 0.02-0.05 |
| PENTA 24N100P005 | 1.00 | 0.05 | 0.02 | 0.020 | 3.50 | 12.0 | ● | | | 0.02-0.05 |
| PENTA 24N100PF010 | 1.00 | 0.10 | 0.02 | 0.020 | 4.00 | 6.0 | | ● | ● | 0.03-0.06 |
| PENTA 24N125PF020 | 1.25 | 0.20 | 0.02 | 0.020 | 5.00 | 6.0 | | | ● | 0.03-0.06 |
| PENTA 24N145PF020 | 1.45 | 0.20 | 0.02 | 0.020 | 6.20 | 6.0 | | | ● | 0.03-0.06 |
| PENTA 24N150P005 | 1.50 | 0.05 | 0.02 | 0.020 | 5.00 | 12.0 | ● | | | 0.02-0.07 |
| PENTA 24N150PF020 | 1.50 | 0.20 | 0.02 | 0.030 | 6.00 | 6.0 | | ● | ● | 0.03-0.09 |
| PENTA 24N175PF020 | 1.75 | 0.20 | 0.02 | 0.030 | 6.20 | 6.0 | | | ● | 0.02-0.08 |
| PENTA 24N185PF020 | 1.85 | 0.20 | 0.02 | 0.030 | 6.00 | 6.0 | | | ● | 0.03-0.10 |
| PENTA 24N200P005 | 2.00 | 0.05 | 0.02 | 0.020 | 6.00 | 12.0 | ● | | | 0.02-0.08 |
| PENTA 24N200PF020 | 2.00 | 0.20 | 0.02 | 0.030 | 6.50 | 6.0 | | ● | ● | 0.04-0.10 |
| PENTA 24N230PF020 | 2.30 | 0.20 | 0.02 | 0.030 | 6.20 | 6.0 | | | ● | 0.04-0.14 |
| PENTA 24N239PF015 | 2.39 | 0.15 | 0.02 | 0.030 | 6.50 | 6.0 | | ● | | 0.04-0.14 |
| PENTA 24N250PF020 | 2.50 | 0.20 | 0.02 | 0.030 | 6.50 | 6.0 | | ● | ● | 0.04-0.14 |
| PENTA 24N300PF020 | 3.00 | 0.20 | 0.02 | 0.030 | 6.50 | 6.0 | | ● | ● | 0.04-0.14 |
| PENTA 24N300PF030 | 3.00 | 0.30 | 0.02 | 0.030 | 6.20 | 6.0 | | | ● | 0.04-0.15 |
| PENTA 24N400PF020 | 4.00 | 0.20 | 0.02 | 0.030 | 6.50 | 6.0 | | | ● | 0.04-0.16 |
| PENTA 24N400PF040 | 4.00 | 0.40 | 0.02 | 0.030 | 6.20 | 6.0 | | | ● | 0.04-0.16 |

• For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

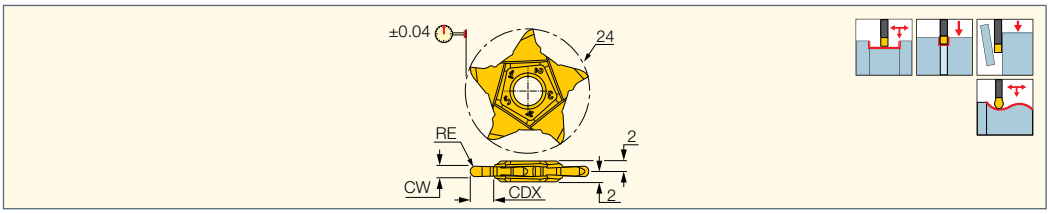
(3) For grooving and parting depths relative to part diameter, see page 323

**Tools:** PCAD RE/LE-JHP • PCADR/L • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-24 • PCHR/L-24-JHP • PCHR/L-24-JHP-MC

PENTACUT PARTING & GROOVING LINE

## PENTA 24N-PF (full radius)

Full Radius Pentagonal Inserts with a High Positive Flat Rake for Parting and Precision Grooving




| Designation | Dimensions CW | RE | CWTOL(1) | CDX(2) | GAN | IC30N | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|
| PENTA 24N100PF050 | 1.00 | 0.50 | 0.02 | 4.50 | 6.0 | ● | 0.03-0.06 |
| PENTA 24N150PF075 | 1.50 | 0.75 | 0.02 | 6.20 | 6.0 | ● | 0.03-0.06 |
| PENTA 24N200PF100 | 2.00 | 1.00 | 0.02 | 6.20 | 6.0 | ● | 0.04-0.10 |
| PENTA 24N250PF125 | 2.50 | 1.25 | 0.02 | 6.20 | 6.0 | ● | 0.04-0.14 |
| PENTA 24N300PF150 | 3.00 | 1.50 | 0.02 | 6.20 | 6.0 | ● | 0.04-0.15 |
| PENTA 24N400PF200 | 4.00 | 2.00 | 0.02 | 6.20 | 6.0 | ● | 0.04-0.16 |

- For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

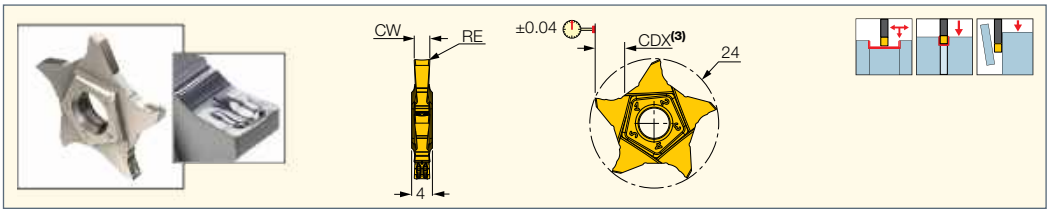
(2) For grooving and parting depths relative to part diameter, see page 323

**Tools:** PCAD RE/LE-JHP • PCADR/L • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-24 • PCHR/L-24-JHP • PCHR/L-24-JHP-MC

PENTACUT PARTING & GROOVING LINE

## PENTA 24N-Z

Inserts with 5 Cutting Edges for Grooving and Parting Tubes, Small and Thin-Walled Parts




| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | IC908 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|
| PENTA 24N150Z010 | 1.50 | 0.10 | 0.02 | 0.020 | 5.00 | ● | 0.05-0.08 |
| PENTA 24N200Z020 | 2.00 | 0.20 | 0.02 | 0.030 | 6.40 | ● | 0.04-0.12 |
| PENTA 24N300Z020 | 3.00 | 0.20 | 0.02 | 0.000 | 6.40 | ● | 0.04-0.16 |

- Cutting edge with high positive rake, suitable for parting tubes, thin walled parts and for small diameters
- Suitable for machining soft materials and bearing steel at low to medium feeds
- For cutting speed recommendations and user guide, see pages 440-457

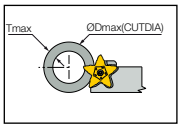
(1) Cutting width tolerance (+/-)

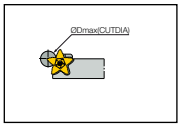
(2) Corner radius tolerance (+/-)

(3) For grooving and parting depths relative to part diameter, see page 323

**Tools:** PCAD RE/LE-JHP • PCADR/L • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-24 • PCHR/L-24-JHP • PCHR/L-24-JHP-MC

| ØDmax as a Function of Parting / Grooving Depth (T) for PENTA 24 Inserts | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CW±0.02 | CDX(3) | CDX / ØDmax | T≤3.0 | T≤3.5 | T≤4.0 | T≤4.5 | T≤5.0 | T≤5.5 | T≤6.5 | T≤6.4 |
| CW=0.50 (1) | 1.0 | 1.0 / N.L. | - | - | - | - | - | - | - | - |
| CW=0.50 (2) | 2.5 | | | 250 | | | | | | |
| CW=0.80 | 1.6 | 1.6 / N.L. | - | - | - | - | - | - | - | - |
| CW=1.00 | 3.5 | | N.L. | 250 | - | - | - | - | - | - |
| 1.04≤CW≤1.40 | 2.0 | 2.0 / N.L. | - | - | - | - | - | - | - | - |
| CW=1.47 | 2.5 | 2.5 / N.L. | - | - | - | - | - | - | - | - |
| CW=1.50 | 5.0 | | N.L. | 470 | 210 | 70 | 30 | - | - | - |
| 1.57≤CW≤1.96 | 3.0 | | N.L. | - | - | - | - | - | - | - |
| CW=2.00 | 6.0(4) | | N.L. | 470 | 210 | 130 | 75 | 45 | 20 | - |
| 2.22≤CW≤2.30 | 3.5 | | N.L. | 250 | - | - | - | - | - | - |
| 2.39≤CW≤2.50 | 5.0 | | N.L. | 470 | 210 | 70 | 30 | - | - | - |
| 2.70≤CW≤3.18 | 6.4 | | N.L. | 470 | 210 | 135 | 100 | 70 | 40 | 20 |



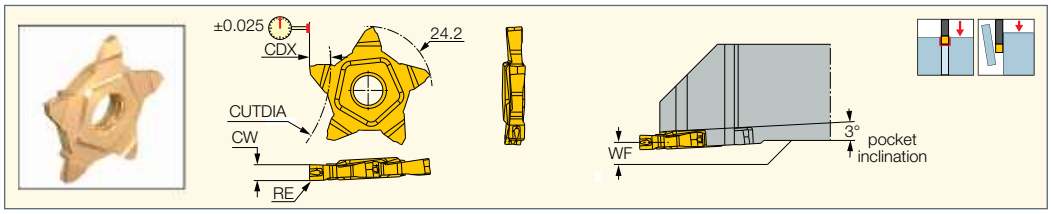

(1) Refers to PENTA 24N050J000 - a precision grooving insert (2) Refers to PENTA 24N050J004 - a parting insert (3) CUTDIA for parting = 2 x CDX

(4) For full radius insert, CDX = 3.0, ØDmax = No limit

PENTACUT PARTING & GROOVING LINE

## PENTA 24N-J-RS

Parting and Precision Grooving Pentagonal Inserts for Next to High Shoulder Applications



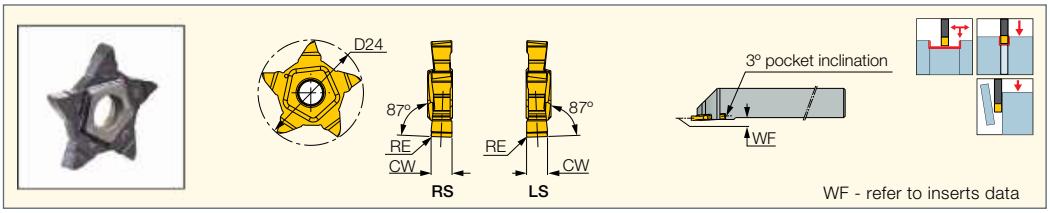

| Designation | Dimensions CW | RE | CWTOL(1) | CDX(2) | CUTDIA | WF | IC908 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| PENTA 24N157J020RS | 1.57 | 0.20 | 0.20 | 3.00 | - | 1.20 | ● | 0.03-0.10 |
| PENTA 24N157J079RS | 1.57 | 0.79 | 0.20 | 3.00 | - | 1.20 | ● | 0.04-0.12 |
| PENTA 24N200J020RS | 2.00 | 0.20 | 0.20 | 3.00 | - | 1.00 | ● | 0.04-0.12 |
| PENTA 24N239J020RS | 2.39 | 0.20 | 0.20 | 5.00 | 30.0 (3) | 0.80 | ● | 0.04-0.14 |
| PENTA 24N239J119RS | 2.39 | 1.19 | 0.20 | 5.00 | 30.0 (3) | 0.80 | ● | 0.04-0.16 |
| PENTA 24N300J020RS | 3.00 | 0.20 | 0.20 | 6.20 | 16.0 (3) | 0.40 | ● | 0.04-0.16 |
| PENTA 24N318J020RS | 3.18 | 0.20 | 0.20 | 6.20 | 16.0 (3) | 0.40 | ● | 0.04-0.16 |
| PENTA 24N318J159RS | 3.18 | 1.59 | 0.20 | 6.20 | 16.0 (3) | 0.40 | ● | 0.04-0.16 |

(1) Cutting width tolerance (+/-)
(2) Cutting depth maximum
(3) for grooving
**Tools:** PCHRS/LS

PENTACUT PARTING & GROOVING LINE

## PENTA 24N-RS/LS

Pentagonal Inserts for Parting and Precision Grooving Next to High Shoulder Applications



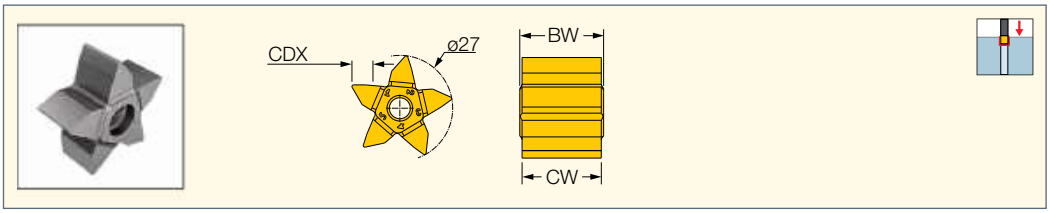

| Designation | Dimensions CW | RE | CWTOL(1) | CDX(2) | CUTDIA | WF | IC908 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| PENTA 24N080NF010R/LS | 0.80 | 0.10 | 0.02 | 1.60 | - (3) | 1.60 | ● | 0.03-0.05 |
| PENTA 24N100NF010R/LS | 1.00 | 0.10 | 0.02 | 1.80 | - (3) | 1.50 | ● | 0.03-0.06 |
| PENTA 24N119NF010R/LS | 1.19 | 0.10 | 0.02 | 2.00 | - (3) | 1.40 | ● | 0.03-0.06 |
| PENTA 24N157NF020R/LS | 1.57 | 0.20 | 0.02 | 3.00 | - (3) | 1.20 | ● | 0.03-0.08 |
| PENTA 24N157NF079R/LS | 1.57 | 0.79 | 0.02 | 3.00 | - (3) | 1.20 | ● | 0.03-0.08 |
| PENTA 24N200NF020R/LS | 2.00 | 0.20 | 0.02 | 3.00 | - (3) | 1.00 | ● | 0.03-0.10 |
| PENTA 24N239NF020R/LS | 2.39 | 0.20 | 0.02 | 5.00 | 40.0 | 0.80 | ● | 0.03-0.12 |
| PENTA 24N239NF119R/LS | 2.39 | 1.19 | 0.02 | 5.00 | 40.0 | 0.80 | ● | 0.03-0.12 |
| PENTA 24N300NF020R/LS | 3.00 | 0.20 | 0.02 | 6.20 | 16.0 | 0.50 | ● | 0.04-0.14 |
| PENTA 24N318NF020R/LS | 3.18 | 0.20 | 0.02 | 6.50 | 13.0 | 0.40 | ● | 0.04-0.14 |
| PENTA 24N318NF159R/LS | 3.18 | 1.59 | 0.02 | 6.50 | 13.0 | 0.40 | ● | 0.04-0.14 |
| PENTA 24N400NF020RS | 4.00 | 0.20 | 0.02 | 6.50 | 13.0 | 1.00 | ● | 0.04-0.16 |
| PENTA 24N480NF020R/LS | 4.80 | 0.20 | 0.02 | 6.50 | 13.0 | 1.60 | ● | 0.04-0.16 |

• For cutting speed recommendations and user guide, see pages 440-457
(1) Cutting width tolerance (+/-)
(2) Cutting depth maximum
(3) No limit
**Tools:** PCHRS/LS

PENTACUT PARTING & GROOVING LINE

## PENTAS 27 blanks

Blank Inserts with 5 Wide Cutting Edges for the Production of Special Profile Contours



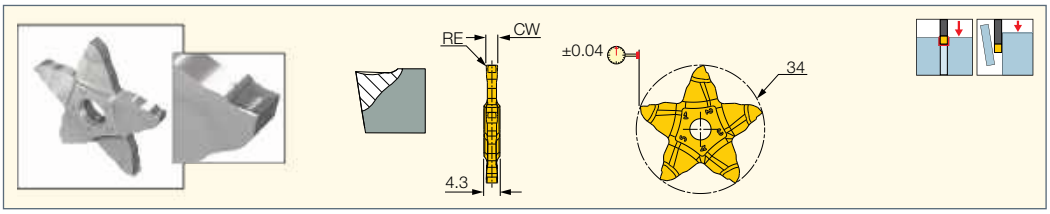

| Designation | Dimensions CW | CDX | BW | IC08 |
|---|---|---|---|---|
| PENTAS 27-10FT | 10.00 | 4.00 | 11.80 | ● |
| PENTAS 27-15FT | 15.00 | 4.00 | 16.80 | ● |
| PENTAS 27-20FT | 20.00 | 4.00 | 21.80 | ● |

**Tools:** PCHR/L-27-JHP-MC

PENTACUT PARTING & GROOVING LINE

## PENTA 34N-PB

Parting and Grooving Pentagonal Inserts for Parting Bearing Steel and Other Ductile Materials



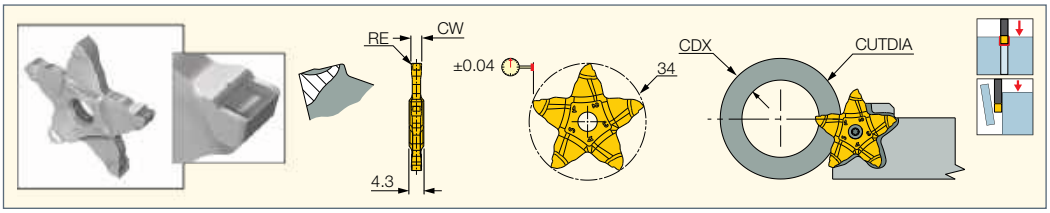

| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | IC908 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|
| PENTA 34N150PB015 | 1.50 | 0.15 | 0.02 | 0.030 | 8.50 | ● | 0.03-0.06 |
| PENTA 34N200PB020 | 2.00 | 0.20 | 0.02 | 0.030 | 8.50 | ● | 0.03-0.08 |
| PENTA 34N300PB020 | 3.00 | 0.20 | 0.02 | 0.030 | 9.50 | ● | 0.03-0.10 |

• For cutting speed recommendations and user guide, see pages 440-457
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) For grooving and parting depths relative to part diameter, see page 325
**Tools:** PCADR/L • PCADR/L 34N-RE • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-34 • PCHR/L-34-JHP

PENTACUT PARTING & GROOVING LINE

## PENTA 34N-C

Inserts with 5 Cutting Edges for Parting and Grooving Hard Materials, Tough and General Applications

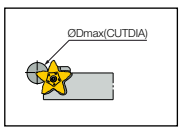


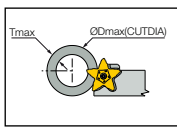

| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | IC908 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|
| PENTA 34N150C015 | 1.50 | 0.15 | 0.02 | 0.030 | 8.00 | ● | 0.03-0.07 |
| PENTA 34N200C020 | 2.00 | 0.20 | 0.02 | 0.030 | 8.00 | ● | 0.04-0.14 |
| PENTA 34N200C100 | 2.00 | 1.00 | 0.02 | 0.050 | 8.00 | ● | 0.05-0.16 |
| PENTA 34N222C015 | 2.22 | 0.15 | 0.02 | 0.030 | 8.00 | ● | 0.05-0.14 |
| PENTA 34N230C020 | 2.30 | 0.20 | 0.02 | 0.030 | 8.00 | ● | 0.05-0.14 |
| PENTA 34N239C015 | 2.39 | 0.15 | 0.02 | 0.030 | 8.00 | ● | 0.05-0.15 |
| PENTA 34N239C120 | 2.39 | 1.20 | 0.02 | 0.050 | 8.00 | ● | 0.05-0.18 |
| PENTA 34N247C020 | 2.47 | 0.20 | 0.02 | 0.030 | 8.00 | ● | 0.05-0.18 |
| PENTA 34N250C020 | 2.50 | 0.20 | 0.02 | 0.030 | 8.00 | ● | 0.05-0.18 |
| PENTA 34N270C010 | 2.70 | 0.10 | 0.02 | 0.030 | 10.00 | ● | 0.05-0.18 |
| PENTA 34N287C020 | 2.87 | 0.20 | 0.02 | 0.030 | 10.00 | ● | 0.05-0.18 |
| PENTA 34N300C000 | 3.00 | 0.00 | 0.02 | 0.000 | 10.00 | ● | 0.04-0.10 |
| PENTA 34N300C020 | 3.00 | 0.20 | 0.02 | 0.030 | 10.00 | ● | 0.06-0.22 |
| PENTA 34N300C040 | 3.00 | 0.40 | 0.02 | 0.030 | 10.00 | ● | 0.06-0.25 |
| PENTA 34N300C150 | 3.00 | 1.50 | 0.02 | 0.050 | 10.00 | ● | 0.06-0.20 |
| PENTA 34N315C015 | 3.15 | 0.15 | 0.02 | 0.030 | 10.00 | ● | 0.06-0.20 |
| PENTA 34N318C020 | 3.18 | 0.20 | 0.02 | 0.030 | 10.00 | ● | 0.06-0.22 |
| PENTA 34N330C010 | 3.30 | 0.10 | 0.02 | 0.020 | 10.00 | ● | 0.06-0.20 |
| PENTA 34N348C020 | 3.48 | 0.20 | 0.02 | 0.030 | 10.00 | ● | 0.06-0.25 |
| PENTA 34N350C025 | 3.50 | 0.25 | 0.02 | 0.030 | 10.00 | ● | 0.06-0.30 |
| PENTA 34N398C020 | 3.98 | 0.20 | 0.02 | 0.030 | 10.00 | ● | 0.06-0.30 |
| PENTA 34N400C030 | 4.00 | 0.30 | 0.02 | 0.030 | 10.00 | ● | 0.06-0.30 |

• For cutting speed recommendations and user guide, see pages 440-457
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) For grooving and parting depths relative to part diameter, see page 325
**Tools:** PCADR/L • PCADR/L 34N-RE • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-34 • PCHR/L-34-JHP

| | ØDmax as a Function of Parting / Grooving Depth (T) for PENTA 34 Inserts | | | | | | |
|---|---|---|---|---|---|---|---|
| CW±0.02 | T≤5.0 | T≤6.0 | T≤7.0 | T≤8.0 | T≤8.5 | T≤9.0 | T≤10.0 |
| 1.50 ≤ CW ≤ 2.69 | N.L. | 350 | 165 | 100 | 55 | - | - |
| 2.70 ≤ CW ≤ 4.00 | | | | | | 55 | 20 |

CUTDIA for parting = 2 x CDX
N.L. = No Limit



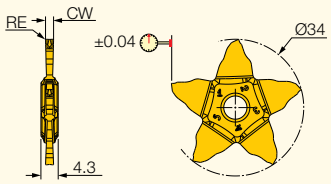
# GTGA (3 Cutting Edges)

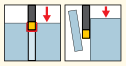
PENTACUT PARTING & GROOVING LINE

## PENTA 34N-J

Inserts with 5 Cutting Edges for Parting and Grooving Soft Materials, Parting Tubes, Small and Thin-Walled Parts





| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | IC908 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|
| PENTA 34N150J015 | 1.50 | 0.15 | 0.02 | 0.002 | 8.50 | ● | 0.03-0.10 |
| PENTA 34N200J020 | 2.00 | 0.20 | 0.02 | 0.002 | 8.50 | ● | 0.04-0.12 |
| PENTA 34N200J100 | 2.00 | 1.00 | 0.02 | 0.002 | 8.50 | ● | 0.05-0.12 |
| PENTA 34N239J015 | 2.39 | 0.15 | 0.02 | 0.002 | 8.50 | ● | 0.04-0.16 |
| PENTA 34N239J120 | 2.39 | 1.20 | 0.02 | 0.002 | 8.50 | ● | 0.06-0.16 |
| PENTA 34N250J020 | 2.50 | 0.20 | 0.02 | 0.002 | 8.50 | ● | 0.04-0.16 |
| PENTA 34N270J010 | 2.70 | 0.10 | 0.02 | 0.002 | 10.00 | ● | 0.04-0.16 |
| PENTA 34N300J000 | 3.00 | 0.00 | 0.02 | 0.000 | 10.00 | ● | 0.04-0.10 |
| PENTA 34N300J020 | 3.00 | 0.20 | 0.02 | 0.002 | 10.00 | ● | 0.04-0.16 |
| PENTA 34N300J040 | 3.00 | 0.40 | 0.02 | 0.002 | 10.00 | ● | 0.04-0.16 |
| PENTA 34N300J150 | 3.00 | 1.50 | 0.02 | 0.002 | 10.00 | ● | 0.06-0.20 |
| PENTA 34N318J020 | 3.18 | 0.20 | 0.02 | 0.002 | 10.00 | ● | 0.20-0.16 |

- Recessing is possible only with 2.39 mm and wider inserts
- For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

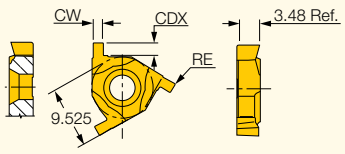
(3) For grooving and parting depths relative to part diameter, see page 325

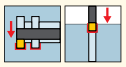
**Tools:** PCADR/L • PCADR/L 34N-RE • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-34 • PCHR/L-34-JHP

## GTGA

Precision Shallow Grooving Inserts with 3 Cutting Edges





GTGA 16 ER/IL shown

| Designation | Dimensions CW | CDX(1) | CWTOL(2) | RE | RETOL(3) | Tough ↔ Hard IC528 | IC508 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| GTGA 16EL/IR 100 | 1.00 | 1.55 | 0.02 | 0.10 | 0.030 | ● | ● | 0.02-0.03 |
| GTGA 16ER/IL 100 | 1.00 | 1.55 | 0.02 | 0.10 | 0.030 | ● | ● | 0.02-0.03 |
| GTGA 16EL/IR 120 | 1.20 | 1.60 | 0.02 | 0.10 | 0.030 | ● | ● | 0.02-0.03 |
| GTGA 16ER/IL 120 | 1.20 | 1.60 | 0.02 | 0.10 | 0.030 | ● | ● | 0.02-0.03 |
| GTGA 16EL/IR 140 | 1.40 | 1.80 | 0.02 | 0.10 | 0.030 | ● | ● | 0.02-0.04 |
| GTGA 16ER/IL 140 | 1.40 | 1.80 | 0.02 | 0.10 | 0.030 | ● | ● | 0.02-0.04 |
| GTGA 16EL/IR 170 | 1.70 | 2.00 | 0.02 | 0.10 | 0.030 | ● | ● | 0.03-0.05 |
| GTGA 16ER/IL 170 | 1.70 | 2.00 | 0.02 | 0.10 | 0.030 | ● | ● | 0.03-0.05 |
| GTGA 16EL/IR 195 | 1.95 | 2.00 | 0.02 | 0.10 | 0.030 | ● | ● | 0.03-0.06 |
| GTGA 16ER/IL 195 | 1.95 | 2.00 | 0.02 | 0.10 | 0.030 | ● | ● | 0.03-0.06 |
| GTGA 16EL/IR 225 | 2.25 | 2.10 | 0.02 | 0.10 | 0.030 | ● | ● | 0.04-0.06 |
| GTGA 16ER/IL 225 | 2.25 | 2.10 | 0.02 | 0.10 | 0.030 | ● | ● | 0.04-0.06 |

- Inserts for right-hand external grooving can be used as left-hand internal grooving
- Use with anvil AE 16-0 on external tools and with anvil AI 16-0 on internal tools
- For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting depth maximum

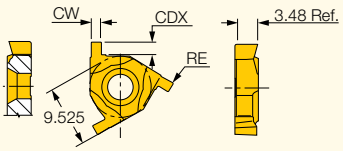
(2) Cutting width tolerance (+/-)

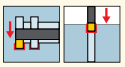
(3) Corner radius tolerance (+/-)

**Tools:** AVC-D-SIR/L • C#-SER/L • C#-SIR/L • SER-D • SER/L • SER/L-JHP • SER/L-JHP-MC • SIR/L

## GTMA
Utility Shallow Grooving
Inserts with 3 Cutting Edges





GTMA 16 ER/IL shown

| Designation | Dimensions CW | CDX(1) | CWTOL(2) | RE | RETOL(3) | IC508 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|
| **GTMA 16ER/IL 120** | 1.20 | 1.60 | 0.05 | 0.10 | 0.050 | ● | 0.02-0.03 |
| **GTMA 16ER/IL 140** | 1.40 | 1.80 | 0.05 | 0.10 | 0.050 | ● | 0.02-0.04 |
| **GTMA 16ER/IL 160** | 1.60 | 2.00 | 0.05 | 0.10 | 0.050 | ● | 0.03-0.05 |
| **GTMA 16ER/IL 175** | 1.75 | 2.00 | 0.05 | 0.10 | 0.050 | ● | 0.03-0.05 |
| **GTMA 16ER/IL 195** | 1.95 | 2.00 | 0.05 | 0.10 | 0.050 | ● | 0.03-0.06 |
| **GTMA 16ER/IL 222** | 2.22 | 2.10 | 0.05 | 0.10 | 0.050 | ● | 0.04-0.06 |

- Inserts for right-hand external grooving can be used as left-hand internal grooving
- Use with anvil AE 16-0 on external tools and with anvil AI 16-0 on internal tools
- For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting depth maximum
(2) Cutting width tolerance (+/-)
(3) Corner radius tolerance (+/-)

**Tools:** AVC-D-SIR/L • C#-SER/L • C#-SIR/L • SER-D • SER/L • SER/L-JHP • SER/L-JHP-MC • SIR/L

# HEAVY DUTY

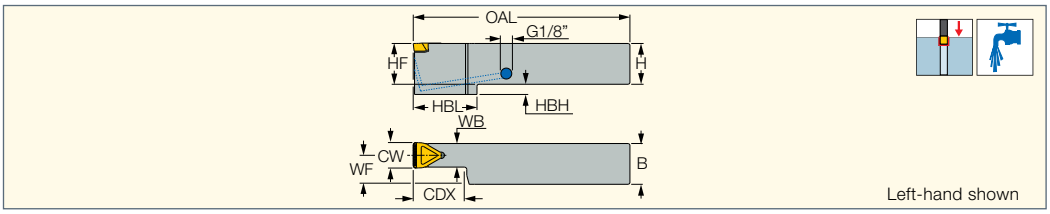


## DOVE-IQ-GRIP Tools and Inserts



DOVE IQ GRIP TIGER LINE

**THDR/L-IQ**
External Holders for Wide Grooving Inserts




| Designation | CW | CDX(1) | H | HF | B | OAL | WB | WF | HBH | HBL |
|---|---|---|---|---|---|---|---|---|---|---|
| THDR/L 2525-10T20-IQ | 10.00 | 20.00 | 25.0 | 25.0 | 25.0 | 170.00 | 9.20 | 20.40 | 8.0 | 30.0 |
| THDR/L 3232-10T20-IQ | 10.00 | 20.00 | 32.0 | 32.0 | 32.0 | 170.00 | 9.20 | 27.40 | 8.0 | 30.0 |
| THDR/L 2525-12T20-IQ | 12.00 | 20.00 | 25.0 | 25.0 | 25.0 | 170.00 | 11.00 | 19.50 | 8.0 | 30.0 |
| THDR/L 3232-12T20-IQ | 12.00 | 20.00 | 32.0 | 32.0 | 32.0 | 170.00 | 11.00 | 26.50 | 8.0 | 30.0 |
| THDR/L 2525-14T20-IQ | 14.00 | 20.00 | 25.0 | 25.0 | 25.0 | 170.00 | 13.00 | 18.50 | 8.0 | 30.0 |
| THDR/L 3232-14T20-IQ | 14.00 | 20.00 | 32.0 | 32.0 | 32.0 | 170.00 | 13.00 | 25.50 | 8.0 | 30.0 |
| THDR/L 3232-16T40-IQ | 16.00 | 40.00 | 32.0 | 32.0 | 32.0 | 170.00 | 14.80 | 24.60 | 8.0 | 48.0 |
| THDR/L 4040-16T50-IQ | 16.00 | 50.00 | 40.0 | 40.0 | 40.0 | 180.00 | 14.80 | 32.60 | - | - |
| THDR 3232-18T40-IQ | 18.00 | 40.00 | 32.0 | 32.0 | 32.0 | 170.00 | 16.50 | 23.80 | 8.0 | 48.0 |
| THDR 4040-18T50-IQ | 18.00 | 50.00 | 40.0 | 40.0 | 40.0 | 180.00 | 16.50 | 31.80 | - | - |
| THDR/L 3232-20T40-IQ | 20.00 | 40.00 | 32.0 | 32.0 | 32.0 | 170.00 | 18.00 | 23.00 | 8.0 | 48.0 |
| THDR/L 4040-20T50-IQ | 20.00 | 50.00 | 40.0 | 40.0 | 40.0 | 180.00 | 18.00 | 31.00 | - | - |

- For grooving only

(1) Cutting depth maximum

**Inserts:** TIGER-IQ

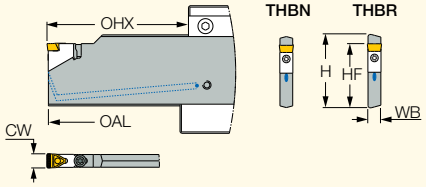


### Spare Parts

| Designation | | | | |
|---|---|---|---|---|
| THDR/L 2525-10T20-IQ | PIN 5.5 INJ | SR M6-26392 | BLD T15/S7 | SW6-T |
| THDR/L 3232-10T20-IQ | PIN 5.5 INJ | SR M6-26392 | BLD T15/S7 | SW6-T |
| THDR/L 2525-12T20-IQ | PIN 5.5 INJ | SR M6-26392 | BLD T15/S7 | SW6-T |
| THDR/L 3232-12T20-IQ | PIN 5.5 INJ | SR M6-26392 | BLD T15/S7 | SW6-T |
| THDR/L 2525-14T20-IQ | PIN 5.5 INJ | SR M6-26392 | BLD T15/S7 | SW6-T |
| THDR/L 3232-14T20-IQ | PIN 5.5 INJ | SR M6-26392 | BLD T15/S7 | SW6-T |
| THDR/L 3232-16T40-IQ | PIN 6.5 INJ 7000944 | SR M8-26393 | BLD T20/S7 | SW6-T |
| THDR/L 4040-16T50-IQ | PIN 6.5 INJ 7000944 | SR M8-26393 | BLD T20/S7 | SW6-T |
| THDR 3232-18T40-IQ | PIN 6.5 INJ 7000944 | SR M8-26393 | BLD T20/S7 | SW6-T |
| THDR 4040-18T50-IQ | PIN 6.5 INJ 7000944 | SR M8-26393 | BLD T20/S7 | SW6-T |
| THDR/L 3232-20T40-IQ | PIN 6.5 INJ 7000944 | SR M8-26393 | BLD T20/S7 | SW6-T |
| THDR/L 4040-20T50-IQ | PIN 6.5 INJ 7000944 | SR M8-26393 | BLD T20/S7 | SW6-T |

## THBR/L/N-IQ
Blades Carrying Cartridges for Wide Grooving Inserts






| Designation | CW | OHX[3] | CDX[4] | WB | OAL | HF | H | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| THBN 53K-10-IQ [1] | 10.00 | 100.0 | 93.00 | 9.00 | 260.00 | 45.2 | 52.6 | SR M5X3.5PL | SR M5X23-A90 | BLD IP20/S7 | SW6-T | SGC 340 | SGCU 341 |
| THBR/L 53K-12-IQ [2] | 12.00 | 100.0 | 93.00 | 10.80 | 260.00 | 45.2 | 52.6 | SR M5X3.5PL | SR M5X23-A90 | BLD IP20/S7 | SW6-T | SGC 340 | SGCU 341 |
| THBR/L 53K-14-IQ [2] | 14.00 | 100.0 | 93.00 | 12.60 | 260.00 | 45.2 | 52.6 | SR M5X3.5PL | SR M5X23-A90 | BLD IP20/S7 | SW6-T | SGC 340 | SGCU 341 |

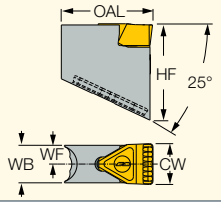
- For user guide, see pages 440-457

[1] Cartridges have to be ordered separately.
[2] For best performance use SGTBU...-14 holder blocks
[3] Maximum overhang
[4] If workpiece diameter is smaller than 200 mm, then CDX=98, if workpiece diameter is larger than 200 mm, then CDX=93.

**Tools:** CR THDN-IQ

## CR THDN-IQ
Cartridges for Blades Carrying Wide Grooving Inserts





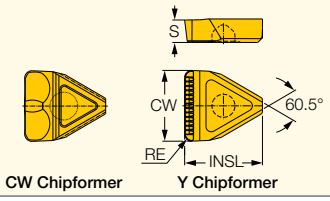

| Designation | CW | WF | HF | OAL | WB | | | | |
|---|---|---|---|---|---|---|---|---|---|
| CR THDN-10-IQ | 10.00 | 4.60 | 24.0 | 22.60 | 9.20 | SR M6-26392 | PIN 5.5 INJ | BLD T15/S7 | SW6-T |
| CR THDN-12-IQ | 12.00 | 5.50 | 23.7 | 23.60 | 11.00 | SR M6-26392 | PIN 5.5 INJ | BLD T15/S7 | SW6-T |
| CR THDN-14-IQ | 14.00 | 6.50 | 23.7 | 24.20 | 13.00 | SR M6-26392 | PIN 5.5 INJ | BLD T15/S7 | SW6-T |

- For user guide, see pages 440-457

**Inserts:** TIGER-IQ
**Holders:** THBR/L/N-IQ

## TIGER-IQ
Utility Single-Ended Inserts for External Heavy Grooving and Deep Machining




| Designation | Dimensions | | | | | | Tough ↔ Hard | | Recommended Machining Data |
|---|---|---|---|---|---|---|---|---|---|
| | CW | RE | CWTOL[1] | RETOL[2] | S | INSL | IC830 | IC808 | f groove (mm/rev) |
| TIGER 1008Y-IQ | 10.00 | 0.80 | 0.08 | 0.050 | 5.05 | 13.30 | ● | ● | 0.20-0.35 |
| TIGER 1212Y-IQ | 12.00 | 1.20 | 0.08 | 0.050 | 5.05 | 14.00 | ● | ● | 0.20-0.40 |
| TIGER 1415-CW-IQ | 14.00 | 1.50 | 0.08 | 0.050 | 5.15 | 16.10 | | ● | 0.22-0.45 |
| TIGER 1415Y-IQ | 14.00 | 1.50 | 0.08 | 0.050 | 5.15 | 16.10 | ● | ● | 0.22-0.45 |
| TIGER 1615Y-IQ | 16.00 | 1.50 | 0.08 | 0.050 | 6.35 | 20.00 | ● | ● | 0.22-0.50 |
| TIGER 1820Y-IQ | 18.00 | 2.00 | 0.08 | 0.050 | 6.35 | 20.90 | ● | ● | 0.25-0.55 |
| TIGER 2020-CW-IQ | 20.00 | 2.00 | 0.08 | 0.050 | 6.35 | 22.00 | | ● | 0.25-0.60 |
| TIGER 2020Y-IQ | 20.00 | 2.00 | 0.08 | 0.050 | 6.35 | 22.00 | ● | ● | 0.25-0.60 |

- For cutting speed recommendations and user guide, see pages 440-457

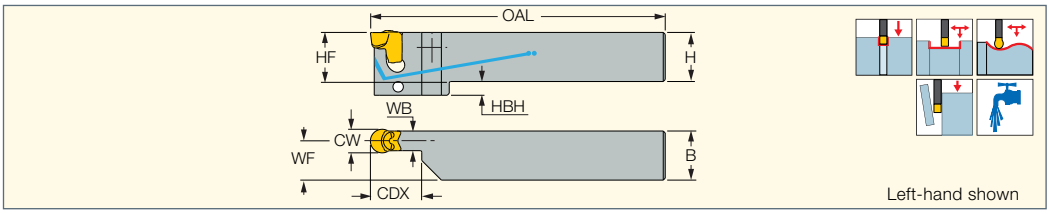
[1] Cutting width tolerance (+/-)
[2] Corner radius tolerance (+/-)

**Tools:** CR THDN-IQ • THDR/L-IQ

# SUMO-GRIP Tools and Inserts

SUMO-GRIP HEAVY DUTY LINE

**TGBHR/L**
Toolholders for Heavy Duty Groove-Turn and Parting Applications




| Designation | CW | H | HF | B | WB | OAL | CDX(2) | WF | HBH |
|---|---|---|---|---|---|---|---|---|---|
| TGBHR/L 20C-6 (1) | 6.00 | 20.0 | 20.0 | 20.0 | 5.20 | 135.00 | 12.00 | 17.40 | 5.0 |
| TGBHR/L 25C-6 (1) | 6.00 | 25.0 | 25.0 | 25.0 | 5.20 | 135.00 | 12.00 | 22.40 | - |
| TGBHR/L 32C-6 (1) | 6.00 | 32.0 | 32.0 | 32.0 | 5.20 | 150.00 | 12.00 | 29.40 | - |
| TGBHR/L 25C-8 | 8.00 | 25.0 | 25.0 | 25.0 | 7.00 | 150.00 | 25.00 | 21.50 | 12.0 |
| TGBHR/L 32C-8 | 8.00 | 32.0 | 32.0 | 32.0 | 7.00 | 170.00 | 30.00 | 28.50 | 5.0 |
| TGBHR/L 25C-10 | 10.00 | 25.0 | 25.0 | 25.0 | 8.00 | 150.00 | 25.00 | 21.00 | 12.0 |
| TGBHR/L 32C-10 | 10.00 | 32.0 | 32.0 | 32.0 | 8.00 | 170.00 | 30.00 | 28.00 | 5.0 |
| TGBHR/L 25C-12 | 12.00 | 25.0 | 25.0 | 25.0 | 10.00 | 150.00 | 25.00 | 20.00 | 12.0 |
| TGBHR/L 32C-12 | 12.00 | 32.0 | 32.0 | 32.0 | 10.00 | 170.00 | 30.00 | 27.00 | 5.0 |
| TGBHR/L 25C-14T20 | 14.00 | 25.0 | 25.0 | 25.0 | 12.00 | 140.00 | 20.00 | 19.00 | 12.0 |
| TGBHL 32C-14T40 | 14.00 | 32.0 | 32.0 | 32.0 | 12.00 | 170.00 | 40.00 | 26.00 | 5.0 |
| TGBHR/L 40C-14T40 | 14.00 | 40.0 | 40.0 | 40.0 | 12.00 | 170.00 | 40.00 | 34.00 | - |

• The tools for the 14 mm inserts feature a 1/8" port thread for standard tube fittings • For user guide, see pages 440-457

(1) For detailed depth capacity, see table below

(2) Cutting depth maximum

**Inserts:** TAG N-C/W/M • TAG N-J/JS/JT • TAG N-UT • TAG R/L-C • TAG R/L-J/JS • TAGB/TAGBA

**Depth Capacity for TGBHR/L...C-6**

| CDX | 28 | 26 | 24 | 22 | 20 | 18 | 16 | 14 | 12 |
|---|---|---|---|---|---|---|---|---|---|
| Dmax | 35 | 55 | 75 | 100 | 120 | 150 | 200 | 350 | ∞ |

**CW ≥ 14**




**CW = 6-12**




## Spare Parts

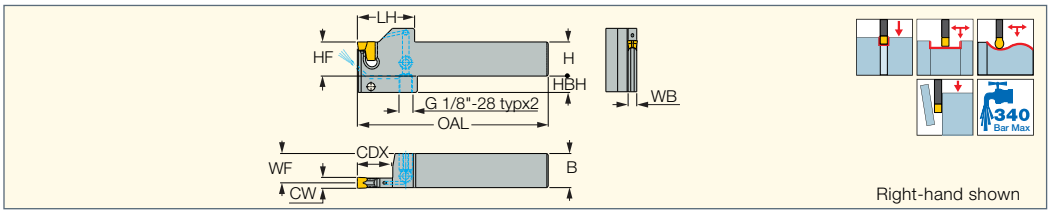
| Designation | | | | |
|---|---|---|---|---|
| TGBHR/L 20C-6 | ETG 5-7* | SGCU 341* | | |
| TGBHR/L 25C-6 | ETG 5-7* | SGCU 341* | | |
| TGBHR/L 32C-6 | ETG 5-7* | SGCU 341* | | |
| TGBHR/L 25C-8 | ETG 8-12* | SGCU 341* | | |
| TGBHR/L 32C-8 | ETG 8-12* | SGCU 341* | | |
| TGBHR/L 25C-10 | ETG 8-12* | SGCU 341* | | |
| TGBHR/L 32C-10 | ETG 8-12* | SGCU 341* | | |
| TGBHR/L 25C-12 | ETG 8-12* | SGCU 341* | | |
| TGBHR/L 32C-12 | ETG 8-12* | SGCU 341* | | |
| TGBHR/L 25C-14T20 | ETG 8-12* | | PLG G1/8 TL360 | JHP NIPPLE G1/8"-7/16"UNF* |
| TGBHL 32C-14T40 | ETG 8-12* | | PLG G1/8 TL360 | JHP NIPPLE G1/8"-7/16"UNF* |
| TGBHR/L 40C-14T40 | ETG 8-12* | | PLG G1/8 TL360 | JHP NIPPLE G1/8"-7/16"UNF* |

* Optional, should be ordered separately

SUMO-GRIP HEAVY DUTY LINE
JETCUT

## TGBHR/L-JHP

Grooving and Turning
SUMO-GRIP Tools with Channels
for High-Pressure Coolant




| Designation | H | CW | HF | B | LH | WB | OAL | CDX[1] | WF | HBH |
|---|---|---|---|---|---|---|---|---|---|---|
| TGBHR/L 25-8-JHP | 25.0 | 8.00 | 25.0 | 25.0 | 42.0 | 7.00 | 150.00 | 25.00 | 21.50 | 12.0 |
| TGBHR/L 32-8-JHP | 32.0 | 8.00 | 32.0 | 32.0 | 42.0 | 7.00 | 170.00 | 25.00 | 28.50 | 12.0 |

• For user guide see pages 440-457
(1) Cutting depth maximum
**Inserts:** TAG N-C/W/M • TAGB/TAGBA

### Flow Rate vs. Pressure

| Designation | 70 Bar Flow Rate (liters/min) | 100 Bar Flow Rate (liters/min) | 140 Bar Flow Rate (liters/min) |
|---|---|---|---|
| TGBHR/L-JHP | 13-16 | 19-21 | 22-24 |

### ETG 8-12 Extractor for 8 to 12.7 mm Inserts




### Spare Parts

| Designation | | | |
|---|---|---|---|
| TGBHL 25-8-JHP | ETG 8-12 | | |
| TGBHR/L 25-8-JHP | | PLG 1/8ISO1179 | HW 5.0 |
| TGBHR 25-8-JHP | ETG 8-12* | | |
| TGBHL 32-8-JHP | | PLG 1/8ISO1179 | HW 5.0 |
| TGBHR 32-8-JHP | ETG 8-12* | PLG 1/8ISO1179 | HW 5.0 |

* Optional, should be ordered separately

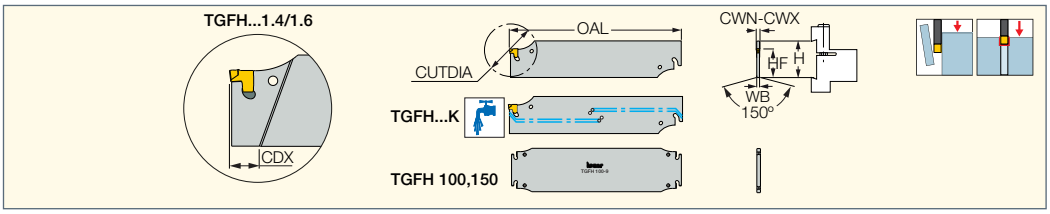


TANG-GRIP PARTING LINE

SUMO-GRIP HEAVY DUTY LINE

## TGFH/R/L

Blades with a Tangentially Oriented Pocket Carrying TANG-GRIP Single-Ended Inserts for Parting and Grooving




| Designation | H | CWN[2] | CWX[3] | WB | OAL | CDX | HF | CUTDIA | CSP[4] | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TGFH 19-1.4 | 19.0 | 1.40 | 1.40 | 1.05 [5] | 86.00 | 9.60 | 15.7 | 30.0 | 0 | TAG 1.4 | ETG 1.4/1.6* | |
| TGFH 19-1.6 | 19.0 | 1.60 | 1.60 | 1.30 [6] | 86.00 | 11.00 | 15.7 | 32.0 | 0 | TAG 1.6 | ETG 1.4/1.6* | |
| TGFH 19-2 | 19.0 | 1.80 | 2.40 | 1.65 | 86.00 | - | 15.7 | 38.0 | 0 | TAG 2 | ETG 2* | |
| TGFH 26-1.4 | 26.0 | 1.40 | 1.40 | 1.05 [5] | 110.00 | 8.30 | 21.4 | 29.0 | 0 | TAG 1.4 | ETG 1.4/1.6* | |
| TGFH 26-1.6 | 26.0 | 1.60 | 1.60 | 1.30 [6] | 110.00 | 10.00 | 21.4 | 35.0 | 0 | TAG 1.6 | ETG 1.4/1.6* | |
| TGFH 26-2 | 26.0 | 1.80 | 2.40 | 1.65 | 110.00 | - | 21.4 | 50.0 | 0 | TAG 2 | ETG 2* | |
| TGFH 26-3 | 26.0 | 2.80 | 3.50 | 2.50 | 110.00 | - | 21.4 | 75.0 | 0 | TAG 3 | ETG 3-4* | |
| TGFH 26K-3 [1] | 26.0 | 2.80 | 3.50 | 2.50 | 110.00 | - | 21.4 | 75.0 | 1 | TAG 3 | ETG 3-4-SH* | SGC 340 |
| TGFH 26-4 | 26.0 | 3.70 | 4.50 | 3.40 | 110.00 | - | 21.4 | 80.0 | 0 | TAG 4 | ETG 3-4* | |
| TGFH 26-5 | 26.0 | 4.70 | 5.50 | 4.00 | 150.00 | - | 21.4 | 80.0 | 0 | TAG 5 | ETG 5-7* | |
| TGFH 32-1.4 | 32.0 | 1.40 | 1.40 | 1.05 [5] | 150.00 | 7.10 | 24.8 | 29.0 | 0 | TAG 1.4 | ETG 1.4/1.6* | |
| TGFH 32-1.6 | 32.0 | 1.60 | 1.60 | 1.30 [5] | 150.00 | 10.00 | 24.8 | 38.0 | 0 | TAG 1.6 | ETG 1.4/1.6* | |
| TGFH 32-2 | 32.0 | 1.80 | 2.40 | 1.65 [5] | 150.00 | - | 24.8 | 50.0 | 0 | TAG 2 | ETG 2* | |
| TGFH 32-3 | 32.0 | 2.80 | 3.50 | 2.50 | 150.00 | - | 24.8 | 100.0 | 0 | TAG 3 | ETG 3-4* | |
| TGFH 32K-3 [1] | 32.0 | 2.80 | 3.50 | 2.50 | 150.00 | - | 24.8 | 100.0 | 1 | TAG 3 | ETG 3-4-SH* | SGC 340 |
| TGFH 32-4 | 32.0 | 3.70 | 4.50 | 3.40 | 150.00 | - | 24.8 | 100.0 | 0 | TAG 4 | ETG 3-4* | |
| TGFH 32K-4 [1] | 32.0 | 3.70 | 4.50 | 3.40 | 150.00 | - | 24.8 | 100.0 | 1 | TAG 4 | ETG 3-4-SH* | SGC 340 |
| TGFH 32-5 | 32.0 | 4.70 | 5.50 | 4.00 | 150.00 | - | 24.8 | 120.0 | 0 | TAG 5 | ETG 5-7* | |
| TGFH 32-6 | 32.0 | 5.70 | 6.50 | 5.20 | 150.00 | - | 24.8 | 120.0 | 0 | TAG 6 | ETG 5-7* | |
| TGFH 32-7 | 32.0 | 6.80 | 7.50 | 6.00 | 148.00 | - | 24.8 | 120.0 | 0 | TAG 7 | ETG 5-7* | |
| TGFH 45-3 | 45.0 | 2.80 | 3.50 | 2.50 | 225.00 | - | 38.1 | 160.0 | 0 | TAG 3 | ETG 3-4* | |
| TGFH 45-4 | 45.0 | 3.70 | 4.50 | 3.40 | 225.00 | - | 38.1 | 160.0 | 0 | TAG 4 | ETG 3-4* | |
| TGFH 45-5 | 45.0 | 4.70 | 5.50 | 4.00 | 225.00 | - | 38.1 | 160.0 | 0 | TAG 5 | ETG 5-7* | |
| TGFH 45-6 | 45.0 | 5.70 | 6.50 | 5.20 | 225.00 | - | 38.1 | 160.0 | 0 | TAG 6 | ETG 5-7* | |
| TGFH 45-7 | 45.0 | 6.80 | 7.50 | 6.00 | 225.00 | - | 38.1 | 160.0 | 0 | TAG 7 | ETG 5-7* | |
| TGFH 52-7 | 52.6 | 6.80 | 7.50 | 6.00 | 190.00 | - | 45.2 | 190.0 | 0 | TAG 7 | ETG 5-7* | |
| TGFH 53-7 | 52.6 | 6.80 | 7.50 | 6.00 | 260.00 | - | 45.2 | 220.0 | 0 | TAG 7 | ETG 5-7* | |
| TGFH 52K-8 [1] | 52.6 | 7.70 | 8.50 | 7.20 | 190.00 | - | 45.2 | 190.0 | 1 | TAG 8 | ETG 8-12* | |
| TGFH 53K-8 [1] | 52.6 | 7.70 | 8.50 | 7.20 | 260.00 | - | 45.2 | 215.0 | 1 | TAG 8 | ETG 8-12* | |
| TGFH 52K-9 [1] | 52.6 | 8.70 | 10.00 | 8.20 | 190.00 | - | 45.2 | 190.0 | 1 | TAG 9 | ETG 8-12* | |
| TGFH 53K-9 [1] | 52.6 | 8.70 | 10.00 | 8.20 | 260.00 | - | 45.2 | 215.0 | 1 | TAG 9 | ETG 8-12* | |
| TGFHR/L 53K-12 [1] | 52.6 | 11.70 | 12.70 | 10.00 | 260.00 | - | 45.2 | 215.0 | 1 | TAG 12 | ETG 8-12* | |
| TGFH 100-9 | 100.0 | 8.70 | 10.00 | 8.20 | 460.00 | - | 92.5 | 450.0 | 0 | TAG 9 | ETG 8-12* | |
| TGFH 100-12 | 100.0 | 11.70 | 12.70 | 10.00 | 460.00 | - | 92.5 | 450.0 | 0 | TAG 12 | ETG 8-12* | |
| TGFH 150-12 | 150.0 | 11.70 | 12.70 | 10.00 | 610.00 | - | 142.5 | 600.0 | 0 | TAG 12 | ETG 8-12* | |

• For user guide, see pages 440-457

[1] With coolant holes, the recommended coolant pressure is 10 bar min.; cooling tube SGCU 341 should be ordered separately

[2] Minimum cutting width

[3] Maximum cutting width

[4] 0 - Without coolant supply, 1 - With coolant supply

[5] Thickness beyond the D.O.C. area is 2.50 mm

[6] Thickness beyond the D.O.C. area is 1.60 mm

* Optional, should be ordered separately

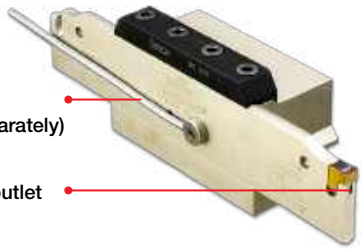
**Inserts:** TAG N-A • TAG N-C/W/M • TAG N-HF • TAG N-J/JS/JT • TAG N-LF • TAG N-MF • TAG N-UT • TAG R/L-C • TAG R/L-J/JS • TAGB/TAGBA

**Holders:** C#-TBK-R/L • HSK A-WH-TBK-R/L • SGTBF • SGTBK • SGTBR/L • SGTBU/SGTBN • UBHCR/L

### K TYPE COOLANT

Coolant inlet SGCU-341
(should be ordered separately)

Coolant outlet



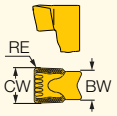
# CUT-GRIP Tools and Inserts

SUMO-GRIP HEAVY DUTY LINE

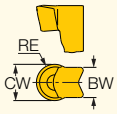
## TAGB/TAGBA

Single-Ended Utility Inserts for Grooving, Turning and Parting

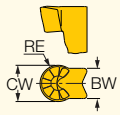




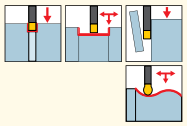

TAGB 608Y
TAGB 808Y
TAGB 1008Y
TAGB 1208Y
TAGB 1415Y




TAGB 1260H




TAGB 630Y
TAGBA 80-40YZ
TAGB 840Y
TAGB 1050Y
TAGB 1260Y



| Designation | Dimensions CW | CWTOL(3) | RE | RETOL(4) | BW | Tough ↔ Hard IC8250 | IC808 | IC07 | IC806 | IC807 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAGB 608Y | 6.00 | 0.05 | 0.80 | 0.050 | 5.20 | | ● | | ● | | 1.00-3.60 | 0.20-0.60 | 0.18-0.30 |
| TAGB 630Y | 6.00 | 0.05 | 3.00 | 0.050 | 5.20 | | ● | | ● | | 0.00-3.00 | 0.25-0.55 | 0.18-0.32 |
| TAGB 808Y | 8.00 | 0.05 | 0.80 | 0.050 | 6.20 | ● | ● | | ● | ● | 1.00-5.60 | 0.25-0.55 | 0.18-0.32 |
| TAGB 840Y (1) | 8.00 | 0.05 | 4.00 | 0.050 | 6.20 | ● | ● | | ● | ● | 0.00-4.00 | 0.24-0.67 | 0.18-0.32 |
| TAGBA 80-40YZ (1) | 8.00 | 0.05 | 4.00 | 0.050 | 6.00 | | | ● | | | 0.00-4.00 | 0.40-0.70 | 0.25-0.40 |
| TAGB 1008Y | 10.00 | 0.05 | 0.80 | 0.050 | 8.00 | ● | ● | | | | 1.00-7.00 | 0.30-0.70 | 0.22-0.40 |
| TAGB 1050Y (2) | 10.00 | 0.05 | 5.00 | 0.050 | 8.00 | ● | ● | | | | 0.00-5.00 | 0.30-0.85 | 0.22-0.40 |
| TAGB 1208Y | 12.00 | 0.07 | 0.80 | 0.050 | 10.00 | ● | ● | | | | 1.00-8.40 | 0.35-0.85 | 0.26-0.48 |
| TAGB 1260Y (2) | 12.00 | 0.07 | 6.00 | 0.050 | 10.00 | ● | ● | | | | 0.00-6.00 | 0.35-0.90 | 0.26-0.48 |
| TAGB 1260H (2) | 12.00 | 0.07 | 6.00 | 0.050 | 10.00 | ● | ● | | | | 0.00-6.00 | 0.45-1.00 | 0.35-0.55 |
| TAGB 1415Y | 14.00 | 0.07 | 1.50 | 0.050 | 12.00 | ● | ● | | | | 1.80-8.40 | 0.35-0.85 | 0.26-0.50 |

- H-type chipformer with a negative T-land for machining heavy interrupted applications and cast iron parts
- For cutting speed recommendations and user guide, see pages 440-457

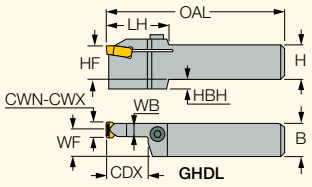
(1) Blade's pocket must be modified
(2) Tool's pocket must be modified
(3) Cutting width tolerance (+/-)
(4) Corner radius tolerance (+/-)

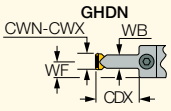
**Tools:** Anti-Vibration Blades • TGBHR/L • TGBHR/L-JHP • TGFH-JHP • TGFH/R/L • TGSU • TGTR/L-IQ

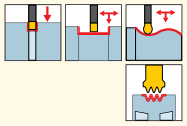
CUT-GRIP

## GHDR/L/N 12/14

External Tools for Wide Grooving Inserts



Left-hand shown

| Designation | CWN(1) | CWX(2) | CDX(3) | H | HF | B | OAL | WF | WB | LH | HBH | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GHDR/L 32-12 | 12.00 | 14.53 | 30.00 | 32.0 | 32.0 | 32.0 | 170.00 | 27.30 | 9.50 | 50.0 | - | GIMY 1260,TIGER 1453 | SR M8X20DIN912 | HW 6.0 |
| GHDR/L 2525-14T12 | 13.00 | 17.40 | 12.00 | 25.0 | 25.0 | 25.0 | 150.00 | 19.00 | 12.00 | 41.0 | - | TIGER/GPV 14/16/17 | SR M8X20DIN912 | HW 6.0 |
| GHDR 3232-14T12 | 13.00 | 17.40 | 12.00 | 32.0 | 32.0 | 32.0 | 170.00 | 26.00 | 12.00 | 41.0 | - | TIGER/GPV 14/16/17 | SR M8X20DIN912 | HW 6.0 |
| GHDR/L 3232-14T38 | 13.00 | 17.40 | 38.00 | 32.0 | 32.0 | 32.0 | 170.00 | 26.00 | 12.00 | 59.0 | 8.0 | TIGER 14/16/17 | SR M8X20DIN912 | HW 6.0 |
| GHDN 3232-14T38 | 13.00 | 17.40 | 38.00 | 32.0 | 32.0 | 32.0 | 170.00 | 16.00 | 12.00 | 57.5 | 8.0 | TIGER 14/16/17 | SR M8X20DIN912 | HW 6.0 |
| GHDR/L 4040-14T38 | 13.00 | 17.40 | 38.00 | 40.0 | 40.0 | 40.0 | 170.00 | 34.00 | 12.00 | 59.0 | - | TIGER 14/16/17 | SR M8X20DIN912 | HW 6.0 |
| GHDN 4040-14T45 | 14.50 | 17.40 | 45.00 | 40.0 | 40.0 | 40.0 | 170.00 | 20.00 | 12.00 | 55.5 | - | TIGER 14/16/17 | SR 76-1289 | HW 5.0 |

- For user guide, see pages 440-457

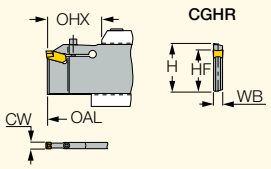
(1) Minimum cutting width
(2) Maximum cutting width
(3) Cutting depth maximum

**Inserts:** GIMY 1260 • GPV • TIGER

CUT-GRIP

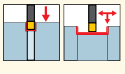
## CGHR/L-12-14D

Deep Machining Screw-Clamped Blades for Wide Grooving and Heavy Turning Applications









| Designation | CWN(1) | CWX(2) | OHX(3) | CDX(4) | WB | OAL | HF | H | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CGHR/L 53-12D | 12.00 | 14.50 | 100.0 | 93.00 | 9.50 | 260.00 | 45.0 | 52.6 | SR 76-4002 | HW 5.0 |
| CGHR/L 53-14D | 12.50 | 17.40 | 100.0 | 93.00 | 11.10 | 260.00 | 45.0 | 52.6 | SR M6X25 DIN912 | HW 5.0 |

- If the diameter of the workpiece is smaller than 200 mm, then CDX=98 mm • For user guide, see pages 440-457

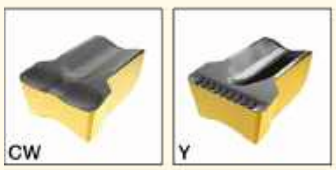
(1) Minimum cutting width
(2) Maximum cutting width
(3) Maximum overhang
(4) If workpiece diameter is smaller than 200 mm, then CDX=98, if workpiece diameter is larger than 200 mm, then CDX=93.

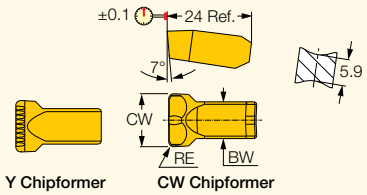
**Inserts:** GIMY 1260 • TIGER
**Holders:** SGTBK • SGTBU/SGTBN

CUTGRIP

## TIGER

Utility Single-Ended Inserts for External Heavy Grooving and Deep Machining




| Designation | Dimensions CW | CWTOL(1) | RE | RETOL(2) | BW | INSL | Tough ↔ Hard IC830 | IC808 | IC20 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| TIGER 1453-152 | 14.53 | 0.08 | 1.52 | 0.050 | 10.00 | 24.00 | ● | ● | ● | 0.22-0.44 |
| TIGER 1453-152-CW | 14.53 | 0.08 | 1.52 | 0.050 | 10.00 | 24.00 | | ● | | 0.15-0.50 |
| TIGER 16.63-1.52 | 16.63 | 0.02 | 1.52 | 0.050 | 12.70 | 24.00 | | ● | | 0.25-0.50 |
| TIGER 1740-200 | 17.40 | 0.08 | 2.00 | 0.100 | 12.70 | 24.00 | | ● | | 0.26-0.52 |

- For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

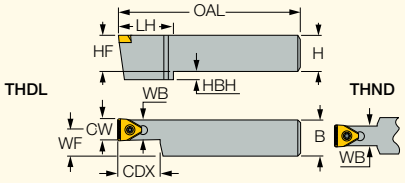
(2) Corner radius tolerance (+/-)

**Tools:** CGHR/L-12-14D • GHDR/L/N 12/14

CUTGRIP

## THDR/L/N

External Holders for Wide (20 mm) Grooving Inserts




Left-hand shown

| Designation | CW | CDX(1) | H | HF | B | OAL | WB | WF | HBH | LH | Insert | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| THDR 3232-17T38 | 17.00 | 38.00 | 32.0 | 32.0 | 32.0 | 170.00 | 16.00 | 24.00 | 8.0 | 50.0 | TIGERV 1740 | SR 14-519 | BLD T20/M7 | SW6-T |
| THDR/L 4040-17T45 | 17.00 | 45.00 | 40.0 | 40.0 | 40.0 | 170.00 | 15.00 | 32.50 | - | - | TIGERV 1740 | SR 14-519 | BLD T20/M7 | SW6-T |
| THDR/L 3232-20T38 | 20.06 | 38.00 | 32.0 | 32.0 | 32.0 | 170.00 | 17.50 | 23.30 | 8.0 | 50.0 | TIGERV 2006 | SR 14-519 | BLD T20/M7 | SW6-T |
| THDN 3232-20T38 | 20.06 | 38.00 | 32.0 | 32.0 | 32.0 | 170.00 | 17.50 | 16.00 | 8.0 | 50.0 | TIGERV 2006 | SR 14-519 | BLD T20/M7 | SW6-T |
| THDR/L 4040-20T45 | 20.06 | 45.00 | 40.0 | 40.0 | 40.0 | 170.00 | 17.50 | 31.30 | - | - | TIGERV 2006 | SR 14-519 | BLD T20/M7 | SW6-T |
| THDN 4040-20T45 | 20.06 | 45.00 | 40.0 | 40.0 | 40.0 | 170.00 | 17.50 | 20.00 | - | - | TIGERV 2006 | SR 14-519 | BLD T20/M7 | SW6-T |

- For grooving only

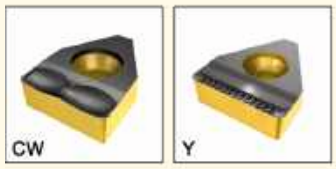
(1) Cutting depth maximum

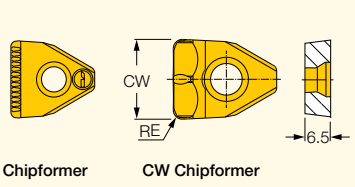
**Inserts:** TIGERV

CUTGRIP

## TIGERV

Utility Single-Ended Inserts for External Deep Grooving and Heavy Machining




| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | Tough ↔ Hard IC830 | IC808 | IC20 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| TIGERV 1700-200-CW | 17.00 | 2.00 | 0.08 | 0.050 | | ● | | 0.20-0.60 |
| TIGERV 2006-152 | 20.06 | 1.52 | 0.08 | 0.050 | ● | ● | ● | 0.30-0.60 |

- For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

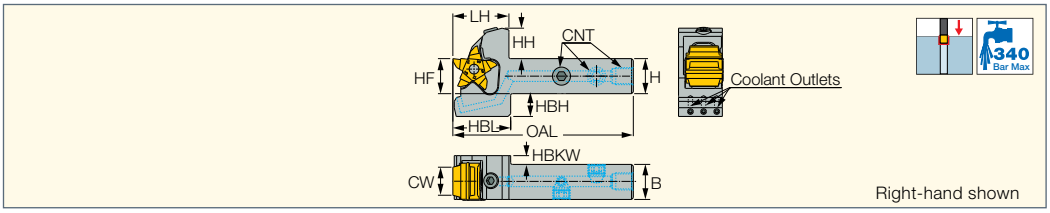
**Tools:** THDR/L/N

# PENTA-CUT Tools and Inserts

PENTACUT PARTING & GROOVING LINE

## PCHR/L-27-JHP-MC

Tools Carrying Pentagonal Wide Inserts for Specially Tailored Profiles




| Designation | CW | H | HF | B | HBKW | OAL | LH | HBH | HBL | CNT | HH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PCHR/L 20-27-10-JHP-MC | 10.00 | 20.0 | 20.0 | 20.0 | 5.00 | 102.00 | 32.0 | 13.0 | 33.0 | G1/8x9 | 17.4 |
| PCHR/L 25-27-10-JHP-MC | 10.00 | 25.0 | 25.0 | 25.0 | - | 117.00 | 32.0 | 8.0 | 33.0 | G1/8x9 | 17.4 |
| PCHR/L 20-27-15-JHP-MC | 15.00 | 20.0 | 20.0 | 20.0 | 5.00 | 102.00 | 32.0 | 13.0 | 33.0 | G1/8x9 | 17.4 |
| PCHR/L 25-27-15-JHP-MC | 15.00 | 25.0 | 25.0 | 25.0 | - | 117.00 | 32.0 | 8.0 | 33.0 | G1/8x9 | 17.4 |
| PCHR/L 20-27-20-JHP-MC | 20.00 | 20.0 | 20.0 | 20.0 | 5.00 | 102.00 | 32.0 | 13.0 | 33.0 | G1/8x9 | 17.4 |
| PCHR/L 25-27-20-JHP-MC | 20.00 | 25.0 | 25.0 | 25.0 | - | 117.00 | 32.0 | 8.0 | 33.0 | G1/8x9 | 17.4 |

**Inserts:** PENTAS 27 blanks

### Spare Parts

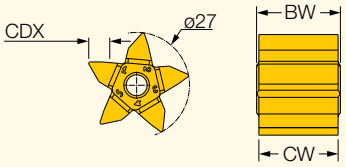
| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| PCHR/L 20-27-20-JHP-MC | SR M3X6 ISO7380 SS | HW 3.0 | SR M6X6 DIN913 | SR M6X6 DIN913 TL360 | PUSH ROD - 40529 | HW 4.0 | PLG G1/8 TL360 | HW 5.0 |
| PCHL 25-27-20-JHP-MC | SR M3X6 ISO7380 SS | HW 3.0 | SR M6X6 DIN913 | SR M6X6 DIN913 TL360 | PUSH ROD - 40529 | HW 4.0 | PLG G1/8 TL360 | HW 5.0 |
| PCHR 25-27-20-JHP-MC | | | | | PUSH ROD - 40529 | HW 4.0 | | |

PENTACUT PARTING & GROOVING LINE

## PENTAS 27 blanks

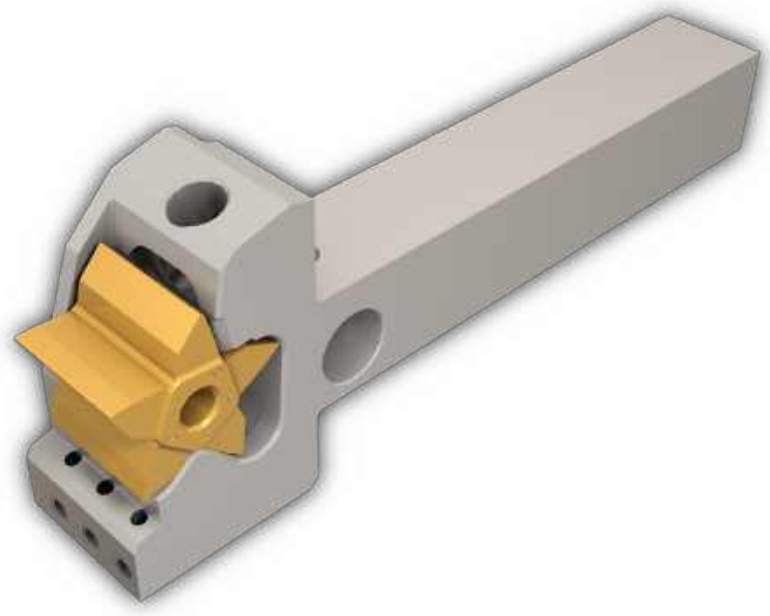
Blank Inserts with 5 Wide Cutting Edges for the Production of Special Profile Contours






| Designation | Dimensions | | | IC08 |
|---|---|---|---|---|
| | CW | CDX | BW | |
| PENTAS 27-10FT | 10.00 | 4.00 | 11.80 | ● |
| PENTAS 27-15FT | 15.00 | 4.00 | 16.80 | ● |
| PENTAS 27-20FT | 20.00 | 4.00 | 21.80 | ● |

**Tools:** PCHR/L-27-JHP-MC



# INTERNAL TOOLS AND INSERTS



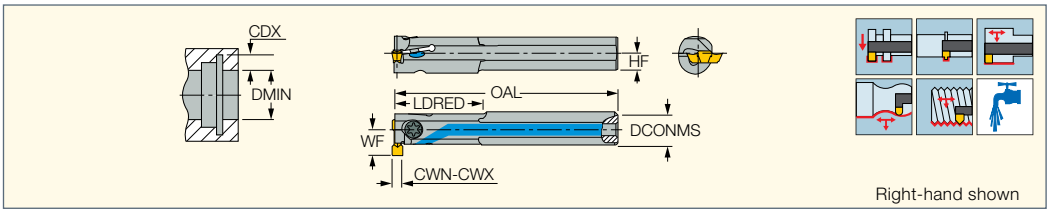
# Internal Tools and Inserts

## CUT-GRIP Boring Bars Dmin 12.5 mm (GEPI Inserts)

CUT-GRIP

### GEHIMR/L

Internal Machining Boring Bars with Coolant Holes for Insert Widths Less than 1.9 mm




| Designation | CWN(1) | CWX(2) | DCONMS | DMIN | CDX(3) | OAL | LDRED | WF | HF | CND(4) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GEHIMR/L 10-13 | 0.80 | 1.90 | 10.00 | 12.50 | 2.50 | 125.00 | 25.0 | 7.60 | 5.0 | 3.50 | SR 16-236 | T-15/5 | |
| GEHIMR/L 12-14 | 0.80 | 1.90 | 12.00 | 14.00 | 2.50 | 150.00 | 35.0 | 9.00 | 6.0 | 6.00 | SR 16-236 | T-15/5 | |
| GEHIMR/L 16-13 | 0.80 | 1.90 | 16.00 | 12.50 | 2.50 | 125.00 | 20.0 | 10.60 | 7.5 | 8.00 | SR 16-236 | T-15/5 | PL 16 |
| GEHIMR/L 16-14 | 0.80 | 1.90 | 16.00 | 14.00 | 2.50 | 125.00 | 25.0 | 10.90 | 7.5 | 8.00 | SR 16-236 | T-15/5 | PL 16 |
| GEHIMR/L 16-16 | 0.80 | 1.90 | 16.00 | 16.00 | 2.50 | 160.00 | 40.0 | 10.50 | 7.5 | 8.00 | SR M5-04451 | T-20/5 | PL 16 |

- For user guide, see pages 440-457

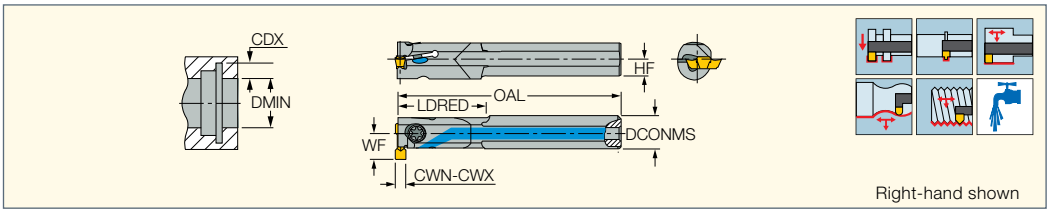
(1) Minimum cutting width
(2) Maximum cutting width
(3) Cutting depth maximum
(4) Coolant inlet diameter

**Inserts:** GEPI • GEPI (W<M) • GEPI-MT • GEPI-RX/LX • GEPI-WT

CUT-GRIP

### GEHIMR/L-SC

Internal Machining Solid Carbide Bars with Coolant Holes for Insert Widths Less than 1.9 mm




| Designation | CWN(1) | CWX(2) | DCONMS | DMIN | CDX(3) | OAL | LDRED | WF | HF | CND(4) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GEHIMR/L 10SC-13 | 0.80 | 1.90 | 10.00 | 12.50 | 2.50 | 125.00 | 30.0 | 7.60 | 5.0 | 3.50 | SR 16-236 | T-15/5 | |
| GEHIMR/L 12SC-14 | 0.80 | 1.90 | 12.00 | 14.00 | 2.50 | 125.00 | 40.0 | 9.00 | 6.0 | 6.00 | SR 16-236 | T-15/5 | |
| GEHIMR/L 16SC-13 | 0.80 | 1.90 | 16.00 | 12.50 | 2.50 | 125.00 | 35.0 | 10.60 | 7.5 | 8.00 | SR 16-236 | T-15/5 | PL 16 |
| GEHIMR/L 16SC-16 | 0.80 | 1.90 | 16.00 | 16.00 | 2.50 | 160.00 | 70.0 | 10.50 | 7.5 | 8.00 | SR M5-04451 | T-20/5 | PL 16 |

- For user guide, see pages 440-457

(1) Minimum cutting width
(2) Maximum cutting width
(3) Cutting depth maximum
(4) Coolant inlet diameter

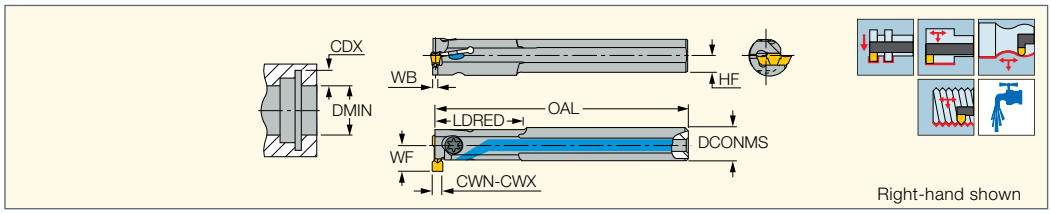
**Inserts:** GEPI • GEPI (W<M) • GEPI-MT • GEPI-RX/LX • GEPI-WT



CUTGRIP

## GEHIR/L

Internal Machining Bars
with Coolant Holes




| Designation | CWN[1] | CWX[2] | DCONMS | DMIN | CDX[3] | OAL | LDRED | WF | WB | HF | CND[4] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GEHIR/L 10-11.5-2-T3 | 1.90 | 2.40 | 10.00 | 11.50 | 3.00 | 125.00 | 25.0 | 8.80 | 1.60 | 5.0 | 3.50 |
| GEHIR/L 10-13-2-T2.4 | 1.90 | 2.40 | 10.00 | 12.50 | 2.40 | 125.00 | 25.0 | 7.50 | 1.60 | 5.0 | 3.50 |
| GEHIR/L 12-11.5-2-T3* | 1.90 | 2.40 | 12.00 | 11.50 | 3.00 | 125.00 | 20.0 | 11.60 | 1.60 | 6.0 | 6.00 |
| GEHIR/L 12-14-2-T2.6 | 1.90 | 2.40 | 12.00 | 14.00 | 2.60 | 150.00 | 35.0 | 9.10 | 1.60 | 6.0 | 6.00 |
| GEHIR/L 12-14-2-T4 | 1.90 | 2.40 | 12.00 | 14.00 | 4.00 | 150.00 | 35.0 | 10.30 | 1.60 | 6.0 | 6.00 |
| GEHIR/L 12-15-2-T6 | 1.90 | 2.40 | 12.00 | 15.00 | 6.00 | 150.00 | 29.0 | 12.30 | 1.60 | 6.0 | 6.00 |
| GEHIL 16-11.5-2-T3 | 1.90 | 2.40 | 16.00 | 11.50 | 3.00 | 125.00 | 20.0 | 11.60 | 1.60 | 7.5 | 8.00 |
| GEHIR 16-11.5-2-T3 | 1.90 | 2.40 | 16.00 | 11.50 | 3.00 | 125.00 | 20.0 | 11.10 | 1.60 | 7.5 | 8.00 |
| GEHIR/L 16-13-2-T2.4 | 1.90 | 2.40 | 16.00 | 12.50 | 2.40 | 125.00 | 20.0 | 10.50 | 1.60 | 7.5 | 8.00 |
| GEHIR/L 16-14-2-T2.6 | 1.90 | 2.40 | 16.00 | 14.00 | 2.60 | 125.00 | 25.0 | 11.00 | 1.60 | 7.5 | 8.00 |
| GEHIR/L 16-14-2-T4 | 1.90 | 2.40 | 16.00 | 14.00 | 4.00 | 125.00 | 25.0 | 12.40 | 1.60 | 7.5 | 8.00 |
| GEHIR/L 16-16-2-T3 | 1.90 | 2.40 | 16.00 | 16.00 | 3.00 | 160.00 | 40.0 | 11.00 | 1.60 | 7.5 | 8.00 |
| GEHIR/L 16-20-2-T8 | 1.90 | 2.40 | 16.00 | 20.00 | 8.00 | 160.00 | 40.0 | 16.10 | 1.60 | 7.5 | 8.00 |
| GEHIR/L 12-14-3-T2.6 | 2.40 | 3.20 | 12.00 | 14.00 | 2.60 | 150.00 | 35.0 | 9.10 | 2.00 | 6.0 | 6.00 |
| GEHIR/L 12-14-3-T4 | 2.40 | 3.20 | 12.00 | 14.00 | 4.00 | 150.00 | 35.0 | 10.30 | 2.00 | 6.0 | 6.00 |
| GEHIR/L 12-15-3-T6 | 2.40 | 3.20 | 12.00 | 15.00 | 6.00 | 150.00 | 29.0 | 12.30 | 2.00 | 6.0 | 6.00 |
| GEHIL 16-11.5-3-T3 | 2.40 | 3.20 | 16.00 | 11.50 | 3.00 | 125.00 | 20.0 | 11.60 | 2.00 | 7.5 | 8.00 |
| GEHIR 16-11.5-3-T3 | 2.40 | 3.20 | 16.00 | 11.50 | 3.00 | 125.00 | 20.0 | 11.10 | 2.00 | 7.5 | 8.00 |
| GEHIR/L 16-13-3-T2.4 | 2.40 | 3.20 | 16.00 | 12.50 | 2.40 | 125.00 | 20.0 | 10.50 | 2.00 | 7.5 | 8.00 |
| GEHIR/L 16-14-3-T2.6 | 2.40 | 3.20 | 16.00 | 14.00 | 2.60 | 125.00 | 25.0 | 11.00 | 2.00 | 7.5 | 8.00 |
| GEHIR/L 16-14-3-T4 | 2.40 | 3.20 | 16.00 | 14.00 | 4.00 | 125.00 | 25.0 | 12.40 | 2.00 | 7.5 | 8.00 |
| GEHIR/L 16-16-3-T3 | 2.40 | 3.20 | 16.00 | 16.00 | 3.00 | 160.00 | 40.0 | 11.00 | 2.00 | 7.5 | 8.00 |
| GEHIR/L 16-20-3-T8 | 2.40 | 3.20 | 16.00 | 20.00 | 8.00 | 160.00 | 40.0 | 16.10 | 2.00 | 7.5 | 8.00 |

- For user guide, see pages 440-457

[1] Minimum cutting width
[2] Maximum cutting width
[3] Cutting depth maximum
[4] Coolant inlet diameter

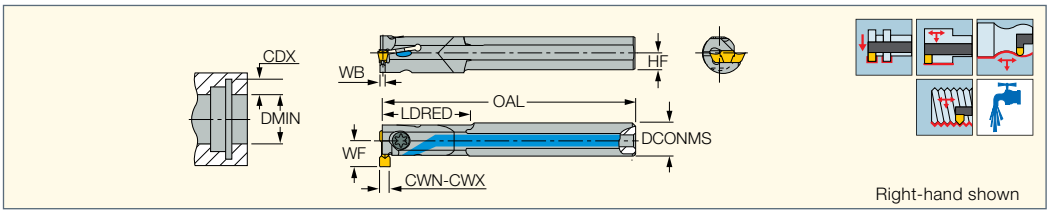
**Inserts:** GEMI • GEMI (full radius) • GEPI • GEPI (full radius) • GEPI-MT • GEPI-WT

### Spare Parts

| Designation | | | |
|---|---|---|---|
| GEHIR/L 10-11.5-2-T3 | SR 14-513 | T-8/5 | |
| GEHIR/L 10-13-2-T2.4 | SR 16-236 | T-15/5 | |
| GEHIL 12-11.5-2-T3 | SR 14-513 | T-8/5 | |
| GEHIR 12-11.5-2-T3* | SR 14-513 | | |
| GEHIR/L 12-14-2-T2.6 | SR 16-236 | T-15/5 | |
| GEHIR/L 12-14-2-T4 | SR 14-562 | T-10/5 | |
| GEHIR/L 12-15-2-T6 | SR 14-513 | T-8/5 | |
| GEHIR/L 16-11.5-2-T3 | SR 14-513 | T-8/5 | PL 16 |
| GEHIR/L 16-13-2-T2.4 | SR 16-236 | T-15/5 | PL 16 |
| GEHIR/L 16-14-2-T2.6 | SR 16-236 | T-15/5 | PL 16 |
| GEHIR/L 16-14-2-T4 | SR 14-562 | T-10/5 | PL 16 |
| GEHIR/L 16-16-2-T3 | SR M5-04451 | T-20/5 | PL 16 |
| GEHIR/L 16-20-2-T8 | SR M5-04451 | T-20/5 | PL 16 |
| GEHIR/L 12-14-3-T2.6 | SR 16-236 | T-15/5 | |
| GEHIR/L 12-14-3-T4 | SR 14-562 | T-10/5 | |
| GEHIR/L 12-15-3-T6 | SR 14-513 | T-8/5 | |
| GEHIR/L 16-11.5-3-T3 | SR 14-513 | T-8/5 | PL 16 |
| GEHIR/L 16-13-3-T2.4 | SR 16-236 | T-15/5 | PL 16 |
| GEHIR/L 16-14-3-T2.6 | SR 16-236 | T-15/5 | PL 16 |
| GEHIR/L 16-14-3-T4 | SR 14-562 | T-10/5 | PL 16 |
| GEHIR/L 16-16-3-T3 | SR M5-04451 | T-20/5 | PL 16 |
| GEHIR/L 16-20-3-T8 | SR M5-04451 | T-20/5 | PL 16 |

CUTGRIP

## GEHIR/L-SC
Internal Machining Solid Carbide Bars with Coolant Holes




| Designation | CWN(1) | CWX(2) | DCONMS | DMIN | CDX(3) | OAL | LDRED | WF | WB | HF | CND(4) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GEHIR/L 10SC-13-2 | 1.90 | 2.40 | 10.00 | 12.50 | 2.40 | 125.00 | 30.0 | 7.50 | 1.60 | 5.0 | 3.50 | SR 16-236 | T-15/5 | |
| GEHIR 12SC-14-2 | 1.90 | 2.40 | 12.00 | 14.00 | 2.60 | 125.00 | 40.0 | 9.10 | 1.60 | 6.0 | 6.00 | SR 16-236 | T-15/5 | |
| GEHIR/L 16SC-16-2 | 1.90 | 2.40 | 16.00 | 16.00 | 3.00 | 160.00 | 70.0 | 11.00 | 1.60 | 7.5 | 8.00 | SR M5-04451 | T-20/5 | PL 16 |
| GEHIR 12SC-14-3 | 2.40 | 3.20 | 12.00 | 14.00 | 2.60 | 125.00 | 40.0 | 9.10 | 2.00 | 6.0 | 6.00 | SR 16-236 | T-15/5 | |
| GEHIR 16SC-13-3 | 2.40 | 3.20 | 16.00 | 12.50 | 2.40 | 125.00 | 35.0 | 10.50 | 2.00 | 7.5 | 8.00 | SR 16-236 | T-15/5 | PL 16 |
| GEHIR/L 16SC-14-3 | 2.40 | 3.20 | 16.00 | 14.00 | 2.60 | 140.00 | 40.0 | 11.00 | 2.00 | 7.5 | 8.00 | SR 16-236 | T-15/5 | PL 16 |
| GEHIR/L 16SC-16-3 | 2.40 | 3.20 | 16.00 | 16.00 | 3.00 | 160.00 | 70.0 | 11.00 | 2.00 | 7.5 | 8.00 | SR M5-04451 | T-20/5 | PL 16 |

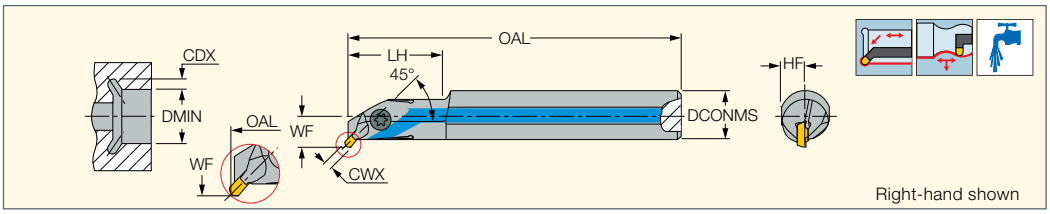
- For user guide, see pages 440-457

(1) Minimum cutting width
(2) Maximum cutting width
(3) Cutting depth maximum
(4) Coolant inlet diameter

**Inserts:** GEMI • GEMI (full radius) • GEPI • GEPI (full radius) • GEPI-MT • GEPI-WT

CUTGRIP

## GEHIUR/L
Boring Bars with Coolant Holes for Undercutting and Turning




| Designation | CWX(1) | DCONMS | DMIN | CDX(2) | OAL | LH | WF | HF | CND(3) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GEHIUR/L 12U | 3.20 | 12.00 | 14.00 | 2.00 | 125.00 | 20.0 | 8.70 | 6.0 | 6.00 | SR 16-236 P | T-15/5 | |
| GEHIUR/L 16U | 3.20 | 16.00 | 16.00 | 2.00 | 125.00 | 32.0 | 9.70 | 7.5 | 8.00 | SR M5-04451 | T-20/5 | PL 16 |

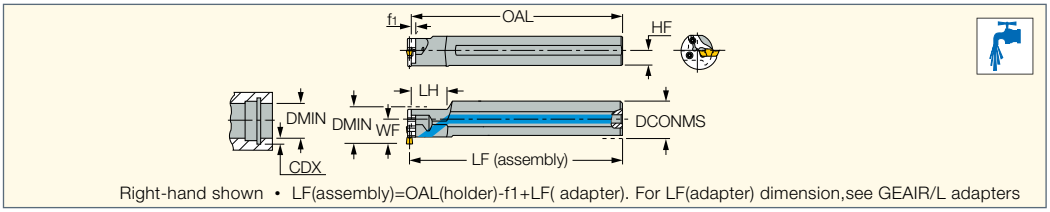
- For profiling use GEPI (full radius) inserts only, for undercutting use GEPI - UN/UR/UL

(1) Maximum cutting width
(2) Cutting depth maximum
(3) Coolant inlet diameter

**Inserts:** GEPI (full radius) • GEPI-UN/UR/UL

CUTGRIP

## GHAIR/L-GE
Bars with Coolant Holes for Internal Grooving and Turning Adapters




| Designation | DCONMS | LH | OAL | WF | HF | f1 | Adapter | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GHAIR/L 16-20 | 16.00 | - | 150.00 | 11.50 | 7.5 | 2.4 | GEAIR/L 20.. | SR 76-2057 | T-8/5 | PL 16 |
| GHAIR/L 20-20 | 20.00 | 20.0 | 150.00 | 13.50 | 9.0 | 2.4 | GEAIR/L 20.. | SR 76-2057 | T-8/5 | PL 20 |
| GHAIR/L 25-20 | 25.00 | 25.0 | 200.00 | 16.00 | 11.5 | 2.4 | GEAIR/L 20.. | SR 76-2057 | T-8/5 | PL 25 |
| GHAIR/L 32-20 | 32.00 | 32.0 | 200.00 | 19.50 | 14.5 | 2.4 | GEAIR/L 20.. | SR 76-2057 | T-8/5 | PL 32 |
| GHAIR/L 20-25 | 20.00 | - | 150.00 | 14.50 | 9.0 | 2.4 | GEAIR/L 25.. | SR 16-236 P | T-15/5 | PL 20 |
| GHAIR/L 25-25 | 25.00 | 25.0 | 200.00 | 17.00 | 11.5 | 2.4 | GEAIR/L 25.. | SR 16-236 P | T-15/5 | PL 25 |
| GHAIR/L 32-25 | 32.00 | 32.0 | 200.00 | 20.50 | 14.5 | 2.4 | GEAIR/L 25.. | SR 16-236 P | T-15/5 | PL 32 |

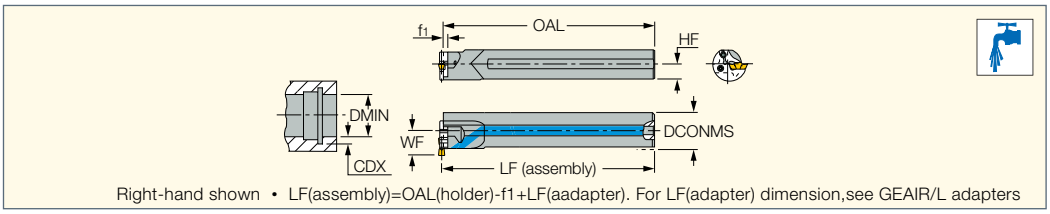
- For DMIN & CDX refer to GEAIR/L adapters

**Tools:** GEAIR/L

CUTGRIP

## GHAIR/L-SC-GE

Solid Carbide Bars with Coolant Holes for Internal Grooving and Turning Adapters




Right-hand shown • LF(assembly)=OAL(holder)-f1+LF(aadapter). For LF(adapter) dimension,see GEAIR/L adapters

| Designation | DCONMS | OAL | WF | HF | f1 | Adapter | | | |
|---|---|---|---|---|---|---|---|---|---|
| GHAIR/L 25SC-25 | 25.00 | 200.00 | 17.00 | 11.5 | 2.4 | GEAIR/L 25-... | SR 16-236 P | T-15/5 | PL 25 |

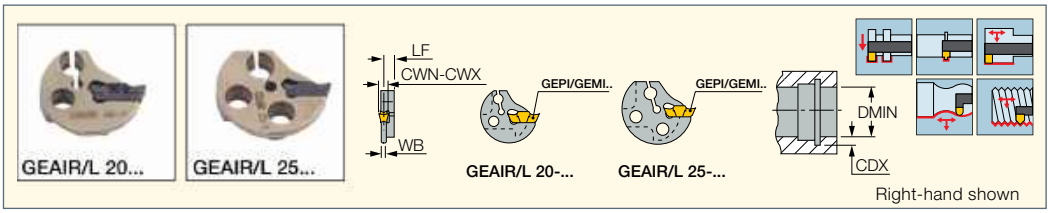
• For DMIN & CDX refer to GEAIR/L adapters.

**Tools:** GEAIR/L

CUTGRIP

## GEAIR/L

Internal Grooving and Turning Adapters




Right-hand shown

| Designation | DMIN | CWN[1] | CWX[2] | CDX[3] | LF | WB | MIID[4] |
|---|---|---|---|---|---|---|---|
| GEAIR/L 20-2 | 20.00 | 1.90 | 2.40 | 3.00 | 3.40 | 1.60 | GEPI 2.00-0.10 |
| GEAIR/L 20-3 | 20.00 | 2.40 | 3.00 | 3.00 | 3.60 | 2.00 | GEPI 3.00-0.20 |
| GEAIR/L 20-4 | 20.00 | 3.00 | 4.00 | 3.00 | 3.90 | 2.50 | GEPI 3.18-0.20 |
| GEAIR/L 25-2 | 25.00 | 1.90 | 2.40 | 4.00 | 3.40 | 1.60 | GEPI 2.00-0.10 |
| GEAIR/L 25-3 | 25.00 | 2.40 | 3.00 | 4.00 | 3.60 | 2.00 | GEPI 3.00-0.20 |
| GEAIR/L 25-4 | 25.00 | 3.00 | 4.00 | 4.00 | 3.90 | 2.50 | GEPI 3.18-0.20 |

• When using TIPI inserts, toolholder seat needs to be modified according to insert profile to ensure clearance • For user guide, see pages 440-457

(1) Minimum cutting width

(2) Maximum cutting width

(3) Cutting depth maximum

(4) Master insert identification

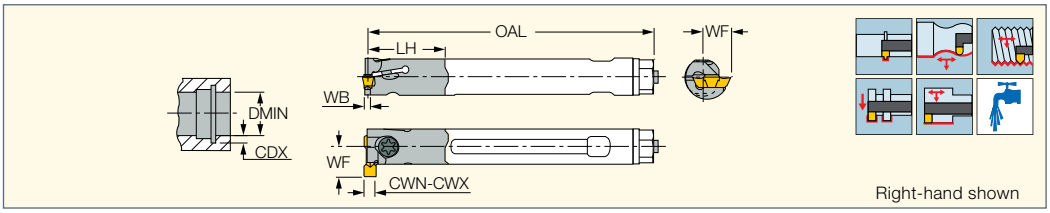
**Inserts:** GEMI • GEMI (full radius) • GEPI • GEPI (full radius) • GEPI-MT • GEPI-WT

**Holders:** C#-GHAIR/L • GHAIR/L-GE • GHAIR/L-SC-GE

CUTGRIP

## E-GEHIR / E-GHIR

Interchangeable Heads for Internal Grooving and Turning




Right-hand shown

| Designation | CWN[1] | CWX[2] | DMIN | CDX[3] | OAL | LH | WF | WB | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| E12 GEHIR 16-1 | 1.50 | 1.90 | 16.00 | 2.20 | 174.00 | 21.0 | 9.00 | 1.20 | GEPI, GEMI | SR M5-04451-L10.5 | T-20/5 |
| E12 GEHIR 16-2 | 1.90 | 2.40 | 16.00 | 2.20 | 174.00 | 21.0 | 9.00 | 1.60 | GEPI, GEMI | SR M5-04451-L10.5 | T-20/5 |
| E12 GEHIR 16-3 | 2.40 | 3.00 | 16.00 | 2.20 | 174.00 | 21.0 | 9.00 | 2.00 | GEPI, GEMI | SR M5-04451-L10.5 | T-20/5 |
| E16 GHIR 25-3 | 2.40 | 3.00 | 25.00 | 4.00 | 209.00 | 28.7 | 12.80 | 2.00 | GIPI,GIMIY,GIFI,TIPI | SR M5-04451 | T-20/5 |

• Left-hand heads on request • The shank assembly is the same for right- and left-hand heads • For user guide, see pages 440-457

(1) Minimum cutting width

(2) Maximum cutting width

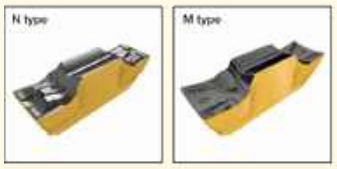
(3) Cutting depth maximum

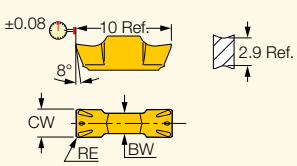
**Inserts:** GEMI • GEMI (full radius) • GEPI • GEPI (full radius) • GEPI (W<M) • GEPI-MT • GEPI-WT • GIMIY • GINI-E • GIPI • GIPI-E

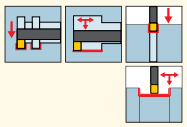
CUTGRIP

## GEMI

Utility Double-Ended Inserts for Internal and External Grooving and Turning



| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | Tough ↔ Hard IC808 | IC908 | IC807 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GEMI 2002N | 2.00 | 0.20 | 0.02 | 0.050 | 1.60 | ● | | | 0.25-0.80 | 0.05-0.10 | 0.04-0.08 |
| GEMI 3002M | 3.00 | 0.20 | 0.02 | 0.050 | 2.20 | ● | ● | | 0.25-1.30 | 0.10-0.14 | 0.05-0.09 |
| GEMI 3002N | 3.00 | 0.20 | 0.02 | 0.050 | 2.20 | ● | | ● | 0.25-1.00 | 0.07-0.12 | 0.04-0.08 |

• GEMI N inserts for ductile materials and low feed • DMIN for internal application=11.5 mm • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

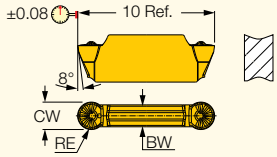
**Tools:** AVC-GEAIR/L • E-GEHIR / E-GHIR • GEAIR/L • GEHIR/L • GEHIR/L-SC • GEHSR • GEHSR/L-SL

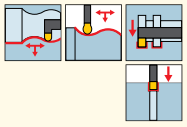
CUTGRIP

## GEMI (full radius)

Utility Double-Ended Full Radius Inserts for Internal and External Grooving and Profiling





| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | Tough ↔ Hard IC808 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| GEMI 2010Y | 2.00 | 1.00 | 0.02 | 0.050 | 1.60 | ● | 0.10-1.00 | 0.06-0.12 | 0.03-0.08 |
| GEMI 3015Y | 3.00 | 1.50 | 0.04 | 0.050 | 2.20 | ● | 0.10-1.50 | 0.10-0.18 | 0.05-0.10 |

• DMIN for internal application=11.5 mm • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

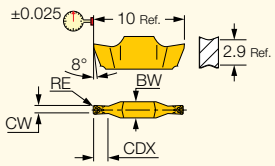
**Tools:** AVC-GEAIR/L • E-GEHIR / E-GHIR • GEAIR/L • GEHIR/L • GEHIR/L-SC • GEHSR • GEHSR/L-SL

CUTGRIP

## GEPI (W<M)

Precision Ground Double-Ended Inserts for Internal Grooving








| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | BW | Tough ↔ Hard IC528 | IC08 | IC908 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| GEPI 1.00-0.10 | 1.00 | 0.10 | 0.00 | 0.030 | 1.60 | 1.80 | ● | ● | ● | 0.01-0.03 |
| GEPI 1.00-0.50 | 1.00 | 0.50 | 0.00 | 0.030 | 1.60 | 1.80 | | | ● | 0.01-0.04 |
| GEPI 1.04-0.00 | 1.04 | 0.00 | 0.00 | 0.030 | 1.60 | 1.80 | ● | ● | ● | 0.01-0.03 |
| GEPI 1.20-0.00 | 1.20 | 0.00 | 0.00 | 0.030 | 1.80 | 1.80 | ● | ● | ● | 0.01-0.03 |
| GEPI 1.25-0.10 | 1.25 | 0.10 | 0.00 | 0.030 | 2.00 | 1.80 | ● | ● | ● | 0.02-0.04 |
| GEPI 1.40-0.00 | 1.40 | 0.00 | 0.00 | 0.030 | 2.00 | 1.80 | ● | ● | ● | 0.02-0.04 |
| GEPI 1.47-0.00 | 1.47 | 0.00 | 0.00 | 0.030 | 2.00 | 1.80 | ● | ● | ● | 0.02-0.04 |
| GEPI 1.50-0.10 | 1.50 | 0.10 | 0.00 | 0.030 | 2.00 | 1.80 | ● | ● | ● | 0.02-0.04 |
| GEPI 1.57-0.15 | 1.57 | 0.15 | 0.00 | 0.030 | 2.00 | 1.80 | ● | ● | ● | 0.02-0.05 |
| GEPI 1.70-0.05 | 1.70 | 0.05 | 0.02 | 0.030 | 2.50 | 1.80 | ● | ● | ● | 0.02-0.05 |
| GEPI 1.78-0.15 | 1.78 | 0.15 | 0.02 | 0.030 | 2.50 | 1.80 | ● | ● | ● | 0.02-0.05 |

• Toolholder seat needs to be modified according to insert profile to ensure clearance • DMIN for internal application=11.5mm

• For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Cutting depth maximum

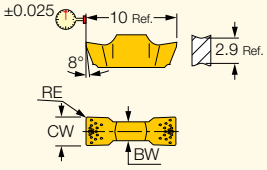
**Tools:** E-GEHIR / E-GHIR • GEHIMR/L • GEHIMR/L-SC • GEHSR • GEHSR/L-SL

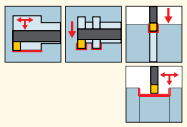
CUTGRIP

## GEPI

Precision Ground
Double-Ended Inserts for
Internal and External Grooving





| Designation | Dimensions | | | | | | Tough ↔ Hard | | | Recommended Machining Data | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CW | RE | CWTOL[2] | RETOL[3] | CDX[4] | BW | IC528 | IC08 | IC908 | $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
| **GEPI 1.85-0.10** [1] | 1.85 | 0.10 | 0.02 | 0.030 | 2.50 | 1.80 | ● | ● | ● | 0.15-0.50 | 0.05-0.07 | 0.03-0.05 |
| **GEPI 1.96-0.10** | 1.96 | 0.10 | 0.02 | 0.030 | 2.50 | 1.80 | ● | ● | ● | 0.15-0.50 | 0.05-0.07 | 0.03-0.05 |
| **GEPI 1.96-0.15** | 1.96 | 0.15 | 0.02 | 0.030 | 2.50 | 1.80 | ● | | ● | 0.20-0.50 | 0.05-0.07 | 0.03-0.05 |
| **GEPI 2.00-0.10** | 2.00 | 0.10 | 0.02 | 0.030 | 9.00 | 1.80 | ● | ● | ● | 0.15-0.60 | 0.05-0.07 | 0.03-0.05 |
| **GEPI 2.22-0.10** | 2.22 | 0.10 | 0.02 | 0.030 | 9.00 | 1.80 | ● | ● | ● | 0.15-0.60 | 0.06-0.08 | 0.04-0.06 |
| **GEPI 2.22-0.15** | 2.22 | 0.15 | 0.02 | 0.030 | 9.00 | 1.80 | ● | | | 0.20-0.60 | 0.06-0.08 | 0.04-0.06 |
| **GEPI 2.39-0.10** | 2.39 | 0.10 | 0.02 | 0.030 | 9.00 | 2.20 | ● | | | 0.15-1.00 | 0.07-0.09 | 0.04-0.06 |
| **GEPI 2.39-0.15** | 2.39 | 0.15 | 0.02 | 0.030 | 9.00 | 2.20 | ● | ● | ● | 0.20-1.00 | 0.07-0.09 | 0.04-0.06 |
| **GEPI 2.47-0.20** | 2.47 | 0.20 | 0.02 | 0.030 | 9.00 | 2.20 | ● | ● | ● | 0.25-1.10 | 0.08-0.11 | 0.04-0.07 |
| **GEPI 2.50-0.10** | 2.50 | 0.10 | 0.02 | 0.030 | 9.00 | 2.20 | ● | | | 0.15-1.10 | 0.07-0.09 | 0.04-0.07 |
| **GEPI 2.50-0.20** | 2.50 | 0.20 | 0.02 | 0.030 | 9.00 | 2.20 | ● | ● | ● | 0.25-1.10 | 0.08-0.11 | 0.05-0.08 |
| **GEPI 2.70-0.20** | 2.70 | 0.20 | 0.02 | 0.030 | 9.00 | 2.20 | ● | ● | ● | 0.25-1.20 | 0.09-0.12 | 0.05-0.08 |
| **GEPI 3.00-0.20** | 3.00 | 0.20 | 0.02 | 0.030 | 9.00 | 2.20 | ● | ● | ● | 0.25-1.30 | 0.10-0.14 | 0.05-0.09 |
| **GEPI 3.18-0.20** | 3.18 | 0.20 | 0.02 | 0.030 | 9.00 | 2.20 | ● | | ● | 0.25-1.40 | 0.11-0.14 | 0.06-0.10 |

• DMIN for internal application=11.5mm • For cutting speed recommendations and user guide, see pages 440-457

[1] Tool pocket should be modified

[2] Cutting width tolerance (+/-)

[3] Corner radius tolerance (+/-)

[4] Cutting depth maximum

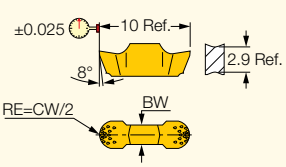
**Tools:** AVC-GEAIR/L • E-GEHIR / E-GHIR • GEAIR/L • GEHIMR/L • GEHIMR/L-SC • GEHIR/L • GEHIR/L-SC • GEHSR • GEHSR/L-SL

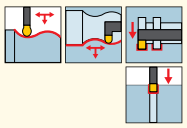
CUTGRIP

## GEPI (full radius)

Precision Double-Ended Full
Radius Inserts for Internal and
External Profiling and Grooving





| Designation | Dimensions | | | | | | Tough ↔ Hard | | | Recommended Machining Data | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CW | RE | CWTOL[1] | RETOL[2] | CDX[3] | BW | IC528 | IC08 | IC908 | $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
| **GEPI 2.00-1.00** | 2.00 | 1.00 | 0.02 | 0.050 | 5.00 | 1.80 | ● | ● | ● | 0.00-0.60 | 0.08-0.12 | 0.04-0.07 |
| **GEPI 3.00-1.50** | 3.00 | 1.50 | 0.02 | 0.050 | 5.00 | 2.20 | ● | ● | ● | 0.00-1.50 | 0.13-0.20 | 0.05-0.11 |
| **GEPI 3.18-1.59** | 3.18 | 1.59 | 0.02 | 0.050 | 5.00 | 2.20 | | ● | ● | 0.00-1.59 | 0.13-0.21 | 0.06-0.11 |

• DMIN for internal application=11.5mm • For cutting speed recommendations and user guide, see pages 440-457

[1] Cutting width tolerance (+/-)

[2] Corner radius tolerance (+/-)

[3] Cutting depth maximum

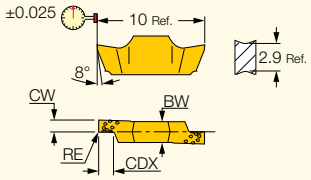
**Tools:** AVC-GEAIR/L • E-GEHIR / E-GHIR • GEAIR/L • GEHIR/L • GEHIR/L-SC • GEHIUR/L • GEHSR • GEHSR/L-SL

CUTGRIP

## GEPI-RX/LX

Precision Double-Ended Inserts for Internal Grooving Next to Shoulder






| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | BW | Tough ↔ Hard IC528 | IC908 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| GEPI 0.80-0.00RX | 0.80 | 0.00 | 0.02 | 0.030 | 1.50 | 1.80 | | ● | 0.01-0.02 |
| GEPI 1.00-0.10 R/LX | 1.00 | 0.10 | 0.02 | 0.030 | 1.50 | 1.80 | ● | | 0.01-0.03 |
| GEPI 1.57-0.15RX | 1.57 | 0.15 | 0.02 | 0.030 | 2.00 | 1.80 | | ● | 0.02-0.05 |

- Toolholder seat needs to be modified according to insert profile to ensure clearance
- DMIN for internal application=11.5mm
- For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum

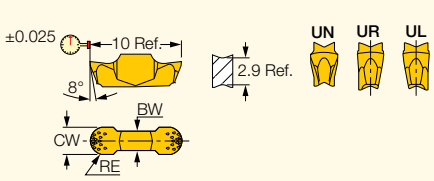
**Tools:** GEHIMR/L • GEHIMR/L-SC

CUTGRIP

## GEPI-UN/UR/UL

Precision Double-Ended Inserts for Internal Undercutting






| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | BW | Tough ↔ Hard IC528 | IC08 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| GEPI 3.00-1.50UN | 3.00 | 1.50 | 0.02 | 0.050 | 2.00 | 2.20 | ● | | 0.03-0.12 |
| GEPI 2.00-1.00UR/L | 2.00 | 1.00 | 0.02 | 0.050 | 2.00 | 1.80 | ● | ● | 0.03-0.12 |

- For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum

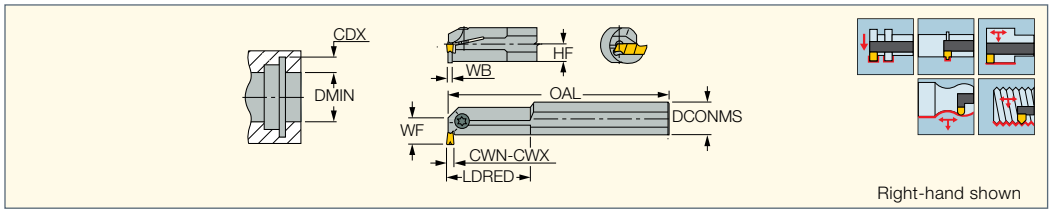
**Tools:** GEHIUR/L



# CUT-GRIP Boring Bars Dmin 20 mm (GIPI/GIFI/GINI Inserts)

CUTGRIP

**GHIR/L (W=1.9-6.4)**
Internal Grooving and Turning Bars




| Designation | CWN(1) | CWX(2) | DCONMS | DMIN | CDX(3) | OAL | LDRED | WF | HF | WB |
|---|---|---|---|---|---|---|---|---|---|---|
| GHIR/L 20-3 | 1.90 | 3.50 | 20.00 | 20.00 | 4.50 | 160.00 | 16.0 | 14.50 | 9.0 | 1.55 |
| GHIR/L 20-20-3 | 2.00 | 3.50 | 20.00 | 20.00 | 4.50 | 200.00 | 40.0 | 14.50 | 9.0 | 1.60 |
| GHIR/L 20-4 | 3.00 | 4.80 | 20.00 | 20.00 | 4.50 | 160.00 | 25.0 | 14.50 | 9.0 | 2.60 |
| GHIR/L 20-20-4 | 3.00 | 4.80 | 20.00 | 20.00 | 4.50 | 200.00 | 40.0 | 14.50 | 9.0 | 2.60 |
| GHIR/L 25-25-4 | 2.50 | 4.00 | 25.00 | 25.00 | 5.00 | 200.00 | 50.0 | 17.50 | 11.5 | 2.10 |
| GHIR/L 32-4 | 2.50 | 4.00 | 32.00 | 38.00 | 5.00 | 250.00 | - | 21.30 | 14.5 | 2.10 |
| GHIR/L 25-5 | 3.20 | 5.30 | 25.00 | 26.00 | 6.00 | 160.00 | 25.0 | 18.50 | 11.5 | 2.80 |
| GHIR/L 25-25-6 | 4.00 | 6.40 | 25.00 | 25.00 | 5.00 | 200.00 | 50.0 | 17.50 | 11.5 | 3.60 |
| GHIR/L 32-6 | 4.00 | 6.40 | 32.00 | 39.00 | 6.50 | 250.00 | - | 22.80 | 14.5 | 3.60 |
| GHIR/L 40-6 | 4.00 | 6.40 | 40.00 | 49.00 | 8.00 | 300.00 | - | 28.30 | 18.0 | 3.60 |

• When using TIPI inserts, toolholder seat needs to be modified according to insert profile to ensure clearance. • For user guide, see pages 440-457

(1) Minimum cutting width
(2) Maximum cutting width
(3) Cutting depth maximum

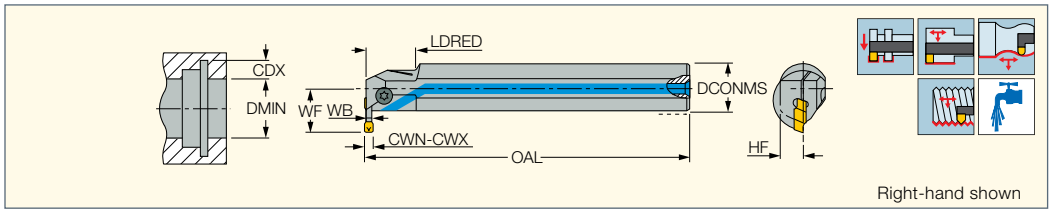
**Inserts:** GIFI • GIFI-E • GIFI-E (full radius) • GIMIY • GINI-E • GIPI • GIPI (full radius W<M) • GIPI (full radius) • GIPI (W<M) • GIPI-E • GIPI-RX/LX • TIPI-MT • TIPI-WT

## Spare Parts

| Designation | | |
|---|---|---|
| GHIR/L 20-3 | SR 76-1021 | T-20/5 |
| GHIR/L 20-20-3 | SR 76-1021 | T-20/5 |
| GHIR/L 20-4 | SR 76-1021 | T-20/5 |
| GHIR/L 20-20-4 | SR 76-1021 | T-20/5 |
| GHIR/L 25-25-4 | SR 76-1022 | T-20/5 |
| GHIL 32-4 | SR 76-1021 | T-20/5 |
| GHIR 32-4 | SR 76-1022 | T-20/5 |
| GHIR/L 25-5 | SR 76-1022 | T-20/5 |
| GHIR/L 25-25-6 | SR 76-1022 | T-20/5 |
| GHIR/L 32-6 | SR 76-1022 | T-20/5 |
| GHIL 40-6 | SR 76-1022 | T-20/5 |
| GHIR 40-6 | SR 76-1021 | T-20/5 |

CUTGRIP

**GHIR/L-C (W=4-6.4)**
Grooving and Turning Bars with Internal Coolant Holes




| Designation | DCONMS | CWN(1) | CWX(2) | DMIN | CDX(3) | HF | OAL | LDRED | WF | WB | Inlet | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GHIR/L 25C-510 | 25.00 | 4.00 | 5.30 | 32.00 | 10.00 | 11.5 | 160.00 | 25.0 | 22.50 | 3.50 | R1/8 | SR 76-1022 | T-20/5 | PL 25 |
| GHIR/L 32C-610 | 32.00 | 4.80 | 6.40 | 43.00 | 10.00 | 14.5 | 200.00 | - | 26.20 | 4.40 | R1/8 | SR 76-1022 | T-20/5 | PL 32 |
| GHIR/L 40C-612 | 40.00 | 4.80 | 6.40 | 53.00 | 12.00 | 18.0 | 250.00 | - | 32.20 | 4.40 | R1/8 | SR 76-1022 | T-20/5 | PL 40 |

• When using TIPI inserts, toolholder seat needs to be modified according to insert profile to ensure clearance. • For user guide, see pages 440-457

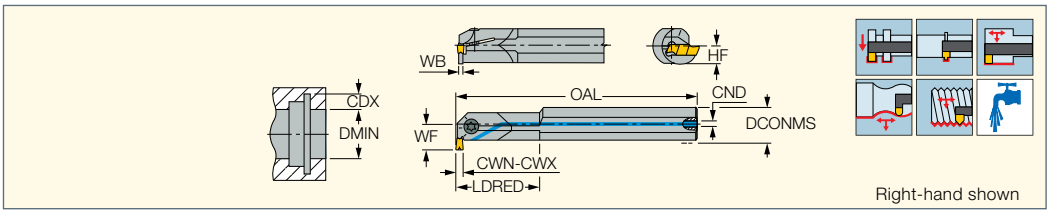
(1) Minimum cutting width
(2) Maximum cutting width
(3) Cutting depth maximum

**Inserts:** GIFI • GIFI-E • GIFI-E (full radius) • GIMIY • GINI-E • GIPI • GIPI (full radius) • GIPI-E • TIPI-MT

CUTGRIP

## GHIR/L-SC (W=2-4.8)

Grooving and Turning Solid Carbide Bars with Internal Coolant Holes




| Designation | CWN(1) | CWX(2) | DCONMS | DMIN | CDX(3) | OAL | LDRED | WF | HF | CND | WB | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GHIR/L 20SC-3 | 2.00 | 3.50 | 20.00 | 20.00 | 4.50 | 200.00 | 60.0 | 14.50 | 9.0 | 8.5 | 1.60 | SR 76-1021 | T-20/5 | PL 20 |
| GHIR/L 20SC-4 | 3.00 | 4.80 | 20.00 | 20.00 | 4.50 | 200.00 | 60.0 | 14.50 | 9.0 | 8.5 | 2.60 | SR 76-1021 | T-20/5 | PL 20 |

- Tool head is made of steel.
- When using TIPI inserts, toolholder seat needs to be modified according to insert profile to ensure clearance.
- For user guide, see pages 440-457

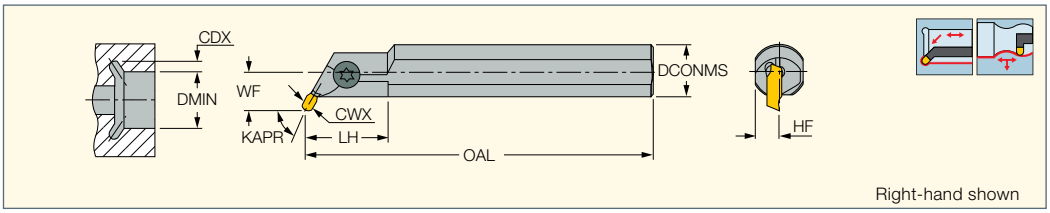
(1) Minimum cutting width
(2) Maximum cutting width
(3) Cutting depth maximum

**Inserts:** GIFI • GIFI-E • GIFI-E (full radius) • GIMIY • GINI-E • GIPI • GIPI (full radius W<M) • GIPI (full radius) • GIPI-E • GIPI-RX/LX • TIPI-MT • TIPI-WT

CUTGRIP

## GHIUR/L

Undercutting and Turning Boring Bars




| Designation | CWX(1) | DCONMS | DMIN | CDX(2) | OAL | LH | WF | HF | KAPR(3) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GHIUR/L 20U | 4.80 | 20.00 | 20.00 | 2.50 | 160.00 | 40.0 | 12.50 | 9.0 | 45.0 | SR 76-1021 | T-20/5 |
| GHIUR/L 20-20-5 | 4.80 | 20.00 | 20.00 | 3.00 | 200.00 | 51.0 | 13.00 | 9.0 | 60.0 | SR 76-1021 | T-20/5 |
| GHIUR/L 25U | 6.40 | 25.00 | 25.00 | 3.00 | 160.00 | 50.0 | 15.50 | 11.5 | 45.0 | SR 76-1022 | T-20/5 |
| GHIUR/L 25-25-6 | 6.40 | 25.00 | 25.00 | 3.50 | 200.00 | 60.0 | 16.00 | 11.5 | 60.0 | SR 76-1022 | T-20/5 |

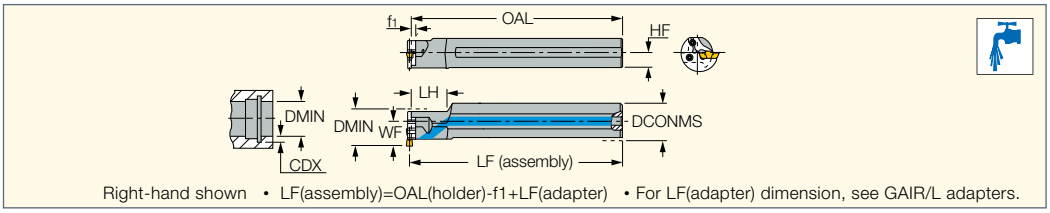
(1) Maximum cutting width
(2) Cutting depth maximum
(3) Tool cutting edge angle

**Inserts:** GIPI-UR/UL

CUTGRIP

## GHAIR/L-GI

Bars with Coolant Holes for Internal Grooving and Turning Adapters



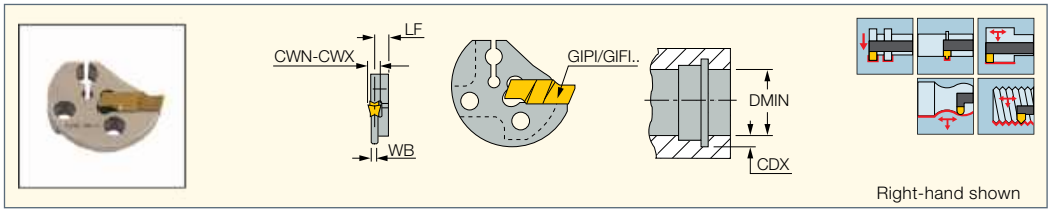

| Designation | DCONMS | LH | OAL | WF | HF | f1 | Adapter | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GHAIR/L 25-32 | 25.00 | 25.0 | 200.00 | 19.70 | 11.5 | 3.0 | GAIR/L 32.. | SR 16-236 P | T-15/5 | PL 25 | |
| GHAIR/L 32-32 | 32.00 | 32.0 | 200.00 | 23.20 | 14.5 | 3.0 | GAIR/L 32.. | SR 16-236 P | T-15/5 | PL 32 | |
| GHAIR/L 32-40 | 32.00 | 40.0 | 200.00 | 24.00 | 14.5 | 3.0 | GAIR/L 40.. | SR 16-212 | T-20/5 | PL 32 | SR 14-519 |

- For DMIN & CDX refer to GAIR/L adapters

**Tools:** GAIR/L

CUTGRIP

## GAIR/L
Internal Grooving and Turning Adapters




| Designation | DMIN | CWN(1) | CWX(2) | CDX(3) | LF | WB |
|---|---|---|---|---|---|---|
| GAIR/L 32-2 | 32.00 | 1.50 | 2.10 | 3.00 | 3.80 | 1.20 |
| GAIR/L 32-3 | 32.00 | 2.10 | 3.00 | 3.00 | 4.10 | 1.80 |
| GAIR/L 32-4 | 32.00 | 3.00 | 4.50 | 5.00 | 4.50 | 2.50 |
| GAIR/L 32-5 | 32.00 | 4.50 | 6.40 | 5.00 | 5.20 | 4.00 |
| GAIR/L 40-2 | 40.00 | 1.50 | 2.10 | 3.00 | 3.80 | 1.20 |
| GAIR/L 40-3 | 40.00 | 2.10 | 3.00 | 4.00 | 4.10 | 1.80 |
| GAIR/L 40-4 | 40.00 | 3.00 | 4.50 | 7.00 | 4.50 | 2.50 |
| GAIR/L 40-5 | 40.00 | 4.50 | 6.40 | 7.00 | 5.20 | 4.00 |

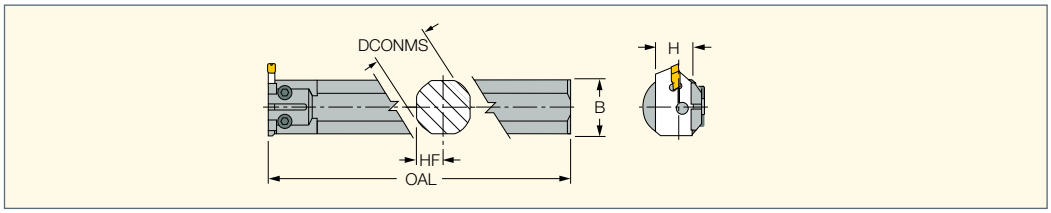
- When using TIPI inserts, toolholder seat needs to be modified according to insert profile to ensure clearance
- For user guide, see pages 440-457

(1) Minimum cutting width
(2) Maximum cutting width
(3) Cutting depth maximum

**Inserts:** GIMIY • GIPI-E • GIFI-E • GIFI-E (full radius) • GINI-E • GIPI (W<M) • GIPI • GIPI (full radius W<M) • GIPI (full radius) • GIFI • GIPI-RX/LX • TIPI-MT • TIPI-WT
**Holders:** C#-GHAIR/L • GHAIR/L-GI

CUTGRIP

## GHIC-50
Boring Bars for Internal Grooving and Turning Blades, DMIN=50 mm



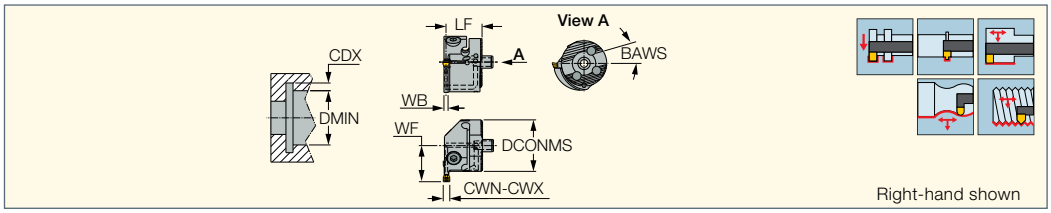

| Designation | H | DCONMS | OAL | HF | B | | |
|---|---|---|---|---|---|---|---|
| GHIC 32-50 | 26.0 | 32.00 | 220.00 | 14.5 | 29.0 | SR M5X16 DIN912 | HW 4.0 |
| GHIC 40-50 | 26.0 | 40.00 | 260.00 | 18.0 | 36.0 | SR M5X16 DIN912 | HW 4.0 |

- For both right and left hand applications

**Tools:** CGIN 26

CUTGRIP

## AVC-GEAIR/L
Internal Grooving, Turning and Threading Adapters




| Designation | DMIN | CWN(1) | CWX(2) | DCONMS | CDX(3) | WF | LF | WB | BAWS | MIID(4) |
|---|---|---|---|---|---|---|---|---|---|---|
| AVC-D16-GEAIR/L-2 | 21.00 | 1.90 | 2.40 | 16.00 | 3.00 | 12.00 | 14.50 | 1.60 | 45 | GEPI 2.00-0.10 |
| AVC-D16-GEAIR/L-3 | 21.00 | 2.40 | 2.70 | 16.00 | 3.00 | 12.00 | 14.50 | 2.00 | 45 | GEPI 3.00-0.20 |
| AVC-D20-GEAIR/L-2 | 26.00 | 1.90 | 2.40 | 20.00 | 3.00 | 14.70 | 13.50 | 1.60 | 15 | GEPI 2.00-0.10 |
| AVC-D20-GEAIR/L-3 | 26.00 | 2.40 | 3.18 | 20.00 | 3.00 | 14.70 | 13.50 | 2.00 | 15 | GEPI 3.00-0.20 |
| AVC-D25-GEAIR/L-2 | 31.00 | 1.90 | 2.40 | 25.00 | 4.00 | 17.50 | 17.50 | 1.60 | 15 | GEPI 2.00-0.10 |
| AVC-D25-GEAIR/L-3 | 31.00 | 2.40 | 3.18 | 25.00 | 4.00 | 17.50 | 17.50 | 2.00 | 15 | GEPI 3.00-0.20 |

- Using the adapters with CAMFIX holders is only possible in case the machine has an option for rotating the CAMFIX Axis.
- For user guide, see pages 440-457

(1) Minimum cutting width
(2) Maximum cutting width
(3) Cutting depth maximum
(4) Master insert identification

**Inserts:** GEMI • GEMI (full radius) • GEPI • GEPI (full radius) • GEPI-MT • GEPI-WT
**Holders:** AV-D • C#-SH-E-JHP • C#-SH-JHP • SH-D • SH-S#-N-AVC

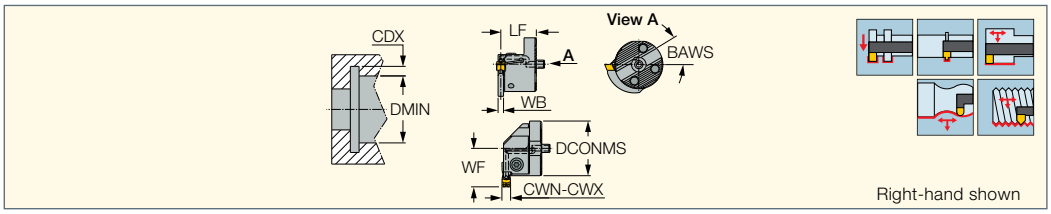
### Spare Parts

| Designation | | | | | |
|---|---|---|---|---|---|
| AVC-D16-GEAIR/L-2 | SR 14-551 | | | | T-9/5 |
| AVC-D16-GEAIR/L-3 | SR 14-551 | | | | T-9/5 |
| AVC-D20-GEAIR/L-2 | SR 34-510 | | SW6-SD | BLD T15/M7 | |
| AVC-D20-GEAIR/L-3 | SR 34-510 | | SW6-SD | BLD T15/M7 | |
| AVC-D25-GEAIR/L-2 | SR M4X14 DIN912 | HW 3.0 | | | |
| AVC-D25-GEAIR/L-3 | SR M4X14 DIN912 | HW 3.0 | | | |

CUTGRIP

## AVC-GAIR/L

Internal Grooving, Turning and Threading Adapters




| Designation | DMIN | CWN[2] | CWX[3] | DCONMS | CDX[4] | WF | LF | WB | BAWS |
|---|---|---|---|---|---|---|---|---|---|
| AVC-D32-GAIR/L-2 | 37.00 | 1.50 | 2.10 | 32.00 | 3.00 | 20.00 | 23.00 | 1.20 | 30 |
| AVC-D32-GAIR/L-3 | 37.00 | 2.10 | 3.00 | 32.00 | 3.00 | 20.00 | 23.00 | 1.80 | 30 |
| AVC-D32-GAIR/L-4 | 39.00 | 3.00 | 4.50 | 32.00 | 5.00 | 22.00 | 23.00 | 2.50 | 30 |
| AVC-D32-GAIR/L-5 | 39.00 | 4.50 | 6.40 | 32.00 | 5.00 | 22.00 | 26.00 | 4.00 | 30 |
| AVC-D40-GAIR/L-2 [1] | 45.00 | 1.50 | 2.10 | 40.00 | 3.00 | 24.00 | 23.00 | 1.20 | 30 |
| AVC-D40-GAIR/L-3 [1] | 46.00 | 2.10 | 3.00 | 40.00 | 4.00 | 25.00 | 23.00 | 1.80 | 30 |
| AVC-D40-GAIR/L-4 | 49.00 | 3.00 | 4.50 | 40.00 | 7.00 | 28.00 | 23.00 | 2.50 | 30 |
| AVC-D40-GAIR/L-5 | 49.00 | 4.50 | 6.40 | 40.00 | 7.00 | 28.00 | 26.00 | 4.00 | 30 |

- When using TIPI inserts, toolholder seat needs to be modified according to insert profile to ensure clearance
- Using the adapters with CAMFIX holders is only possible in case the machine has an option for rotating the CAMFIX Axis.
- For user guide, see pages 440-457

[1] DMIN of 50mm shank is DMIN of requested head + 10mm • DMIN of 60mm shanks is DMIN of requested head + 20mm
[2] Minimum cutting width
[3] Maximum cutting width
[4] Cutting depth maximum

**Inserts:** GIFI • GIFI-E • GIFI-E (full radius) • GINI-E • GIPI • GIPI (full radius W<M) • GIPI (full radius) • GIPI (W<M) • GIPI-E • GIPI-RX/LX • TIPI-MT • TIPI-WT
**Holders:** AV-D • C#-SH-E-JHP • C#-SH-JHP • SH-D • SH-S#-N-AVC

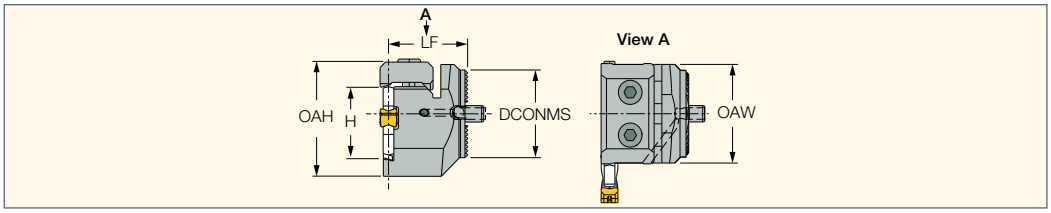
### Spare Parts

| Designation | | | |
|---|---|---|---|
| AVC-GAIR/L | SR 76-1021 | T-20/5 | SR M3X3DIN913 |

CUTGRIP

## AVC-GAIC

Adapters for Internal Grooving, Turning and Threading Blades




| Designation | DCONMS | LF | H | OAH | OAW |
|---|---|---|---|---|---|
| AVC-D32-GAIC-50 | 32.00 | 29.50 | 26.0 | 41.70 | 36.00 |
| AVC-D40-GAIC-50 [1] | 40.00 | 29.50 | 26.0 | 41.70 | 36.00 |

- For CGIN 26 blades

[1] When using 50mm shank, DMIN=DMIN of CGIN blade + 10mm • When using 60mm shank, DMIN=DMIN of CGIN blade + 20mm
**Tools:** CGIN 26

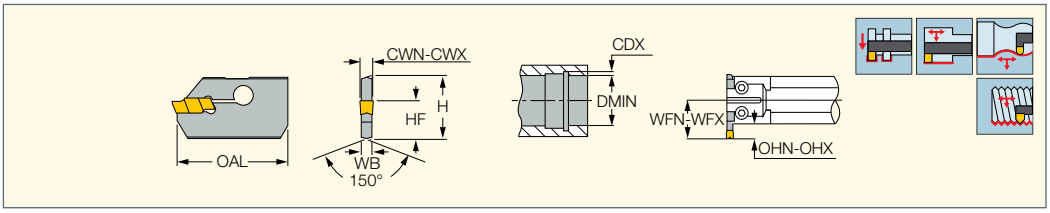
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| AVC-GAIC | SR M3X8 DIN913 | SR M5X20DIN912 | HW 2.0 | SR M4X8 DIN913 | HW 4.0 | HW 1.5 |

CUTGRIP

## CGIN 26

Internal Grooving and Turning Blades for GHIC...-50 Bars




| Designation | CWN(1) | CWX(2) | WB | WFN(3) | WFX(4) | OHN(5) | OHX(6) | HF | OAL | H | DMIN |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CGIN 26K-3 | 2.80 | 4.00 | 2.40 | 28.0 | 33.0 | 10.0 | 15.0 | 15.8 | 45.00 | 26.0 | 50.00 |
| CGIN 26K-4 | 3.60 | 4.50 | 3.20 | 28.0 | 33.0 | 10.0 | 15.0 | 15.8 | 45.00 | 26.0 | 50.00 |
| CGIN 26K-5 | 4.40 | 6.40 | 4.00 | 28.0 | 33.0 | 10.0 | 15.0 | 15.8 | 45.00 | 26.0 | 54.00 |
| CGIN 26A-3 | 2.80 | 4.00 | 2.40 | 32.5 | 37.5 | 14.5 | 19.5 | 15.8 | 49.50 | 26.0 | 54.00 |
| CGIN 26A-4 | 3.60 | 4.50 | 3.20 | 32.5 | 37.5 | 14.5 | 19.5 | 15.8 | 49.50 | 26.0 | 54.00 |
| CGIN 26A-5 | 4.40 | 6.40 | 4.00 | 32.5 | 37.5 | 14.5 | 19.5 | 15.8 | 49.50 | 26.0 | 54.00 |

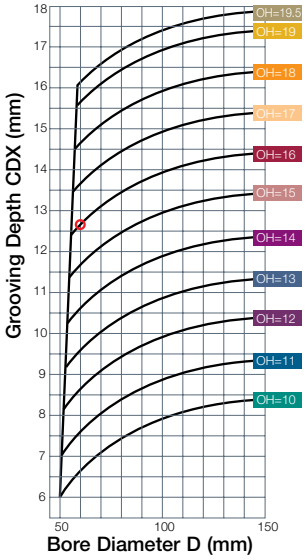
- WFN-WFX and OHN-OHX are the blade's extension range
- Grooving depth (CDX) varies in conformance with blade's overhang (OHN-OHX) and depends on the bore diameter(D).For grooving capacity, see chart below
- When using TIPI inserts toolholder seat needs to be modified according to insert profile to ensure clearance • For user guide, see pages 440-457

(1) Minimum cutting width
(2) Maximum cutting width
(3) Adjustable extension
(4) Adjustable extension
(5) Minimum overhang for adjustable extension
(6) Maximum overhang for adjustable extension

**Inserts:** GIFI • GIFI-E • GIFI-E (full radius) • GIMIY • GINI-E • GIPI • GIPI (full radius) • GIPI-E • TIPI-MT

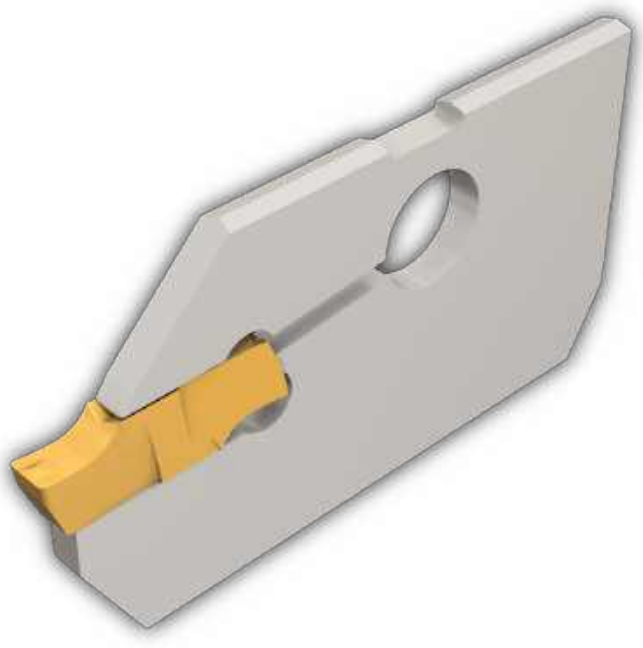
**Holders:** AVC-GAIC • GHIC-50

### Internal Grooving Capacity for CGIN Blades




**Example:**

For grooving depth CDX=12.7 mm and grooving width=4 mm in bore øD=60, use blade CGIN 26A-4 and adjust overhang to OH=16 mm.

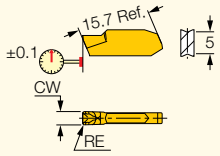


CUTGRIP

## GIMIY

Utility Single-Ended Inserts for Internal Grooving and Turning






| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | Tough ↔ Hard IC830 | IC808 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| GIMIY 304 | 3.00 | 0.40 | 0.02 | 0.050 | ● | ● | 0.50-1.50 | 0.10-0.14 | 0.05-0.08 |
| GIMIY 404 | 4.00 | 0.40 | 0.02 | 0.050 | ● | ● | 0.50-2.00 | 0.13-0.19 | 0.06-0.11 |

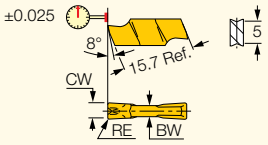
• DMIN for internal applications=20 mm • For cutting speed recommendations and user guide, see pages 440-457
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
**Tools:** CGIN 26 • E-GEHIR / E-GHIR • GAIR/L • GHIR/L (W=1.9-6.4) • GHIR/L-C (W=4-6.4) • GHIR/L-SC (W=2-4.8)

CUTGRIP

## GIPI-E

Precision Double-Ended Inserts for Internal Grooving and Turning




| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | CDX(3) | Tough ↔ Hard IC830 | IC8250 | IC808 | IC908 | IC20 | IC20N | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GIPI 3.00E-0.40 | 3.00 | 0.40 | 0.02 | 0.030 | 2.40 | 15.50 | ● | ● | ● | ● | ● | ● | 0.50-1.50 | 0.14-0.18 | 0.06-0.12 |
| GIPI 4.00E-0.40 | 4.00 | 0.40 | 0.02 | 0.030 | 3.20 | 15.50 | ● | ● | ● | ● | ● | | 0.50-2.00 | 0.15-0.21 | 0.08-0.15 |
| GIPI 5.00E-0.50 | 5.00 | 0.50 | 0.02 | 0.050 | 4.00 | 15.50 | ● | ● | ● | | ● | | 0.70-3.10 | 0.19-0.33 | 0.11-0.20 |
| GIPI 6.35E-0.55 | 6.35 | 0.55 | 0.02 | 0.050 | 4.80 | 15.50 | | ● | | | ● | | 0.70-3.10 | 0.23-0.30 | 0.13-0.21 |

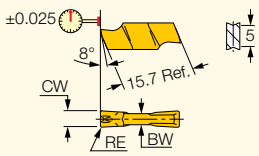
• DMIN for internal applications = 20 mm • For cutting speed recommendations and user guide, see pages 440-457
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum
**Tools:** AVC-GAIR/L • CGIN 26 • E-GEHIR / E-GHIR • GAIR/L • GHIR/L (W=1.9-6.4) • GHIR/L-C (W=4-6.4) • GHIR/L-SC (W=2-4.8)

CUTGRIP

## GIFI-E

Precision Double-Ended Inserts for Internal Grooving and Turning




| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | CDX(3) | Tough ↔ Hard IC830 | IC8250 | IC808 | IC908 | IC20 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GIFI 4.00E-0.40 | 4.00 | 0.40 | 0.02 | 0.050 | 3.20 | 15.50 | ● | ● | ● | ● | ● | 0.50-2.00 | 0.13-0.19 | 0.06-0.11 |
| GIFI 5.00E-0.50 | 5.00 | 0.50 | 0.02 | 0.050 | 4.00 | 15.50 | ● | ● | | | ● | 0.60-2.50 | 0.16-0.24 | 0.08-0.14 |
| GIFI 6.00E-0.80 | 6.00 | 0.80 | 0.02 | 0.050 | 4.80 | 15.50 | | ● | | | | 1.00-3.00 | 0.19-0.34 | 0.09-0.18 |

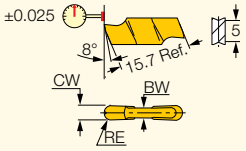
• DMIN for internal applications = 20 mm • For cutting speed recommendations and user guide, see pages 440-457
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum
**Tools:** AVC-GAIR/L • CGIN 26 • GAIR/L • GHIR/L (W=1.9-6.4) • GHIR/L-C (W=4-6.4) • GHIR/L-SC (W=2-4.8)

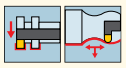
CUTGRIP

## GIFI-E (full radius)

Precision Double-Ended Full Radius Inserts for Internal Profiling and Grooving



| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | CDX(3) | Tough ↔ Hard IC830 | IC8250 | IC808 | IC908 | IC20 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GIFI 4.00E-2.00 | 4.00 | 2.00 | 0.02 | 0.050 | 3.20 | 14.00 | ● | ● | ● | ● | ● | 0.00-2.00 | 0.14-0.27 | 0.06-0.12 |
| GIFI 5.00E-2.50 | 5.00 | 2.50 | 0.02 | 0.050 | 4.00 | 13.50 | ● | ● | ● | | ● | 0.00-2.50 | 0.18-0.34 | 0.08-0.15 |

• DMIN for internal applications = 20 mm • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Cutting depth maximum

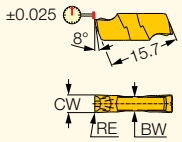
**Tools:** AVC-GAIR/L • CGIN 26 • GAIR/L • GHIR/L (W=1.9-6.4) • GHIR/L-C (W=4-6.4) • GHIR/L-SC (W=2-4.8)

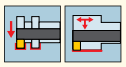
CUTGRIP

## GINI-E

Precision Double-Ended Inserts for Internal Grooving and Turning of Ductile Materials



| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | CDX(3) | IC808 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| GINI 3.00E-0.40 | 3.00 | 0.40 | 0.02 | 0.050 | 2.40 | 15.50 | ● | 0.50-1.20 | 0.08-0.13 | 0.03-0.09 |
| GINI 4.00E-0.40 | 4.00 | 0.40 | 0.02 | 0.050 | 3.20 | 15.50 | ● | 0.50-1.60 | 0.10-0.17 | 0.04-0.12 |
| GINI 5.00E-0.50 | 5.00 | 0.50 | 0.02 | 0.050 | 4.00 | 15.50 | ● | 0.50-2.00 | 0.12-0.20 | 0.05-0.14 |

• DMIN for internal applications=20 mm • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Cutting depth maximum

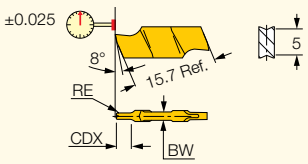
**Tools:** AVC-GAIR/L • CGIN 26 • E-GEHIR / E-GHIR • GAIR/L • GHIR/L (W=1.9-6.4) • GHIR/L-C (W=4-6.4) • GHIR/L-SC (W=2-4.8)

CUTGRIP

## GIPI (W<M)

Precision Double-Ended Inserts for Internal Grooving and Recessing






| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | BW | Tough ↔ Hard IC830 | IC808 | IC908 | IC20 | IC806 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GIPI 1.57-0.15 | 1.57 | 0.15 | 0.02 | 0.030 | 2.50 | 2.20 | ● | ● | | ● | ● | 0.03-0.05 |
| GIPI 1.70-0.00 | 1.70 | 0.00 | 0.02 | 0.030 | 2.50 | 2.20 | ● | ● | | ● | | 0.03-0.06 |
| GIPI 1.78-0.10 | 1.78 | 0.10 | 0.02 | 0.030 | 2.50 | 2.20 | ● | ● | ● | ● | | 0.03-0.06 |
| GIPI 1.96-0.10 | 1.96 | 0.10 | 0.02 | 0.030 | 2.50 | 2.20 | | ● | ● | ● | | 0.04-0.06 |
| GIPI 1.96-0.15 | 1.96 | 0.15 | 0.02 | 0.030 | 2.50 | 2.20 | ● | ● | ● | | | 0.04-0.06 |

• The tool pocket should be modified • DMIN for internal application=20 mm • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Cutting depth maximum

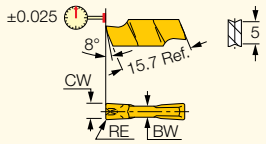
**Tools:** AVC-GAIR/L • GAIR/L • GHIR/L (W=1.9-6.4)

CUTGRIP

## GIPI

Precision Double-Ended Inserts for Internal Grooving and Recessing




| Designation | Dimensions | | | | | | Tough ↔ Hard | | | | | | Recommended Machining Data |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | BW | IC830 | IC8250 | IC808 | IC908 | IC20 | IC20N | f groove (mm/rev) |
| GIPI 2.22-0.10 | 2.22 | 0.10 | 0.02 | 0.030 | 2.50 | 2.20 | ● | | ● | ● | ● | | 0.04-0.07 |
| GIPI 2.22-0.15 | 2.22 | 0.15 | 0.02 | 0.030 | 2.50 | 2.20 | | | ● | ● | | | 0.04-0.07 |
| GIPI 2.30-0.20 | 2.30 | 0.20 | 0.02 | 0.030 | 3.00 | 2.20 | ● | | | | ● | | 0.05-0.08 |
| GIPI 2.39-0.15 | 2.39 | 0.15 | 0.02 | 0.030 | 6.40 | 2.40 | ● | | ● | ● | ● | | 0.04-0.07 |
| GIPI 2.50-0.20 | 2.50 | 0.20 | 0.02 | 0.030 | 6.00 | 2.40 | ● | | | | ● | | 0.05-0.09 |
| GIPI 2.70-0.10 | 2.70 | 0.10 | 0.02 | 0.030 | - | 2.40 | ● | | ● | ● | ● | ● | 0.05-0.08 |
| GIPI 2.70-0.15 | 2.70 | 0.15 | 0.02 | 0.030 | - | 2.40 | | | ● | ● | | | 0.05-0.08 |
| GIPI 3.00-0.40 | 3.00 | 0.40 | 0.02 | 0.030 | - | 2.40 | | | | | ● | | 0.06-0.11 |
| GIPI 3.18-0.20 | 3.18 | 0.20 | 0.02 | 0.030 | - | 2.40 | ● | ● | ● | ● | ● | ● | 0.06-0.11 |
| GIPI 3.30-0.10 | 3.30 | 0.10 | 0.02 | 0.030 | - | 2.40 | ● | ● | ● | | ● | | 0.06-0.10 |
| GIPI 3.96-0.20 | 3.96 | 0.20 | 0.02 | 0.030 | - | 3.20 | | ● | | | ● | | 0.08-0.13 |
| GIPI 4.23-0.10 | 4.23 | 0.10 | 0.02 | 0.030 | - | 3.20 | | ● | | | ● | | 0.08-0.13 |
| GIPI 4.78-0.55 | 4.78 | 0.55 | 0.02 | 0.050 | - | 4.00 | ● | ● | ● | | ● | | 0.08-0.15 |

• DMIN for internal application = 20 mm • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Cutting depth maximum

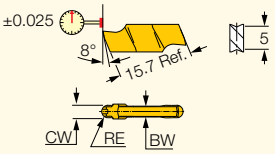
**Tools:** AVC-GAIR/L • CGIN 26 • E-GEHIR / E-GHIR • GAIR/L • GHIR/L (W=1.9-6.4) • GHIR/L-C (W=4-6.4) • GHIR/L-SC (W=2-4.8)

CUTGRIP

## GIPI (full radius W<M)

Precision Double-Ended Full Radius Inserts for Internal Grooving and Recessing




| Designation | Dimensions | | | | | | Tough ↔ Hard | | | | Recommended Machining Data |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | BW | IC830 | IC808 | IC908 | IC20 | f groove (mm/rev) |
| GIPI 2.39-1.20 | 2.39 | 1.20 | 0.02 | 0.050 | 6.40 | 2.40 | ● | ● | ● | ● | 0.05-0.10 |

• The tool pocket should be modified • DMIN for internal applications= 20 mm • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Cutting depth maximum

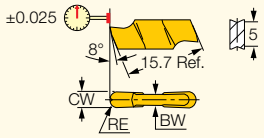
**Tools:** AVC-GAIR/L • GAIR/L • GHIR/L (W=1.9-6.4) • GHIR/L-SC (W=2-4.8)

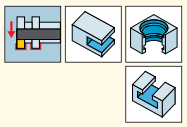
CUTGRIP

## GIPI (full radius)

Precision Double-Ended Full Radius Inserts for Internal Grooving and Recessing



| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | Tough ↔ Hard IC8250 | IC20 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| GIPI 3.18-1.59 | 3.18 | 1.59 | 0.02 | 0.050 | 2.40 | • | • | 0.06-0.13 |
| GIPI 3.96-1.98 | 3.96 | 1.98 | 0.02 | 0.050 | 3.20 | • | | 0.08-0.16 |
| GIPI 4.78-2.39 | 4.78 | 2.39 | 0.02 | 0.050 | 4.00 | • | • | 0.08-0.16 |
| GIPI 6.35-3.18 | 6.35 | 3.18 | 0.02 | 0.050 | 4.80 | • | | 0.11-0.21 |

• Dmin for internal application= 20 mm • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

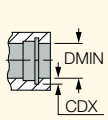
**Tools:** AVC-GAIR/L • CGIN 26 • E-GEHIR / E-GHIR • GAIR/L • GHIR/L (W=1.9-6.4) • GHIR/L-C (W=4-6.4) • GHIR/L-SC (W=2-4.8)

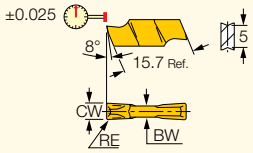
CUTGRIP

## GIFI

Precision Double-Ended Inserts for Internal Grooving and Recessing






| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | CDX(3) | Tough ↔ Hard IC830 | IC8250 | IC20 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| GIFI 4.78-0.55 | 4.78 | 0.55 | 0.02 | 0.050 | 4.00 | 15.50 | • | • | • | 0.07-0.13 |
| GIFI 5.28-0.20 | 5.28 | 0.20 | 0.02 | 0.030 | 4.00 | 15.50 | | • | • | 0.08-0.13 |

• DMIN for internal applications = 20 mm • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Cutting depth maximum

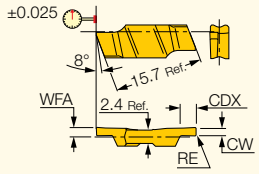
**Tools:** AVC-GAIR/L • CGIN 26 • GAIR/L • GHIR/L (W=1.9-6.4) • GHIR/L-C (W=4-6.4) • GHIR/L-SC (W=2-4.8)

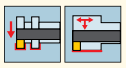
CUTGRIP

## GIPI-RX/LX

Precision Double-Ended Inserts for Internal Grooving Next to a Shoulder





RX shown

| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | WFA | CDX(3) | Tough ↔ Hard IC830 | IC808 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| GIPI 0.78-0.1LX | 0.78 | 0.10 | 0.02 | 0.030 | 1.60 | 1.30 | | • | 0.02-0.04 |
| GIPI 1.00-0.00R/LX | 1.00 | 0.00 | 0.02 | 0.030 | 1.60 | 2.00 | • | | 0.02-0.04 |
| GIPI 1.19-0.1LX | 1.19 | 0.10 | 0.02 | 0.030 | 1.60 | 2.00 | | • | 0.03-0.05 |
| GIPI 1.57-0.15LX | 1.57 | 0.15 | 0.02 | 0.030 | 1.70 | 2.80 | | • | 0.03-0.05 |
| GIPI 1.57-0.79LX | 1.57 | 0.79 | 0.02 | 0.050 | 1.70 | 2.80 | | • | 0.03-0.06 |
| GIPI 2.00-0.10R/LX | 2.00 | 0.10 | 0.02 | 0.030 | 1.70 | 2.70 | • | | 0.04-0.06 |
| GIPI 2.39-0.2LX | 2.39 | 0.20 | 0.02 | 0.030 | 1.70 | 3.90 | | • | 0.05-0.08 |
| GIPI 2.39-1.19LX | 2.39 | 1.19 | 0.02 | 0.050 | 1.70 | 3.90 | | • | 0.05-0.10 |

• Tool's pocket should be modified • For grooving and recessing only • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Cutting depth maximum

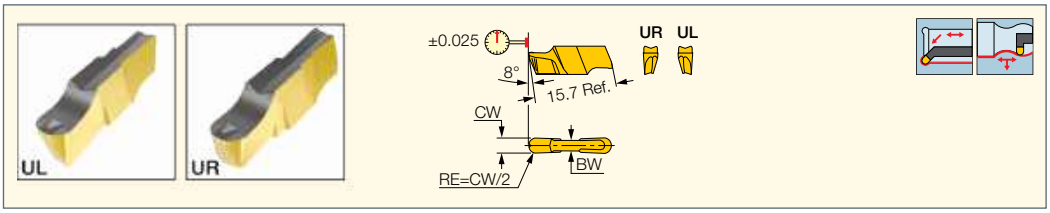
**Tools:** AVC-GAIR/L • GAIR/L • GHIR/L (W=1.9-6.4) • GHIR/L-SC (W=2-4.8)

# TOP-GRIP Boring Bars Dmin 20.5 mm

CUTGRIP

## GIPI-UR/UL

Precision Double-Ended Inserts for Internal Undercutting




| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | Tough ↔ Hard IC8250 | IC20 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| GIPI 3.00-1.5UR/L | 3.00 | 1.50 | 0.02 | 0.050 | 2.40 | • | • | 0.05-0.15 |
| GIPI 4.00-2.0UR/L | 4.00 | 2.00 | 0.02 | 0.050 | 3.20 | • | • | 0.05-0.15 |

• Tool's pocket should be modified • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

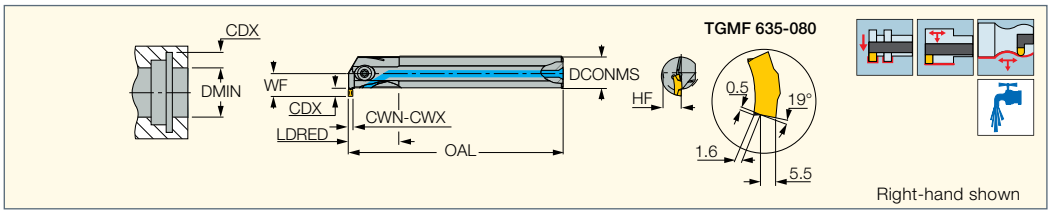
(2) Corner radius tolerance (+/-)

**Tools:** GHIUR/L

TOPGRIP

## TGIR/L-C

Grooving and Turning Bars with Coolant Holes Carrying TOP-GRIP Utility Inserts




| Designation | DCONMS | CWN(1) | CWX(2) | DMIN | CDX(3) | HF | OAL | LDRED | WF | Inlet | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TGIR/L 16C-3 | 16.00 | 3.00 | 3.00 | 20.50 | 5.50 | 7.5 | 150.00 | 25.0 | 12.00 | M6 | TGMF 3 |
| TGIR/L 20C-3 | 20.00 | 3.00 | 3.00 | 25.00 | 5.50 | 9.0 | 180.00 | 32.0 | 14.20 | M6 | TGMF 3 |
| TGIR/L 25C-3 | 25.00 | 3.00 | 3.00 | 32.00 | 8.00 | 11.5 | 200.00 | 40.0 | 18.80 | R1/8 | TGMF 3 |
| TGIR/L 25C-4 | 25.00 | 4.00 | 5.00 | 32.50 | 8.50 | 11.5 | 200.00 | 40.0 | 19.50 | R1/8 | TGMF 4, TGMF/P 5 |
| TGIR/L 32C-4 | 32.00 | 4.00 | 5.00 | 42.00 | 11.00 | 14.5 | 220.00 | 50.0 | 25.50 | R1/8 | TGMF 4, TGMF/P 5 |
| TGIR/L 32C-6 | 32.00 | 6.00 | 6.35 | 57.00 (4) | 17.50 | 14.5 | 220.00 | 50.0 | 29.00 | R1/8 | TGMF 6 |
| TGIR/L 40C-6 | 40.00 | 6.00 | 6.35 | 57.00 | 17.50 | 18.0 | 300.00 | 60.0 | 35.20 | R1/8 | TGMF 6 |

• For user guide, see pages 440-457

(1) Minimum cutting width

(2) Maximum cutting width

(3) Cutting depth maximum

(4) For Dmin 47 mm, modify insert according to sketch

**Inserts:** TGMA • TGMF (full radius) • TGMF/P

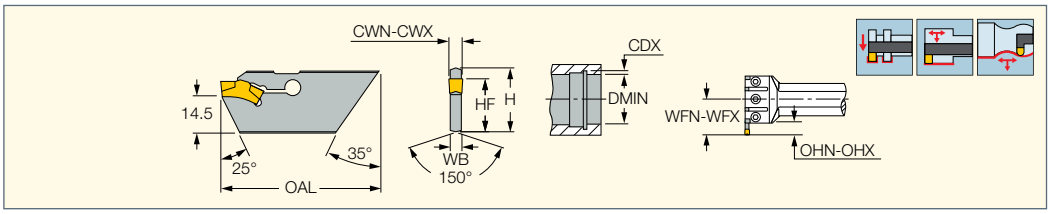
## Spare Parts

| Designation | | | | |
|---|---|---|---|---|
| TGIR/L 16C-3 | SR 76-1400 | T-20/5 | | PL 16 |
| TGIR/L 20C-3 | SR 76-1400 | T-20/5 | | PL 20 |
| TGIR/L 25C-3 | SR M5X16 DIN912 | | HW 4.0 | PL 25 |
| TGIR/L 25C-4 | SR M5X16 DIN912 | | HW 4.0 | PL 25 |
| TGIR/L 32C-4 | SR M6X20 DIN912 | | HW 5.0 | PL 32 |
| TGIR/L 32C-6 | SR M6X20 DIN912 | | HW 5.0 | PL 32 |
| TGIR/L 40C-6 | SR M6X25 DIN912 | | HW 5.0 | PL 40 |

TOP-GRIP

## TGHN 26-M

Internal Grooving and Turning Blades for GHIC...-70 Bars



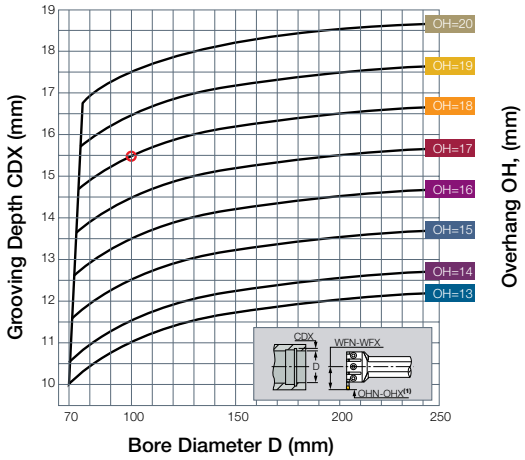

| Designation | CWN(1) | CWX(2) | WB | WFN(3) | WFX(4) | OHN(5) | OHX(6) | DMIN | HF | OAL | H |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TGHN 26-3M | 3.00 | 3.00 | 2.40 | 40.0 | 41.5 | 13.5 | 15.0 | 70.00 | 21.4 | 63.00 | 26.0 |
| TGHN 26-4M | 4.00 | 5.00 | 3.20 | 40.0 | 41.5 | 13.5 | 15.0 | 70.00 | 21.4 | 63.00 | 26.0 |
| TGHN 26-5M | 5.00 | 5.00 | 4.00 | 40.0 | 46.5 | 13.5 | 20.0 | 70.00 | 21.4 | 63.00 | 26.0 |

- Grooving depth (CDX) varies in conformance with blade's overhang (WFN-WFX and OHN-OHX) and depends on the bore diameter (D)
- TGHN 26...-M can be modified from external double-sided TGHN blades • For user guide, see pages 440-457

(1) Minimum cutting width
(2) Maximum cutting width
(3) Adjustable extension
(4) Adjustable extension
(5) Minimum overhang for adjustable extension
(6) Maximum overhang for adjustable extension

**Inserts:** TGMA • TGMF (full radius) • TGMF/P
**Holders:** C#-GHIC • GHIC-70

### Internal Grooving Capacity for TGHN Blades




### Example:

For grooving depth CDX=15.5 mm
and grooving width=5 mm
in bore øD=100, use blade
TGHN 26-5M and adjust overhang to OH=18 mm.

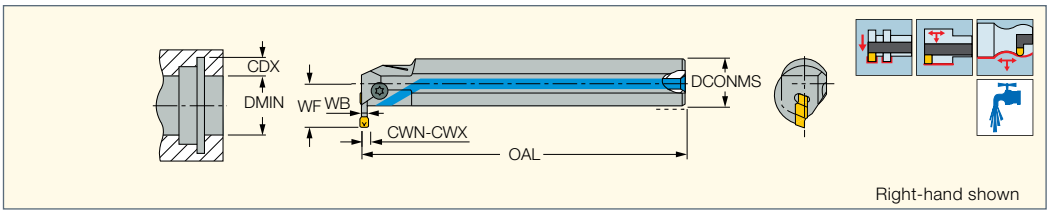


**TGHN 26-...M**



# HELI-GRIP Boring Bars Dmin 26 mm

**HELIIR/L**
Grooving and Turning Bars with Coolant Holes for HELI-GRIP Utility Inserts




| Designation | DCONMS | CWN(1) | CWX(2) | DMIN | CDX(3) | OAL | WF | Inlet | Insert(4) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HELIIR/L 20C-305** | 20.00 | 3.00 | 3.18 | 26.00 | 5.00 | 160.00 | 15.20 | M6 | GRIP 3 | SR 76-1400 | PL 20 | T-20/5 |
| **HELIIR/L 25C-305** | 25.00 | 3.00 | 3.18 | 31.00 | 5.00 | 160.00 | 17.70 | R1/8 | GRIP 3 | SR M5X16 DIN912 | PL 25 | HW 4.0 |
| **HELIIR/L 25C-410** | 25.00 | 4.00 | 4.76 | 43.00 | 10.00 | 160.00 | 22.70 | R1/8 | GRIP 4 | SR M5X16 DIN912 | PL 25 | HW 4.0 |
| **HELIIR/L 25C-510** | 25.00 | 5.00 | 5.00 | 43.00 | 10.00 | 160.00 | 22.70 | R1/8 | GRIP 5 | SR M5X16 DIN912 | PL 25 | HW 4.0 |
| **HELIIR/L 25C-610** | 25.00 | 6.00 | 6.35 | 43.00 | 10.00 | 160.00 | 22.70 | R1/8 | GRIP 6 | SR M5X16 DIN912 | PL 25 | HW 4.0 |
| **HELIIR/L 32C-410** | 32.00 | 4.00 | 4.76 | 43.00 | 10.00 | 200.00 | 26.20 | R1/8 | GRIP 4 | SR M5X16 DIN912 | PL 32 | HW 4.0 |
| **HELIIR/L 32C-510** | 32.00 | 5.00 | 5.00 | 43.00 | 10.00 | 200.00 | 26.20 | R1/8 | GRIP 5 | SR M5X16 DIN912 | PL 32 | HW 4.0 |
| **HELIIR/L 32C-610** | 32.00 | 6.00 | 6.35 | 43.00 | 10.00 | 200.00 | 26.20 | R1/8 | GRIP 6 | SR M5X16 DIN912 | PL 32 | HW 4.0 |
| **HELIIR/L 40C-412** | 40.00 | 4.00 | 4.76 | 53.00 | 12.00 | 250.00 | 32.20 | R1/8 | GRIP 4 | SR M5X16 DIN912 | PL 40 | HW 4.0 |
| **HELIIR/L 40C-512** | 40.00 | 5.00 | 5.00 | 53.00 | 12.00 | 250.00 | 32.20 | R1/8 | GRIP 5 | SR M5X16 DIN912 | PL 40 | HW 4.0 |
| **HELIIR/L 40C-612** | 40.00 | 6.00 | 6.35 | 53.00 | 12.00 | 250.00 | 32.20 | R1/8 | GRIP 6 | SR M5X16 DIN912 | PL 40 | HW 4.0 |

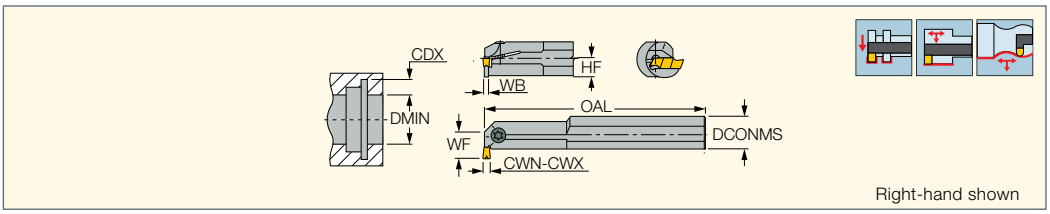
- For user guide, see pages 440-457

(1) Minimum cutting width
(2) Maximum cutting width
(3) Cutting depth maximum
(4) DO-GRIP DGN inserts may be used only for grooving: DGN 4.. (DMIN=51 mm), DGN 5.. (DMIN=57 mm) and DGN 6.. (DMIN=62 mm)

**Inserts:** GRIP • GRIP (full radius)

# CUT-GRIP Boring Bars Dmin 64 mm (GDMY/F/N 8 mm Inserts)

**GHIR/L (W=7.0-8.3)**
Internal Grooving and Turning Boring Bars




| Designation | CWN(1) | CWX(2) | DCONMS | DMIN | CDX(3) | OAL | WF | HF | WB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **GHIR/L 40-815** | 7.00 | 8.30 | 40.00 | 64.00 | 15.00 | 300.00 | 36.00 | 18.0 | 6.00 | SR M8X20DIN912 | HW 6.0 |
| **GHIR/L 40-820** | 7.00 | 8.30 | 40.00 | 65.00 | 20.00 | 300.00 | 41.00 | 18.0 | 6.00 | SR M8X20DIN912 | HW 6.0 |

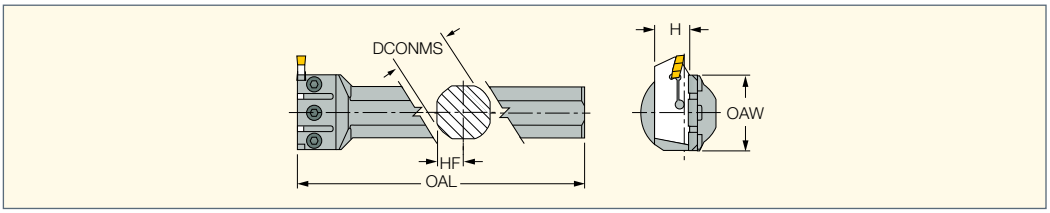
- For user guide, see pages 440-457

(1) Minimum cutting width
(2) Maximum cutting width
(3) Cutting depth maximum

**Inserts:** GDMA • GDMF • GDMM-CC • GDMN • GDMU • GDMY • GDMY (full radius) • GDMY-F • GIA-K (long pocket) • GIF-E (W=8,10 full radius) • GIF-E (W=8,10) • GIPA/GIDA 8 (full radius)

# CUT-GRIP Blades Dmin 70 mm

**GHIC-70**
Boring Bars for Internal Grooving and Turning Blades, DMIN=70 mm




| Designation | H | DCONMS | OAL | HF | OAW | | |
|---|---|---|---|---|---|---|---|
| **GHIC 40-70** | 26.0 | 40.00 | 260.00 | 18.0 | 53.0 | SR M6X16 DIN912 | HW 5.0 |
| **GHIC 50-70** | 26.0 | 50.00 | 300.00 | 23.0 | 53.0 | SR M6X16 DIN912 | HW 5.0 |

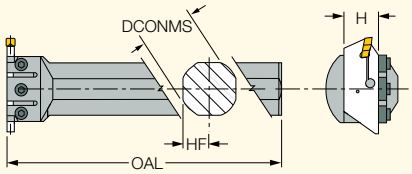
- For both right and left hand applications

**Tools:** CGHN 26-M • TGHN 26-M

CUTGRIP

## GHIC-85

Boring Bars for Internal Grooving and Turning Blades, DMIN=85 mm




| Designation | H | DCONMS | OAL | HF | | |
|---|---|---|---|---|---|---|
| GHIC 40-85 | 32.0 | 40.00 | 260.00 | 18.0 | SR M6X16 DIN912 | HW 5.0 |
| GHIC 50-85 | 32.0 | 50.00 | 300.00 | 23.0 | SR M6X16 DIN912 | HW 5.0 |

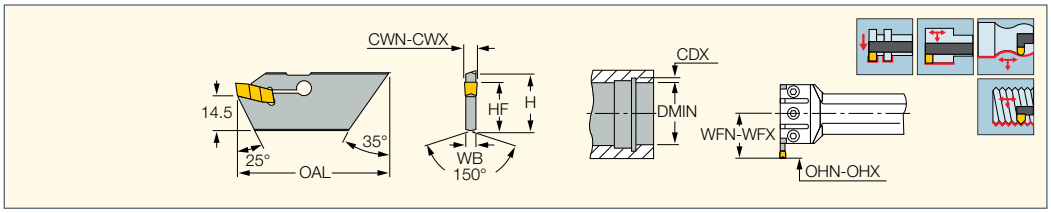
- For both right and left hand applications

**Tools:** CGHN 32-DGM • CGHN 32-M

CUTGRIP

## CGHN 26-M

Internal Grooving and Turning Blades for GHIC...-70 Bars




| Designation | CWN(1) | CWX(2) | WB | DMIN | WFN(3) | OHN(4) | WFX(5) | OHX(6) | HF | OAL | H |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CGHN 26-3M | 2.80 | 4.00 | 2.40 | 70.00 | 40.0 | 13.5 | 46.5 | 20.0 | 21.4 | 63.00 | 26.0 |
| CGHN 26-4M | 3.60 | 4.50 | 3.20 | 70.00 | 40.0 | 13.5 | 46.5 | 20.0 | 21.4 | 63.00 | 26.0 |
| CGHN 26-5M | 4.40 | 6.40 | 4.00 | 70.00 | 40.0 | 13.5 | 46.5 | 20.0 | 21.4 | 63.00 | 26.0 |

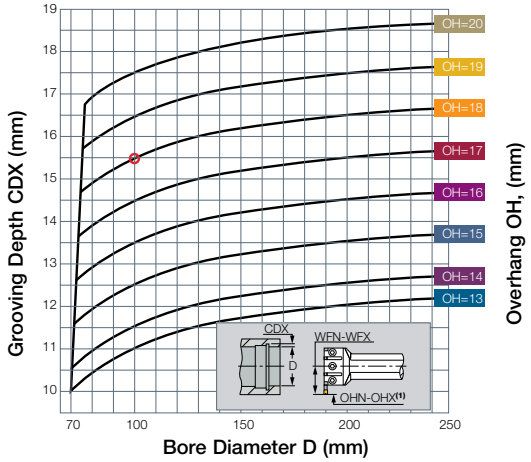
- Grooving depth (CDX) varies in conformance with blade's overhang (WFN-WFX and OHN-OHX) and depends on the bore diameter (D)
- CGHN 26...-M can be modified from external double-sided CGHN blades • When TIP inserts are used the seat needs to be modified to ensure clearance
- For user guide, see pages 440-457

(1) Minimum cutting width
(2) Maximum cutting width
(3) Adjustable extension
(4) Minimum overhang for adjustable extension
(5) Adjustable extension
(6) Maximum overhang for adjustable extension

**Inserts:** GIMF • GIMY • GIMN • GIMY (full radius) • GIMY-F • GIF-E (W=4-6) • GIF-E (W=4-6 full radius) • GIP-E • GIP-E (full radius) • GIP • GIP (full radius) • GIF • GIF (full radius) • GIA-K (W=3-6) • GITM • GITM (full radius) • GIPY • GIPA (full radius W=3-6) • GIPA (W=3-6) • GIM-C • GIM-J • GIM-J-RA/LA • GIM-UT • GIM-UT-RA/LA • GIM-W • GIM-W-RA/LA • GIMT • GIPM-A46 / GIP-1250 • TIP-MT • TIP-WT

**Holders:** C#-GHIC • GHIC-70

### Internal Grooving Capacity for CGHN 26 Blades




**Example:**

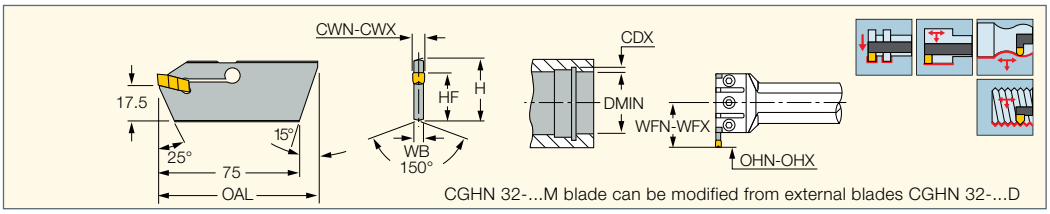
For grooving depth CDX=15.5 mm
and grooving width=5 mm
in bore øD=100, use blade
CGHN 26-5M and adjust overhang to OH=18 mm.



CGHN 26-...M

CUTGRIP

## CGHN 32-M
Internal Grooving and Turning Blades



CGHN 32-...M blade can be modified from external blades CGHN 32-...D

| Designation | CWN(1) | CWX(2) | WB | WFN(3) | WFX(4) | OHN(5) | OHX(6) | HF | OAL | H | DMIN |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CGHN 32-3M | 2.80 | 4.00 | 2.40 | 44.0 | 48.0 | 15.0 | 19.0 | 24.8 | 82.00 | 32.0 | 85.00 |
| CGHN 32-4M | 3.60 | 5.00 | 3.20 | 44.0 | 50.0 | 15.0 | 21.0 | 24.8 | 82.00 | 32.0 | 85.00 |
| CGHN 32-5M | 4.40 | 6.40 | 4.00 | 44.0 | 55.0 | 15.0 | 26.0 | 24.8 | 82.00 | 32.0 | 85.00 |
| CGHN 32-6M | 5.60 | 6.40 | 5.20 | 44.0 | 55.0 | 15.0 | 26.0 | 24.8 | 82.00 | 32.0 | 85.00 |

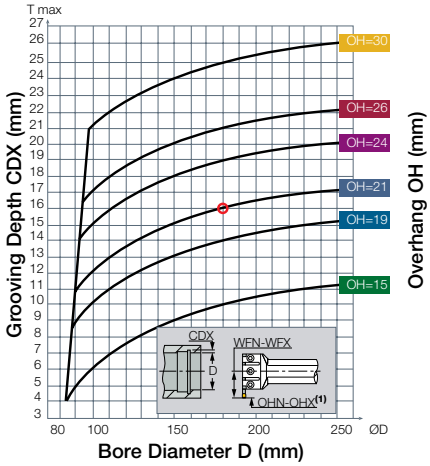
- WFN-WFX and OHN-OHX are the blade's extension range
- Grooving depth (CDX) varies in conformance with blade's overhang (OHN-OHX) and depends on the bore diameter(D). For grooving capacity, see graph
- When using TIP inserts, the toolholder seat needs to be modified • For user guide, see pages 440-457

(1) Minimum cutting width
(2) Maximum cutting width
(3) Adjustable extension
(4) Adjustable extension
(5) Minimum overhang for adjustable extension
(6) Maximum overhang for adjustable extension

**Inserts:** GIA-K (W=3-6) • GIF • GIF (full radius) • GIF-E (W=4-6 full radius) • GIF-E (W=4-6) • GIM-C • GIM-J • GIM-J-RA/LA • GIM-UT • GIM-UT-RA/LA • GIM-W • GIM-W-RA/LA • GIMF • GIMN • GIMT • GIMY • GIMY (full radius) • GIMY-F • GIP • GIP (full radius) • GIP-E • GIP-E (full radius) • GIPA (full radius W=3-6) • GIPA (W=3-6) • GIPM-A46 / GIP-1250 • GIPY • GITM • GITM (full radius) • TIP-MT • TIP-WT

**Holders:** GHIC-85

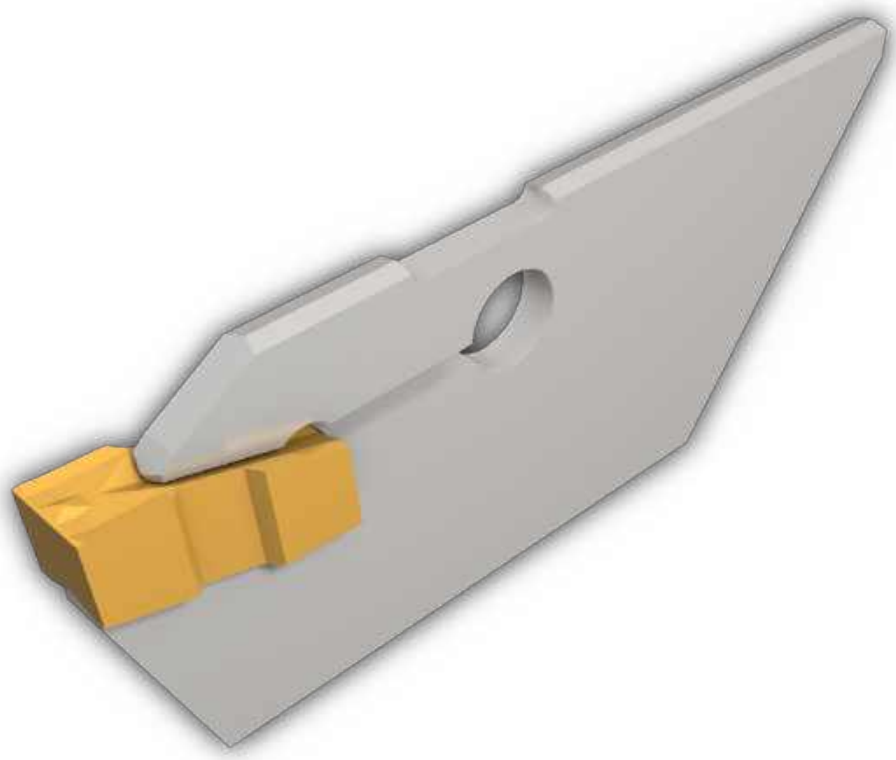
### Internal Machining Grooving Capacity for CGHN 32 Blades




**Example:**

For grooving depth CDX=16 and grooving width= 4 in bore øD=180, use blade CGHN-32-4M and adjust overhang to OH=21 mm.

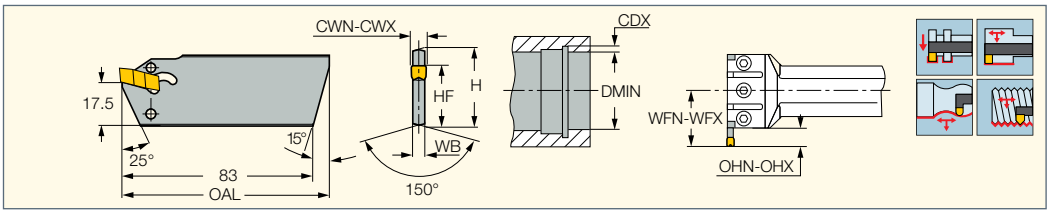

CGHN 32-...M/DGM



CUTGRIP

## CGHN 32-DGM

Internal Grooving and Turning Blades for GHIC...-85 Bars (self-clamping)




| Designation | CWN(1) | CWX(2) | WB | WFN(3) | WFX(4) | OHN(5) | OHX(6) | HF | OAL | H | DMIN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CGHN 32-3DGM | 2.80 | 4.00 | 2.40 | 53.0 | 59.0 | 24.0 | 30.0 | 24.8 | 90.00 | 32.0 | 93.00 | EDG 44A* |
| CGHN 32-4DGM | 3.50 | 5.00 | 3.20 | 53.0 | 59.0 | 24.0 | 30.0 | 24.8 | 90.00 | 32.0 | 93.00 | EDG 44A* |
| CGHN 32-5DGM | 4.40 | 6.40 | 4.00 | 53.0 | 59.0 | 24.0 | 30.0 | 24.8 | 90.00 | 32.0 | 93.00 | EDG 44A* |
| CGHN 32-6DGM | 5.60 | 6.40 | 5.20 | 53.0 | 59.0 | 24.0 | 30.0 | 24.8 | 90.00 | 32.0 | 93.00 | EDG 44A* |

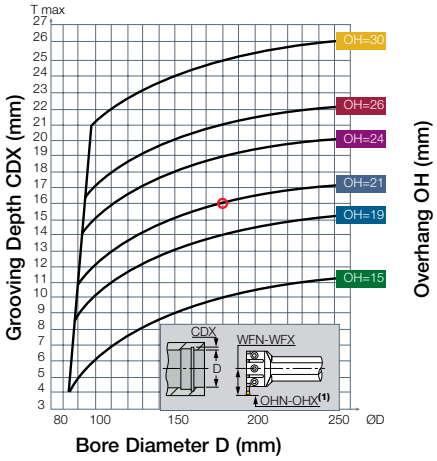
- Grooving depth (CDX) varies in conformance with blade's overhang (WFN-WFX and OHN-OHX) and it depends on the bore diameter (D)
- CGHN 32...DGM can be modified from external double-sided CGHN -DG blades • When TIP inserts are used,the seat needs to be modified to ensure clearance
- For user guide, see pages 440-457

(1) Minimum cutting width
(2) Maximum cutting width
(3) Adjustable extension
(4) Adjustable extension
(5) Minimum overhang for adjustable extension
(6) Maximum overhang for adjustable extension
* Optional, should be ordered separately

**Inserts:** GIA-K (W=3-6) • GIF • GIF (full radius) • GIF-E (W=4-6 full radius) • GIF-E (W=4-6) • GIM-C • GIM-J • GIM-J-RA/LA • GIM-UT • GIM-UT-RA/LA • GIM-W • GIM-W-RA/LA • GIMF • GIMN • GIMT • GIMY • GIMY (full radius) • GIMY-F • GIP • GIP (full radius) • GIP-E • GIP-E (full radius) • GIPA (full radius W=3-6) • GIPA (W=3-6) • GIPM-A46 / GIP-1250 • GIPY • GITM • GITM (full radius) • TIP-MT • TIP-WT

**Holders:** GHIC-85

### Internal Machining Grooving Capacity for CGHN 32 Blades




**Example:**

For grooving depth CDX=16 and grooving width= 4 in bore øD=180, use blade CGHN-32-4DGM and adjust overhang to OH=21 mm.



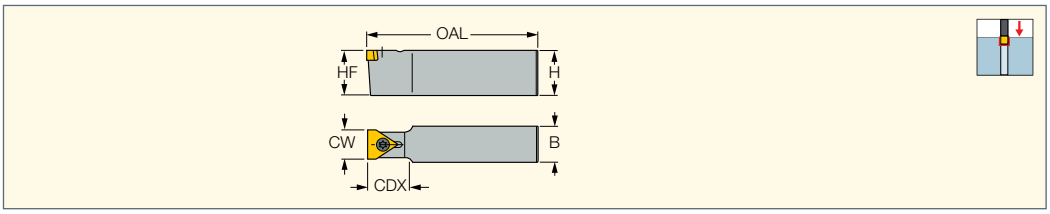
CGHN 32-...M/DGM



V-LOCK

## SXCNN

External Toolholders for Specially Tailored Wide Profile Grooving Inserts




| Designation | CW | CDX(1) | HF | H | B | OAL | Insert | | |
|---|---|---|---|---|---|---|---|---|---|
| SXCNN 1212 K10-06 | 10.40 | 17.00 | 12.0 | 12.0 | 12.0 | 125.00 | XNUW 10 | SR 76-2067 | T-15/5 |
| SXCNN 1616 K10-06 | 10.40 | 17.00 | 16.0 | 16.0 | 16.0 | 125.00 | XNUW 10 | SR 76-2067 | T-15/5 |
| SXCNN 2020 P10-06 | 10.40 | 17.00 | 20.0 | 20.0 | 20.0 | 170.00 | XNUW 10 | SR 76-2067 | T-15/5 |
| SXCNN 2525 P10-06 | 10.40 | 17.00 | 25.0 | 25.0 | 25.0 | 170.00 | XNUW 10 | SR 76-2067 | T-15/5 |
| SXCNN 1212 K13-05 | 13.00 | 20.00 | 12.0 | 12.0 | 12.0 | 125.00 | XNUW 13 | SR 76-2068 | T-20/5 |
| SXCNN 1414 K13-05 | 13.00 | 23.00 | 14.0 | 14.0 | 14.0 | 125.00 | XNUW 13 | SR 76-2068 | T-20/5 |
| SXCNN 1616 K13-05 | 13.00 | 23.00 | 16.0 | 16.0 | 16.0 | 125.00 | XNUW 13 | SR 14-591 | T-20/5 |
| SXCNN 2020 P13-05 | 13.00 | 23.00 | 20.0 | 20.0 | 20.0 | 170.00 | XNUW 13 | SR 14-591 | T-20/5 |
| SXCNN 2525 P13-05 | 13.00 | 23.00 | 25.0 | 25.0 | 25.0 | 170.00 | XNUW 13 | SR 14-591 | T-20/5 |
| SXCNN 1212 K14-03 | 14.50 | - | 12.0 | 12.0 | 12.0 | 125.00 | XNUW 14 | SR 76-2067 | T-15/5 |
| SXCNN 1616 K14-03 | 14.50 | 17.00 | 16.0 | 16.0 | 16.0 | 125.00 | XNUW 14 | SR 76-2067 | T-15/5 |
| SXCNN 2020 P14-03 | 14.50 | 17.00 | 20.0 | 20.0 | 20.0 | 170.00 | XNUW 14 | SR 76-2067 | T-15/5 |
| SXCNN 2525 P14-03 | 14.50 | 17.00 | 25.0 | 25.0 | 25.0 | 170.00 | XNUW 14 | SR 76-2067 | T-15/5 |
| SXCNN 1616 K20-05 | 20.50 | - | 16.0 | 16.0 | 16.0 | 125.00 | XNUW 20 | SR 14-591 | T-20/5 |
| SXCNN 2020 P20-05 | 20.50 | 24.00 | 20.0 | 20.0 | 20.0 | 170.00 | XNUW 20 | SR 14-591 | T-20/5 |
| SXCNN 2525 P20-05 | 20.50 | 24.00 | 25.0 | 25.0 | 25.0 | 170.00 | XNUW 20 | SR 14-591 | T-20/5 |
| SXCNN 3232 P20-05 | 20.50 | 24.00 | 32.0 | 32.0 | 32.0 | 170.00 | XNUW 20 | SR 14-591 | T-20/5 |
| SXCNN 2525 P24-05 | 24.50 | 28.00 | 25.0 | 25.0 | 25.0 | 170.00 | XNUW 24 | SR 14-591 | T-20/5 |
| SXCNN 3232 P36-10 | 36.50 | - | 32.0 | 32.0 | 32.0 | 170.00 | XNUW 36 | SR 14-519 | T-20/5 |

- Toolholder seat needs to be modified according to insert profile to ensure clearance

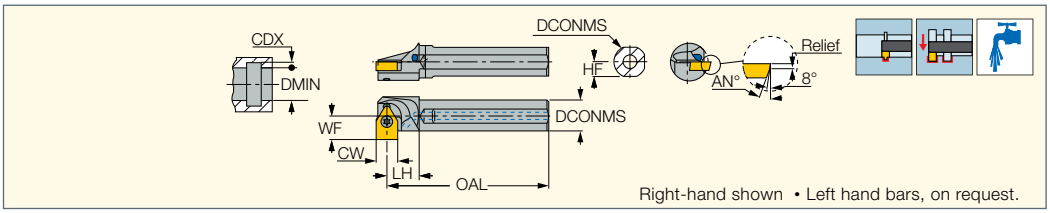
(1) Cutting depth maximum

**Inserts:** XNUW

V-LOCK

## SXCIR

Internal Toolholders for Specially Tailored Profile Inserts




| Designation | CW | DCONMS | OAL | LH | WF | DMIN | CDX(2) | HF | AN(3) | Relief(4) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SXCIR 16-10 (1) | 10.40 | 16.00 | 125.00 | 20.0 | 11.50 | 25.00 | 3.00 | 7.5 | 15.0 | 1.5 | SR 76-2067 | T-15/5 | PL 16 |
| SXCIR 20-10 (1) | 10.40 | 20.00 | 150.00 | 25.0 | 13.00 | 25.00 | 3.00 | 9.0 | 15.0 | 1.5 | SR 76-2067 | T-15/5 | PL 20 |
| SXCIR 16-13 | 13.00 | 16.00 | 125.00 | 20.0 | 13.00 | 30.00 | 4.00 | 7.5 | 20.0 | 2.0 | SR 76-2068 | T-20/5 | PL 16 |
| SXCIR 20-13 | 13.00 | 20.00 | 150.00 | 25.0 | 14.50 | 30.00 | 4.00 | 9.0 | 20.0 | 2.0 | SR 76-2068 | T-20/5 | PL 20 |
| SXCIR 25-13 | 13.00 | 25.00 | 170.00 | 30.0 | 17.00 | 30.50 | 4.00 | 11.5 | 20.0 | 2.0 | SR 76-2068 | T-20/5 | PL 25 |
| SXCIR 32-13 | 13.00 | 32.00 | 200.00 | 35.0 | 20.00 | 37.00 | 4.00 | 14.5 | 20.0 | 2.0 | SR 76-2068 | T-20/5 | PL 32 |
| SXCIR 25-14 (1) | 14.50 | 25.00 | 170.00 | 30.0 | 15.50 | 30.00 | 3.00 | 11.5 | 15.0 | 2.0 | SR 76-2067 | T-15/5 | PL 25 |
| SXCIR 20-20 | 20.50 | 20.00 | 150.00 | 25.0 | 15.00 | 40.00 | 4.00 | 9.0 | 15.0 | 2.5 | SR 14-591 | T-20/5 | PL 20 |
| SXCIR 32-20 | 20.50 | 32.00 | 200.00 | 35.0 | 20.50 | 40.00 | 4.00 | 14.5 | 15.0 | 2.5 | SR 14-591 | T-20/5 | PL 32 |
| SXCIR 25-24 | 24.50 | 25.00 | 170.00 | 30.0 | 17.50 | 40.00 | 4.00 | 11.5 | 15.0 | 2.5 | SR 14-591 | T-20/5 | PL 25 |
| SXCIR 32-24 | 24.50 | 32.00 | 200.00 | 35.0 | 20.50 | 40.00 | 4.00 | 14.5 | 15.0 | 2.5 | SR 14-591 | T-20/5 | PL 32 |

(1) On request.

(2) Cutting depth maximum

(3) Blank insert reference dimensions

(4) Blank insert reference dimensions

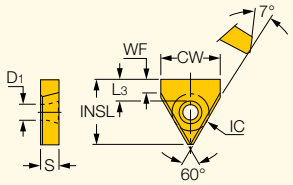
**Inserts:** XNUW

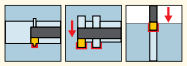
# Form Tools

## V-LOCK

### XNUW
Blank Inserts for Wide Profile Grooving





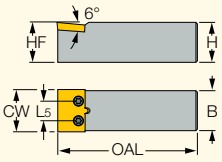



| Designation | Dimensions CW | WF | L3 | IC | S | D1 | INSL | Tough ↔ Hard IC28 | IC08 | IC20 | IC07 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| XNUW 1003-06 | 10.40 | 6.00 | 10.50 | 6.35 | 3.18 | 4.53 | 17.00 | ● | ● | | |
| XNUW 1305-05 | 13.00 | 5.00 | 11.40 | 12.70 | 5.35 | 5.50 | 20.60 | ● | ● | ● | |
| XNUW 14T3-03 | 14.50 | 3.00 | 3.70 | 9.52 | 3.97 | 4.40 | 14.00 | ● | ● | ● | |
| XNUW 2006-05 | 20.50 | 4.80 | 5.00 | 12.70 | 6.35 | 5.50 | 20.30 | ● | ● | ● | ● |
| XNUW 2406-05 | 24.50 | 5.00 | 6.00 | 15.87 | 6.35 | 5.50 | 25.00 | ● | ● | ● | ● |
| XNUW 3606-10 | 36.50 | 5.40 | 10.00 | 19.05 | 6.35 | 6.50 | 34.60 | ● | ● | ● | |

**Tools:** SXCIR • SXCNN

## FORMTOOL

### FTHN
Square Shank Toolholders for FTB Profile Turning Inserts





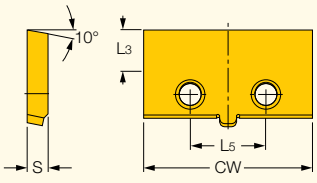

| Designation | CW | H | HF | B | OAL | L5 | | |
|---|---|---|---|---|---|---|---|---|
| FTHN 2525M-3010 | 30.40 | 25.0 | 25.0 | 25.0 | 150.00 | 14.00 | SR 14-591 | T-20/5 |
| FTHN 2525M-3510 | 35.40 | 25.0 | 25.0 | 25.0 | 150.00 | 14.00 | SR 14-591 | T-20/5 |
| FTHN 3232P-4510 | 45.40 | 32.0 | 32.0 | 32.0 | 170.00 | 18.00 | SR 14-591 | T-20/5 |
| FTHN 3232P-5107 | 51.40 | 32.0 | 32.0 | 32.0 | 170.00 | 21.90 | SR 14-591 | T-20/5 |

**Inserts:** FTB

## FORMTOOL

### FTB
Blank Inserts for Wide Profile Grooving








| Designation | Dimensions CW | L3 | S | L5 | IC08 |
|---|---|---|---|---|---|
| FTB 3010 | 30.40 | 10.00 | 5.00 | 14.00 | ● |
| FTB 3510 | 35.40 | 10.00 | 5.00 | 14.00 | ● |
| FTB 4010 | 40.40 | 10.00 | 5.00 | 18.00 | ● |
| FTB 4510 | 45.40 | 10.00 | 5.00 | 18.00 | ● |
| FTB 5107 | 51.40 | 7.00 | 5.00 | 21.90 | ● |

**Tools:** FTHN

# TOOLS FOR MINIATURE PARTS



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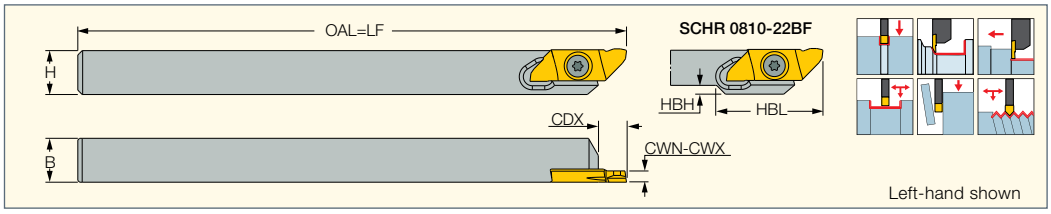
# External Tools and Inserts

## SWISS-CUT

SWISSCUT INNOVAL LINE

### SCHR/L-22BF

Grooving and Turning Tools with Back and Front Clamping for Swiss-Type and Automatic Machines




| Designation | H | B | OAL | HBH | HBL | CDX(1) | CWN(2) | CWX(3) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| SCHR/L 0810-22BF | 8.0 | 10.0 | 125.00 | 2.0 | 24.0 | 8.00 | 0.50 | 2.50 | SR M4X0.7-19425 | T-8/5 |
| SCHR/L 10-22BF | 10.0 | 10.0 | 125.00 | - | - | 8.00 | 0.50 | 2.50 | SR M4X0.7-19425 | T-8/5 |
| SCHR/L 12-22BF | 12.0 | 12.0 | 125.00 | - | - | 8.00 | 0.50 | 2.50 | SR M4X0.7-19425 | T-8/5 |
| SCHR/L 16-22BF | 16.0 | 16.0 | 125.00 | - | - | 8.00 | 0.50 | 2.50 | SR M4X0.7-19425 | T-8/5 |

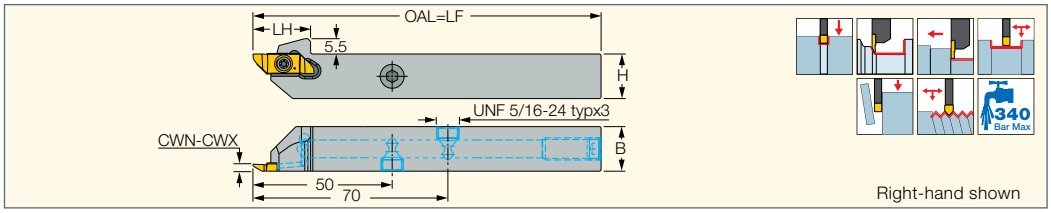
(1) See insert dimensions
(2) Minimum cutting width
(3) Maximum cutting width

**Inserts:** SCIR-22-MTR-ISO • SCIR/L-22-AD • SCIR/L-22-AR/AL • SCIR/L-22-BR/BL/BRA/BLA • SCIR/L-22-ER/EL/ERA/ELA • SCIR/L-22-MTR/MTL • SCIR/L-22-N/R/L • SCIR/L-22-NP • SCIR/L-22-NX

SWISSCUT INNOVAL LINE JETCUT

### SCHR/L-22BF-JHP

Grooving and Turning Tools with High-Pressure Coolant Channels for Swiss-Type and Automatic Machines




| Designation | H | B | OAL | LH | CWN(1) | CWX(2) | CDX(3) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SCHR/L 10-22BF-JHP | 10.0 | 10.0 | 125.00 | 20.7 | 0.50 | 2.50 | 8.00 | SR M4X0.7-19425 | T-8/5 | SR 5/16UNF TL360 | HW 5/32" |
| SCHR/L 12-22BF-JHP | 12.0 | 12.0 | 125.00 | 20.7 | 0.50 | 2.50 | 8.00 | SR M4X0.7-19425 | T-8/5 | SR 5/16UNF TL360 | HW 5/32" |
| SCHR/L 16-22BF-JHP | 16.0 | 16.0 | 125.00 | 20.7 | 0.50 | 2.50 | 8.00 | SR M4X0.7-19425 | T-8/5 | SR 5/16UNF TL360 | HW 5/32" |

• Note: Coolant ports of the left-hand tools are in the same position as those of the right-hand tools
(1) Minimum cutting width
(2) Maximum cutting width
(3) See insert dimensions

**Inserts:** SCIR-22-MTR-ISO • SCIR/L-22-AD • SCIR/L-22-AR/AL • SCIR/L-22-BR/BL/BRA/BLA • SCIR/L-22-ER/EL/ERA/ELA • SCIR/L-22-MTR/MTL • SCIR/L-22-N/R/L • SCIR/L-22-NP • SCIR/L-22-NX

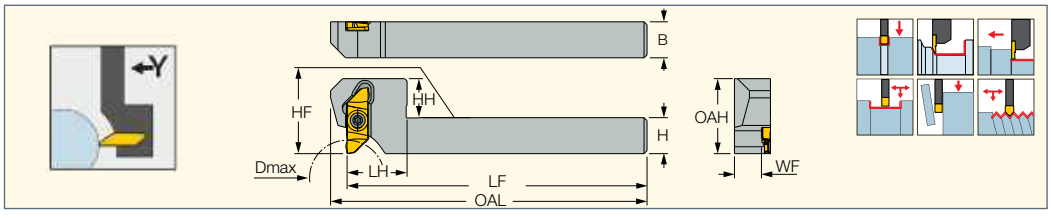
### Flow Rate vs. Pressure

| Designation | 70 Bar Flow Rate (liters/min) | 100 Bar Flow Rate (liters/min) | 140 Bar Flow Rate (liters/min) |
|---|---|---|---|
| SCHR/L 10-22BF-JHP | 1-3 | 2-4 | 3-5 |
| SCHR/L 12-22BF-JHP | 3-5 | 4-6 | 5-7 |
| SCHR/L 16-22BF-JHP | 6-8 | 7-9 | 8-10 |

NEOYSWISS AXIS
SWISSCUT

### Y-SCHR-22BF

Y Axis Tools for Swiss Type Machines - Back or Front Clamped Inserts for Grooving and Turning Operations




| Designation | H | B | HH | LH | HF | WF | OAH | LF | OAL | D max | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Y-SCHR 12-22BF | 12.0 | 12.0 | 13.0 | 20.0 | 12.0 | 9.00 | 25.00 | 100.00 | 105.50 | 25.0 (1) | SR M4X0.7-19425 | T-8/5 |
| Y-SCHR 16-22BF | 16.0 | 16.0 | 9.0 | 20.0 | 16.0 | 13.00 | 25.00 | 125.00 | 130.50 | 38.0 (1) | SR M4X0.7-19425 | T-8/5 |

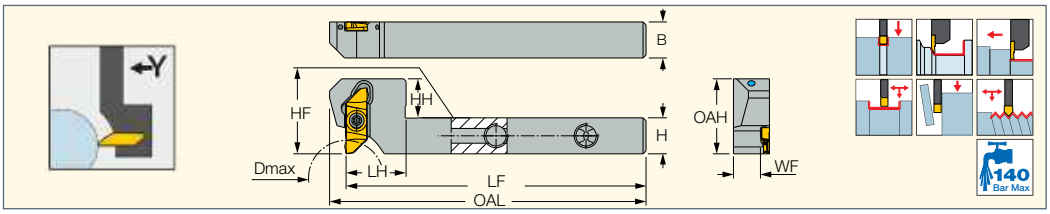
(1) for grooving

**Inserts:** SCIR-22-MTR-ISO • SCIR/L-22-AD • SCIR/L-22-AR/AL • SCIR/L-22-BR/BL/BRA/BLA • SCIR/L-22-ER/EL/ERA/ELA • SCIR/L-22-MTR/MTL • SCIR/L-22-N/R/L • SCIR/L-22-NP • SCIR/L-22-NX

NEOSWISS Y AXIS
SWISSCUT

## Y-SCHR-22BF-JHP

Y Axis JETCUT Tools for Swiss Type Machines - Back or Front Clamped Inserts for Grooving and Turning Operations




| Designation | H | B | HH | LH | HF | WF | OAH | LF | OAL | D max |
|---|---|---|---|---|---|---|---|---|---|---|
| Y-SCHR 12-22BF-JHP | 12.0 | 12.0 | 13.0 | 20.0 | 12.0 | 9.00 | 25.00 | 100.00 | 105.50 | 25.0 (1) |
| Y-SCHR 16-22BF-JHP | 16.0 | 16.0 | 9.0 | 20.0 | 16.0 | 13.00 | 25.00 | 125.00 | 130.50 | 38.0 (1) |

(1) for grooving

**Inserts:** SCIR-22-MTR-ISO • SCIR/L-22-AD • SCIR/L-22-AR/AL • SCIR/L-22-BR/BL/BRA/BLA • SCIR/L-22-ER/EL/ERA/ELA • SCIR/L-22-MTR/MTL • SCIR/L-22-N/R/L • SCIR/L-22-NP • SCIR/L-22-NX

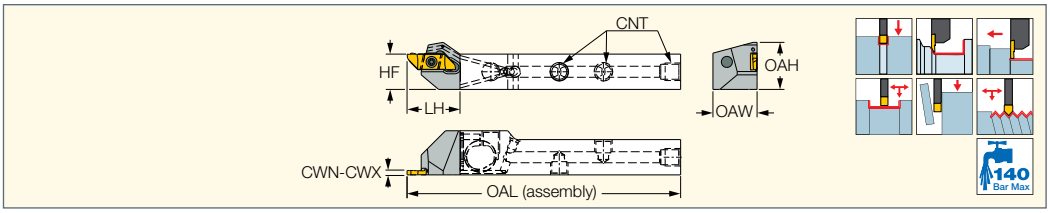
### Spare Parts

| Designation | | |
|---|---|---|
| Y-SCHR-22BF-JHP | SR M4X0.7-19425 | HW 5/32" |

NEOSWISS INDEXABLE HEADS
SWISSCUT

## NQCH-SCHR/L-BF-JHP

Screw Lock JETCUT Modular Heads for Swiss Type Machines - Grooving and Turning, Back or Front Clamped Inserts




| Designation | HF | OAW | LH | OAH | OAL | CWN(1) | CWX(2) | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NQCH12-SCHR/L-22BF-JHP | 12.0 | 20.00 | 24.0 | 17.30 | 124.00 | 0.50 | 2.50 | SCIR/L-22 | SR M4X0.7-19425 | T-8/5 |
| NQCH16-SCHR/L-22BF-JHP | 16.0 | 20.00 | 24.0 | 21.10 | 124.00 | 0.50 | 2.50 | SCIR/L-22 | SR M4X0.7-19425 | T-8/5 |

(1) Minimum cutting width
(2) Maximum cutting width

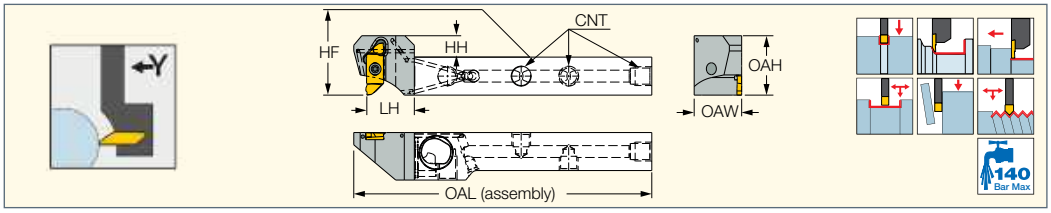
**Inserts:** SCIR-22-MTR-ISO • SCIR/L-22-AD • SCIR/L-22-AR/AL • SCIR/L-22-BR/BL/BRA/BLA • SCIR/L-22-ER/EL/ERA/ELA • SCIR/L-22-MTR/MTL • SCIR/L-22-N/R/L • SCIR/L-22-NP • SCIR/L-22-NX

**Holders:** NQCH-JHP

NEOSWISS INDEXABLE HEADS
SWISSCUT

## NQCH-Y-SCHR-BF-JHP

Y-Axis Screw Lock JETCUT Modular Heads for Swiss Type Machines - Grooving and Turning, Back or Front Clamped Inserts




| Designation | HF | OAH | LH | OAW | HH | OAL | CWN(1) | CWX(2) | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| NQCH12-Y-SCHR-22BF-JHP | 12.0 | 25.00 | 20.0 | 20.00 | 13.0 | 125.50 | 0.50 | 2.50 | SCIR/L-22-N/R/L | SR M4X0.7-19425 | T-8/5 |
| NQCH16-Y-SCHR-22BF-JHP | 16.0 | 25.00 | 20.0 | 20.00 | 9.0 | 125.50 | 0.50 | 2.50 | SCIR/L-22-N/R/L | SR M4X0.7-19425 | T-8/5 |

(1) Minimum cutting width
(2) Maximum cutting width

**Inserts:** SCIR-22-MTR-ISO • SCIR/L-22-AD • SCIR/L-22-AR/AL • SCIR/L-22-BR/BL/BRA/BLA • SCIR/L-22-ER/EL/ERA/ELA • SCIR/L-22-MTR/MTL • SCIR/L-22-N/R/L • SCIR/L-22-NP • SCIR/L-22-NX

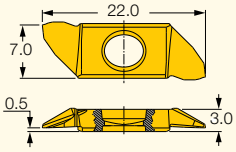
**Holders:** NQCH-JHP

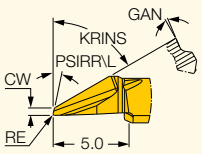
SWISSCUT INNOVAL LINE

## SCIR/L-22-BR/BL/BRA/BLA

Back Turning Inserts





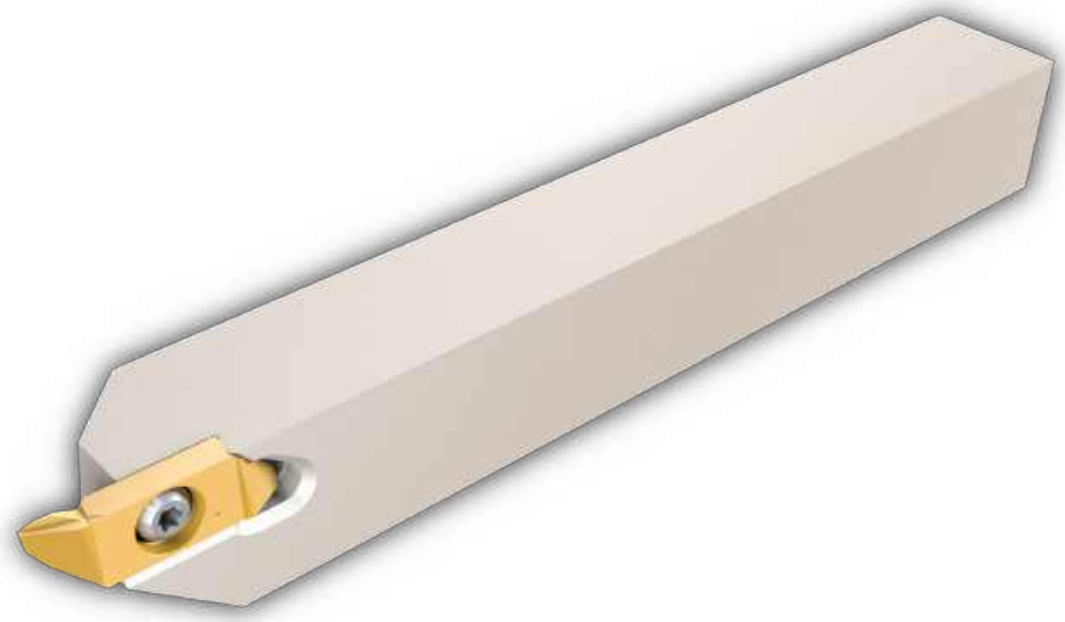



Left-hand shown

| Designation | Dimensions CW | GAN | RE | PSIRL | PSIRR | KRINS(1) | Tough ↔ Hard IC1008 | IC07 | IC1007 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **SCIL 22-BL00-05K7** | 0.50 | 7.0 | 0.00 | 12.0 | - | 60.0 | ● | | | 0.05-3.00 | 0.01-0.15 |
| **SCIL 22-BL10-05K7** | 0.50 | 7.0 | 0.10 | 12.0 | - | 60.0 | ● | | | 0.12-3.00 | 0.01-0.15 |
| **SCIR 22-BR00-05K7** | 0.50 | 7.0 | 0.00 | - | 12.0 | 60.0 | ● | | | 0.05-3.00 | 0.01-0.15 |
| **SCIR 22-BR10-05K7** | 0.50 | 7.0 | 0.10 | - | 12.0 | 60.0 | ● | | | 0.12-3.00 | 0.01-0.15 |
| **SCIL 22-BLA00-05K8** | 0.50 | 8.0 | 0.00 | 20.0 | - | 60.0 | | ● | ● | 0.05-3.00 | 0.01-0.15 |
| **SCIL 22-BLA08-05K8** | 0.50 | 8.0 | 0.08 | 20.0 | - | 60.0 | | ● | ● | 0.10-3.00 | 0.01-0.15 |
| **SCIR 22-BRA00-05K8** | 0.50 | 8.0 | 0.00 | - | 20.0 | 60.0 | | ● | ● | 0.05-3.00 | 0.01-0.15 |
| **SCIR 22-BRA08-05K8** | 0.50 | 8.0 | 0.08 | - | 20.0 | 60.0 | | ● | ● | 0.10-3.00 | 0.01-0.15 |
| **SCIR 22-BR10-05K15** | 0.50 | 15.0 | 0.10 | - | 12.0 | 60.0 | ● | | | 0.12-3.00 | 0.01-0.15 |
| **SCIL 22-BL08-10K7** | 1.00 | 7.0 | 0.08 | 12.0 | - | 60.0 | ● | | | 0.10-3.00 | 0.01-0.15 |
| **SCIR 22-BR08-10K7** | 1.00 | 7.0 | 0.08 | - | 12.0 | 60.0 | ● | | | 0.10-3.00 | 0.01-0.15 |
| **SCIR 22-BR08-10K15** | 1.00 | 15.0 | 0.08 | - | 12.0 | 60.0 | ● | | | 0.10-3.00 | 0.01-0.15 |

(1) Edge angle related to the wiper

**Tools:** NQCH-SCHR/L-BF-JHP • NQCH-Y-SCHR-BF-JHP • SCHR/L-22BF • SCHR/L-22BF-JHP • Y-SCHR-22BF • Y-SCHR-22BF-JHP

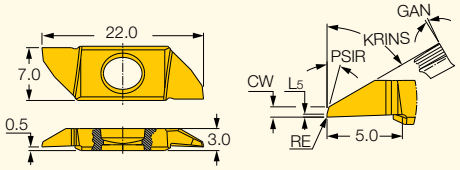


SWISSCUT INNOVAL LINE

## SCIR/L-22-ER/EL/ERA/ELA

Back Turning Inserts for Short Chipping Materials






Left-hand shown

| Designation | Dimensions RE | CW | L5 | GAN | KRINS[1] | PSIRL | PSIRR | Tough ↔ Hard IC1008 | IC07 | IC1007 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SCIL 22-EL00-03K0** | 0.00 | 0.30 | 0.20 | 0.0 | 60.0 | 6.0 | - | ● | | | 0.05-2.50 | 0.01-0.15 |
| **SCIR 22-ER00-03K0** | 0.00 | 0.30 | 0.20 | 0.0 | 60.0 | 6.0 | - | ● | | | 0.05-2.50 | 0.01-0.15 |
| **SCIL 22-EL00-07K0** | 0.00 | 0.70 | 0.20 | 0.0 | 60.0 | - | 15.0 | ● | | | 0.05-2.50 | 0.01-0.15 |
| **SCIR 22-EL00-07K0** | 0.00 | 0.70 | 0.20 | 0.0 | 60.0 | - | 15.0 | ● | | | 0.05-2.50 | 0.01-0.15 |
| **SCIR 22-ER00-07K0** | 0.00 | 0.70 | 0.20 | 0.0 | 60.0 | 15.0 | - | ● | | | 0.05-2.50 | 0.01-0.15 |
| **SCIL 22-EL00-07K10** | 0.00 | 0.70 | 0.20 | 10.0 | 60.0 | - | 3.0 | ● | | | 0.05-2.50 | 0.01-0.15 |
| **SCIR 22-ER00-07K10** | 0.00 | 0.70 | 0.20 | 10.0 | 60.0 | 3.0 | - | ● | | | 0.05-2.50 | 0.01-0.15 |
| **SCIL 22-ELA00-08K0** | 0.00 | 0.80 | 0.30 | 0.0 | 70.0 | - | 3.0 | | ● | ● | 0.05-2.50 | 0.01-0.15 |
| **SCIR 22-ERA00-08K0** | 0.00 | 0.80 | 0.30 | 0.0 | 70.0 | 3.0 | - | | ● | ● | 0.05-2.50 | 0.01-0.15 |

[1] Edge angle related to the wiper

**Tools:** NQCH-SCHR/L-BF-JHP • NQCH-Y-SCHR-BF-JHP • SCHR/L-22BF • SCHR/L-22BF-JHP • Y-SCHR-22BF • Y-SCHR-22BF-JHP

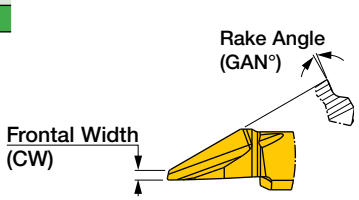
### Rake Angle (GAN°) Selection Guide

| | Brass | Ledloy | Steel | St. Steel | Titanium | Aluminum |
|---|---|---|---|---|---|---|
| 0° | | | | | | |
| 8° | | | | | | |
| 15° | | | | | | |

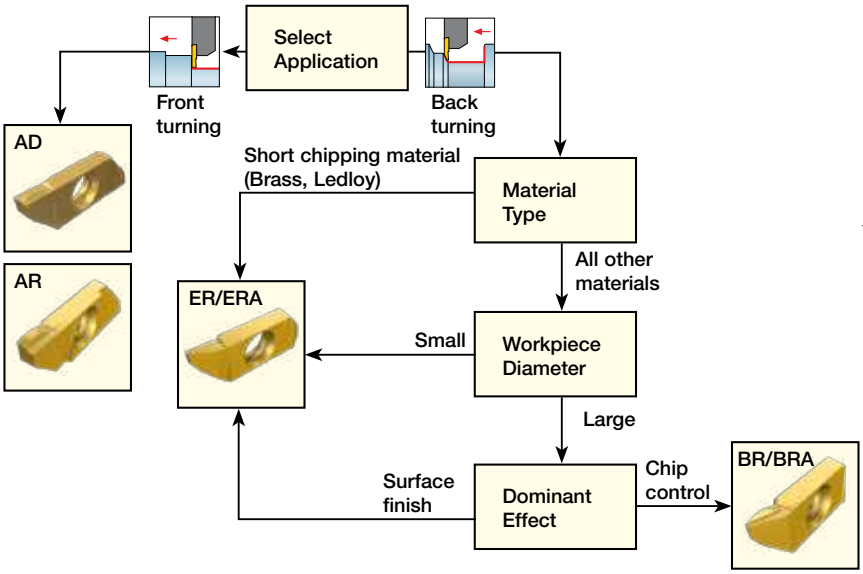
For brittle workpieces and small diameters always prefer GAN=0°

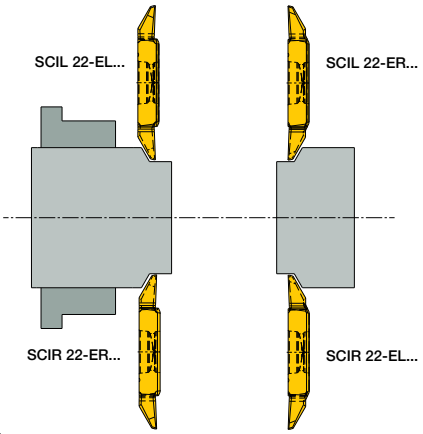
### Frontal Width Selection Guide

- Small diameters and brittle workpiece: small CW (less radial force)
- Large diameters: larger CW (stronger cutting edge)




### Turning Insert Selection Process



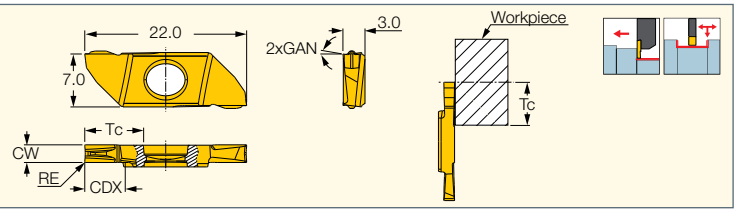



SWISSCUT INNOVAL LINE

## SCIR/L-22-AD

Turning Inserts with a Frontal Relief Angle






| Designation | Dimensions CW | RE | Tc | GAN | CDX(1) | Tough ↔ Hard IC1008 | IC07 | IC1007 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SCIR/L 22-AD08-24K8 | 2.40 | 0.08 | 8.0 | 8.0 | 5.50 | ● | ● | ● | 0.12-3.80 | 0.01-0.15 | 0.01-0.06 |

(1) Cutting depth maximum

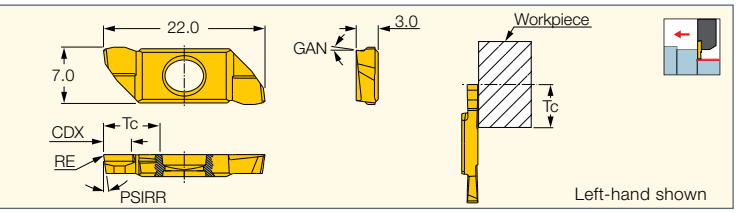
**Tools:** NQCH-SCHR/L-BF-JHP • NQCH-Y-SCHR-BF-JHP • SCHR/L-22BF • SCHR/L-22BF-JHP • Y-SCHR-22BF • Y-SCHR-22BF-JHP

SWISSCUT INNOVAL LINE

## SCIR/L-22-AR/AL

Turning Inserts with a Frontal Relief Angle






| Designation | Dimensions RE | Tc | PSIRL | PSIRR | GAN | CDX(1) | Tough ↔ Hard IC1008 | IC07 | IC1007 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SCIL 22-AL00-25K16 | 0.00 | 8.0 | 8.0 | - | 16.0 | 3.80 | ● | ● | ● | 0.05-3.80 | 0.01-0.15 |
| SCIR 22-AR00-25K16 | 0.00 | 8.0 | - | 8.0 | 16.0 | 3.80 | ● | ● | ● | 0.05-3.80 | 0.01-0.15 |
| SCIL 22-AL10-25K8 | 0.10 | 8.0 | 12.0 | - | 8.0 | 3.80 | ● | ● | ● | 0.12-3.80 | 0.01-0.15 |
| SCIR 22-AR10-25K8 | 0.10 | 8.0 | - | 12.0 | 8.0 | 3.80 | ● | ● | ● | 0.12-3.80 | 0.01-0.15 |

(1) Cutting depth maximum

**Tools:** NQCH-SCHR/L-BF-JHP • NQCH-Y-SCHR-BF-JHP • SCHR/L-22BF • SCHR/L-22BF-JHP • Y-SCHR-22BF • Y-SCHR-22BF-JHP

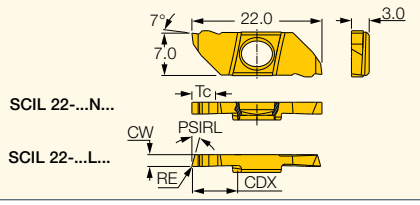


SWISSCUT INNOVAL LINE

## SCIR/L-22-N/R/L

Grooving and Parting Inserts

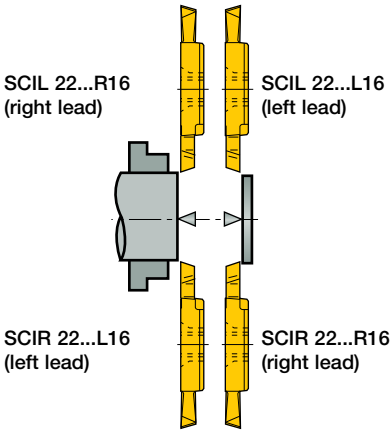


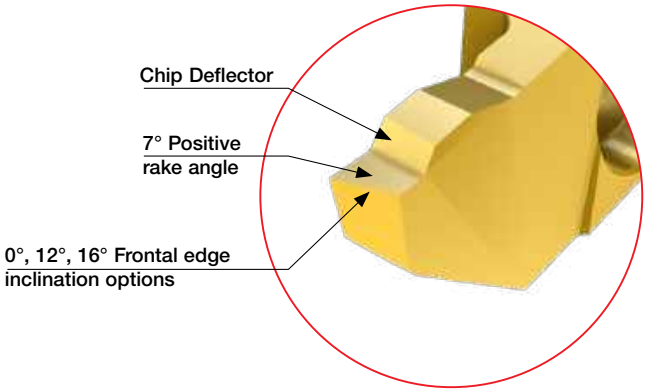



| Designation | Dimensions | | | | | | | | Tough ↔ Hard | | | Recommended Machining Data |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CW | CWTOL(1) | PSIRL | PSIRR | RE | RETOL(2) | CDX(3) | Tc | IC1008 | IC07 | IC1007 | f groove (mm/rev) |
| **SCIL 22-050N-00** | 0.50 | 0.02 | 0.0 | 0.0 | 0.00 | 0.030 | 1.80 | 5.5 | ● | ● | ● | 0.02-0.04 |
| **SCIR 22-050N-00** | 0.50 | 0.02 | 0.0 | 0.0 | 0.00 | 0.030 | 1.80 | 5.5 | ● | ● | ● | 0.02-0.04 |
| **SCIL 22-100N-00** | 1.00 | 0.02 | 0.0 | 0.0 | 0.00 | 0.030 | 4.00 | 5.5 | ● | ● | ● | 0.03-0.05 |
| **SCIR 22-100N-00** | 1.00 | 0.02 | 0.0 | 0.0 | 0.00 | 0.030 | 4.00 | 5.5 | ● | ● | ● | 0.03-0.05 |
| **SCIL 22-150N-00** | 1.50 | 0.02 | 0.0 | 0.0 | 0.00 | 0.030 | 5.50 | 8.0 | ● | | ● | 0.03-0.07 |
| **SCIR 22-150N-00** | 1.50 | 0.02 | 0.0 | 0.0 | 0.00 | 0.030 | 5.50 | 8.0 | ● | ● | ● | 0.03-0.07 |
| **SCIL 22-200N-10** | 2.00 | 0.02 | 0.0 | 0.0 | 0.10 | 0.030 | 7.00 | 8.0 | ● | ● | ● | 0.03-0.09 |
| **SCIR 22-200N-10** | 2.00 | 0.02 | 0.0 | 0.0 | 0.10 | 0.030 | 7.00 | 8.0 | ● | ● | ● | 0.03-0.09 |
| **SCIL 22-050L12-00** | 0.50 | 0.02 | 12.0 | - | 0.00 | 0.030 | 2.00 | 5.5 | ● | | | 0.01-0.03 |
| **SCIL 22-050R12-00** | 0.50 | 0.02 | - | 12.0 | 0.00 | 0.030 | 2.00 | 5.5 | ● | | | 0.01-0.03 |
| **SCIR 22-050L12-00** | 0.50 | 0.02 | 12.0 | - | 0.00 | 0.030 | 2.00 | 5.5 | ● | | | 0.01-0.03 |
| **SCIR 22-050R12-00** | 0.50 | 0.02 | - | 12.0 | 0.00 | 0.030 | 2.00 | 5.5 | ● | | | 0.01-0.03 |
| **SCIL 22-100L16-00** | 1.00 | 0.02 | 16.0 | - | 0.00 | 0.030 | 4.00 | 5.5 | ● | | | 0.02-0.04 |
| **SCIL 22-100R16-00** | 1.00 | 0.02 | - | 16.0 | 0.00 | 0.030 | 4.00 | 5.5 | ● | | | 0.02-0.04 |
| **SCIR 22-100L16-00** | 1.00 | 0.02 | 16.0 | - | 0.00 | 0.030 | 4.00 | 5.5 | ● | | | 0.02-0.04 |
| **SCIR 22-100R16-00** | 1.00 | 0.02 | - | 16.0 | 0.00 | 0.030 | 4.00 | 5.5 | ● | | | 0.02-0.04 |
| **SCIL 22-150L16-00** | 1.50 | 0.02 | 16.0 | - | 0.00 | 0.030 | 5.50 | 8.0 | ● | | | 0.03-0.06 |
| **SCIL 22-150R16-00** | 1.50 | 0.02 | - | 16.0 | 0.00 | 0.030 | 5.50 | 8.0 | ● | | | 0.03-0.06 |
| **SCIR 22-150L16-00** | 1.50 | 0.02 | 16.0 | - | 0.00 | 0.030 | 5.50 | 8.0 | ● | | | 0.03-0.06 |
| **SCIR 22-150R16-00** | 1.50 | 0.02 | - | 16.0 | 0.00 | 0.030 | 5.50 | 8.0 | ● | | | 0.03-0.06 |
| **SCIL 22-200L16-00** | 2.00 | 0.02 | 16.0 | - | 0.00 | 0.030 | 7.00 | 8.0 | ● | | | 0.03-0.07 |
| **SCIL 22-200R16-00** | 2.00 | 0.02 | - | 16.0 | 0.00 | 0.030 | 7.00 | 8.0 | ● | | | 0.03-0.07 |
| **SCIR 22-200L16-00** | 2.00 | 0.02 | 16.0 | - | 0.00 | 0.030 | 7.00 | 8.0 | ● | | | 0.03-0.07 |
| **SCIR 22-200R16-00** | 2.00 | 0.02 | - | 16.0 | 0.00 | 0.030 | 7.00 | 8.0 | ● | | | 0.03-0.07 |

(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum

**Tools:** NQCH-SCHR/L-BF-JHP • NQCH-Y-SCHR-BF-JHP • SCHR/L-22BF • SCHR/L-22BF-JHP • Y-SCHR-22BF • Y-SCHR-22BF-JHP



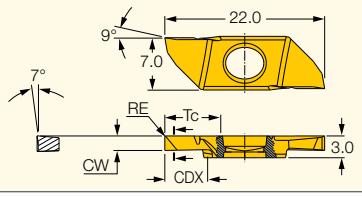



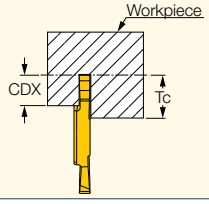
SWISSCUT INNOVAL LINE

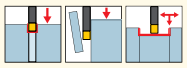
## SCIR/L-22-NP

Grooving, Turning and Parting Inserts





Left-hand shown

| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | Tc | Tough ↔ Hard IC1008 | IC07 | IC1007 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SCIR/L 22-080NP00 | 0.80 | 0.00 | 0.02 | 0.020 | 2.50 | 8.0 | ● | ● | ● | 0.05-0.70 | 0.02-0.06 | 0.02-0.05 |
| SCIR/L 22-100NP08 | 1.00 | 0.08 | 0.02 | 0.020 | 3.00 | 8.0 | ● | ● | ● | 0.05-0.80 | 0.02-0.08 | 0.02-0.06 |
| SCIR/L 22-150NP05 | 1.50 | 0.05 | 0.02 | 0.020 | 6.00 | 8.0 | ● | ● | ● | 0.05-1.80 | 0.02-0.11 | 0.02-0.07 |
| SCIR/L 22-200NP05 | 2.00 | 0.05 | 0.02 | 0.020 | 6.00 | 8.0 | ● | ● | ● | 0.05-2.50 | 0.03-0.15 | 0.03-0.09 |
| SCIR/L 22-250NP05 | 2.50 | 0.05 | 0.02 | 0.020 | 6.00 | 8.0 | ● | ● | ● | 0.05-3.10 | 0.03-0.19 | 0.03-0.11 |

(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum

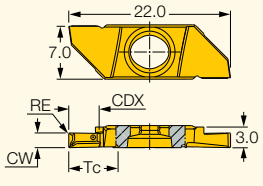
**Tools:** NQCH-SCHR/L-BF-JHP • NQCH-Y-SCHR-BF-JHP • SCHR/L-22BF • SCHR/L-22BF-JHP • Y-SCHR-22BF • Y-SCHR-22BF-JHP

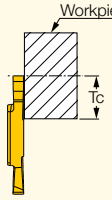
SWISSCUT INNOVAL LINE

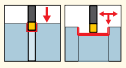
## SCIR/L-22-NX

Grooving and Turning Inserts with a Chipformer





Right-hand shown

| Designation | Dimensions CW | CWTOL(1) | RE | RETOL(2) | CDX(3) | Tc(4) | IC1008 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| SCIR/L 22-150NX080 | 1.50 | 0.02 | 0.08 | 0.020 | 4.30 | 6.8 | ● | 0.05-1.80 | 0.02-0.11 | 0.02-0.07 |
| SCIR/L 22-200NX080 | 2.00 | 0.02 | 0.08 | 0.020 | 4.30 | 6.8 | ● | 0.05-2.50 | 0.03-0.15 | 0.03-0.09 |
| SCIR/L 22-250NX080 | 2.50 | 0.02 | 0.08 | 0.020 | 4.30 | 6.8 | ● | 0.05-3.10 | 0.03-0.19 | 0.03-0.11 |

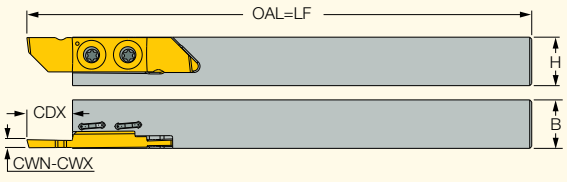
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum
(4) Maximum 32 mm diameter for face turning

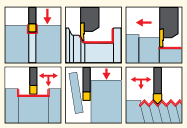
**Tools:** NQCH-SCHR/L-BF-JHP • NQCH-Y-SCHR-BF-JHP • SCHR/L-22BF • SCHR/L-22BF-JHP • Y-SCHR-22BF • Y-SCHR-22BF-JHP

SWISSCUT EXTRA LONG

## SCHR/L-41BF

Grooving and Turning Tools with Back and Front Clamping for Swiss-Type and Automatic Machines



Right-hand shown

| Designation | CWX(1) | CDX(2) | B | OAL | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SCHR/L 12-41BF | 3.00 | 11.00 | 12.0 | 125.00 | SR M4.5X0.75-L7.9 | BLD T15/S7 | SR M2X0.4-L3.5 | BLD T10/S7 | SW6-SD |
| SCHR/L 16-41BF | 3.00 | 11.00 | 16.0 | 125.00 | SR M4.5X0.75-L7.9 | BLD T15/S7 | SR M2X0.4-L3.5 | BLD T10/S7 | SW6-SD |

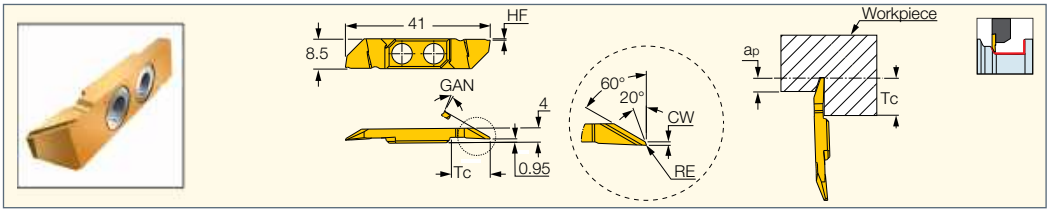
(1) Maximum cutting width
(2) See insert data

**Inserts:** SCIR/L-41-AD • SCIR/L-41-AR/AL • SCIR/L-41-BRA/BLA • SCIR/L-41-ERA/ELA • SCIR/L-41-MTR/MTL • SCIR/L-41-N/R/L • SCIR/L-41-NP

SWISSCUT EXTRA LONG

## SCIR/L-41-BRA/BLA

Back Turning Inserts




| Designation | Dimensions CW | RE | HF(1) | Tc | GAN | IC1008 | Recommended Machining Data ap (mm) | f turn (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| SCIL 41-BLA08-05K8 | 0.50 | 0.08 | 0.5 | 11.0 | 8.0 | ● | 0.10-4.20 | 0.02-0.15 |
| SCIR 41-BRA08-05K8 | 0.50 | 0.08 | 0.5 | 11.0 | 8.0 | ● | 0.10-4.20 | 0.02-0.15 |
| SCIL 41-BLA08-10K8 | 1.00 | 0.08 | 0.5 | 11.0 | 8.0 | ● | 0.10-4.20 | 0.02-0.15 |
| SCIR 41-BRA08-10K8 | 1.00 | 0.08 | 0.5 | 11.0 | 8.0 | ● | 0.10-4.20 | 0.02-0.15 |

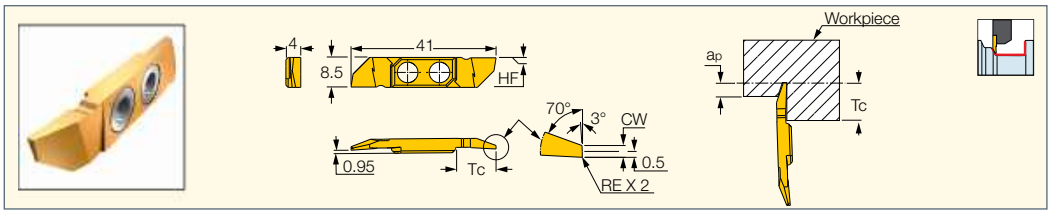
(1) Cutting edge below center

**Tools:** SCHR/L-41BF

SWISSCUT EXTRA LONG

## SCIR/L-41-ERA/ELA

Back Turning Inserts for Short Chipping Materials




| Designation | Dimensions CW | RE | HF(1) | Tc | IC1008 | Recommended Machining Data ap (mm) | f turn (mm/rev) |
|---|---|---|---|---|---|---|---|
| SCIL 41-ELA00-10K0 | 1.00 | 0.00 | 0.2 | 11.0 | ● | 0.05-5.00 | 0.02-0.15 |
| SCIR 41-ERA00-10K0 | 1.00 | 0.00 | 0.2 | 11.0 | ● | 0.05-5.00 | 0.02-0.15 |
| SCIL 41-ELA08-10K0 | 1.00 | 0.08 | 0.2 | 11.0 | ● | 0.10-5.00 | 0.02-0.15 |
| SCIR 41-ERA08-10K0 | 1.00 | 0.08 | 0.2 | 11.0 | ● | 0.10-5.00 | 0.02-0.15 |

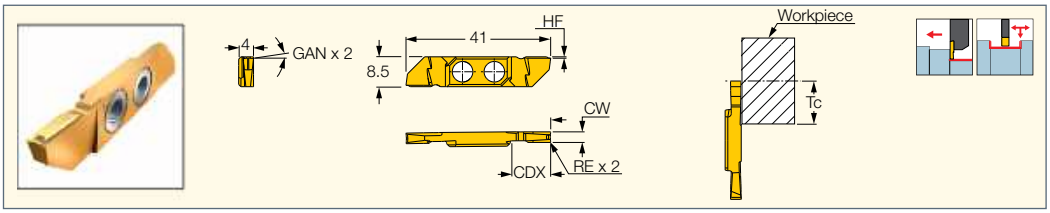
(1) Cutting edge below center

**Tools:** SCHR/L-41BF

SWISSCUT EXTRA LONG

## SCIR/L-41-AD

Turning Inserts




| Designation | Dimensions CW | CWTOL(1) | RE | RETOL(2) | HF(3) | CDX | Tc | GAN | IC1008 | Recommended Machining Data ap (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SCIR/L 41-AD08-30K8 | 3.00 | 0.020 | 0.08 | 0.020 | 0.5 | 11.00 | 11.0 | 8.0 | ● | 0.12-4.00 | 0.02-0.15 | 0.01-0.06 |

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Cutting edge below center

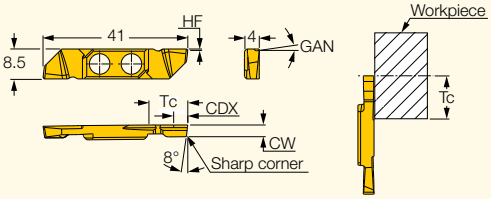
**Tools:** SCHR/L-41BF

SWISSCUT EXTRA LONG

## SCIR/L-41-AR/AL

Turning Inserts with a Frontal Relief Angle






| Designation | Dimensions CW | HF[1] | CDX | Tc | GAN | IC1008 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| SCIL 41-AL00-33K16 | 3.30 | 0.5 | 4.00 | 11.0 | 16.0 | ● | 0.05-4.00 | 0.02-0.15 |
| SCIR 41-AR00-33K16 | 3.30 | 0.5 | 4.00 | 11.0 | 16.0 | ● | 0.05-4.00 | 0.02-0.15 |

(1) Cutting edge below center

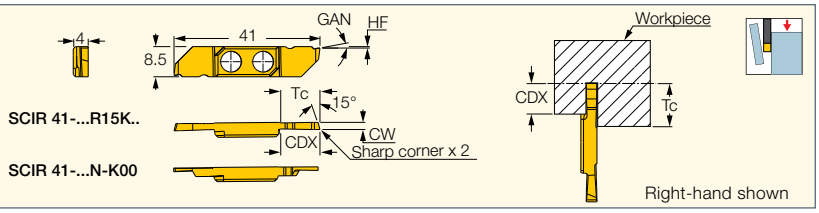
**Tools:** SCHR/L-41BF

SWISSCUT EXTRA LONG

## SCIR/L-41-N/R/L

Grooving and Parting Inserts






| Designation | Dimensions CW | CWTOL[1] | GAN | HF[2] | CDX | Tc | IC1008 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| SCIL 41-100L15K00 | 1.00 | 0.020 | 0.0 | 0.2 | 6.00 | 11.0 | ● | 0.02-0.04 |
| SCIR/L 41-100N-K00 | 1.00 | 0.020 | 0.0 | 0.1 | 6.15 | 11.0 | ● | 0.03-0.05 |
| SCIR 41-100R15K00 | 1.00 | 0.020 | 0.0 | 0.2 | 6.00 | 11.0 | ● | 0.02-0.04 |
| SCIL 41-150L15K00 | 1.50 | 0.020 | 0.0 | 0.2 | 8.00 | 11.0 | ● | 0.03-0.06 |
| SCIR/L 41-150N-K00 | 1.50 | 0.020 | 0.0 | 0.1 | 8.15 | 11.0 | ● | 0.03-0.07 |
| SCIR 41-150R15K00 | 1.50 | 0.020 | 0.0 | 0.2 | 8.00 | 11.0 | ● | 0.03-0.06 |
| SCIL 41-150L15K7 | 1.50 | 0.020 | 7.0 | 0.5 | 8.00 | 11.0 | ● | 0.03-0.06 |
| SCIR 41-150R15K7 | 1.50 | 0.020 | 7.0 | 0.5 | 8.00 | 11.0 | ● | 0.03-0.06 |
| SCIL 41-200L15K00 | 2.00 | 0.020 | 0.0 | 0.2 | 10.00 | 11.0 | ● | 0.03-0.07 |
| SCIR/L 41-200N-K00 | 2.00 | 0.020 | 0.0 | 0.1 | 11.00 | 11.0 | ● | 0.03-0.09 |
| SCIR 41-200R15K00 | 2.00 | 0.020 | 0.0 | 0.2 | 10.00 | 11.0 | ● | 0.03-0.07 |
| SCIL 41-200L15K7 | 2.00 | 0.020 | 7.0 | 0.5 | 10.00 | 11.0 | ● | 0.03-0.07 |
| SCIR 41-200R15K7 | 2.00 | 0.020 | 7.0 | 0.5 | 10.00 | 11.0 | ● | 0.03-0.07 |
| SCIL 41-250L15K00 | 2.50 | 0.020 | 0.0 | 0.2 | 10.00 | 11.0 | ● | 0.03-0.07 |
| SCIR/L 41-250N-K00 | 2.50 | 0.020 | 0.0 | 0.1 | 11.00 | 11.0 | ● | 0.03-0.09 |
| SCIR 41-250R15K00 | 2.50 | 0.020 | 0.0 | 0.2 | 10.00 | 11.0 | ● | 0.03-0.07 |
| SCIL 41-250L15K7 | 2.50 | 0.020 | 7.0 | 0.5 | 10.00 | 11.0 | ● | 0.03-0.07 |
| SCIR 41-250R15K7 | 2.50 | 0.020 | 7.0 | 0.5 | 10.00 | 11.0 | ● | 0.03-0.07 |
| SCIL 41-300L15K00 | 3.00 | 0.020 | 0.0 | 0.2 | 10.00 | 11.0 | ● | 0.03-0.08 |
| SCIR/L 41-300N-K00 | 3.00 | 0.020 | 0.0 | 0.1 | 11.00 | 11.0 | ● | 0.03-0.10 |
| SCIR 41-300R15K00 | 3.00 | 0.020 | 0.0 | 0.2 | 10.00 | 11.0 | ● | 0.03-0.08 |

(1) Cutting width tolerance (+/-)

(2) Cutting edge below center

**Tools:** SCHR/L-41BF

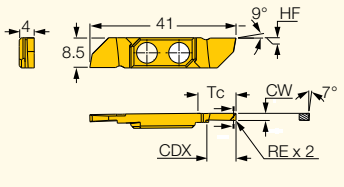
# CUT-GRIP

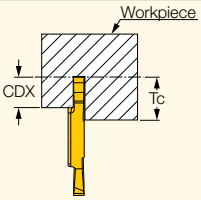
SWISSCUT EXTRA LONG

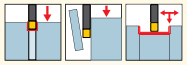
## SCIR/L-41-NP

Grooving, Turning and Parting Inserts





| Designation | Dimensions CW | CWTOL(1) | RE | RETOL(2) | HF(3) | CDX | Tc | IC1008 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SCIR/L 41-150NP08 | 1.50 | 0.020 | 0.08 | 0.020 | 0.2 | 8.00 | 11.0 | ● | 0.10-1.80 | 0.02-0.10 | 0.02-0.07 |
| SCIR/L 41-200NP08 | 2.00 | 0.020 | 0.08 | 0.020 | 0.2 | 8.00 | 11.0 | ● | 0.10-2.50 | 0.02-0.15 | 0.02-0.09 |
| SCIR/L 41-250NP08 | 2.50 | 0.020 | 0.08 | 0.020 | 0.2 | 10.00 | 11.0 | ● | 0.10-3.00 | 0.02-0.17 | 0.02-0.11 |
| SCIR/L 41-300NP08 | 3.00 | 0.020 | 0.08 | 0.020 | 0.2 | 10.00 | 11.0 | ● | 0.10-4.00 | 0.02-0.20 | 0.02-0.12 |

- When turning to the opposite side of chipformer, maximum D.O.C. is 0.5 mm

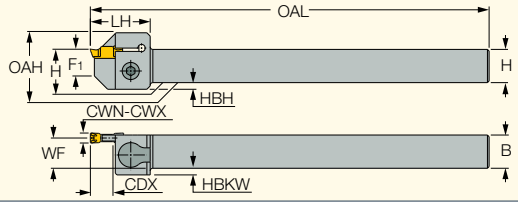
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting edge below center

**Tools:** SCHR/L-41BF

CUTGRIP

## GEHSR/L-SL

External Machining Tools with Side Clamping Mechanism for Swiss-Type and Automatic Machines

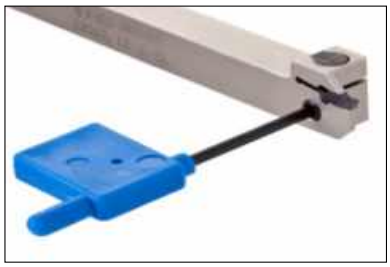


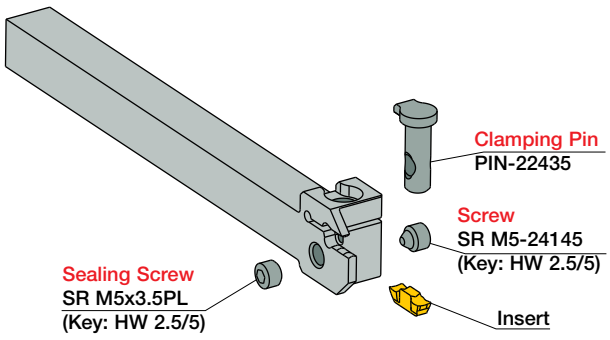

| Designation | H | CWN(1) | CWX(2) | CDX(3) | B | OAL | WF | HBH | HBKW | WB | LH | F1 | OAH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GEHSR/L 10-2-SL | 10.0 | 2.20 | 3.20 | 6.80 | 10.0 | 120.00 | 9.10 | 2.0 | 2.00 | 1.80 | 18.0 | 8.0 | 15.0 |
| GEHSR/L 12-2-SL | 12.0 | 2.20 | 3.20 | 6.80 | 12.0 | 120.00 | 11.10 | - | - | 1.80 | 18.0 | 8.0 | 17.0 |
| GEHSR/L 16-2-SL | 16.0 | 2.20 | 3.20 | 6.80 | 16.0 | 120.00 | 15.10 | - | - | 1.80 | 18.0 | 8.0 | 21.0 |

- For user guide, see pages 440-457

(1) Minimum cutting width
(2) Maximum cutting width
(3) Cutting depth maximum

**Inserts:** GEMI • GEMI (full radius) • GEPI • GEPI (full radius) • GEPI-MT • GEPI-WT





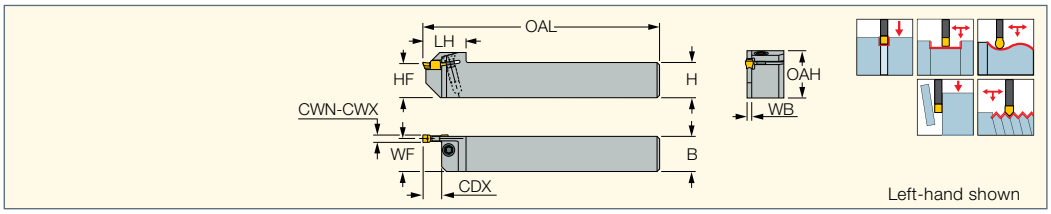



### Spare Parts

| Designation | | | | |
|---|---|---|---|---|
| GEHSR/L-SL | PIN-22435 INJ | SR M5-24145 | HW 2.5/5 | SR M5X3.5PL |

CUTGRIP

## GEHSR
External Machining Holders for Swiss-Type and Automatic Machines




| Designation | H | CWN(1) | CWX(2) | CDX(3) | HF | B | OAL | WF | WB | LH | OAH | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GEHSR 20-2 | 20.0 | 2.20 | 3.20 | 6.80 | 20.0 | 20.0 | 120.00 | 19.10 | 1.80 | 20.0 | 24.0 | SR 16-236 P | T-15/3 |

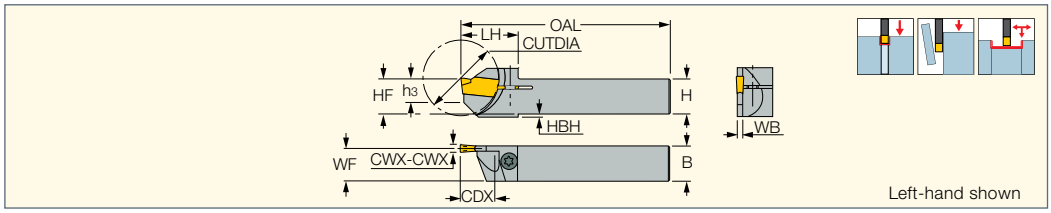
- For user guide, see pages 440-457

(1) Minimum cutting width
(2) Maximum cutting width
(3) Cutting depth maximum

**Inserts:** GEMI • GEMI (full radius) • GEPI • GEPI (full radius) • GEPI-MT • GEPI-WT

CUTGRIP

## PHSR/L
External Machining Holders for Swiss-Type and Automatic Machines



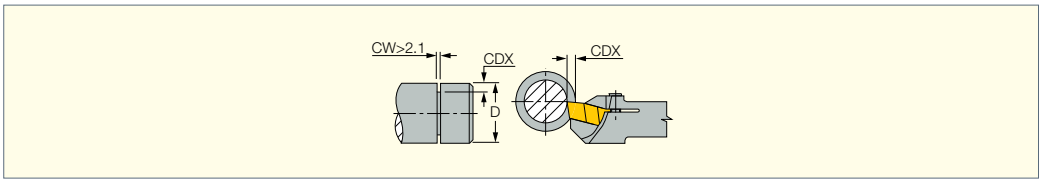

| Designation | CWN(1) | CWX(2) | CUTDIA(3) | H | HF | B | OAL | WF | h3 | LH | HBH | WB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHSR/L 10-2.4 | 2.40 | 3.18 | 20.0 | 10.0 | 10.0 | 10.0 | 150.00 | 9.00 | 8.0 | 18.0 | 2.0 | 1.90 | SR 16-236 P | T-15/3 |
| PHSR/L 12-2.4 | 2.40 | 3.18 | 25.0 | 12.0 | 12.0 | 12.0 | 150.00 | 11.10 | 7.0 | 20.0 | - | 1.90 | SR 16-236 P | T-15/3 |
| PHSR/L 16-2.4 | 2.40 | 3.18 | 32.0 | 16.0 | 16.0 | 16.0 | 150.00 | 15.10 | 8.0 | 24.1 | - | 1.90 | SR 16-236 P | T-15/3 |

- CDX=Max depth capacity, see chart below
- For user guide, see pages 440-457

(1) Minimum cutting width
(2) Maximum cutting width
(3) Limited by part diameter

**Inserts:** GDMW 2.4

### Grooving Depth
Grooving Depth CDX per Diameter for Width > 2.1 mm

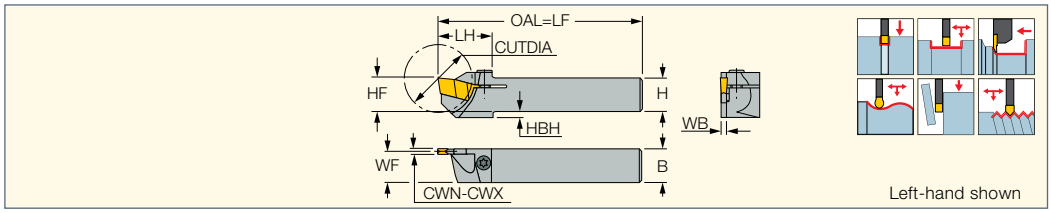



| Tmax | 5.0 | 4.5 | 4.0 | 3.5 | 3.0 | 2.5 | 2.3 | 2.0 | 1.7 |
|---|---|---|---|---|---|---|---|---|---|
| D | 10.5 | 10.8 | 11.5 | 12.6 | 14.5 | 17 | 20 | 25 | 34 |

Tmax is also limited by insert

CUTGRIP

## GHSR/L
External Grooving and Turning Holders for Swiss-Type and Automatic Machines



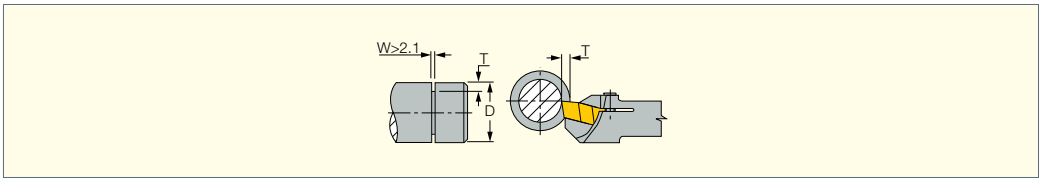

| Designation | CWN(1) | CWX(2) | CUTDIA(3) | H | HF | B | OAL | WF | LH | HBH | WB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GHSR/L 10-2 | 2.20 | 3.15 | 20.0 | 10.0 | 10.0 | 10.0 | 120.00 | 9.10 | 18.0 | 2.0 | 1.80 | SR 16-236 P | T-15/3 |
| GHSR/L 12-2 | 2.20 | 3.15 | 25.0 | 12.0 | 12.0 | 12.0 | 120.00 | 11.10 | 20.0 | 2.0 | 1.80 | SR 16-236 P | T-15/3 |
| GHSR/L 14-2 | 2.20 | 3.15 | 26.0 | 14.0 | 14.0 | 14.0 | 120.00 | 13.10 | 20.0 | - | 1.80 | SR 16-236 P | T-15/3 |
| GHSR/L 16-2 | 2.20 | 3.15 | 32.0 | 16.0 | 16.0 | 16.0 | 120.00 | 15.10 | 26.0 | - | 1.80 | SR 16-212 | T-20/3 |

- For user guide, see pages 440-457

(1) Minimum cutting width
(2) Maximum cutting width
(3) For CW>2.1 mm: grooving depth depends on part diameter

**Inserts:** GIG • GIM-J • GIM-J-RA/LA • GIMY • GIMY (full radius) • GIMY-F • GIP • GIP (full radius W<M) • GIP (full radius)
• GIP-E • GIP-E (full radius) • GIPA (full radius W=3-6) • GIPA (W=3-6) • GIPM-A46 / GIP-1250 • GIPY • GITM • GITM (full radius)
• TIP-MT • TIP-P-BSPT • TIP-P-BSW • TIP-P-ISO • TIP-P-NPT • TIP-P-UN • TIP-WT

### Grooving Depth
Grooving Depth Tmax per Diameter for Width > 2.1 mm



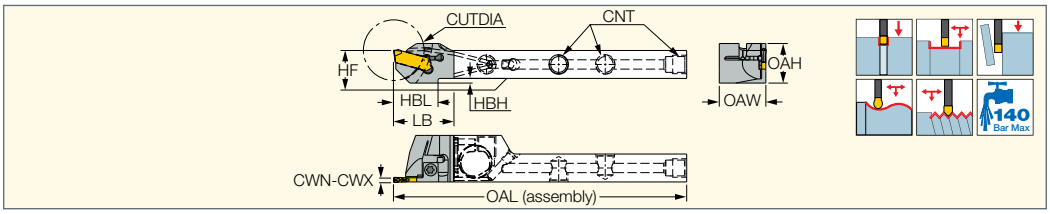

| Tmax | 5.0 | 4.5 | 4.0 | 3.5 | 3.0 | 2.5 | 2.3 | 2.0 | 1.7 |
|---|---|---|---|---|---|---|---|---|---|
| D | 10.5 | 10.8 | 11.5 | 12.6 | 14.5 | 17 | 20 | 25 | 34 |

Tmax is also limited by insert

NEOSWISS INDEXABLE HEADS
CUTGRIP

## NQCH-GHSR/L-JHP

Screw Lock JETCUT Modular Heads for Swiss Type Machines - Grooving and Turning Inserts




| Designation | HF | OAW | LB | OAH | HBH | OAL | HBL | CWN(1) | CWX(2) | CUTDIA | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| NQCH12-GHSR/L-2-JHP | 12.0 | 20.00 | 26.00 | 17.00 | 2.0 | 126.00 | 2.0 | 2.20 | 3.00 | 25.0 | GIP 2 |
| NQCH16-GHSR/L-2-JHP | 16.0 | 20.00 | 26.00 | 19.00 | - | 126.00 | - | 2.20 | 3.00 | 25.0 | GIP 2 |

(1) Minimum cutting width
(2) Maximum cutting width

**Inserts:** GIG • GIM-J • GIM-J-RA/LA • GIMY • GIMY (full radius) • GIMY-F • GIP • GIP (flat top W<M) • GIP (full radius W<M) • GIP (full radius) • GIP-E • GIP-E (full radius) • GIPA (full radius W=3-6) • GIPA (W=3-6) • GIPM-A46 / GIP-1250 • GIPY • GITM • GITM (full radius) • TIP-MT • TIP-P-BSPT • TIP-P-BSW • TIP-P-ISO • TIP-P-NPT • TIP-P-UN • TIP-WT

**Holders:** NQCH-JHP

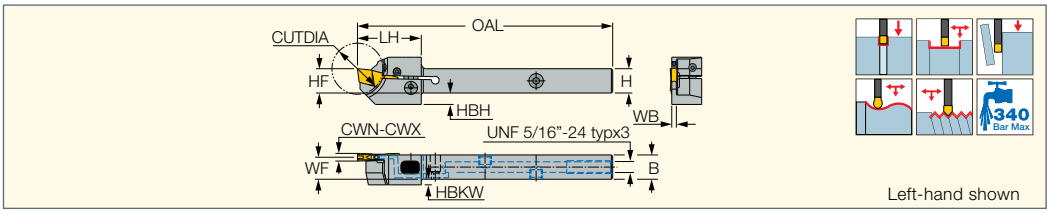
### Spare Parts

| Designation | | |
|---|---|---|
| NQCH-GHSR/L-JHP | SR 16-236 P | T-15/3 |

CUTGRIP JETCUT

## GHSR/L-JHP-SL

Grooving and Turning Side Lock Tools with Channels for High-Pressure Coolant on Swiss-Type and Automatic Machines




| Designation | CWN(1) | CWX(2) | H | B | CUTDIA | OAL | LH | WF | HBKW | WB | HF |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GHSR/L 10-2-JHP-SL | 2.20 | 3.00 | 10.0 | 10.0 | 20.0 | 100.00 | 25.0 | 9.10 | 2.2 | 1.80 | 10.0 |
| GHSL 12-2-JHP-SL | 2.20 | 3.00 | 12.0 | 12.0 | 25.0 | 100.00 | 25.0 | 11.10 | - | 1.80 | 12.0 |
| GHSR 12-2-JHP-SL | 2.20 | 3.00 | 12.0 | 12.0 | 25.0 | 100.00 | 25.0 | 11.10 | - | 0.00 | 12.0 |
| GHSR/L 16-2-JHP-SL | 2.20 | 3.00 | 16.0 | 16.0 | 25.0 | 120.00 | 27.0 | 15.10 | - | 1.80 | 16.0 |
| GHSR/L 12-3-JHP-SL | 2.80 | 4.00 | 12.0 | 12.0 | 25.0 | 100.00 | 25.0 | 10.80 | - | 2.40 | 12.0 |
| GHSR/L 16-3-JHP-SL | 2.80 | 4.00 | 16.0 | 16.0 | 25.0 | 120.00 | 27.0 | 14.80 | - | 2.40 | 16.0 |

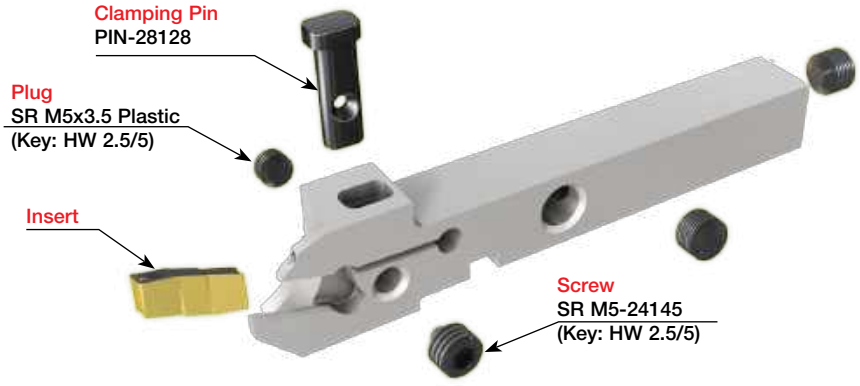
• For user guide and accessories, see pages 440-457

(1) Minimum cutting width
(2) Maximum cutting width

**Inserts:** GIG • GIM-J • GIM-J-RA/LA • GIMY • GIMY (full radius) • GIMY-F • GIP • GIP (full radius W<M) • GIP (full radius) • GIP-E • GIP-E (full radius) • GIPA (full radius W=3-6) • GIPA (W=3-6) • GIPM-A46 / GIP-1250 • GIPY • GITM • GITM (full radius) • TIP-MT • TIP-P-BSPT • TIP-P-BSW • TIP-P-ISO • TIP-P-NPT • TIP-P-UN • TIP-WT

### Flow Rate vs. Pressure

| Designation | 70 Bar Flow Rate (liters/min) | 100 Bar Flow Rate (liters/min) | 140 Bar Flow Rate (liters/min) |
|---|---|---|---|
| GHSR/L...-JHP-SL | 4-6 | 7-9 | 9-11 |




### Spare Parts

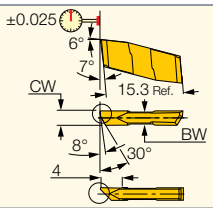
| Designation | | | | | | |
|---|---|---|---|---|---|---|
| GHSR/L-JHP-SL | PIN-28128 INJ | SR M5-24145 | SR M5X3.5PL | HW 2.5/5 | SR 5/16UNF TL360 | HW 5/32" |

# SWISS-GRIP

## CUTGRIP

**GIPM-A46 / GIP-1250**
Precision Ground Back Turning Inserts for External Machining on Swiss-Type and Automatic Machines






| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | Tough ↔ Hard IC328 | IC908 | IC20 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| GIPM 2.35-A46R/L | 2.35 | 0.05 | 0.05 | 0.030 | 2.20 | ● | ● | | 0.10-1.00 | 0.02-0.15 |
| GIP 3.00-1250R/L | 3.00 | 0.00 | 0.05 | 0.030 | 2.40 | ● | | ● | 0.10-1.00 | 0.02-0.15 |

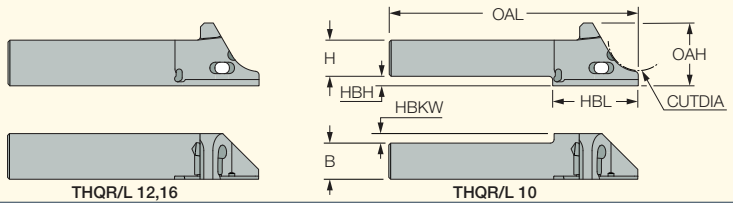
- Toolholder seat needs to be modified according to insert profile to ensure clearance
- For grooving, reduce cutting speed by 30% and feed by 50%
- For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)

**Tools:** C#-GHDR/L • CGHN 26-M • CGHN 32-DGM • CGHN 32-M • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L • GHSR/L • GHSR/L-JHP-SL • NQCH-GHSR/L-JHP

## SWISSGRIP NARROW WIDTHS

**THQR/L**
Parting and Grooving Holder for a SELF-GRIP Mini Blades (SGAQ), Suitable for Swiss-Type Machines

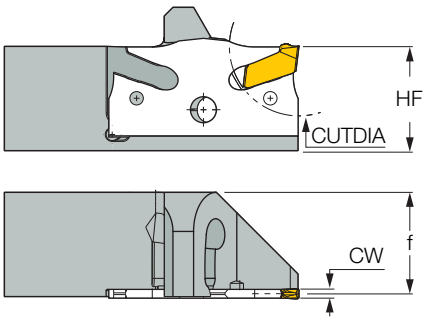



| Designation | H | OAL | HF | OAH | HBL | HBH | CUTDIA | HBKW | B |
|---|---|---|---|---|---|---|---|---|---|
| THQR/L 10-D16 | 10.0 | 100.00 | 10.0 | 16.50 | 22.6 | 2.0 | 16.0 | 12.00 | 10.0 |
| THQR/L 12-D16 | 12.0 | 100.00 | 12.0 | 16.50 | - | - | 16.0 | - | 12.0 |
| THQR/L 16-D16 | 16.0 | 100.00 | 16.0 | 20.50 | - | - | 16.0 | - | 16.0 |

**Tools:** SGAQ

| Designation | CW | CUTDIA | f |
|---|---|---|---|
| THQL/R 10-D16 + SGAQ 0.6 | 0.6 | 10 | 9.68 |
| THQL/R 10-D16 + SGAQ 0.8 | 0.8 | 10 | 9.68 |
| THQL/R 12-D16 + SGAQ 0.6 | 0.6 | 10 | 11.68 |
| THQL/R 12-D16 + SGAQ 0.8 | 0.8 | 10 | 11.68 |
| THQL/R 16-D16 + SGAQ 0.6 | 0.6 | 10 | 15.68 |
| THQL/R 16-D16 + SGAQ 0.8 | 0.8 | 10 | 15.68 |

| Designation | CW | CUTDIA | f |
|---|---|---|---|
| THQL/R 10-D16 + SGAQ 1.0 | 1 | 16 | 9.60 |
| THQL/R 10-D16 + SGAQ 1.2 | 1.2 | 16 | 9.68 |
| THQL/R 12-D16 + SGAQ 1.0 | 1 | 16 | 11.60 |
| THQL/R 12-D16 + SGAQ 1.2 | 1.2 | 16 | 11.68 |
| THQL/R 16-D16 + SGAQ 1.0 | 1 | 16 | 15.60 |
| THQL/R 16-D16 + SGAQ 1.2 | 1.2 | 16 | 15.68 |




### Spare Parts

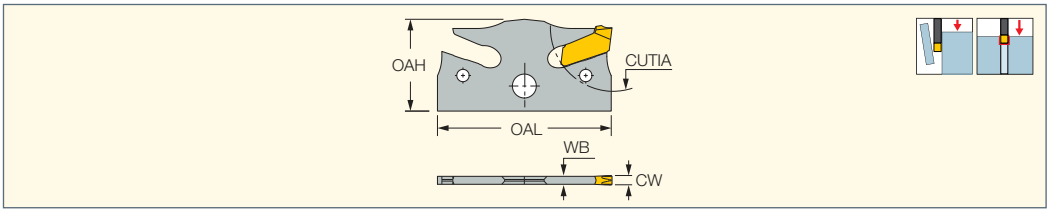
| Designation | |
|---|---|
| THQR/L | ESG-SWISS 0.6-1.2 |

# PENTA-CUT

SWISSGRIP NARROW WIDTHS

## SGAQ

SELF-GRIP Mini Blades for Parting and Grooving, Suitable for Swiss-Type Machines




| Designation | OAH | OAL | CUTDIA | WB | CW | MIID[1] | |
|---|---|---|---|---|---|---|---|
| SGAQ D10-0.6 | 11.50 | 21.80 | 10.0 | 0.50 | 0.60 | GFT 0.6J-0.1 | ESG-SLM* |
| SGAQ D10-0.8 | 11.50 | 21.80 | 10.0 | 0.68 | 0.80 | GFT 0.8J-0.1 | ESG-SLM* |
| SGAQ D16-1.0 | 11.50 | 21.80 | 16.0 | 0.85 | 1.00 | GFT 1.0J-0.1 | ESG-SLM* |
| SGAQ D16-1.2 | 11.50 | 21.80 | 16.0 | 1.00 | 1.20 | GFT 1.2J-0.14 | ESG-SLM* |

- For user guide, see pages 440-457

(1) Master insert identification

* Optional, should be ordered separately

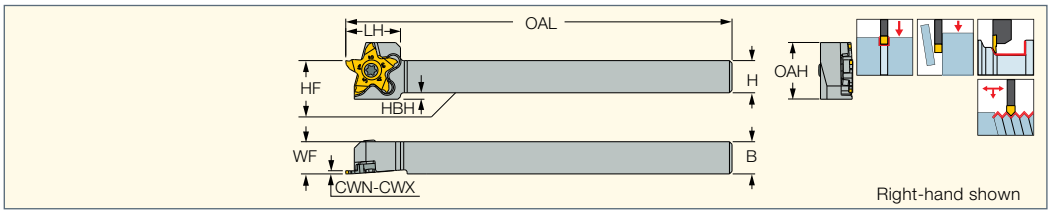
**Inserts:** GFT-J

**Holders:** THQR/L

PENTACUT PARTING & GROOVING LINE

## PCHRS/LS-17

Tools Carrying Inserts with 5 Cutting Edges for Grooving, Parting and Recessing Next to High Shoulders




| Designation | H | B | CWN[1] | CWX[2] | WF | OAL | LH | HBH | OAH | HF |
|---|---|---|---|---|---|---|---|---|---|---|
| PCHR/LS 0810-17 | 8.0 | 10.0 | 0.25 | 3.18 | 10.00 | 120.00 | 17.0 | 4.0 | 13.60 | 8.0 |
| PCHR/LS 10-17 | 10.0 | 10.0 | 0.25 | 3.18 | 10.00 | 120.00 | 17.0 | 2.0 | 15.60 | 10.0 |
| PCHR/LS 12-17 | 12.0 | 12.0 | 0.25 | 3.18 | 12.00 | 120.00 | 17.0 | - | 17.60 | 12.0 |
| PCHR/LS 16-17 | 16.0 | 16.0 | 0.25 | 3.18 | 16.00 | 120.00 | 17.0 | - | 21.60 | 16.0 |
| PCHR/LS 20-17 | 20.0 | 20.0 | 0.25 | 3.18 | 20.00 | 120.00 | 17.0 | - | 25.60 | 20.0 |
| PCHR/LS 25-17 | 25.0 | 25.0 | 0.25 | 3.18 | 25.00 | 120.00 | 17.0 | - | 30.60 | 25.0 |

- Use right-hand inserts on right-hand tools and vice versa

(1) Minimum cutting width

(2) Maximum cutting width

**Inserts:** PENTA 17-ER/EL • PENTA 17-MT-RS/LS • PENTA 17-NP-RS/LS • PENTA 17-P-RS/LS • PENTA 17-P-RS/LS (full radius) • PENTA 17-WT-RS/LS • PENTA 17R/L-P-RS

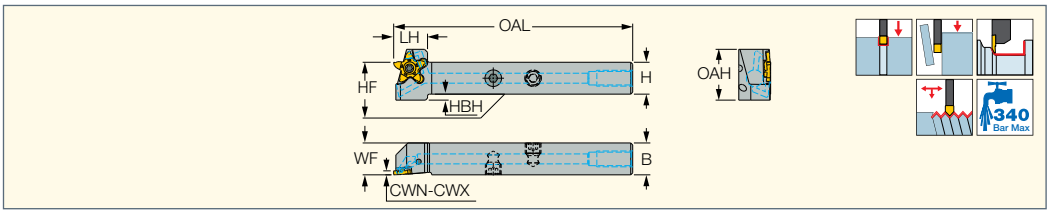
### Spare Parts

| Designation | | |
|---|---|---|
| PCHLS 0810-17 | SR M4-39432 | T-1508/5 |
| PCHRS 0810-17 | SR M4-39432L | T-1508/5 |
| PCHLS 10-17 | SR M4-39432 | T-1508/5 |
| PCHRS 10-17 | SR M4-39432L | T-1508/5 |
| PCHLS 12-17 | SR M4-39432 | T-1508/5 |
| PCHRS 12-17 | SR M4-39432L | T-1508/5 |
| PCHLS 16-17 | SR M4-39432 | T-1508/5 |
| PCHRS 16-17 | SR M4-39432L | T-1508/5 |
| PCHLS 20-17 | SR M4-39432 | T-1508/5 |
| PCHRS 20-17 | SR M4-39432L | T-1508/5 |
| PCHLS 25-17 | SR M4-39432 | T-1508/5 |
| PCHRS 25-17 | SR M4-39432L | T-1508/5 |

PENTACUT
PARTING & GROOVING LINE

## PCHRS/LS-17-JHP

Tools Carrying Inserts with 5 Cutting Edges for Shallow Profiling Next to High Shoulders




| Designation | H | B | WF | OAL | LH | HBH | HF | OAH |
|---|---|---|---|---|---|---|---|---|
| PCHR/LS 10-17-JHP | 10.0 | 10.0 | 10.00 | 100.00 | 17.0 | 8.0 | 10.0 | 24.50 |
| PCHR/LS 12-17-JHP | 12.0 | 12.0 | 12.00 | 100.00 | 17.0 | 6.0 | 12.0 | 24.50 |
| PCHR/LS 16-17-JHP | 16.0 | 16.0 | 16.00 | 120.00 | 17.0 | 3.0 | 16.0 | 25.50 |
| PCHR/LS 20-17-JHP | 20.0 | 20.0 | 20.00 | 120.00 | 17.0 | - | 20.0 | 26.50 |
| PCHR/LS 25-17-JHP | 25.0 | 25.0 | 25.00 | 120.00 | 17.0 | - | 25.0 | 31.50 |

- Use right-hand inserts on right-hand tools and vice versa

**Inserts:** PENTA 17-ER/EL • PENTA 17-MT-RS/LS • PENTA 17-NP-RS/LS • PENTA 17-P-RS/LS • PENTA 17-P-RS/LS (full radius)
• PENTA 17-WT-RS/LS • PENTA 17R/L-P-RS • PENTA 17R/L-SP-RS

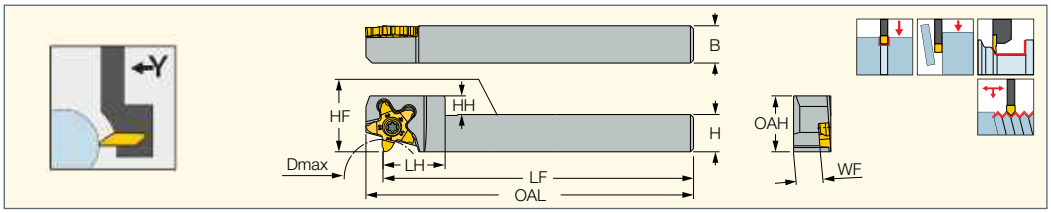
### Spare Parts

| Designation | | | | |
|---|---|---|---|---|
| PCHLS 10-17-JHP | SR M4-39432 | T-1508/5 | HW 5/32" | SR 5/16UNF TL360 |
| PCHRS 10-17-JHP | SR M4-39432L | T-1508/5 | HW 5/32" | SR 5/16UNF TL360 |
| PCHLS 12-17-JHP | SR M4-39432 | T-1508/5 | HW 5/32" | SR 5/16UNF TL360 |
| PCHRS 12-17-JHP | SR M4-39432L | T-1508/5 | HW 5/32" | SR 5/16UNF TL360 |
| PCHLS 16-17-JHP | SR M4-39432 | T-1508/5 | HW 5/32" | SR 5/16UNF TL360 |
| PCHRS 16-17-JHP | SR M4-39432L | T-1508/5 | HW 5/32" | SR 5/16UNF TL360 |
| PCHLS 20-17-JHP | SR M4-39432 | T-1508/5 | HW 5.0 | PLG G1/8 TL360 |
| PCHRS 20-17-JHP | SR M4-39432L | T-1508/5 | HW 5.0 | PLG G1/8 TL360 |
| PCHLS 25-17-JHP | SR M4-39432 | T-1508/5 | | |
| PCHRS 25-17-JHP | SR M4-39432L | T-1508/5 | | |

NEOYSWISS
Y AXIS

## Y-PCHRS-17

Y Axis Swiss Type Machine Tools - 5 Cutting Edged Inserts - Grooving, Parting and Recessing Next to High Shoulders




| Designation | H | B | HH | LH | HF | WF | OAH | LF | OAL | D max |
|---|---|---|---|---|---|---|---|---|---|---|
| Y-PCHRS 12-17 | 12.0 | 12.0 | 6.0 | 20.0 | 12.0 | 8.60 | 18.00 | 100.00 | 105.50 | 25.0 (1) |
| Y-PCHRS 16-17 | 16.0 | 16.0 | 2.0 | 20.0 | 16.0 | 12.30 | 18.00 | 125.00 | 130.50 | 38.0 (1) |

- Use right-hand inserts on right-hand tools and vice versa

(1) for grooving

**Inserts:** PENTA 17-ER/EL • PENTA 17-MT-RS/LS • PENTA 17-NP-RS/LS • PENTA 17-P-RS/LS • PENTA 17-P-RS/LS (full radius)
• PENTA 17-WT-RS/LS • PENTA 17R/L-P-RS

### Spare Parts

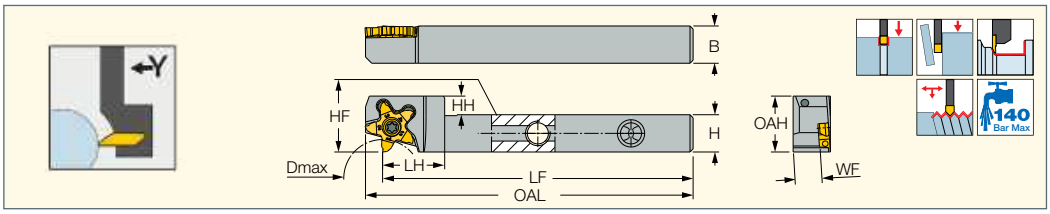
| Designation | | |
|---|---|---|
| Y-PCHRS-17 | T-1508/5 | SR M4-39432L |



NEOSWISS AXIS

## Y-PCHRS-17-JHP

Y Axis Swiss Type JETCUT Tools - 5 Cutting Edged Inserts for Grooving, Parting and Recessing Next to Shoulders




| Designation | H | B | HH | LH | HF | WF | OAH | LF | OAL | D max |
|---|---|---|---|---|---|---|---|---|---|---|
| Y-PCHRS 12-17-JHP | 12.0 | 12.0 | 6.0 | 20.0 | 12.0 | 8.60 | 18.00 | 100.00 | 105.50 | 25.0 (1) |
| Y-PCHRS 16-17-JHP | 16.0 | 16.0 | 2.0 | 20.0 | 16.0 | 12.30 | 18.00 | 125.00 | 130.50 | 38.0 (1) |

- Use right-hand inserts on right-hand tools and vice versa

(1) for grooving

**Inserts:** PENTA 17-ER/EL • PENTA 17-MT-RS/LS • PENTA 17-NP-RS/LS • PENTA 17-P-RS/LS • PENTA 17-P-RS/LS (full radius) • PENTA 17-WT-RS/LS • PENTA 17R/L-P-RS

### Spare Parts

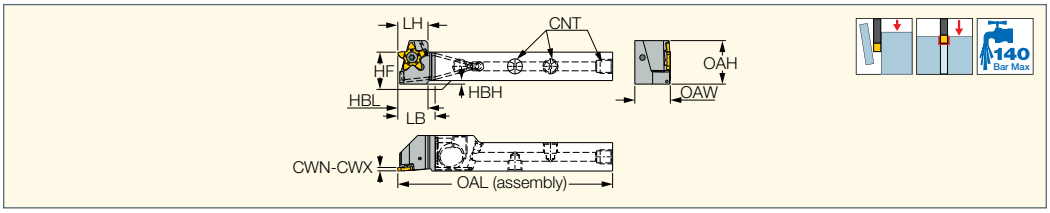
| Designation | | |
|---|---|---|
| Y-PCHRS-17-JHP | HW 5/32" | T-1508/5 |

NEOSWISS INDEXABLE HEADS

PENTACUT PARTING & GROOVING LINE

## NQCH-PCHR/L-S-JHP

Screw Lock JETCUT Modular Heads for Swiss Type Machines - Grooving, Parting, Recessing 5 Cutting Edged Inserts




| Designation | HF | OAW | LB | OAH | HBH | LH | OAL | HBL | CWN(1) | CWX(2) | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| NQCH12-PCHR/LS-17-JHP | 12.0 | 20.00 | 21.00 | 24.40 | 6.0 | 17.0 | 121.00 | 17.0 | 0.25 | 3.18 | PENTA 17 |
| NQCH16-PCHR/LS-17-JHP | 16.0 | 20.00 | 21.00 | 24.50 | 2.0 | 17.0 | 121.00 | 17.0 | 0.25 | 3.18 | PENTA 17 |

(1) Minimum cutting width

(2) Maximum cutting width

**Inserts:** PENTA 17-MT-RS/LS • PENTA 17-NP-RS/LS • PENTA 17-P-RS/LS • PENTA 17-P-RS/LS (full radius) • PENTA 17-WT-RS/LS • PENTA 17R/L-P-RS

**Holders:** NQCH-JHP

### Spare Parts

| Designation | | |
|---|---|---|
| NQCH12-PCHLS-17-JHP | SR M4-39432 | T-1508/5 |
| NQCH12-PCHRS-17-JHP | SR M4-39432L | T-1508/5 |
| NQCH16-PCHLS-17-JHP | SR M4-39432 | T-1508/5 |
| NQCH16-PCHRS-17-JHP | SR M4-39432L | T-1508/5 |

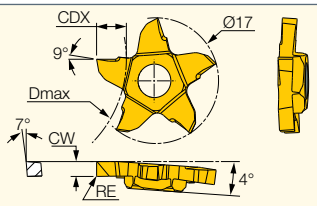


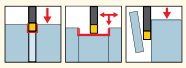
PENTACUT PARTING & GROOVING LINE

## PENTA 17-NP-RS/LS

Pentagonal Inserts for Precision Grooving and Turning Next to High Shoulder Applications





| Designation | Dimensions CW | CWTOL(1) | RE | RETOL(2) | CDX | D max | IC1008 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| PENTA 17-100NP08R/LS | 1.00 | 0.020 | 0.08 | 0.020 | 3.00 | 32.0 (3) | ● | 0.05-0.70 | 0.02-0.06 | 0.03-0.06 |
| PENTA 17-200NP08R/LS | 2.00 | 0.020 | 0.08 | 0.020 | 4.00 | 32.0 (3) | ● | 0.05-2.50 | 0.05-0.15 | 0.05-0.09 |
| PENTA 17-300NP08R/LS | 3.00 | 0.020 | 0.08 | 0.020 | 4.00 | 32.0 (3) | ● | 0.05-3.10 | 0.05-0.19 | 0.05-0.11 |

• When turning to the opposite side of chipformer, maximum CDX is 0.5 mm • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) for grooving

**Tools:** NQCH-PCHR/L-S-JHP • PCHRS/LS-17 • PCHRS/LS-17-JHP • Y-PCHRS-17 • Y-PCHRS-17-JHP

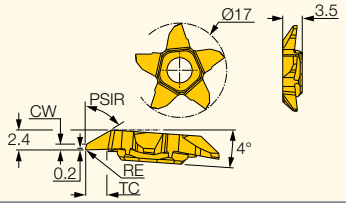
| Designation | Dimensions CW | RE | CDX | Dmax as a function of depth of cut (CDX) CDX≤2.5 | CDX≤3.0 | CDX≤3.5 | CDX≤3.8 | CDX≤4.0 |
|---|---|---|---|---|---|---|---|---|
| PENTA 17-100NP08-R/LS | 1.00 | 0.08 | 3.00 | N.L. | 100 | - | - | - |
| PENTA 17-200NP08-R/LS | 2.00 | 0.08 | 4.00 | N.L. | 100 | 75 | 45 | 32 |
| PENTA 17-300NP08-R/LS | 3.00 | 0.08 | 4.00 | N.L. | 100 | 75 | 45 | 32 |

PENTACUT PARTING & GROOVING LINE

## PENTA 17-ER/EL

Back Turning Pentagonal Inserts for Short Chipping Materials








| Designation | Dimensions CW | RE | PSIR | Tc | IC1008 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) |
|---|---|---|---|---|---|---|---|
| PENTA 17EL00-07K0LS | 0.70 | 0.00 | 60.0 | 4.0 | ● | 0.05-2.50 | 0.01-0.15 |
| PENTA 17ER00-07K0RS | 0.70 | 0.00 | 60.0 | 4.0 | ● | 0.05-2.50 | 0.01-0.15 |
| PENTA 17EL08-07K0LS | 0.70 | 0.08 | 60.0 | 4.0 | ● | 0.05-2.50 | 0.01-0.15 |
| PENTA 17ER08-07K0RS | 0.70 | 0.08 | 60.0 | 4.0 | ● | 0.05-2.50 | 0.01-0.15 |

• For cutting speed recommendations and user guide, see pages 440-457

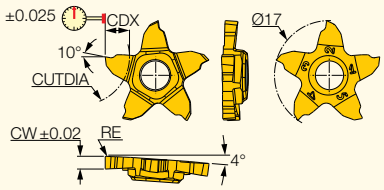
**Tools:** PCHRS/LS-17 • PCHRS/LS-17-JHP • Y-PCHRS-17 • Y-PCHRS-17-JHP

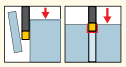
PENTACUT
PARTING & GROOVING LINE

## PENTA 17-P-RS/LS

Pentagonal Inserts for Grooving and Parting Soft Materials, Thin and Miniature Parts



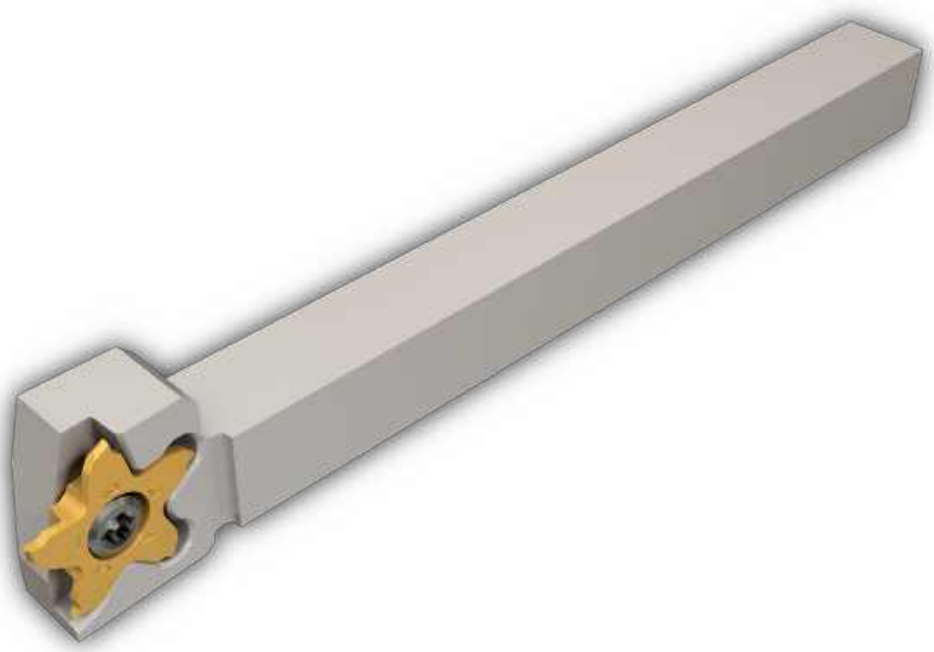


| Designation | Dimensions CW | RE | CDX | CUTDIA | IC1008 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|
| PENTA 17N025P000R/LS | 0.25 | 0.00 | 0.60 | 1.2 | ● | 0.02-0.03 |
| PENTA 17N030P000R/LS | 0.30 | 0.00 | 0.60 | 1.2 | ● | 0.02-0.03 |
| PENTA 17N033P000R/LS | 0.33 | 0.00 | 0.60 | 1.2 | ● | 0.02-0.03 |
| PENTA 17N043P000R/LS | 0.43 | 0.00 | 1.00 | 2.0 | ● | 0.02-0.04 |
| PENTA 17N050P000R/LS | 0.50 | 0.00 | 2.00 | 4.0 | ● | 0.02-0.04 |
| PENTA 17N075P000R/LS | 0.75 | 0.00 | 2.50 | 5.0 | ● | 0.02-0.04 |
| PENTA 17N080P000R/LS | 0.80 | 0.00 | 2.50 | 5.0 | ● | 0.02-0.04 |
| PENTA 17N095P000R/LS | 0.95 | 0.00 | 3.00 | 6.0 | ● | 0.02-0.05 |
| PENTA 17N100P010R/LS | 1.00 | 0.10 | 3.00 | 6.0 | ● | 0.02-0.05 |
| PENTA 17N120P010R/LS | 1.20 | 0.10 | 3.00 | 6.0 | ● | 0.02-0.05 |
| PENTA 17N140P010R/LS | 1.40 | 0.10 | 3.00 | 6.0 | ● | 0.02-0.05 |
| PENTA 17N150P010R/LS | 1.50 | 0.10 | 4.00 | 8.0 | ● | 0.02-0.07 |
| PENTA 17N157P010R/LS | 1.57 | 0.10 | 4.00 | 8.0 | ● | 0.02-0.07 |
| PENTA 17N170P010R/LS | 1.70 | 0.10 | 4.00 | 8.0 | ● | 0.02-0.07 |
| PENTA 17N178P010R/LS | 1.78 | 0.10 | 4.00 | 8.0 | ● | 0.02-0.07 |
| PENTA 17N196P010R/LS | 1.96 | 0.10 | 4.00 | 8.0 | ● | 0.02-0.08 |
| PENTA 17N200P010R/LS | 2.00 | 0.10 | 4.00 | 8.0 | ● | 0.02-0.08 |
| PENTA 17N222P010R/LS | 2.22 | 0.10 | 4.00 | 8.0 | ● | 0.02-0.08 |
| PENTA 17N230P010R/LS | 2.30 | 0.10 | 4.00 | 8.0 | ● | 0.02-0.08 |
| PENTA 17N239P010R/LS | 2.39 | 0.10 | 4.00 | 8.0 | ● | 0.02-0.08 |
| PENTA 17N247P010R/LS | 2.47 | 0.10 | 4.00 | 8.0 | ● | 0.02-0.08 |
| PENTA 17N250P010R/LS | 2.50 | 0.10 | 4.00 | 8.0 | ● | 0.02-0.08 |
| PENTA 17N270P010R/LS | 2.70 | 0.10 | 4.00 | 8.0 | ● | 0.02-0.09 |
| PENTA 17N287P010R/LS | 2.87 | 0.10 | 4.00 | 8.0 | ● | 0.02-0.10 |
| PENTA 17N300P010R/LS | 3.00 | 0.10 | 4.00 | 8.0 | ● | 0.02-0.10 |
| PENTA 17N318P010R/LS | 3.18 | 0.10 | 4.00 | 8.0 | ● | 0.02-0.10 |

• For cutting speed recommendations and user guide, see pages 440-457

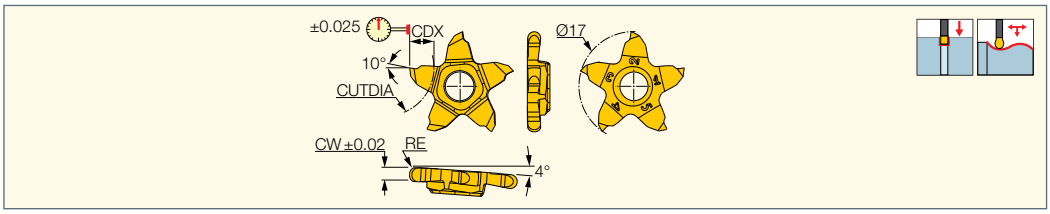
**Tools:** NQCH-PCHR/L-S-JHP • PCADRS/LS-JHP • PCHRS/LS-17 • PCHRS/LS-17-JHP • Y-PCHRS-17 • Y-PCHRS-17-JHP



PENTACUT
PARTING & GROOVING LINE

## PENTA 17-P-RS/LS (full radius)

Precision Grooving
Pentagonal Full Radius
Inserts for Soft Materials




| Designation | Dimensions CW | RE | CDX | CUTDIA | IC1008 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|
| PENTA 17N080P040R/LS | 0.80 | 0.40 | 2.50 | 5.0 | ● | 0.02-0.04 |
| PENTA 17N100P050R/LS | 1.00 | 0.50 | 3.00 | 6.0 | ● | 0.02-0.05 |
| PENTA 17N157P079R/LS | 1.57 | 0.79 | 4.00 | 8.0 | ● | 0.02-0.07 |
| PENTA 17N200P100R/LS | 2.00 | 1.00 | 4.00 | 8.0 | ● | 0.02-0.08 |
| PENTA 17N239P120R/LS | 2.39 | 1.20 | 4.00 | 8.0 | ● | 0.02-0.08 |

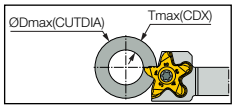
• For cutting speed recommendations and user guide, see pages 440-457

**Tools:** NQCH-PCHR/L-S-JHP • PCHRS/LS-17 • PCHRS/LS-17-JHP • Y-PCHRS-17 • Y-PCHRS-17-JHP

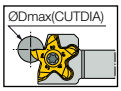
| Designation | Dmax as a function of depth of cut (T) W ±0.02 | R | Tmax | T<2.3 | T<2.5 | T<3.0 | T<3.5 | T<3.8 | T<4.0 | Parting to center Dmax. |
|---|---|---|---|---|---|---|---|---|---|---|
| PENTA 17N025P000RS/LS | 0.25 | 0.00 | 0.6* | --- | --- | --- | --- | --- | --- | 1.2 |
| PENTA 17N030P000RS/LS | 0.30 | 0.00 | 0.6* | --- | --- | --- | --- | --- | --- | 1.2 |
| PENTA 17N033P000RS/LS | 0.33 | 0.00 | 0.6* | --- | --- | --- | --- | --- | --- | 1.2 |
| PENTA 17N043P000RS/LS | 0.43 | 0.00 | 1.0* | --- | --- | --- | --- | --- | --- | 2 |
| PENTA 17N050P000RS/LS | 0.50 | 0.00 | 2.0* | --- | --- | --- | --- | --- | --- | 4 |
| PENTA 17N075P000RS/LS | 0.75 | 0.00 | 2.5 | N.L. | | --- | --- | --- | --- | 5 |
| PENTA 17N080P000RS/LS | 0.80 | 0.00 | 2.5 | N.L. | | --- | --- | --- | --- | |
| PENTA 17N095P000RS/LS | 0.95 | 0.00 | | N.L. | | | --- | --- | --- | |
| PENTA 17N100P010RS/LS | 1.00 | 0.10 | | N.L. | 400 | | --- | --- | --- | |
| PENTA 17N100P050RS/LS | 1.00 | 0.50 | 3.0 | N.L. | | 100 | --- | --- | --- | 6 |
| PENTA 17N120P010RS/LS | 1.20 | 0.10 | | N.L. | | | --- | --- | --- | |
| PENTA 17N140P010RS/LS | 1.40 | 0.10 | | N.L. | | | --- | --- | --- | |
| PENTA 17N150P010RS/LS | 1.50 | 0.10 | | N.L. | | | | | | |
| PENTA 17N157P010RS/LS | 1.57 | 0.10 | | N.L. | | | | | | |
| PENTA 17N157P079RS/LS | 1.57 | 0.79 | | N.L. | | | | | | |
| PENTA 17N170P010RS/LS | 1.70 | 0.10 | | N.L. | | | | | | |
| PENTA 17N178P010RS/LS | 1.78 | 0.10 | | N.L. | | | | | | |
| PENTA 17N196P010RS/LS | 1.96 | 0.10 | | N.L. | | | | | | |
| PENTA 17N200P010RS/LS | 2.00 | 0.10 | | N.L. | | | | | | |
| PENTA 17N200P100RS/LS | 2.00 | 1.00 | | N.L. | | | | | | |
| PENTA 17N222P010RS/LS | 2.22 | 0.10 | 4.0 | N.L. | 400 | 100 | 55 | 32 | 20 | 8 |
| PENTA 17N230P010RS/LS | 2.30 | 0.10 | | N.L. | | | | | | |
| PENTA 17N239P010RS/LS | 2.39 | 0.10 | | N.L. | | | | | | |
| PENTA 17N239P120RS/LS | 2.39 | 1.20 | | N.L. | | | | | | |
| PENTA 17N247P010RS/LS | 2.47 | 0.10 | | N.L. | | | | | | |
| PENTA 17N250P010RS/LS | 2.50 | 0.10 | | N.L. | | | | | | |
| PENTA 17N270P010RS/LS | 2.70 | 0.10 | | N.L. | | | | | | |
| PENTA 17N287P010RS/LS | 2.87 | 0.10 | | N.L. | | | | | | |
| PENTA 17N300P010RS/LS | 3.00 | 0.10 | | N.L. | | | | | | |
| PENTA 17N318P010RS/LS | 3.18 | 0.10 | | N.L. | 400 | 100 | 55 | 32 | 25 | |

1. N.L. = NO LIMIT
2. *For precision grooving Dmax = N.L.
3. PENTA 17...RS to be clamped on PCHRS ...-17 holders, PENTA 17...LS to be clamped on PCHLS ...-17 holders.

### Parting Hollow Bars




### Parting to Center

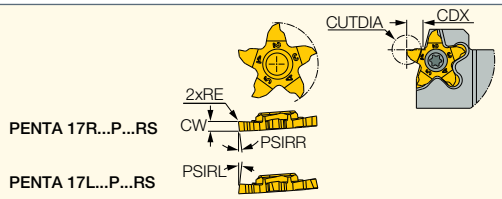


PENTACUT PARTING & GROOVING LINE

## PENTA 17R/L-P-RS

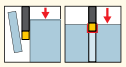
Lead Angle Edge Pentagonal Inserts (5 edges) for Parting Miniature Parts






PENTA 17R...P...RS

PENTA 17L...P...RS



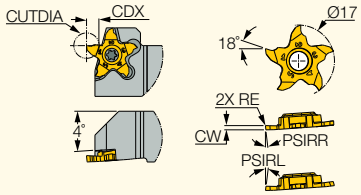
| Designation | Dimensions CW | RE | CDX | CUTDIA | PSIRL | PSIRR | IC1008 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| PENTA 17L100P-15D-RS | 1.00 | 0.05 | 3.00 | 6.0 | 15.0 | - | ● | 0.02-0.03 |
| PENTA 17L100P-6D-RS | 1.00 | 0.05 | 3.00 | 6.0 | 6.0 | - | ● | 0.02-0.04 |
| PENTA 17R100P-15D-RS | 1.00 | 0.05 | 3.00 | 6.0 | - | 15.0 | ● | 0.02-0.03 |
| PENTA 17R100P-6D-RS | 1.00 | 0.05 | 3.00 | 6.0 | - | 6.0 | ● | 0.02-0.04 |
| PENTA 17L150P-15D-RS | 1.50 | 0.05 | 4.00 | 8.0 | 15.0 | - | ● | 0.02-0.03 |
| PENTA 17L150P-6D-RS | 1.50 | 0.05 | 4.00 | 8.0 | 6.0 | - | ● | 0.02-0.04 |
| PENTA 17R150P-15D-RS | 1.50 | 0.05 | 4.00 | 8.0 | - | 15.0 | ● | 0.02-0.03 |
| PENTA 17R150P-6D-RS | 1.50 | 0.05 | 4.00 | 8.0 | - | 6.0 | ● | 0.02-0.04 |
| PENTA 17L200P-15D-RS | 2.00 | 0.05 | 4.00 | 8.0 | 15.0 | - | ● | 0.02-0.03 |
| PENTA 17L200P-6D-RS | 2.00 | 0.05 | 4.00 | 8.0 | 6.0 | - | ● | 0.02-0.04 |
| PENTA 17R200P-15D-RS | 2.00 | 0.05 | 4.00 | 8.0 | - | 15.0 | ● | 0.02-0.03 |
| PENTA 17R200P-6D-RS | 2.00 | 0.05 | 4.00 | 8.0 | - | 6.0 | ● | 0.02-0.04 |

**Tools:** NQCH-PCHR/L-S-JHP • PCADRS/LS-JHP • PCHRS/LS-17 • PCHRS/LS-17-JHP • Y-PCHRS-17 • Y-PCHRS-17-JHP

PENTACUT PARTING & GROOVING LINE

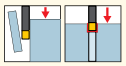
## PENTA 17R/L-SP-RS

Pentagonal Inserts (5 edges) with a High Positive Rake for Parting Soft Materials




PENTA 17R...SP...RS

PENTA 17L...SP...RS



| Designation | Dimensions CW | RE | CDX | CUTDIA | PSIRL | PSIRR | IC1007 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| PENTA 17L03SP6D-RS | 0.30 | 0.00 | 0.60 | 1.2 | 6.0 | - | ● | 0.02-0.03 |
| PENTA 17R03SP6D-RS | 0.30 | 0.00 | 0.60 | 1.2 | - | 6.0 | ● | 0.02-0.03 |
| PENTA 17L05SP6D-RS | 0.50 | 0.00 | 2.00 | 4.0 | 6.0 | - | ● | 0.02-0.04 |
| PENTA 17R05SP6D-RS | 0.50 | 0.00 | 2.00 | 4.0 | - | 6.0 | ● | 0.02-0.04 |
| PENTA 17L08SP6D-RS | 0.80 | 0.00 | 2.50 | 5.0 | 6.0 | - | ● | 0.02-0.04 |
| PENTA 17R08SP6D-RS | 0.80 | 0.00 | 2.50 | 5.0 | - | 6.0 | ● | 0.02-0.04 |
| PENTA 17L10SP6D-RS | 1.00 | 0.00 | 3.00 | 6.0 | 6.0 | - | ● | 0.02-0.05 |
| PENTA 17R10SP6D-RS | 1.00 | 0.00 | 3.00 | 6.0 | - | 6.0 | ● | 0.02-0.05 |

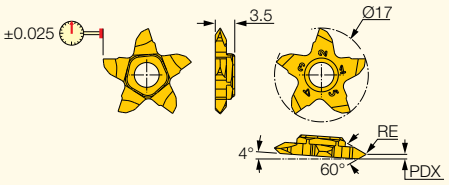
**Tools:** PCADRS/LS-JHP • PCHRS/LS-17-JHP

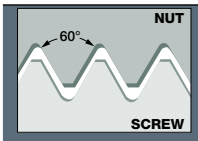
PENTACUT THREADING LINE

## PENTA 17-MT-RS/LS

Precision Ground Pentagonal External Threading Inserts with a 60° Partial Profile for General Industry






| Designation | Dimensions TPIN(1) | TPIX(2) | TPN(3) | TPX(4) | RE | PDX | IC1008 |
|---|---|---|---|---|---|---|---|
| PENTA 17-MTL008LS | 8.00 | 36.00 | 0.700 | 3.000 | 0.08 | 1.40 | ● |
| PENTA 17-MTR008RS | 8.00 | 36.00 | 0.700 | 3.000 | 0.08 | 1.40 | ● |
| PENTA 17-MTL003LS | 17.00 | 80.00 | 0.300 | 1.500 | 0.03 | 0.80 | ● |
| PENTA 17-MTR003RS | 17.00 | 80.00 | 0.300 | 1.500 | 0.03 | 0.80 | ● |

(1) Threads per inch minimum
(2) Threads per inch maximum
(3) Thread pitch minimum (mm)
(4) Thread pitch maximum (mm)

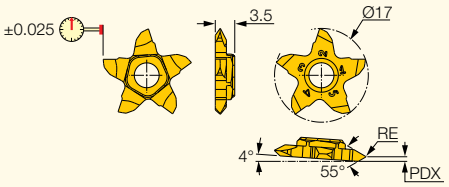
**Tools:** NQCH-PCHR/L-S-JHP • PCADRS/LS-JHP • PCHRS/LS-17 • PCHRS/LS-17-JHP • Y-PCHRS-17 • Y-PCHRS-17-JHP

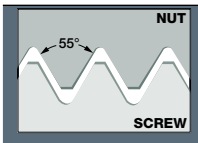
PENTACUT THREADING LINE

## PENTA 17-WT-RS/LS

Precision Ground Pentagonal External Threading Inserts with a 55° Partial Profile for General Industry






| Designation | Dimensions TPIX(1) | TPIN(2) | RE | PDX | IC1008 |
|---|---|---|---|---|---|
| PENTA 17-WTL003LS | 72.00 | 16.00 | 0.03 | 0.80 | ● |
| PENTA 17-WTR003RS | 72.00 | 16.00 | 0.03 | 0.80 | ● |
| PENTA 17-WTL008LS | 31.00 | 8.00 | 0.08 | 1.40 | ● |
| PENTA 17-WTR008RS | 31.00 | 8.00 | 0.08 | 1.40 | ● |

(1) Threads per inch maximum
(2) Threads per inch minimum

**Tools:** NQCH-PCHR/L-S-JHP • PCADRS/LS-JHP • PCHRS/LS-17 • PCHRS/LS-17-JHP • Y-PCHRS-17 • Y-PCHRS-17-JHP

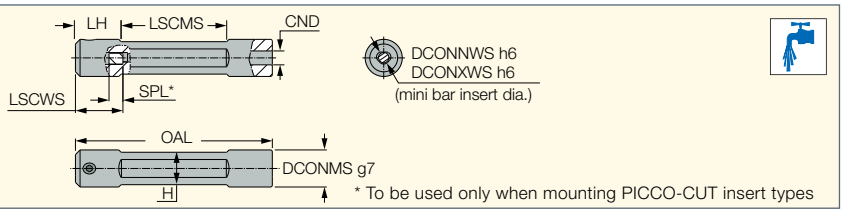


# NEOPASS

NEOPASS
PICCO LINES HOLDER

## PICMU

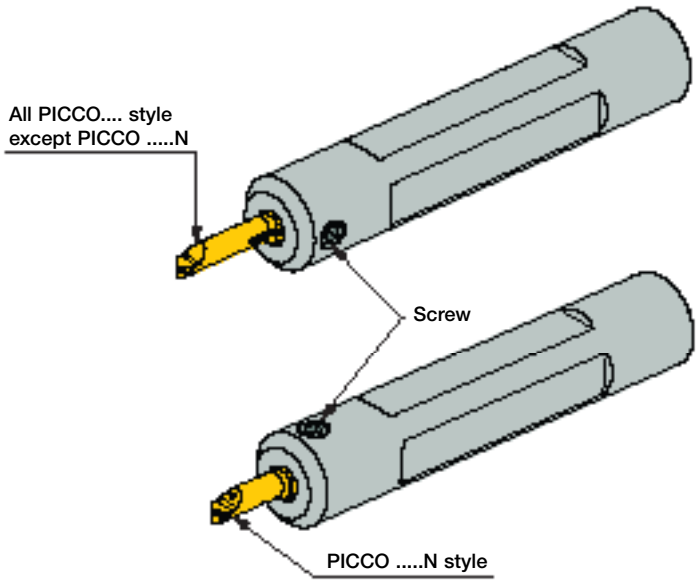
Holders with Improved Cooling Supply Suitable for Mounting PICCO-CUT, PICCO-JET Inserts and PICCO-INDEX Tools.




| Designation | DCONMS | DCONNWS(1) | DCONXWS(2) | OAL | LH | LSCMS | H | LSCWS | CND | SPL(3) |
|---|---|---|---|---|---|---|---|---|---|---|
| PICMU 12-4 | 12.00 | 4.00 | 4.05 | 85.00 | 19.7 | 45.60 | 11.0 | 19.00 | 5.00 | 6.00 |
| PICMU 12-5 | 12.00 | 5.00 | 5.05 | 85.00 | 19.7 | 45.60 | 11.0 | 20.50 | 6.00 | 6.00 |
| PICMU 16-4 | 16.00 | 4.00 | 4.05 | 85.00 | 19.7 | 45.60 | 14.0 | 19.00 | 5.00 | 6.00 |
| PICMU 16-5 | 16.00 | 5.00 | 5.05 | 85.00 | 19.7 | 45.60 | 14.0 | 20.50 | 6.00 | 6.00 |
| PICMU 16-6 | 16.00 | 6.00 | 6.05 | 85.00 | 19.7 | 45.60 | 14.0 | 20.50 | 6.00 | 6.00 |
| PICMU 16-7 | 16.00 | 7.00 | 7.05 | 85.00 | 19.7 | 45.60 | 14.0 | 20.80 | 8.00 | 7.00 |
| PICMU 20-4 | 20.00 | 4.00 | 4.05 | 85.00 | 19.7 | 45.60 | 18.0 | 19.00 | 5.00 | 6.00 |
| PICMU 20-5 | 20.00 | 5.00 | 5.05 | 85.00 | 19.7 | 45.60 | 18.0 | 20.50 | 6.00 | 6.00 |
| PICMU 20-6 | 20.00 | 6.00 | 6.05 | 85.00 | 19.7 | 45.60 | 18.0 | 20.50 | 6.00 | 6.00 |
| PICMU 20-7 | 20.00 | 7.00 | 7.05 | 85.00 | 19.7 | 45.60 | 18.0 | 20.80 | 8.00 | 7.00 |
| PICMU 20-8 | 20.00 | 8.00 | 8.00 | 85.00 | 19.7 | 45.60 | 18.0 | 20.00 | 8.00 | - |
| PICMU 22-4 | 22.00 | 4.00 | 4.05 | 85.00 | 19.7 | 45.60 | 20.0 | 19.00 | 5.00 | 6.00 |
| PICMU 22-5 | 22.00 | 5.00 | 5.05 | 85.00 | 19.7 | 45.60 | 20.0 | 20.50 | 6.00 | 6.00 |
| PICMU 22-6 | 22.00 | 6.00 | 6.05 | 85.00 | 19.7 | 45.60 | 20.0 | 20.50 | 6.00 | 6.00 |
| PICMU 22-7 | 22.00 | 7.00 | 7.05 | 85.00 | 19.7 | 45.60 | 20.0 | 20.80 | 8.00 | 7.00 |

- Holders are suitable for right- and left-hand inserts, and boring bars

(1) Minimum diameter
(2) Maximum diameter
(3) Spacer length



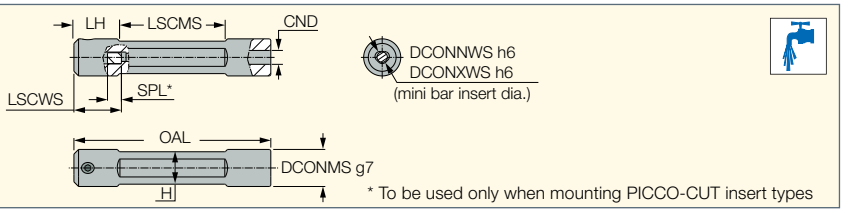

## Spare Parts

| Designation | | | | |
|---|---|---|---|---|
| PICMU 12-4 | SPACER D3.7X6 | SR M5X0.5X6-PF | HW 2.5 | PL 16 M6-D5 |
| PICMU 12-5 | SPACER D4.7X6 | SR M5X0.5X6-PF | HW 2.5 | PL 16 M6-D5 |
| PICMU 16-4 | SPACER D3.7X6 | SR M5X0.5X6-PF | HW 2.5 | |
| PICMU 16-5 | SPACER D4.7X6 | SR M5X0.5X6-PF | HW 2.5 | PL 16 M6-D5 |
| PICMU 16-6 | SPACER D5.7X6 | SR M6X0.5X6 PF | HW 3.0 | PL 16 M6-D5 |
| PICMU 16-7 | SPACER D6.7X7 | SR M6X0.5X6 PF | HW 3.0 | PL 16 M6-D5 |
| PICMU 20-4 | SPACER D3.7X6 | SR M5X0.5X6-PF | HW 2.5 | PL 16 M6-D5 |
| PICMU 20-5 | SPACER D4.7X6 | SR M5X0.5X6-PF | HW 2.5 | PL 16 M6-D5 |
| PICMU 20-6 | SPACER D5.7X6 | SR M6X0.5X6 PF | HW 3.0 | PL 16 M6-D5 |
| PICMU 20-7 | SPACER D6.7X7 | SR M6X0.5X6 PF | HW 3.0 | PL 16 M6-D5 |
| PICMU 20-8 | | SR M8X0.5X6.5-PF | HW 4.0 | PL 16 M6-D5 |
| PICMU 22-4 | SPACER D3.7X6 | SR M5X0.5X6-PF | HW 2.5 | PL 16 M6-D5 |
| PICMU 22-5 | SPACER D4.7X6 | SR M5X0.5X6-PF | HW 2.5 | PL 16 M6-D5 |
| PICMU 22-6 | SPACER D5.7X6 | SR M6X0.5X6 PF | HW 3.0 | PL 16 M6-D5 |
| PICMU 22-7 | SPACER D6.7X7 | SR M6X0.5X6 PF | HW 3.0 | PL 16 M6-D5 |

NEOPASS
PICCO LINES HOLDER

## PICMU

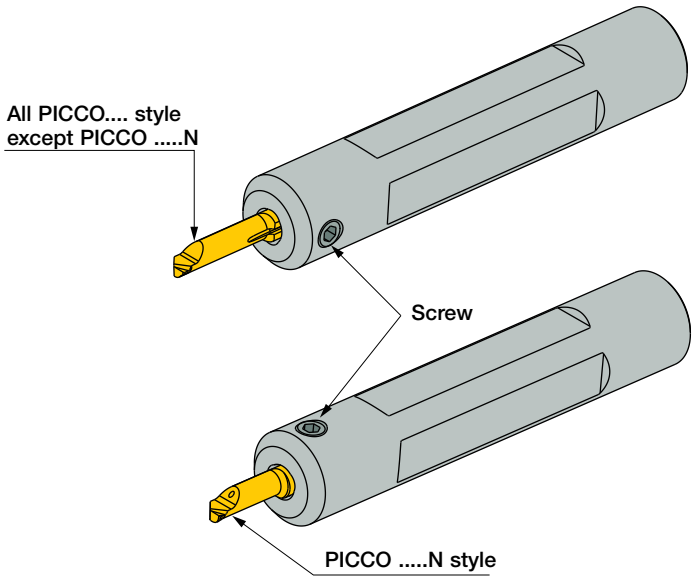
Holders with Improved Cooling Supply Suitable for Mounting PICCO-CUT, PICCO-JET Inserts and PICCO-INDEX Heads




| INCH | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Designation | DCONMS | DCONNWS(1) | DCONXWS(2) | OAL | LH | LSCMS | H | LSCWS | CND | SPL(3) |
| PICMU 12.7-4 | .500 | .158 | .160 | 3.346 | .776 | 1.795 | .433 | .7480 | .197 | .2363 |
| PICMU 12.7-5 | .500 | .197 | .199 | 3.346 | .776 | 1.795 | .433 | .8070 | .236 | .2363 |
| PICMU 15.9-4 | .625 | .158 | .160 | 3.346 | .776 | 1.795 | .551 | .7480 | .197 | .2363 |
| PICMU 15.9-5 | .625 | .197 | .199 | 3.346 | .776 | 1.795 | .551 | .8070 | .236 | .2363 |
| PICMU 15.9-6 | .625 | .236 | .238 | 3.346 | .776 | 1.795 | .551 | .8070 | .236 | .2363 |
| PICMU 15.9-7 | .625 | .276 | .278 | 3.346 | .776 | 1.795 | .551 | .8190 | .315 | .2756 |
| PICMU 19-4 | .750 | .158 | .160 | 3.346 | .776 | 1.795 | .709 | .7480 | .197 | .2363 |
| PICMU 19-5 | .750 | .197 | .199 | 3.346 | .776 | 1.795 | .709 | .8070 | .236 | .2363 |
| PICMU 19-6 | .750 | .236 | .238 | 3.346 | .776 | 1.795 | .709 | .8070 | .236 | .2363 |
| PICMU 19-7 | .750 | .276 | .278 | 3.346 | .776 | 1.795 | .709 | .8190 | .315 | .2756 |
| PICMU 25.4-4 | 1.000 | .158 | .160 | 3.346 | .776 | 1.795 | .787 | .7480 | .197 | .2363 |
| PICMU 25.4-5 | 1.000 | .197 | .199 | 3.346 | .776 | 1.795 | .787 | .8070 | .236 | .2363 |
| PICMU 25.4-6 | 1.000 | .236 | .238 | 3.346 | .776 | 1.795 | .787 | .8070 | .236 | .2363 |
| PICMU 25.4-7 | 1.000 | .276 | .278 | 3.346 | .776 | 1.795 | .787 | .8190 | .315 | .2756 |

- Holders are suitable for left- and right-hand inserts, and boring bars

(1) Minimum diameter
(2) Maximum diameter
(3) Spacer length




### Spare Parts

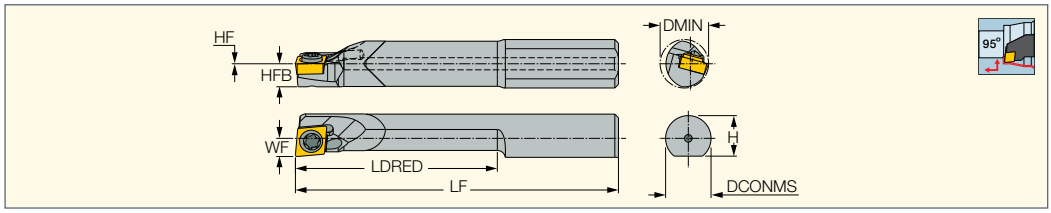
| Designation | | | | |
|---|---|---|---|---|
| PICMU 12.7-4 | SPACER D3.7X6 | SR M5X0.5X6-PF | HW 2.5 | PL 16 M6-D5 |
| PICMU 12.7-5 | SPACER D4.7X6 | SR M5X0.5X6-PF | HW 2.5 | PL 16 M6-D5 |
| PICMU 15.9-4 | SPACER D3.7X6 | SR M5X0.5X6-PF | HW 2.5 | PL 16 M6-D5 |
| PICMU 15.9-5 | SPACER D4.7X6 | SR M5X0.5X6-PF | HW 2.5 | PL 16 M6-D5 |
| PICMU 15.9-6 | SPACER D5.7X6 | SR M6X0.5X6 PF | HW 3.0 | PL 16 M6-D5 |
| PICMU 15.9-7 | SPACER D6.7X7 | SR M6X0.5X6 PF | HW 3.0 | PL 16 M6-D5 |
| PICMU 19-4 | SPACER D3.7X6 | SR M5X0.5X6-PF | HW 2.5 | PL 16 M6-D5 |
| PICMU 19-5 | SPACER D4.7X6 | SR M5X0.5X6-PF | HW 2.5 | PL 16 M6-D5 |
| PICMU 19-6 | SPACER D5.7X6 | SR M6X0.5X6 PF | HW 3.0 | PL 16 M6-D5 |
| PICMU 19-7 | SPACER D6.7X7 | SR M6X0.5X6 PF | HW 3.0 | PL 16 M6-D5 |
| PICMU 25.4-4 | SPACER D3.7X6 | SR M5X0.5X6-PF | HW 2.5 | PL 16 M6-D5 |
| PICMU 25.4-5 | SPACER D4.7X6 | SR M5X0.5X6-PF | HW 2.5 | PL 16 M6-D5 |
| PICMU 25.4-6 | SPACER D5.7X6 | SR M6X0.5X6 PF | HW 3.0 | PL 16 M6-D5* |
| PICMU 25.4-7 | SPACER D6.7X7 | SR M6X0.5X6 PF | HW 3.0 | PL 16 M6-D5 |

# PICCO-INDEX (Dmin 4.5 mm)

PICCOINDEX INDEXABLE INSERTS

## PICIN-SCLCR/L

Solid Carbide PICCO Tools
Carrying 80° Rhombic Inserts




| Designation | DCONMS | LF | LDRED | H | HFB | WF | DMIN | HF | CSP(1) | MIID(2) |
|---|---|---|---|---|---|---|---|---|---|---|
| PICIN E05-T20-SCLCR/L-03 | 5.00 | 35.00 | 20.0 | 4.5 | 2.1 | 1.85 | 4.50 | 0.0 | 1 | CCGT 03X101-F1P |
| PICIN E06-T25-SCLCR/L-03 | 6.00 | 40.00 | 25.0 | 5.4 | 2.9 | 2.25 | 6.00 | 0.0 | 1 | CCGT 03X101-F1P |

(1) 0 - Without coolant supply, 1 - With coolant supply
(2) Master insert identification
**Inserts:** CCGT-F1P • CCGW/CCMT (CBN)
**Holders:** GHPCOR • PICCO ACE • PICCO/MG PCO (Holder)

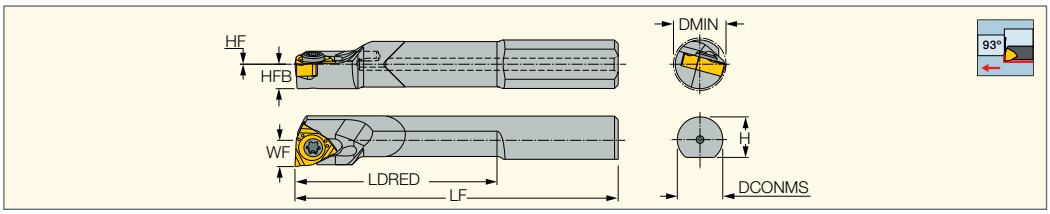
### Spare Parts

| Designation | | |
|---|---|---|
| PICIN-SCLCR/L | CSTA-1.6 | T-6/5 |

PICCOINDEX INDEXABLE INSERTS

## PICIN-SWUBR/L

Solid Carbide PICCO Tools
Carrying Small WBMT/
WBGT Trigon Inserts




| Designation | DCONMS | LF | LDRED | H | HFB | WF | DMIN | HF | CSP(1) | MIID(2) |
|---|---|---|---|---|---|---|---|---|---|---|
| PICIN E06-T25-SWUBL-06 | 6.00 | 40.00 | 25.0 | 5.4 | 3.0 | 3.25 | 6.50 | 0.0 | 1 | WBMT 060101R |
| PICIN E06-T25-SWUBR-06 | 6.00 | 40.00 | 25.0 | 5.4 | 3.0 | 3.25 | 6.50 | 0.0 | 1 | WBMT 060101L |

• Use right-hand WBMT 06...R inserts on left-hand tools and left-hand WBMT 06...L inserts on right-hand tools.
(1) 0 - Without coolant supply, 1 - With coolant supply
(2) Master insert identification
**Inserts:** WBGT • WBMT
**Holders:** GHPCOR • PICCO ACE • PICCO/MG PCO (Holder)

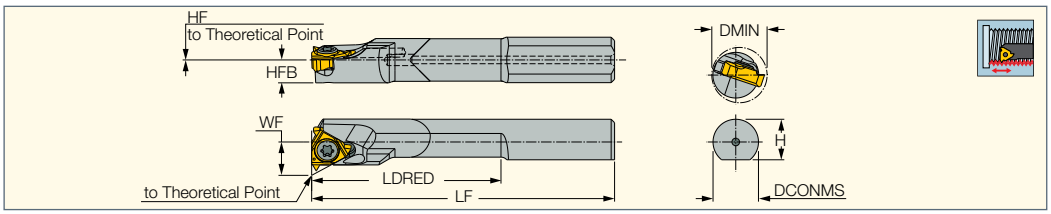
### Spare Parts

| Designation | | |
|---|---|---|
| PICIN-SWUBR/L | SR 14-552 | T-6/5 |

PICCOINDEX INDEXABLE INSERTS

## PICIN-MGSIR/L

Solid Carbide PICCO Tools
Carrying Internal Laydown
Threading Inserts




| Designation | DCONMS | LF | LDRED | H | WF | DMIN | HF | HFB | CSP(1) | MIID(2) |
|---|---|---|---|---|---|---|---|---|---|---|
| PICIN E06-T25-MGSIL-06 | 6.00 | 40.00 | 25.0 | 5.4 | 4.41 | 7.30 | 0.0 | 3.0 | 1 | 06IL A 55 |
| PICIN E06-T25-MGSIR-06 | 6.00 | 40.00 | 25.0 | 5.4 | 4.41 | 7.30 | 0.0 | 3.0 | 1 | 06IR A 55 |

• B-steel shank with coolant hole, CB-carbide shank with coolant hole • All toolholders provide 1.5 helix angle, either via the pocket or the anvil supplied
• For GTGA inserts, use anvil AL 16-0
(1) 0 - Without coolant supply, 1 - With coolant supply
(2) Master insert identification
**Inserts:** IR/L-55° • IR/L-60° • IR/L-BSPT • IR/L-ISO • IR/L-NPT • IR/L-NPTF • IR/L-UN • IR/L-W
**Holders:** GHPCOR • PICCO ACE • PICCO/MG PCO (Holder)

### Spare Parts

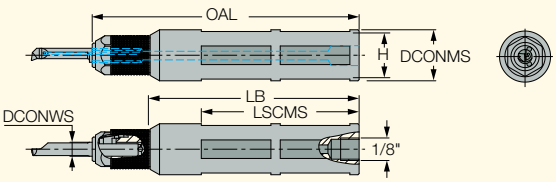
| Designation | | |
|---|---|---|
| PICIN-MGSIR/L | SR 14-552 | T-6/5 |

# ACEJET

ACEJET JETPICCO HOLDER

## PICCO ACE-N

Holders for PICCO-JET Inserts with Internal Coolant Channels




| Designation | DCONMS | DCONWS | OAL | LSCMS | LB | H |
|---|---|---|---|---|---|---|
| PICCO ACE 16-4N | 16.00 | 4.05 | 115.00 | 68.00 | 90.00 | 14.0 |
| PICCO ACE 16-5N | 16.00 | 5.05 | 115.00 | 68.00 | 90.00 | 14.0 |
| PICCO ACE 16-6N | 16.00 | 6.05 | 115.00 | 68.00 | 90.00 | 14.0 |
| PICCO ACE 16-7N | 16.00 | 7.05 | 115.00 | 68.00 | 90.00 | 14.0 |
| PICCO ACE 20-4N | 20.00 | 4.05 | 115.00 | 68.00 | 90.00 | 18.0 |
| PICCO ACE 20-5N | 20.00 | 5.05 | 115.00 | 68.00 | 90.00 | 18.0 |
| PICCO ACE 20-6N | 20.00 | 6.05 | 115.00 | 68.00 | 90.00 | 18.0 |
| PICCO ACE 20-7N | 20.00 | 7.05 | 115.00 | 68.00 | 90.00 | 18.0 |
| PICCO ACE 22-4N | 22.00 | 4.05 | 115.00 | 68.00 | 90.00 | 20.0 |
| PICCO ACE 22-6N | 22.00 | 6.05 | 115.00 | 68.00 | 90.00 | 20.0 |
| PICCO ACE 25-4N | 25.00 | 4.05 | 115.00 | 68.00 | 90.00 | 23.0 |
| PICCO ACE 25-5N | 25.00 | 5.05 | 115.00 | 68.00 | 90.00 | 23.0 |
| PICCO ACE 25-6N | 25.00 | 6.05 | 115.00 | 68.00 | 90.00 | 23.0 |
| PICCO ACE 25-7N | 25.00 | 7.05 | 115.00 | 68.00 | 90.00 | 23.0 |

- Holders are suitable for right and left-hand PICCO...-N type solid tools only

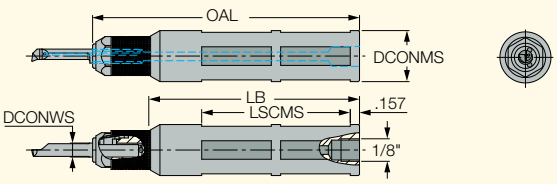
### Spare Parts

| Designation | | | |
|---|---|---|---|
| PICCO ACE 16-4N | UM600H.K | UM600H.M4 | PIN 2X10 DIN6325 |
| PICCO ACE 16-5N | UM600H.K | UM600H.M5 | PIN 2X10 DIN6325 |
| PICCO ACE 16-6N | UM600H.K | UM600H.M6 | ZAD 2X12 DIN 6325 m6 |
| PICCO ACE 16-7N | UM600H.K | UM600H.M7 | ZAD 2X12 DIN 6325 m6 |
| PICCO ACE 20-4N | UM600H.K | UM600H.M4 | PIN 2X10 DIN6325 |
| PICCO ACE 20-5N | UM600H.K | UM600H.M5 | PIN 2X10 DIN6325 |
| PICCO ACE 20-6N | UM600H.K | UM600H.M6 | ZAD 2X12 DIN 6325 m6 |
| PICCO ACE 20-7N | UM600H.K | UM600H.M7 | ZAD 2X12 DIN 6325 m6 |
| PICCO ACE 22-4N | UM600H.K | UM600H.M4 | PIN 2X10 DIN6325 |
| PICCO ACE 22-6N | UM600H.K | UM600H.M6 | ZAD 2X12 DIN 6325 m6 |
| PICCO ACE 25-4N | UM600H.K | UM600H.M4 | PIN 2X10 DIN6325 |
| PICCO ACE 25-5N | UM600H.K | UM600H.M5 | PIN 2X10 DIN6325 |
| PICCO ACE 25-6N | UM600H.K | UM600H.M6 | ZAD 2X12 DIN 6325 m6 |
| PICCO ACE 25-7N | UM600H.K | UM600H.M7 | ZAD 2X12 DIN 6325 m6 |

ACEJET JETPICCO HOLDER

## PICCO ACE-N

Holders for PICCO-JET Inserts with Internal Coolant Channels




| | | | INCH | | |
|---|---|---|---|---|---|
| Designation | DCONMS | DCONWS | OAL | LSCMS | LB |
| PICCO ACE 15.9-7N | .625 | .278 | 4.528 | 2.520 | 3.543 |
| PICCO ACE 19-4N | .750 | .159 | 4.528 | 2.520 | 3.543 |
| PICCO ACE 19-5N | .750 | .199 | 4.528 | 2.520 | 3.543 |
| PICCO ACE 19-6N | .750 | .238 | 4.528 | 2.520 | 3.543 |
| PICCO ACE 19-7N | .750 | .278 | 4.528 | 2.520 | 3.543 |
| PICCO ACE 25.4-6N | 1.000 | .238 | 4.528 | 2.520 | 3.543 |
| PICCO ACE 25.4-7N | 1.000 | .278 | 4.528 | 2.520 | 3.543 |

- Holders are suitable for right and left-hand PICCO...-N type solid tools only

### Spare Parts

| Designation | | | |
|---|---|---|---|
| PICCO ACE 15.9-7N | UM600H.K | UM600H.M7 | ZAD 2X12 DIN 6325 m6 |
| PICCO ACE 19-4N | UM600H.K | UM600H.M4 | PIN 2X10 DIN6325 |
| PICCO ACE 19-5N | UM600H.K | UM600H.M5 | PIN 2X10 DIN6325 |
| PICCO ACE 19-6N | UM600H.K | UM600H.M6 | ZAD 2X12 DIN 6325 m6 |
| PICCO ACE 19-7N | UM600H.K | UM600H.M7 | ZAD 2X12 DIN 6325 m6 |
| PICCO ACE 25.4-6N | UM600H.K | UM600H.M6 | ZAD 2X12 DIN 6325 m6 |
| PICCO ACE 25.4-7N | UM600H.K | UM600H.M7 | ZAD 2X12 DIN 6325 m6 |

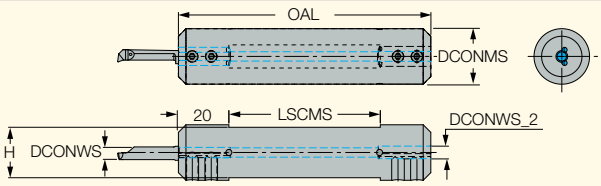
# PASSJET

PASSJET JETPICCO HOLDER

## PICCO-N (Holder)

Holders for PICCO-JET Inserts
with Internal Coolant Channels






| Designation | DCONMS | DCONWS | DCONWS_2 | OAL | LSCMS | H | |
|---|---|---|---|---|---|---|---|
| PICCO 16-4-5N | 16.00 | 4.05 | 5.05 | 85.00 | 45.00 | 14.0 | SR M5X0.5X6 T10 |
| PICCO 20-4-5N | 20.00 | 4.05 | 5.05 | 100.00 | 60.00 | 18.0 | SR M5X0.5X8 T10 |
| PICCO 22-4-5N | 22.00 | 4.05 | 5.05 | 100.00 | 60.00 | 20.0 | SR M5X0.5X8 T10 |
| PICCO 16-6-7N | 16.00 | 6.05 | 7.05 | 85.00 | 45.00 | 14.0 | SR M5X0.5X6 T10 |
| PICCO 16-6-8N | 16.00 | 6.05 | 8.00 | 85.00 | 45.00 | 14.0 | SR M5X0.5X6 T10 |
| PICCO 20-6-7N | 20.00 | 6.05 | 7.05 | 100.00 | 60.00 | 18.0 | SR M5X0.5X8 T10 |
| PICCO 20-6-8N | 20.00 | 6.05 | 8.00 | 100.00 | 60.00 | 18.0 | SR M5X0.5X8 T10 |
| PICCO 22-6-7N | 22.00 | 6.05 | 7.05 | 100.00 | 60.00 | 20.0 | SR M5X0.5X8 T10 |

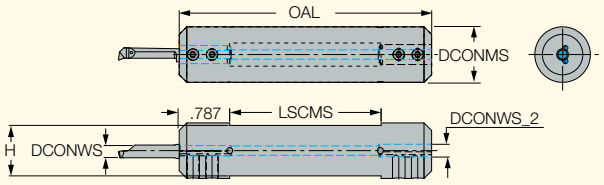
- Holders are suitable for right- and left-hand inserts, and boring bars

PASSJET JETPICCO HOLDER

## PICCO-N (Holder)

Holders for PICCO-JET Inserts
with Internal Coolant Channels

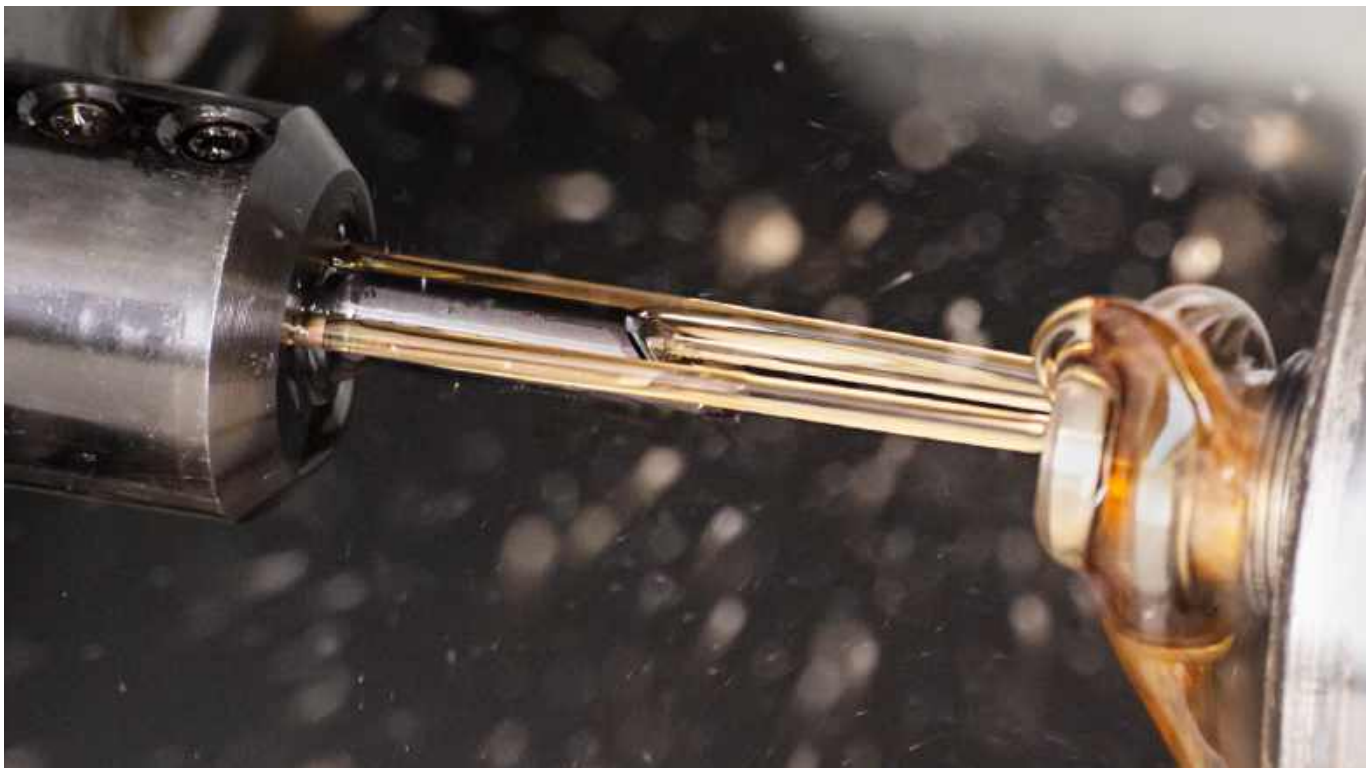





**I N C H**

| Designation | DCONMS | DCONWS | DCONWS_2 | OAL | LSCMS | H | |
|---|---|---|---|---|---|---|---|
| PICCO 19-4-5N | .750 | .159 | .199 | 3.937 | 2.362 | .677 | SR M5X0.5X6 T10 |
| PICCO 25.4-4-5N | 1.000 | .159 | .199 | 4.134 | 2.559 | .921 | SR M5X0.5X10 T10 |
| PICCO 16-6-8N | .630 | .238 | .315 | 3.346 | 1.772 | .551 | SR M5X0.5X6 T10 |
| PICCO 19-6-7N | .750 | .238 | .278 | 3.937 | 2.362 | .677 | SR M5X0.5X6 T10 |
| PICCO 20-6-8N | .787 | .238 | .315 | 3.937 | 2.362 | .709 | SR M5X0.5X8 T10 |
| PICCO 25.4-6-7N | 1.000 | .238 | .278 | 4.134 | 2.559 | .921 | SR M5X0.5X10 T10 |

- Holders are suitable for left- and right-hand inserts, and boring bars



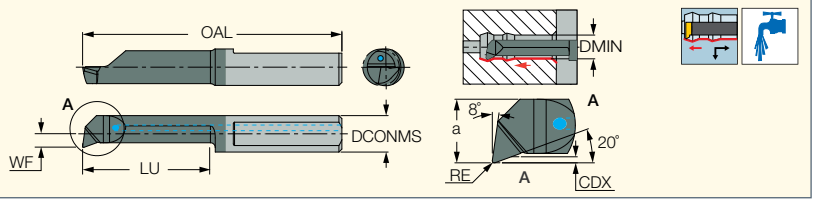
# PICCO-JET (Dmin 0.8 mm)

PICCOJET COOLANT THROUGH

**PICCO R/L 050, 053, 055-N (Turning)**

Inserts with Internal Coolant Channel for Internal Turning and Chamfering






| Designation | Dimensions | | | | | | | | IC908 |
|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | WF | a | OAL | LU | RE | CDX(1) | DMIN | |
| PICCO R 050.08-4N | 4.05 | - | 0.70 | 26.00 | 4.0 | 0.04 | 0.08 | 0.80 | • |
| PICCO R 050.1-5N | 4.05 | - | 0.90 | 26.00 | 4.5 | 0.05 | 0.10 | 1.00 | • |
| PICCO R 050.1-7N | 4.05 | - | 0.90 | 31.00 | 6.5 | 0.05 | 0.10 | 1.00 | • |
| PICCO R 050.15-5N | 4.05 | - | 1.30 | 26.00 | 4.5 | 0.05 | 0.10 | 1.50 | • |
| PICCO R 050.15-10N | 4.05 | - | 1.30 | 31.00 | 9.0 | 0.05 | 0.10 | 1.50 | • |
| PICCO R 050.2-5N | 4.05 | - | 1.70 | 26.00 | 4.0 | 0.05 | 0.10 | 2.00 | • |
| PICCO R/L 050.2-10N | 4.05 | - | 1.70 | 31.00 | 9.0 | 0.05 | 0.10 | 2.00 | • |
| PICCO R/L 050.2-15N | 4.05 | - | 1.70 | 36.00 | 14.0 | 0.05 | 0.10 | 2.00 | • |
| PICCO R 050.25-5N | 4.05 | 0.20 | 2.20 | 26.00 | 4.5 | 0.05 | 0.15 | 2.50 | • |
| PICCO R 050.25-10N | 4.05 | 0.20 | 2.20 | 31.00 | 9.0 | 0.05 | 0.15 | 2.50 | • |
| PICCO R 050.25-16N | 4.05 | 0.20 | 2.20 | 36.00 | 15.0 | 0.05 | 0.15 | 2.50 | • |
| PICCO R 053.3-10N | 4.05 | 0.60 | 2.60 | 31.00 | 9.0 | 0.03 | 0.20 | 2.80 | • |
| PICCO R/L 050.3-10N | 4.05 | 0.60 | 2.60 | 31.00 | 9.0 | 0.10 | 0.20 | 2.80 | • |
| PICCO R 053.3-16N | 4.05 | 0.60 | 2.60 | 36.00 | 15.0 | 0.03 | 0.20 | 2.80 | • |
| PICCO R/L 050.3-16N | 4.05 | 0.60 | 2.60 | 36.00 | 15.0 | 0.10 | 0.20 | 2.80 | • |
| PICCO R 050.3-20N | 4.05 | 0.60 | 2.60 | 41.00 | 19.0 | 0.10 | 0.20 | 2.80 | • |
| PICCO R 050.35-10N | 4.05 | 1.10 | 3.10 | 31.00 | 9.0 | 0.10 | 0.25 | 3.50 | • |
| PICCO R 050.35-16N | 4.05 | 1.10 | 3.10 | 36.00 | 15.0 | 0.10 | 0.25 | 3.50 | • |
| PICCO R 050.35-20N | 4.05 | 1.10 | 3.10 | 41.00 | 19.0 | 0.10 | 0.25 | 3.50 | • |
| PICCO R 050.35-24N | 4.05 | 1.10 | 3.10 | 46.00 | 23.0 | 0.10 | 0.25 | 3.50 | • |
| PICCO R 053.4-10N | 4.05 | 1.50 | 3.50 | 31.00 | 9.0 | 0.03 | 0.30 | 4.00 | • |
| PICCO R/L 050.4-10N | 4.05 | 1.50 | 3.50 | 31.00 | 9.0 | 0.10 | 0.30 | 4.00 | • |
| PICCO R 053.4-16N | 4.05 | 1.50 | 3.50 | 36.00 | 15.0 | 0.03 | 0.30 | 4.00 | • |
| PICCO R 050.4-16N | 4.05 | 1.50 | 3.50 | 36.00 | 15.0 | 0.10 | 0.30 | 4.00 | • |
| PICCO R 053.4-20N | 4.05 | 1.50 | 3.50 | 41.00 | 19.0 | 0.03 | 0.30 | 4.00 | • |
| PICCO R/L 050.4-20N | 4.05 | 1.50 | 3.50 | 41.00 | 19.0 | 0.10 | 0.30 | 4.00 | • |
| PICCO R 050.4-24N | 4.05 | 1.50 | 3.50 | 46.00 | 23.0 | 0.10 | 0.30 | 4.00 | • |
| PICCO R/L 050.4-28N | 4.05 | 1.50 | 3.50 | 51.00 | 27.0 | 0.10 | 0.30 | 4.00 | • |
| PICCO R 055.5-10N | 5.05 | 1.90 | 4.40 | 31.00 | 9.0 | 0.05 | 0.50 | 5.00 | • |
| PICCO R 050.5-10N | 5.05 | 1.90 | 4.40 | 31.00 | 9.0 | 0.15 | 0.50 | 5.00 | • |
| PICCO R 055.5-15N | 5.05 | 1.90 | 4.40 | 36.00 | 14.0 | 0.05 | 0.50 | 5.00 | • |
| PICCO R 050.5-15N | 5.05 | 1.90 | 4.40 | 36.00 | 14.0 | 0.15 | 0.50 | 5.00 | • |
| PICCO R 055.5-20N | 5.05 | 1.90 | 4.40 | 41.00 | 19.0 | 0.05 | 0.50 | 5.00 | • |
| PICCO R/L 050.5-20N | 5.05 | 1.90 | 4.40 | 41.00 | 19.0 | 0.15 | 0.50 | 5.00 | • |
| PICCO R 055.5-25N | 5.05 | 1.90 | 4.40 | 46.00 | 24.0 | 0.05 | 0.50 | 5.00 | • |
| PICCO R/L 050.5-25N | 5.05 | 1.90 | 4.40 | 46.00 | 24.0 | 0.15 | 0.50 | 5.00 | • |
| PICCO R 050.5-30N | 5.05 | 1.90 | 4.40 | 51.00 | 29.0 | 0.15 | 0.50 | 5.00 | • |
| PICCO R 050.5-35N | 5.05 | 1.90 | 4.40 | 56.00 | 34.0 | 0.15 | 0.50 | 5.00 | • |
| PICCO R 055.6-15N | 6.05 | 2.30 | 5.30 | 36.00 | 14.0 | 0.05 | 0.50 | 6.00 | • |
| PICCO R/L 050.6-15N | 6.05 | 2.30 | 5.30 | 36.00 | 14.0 | 0.15 | 0.50 | 6.00 | • |
| PICCO R 055.6-22N | 6.05 | 2.30 | 5.30 | 43.00 | 21.0 | 0.05 | 0.50 | 6.00 | • |
| PICCO R/L 050.6-22N | 6.05 | 2.30 | 5.30 | 43.00 | 21.0 | 0.15 | 0.50 | 6.00 | • |
| PICCO R 055.6-25N | 6.05 | 2.30 | 5.30 | 46.00 | 24.0 | 0.05 | 0.50 | 6.00 | • |
| PICCO R/L 050.6-25N | 6.05 | 2.30 | 5.30 | 46.00 | 24.0 | 0.15 | 0.50 | 6.00 | • |
| PICCO R 055.6-30N | 6.05 | 2.30 | 5.30 | 51.00 | 29.0 | 0.05 | 0.50 | 6.00 | • |
| PICCO R/L 050.6-30N | 6.05 | 2.30 | 5.30 | 51.00 | 29.0 | 0.15 | 0.50 | 6.00 | • |
| PICCO R 050.6-35N | 6.05 | 2.30 | 5.30 | 56.00 | 34.0 | 0.15 | 0.50 | 6.00 | • |
| PICCO R/L 050.6-42N | 6.05 | 2.30 | 5.30 | 63.00 | 41.0 | 0.15 | 0.50 | 6.00 | • |
| PICCO R/L 050.7-20N | 7.05 | 2.80 | 6.30 | 41.00 | 19.0 | 0.15 | 0.60 | 6.80 | • |
| PICCO R 050.7-25N | 7.05 | 2.80 | 6.30 | 46.00 | 24.0 | 0.15 | 0.60 | 6.80 | • |
| PICCO R/L 050.7-30N | 7.05 | 2.80 | 6.30 | 51.00 | 29.0 | 0.15 | 0.60 | 6.80 | • |
| PICCO R 050.7-35N | 7.05 | 2.80 | 6.30 | 56.00 | 34.0 | 0.15 | 0.60 | 6.80 | • |
| PICCO R 050.7-40N | 7.05 | 2.80 | 6.30 | 61.00 | 39.0 | 0.15 | 0.60 | 6.80 | • |
| PICCO R 050.7-45N | 7.05 | 2.80 | 6.30 | 66.00 | 44.0 | 0.15 | 0.60 | 6.80 | • |
| PICCO R 050.7-50N | 7.05 | 2.80 | 6.30 | 71.00 | 49.0 | 0.15 | 0.60 | 6.80 | • |

• Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only

(1) Cutting depth maximum

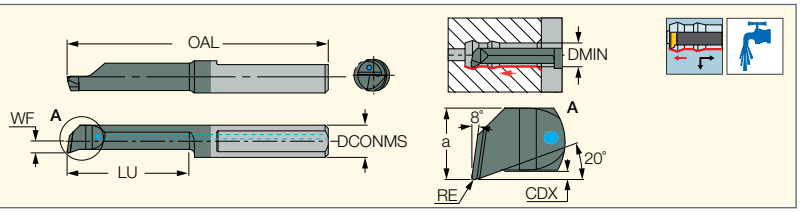


PICCOJET COOLANT THROUGH

## PICCO R/L 050-NC (Turning, with Chipbreaker)

Inserts with Chipformers and Internal Coolant Channel for Internal Boring and Profiling






| Designation | Dimensions | | | | | | | | IC908 |
|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | WF | a | OAL | LU | RE | CDX(1) | DMIN | |
| PICCO R 050.4-10NC | 4.05 | 1.50 | 3.50 | 31.00 | 9.0 | 0.10 | 0.30 | 4.00 | • |
| PICCO R 050.4-20NC | 4.05 | 1.50 | 3.50 | 41.00 | 19.0 | 0.10 | 0.30 | 4.00 | • |
| PICCO R 050.4-28NC | 4.05 | 1.50 | 3.50 | 51.00 | 27.0 | 0.10 | 0.30 | 4.00 | • |
| PICCO R 050.5-20NC | 5.05 | 1.90 | 4.40 | 41.00 | 19.0 | 0.15 | 0.50 | 5.00 | • |
| PICCO R 050.6-15NC | 6.05 | 2.30 | 5.30 | 36.00 | 14.0 | 0.15 | 0.50 | 6.00 | • |
| PICCO R 050.6-22NC | 6.05 | 2.30 | 5.30 | 43.00 | 21.0 | 0.15 | 0.50 | 6.00 | • |
| PICCO R 050.7-20NC | 7.05 | 2.80 | 6.30 | 41.00 | 19.0 | 0.15 | 0.60 | 6.80 | • |

• All left-hand inserts on request • Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only

(1) Cutting depth maximum

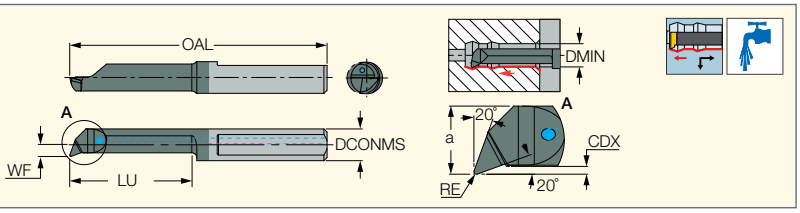


PICCOJET COOLANT THROUGH

## PICCO R 050.20-N (Turning)

Inserts with Internal Coolant Channel for Internal Turning and Chamfering Next to the Bottom of Blind Holes






| Designation | Dimensions | | | | | | | | IC908 |
|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | WF | a | OAL | LU | RE | CDX(1) | DMIN | |
| PICCO R 050.20.2-10N | 4.05 | - | 1.70 | 31.00 | 9.0 | 0.05 | 0.10 | 2.00 | • |
| PICCO R 050.20.3-10N | 4.05 | 0.60 | 2.60 | 31.00 | 9.0 | 0.10 | 0.20 | 2.80 | • |
| PICCO R 050.20.4-16N | 4.05 | 1.50 | 3.50 | 36.00 | 15.0 | 0.10 | 0.30 | 4.00 | • |
| PICCO R 050.20.5-20N | 5.05 | 1.90 | 4.40 | 41.00 | 19.0 | 0.15 | 0.50 | 5.00 | • |

• Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only

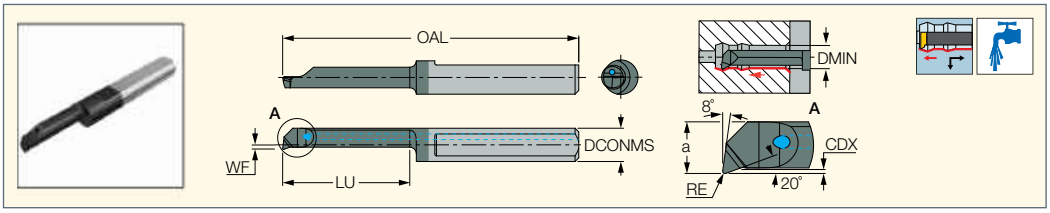
(1) Cutting depth maximum



PICCOJET COOLANT THROUGH

## PICCO R/LHD 050-N (Turning for Hard Steel)

Inserts with Internal Coolant Channel for Internal Turning and Chamfering of Hard Steel - Up to 65 HRC




| Designation | Dimensions | | | | | | | | IC902 |
|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | WF | a | OAL | LU | RE | CDX(1) | DMIN | |
| PICCO RHD 050.3-16N | 4.05 | 0.60 | 2.60 | 36.00 | 15.0 | 0.10 | 0.20 | 2.80 | ● |
| PICCO RHD 050.4-20N | 4.05 | 1.50 | 3.50 | 41.00 | 19.0 | 0.10 | 0.30 | 4.00 | ● |
| PICCO RHD 050.7-20N | 7.05 | 2.80 | 6.30 | 41.00 | 19.0 | 0.15 | 0.60 | 6.80 | ● |

- Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only

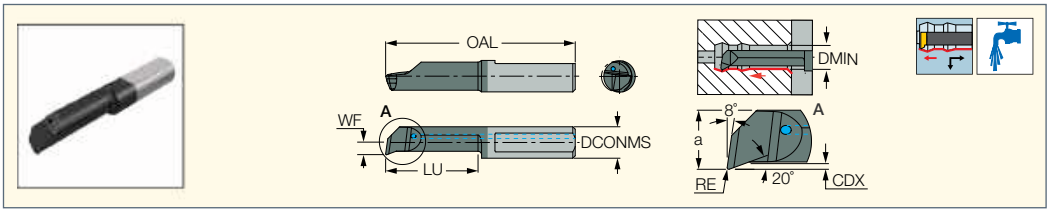
(1) Cutting depth maximum



PICCOJET COOLANT THROUGH

## PICCO R 050-N (Turning with CBN)

CBN Tipped Inserts with Internal Coolant Channel for Internal Turning, Profiling and Chamfering of Hard Steel




| Designation | Dimensions | | | | | | | | IB55 |
|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | WF | a | OAL | RE | LU | CDX(1) | DMIN | |
| PICCO R 050.7-20NB | 7.05 | 2.80 | 6.30 | 42.50 | 0.15 | 20.5 | 0.60 | 6.80 | ● |

- It is not recommended to use coolant when machining with CBN tipped tools
- Available on request only
- Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only

(1) Cutting depth maximum

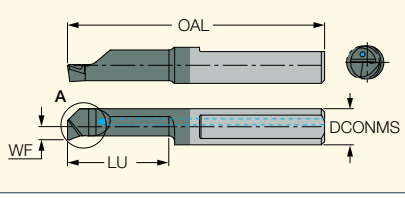


PICCOJET COOLANT THROUGH

## PICCO R/L 090-N (Turning 90°)

Inserts with Internal Coolant Channel for Internal Turning and Profiling

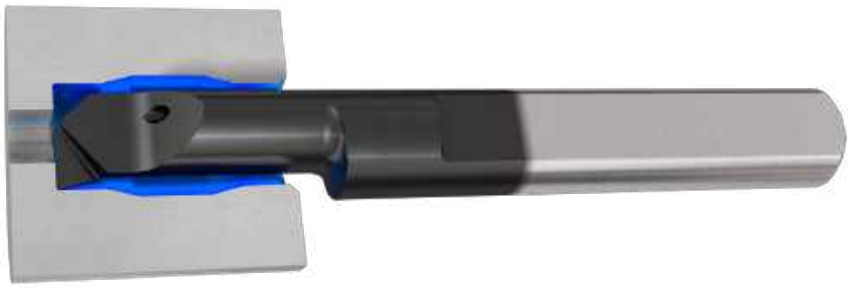





| Designation | Dimensions | | | | | | | | IC908 |
|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | WF | a | OAL | LU | RE | CDX(1) | DMIN | |
| PICCO R 090.3-10N | 4.05 | 0.60 | 2.60 | 31.00 | 9.0 | 0.10 | 0.20 | 2.80 | • |
| PICCO R 090.3-16N | 4.05 | 0.60 | 2.60 | 36.00 | 15.0 | 0.10 | 0.20 | 2.80 | • |
| PICCO R 090.4-10N | 4.05 | 1.50 | 3.50 | 31.00 | 9.0 | 0.10 | 0.30 | 4.00 | • |
| PICCO R 090.4-16N | 4.05 | 1.50 | 3.50 | 36.00 | 15.0 | 0.10 | 0.30 | 4.00 | • |
| PICCO R 090.5-10N | 5.05 | 1.90 | 4.40 | 31.00 | 9.0 | 0.15 | 0.50 | 5.00 | • |
| PICCO R 090.5-15N | 5.05 | 1.90 | 4.40 | 36.00 | 14.0 | 0.15 | 0.50 | 5.00 | • |
| PICCO R 090.5-20N | 5.05 | 1.90 | 4.40 | 41.00 | 19.0 | 0.15 | 0.50 | 5.00 | • |

• Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only

(1) Cutting depth maximum

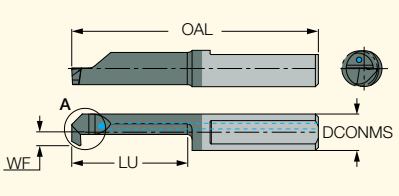


PICCOJET COOLANT THROUGH

## PICCO R/L 080-N (Back Turning)

Inserts with Internal Coolant Channel for Internal Back Turning






| Designation | Dimensions | | | | | | | | | IC908 |
|---|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | WF | a | CW | OAL | LU | RE | CDX(1) | DMIN | |
| PICCO R 080.0003-15N | 4.05 | 0.60 | 2.60 | 1.50 | 36.00 | 14.0 | 0.10 | 0.50 | 3.00 | • |
| PICCO R 080.0004-15N | 4.05 | 1.50 | 3.50 | 1.50 | 36.00 | 14.0 | 0.15 | 0.80 | 4.00 | • |
| PICCO R 080.0005-20N | 5.05 | 1.90 | 4.40 | 1.50 | 41.00 | 19.0 | 0.20 | 1.00 | 5.00 | • |
| PICCO R 080.0006-20N | 6.05 | 2.30 | 5.30 | 1.50 | 41.00 | 19.0 | 0.20 | 1.80 | 6.00 | • |
| PICCO R 080.0006-30N | 6.05 | 2.30 | 5.30 | 1.50 | 51.00 | 29.0 | 0.20 | 1.80 | 6.00 | • |
| PICCO R 080.0007-20N | 7.05 | 2.80 | 6.30 | 1.50 | 41.00 | 19.0 | 0.20 | 2.50 | 7.00 | • |
| PICCO R 080.0007-30N | 7.05 | 2.80 | 6.30 | 1.50 | 51.00 | 29.0 | 0.20 | 2.50 | 7.00 | • |

• Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only

(1) Cutting depth maximum

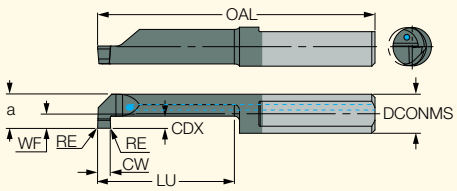


PICCOJET COOLANT THROUGH

## PICCO R/L 002-007-N (Grooving and Turning)

Inserts with Internal Coolant Channel for Internal Grooving and Turning






| Designation | Dimensions | | | | | | | | | IC908 |
|---|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | CW | WF | a | RE | OAL | LU | CDX(1) | DMIN | |
| PICCO R 002.0050-5N | 4.05 | 0.50 | 0.20 | 1.80 | 0.00 | 26.00 | 5.0 | 0.40 | 2.00 | • |
| PICCO R 002.0050-10N | 4.05 | 0.50 | 0.20 | 1.80 | 0.00 | 31.00 | 10.0 | 0.40 | 2.00 | • |
| PICCO R 003.0070-5N | 4.05 | 0.70 | 0.70 | 2.70 | 0.00 | 26.00 | 5.0 | 0.60 | 3.00 | • |
| PICCO R 003.0070-10N | 4.05 | 0.70 | 0.70 | 2.70 | 0.00 | 31.00 | 10.0 | 0.60 | 3.00 | • |
| PICCO R 003.0070-16N | 4.05 | 0.70 | 0.70 | 2.70 | 0.00 | 36.00 | 15.0 | 0.60 | 3.00 | • |
| PICCO R 004.0100-10N | 4.05 | 1.00 | 1.50 | 3.50 | 0.00 | 31.00 | 9.0 | 0.80 | 4.00 | • |
| PICCO R 004.0100-16N | 4.05 | 1.00 | 1.50 | 3.50 | 0.00 | 36.00 | 15.0 | 0.80 | 4.00 | • |
| PICCO R 004.0100-20N | 4.05 | 1.00 | 1.50 | 3.50 | 0.00 | 41.00 | 19.0 | 0.80 | 4.00 | • |
| PICCO R 005.0100-10N | 5.05 | 1.00 | 1.90 | 4.40 | 0.00 | 31.00 | 9.0 | 1.00 | 5.00 | • |
| PICCO R 005.0100-15N | 5.05 | 1.00 | 1.90 | 4.40 | 0.00 | 36.00 | 14.0 | 1.00 | 5.00 | • |
| PICCO R 005.0100-20N | 5.05 | 1.00 | 1.90 | 4.40 | 0.00 | 41.00 | 19.0 | 1.00 | 5.00 | • |
| PICCO R 005.0100-25N | 5.05 | 1.00 | 1.90 | 4.40 | 0.00 | 46.00 | 24.0 | 1.00 | 5.00 | • |
| PICCO R 005.0100-30N | 5.05 | 1.00 | 1.90 | 4.40 | 0.00 | 51.00 | 29.0 | 1.00 | 5.00 | • |
| PICCO R 005.0150-10N | 5.05 | 1.50 | 1.90 | 4.40 | 0.00 | 31.00 | 9.0 | 1.00 | 5.00 | • |
| PICCO R 005.0150-15N | 5.05 | 1.50 | 1.90 | 4.40 | 0.00 | 36.00 | 14.0 | 1.00 | 5.00 | • |
| PICCO R 005.0150-20N | 5.05 | 1.50 | 1.90 | 4.40 | 0.00 | 41.00 | 19.0 | 1.00 | 5.00 | • |
| PICCO R 005.0150-25N | 5.05 | 1.50 | 1.90 | 4.40 | 0.00 | 46.00 | 24.0 | 1.00 | 5.00 | • |
| PICCO R 005.0200-10N | 5.05 | 2.00 | 1.90 | 4.40 | 0.00 | 31.00 | 9.0 | 1.00 | 5.00 | • |
| PICCO R 005.0200-15N | 5.05 | 2.00 | 1.90 | 4.40 | 0.00 | 36.00 | 14.0 | 1.00 | 5.00 | • |
| PICCO R 005.0200-20N | 5.05 | 2.00 | 1.90 | 4.40 | 0.00 | 41.00 | 19.0 | 1.00 | 5.00 | • |
| PICCO R 005.0200-30N | 5.05 | 2.00 | 1.90 | 4.40 | 0.00 | 51.00 | 29.0 | 1.00 | 5.00 | • |
| PICCO R/L 006.0100-10N | 6.05 | 1.00 | 2.30 | 5.30 | 0.00 | 32.00 | 9.0 | 1.80 | 6.00 | • |
| PICCO R 006.0100-15N | 6.05 | 1.00 | 2.30 | 5.30 | 0.00 | 36.00 | 14.0 | 1.80 | 6.00 | • |
| PICCO R 006.0100-22N | 6.05 | 1.00 | 2.30 | 5.30 | 0.00 | 43.00 | 21.0 | 1.80 | 6.00 | • |
| PICCO R 006.0100-25N | 6.05 | 1.00 | 2.30 | 5.30 | 0.00 | 46.00 | 24.0 | 1.80 | 6.00 | • |
| PICCO R 006.0100-30N | 6.05 | 1.00 | 2.30 | 5.30 | 0.00 | 51.00 | 29.0 | 1.80 | 6.00 | • |
| PICCO R/L 006.0150-10N | 6.05 | 1.50 | 2.30 | 5.30 | 0.00 | 32.00 | 9.0 | 1.80 | 6.00 | • |
| PICCO R 006.0150-15N | 6.05 | 1.50 | 2.30 | 5.30 | 0.00 | 36.00 | 14.0 | 1.80 | 6.00 | • |
| PICCO R 006.0150-22N | 6.05 | 1.50 | 2.30 | 5.30 | 0.00 | 43.00 | 21.0 | 1.80 | 6.00 | • |
| PICCO R 006.0150-25N | 6.05 | 1.50 | 2.30 | 5.30 | 0.00 | 46.00 | 24.0 | 1.80 | 6.00 | • |
| PICCO R 006.0150-30N | 6.05 | 1.50 | 2.30 | 5.30 | 0.00 | 51.00 | 29.0 | 1.80 | 6.00 | • |
| PICCO R 006.0200-10N | 6.05 | 2.00 | 2.30 | 5.30 | 0.00 | 32.00 | 9.0 | 1.80 | 6.00 | • |
| PICCO R 006.0200-15N | 6.05 | 2.00 | 2.30 | 5.30 | 0.00 | 36.00 | 14.0 | 1.80 | 6.00 | • |
| PICCO R/L 006.0200-22N | 6.05 | 2.00 | 2.30 | 5.30 | 0.00 | 43.00 | 21.0 | 1.80 | 6.00 | • |
| PICCO R 006.0200-25N | 6.05 | 2.00 | 2.30 | 5.30 | 0.00 | 46.00 | 24.0 | 1.80 | 6.00 | • |
| PICCO R 006.0200-30N | 6.05 | 2.00 | 2.30 | 5.30 | 0.00 | 51.00 | 29.0 | 1.80 | 6.00 | • |
| PICCO R 007.0100-10N | 7.05 | 1.00 | 2.80 | 6.30 | 0.00 | 32.00 | 9.0 | 2.50 | 6.80 | • |
| PICCO R 007.0100-15N | 7.05 | 1.00 | 2.80 | 6.30 | 0.00 | 36.00 | 14.0 | 2.50 | 6.80 | • |
| PICCO R 007.0100-22N | 7.05 | 1.00 | 2.80 | 6.30 | 0.00 | 43.00 | 21.0 | 2.50 | 6.80 | • |
| PICCO R 007.0100-25N | 7.05 | 1.00 | 2.80 | 6.30 | 0.00 | 46.00 | 24.0 | 2.50 | 6.80 | • |
| PICCO R 007.0100-30N | 7.05 | 1.00 | 2.80 | 6.30 | 0.00 | 51.00 | 29.0 | 2.50 | 6.80 | • |
| PICCO R 007.0150-10N | 7.05 | 1.50 | 2.80 | 6.30 | 0.00 | 32.00 | 9.0 | 2.50 | 6.80 | • |
| PICCO R 007.0150-15N | 7.05 | 1.50 | 2.80 | 6.30 | 0.00 | 36.00 | 14.0 | 2.50 | 6.80 | • |
| PICCO R 007.0150-22N | 7.05 | 1.50 | 2.80 | 6.30 | 0.00 | 43.00 | 21.0 | 2.50 | 6.80 | • |
| PICCO R 007.0150-25N | 7.05 | 1.50 | 2.80 | 6.30 | 0.00 | 46.00 | 24.0 | 2.50 | 6.80 | • |
| PICCO R 007.0150-30N | 7.05 | 1.50 | 2.80 | 6.30 | 0.00 | 51.00 | 29.0 | 2.50 | 6.80 | • |
| PICCO R 007.0200-10N | 7.05 | 2.00 | 2.80 | 6.30 | 0.00 | 32.00 | 9.0 | 2.50 | 6.80 | • |
| PICCO R/L 007.0200-15N | 7.05 | 2.00 | 2.80 | 6.30 | 0.00 | 36.00 | 14.0 | 2.50 | 6.80 | • |
| PICCO R 007.0200-22N | 7.05 | 2.00 | 2.80 | 6.30 | 0.00 | 43.00 | 21.0 | 2.50 | 6.80 | • |
| PICCO R/L 007.0200-25N | 7.05 | 2.00 | 2.80 | 6.30 | 0.00 | 46.00 | 24.0 | 2.50 | 6.80 | • |
| PICCO R 007.0200-30N | 7.05 | 2.00 | 2.80 | 6.30 | 0.00 | 51.00 | 29.0 | 2.50 | 6.80 | • |

• All carbide bars with sharp corners • Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only

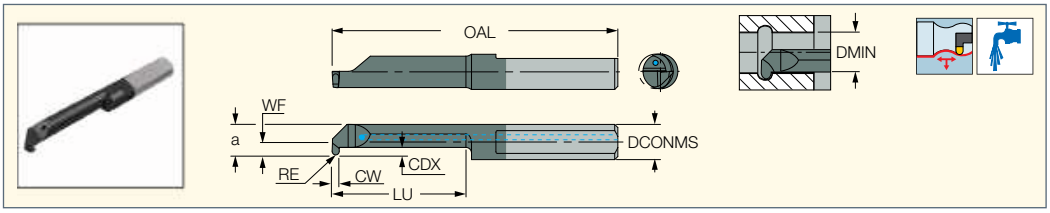
(1) Cutting depth maximum



PICCOJET COOLANT THROUGH

## PICCO R/L 004-007-N (Full radius)

Full Radius Inserts with Internal Coolant Channel for Internal Profiling




| Designation | Dimensions | | | | | | | | | IC908 |
|---|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | CW | WF | a | RE | OAL | LU | CDX(1) | DMIN | |
| PICCO R 004.0.50-16N | 4.05 | 1.00 | 1.50 | 3.50 | 0.50 | 36.00 | 15.0 | 0.80 | 4.00 | • |
| PICCO R 005.0.50-20N | 5.05 | 1.00 | 1.90 | 4.40 | 0.50 | 41.00 | 19.0 | 1.00 | 5.00 | • |
| PICCO R 006.0.50-25N | 6.05 | 1.00 | 2.30 | 5.30 | 0.50 | 46.00 | 24.0 | 1.80 | 6.00 | • |
| PICCO R 006.0.75-25N | 6.05 | 1.50 | 2.30 | 5.30 | 0.75 | 46.00 | 24.0 | 1.80 | 6.00 | • |
| PICCO R 006.1.00-25N | 6.05 | 2.00 | 2.30 | 5.30 | 1.00 | 46.00 | 24.0 | 1.80 | 6.00 | • |
| PICCO R 007.0.50-30N | 7.05 | 1.00 | 2.80 | 6.30 | 0.50 | 51.00 | 29.0 | 2.50 | 6.80 | • |
| PICCO R 007.1.00-30N | 7.05 | 2.00 | 2.80 | 6.30 | 1.00 | 51.00 | 29.0 | 2.50 | 6.80 | • |

• Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only

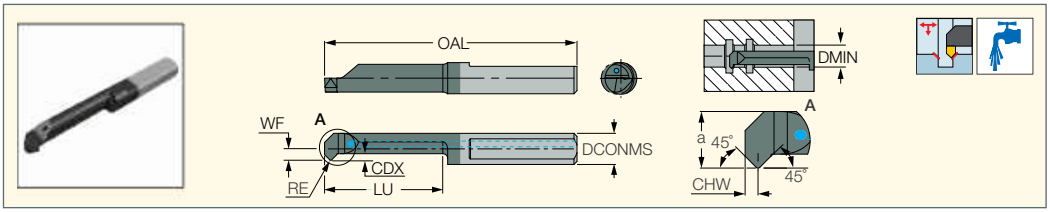
(1) Cutting depth maximum



PICCOJET COOLANT THROUGH

## PICCO R/L 060-N

Inserts with Internal Coolant Channel for Internal Turning and 45° Chamfering




| Designation | Dimensions | | | | | | | | | IC908 |
|---|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | RE | CHW | WF | a | LU | OAL | CDX(1) | DMIN | |
| PICCO R 060.5-15N | 5.05 | 0.20 | 1.0 | 1.90 | 4.40 | 14.0 | 36.00 | 0.70 | 5.00 | • |
| PICCO R 060.5-20N | 5.05 | 0.20 | 1.0 | 1.90 | 4.40 | 19.0 | 41.00 | 0.70 | 5.00 | • |
| PICCO R 060.7-20N | 7.05 | 0.20 | 1.0 | 2.80 | 6.30 | 19.0 | 41.00 | 0.70 | 6.80 | • |

• Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only

(1) Cutting depth maximum

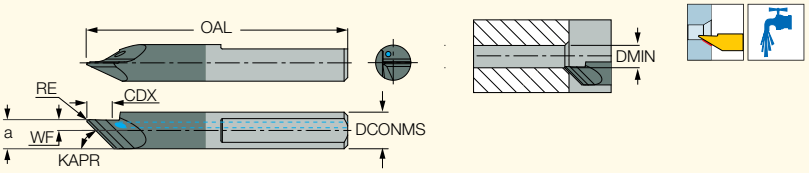


PICCOJET COOLANT THROUGH

## PICCO R/L 520-N (Chamfering)

Inserts with Internal Coolant Channel for Internal Chamfering






| Designation | Dimensions | | | | | | | IC908 |
|---|---|---|---|---|---|---|---|---|
| | DCONMS | WF | KAPR(1) | OAL | RE | CDX | DMIN | |
| PICCO R 520.0045-15N | 5.05 | 1.50 | 45.0 | 36.00 | 0.20 | 3.50 | 1.00 | ● |

• Left hand inserts on request • Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only

(1) Tool cutting edge angle

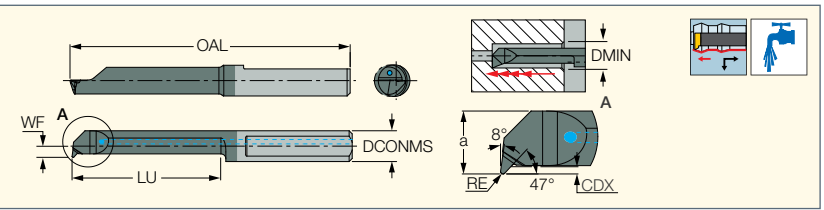


PICCOJET COOLANT THROUGH

## PICCO R/L 047-N

Inserts with Internal Coolant Channel for Internal Deep Profiling






| Designation | Dimensions | | | | | | | | IC908 |
|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | WF | a | OAL | LU | CDX(1) | DMIN | RE | |
| PICCO R 047.4-20N | 4.05 | 1.50 | 3.50 | 41.00 | 19.0 | 0.30 | 4.00 | 0.15 | ● |
| PICCO R 047.5-25N | 5.05 | 1.90 | 4.40 | 46.00 | 24.0 | 0.50 | 5.00 | 0.15 | ● |
| PICCO R 047.T6-22N | 6.05 | 2.30 | 5.30 | 43.00 | 21.0 | 1.80 | 6.00 | 0.15 | ● |
| PICCO R 047.6-30N | 6.05 | 2.30 | 5.30 | 51.00 | 29.0 | 0.50 | 6.00 | 0.15 | ● |

• Left hand inserts on request • Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only

(1) Cutting depth maximum

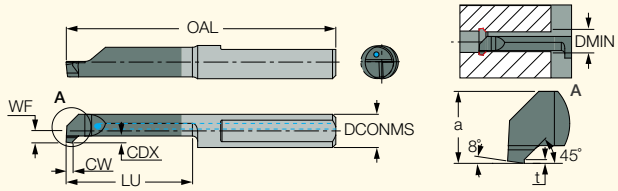


PICCOJET COOLANT THROUGH

## PICCO R/L 070-N (Back Chamfering)

Back Chamfering Inserts with Internal Coolant Channel for Pre-Parting Operations






| Designation | Dimensions | | | | | | | | | IC908 |
|---|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | CW | WF | a | LU | OAL | t | CDX(1) | DMIN | |
| PICCO R 070.5-15N | 5.05 | 1.00 | 1.90 | 4.40 | 14.0 | 36.00 | 0.20 | 1.00 | 5.00 | ● |
| PICCO R 070.5-20N | 5.05 | 1.00 | 1.90 | 4.40 | 19.0 | 41.00 | 0.20 | 1.00 | 5.00 | ● |

• All carbide bars with sharp corners • Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only

(1) Cutting depth maximum



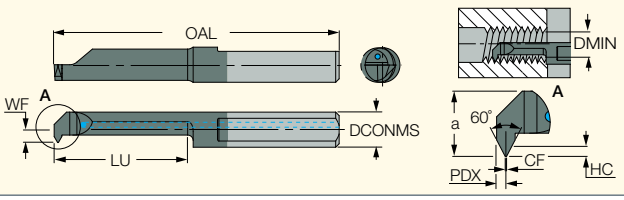
ISCARTHREAD

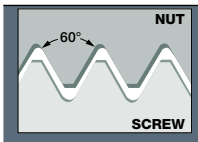
PICCOJET COOLANT THROUGH

## PICCO R/L60°-N (60° Threading)

Inserts with a 60° Internal Thread Profile and Internal Coolant Channel for 2.4 mm Min. Bore Diameter






| Designation | Dimensions | | | | | | | | | | | | | IC908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | HC | CF | PDX | WF | a | LU | OAL | DMIN | TPN(1) | TPX(2) | TPIN(3) | TPIX(4) | |
| PICCO R 003.0105-8N | 4.05 | 0.27 | 0.04 | 0.3 | 0.30 | 2.30 | 7.0 | 31.00 | 2.40 | 0.500 | 0.700 | 36.00 | 48.00 | ● |
| PICCO R 004.0105-10N | 4.05 | 0.27 | 0.09 | 0.4 | 1.00 | 3.00 | 9.0 | 31.00 | 3.20 | 0.500 | 0.750 | 36.00 | 48.00 | ● |
| PICCO R 004.0205-15N | 4.05 | 0.27 | 0.06 | 0.4 | 1.50 | 3.50 | 14.0 | 36.00 | 4.00 | 0.500 | 0.750 | 36.00 | 48.00 | ● |
| PICCO R 005.0205-15N | 5.05 | 0.27 | 0.06 | 0.4 | 1.90 | 4.40 | 14.0 | 36.00 | 5.00 | 0.500 | 0.750 | 36.00 | 48.00 | ● |
| PICCO R 005.0407-15N | 5.05 | 0.40 | 0.09 | 0.5 | 1.90 | 4.40 | 14.0 | 36.00 | 5.00 | 0.750 | 1.000 | 24.00 | 36.00 | ● |
| PICCO R/L 005.0510-15N | 5.05 | 0.55 | 0.12 | 0.6 | 1.90 | 4.40 | 14.0 | 36.00 | 4.80 | 1.000 | 1.250 | 20.00 | 24.00 | ● |
| PICCO R 005.0510-20N | 5.05 | 0.55 | 0.12 | 0.6 | 1.90 | 4.40 | 19.0 | 41.00 | 4.80 | 1.000 | 1.250 | 20.00 | 24.00 | ● |
| PICCO R 006.0510-15N | 6.05 | 0.55 | 0.12 | 0.6 | 2.30 | 5.30 | 14.0 | 36.00 | 6.00 | 1.000 | 1.250 | 20.00 | 24.00 | ● |
| PICCO R 006.0510-22N | 6.05 | 0.55 | 0.12 | 0.6 | 2.30 | 5.30 | 21.0 | 43.00 | 6.00 | 1.000 | 1.250 | 20.00 | 24.00 | ● |
| PICCO R 006.0612-15N | 6.05 | 0.68 | 0.15 | 0.7 | 2.30 | 5.30 | 14.0 | 36.00 | 6.00 | 1.250 | 1.500 | 16.00 | 20.00 | ● |
| PICCO R 006.0815-15N | 6.05 | 0.81 | 0.18 | 0.8 | 2.30 | 5.30 | 14.0 | 36.00 | 6.00 | 1.500 | 1.750 | 14.00 | 16.00 | ● |
| PICCO R/L 007.0815-15N | 7.05 | 0.81 | 0.18 | 0.8 | 2.70 | 6.30 | 14.0 | 36.00 | 7.00 | 1.500 | 1.750 | 14.00 | 16.00 | ● |

• Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only

(1) Thread pitch minimum (mm)

(2) Thread pitch maximum (mm)

(3) Threads per inch minimum

(4) Threads per inch maximum



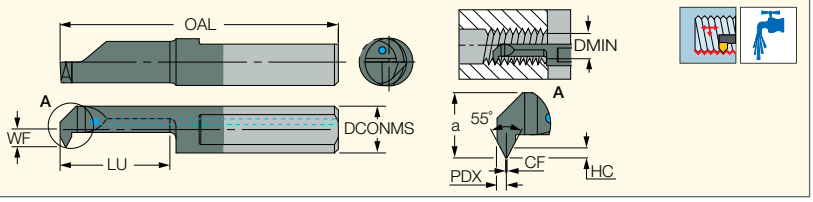
ISCARTHREAD

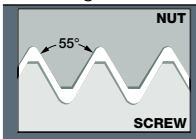
PICCOJET COOLANT THROUGH

## PICCO-55°-N
## (55° Threading)

Inserts with Internal Coolant Channel for 55° Internal Threading Profile






| Designation | Dimensions | | | | | | | | | | | IC908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | TPIX(1) | TPIN(2) | HC | CF | PDX | WF | a | LU | OAL | DMIN | |
| PICCO R 006.5524-15N | 6.05 | 24.00 | 16.00 | 0.81 | 0.12 | 0.8 | 2.30 | 5.30 | 14.0 | 36.00 | 6.00 | ● |
| PICCO R 007.5524-15N | 7.05 | 24.00 | 16.00 | 0.81 | 0.12 | 0.8 | 2.80 | 6.30 | 14.0 | 36.00 | 7.00 | ● |

- All mini-bars have sharp corners
- Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only

(1) Threads per inch maximum

(2) Threads per inch minimum

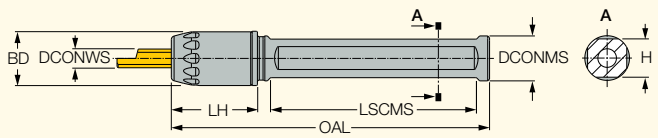




# ACECUT

ACECUT PICCOCUT HOLDER

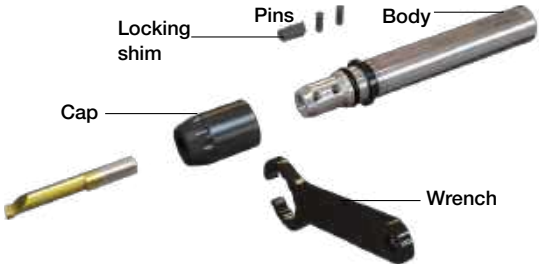
## PICCO ACE
Holders for PICCO-CUT Inserts

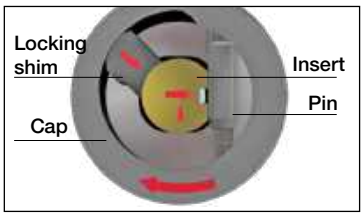



| Designation | DCONMS | DCONWS | BD | OAL | LH | LSCMS | H | | |
|---|---|---|---|---|---|---|---|---|---|
| PICCO ACE 12-4 | 12.00 | 4.00 | 14.50 | 85.00 | 23.00 | 53.00 | 10.3 | PL 16 M6-D5 | WRENCH ACE 4-5 |
| PICCO ACE 12-5 | 12.00 | 5.00 | 14.50 | 85.00 | 23.00 | 53.00 | 10.3 | PL 16 M6-D5 | WRENCH ACE 4-5 |
| PICCO ACE 16-4 | 16.00 | 4.00 | 14.50 | 85.00 | 21.50 | 53.50 | 14.0 | PL 16 M6-D5 | WRENCH ACE 4-5 |
| PICCO ACE 16-5 | 16.00 | 5.00 | 14.50 | 85.00 | 21.50 | 53.00 | 14.0 | PL 16 M6-D5 | WRENCH ACE 4-5 |
| PICCO ACE 16-6 | 16.00 | 6.00 | 19.90 | 85.00 | 23.00 | 53.50 | 14.0 | PL 16 M6-D5 | WRENCH ACE 6-7 |
| PICCO ACE 16-7 | 16.00 | 7.00 | 19.90 | 85.00 | 23.00 | 53.50 | 14.0 | PL 16 M6-D5 | WRENCH ACE 6-7 |
| PICCO ACE 20-4 | 20.00 | 4.00 | 14.50 | 150.00 | 21.50 | 118.00 | 18.0 | PL 16 M6-D5 | WRENCH ACE 4-5 |
| PICCO ACE 20-5 | 20.00 | 5.00 | 14.50 | 150.00 | 21.50 | 118.00 | 18.0 | PL 16 M6-D5 | WRENCH ACE 4-5 |
| PICCO ACE 20-6 | 20.00 | 6.00 | 19.90 | 150.00 | 21.50 | 118.00 | 18.0 | PL 16 M6-D5 | WRENCH ACE 6-7 |
| PICCO ACE 20-7 | 20.00 | 7.00 | 19.90 | 150.00 | 21.50 | 118.00 | 18.0 | PL 16 M6-D5 | WRENCH ACE 6-7 |
| PICCO ACE 22-4 | 22.00 | 4.00 | 14.50 | 150.00 | 21.50 | 118.00 | 20.0 | PL 16 M6-D5 | WRENCH ACE 4-5 |
| PICCO ACE 22-5 | 22.00 | 5.00 | 14.50 | 150.00 | 21.50 | 118.00 | 20.0 | PL 16 M6-D5 | WRENCH ACE 4-5 |
| PICCO ACE 22-6 | 22.00 | 6.00 | 19.90 | 150.00 | 21.50 | 118.00 | 20.0 | PL 16 M6-D5 | WRENCH ACE 6-7 |
| PICCO ACE 22-7 | 22.00 | 7.00 | 19.90 | 150.00 | 21.50 | 118.00 | 20.0 | PL 16 M6-D5 | WRENCH ACE 6-7 |
| PICCO ACE 25-4 | 25.00 | 4.00 | 14.50 | 150.00 | 21.50 | 118.00 | 20.0 | PL 16 M6-D5 | WRENCH ACE 4-5 |
| PICCO ACE 25-5 | 25.00 | 5.00 | 14.50 | 150.00 | 21.50 | 118.00 | 20.0 | PL 16 M6-D5 | WRENCH ACE 4-5 |
| PICCO ACE 25-6 | 25.00 | 6.00 | 19.90 | 150.00 | 21.50 | 118.00 | 20.0 | PL 16 M6-D5 | WRENCH ACE 6-7 |
| PICCO ACE 25-7 | 25.00 | 7.00 | 19.90 | 150.00 | 21.50 | 118.00 | 20.0 | PL 16 M6-D5 | WRENCH ACE 6-7 |

- Holders are suitable for right- and left-hand PICCO inserts

**Tools:** PICIN-MGSIR/L • PICIN-SCLCR/L • PICIN-SWUBR/L

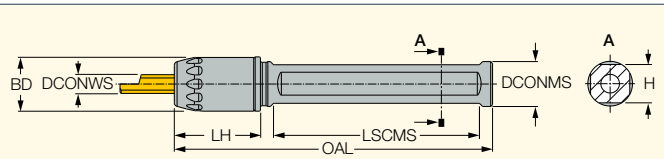





ACECUT PICCOCUT HOLDER

## PICCO ACE
Holders for PICCO-CUT Inserts




**I N C H**

| Designation | DCONMS | DCONWS | BD | OAL | LH | LSCMS | H | | |
|---|---|---|---|---|---|---|---|---|---|
| PICCO ACE 12.7-4 | .500 | .157 | .571 | 3.346 | .906 | 2.087 | .457 | PL 16 M6-D5 | WRENCH ACE 4-5 |
| PICCO ACE 12.7-5 | .500 | .197 | .571 | 3.346 | .906 | 2.087 | .457 | PL 16 M6-D5 | WRENCH ACE 4-5 |
| PICCO ACE 15.9-4 | .625 | .157 | .571 | 3.346 | .846 | 2.087 | .551 | PL 16 M6-D5 | WRENCH ACE 4-5 |
| PICCO ACE 15.9-5 | .625 | .197 | .571 | 3.346 | .846 | 2.087 | .551 | PL 16 M6-D5 | WRENCH ACE 4-5 |
| PICCO ACE 15.9-6 | .625 | .236 | .783 | 3.346 | .906 | 2.087 | .551 | PL 16 M6-D5 | WRENCH ACE 6-7 |
| PICCO ACE 15.9-7 | .625 | .276 | .783 | 3.346 | .906 | 2.087 | .551 | PL 16 M6-D5 | WRENCH ACE 6-7 |
| PICCO ACE 19-4 | .750 | .157 | .571 | 5.906 | .846 | 4.646 | .677 | PL 16 M6-D5 | WRENCH ACE 4-5 |
| PICCO ACE 19-5 | .750 | .197 | .571 | 5.906 | .846 | 4.646 | .677 | PL 16 M6-D5 | WRENCH ACE 4-5 |
| PICCO ACE 19-6 | .750 | .236 | .783 | 5.906 | .906 | 4.646 | .677 | PL 16 M6-D5 | WRENCH ACE 6-7 |
| PICCO ACE 19-7 | .750 | .276 | .783 | 5.906 | .906 | 4.646 | .677 | PL 16 M6-D5 | WRENCH ACE 6-7 |
| PICCO ACE 25.4-4 | 1.000 | .157 | .571 | 5.906 | .846 | 4.646 | .905 | PL 16 M6-D5 | WRENCH ACE 4-5 |
| PICCO ACE 25.4-5 | 1.000 | .197 | .571 | 5.906 | .846 | 4.646 | .905 | PL 16 M6-D5 | WRENCH ACE 4-5 |
| PICCO ACE 25.4-6 | 1.000 | .236 | .783 | 5.906 | .846 | 4.646 | .905 | PL 16 M6-D5 | WRENCH ACE 6-7 |
| PICCO ACE 25.4-7 | 1.000 | .276 | .783 | 5.906 | .846 | 4.646 | .905 | PL 16 M6-D5 | WRENCH ACE 6-7 |

- Holders are suitable for right- and left-hand PICCO inserts

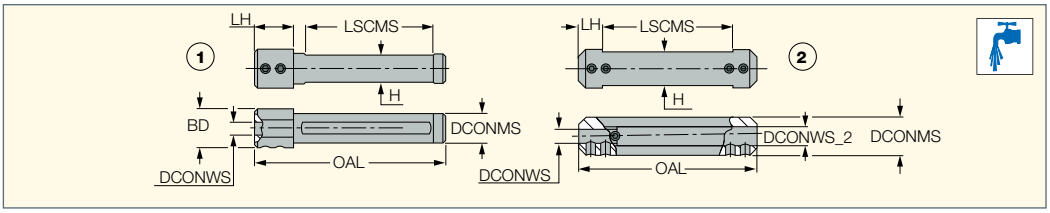
**Tools:** PICIN-MGSIR/L • PICIN-SCLCR/L • PICIN-SWUBR/L

# PASSCUT

**PASSCUT** PICCOCUT HOLDER

## PICCO/MG PCO (Holder)

Holders for PICCO-CUT Inserts and Small Diameter Boring Bars

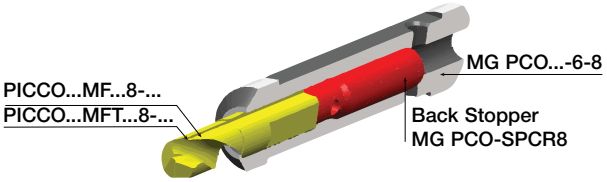



| Designation | DCONMS | DCONWS | DCONWS_2 | OAL | LH | LSCMS | H | BD | Fig. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PICCO 12-4-5 | 12.00 | 4.00 | 5.00 | 75.00 | 10.00 | 55.00 | 10.3 | - | 2 | SR M5X4-PF | HW 2.5 | | |
| PICCO 16-4-5 | 16.00 | 4.00 | 5.00 | 75.00 | 10.00 | 55.00 | 14.0 | - | 2 | SR M5X6-PF | HW 2.5 | | |
| PICCO 20-4-5 | 20.00 | 4.00 | 5.00 | 90.00 | 10.00 | 70.00 | 18.0 | - | 2 | SR M5X6-PF | HW 2.5 | | |
| PICCO 22-4-5 (1) | 22.00 | 4.00 | 5.00 | 90.00 | 10.00 | 70.00 | 20.0 | - | 2 | SR M5X6-PF | HW 2.5 | | |
| PICCO 16-6-7 | 16.00 | 6.00 | 7.00 | 75.00 | 10.00 | 55.00 | 14.0 | - | 2 | SR M5X6-PF | HW 2.5 | | |
| PICCO 20-6-7 | 20.00 | 6.00 | 7.00 | 90.00 | 10.00 | 70.00 | 18.0 | - | 2 | SR M5X6-PF | HW 2.5 | | |
| PICCO 22-6-7 (1) | 22.00 | 6.00 | 7.00 | 90.00 | 10.00 | 70.00 | 20.0 | - | 2 | SR M5X6-PF | HW 2.5 | | |
| MG PCO-12-6 | 12.00 | 6.00 | - | 75.00 | 15.00 | 50.80 | 11.0 | 18.00 | 1 | SR M5X6-PF | HW 2.5 | | |
| MG PCO-16-6-8 | 16.00 | 6.00 | 8.00 | 75.00 | 10.00 | 55.00 | 14.0 | - | 2 | SR M5X6-PF | HW 2.5 | | MG PCO-SPCR8 |
| MG PCO-20-6-8 | 20.00 | 6.00 | 8.00 | 90.00 | 10.00 | 70.00 | 18.0 | - | 2 | SR M5X6-PF | HW 2.5 | | MG PCO-SPCR8 |
| MG PCO-22-6-8 (1) | 22.00 | 6.00 | 8.00 | 90.00 | 10.00 | 70.00 | 20.0 | - | 2 | SR M5X6-PF | HW 2.5 | | MG PCO-SPCR8 |
| MG PCO-25-6-8 | 25.00 | 6.00 | 8.00 | 90.00 | 10.00 | 70.00 | 23.0 | - | 2 | SR M5X6-PF | HW 2.5 | | MG PCO-SPCR8 |
| MG PCO-16-9 | 16.00 | 9.00 | - | 75.00 | 15.00 | 53.00 | 15.0 | 20.00 | 1 | SR M5X6-PF | HW 2.5 | PL 16 | |

- Holders are suitable for right- and left-hand inserts, and boring bars

(1) Tools for Swiss-type CNC

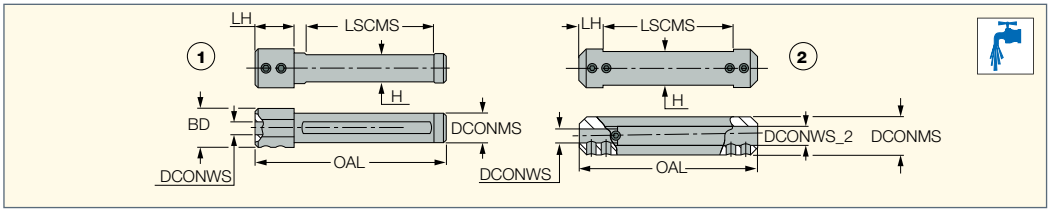
**Tools:** PICIN-MGSIR/L • PICIN-SCLCR/L • PICIN-SWUBR/L




**PASSCUT** PICCOCUT HOLDER

## PICCO/MG PCO (Holder)

Holders for PICCO-CUT Inserts and Small Diameter Boring Bars




**INCH**

| Designation | DCONMS | DCONWS | DCONWS_2 | OAL | LH | LSCMS | H | BD | Fig. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PICCO 12.7-4-5 | .500 | .157 | .197 | 2.950 | .394 | 2.170 | .410 | - | 2 | SR M5X4-PF | HW 2.5 | | |
| PICCO 15.9-4-5 | .625 | .157 | .197 | 2.950 | .394 | 2.170 | .550 | - | 2 | SR M5X6-PF | HW 2.5 | | |
| PICCO 19-4-5 | .750 | .157 | .197 | 3.540 | .394 | 2.760 | .710 | - | 2 | SR M5X6-PF | HW 2.5 | | |
| PICCO 25.4-4-5 (1) | 1.000 | .157 | .197 | 3.543 | .394 | 2.756 | .921 | - | 2 | SR M5X6-PF | HW 2.5 | | |
| PICCO 15.9-6-7 | .625 | .236 | .276 | 2.950 | .394 | 2.170 | .550 | - | 2 | SR M5X6-PF | HW 2.5 | | |
| PICCO 19-6-7 | .750 | .236 | .276 | 3.540 | .394 | 2.760 | .710 | - | 2 | SR M5X6-PF | HW 2.5 | | |
| PICCO 25.4-6-7 (1) | 1.000 | .236 | .276 | 3.543 | .394 | 2.756 | .921 | - | 2 | SR M5X6-PF | HW 2.5 | | |
| MG PCO-12.7-6 | .500 | .236 | - | 3.000 | .590 | 2.090 | .460 | .709 | 1 | SR M5X6-PF | HW 2.5 | | |
| MG PCO-15.9-6-8 | .625 | .236 | .315 | 3.000 | .390 | 2.170 | .551 | - | 2 | SR M5X6-PF | HW 2.5 | | MG PCO-SPCR8 |
| MG PCO-19-6-8 | .750 | .236 | .315 | 3.500 | .390 | 2.760 | .709 | - | 2 | SR M5X6-PF | HW 2.5 | | MG PCO-SPCR8 |
| MG PCO-25.4-6-8 (1) | 1.000 | .236 | .315 | 3.543 | .394 | 2.756 | .921 | - | 2 | SR M5X6-PF | HW 2.5 | | MG PCO-SPCR8 |
| MG PCO-16-9 | .630 | .354 | - | 2.953 | .591 | 2.087 | .591 | .787 | 1 | SR M5X6-PF | HW 2.5 | PL 16 | |

- Holders are suitable for left- and right-hand inserts, and boring bars

(1) Tools for Swiss-type CNC

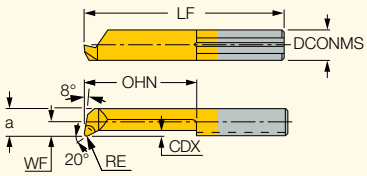
**Tools:** PICIN-MGSIR/L • PICIN-SCLCR/L • PICIN-SWUBR/L

# PICCO-CUT (Dmin 0.6 mm)

**PICCOCUT**

**PICCO R/L 050, 053, 055**
Inserts for Internal Turning
and Chamfering






Right-hand shown

| Designation | Dimensions | | | | | | | | Tough ↔ Hard | |
|---|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | WF | a | LF | OHN(2) | RE | CDX(3) | DMIN | IC228 | IC908 |
| PICCO R 050.06-2 (1) | 4.00 | - | 0.50 | 20.00 | 2.0 | 0.04 | 0.08 | 0.60 | • | • |
| PICCO R 050.06-3 (1) | 4.00 | - | 0.50 | 20.00 | 3.0 | 0.04 | 0.08 | 0.60 | • | • |
| PICCO R 050.08-4 | 4.00 | - | 0.70 | 20.00 | 4.0 | 0.04 | 0.08 | 0.80 | | • |
| PICCO R/L 050.1-5 | 4.00 | - | 0.90 | 20.00 | 4.5 | 0.05 | 0.10 | 1.00 | • | • |
| PICCO R/L 050.1-7 | 4.00 | - | 0.90 | 22.00 | 6.5 | 0.05 | 0.10 | 1.00 | • | • |
| PICCO R 050.15-5 | 4.00 | - | 1.30 | 19.00 | 5.0 | 0.05 | 0.10 | 1.50 | | • |
| PICCO R 050.15-10 | 4.00 | - | 1.30 | 24.00 | 10.0 | 0.06 | 0.10 | 1.50 | | • |
| PICCO R/L 050.2-5 | 4.00 | - | 1.70 | 19.00 | 4.0 | 0.05 | 0.10 | 2.00 | • | • |
| PICCO R 055.2-5 | 4.00 | - | 1.70 | 19.00 | 5.0 | 0.05 | 0.10 | 2.00 | | • |
| PICCO R/L 050.2-10 | 4.00 | - | 1.70 | 24.00 | 9.0 | 0.05 | 0.10 | 2.00 | • | • |
| PICCO R 055.2-10 | 4.00 | - | 1.70 | 24.00 | 10.0 | 0.05 | 0.10 | 2.00 | | • |
| PICCO L 050.2-15 | 4.00 | - | 1.70 | 29.00 | 15.0 | 0.05 | 0.10 | 2.00 | • | • |
| PICCO R 050.2-15 | 4.00 | - | 1.70 | 29.00 | 14.0 | 0.05 | 0.10 | 2.00 | • | • |
| PICCO R 055.2-15 | 4.00 | - | 1.70 | 29.00 | 15.0 | 0.05 | 0.10 | 2.00 | | • |
| PICCO R 050.25-5 | 4.00 | 0.20 | 2.20 | 19.00 | 5.0 | 0.05 | 0.15 | 2.50 | | • |
| PICCO R 050.25-10 | 4.00 | 0.20 | 2.20 | 24.00 | 10.0 | 0.07 | 0.15 | 2.50 | | • |
| PICCO R 050.25-16 | 4.00 | 0.20 | 2.20 | 30.00 | 16.0 | 0.07 | 0.15 | 2.50 | | • |
| PICCO R 053.3-10 | 4.00 | 0.60 | 2.60 | 24.00 | 9.0 | 0.03 | 0.20 | 2.80 | | • |
| PICCO R 055.3-10 | 4.00 | 0.60 | 2.60 | 24.00 | 10.0 | 0.05 | 0.20 | 2.80 | | • |
| PICCO R/L 050.3-10 | 4.00 | 0.60 | 2.60 | 24.00 | 9.0 | 0.10 | 0.20 | 2.80 | • | • |
| PICCO R 053.3-16 | 4.00 | 0.60 | 2.60 | 30.00 | 15.0 | 0.03 | 0.20 | 2.80 | | • |
| PICCO R 055.3-16 | 4.00 | 0.60 | 2.60 | 30.00 | 16.0 | 0.05 | 0.20 | 2.80 | | • |
| PICCO R/L 050.3-16 | 4.00 | 0.60 | 2.60 | 30.00 | 15.0 | 0.10 | 0.20 | 2.80 | • | • |
| PICCO R 053.3-20 | 4.00 | 0.60 | 2.60 | 34.00 | 19.0 | 0.03 | 0.20 | 2.80 | | • |
| PICCO R/L 050.3-20 | 4.00 | 0.60 | 2.60 | 34.00 | 19.0 | 0.10 | 0.20 | 2.80 | • | • |
| PICCO R 050.35-10 | 4.00 | 1.10 | 3.10 | 24.00 | 10.0 | 0.10 | 0.25 | 3.50 | | • |
| PICCO R 050.35-16 | 4.00 | 1.10 | 3.10 | 30.00 | 16.0 | 0.10 | 0.25 | 3.50 | | • |
| PICCO R 050.35-20 | 4.00 | 1.10 | 3.10 | 34.00 | 20.0 | 0.10 | 0.25 | 3.50 | | • |
| PICCO R 050.35-24 | 4.00 | 1.10 | 3.10 | 38.00 | 24.0 | 0.10 | 0.25 | 3.50 | | • |
| PICCO R 053.4-10 | 4.00 | 1.50 | 3.50 | 24.00 | 9.0 | 0.03 | 0.30 | 4.00 | | • |
| PICCO R 055.4-10 | 4.00 | 1.50 | 3.50 | 24.00 | 10.0 | 0.05 | 0.30 | 4.00 | | • |
| PICCO R/L 050.4-10 | 4.00 | 1.50 | 3.50 | 24.00 | 9.0 | 0.10 | 0.30 | 4.00 | • | • |
| PICCO R 053.4-16 | 4.00 | 1.50 | 3.50 | 30.00 | 15.0 | 0.03 | 0.30 | 4.00 | | • |
| PICCO R 055.4-16 | 4.00 | 1.50 | 3.50 | 30.00 | 16.0 | 0.05 | 0.30 | 4.00 | | • |
| PICCO R/L 050.4-16 | 4.00 | 1.50 | 3.50 | 30.00 | 15.0 | 0.10 | 0.30 | 4.00 | • | • |
| PICCO R 053.4-20 | 4.00 | 1.50 | 3.50 | 34.00 | 19.0 | 0.03 | 0.30 | 4.00 | | • |
| PICCO R 055.4-20 | 4.00 | 1.50 | 3.50 | 34.00 | 20.0 | 0.05 | 0.30 | 4.00 | | • |
| PICCO R/L 050.4-20 | 4.00 | 1.50 | 3.50 | 34.00 | 19.0 | 0.10 | 0.30 | 4.00 | • | • |
| PICCO R/L 050.4-24 | 4.00 | 1.50 | 3.50 | 38.00 | 23.0 | 0.10 | 0.30 | 4.00 | • | • |
| PICCO R/L 050.4-28 | 4.00 | 1.50 | 3.50 | 42.00 | 27.0 | 0.10 | 0.30 | 4.00 | • | • |
| PICCO R 055.4-28 | 4.00 | 1.50 | 3.50 | 42.00 | 28.0 | 0.05 | 0.50 | 4.00 | | • |
| PICCO R 055.5-10 | 5.00 | 1.90 | 4.40 | 25.00 | 9.0 | 0.05 | 0.50 | 5.00 | | • |
| PICCO R/L 050.5-10 | 5.00 | 1.90 | 4.40 | 25.00 | 9.0 | 0.15 | 0.50 | 5.00 | • | • |
| PICCO R 055.5-15 | 5.00 | 1.90 | 4.40 | 30.00 | 14.0 | 0.05 | 0.50 | 5.00 | | • |
| PICCO R/L 050.5-15 | 5.00 | 1.90 | 4.40 | 30.00 | 14.0 | 0.15 | 0.50 | 5.00 | • | • |
| PICCO R 055.5-20 | 5.00 | 1.90 | 4.40 | 35.00 | 19.0 | 0.05 | 0.50 | 5.00 | | • |
| PICCO R/L 050.5-20 | 5.00 | 1.90 | 4.40 | 35.00 | 19.0 | 0.15 | 0.50 | 5.00 | • | • |
| PICCO R 055.5-25 | 5.00 | 1.90 | 4.40 | 40.00 | 24.0 | 0.05 | 0.50 | 5.00 | | • |
| PICCO R/L 050.5-25 | 5.00 | 1.90 | 4.40 | 40.00 | 24.0 | 0.15 | 0.50 | 5.00 | • | • |
| PICCO R 055.5-30 | 5.00 | 1.90 | 4.40 | 45.00 | 29.0 | 0.05 | 0.50 | 5.00 | | • |
| PICCO R/L 050.5-30 | 5.00 | 1.90 | 4.40 | 45.00 | 29.0 | 0.15 | 0.50 | 5.00 | • | • |
| PICCO R/L 050.5-35 | 5.00 | 1.90 | 4.40 | 50.00 | 34.0 | 0.15 | 0.50 | 5.00 | • | • |
| PICCO R 055.6-15 | 6.00 | 2.30 | 5.30 | 30.00 | 14.0 | 0.05 | 0.50 | 6.00 | | • |

• Specify right- or left-hand bars

(1) Maximum D.O.C.=0.01-0.03 mm, maximum feed=0.01 mm/rev.

(2) Minimum overhang

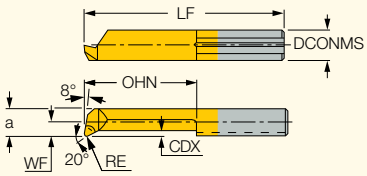
(3) Cutting depth maximum

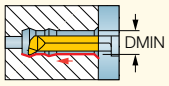
PICCOCUT

## PICCO R/L 050, 053, 055 (Continued)

Inserts for Internal Turning and Chamfering








Right-hand shown

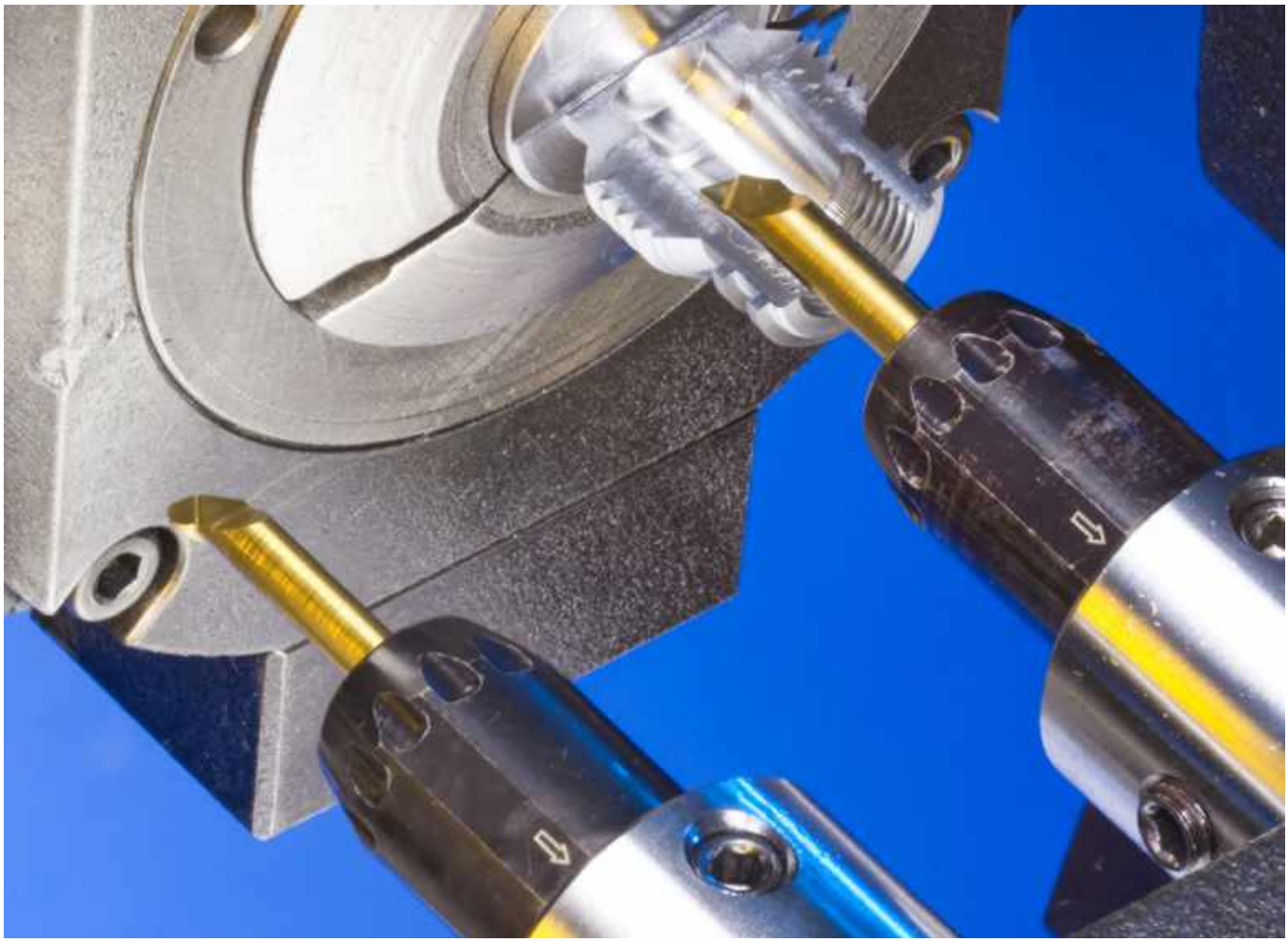
| Designation | Dimensions | | | | | | | | Tough ↔ Hard | |
|---|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | WF | a | LF | OHN[2] | RE | CDX[3] | DMIN | IC228 | IC908 |
| PICCO R/L 050.6-15 | 6.00 | 2.30 | 5.30 | 30.00 | 14.0 | 0.15 | 0.50 | 6.00 | • | • |
| PICCO R 055.6-22 | 6.00 | 2.30 | 5.30 | 37.00 | 21.0 | 0.05 | 0.50 | 6.00 | | • |
| PICCO R/L 050.6-22 | 6.00 | 2.30 | 5.30 | 37.00 | 21.0 | 0.15 | 0.50 | 6.00 | • | • |
| PICCO R 055.6-25 | 6.00 | 2.30 | 5.30 | 40.00 | 24.0 | 0.05 | 0.50 | 6.00 | | • |
| PICCO R/L 050.6-25 | 6.00 | 2.30 | 5.30 | 40.00 | 24.0 | 0.15 | 0.50 | 6.00 | • | • |
| PICCO R 055.6-30 | 6.00 | 2.30 | 5.30 | 45.00 | 29.0 | 0.05 | 0.50 | 6.00 | | • |
| PICCO R/L 050.6-30 | 6.00 | 2.30 | 5.30 | 45.00 | 29.0 | 0.15 | 0.50 | 6.00 | • | • |
| PICCO R/L 050.6-35 | 6.00 | 2.30 | 5.30 | 50.00 | 34.0 | 0.15 | 0.50 | 6.00 | • | • |
| PICCO R/L 050.6-42 | 6.00 | 2.30 | 5.30 | 57.00 | 41.0 | 0.15 | 0.50 | 6.00 | • | • |
| PICCO R/L 050.7-20 | 7.00 | 2.80 | 6.30 | 35.00 | 19.0 | 0.15 | 0.60 | 6.80 | • | • |
| PICCO R/L 050.7-25 | 7.00 | 2.80 | 6.30 | 40.00 | 24.0 | 0.15 | 0.60 | 6.80 | • | • |
| PICCO R/L 050.7-30 | 7.00 | 2.80 | 6.30 | 45.00 | 29.0 | 0.15 | 0.60 | 6.80 | • | • |
| PICCO R/L 050.7-35 | 7.00 | 2.80 | 6.30 | 50.00 | 34.0 | 0.15 | 0.60 | 6.80 | • | • |
| PICCO R/L 050.7-40 | 7.00 | 2.80 | 6.30 | 55.00 | 39.0 | 0.15 | 0.60 | 6.80 | • | • |
| PICCO R/L 050.7-45 | 7.00 | 2.80 | 6.30 | 60.00 | 44.0 | 0.15 | 0.60 | 6.80 | • | • |
| PICCO R/L 050.7-50 | 7.00 | 2.80 | 6.30 | 65.00 | 49.0 | 0.15 | 0.60 | 6.80 | • | • |

• Specify right- or left-hand bars

(1) Maximum D.O.C.=0.01-0.03 mm, maximum feed=0.01 mm/rev.

(2) Minimum overhang

(3) Cutting depth maximum

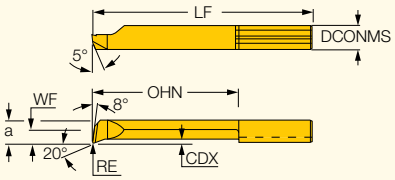


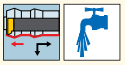
PICCOCUT

## PICCO R/L 050-C

Inserts with Chipformers for Internal Boring and Profiling





Right-hand shown

| Designation | Dimensions | | | | | | | | IC908 |
|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | WF | a | LF | OHN(1) | CDX(2) | DMIN | RE | |
| PICCO R/L 050.4-10C | 4.00 | 1.50 | 3.50 | 24.00 | 10.0 | 0.30 | 4.00 | 0.10 | • |
| PICCO R/L 050.4-20C | 4.00 | 1.50 | 3.50 | 34.00 | 20.0 | 0.30 | 4.00 | 0.10 | • |
| PICCO R/L 050.4-24C | 4.00 | 1.50 | 3.50 | 38.00 | 24.0 | 0.30 | 4.00 | 0.10 | • |
| PICCO R/L 050.4-28C | 4.00 | 1.50 | 3.50 | 42.00 | 28.0 | 0.30 | 4.00 | 0.10 | • |
| PICCO R 050.4-16C | 4.00 | 1.50 | 3.50 | 30.00 | 16.0 | 0.30 | 4.00 | 0.10 | • |
| PICCO R/L 050.5-10C | 5.00 | 1.90 | 4.40 | 25.00 | 10.0 | 0.50 | 5.00 | 0.15 | • |
| PICCO R/L 050.5-15C | 5.00 | 1.90 | 4.40 | 30.00 | 15.0 | 0.50 | 5.00 | 0.15 | • |
| PICCO R/L 050.5-20C | 5.00 | 1.90 | 4.40 | 35.00 | 20.0 | 0.50 | 5.00 | 0.15 | • |
| PICCO R/L 050.5-25C | 5.00 | 1.90 | 4.40 | 40.00 | 25.0 | 0.50 | 5.00 | 0.15 | • |
| PICCO R/L 050.5-30C | 5.00 | 1.90 | 4.40 | 45.00 | 30.0 | 0.50 | 5.00 | 0.15 | • |
| PICCO R/L 050.5-35C | 5.00 | 1.90 | 4.40 | 50.00 | 35.0 | 0.50 | 5.00 | 0.15 | • |
| PICCO R/L 050.6-15C | 6.00 | 2.30 | 5.30 | 30.00 | 15.0 | 0.50 | 6.00 | 0.15 | • |
| PICCO R/L 050.6-22C | 6.00 | 2.30 | 5.30 | 37.00 | 22.0 | 0.50 | 6.00 | 0.15 | • |
| PICCO R/L 050.6-25C | 6.00 | 2.30 | 5.30 | 40.00 | 25.0 | 0.50 | 6.00 | 0.15 | • |
| PICCO R/L 050.6-30C | 6.00 | 2.30 | 5.30 | 45.00 | 30.0 | 0.50 | 6.00 | 0.15 | • |
| PICCO R/L 050.6-35C | 6.00 | 2.30 | 5.30 | 50.00 | 35.0 | 0.50 | 6.00 | 0.15 | • |
| PICCO R/L 050.6-42C | 6.00 | 2.30 | 5.30 | 57.00 | 42.0 | 0.50 | 6.00 | 0.15 | • |
| PICCO R/L 050.7-20C | 7.00 | 2.80 | 6.30 | 35.00 | 20.0 | 0.60 | 6.80 | 0.15 | • |
| PICCO R/L 050.7-25C | 7.00 | 2.80 | 6.30 | 40.00 | 25.0 | 0.60 | 6.80 | 0.15 | • |
| PICCO R/L 050.7-30C | 7.00 | 2.80 | 6.30 | 45.00 | 30.0 | 0.60 | 6.80 | 0.15 | • |
| PICCO R/L 050.7-35C | 7.00 | 2.80 | 6.30 | 50.00 | 35.0 | 0.60 | 6.80 | 0.15 | • |
| PICCO R/L 050.7-40C | 7.00 | 2.80 | 6.30 | 55.00 | 40.0 | 0.60 | 6.80 | 0.15 | • |
| PICCO L 050.7-50C | 7.00 | 2.80 | 6.30 | 65.00 | 50.0 | 0.60 | 6.80 | 0.15 | • |

• All left-hand inserts on request

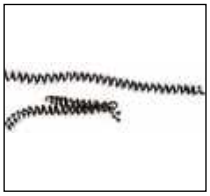
(1) Minimum overhang

(2) Cutting depth maximum

### Stainless Steel 316L

**PICCO R 050.6-35C with Chipbreaker**

f= 0.03 mm/rev



f= 0.05 mm/rev



**PICCO R 050.6-35 Standard**

f= 0.03 mm/rev



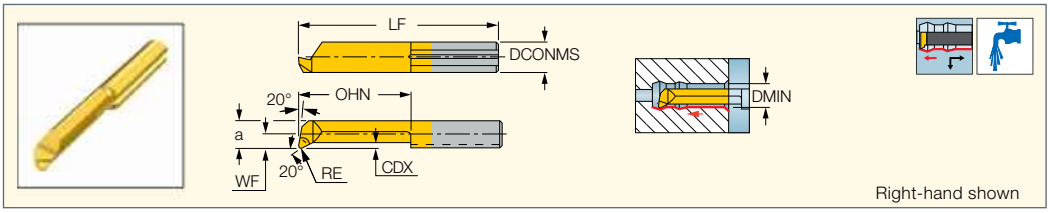
f= 0.05 mm/rev



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## PICCO R 050.20

Inserts for Internal Turning and Chamfering Next to the Bottom of Blind Holes



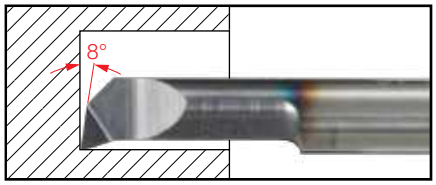

| Designation | Dimensions | | | | | | | | IC908 |
|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | WF | a | LF | OHN(1) | RE | CDX(2) | DMIN | |
| PICCO R 050.20.2-10 | 4.00 | - | 1.70 | 24.00 | 10.0 | 0.05 | 0.10 | 2.00 | ● |
| PICCO R 050.20.3-10 | 4.00 | 0.60 | 2.60 | 24.00 | 10.0 | 0.10 | 0.20 | 2.80 | ● |
| PICCO R 050.20.4-16 | 4.00 | 1.50 | 3.50 | 30.00 | 16.0 | 0.10 | 0.30 | 4.00 | ● |
| PICCO R 050.20.5-20 | 5.00 | 1.90 | 4.40 | 35.00 | 19.0 | 0.15 | 0.50 | 5.00 | ● |

• Specify right- or left-hand bars

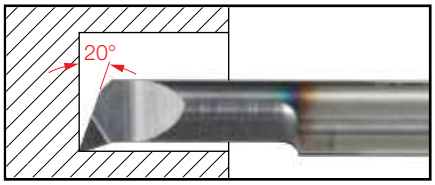
(1) Minimum overhang

(2) Cutting depth maximum

PICCO 050...



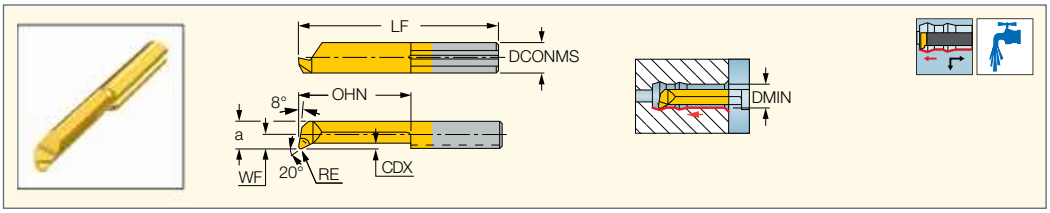

PICCO 050.20...




PICCOCUT

## PICCO R/LHD 050

Inserts for Internal Turning and Chamfering of Hard Steel - Up to 65 HRC




| Designation | Dimensions | | | | | | | | IC902 |
|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | WF | a | LF | OHN(1) | RE | CDX(2) | DMIN | |
| PICCO R/LHD 050.2-5 | 4.00 | - | 1.70 | 19.00 | 4.0 | 0.05 | 0.10 | 2.00 | ● |
| PICCO R/LHD 050.3-10 | 4.00 | 0.60 | 2.60 | 24.00 | 9.0 | 0.10 | 0.20 | 2.80 | ● |
| PICCO R/LHD 050.3-16 | 4.00 | 0.60 | 2.60 | 30.00 | 15.0 | 0.10 | 0.20 | 2.80 | ● |
| PICCO R/LHD 050.4-10 | 4.00 | 1.50 | 3.50 | 24.00 | 9.0 | 0.10 | 0.30 | 4.00 | ● |
| PICCO R/LHD 050.4-20 | 4.00 | 1.50 | 3.50 | 34.00 | 19.0 | 0.10 | 0.30 | 4.00 | ● |
| PICCO R/LHD 050.5-10 | 5.00 | 1.90 | 4.40 | 25.00 | 9.0 | 0.15 | 0.50 | 5.00 | ● |
| PICCO R/LHD 050.5-15 | 5.00 | 1.90 | 4.40 | 30.00 | 14.0 | 0.15 | 0.50 | 5.00 | ● |
| PICCO R/LHD 050.6-15 | 6.00 | 2.30 | 5.30 | 30.00 | 14.0 | 0.15 | 0.50 | 6.00 | ● |
| PICCO R/LHD 050.7-20 | 7.00 | 2.80 | 6.30 | 35.00 | 19.0 | 0.15 | 0.60 | 6.80 | ● |
| PICCO R/LHD 050.7-25 | 7.00 | 2.80 | 6.30 | 40.00 | 24.0 | 0.15 | 0.60 | 6.80 | ● |
| PICCO R/LHD 050.7-35 | 7.00 | 2.80 | 6.30 | 50.00 | 34.0 | 0.15 | 0.60 | 6.80 | ● |

• Specify right- or left-hand bars

(1) Minimum overhang

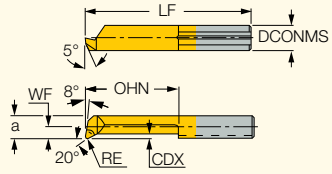
(2) Cutting depth maximum

PICCOCUT

## PICCO R 050 (CBN)

CBN Tipped Inserts for Internal Turning, Profiling and Chamfering of Hard Steel






Right-hand shown • HARD MATERIALS

| Designation | Dimensions DCONMS | WF | a | LF | OHN(1) | CDX(2) | DMIN | RE | IB55 |
|---|---|---|---|---|---|---|---|---|---|
| PICCO R 050.3-10B | 4.00 | 0.60 | 2.60 | 25.50 | 10.0 | 0.20 | 2.80 | 0.10 | • |
| PICCO R 050.4-10B | 4.00 | 1.50 | 3.50 | 25.50 | 10.0 | 0.30 | 4.00 | 0.10 | • |
| PICCO R 050.5-15B | 5.00 | 1.90 | 4.40 | 31.50 | 15.0 | 0.50 | 5.00 | 0.15 | • |
| PICCO R 050.6-15B | 6.00 | 2.30 | 5.30 | 31.50 | 15.0 | 0.50 | 6.00 | 0.15 | • |
| PICCO R 050.7-20B | 7.00 | 2.80 | 6.30 | 36.50 | 20.0 | 0.60 | 6.80 | 0.15 | • |

• It is not recommended to use coolant when machining with CBN tipped tools • Available on request only

(1) Minimum overhang

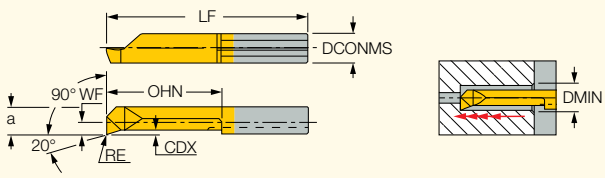
(2) Cutting depth maximum

PICCOCUT

## PICCO R/L 090

Inserts for Internal Turning and Profiling






Right-hand shown

| Designation | Dimensions DCONMS | WF | a | LF | OHN(1) | RE | CDX(2) | DMIN | IC228 |
|---|---|---|---|---|---|---|---|---|---|
| PICCO R/L 090.3-10 | 4.00 | 0.60 | 2.60 | 24.00 | 9.0 | 0.10 | 0.20 | 2.80 | • |
| PICCO R/L 090.3-16 | 4.00 | 0.60 | 2.60 | 30.00 | 15.0 | 0.10 | 0.20 | 2.80 | • |
| PICCO R/L 090.4-10 | 4.00 | 1.50 | 3.50 | 24.00 | 9.0 | 0.10 | 0.30 | 4.00 | • |
| PICCO R/L 090.4-16 | 4.00 | 1.50 | 3.50 | 30.00 | 15.0 | 0.10 | 0.30 | 4.00 | • |
| PICCO R/L 090.5-10 | 5.00 | 1.90 | 4.40 | 25.00 | 9.0 | 0.15 | 0.50 | 5.00 | • |
| PICCO R/L 090.5-15 | 5.00 | 1.90 | 4.40 | 30.00 | 14.0 | 0.15 | 0.50 | 5.00 | • |
| PICCO R/L 090.5-20 | 5.00 | 1.90 | 4.40 | 35.00 | 19.0 | 0.15 | 0.50 | 5.00 | • |

• Specify right- or left-hand bars

(1) Minimum overhang

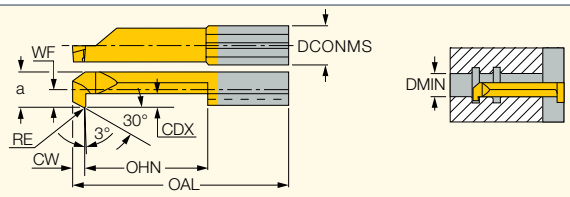
(2) Cutting depth maximum

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## PICCO R/L 080

Inserts for Internal Back Turning






Right-hand shown

| Designation | Dimensions DCONMS | WF | a | CW | OAL | OHN(1) | RE | CDX(2) | DMIN | IC228 |
|---|---|---|---|---|---|---|---|---|---|---|
| PICCO R/L 080.0003-15 | 4.00 | 0.60 | 2.60 | 1.50 | 30.00 | 14.0 | 0.10 | 0.50 | 3.00 | • |
| PICCO R/L 080.0003-20 | 4.00 | 0.60 | 2.60 | 1.50 | 34.00 | 19.0 | 0.10 | 0.50 | 3.00 | • |
| PICCO R/L 080.0004-15 | 4.00 | 1.50 | 3.50 | 1.50 | 30.00 | 14.0 | 0.15 | 0.80 | 4.00 | • |
| PICCO R/L 080.0004-25 | 4.00 | 1.50 | 3.50 | 1.50 | 39.00 | 24.0 | 0.15 | 0.80 | 4.00 | • |
| PICCO R/L 080.0005-20 | 5.00 | 1.90 | 4.40 | 1.50 | 35.00 | 19.0 | 0.20 | 1.00 | 5.00 | • |
| PICCO R/L 080.0005-30 | 5.00 | 1.90 | 4.40 | 1.50 | 45.00 | 29.0 | 0.20 | 1.00 | 5.00 | • |
| PICCO R/L 080.0006-20 | 6.00 | 2.30 | 5.30 | 1.50 | 35.00 | 19.0 | 0.20 | 1.80 | 6.00 | • |
| PICCO R/L 080.0006-30 | 6.00 | 2.30 | 5.30 | 1.50 | 45.00 | 29.0 | 0.20 | 1.80 | 6.00 | • |
| PICCO R/L 080.0007-20 | 7.00 | 2.80 | 6.30 | 1.50 | 35.00 | 19.0 | 0.20 | 2.50 | 7.00 | • |
| PICCO R/L 080.0007-30 | 7.00 | 2.80 | 6.30 | 1.50 | 45.00 | 29.0 | 0.20 | 2.50 | 7.00 | • |

• Specify right- or left-hand bars

(1) Minimum overhang

(2) Cutting depth maximum

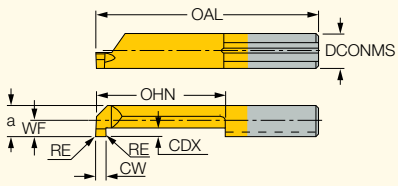
**Holders:** GHPCOR • PICCO ACE • PICCO/MG PCO (Holder)

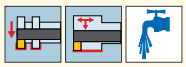
PICCOCUT

## PICCO R/L 002-007

Inserts for Internal Grooving and Turning





Right-hand shown

| Designation | Dimensions | | | | | | | | | Tough ↔ Hard | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | CW | WF | a | RE | OAL | OHN(1) | CDX(2) | DMIN | IC228 | IC908 |
| PICCO R 002.0050-5 | 4.00 | 0.50 | 0.20 | 1.80 | 0.00 | 19.00 | 5.0 | 0.40 | 2.00 | | • |
| PICCO R 002.0050-10 | 4.00 | 0.50 | 0.20 | 1.80 | 0.00 | 24.00 | 10.0 | 0.40 | 2.00 | | • |
| PICCO R/L 002.0050-15 | 4.00 | 0.50 | 0.20 | 1.80 | 0.00 | 29.00 | 15.0 | 0.40 | 2.00 | | • |
| PICCO R 003.0070-5 | 4.00 | 0.70 | 0.70 | 2.70 | 0.00 | 19.00 | 5.0 | 0.60 | 3.00 | | • |
| PICCO R 003.0070-10 | 4.00 | 0.70 | 0.70 | 2.70 | 0.00 | 24.00 | 10.0 | 0.60 | 3.00 | | • |
| PICCO R 003.0070-16 | 4.00 | 0.70 | 0.70 | 2.70 | 0.00 | 29.00 | 15.0 | 0.60 | 3.00 | | • |
| PICCO R/L 004.0100-10 | 4.00 | 1.00 | 1.50 | 3.50 | 0.00 | 24.00 | 9.0 | 0.80 | 4.00 | • | |
| PICCO R/L 004.0100-16 | 4.00 | 1.00 | 1.50 | 3.50 | 0.00 | 30.00 | 15.0 | 0.80 | 4.00 | • | |
| PICCO R/L 004.0100-20 | 4.00 | 1.00 | 1.50 | 3.50 | 0.00 | 34.00 | 19.0 | 0.80 | 4.00 | • | |
| PICCO R/L 005.0100-10 | 5.00 | 1.00 | 1.90 | 4.40 | 0.00 | 25.00 | 9.0 | 1.00 | 5.00 | • | |
| PICCO R/L 005.0100-15 | 5.00 | 1.00 | 1.90 | 4.40 | 0.00 | 30.00 | 14.0 | 1.00 | 5.00 | • | |
| PICCO R/L 005.0100-20 | 5.00 | 1.00 | 1.90 | 4.40 | 0.00 | 35.00 | 19.0 | 1.00 | 5.00 | • | |
| PICCO R/L 005.0100-25 | 5.00 | 1.00 | 1.90 | 4.40 | 0.00 | 40.00 | 24.0 | 1.00 | 5.00 | • | |
| PICCO R/L 005.0100-30 | 5.00 | 1.00 | 1.90 | 4.40 | 0.00 | 45.00 | 29.0 | 1.00 | 5.00 | • | |
| PICCO R/L 005.0150-10 | 5.00 | 1.50 | 1.90 | 4.40 | 0.00 | 25.00 | 9.0 | 1.00 | 5.00 | • | |
| PICCO R/L 005.0150-15 | 5.00 | 1.50 | 1.90 | 4.40 | 0.00 | 30.00 | 14.0 | 1.00 | 5.00 | • | |
| PICCO R 005M0150-15 | 5.00 | 1.50 | 1.90 | 4.00 | 0.10 | 30.00 | 14.0 | 1.00 | 5.00 | | • |
| PICCO R/L 005.0150-20 | 5.00 | 1.50 | 1.90 | 4.40 | 0.00 | 35.00 | 19.0 | 1.00 | 5.00 | • | |
| PICCO R/L 005.0150-25 | 5.00 | 1.50 | 1.90 | 4.40 | 0.00 | 40.00 | 24.0 | 1.00 | 5.00 | • | |
| PICCO R/L 005.0150-30 | 5.00 | 1.50 | 1.90 | 4.40 | 0.00 | 45.00 | 29.0 | 1.00 | 5.00 | • | |
| PICCO R/L 005.0200-10 | 5.00 | 2.00 | 1.90 | 4.40 | 0.00 | 25.00 | 9.0 | 1.00 | 5.00 | • | |
| PICCO R/L 005.0200-15 | 5.00 | 2.00 | 1.90 | 4.40 | 0.00 | 30.00 | 14.0 | 1.00 | 5.00 | • | |
| PICCO R/L 005.0200-20 | 5.00 | 2.00 | 1.90 | 4.40 | 0.00 | 35.00 | 19.0 | 1.00 | 5.00 | • | |
| PICCO R/L 005.0200-25 | 5.00 | 2.00 | 1.90 | 4.40 | 0.00 | 40.00 | 24.0 | 1.00 | 5.00 | • | |
| PICCO R/L 005.0200-30 | 5.00 | 2.00 | 1.90 | 4.40 | 0.00 | 45.00 | 29.0 | 1.00 | 5.00 | • | |
| PICCO R/L 006.0100-10 | 6.00 | 1.00 | 2.30 | 5.30 | 0.00 | 25.00 | 9.0 | 1.80 | 6.00 | • | |
| PICCO R/L 006.0100-15 | 6.00 | 1.00 | 2.30 | 5.30 | 0.00 | 30.00 | 14.0 | 1.80 | 6.00 | • | |
| PICCO R/L 006.0100-22 | 6.00 | 1.00 | 2.30 | 5.30 | 0.00 | 37.00 | 21.0 | 1.80 | 6.00 | • | |
| PICCO R/L 006.0100-25 | 6.00 | 1.00 | 2.30 | 5.30 | 0.00 | 40.00 | 24.0 | 1.80 | 6.00 | • | |
| PICCO R/L 006.0100-30 | 6.00 | 1.00 | 2.30 | 5.30 | 0.00 | 45.00 | 29.0 | 1.80 | 6.00 | • | |
| PICCO R/L 006.0150-10 | 6.00 | 1.50 | 2.30 | 5.30 | 0.00 | 25.00 | 9.0 | 1.80 | 6.00 | • | |
| PICCO R/L 006.0150-15 | 6.00 | 1.50 | 2.30 | 5.30 | 0.00 | 30.00 | 14.0 | 1.80 | 6.00 | • | |
| PICCO R/L 006.0150-22 | 6.00 | 1.50 | 2.30 | 5.30 | 0.00 | 37.00 | 21.0 | 1.80 | 6.00 | • | |
| PICCO R/L 006.0150-25 | 6.00 | 1.50 | 2.30 | 5.30 | 0.00 | 40.00 | 24.0 | 1.80 | 6.00 | • | |
| PICCO R/L 006.0150-30 | 6.00 | 1.50 | 2.30 | 5.30 | 0.00 | 45.00 | 29.0 | 1.80 | 6.00 | • | |
| PICCO R/L 006.0200-10 | 6.00 | 2.00 | 2.30 | 5.30 | 0.00 | 25.00 | 9.0 | 1.80 | 6.00 | • | |
| PICCO R/L 006.0200-15 | 6.00 | 2.00 | 2.30 | 5.30 | 0.00 | 30.00 | 14.0 | 1.80 | 6.00 | • | |
| PICCO R 006M0200-15 | 6.00 | 2.00 | 2.30 | 5.30 | 0.10 | 30.00 | 14.0 | 1.80 | 6.00 | | • |
| PICCO R/L 006.0200-22 | 6.00 | 2.00 | 2.30 | 5.30 | 0.00 | 37.00 | 21.0 | 1.80 | 6.00 | • | |
| PICCO R/L 006.0200-25 | 6.00 | 2.00 | 2.30 | 5.30 | 0.00 | 40.00 | 24.0 | 1.80 | 6.00 | • | |
| PICCO R/L 006.0200-30 | 6.00 | 2.00 | 2.30 | 5.30 | 0.00 | 45.00 | 29.0 | 1.80 | 6.00 | • | |
| PICCO R/L 007.0100-10 | 7.00 | 1.00 | 2.80 | 6.30 | 0.00 | 25.00 | 9.0 | 2.50 | 6.80 | • | |
| PICCO R/L 007.0100-15 | 7.00 | 1.00 | 2.80 | 6.30 | 0.00 | 30.00 | 14.0 | 2.50 | 6.80 | • | |
| PICCO R/L 007.0100-22 | 7.00 | 1.00 | 2.80 | 6.30 | 0.00 | 37.00 | 21.0 | 2.50 | 6.80 | • | |
| PICCO R/L 007.0100-25 | 7.00 | 1.00 | 2.80 | 6.30 | 0.00 | 40.00 | 24.0 | 2.50 | 6.80 | • | |
| PICCO R/L 007.0100-30 | 7.00 | 1.00 | 2.80 | 6.30 | 0.00 | 45.00 | 29.0 | 2.50 | 6.80 | • | |
| PICCO R/L 007.0150-10 | 7.00 | 1.50 | 2.80 | 6.30 | 0.00 | 25.00 | 9.0 | 2.50 | 6.80 | • | |
| PICCO R/L 007.0150-15 | 7.00 | 1.50 | 2.80 | 6.30 | 0.00 | 30.00 | 14.0 | 2.50 | 6.80 | • | |
| PICCO R/L 007.0150-22 | 7.00 | 1.50 | 2.80 | 6.30 | 0.00 | 37.00 | 21.0 | 2.50 | 6.80 | • | |
| PICCO R/L 007.0150-25 | 7.00 | 1.50 | 2.80 | 6.30 | 0.00 | 40.00 | 24.0 | 2.50 | 6.80 | • | |
| PICCO R/L 007.0150-30 | 7.00 | 1.50 | 2.80 | 6.30 | 0.00 | 45.00 | 29.0 | 2.50 | 6.80 | • | |
| PICCO R/L 007.0200-10 | 7.00 | 2.00 | 2.80 | 6.30 | 0.00 | 25.00 | 9.0 | 2.50 | 6.80 | • | |
| PICCO R/L 007.0200-15 | 7.00 | 2.00 | 2.80 | 6.30 | 0.00 | 30.00 | 14.0 | 2.50 | 6.80 | • | |
| PICCO R 007M0200-15 | 7.00 | 2.00 | 2.80 | 6.30 | 0.10 | 30.00 | 14.0 | 2.50 | 6.80 | | • |
| PICCO R/L 007.0200-22 | 7.00 | 2.00 | 2.80 | 6.30 | 0.00 | 37.00 | 21.0 | 2.50 | 6.80 | • | |
| PICCO R/L 007.0200-25 | 7.00 | 2.00 | 2.80 | 6.30 | 0.00 | 40.00 | 24.0 | 2.50 | 6.80 | • | |
| PICCO R/L 007.0200-30 | 7.00 | 2.00 | 2.80 | 6.30 | 0.00 | 45.00 | 29.0 | 2.50 | 6.80 | • | |

• All carbide bars with sharp corners • Specify right- or left-hand bars

(1) Minimum overhang

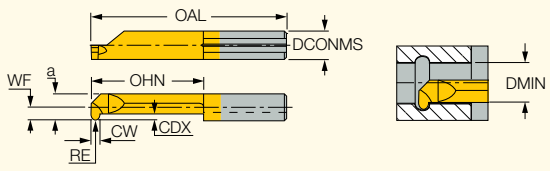
(2) Cutting depth maximum

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## PICCO R/L 004-007 (radius)

Full Radius Inserts for Internal Profiling






Right-hand shown

| Designation | Dimensions | | | | | | | | | IC228 |
|---|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | CW | WF | a | RE | OAL | OHN(1) | CDX(2) | DMIN | |
| PICCO R/L 004.0.50-16 | 4.00 | 1.00 | 1.50 | 3.50 | 0.50 | 30.00 | 15.0 | 0.80 | 4.00 | • |
| PICCO R/L 005.0.50-20 | 5.00 | 1.00 | 1.90 | 4.40 | 0.50 | 35.00 | 19.0 | 1.00 | 5.00 | • |
| PICCO R/L 005.0.75-20 | 5.00 | 1.50 | 1.90 | 4.40 | 0.75 | 35.00 | 19.0 | 1.00 | 5.00 | • |
| PICCO R/L 005.1.00-20 | 5.00 | 2.00 | 1.90 | 4.40 | 1.00 | 35.00 | 19.0 | 1.00 | 5.00 | • |
| PICCO R/L 006.0.50-25 | 6.00 | 1.00 | 2.30 | 5.30 | 0.50 | 40.00 | 24.0 | 1.80 | 6.00 | • |
| PICCO R/L 006.0.75-25 | 6.00 | 1.50 | 2.30 | 5.30 | 0.75 | 40.00 | 24.0 | 1.80 | 6.00 | • |
| PICCO R/L 006.1.00-25 | 6.00 | 2.00 | 2.30 | 5.30 | 1.00 | 40.00 | 24.0 | 1.80 | 6.00 | • |
| PICCO R/L 007.0.50-30 | 7.00 | 1.00 | 2.80 | 6.30 | 0.50 | 45.00 | 29.0 | 2.50 | 6.80 | • |
| PICCO R/L 007.0.75-30 | 7.00 | 1.50 | 2.80 | 6.30 | 0.75 | 45.00 | 29.0 | 2.50 | 6.80 | • |
| PICCO R/L 007.1.00-30 | 7.00 | 2.00 | 2.80 | 6.30 | 1.00 | 45.00 | 29.0 | 2.50 | 6.80 | • |

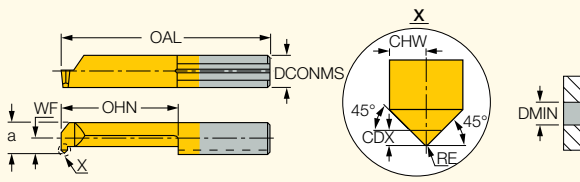
• Specify right- or left-hand bars
(1) Minimum overhang
(2) Cutting depth maximum

PICCOCUT

## PICCO R/L 060

Inserts for Internal Turning and 45° Chamfering






Right-hand shown

| Designation | Dimensions | | | | | | | | | Tough ↔ Hard | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | RE | CHW | WF | a | OHN(1) | OAL | CDX(2) | DMIN | IC228 | IC908 |
| PICCO R/L 060.5-15 | 5.00 | 0.20 | 1.0 | 1.90 | 4.40 | 14.0 | 30.00 | 0.70 | 5.00 | • | |
| PICCO R/L 060.5-20 | 5.00 | 0.20 | 1.0 | 1.90 | 4.40 | 19.0 | 35.00 | 0.70 | 5.00 | • | |
| PICCO R 060.6-20 | 6.00 | 0.20 | 1.0 | 2.30 | 5.30 | 20.0 | 35.00 | 0.70 | 6.00 | | • |
| PICCO R 060.6-25 | 6.00 | 0.20 | 1.0 | 2.30 | 5.30 | 25.0 | 40.00 | 0.70 | 6.00 | | • |
| PICCO R/L 060.7-20 | 7.00 | 0.20 | 1.0 | 2.80 | 6.30 | 19.0 | 35.00 | 0.70 | 6.80 | • | |
| PICCO R 060.7-40 | 7.00 | 0.20 | 1.0 | 2.80 | 6.30 | 40.0 | 55.00 | 0.70 | 6.80 | | • |

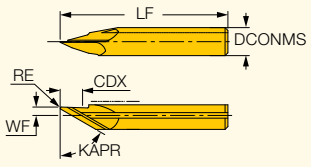
• Specify right- or left-hand bars
(1) Minimum overhang
(2) Cutting depth maximum

PICCOCUT

## PICCO R/L 520

Inserts for Internal Chamfering




Right-hand shown

| Designation | Dimensions | | | | | | | IC908 |
|---|---|---|---|---|---|---|---|---|
| | DCONMS | WF | KAPR(1) | LF | RE | CDX | DMIN | |
| PICCO R/L 520.0045-15 | 5.00 | 1.50 | 45.0 | 30.00 | 0.20 | 3.50 | 1.00 | • |
| PICCO R/L 520.0060-15 | 5.00 | 1.50 | 60.0 | 30.00 | 0.20 | 4.00 | 1.00 | • |

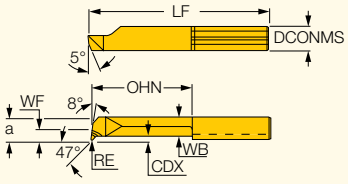
• Left hand inserts on request
(1) Tool cutting edge angle

PICCOCUT

## PICCO R/L 047

Inserts for Internal Deep Profiling








Right-hand shown

| Designation | Dimensions | | | | | | | | | IC908 |
|---|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | WF | a | LF | OHN(1) | WB | CDX(2) | DMIN | RE | |
| PICCO R/L 047.4-20 | 4.00 | 1.50 | 3.50 | 34.00 | 20.0 | 3.00 | 0.30 | 4.00 | 0.15 | ● |
| PICCO R/L 047.5-25 | 5.00 | 1.90 | 4.40 | 40.00 | 25.0 | 3.80 | 0.50 | 5.00 | 0.15 | ● |
| PICCO R/L 047.6-30 | 6.00 | 2.30 | 5.30 | 45.00 | 30.0 | 4.50 | 0.50 | 6.00 | 0.15 | ● |
| PICCO R 047.T6-22 | 6.00 | 2.30 | 5.30 | 37.00 | 22.0 | 3.40 | 1.80 | 6.00 | 0.15 | ● |
| PICCO R 047.T6-30 | 6.00 | 2.30 | 5.30 | 45.00 | 30.0 | 3.40 | 1.80 | 6.00 | 0.15 | ● |

• Left hand inserts on request

(1) Minimum overhang

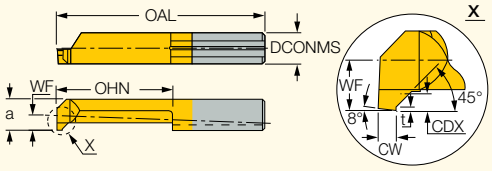
(2) Cutting depth maximum

PICCOCUT

## PICCO R/L 070

Back Chamfering Inserts for Pre-Parting Operations








Right-hand shown

| Designation | Dimensions | | | | | | | | | IC228 |
|---|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | CW | WF | a | OHN(1) | OAL | t | CDX(2) | DMIN | |
| PICCO R/L 070.5-15 | 5.00 | 1.00 | 1.90 | 4.40 | 15.0 | 30.00 | 0.20 | 1.00 | 5.00 | ● |
| PICCO R/L 070.5-20 | 5.00 | 1.00 | 1.90 | 4.40 | 20.0 | 35.00 | 0.20 | 1.00 | 5.00 | ● |

• All carbide bars with sharp corners • Specify right- or left-hand bars

(1) Minimum overhang

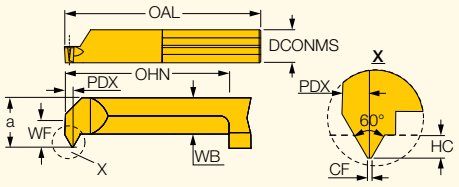
(2) Cutting depth maximum

PICCOCUT

## PICCO ISO Full Profile

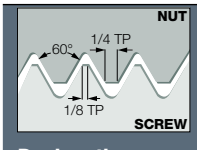
ISO Standard Inserts for Full Profile Threads








Right-hand shown




| Designation | Dimensions | | | | | | | | | | | IC908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TP(1) | DCONMS | WF | a | OAL | OHN(2) | WB | PDX | HC | CF | DMIN | |
| PICCO R/L 105.0510-15 | 1.000 | 5.00 | 1.90 | 4.40 | 30.00 | 15.0 | 3.30 | 0.6 | 0.54 | 0.12 | 4.80 | ● |
| PICCO R/L 106.0612-15 | 1.250 | 6.00 | 2.30 | 5.30 | 30.00 | 15.0 | 3.40 | 0.7 | 0.67 | 0.15 | 6.00 | ● |
| PICCO R/L 106.0815-15 | 1.500 | 6.00 | 2.30 | 5.30 | 30.00 | 15.0 | 3.40 | 0.8 | 0.81 | 0.18 | 6.00 | ● |
| PICCO R/L 107.0815-15 | 1.500 | 7.00 | 2.80 | 6.30 | 30.00 | 15.0 | 3.80 | 0.8 | 0.81 | 0.18 | 7.00 | ● |

(1) Thread pitch

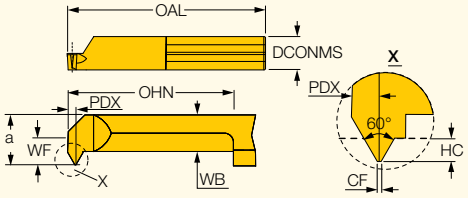
(2) Minimum overhang

PICCOCUT

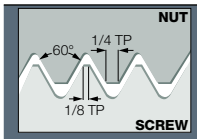
## PICCO ISO Full Profile Fine

ISO Fine Pitch Inserts for Full Profile Threads






Right-hand shown




| Designation | Dimensions TP[1] | DCONMS | WF | a | OAL | OHN[2] | WB | PDX | HC | CF | DMIN | IC908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PICCO R/L 104.0205-15 | 0.500 | 5.00 | 1.50 | 3.50 | 30.00 | 15.0 | 2.40 | 0.4 | 0.27 | 0.06 | 4.00 | ● |
| PICCO R/L 105.0205-15 | 0.500 | 5.00 | 1.90 | 4.40 | 30.00 | 15.0 | 3.30 | 0.4 | 0.27 | 0.06 | 5.00 | ● |
| PICCO R/L 105.0407-15 | 0.750 | 5.00 | 1.90 | 4.40 | 30.00 | 15.0 | 3.30 | 0.5 | 0.40 | 0.09 | 5.00 | ● |
| PICCO R/L 106.0510-15 | 1.000 | 6.00 | 2.30 | 5.30 | 30.00 | 15.0 | 3.40 | 0.6 | 0.54 | 0.12 | 6.00 | ● |

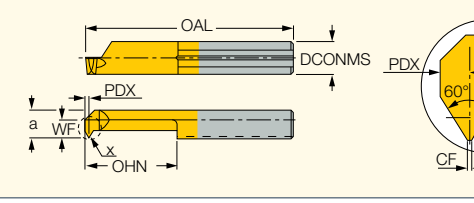
[1] Thread pitch
[2] Minimum overhang

ISCARTHREAD
PICCOCUT

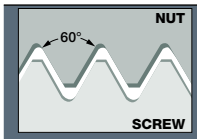
## PICCO R/L-60°-Thread

Inserts with a 60° Internal Thread Profile for 2.4 mm Min. Bore Diameter






Right-hand shown




| Designation | Dimensions DCONMS | HC | CF | PDX | WF | a | OHN[1] | OAL | DMIN | TPN[2] | TPX[3] | TPIN[4] | TPIX[5] | Tough ↔ Hard IC228 | IC908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PICCO R 003.0105-8 | 4.00 | 0.27 | 0.04 | 0.3 | 0.30 | 2.30 | 8.0 | 22.00 | 2.40 | 0.500 | 0.700 | 36.00 | 48.00 | | ● |
| PICCO R 004.0105-10 | 4.00 | 0.27 | 0.09 | 0.4 | 1.00 | 3.00 | 10.0 | 24.00 | 3.20 | 0.500 | 0.750 | 36.00 | 48.00 | | ● |
| PICCO R/L 004.0205-15 | 4.00 | 0.27 | 0.06 | 0.4 | 1.50 | 3.50 | 15.0 | 30.00 | 4.00 | 0.500 | 0.750 | 36.00 | 48.00 | ● | |
| PICCO R/L 005.0205-15 | 5.00 | 0.27 | 0.06 | 0.4 | 1.90 | 4.40 | 15.0 | 30.00 | 5.00 | 0.500 | 0.750 | 36.00 | 48.00 | ● | |
| PICCO L 005.0407-15 | 5.00 | 0.40 | 0.09 | 0.5 | 1.90 | 4.40 | 15.0 | 30.00 | 5.00 | 0.750 | 1.000 | 24.00 | 36.00 | ● | |
| PICCO R 005.0407-15 | 5.00 | 0.40 | 0.09 | 0.5 | 1.90 | 4.40 | 15.0 | 30.00 | 5.00 | 0.750 | 1.000 | 24.00 | 36.00 | ● | ● |
| PICCO R 005.0407-20 | 5.00 | 0.40 | 0.09 | 0.5 | 1.90 | 4.40 | 20.0 | 35.00 | 5.00 | 0.750 | 1.000 | 24.00 | 36.00 | | ● |
| PICCO R/L 005.0510-15 | 5.00 | 0.55 | 0.12 | 0.6 | 1.90 | 4.40 | 15.0 | 30.00 | 4.80 | 1.000 | 1.250 | 20.00 | 24.00 | ● | |
| PICCO R 005.0510-20 | 5.00 | 0.55 | 0.12 | 0.6 | 1.90 | 4.40 | 20.0 | 35.00 | 4.80 | 1.000 | 1.250 | 20.00 | 24.00 | | ● |
| PICCO R/L 006.0510-15 | 6.00 | 0.55 | 0.12 | 0.6 | 2.30 | 5.30 | 15.0 | 30.00 | 6.00 | 1.000 | 1.250 | 20.00 | 24.00 | ● | |
| PICCO R 006.0510-22 | 6.00 | 0.55 | 0.12 | 0.6 | 2.30 | 5.30 | 22.0 | 37.00 | 6.00 | 1.000 | 1.250 | 20.00 | 24.00 | | ● |
| PICCO R/L 006.0612-15 | 6.00 | 0.68 | 0.15 | 0.7 | 2.30 | 5.30 | 15.0 | 30.00 | 6.00 | 1.250 | 1.500 | 16.00 | 20.00 | ● | |
| PICCO R 006.0612-22 | 6.00 | 0.68 | 0.15 | 0.7 | 2.30 | 5.30 | 22.0 | 37.00 | 6.00 | 1.250 | 1.500 | 16.00 | 20.00 | | ● |
| PICCO R/L 006.0815-15 | 6.00 | 0.81 | 0.18 | 0.8 | 2.30 | 5.30 | 15.0 | 30.00 | 6.00 | 1.500 | 1.750 | 14.00 | 16.00 | ● | |
| PICCO R 006.0815-22 | 6.00 | 0.81 | 0.18 | 0.8 | 2.30 | 5.30 | 22.0 | 37.00 | 6.00 | 1.500 | 1.750 | 14.00 | 16.00 | | ● |
| PICCO R/L 007.0815-15 | 7.00 | 0.81 | 0.18 | 0.8 | 2.70 | 6.30 | 15.0 | 30.00 | 7.00 | 1.500 | 1.750 | 14.00 | 16.00 | ● | |

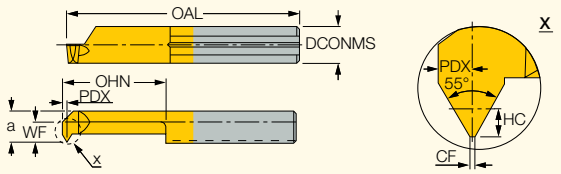
[1] Minimum overhang
[2] Thread pitch minimum (mm)
[3] Thread pitch maximum (mm)
[4] Threads per inch minimum
[5] Threads per inch maximum

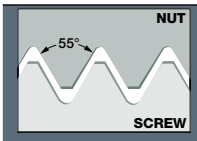
ISCARTHREAD
PICCOCUT

## PICCO-55°-Thread

Inserts for 55° Internal Thread Profile






| Designation | Dimensions | | | | | | | | | | | IC228 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | TPIX(1) | TPIN(2) | HC | CF | PDX | WF | a | OHN(3) | OAL | DMIN | |
| PICCO R 005.5548-15 | 5.00 | 48.00 | 24.00 | 0.40 | 0.06 | 0.5 | 1.90 | 4.40 | 15.0 | 30.00 | 4.80 | ● |
| PICCO R 006.5548-15 | 6.00 | 48.00 | 24.00 | 0.40 | 0.06 | 0.5 | 2.30 | 5.30 | 15.0 | 30.00 | 6.00 | ● |
| PICCO R 006.5524-15 | 6.00 | 24.00 | 16.00 | 0.81 | 0.12 | 0.8 | 2.30 | 5.30 | 15.0 | 30.00 | 6.00 | ● |
| PICCO R 007.5524-15 | 7.00 | 24.00 | 16.00 | 0.81 | 0.12 | 0.8 | 2.80 | 6.30 | 15.0 | 30.00 | 7.00 | ● |

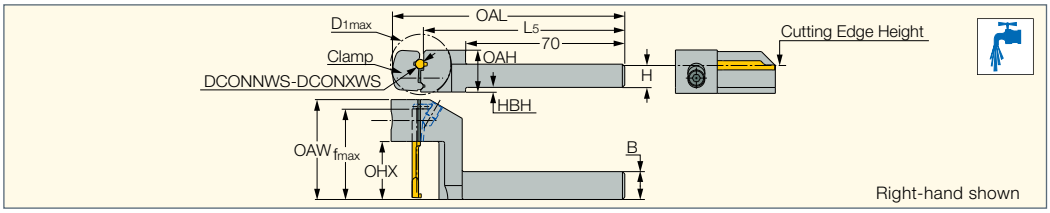
- All mini-bars have sharp corners

(1) Threads per inch maximum
(2) Threads per inch minimum
(3) Minimum overhang

PICCOCUT

## GHPCOR

Perpendicular Square-Shank Tools for Use on Cross Slide Units of Swiss-Type and Automatic Machines



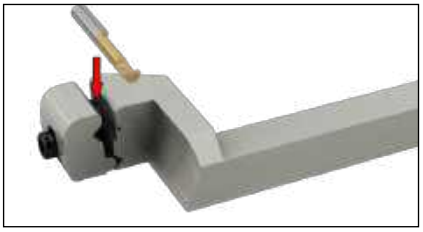

| Designation | H | B | OAL | L5 | HBH | OAH | OAW | D1 max | OHX(1) | fmax | DCONNWS(2) | DCONXWS(3) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GHPCOR 08-16-4-5 | 8.0 | 8.0 | 102.00 | 88.00 | 4.0 | 15.0 | 34.00 | 26.0 | 16.00 | 30.0 | 4.00 | 5.00 |
| GHPCOR 10-16-4-5 | 10.0 | 10.0 | 102.00 | 88.00 | 2.0 | 18.0 | 34.00 | 26.0 | 16.00 | 30.0 | 4.00 | 5.00 |
| GHPCOR 12-16-4-6 | 12.0 | 12.0 | 102.00 | 88.00 | - | 18.0 | 34.00 | 26.0 | 16.00 | 30.0 | 4.00 | 6.00 |
| GHPCOR 12-25-4-6 | 12.0 | 12.0 | 102.00 | 88.00 | - | 18.0 | 43.00 | 26.0 | 25.00 | 39.0 | 4.00 | 6.00 |
| GHPCOR 16-16-4-6 | 16.0 | 16.0 | 112.00 | 98.00 | - | 22.0 | 35.00 | 36.0 | 16.00 | 31.0 | 4.00 | 6.00 |
| GHPCOR 16-25-4-6 | 16.0 | 16.0 | 112.00 | 98.00 | - | 22.0 | 44.00 | 36.0 | 25.00 | 40.0 | 4.00 | 6.00 |
| GHPCOR 16-30-7-8 | 16.0 | 16.0 | 116.00 | 98.00 | - | 22.0 | 49.00 | 36.0 | 30.00 | 45.0 | 7.00 | 8.00 |

- PICCOCUT insert should not exceed OAW
- Left-hand holders are available upon request
- Coolant tube adapter: KQ2L06-M5 (for 6 mm coolant tube)

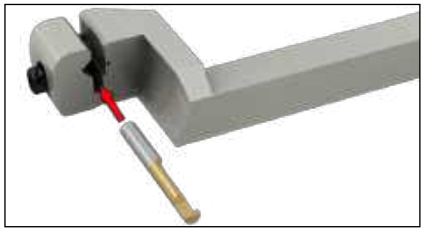
(1) Maximum overhang
(2) Minimum diameter
(3) Maximum diameter

**Tools:** PICIN-MGSIR/L • PICIN-SCLCR/L • PICIN-SWUBR/L

### Indexing from the top



### Indexing from the front





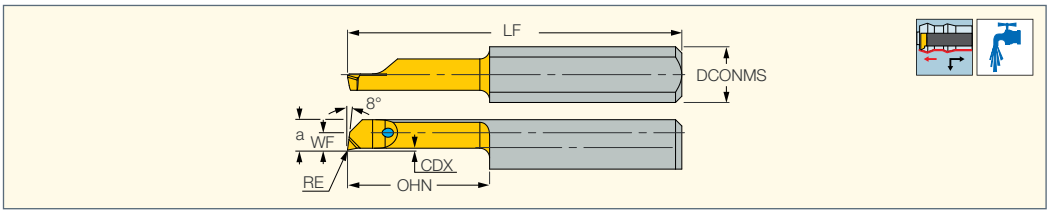
### Spare Parts

| Designation | | | | |
|---|---|---|---|---|
| GHPCOR 08-16-4-5 | HED 08 | SR M4X14 DIN912 | HW 3.0 | KQ2L06-M5 |
| GHPCOR 10-16-4-5 | HED 10 | SR M4X14 DIN912 | HW 3.0 | KQ2L06-M5 |
| GHPCOR 12-16-4-6 | HED 12 | SR M4X14 DIN912 | HW 3.0 | KQ2L06-M5 |
| GHPCOR 12-25-4-6 | HED 12 | SR M4X14 DIN912 | HW 3.0 | KQ2L06-M5 |
| GHPCOR 16-16-4-6 | HED 16-4-6 | SR M4X14 DIN912 | HW 3.0 | KQ2L06-M5 |
| GHPCOR 16-25-4-6 | HED 16-4-6 | SR M4X14 DIN912 | HW 3.0 | KQ2L06-M5 |
| GHPCOR 16-30-7-8 | HED 16-7-8 | SR M4X14 DIN912 | HW 3.0 | |

PICCOCUT

## PICCO R/LM

Profiling Inserts with Coolant Channel Optimized for Machining Medical Parts




| Designation | Dimensions | | | | | | | | IC909 |
|---|---|---|---|---|---|---|---|---|---|
| | DMIN | OHN(1) | DCONMS | WF | a | CDX(2) | RE | LF | |
| PICCO R/LM050.05-2 | 0.50 | 2.0 | 4.00 | 0.20 | 0.40 | 0.02 | 0.02 | 20.00 | • |
| PICCO LM050.08-4 | 0.80 | 4.0 | 4.00 | 0.20 | 0.70 | 0.03 | 0.02 | 20.00 | • |
| PICCO RM050.08-4 | 0.80 | 4.0 | 4.00 | 0.40 | 0.70 | 0.03 | 0.02 | 20.00 | • |
| PICCO R/LM050.1-5 | 1.00 | 5.0 | 4.00 | 0.40 | 0.90 | 0.05 | 0.02 | 20.00 | • |
| PICCO R/LM050.1-7 | 1.00 | 7.0 | 4.00 | 0.40 | 0.90 | 0.05 | 0.02 | 22.00 | • |
| PICCO R/LM050.15-5 | 1.50 | 5.0 | 4.00 | 0.60 | 1.15 | 0.08 | 0.02 | 19.00 | • |
| PICCO R/LM050.15-10 | 1.50 | 10.0 | 4.00 | 0.60 | 1.15 | 0.08 | 0.02 | 24.00 | • |
| PICCO R/LM050.2-5 | 2.00 | 5.0 | 4.00 | 0.80 | 1.70 | 0.08 | 0.02 | 19.00 | • |
| PICCO R/LM050.2-10 | 2.00 | 10.0 | 4.00 | 0.80 | 1.70 | 0.08 | 0.02 | 24.00 | • |
| PICCO R/LM050.25-5 | 2.50 | 5.0 | 4.00 | 0.20 | 2.20 | 0.10 | 0.02 | 19.00 | • |
| PICCO R/LM050.25-10 | 2.50 | 10.0 | 4.00 | 0.20 | 2.20 | 0.10 | 0.02 | 24.00 | • |
| PICCO R/LM050.3-10 | 3.00 | 10.0 | 4.00 | 0.60 | 2.60 | 0.15 | 0.02 | 24.00 | • |
| PICCO R/LM050.3-16 | 3.00 | 16.0 | 4.00 | 0.60 | 2.60 | 0.15 | 0.02 | 30.00 | • |
| PICCO LM050.35-10 | 3.50 | 10.0 | 4.00 | 1.10 | 3.40 | 0.17 | 0.02 | 24.00 | • |
| PICCO RM050.35-10 | 3.50 | 10.0 | 4.00 | 1.10 | 3.10 | 0.17 | 0.02 | 24.00 | • |
| PICCO R/LM050.35-16 | 3.50 | 16.0 | 4.00 | 1.10 | 3.10 | 0.17 | 0.02 | 30.00 | • |
| PICCO R/LM050.35-20 | 3.50 | 20.0 | 4.00 | 1.10 | 3.10 | 0.17 | 0.02 | 34.00 | • |
| PICCO R/LM050.4-10 | 4.00 | 10.0 | 4.00 | 1.50 | 3.50 | 0.20 | 0.02 | 24.00 | • |
| PICCO R/LM050.4-16 | 4.00 | 16.0 | 4.00 | 1.50 | 3.50 | 0.20 | 0.02 | 30.00 | • |
| PICCO R/LM050.4-20 | 4.00 | 20.0 | 4.00 | 1.50 | 3.50 | 0.20 | 0.02 | 34.00 | • |
| PICCO R/LM050.4-24 | 4.00 | 24.0 | 4.00 | 1.50 | 3.50 | 0.20 | 0.02 | 38.00 | • |

• An optimized insert geometry and carbide grade for machining medical parts made from titanium, medical standard stainless steel and other difficult to machine materials.

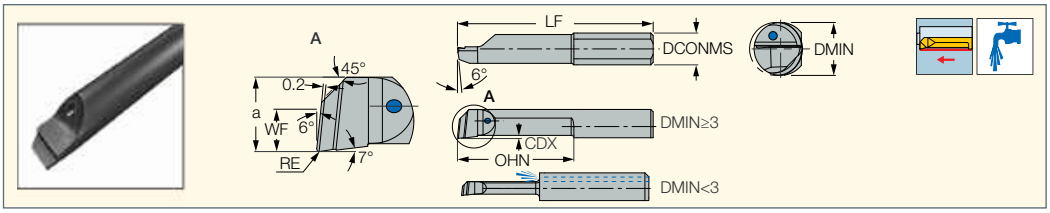
(1) Minimum overhang

(2) Cutting depth maximum

PICCOCUT

## PICCO R/LX050

Reinforced Boring Inserts with Internal Coolant Holes




| Designation | Dimensions | | | | | | | | IC908 |
|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | WF | a | RE | LF | OHN(1) | CDX(2) | DMIN | |
| PICCO R/LX050.2-5R15 | 4.00 | - | 1.80 | 0.15 | 19.00 | 5.0 | 0.10 | 2.00 | • |
| PICCO R/LX050.2-10R05 | 4.00 | - | 1.80 | 0.05 | 24.00 | 10.0 | 0.10 | 2.00 | • |
| PICCO R/LX050.2-10R15 | 4.00 | - | 1.80 | 0.15 | 24.00 | 10.0 | 0.10 | 2.00 | • |
| PICCO R/LX050.3-16R10 | 4.00 | 0.70 | 2.70 | 0.10 | 30.00 | 16.0 | 0.15 | 3.00 | • |
| PICCO R/LX050.3-16R20 | 4.00 | 0.70 | 2.70 | 0.20 | 30.00 | 16.0 | 0.15 | 3.00 | • |
| PICCO R/LX050.4-10R10 | 4.00 | 1.60 | 3.60 | 0.10 | 24.00 | 10.0 | 0.20 | 4.00 | • |
| PICCO R/LX050.4-10R20 | 4.00 | 1.60 | 3.60 | 0.20 | 24.00 | 10.0 | 0.20 | 4.00 | • |
| PICCO R/LX050.4-16R10 | 4.00 | 1.60 | 3.60 | 0.10 | 30.00 | 16.0 | 0.20 | 4.00 | • |
| PICCO R/LX050.4-16R20 | 4.00 | 1.60 | 3.60 | 0.20 | 30.00 | 16.0 | 0.20 | 4.00 | • |
| PICCO R/LX050.5-15R10 | 5.00 | 2.10 | 4.60 | 0.10 | 30.00 | 15.0 | 0.30 | 5.00 | • |
| PICCO R/LX050.5-15R20 | 5.00 | 2.10 | 4.60 | 0.20 | 30.00 | 15.0 | 0.30 | 5.00 | • |
| PICCO R/LX050.5-25R10 | 5.00 | 2.10 | 4.60 | 0.10 | 40.00 | 25.0 | 0.30 | 5.00 | • |
| PICCO R/LX050.5-25R20 | 5.00 | 2.10 | 4.60 | 0.20 | 40.00 | 25.0 | 0.30 | 5.00 | • |
| PICCO R/LX050.6-15R10 | 6.00 | 2.50 | 5.50 | 0.10 | 30.00 | 15.0 | 0.40 | 6.00 | • |
| PICCO R/LX050.6-15R20 | 6.00 | 2.50 | 5.50 | 0.20 | 30.00 | 15.0 | 0.40 | 6.00 | • |
| PICCO R/LX050.6-22R20 | 6.00 | 2.50 | 5.50 | 0.20 | 37.00 | 22.0 | 0.40 | 6.00 | • |
| PICCO R/LX050.6-35R20 | 6.00 | 2.50 | 5.50 | 0.20 | 50.00 | 35.0 | 0.40 | 6.00 | • |

• Left-hand inserts on request

(1) Minimum overhang

(2) Cutting depth maximum

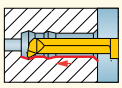
# MINICHAM (Dmin 4 mm)

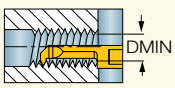
**PICCOCUT**

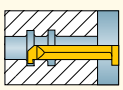
## KIT PICCO SET

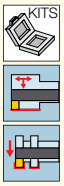
Contains 2 Toolholders and a Set of Solid Carbide Miniature Turning and Grooving Boring Bars





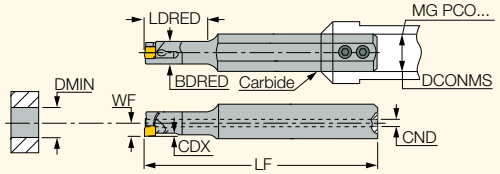

| Designation | DMIN | Qty |
|---|---|---|
| KIT PICCO SET-1R | 3.00 | 12 |

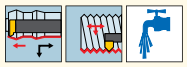
| Designation | DMIN | OHN | CDX | CW | OAL | Pcs. | Fig. | Description |
|---|---|---|---|---|---|---|---|---|
| PICCO ACE 16-4 | — | — | — | — | 85 | 1 | — | Holder |
| PICCO ACE 16-6 | — | — | — | — | 85 | 1 | — | Holder |
| PICCO R 080.0004-25 | 4.0 | 24.0 | 0.80 | 1.5 | 39 | 1 | A | Mini carbide bar |
| PICCO R 003.0070-16 | 3.0 | 15.0 | 0.60 | 0.7 | 29 | 1 | C | Mini carbide bar |
| PICCO RM050.2-10 | 2.0 | 10.0 | 0.08 | — | 24 | 1 | A | Mini carbide bar |
| PICCO R 050.1-5 | 1.0 | 4.5 | 0.10 | — | 20 | 1 | A | Mini carbide bar |
| PICCO R 003.0070-5 | 3.0 | 5.0 | 0.60 | 0.7 | 19 | 1 | C | Mini carbide bar |
| PICCO R 006.1.00-25 | 6.0 | 24.0 | 1.80 | 2.0 | 40 | 1 | A | Mini carbide bar |
| PICCO R 006.0100-22 | 6.0 | 21.0 | 1.80 | 1.0 | 37 | 1 | C | Mini carbide bar |
| PICCO R 050.6-15 | 6.0 | 14.0 | 0.50 | — | 30 | 1 | A | Mini carbide bar |
| PICCO RX050.6-15R10 | 6.0 | 15.0 | 0.40 | — | 30 | 1 | A | Mini carbide bar |
| PICCO R 006.0510-15 | 6.0 | 15.0 | — | — | 30 | 1 | B | Mini carbide bar |

**MINICHAM**

## MGUHR

Solid Carbide Bars for Internal Turning and Threading at 4 mm Minimum Bore Diameter



Right-hand shown

| Designation | DMIN | CDX[2] | WF[3] | DCONMS | LF | LDRED | BDRED | CND |
|---|---|---|---|---|---|---|---|---|
| MGUHR 06-04L10 [1] | 4.00 | 0.50 | 2.17 | 6.00 | 62.00 | 10.0 | 3.45 | 1.3 |
| MGUHR 06-04L20 | 4.00 | 0.50 | 2.17 | 6.00 | 62.00 | 20.0 | 3.45 | 1.3 |

[1] DMIN for turning 4.0 mm & CDX 0.43 mm; DMIN for threading 5.0 mm & CDX 1.00 mm

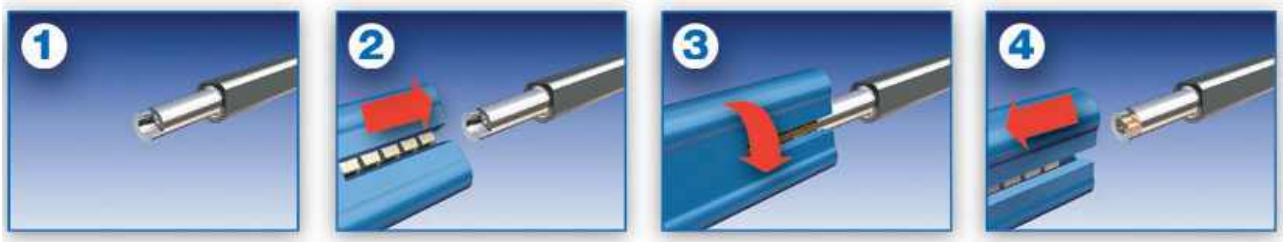
[2] Cutting depth maximum

[3] WF=2.17 for turning, WF=2.7 for threading

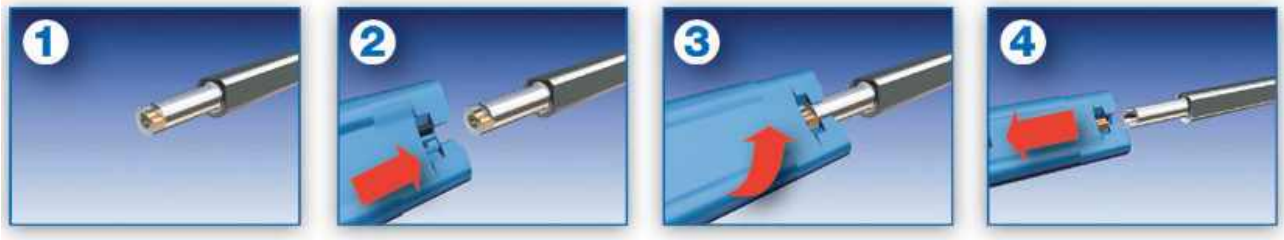
**Inserts:** UMGR • UMGR-A55 • UMGR-A60

**Holders:** PICCO/MG PCO (Holder)

### Mounting Operation




### Dismounting Operation

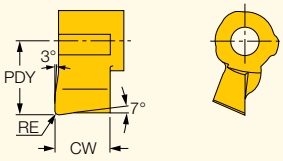


MINICHAM

## UMGR

Miniature Indexable Inserts for Internal Turning






Right-hand shown

| Designation | Dimensions CW | RE | PDY | DMIN | IC508 |
|---|---|---|---|---|---|
| UMGR 4.0-0.0 | 1.63 | 0.00 | 2.20 | 4.00 | ● |
| UMGR 4.0-0.1 | 1.63 | 0.10 | 1.60 | 4.00 | ● |

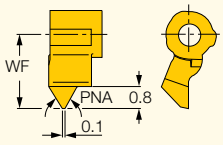
**Tools:** MGUHR

ISCARTHREAD
MINICHAM

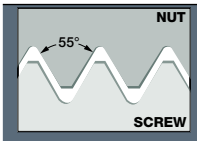
## UMGR-A55

Mini Indexable Inserts with Whitworth Partial Profile for Threading in 5.2 mm and Larger Holes






Right-hand shown




| Designation | Dimensions WF | PNA | TPIX(1) | TPIN(2) | TPN(3) | TPX(4) | DMIN | IC508 |
|---|---|---|---|---|---|---|---|---|
| UMGR 4.0-A55 | 2.70 | 55.0 | 40.00 | 24.00 | 0.500 | 1.400 | 5.20 | ● |

(1) Threads per inch maximum
(2) Threads per inch minimum
(3) Thread pitch minimum (mm)
(4) Thread pitch maximum (mm)

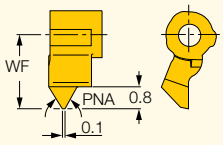
**Tools:** MGUHR

ISCARTHREAD
MINICHAM

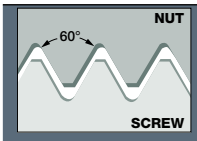
## UMGR-A60

Mini Indexable Inserts with a 60° Partial Profile for Threading in 5.2 mm and Larger Holes






Right-hand shown




| Designation | Dimensions PNA | WF | DMIN | TPN(1) | TPX(2) | TPIN(3) | TPIX(4) | IC508 |
|---|---|---|---|---|---|---|---|---|
| UMGR 4.0-A60 | 60.0 | 2.70 | 5.20 | 0.600 | 1.250 | 20.00 | 40.00 | ● |

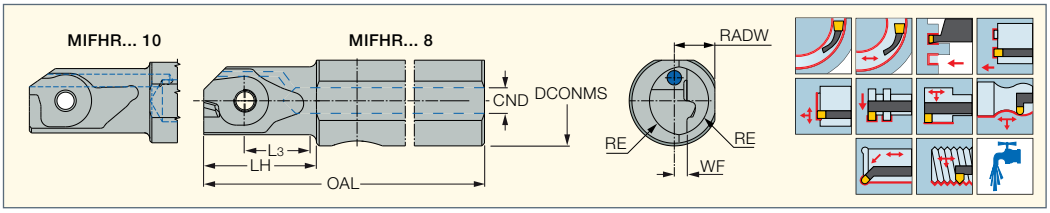
(1) Thread pitch minimum (mm)
(2) Thread pitch maximum (mm)
(3) Threads per inch minimum
(4) Threads per inch maximum

**Tools:** MGUHR

# MINCUT (Dmin 8 mm)

MIN CUT MINI FACE LINE

## MIFHR
Bars for Face and Internal Grooving, Undercutting and Threading Inserts



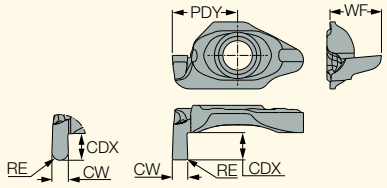

| Designation | DCONMS | CND | WF | RADW | OAL | L3 | LH | RE | Insert | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIFHR 8SC-8-SRK (1) | 8.00 | 1.2 | 1.4 | 3.70 | 75.00 | 7.40 | 11.7 | 3.80 | MI.R 8 | SR 14-297 | T-8/5 | |
| MIFHR 10C-8 | 10.00 | 5.0 | 1.4 | 4.50 | 102.50 | 7.40 | 12.5 | 3.80 | MI.R 8 | SR 14-297 | T-8/5 | |
| MIFHR 12C-8 | 12.00 | 5.0 | 1.4 | 5.50 | 102.50 | 7.40 | 12.5 | 3.80 | MI.R 8 | SR 14-297 | T-8/5 | |
| MIFHR 12C-10 (2) | 12.00 | 6.0 | 2.4 | 5.50 | 90.00 | 11.20 | 17.2 | 4.60 | MI.R 10 | SR 34-506 M3X0.5 | T-9/5 | |
| MIFHR 16C-10 (2) | 16.00 | 6.0 | 2.4 | 7.50 | 90.00 | 11.20 | 17.2 | 4.60 | MI.R 10 | SR 34-506 M3X0.5 | T-9/5 | |
| MIFHR 16C-15 | 16.00 | 8.0 | 2.7 | 7.50 | 100.00 | 12.50 | 19.0 | 10.30 | MI.R 15 | SR 34-506/L | T-9/5 | PL 16 |
| MIFHR 20C-15 | 20.00 | 8.5 | 4.7 | 9.00 | 100.00 | 12.50 | 19.0 | 11.30 | MI.R 15 | SR 34-506/L | T-9/5 | PL 20 |

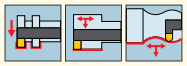
(1) Solid carbide shank
(2) Only face grooving inserts are available for this tool
**Inserts:** MEFL • MIFR • MIGR 8 • MITR 8-MT • MIUR 8
**Holders:** PICCO/MG PCO (Holder)

MIN CUT MINI FACE LINE

## MIGR 8
Internal Shallow Grooving Inserts





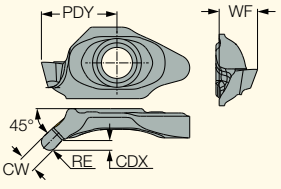
| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | DMIN | CDX(3) | PDY | WF | IC908 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIGR 8-0.50-0.00 | 0.50 | - | 0.02 | 0.020 | 8.50 | 1.40 | 6.30 | 4.00 | ● | 0.05-0.50 | 0.03-0.10 | 0.01-0.03 |
| MIGR 8-1.00-0.05 | 1.00 | 0.05 | 0.02 | 0.020 | 8.50 | 1.40 | 6.80 | 4.00 | ● | 0.05-0.50 | 0.03-0.10 | 0.01-0.03 |
| MIGR 8-1.20-0.05 | 1.20 | 0.05 | 0.02 | 0.020 | 9.20 | 2.10 | 6.80 | 4.70 | ● | 0.05-0.50 | 0.03-0.10 | 0.01-0.03 |
| MIGR 8-1.20-0.60 | 1.20 | 0.60 | 0.02 | 0.020 | 9.20 | 2.10 | 6.80 | 4.70 | ● | 0.05-0.50 | 0.03-0.10 | 0.01-0.03 |
| MIGR 8-1.50-0.05 | 1.50 | 0.05 | 0.02 | 0.020 | 9.20 | 2.10 | 6.80 | 4.70 | ● | 0.05-0.50 | 0.03-0.10 | 0.01-0.03 |
| MIGR 8-1.60-0.80 | 1.60 | 0.80 | 0.02 | 0.020 | 9.20 | 2.10 | 6.80 | 4.70 | ● | 0.05-0.50 | 0.03-0.10 | 0.01-0.03 |
| MIGR 8-2.00-0.10 | 2.00 | 0.10 | 0.02 | 0.020 | 8.90 | 1.80 | 6.80 | 4.40 | ● | 0.05-0.50 | 0.03-0.10 | 0.01-0.03 |
| MIGR 8-2.00-1.00 | 2.00 | 1.00 | 0.02 | 0.020 | 9.20 | 2.10 | 6.80 | 4.70 | ● | 0.05-0.50 | 0.03-0.10 | 0.01-0.03 |

(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum
**Tools:** MIFHR

MIN CUT MINI FACE LINE

## MIUR 8
45° Full Radius Internal Undercutting Inserts







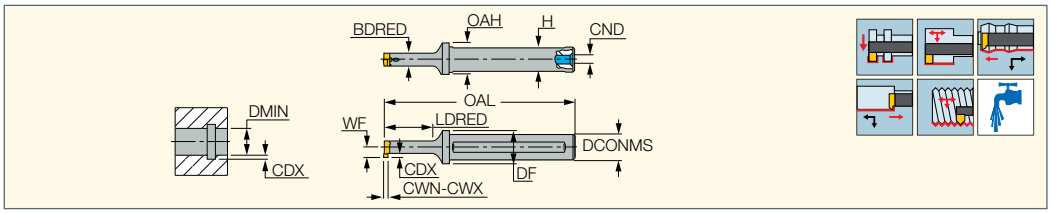

| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | DMIN | CDX(3) | PDY | WF | IC908 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIUR 8-1.00-0.50 | 1.00 | 0.50 | 0.02 | 0.020 | 8.00 | 1.10 | 6.70 | 3.60 | ● | 0.03-0.50 | 0.03-0.10 | 0.01-0.03 |
| MIUR 8-1.5-0.75 | 1.50 | 0.75 | 0.02 | 0.020 | 8.10 | 1.20 | 6.70 | 3.60 | ● | 0.03-0.50 | 0.03-0.10 | 0.01-0.03 |
| MIUR 8-2.00-1.00 | 2.00 | 1.00 | 0.02 | 0.020 | 8.30 | 1.36 | 6.70 | 3.60 | ● | 0.03-0.50 | 0.03-0.10 | 0.01-0.03 |

(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum
**Tools:** MIFHR

# CHAMGROOVE (Dmin 8 mm)

## CHAMGROOVE

**MG**
Internal Grooving, Turning and Threading Bars




| Designation | DCONMS | DMIN(1) | CDX(2) | BDRED | OAL | LDRED | WF(3) | H | CWN(4) | CWX(5) | OAH | DF | CND | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MG 12-08C16 | 12.00 | 8.00 | 1.50 | 6.00 | 92.00 | 16.0 | 4.80 | 11.0 | 0.50 | 3.00 | 16.3 | 18.00 | 6.0 | GIQR/L 8 | SR 76-1499 | T-8/5 |
| MG 12-08C23 | 12.00 | 8.00 | 1.50 | 6.00 | 92.00 | 23.0 | 4.80 | 11.0 | 0.50 | 3.00 | 16.3 | 18.00 | 6.0 | GIQR/L 8 | SR 76-1499 | T-8/5 |
| MG 12-11C25 | 12.00 | 11.00 | 2.30 | 8.00 | 92.50 | 25.0 | 6.70 | 11.0 | 0.50 | 3.00 | 16.3 | 18.00 | 6.0 | GIQR/L 11 | SR M3.5-08134 | T-9/5 |

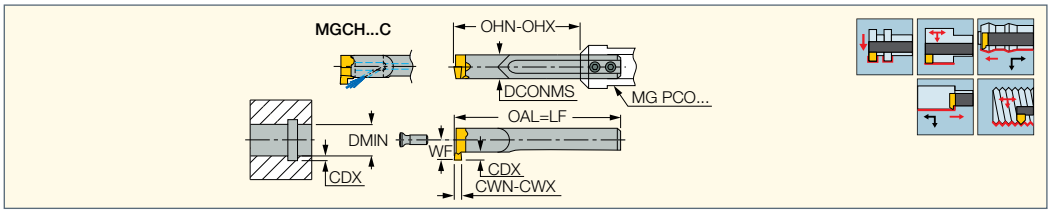
- The same tool applies on right and left machining

(1) Check according to specific insert data
(2) Check according to specific insert data
(3) Cutting edge radius on rotating tool
(4) Minimum cutting width
(5) Maximum cutting width

**Inserts:** GIQR/L 8 • GIQR/L 8-R • GIQR/L 11 • GIQR/L 11-R • GIQR/L 11-15 • GIQR/L 11-15-R • GIQR/L-A18 • GIQR/L-B18 • GIQR/L-MT • GIQR/L-WT

## CHAMGROOVE

**MGCH**
Solid Carbide Bars for Internal Grooving, Turning and Threading, DMIN 8 mm




| Designation | DMIN(1) | CDX(2) | DCONMS | OAL | OHN(3) | OHX(4) | WF | CWN(5) | CWX(6) | CSP(7) | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MGCH 06 | 8.00 | 1.50 | 6.00 | 62.00 | 16.0 | 42.0 | 4.80 | 0.50 | 4.00 | 0 | GIQR/L 8 | SR 76-1499 | T-8/5 |
| MGCH 06C | 8.00 | 1.50 | 6.00 | 62.00 | 16.0 | 42.0 | 4.80 | 0.50 | 4.00 | 1 | GIQR/L 8 | SR 76-1499 | T-8/5 |
| MGCH 06-L100 | 8.00 | 1.50 | 6.00 | 100.00 | 16.0 | 80.0 | 4.80 | 0.50 | 4.00 | 0 | GIQR/L 8 | SR 76-1499 | T-8/5 |
| MGCH 08 | - (8) | - (9) | 8.00 | 76.00 | 20.0 | 56.0 | - (10) | 0.50 | 5.00 | 0 | GIQR/L 11/11-15 | SR M3.5-08134 | T-9/5 |
| MGCH 08C | - (8) | - (9) | 8.00 | 76.00 | 20.0 | 56.0 | - (10) | 0.50 | 5.00 | 1 | GIQR/L 11/11-15 | SR M3.5-08134 | T-9/5 |
| MGCH 08-L125 | - (8) | - (9) | 8.00 | 125.00 | 70.0 | 105.0 | - (10) | 0.50 | 5.00 | 0 | GIQR/L 11/11-15 | SR M3.5-08134 | T-9/5 |

- The same tool applies on right and left machining .

(1) Check according to specific insert data
(2) Check according to specific insert data
(3) Minimum overhang
(4) Maximum overhang
(5) Minimum cutting width
(6) Maximum cutting width
(7) 0 - Without coolant supply, 1 - With coolant supply
(8) DMIN=11 mm for GIQR 11, DMIN=15 mm for GIQR 11-15
(9) CDX=2.30 for GIQR 11, CDX=6.3 for GIQR 11-15
(10) WF=6.70 mm for GIQR 11, WF=10.6 mm for GIQR 11-15

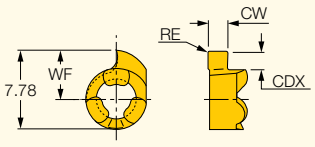
**Inserts:** GIQR/L 8 • GIQR/L 8-R • GIQR/L 11 • GIQR/L 11-R • GIQR/L 11-15 • GIQR/L 11-15-R • GIQR/L-A18 • GIQR/L-B18 • GIQR/L-MT • GIQR/L-WT
**Holders:** PICCO/MG PCO (Holder) • SBB

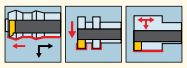
## CHAMGROOVE

### GIQR/L 8

Precision Ground
Single-Ended Inserts for
Internal Grooving and Turning





Left-hand shown

| Designation | Dimensions CW | RE | CWTOL(2) | RETOL(3) | CDX(4) | DMIN | WF | IC528 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GIQR/L 8-0.50-0.00 (1) | 0.50 | 0.00 | 0.02 | 0.030 | 0.70 | 8.00 | 4.80 | ● | - | - | 0.01-0.03 |
| GIQR/L 8-0.75-0.00 (1) | 0.75 | 0.00 | 0.02 | 0.030 | 1.20 | 8.00 | 4.80 | ● | - | - | 0.01-0.03 |
| GIQR/L 8-0.85-0.00 (1) | 0.85 | 0.00 | 0.02 | 0.030 | 1.20 | 8.00 | 4.80 | ● | - | - | 0.01-0.03 |
| GIQR/L 8-0.95-0.00 (1) | 0.95 | 0.00 | 0.02 | 0.030 | 1.50 | 8.00 | 4.80 | ● | - | - | 0.01-0.03 |
| GIQR/L 8-1.00-0.00 (1) | 1.00 | 0.00 | 0.02 | 0.030 | 1.50 | 8.00 | 4.80 | ● | - | - | 0.01-0.03 |
| GIQR/L 8-1.04-0.05 (1) | 1.04 | 0.05 | 0.02 | 0.030 | 1.50 | 8.00 | 4.80 | ● | - | - | 0.01-0.03 |
| GIQR/L 8-1.20-0.05 (1) | 1.20 | 0.05 | 0.02 | 0.030 | 1.50 | 8.00 | 4.80 | ● | - | - | 0.01-0.03 |
| GIQR/L 8-1.40-0.05 (1) | 1.40 | 0.05 | 0.02 | 0.030 | 1.50 | 8.00 | 4.80 | ● | - | - | 0.01-0.03 |
| GIQR/L 8-1.47-0.05 (1) | 1.47 | 0.05 | 0.02 | 0.030 | 1.50 | 8.00 | 4.80 | ● | - | - | 0.01-0.03 |
| GIQR/L 8-1.50-0.05 (1) | 1.50 | 0.05 | 0.02 | 0.030 | 1.50 | 8.00 | 4.80 | ● | - | - | 0.01-0.03 |
| GIQR/L 8-1.70-0.10 | 1.70 | 0.10 | 0.02 | 0.030 | 1.50 | 8.00 | 4.80 | ● | 0.12-0.68 | 0.02-0.05 | 0.01-0.03 |
| GIQR/L 8-1.96-0.10 | 1.96 | 0.10 | 0.02 | 0.030 | 1.50 | 8.00 | 4.80 | ● | 0.12-0.78 | 0.02-0.05 | 0.01-0.03 |
| GIQR/L 8-2.00-0.10 | 2.00 | 0.10 | 0.02 | 0.030 | 1.50 | 8.00 | 4.80 | ● | 0.12-0.80 | 0.02-0.05 | 0.01-0.03 |
| GIQR/L 8-2.22-0.10 | 2.22 | 0.10 | 0.02 | 0.030 | 1.50 | 8.00 | 4.80 | ● | 0.12-0.88 | 0.02-0.05 | 0.01-0.03 |
| GIQR/L 8-2.50-0.20 | 2.50 | 0.20 | 0.02 | 0.030 | 1.50 | 8.00 | 4.80 | ● | 0.24-1.00 | 0.02-0.05 | 0.01-0.03 |
| GIQR/L 8-3.00-0.20 | 3.00 | 0.20 | 0.02 | 0.030 | 1.50 | 8.00 | 4.80 | ● | 0.24-1.20 | 0.02-0.05 | 0.01-0.03 |
| GIQR 8-3.50-0.20 | 3.50 | 0.20 | 0.02 | 0.030 | 1.50 | 8.00 | 4.80 | ● | 0.24-1.40 | 0.02-0.05 | 0.01-0.03 |
| GIQR 8-4.00-0.20 | 4.00 | 0.20 | 0.02 | 0.030 | 1.50 | 8.00 | 4.80 | ● | 0.24-1.60 | 0.02-0.05 | 0.01-0.03 |

• According to retaining rings standard DIN 471/472. • Can be used for groove milling by circular interpolation

(1) For grooving only

(2) Cutting width tolerance (+/-)

(3) Corner radius tolerance (+/-)

(4) Cutting depth maximum

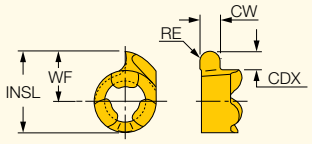
**Tools:** MG • MGCH

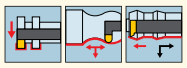
## CHAMGROOVE

### GIQR/L 8-R

Precision Ground Single-Ended
Full Radius Inserts for Internal
Grooving and Profiling





Left-hand shown

| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | DMIN | WF | INSL | IC528 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GIQR/L 8-1.20-R060 | 1.20 | 0.60 | 0.02 | 0.030 | 1.50 | 8.00 | 4.80 | 7.78 | ● | 0.30-0.60 | 0.02-0.05 | 0.01-0.03 |
| GIQR/L 8-2.00-R100 | 2.00 | 1.00 | 0.02 | 0.030 | 1.50 | 8.00 | 4.80 | 7.78 | ● | 0.50-1.00 | 0.02-0.05 | 0.01-0.03 |
| GIQR 8-3.00-R150 | 3.00 | 1.50 | 0.02 | 0.030 | 1.50 | 8.00 | 4.80 | 7.78 | ● | 0.70-1.50 | 0.02-0.05 | 0.01-0.03 |

• Comply to retaining rings DIN 471/472 • Can be used for groove milling by circular interpolation

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Cutting depth maximum

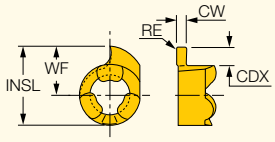
**Tools:** MG • MGCH

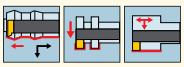
## CHAMGROOVE

### GIQR/L 11

Precision Ground Single-Ended Inserts for Internal Grooving and Turning, DMIN 11 mm





Left-hand shown

| Designation | Dimensions CW | RE | CWTOL(2) | RETOL(3) | CDX(4) | DMIN | INSL | WF | IC528 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GIQR/L 11-0.50-0.00 (1) | 0.50 | 0.00 | 0.02 | 0.030 | 1.00 | 11.00 | 10.68 | 6.70 | ● | - | - | 0.01-0.03 |
| GIQR/L 11-0.75-0.00 (1) | 0.75 | 0.00 | 0.02 | 0.030 | 1.50 | 11.00 | 10.68 | 6.70 | ● | - | - | 0.01-0.03 |
| GIQR 11-0.85-0.00 (1) | 0.85 | 0.00 | 0.02 | 0.030 | 1.50 | 11.00 | 10.68 | 6.70 | ● | - | - | 0.01-0.03 |
| GIQR/L 11-0.95-0.00 (1) | 0.95 | 0.00 | 0.02 | 0.030 | 1.80 | 11.00 | 10.68 | 6.70 | ● | - | - | 0.01-0.03 |
| GIQR/L 11-1.04-0.05 (1) | 1.04 | 0.05 | 0.02 | 0.030 | 2.00 | 11.00 | 10.68 | 6.70 | ● | - | - | 0.01-0.03 |
| GIQR/L 11-1.20-0.05 (1) | 1.20 | 0.05 | 0.02 | 0.030 | 2.30 | 11.00 | 10.68 | 6.70 | ● | - | - | 0.01-0.03 |
| GIQR/L 11-1.40-0.05 (1) | 1.40 | 0.05 | 0.02 | 0.030 | 2.30 | 11.00 | 10.68 | 6.70 | ● | - | - | 0.01-0.03 |
| GIQR/L 11-1.50-0.05 (1) | 1.50 | 0.05 | 0.02 | 0.030 | 2.30 | 11.00 | 10.68 | 6.70 | ● | - | - | 0.01-0.03 |
| GIQR/L 11-1.70-0.05 (1) | 1.70 | 0.05 | 0.02 | 0.030 | 2.30 | 11.00 | 10.68 | 6.70 | ● | - | - | 0.01-0.03 |
| GIQR/L 11-1.96-0.10 (1) | 1.96 | 0.10 | 0.02 | 0.030 | 2.30 | 11.00 | 10.68 | 6.70 | ● | - | - | 0.01-0.03 |
| GIQR/L 11-2.00-0.10 (1) | 2.00 | 0.10 | 0.02 | 0.030 | 2.30 | 11.00 | 10.68 | 6.70 | ● | - | - | 0.01-0.03 |
| GIQR/L 11-2.22-0.10 | 2.22 | 0.10 | 0.02 | 0.030 | 2.30 | 11.00 | 10.68 | 6.70 | ● | 0.12-0.88 | 0.03-0.07 | 0.02-0.05 |
| GIQR/L 11-2.39-0.15 | 2.39 | 0.15 | 0.02 | 0.030 | 2.30 | 11.00 | 10.68 | 6.70 | ● | 0.18-0.95 | 0.03-0.07 | 0.02-0.05 |
| GIQR/L 11-2.47-0.20 | 2.47 | 0.20 | 0.02 | 0.030 | 2.30 | 11.00 | 10.68 | 6.70 | ● | 0.24-0.98 | 0.03-0.07 | 0.02-0.05 |
| GIQR/L 11-2.50-0.20 | 2.50 | 0.20 | 0.02 | 0.030 | 2.30 | 11.00 | 10.68 | 6.70 | ● | 0.24-1.00 | 0.03-0.07 | 0.02-0.05 |
| GIQR/L 11-2.70-0.20 | 2.70 | 0.20 | 0.02 | 0.030 | 2.30 | 11.00 | 10.68 | 6.70 | ● | 0.24-1.08 | 0.03-0.07 | 0.02-0.05 |
| GIQR/L 11-3.00-0.20 | 3.00 | 0.20 | 0.02 | 0.030 | 2.30 | 11.00 | 10.68 | 6.70 | ● | 0.24-1.20 | 0.03-0.07 | 0.02-0.05 |
| GIQR 11-3.18-0.20 | 3.18 | 0.20 | 0.02 | 0.030 | 2.30 | 11.00 | 10.68 | 6.70 | ● | 0.24-1.27 | 0.03-0.07 | 0.02-0.05 |
| GIQR 11-4.00-0.20 | 4.00 | 0.20 | 0.02 | 0.030 | 2.30 | 11.00 | 10.68 | 6.70 | ● | 0.24-1.60 | 0.03-0.07 | 0.02-0.05 |
| GIQR 11-5.00-0.20 | 5.00 | 0.20 | 0.02 | 0.030 | 2.30 | 11.00 | 10.68 | 6.70 | ● | 0.24-2.00 | 0.03-0.07 | 0.02-0.05 |

• Comply to retaining rings DIN 471/472 • Can be used for groove milling by circular interpolation

(1) For grooving only

(2) Cutting width tolerance (+/-)

(3) Corner radius tolerance (+/-)

(4) Cutting depth maximum

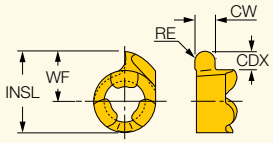
**Tools:** MG • MGCH

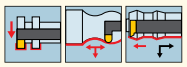
## CHAMGROOVE

### GIQR/L 11-R

Precision Ground Single-Ended Full Radius Inserts for Internal Grooving and Profiling





Left-hand shown

| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | DMIN | WF | INSL | IC528 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GIQR/L 11-1.20-R060 | 1.20 | 0.60 | 0.02 | 0.030 | 2.30 | 11.00 | 6.70 | 10.68 | ● | 0.30-0.60 | 0.02-0.05 | 0.01-0.03 |
| GIQR/L 11-1.80-R090 | 1.80 | 0.90 | 0.02 | 0.030 | 2.30 | 11.00 | 6.70 | 10.68 | ● | 0.40-0.90 | 0.02-0.05 | 0.01-0.03 |
| GIQR/L 11-2.00-R100 | 2.00 | 1.00 | 0.02 | 0.030 | 2.30 | 11.00 | 6.70 | 10.68 | ● | 0.50-1.00 | 0.02-0.05 | 0.01-0.03 |
| GIQR/L 11-3.00-R150 | 3.00 | 1.50 | 0.02 | 0.030 | 2.30 | 11.00 | 6.70 | 10.68 | ● | 0.70-1.50 | 0.02-0.05 | 0.01-0.03 |
| GIQR 11-4.00-R200 | 4.00 | 2.00 | 0.02 | 0.030 | 2.30 | 11.00 | 6.70 | 10.68 | ● | 1.00-2.00 | 0.02-0.05 | 0.01-0.03 |

• Comply to retaining rings DIN 471/472 • Can be used for groove milling by circular interpolation

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

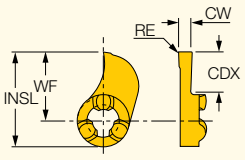
(3) Cutting depth maximum

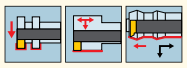
**Tools:** MG • MGCH

## CHAMGROOVE

### GIQR/L 11-15
Precision Ground
Single-Ended Inserts for Internal
Deep Grooving and Turning





Left-hand shown

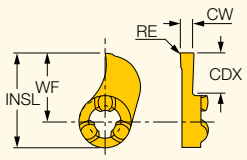
| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | DMIN | INSL | WF | IC528 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GIQR/L 11-15-1.50-0.05 | 1.50 | 0.05 | 0.02 | 0.030 | 6.30 | 15.00 | 14.60 | 10.60 | ● | 0.10-0.40 | 0.02-0.05 | 0.02-0.06 |
| GIQR/L 11-15-2.00-0.10 | 2.00 | 0.10 | 0.02 | 0.030 | 6.30 | 15.00 | 14.60 | 10.60 | ● | 0.15-0.50 | 0.02-0.05 | 0.02-0.06 |
| GIQR/L 11-15-2.50-0.20 | 2.50 | 0.20 | 0.02 | 0.030 | 6.30 | 15.00 | 14.60 | 10.60 | ● | 0.25-0.65 | 0.02-0.05 | 0.02-0.06 |
| GIQR/L 11-15-3.00-0.20 | 3.00 | 0.20 | 0.02 | 0.030 | 6.30 | 15.00 | 14.60 | 10.60 | ● | 0.25-0.75 | 0.02-0.05 | 0.02-0.06 |

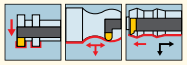
• Comply to retaining rings DIN 471/472 • Can be used for groove milling by circular interpolation
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum
**Tools:** MG • MGCH

## CHAMGROOVE

### GIQR/L 11-15-R
Precision Ground Single-Ended
Full Radius Inserts for Deep
Internal Grooving and Profiling





Left-hand shown

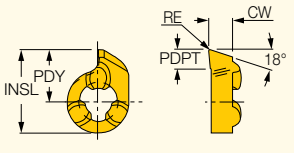
| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | DMIN | WF | INSL | IC528 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GIQR/L 11-15-2.00-R100 | 2.00 | 1.00 | 0.02 | 0.030 | 6.30 | 15.00 | 10.60 | 14.60 | ● | 0.00-0.50 | 0.02-0.05 | 0.02-0.06 |
| GIQR/L 11-15-2.50-R125 | 2.50 | 1.25 | 0.02 | 0.030 | 6.30 | 15.00 | 10.60 | 14.60 | ● | 0.00-0.65 | 0.02-0.05 | 0.02-0.06 |
| GIQR/L 11-15-3.00-R150 | 3.00 | 1.50 | 0.02 | 0.030 | 6.30 | 15.00 | 10.60 | 14.60 | ● | 0.00-0.75 | 0.02-0.05 | 0.02-0.06 |

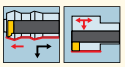
• Comply to retaining rings DIN 471/472 • Can be used for groove milling by circular interpolation
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum
**Tools:** MG • MGCH

## CHAMGROOVE

### GIQR/L-A18
Internal Boring and
Profiling Inserts





Left-hand shown

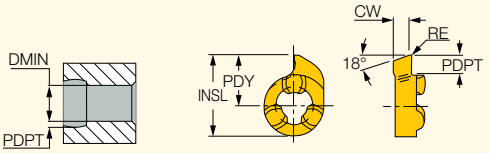
| Designation | Dimensions DMIN | CW | RE | PDPT(1) | INSL | PDY | IC528 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| GIQR/L 8-A18-0.15 | 7.80 | 3.00 | 0.15 | 1.60 | 7.60 | 4.60 | ● | 0.02-1.30 | 0.02-0.05 | 0.01-0.03 |
| GIQR/L 11-A18-0.15 | 11.00 | 3.00 | 0.15 | 2.50 | 10.70 | 6.70 | ● | 0.02-2.20 | 0.02-0.05 | 0.01-0.03 |

(1) Cutting depth maximum
**Tools:** MG • MGCH

## CHAMGROOVE

### GIQR/L-B18
Internal Back Boring and Profiling Inserts






Left-hand shown

| Designation | Dimensions DMIN | CW | RE | PDPT(1) | PDY | INSL | IC528 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| GIQR/L 8-B18-0.15 | 7.80 | 2.50 | 0.15 | 1.30 | 4.60 | 7.60 | ● | 0.02-1.00 | 0.02-0.05 |
| GIQR/L 11-B18-0.15 | 11.00 | 2.50 | 0.15 | 2.30 | 6.70 | 10.70 | ● | 0.02-2.00 | 0.02-0.05 |

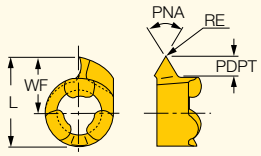
(1) Cutting depth maximum

**Tools:** MG • MGCH

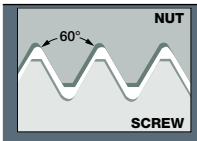
## ISCARTHREAD CHAMGROOVE

### GIQR/L-MT
Internal Threading Inserts with a 60° Partial Profile for Threading in 8 mm and Larger Holes






Left-hand shown




| Designation | Dimensions L | RE | PNA | PDPT(1) | WF | DMIN(2) | TPN(3) | TPX(4) | TPIN(5) | TPIX(6) | IC528 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GIQR/L 8-MT-0.05 | 7.78 | 0.05 | 60.0 | 1.50 | 4.80 | 8.00 | 0.500 | 1.590 | 16.00 | 50.00 | ● |
| GIQR/L 11-MT-0.05 | 10.68 | 0.05 | 60.0 | 2.00 | 6.70 | 11.00 | 0.500 | 2.300 | 11.00 | 50.00 | ● |

• Can be used for thread milling by circular interpolation • Pitch max 0.19xD • D-diameter of thread

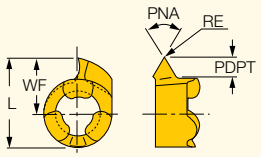
(1) Cutting depth maximum
(2) Minimum diameter
(3) Thread pitch minimum (mm)
(4) Thread pitch maximum (mm)
(5) Threads per inch minimum
(6) Threads per inch maximum

**Tools:** MG • MGCH

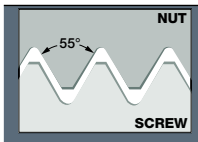
## ISCARTHREAD CHAMGROOVE

### GIQR/L-WT
Internal Inserts with Whitworth Partial Profile for Threading in 8 mm and Larger Holes






Left-hand shown




| Designation | Dimensions L | RE | PNA | PDPT(1) | WF | DMIN | TPIN(2) | TPIX(3) | IC528 |
|---|---|---|---|---|---|---|---|---|---|
| GIQR/L 8-WT-0.05 | 7.78 | 0.05 | 55.0 | 1.50 | 4.80 | 8.00 | 16.00 | 50.00 | ● |
| GIQR/L 11-WT-0.05 | 10.68 | 0.05 | 55.0 | 2.00 | 6.70 | 11.00 | 11.00 | 50.00 | ● |

• Can be used for thread milling by circular interpolation • TPI min D/5.9 • D-diameter of thread (pitch max<=W)

(1) Cutting depth maximum
(2) Threads per inch minimum
(3) Threads per inch maximum

**Tools:** MG • MGCH

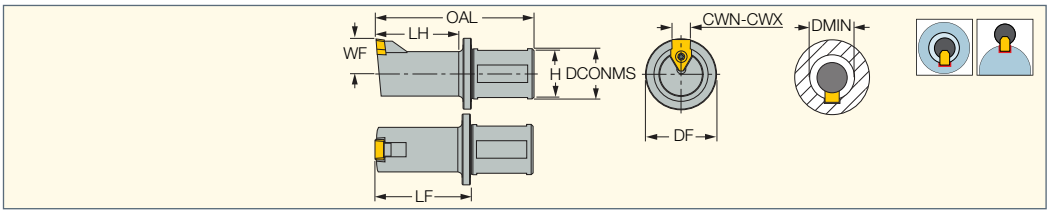
# BROACHING TOOLS



**ISCARBROACH**

## SXCIB

Broaching Holders for Lathe and Milling Machines




| Designation | DCONMS | OAL | LH | LF | CWN(1) | CWX(2) | WF | DMIN | H | DF | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SXCIB 25-22-50 | 25.00 | 100.00 | 50.0 | 60.00 | 5.00 | 12.00 | 12.00 | 22.00 | 23.0 | 33.0 | Group #1 | SR M5X13 T20 | T-20/5 |
| SXCIB 32-30-50 | 32.00 | 100.00 | 50.0 | 60.00 | 5.00 | 12.00 | 16.50 | 30.00 | 30.0 | 45.0 | Group #2 | SR M5X13 T20 | T-20/5 |
| SXCIB 32-38-50 | 32.00 | 100.00 | 50.0 | 60.00 | 5.00 | 12.00 | 22.00 | 38.00 | 30.0 | 45.0 | Group #3 | SR M5X13 T20 | T-20/5 |
| SXCIB 32-30-75 | 32.00 | 125.00 | 75.0 | 85.00 | 5.00 | 12.00 | 16.50 | 30.00 | 30.0 | 45.0 | Group #2 | SR M5X13 T20 | T-20/5 |
| SXCIB 32-38-75 | 32.00 | 125.00 | 75.0 | 85.00 | 5.00 | 12.00 | 22.00 | 38.00 | 30.0 | 45.0 | Group #3 | SR M5X13 T20 | T-20/5 |

(1) Minimum cutting width
(2) Maximum cutting width
**Inserts:** XNUWB • XNUWB (light fit) • XNUWB (tight fit)

| Insert Group #1 | Insert Group #2 | Insert Group #3 |
|---|---|---|
| XNUWB 13-4.98-0.2 | XNUWB 13-7.98-0.2 | XNUWB 13-10.13-1.05 |
| XNUWB 13-5.01-0.2 | XNUWB 13-8.13-1.05 | XNUWB 13-11.98-0.3 |
| XNUWB 13-5.98-0.2 | XNUWB 13-9.98-0.3 | XNUWB 13-12.02-0.3 |
| XNUWB 13-6.01-0.2 | XNUWB 13-10.01-0.3 | XNUWB 13-12.02-0.5 |
| XNUWB 13-6.12-0.85 | | XNUWB 13-12.15-1.35 |
| XNUWB 13-7.13-0.85 | | XNUWB 13-12.15-1.75 |
| XNUWB 13-7.98-0.2 | | XNUWB 13-12.15-2.25 |
| XNUWB 13-8.01-0.2 | | |
| XNUWB 13-8.13-1.05 | | |

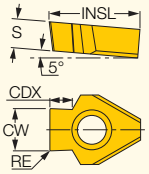
**Spare Parts Clamping screw: SR M5X13 T20** **Key:** T-20/5

**ISCARBROACH**

## XNUWB

DIN138 (Tolerance C11) Inserts for Keyway Broaching on Lathe and Milling Machines






| Designation | Dimensions | | | | | | | IC908 |
|---|---|---|---|---|---|---|---|---|
| | CW | RE | CWTOL(1) | RETOL(2) | INSL | CDX(3) | S | |
| XNUWB 13-6.12-0.85 | 6.12 | 0.85 | 0.02 | 0.050 | 17.30 | 2.60 | 5.30 | • |
| XNUWB 13-7.13-0.85 | 7.13 | 0.85 | 0.02 | 0.050 | 17.30 | 3.30 | 5.30 | • |
| XNUWB 13-8.13-1.05 | 8.13 | 1.05 | 0.02 | 0.050 | 17.30 | 3.40 | 5.30 | • |
| XNUWB 13-10.13-1.05 | 10.13 | 1.05 | 0.02 | 0.050 | 20.20 | 4.20 | 5.30 | • |
| XNUWB 13-12.15-1.35 | 12.15 | 1.35 | 0.02 | 0.050 | 20.20 | 5.10 | 5.30 | • |
| XNUWB 13-12.15-1.75 | 12.15 | 1.75 | 0.02 | 0.050 | 20.20 | 6.60 | 5.30 | • |
| XNUWB 13-12.15-2.25 | 12.15 | 2.25 | 0.02 | 0.050 | 20.20 | 8.50 | 5.30 | • |

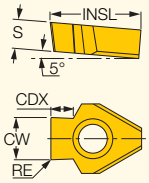
• Typical conditions: $V_c$ = 4000-8000 mm/min, $a_p$ = 0.02-0.08 mm
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum
**Tools:** SXCIB

## ISCARBROACH

### XNUWB (light fit)

DIN6885 Inserts for Light Fit (JS9) Keyway Broaching on Lathe and Milling Machines






| Designation | Dimensions | | | | | | IC908 |
|---|---|---|---|---|---|---|---|
| | CW(1) | RE | RETOL(2) | INSL | CDX(3) | S | |
| XNUWB 13-5.01-0.2 | 5.01 | 0.20 | 0.030 | 17.30 | 2.70 | 5.30 | ● |
| XNUWB 13-6.0-0.2 | 6.01 | 0.20 | 0.030 | 17.30 | 3.40 | 5.30 | ● |
| XNUWB 13-8.01-0.2 | 8.01 | 0.20 | 0.030 | 17.30 | 4.10 | 5.30 | ● |
| XNUWB 13-10.01-0.3 | 10.01 | 0.30 | 0.030 | 17.30 | 4.20 | 5.30 | ● |
| XNUWB 13-12.02-0.3 | 12.02 | 0.30 | 0.030 | 20.20 | 5.70 | 5.30 | ● |
| XNUWB 13-12.02-0.5 | 12.02 | 0.50 | 0.050 | 20.20 | 8.50 | 5.30 | ● |

- Typical conditions: $V_c$ = 4000-8000 mm/min, $a_p$ = 0.02-0.08 mm

(1) Tolerance: +0 -0.03

(2) Corner radius tolerance (+/-)

(3) Cutting depth maximum

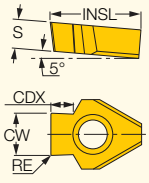
**Tools:** SXCIB

## ISCARBROACH

### XNUWB (tight fit)

DIN6885 Inserts for Tight Fit (P9) Keyway Broaching on Lathe and Milling Machines






| Designation | Dimensions | | | | | IC908 |
|---|---|---|---|---|---|---|
| | CW(1) | RE | INSL | CDX(2) | S | |
| XNUWB 13-4.98-0.2 | 4.98 | 0.20 | 17.30 | 2.70 | 5.30 | ● |
| XNUWB 13-5.98-0.2 | 5.98 | 0.20 | 17.30 | 3.40 | 5.30 | ● |
| XNUWB 13-7.98-0.2 | 7.98 | 0.20 | 17.30 | 4.10 | 5.30 | ● |
| XNUWB 13-9.98-0.3 | 9.98 | 0.30 | 17.30 | 4.20 | 5.30 | ● |
| XNUWB 13-11.98-0.3 | 11.98 | 0.30 | 20.20 | 5.70 | 5.30 | ● |

- Typical conditions: $V_c$ = 4000-8000 mm/min, $a_p$ = 0.02-0.08 mm

(1) Tolerance: +0 -0.03

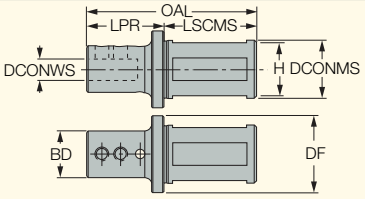
(2) Cutting depth maximum

**Tools:** SXCIB

## ISCARBROACH

### BHDN

Broaching Holders for Lathe and Milling Machines




| Designation | DCONWS | DCONMS | BD | DF | LPR | OAL | LSCMS | H | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BHDN 25-10-33 | 10.00 | 25.00 | 20.00 | 33.00 | 33.00 | 73.00 | 40.00 | 23.0 | SCB 010 | SR M5X6 DIN913 | HW 2.5 |
| BHDN 32-10-33 | 10.00 | 32.00 | 20.00 | 40.00 | 33.00 | 73.00 | 40.00 | 30.0 | SCB 010 | SR M5X6 DIN913 | HW 2.5 |

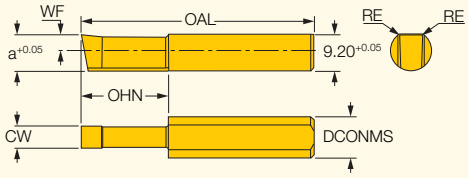
- Holders are suitable for left- and right-hand mini-bars and ISO bars

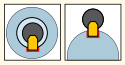
## ISCARBROACH

### SCB

DIN138 (Tolerance C11) Inserts for Keyway Broaching on Lathe and Milling Machines





| Designation | Dimensions | | | | | | | | IC908 |
|---|---|---|---|---|---|---|---|---|---|
| | CW | RE | DCONMS | WF | a | OAL | OHN(1) | DMIN | |
| SCB 010.410.050-25 | 4.10 | 0.50 | 10.00 | 4.00 | 9.00 | 50.00 | 25.0 | 10.00 | ● |
| SCB 010.410.050-41 | 4.10 | 0.50 | 10.00 | 4.00 | 9.00 | 66.00 | 41.0 | 10.00 | ● |
| SCB 010.510.050-25 | 5.10 | 0.50 | 10.00 | 4.00 | 9.00 | 50.00 | 25.0 | 10.00 | ● |
| SCB 010.510.050-41 | 5.10 | 0.50 | 10.00 | 4.00 | 9.00 | 66.00 | 41.0 | 10.00 | ● |

- Typical conditions: $V_c$ = 4000-8000 mm/min, $a_p$ = 0.02-0.08 mm

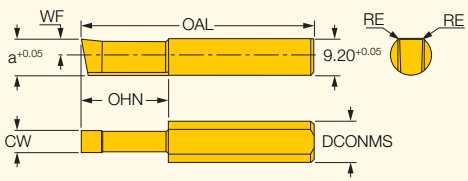
(1) Minimum overhang

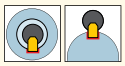
## ISCARBROACH

### SCB (light fit)

DIN6885 Inserts for Light Fit (JS9) Keyway Broaching on Lathe and Milling Machines





| Designation | Dimensions | | | | | | | | IC908 |
|---|---|---|---|---|---|---|---|---|---|
| | CW | RE | DCONMS | WF | a | OAL | OHN(1) | DMIN | |
| SCB 010.400.020-25 | 4.00 | 0.20 | 10.00 | 4.00 | 9.00 | 50.00 | 25.0 | 10.00 | ● |
| SCB 010.400.020-41 | 4.00 | 0.20 | 10.00 | 4.00 | 9.00 | 66.00 | 41.0 | 10.00 | ● |
| SCB 010.500.020-25 | 5.00 | 0.20 | 10.00 | 4.00 | 9.00 | 50.00 | 25.0 | 10.00 | ● |
| SCB 010.500.020-41 | 5.00 | 0.20 | 10.00 | 4.00 | 9.00 | 66.00 | 41.0 | 10.00 | ● |

- Typical conditions: $V_c$ = 4000-8000 mm/min, $a_p$ = 0.02-0.08 mm

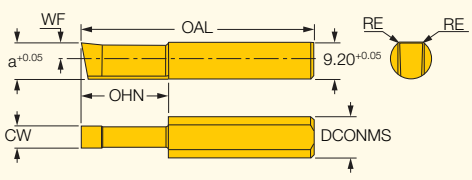
(1) Minimum overhang

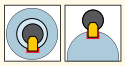
## ISCARBROACH

### SCB (tight fit)

DIN6885 Inserts for Tight Fit (P9) Keyway Broaching on Lathe and Milling Machines





| Designation | Dimensions | | | | | | | | IC908 |
|---|---|---|---|---|---|---|---|---|---|
| | CW(1) | RE | DCONMS | WF | a | OAL | OHN(2) | DMIN | |
| SCB 010.398.020-25 | 3.98 | 0.20 | 10.00 | 4.00 | 9.00 | 50.00 | 25.0 | 10.00 | ● |
| SCB 010.398.020-41 | 3.98 | 0.20 | 10.00 | 4.00 | 9.00 | 66.00 | 41.0 | 10.00 | ● |
| SCB 010.498.020-25 | 4.98 | 0.20 | 10.00 | 4.00 | 9.00 | 50.00 | 25.0 | 10.00 | ● |
| SCB 010.498.020-41 | 4.98 | 0.20 | 10.00 | 4.00 | 9.00 | 66.00 | 41.0 | 10.00 | ● |

- Typical conditions: $V_c$ = 4000-8000 mm/min, $a_p$ = 0.02-0.08 mm

(1) Tolerance: +0.01 -0.02

(2) Minimum overhang

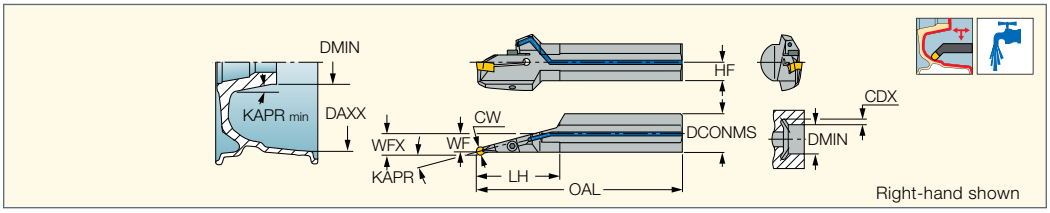
# TOOLS FOR ALUMINUM WHEELS



CUTGRIP

## GHIUR/L-C-A (15° & 27.5°) Bars

Internal Grooving and Turning Bars for Machining Aluminum Wheels




| Designation | CW | DCONMS | DMIN | CDX(1) | OAL | LH | WFX | WF | HF | KAPR(2) |
|---|---|---|---|---|---|---|---|---|---|---|
| GHIUR/L 40C-15A-6 | 6.00 | 40.00 | 160.00 | - | 320.00 | 83.0 | 21.20 | 19.0 | 18.0 | 15.0 |
| GHIUR/L 40C-15A-8 | 8.00 | 40.00 | 160.00 | 0.00 (3) | 320.00 | 83.0 | 21.00 | 18.0 | 18.0 | 15.0 |
| GHIUR 50C-15A-8 | 8.00 | 50.00 | 100.00 | 0.00 (4) | 350.00 | 83.0 | 26.00 | 23.0 | 23.0 | 15.0 |
| GHIUR/L 40C-27.5A-6 | 6.00 | 40.00 | 90.00 | 0.60 (5) | 320.00 | 80.0 | 25.10 | 23.5 | 18.0 | 27.5 |
| GHIUR/L 50C-27.5A-8 | 8.00 | 50.00 | 120.00 | 1.80 (5) | 350.00 | 82.0 | 30.20 | 28.0 | 23.0 | 27.5 |

- Upper jaw with hard coating to sustain chip deflection

(1) Dimension for minimum bore diameter
(2) Tool cutting edge angle
(3) For bore diameter D>200, CDX is 0.5 mm
(4) For bore diameter D>200, CDX is 1.4 mm
(5) For bore diameter D>200, CDX is 4.0 mm

**Inserts:** GDMA • GIPA (full radius W=3-6) • GIPA 8-35V (V-shape) • GIPA/GIDA 8 (full radius)

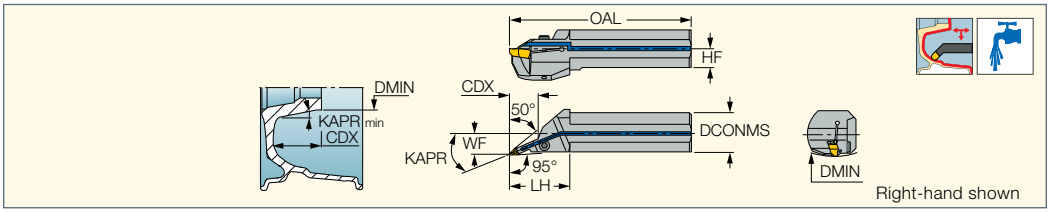
### Spare Parts

| Designation | | | |
|---|---|---|---|
| GHIUR/L 40C-15A-6 | SR M5X20DIN912 | HW 4.0 | PL 40 |
| GHIUR/L 40C-15A-8 | SR M6X20 DIN912 | HW 5.0 | PL 40 |
| GHIUR 50C-15A-8 | SR M6X25 DIN912 | HW 5.0 | PL 40 |
| GHIUL 40C-27.5A-6 | SR M6X25 DIN912 | HW 5.0 | PL 40 |
| GHIUR 40C-27.5A-6 | SR M6X20 DIN912 | HW 5.0 | PL 40 |
| GHIUR/L 50C-27.5A-8 | SR M6X25 DIN912 | HW 5.0 | PL 40 |

CUTGRIP

## GHIUR/L-C-22.5A-8V

22.5° Approach Angle Bars for Facing and Internal Machining




| Designation | CW | DCONMS | DMIN | CDX | OAL | LH | HF | WF | KAPR(1) |
|---|---|---|---|---|---|---|---|---|---|
| GHIUR/L 40C-22.5A-8V | 8.00 | 40.00 | 300.00 | 28.50 | 250.00 | 60.0 | 18.0 | 21.00 | 22.5 |

- Upper jaw with hard coating to sustain chip deflection

(1) Tool cutting edge angle

**Inserts:** GIPA 8-35V (V-shape)

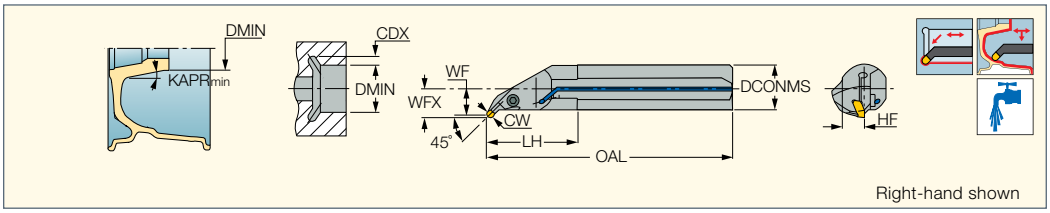
### Spare Parts

| Designation | | | |
|---|---|---|---|
| GHIUR/L-C-22.5A-8V | SR M6X20 DIN912 | HW 5.0 | PL 40 |

CUTGRIP

## GHIUR/L-UC

45° Undercutting Bars for Internal Turning of Aluminum Wheels




| Designation | CW | DCONMS | DMIN | CDX(1) | OAL | LH | WFX | WF | HF | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GHIUR/L 40UC-6 | 6.00 | 40.00 | 70.00 | 0.00 (2) | 350.00 | 75.0 | 23.80 | 24.7 | 18.0 | SR M6X20 DIN912 | HW 5.0 | PL 40 |
| GHIUR 50UC-6 | 6.00 | 50.00 | 78.00 | 0.00 (3) | 350.00 | 75.0 | 28.80 | 29.7 | 23.0 | SR M6X20 DIN912 | HW 5.0 | PL 40 |
| GHIUR/L 40UC-8 | 8.00 | 40.00 | 68.00 | 0.00 (4) | 350.00 | 79.0 | 28.80 | 26.0 | 18.0 | SR M6X20 DIN912 | HW 5.0 | PL 40 |
| GHIUR 50UC-8 | 8.00 | 50.00 | 58.00 | 0.00 (5) | 350.00 | 80.0 | 30.20 | 31.4 | 23.0 | SR M6X20 DIN912 | HW 5.0 | PL 40 |

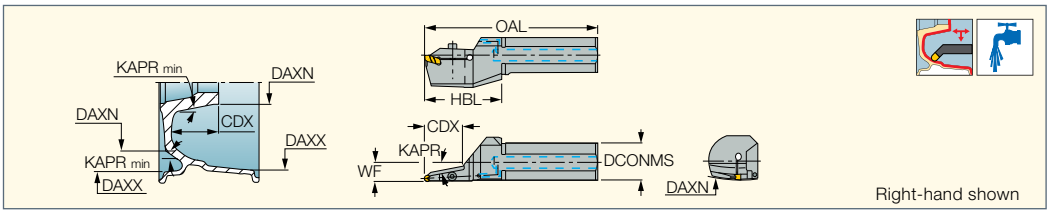
(1) Cutting depth maximum
(2) For bore diameter more than 200, CDX is 1.3 mm
(3) For bore diameter more than 200, CDX is 2.0 mm
(4) For bore diameter more than 200, CDX is 2.8 mm
(5) For bore diameter more than 200, CDX is 6.0 mm

**Inserts:** GDMA • GIPA (full radius W=3-6) • GIPA 8-35V (V-shape) • GIPA/GIDA 8 (full radius)

CUTGRIP

## GHIFR/L-A

8° / 10° Approach Angle Bars for Facing and Internal Machining




| Designation | CW | DAXN(1) | DAXX(2) | OAL | HBL | CDX | WF | KAPR(3) | DCONMS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GHIFR/L 40C-10A-6 | 6.00 | 300.00 | 360.0 | 300.00 | 80.0 | 40.00 | 19.30 | 10.0 | 40.00 | SR M5X20DIN912 | HW 4.0 | PL 40 |
| GHIFR/L 40C-8A-8 | 8.00 | 300.00 | 360.0 | 320.00 | 100.0 | 70.00 | 19.50 | 8.0 | 40.00 | SR M6X25 DIN912 | HW 5.0 | PL 40 |

- Upper jaw with hard coating to sustain chip deflection

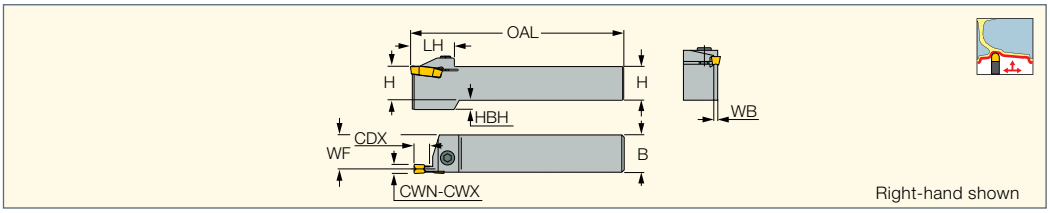
(1) Minimum axial grooving diameter
(2) Maximum axial grooving diameter
(3) Tool cutting edge angle

**Inserts:** GDMA • GIPA (full radius W=3-6) • GIPA/GIDA 8 (full radius)

CUTGRIP

## GHDR/L-8A

External Tools for Turning, Grooving and Parting; Upper Jaw with Hard Coating to Sustain Chip Deflection




| Designation | H | CWN(1) | CWX(2) | CDX(3) | B | OAL | WF | WB | LH | HBH | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GHDR/L 25-8A | 25.0 | 8.00 | 8.00 | 25.00 | 25.0 | 150.00 | 22.00 | 6.00 | 40.0 | 7.6 | SR M6X16 DIN912 | HW 5.0(a) |
| GHDR 32-8A | 32.0 | 8.00 | 8.00 | 25.00 | 32.0 | 170.00 | 29.00 | 6.00 | 40.0 | - | SR M6X16 DIN912 | HW 5.0(a) |

- Upper jaw with hard coating to sustain chip deflection • For user guide, see pages 440-457

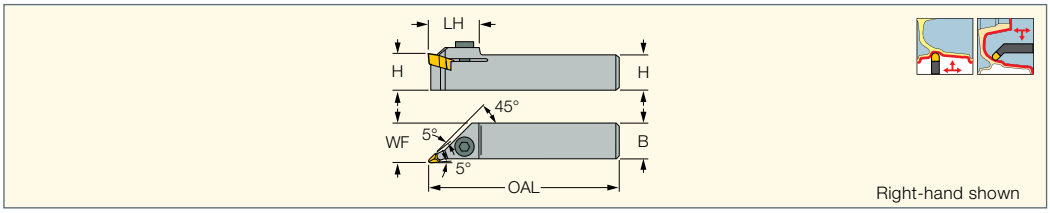
(1) Minimum cutting width
(2) Maximum cutting width
(3) Cutting depth maximum
(a) For optional key with limited tightening torque see pages 448-449

**Inserts:** GIPA/GIDA 8 (full radius)

CUTGRIP

## GHVR/L

Internal and External Profiling Holders for Machining Aluminum Wheels




| Designation | H | B | OAL | WF | LH | | |
|---|---|---|---|---|---|---|---|
| GHVR/L 25-8 | 25.0 | 25.0 | 150.00 | 29.00 | 41.0 | SR M6X16 DIN912 | HW 5.0 |

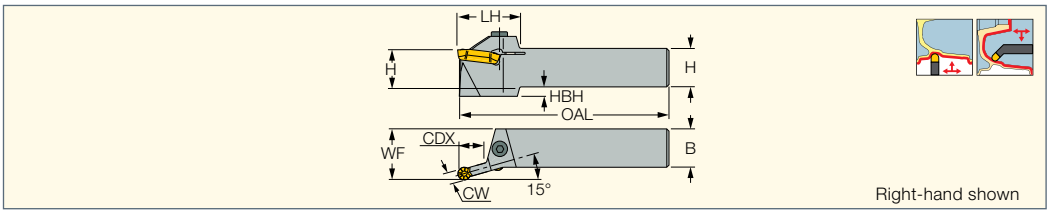
**Inserts:** GIPA 8-35V (V-shape)



CUTGRIP

## GHDKR/L

External and Internal Profiling Holders for Machining Aluminum Wheels




| Designation | CW | H | B | OAL | LH | WF | HBH | | |
|---|---|---|---|---|---|---|---|---|---|
| GHDKR/L 25-6 (1) | 6.00 | 25.0 | 25.0 | 150.00 | 40.0 | 32.20 | 6.0 | SR M6X20 DIN912 | HW 5.0 |
| GHDKR/L 25-8 | 8.00 | 25.0 | 25.0 | 150.00 | 44.0 | 33.00 | 6.0 | SR M6X20 DIN912 | HW 5.0 |
| GHDKR/L 32-8 | 8.00 | 32.0 | 32.0 | 170.00 | 44.0 | 40.00 | - | SR M6X20 DIN912 | HW 5.0 |

(1) Only insert GIPA 6.00-3.00 is suitable for this tool.

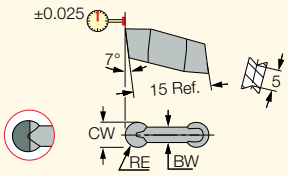
**Inserts:** GDMA • GDMY (full radius) • GIPA (full radius W=3-6) • GIPA/GIDA 8 (full radius)

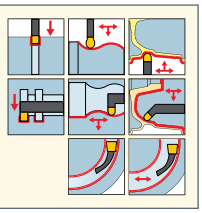
CUTGRIP

## GIPA (full radius W=3-6)

Precision Double-Ended Inserts with Polished Top Rake for Machining Aluminum



| Designation | Dimensions CW | RE | CWTOL(4) | RETOL(5) | BW | Tough ↔ Hard IC20 | IC806 | IC4 | ID5 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GIPA 3.00-1.50 | 3.00 | 1.50 | 0.02 | 0.050 | 2.40 | • | | | | 0.00-1.50 | 0.15-0.30 | 0.08-0.16 |
| GIPA 3.00-1.50-D (1) | 3.00 | 1.50 | 0.02 | 0.050 | 2.40 | | | | • | 0.00-1.50 | 0.19-0.36 | 0.09-0.19 |
| GIPA 4.00-2.00 | 4.00 | 2.00 | 0.02 | 0.050 | 3.20 | • | • | | | 0.00-2.00 | 0.20-0.43 | 0.10-0.22 |
| GIPA 4.00-2.00-D (1) | 4.00 | 2.00 | 0.02 | 0.050 | 3.20 | | | | • | 0.00-2.00 | 0.25-0.53 | 0.12-0.26 |
| GIPA 4.00-2.00YZ-D (2) | 4.00 | 2.00 | 0.02 | 0.050 | 3.20 | | | | • | 0.00-2.00 | 0.25-0.53 | 0.12-0.26 |
| GIPA 5.00-2.50 | 5.00 | 2.50 | 0.02 | 0.050 | 3.90 | • | • | | | 0.00-2.50 | 0.21-0.48 | 0.09-0.24 |
| GIPA 5.00-2.50-D (1) | 5.00 | 2.50 | 0.02 | 0.050 | 3.90 | | | | • | 0.00-2.50 | 0.22-0.60 | 0.11-0.30 |
| GIPA 5.00-2.50YZ-D (2) | 5.00 | 2.50 | 0.02 | 0.050 | 3.90 | | | | • | 0.00-2.50 | 0.22-0.60 | 0.11-0.30 |
| GIPA 6.00-3.00 | 6.00 | 3.00 | 0.02 | 0.050 | 4.80 | • | | • | | 0.00-3.00 | 0.21-0.58 | 0.11-0.29 |
| GIPA 6.00-3.00-D (1) | 6.00 | 3.00 | 0.02 | 0.050 | 4.80 | | | | • | 0.00-3.00 | 0.26-0.72 | 0.13-0.36 |
| GIPA 6.00-3.00YZ | 6.00 | 3.00 | 0.02 | 0.050 | 4.80 | • | | | | 0.00-3.00 | 0.21-0.58 | 0.11-0.29 |
| GIPA 6.00-3.00YZ-D (2) | 6.00 | 3.00 | 0.02 | 0.050 | 4.80 | | | | • | 0.00-3.00 | 0.26-0.72 | 0.13-0.36 |
| GIPA 6.00-3.00CB (3) | 6.00 | 3.00 | 0.02 | 0.050 | 4.80 | | | | • | 0.00-3.00 | 0.21-0.58 | 0.11-0.29 |

• For cutting speed recommendations and user guide, see pages 440-457

(1) Single-ended PCD tipped insert

(2) Single-ended molded PCD chipformer tipped insert

(3) Single-ended flat PCD tipped insert with chip deflector

(4) Cutting width tolerance (+/-)

(5) Corner radius tolerance (+/-)

**Tools:** Anti-Vibration Blades • C#-GHDR/L • CGHN 26-M • CGHN 32-DGM • CGHN 32-M • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDKR/L • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHIFR/L-A • GHIUR/L-C-A (15° & 27.5°) Bars • GHIUR/L-UC • GHMPR/L • GHMR/L • GHSR/L • GHSR/L-JHP-SL • NQCH-GHSR/L-JHP









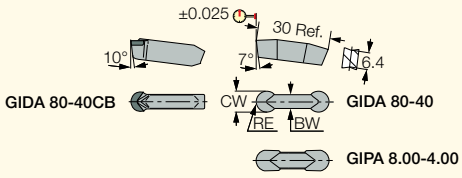


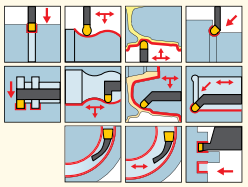

CUTGRIP

## GIPA/GIDA 8 (full radius)

Precision Double-Ended Inserts with Polished Top Rake for Machining Aluminum



| Designation | Dimensions CW | RE | CWTOL[2] | RETOL[3] | BW | Tough ↔ Hard IC20 | IC4 | ID5 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GIDA 80-40 | 8.00 | 4.00 | 0.02 | 0.050 | 5.60 | • | • | | 0.00-4.00 | 0.24-0.67 | 0.14-0.38 |
| GIDA 80-40-D | 8.00 | 4.00 | 0.02 | 0.050 | 5.60 | | | • | 0.00-4.00 | 0.24-0.67 | 0.14-0.38 |
| GIDA 80-40CB-D [1] | 8.00 | 4.00 | 0.02 | 0.050 | 5.60 | | | • | 0.00-4.00 | 0.24-0.67 | 0.14-0.38 |
| GIDA 80-40YZ | 8.00 | 4.00 | 0.02 | 0.050 | 5.60 | • | • | | 0.00-4.00 | 0.24-0.67 | 0.14-0.38 |
| GIDA 80-40YZ-D | 8.00 | 4.00 | 0.02 | 0.050 | 5.60 | | | • | 0.00-4.00 | 0.35-0.96 | 0.18-0.48 |
| GIPA 8.00-4.00 | 8.00 | 4.00 | 0.02 | 0.050 | 6.00 | • | | | 0.00-4.00 | 0.24-0.67 | 0.14-0.38 |

• ID5 is a single-ended PCD tipped insert • For cutting speed recommendations and user guide, see pages 440-457

[1] Should not be clamped on tools with "A" suffix

[2] Cutting width tolerance (+/-)

[3] Corner radius tolerance (+/-)

**Tools:** C#-GHDR/L • CGHN-8-10D • GADR/L-8 • GADR/L-JHP • GAFG-R/L-8 • GHDKR/L • GHDR/L (long pocket) • GHDR/L-8A • GHDR/L-JHP (long pocket) • GHFGR/L-8 • GHIFR/L-A • GHIR/L (W=7.0-8.3) • GHIUR/L-C-A (15° & 27.5°) Bars • GHIUR/L-UC

















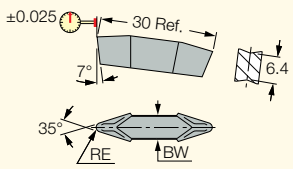


CUTGRIP

## GIPA 8-35V (V-shape)

V-Shaped Inserts for Machining Aluminum Wheels








| Designation | Dimensions RE | RETOL[2] | BW | Tough ↔ Hard IC20 | IC4 | ID5 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| GIPA 6.0-35V-0.8 | 0.80 | 0.050 | 4.80 | • | | | 1.00-3.60 | 0.21-0.48 |
| GIPA 8YZ-35V-0.80 | 0.80 | 0.050 | 6.00 | | • | | 1.00-4.80 | 0.24-0.56 |
| GIPA 8YZ-35V-1.20 | 1.20 | 0.050 | 6.00 | | • | | 1.45-4.80 | 0.24-0.62 |
| GIPA 8YZ-35V-1.20-D [1] | 1.20 | 0.050 | 6.00 | | | • | 1.45-4.80 | 0.35-0.88 |
| GIPA 8-35V-1.20 | 1.20 | 0.050 | 6.00 | • | | | 1.45-4.80 | 0.24-0.62 |
| GIPA 8-35V-1.20-D [1] | 1.20 | 0.050 | 6.00 | | | • | 1.45-4.80 | 0.35-0.88 |
| GIPA 8-35V-3.0 | 3.00 | 0.050 | 6.00 | • | | | 3.60-4.80 | 0.24-0.67 |

• Precision ground and polished rake to avoid built-up edge • Toolholder seat needs to be modified according to insert profile to ensure clearance

[1] Single-ended PCD tipped insert

[2] Corner radius tolerance (+/-)

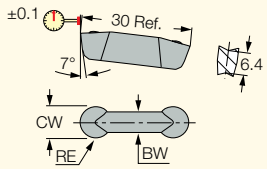
**Tools:** GHIUR/L-C-22.5A-8V • GHIUR/L-C-A (15° & 27.5°) Bars • GHIUR/L-UC • GHVR/L

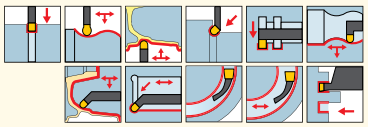
CUTGRIP

## GDMA

Utility Double-Ended Insert
for Machining Aluminum



Can cut arcs to 250°

| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | Tough ↔ Hard IC07 | IC507 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| **GDMA 840** | 8.00 | 4.00 | 0.05 | 0.050 | 5.60 | ● | ● | 0.00-4.00 | 0.24-0.67 | 0.14-0.38 |

• For heavy-duty machining • DMIN for internal machining = 65 mm • For cutting speed recommendations and user guide, see pages 440-457

(1) Cutting width tolerance (+/-)

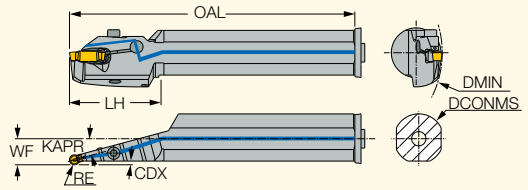
(2) Corner radius tolerance (+/-)

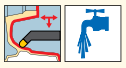
**Tools:** GADR/L-8 • GADR/L-JHP • GAFG-R/L-8 • GHDKR/L • GHIFR/L-A • GHIR/L (W=7.0-8.3) • GHIUR/L-C-A (15° & 27.5°) Bars • GHIUR/L-UC

FIXGRIP

## FSHIUR

10° / 15° Approach Angle
Bars for Facing and Internal
Profiling of Aluminum



Right-hand shown

| Designation | CW | DCONMS | DMIN | OAL | LH | CDX(1) | WF | KAPR(2) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **FSHIUR 40C-15A-6** | 6.00 | 40.00 | 160.00 | 320.00 | 68.0 | 2.20 | 21.00 | 15.0 | SR M6X1-28509 | HW 5.0 | OR 5X1N | PU SEAL-28510 | PL 40 |
| **FSHIUR 40C-10A-8** | 8.00 | 40.00 | 160.00 | 320.00 | 68.0 | 2.40 | 24.30 | 10.0 | SR M6X1-28509 | HW 5.0 | OR 5X1N | PU SEAL-28510 | PL 40 |
| **FSHIUR 40C-15A-8** | 8.00 | 40.00 | 160.00 | 320.00 | 68.0 | 3.00 | 21.00 | 15.0 | SR M6X1-28509 | HW 5.0 | OR 5X1N | PU SEAL-28510 | PL 40 |

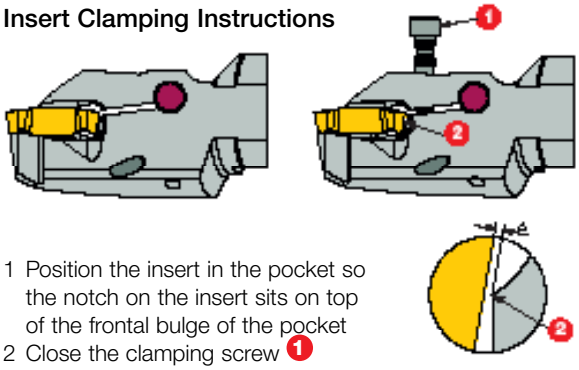
• Clamping torque for FSHIUR..-6: 9 Nxm, for FSHDR..-8: 10.5 Nxm

(1) Cutting depth maximum

(2) Tool cutting edge angle

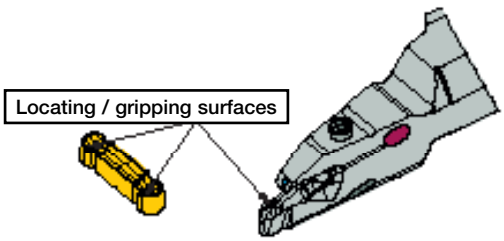
**Inserts:** FSPA/FSMA

### Insert Clamping Instructions




1 Position the insert in the pocket so the notch on the insert sits on top of the frontal bulge of the pocket
2 Close the clamping screw 1



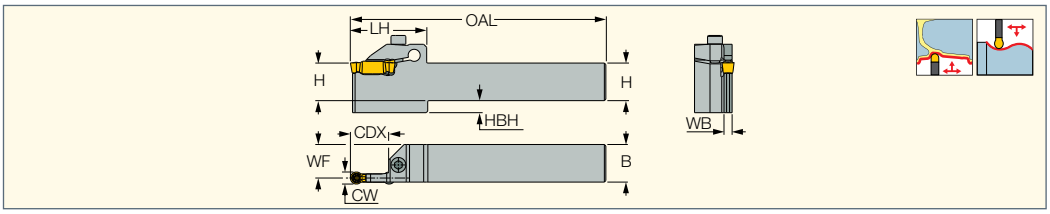

### Warning

- Do not apply any force and do not hold the insert in place while closing the screw
- There is no contact between the insert and pocket rear wall 2

FIXGRIP

## FSHDR

Tools with a Very Strong Insert Grip for Interrupted Cuts and Back Turning of Aluminum Wheels



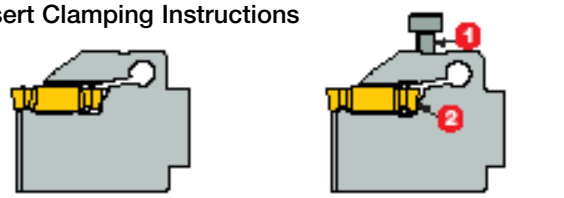

| Designation | CW | CDX(1) | H | B | WF | WB | LH | HBH | OAL | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| FSHDR 25-6 | 6.00 | 21.00 | 25.0 | 25.0 | 22.80 | 4.40 | 51.0 | 8.0 | 150.00 | SR M5X20DIN912 | HW 4.0 |
| FSHDR 25-8 | 8.00 | 25.50 | 25.0 | 25.0 | 22.30 | 5.40 | 51.5 | 8.0 | 170.00 | SR M6X25 DIN912 | HW 5.0 |

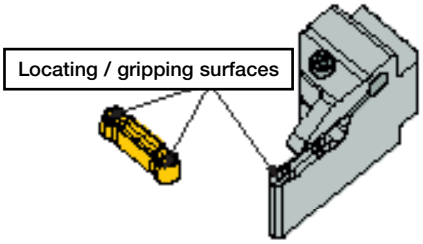
- Clamping torque for FSHDR..-6: 7.5 Nxm, for FSHDR..-8: 10 Nxm

(1) Cutting depth maximum

**Inserts:** FSPA/FSMA

### Insert Clamping Instructions




1 Position the insert in the pocket so the notch on the insert sits on top of the frontal bulge of the pocket

2 Close the clamping screw 1



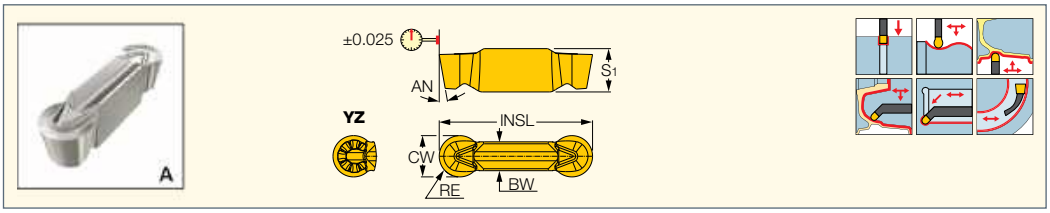

### Warning

- Do not apply any force and do not hold the insert in place while closing the screw.
- There is no contact between the insert and pocket rear wall 2

FIXGRIP

## FSPA/FSMA

Full Radius Precision Inserts for Machining Aluminum at Medium to High Feeds




| Designation | Dimensions | | | | | | | Tough ↔ Hard | | | Recommended Machining Data | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CW | CWTOL(2) | RE | S1 | BW | INSL | AN | IC20 | IC07 | ID5 | $a_p$ (mm) | f turn (mm/rev) |
| FSPA 6.00-3.00 | 6.00 | 0.02 | 3.00 | 7.50 | 4.60 | 25.00 | 9.0 | • | | | 0.05-3.00 | 0.30-0.55 |
| FSPA 6.00-3.00YZ | 6.00 | 0.02 | 3.00 | 7.50 | 4.60 | 25.00 | 9.0 | • | | | 0.05-3.00 | 0.30-0.55 |
| FSPA 6.00-3.00YZ-D | 6.00 | 0.02 | 3.00 | 7.50 | 4.60 | 25.00 | 9.0 | | | • | 0.05-3.00 | 0.30-0.55 |
| FSPA 80-40 | 8.00 | 0.02 | 4.00 | 8.40 | 5.60 | 29.70 | 10.0 | • | | | 0.05-4.00 | 0.40-0.72 |
| FSPA 80-40-D | 8.00 | 0.02 | 4.00 | 8.40 | 5.60 | 29.70 | 10.0 | | | • | 0.05-4.00 | 0.40-0.72 |
| FSPA 80-40YZ | 8.00 | 0.02 | 4.00 | 8.40 | 5.60 | 29.70 | 10.0 | • | | | 0.05-4.00 | 0.40-0.72 |
| FSPA 80-40YZ-D | 8.00 | 0.02 | 4.00 | 8.40 | 5.60 | 29.70 | 10.0 | | | • | 0.05-4.00 | 0.40-0.72 |
| FSMA 80-40 (1) | 8.00 | 0.04 | 4.00 | 8.40 | 5.60 | 29.70 | 10.0 | | • | | 0.05-4.00 | 0.40-0.72 |

(1) Utility insert

(2) Cutting width tolerance (+/-)

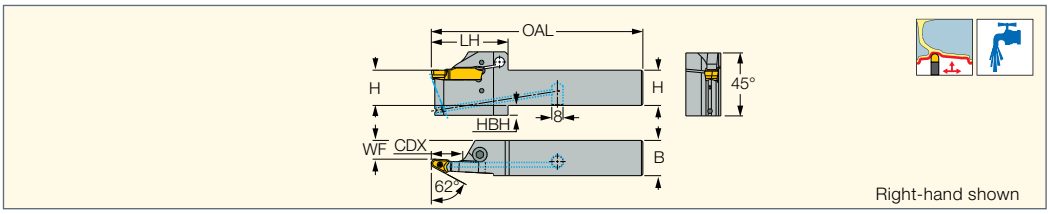
**Tools:** DTF50 FSHDR-8 • DTF50 FSHIUR • FSHDR • FSHIUR



FIXGRIP

## FGHDUR

Tools for Interrupted Cuts and Back Turning of Aluminum Wheels




| Designation | CDX(1) | H | B | OAL | WF | LH | HBH | | |
|---|---|---|---|---|---|---|---|---|---|
| FGHDUR 25C-3A-10S | 22.30 | 25.0 | 25.0 | 150.00 | 13.30 | 54.4 | 7.0 | SR M6X25 DIN912 | HW 5.0 |

- Upper jaw with hard coating to sustain chip deflection
- For mounting and removing the inserts, see page 440

(1) Cutting depth maximum

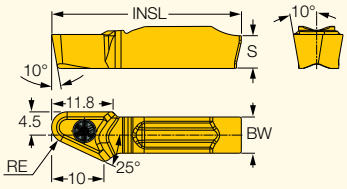
**Inserts:** FGPAM

FIXGRIP

## FGPAM

V-Shaped Inserts for Machining Aluminum Wheels






| Designation | Dimensions RE | BW | S | INSL | IC20 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) |
|---|---|---|---|---|---|---|---|
| FGPAM 10S-3R-25A | 3.00 | 7.00 | 8.20 | 36.50 | • | 0.05-12.00 | 0.40-0.72 |

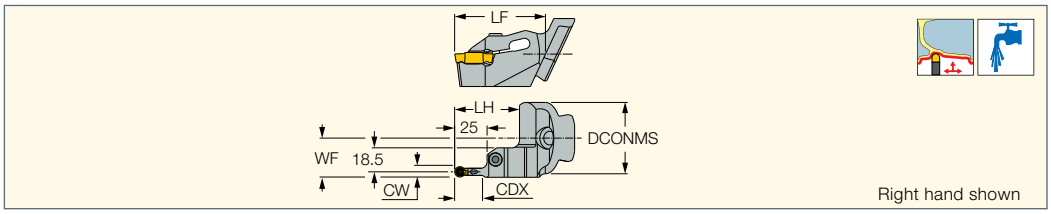
**Tools:** FGHDUR



FIXGRIP

## DTF50 FSHDR-8

CUT GRIP Heads with DOVE-TAIL Connection for External Turning of Aluminum Wheels




| Designation | CW | CDX | LH | WF | LF | DCONMS | Insert |
|---|---|---|---|---|---|---|---|
| DTF50 FSHDR-8 | 8.00 | 21.50 | 50.0 | 30.00 | 70.00 | 55.00 | FSPA 8... |

**Inserts:** FSPA/FSMA
**Holders:** VDI-DTF50E-L60R

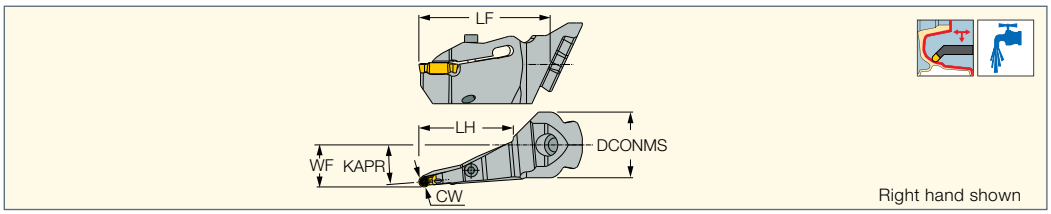
### Spare Parts

| Designation | | |
|---|---|---|
| DTF50 FSHDR-8 | SR M6X25DIN912 | HW 5.0X120 MM |

FIXGRIP

## DTF50 FSHIUR

CUT GRIP Heads for Internal Profiling, Undercutting and Facing of Aluminum Wheels




| Designation | DMIN | CW | KAPR(1) | LH | WF | LF | DCONMS | Insert |
|---|---|---|---|---|---|---|---|---|
| DTF50 FSHIUR-5A-8 | 250.00 | 8.00 | 5.0 | 72.0 | 32.00 | 100.00 | 50.00 | FSPA 8... |
| DTF50 FSHIUR-8A-8 | 250.00 | 8.00 | 8.0 | 72.0 | 32.00 | 100.00 | 50.00 | FSPA 8... |
| DTF50 FSHIUR-15A-8 | 250.00 | 8.00 | 15.0 | 80.0 | 36.00 | 100.00 | 50.00 | FSPA 8... |
| DTF50 FSHIUR-22.5A-8 | 250.00 | 8.00 | 22.5 | 50.0 | 36.00 | 70.00 | 50.00 | FSPA 8... |
| DTF50 FSHIUR-27.5A-8 | 250.00 | 8.00 | 27.5 | 60.0 | 40.00 | 80.00 | 50.00 | FSPA 8... |
| DTF50 FSHIUR-45A-8 | 250.00 | 8.00 | 45.0 | - | 55.00 | 70.00 | 50.00 | FSPA 8... |
| DTF50 FSHIUR-67.5A-8 | 250.00 | 8.00 | 67.5 | - | 60.00 | 70.00 | 50.00 | FSPA 8... |
| DTF50 FSHIUR-80A-8 | 250.00 | 8.00 | 80.0 | - | 60.00 | 70.00 | 50.00 | FSPA 8... |

(1) Tool cutting edge angle
**Inserts:** FSPA/FSMA
**Holders:** VDI-DTF50

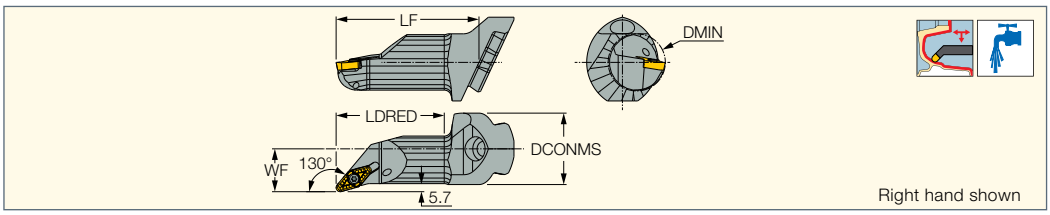
### Spare Parts

| Designation | | | |
|---|---|---|---|
| DTF50 FSHIUR-5A-8 | SR M6X25DIN912 | SR M5X6 DIN913 | HW 5.0X120 MM |
| DTF50 FSHIUR-8A-8 | SR M6X25DIN912 | SR M6X6 DIN913 | HW 5.0X120 MM |
| DTF50 FSHIUR-15A-8 | SR M6X25DIN912 | SR M6X6 DIN913 | HW 5.0X120 MM |
| DTF50 FSHIUR-22.5A-8 | SR M6X25DIN912 | | HW 5.0X120 MM |
| DTF50 FSHIUR-27.5A-8 | SR M6X25DIN912 | | HW 5.0X120 MM |
| DTF50 FSHIUR-45A-8 | SR M6X25DIN912 | | HW 5.0X120 MM |
| DTF50 FSHIUR-67.5A-8 | SR M6X25DIN912 | SR M5X6 DIN913 | HW 5.0X120 MM |
| DTF50 FSHIUR-80A-8 | SR M6X25DIN912 | | HW 5.0X120 MM |

ISOTURN

## DTF50 SVXCR-22

ISO Boring Heads with DOVE-TAIL Connection for VCGT 22 Inserts for Machining Aluminum Wheels




| Designation | DMIN | WF | LF | LDRED | DCONMS | Insert |
|---|---|---|---|---|---|---|
| DTF50 SVXCR-22 | 40.00 | 30.00 | 100.00 | 76.0 | 50.00 | VCGT 22... |

**Inserts:** VCGT-AF • VCGT-AS • VCGT-DW (PCD)
**Holders:** VDI-DTF50

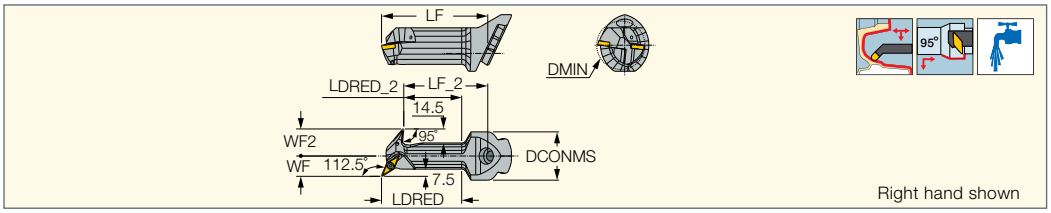
### Spare Parts

| Designation | | |
|---|---|---|
| DTF50 SVXCR-22 | SR 16-212 | T-20/5 |

ISOTURN

## DTF50 SVXCR-16X2

ISO Double Pocket Boring Heads with DOVE-TAIL Connection for VCGT 16 Inserts for Machining Aluminum Wheels




| Designation | DMIN | WF | WF2 | LF | LF_2 | LDRED | LDRED_2 | DCONMS | Insert |
|---|---|---|---|---|---|---|---|---|---|
| DTF50 SVXCR-16X2 | 50.00 | 21.00 | 28.0 | 110.00 | 87.00 | 83.0 | 60.0 | 50.00 | VCGT 16... |

**Inserts:** VCGT-AS • VCGT-DW (PCD)
**Holders:** VDI-DTF50

### Spare Parts

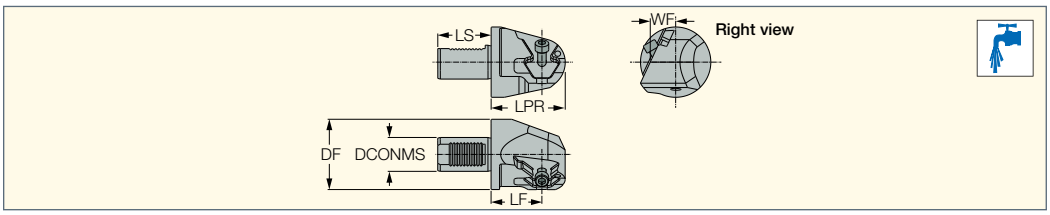
| Designation | | | |
|---|---|---|---|
| DTF50 SVXCR-16X2 | SR 16-236 | T-15/5 | SR M5X8 DIN913 |



## VDI

### VDI-DTF50E-L60R

QUICK-CHANGE Holder with a DOVE-TAIL Connection for External Turning of Aluminum Wheels with CUT GRIP Heads




| Designation | WF | LF | LPR | LS | DF | DCONMS |
|---|---|---|---|---|---|---|
| VDI40-DTF50E-L60R | 30.00 | 60.00 | 87.50 | 63.0 | 83.00 | 40.00 |
| VDI50-DTF50E-L60R (1) | 37.00 | 60.00 | 87.50 | 78.0 | 98.00 | 50.00 |

(1) on request

**Tools:** DTF50 FSHDR-8

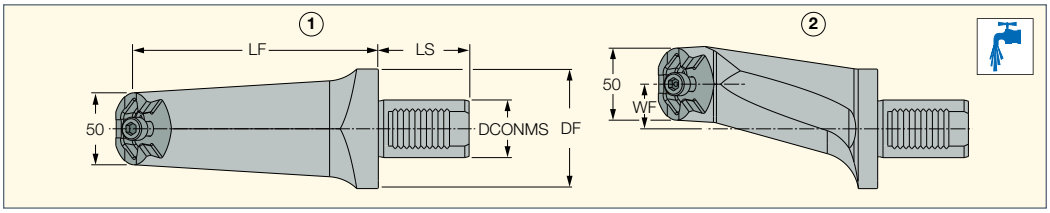
#### Spare Parts

| Designation | | | |
|---|---|---|---|
| VDI-DTF50E-L60R | SR M10X45 DIN912 | HW8 L208 | OR 5X1N |

## VDI

### VDI-DTF50

QUICK-CHANGE Holder with DOVE-TAIL Connection for Internal Turning of Aluminum Wheels with CUT-GRIP and ISO-TURN Heads




| Designation | WF | LF | LS | DF | DCONMS | Fig. |
|---|---|---|---|---|---|---|
| VDI40-DTF50F31L140R | 31.00 | 140.00 | 63.0 | 83.00 | 40.00 | 2 |
| VDI40-DTF50L110 | 0.00 | 110.00 | 63.0 | 83.00 | 40.00 | 1 |
| VDI40-DTF50L140 | 0.00 | 140.00 | 63.0 | 83.00 | 40.00 | 1 |
| VDI40-DTF50L170 | 0.00 | 170.00 | 63.0 | 83.00 | 40.00 | 1 |
| VDI50-DTF50F31L140R (1) | 31.00 | 140.00 | 78.0 | 98.00 | 50.00 | 2 |
| VDI50-DTF50L110 (1) | 0.00 | 110.00 | 78.0 | 98.00 | 50.00 | 1 |
| VDI50-DTF50L140 (1) | 0.00 | 140.00 | 78.0 | 98.00 | 50.00 | 1 |
| VDI50-DTF50L170 (1) | 0.00 | 170.00 | 78.0 | 98.00 | 50.00 | 1 |

(1) on request

**Tools:** DTF50 FSHIUR • DTF50 SVXCR-16X2 • DTF50 SVXCR-22

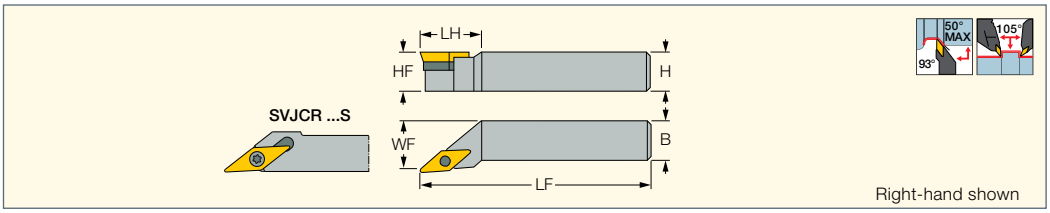
#### Spare Parts

| Designation | | |
|---|---|---|
| VDI-DTF50 | SR M10X45 DIN912 | HW8 L208 |

## ISOTURN

### SVJCR/L

93° Lead Angle Screw Lock Tools Carrying the 35° Diamond Inserts with 7° Clearance Angle




| Designation | H | HF | B | LF | LH | WF | GAMP | GAMF | Insert | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SVJCR/L 0808K-11S (1) | 8.0 | 8.0 | 8.0 | 125.00 | 11.5 | 8.20 | 0.0 | 0.0 | VC..1103 | SR 14-560 | T-8/5 | | | |
| SVJCR/L 1010K-11S (1) | 10.0 | 10.0 | 10.0 | 125.00 | 22.0 | 10.20 | 0.0 | 0.0 | VC..1103 | SR 14-560 | T-8/5 | | | |
| SVJCR/L 1212K-11S (1) | 12.0 | 12.0 | 12.0 | 125.00 | - | 12.20 | 0.0 | 0.0 | VC..1103 | SR 14-560 | T-8/5 | | | |
| SVJCR/L 1616K-11 | 16.0 | 16.0 | 16.0 | 125.00 | 25.0 | 20.00 | 0.0 | 0.0 | VC..1103 | SR 14-560 | T-8/5 | | | |
| SVJCR/L 2020K-11 | 20.0 | 20.0 | 20.0 | 125.00 | 30.0 | 25.00 | 0.0 | 0.0 | VC..1103 | SR 14-560 | T-8/5 | | | |
| SVJCR/L 2525M-11 | 25.0 | 25.0 | 25.0 | 150.00 | 30.0 | 32.00 | 0.0 | 0.0 | VC..1103 | SR 14-560 | T-8/5 | | | |
| SVJCR/L 2020K-16 | 20.0 | 20.0 | 20.0 | 125.00 | 30.0 | 25.00 | 0.0 | 0.0 | VC..1604 | SR 16-236 P | T-15/5 | TVC 3-1 | SR TC-3 | HW 2.5 |
| SVJCR/L 2525M-16 | 25.0 | 25.0 | 25.0 | 150.00 | 30.0 | 32.00 | 0.0 | 0.0 | VC..1604 | SR 16-236 P | T-15/5 | TVC 3-1 | SR TC-3 | HW 2.5 |

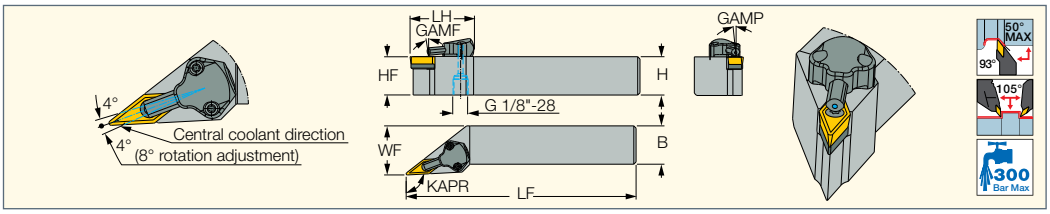
(1) For Swiss-type machines

**Inserts:** VCGT-F1M-20P • VCMT-FPC-CERMET • VCMT-F3P • VCGW-2 (CBN) • VCMT-F3M • VCMT-M3M • VCMT-SM • VCET-WF • VCGT-AS • VCMT-14 • VCMW • VCMT (CBN) • VCGT (PCD) • VCGT-DW (PCD)

ISOTURN JETCUT

## SVJCR/L-16-JHP

Screw Lock Tools with Channels for High Pressure Coolant Carrying 35° Rhombic Inserts with 7° Clearance Angle




| Designation | H | B | HF | LF | LH | WF | KAPR(1) | GAMP | GAMF | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| SVJCR/L 2525M-16-JHP | 25.0 | 25.0 | 25.0 | 150.00 | 42.0 | 32.00 | 93.0 | 0.0 | 0.0 | VCMT 1604 |

- For user guide, see pages 78-84

(1) Tool cutting edge angle

**Inserts:** VCMT-FPC-CERMET • VCMT-F3P • VCGW-2 (CBN) • VCMT-F3M • VCMT-M3M • VCMT-SM • VCGT-AS • VCMT-14 • VCMW • VCMT (CBN) • VCGT (PCD) • VCGT-DW (PCD)

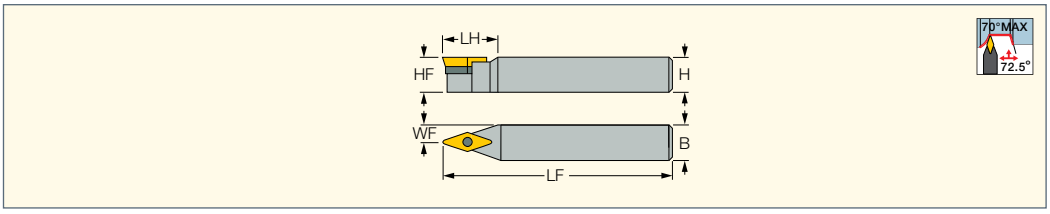
### Spare Parts

| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| SVJCR/L 2525M-16-JHP | TVC 3-1 | SR TC-3 | SR 16-236 P | CU-V-JHP | T-15/5 | HW 2.5 | T-8/5 |

ISOTURN

## SVVCN

72.5° Lead Angle Screw Lock Tools Carrying the 35° Diamond Inserts with 7° Clearance Angle




| Designation | H | HF | B | LF | LH | WF | GAMP | GAMF | Insert | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SVVCN 0808K-11S (1) | 8.0 | 8.0 | 8.0 | 125.00 | - | 4.30 | 0.0 | 0.0 | VC..1103 | SR 14-560 | T-8/5 | | | |
| SVVCN 1010K-11S (1) | 10.0 | 10.0 | 10.0 | 125.00 | - | 5.30 | 0.0 | 0.0 | VC..1103 | SR 14-560 | T-8/5 | | | |
| SVVCN 1212K-11S (1) | 12.0 | 12.0 | 12.0 | 125.00 | - | 6.30 | 0.0 | 0.0 | VC..1103 | SR 14-560 | T-8/5 | | | |
| SVVCN 1616K-11S (1) | 16.0 | 16.0 | 16.0 | 125.00 | - | 8.30 | 0.0 | 0.0 | VC..1103 | SR 14-560 | T-8/5 | | | |
| SVVCN 2020K-16 | 20.0 | 20.0 | 20.0 | 125.00 | 34.0 | 10.00 | 0.0 | 0.0 | VC..1604 | SR 16-236 P | T-15/5 | TVC 3-1 | SR TC-3 | HW 2.5 |
| SVVCN 2525M-16 | 25.0 | 25.0 | 25.0 | 150.00 | 38.1 | 12.50 | 0.0 | 0.0 | VC..1604 | SR 16-236 P | T-15/5 | TVC 3-1 | SR TC-3 | HW 2.5 |

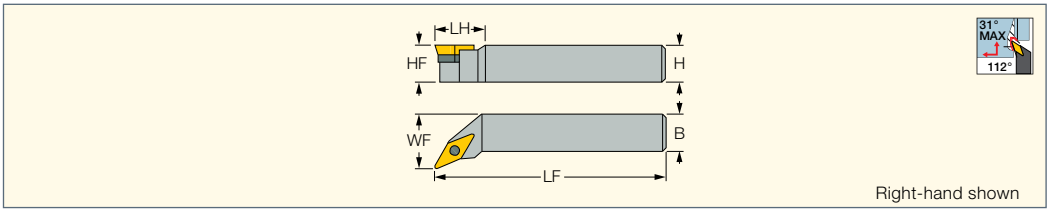
(1) For Swiss-type machines

**Inserts:** • VCGT-F1M-20P • VCMT-FPC-CERMET • VCMT-F3P • VCGW-2 (CBN) • VCMT-F3M • VCMT-M3M • VCMT-SM • VCGT-AS • VCMT-14 • VCMW • VCMT (CBN) • VCGT (PCD) • VCGT-DW (PCD)

ISOTURN

## SVXCR/L

112° Lead Angle Screw Lock Tools Carrying the 35° Diamond Inserts with 7° Clearance Angle



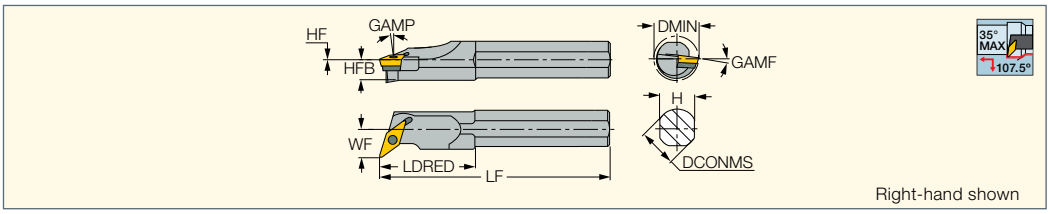

| Designation | H | HF | B | LF | LH | WF | GAMP | GAMF | Insert | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SVXCR/L 2020K-16 | 20.0 | 20.0 | 20.0 | 125.00 | 25.0 | 25.00 | 0.0 | 0.0 | VC..1604 | TVC 3-1 | SR TC-3 | HW 2.5 | SR 16-236 P | T-15/5 |
| SVXCR/L 2525M-16 | 25.0 | 25.0 | 25.0 | 150.00 | 30.0 | 32.00 | 0.0 | 0.0 | VC..1604 | TVC 3-1 | SR TC-3 | HW 2.5 | SR 16-236 P | T-15/5 |

**Inserts:** VCMT-FPC-CERMET • VCMT-F3P • VCGW-2 (CBN) • VCMT-F3M • VCMT-M3M • VCMT-SM • VCGT-AS • VCMT-14 • VCMW • VCMT (CBN) • VCGT (PCD) • VCGT-DW (PCD)

ISOTURN

## A/S-SVQCR/L

Screw Lock Boring Bars
Carrying the 35° Rhombic
Inserts with 7° Clearance




| Designation | DCONMS | LF | LDRED | H | HFB | WF | HF | DMIN | GAMP | GAMF | CSP(1) | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S25S SVQCR/L-16 | 25.00 | 250.00 | 61.0 | 23.0 | 12.0 | 17.00 | 0.5 | 32.00 | 0.0 | -5.0 | 0 | VC.. 1604 |
| S32T SVQCR/L-16 | 32.00 | 300.00 | 70.0 | 30.0 | 15.0 | 22.00 | 0.0 | 40.00 | 0.0 | -5.0 | 0 | VC.. 1604 |
| A40U SVQCR/L-22 | 40.00 | 350.00 | 64.0 | 36.0 | 18.0 | 27.00 | 0.0 | 47.50 | 0.0 | -8.0 | 1 | VCGT 2205 |

(1) 0 - Without coolant supply, 1 - With coolant supply

**Inserts:** VCMT-FPC-CERMET • VCMT-F3P • VCGW-2 (CBN) • VCMT-F3M • VCMT-M3M • VCMT-SM • VCGT-AS • VCGT-AF • VCMT-14 • VCMW • VCMT (CBN) • VCGT (PCD) • VCGT-DW (PCD)

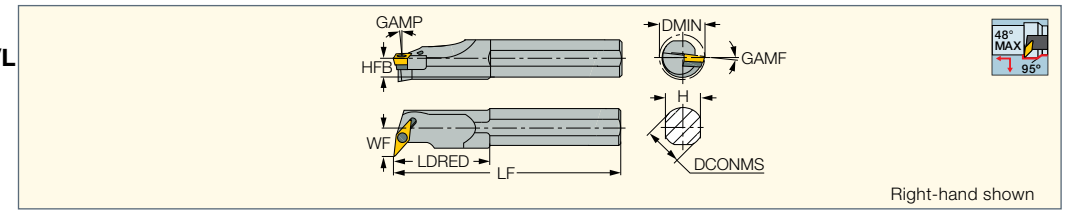
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| S25S SVQCR/L-16 | SR 16-236 P | T-15/5 | | | | |
| S32T SVQCR/L-16 | SR 16-236 P | T-15/5 | TVC 3-1P | SR TC-3P | HW 4.0 | |
| A40U SVQCR/L-22 | SR 14-536 | T-20/5 | TVC 22T330 | SR TC-3 | HW 2.5 | PL 40 |

ISOTURN

## A/S-SVLFCR/L; A-SVUCR/L

Screw Lock Boring Bars
Carrying the 35° Rhombic
Inserts with 7° Clearance




| Designation | DCONMS | LF | LDRED | H | HFB | WF | DMIN | GAMP | GAMF | CSP(2) | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A32T SVUCR/L-16 (1) | 32.00 | 300.00 | 50.0 | 29.0 | 14.5 | 22.00 | 40.00 | 0.0 | -8.0 | 1 | VC.. 1604 |
| S32T SVLFCR/L-16 | 32.00 | 300.00 | 56.0 | 29.0 | 14.5 | 22.00 | 39.50 | 0.0 | -8.0 | 0 | VC.. 1604 |
| S40U SVLFCR/L-16 | 40.00 | 350.00 | - | 36.0 | 18.0 | 27.00 | 49.00 | 0.0 | -5.0 | 0 | VC.. 1604 |
| A40U SVLFCR/L-22 | 40.00 | 350.00 | 70.0 | 36.0 | 18.0 | 27.00 | 48.00 | 0.0 | -8.0 | 1 | VC.. 2205 |

(1) 93° approach angle

(2) 0 - Without coolant supply, 1 - With coolant supply

**Inserts:** VCMT-F3P • VCMT-F3M • VCMT-M3M • VCMT-SM • VCGT-AS • VCGT-AF • VCMT-14 • VCMW • VCMT (CBN) • VCGT (PCD) • VCGT-DW (PCD) • VCMT-FPC-CERMET • VCGW-2 (CBN)

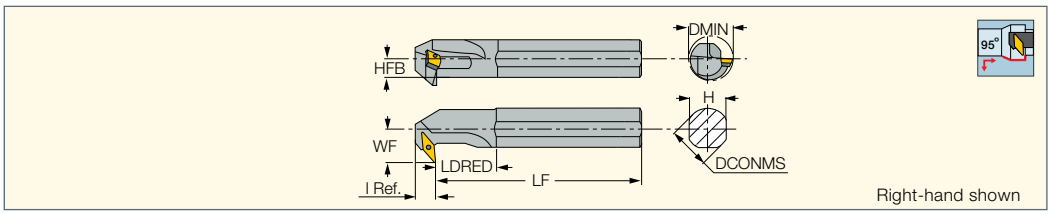
### Spare Parts

| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| A32T SVUCR/L-16 | TVC 3-1P | SR TC-3P | HW 1.5 | HW 4.0 | SR 16-236 P | PL 32 | T-15/5 |
| S32T SVLFCR/L-16 | TVC 3-1P | SR TC-3P | HW 4.0 | | SR 16-236 P | | T-15/5 |
| S40U SVLFCR/L-16 | TVC 3-1P | SR TC-3P | HW 4.0 | | SR 16-236 P | | T-15/5 |
| A40U SVLFCR/L-22 | TVC 22T330 | SR TC-3 | HW 2.5 | | SR 14-536 | PL 40 | T-20/5 |

ISOTURN

## A/S-SVLBCR/L

Screw Lock Back Boring Bars
Carrying the 35° Rhombic
Inserts with 7° Clearance




| Designation | DCONMS | LF | LDRED | l Ref. | H | HFB | WF | DMIN | GAMP | GAMF | CSP(1) | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A32T SVLBCL-16 | 32.00 | 300.00 | 76.5 | 18.50 | 29.0 | 14.5 | 27.50 | 40.00 | 0.0 | -8.0 | 1 | VC.. 1604 |
| A32T SVLBCR-16 | 32.00 | 300.00 | 76.5 | 18.50 | 29.0 | 14.5 | 27.50 | 40.00 | 0.0 | -8.0 | 0 | VC.. 1604 |
| S32T SVLBCR/L-16 | 32.00 | 300.00 | 63.2 | 18.50 | 29.0 | 14.5 | 22.00 | 40.00 | 0.0 | -8.0 | 0 | VC.. 1604 |
| S40U SVLBCR/L-16 | 40.00 | 350.00 | 60.0 | 20.00 | 36.0 | 18.0 | 27.00 | 49.50 | 0.0 | -5.0 | 0 | VC.. 1604 |

(1) 0 - Without coolant supply, 1 - With coolant supply

**Inserts:** VCMT-FPC-CERMET • VCMT-F3P • VCGW-2 (CBN) • VCMT-F3M • VCMT-M3M • VCMT-SM • VCGT-AS • VCMT-14 • VCMW • VCMT (CBN) • VCGT (PCD) • VCGT-DW (PCD)

### Spare Parts

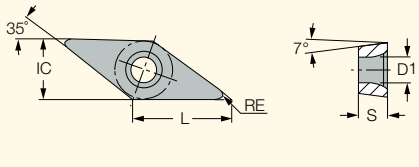
| Designation | | | | | |
|---|---|---|---|---|---|
| A/S-SVLBCR/L | TVC 3-1P | SR TC-3P | HW 4.0 | SR 16-236 P | T-15/5 |

ISOTURN

## VCGT-AS

35° Rhombic Inserts with a 7° Positive Flank, Very Positive Rake Angle and Sharp Cutting Edge for Machining Aluminum






| Designation | Dimensions L | IC | S | RE | D1 | Tough ↔ Hard IC920 | IC20 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| VCGT 110302-AS | 11.10 | 6.35 | 3.18 | 0.20 | 2.90 | ● | ● | 0.20-2.50 | 0.05-0.20 |
| VCGT 110304-AS | 11.10 | 6.35 | 3.18 | 0.40 | 2.90 | | ● | 0.50-3.00 | 0.05-0.25 |
| VCGT 160401-AS | 16.60 | 9.52 | 4.76 | 0.10 | 4.40 | | ● | 0.20-2.50 | 0.05-0.20 |
| VCGT 160402-AS | 16.60 | 9.52 | 4.76 | 0.20 | 4.40 | | ● | 0.50-2.50 | 0.05-0.25 |
| VCGT 160404-AS | 16.60 | 9.52 | 4.76 | 0.40 | 4.40 | | ● | 0.50-3.00 | 0.05-0.25 |
| VCGT 160408-AS | 16.60 | 9.52 | 4.76 | 0.80 | 4.40 | | ● | 0.50-3.00 | 0.10-0.25 |
| VCGT 160412-AS | 16.60 | 9.52 | 4.76 | 1.20 | 4.40 | | ● | 0.50-3.00 | 0.10-0.25 |
| VCGT 220530-AS | 22.10 | 12.70 | 5.56 | 3.00 | 5.50 | | ● | 1.50-4.50 | 0.15-0.30 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

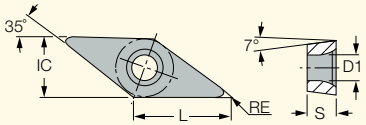
**Tools:** A/S-SVLBCR/L • A/S-SVLFCR/L; A-SVUCR/L • A/S-SVQCR/L • AVC-SVLCR/L-VH • AVC-SVUCR/L • C#-SVJCR/L • C#-SVJCR/L-JHP • C#-SVVCN • DTF50 SVXCR-16X2 • DTF50 SVXCR-22 • HSK A63WH-SVJCR/L • NQCH-SVACR/L-S-JHP • NQCH-Y-SVJCR-S-JHP • PVACR/L-JHP • PVACR/L-S • S/A-SVJCR/L • SVACR/L • SVJCR-PAD • SVJCR/L • SVJCR/L-16-JHP • SVPCR/L • SVVCN • SVXCR/L • Y-SVJCR • Y-SVJCR-JHP • AVC-SVLCR/L • PVACR/L-JHP-MC

ISOTURN

## VCGT-AF

Inserts with a Very Positive Rake Angle and Sharp Cutting Edge for Semi-Finishing and Finishing on Aluminum






| Designation | Dimensions L | IC | S | RE | D1 | IC20 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| VCGT 220508-AF | 22.10 | 12.70 | 5.56 | 0.80 | 5.50 | ● | 1.00-4.50 | 0.10-0.25 |
| VCGT 220512-AF | 22.10 | 12.70 | 5.56 | 1.20 | 5.50 | ● | 1.00-4.50 | 0.10-0.30 |
| VCGT 220516-AF | 22.10 | 12.70 | 5.56 | 1.60 | 5.50 | ● | 1.50-4.50 | 0.10-0.35 |

- For user guide and cutting speed recommendations, see pages 122-134, 236-254

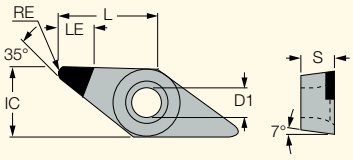
**Tools:** A/S-SVLFCR/L; A-SVUCR/L • A/S-SVQCR/L • DTF50 SVXCR-22

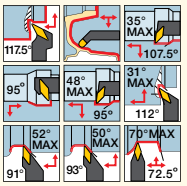
ISOTURN

## VCGT-DW (PCD)

Inserts with 7° Clearance and a Single PCD Top Corner Tip Chipformer for Machining Aluminum






| Designation | Dimensions L | IC | S | RE | D1 | ID5 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| VCGT 160404-DW | 16.60 | 9.52 | 4.76 | 0.40 | 4.40 | ● | 0.10-3.00 | 0.05-0.30 |
| VCGT 160408-DW | 16.60 | 9.52 | 4.76 | 0.80 | 4.40 | ● | 0.10-3.00 | 0.05-0.30 |
| VCGT 160412-DW | 16.60 | 9.52 | 4.76 | 1.20 | 4.40 | ● | 0.10-3.00 | 0.05-0.30 |
| VCGT 220516-DW | 22.10 | 12.70 | 5.56 | 1.60 | 5.50 | ● | 0.10-3.00 | 0.05-0.30 |
| VCGT 220520-DW | 22.10 | 12.70 | 5.56 | 2.00 | 5.50 | ● | 0.10-3.00 | 0.05-0.30 |
| VCGT 220530-DW | 22.10 | 12.70 | 5.56 | 3.00 | 5.50 | ● | 0.10-3.00 | 0.05-0.30 |

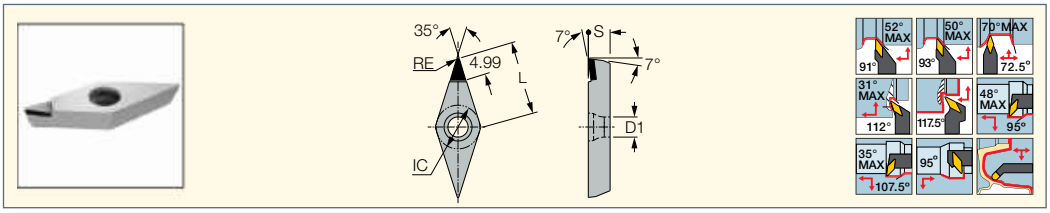
- For user guide and cutting speed recommendations, see pages 122-134, 236-254

**Tools:** A/S-SVLBCR/L • A/S-SVLFCR/L; A-SVUCR/L • A/S-SVQCR/L • AVC-SVLCR/L-VH • C#-SVJCR/L • C#-SVJCR/L-JHP • C#-SVVCN • DTF50 SVXCR-16X2 • DTF50 SVXCR-22 • HSK A63WH-SVJCR/L • SVJCR/L • SVJCR/L-16-JHP • SVVCN • SVXCR/L • AVC-SVLCR/L

ISOTURN

## VCGT (PCD)

35° Rhombic Single Brazed Tip Corner Inserts for Finishing Aluminum (PCD)




| Designation | Dimensions IC | S | RE | L | D1 | ID5 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| VCGT 160404D | 9.52 | 4.76 | 0.40 | 16.60 | 4.40 | ● | 0.10-3.00 | 0.05-0.30 |
| VCGT 160408D | 9.52 | 4.76 | 0.80 | 16.60 | 4.40 | ● | 0.10-3.00 | 0.05-0.30 |

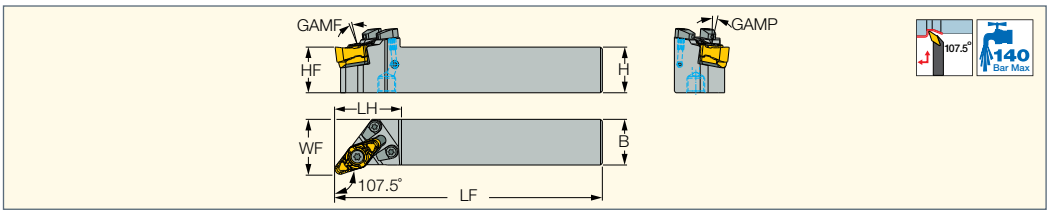
- For user guide and cutting speed recommendations, see pages 122-134, 236-254

**Tools:** A/S-SVLBCR/L • A/S-SVLFCR/L; A-SVUCR/L • A/S-SVQCR/L • AVC-SVLCR/L-VH • C#-SVJCR/L • C#-SVJCR/L-JHP • C#-SVVCN • HSK A63WH-SVJCR/L • SVJCR/L • SVJCR/L-16-JHP • SVVCN • SVXCR/L • AVC-SVLCR/L

ISOTURN JETCUT

## SVHNR/L-AL-JHP

Screw Lock Tools with Channels for High Pressure Coolant Carrying 35° Rhombic Inserts




| Designation | H | B | HF | LF | LH | WF | GAMP | GAMF | MIID(1) |
|---|---|---|---|---|---|---|---|---|---|
| SVHNR/L 2525M-22-AL-JHP | 25.0 | 25.0 | 25.0 | 146.34 | 36.3 | 30.03 | 7.0 | 6.0 | VNGU 220630-R3N |

- For user guide, see pages 78-84

(1) Master insert identification

**Inserts:** VNGU-R3N

### Spare Parts

| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SVHNR/L 2525M-22-AL-JHP | TVX 2230(a) | SR 14-591/L-SN | SW6-T-SH | BLD T20/S7 | HW 3.0 | SR TC-4 | CH-1.9D-JHP-A SET | TVX 2212(b)* | TVX 2216(c)* |

* Optional, should be ordered separately

(a) For VNGU 220630-R3N insert

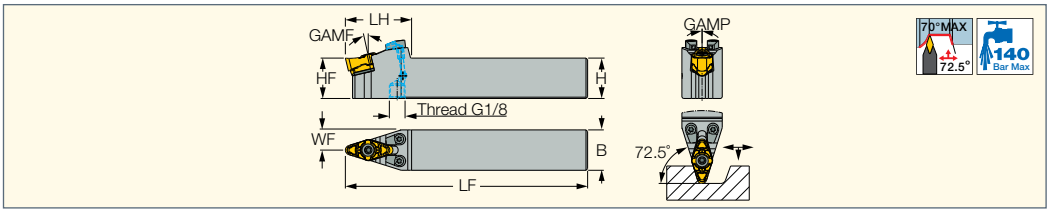
(b) For VNGU 220612-R3N insert

(c) For VNGU 220616-R3N insert

ISOTURN JETCUT

## SVVNN-AL-JHP

Screw Lock Tools with Channels for High Pressure Coolant Carrying 35° Rhombic Inserts




| Designation | H | HF | B | LF | LH | WF | GAMP | GAMF | MIID(1) |
|---|---|---|---|---|---|---|---|---|---|
| SVVNN 2525M-22-AL-JHP | 25.0 | 25.0 | 25.0 | 150.00 | 41.0 | 12.50 | 0.0 | -13.5 | VNGU 220630-R3N |

(1) Master insert identification

**Inserts:** VNGU-R3N

### Spare Parts

| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SVVNN 2525M-22-AL-JHP | TVX 2230(a) | HW 3.0 | BLD T20/S7 | SW6-T-SH | SR TC-4 | SR 14-591/L-SN | CH-1.9D-JHP-A SET | TVX 2212(b)* | TVX 2216(c)* |

* Optional, should be ordered separately

(a) For VNGU 220630-R3N insert

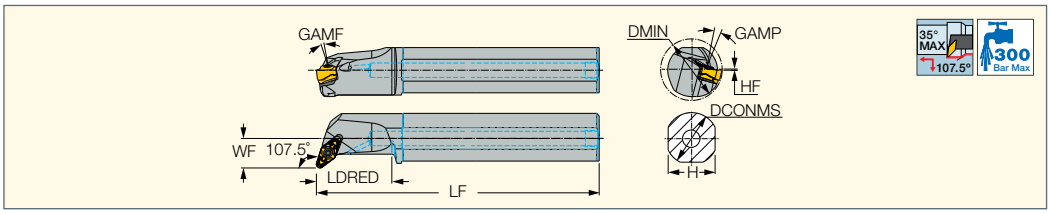
(b) For VNGU 220612-R3N insert

(c) For VNGU 220616-R3N insert

ISOTURN

## A-SVQNR/L-AL-JHP

Screw Lock Boring Bars Carrying the 35° Rhombic Inserts




| Designation | DCONMS | LF | LDRED | H | HF | WF | DMIN | GAMP | GAMF | MIID[1] |
|---|---|---|---|---|---|---|---|---|---|---|
| A40U SVQNR/L-22-AL-JHP | 40.00 | 348.10 | 60.0 | 36.0 | 0.1 | 23.40 | 49.00 | 14.5 | 6.5 | VNGU 220630-R3N |

(1) Master insert identification

**Inserts:** VNGU-R3N

### Spare Parts

| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| A40U SVQNR/L-22-AL-JHP | TVX 2230[a] | SR 14-591/L-SN | HW 3.0 | SW6-T-SH | BLD T20/S7 | PL 40 | SR TC-4 | TVX 2212[b]* | TVX 2216[c]* |

* Optional, should be ordered separately

(a) For VNGU 220630-R3N insert

(b) For VNGU 220612-R3N insert

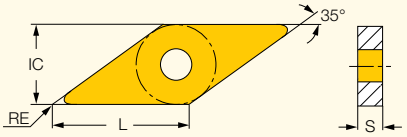
(c) For VNGU 220616-R3N insert

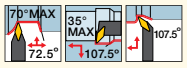
ISOTURN

## VNGU-R3N

Double-Sided Sharp-Edged Positive Rake Inserts for Rough Machining on Aluminum and Other Non-Ferrous Materials



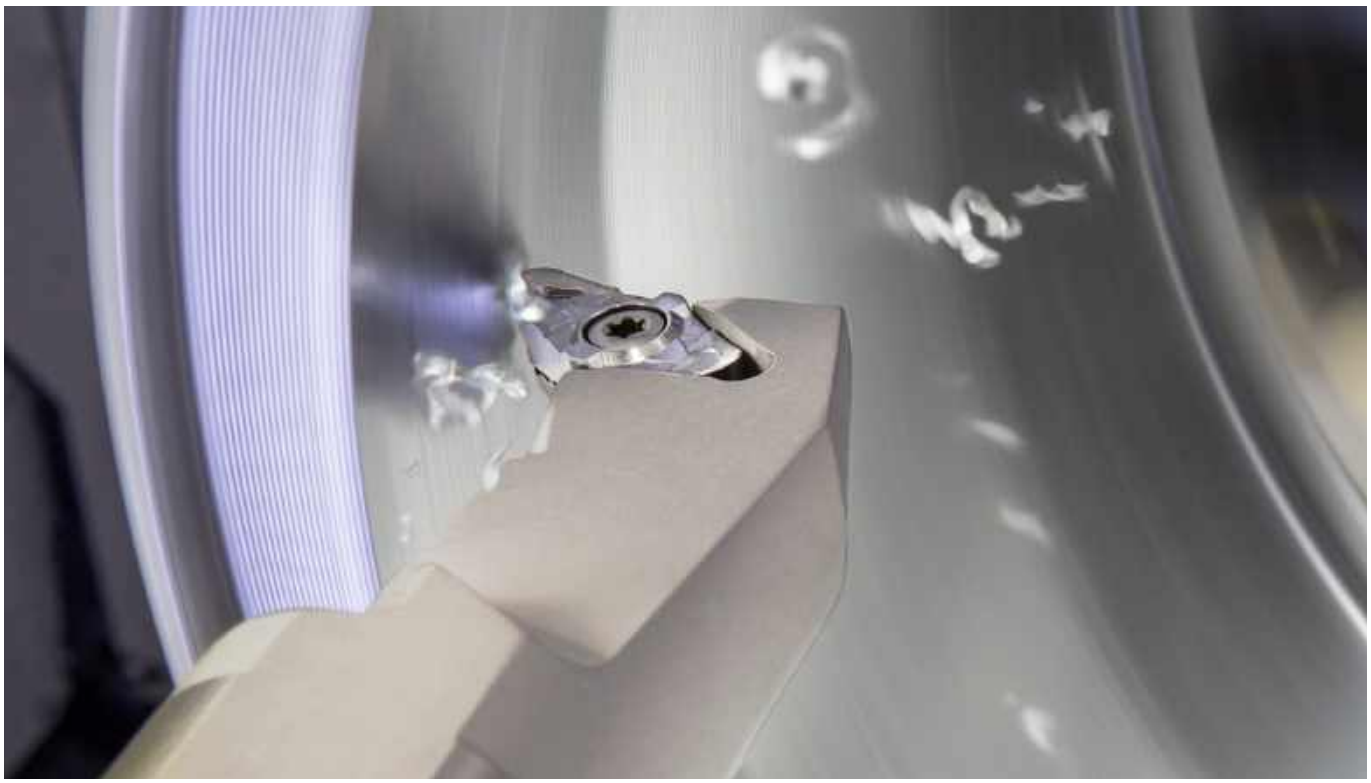



| Designation | Dimensions L | IC | S | RE | IC20 | Recommended Machining Data $a_p$ (mm) | f (mm/rev) |
|---|---|---|---|---|---|---|---|
| VNGU 220612-R3N | 22.00 | 12.70 | 6.77 | 1.20 | ● | 1.00-4.50 | 0.10-0.30 |
| VNGU 220616-R3N | 22.00 | 12.70 | 6.51 | 1.60 | ● | 1.50-4.50 | 0.10-0.35 |
| VNGU 220630-R3N | 22.00 | 12.70 | 6.35 | 3.00 | ● | 1.50-4.50 | 0.15-0.40 |

• For user guide and cutting speed recommendations, see pages 122-134, 236-254

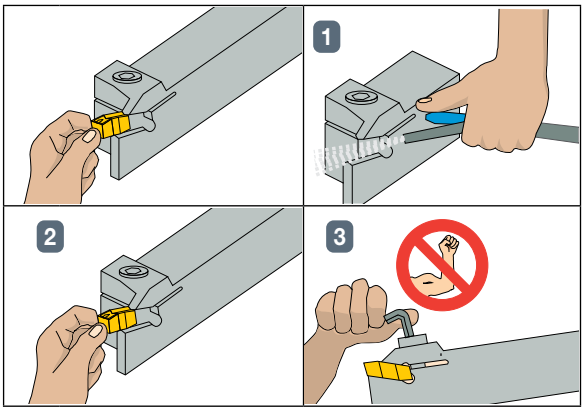
**Tools:** A-SVLFNR-AL-JHP • A-SVQNR/L-AL-JHP • SVHNR/L-AL-JHP • SVVNN-AL-JHP



### What is a GRIP Insert?

A grip insert is a grooving, groove-turn or parting insert that is clamped between 2 prisms.
Clamping a grip insert correctly in the holder is necessary for stable machining.

1. Ensure that the seat is clean of dirt and swarf.
2. In the first stage of clamping, ease the insert gently into place. Make sure that the prismatic surfaces match.
3. Always use the wrench supplied with the tool.
   Use reasonable force to the point of resistance for final clamping.
   The maximum recommended clamping torque is 1.5xd Nm or 15xd Kgf x cm. d=clamping screw dia. in mm.

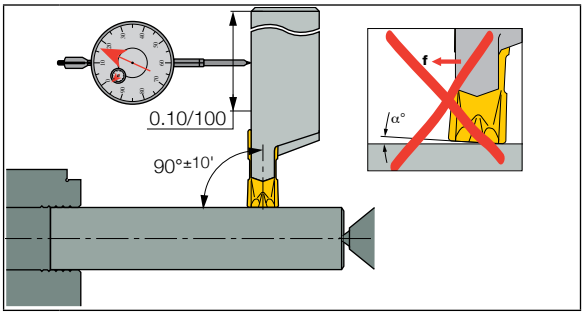



It is very important not to overtighten a grip insert, even though you may get the impression that the insert is more secure. When overtightened, the insert doesn't clamp into its correct and carefully designed clamping points, and therefore, is less stable.

### Positioning the Tool on the Turret

Successful machining can be achieved only if the tool is properly positioned on the turret.
The following sequence should be followed:

- Position the grip holder perpendicular to the workpiece; deviation may be 0.10/100 mm along the holder
- Check to ensure that the frontal cutting edge is aligned parallel to the workpiece



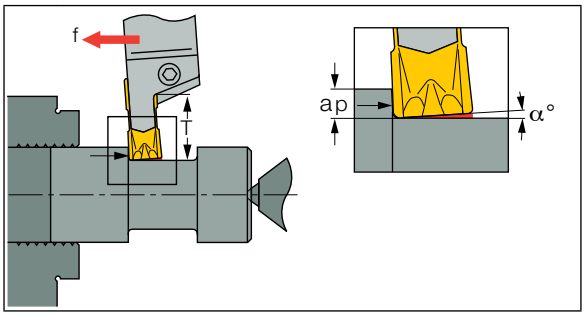

If the cutting edge is not parallel to the workpiece or is positioned as shown, the deflection during machining (in the indicated direction) will be too small and chatter may occur.

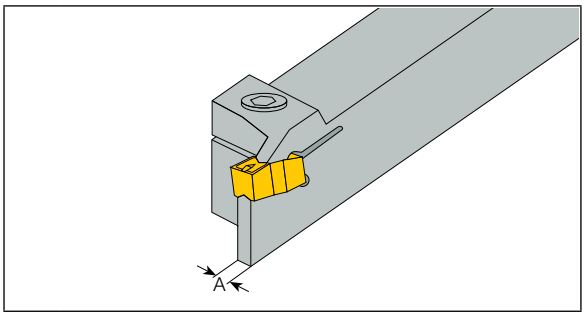
### Principles of Turning with Groove-Turn Tools

The basic principle in turning with groove-turn tools is the deflection of the cutting tool, which results in a frontal clearance angle α° between the insert and the workpiece. The clearance angle α° is a function of the side cutting forces and is not constant, as is the case with ISO inserts. The deflection is influenced by the following factors:

Feed: **f**
Depth of Cut: $\mathbf{a_p}$
Overhang of Insert Support: **T**
Width of Insert Support: **A**
Cutting Speed: $\mathbf{V_c}$
Workpiece Material

When all of the above factors remain constant during turning, a high degree of accuracy with a tolerance up to ±0.01 mm can be achieved.




If the conditions are too light (such as in a super finish operation), there may not be enough deflection and the clearance angle will be very small. This may result in chatter And vibration.

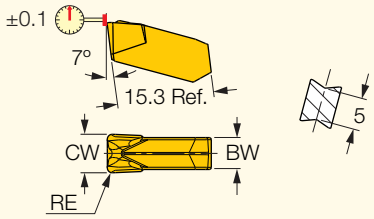
## Cutting Conditions

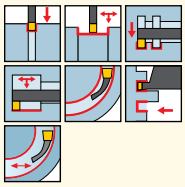
### Choosing the correct cutting conditions

Specific cutting conditions are listed in the catalog for every individual insert as shown below:

### Example: GIMF 608 Utility Inserts for Grooving and Turning



| Designation | Dimensions W±0.05 | R±0.05 | M | Tough ↔ Hard IC830 | IC8250 | IC808 | IC908 | IC20 | IC428 | IC5010 | IC907 | IC806 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GIMF 608 | 6.00 | 0.80 | 5.0 | • | • | • | | • | | • | | • | 1.00-3.60 | 0.24-0.42 | 0.13-0.25 |
| | | | | | | | | | | | | | Depth of cut | Turning feed | Grooving feed |

### Grades for Applications and Materials

Carbide grades and cutting speeds:

- Cutting speed recommendations are derived from the type of workpiece material and choice of carbide grade
- Choose the carbide grade according to the chart below.
- For specific workpiece material and cutting speed recommendations, refer to pages 432-433.

| Material groups | | ISO P 1-11 Steel | ISO P 12-13 Stainless Steel Ferritic & Martensitic | ISO M 14 Stainless Steel Austenitic & Duplex (Ferritic-Austenitic) | ISO K 15-20 Cast Iron | ISO N 21-28 Non-ferrous | ISO S 31-37 High Temperature Alloys | ISO H 38-41 Hard Steel & Cast Iron |
|---|---|---|---|---|---|---|---|---|
| GROOVE-TURN | Harder | IC20N | IC807 | IC807 | IC5010 | ID5 | IC804 | IB50 |
| | | IC807 | | | | | IC806 | |
| | | IC808 (IC908) | IC808 (IC908) | IC808 (IC908) | IC428 | | IC907 | |
| | | IC8250 | | | | | IC807 | IC807 |
| | | | | | IC8250 | IC20 | IC07 | |
| | | | | | | | IC20 | IC808 |
| | | | | | | | IC908 | |
| | Tougher | IC830 | IC830 | IC830 | | | IC08 | |

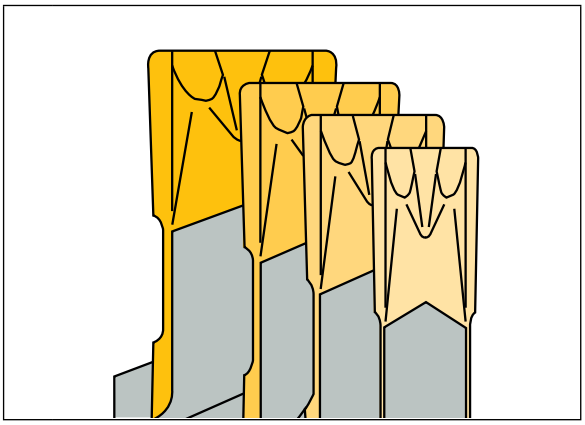
First choice

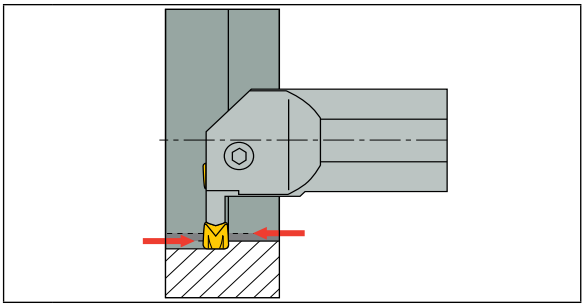
## Machining Tips

### Insert Width

Generally, the insert width should be as wide as possible as it contributes to its strength. However, there are additional considerations that should be taken into account in order to choose the correct width:

- Workpiece size and clamping stability: A larger width means higher cutting forces during grooving. A width that is too large can cause deformation of the workpiece and/or vibration.
- When using a larger width, make sure your machine has enough power. (see page 447)
- Machining strategy: Grooving in a correct sequence should also affect your choice. (see page 443)
- Required overhang: A larger tool overhang will require a wider insert to maintain stability.
- The larger the insert, the wider the upper and lower jaws can be, therefore, higher forces are required to effect the necessary side deflection.
- If the depth of cut is small, the width of the insert should be proportionately smaller to guarantee the required deflection.



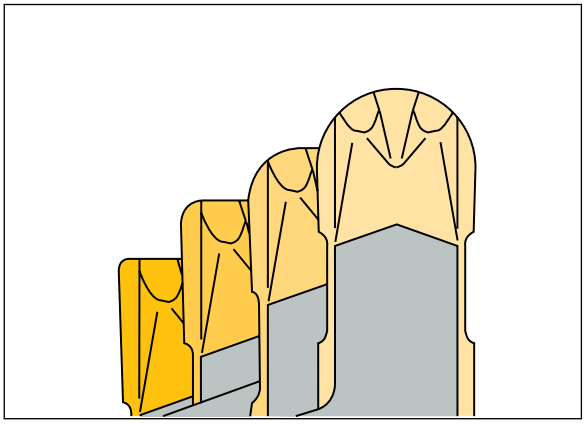


**Efficient use of the insert's corners:**
Always try to evenly split machining between the two corners. This optimization will increase the insert's life.

### Insert Radius

Choosing the insert radius for a particular application is a combination of many factors.
The corner radius of the groove-turn insert influences the product shape and tool life.

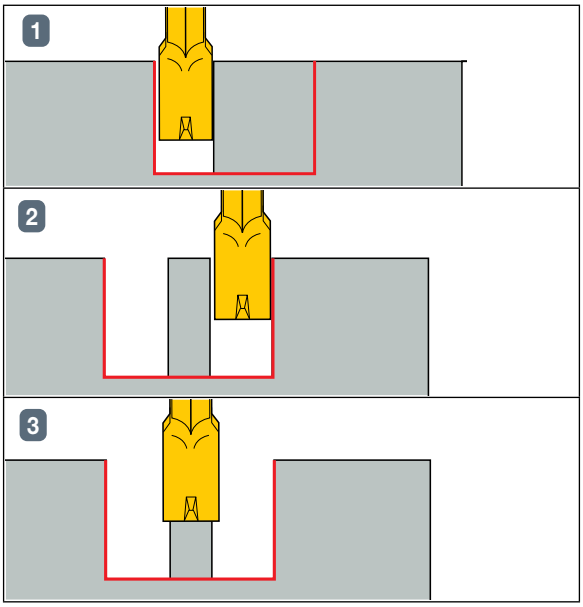
- A larger radius in turning operations normally improves surface quality.
- An insert with a larger radius has a better distribution of the cutting load and of the generated heat. It is stronger and ensures longer tool life.
- Small radii on grip inserts result in increased side forces and side deflection, preventing instability, especially with small depths of cut and feed.
- The best radius to use is basically determined by the geometry and dimensions of the workpiece. The more securely the workpiece is fastened in the machine tool, the larger the radius may be.
- When the ratio of a workpiece's length compared to its diameter is large, inserts with smaller radii will prevent chatter.
- A larger corner radius enables machining at a larger feed rate.
- In profiling operations, inserts with larger corner radii or full radii are required.



## Machining Tips

### Correct grooving sequence

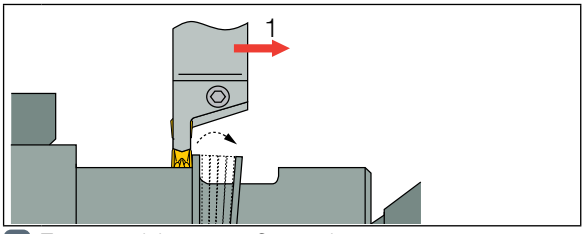
When making a groove where the insert's width is not identical to the groove, it is recommended to select an insert that will enable grooving symmetrically in such a way that the material is always in the center of the insert. This practice will ensure better chipbreaking and symmetrical cutting forces.



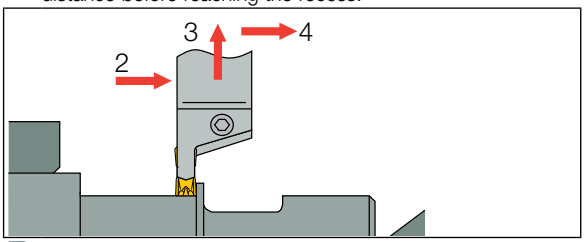

### Eliminating a "Hanging Ring"

When turning at the end of a bar or towards a recess between two walls, a "hanging ring" may be formed.

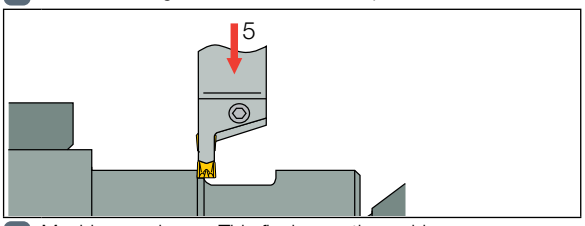
To eliminate the unwanted "hanging ring":




1 Turn toward the recess. Stop a short distance before reaching the recess.




2 Pull back the groove-turn tool and re-position it.




3 Machine as shown. This final operation achieves the size and flatness of the side wall.

## Internal Machining

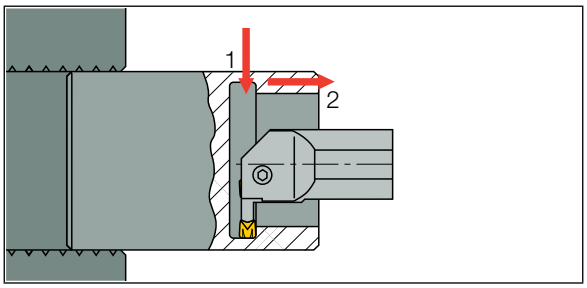
### Improving Internal Turning in a Blind Hole

Internal turning in a blind hole brings about the problem of chip exit. When the tool reaches the rear side wall, chips may be caught between the wall and the insert, possibly causing insert breakage. Two solutions that can eliminate this problem:

### First Solution

1 Start by grooving at the rear wall.

2 Continue by turning from the inside toward the outside.

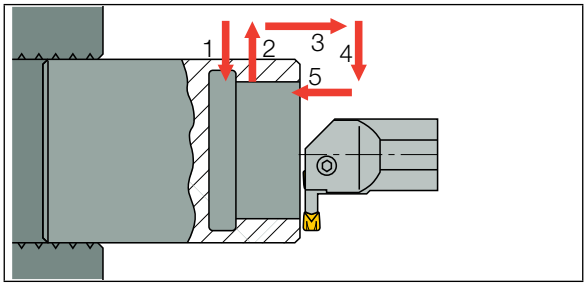



### Second Solution

1 Start by grooving at the rear wall.

2 Pull the tool back toward the outside.

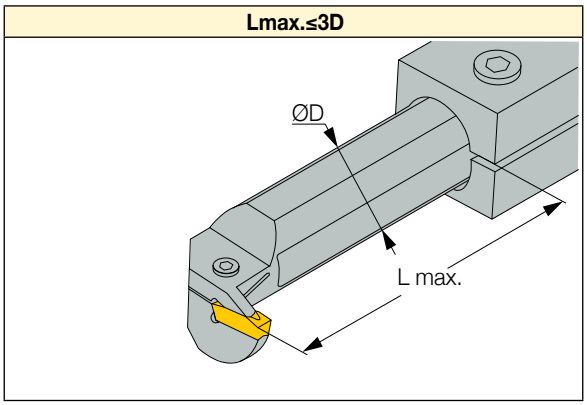
3 Turn the final diameter from outside, toward the groove.




### Optimizing Internal Machining Toolholder Overhang

It is always recommended to use the minimum possible overhang in order to maintain maximum toolholder rigidity. As a general rule, maximum overhang should not exceed three times the holder-bar diameter.

**Lmax.≤3D**



## Finishing Operation: Diameter Compensation

A compensation factor for the final diameter must be used in the final machining operation.

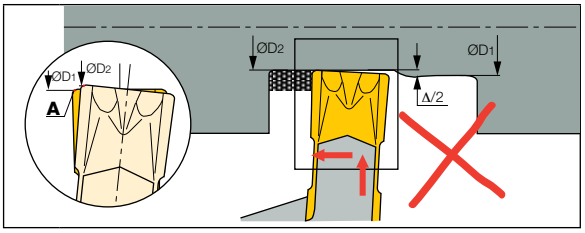
After the initial grooving to the required final diameter, the machining direction is normally changed for longitudinal turning. At this point the deflection occurs. If machining continues without correction, corner A will penetrate the material. This will result in two different diameters: øD1 from the grooving and øD2 from the turning. The difference between øD1 and øD2 is a value we define as Δ. The compensation factor is Δ/2, as shown below.

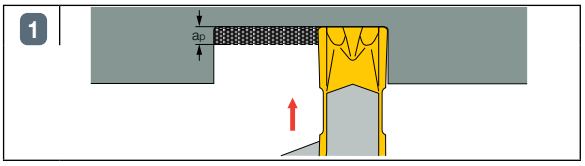
$$\frac{\Delta}{2} = \frac{\text{øD1-øD2}}{2}$$

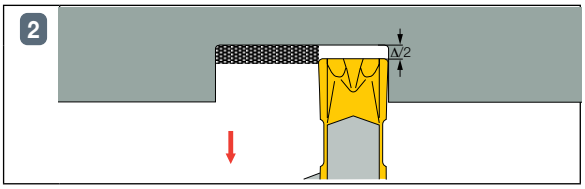
Using the compensation factor will eliminate the small surface step. Follow this simple procedure during machining:

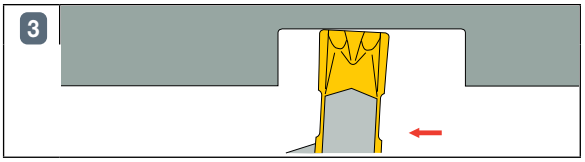
1. Groove to the final diameter
2. Pull the tool back, a distance equal to the value of Δ/2
3. Continue the finish turning operation

Characteristic values of Δ are shown in the diagrams.



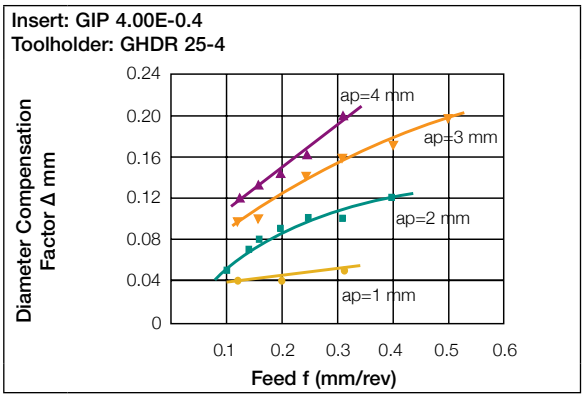



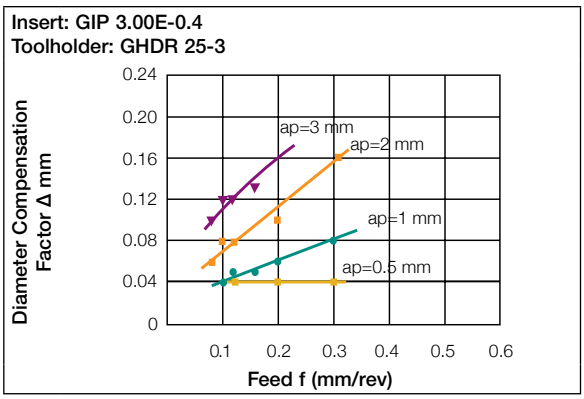



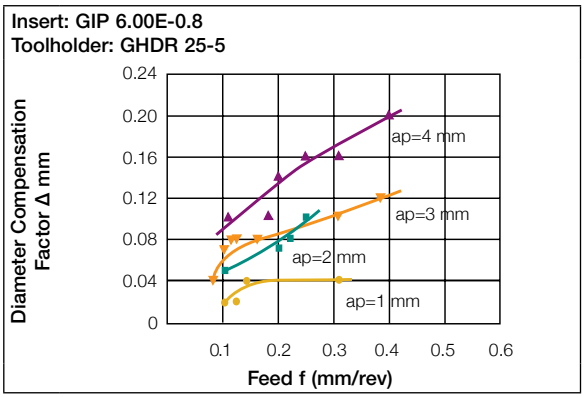

## Characteristic Values of Δ

The diagrams show experimental results for specific machining conditions. These are sample values that will vary with different workpiece materials and different holder types.

Measure the Δ value for your finishing operation in a short test using your selected finishing conditions. Do not run your test using the final diameter.



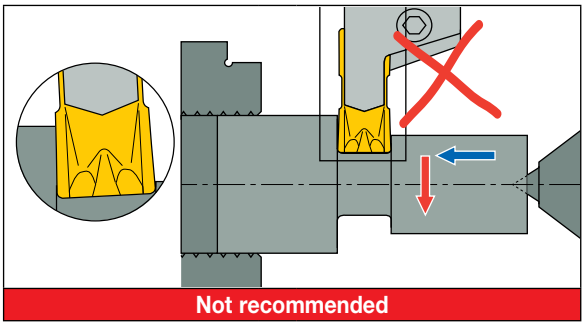



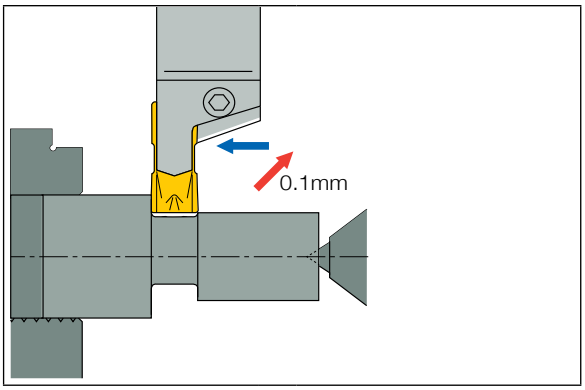



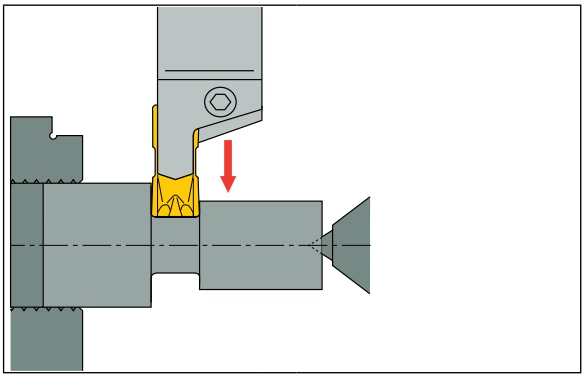
## Multifunction Operations

The groove-turn tools are multifunction tools, able to operate in a sequence of grooving and turning modes. Moving from turning to grooving requires consideration of the basic Grip principle, thereby eliminating the possibility of insert breakage. In this situation one must release the side deflection which is necessary in turning, but not recommended in grooving.

The following machining sequence is suggested:
After completing the longitudinal turning, before starting the grooving, the side deflection must be released.
Move the tool in the direction opposite that of the feed, approximately 0.1 mm, and return to the original position without side load.
Then, after the deflection has been released and the holder is perpendicular to the workpiece, the grooving operation may start.




## Machining Between Walls

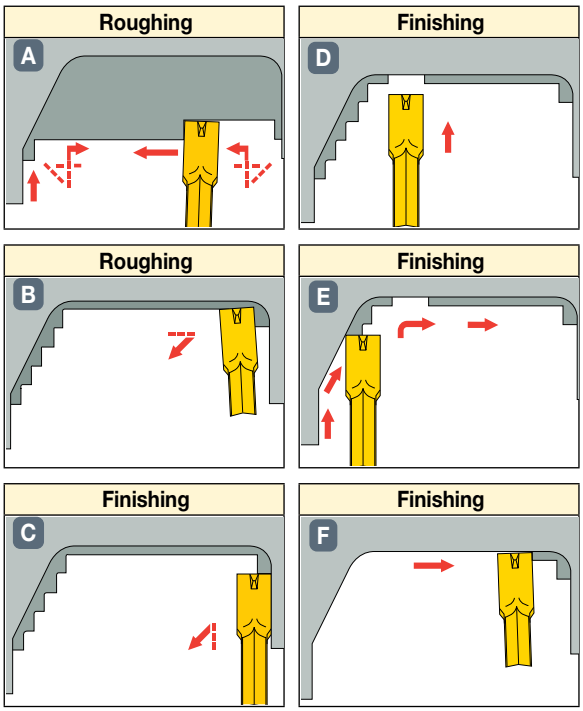
One of the most important advantages of the **GROOVE-TURN** systems is the ability to machine between walls. To achieve the best results, the following sequence is recommended:

### Roughing

Plunge to depth of cut. Pull back 0.2 mm radially. Turn longitudinally, retract at the end of the cut by 0.2 mm, simultaneously in radial and axial directions. Plunge again and repeat same cycle leaving steps of 0.2 mm at the shoulders for the finishing cut. Minimum D.O.C. has to be $a_p \geq Rx1.2$ (corner radius).

### Finishing

Plunge on the right side, reaching the tangent of the bottom radius. Retract and relieve the tangent point of the radius on the other side. Retract and machine all of the contour, pulling back by compensation value along the bottom (see page 444).



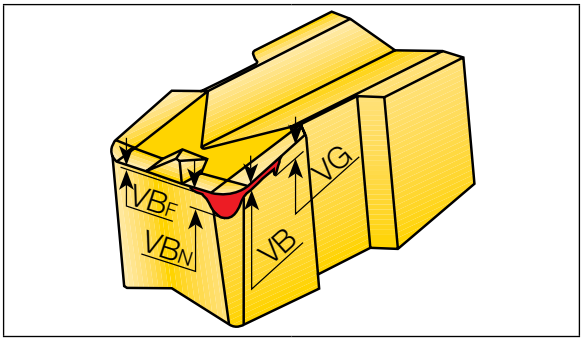

These instructions can be viewed at:
Http://www.youtube.com/watch?v=HXhEtc1zl4w

## Recommended Criteria for Replacement of the Cutting Edge

The cutting edge should be replaced in time to save costly downtime. The recommended value of wear at replacement is defined as the wear land size. The insert should be replaced when the wear land size is such that the increase in side forces is still small-not causing the insert to break and still maintaining the required workpiece tolerances. Wear is a function of machining time. The cutting edge should normally be replaced after 15 minutes of machining time.

**Insert Wear-Tool Life Wear on the Clearance Face**

Wear land on groove turn inserts generally occurs at the corner of the clearance face **VBN**, on the side near the corner **VB**, on the frontal cutting edge **VBF** and at the end of the cutting side **VG**. The effective life of the cutting edge ends when any of the wear land values-**VB**, **VB**, **VBF** or **VG**-exceed the recommended maximum values shown. The largest wear land is normally measured at the corner of the clearance face **VBN**. It has the most influence on the dimensions and tolerances of the final workpiece. The wear land shape on GRIP inserts differs slightly from that of ISO inserts. Although the frontal cutting surface of GRIP inserts absorbs more heat land wear, the wear land **VBF** is generally negligible in turning operations when compared to **VB** and **VBN**. Wear may be found only occasionally at the end of the cutting side **VG**.

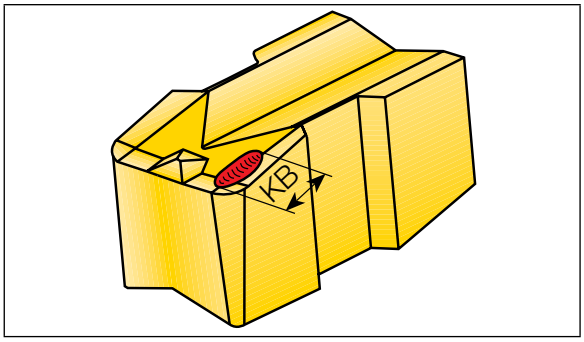



**Maximum recommended wear land values relative to insert widths**

| W<br>Insert Width (mm) | Maximum<br>Wear Land (mm) |
|---|---|
| ≤3 | 0.20 |
| 4 | 0.22 |
| 5 | 0.25 |
| 6 | 0.27 |
| 8 | 0.27 |
| ≥10 | 0.30 |

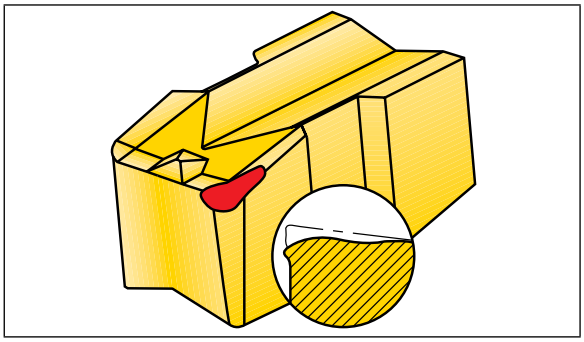
**Crater Wear and Tool Life**

Crater wear **KB** occurs on the rake face and is mainly affected by feed and cutting speed. Crater wear develops over time toward the frontal cutting edge. If penetration of the frontal cutting edge occurs, it will immediately affect the quality of the machined surface.




**Plastic Deformation**

Plastic deformation occurs when the hardness of a cutting edge is decreased due to heat and pressure. The so-called "hot hardness" of the cutting tool material limits the feed and the cutting speed. Plastic deformation will affect the dimensions and tolerances of the finished product. It generally occurs when a small corner radius is used with high cutting speeds and high feeds. Using the proper insert geometry and the correct speed and feed ranges should eliminate the problem.



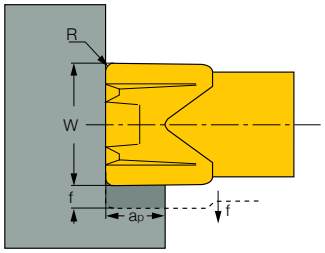
## Machine Power Calculation

### Calculation of Required Machine Power

Use the formulas below or use our internet web tool at:
http://mpwr.iscar.com/machinimgpwr

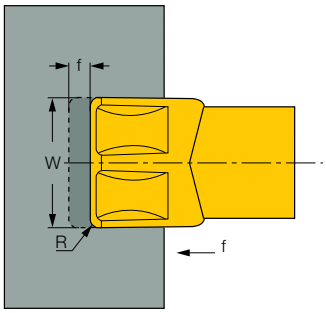
**Turning**

$$P = \frac{K_c \cdot a_p \cdot f \cdot v_c}{h \cdot 60{,}000} \text{ [kW]}$$



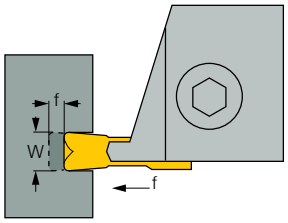

**Grooving/Parting**

$$P = \frac{K_c \cdot W \cdot f \cdot v_c}{h \cdot 60{,}000} \text{ [kW]}$$




**Face Grooving**

$$P = \frac{K_c \cdot W \cdot f \cdot v_c}{h \cdot 60{,}000} \text{ [kW]}$$




Where:

**$K_c$** - Specific cutting forces (N/mm²), turning values could be used

**h** - Efficiency (h≈0.8)



**M-type Tools**

- M-type tools have no support under the insert's cutting edge
- For an insert with a width smaller than 2.2 mm, there are no standard catalog tools available. There are 2 options as to how to use these narrow inserts:
  1. Modify an existing tool and adjust the support under the insert to the required width
  2. Use a standard M-type tool without support
- In wider widths, there are also cases where the support under the insert will disturb machining (threading inserts, pulley-V inserts and various specially tailored inserts) and therefore the above explanation should be considered
- These tools also provide the option for customers to use a very wide range of insert widths on the same tool (up to 6.4 mm)
- **Machining conditions need to be light due to little support**

$K_c$ Values

| Mtl. Gr. No. | $K_c$ [N/mm²] |
|---|---|
| 1 | 2000 |
| 2 | 2100 |
| 3 | 2150 |
| 4 | 2200 |
| 5 | 2100 |
| 6 | 2100 |
| 7 | 2100 |
| 8 | 2100 |
| 9 | 2100 |
| 10 | 2500 |
| 11 | 3250 |
| 12 | 2300 |
| 13 | 2800 |
| 14 | 2600 |
| 15 | 1100 |
| 16 | 1300 |
| 17 | 1100 |
| 18 | 1800 |
| 19 | 900 |
| 20 | 1000 |
| 21 | 500 |
| 22 | 800 |
| 23 | 800 |
| 26 | 700 |
| 27 | 700 |
| 28 | 1700 |
| 31 | 3000 |
| 32 | 3100 |
| 33 | 3300 |
| 34 | 3300 |
| 35 | 3200 |
| 36 | 1700 |
| 37 | 1700 |
| 38 | 4600 |
| 39 | 4700 |
| 40 | 4600 |
| 41 | 4500 |

For material groups, see page 456

## Recommended Clamping Torques and Interchangeable Key Blades and Adjustable Torque Handles (optional) for GROOVE-TURN Tools



### TOP-GRIP

| Tool | Recommended Torque Range [Nm] | Adjustable Torque Handle | Key Blade |
|---|---|---|---|
| **TGDR/L** | | | |
| TGDR/L 1616-3M | 6-7 | TSA 6 5-14 | BLD 6 HEX4 |
| TGDR/L 1616-4M | 7-8 | | BLD 6 HEX4 |
| TGDR/L 2020-3M | 7-8 | | BLD 6 HEX4 |
| TGDR/L 2020-4M | 7-8 | | BLD 6 HEX4 |
| TGDR/L 2525-3M | 7-8 | | BLD 6 HEX4 |
| TGDR/L 2525-4M | 6-7 | | BLD 6 HEX4 |
| TGDR/L 2525-5M | 6-7 | | BLD 6 HEX4 |
| TGDR/L 2525-6M | 8-9 | | BLD 6 HEX5 |
| TGDR/L 3232-5M | 7-8 | | BLD 6 HEX5 |
| TGDR/L 3232-6M | 12-13 | | BLD 6 HEX5 |

### HELI-GRIP

| Tool | Recommended Torque Range [Nm] | Adjustable Torque Handle | Key Blade |
|---|---|---|---|
| **HELIR/L** | | | |
| HELIR/L 1212-3T12 | 5-6 | TSA 6 5-14 | BLD 6 HEX4 |
| HELIR/L 1616-3T12 | 7-8 | | BLD 6 HEX4 |
| HELIR/L 1616-3T20 | 8-9 | | BLD 6 HEX5 |
| HELIR/L 1616-4T12 | 5-6 | | BLD 6 HEX4 |
| HELIR/L 1616-4T20 | 11-12 | | BLD 6 HEX5 |
| HELIR/L 2020-3T12 | 6-7 | | BLD 6 HEX4 |
| HELIR/L 2020-3T20 | 7-8 | | BLD 6 HEX5 |
| HELIR/L 2020-4T12 | 6-7 | | BLD 6 HEX4 |
| HELIR/L 2020-4T25 | 7-8 | | BLD 6 HEX5 |
| HELIR/L 2020-5T12 | 7-8 | | BLD 6 HEX5 |
| HELIR/L 2020-5T25 | 9-10 | | BLD 6 HEX5 |
| HELIR/L 2525-3T12 | 6-7 | | BLD 6 HEX4 |
| HELIR/L 2525-3T20 | 10-11 | | BLD 6 HEX5 |
| HELIR/L 2525-4T12 | 6-7 | | BLD 6 HEX4 |
| HELIR/L 2525-4T25 | 8-9 | | BLD 6 HEX5 |
| HELIR/L 2525-5T12 | 8-9 | | BLD 6 HEX5 |
| HELIR/L 2525-5T25 | 10-11 | | BLD 6 HEX5 |
| HELIR/L 2525-6T12 | 11-12 | | BLD 6 HEX5 |
| HELIR/L 2525-6T30 | 10-11 | | BLD 6 HEX5 |
| HELIR/L 3232-3T20 | 9-10 | | BLD 6 HEX5 |
| HELIR/L 3232-4T25 | 9-10 | | BLD 6 HEX5 |
| HELIR/L 3232-5T25 | 10-11 | | BLD 6 HEX5 |
| HELIR/L 3232-6T30 | 11-12 | | BLD 6 HEX5 |
| HELIR/L 4032-4T25 | 9-10 | | BLD 6 HEX5 |
| **C#-HELIR/L** | | | |
| C4 HELIR/L 3T20 | 9-10 | TSA 6 5-14 | BLD 6 HEX5 |
| C4 HELIR/L 4T25 | 11-12 | | BLD 6 HEX5 |
| C5 HELIR/L 3T20 | 10-11 | | BLD 6 HEX5 |
| C5 HELIR/L 4T25 | 11-12 | | BLD 6 HEX5 |
| C5 HELIR/L 5T25 | 11-12 | | BLD 6 HEX5 |
| C6 HELIR/L 3T20 | 10-11 | | BLD 6 HEX5 |
| C6 HELIR/L 4T25 | 12-13 | | BLD 6 HEX5 |
| C6 HELIR/L 5T25 | 12-13 | | BLD 6 HEX5 |
| C6 HELIR/L 6T30 | 13-14 | | BLD 6 HEX5 |

**CUT-GRIP**

| Tool | Recommended Torque Range [Nm] | Adjustable Torque Handle | Key Blade |
|---|---|---|---|
| **GHDR/L (short pocket)** | | | |
| GHDR/L 12-3 | 4-5 | TSA 6 5-14 | BLD 6 T20 |
| GHDR/L 16-3 | 5-6 | | BLD 6 HEX4 |
| GHDR/L 16-3 ST | 5-6 | | BLD 6 HEX4 |
| GHDR/L 16-4 | 7-8 | | BLD 6 HEX5 |
| GHDR/L 16-4 ST | 7-8 | | BLD 6 HEX5 |
| GHDR/L 20-3 | 5-6 | | BLD 6 HEX4 |
| GHDR/L 20-4 | 7-8 | | BLD 6 HEX5 |
| GHDR/L 20-5 | 8-9 | | BLD 6 HEX5 |
| GHDR/L 25-3 | 5-6 | | BLD 6 HEX4 |
| GHDR/L 25-4 | 7-8 | | BLD 6 HEX5 |
| GHDR/L 25-5 | 8-9 | | BLD 6 HEX5 |
| GHDR/L 25-6 | 9-10 | | BLD 6 HEX5 |
| GHDR/L 32-3 | 6-7 | | BLD 6 HEX4 |
| GHDR/L 32-4 | 8-10 | | BLD 6 HEX5 |
| GHDR/L 32-5 | 9-11 | | BLD 6 HEX5 |
| GHDR/L 25-P8 | 13-14 | | BLD 6 HEX6 |
| GHDR/L 32-P8 | 10-12 | | BLD 6 HEX6 |
| **GHDR/L-JHP (short pocket)** | | | |
| GHDR/L 20-3-JHP | 5-6 | TSA 6 5-14 | BLD 6 HEX4 |
| GHDR/L 20-4-JHP | 7-8 | | BLD 6 HEX5 |
| GHDR/L 25-3-JHP | 7-8 | | BLD 6 HEX4 |
| GHDR/L 25-4-JHP | 10-11 | | BLD 6 HEX5 |
| GHDR/L 25-5-JHP | 10-12 | | BLD 6 HEX5 |
| GHDR/L 25-P8-JHP | 10-11 | | BLD 6 HEX5 |
| **GHDR/L-JHP (long pocket)** | | | |
| GHDR/L 32-8-JHP | 15-17 | Not Available | Not Available |
| GHDR/L-8A | | | |
| GHDR/L 25-8A | 10-12 | TSA 6 5-14 | BLD 6 HEX5 |
| GHDR/L 32-8A | 10-12 | | BLD 6 HEX5 |
| **GHDR/L (long pocket)** | | | |
| GHDR/L 25-8 | 10-12 | TSA 6 5-14 | BLD 6 HEX5 |
| GHDR/L 25-812 | 10-12 | | BLD 6 HEX5 |
| GHDR/L 32-8 | 10-12 | | BLD 6 HEX5 |
| GHDR/L 3225-8 | 10-12 | | BLD 6 HEX5 |
| GHDR/L 32-812 | 11-12 | | BLD 6 HEX5 |
| GHDR/L 25-10 | 15-17 | Not Available | Not Available |
| GHDR/L 32-836 | 16-17 | | |
| GHDR/L 32-10 | 15-17 | | |
| GHDR/L 40-10 | 16-17 | | |
| **C#-GHDR/L** | | | |
| C4 GHDR/L-3 | 6-7 | TSA 6 5-14 | BLD 6 HEX4 |
| C4 GHDR/L-4 | 7-8 | | BLD 6 HEX5 |
| C5 GHDR/L-3 | 6-7 | | BLD 6 HEX4 |
| C5 GHDR/L-4 | 7-8 | | BLD 6 HEX5 |
| C5 GHDR/L-5 | 8-9 | | BLD 6 HEX5 |
| C6 GHDR/L-3 | 6-7 | | BLD 6 HEX4 |
| C6 GHDR/L-4 | 7-8 | | BLD 6 HEX5 |
| C6 GHDR/L-5 | 8-9 | | BLD 6 HEX5 |
| C6 GHDR/L-8 | 10-12 | | BLD 6 HEX5 |

**CUT-GRIP**

| Tool | Recommended Torque Range [Nm] | Adjustable Torque Handle | Key Blade |
|---|---|---|---|
| **GHDR/L/N 12/14** | | | |
| GHDR/L 2525-14T12 | 16-17 | Not Available | Not Available |
| GHDR/L 32-12 | 15-16 | | |
| GHDR/L 3232-14T12 | 16-17 | | |
| GHDR/L 3232-14T38 | 18-20 | | |
| GHDN 3232-14T38 | 18-20 | | |
| GHDR/L 4040-14T38 | 18-20 | | |
| GHDN 4040-14T38 | 18-20 | | |
| **GHGR/L** | | | |
| GHGR/L 16-3 | 7-8 | TSA 6 5-14 | BLD 6 HEX5 |
| GHGR/L 16-3 ST | 7-8 | | BLD 6 HEX5 |
| GHGR 16-4 | 7-8 | | BLD 6 HEX5 |
| GHGR/L 20-2 | 4-6 | HSA 4 1-5 | BLD 4 HEX4 |
| GHGR/L 20-3 | 7-8 | TSA 6 5-14 | BLD 6 HEX5 |
| GHGR/L 20-4 | 7-8 | | BLD 6 HEX5 |
| GHGR/L 25-2 | 4-5 | HSA 4 1-5 | BLD 4 HEX4 |
| GHGR/L 25-3 | 6-8 | TSA 6 5-14 | BLD 6 HEX5 |
| GHGR/L 25-4 | 8-10 | | BLD 6 HEX5 |
| GHGR/L 25-425 | 8-10 | | BLD 6 HEX5 |
| GHGR/L 25-5 | 9-11 | | BLD 6 HEX5 |
| GHGR/L 25-630 | 10-12 | | BLD 6 HEX5 |
| GHGR/L 32-5 | 10-12 | | BLD 6 HEX5 |
| GHGR/L 32-632 | 10-12 | | BLD 6 HEX5 |
| **GHMR/L** | | | |
| GHMR/L 12 | 8-9 | TSA 6 5-14 | BLD 6 T20 |
| GHMR/L 16 | 10-12 | | BLD 6 HEX5 |
| GHMR/L 16-3 ST | 10-12 | | BLD 6 HEX5 |
| GHMR/L 20 | 10-12 | | BLD 6 HEX5 |
| GHMR/L 25 | 10-12 | | BLD 6 HEX5 |
| GHMR/L 32 | 10-12 | | BLD 6 HEX5 |
| **GHMPR/L** | | | |
| GHMPR/L 16 | 4-5 | TSA 6 5-14 | BLD 6 HEX5 |
| GHMPR/L 20 | 5-6 | | BLD 6 HEX5 |
| GHMPR/L 25 | 8-9 | | BLD 6 HEX5 |
| **GHMUR/L** | | | |
| GHMUR/L 16 | 6-7 | TSA 6 5-14 | BLD 6 HEX5 |
| GHMUR/L 20 | 8-10 | | BLD 6 HEX5 |
| GHMUR/L 25 | 10-11 | | BLD 6 HEX5 |
| **GHSR/L** | | | |
| GHSR/L 10-2 | 2-3 | HSA 4 1-5 | BLD 4 T15 |
| GHSR/L 12-2 | 2-3 | | BLD 4 T15 |
| GHSR/L 14-2 | 2-3 | | BLD 4 T15 |
| GHSR/L 16-2 | 4-5 | TSA 6 5-14 | BLD 6 T20 |
| **CGHN-P8** | | | |
| CGHN 52-P8 | 6-7 | TSA 6 5-14 | BLD 6 HEX4 |
| CGHN 53-P8 | 6-7 | | BLD 6 HEX4 |
| **CGHN-8-10D** | | | |
| CGHN 52-8D | 7-8 | TSA 6 5-14 | BLD 6 HEX4 |
| CGHN 53-8D | 7-8 | | BLD 6 HEX4 |
| CGHN 52-10D | 9-11 | | BLD 6 HEX5 |
| CGHN 53-10D | 9-11 | | BLD 6 HEX5 |
| **CGHR/L-12-14D** | | | |
| CGHR/L 53-12D | 10-12 | TSA 6 5-14 | BLD 6 HEX5 |
| CGHR/L 53-14D | 10-12 | | BLD 6 HEX5 |

## All JETCUT tools also provide great advantages to standard low-pressure (7-10 bar) machine tools

The **JETCUT** tools provide a great advantage when standard machine pressure (10-20 bar) is applied and on a wide range of popular materials such as alloy & stainless steel, improving their tool life and in some cases chip control.

**The main reasons for the improvement in both high and low pressure are:**

- The **JETCUT** coolant is pinpointed exactly to the cutting edge where it is most effective.



- The **JETCUT** coolant is steady and not influenced by the operator's attention or interrupted by the chips.



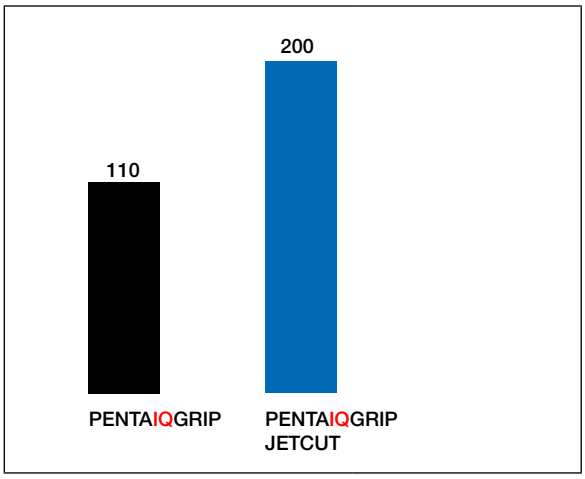
- In parting-off and deep grooving, external coolant loses its effectiveness as the groove becomes deeper.
- With **JETCUT** tools and blades, the coolant delivery is not influenced by the groove's depth.



These advantages were reported by many customers and are presented in various test reports.

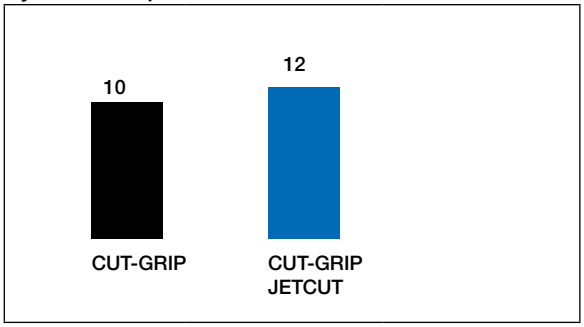
| | PENTAIQGRIP | PENTAIQGRIP JETCUT |
|---|---|---|
| Material | Stainless Steel AISI 316 | |
| Operation | Grooving | |
| Pressure (bar) | 10 (external) | 10 (Internal) |
| Tool | PCHR 25-D40-3 | PCHR 25-D40-3-JHP |
| Insert | PENTA D40N300C020 IC808G | |
| $V_c$ (mm/min) | 180 | |
| f (mm/rev) | 0.2 | |
| Tool life (number of grooves) | 110 | **200** |

Tool life increase 82%




| | CUT-GRIP | CUT-GRIP JETCUT |
|---|---|---|
| Material | Stainless Steel 1.4301 (AISI 304) | |
| Operation | External Grooving | |
| Pressure (bar) | 20 (external) | 20 (Internal) |
| Tool | GHDR 20-4 | GHDR 20-4-JHP |
| Insert | GIP 4.00E-0.4 IC808 | GIP 4.00E-0.4 IC808 |
| $V_c$ (m/min) | 120 | **140** |
| f (mm/rev) | 0.12 | **0.2** |
| Cycle time (min) | 128.5 | **67.4** |
| Parts/Edge | 10 | **12** |

Tool life increase 20%
Cycle time improvement 52%



## JETCUT Tools High-Pressure (up to 340 bar)

The high-pressure coolant feature has been in existence for a long time in the metal removal world, taking a bigger role in today's machining. **ISCAR** was one of the first cutting tools companies to respond to market needs by designing and producing tools for ultra-high and high-pressure coolant flow. High-pressure coolant was initially implemented mainly for difficult-to-machine materials such as Titanium, Inconel and other heat resistant alloys. Later it was found that tool life, productivity and chip control can be improved when machining stainless and alloyed steel. **JETCUT** tools are essential and important in the aviation, aerospace and medical industries.

**How does it work?**

The stream velocity of the coolant emitted from the pump increases as the coolant holes become smaller. When it emerges out of the tool through the nozzle, the velocity is very high, exerting considerable force on the chips, lowering their temperature and protecting the cutting edge from thermal shock. High temperature alloys produce a very high temperature as they are being cut. By effectively removing the heat, the chips become less ductile and thus easier to break. Shorter chips are easily managed, they do not tangle around the workpiece or machine parts, so there is no need to stop the process frequently. Usually in conventional cooling the chip prevents the coolant from reaching the insert rake face in the cutting zone. The coolant stream of the **JETCUT** tools is directed precisely between the insert rake face and the flowing chip. This results in longer tool life and a much more reliable process.

The coolant channels of the **JETCUT** tools feature outlets very close to the cutting edges, thus gaining the following advantages:

- Shorter machining time – the cutting speed may be increased by up to 200% when machining Titanium & heat resistant alloys
- Longer tool life – tool life increases by up to 100% not only on Titanium and heat resistant alloys, but also on stainless and alloy steels
- Improved chip control – even on the most ductile and problematic materials, small chips can be obtained
- Very effective cooling down of the cutting edge, which reduces sensitivity to heat fluctuations
- Safer and more stable process

**JETCUT** tools provide advantageous performance also when Conventional pressure is applied.

**General Information**

**Pressure Ranges**

Up to 30 bar – Low pressure (LP) may provide some improvement in tool life. Usually will not have an effect on chip control. 30 – 120 bar – High-pressure (HP) the most commonly used pressure range used with **JETCUT** tools. Increase in tool life, increase in cutting speeds, improved chip control. 120 – 400 bar – Ultra high-pressure (UHP) requires special tool design in order to take advantage of the extra pressure. Minor increase in tool life compared to HP range. Ultra high-pressure coolant is usually implemented for machining Titanium and heat resistant alloys when there is a need for very small chips and higher machining rates.
Since 2000, **ISCAR** has provided hundreds of special tools featuring ultra high-pressure coolant capability for various customers and applications.

**Pressure vs. Flow**

Each **JETCUT** tool is designed to work at a certain flow rate, depending on the pressure. The flow rates are listed in the catalog pages for each tool. The user should verify that the pump can supply the required flow in order to achieve the optimal results. The pump data sheet will usually list the maximum flow rate for each pressure range.

**Chips & Pressure**

The coolant flow will start to break the chips at a certain pressure, depending on the specific tool and the workpiece material. If the chips are not breaking, the pressure should be increased until chip control is achieved. Above this pressure, as it is increased the chips become smaller and smaller. It is possible to control the size of the chips by modifying the pressure in order to achieve the desired chip size.

### High-Pressure Coolant with GROOVE-TURN and Parting Tools

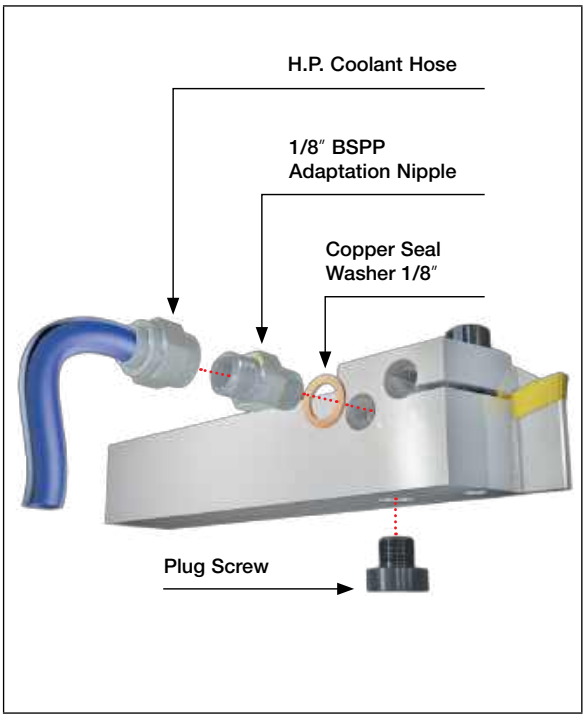
In grooving and parting operations, applying high-pressure coolant provides excellent chip breaking results on all materials. On exotic alloys such as Inconel and Titanium, it is usually impossible to break the chips with standard external coolant pressure.
Applying high coolant pressure provides excellent chip breaking results. On some alloyed and stainless steel, especially when low feeds are applied, high-pressure coolant may solve chip breaking problems.
High-pressure coolant reduces or even eliminates built-up edge phenomenon, especially when machining stainless steel and high temperature alloys.
In turning operations, applying high-pressure coolant is less effective because the jet is directed to the frontal edge.

### Assembly and Safety Guidelines when Using the JET HP Iso Turning and Grooving Tools

Before use, please ensure that:

- The machine door is in a fully closed position
- The coolant hose is in the correct location and fully tightened with all seals in position
- A blank plug is inserted into the unused coolant hole
- All O-rings and washers are in place
- The coolant hose is tightened securely to the toolholder and tool block to prevent leakage of coolant

**Important**
Always pay attention not to exceed the maximum safe working pressure for **GROOVE-TURN tools 340 bar** and **PARTING OFF tools 300 bar.**



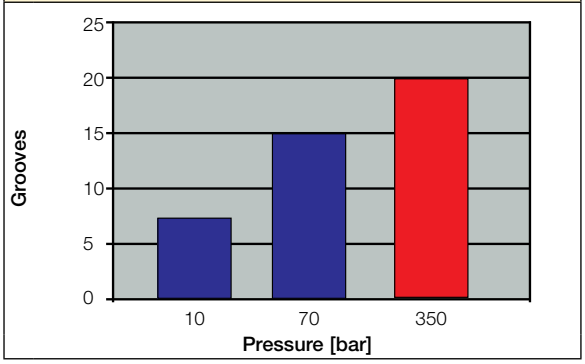

### Grooving Test



**Material:** Titanium (Ti6Al4v)
**Operation:** Grooving
**Tool:** GHDL 25-6-JHP
**Insert:** GIMF 608 IC07
**Vc:** 50 mm/min
**f:** 0.15 mm/rev

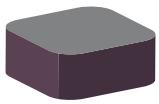
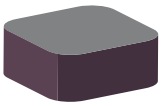
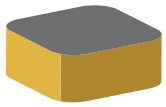
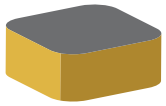
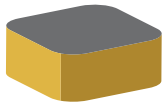
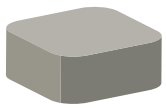
| Pressure [bar] | | |
|---|---|---|
| 10 (External) | 70 | 350 |
|  |  |  |

**Tool Life**



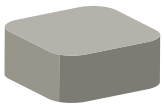
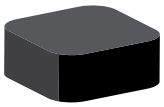
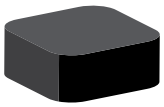
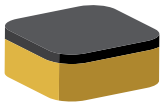
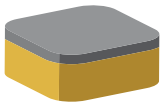
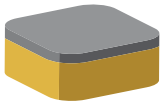



## ISCAR Groove-Turn Grades Chart

| | Grade | ISO | Grade Description | Coating Layers | Coating Color* |
|---|---|---|---|---|---|
| PVD COATED | IC228 | P30-P45<br>M25-M40 | A very substrate with PVD coating, suitable for machining steels and stainless steel at low to medium cutting speeds. | TiN<br>TICN<br>Base |  |
| | IC528 | P30-P45<br>M25-M40 | A tough substrate with PVD coating, suitable for machining steels and stainless steel at low to medium cutting speeds.<br>Can be used under unstable conditions. | TiN<br>TiCN<br>Base |  |
| | IC804 | S05-S15 | A very hard submicron grain size substrate with PVD coating and a special SUMOTEC surface treatment. Suitable for semi-finishing and finishing operations under stable conditions on high temperature alloys and Titanium alloys moderate to relatively high cutting speeds. Features high wear resistance and plastic deformation durability. | TiAlN<br>AlTiN<br>Base |  |
| | IC806 | M05-M15<br>S10-S20 | A hard submicron grain size substrate with PVD coating and a special SUMOTEC surface treatment.<br>Excellent for machining high temperature alloys and Titanium alloys, at moderate to relatively high cutting speeds.<br>Features high wear resistance and plastic deformation durability. | TiAlN<br>AlTiN<br>Base |  |
| | IC807 | P10-P20<br>M05-M15<br>K15-K30<br>S10-S20<br>H05-H15 | A hard submicron grain size substrate with PVD coating and a special SUMOTEC surface treatment. Suitable for machining steels, alloy steels, austenitic stainless steel, high temperature alloys and hard steels at moderate to relatively high cutting speeds under stable conditions. Features high wear resistance and plastic deformation durability. | TiN<br>TiAlN<br>Base |  |
| | IC808 | P15-P30<br>M20-M30<br>K20-K40<br>S15-S30<br>H20-H30 | A tough submicron grain size substrate with PVD coating and a special SUMOTEC surface treatment. Recommended for general use for a large variety of applications and materials such as steels, alloy steels, austenitic stainless steel and high temperature alloys at moderate cutting speeds and feeds. Features high wear resistance and chipping durability. | TiN<br>TiAlN<br>Base |  |
| | IC830 | P30-P45<br>M25-M40<br>S20-S30 | A tough substrate with PVD coating and a special SUMOTEC surface treatment. Suitable for machining steel and stainless steel at low to medium cutting speeds and moderate to high feeds. The grade features high toughness and recommended for interrupted cuts and machining under unstable conditions. May be used on high temperature alloys at low cutting speeds. | TiN<br>TiAlN<br>Base |  |
| | IC907 | P10-P20<br>M05-M15<br>K15-K30<br>S10-S20<br>H05-H15 | A hard submicron grain size substrate with PVD coating suitable for a wide range of materials such as steels, alloy steels, hard steels, austenitic stainless steel and heat resistant alloys at moderate to relatively high cutting speeds under stable conditions. Features high wear resistance and plastic deformation durability. | TiAlN<br>Base |  |

* For coated grades

## ISCAR Groove-Turn Grades Chart

| | Grade | ISO | Grade Description | Coating Layers | Coating Color* |
|---|---|---|---|---|---|
| PVD COATED | IC908 | P15-P30<br>M20-M30<br>K20-K40<br><br>S15-S30<br>H20-H30 | A tough submicron grain size substrate with PVD coating, recommended for general use in a large variety of operations and materials such as steels, alloy steels, austenitic stainless steel and high temperature alloys at moderate cutting speeds. Features high wear resistance and chipping durability. | TiAlN<br>Base |  |
| | IC1007 | P10-P20<br>M05-M15<br>K15-K30<br><br>S10-S20<br>H05-H15 | A hard submicron grain size substrate with PVD coating, suitable for a wide range of materials such as steels, alloy steels, hard steels, austenitic stainless steel and heat resistant alloys at moderate to high speeds under stable conditions. Features high wear resistance and plastic deformation durability. Good choice for non-ferrous materials and cast iron. | TiN<br>TiAlN<br>Base |  |
| | IC1008 | P15-P30<br>M20-M30<br>K20-K40<br><br>S15-S30<br>H20-H30 | A tough submicron grain size substrate with PVD coating. Recommended for general use on a wide range of applications and materials as steels, alloy steels, austenitic stainless steel and high temperature alloys at moderate cutting speeds. | TiN<br>TiAlN<br>Base |  |
| CVD COATED | IC418 | <br><br>K10-K25<br><br><br> | A tough substrate with multilayer CVD coating. Recommended for machining gray and nodular cast iron at medium to high cutting speeds. Can be used for interrupted cuts and under heavy machining conditions. | $Al_2O_3$<br>Tic<br>Base |  |
| | IC428 | <br><br>K05-K20<br><br><br>H15-H25 | A hard substrate with multilayer CVD coating. Recommended for machining gray and nodular cast iron at moderate to high cutting speeds. | $Al_2O_3$<br>Tic<br>Base |  |
| | IC5010 | <br><br>K10-K20<br><br><br> | A hard substrate with MTCVD coating with a special SUMOTEC surface treatment. Recommended for machining gray and nodular cast iron at moderate to high cutting speeds, provides very good resistance to chipping. | TiN<br>$Al_2O_3$<br>TiCN<br>Base |  |
| | IC8150 | P10-P25<br>M10-M20<br>K10-K25<br><br><br> | A hard substrate with a cobalt enriched layer, MTCVD coating with a special SUMOTEC surface treatment. Recommended for high speed machining of steels, alloy steels and martensitic stainless steel with moderate feeds under stable conditions. Features excellent thermal stability, resistance to wear and plastic deformation durability. | TiN<br>$Al_2O_3$<br>TiCN<br>Base |  |
| | IC8250 | P15-P35<br>M15-M25<br><br><br><br> | A tough substrate with a cobalt enriched layer and MTCVD coating with a special SUMOTEC surface treatment. Recommended for general use machining of steels, alloy steels and martensitic stainless steel in a wide range of conditions. Features high toughness and good wear resistance. | TiN<br>$Al_2O_3$<br>TiCN<br>Base |  |

* For coated grades

## ISCAR Groove-Turn Grades Chart

| | Grade | ISO | Grade Description | Coating Layers | Uncoated |
|---|---|---|---|---|---|
| CERMET | IC20N | P05-P25<br>M05-M15 | A very hard cermet grade for turning and grooving, recommended for finishing operations on steels and alloy steels at high cutting speeds and low feeds. Features excellent surface finish, high wear resistance, plastic deformation durability and prevents built-up edge. | Base |  |
| UNCOATED | IC4 | N01-N15<br>S05-S15 | A very hard-uncoated carbide grade, suitable for machining aluminum alloys, aluminum alloys with high silicon content and other non-ferrous materials at high cutting speeds. | Base |  |
| | IC07 | M10-M20<br>N05-N20<br>S10-S25 | A hard-uncoated submicron carbide grade, suitable for machining aluminum alloys and other non-ferrous materials at high cutting speeds. | Base |  |
| | IC08 | M15-M30<br>N10-N25<br>S20-S30 | A tough uncoated submicron carbide grade, suitable for steels, stainless steel and high temperature alloys at low cutting speeds. Good choice for non-ferrous materials. | Base |  |
| | IC20 | K10-K20<br>N05-N25<br>S10-S20<br>H10-H20 | A hard-uncoated carbide grade for machining aluminum and other non-ferrous materials at medium to high cutting speeds. Can be used for cast iron at low cutting speeds. Suitable also for machining high temperature and Titanium alloys, at low cutting speeds. | Base |  |
| CBN | IB10H | H10 | Extra fine PCBN grain size. Suitable for high speed machining of hardened steels (45-65 HRC) under stable conditions. | Base |  |
| | IB20H | H20 | A combination of coarse and fine PCBN grain, suitable for general and interrupted cutting of hardened steels. | Base |  |
| | IB50 | K01-K10<br>H01-H10 | A PCBN grade, suitable for finish turning and grooving operations on hardened steels 45-65 HRC and nodular cast iron in continuous cutting. | Base |  |
| PCD | ID5 | N01-N10 | A PCD brazed tip, suitable for machining aluminum alloys (Si < 12%) and other non-ferrous materials. Features very high wear resistance with high toughness. Suitable for finishing operations and can be used for semi roughning operations and interrupted cut. | Base |  |

## Groove-Turn Cutting Speed Recommendations

| ISO | Material | | Condition | Tensile Strength [N/mm²] | Hardness HB | Material Group No.(1) |
|---|---|---|---|---|---|---|
| P | Non-alloy steel and cast steel, free cutting steel | < 0.25 %C | Annealed | 420 | 125 | 1 |
| | | >= 0.25 %C | Annealed | 650 | 190 | 2 |
| | | < 0.55 %C | Quenched and tempered | 850 | 250 | 3 |
| | | >= 0.55 %C | Annealed | 750 | 220 | 4 |
| | | >= 0.55 %C | Quenched and tempered | 1000 | 300 | 5 |
| | Low alloy steel and cast steel (less than 5% all elements) | | Annealed | 600 | 200 | 6 |
| | | | Quenched and tempered | 930 | 275 | 7 |
| | | | | 1000 | 300 | 8 |
| | | | | 1200 | 350 | 9 |
| | High alloy steel, cast steel, tool steel | | Annealed | 680 | 200 | 10 |
| | | | Quenched and tempered | 1100 | 325 | 11 |
| P | Stainless steel and cast steel | | Ferritic/martensitic | 680 | 200 | 12 |
| | | | Martensitic | 820 | 240 | 13 |
| M | Stainless steel and cast steel | | Austenitic, duplex | 600 | 180 | 14 |
| K | Grey cast iron (GG) | | Pearlitic/ferritic | | 180 | 15 |
| | | | Pearlitic/martensitic | | 260 | 16 |
| | Ductile cast iron (nodular) (GGG) | | Ferritic | | 160 | 17 |
| | | | Pearlitic | | 250 | 18 |
| | Malleable cast iron | | Ferritic | | 130 | 19 |
| | | | Pearlitic | | 230 | 20 |
| N | Aluminum-wrought alloys | | Not hardenable | | 60 | 21 |
| | | | Hardenable | | 100 | 22 |
| | Aluminum-cast alloys | <=12% Si | Not hardenable | | 75 | 23 |
| | | | Hardenable | | 90 | 24 |
| | | >12% Si | High temperature | | 130 | 25 |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 |
| | | | Brass | | 90 | 27 |
| | | | Electrolitic copper | | 100 | 28 |
| | Non-metallic | | Duroplastics, fiber plastics | | | 29 |
| | | | Hard rubber | | | 30 |
| S | High temp. alloys | Fe based | Annealed | | 200 | 31 |
| | | | Hardened | | 280 | 32 |
| | | Ni or Co based | Annealed | | 250 | 33 |
| | | | Hardened | | 350 | 34 |
| | | | Cast | | 320 | 35 |
| | Titanium alloys | | Pure | 400 | | 36 |
| | | | Alpha+beta alloys hardened | 1050 | | 37 |
| H | Hardened steel | | Hardened | | 55 HRC | 38 |
| | | | Hardened | | 60 HRC | 39 |
| | Chilled cast iron | | Cast | | 400 | 40 |
| | Cast iron | | Hardened | | 55 HRC | 41 |

(1) For material groups, see pages 786-817

| Material Group No. | IC20N | IC8250 | IC807 | IC808 | IC908 | IC354 | IC830 | IC228/328/528 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 225 - 335 | 210 - 315 | 160 - 240 | 145 - 220 | 140-210 | 110 - 170 | 105 - 155 | 100 - 145 | | |
| 2 | 210 - 290 | 195 - 270 | 150 - 205 | 135 - 190 | 130-180 | 105 - 145 | 95 - 135 | 90 - 125 | | |
| 3 | 160 - 240 | 150 - 225 | 115 - 170 | 105 - 155 | 100-150 | 80 - 120 | 75 - 110 | 70 - 105 | | |
| 4 | 175 - 270 | 165 - 255 | 125 - 195 | 115 - 180 | 110-170 | 90 - 135 | 80 - 125 | 75 - 120 | | |
| 5 | 145 - 225 | 135 - 210 | 105 - 160 | 95 - 145 | 90-140 | 70 - 110 | 65 - 105 | 65 - 100 | | |
| 6 | 175 - 270 | 165 - 255 | 125 - 195 | 115 - 180 | 110-170 | 90 - 135 | 80 - 125 | 75 - 120 | | |
| 7 | 145 - 240 | 135 - 225 | 105 - 170 | 95 - 155 | 90-150 | 70 - 120 | 65 - 110 | 65 - 105 | | |
| 8 | 145 - 225 | 135 - 210 | 105 - 160 | 95 - 145 | 90-140 | 70 - 110 | 65 - 105 | 65 - 100 | | |
| 9 | 130 - 210 | 120 - 195 | 90 - 150 | 85 - 135 | 80-130 | 65 - 105 | 60 - 95 | 55 - 90 | | |
| 10 | 210 - 290 | 195 - 270 | 150 - 205 | 135 - 190 | 130-180 | 105 - 145 | 95 - 135 | 90 - 125 | | |
| 11 | 130 - 210 | 120 - 195 | 90 - 150 | 85 - 135 | 80-130 | 65 - 105 | 60 - 95 | 55 - 90 | | |

| | IC20N | IC806 | IC907/807 | IC8250 | IC808 | IC908 | IC320 | IC830 | IC354 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 12 | 180 - 320 | 130 - 240 | 125 - 230 | 120 - 220 | 115 - 210 | 110-200 | 100 - 180 | 80 - 150 | 90 - 160 | |
| 13 | 160 - 300 | 120 - 230 | 115 - 220 | 110 - 210 | 105 - 200 | 100-190 | 90 - 170 | 75 - 140 | 80 - 150 | |

| | IC20N | IC806 | IC907/807 | IC8250 | IC808 | IC908 | IC320 | IC830 | IC354 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 14 | 140 - 270 | 110 - 205 | 105 - 195 | 100 - 185 | 95 - 180 | 90-170 | 80 - 155 | 65 - 125 | 70 - 135 | |

| | IC5010 | IC418 | IC428 | IC8250 | IC907/807 | IC908/808 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 | 165 - 295 | 140 - 255 | 150-270 | 135 - 245 | 105 - 190 | 95 - 175 | | | | |
| 16 | 145 - 210 | 125 - 180 | 130-190 | 115 - 170 | 90 - 135 | 85 - 125 | | | | |
| 17 | 155 - 255 | 135 - 220 | 140-230 | 125 - 205 | 100 - 160 | 90 - 150 | | | | |
| 18 | 120 - 200 | 105 - 170 | 110-180 | 100 - 160 | 75 - 125 | 70 - 115 | | | | |
| 19 | 185 - 310 | 160 - 265 | 170-280 | 155 - 250 | 120 - 195 | 110 - 180 | | | | |
| 20 | 155 - 255 | 135 - 220 | 140-230 | 125 - 205 | 100 - 160 | 90 - 150 | | | | |

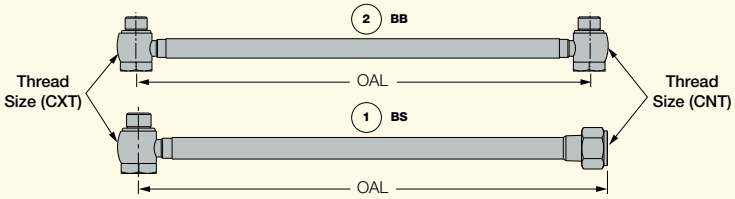
| | ID5 | IC04 | IC807 | IC20 | IC04 | IC07 | IC08 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 21 | 400-2500 | 460 - 1380 | 440 - 1320 | 400-1200 | 460 - 1380 | 440 - 1320 | 320 - 960 | | | |
| 22 | 400-2500 | 345 - 1150 | 330 - 1100 | 300-1000 | 345 - 1150 | 330 - 1100 | 240 - 800 | | | |
| 23 | 400-2500 | 345 - 1150 | 330 - 1100 | 300-1000 | 345 - 1150 | 330 - 1100 | 240 - 800 | | | |
| 24 | 400-2500 | 230 - 690 | 220 - 660 | 200-600 | 230 - 690 | 220 - 660 | 160 - 480 | | | |
| 25 | 300-1500 | 230 - 460 | 220 - 440 | 200-400 | 230 - 460 | 220 - 440 | 160 - 320 | | | |
| 26 | 300-1000 | 230 - 460 | 220 - 440 | 200-400 | 230 - 460 | 220 - 440 | 160 - 320 | | | |
| 27 | 300-800 | 170 - 345 | 165 - 330 | 150-300 | 170 - 345 | 165 - 330 | 120 - 240 | | | |
| 28 | 300-800 | 115 - 230 | 110 - 220 | 100-200 | 115 - 230 | 110 - 220 | 80 - 160 | | | |
| 29 | 150-600 | 55 - 230 | 55 - 220 | 50-200 | 55 - 230 | 55 - 220 | 40 - 160 | | | |
| 30 | | | | | | | | | | |

| No. | IC804 | IC806 | IC807 | IC907 | IC908 | IC808 | IC04 | IC07 | IC20 | IC08 |
|---|---|---|---|---|---|---|---|---|---|---|
| 31 | 60 - 95 | 50 - 80 | 50 - 80 | 45 - 75 | 40-65 | 40 - 70 | 30 - 50 | 30 - 45 | 25 - 40 | 25 - 40 |
| 32 | 45 - 65 | 35 - 55 | 35 - 55 | 35 - 50 | 30-45 | 30 - 45 | 25 - 35 | 20 - 30 | 20 - 30 | 20 - 25 |
| 33 | 45 - 65 | 35 - 55 | 35 - 55 | 35 - 50 | 30-45 | 30 - 45 | 25 - 35 | 20 - 30 | 20 - 30 | 20 - 25 |
| 34 | 35 - 60 | 30 - 50 | 30 - 50 | 30 - 45 | 25-40 | 25 - 40 | 20 - 30 | 15 - 30 | 15 - 25 | 15 - 25 |
| 35 | 30 - 45 | 25 - 35 | 25 - 35 | 25 - 35 | 20-30 | 20 - 30 | 15 - 25 | 15 - 20 | 15 - 20 | 10 - 20 |
| 36 | 150 - 255 | 125 - 210 | 120 - 205 | 115 - 195 | 100-170 | 105 - 180 | 80 - 135 | 70 - 120 | 65 - 110 | 60 - 100 |
| 37 | 50 - 65 | 45 - 60 | 40 - 50 | 40 - 50 | 35-45 | 35 - 45 | 50 - 65 | 40 - 55 | 40 - 50 | 35 - 45 |

| No. | IB10H | IB50 | IB20H | IC807 | IC907 | IC808 | IC908 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 38 | 100-155 | 90-140 | 80-125 | 35-45 | 30-40 | 30-40 | 25-35 | | | |
| 39 | 90-135 | 80-120 | 75-110 | 30-40 | 25-35 | 25-35 | 20-30 | | | |
| 40 | 110-175 | 100-160 | 90-145 | 45-65 | 40-60 | 40-60 | 30-50 | | | |
| 41 | 100-135 | 90-120 | 80-110 | 40-50 | 35-45 | 35-45 | 30-40 | | | |

## Accessories

### JHP HOSE
High-Pressure Coolant Hose




| Designation | OAL | Fig. | CXT | CNT |
|---|---|---|---|---|
| JHP HOSE G1/8-7/16-200BS | 200.00 | 1 | G1/8"-28 BSPP | UNF7/16"-20FLARE 37° |
| JHP HOSE 5/16-G1/8-200BS | 200.00 | 1 | 5/16"-24 UNF | G1/8"-28 BSPP |
| JHP HOSE 5/16-7/16-200BS | 200.00 | 1 | 5/16"-24 UNF | UNF7/16"-20FLARE 37° |
| JHP HOSE G1/8-G1/8-200BB | 200.00 | 2 | G1/8"-28 BSPP | G1/8"-28 BSPP |
| JHP HOSE G1/8-7/16-250BS | 250.00 | 1 | G1/8"-28 BSPP | UNF7/16"-20FLARE 37° |
| JHP HOSE G1/8-G1/8-250BB | 250.00 | 2 | G1/8"-28 BSPP | G1/8"-28 BSPP |

### Spare Parts

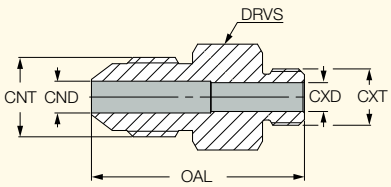
| Designation | | |
|---|---|---|
| JHP HOSE 5/16-7/16-200BS | JHP BANJO BOLT 5/16" UNF | JHP COPPER SEAL 5/16" |
| JHP HOSE G1/8-G1/8-200BB | | JHP COPPER SEAL 1/8"* |
| JHP HOSE G1/8-G1/8-250BB | JHP BANJO BOLT G1/8"* | JHP COPPER SEAL 1/8"* |

* Optional, should be ordered separately

## Accessories

### JHP NIPPLE
High-Pressure Adaptation Nipple



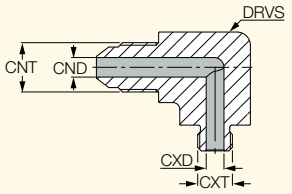



| Designation | CXT | CNT | OAL | CND | CXD | DRVS(1) |
|---|---|---|---|---|---|---|
| JHP NIPPLE G1/8"-7/16"UNF | 1/8"-28 BSPP | 7/16"-20 UNF | 28.75 | 4.00 | 4.00 | 14.3 |
| JHP NIPPLE 1/8NPT-7/16UNF | 1/8"-27 NPT | 7/16"-20 UNF | 31.00 | 4.80 | 4.40 | 12.7 |
| JHP NIPPLE 1/4NPT-7/16UNF | 1/4"-18 NPT | 7/16"-20 UNF | 36.00 | 4.40 | 4.40 | 14.3 |
| JHP NIPPLE5/16UNF-7/16UNF | 5/16"-24 UNF | 7/16"-20 UNF | 29.50 | 4.40 | 4.00 | 12.7 |

(1) Torque key size

## Accessories

### JHP ELBOW
High-Pressure Adaptation Elbow




| Designation | CNT | CND | CXT | CXD | DRVS(2) |
|---|---|---|---|---|---|
| JHP ELBOW TUB3/16-5/16UNF (1) | - | 3.10 | 5/16"-24 UNF | 4.00 | 12.7 |
| JHP ELBOW 90-5/16-7/16UNF | 7/16"-20 UNF | 4.40 | 5/16"-24 UNF | 4.00 | 12.7 |
| JHP ELBOW 90-G1/8-7/16UNF | 7/16"-20 UNF | 4.40 | 1/8"-28 BSPP | 4.00 | 15.9 |

(1) For connection to a simple 3/16" stainless or copper tube

(2) Torque key size

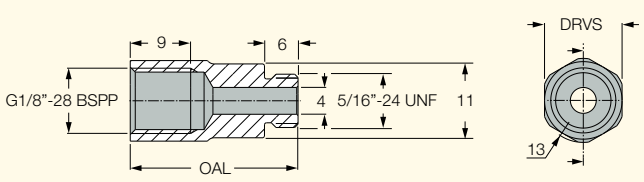
### Spare Parts

| Designation | |
|---|---|
| JHP ELBOW 90-5/16-7/16UNF | JHP COPPER SEAL 5/16"-2.5 |
| JHP ELBOW 90-G1/8-7/16UNF | JHP COPPER SEAL 1/8" |

## Accessories

### JHP CONNECTOR
High-Pressure Connector





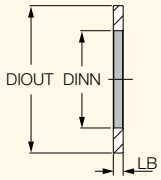

| Designation | OAL | DRVS(1) |
|---|---|---|
| JHP CONECTOR 5/16"-G1/8" | 25.00 | 12.0 |

(1) Torque key size

## Accessories

### JHP COPPER SEAL
High-Pressure Copper Seal






| Designation | DIOUT | DINN | LB |
|---|---|---|---|
| JHP COPPER SEAL 5/16"-2.5 | 9.40 | 8.00 | 2.50 |
| JHP COPPER SEAL 5/16" | 11.90 | 8.15 | 1.35 |
| JHP COPPER SEAL 1/8" | 15.00 | 10.00 | 1.00 |



# PARTING



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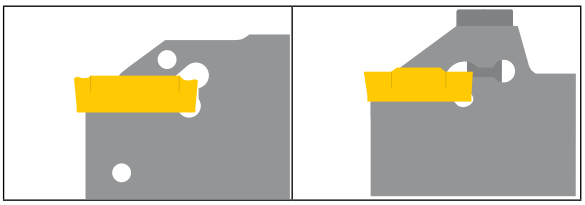
**Modular-Grip Adaptations ..... 749**

## Clamping Systems

### DO-GRIP

- First choice for parting
- Double-ended insert
- Self-clamped for deeper grooving and parting medium to large diameters
- Screw-clamped for small diameters
- See also **HELI-GRIP**, page 259

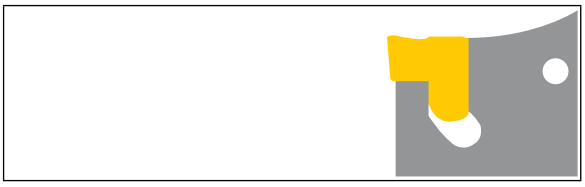
FIRST CHOICE!



Self-clamped Screw-clamped

### TANG-GRIP

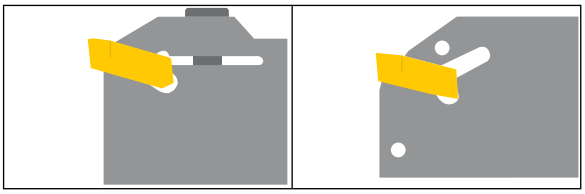
- Very rigid clamping in a tangentially oriented pocket
- Enables machining at very high feed rates and provides excellent straightness and surface finish
- Recommended for parting large diameter parts and for interrupted cuts
- Offers a free, unobstructed chip flow



TANG-GRIP

### CUT-GRIP

- Single-ended insert
- Self- and screw-clamped options

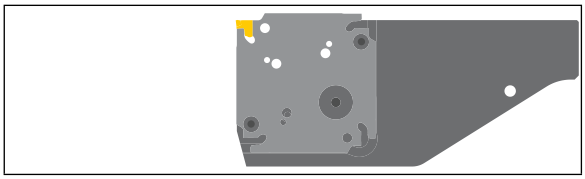


Screw-clamped Self-clamped

### LOGIQ F GRIP

HIGH FEED GRIP HOLDER

- Unique adaptation for Quad /Square type adapters with 4 pockets
- Outstanding stability, vibration free parting system also on big diameters
- Improves insert life, surface finish and workpiece straightness due to robust design
- Enables reduction of cutting width due to excellent stability, leading to material savings
- **Ø120mm** bar can be cut with only 3 mm insert width
- Guarantees high productivity, especially when using **TAG N...HF** inserts with feed of up to 0.4 mm\rev.
- Economical adapters with 4 pockets
- User friendly, easy to operate
- Saves set up time after pocket replacement; adapter can be positioned with new pocket without set up
- Several adapters can be clamped on one tool block
- The tools and adapters are designed for **JET-CUT** cooling up to 140 Bar

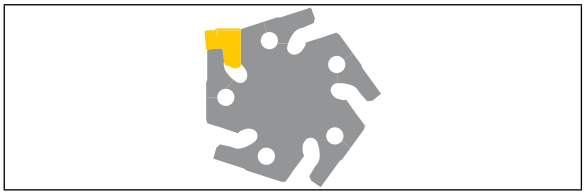


LOGIQ-F-GRIP

### TANG 5 GRIP

PARTING AND GROOVING

- Economical pentagonal adapters with 5 pockets
- No setup time after pocket replacement
- Several adapters can be clamped on one holder
- The tools and adapters are designed for **JET-CUT** cooling up to 340 Bar



TANG-5-GRIP

### PENTACUT

- 5 cutting edges
- Fast edge indexing
- For shallow grooving and up to 20 mm parting diameter
- **PENTA-IQ** for parting up to 40mm bar diameter



PENTACUT PENTAIQ

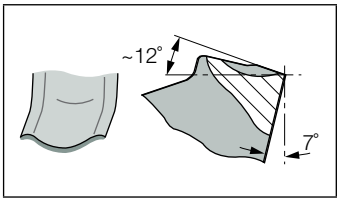
## Main Chipformers

### HF-Type

- For high feed machining only!
- Reinforced cutting edge (negative rake)
- Should be used with short extension tools

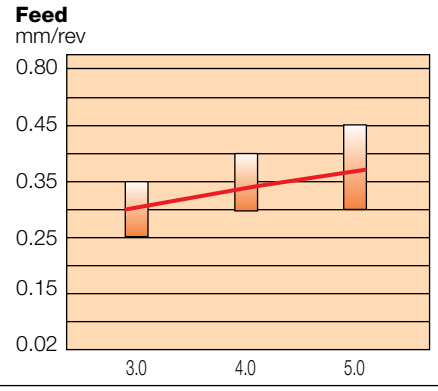
$$f \approx \frac{W\ insert}{12}\ [mm/rev]$$

| Alloy Steel | Austenitic Stainless | High Temp. Alloys | Nonferrous Materials | Cast Iron |
|---|---|---|---|---|
| ✓ | ✗ | ✗ | ✗ | ✓ |






**Recommended feed range as a function of insert width**



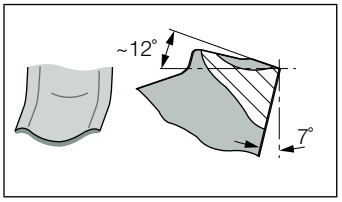

### C-Type

- First choice for parting of bars, hard materials and tough applications
- A positive rake, single cavity with negative land and shoulders provides extra cutting-edge strength
- Medium-to-high feed

$$f \approx \frac{W\ insert}{18}\ [mm/rev]$$

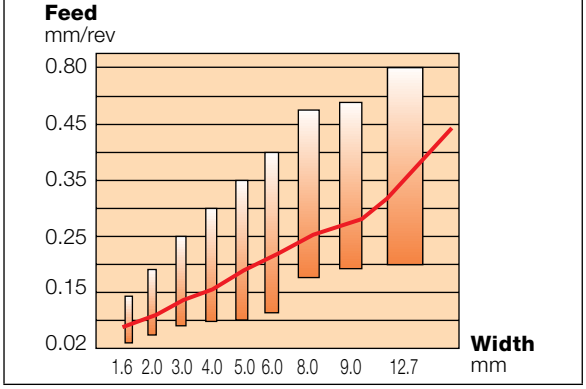
| Alloy Steel | Austenitic Stainless | High Temp. Alloys | Nonferrous Materials | Cast Iron |
|---|---|---|---|---|
| ✓ | ✗ | ✓ (IC20 only) | ✓ (IC20 only) | ✓ |

**Recommendations are for neutral inserts.**
**For R/L inserts, reduce feed by 20-40%.**






**Recommended feed range as a function of insert width**

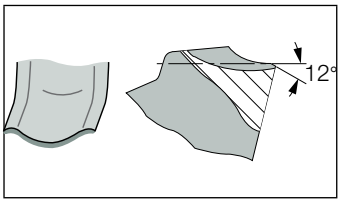



### MF Type

- Parting and Grooving Insert for Soft and Hard Materials, Medium Feed

$$f \approx \frac{W\ insert}{21}\ [mm/rev]$$

| Alloy Steel | Austenitic Stainless | High Temp. Alloys | Nonferrous Materials | Cast Iron |
|---|---|---|---|---|
| ✓ | ✓ | ✓ | ✗ | ✓ |





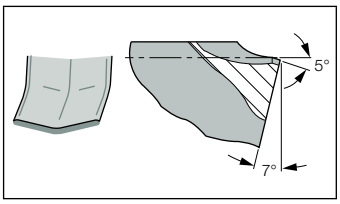

### JT-Type

Based on the J-type chipformer with a T-land reinforced frontal cutting edge.

- Provides a solution for the intermediate range between the strong and negative C-type configuration and the positive edged J-type chipformer.
- Can be used on a wide range of materials.
- Same manner as the J-type, but it can be used at higher feeds due to its reinforced edge.

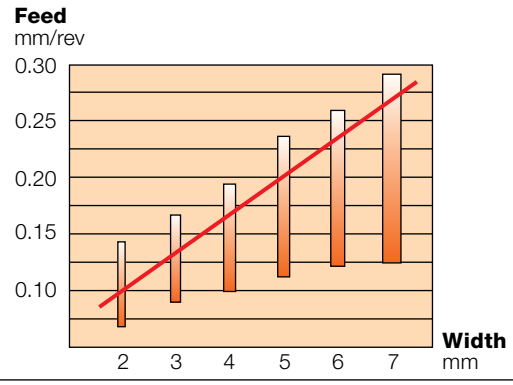
$$f \approx \frac{W\ insert}{24}\ [mm/rev]$$

| Alloy Steel | Austenitic Stainless | High Temp. Alloys | Nonferrous Materials | Cast Iron |
|---|---|---|---|---|
| ✓ | ✓ | ✓ | ✗ | ✓ |






**Recommended feed range as a function of insert width**



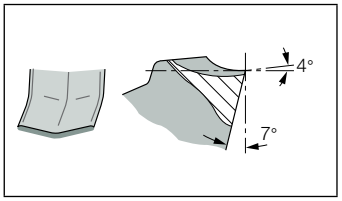

### J-Type

- First choice for soft materials, parting tubes, small diameters and thin-walled parts
- Cutting edge with positive rake
- Low-to-medium feed

$$f \approx \frac{W\ insert}{26}\ [mm/rev]$$

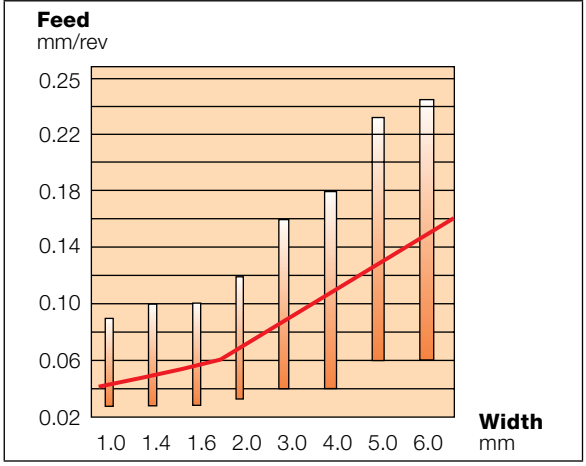
| Alloy Steel | Austenitic Stainless | High Temp. Alloys | Nonferrous Materials | Cast Iron |
|---|---|---|---|---|
| ✓ | ✓ | ✓ | ✓ | ✗ |

**Recommendations are for neutral inserts.**
**For R/L inserts, reduce feed by 20-40%.**






**Recommended feed range as a function of insert width**

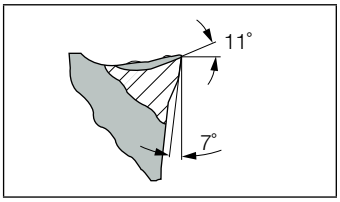


### Z-Type

- Cutting edge with high positive rake, suitable for parting tubes, thin walled arts and for small diameters
- Suitable for soft materials
- Excellent for cutting bearing steel and stainless steel
- Low-to-medium feeds

$$f \approx \frac{\text{W insert}}{28} \text{ [mm/rev]}$$

| Alloy Steel | Austenitic Stainless | High Temp. Alloys | Nonferrous Materials | Cast Iron |
|---|---|---|---|---|
| ✓ | ✓ | ✓ | ✓ | ✗ |



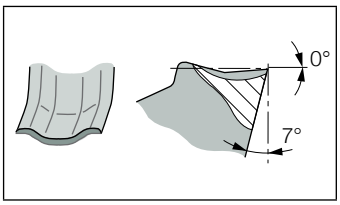



### LF

- Parting and Grooving Insert for Stainless Steel & soft materials
- Miniature Parts
- Low Feeds

$$f \approx \frac{\text{W insert}}{31} \text{ [mm/rev]}$$

| Alloy Steel | Austenitic Stainless | High Temp. Alloys | Nonferrous Materials | Cast Iron |
|---|---|---|---|---|
| ✓ | ✓ | ✓ | ✗ | ✗ |

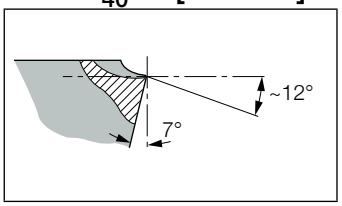





### UA/UT-Type

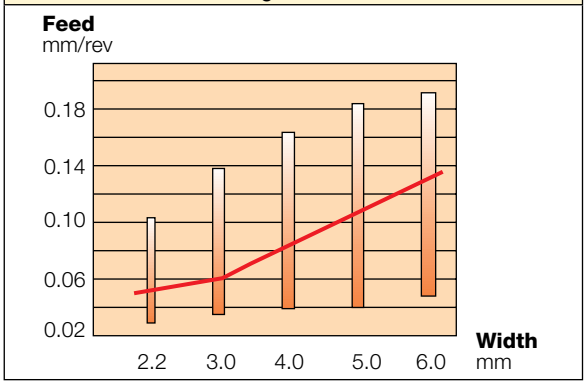
- A chipformer for use at low feeds
- Recommended for CrNi alloys and low carbon steel, especially in the bearing industry and on similar, ductile materials
- The narrow chipformer design ensures short deformed chips and provides improved performance
- **UA** and **UT** are similar chipformers. **UT** is slightly tighter than the **UA** chipformer

$$f \approx \frac{\text{W insert}}{40} \text{ [mm/rev]}$$






**Recommended feed range as a function of insert width**

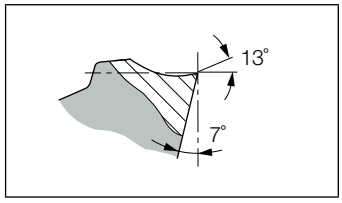


### P-Type

- Very positive rake inclination and sharp cutting edge
- For soft materials, slim parts and general parting
- Low feeds

$$f \approx \frac{\text{W insert}}{55} \text{ [mm/rev]}$$

| Alloy Steel | Austenitic Stainless | High Temp. Alloys | Nonferrous Materials | Cast Iron |
|---|---|---|---|---|
| ✓ | ✓ | ✗ | ✓ | ✗ |



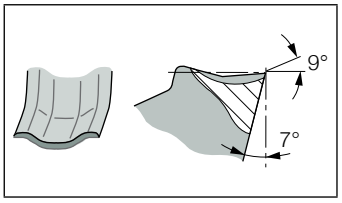



### A-Type

- Positive rake, sharp edge
- For parting aluminum
- In grade **IC20**

$$f \approx \frac{\text{W insert}}{43} \text{ [mm/rev]}$$

| Alloy Steel | Austenitic Stainless | High Temp. Alloys | Nonferrous Materials | Cast Iron |
|---|---|---|---|---|
| ✗ | ✗ | ✗ | ✓ | ✗ |



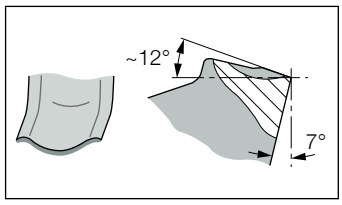



### M-Type

- Similar to C-type, but with modified edge (smaller K-land)
- Improved chip control at medium feed

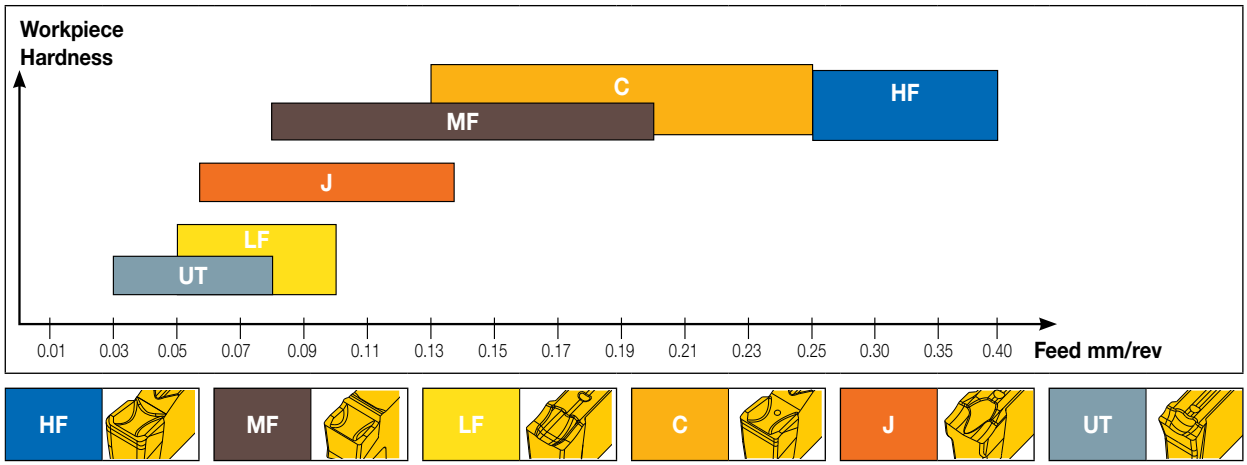
$$f \approx \frac{\text{W insert}}{22} \text{ [mm/rev]}$$

| Alloy Steel | Austenitic Stainless | High Temp. Alloys | Nonferrous Materials | Cast Iron |
|---|---|---|---|---|
| ✓ | ✗ | ✓ | ✗ | ✗ |

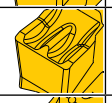
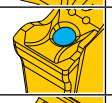
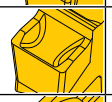
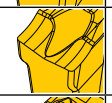
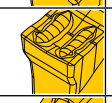
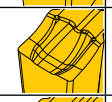
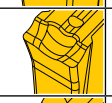
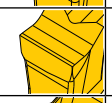





## Main Chipformers Recommended Feed




### Selection of Chipformers for Various Workpiece Materials

| | Inserts | | Alloy Steel | Austenitic Stainless | High Temp. Alloys | Nonferrous Materials | Cast Iron |
|---|---|---|---|---|---|---|---|
| |  | HF | ✔ | ✘ | ✘ | ✘ | ✔ |
| |  | C | ✔ | ✘ | ✔ (IC20 only) | ✔ (IC20 only) | ✔ |
| High |  | W | ✔ | ✘ | ✘ | ✘ | ✔ |
| |  | C-jet (Coolant) | ✔ | ✔ | ✔ | ✘ | ✘ |
| |  | MF | ✔ | Medium to high feed | ✔ | ✘ | ✔ |
| |  | JT | ✔ | ✔ | ✔ | ✘ | ✔ |
| Feed |  | J | ✔ | ✔ | ✔ | ✔ | ✘ |
| |  | Z | ✔ | ✔ | ✔ | ✔ | ✘ |
| |  | LFT | ✔ | ✔ | ✔ | ✘ | ✘ |
| |  | LF | ✔ | ✔ | ✔ | ✘ | ✘ |
| Low |  | UT | ✔ | ✘ | ✘ | ✘ | ✘ |
| |  | P | ✔ | ✔ | ✘ | ✔ | ✘ |
| |  | A | ✘ | ✘ | ✘ | ✔ | ✘ |

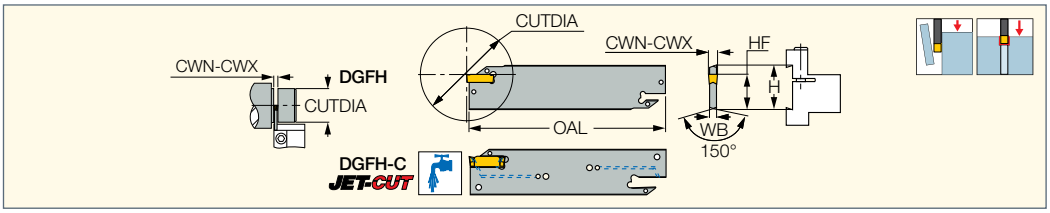
✔ First choice

# DO-GRIP

DO-GRIP TWISTED 2-SIDED HELI-GRIP

## DGFH

Parting and Grooving Blades with and without Coolant Channels Carrying DO-GRIP and HELI-GRIP Inserts




| Designation | H | CWN[4] | CWX[5] | WB | OAL | HF | CUTDIA | Insert |
|---|---|---|---|---|---|---|---|---|
| DGFH 26-1.4 | 26.0 | 1.40 | 1.40 | 2.50 [7] | 110.00 | 21.4 | 26.0 | DG. 14.. |
| DGFH 26-2 [1] | 26.0 | 1.90 [6] | 2.50 | 1.60 | 110.00 | 21.4 | 39.0 [8] | DG. 1.../DG. 2... |
| DGFH 26-3 [1] | 26.0 | 3.00 [6] | 3.18 | 2.40 | 110.00 | 21.4 | 39.0 [8] | DG. 1.../DG. 3... |
| DGFH 26C-3 [2] | 26.0 | 3.00 | 3.18 | 2.40 | 110.00 | 21.4 | 39.0 [8] | DGNC/DGRC/DGLC 3... |
| DGFH 26-4 | 26.0 | 4.00 | 4.00 | 3.20 | 110.00 | 21.4 | 80.0 | DG. 4.../GRIP 4... |
| DGFH 32-1.4 | 32.0 | 1.40 | 1.40 | 2.50 [7] | 150.00 | 24.8 | 26.0 | DG. 14 |
| DGFH 32-2 [1] | 32.0 | 1.90 [6] | 2.50 | 1.80 | 150.00 | 24.8 | 39.0 [8] | DG. 1.../DG. 2... |
| DGFH 32-3 [1] | 32.0 | 3.00 [6] | 3.18 | 2.40 | 150.00 | 24.8 | 39.0 [8] | DG. 1.../DG. 3... |
| DGFH 32C-3 [2] | 32.0 | 3.00 | 3.18 | 2.40 | 150.00 | 24.8 | 39.0 [8] | DGNC/DGRC/DGLC 3... |
| DGFH 32-4 | 32.0 | 4.00 | 4.00 | 3.20 | 150.00 | 24.8 | 100.0 | DG. 4.../GRIP 4... |
| DGFH 32C-4 [3] | 32.0 | 4.00 | 4.00 | 3.20 | 150.00 | 24.8 | 69.0 | DGNC/DGRC/DGLC 4... |
| DGFH 32-5 | 32.0 | 5.00 | 5.00 | 4.00 | 150.00 | 24.8 | 120.0 | DG. 5.../GRIP 5... |
| DGFH 32-6 | 32.0 | 6.00 | 6.35 | 5.20 | 150.00 | 24.8 | 120.0 | DG. 6.../GRIP 6... |
| DGFH 45-3 | 45.0 | 3.00 [6] | 3.18 | 2.40 | 225.00 | 38.0 | 160.0 | DG. 1.../DG. 3... |
| DGFH 45-4 | 45.0 | 4.00 | 4.10 | 3.20 | 225.00 | 38.0 | 160.0 | DG. 4.../GRIP 4... |
| DGFH 45-5 | 45.0 | 4.80 | 5.00 | 4.00 | 225.00 | 38.0 | 160.0 | DG. 5.../GRIP 5... |
| DGFH 45-6 | 45.0 | 6.00 | 6.40 | 5.20 | 225.00 | 38.0 | 160.0 | DG. 6.../GRIP 6... |

• DG..1.0 insert can be mounted into pocket sizes 2 and 3, in which case the pocket width has to be modified • For user guide, see pages 540-547

[1] For CUTDIA 50 mm, use single-ended insert (should be modified by the user)

[2] Blades with frontal coolant holes (JET-CUT) • For CUTDIA 50 mm, use single-ended insert (should be modified by the user)

[3] These blades are suitable for turning, using GRIP 4 inserts • Blades with frontal coolant holes (JET-CUT)

[4] Minimum cutting width

[5] Maximum cutting width

[6] For DG. 1... insert, modify holder

[7] Thickness at the D.O.C. area is 1.0 mm

[8] Maximum diameter with double-sided inserts.

**Inserts:** DGN-LF/LFT • DGN-MF • DGN/DGNC/DGNM-C • DGR/L-C DGRC/LC-C • DGN/DGNM-J/JS/JT • DGR/L-J/JS • DGN-P • DGN-UT/UA • DGN-W • DGN-WP • DGN-Z • DGR-P • DGR-WP • DGR-Z/ZS • GRIP • GRIP (full radius)

**Holders:** C#-TBK-R/L • HSK A-WH-TBK-R/L • SGTBF • SGTBK • SGTBR/L • SGTBU/SGTBN • UBHCR/L

## Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| DGFH 26-1.4 | EDG 23B* | | | | | |
| DGFH 26-2 | EDG 23A* | | | | | |
| DGFH 26-3 | EDG 23A* | | | | | |
| DGFH 26C-3 | EDG 23A* | SGC 340 | SGCU 341* | CGF 343* | CF 343* | CGM 343* |
| DGFH 26-4 | EDG 23A* | | | | | |
| DGFH 32-1.4 | EDG 23B* | | | | | |
| DGFH 32-2 | EDG 33A* | | | | | |
| DGFH 32-3 | EDG 33A* | | | | | |
| DGFH 32C-3 | EDG 33A* | SGC 340 | SGCU 341* | CGF 343* | CF 343* | CGM 343* |
| DGFH 32-4 | EDG 33A* | | | | | |
| DGFH 32C-4 | EDG 33A* | SGC 340 | SGCU 341* | CGF 343* | CF 343* | CGM 343* |
| DGFH 32-5 | EDG 33A* | | | | | |
| DGFH 32-6 | EDG 33A* | | | | | |
| DGFH 45-3 | EDG 33A* | | | | | |
| DGFH 45-4 | EDG 33A* | | | | | |
| DGFH 45-5 | EDG 33A* | | | | | |
| DGFH 45-6 | EDG 33A* | | | | | |

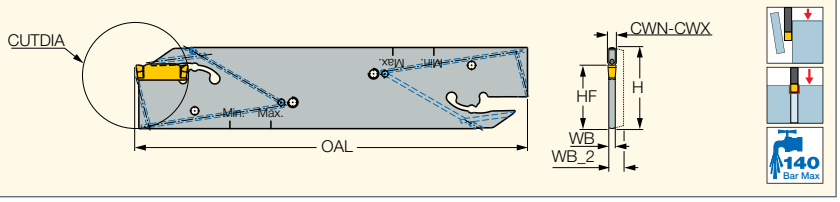
* Optional, should be ordered separately

DO-GRIP TWISTED 2-SIDED JETCUT

## DGFH-JHP

Parting and Grooving Blades with Channels for Low and High-Pressure Coolant Carrying DO-GRIP Inserts






| Designation | CWN[2] | CWX[3] | WB | WB_2 | OAL | H | HF | CUTDIA | Insert | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DGFH 32-2-JHP [1] | 1.90 [4] | 2.50 | 1.80 | 2.5 | 150.00 | 32.0 | 24.8 | 39.0 | DG. 1.../DG. 2... | | SGC 340 | EDG 33A-JHP* |
| DGFH 32-3-JHP | 3.00 [4] | 3.18 | 2.50 | - | 152.00 | 32.0 | 24.8 | 90.0 | DG. 1.../DG. 3... | SR M2.0X2.5DIN916 | SGC 340 | EDG 33A-JHP* |
| DGFH 32-4-JHP | 4.00 | 4.00 | 3.20 | - | 152.00 | 32.0 | 24.9 | 90.0 | DG. 4.../GRIP 4... | SR M2.0X2.5DIN916 | SGC 340 | EDG 33A-JHP* |
| DGFH 32-5-JHP | 5.00 | 5.00 | 4.00 | - | 152.00 | 32.0 | 24.9 | 90.0 | DG. 5.../GRIP 5... | SR M2.0X2.5DIN916 | SGC 340 | EDG 33A-JHP* |
| DGFH 32-6-JHP [1] | 6.00 | 6.35 | 5.20 | - | 160.00 | 32.0 | 24.9 | 90.0 | DG. 6.../GRIP 6... | | SGC 340 | EDG 33A-JHP* |

- For user guide and accessories, see pages 540-547

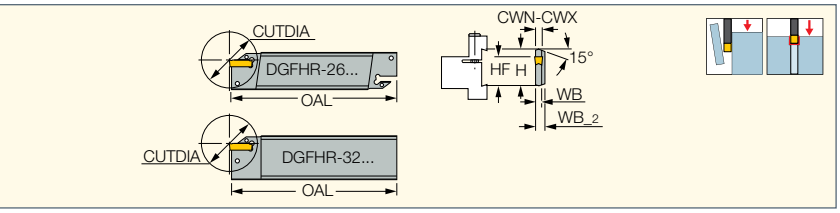
[1] Only an upper channel
[2] Minimum cutting width
[3] Maximum cutting width
[4] For DG. 1... insert, modify holder
* Optional, should be ordered separately

**Inserts:** DGN-LF/LFT • DGN-MF • DGN-P • DGN-UT/UA • DGN-W • DGN-WP • DGN-Z • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGR-P • DGR-WP • DGR-Z/ZS • DGR/L-C DGRC/LC-C • DGR/L-J/JS • GRIP • GRIP (full radius)
**Holders:** TGTBU-JHP

DO-GRIP TWISTED 2-SIDED

## DGFHR/L

Parting and Grooving Reinforced Blades Carrying DO-GRIP Inserts




| Designation | H | CWN[1] | CWX[2] | WB_2 | WB | OAL | HF | CUTDIA[3] | Machines | Insert | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DGFHR 26T16-2 | 26.0 | 1.90 | 2.50 | 8.0 | 1.70 | 110.00 | 21.4 | 42.0 | TNS-30 | DG. 1.../DG. 2.. | EDG 23A* |
| DGFHR/L 26T23-2 | 26.0 | 1.90 | 2.50 | 8.0 | 1.60 | 110.00 | 21.4 | 42.0 | TNS-30/112 | DG. 1.../DG. 2.. | EDG 23A* |
| DGFHR/L 26T16-3 | 26.0 | 3.00 | 3.18 | 8.0 | 2.40 | 110.00 | 21.4 | 30.0 | TNS-30 | DG. 1.../DG. 3.. | EDG 23A* |
| DGFHR/L 26T23-3 | 26.0 | 3.00 | 3.18 | 8.0 | 2.40 | 110.00 | 21.4 | 42.0 | TNS-30/42 | DG. 1.../DG. 3.. | EDG 23A* |
| DGFHR/L 32T22-2 | 32.0 | 1.90 | 2.50 | 8.0 | 1.60 | 110.00 | 24.8 | 42.0 | TNS-42 | DG. 1.../DG. 2.. | EDG 33A* |
| DGFHR/L 32T33-3 | 32.0 | 3.00 | 3.18 | 8.0 | 2.40 | 110.00 | 24.8 | 60.0 | TNS-42/60/65 | DG. 1.../DG. 3.. | EDG 33A* |
| DGFHR/L 32T33-4 | 32.0 | 4.00 | 4.00 | 8.0 | 3.40 | 110.00 | 24.8 | 60.0 | TNS-42/60/65 | DG. 4.../GRIP 4.. | EDG 33A* |
| DGFHL 32T41-4 | 32.0 | 4.00 | 4.00 | 10.0 | 3.40 | 110.00 | 24.8 | 80.0 | TNS-65/80/480 | DG. 4.../GRIP 4.. | EDG 33A* |
| DGFHR 32T41-4 | 32.0 | 4.00 | 4.00 | 8.0 | 3.40 | 110.00 | 24.8 | 80.0 | TNS-65/80/480 | DG. 4.../GRIP 4.. | |

- Insert limit is Tmax=18 mm. If deeper penetration is required, the insert should be modified into single-ended by the user.
- DG..1.0 insert can be mounted into pocket sizes 2 and 3. in which case the pocket width has to be modified - see page 480
- For user guide, see pages 540-547

[1] Minimum cutting width • For DG: 1.0 insert - modify holder
[2] Maximum cutting width
[3] The specified limit refers to the tool
* Optional, should be ordered separately

**Inserts:** DGN-LF/LFT • DGN-P • DGN-UT/UA • DGN-WP • DGN-Z • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGR-P • DGR-WP • DGR-Z/ZS • DGR/L-C DGRC/LC-C • DGR/L-J/JS
**Holders:** C#-TBK-R/L • HSK A-WH-TBK-R/L • SGTBF • SGTBR/L • SGTBU/SGTBN • UBHCR/L

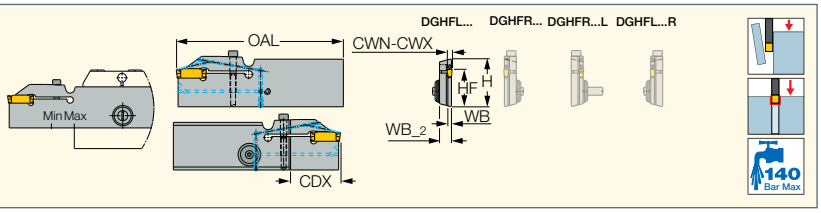


DO-GRIP TWISTED 2-SIDED JETCUT

## DGFHR/L-BC-JHP

Parting and Grooving Reinforced Blades with Channels for High-Pressure Coolant Carrying DO-GRIP Inserts






| Designation | CWN(1) | CWX(2) | WB_2 | WB | OAL | H | HF | CDX(3) | Insert | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DGFHR/L 32BC-3T33-JHP | 3.00 | 3.18 | 7.9 | 2.40 | 111.00 | 32.0 | 24.8 | 33.00 | DG. 3.. | SR M4-21532 | HW 3.0 | SGC 340 | SR M3X3DIN913 |
| DGFHL 32BC-3T33R-JHP | 3.00 | 3.18 | 7.9 | 2.40 | 111.00 | 32.0 | 24.8 | 33.00 | DG. 3.. | SR M4-21532 | HW 3.0 | SGC 340 | SR M3X3DIN913 |
| DGFHR 32BC-3T33L-JHP | 3.00 | 3.18 | 7.9 | 2.40 | 111.00 | 32.0 | 24.8 | 33.00 | DG. 3.. | SR M4-21532 | HW 3.0 | SGC 340 | SR M3X3DIN913 |

- For user guide and accessories, see pages 540-547

(1) Minimum cutting width • For DG: 1.0 insert - modify holder

(2) Maximum cutting width

(3) The specified limit refers to the tool

**Inserts:** DGN-LF/LFT • DGN-MF • DGN-P • DGN-UT/UA • DGN-Z • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGR-Z/ZS • DGR/L-C DGRC/LC-C • DGR/L-J/JS

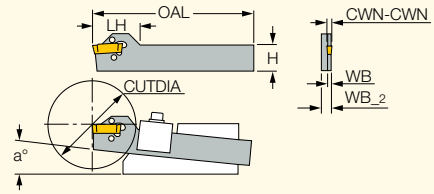
**Holders:** TGTBU-JHP




DO-GRIP TWISTED 2-SIDED

## DGFS

Blades for Multi-Spindle Machines, Replacement for HSS and Brazed Tools




| Designation | H | CWN(7) | CWX(8) | CUTDIA | WB | WB_2 | OAL | LH | a° | |
|---|---|---|---|---|---|---|---|---|---|---|
| DGFS 0-12-2 (1) | 12.7 | 1.90 | 2.50 | 32.0 | 1.60 | 3.2 | 110.00 | 32.0 | 0 | EDG 33B* |
| DGFS 0-17-2 (2) | 17.4 | 1.90 | 2.50 | 35.0 | 1.60 | 3.2 | 110.00 | 32.0 | 0 | EDG 33B* |
| DGFS 0-17-3 (2) | 17.4 | 3.00 | 3.18 | 60.0 | 2.40 | 3.2 | 110.00 | 32.0 | 0 | EDG 33B* |
| DGFS 5-17-2 (3) | 17.4 | 1.90 | 2.50 | 35.0 | 1.60 | 3.2 | 110.00 | 32.0 | 5 | EDG 33B* |
| DGFS 5-17-3 (3) | 17.4 | 3.00 | 3.18 | 60.0 | 2.40 | 3.2 | 110.00 | 32.0 | 5 | EDG 33B* |
| DGFS 5-17-4 (3) | 17.4 | 4.00 | 4.00 | 60.0 | 3.20 | 3.2 | 110.00 | 32.0 | 5 | EDG 33B* |
| DGFS 5-22-2 (4) | 22.2 | 1.90 | 2.50 | 50.0 | 1.60 | 3.2 | 150.00 | 32.0 | 5 | EDG 33B* |
| DGFS 5-22-3 (5) | 22.2 | 3.00 | 3.18 | 75.0 | 2.40 | 3.2 | 150.00 | 32.0 | 5 | EDG 33B* |
| DGFS 5-22-4 (5) | 22.2 | 4.00 | 4.00 | 80.0 | 3.20 | 3.2 | 150.00 | 32.0 | 5 | EDG 33B* |
| DGFS 5-24-3 | 23.8 | 3.00 | 3.18 | 80.0 | 2.40 | 3.2 | 150.00 | 32.0 | 5 | EDG 33B* |
| DGFS 5-28-2 (6) | 28.5 | 1.90 | 2.50 | 65.0 | 1.60 | 3.2 | 150.00 | 32.0 | 5 | EDG 33B* |
| DGFS 5-28-4 (6) | 28.5 | 4.00 | 4.00 | 100.0 | 3.20 | 3.2 | 150.00 | 32.0 | 5 | EDG 33B* |

- DG..1.0 insert can be mounted into pocket sizes 2 and 3. in which case the pocket width has to be modified -see page 480
- For user guide, see pages 540-547

(1) Toolholder assembly X18-1,46,47-WT,160-CL,354-CL,701-ACL,702,702-CL,703,703-CL,704,704-CL,6921,6925

(2) Toolholder assembly E-7,47,102-CL,103-CL,161-A-CL,162-A-CL

(3) Toolholder assembly 226,226-CL,275,275-CL,276-CL,361-CL,431,630,707-A,707-A-CL

(4) Toolholder assembly 100-CL,274,277,277-CL,274-CL,370,383-CL, 6722,6754,6755,6854,6855,6922,51,51-CL,353-CL,167,370-CL

(5) Toolholder assembly 100-CL,274,277,277-CL,274-CL,370,383-CL, 6722,6754,6755,6854,6855,51,51-CL,353-CL,167,370-CL

(6) Toolholder assembly 278,278-CL,279,279-CL,280,280-CL,281,281-CL,375-CL,359-CL,372-CL,A6120,52,52-CL

(7) Minimum cutting width • For DG: 1.0 insert - modify holder

(8) Maximum cutting width

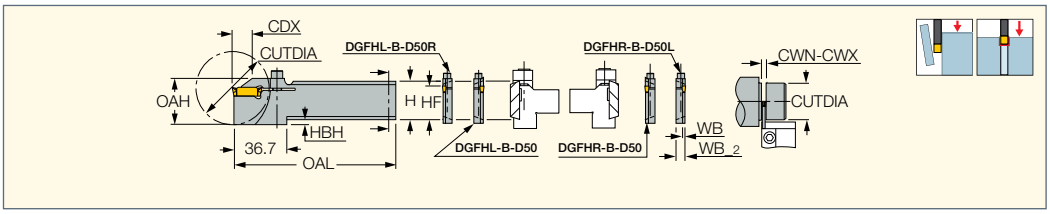
* Optional, should be ordered separately

**Inserts:** DGN-LF/LFT • DGN/DGNC/DGNM-C • DGR/L-C DGRC/LC-C • DGN/DGNM-J/JS/JT • DGR/L-J/JS • DGN-P • DGN-UT/UA • DGN-WP • DGN-Z • DGR-P • DGR-WP • DGR-Z/ZS • GRIP • GRIP (full radius)

DO-GRIP TWISTED 2-SIDED

## DGFHR/L-B-D..(R/L)

Reinforced Type Blades with Screw Clamping




| Designation | H[4] | CWN[5] | CWX[6] | WB | WB_2 | OAL | OAH | HF | HBH | CDX[7] | CUTDIA[8] | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DGFHR/L 26B-2D50 [1] | 26.0 | 1.90 | 2.50 | 1.60 | 8.0 | 110.00 | 33.7 | 21.4 | 3.6 | 18.00 | 50.0 | DG. 1.../DG. 2.. | SR M4X20 DIN912 | HW 3.0 |
| DGFHL 26B-2D50R [2] | 26.0 | 1.90 | 2.50 | 1.60 | 8.0 | 110.00 | 31.5 | 21.4 | 3.7 | 18.00 | 50.0 | DG. 1.../DG. 2.. | SR M4X20 DIN912 | HW 3.0 |
| DGFHR 26B-2D50L [2] | 26.0 | 1.90 | 2.50 | 1.60 | 8.0 | 110.00 | 31.5 | 21.4 | 3.7 | 18.00 | 50.0 | DG. 1.../DG. 2.. | SR M4X20 DIN912 | HW 3.0 |
| DGFHR/L 26B-3D50 [1] | 26.0 | 3.00 | 3.18 | 2.40 | 8.0 | 110.00 | 31.5 | 21.4 | 3.7 | 18.00 | 50.0 | DG. 1.../DG. 3.. | SR M4X20 DIN912 | HW 3.0 |
| DGFHL 26B-3D50R [2] | 26.0 | 3.00 | 3.18 | 2.40 | 8.0 | 110.00 | 31.5 | 21.4 | 3.7 | 18.00 | 50.0 | DG. 1.../DG. 3.. | SR M4X20 DIN912 | HW 3.0 |
| DGFHR 26B-3D50L [2] | 26.0 | 3.00 | 3.18 | 2.40 | 8.0 | 110.00 | 31.5 | 21.4 | 3.7 | 18.00 | 50.0 | DG. 1.../DG. 3.. | SR M4X20 DIN912 | HW 3.0 |
| DGFHR/L 32B-2D50 [3] | 32.0 | 1.90 | 2.50 | 1.60 | 8.0 | 120.00 | 31.5 | 24.8 | - | 18.00 | 50.0 | DG. 1.../DG. 2.. | SR M4X20 DIN912 | HW 3.0 |
| DGFHL 32B-2D50R [2] | 32.0 | 1.90 | 2.50 | 1.60 | 8.0 | 120.00 | 31.5 | 24.8 | - | 18.00 | 50.0 | DG. 1.../DG. 2.. | SR M4X20 DIN912 | HW 3.0 |
| DGFHR 32B-2D50L [2] | 32.0 | 1.90 | 2.50 | 1.60 | 8.0 | 120.00 | 31.5 | 24.8 | - | 18.00 | 50.0 | DG. 1.../DG. 2.. | SR M4X20 DIN912 | HW 3.0 |
| DGFHR/L 32B-3D50 [3] | 32.0 | 3.00 | 3.18 | 2.40 | 8.0 | 120.00 | 31.5 | 24.8 | - | 18.00 | 50.0 | DG. 1.../DG. 3.. | SR M4X20 DIN912 | HW 3.0 |
| DGFHL 32B-3D50R [2] | 32.0 | 3.00 | 3.18 | 2.40 | 8.0 | 120.00 | 31.5 | 24.8 | - | 18.00 | 50.0 | DG. 1.../DG. 3.. | SR M4X20 DIN912 | HW 3.0 |
| DGFHR 32B-3D50L [2] | 32.0 | 3.00 | 3.18 | 2.40 | 8.0 | 120.00 | 31.5 | 24.8 | - | 18.00 | 50.0 | DG. 1.../DG. 3.. | SR M4X20 DIN912 | HW 3.0 |

- Insert (double sided) limit is CDX=18 mm, If deeper penetration is required the insert should be changed to a single-ended insert DGNM type.
- DG..1.0 insert can be mounted into pocket sizes 2 and 3, in which case the pocket width has to be modified-see page 480
- For user guide, see pages 540-547

[1] For Traub machines, model TNC 30, TNM 28, TNS 26/30/42/112, TNA 300, TNK 260
[2] For Tornos Bechler, Emco 2000/20, 2000/26 machines
[3] For TRAUB machines, model TNC 42/65, TNM 42/65, TNS 42/60/65, TNA 300/400
[4] Mounted on all ISCAR standard blocks
[5] Minimum cutting width • For DG: 1.0 insert - modify holder
[6] Maximum cutting width
[7] Cutting depth maximum
[8] The specified limit refers to the tool

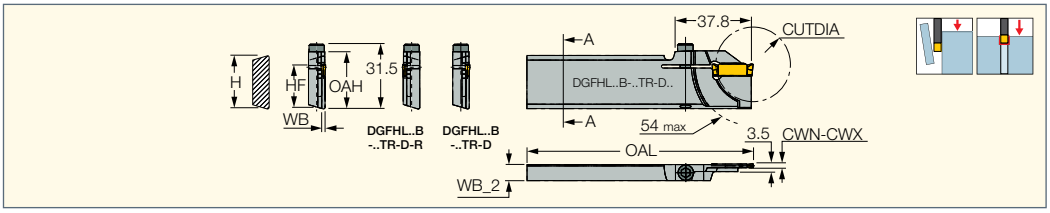
**Inserts:** DGN-LF/LFT • DGN-MF • DGN-P • DGN-UT/UA • DGN-WP • DGN-Z • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGR-P • DGR-WP • DGR-Z/ZS • DGR/L-C DGRC/LC-C • DGR/L-J/JS

**Holders:** C#-TBK-R/L • HSK A-WH-TBK-R/L • SGTBF • SGTBR/L • SGTBU/SGTBN • UBHCR/L

DO-GRIP TWISTED 2-SIDED

## DGFHL-26B-TR-D

Reinforced Type Blades with Screw Clamping for TRAUB and Index Machines




| Designation | H[2] | CWN[3] | CWX[4] | WB | WB_2 | OAL | OAH | HF | CUTDIA[5] | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DGFHL 26B-1.5TR-D20 [1] | 26.0 | 1.00 | 1.50 | 1.20 | 7.9 | 110.00 | 27.9 | 21.4 | 20.0 | DG. 1.../DG. 15.. | SR M4X20 DIN912 | HW 3.0 |
| DGFHL 26B-2TR-D36 | 26.0 | 1.90 [6] | 2.50 | 1.60 | 7.9 | 110.00 | 27.9 | 21.4 | 36.0 | DG. 1.../DG. 2.. | SR M5X20-01172 | HW 3.0 |
| DGFHL 26B-2TR-D36R | 26.0 | 1.90 [6] | 2.50 | 1.60 | 7.9 | 110.00 | 27.9 | 21.4 | 36.0 | DG. 1.../DG. 2.. | SR M4X20 DIN912 | HW 3.0 |
| DGFHL 26B-3TR-D36 | 26.0 | 3.00 [6] | 3.18 | 2.40 | 7.9 | 110.00 | 27.9 | 21.4 | 36.0 | DG. 1.../DG. 3.. | SR M4X20 DIN912 | HW 3.0 |
| DGFHL 26B-3TR-D36R | 26.0 | 3.00 [6] | 3.18 | 2.40 | 7.9 | 110.00 | 27.9 | 21.4 | 36.0 | DG. 1.../DG. 3.. | SR M5X20-01172 | HW 3.0 |

- Insert limit is Tmax=18 mm. If deeper penetration is required, the insert should be modified into single-ended by the user
- DG..1.0 insert can be mounted into pocket sizes 2 and 3, in which case the pocket width has to be modified - see page 480
- For user guide, see pages 540-547

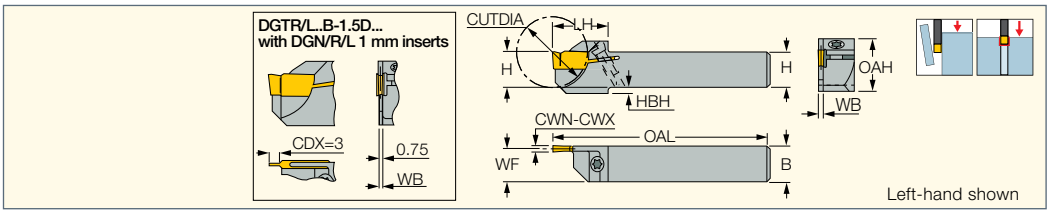
[1] Do not use DG.. 1.4 on this tool!
[2] Mounted on all ISCAR standard blocks
[3] Minimum cutting width
[4] Maximum cutting width
[5] The specified limit refers to the tool
[6] For DG: 1.0 insert - modify holder

**Inserts:** DGN-LF/LFT • DGN-P • DGN-UT/UA • DGN-WP • DGN-Z • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGR-Z/ZS • DGR/L-C DGRC/LC-C • DGR/L-J/JS

DO-GRIP TWISTED 2-SIDED

## DGTR/L-B-D-SH

Parting and Grooving Short Head Tools for CNC and Swiss Automatics




| Designation | CWN[2] | CWX[3] | H | B | WB | WF | LH | CUTDIA | OAH | HBH | OAL | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DGTR/L 8B-1.4SH | 1.40 | 1.40 | 8.0 | 8.0 | 1.00 | 7.50 | 18.0 | 10.0 | 15.4 | 2.0 | 125.00 | DG. 14.. | SR 16-236 P[a] | T-15/5 |
| DGTR/L 10B-1.4D20SH | 1.40 | 1.40 | 10.0 | 10.0 | 1.00 | 9.50 | 18.0 | 20.0 | 13.7 | 2.0 | 120.00 | DG. 14.. | SR 16-236 P[a] | T-15/5 |
| DGTR/L 10B-1.5D20SH [1] | 1.00 | 1.50 | 10.0 | 10.0 | 1.00 | 9.50 | 19.0 | 20.0 | 15.7 | 2.0 | 120.00 | DG. 1.../DG. 15.. | SR 16-236 P[a] | T-15/5 |
| DGTR/L 10B-2D20SH | 1.90 | 2.50 | 10.0 | 10.0 | 1.60 | 9.20 | 19.0 | 20.0 | 15.7 | 2.0 | 120.00 | DG. 1.../DG. 2.. | SR 16-236 P[a] | T-15/5 |
| DGTR/L 12B-1.4D24SH | 1.40 | 1.40 | 12.0 | 12.0 | 1.00 | 11.50 | 19.0 | 24.0 | 15.7 | - | 120.00 | DG. 14.. | SR 16-236 P[a] | T-15/5 |
| DGTR/L 12B-1.5D24SH [1] | 1.00 | 1.50 | 12.0 | 12.0 | 1.00 | 11.40 | 19.0 | 24.0 | 15.7 | - | 120.00 | DG. 1.../DG. 15.. | SR 16-236 P[a] | T-15/5 |
| DGTR/L 12B-2D24SH | 1.90 | 2.50 | 12.0 | 12.0 | 1.60 | 11.20 | 19.0 | 24.0 | 15.7 | - | 120.00 | DG. 1.../DG. 2.. | SR 16-236 P[a] | T-15/5 |
| DGTR 12B-2D24SH-L85 | 1.90 | 2.50 | 12.0 | 12.0 | 1.60 | 11.20 | 19.0 | 24.0 | 15.7 | - | 85.00 | DG. 1.../DG. 2.. | SR 16-236 P[a] | T-15/5 |
| DGTR/L 12B-3D24SH | 3.00 | 3.18 | 12.0 | 12.0 | 2.40 | 10.80 | 19.0 | 24.0 | 15.7 | - | 120.00 | DG. 3.../DG. 10.. | SR 16-236 P[a] | T-15/5 |
| DGTR/L 16B-1.5D25SH [1] | 1.00 | 1.50 | 16.0 | 16.0 | 1.20 | 15.40 | 19.5 | 25.4 | 19.7 | - | 120.00 | DG. 1.../DG. 15.. | SR 16-236 P[a] | T-15/5 |
| DGTR/L 16B-2D25SH | 1.90 | 2.50 | 16.0 | 16.0 | 1.60 | 15.20 | 19.5 | 25.4 | 19.7 | - | 120.00 | DG. 1.../DG. 2.. | SR 16-236 P[a] | T-15/5 |
| DGTR/L 16B-3D25SH | 3.00 | 3.18 | 16.0 | 16.0 | 2.40 | 14.80 | 19.5 | 25.4 | 19.7 | - | 120.00 | DG. 1.../DG. 3.. | SR 16-236 P[a] | T-15/5 |
| DGTR/L 20B-1.5D25SH [1] | 1.00 | 1.50 | 20.0 | 20.0 | 1.20 | 19.40 | 19.5 | 25.4 | 23.7 | - | 120.00 | DG. 1.../DG. 15.. | SR 16-236 P[a] | T-15/5 |
| DGTR/L 20B-3D25SH | 3.00 | 3.18 | 20.0 | 20.0 | 2.40 | 18.80 | 19.5 | 25.4 | 23.7 | - | 120.00 | DG. 1.../DG. 3.. | SR 16-236 P[a] | T-15/5 |

- DGN/R/L 1 mm inserts can also be mounted into pocket sizes 2 and 3. For insert depth capacity table and modification instructions

For the 2 and 3 holder pockets, see page 480 • For user guide, see pages 540-547

[1] Do not use DG.. 1.4 on this tool!

[2] Minimum cutting width

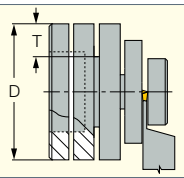
[3] Maximum cutting width

[a] Recommended tightening torque for this item: 3 N*m (26.5 lbf*in)

**Inserts:** DGN-LF/LFT • DGN-P • DGN-UT/UA • DGN-WP • DGN-Z • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGR-P • DGR-WP • DGR-Z/ZS • DGR/L-C DGRC/LC-C • DGR/L-J/JS

## Depth Capacity DGTR/L-B-D

Depth of Cut as Function of Workpiece Diameter (DGN/R/L-100... excluded)




| Designation | øDmax | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DGTR/L 10B-1.4D20 | — | — | — | — | — | — | — | — | — | 20 | 23 | 26 | 32 | 45 | 76 | NL | |
| DGTR/L 12B-1.4D30 | — | — | — | — | — | 30 | 32 | 35 | 38 | 43 | 50 | 62 | 83 | 125 | 300 | NL | NL |
| DGTR/L 16B-1.4D30 | — | — | — | — | — | 30 | 32 | 35 | 38 | 43 | 50 | 62 | 83 | 125 | 300 | NL | NL |
| DGTR/L 20B-1.4D30 | — | — | — | — | — | 30 | 32 | 35 | 38 | 43 | 50 | 62 | 83 | 125 | 300 | NL | NL |
| DGTR/L 10B-2D30 | — | — | — | — | — | 30 | 32 | 35 | 38 | 43 | 50 | 62 | 83 | 125 | 300 | NL | NL |
| DGTR/L 12B-2D30 | — | — | — | — | — | 30 | 32 | 35 | 38 | 43 | 50 | 62 | 83 | 125 | 300 | NL | NL |
| DGTR/L 16B-2D32 | — | — | — | — | 32 | 35 | 37 | 41 | 47 | 55 | 69 | 93 | 150 | 400 | NL | NL | NL |
| DGTR/L 20B-2D35 | — | — | — | 75 | 90 | 113 | 155 | 250 | 650 | NL | NL | NL | NL | NL | NL | NL | NL |
| DGTR/L 25B-2D35 | — | — | — | 75 | 90 | 113 | 155 | 250 | 650 | NL | NL | NL | NL | NL | NL | NL | NL |
| DGTR/L 12B-3D30 | — | — | — | — | — | 30 | 32 | 35 | 38 | 43 | 50 | 62 | 83 | 125 | 300 | NL | NL |
| DGTR/L 16B-3D35 | — | — | — | 35 | 39 | 42 | 46 | 51 | 59 | 71 | 91 | 130 | 230 | 1200 | NL | NL | NL |
| DGTR/L 20B-3D40 | 56 | 62 | 71 | 83 | 102 | 134 | 200 | 400 | NL | NL | NL | NL | NL | NL | NL | NL | NL |
| DGTR/L 25B-3D40 | 56 | 62 | 71 | 83 | 102 | 134 | 200 | 400 | NL | NL | NL | NL | NL | NL | NL | NL | NL |
| Depth T → | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 |

NL- No Limit

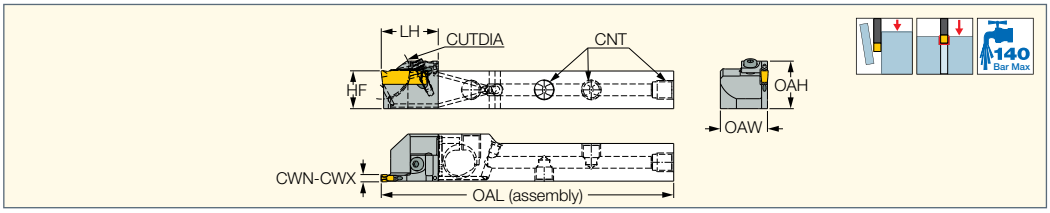
**Example:**

For 9 mm depth of groove on a 75 mm workpiece diameter, six tools may be used.

NEOSWISS INDEXABLE HEADS DO-GRIP TWISTED 2-SIDED

## NQCH-DGTR/L-D-SH-JHP

Screw Lock JETCUT Modular Heads for Swiss Type Machines - Double-Sided Parting Inserts




| Designation | CWN(1) | CWX(2) | HF | OAW | OAH | LH | OAL | CUTDIA | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| NQCH12-DGTL-2D24SH-JHP | 1.90 | 2.50 | 12.1 | 20.00 | 16.20 | 24.0 | 124.00 | 24.0 | DGN 2 | SR M3X10DIN912 | HW 2.5 |
| NQCH12-DGTR-2D24SH-JHP | 1.90 | 2.50 | 12.1 | 20.00 | 16.20 | 24.2 | 124.20 | 24.0 | DGN 2 | SR M3X10DIN912 | HW 2.5 |
| NQCH16-DGTL-2D24SH-JHP | 1.90 | 2.50 | 16.1 | 20.00 | 20.20 | 24.0 | 124.00 | 24.0 | DGN 2 | SR M3X10DIN912 | HW 2.5 |
| NQCH16-DGTR-2D24SH-JHP | 1.90 | 2.50 | 16.1 | 20.00 | 20.20 | 24.2 | 124.20 | 24.0 | DGN 2 | SR M3X10DIN912 | HW 2.5 |
| NQCH12-DGTL-3D24SH-JHP | 3.00 | 3.18 | 12.1 | 20.00 | 16.20 | 24.0 | 124.00 | 24.0 | DGN 3 | SR M3X10DIN912 | HW 2.5 |
| NQCH12-DGTR-3D24SH-JHP | 3.00 | 3.18 | 12.1 | 20.00 | 16.20 | 24.2 | 124.20 | 24.0 | DGN 3 | SR M3X10DIN912 | HW 2.5 |
| NQCH16-DGTL-3D24SH-JHP | 3.00 | 3.18 | 16.1 | 20.00 | 20.20 | 24.0 | 124.00 | 24.0 | DGN 3 | SR M3X10DIN912 | HW 2.5 |
| NQCH16-DGTR-3D24SH-JHP | 3.00 | 3.18 | 16.1 | 20.00 | 20.20 | 24.2 | 124.20 | 24.0 | DGN 3 | SR M3X10DIN912 | HW 2.5 |

(1) Minimum cutting width

(2) Maximum cutting width

**Inserts:** DGN-LF/LFT • DGN-MF • DGN-P • DGN-UT/UA • DGN-W • DGN-WP • DGN-Z • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGR-P • DGR-WP • DGR-Z/ZS • DGR/L-C DGRC/LC-C • DGR/L-J/JS

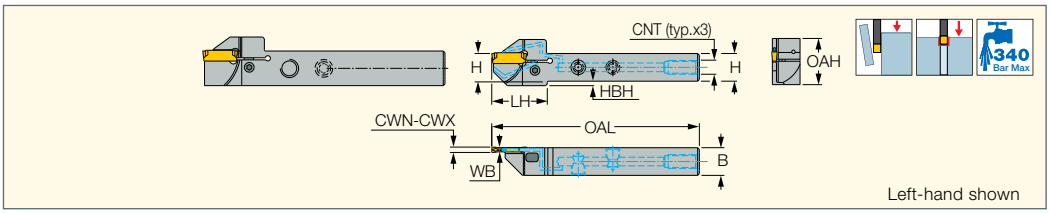
**Holders:** NQCH-JHP



DO-GRIP TWISTED 2-SIDED JETCUT

## DGTR/L-B-D-JHP-SL

Parting and Grooving Side Lock Type Tools with High-Pressure Coolant for CNC and Swiss Automatics




| Designation | CWN(1) | CWX(2) | H | B | WB | LH | CUTDIA(3) | OAH | HBH | OAL | Insert | CNT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DGTR/L 12B-2D24-JHP-SL | 1.90 | 2.50 | 12.0 | 12.0 | 1.70 | 29.4 | 24.0 | 25.7 | 6.5 | 100.00 | DG. 2... | 5/16"-24 UNF |
| DGTR/L 16B-2D35-JHP-SL | 1.90 | 2.50 | 16.0 | 16.0 | 1.70 | 32.0 | 35.0 | 26.7 | 2.6 | 120.00 | DG. 2... | 5/16"-24 UNF |
| DGTL 20B-2D35-JHP-SL | 1.90 | 2.50 | 20.0 | 20.0 | 1.70 | 32.0 | 35.0 | 28.1 | - | 140.00 | DG. 2... | 1/8"-28 BSPP |
| DGTR 20B-2D35-JHP-SL | 1.90 | 2.50 | 20.0 | 20.0 | 1.70 | 32.0 | 35.0 | 28.1 | - | 140.00 | DG. 2.. | 1/8"-28 BSPP |
| DGTR/L 12B-3D24-JHP-SL | 3.00 | 3.18 | 12.0 | 12.0 | 2.40 | 29.4 | 24.0 | 25.7 | 6.5 | 100.00 | DG. 3.. | 5/16"-24 UNF |
| DGTR/L 16B-3D35-JHP-SL | 3.00 | 3.18 | 16.0 | 16.0 | 2.40 | 32.0 | 35.0 | 26.7 | 2.6 | 120.00 | DG. 3.. | 5/16"-24 UNF |
| DGTR/L 20B-3D40-JHP-SL | 3.00 | 3.18 | 20.0 | 20.0 | 2.40 | 35.6 | 40.0 | 28.1 | - | 140.00 | DG. 3.. | 1/8"-28 BSPP |
| DGTR/L 25B-2D35-JHP-SL | 1.90 | 2.50 | 25.0 | 25.0 | 1.70 | 32.1 | 35.0 | 33.1 | - | 140.00 | DG. 2.. | 1/8"-28 BSPP |
| DGTR/L 25B-3D40-JHP-SL | 3.00 | 3.18 | 25.0 | 25.0 | 2.40 | 35.6 | 40.0 | 33.1 | - | 140.00 | DG. 3.. | 1/8"-28 BSPP |
| DGTR 25B-4D40-JHP-SL | 4.00 | 4.76 | 25.0 | 25.0 | 3.40 | 34.6 | 40.0 | 33.0 | - | 140.00 | DG..4.. | 1/8"-28 BSPP |

• For insert depth capacity table and modification instructions for the holder pockets, see page 480 • For user guide, see pages 540-547

(1) Minimum cutting width

(2) Maximum cutting width

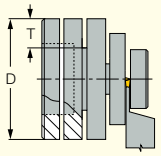
(3) Maximum cutting diameter

**Inserts:** DGN-LF/LFT • DGN-MF • DGN-P • DGN-UT/UA • DGN-WP • DGN-Z • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGR-P • DGR-WP • DGR-Z/ZS • DGR/L-C DGRC/LC-C • DGR/L-J/JS

## Depth Capacity

## DGTR/L-B-D-JHP-SL

Depth of Cut as Function of Workpiece Diameter (DGN/R/L-100... excluded)




| Designation | øDmax | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DGTR/L 12B-2D24-JHP-SL | — | — | — | — | — | — | — | — | 24 | 26 | 27 | 28 | 30 | 32 | 36 | 42 | 52 |
| DGTR/L 16B-2D35-JHP-SL | — | — | — | — | — | — | — | — | 24 | 26 | 27 | 28 | 30 | 32 | 36 | 42 | 52 |
| DGTR/L 20B-2D35-JHP-SL | — | — | — | 35 | 39 | 42 | 46 | 51 | 59 | 71 | 91 | 130 | 230 | 1200 | NL | NL | NL |
| DGTR/L 25B-2D35-JHP-SL | — | — | — | 65 | 70 | 75 | 80 | 90 | 100 | 120 | 140 | 180 | 250 | 410 | 1200 | NL | NL |
| DGTR/L 12B-3D24-JHP-SL | — | — | — | 35 | 39 | 42 | 46 | 51 | 59 | 71 | 91 | 130 | 230 | 1200 | NL | NL | NL |
| DGTR/L 16B-3D35-JHP-SL | — | — | — | 75 | 90 | 113 | 155 | 250 | 650 | NL | NL | NL | NL | NL | NL | NL | NL |
| DGTR/L 20B-3D40-JHP-SL | 56 | 62 | 71 | 83 | 102 | 134 | 200 | 400 | NL | NL | NL | NL | NL | NL | NL | NL | NL |
| DGTR/L 25B-3D40-JHP-SL | 50 | 55 | 60 | 67 | 75 | 85 | 100 | 115 | 140 | 200 | 350 | NL | NL | NL | NL | NL | NL |
| Depth T → | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 |

NL - No Limit

**Example:**

For a 9 mm depth of groove on a 75 mm workpiece diameter, six tools may be used.

## Flow Rate vs. Pressure

| Designation | 70 Bar Flow Rate (liters/min) | 100 Bar Flow Rate (liters/min) | 140 Bar Flow Rate (liters/min) |
|---|---|---|---|
| DGTR/L ...2-JHP-SL | 3-4 | 4-5 | 5-6 |
| DGTR/L ...3-JHP-SL | 5-6 | 6-7 | 7-8 |

## Spare Parts

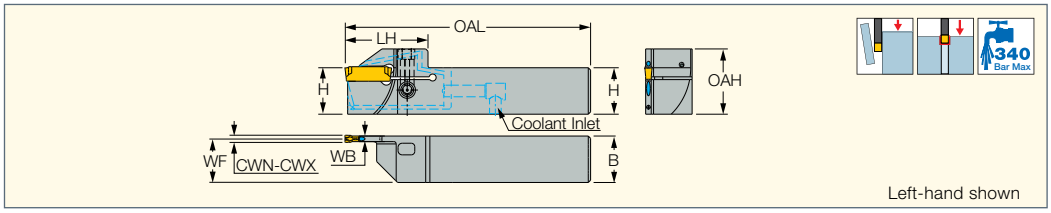
| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| DGTR/L 12B-2D24-JHP-SL | PIN-32121 | SR M5-24145-RL | | SR 5/16UNF TL360 | BLD HW2.5 | HW 5/32" | SW6-SD |
| DGTR/L 16B-2D35-JHP-SL | PIN-32121 | SR M5-24145-RL | | SR 5/16UNF TL360 | BLD HW2.5 | HW 5/32" | SW6-SD |
| DGTR/L 20B-2D35-JHP-SL | PIN-32121 | SR M5-24145-RL | | PLG G1/8 TL360 | BLD HW2.5 | HW 5.0 | SW6-SD |
| DGTL 12B-3D24-JHP-SL | PIN-32121 | SR M5-24145 | SR M5-24145-RL | SR 5/16UNF TL360 | BLD HW2.5 | HW 5/32" | SW6-SD |
| DGTR 12B-3D24-JHP-SL | PIN-32121 | SR M5-24145-RL | | SR 5/16UNF TL360 | BLD HW2.5 | HW 5/32" | SW6-SD |
| DGTR/L 16B-3D35-JHP-SL | PIN-32121 | SR M5-24145-RL | | SR 5/16UNF TL360 | BLD HW2.5 | HW 5/32" | SW6-SD |
| DGTR/L 20B-3D40-JHP-SL | PIN-32121 | SR M5-24145-RL | | PLG G1/8 TL360 | BLD HW2.5 | HW 5.0 | SW6-SD |
| DGTL 25B-2D35-JHP-SL | PIN-32121 | SR M5-24145-RL | | PLG G1/8 TL360 | | HW 5.0 | |
| DGTR 25B-2D35-JHP-SL | PIN-32121 | SR M5-24145-RL | | PLG G1/8 TL360 | BLD HW2.5 | HW 5.0 | SW6-SD |
| DGTL 25B-3D40-JHP-SL | | | | | BLD HW2.5 | | SW6-SD |
| DGTR/L 25B-3D40-JHP-SL | PIN-32121 | SR M5-24145-RL | | PLG G1/8 TL360 | | HW 5.0 | |
| DGTR 25B-3D40-JHP-SL | | | | | BLD HW2.5* | | SW6-SD* |

* Optional, should be ordered separately

DO-GRIP JETCUT TWISTED 2-SIDED

## DGTR/L-B-D-JHP-SL-MC

Parting and Grooving Side Lock Type Tools with Bottom Inlets for High-Pressure Coolant




| Designation | CWN[1] | CWX[2] | H | B | WB | WF | LH | CUTDIA[3] | OAH | OAL | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DGTR/L 20B-2D35-JHP-SL-MC | 1.90 | 2.50 | 20.0 | 20.0 | 1.70 | 19.15 | 32.1 | 35.0 | 28.10 | 102.10 | DG. 2... |
| DGTR/L 20B-3D40-JHP-SL-MC | 3.00 | 3.18 | 20.0 | 20.0 | 2.40 | 18.80 | 35.6 | 40.0 | 28.10 | 105.60 | DG. 3... |
| DGTR/L 25B-2D35-JHP-SL-MC | 1.90 | 2.50 | 25.0 | 25.0 | 1.70 | 24.15 | 32.1 | 35.0 | 33.10 | 117.10 | DG. 2... |
| DGTR/L 25B-3D40-JHP-SL-MC | 3.00 | 3.18 | 25.0 | 25.0 | 2.40 | 23.80 | 35.6 | 40.0 | 33.10 | 120.60 | DG. 3... |

• For insert depth capacity table and modification instructions for the holder pockets, see page 480 • For user guide, see pages 540-547

(1) Minimum cutting width

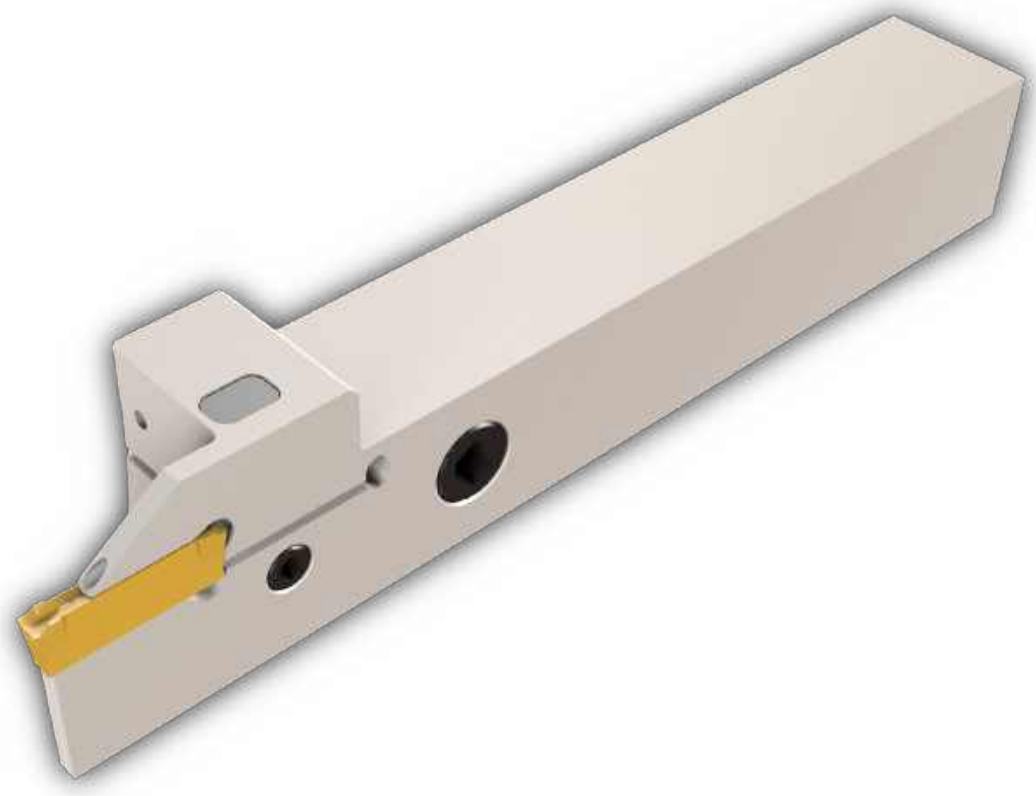
(2) Maximum cutting width

(3) Maximum cutting diameter

**Inserts:** DGN-LF/LFT • DGN-MF • DGN-P • DGN-UT/UA • DGN-WP • DGN-Z • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGR-P • DGR-WP • DGR-Z/ZS • DGR/L-C DGRC/LC-C • DGR/L-J/JS

### Spare Parts

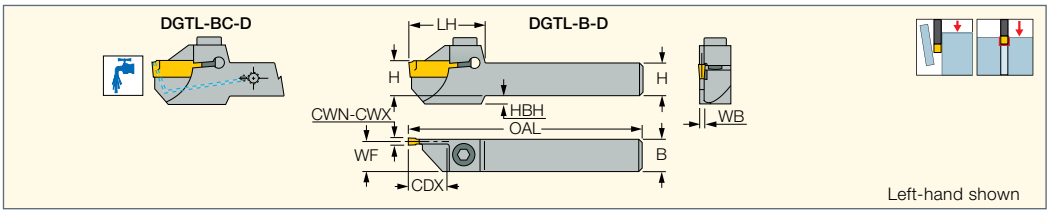
| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| DGTR/L-B-D-JHP-SL-MC | SR M5-24145-RL | SR M8X10 DIN913 | PIN-32121 | SW6-SD | BLD HW2.5 | SR M3X3DIN913 | SR M2.5X2.5 DIN913 |



DO-GRIP TWISTED 2-SIDED JETCUT

## DGTR/L-B/BC-D

Integral Shank Reinforced Parting and Grooving Tools Especially for DGNC Type of Inserts




| Designation | CWN[3] | CWX[4] | H | B | WB | OAL | LH | CDX[5] | WF | HBH | CSP[6] | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DGTR/L 10B-1.4D20 | 1.40 | 1.40 | 10.0 | 10.0 | 1.00 | 140.00 | 23.6 | 10.00 | 9.50 | 2.0 | 0 | DG. 14.. |
| DGTR/L 12B-1.4D30 | 1.40 | 1.40 | 12.0 | 12.0 | 1.00 | 140.00 | 29.6 | 15.00 | 11.50 | 3.5 | 0 | DG. 14.. |
| DGTR/L 16B-1.4D30 | 1.40 | 1.40 | 16.0 | 16.0 | 1.00 | 140.00 | 29.6 | 15.00 | 15.50 | - | 0 | DG. 14.. |
| DGTR/L 20B-1.4D30 | 1.40 | 1.40 | 20.0 | 20.0 | 1.00 | 140.00 | 29.6 | 15.00 | 19.50 | - | 0 | DG. 14.. |
| DGTR/L 10B-2D30 | 1.90 | 2.50 | 10.0 | 10.0 | 1.60 | 140.00 | 29.6 | 15.00 | 9.20 | 6.6 | 0 | DG. 1.../DG. 2.. |
| DGTR/L 12B-2D30 | 1.90 | 2.50 | 12.0 | 12.0 | 1.60 | 140.00 | 29.6 | 15.00 | 11.20 | 3.5 | 0 | DG. 1.../DG. 2.. |
| DGTR/L 16B-2D32 | 1.90 | 2.50 | 16.0 | 16.0 | 1.60 | 140.00 | 30.6 | 16.00 | 15.20 | - | 0 | DG. 1.../DG. 2.. |
| DGTR/L 20B-2D35 | 1.90 | 2.50 | 20.0 | 20.0 | 1.60 | 140.00 | 32.1 | 17.50 | 19.20 | - | 0 | DG. 1.../DG. 2.. |
| DGTR/L 25B-2D35 | 1.90 | 2.50 | 25.0 | 25.0 | 1.60 | 140.00 | 32.1 | 17.50 | 24.20 | - | 0 | DG. 1.../DG. 2.. |
| DGTR/L 12B-3D30 | 3.00 | 3.18 | 12.0 | 12.0 | 2.40 | 140.00 | 29.6 | 15.00 | 10.80 | 3.5 | 0 | DG. 1.../DG. 3.. |
| DGTR/L 16B-3D35 | 3.00 | 3.18 | 16.0 | 16.0 | 2.40 | 140.00 | 32.1 | 16.00 | 14.80 | 2.6 | 0 | DG. 1.../DG. 3.. |
| DGTR/L 16BC-3D35 [1] | 3.00 | 3.18 | 16.0 | 16.0 | 2.40 | 140.00 | 31.1 | 16.00 | 14.80 | 2.6 | 1 | DGNC/DGRC/DGLC 3... |
| DGTR/L 20B-3D40 [2] | 3.00 | 3.18 | 20.0 | 20.0 | 2.40 | 140.00 | 35.6 | 20.00 | 18.80 | - | 0 | DG. 1.../DG. 3.. |
| DGTR/L 20BC-3D40 [1] | 3.00 | 3.18 | 20.0 | 20.0 | 2.40 | 140.00 | 34.6 | 20.00 | 18.80 | - | 1 | DGNC/DGRC/DGLC 3... |
| DGTR/L 25B-3D40 [2] | 3.00 | 3.18 | 25.0 | 25.0 | 2.40 | 140.00 | 35.6 | 20.00 | 23.80 | - | 0 | DG. 1.../DG. 3.. |

- Important: 1.4 mm width inserts should be used only on tools for 1.4 mm specific width tools
- DGN/R/L 1 mm inserts can also be mounted into pocket sizes 2 and 3.
- For insert depth capacity table and modification instructions for the 2 and 3 holder pockets, see page 480
- For user guide, see pages 540-547

[1] Tools for inserts with coolant holes for high temperature alloys and stainless steel
[2] Insert's Tmax=18 mm, for deeper penetration modify insert into single-ended
[3] Minimum cutting width
[4] Maximum cutting width
[5] The specified limit refers to the tool
[6] 0 - Without coolant supply, 1 - With coolant supply

**Inserts:** DGN-LF/LFT • DGN-P • DGN-UT/UA • DGN-WP • DGN-Z • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGR-P • DGR-WP • DGR-Z/ZS • DGR/L-C DGRC/LC-C • DGR/L-J/JS

### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| DGTR/L 10B-1.4D20 | SR M5X12 DIN912 | HW 4.0 | | | | |
| DGTR/L 12B-1.4D30 | SR M5X12 DIN912 | HW 4.0 | | | | |
| DGTR/L 16B-1.4D30 | SR M5X12 DIN912 | HW 4.0 | | | | |
| DGTR/L 20B-1.4D30 | SR M5X12 DIN912 | HW 4.0 | | | | |
| DGTR/L 10B-2D30 | SR M5X12 DIN912 | HW 4.0 | | | | |
| DGTR/L 12B-2D30 | SR M5X12 DIN912 | HW 4.0 | | | | |
| DGTR/L 16B-2D32 | SR M4X14 DIN912 | HW 3.0 | | | | |
| DGTR/L 20B-2D35 | SR M4X14 DIN912 | HW 3.0 | | | | |
| DGTL 25B-2D35 | SR M5X12 DIN912 | HW 4.0 | | | | |
| DGTR 25B-2D35 | SR M4X14 DIN912 | HW 3.0 | | | | |
| DGTR/L 12B-3D30 | SR M5X12 DIN912 | HW 4.0 | | | | |
| DGTR/L 16B-3D35 | SR M5X12 DIN912 | HW 4.0 | | | | |
| DGTR/L 16BC-3D35 | SR M5X12 DIN912 | HW 4.0 | CGM 343* | CF 343* | SGCU 341* | CGF 343* |
| DGTR/L 20B-3D40 | SR M5X12 DIN912 | HW 4.0 | | | | |
| DGTR/L 20BC-3D40 | SR M5X12 DIN912 | HW 4.0 | CGM 343* | CF 343* | SGCU 341* | CGF 343* |
| DGTR/L 25B-3D40 | SR M5X12 DIN912 | HW 4.0 | | | | |

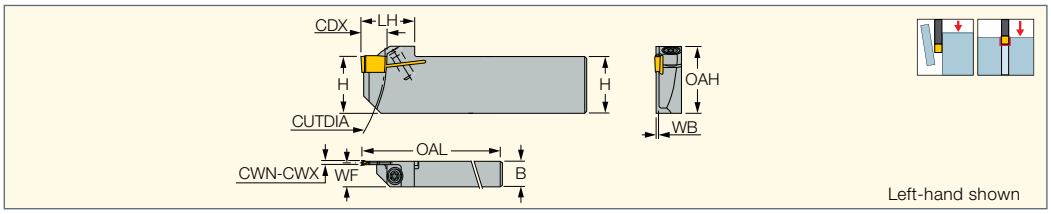
* Optional, should be ordered separately



DO-GRIP TWISTED 2-SIDED

## DGTR/L-B-T-SH

Reinforced Parting and Grooving Short Head Tools Carrying DGN Double-Ended Inserts




| Designation | CWN(1) | CWX(2) | H | B | WB | WF | OAL | LH | CUTDIA | CDX(3) | OAH | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DGTR/L 2009B-1.5T9SH | 1.00 | 1.50 | 20.0 | 9.0 | 1.20 | 8.40 | 100.00 | 19.0 | 95.0 | 9.00 | 23.7 | SR 16-236 P | T-15/5 |

- Important: 1.4 mm width inserts should be used only on tools for 1.4 mm specific width
- For user guide, see pages 540-547

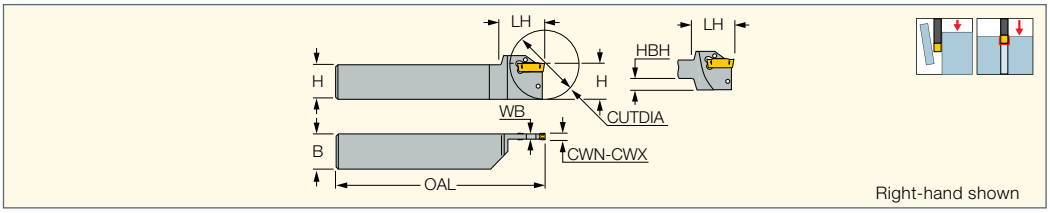
(1) Minimum cutting width
(2) Maximum cutting width
(3) Cutting depth maximum

**Inserts:** DGN-P • DGN/DGNM-J/JS/JT • DGR-P • DGR/L-J/JS

DO-GRIP TWISTED 2-SIDED

## DGTR/L

Integral Shank Parting and Grooving Tools




| Designation | CWN(1) | CWX(2) | H | B | WB | OAL | LH | HBH | CUTDIA | Insert | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DGTR/L 1010-2 | 1.90 | 2.50 | 10.0 | 10.0 | 1.80 | 150.00 | 29.0 | 6.6 | 35.0 | DG. 1.../DG. 2.. | EDG 33B* |
| DGTR/L 1212-2 | 1.90 | 2.50 | 12.0 | 12.0 | 1.80 | 150.00 | 29.0 | 6.6 | 35.0 | DG. 1.../DG. 2.. | EDG 33B* |
| DGTR/L 1616-2 | 1.90 | 2.50 | 16.0 | 16.0 | 1.80 | 150.00 | 29.0 | 2.6 | 35.0 | DG. 1.../DG. 2.. | EDG 33B* |
| DGTR/L 2012-2 | 1.90 | 2.50 | 20.0 | 12.0 | 1.80 | 125.00 | 29.0 | - | 35.0 | DG. 1.../DG. 2.. | EDG 33A* |
| DGTR/L 1212-3 | 3.00 | 3.18 | 12.0 | 12.0 | 2.50 | 150.00 | 29.0 | 6.6 | 35.0 (3) | DG. 1.../DG. 3.. | EDG 33B* |
| DGTR/L 1616-3 | 3.00 | 3.18 | 16.0 | 16.0 | 2.50 | 150.00 | 29.0 | 6.6 | 35.0 (4) | DG. 1.../DG. 3.. | EDG 33B* |
| DGTR/L 2012-3 | 3.00 | 3.18 | 20.0 | 12.0 | 2.50 | 125.00 | 29.0 | - | 35.0 (3) | DG. 1.../DG. 3.. | EDG 33A* |
| DGTR/L 2020-3 | 3.00 | 3.18 | 20.0 | 20.0 | 2.50 | 125.00 | 29.0 | - | 35.0 (3) | DG. 1.../DG. 3.. | EDG 33A* |
| DGTR/L 2525-3 | 3.00 | 3.18 | 25.0 | 25.0 | 2.50 | 150.00 | 29.0 | - | 35.0 (3) | DG. 1.../DG. 3.. | EDG 33A* |
| DGTR/L 2020-4 | 4.00 | 4.76 | 20.0 | 20.0 | 3.40 | 125.00 | 31.0 | - | 51.0 | DG. 4.../GRIP 4.. | EDG 33A* |
| DGTR/L 2525-4 | 4.00 | 4.76 | 25.0 | 25.0 | 3.40 | 150.00 | 31.0 | - | 51.0 | DG. 4.../GRIP 4.. | EDG 33A* |
| DGTR/L 2020-5 | 4.80 | 5.00 | 20.0 | 20.0 | 4.00 | 125.00 | 33.0 | - | 59.0 | DG. 5.../GRIP 5.. | EDG 33A* |
| DGTR/L 2525-5 | 4.80 | 5.00 | 25.0 | 25.0 | 4.00 | 150.00 | 33.0 | - | 76.0 | DG. 5.../GRIP 5.. | EDG 33A* |
| DGTR/L 2525-6 | 6.00 | 6.35 | 25.0 | 25.0 | 5.30 | 150.00 | 33.0 | - | 76.0 | DG. 6.../GRIP 6.. | EDG 33A* |

- Insert limit is Tmax=18 mm. If deeper penetration is required, the insert should be modified into single-ended by the user
- DG..1.0 insert can be mounted into pocket sizes 2 and 3, in which case the pocket width has to be modified - see page 480
- For user guide, see pages 540-547

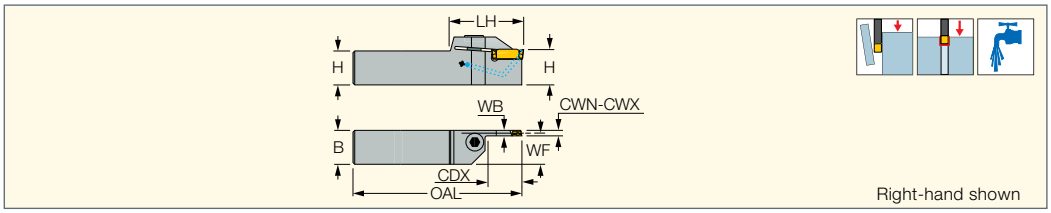
(1) Minimum cutting width
(2) Maximum cutting width
(3) Dmax=43 mm when single-ended insert is used
(4) Dmax=43(1.69") when single-ended insert is used
* Optional, should be ordered separately

**Inserts:** DGN-LF/LFT • DGN-MF • DGN/DGNC/DGNM-C • DGR/L-C DGRC/LC-C • DGN/DGNM-J/JS/JT • DGR/L-J/JS • DGN-P • DGN-UT/UA • DGN-W • DGN-WP • DGN-Z • DGR-P • DGR-WP • DGR-Z/ZS • GRIP • GRIP (full radius)

DO-GRIP TWISTED 2-SIDED JETCUT

## DGTR/L-BC-T

Parting and Grooving Tools with Coolant Holes Carrying JET-CUT Inserts




| Designation | H | B | CWN(1) | CWX(2) | OAL | WB | WF | LH | CDX(3) | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| DGTR/L 20BC-4T25 | 20.0 | 20.0 | 4.00 | 4.00 | 140.00 | 3.40 | 18.30 | 42.0 | 25.00 | DGNC/DGRC/DGLC 4... |
| DGTR/L 25BC-4T25 | 25.0 | 25.0 | 4.00 | 4.00 | 140.00 | 3.40 | 23.30 | 42.0 | 25.00 | DGNC/DGRC/DGLC 4... |

- For user guide, see pages 540-547

(1) Minimum cutting width
(2) Maximum cutting width
(3) Cutting depth maximum

**Inserts:** DGN-UT/UA • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGR/L-C DGRC/LC-C • DGR/L-J/JS

### Spare Parts

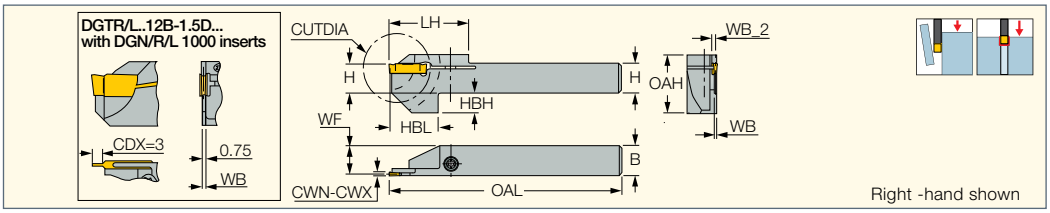
| Designation | | | | | | |
|---|---|---|---|---|---|---|
| DGTR/L-BC-T | SR M6X16 DIN912 | SGCU 341* | CGF 343* | CF 343* | CGM 343* | HW 5.0 |

* Optional, should be ordered separately

DO-GRIP TWISTED 2-SIDED

## DGTR/L-B-D-TR

Reinforced Parting and Grooving Tools Carrying Double-Ended DO-GRIP Inserts




| Designation | CWN(1) | CWX(2) | H | B | WB | WB_2 | WF | OAL | LH | HBL | CUTDIA | OAH | HBH | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DGTR/L 12B-1.4D20-TR12 | 1.40 | 1.40 | 12.0 | 12.0 | 1.00 | 2.3 | 11.50 | 95.00 | 32.5 | 20.00 | 20.0 | 23.7 | 8.0 | DG. 14.. |
| DGTL 12B-1.5D20-TR12 | 1.00 | 1.50 | 12.0 | 12.0 | 1.20 | 2.3 | 11.30 | 95.00 | 32.5 | 20.00 | 20.0 | 23.7 | 8.0 | DG. 1.../DG. 15.. |
| DGTR 12B-1.5-D20-TR12 | 1.00 | 1.50 | 12.0 | 12.0 | 1.20 | 2.3 | 11.30 | 95.00 | 32.5 | 20.00 | 20.0 | 23.7 | 8.0 | DG. 1.../DG. 15.. |

- Important: 1.4 mm width inserts should be used only on tools for 1.4 mm specific width! • For TRAUB machines, model TNL 12/7
- For user guide, see pages 540-547

(1) Minimum cutting width

(2) Maximum cutting width

**Inserts:** DGN-P • DGN/DGNM-J/JS/JT • DGR-P • DGR/L-J/JS

### Spare Parts

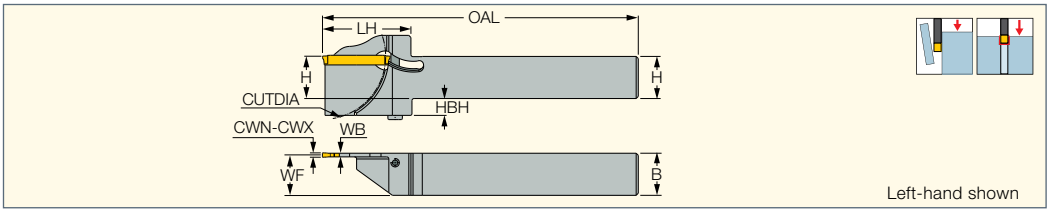
| Designation | | |
|---|---|---|
| DGTR/L-B-D-TR | SR 16-236 P(a) | T-15/5 |

(a) 3N*M(26.5LBF*in)

DO-GRIPXL

## DGTR/L-XL

Integral Shank Reinforced Parting and Grooving Tools for Parting Up to 65 mm Diameters




| Designation | CW | CUTDIA | H | B | WB | OAL | LH | WF | HBH | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DGTR/L 20B-2XL-D60 | 2.00 | 60.0 | 20.0 | 20.0 | 1.74 | 150.00 | 43.2 | 19.10 | 8.0 | SR M4X35DIN912 | HW 3.0 |
| DGTR/L 25B-2XL-D60 | 2.00 | 60.0 | 25.0 | 25.0 | 1.74 | 150.00 | 43.2 | 24.10 | 3.0 | SR M4X35DIN912 | HW 3.0 |
| DGTR/L 20B-3XL-D65 | 3.00 | 65.0 | 20.0 | 20.0 | 2.40 | 150.00 | 43.2 | 18.80 | 12.0 | SR M5X40DIN912 | HW 4.0 |
| DGTR/L 25B-3XL-D65 | 3.00 | 65.0 | 25.0 | 25.0 | 2.40 | 150.00 | 43.2 | 23.80 | 7.0 | SR M5X40DIN912 | HW 4.0 |

- For insert depth capacity table, see page 478 • For user guide, see pages 540-547

**Inserts:** DGN-C-XL • DGN-J-XL • DGR/L-C-XL • DGR/L-J-XL

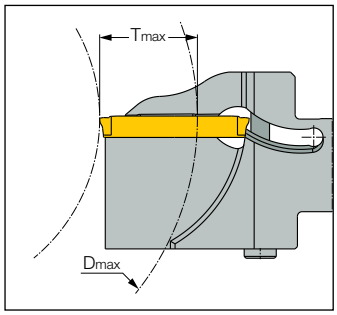
### Depth of Cut as Function of Workpiece Diameter

**Tmax/Dmax for DGTR/L...-2XL**

| T max | D max |
|---|---|
| 15 | No limit |
| 16 | 600 |
| 17 | 300 |
| 18 | 200 |
| 19 | 150 |
| 20 | 130 |
| 21 | 120 |
| 22 | 100 |
| 23 | 90 |
| 24 | 85 |
| 25 | 80 |
| 26 | 75 |
| 27 | 70 |
| 28 | 65 |
| 29 | 63 |
| 30 | 60 |

**Tmax/Dmax for DGTR/L...-3XL**

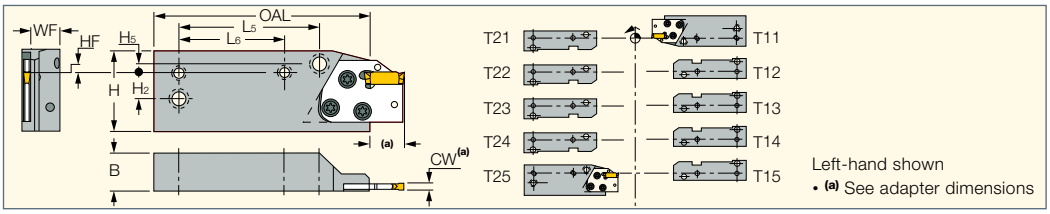
| T max | D max |
|---|---|
| 15 | No limit |
| 16 | 1000 |
| 17 | 400 |
| 18 | 300 |
| 19 | 230 |
| 20 | 180 |
| 21 | 150 |
| 22 | 130 |
| 23 | 115 |
| 24 | 105 |
| 25 | 95 |
| 26 | 90 |
| 27 | 85 |
| 28 | 80 |
| 29 | 75 |
| 30 | 72 |
| 31 | 70 |
| 32.5 | 65 |



DO-GRIP TWISTED 2-SIDED

## DGHAL-DECO

Holders for DGAD Adapters for Tornos Bechler Deco Machines




Left-hand shown
• (a) See adapter dimensions

| Designation | H | B | OAL | WF | HF | H2 | H5 | L6 | L5 |
|---|---|---|---|---|---|---|---|---|---|
| DGHAL DECO 7-10 (1) | 40.3 | 18.2 | 106.00 | 15.0 | - | 12.8 | 4.8 | 52.00 | 69.00 |
| DGHAL DECO 13 (2) | 42.0 | 35.2 | 115.00 | 28.7 | 2.0 | 16.0 | 16.0 | 60.00 | 60.00 |
| DGHAL DECO 20-26 (2) | 44.8 | 23.2 | 120.00 | 20.0 | 4.0 | 17.0 | 17.0 | 65.00 | 65.00 |

- DGAD-... HGAD-... adapters should be ordered separately

(1) Positioning combinations: T11; T25

(2) Positioning combinations: All

**Tools:** DGAD-B-D • DGAD/HGAD • SCLCR-PAD • SDJCR-PAD • SVJCR-PAD • SWAPR-PAD • TGAD

### Spare Parts

| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| DGHAL DECO 7-10 | SR 14-519-L9.7(a) | HW 4.0 | SR 16-212-L9.5 | T-20/5 | SR 16-212 | SR M5X25DIN912 | |
| DGHAL DECO 13 | SR 14-519-L9.7(a) | HW 5.0 | SR 16-212-L7.5 | T-20/5 | SR 16-212 | SR M6X25 DIN912 | |
| DGHAL DECO 20-26 | SR 14-519-L12.8(a) | HW 5.0 | SR 16-212-L7.5 | T-20/5 | SR 16-212 | SR M6X25 DIN912 | EZ 104 |

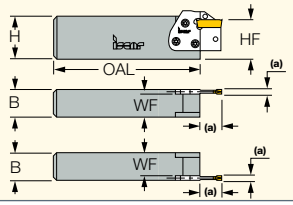
(a) Recommended tightening torque: 9 N*m (80lbf*in)



DO-GRIP TWISTED 2-SIDED

## HMSN-New Britain

Holders for Grooving and Turning Adapters for New Britain Multi-Spindle Bar Machines




(a) See adapter dimensions

| Designation | H | B | HF | OAL | WF | S1(2) | | | |
|---|---|---|---|---|---|---|---|---|---|
| HMSN 35/3722 (1) | 36.5 | 22.4 | 34.5 | 181.70 | 18.4 | 226 | SR 16-212 | SR 14-519 | T-20/5 |

- DGAD-... HGAD-..., adapters should be ordered separately

(1) For models #42; #52; #60; #61; #62; #602

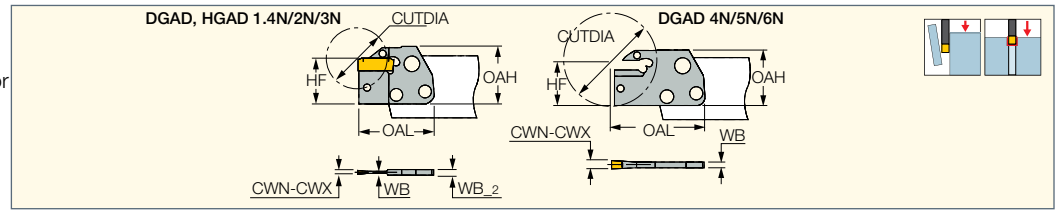
(2) Comparable Empire block

**Tools:** DGAD-B-D • DGAD/HGAD • SCLCR-PAD • SDJCR-PAD • SVJCR-PAD • SWAPR-PAD

DO-GRIP TWISTED 2-SIDED

## DGAD/HGAD

Parting and Grooving Adapters for DO-GRIP Double-Ended Inserts




| Designation | CWN(2) | CWX(3) | WB | WB_2 | OAH | HF | OAL | CUTDIA | |
|---|---|---|---|---|---|---|---|---|---|
| DGAD 1.4N | 1.40 | 1.40 | 1.00 | 3.2 | 30.0 | 24.0 | 41.50 | 28.0 | EDG 23B* |
| DGAD 2N | 1.90 (4) | 2.50 | 1.60 | 3.2 | 30.0 | 24.0 | 41.50 | 32.0 | EDG 33A* |
| DGAD 3N (1) | 3.00 (4) | 3.18 | 2.40 | 4.0 | 30.0 | 24.0 | 41.50 | 32.0 | EDG 33A* |
| HGAD 3N | 3.00 | 3.00 | 2.40 | 4.0 | 30.0 | 24.0 | 50.50 | 50.0 | EDG 23B* |
| DGAD 4N | 4.00 | 4.00 | 3.20 | - | 30.0 | 24.0 | 50.50 | 50.0 | EDG 33A* |
| DGAD 5N | 4.80 | 5.00 | 4.00 | - | 30.0 | 24.0 | 50.50 | 50.0 | EDG 33A* |
| DGAD 6N | 6.00 | 6.35 | 5.20 | - | 30.0 | 24.0 | 50.50 | 50.0 | EDG 33A* |

- DG..1.0 insert can be mounted into pocket sizes 2 and 3 in which case the pocket width has to be modified - see page 480
- For user guide, see pages 540-547

(1) Only the DGN/R/L inserts are suitable for this adapter
(2) Minimum cutting width
(3) Maximum cutting width
(4) For 1 mm inserts, modify adapter
* Optional, should be ordered separately

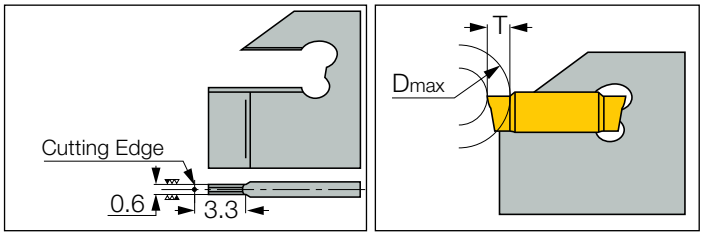
**Inserts:** DGN-P • DGN-UT/UA • DGN-W • DGN-WP • DGN-Z • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGR-P • DGR-WP • DGR-Z/ZS • DGR/L-C DGRC/LC-C • DGR/L-J/JS • GRIP • GRIP (full radius) • HGN-C • HGN-J • HGN-UT • HGR/L-C • HGR/L-J/JS

**Holders:** MAHPR/L-JHP • MAHR/L-JHP • MAHR/L • MAHPR/L • C#-MAHD • C#-MAHPD • C#-MAHDR-45 • C#-MAHDOR • HSK A63WH-MAHUR/L • HSK A63WH-MAHDR-45 • HSK A63WH-MAHDOR • IM-MAHD • IM-MAHPD • C#-MAHD-JHP • C#-MAHPD-JHP • MAHR/L-JHP-MC • HMSN-New Britain • DGHAL-DECO

### Depth Capacity for DGN/R-1002J Insert on Standard Holders

| Depth: T | | D max |
|---|---|---|
| Up to | 1.2 | No limit |
| | 1.3 | 830 |
| | 1.4 | 218 |
| | 1.5 | 126 |
| | 1.6 | 88.4 |
| | 1.7 | 68.2 |
| | 1.8 | 55.6 |
| | 1.9 | 46.9 |
| | 2.0 | 40.7 |
| | 2.1 | 36.0 |

| Depth: T | | D max |
|---|---|---|
| Up to | 2.2 | 32.3 |
| | 2.3 | 29.3 |
| | 2.4 | 26.7 |
| | 2.5 | 24.8 |
| | 2.6 | 23.2 |
| | 2.7 | 21.7 |
| | 2.8 | 20.5 |
| | 2.9 | 19.4 |
| | 3.0 | 18.4 |



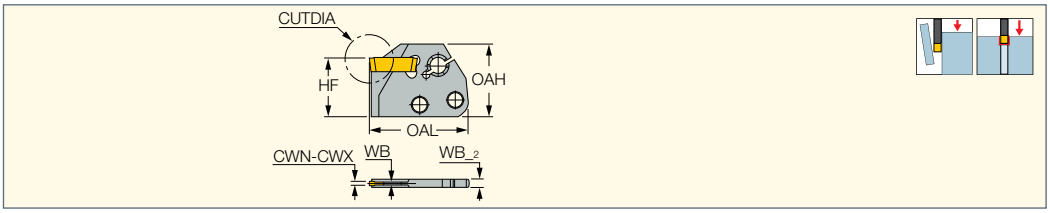

### Standard Holders Modification

To achieve no limitation on the workpiece diameter up to 3 mm depth, the steel support under the insert should be ground, as per the shown sketch.

DO-GRIP TWISTED 2-SIDED

## DGAD-B-D

Parting and Grooving Screw-Clamped Adapters for DO-GRIP Double-Ended Inserts




| Designation | CWN(2) | CWX(3) | WB | WB_2 | OAL | CUTDIA | HF | OAH |
|---|---|---|---|---|---|---|---|---|
| DGAD 1.4B-D16 | 1.40 | 1.40 | 1.00 | 3.2 | 36.80 | 16.0 | 24.0 | 30.3 |
| DGAD 1.5B-D20 (1) | 1.00 | 1.50 | 1.00 | 3.2 | 41.00 | 20.0 | 24.0 | 30.3 |
| DGAD 2B-D20 | 1.90 | 2.50 | 1.60 | 3.2 | 41.00 | 20.0 | 24.0 | 30.3 |

- Up to 3 mm depth, without any limitation on the diameter • DG..1.0 insert can also be mounted into pocket sizes 2 and 3, In which case the pocket width has to be modified-see page 480 • For user guide, see pages 540-547

(1) Do not use DG.. 1.4 on this tool!
(2) Minimum cutting width
(3) Maximum cutting width

**Inserts:** DGN-LF/LFT • DGN-P • DGN-UT/UA • DGN-WP • DGN-Z • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGR-P • DGR-WP • DGR-Z/ZS • DGR/L-C DGRC/LC-C • DGR/L-J/JS

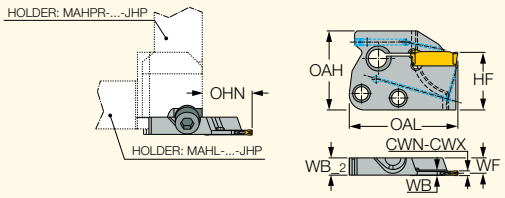
**Holders:** C#-MAHD-JHP • C#-MAHPD-JHP • MAHR/L-JHP-MC • MAHPR/L-JHP • MAHR/L-JHP • MAHR/L • MAHPR/L • C#-MAHD • C#-MAHPD • C#-MAHDR-45 • C#-MAHDOR • HSK A63WH-MAHUR/L • HSK A63WH-MAHDR-45 • HSK A63WH-MAHDOR • IM-MAHD • IM-MAHPD • HMSN-New Britain • DGHAL-DECO

DO-GRIP TWISTED 2-SIDED JETCUT
MODULARGRIP

## DGPAD-JHP

Adapters with High-Pressure Coolant Channels for DO-GRIP Parting and Grooving Inserts






| Designation | CWN(1) | CWX(2) | CUTDIA | OHN(3) | WF | WB | WB_2 | OAL | OAH | HF | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DGPAD 2R/L-D22-JHP | 1.90 | 2.50 | 22.0 | 21.0 | 6.40 | 1.60 | 7.2 | 45.50 | 33.0 | 24.0 | DG. 2... |
| DGPAD 2R/L-D32-JHP | 1.90 | 2.50 | 32.0 | 21.0 | 6.40 | 1.60 | 7.2 | 45.50 | 33.0 | 24.0 | DG. 2... |
| DGPAD 3R/L-D32-JHP | 3.00 | 3.18 | 32.0 | 21.0 | 6.00 | 2.40 | 7.2 | 45.50 | 33.0 | 24.0 | DG. 3... |
| DGPAD 2R/L-D42-JHP | 1.90 | 2.50 | 42.0 | 21.0 | 6.30 | 1.70 | 7.2 | 49.00 | 33.0 | 24.0 | DG. 2... |

- For user guide and accessories, see pages 540-547

(1) Minimum cutting width

(2) Maximum cutting width

(3) Minimum overhang

**Inserts:** DGN-LF/LFT • DGN-MF • DGN-P • DGN-UT/UA • DGN-WP • DGN-Z • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGR-P • DGR-WP • DGR-Z/ZS • DGR/L-C DGRC/LC-C • DGR/L-J/JS

### Flow Rate vs. Pressure

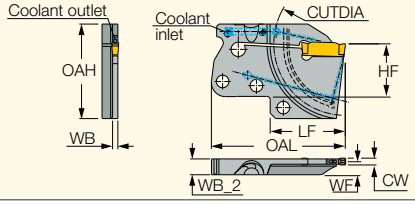
| Designation | 70 Bar Flow Rate (liters/min) | 100 Bar Flow Rate (liters/min) | 140 Bar Flow Rate (liters/min) |
|---|---|---|---|
| DGPAD 2R/L-D22-JHP | 5 | 6 | 7 |
| DGPAD 2R/L-D32-JHP | 5 | 6 | 7 |
| DGPAD 3R/L-D32-JHP | 8.5 | 10 | 12 |



DO-GRIP TWISTED 2-SIDED JETCUT

## DGPAD-XL-JHP

Parting and Grooving Extra Long Adapters with Coolant Channels Carrying DO-GRIP Inserts




| Designation | CW | CUTDIA | WF | WB | WB_2 | LF | OAL | OAH | HF | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| DGPAD-XL 3R/L-D52-JHP | 3.00 | 52.0 | 6.00 | 2.40 | 7.2 | 27.70 | 54.40 | 43.00 | 34.0 | DG. 3... |
| DGPAD-XL 3L-D65-JHP | 3.00 | 65.0 | 6.00 | 2.40 | 7.2 | 34.20 | 60.40 | 43.00 | 34.0 | DG. 3... |
| DGPAD-XL 3R-D65-JHP | 3.00 | 65.0 | 6.00 | 2.40 | 7.2 | 34.20 | 60.00 | 43.00 | 34.0 | DG. 3... |

- For user guide and accessories, see pages 540-547

**Inserts:** DGN-LF/LFT • DGN-MF • DGN-P • DGN-UT/UA • DGN-Z • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGR-Z/ZS • DGR/L-C DGRC/LC-C • DGR/L-J/JS

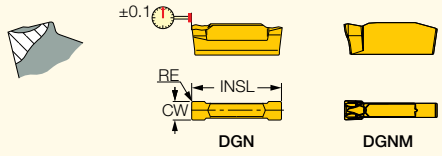
**Holders:** ABC MAHDR-#-XL-JHP • MAHPR/L-XL-JHP • MAHR/L-MG-XL-JHP • MAHR/L-MG-XL-JHP-MC • TR TNK36 MAHDL-R-XL-JHP • TR45TNL MAHDN-R-XL-JHP • V## MAHD#-#-XL-##-JHP

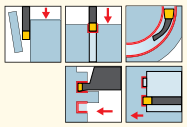
DO-GRIP TWISTED 2-SIDED

## DGN/DGNC/DGNM-C

Double-Sided Parting Inserts for Parting and Grooving Bars, Hard Materials and Tough Applications



| Designation | Dimensions CW | CWTOL(3) | RE | RETOL(4) | CDX(5) | INSL | Tough ↔ Hard IC328 | IC830 | IC928 | IC1030 | IC1028 | IC354 | IC5400 | IC1010 | IC308 | IC808 | IC908 | IC30N | IC20 | IC807 | IC907 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DGN 2002C | 2.00 | 0.03 | 0.20 | 0.020 | 18.00 | 19.90 | ● | ● | | ● | ● | ● | ● | ● | | ● | ● | | ● | | | 0.05-0.16 |
| DGN 2202C | 2.20 | 0.03 | 0.20 | 0.020 | 18.00 | 19.80 | ● | ● | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | ● | 0.05-0.16 |
| DGN 2502C | 2.50 | 0.03 | 0.20 | 0.020 | 18.00 | 20.70 | | | ● | ● | | | | ● | | | ● | | | | | 0.08-0.20 |
| DGN 3102C | 3.10 | 0.04 | 0.20 | 0.020 | 18.00 | 20.10 | ● | ● | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | 0.10-0.25 |
| DGNC 3102C (1) | 3.10 | 0.04 | 0.20 | 0.020 | 18.00 | 21.00 | | | | | | | | | | ● | ● | | | | | 0.10-0.25 |
| DGNM 3202C (2) | 3.18 | 0.04 | 0.20 | 0.020 | - (6) | 20.40 | ● | | | | | ● | | | | | ● | | | | | 0.10-0.25 |
| DGN 4003C | 4.00 | 0.04 | 0.30 | 0.030 | - (6) | 18.80 | ● | ● | | ● | ● | ● | | ● | ● | ● | ● | ● | ● | ● | | 0.10-0.30 |
| DGNC 4003C (1) | 4.00 | 0.04 | 0.30 | 0.030 | - (6) | 19.00 | | | | | | | | | | ● | ● | | | | | 0.10-0.30 |
| DGN 4803C | 4.80 | 0.04 | 0.30 | 0.030 | - (6) | 19.90 | ● | | | | | | | | | | | | | | | 0.12-0.35 |
| DGN 5003C | 5.00 | 0.04 | 0.30 | 0.030 | - (6) | 19.10 | ● | ● | | ● | ● | ● | | ● | | ● | ● | ● | ● | | | 0.12-0.35 |
| DGN 6303C | 6.35 | 0.04 | 0.35 | 0.030 | - (6) | 19.10 | ● | ● | | | ● | ● | | ● | | ● | ● | | ● | | | 0.15-0.40 |

• Feed values for grade IC20 should be decreased by 50% • For cutting speed recommendations and user guide, see pages 540-547

(1) Inserts with coolant holes, recommended coolant pressure 10 bar minimum

(2) Single-ended insert

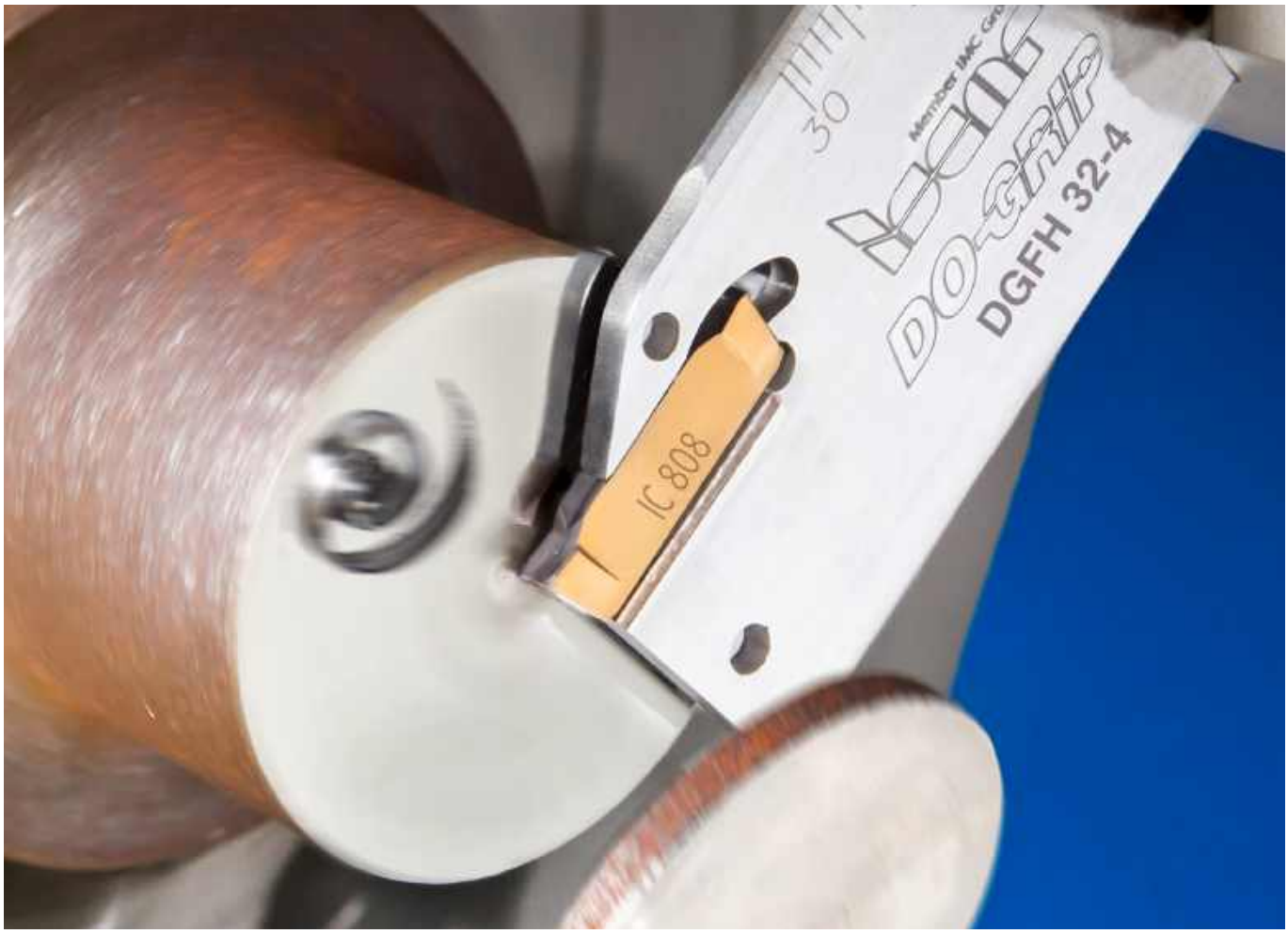
(3) Cutting width tolerance (+/-)

(4) Corner radius tolerance (+/-)

(5) Cutting depth maximum

(6) No depth limit

**Tools:** C#-HELIR/L • C#-HFIR/L-MC • CR HFIR-M • D/HGAD RE/LE-JHP • DGAD-B-D • DGAD/HGAD • DGAQ • DGAQ-JHP • DGFH • DGFH-JHP • DGFHL-26B-TR-D • DGFHR/L • DGFHR/L-B-D..(R/L) • DGFHR/L-BC-JHP • DGFS • DGPAD-JHP • DGPAD-XL-JHP • DGTR/L • DGTR/L-B-D-JHP-SL • DGTR/L-B-D-JHP-SL-MC • DGTR/L-B-D-SH • DGTR/L-B/BC-D • DGTR/L-BC-T • HELIR/L • HFAER/L-4 • HFAER/L-5T, 6T • HFAIR/L-4 • HFAIR/L-DG • HFFR/L-T • HFHR/L-4T • HFHR/L-5T • HFHR/L-6T • HFIR/L-MC • HFPAD-4 • HFPAD-5 • HFPAD-6 • HFPAD-JHP • HGPAD • HGPAD-JHP • IM-HFIR-MC • NQCH-DGTR/L-D-SH-JHP



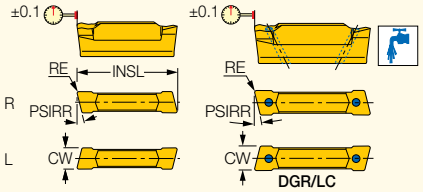
DO-GRIP TWISTED 2-SIDED

## DGR/L-C DGRC/LC-C

Double-Sided Inserts for Parting Bars, Hard Materials and Tough Applications








| Designation | Dimensions CW | RE | CDX[2] | PSIRL | PSIRR | INSL | Tough ↔ Hard IC328 | IC830 | IC1030 | IC1028 | IC354 | IC1010 | IC808 | IC908 | IC20 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DGL 2202C-6D | 2.20 | 0.20 | 18.00 | 6.0 | - | 20.80 | ● | | ● | ● | ● | ● | | ● | ● | 0.04-0.12 |
| DGR 2202C-6D | 2.20 | 0.20 | 18.00 | - | 6.0 | 20.80 | ● | ● | ● | ● | ● | ● | ● | ● | ● | 0.04-0.12 |
| DGL 3102C-15D | 3.10 | 0.20 | 18.00 | 15.0 | - | 21.00 | ● | ● | ● | ● | | | | | | 0.08-0.14 |
| DGL 3102C-6D | 3.10 | 0.20 | 18.00 | 6.0 | - | 21.00 | ● | ● | ● | ● | ● | ● | ● | ● | ● | 0.08-0.18 |
| DGLC 3102C-6D [1] | 3.10 | 0.20 | 18.00 | 6.0 | - | 21.00 | | | | | | | ● | ● | | 0.08-0.18 |
| DGR 3102C-15D | 3.10 | 0.20 | 18.00 | - | 15.0 | 20.90 | ● | ● | ● | ● | | ● | | ● | | 0.08-0.14 |
| DGR 3102C-6D | 3.10 | 0.20 | 18.00 | - | 6.0 | 21.00 | ● | ● | ● | ● | ● | ● | ● | ● | ● | 0.08-0.18 |
| DGR 3102C-8D | 3.10 | 0.20 | 18.00 | - | 8.0 | 21.10 | ● | ● | ● | ● | | | | | | 0.05-0.15 |
| DGRC 3102C-6D [1] | 3.10 | 0.20 | 18.00 | - | 6.0 | 20.90 | | | | | | | ● | ● | | 0.08-0.18 |
| DGL 4003C-4D | 4.00 | 0.30 | - [3] | 4.0 | - | 18.90 | ● | | ● | ● | ● | ● | | ● | ● | 0.08-0.20 |
| DGLC 4003C-4D [1] | 4.00 | 0.30 | - [3] | 4.0 | - | 19.00 | | | | | | | ● | | | 0.08-0.20 |
| DGR 4003C-4D | 4.00 | 0.30 | - [3] | - | 4.0 | 18.80 | ● | ● | | ● | ● | ● | | ● | ● | 0.08-0.20 |
| DGRC 4003C-4D [1] | 4.00 | 0.30 | - [3] | - | 4.0 | 19.00 | | | | | | | ● | ● | | 0.08-0.20 |
| DGR 4800CS-4D | 4.80 | 0.02 | - [3] | - | 4.0 | 19.70 | ● | | | | | | | | | 0.05-0.15 |
| DGR 4800CS-8D | 4.80 | 0.02 | - [3] | - | 8.0 | 19.70 | ● | | | | | | | | | 0.05-0.15 |
| DGR 4803C-4D | 4.80 | 0.30 | - [3] | - | 4.0 | 20.30 | ● | | | | | | | | | 0.10-0.25 |
| DGR 4803C-8D | 4.80 | 0.30 | - [3] | - | 8.0 | 20.30 | ● | | | | | | | | | 0.10-0.20 |
| DGL 5003C-4D | 5.00 | 0.30 | - [3] | 4.0 | - | 19.10 | ● | | | | ● | | | | ● | 0.10-0.25 |
| DGR 5003C-4D | 5.00 | 0.30 | - [3] | - | 4.0 | 19.20 | ● | | | | ● | | | | ● | 0.10-0.25 |
| DGL 6303C-4D | 6.35 | 0.35 | - [3] | 4.0 | - | 19.10 | ● | | | | ● | | | | ● | 0.12-0.30 |
| DGR 6303C-4D | 6.35 | 0.35 | - [3] | - | 4.0 | 19.10 | ● | | | | ● | | | | ● | 0.12-0.30 |

• Feed values for grade IC20 should be decreased by 50% • For cutting speed recommendations and user guide, see pages 540-547

[1] Inserts with coolant holes, recommended coolant pressure 10 bar minimum

[2] Cutting depth maximum

[3] No depth limit

**Tools:** C#-HELIR/L • D/HGAD RE/LE-JHP • DGAD-B-D • DGAD/HGAD • DGAQ • DGAQ-JHP • DGFH • DGFH-JHP • DGFHL-26B-TR-D • DGFHR/L • DGFHR/L-B-D..(R/L) • DGFHR/L-BC-JHP • DGFS • DGPAD-JHP • DGPAD-XL-JHP • DGTR/L • DGTR/L-B-D-JHP-SL • DGTR/L-B-D-JHP-SL-MC • DGTR/L-B-D-SH • DGTR/L-B/BC-D • DGTR/L-BC-T • HELIR/L • NQCH-DGTR/L-D-SH-JHP

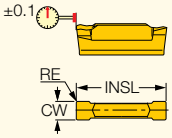
DO-GRIP TWISTED 2-SIDED

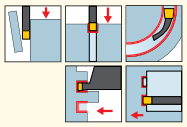
## DGN-W

Double-Sided Inserts with Central Ridged Chipformer for Parting and Grooving Hard Materials and Interrupted Cuts





| Designation | Dimensions CW | RE | CWTOL[1] | RETOL[2] | INSL | Tough ↔ Hard IC328 | IC1030 | IC354 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| DGN 5003W | 5.00 | 0.30 | 0.04 | 0.030 | 19.00 | ● | ● | ● | 0.12-0.33 |

• No depth limit • For cutting speed recommendations and user guide, see pages 540-547

[1] Cutting width tolerance (+/-)

[2] Corner radius tolerance (+/-)

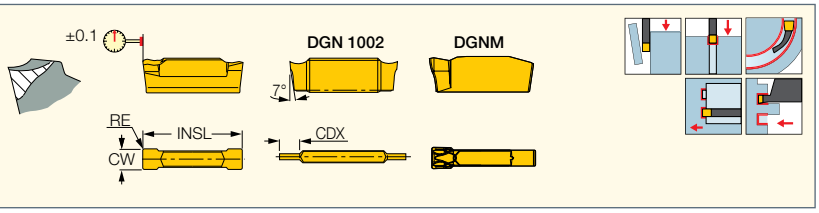
**Tools:** C#-HELIR/L • C#-HFIR/L-MC • CR HFIR-M • DGAD/HGAD • DGAQ • DGAQ-JHP • DGFH • DGFH-JHP • DGTR/L • HELIR/L • HFAER/L-5T, 6T • HFAIR/L-DG • HFFR/L-T • HFHR/L-5T • HFIR/L-MC • HFPAD-5 • HFPAD-JHP • HGPAD • HGPAD-JHP • IM-HFIR-MC • NQCH-DGTR/L-D-SH-JHP

DO-GRIP TWISTED 2-SIDED

## DGN/DGNM-J/JS/JT

Double-Sided Inserts for Parting and Grooving Soft Materials, Parting Tubes, Small Diameters and Thin-Walled Parts




| Designation | Dimensions | | | | | | Tough ↔ Hard | | | | | | | | | | | | | Recommended Machining Data |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CW | CWTOL[3] | RE | RETOL[4] | CDX[5] | INSL | IC328 | IC830 | IC928 | IC1030 | IC1028 | IC354 | IC5400 | IC1010 | IC308 | IC808 | IC908 | IC20 | IC807 | IC907 | f groove (mm/rev) |
| DGN 1002J | 1.00 | 0.02 | 0.16 | 0.020 | 3.00 | 21.00 | ● | | | ● | ● | | | ● | | | ● | | | | 0.02-0.07 |
| DGN 1402J | 1.40 | 0.03 | 0.16 | 0.020 | 15.00 | 15.80 | ● | ● | | ● | ● | ● | | ● | ● | ● | ● | | | | 0.03-0.12 |
| DGN 1502J | 1.50 | 0.03 | 0.16 | 0.020 | 18.00 | 20.90 | ● | | | ● | ● | | | ● | | | ● | | | | 0.03-0.12 |
| DGN 2002JT | 2.00 | 0.03 | 0.20 | 0.020 | 18.00 | 19.80 | | | | | | | | | | ● | | | | | 0.04-0.14 |
| DGN 2200JS [1] | 2.20 | 0.03 | 0.02 | 0.020 | 18.00 | 19.00 | ● | ● | | ● | | | | ● | | | | | | | 0.03-0.08 |
| DGN 2202J | 2.20 | 0.03 | 0.20 | 0.020 | 18.00 | 19.80 | ● | ● | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | 0.04-0.12 |
| DGN 2202JT | 2.20 | 0.03 | 0.20 | 0.020 | 18.00 | 19.80 | | ● | | | | | ● | | | ● | | | | | 0.04-0.14 |
| DGN 3100JS [1] | 3.10 | 0.04 | 0.02 | 0.020 | 18.00 | 19.70 | ● | | | ● | | | | ● | ● | | | | | | 0.03-0.10 |
| DGN 3102J | 3.10 | 0.04 | 0.20 | 0.020 | 18.00 | 20.10 | ● | ● | | ● | ● | ● | ● | ● | ● | ● | ● | ● | | ● | 0.04-0.16 |
| DGN 3102JT | 3.10 | 0.04 | 0.20 | 0.020 | 18.00 | 20.10 | | ● | | | | | ● | | | ● | | | | ● | 0.05-0.18 |
| DGN 3202J | 3.18 | 0.04 | 0.20 | 0.020 | 18.00 | 20.10 | | | | | | | | | | | ● | | | | 0.04-0.16 |
| DGNM 3202J [2] | 3.18 | 0.04 | 0.20 | 0.020 | - [6] | 20.30 | ● | | | ● | | ● | | ● | | | ● | | | | 0.04-0.16 |
| DGN 4003J | 4.00 | 0.04 | 0.30 | 0.030 | - [6] | 18.90 | ● | ● | | ● | ● | ● | | ● | ● | ● | ● | ● | ● | | 0.05-0.18 |
| DGN 4003JT | 4.00 | 0.04 | 0.30 | 0.030 | - [6] | 18.90 | | ● | | | | | | | | | | | | | 0.05-0.18 |
| DGN 4803J | 4.80 | 0.04 | 0.30 | 0.030 | - [6] | 20.40 | ● | | | | | | | | | | | | | | 0.05-0.20 |
| DGN 5003J | 5.00 | 0.04 | 0.30 | 0.030 | - [6] | 19.00 | ● | ● | | ● | ● | ● | | ● | | ● | ● | ● | | | 0.05-0.20 |
| DGN 5003JT | 5.00 | 0.04 | 0.30 | 0.030 | - [6] | 19.00 | | | ● | | | | | | | | ● | | | | 0.05-0.20 |
| DGN 6303J | 6.35 | 0.04 | 0.35 | 0.030 | - [6] | 19.10 | ● | ● | | ● | ● | ● | | ● | | ● | ● | ● | | | 0.05-0.25 |
| DGN 6303JT | 6.35 | 0.04 | 0.35 | 0.030 | - [6] | 19.10 | | | ● | | | | | | | | ● | | | | 0.05-0.25 |

- JT chipformer has the basic positive configuration of the J-type and a reinforced negative frontal edge; most suitable for soft materials at low to medium feeds
- For cutting speed recommendations and user guide, see pages 540-547

[1] Sharp corners
[2] Single-ended insert
[3] Cutting width tolerance (+/-)
[4] Corner radius tolerance (+/-)
[5] Cutting depth maximum
[6] No depth limit

**Tools:** C#-HELIR/L • C#-HFIR/L-MC • CR HFIR-M • D/HGAD RE/LE-JHP • DGAD-B-D • DGAD/HGAD • DGAQ • DGAQ-JHP • DGFH • DGFH-JHP • DGFHL-26B-TR-D • DGFHR/L • DGFHR/L-B-D..(R/L) • DGFHR/L-BC-JHP • DGFS • DGPAD-JHP • DGPAD-XL-JHP • DGTR/L • DGTR/L-B-D-JHP-SL • DGTR/L-B-D-JHP-SL-MC • DGTR/L-B-D-SH • DGTR/L-B-D-TR • DGTR/L-B-T-SH • DGTR/L-B/BC-D • DGTR/L-BC-T • HELIR/L • HFAER/L-4 • HFAER/L-5T, 6T • HFAIR/L-4 • HFAIR/L-DG • HFFR/L-T • HFHR/L-4T • HFHR/L-5T • HFHR/L-6T • HFIR/L-MC • HFPAD-4 • HFPAD-5 • HFPAD-6 • HFPAD-JHP • HGPAD • HGPAD-JHP • IM-HFIR-MC • NQCH-DGTR/L-D-SH-JHP

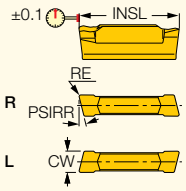
DO-GRIP TWISTED 2-SIDED

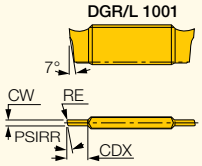
## DGR/L-J/JS

Double-Sided Inserts for Parting Soft Materials, Parting Tubes, Small Diameters and Thin-Walled Parts








| Designation | Dimensions CW | RE | CDX(2) | INSL | PSIRL | PSIRR | Tough ↔ Hard IC328 | IC830 | IC1030 | IC1028 | IC354 | IC1010 | IC308 | IC808 | IC908 | IC20 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DGL 1001J-8D | 1.00 | 0.07 | 3.00 | 21.00 | - | 8.0 | | | | | | | ● | | ● | | 0.02-0.06 |
| DGR 1001J-8D | 1.00 | 0.07 | 3.00 | 21.00 | 8.0 | - | ● | | | ● | | ● | ● | | ● | | 0.02-0.06 |
| DGL 1400JS-15D (1) | 1.40 | 0.02 | 14.00 | 15.40 | - | 15.0 | ● | | ● | | | | | | | | 0.03-0.07 |
| DGR 1400JS-15D (1) | 1.40 | 0.02 | 14.00 | 15.40 | 15.0 | - | ● | ● | ● | ● | | ● | ● | | ● | | 0.03-0.07 |
| DGL 1402J-8D | 1.40 | 0.16 | 14.00 | 15.80 | - | 8.0 | ● | | | ● | | | | | | | 0.03-0.08 |
| DGR 1402J-8D | 1.40 | 0.16 | 14.00 | 15.80 | 8.0 | - | ● | ● | ● | ● | | | ● | | ● | | 0.03-0.08 |
| DGR 1500J-8D | 1.50 | 0.05 | 18.00 | 20.90 | 8.0 | - | ● | ● | ● | ● | | ● | ● | | | | 0.03-0.08 |
| DGL 2200JS-15D (1) | 2.20 | 0.02 | 18.00 | 20.60 | - | 15.0 | ● | | ● | ● | ● | | ● | | ● | | 0.03-0.07 |
| DGL 2200JS-6D (1) | 2.20 | 0.02 | 18.00 | 20.60 | - | 6.0 | ● | | | ● | | | ● | | ● | | 0.03-0.08 |
| DGR 2200JS-15D (1) | 2.20 | 0.02 | 18.00 | 20.60 | 15.0 | - | ● | | ● | ● | ● | ● | ● | | ● | ● | 0.03-0.07 |
| DGR 2200JS-6D (1) | 2.20 | 0.02 | 18.00 | 20.60 | 6.0 | - | ● | ● | ● | ● | ● | ● | ● | | ● | | 0.03-0.08 |
| DGL 2202J-6D | 2.20 | 0.20 | 18.00 | 21.00 | - | 6.0 | ● | | ● | ● | ● | ● | | | ● | ● | 0.03-0.10 |
| DGR 2202J-15D | 2.20 | 0.20 | 18.00 | 21.00 | 15.0 | - | ● | ● | ● | ● | | | | | | | 0.03-0.08 |
| DGR 2202J-6D | 2.20 | 0.20 | 18.00 | 21.00 | 6.0 | - | ● | ● | ● | ● | ● | ● | | | ● | ● | 0.03-0.10 |
| DGL 3100JS-15D (1) | 3.10 | 0.02 | 18.00 | 20.60 | - | 15.0 | ● | | | ● | ● | | ● | | ● | | 0.03-0.07 |
| DGL 3100JS-6D (1) | 3.10 | 0.02 | 18.00 | 20.60 | - | 6.0 | ● | | | ● | | | ● | | ● | | 0.03-0.08 |
| DGR 3100JS-15D (1) | 3.10 | 0.02 | 18.00 | 20.60 | 15.0 | - | ● | ● | ● | ● | ● | ● | ● | | ● | | 0.03-0.07 |
| DGR 3100JS-6D (1) | 3.10 | 0.02 | 18.00 | 20.60 | 6.0 | - | ● | ● | ● | ● | ● | ● | ● | | ● | | 0.03-0.08 |
| DGL 3102J-15D | 3.10 | 0.20 | 18.00 | 21.00 | - | 15.0 | ● | | ● | ● | | | | | | | 0.04-0.10 |
| DGL 3102J-6D | 3.10 | 0.20 | 18.00 | 21.00 | - | 6.0 | ● | ● | ● | ● | ● | ● | | | ● | ● | 0.04-0.14 |
| DGR 3102J-15D | 3.10 | 0.20 | 18.00 | 21.00 | 15.0 | - | ● | | ● | ● | ● | ● | | | ● | | 0.04-0.10 |
| DGR 3102J-6D | 3.10 | 0.20 | 18.00 | 21.00 | 6.0 | - | ● | ● | ● | ● | ● | ● | | ● | ● | ● | 0.04-0.14 |
| DGR 4000JS-15D (1) | 4.00 | 0.00 | - (3) | 19.30 | 15.0 | - | ● | | ● | | | | | | | | 0.04-0.10 |
| DGL 4003J-4D | 4.00 | 0.30 | - (3) | 18.90 | - | 4.0 | ● | | ● | ● | ● | ● | | | ● | ● | 0.04-0.15 |
| DGR 4003J-4D | 4.00 | 0.30 | - (3) | 18.90 | - | 4.0 | ● | ● | | ● | ● | ● | | ● | ● | ● | 0.04-0.15 |
| DGR 4800JS-4D (1) | 4.80 | 0.03 | - (3) | 19.80 | - | 4.0 | ● | | | | | | | | | | 0.04-0.12 |
| DGR 4800JS-8D (1) | 4.80 | 0.03 | - (3) | 19.80 | - | 8.0 | ● | | | | | | | | | | 0.04-0.14 |
| DGR 4803J-4D | 4.80 | 0.30 | - (3) | 19.80 | - | 4.0 | ● | | | | | | | | | | 0.04-0.18 |
| DGR 4803J-8D | 4.80 | 0.30 | - (3) | 19.80 | - | 8.0 | ● | | | | | | | | | | 0.04-0.15 |
| DGL 5003J-4D | 5.00 | 0.30 | - (3) | 19.80 | - | 4.0 | ● | | | | ● | | | | | | 0.05-0.20 |
| DGR 5003J-4D | 5.00 | 0.30 | - (3) | 19.80 | - | 4.0 | ● | | | ● | ● | | | | | ● | 0.05-0.20 |
| DGL 6303J-4D | 6.35 | 0.35 | - (3) | 19.10 | - | 4.0 | ● | | | | ● | | | | | | 0.05-0.25 |
| DGR 6303J-4D | 6.35 | 0.35 | - (3) | 19.10 | - | 4.0 | ● | | | | | | | | | | 0.05-0.25 |

• For cutting speed recommendations and user guide, see pages 540-547

(1) Sharp corners

(2) Cutting depth maximum

(3) No depth limit.

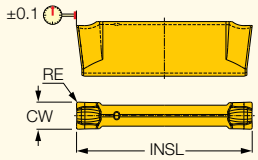
**Tools:** C#-HELIR/L • D/HGAD RE/LE-JHP • DGAD-B-D • DGAD/HGAD • DGAQ • DGAQ-JHP • DGFH • DGFH-JHP • DGFHL-26B-TR-D • DGFHR/L • DGFHR/L-B-D..(R/L) • DGFHR/L-BC-JHP • DGFS • DGPAD-JHP • DGPAD-XL-JHP • DGTR/L • DGTR/L-B-D-JHP-SL • DGTR/L-B-D-JHP-SL-MC • DGTR/L-B-D-SH • DGTR/L-B-D-TR • DGTR/L-B-T-SH • DGTR/L-B/BC-D • DGTR/L-BC-T • HELIR/L • NQCH-DGTR/L-D-SH-JHP

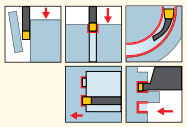
DO-GRIP TWISTED 2-SIDED

## DGN-LF/LFT

Double-Sided Inserts for Parting and Grooving Stainless Steel





| Designation | Dimensions CW | CWTOL(1) | RE | RETOL(2) | CDX(3) | INSL | Tough ↔ Hard IC830 | IC928 | IC1030 | IC5400 | IC1010 | IC808 | IC908 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DGN 2002LF | 2.00 | 0.03 | 0.20 | 0.020 | 18.00 | 19.80 | ● | | | ● | ● | ● | | 0.03-0.08 |
| DGN 2202LF | 2.20 | 0.03 | 0.20 | 0.020 | 18.00 | 19.80 | | ● | ● | ● | ● | | ● | 0.03-0.08 |
| DGN 2502LF | 2.50 | 0.03 | 0.20 | 0.020 | 18.00 | 19.80 | | | ● | | ● | | | 0.03-0.08 |
| DGN 3102LF | 3.10 | 0.04 | 0.20 | 0.020 | 18.00 | 20.10 | ● | ● | ● | ● | ● | ● | ● | 0.04-0.10 |
| DGN 3102LFT | 3.10 | 0.04 | 0.20 | 0.020 | 18.00 | 21.10 | | ● | | | | | ● | 0.04-0.12 |

- The LFT chipformer features basically the same design as the LF chipformer, except that it is reinforced by a T-land to improve its durability in interrupted-cut or on hard materials applications. It can be applied at higher feeds than the LF chipformer
- For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum

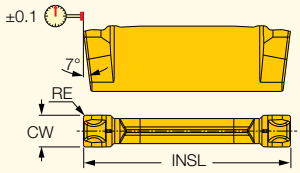
**Tools:** DGAD-B-D • DGAQ • DGAQ-JHP • DGFH • DGFH-JHP • DGFHL-26B-TR-D • DGFHR/L • DGFHR/L-B-D..(R/L) • DGFHR/L-BC-JHP • DGFS • DGPAD-JHP • DGPAD-XL-JHP • DGTR/L • DGTR/L-B-D-JHP-SL • DGTR/L-B-D-JHP-SL-MC • DGTR/L-B-D-SH • DGTR/L-B/BC-D • NQCH-DGTR/L-D-SH-JHP

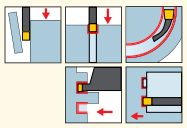
DO-GRIP TWISTED 2-SIDED

## DGN-MF

Double-Sided Inserts for Parting and Grooving Soft and Hard Materials at Medium Feeds





| Designation | Dimensions CW | RE | CWTOL(1) | CDX(2) | INSL | Tough ↔ Hard IC830 | IC1030 | IC5400 | IC1010 | IC808 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DGN 2002MF | 2.00 | 0.20 | 0.04 | 18.00 | 19.90 | ● | ● | ● | ● | ● | 0.04-0.12 |
| DGN 2202MF | 2.20 | 0.20 | 0.04 | 18.00 | 19.90 | | ● | | ● | | 0.04-0.12 |
| DGN 3002MF | 3.00 | 0.20 | 0.04 | 18.00 | 20.10 | | | ● | | | 0.06-0.18 |
| DGN 3102MF | 3.10 | 0.20 | 0.04 | 18.00 | 20.10 | ● | ● | ● | ● | ● | 0.06-0.18 |
| DGN 4003MF | 4.00 | 0.30 | 0.04 | - (3) | 18.80 | ● | | | | ● | 0.08-0.20 |

- For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting width tolerance (+/-)
(2) Cutting depth maximum
(3) No depth limit

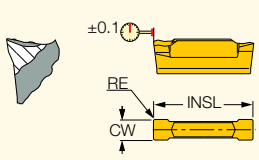
**Tools:** C#-HELIR/L • C#-HFIR/L-MC • CR HFIR-M • DGAQ • DGAQ-JHP • DGFH • DGFH-JHP • DGFHR/L-B-D..(R/L) • DGFHR/L-BC-JHP • DGPAD-JHP • DGPAD-XL-JHP • DGTR/L • DGTR/L-B-D-JHP-SL • DGTR/L-B-D-JHP-SL-MC • HELIR/L • HFAER/L-4 • HFAIR/L-4 • HFAIR/L-DG • HFFR/L-T • HFHR/L-4T • HFIR/L-MC • HFPAD-4 • HFPAD-JHP • HGPAD • HGPAD-JHP • IM-HFIR-MC • NQCH-DGTR/L-D-SH-JHP

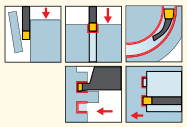
DO-GRIP TWISTED 2-SIDED

## DGN-Z

Double-Sided Inserts for Parting Tubes, Thin-Walled and Small Parts



| Designation | Dimensions CW | CDX(1) | CWTOL(2) | RE | RETOL(3) | INSL | Tough ↔ Hard IC1030 | IC1010 | IC808 | IC908 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DGN 2002Z | 2.00 | 18.00 | 0.03 | 0.20 | 0.020 | 20.90 | ● | ● | ● | ● | 0.03-0.12 |
| DGN 3002Z | 3.00 | 18.00 | 0.03 | 0.20 | 0.020 | 20.90 | | | ● | ● | 0.03-0.16 |

- For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting depth maximum

(2) Cutting width tolerance (+/-)

(3) Corner radius tolerance (+/-)

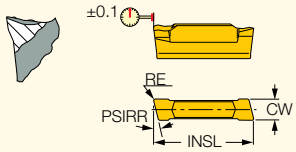
**Tools:** D/HGAD RE/LE-JHP • DGAD-B-D • DGAD/HGAD • DGAQ • DGAQ-JHP • DGFH • DGFH-JHP • DGFHL-26B-TR-D • DGFHR/L • DGFHR/L-B-D..(R/L) • DGFHR/L-BC-JHP • DGFS • DGPAD-JHP • DGPAD-XL-JHP • DGTR/L • DGTR/L-B-D-JHP-SL • DGTR/L-B-D-JHP-SL-MC • DGTR/L-B-D-SH • DGTR/L-B/BC-D • NQCH-DGTR/L-D-SH-JHP

DO-GRIP TWISTED 2-SIDED

## DGR-Z/ZS

Double-Sided Inserts with Very Positive Rake for Parting Tubes and Thin-Walled and Small Parts






| Designation | Dimensions CW | RE | INSL | CDX(2) | PSIRR | IC908 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|
| DGR 2000ZS-15D (1) | 2.00 | 0.02 | 20.40 | 18.00 | 15.0 | ● | 0.03-0.07 |
| DGR 2000ZS-6D (1) | 2.00 | 0.02 | 20.40 | 18.00 | 6.0 | ● | 0.03-0.08 |
| DGR 2002Z-15D | 2.00 | 0.20 | 20.90 | 18.00 | 15.0 | ● | 0.03-0.10 |
| DGR 2002Z-6D | 2.00 | 0.20 | 20.90 | 18.00 | 6.0 | ● | 0.03-0.10 |
| DGR 3000ZS-15D (1) | 3.00 | 0.02 | 20.40 | 18.00 | 15.0 | ● | 0.03-0.10 |
| DGR 3000ZS-6D (1) | 3.00 | 0.02 | 20.40 | 18.00 | 6.0 | ● | 0.03-0.12 |
| DGR 3002Z-6D | 3.00 | 0.20 | 20.90 | 18.00 | 6.0 | ● | 0.03-0.14 |

- For cutting speed recommendations and user guide, see pages 540-547

(1) Sharp corners

(2) Cutting depth maximum

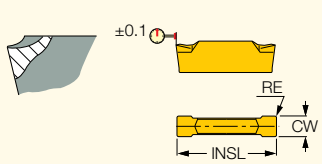
**Tools:** D/HGAD RE/LE-JHP • DGAD-B-D • DGAD/HGAD • DGAQ • DGAQ-JHP • DGFH • DGFH-JHP • DGFHL-26B-TR-D • DGFHR/L • DGFHR/L-B-D..(R/L) • DGFHR/L-BC-JHP • DGFS • DGPAD-JHP • DGPAD-XL-JHP • DGTR/L • DGTR/L-B-D-JHP-SL • DGTR/L-B-D-JHP-SL-MC • DGTR/L-B-D-SH • DGTR/L-B/BC-D • NQCH-DGTR/L-D-SH-JHP

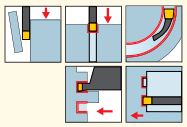
DO-GRIP TWISTED 2-SIDED

## DGN-UT/UA

Double-Sided Inserts for Parting and Grooving Cr-Ni Alloys, Low Carbon Steel and Ductile Materials at Low Feeds



| Designation | Dimensions | | | | | | Tough ↔ Hard | | | | | | | | | Recommended Machining Data |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CW | CWTOL(1) | RE | RETOL(2) | CDX(3) | INSL | IC328 | IC1030 | IC1028 | IC354 | IC350 | IC1010 | IC308 | IC908 | IC20 | f groove (mm/rev) |
| DGN 2202UA | 2.20 | 0.03 | 0.20 | 0.020 | 18.00 | 19.90 | ● | | ● | ● | | | | | | 0.04-0.13 |
| DGN 2202UT | 2.20 | 0.03 | 0.20 | 0.020 | 18.00 | 19.60 | | | | | ● | | | ● | | 0.03-0.11 |
| DGN 3003UA | 3.00 | 0.03 | 0.25 | 0.020 | 18.00 | 20.50 | ● | ● | ● | ● | | ● | ● | | ● | 0.04-0.15 |
| DGN 3003UT | 3.00 | 0.03 | 0.25 | 0.020 | 18.00 | 20.50 | | | | | | | ● | ● | | 0.04-0.13 |
| DGN 4003UA | 4.00 | 0.04 | 0.30 | 0.020 | - (4) | 19.40 | ● | | | ● | | | | | | 0.05-0.16 |
| DGN 4003UT | 4.00 | 0.04 | 0.30 | 0.020 | - (4) | 19.30 | ● | | | ● | | | | ● | | 0.04-0.15 |
| DGN 5003UT | 5.00 | 0.04 | 0.30 | 0.020 | - (4) | 19.00 | ● | | ● | | | | ● | ● | | 0.05-0.18 |
| DGN 6008UT | 6.00 | 0.04 | 0.80 | 0.050 | - (4) | 19.10 | ● | | | ● | | | ● | ● | | 0.06-0.20 |

- For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Cutting depth maximum

(4) No depth limit

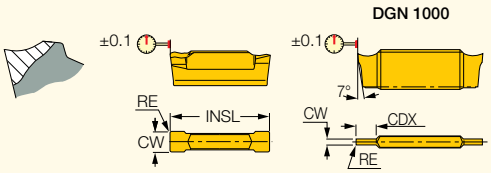
**Tools:** C#-HELIR/L • D/HGAD RE/LE-JHP • DGAD-B-D • DGAD/HGAD • DGAQ • DGAQ-JHP • DGFH • DGFH-JHP • DGFHL-26B-TR-D • DGFHR/L • DGFHR/L-B-D..(R/L) • DGFHR/L-BC-JHP • DGFS • DGPAD-JHP • DGPAD-XL-JHP • DGTR/L • DGTR/L-B-D-JHP-SL • DGTR/L-B-D-JHP-SL-MC • DGTR/L-B-D-SH • DGTR/L-B/BC-D • DGTR/L-BC-T • HELIR/L • HGPAD • HGPAD-JHP • NQCH-DGTR/L-D-SH-JHP

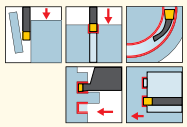
DO-GRIP TWISTED 2-SIDED

## DGN-P

Double-Sided Inserts for Parting and Grooving Soft Materials, Thin and Miniature Parts



| Designation | Dimensions | | | | | | IC508 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| | CW | RE | CWTOL(1) | RETOL(2) | INSL | CDX(3) | | |
| DGN 1000P | 1.00 | 0.05 | 0.02 | 0.020 | 20.00 | 3.00 | ● | 0.02-0.05 |
| DGN 1500P | 1.50 | 0.05 | 0.02 | 0.020 | 20.00 | 18.00 | ● | 0.02-0.07 |
| DGN 2000P | 2.00 | 0.05 | 0.02 | 0.020 | 20.00 | 18.00 | ● | 0.02-0.08 |
| DGN 3000P | 3.00 | 0.05 | 0.02 | 0.020 | 20.00 | 18.00 | ● | 0.02-0.10 |

- For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Cutting depth maximum

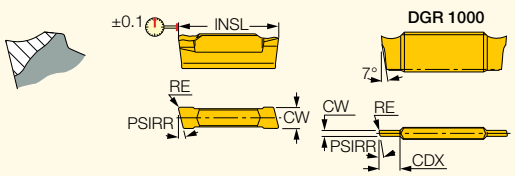
**Tools:** D/HGAD RE/LE-JHP • DGAD-B-D • DGAD/HGAD • DGAQ • DGAQ-JHP • DGFH • DGFH-JHP • DGFHL-26B-TR-D • DGFHR/L • DGFHR/L-B-D..(R/L) • DGFHR/L-BC-JHP • DGFS • DGPAD-JHP • DGPAD-XL-JHP • DGTR/L • DGTR/L-B-D-JHP-SL • DGTR/L-B-D-JHP-SL-MC • DGTR/L-B-D-SH • DGTR/L-B-D-TR • DGTR/L-B-T-SH • DGTR/L-B/BC-D • NQCH-DGTR/L-D-SH-JHP

DO-GRIP TWISTED 2-SIDED

## DGR-P

Double-Sided Inserts for Parting Soft Materials, Thin and Miniature Parts




| Designation | Dimensions CW | RE | INSL | CDX(1) | PSIRR | IC508 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|
| DGR 1000P-15D | 1.00 | 0.05 | 20.60 | 2.90 | 15.0 | ● | 0.02-0.03 |
| DGR 1000P-6D | 1.00 | 0.05 | 20.60 | 2.90 | 6.0 | ● | 0.02-0.04 |
| DGR 1500P-15D | 1.50 | 0.05 | 20.60 | 18.00 | 15.0 | ● | 0.02-0.04 |
| DGR 1500P-6D | 1.50 | 0.05 | 20.60 | 18.00 | 6.0 | ● | 0.02-0.05 |
| DGR 2000P-15D | 2.00 | 0.05 | 20.60 | 18.00 | 15.0 | ● | 0.02-0.05 |
| DGR 2000P-6D | 2.00 | 0.05 | 20.60 | 18.00 | 6.0 | ● | 0.02-0.07 |

- For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting depth maximum

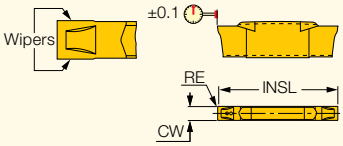
**Tools:** D/HGAD RE/LE-JHP • DGAD-B-D • DGAD/HGAD • DGAQ • DGAQ-JHP • DGFH • DGFH-JHP • DGFHR/L • DGFHR/L-B-D..(R/L) • DGFS • DGPAD-JHP • DGTR/L • DGTR/L-B-D-JHP-SL • DGTR/L-B-D-JHP-SL-MC • DGTR/L-B-D-SH • DGTR/L-B-D-TR • DGTR/L-B-T-SH • DGTR/L-B/BC-D • NQCH-DGTR/L-D-SH-JHP

DO-GRIP TWISTED 2-SIDED

## DGN-WP

Double-Sided Parting and Grooving Inserts with a Wiper Design for High Flatness and Surface Finish




| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | INSL | Tough ↔ Hard IC328 | IC1030 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| DGN 1900WP | 1.90 | 0.05 | 0.02 | 0.020 | 6.00 | 19.70 | ● | ● | 0.04-0.12 |
| DGN 2400WP | 2.39 | 0.05 | 0.02 | 0.020 | 6.00 | 20.40 | ● | ● | 0.05-0.14 |

- For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Cutting depth maximum

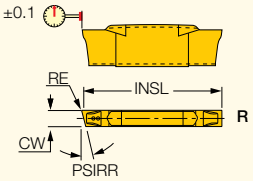
**Tools:** D/HGAD RE/LE-JHP • DGAD-B-D • DGAD/HGAD • DGAQ • DGAQ-JHP • DGFH • DGFH-JHP • DGFHL-26B-TR-D • DGFHR/L • DGFHR/L-B-D..(R/L) • DGFS • DGPAD-JHP • DGTR/L • DGTR/L-B-D-JHP-SL • DGTR/L-B-D-JHP-SL-MC • DGTR/L-B-D-SH • DGTR/L-B/BC-D • NQCH-DGTR/L-D-SH-JHP

DO-GRIP TWISTED 2-SIDED

## DGR-WP

Double-Sided Parting Inserts with a Wiper Design for High Flatness and Surface Finish




| Designation | Dimensions CW | RE | CDX(1) | INSL | PSIRR | Tough ↔ Hard IC328 | IC1030 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| DGR 1900WP-12D | 1.90 | 0.05 | 6.00 | 19.70 | 12.0 | ● | ● | 0.04-0.10 |
| DGR 1900WP-5D | 1.90 | 0.05 | 6.00 | 19.70 | 5.0 | ● | | 0.04-0.10 |
| DGR 2400WP-12D | 2.39 | 0.05 | 6.00 | 20.40 | 12.0 | ● | ● | 0.04-0.10 |
| DGR 2400WP-5D | 2.39 | 0.05 | 6.00 | 20.40 | 5.0 | ● | | 0.04-0.12 |

- For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting depth maximum

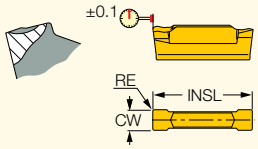
**Tools:** D/HGAD RE/LE-JHP • DGAD-B-D • DGAD/HGAD • DGAQ • DGAQ-JHP • DGFH • DGFH-JHP • DGFHR/L • DGFHR/L-B-D..(R/L) • DGFS • DGPAD-JHP • DGTR/L • DGTR/L-B-D-JHP-SL • DGTR/L-B-D-JHP-SL-MC • DGTR/L-B-D-SH • DGTR/L-B/BC-D • NQCH-DGTR/L-D-SH-JHP

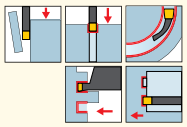
DO-GRIP TWISTED 2-SIDED

## HGN-C

Parting and Grooving Inserts for Parting Bars, Hard Materials and Tough Applications



| Designation | Dimensions CW | RE | CWTOL(1) | INSL | Tough ↔ Hard IC328 | IC830 | IC354 | IC308 | IC908 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| HGN 3003C | 3.00 | 0.30 | 0.05 | 15.80 | ● | ● | ● | ● | ● | 0.08-0.20 |

• No depth limit • For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting width tolerance (+/-)

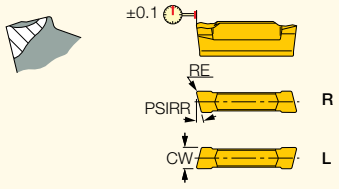
**Tools:** C#-HELIR/L • D/HGAD RE/LE-JHP • DGAD/HGAD • HELIR/L • HFPAD-3 • HFPAD-JHP • HGAIR/L-3 • HGFH • HGHR/L-3 • HGPAD • HGPAD-JHP

DO-GRIP TWISTED 2-SIDED

## HGR/L-C

Inserts for Parting Bars, Hard Materials and Tough Applications








| Designation | Dimensions CW | RE | INSL | PSIRL | PSIRR | Tough ↔ Hard IC328 | IC830 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| HGL 3003C-6D | 3.00 | 0.30 | 15.60 | 6.0 | - | ● | | 0.06-0.16 |
| HGR 3003C-6D | 3.00 | 0.30 | 15.60 | - | 6.0 | ● | ● | 0.06-0.16 |

• No depth limit • For cutting speed recommendations and user guide, see pages 540-547

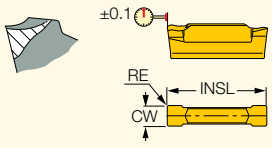
**Tools:** D/HGAD RE/LE-JHP • DGAD/HGAD • HELIR/L • HGFH

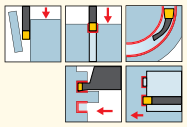
DO-GRIP TWISTED 2-SIDED

## HGN-J

Inserts for Parting and Grooving Soft Materials, Parting Tubes, Small Diameters and Thin-Walled Parts



| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | INSL | Tough ↔ Hard IC328 | IC830 | IC354 | IC308 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| HGN 3002J | 3.00 | 0.20 | 0.05 | 0.030 | 16.10 | ● | ● | ● | ● | 0.04-0.15 |

• No depth limit • For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

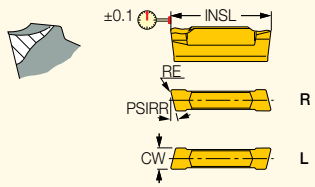
**Tools:** C#-HELIR/L • D/HGAD RE/LE-JHP • DGAD/HGAD • HELIR/L • HFPAD-3 • HFPAD-JHP • HGAIR/L-3 • HGFH • HGHR/L-3 • HGPAD • HGPAD-JHP

DO-GRIP TWISTED 2-SIDED

## HGR/L-J/JS

Double-Sided Inserts for Parting Soft Materials, Tubes, Small Diameters and Thin-Walled Parts






| Designation | Dimensions CW | RE | PSIRL | PSIRR | INSL | Tough ↔ Hard IC328 | IC830 | IC354 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| HGL 3000JS-15D (1) | 3.00 | 0.02 | 15.0 | - | 15.20 | ● | | | 0.03-0.07 |
| HGR 3000JS-15D (1) | 3.00 | 0.02 | - | 15.0 | 15.20 | ● | | | 0.03-0.07 |
| HGL 3002J-6D | 3.00 | 0.20 | 6.0 | - | 15.70 | ● | | | 0.04-0.12 |
| HGR 3002J-6D | 3.00 | 0.20 | - | 6.0 | 15.70 | ● | ● | ● | 0.04-0.12 |

• No depth limit • For cutting speed recommendations and user guide, see pages 540-547

(1) Sharp corners

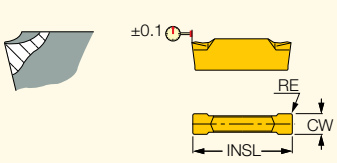
**Tools:** D/HGAD RE/LE-JHP • DGAD/HGAD • HELIR/L • HGFH

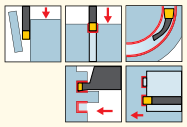
DO-GRIP TWISTED 2-SIDED

## HGN-UT

Double-Sided Inserts for Parting and Grooving Low Feeds on Cr-Ni Alloys and Low Carbon Steel





| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | INSL | Tough ↔ Hard IC328 | IC354 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| HGN 3003UT | 3.00 | 0.30 | 0.05 | 0.030 | 15.80 | ● | ● | 0.04-0.13 |

• No depth limit • For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

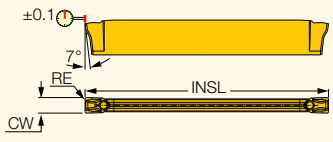
**Tools:** C#-HELIR/L • D/HGAD RE/LE-JHP • DGAD/HGAD • HELIR/L • HFPAD-3 • HFPAD-JHP • HGAIR/L-3 • HGFH • HGHR/L-3 • HGPAD • HGPAD-JHP

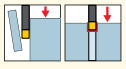
DO-GRIPXL

## DGN-C-XL

Extra Long Parting and Grooving Inserts for Parting Bars Up to 65 mm Diameters, Hard Materials and Tough Applications





| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | INSL | Tough ↔ Hard IC830 | IC5400 | IC808 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| DGN 2002C-XL | 2.05 | 0.20 | 0.04 | 0.030 | 30.00 | 32.00 | ● | ● | ● | 0.05-0.16 |
| DGN 3002C-XL | 3.00 | 0.20 | 0.04 | 0.030 | 32.50 | 35.00 | ● | | ● | 0.07-0.20 |

• For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Cutting depth maximum

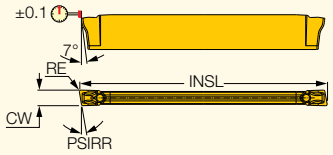
**Tools:** DGTR/L-XL

DO-GRIPXL

## DGR/L-C-XL

Extra Long Double-Sided Inserts for Parting Bars, Hard Materials and Tough Applications








Right-hand shown

| Designation | Dimensions CW | RE | CDX(1) | PSIRL | PSIRR | INSL | Tough ↔ Hard IC830 | IC808 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| DGL 2002C-6D-XL | 2.00 | 0.20 | 30.00 | 6.0 | - | 32.00 | ● | ● | 0.05-0.12 |
| DGR 2002C-6D-XL | 2.00 | 0.20 | 30.00 | - | 6.0 | 32.00 | ● | ● | 0.05-0.12 |
| DGL 3002C-6D-XL | 3.00 | 0.20 | 32.50 | 6.0 | - | 35.00 | ● | ● | 0.08-0.18 |
| DGR 3002C-6D-XL | 3.00 | 0.20 | 32.50 | - | 6.0 | 35.00 | ● | ● | 0.08-0.18 |

- For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting depth maximum

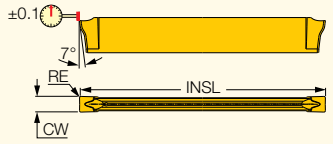
**Tools:** DGTR/L-XL

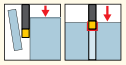
DO-GRIPXL

## DGN-J-XL

Extra Long Inserts for Parting and Grooving Soft Materials, Parting Tubes, Small Diameters and Thin-Walled Parts





| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | INSL | Tough ↔ Hard IC830 | IC5400 | IC808 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| DGN 2002J-XL | 2.05 | 0.20 | 0.04 | 0.030 | 30.00 | 32.00 | ● | ● | ● | 0.04-0.14 |
| DGN 3002J-XL | 3.00 | 0.20 | 0.04 | 0.030 | 32.50 | 35.00 | ● | | ● | 0.04-0.16 |

- For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Cutting depth maximum

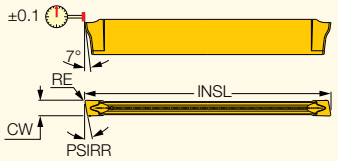
**Tools:** DGTR/L-XL

DO-GRIPXL

## DGR/L-J-XL

Extra Long Double-Sided Inserts for Parting Soft Materials, Tubes, Small Diameters and Thin-Walled Parts








Right-hand shown

| Designation | Dimensions CW | RE | CDX(1) | PSIRL | PSIRR | INSL | Tough ↔ Hard IC830 | IC808 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| DGL 2002J-6D-XL | 2.00 | 0.20 | 30.00 | 6.0 | - | 32.00 | ● | ● | 0.04-0.10 |
| DGR 2002J-6D-XL | 2.00 | 0.20 | 30.00 | - | 6.0 | 32.00 | ● | ● | 0.04-0.10 |
| DGL 3002J-6D-XL | 3.00 | 0.20 | 32.50 | 6.0 | - | 35.00 | ● | ● | 0.04-0.14 |
| DGR 3002J-6D-XL | 3.00 | 0.20 | 32.50 | - | 6.0 | 35.00 | ● | ● | 0.04-0.14 |

- For cutting speed recommendations and user guide, see pages 540-547

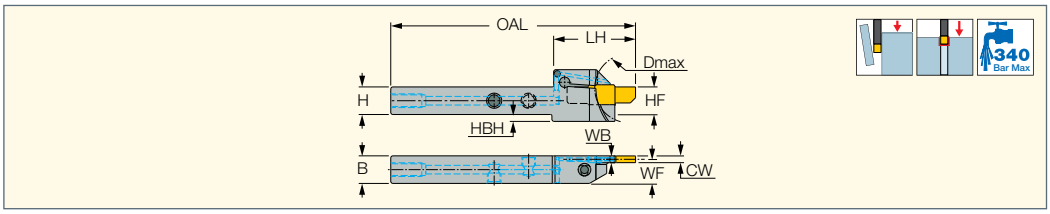
(1) Cutting depth maximum

**Tools:** DGTR/L-XL

ISCARPARTING
JETCUT

## BGTR/L-B-JHP

Integral Shank Parting and Grooving Tools with Coolant Channels Carrying Narrow Inserts for Parting up to 20 mm Bars




| Designation | CWN[1] | CWX[2] | H | HF | B | WB | OAL | LH | D max[3] | WF | HBH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BGTR/L 16B-D20-JHP | 0.80 | 1.50 | 16.0 | 16.0 | 16.0 | 4.00 | 142.00 | 47.5 | 40.0 [4] | 14.00 | 4.0 |
| BGTR/L 20B-D20-JHP | 0.80 | 1.50 | 20.0 | 20.0 | 20.0 | 4.00 | 142.00 | 47.5 | 40.0 [4] | 18.00 | - |
| BGTR/L 25B-D20-JHP | 0.80 | 1.50 | 25.0 | 25.0 | 25.0 | 4.00 | 142.00 | 47.5 | 40.0 [4] | 23.00 | - |

- For user guide, see pages 540-547

[1] Minimum cutting width
[2] Maximum cutting width
[3] The specified limit refers to the tool
[4] for grooving

**Inserts:** BGM N-J • BGM R/L-J
**Holders:** AVC-D80-VH • C#-ADE • C#-ADES • C#-ASHA • C#-ASHR/L • C#-ASHR/L-45 • DT30/2 ASH# 16/20-1-35080 • HSK A-WH-ASHR/L-1 • HSK A63WH-ASHN-45 • HSK A63WH-ASHR/L-2 • HSK A63WH-ASHR/L-3 • HSK A63WH-ASHR/L-45

### Spare Parts

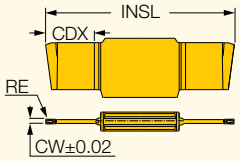
| Designation | | | | |
|---|---|---|---|---|
| BGTR/L 16B-D20-JHP | SR M5X16 DIN912 | | SR 5/16UNF TL360 | HW 4.0 |
| BGTR/L 20B-D20-JHP | SR M5X16 DIN912 | HW 3.0 | PLG G1/8 TL360 | HW 5.0 |
| BGTL 25B-D20-JHP | SR M5X16 DIN912 | HW 3.0 | PLG G1/8 TL360 | HW 5.0 |
| BGTR 25B-D20-JHP | SR M5X16 DIN912 | HW 4.0 | PLG G1/8 TL360 | HW 5.0 |

ISCARPARTING

## BGM N-J

Narrow Material Cost Saving Inserts for Grooving and Parting up to 20 mm Bar Diameters






| Designation | Dimensions | | | | | | IC1008 | Recommended Machining Data |
|---|---|---|---|---|---|---|---|---|
| | CW | CWTOL[1] | RE | RETOL[2] | CDX | INSL | | f groove (mm/rev) |
| BGM N0801J | 0.80 | 0.02 | 0.10 | 0.020 | 10.00 | 38.70 | ● | 0.02-0.05 |
| BGM N1001J | 1.00 | 0.02 | 0.10 | 0.020 | 10.00 | 38.70 | ● | 0.02-0.08 |
| BGM N1201J | 1.20 | 0.02 | 0.10 | 0.020 | 10.00 | 38.70 | ● | 0.03-0.10 |
| BGM N1501J | 1.50 | 0.02 | 0.10 | 0.020 | 10.00 | 38.70 | ● | 0.05-0.12 |

- For cutting speed recommendations and user guide, see pages 540-547

[1] Cutting width tolerance (+/-)
[2] Corner radius tolerance (+/-)

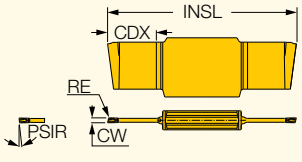
**Tools:** BGTR/L-B-JHP

ISCARPARTING

## BGM R/L-J

Narrow Material Cost Saving Inserts for Parting up to 20 mm Bar Diameters






| Designation | Dimensions | | | | | IC1008 | Recommended Machining Data |
|---|---|---|---|---|---|---|---|
| | CW | RE | INSL | CDX | PSIR | | f groove (mm/rev) |
| BGM R/L1001J-15D | 1.00 | 0.10 | 38.70 | 10.00 | 15.0 | ● | 0.02-0.06 |
| BGM R/L1001J-6D | 1.00 | 0.10 | 38.70 | 10.00 | 6.0 | ● | 0.02-0.08 |

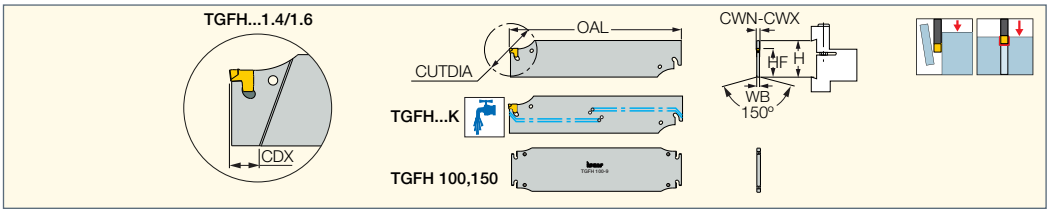
- For cutting speed recommendations and user guide, see pages 540-547

**Tools:** BGTR/L-B-JHP

# TANG-GRIP

TANG-GRIP PARTING LINE
SUMO-GRIP HEAVY DUTY LINE

**TGFH/R/L**
Blades with a Tangentially Oriented Pocket Carrying TANG-GRIP Single-Ended Inserts for Parting and Grooving




| Designation | H | CWN[2] | CWX[3] | WB | OAL | CDX | HF | CUTDIA | CSP[4] | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TGFH 19-1.4** | 19.0 | 1.40 | 1.40 | 1.05 [5] | 86.00 | 9.60 | 15.7 | 30.0 | 0 | TAG 1.4 | ETG 1.4/1.6* | |
| **TGFH 19-1.6** | 19.0 | 1.60 | 1.60 | 1.30 [6] | 86.00 | 11.00 | 15.7 | 32.0 | 0 | TAG 1.6 | ETG 1.4/1.6* | |
| **TGFH 19-2** | 19.0 | 1.80 | 2.40 | 1.65 | 86.00 | - | 15.7 | 38.0 | 0 | TAG 2 | ETG 2* | |
| **TGFH 26-1.4** | 26.0 | 1.40 | 1.40 | 1.05 [5] | 110.00 | 8.30 | 21.4 | 29.0 | 0 | TAG 1.4 | ETG 1.4/1.6* | |
| **TGFH 26-1.6** | 26.0 | 1.60 | 1.60 | 1.30 [6] | 110.00 | 10.00 | 21.4 | 35.0 | 0 | TAG 1.6 | ETG 1.4/1.6* | |
| **TGFH 26-2** | 26.0 | 1.80 | 2.40 | 1.65 | 110.00 | - | 21.4 | 50.0 | 0 | TAG 2 | ETG 2* | |
| **TGFH 26-3** | 26.0 | 2.80 | 3.50 | 2.50 | 110.00 | - | 21.4 | 75.0 | 0 | TAG 3 | ETG 3-4* | |
| **TGFH 26K-3** [1] | 26.0 | 2.80 | 3.50 | 2.50 | 110.00 | - | 21.4 | 75.0 | 1 | TAG 3 | ETG 3-4-SH* | SGC 340 |
| **TGFH 26-4** | 26.0 | 3.70 | 4.50 | 3.40 | 110.00 | - | 21.4 | 80.0 | 0 | TAG 4 | ETG 3-4* | |
| **TGFH 26-5** | 26.0 | 4.70 | 5.50 | 4.00 | 150.00 | - | 21.4 | 80.0 | 0 | TAG 5 | ETG 5-7* | |
| **TGFH 32-1.4** | 32.0 | 1.40 | 1.40 | 1.05 [5] | 150.00 | 7.10 | 24.8 | 29.0 | 0 | TAG 1.4 | ETG 1.4/1.6* | |
| **TGFH 32-1.6** | 32.0 | 1.60 | 1.60 | 1.30 [5] | 150.00 | 10.00 | 24.8 | 38.0 | 0 | TAG 1.6 | ETG 1.4/1.6* | |
| **TGFH 32-2** | 32.0 | 1.80 | 2.40 | 1.65 [5] | 150.00 | - | 24.8 | 50.0 | 0 | TAG 2 | ETG 2* | |
| **TGFH 32-3** | 32.0 | 2.80 | 3.50 | 2.50 | 150.00 | - | 24.8 | 100.0 | 0 | TAG 3 | ETG 3-4* | |
| **TGFH 32K-3** [1] | 32.0 | 2.80 | 3.50 | 2.50 | 150.00 | - | 24.8 | 100.0 | 1 | TAG 3 | ETG 3-4-SH* | SGC 340 |
| **TGFH 32-4** | 32.0 | 3.70 | 4.50 | 3.40 | 150.00 | - | 24.8 | 100.0 | 0 | TAG 4 | ETG 3-4* | |
| **TGFH 32K-4** [1] | 32.0 | 3.70 | 4.50 | 3.40 | 150.00 | - | 24.8 | 100.0 | 1 | TAG 4 | ETG 3-4-SH* | SGC 340 |
| **TGFH 32-5** | 32.0 | 4.70 | 5.50 | 4.00 | 150.00 | - | 24.8 | 120.0 | 0 | TAG 5 | ETG 5-7* | |
| **TGFH 32-6** | 32.0 | 5.70 | 6.50 | 5.20 | 150.00 | - | 24.8 | 120.0 | 0 | TAG 6 | ETG 5-7* | |
| **TGFH 32-7** | 32.0 | 6.80 | 7.50 | 6.00 | 148.00 | - | 24.8 | 120.0 | 0 | TAG 7 | ETG 5-7* | |
| **TGFH 45-3** | 45.0 | 2.80 | 3.50 | 2.50 | 225.00 | - | 38.1 | 160.0 | 0 | TAG 3 | ETG 3-4* | |
| **TGFH 45-4** | 45.0 | 3.70 | 4.50 | 3.40 | 225.00 | - | 38.1 | 160.0 | 0 | TAG 4 | ETG 3-4* | |
| **TGFH 45-5** | 45.0 | 4.70 | 5.50 | 4.00 | 225.00 | - | 38.1 | 160.0 | 0 | TAG 5 | ETG 5-7* | |
| **TGFH 45-6** | 45.0 | 5.70 | 6.50 | 5.20 | 225.00 | - | 38.1 | 160.0 | 0 | TAG 6 | ETG 5-7* | |
| **TGFH 45-7** | 45.0 | 6.80 | 7.50 | 6.00 | 225.00 | - | 38.1 | 160.0 | 0 | TAG 7 | ETG 5-7* | |
| **TGFH 52-7** | 52.6 | 6.80 | 7.50 | 6.00 | 190.00 | - | 45.2 | 190.0 | 0 | TAG 7 | ETG 5-7* | |
| **TGFH 53-7** | 52.6 | 6.80 | 7.50 | 6.00 | 260.00 | - | 45.2 | 220.0 | 0 | TAG 7 | ETG 5-7* | |
| **TGFH 52K-8** [1] | 52.6 | 7.70 | 8.50 | 7.20 | 190.00 | - | 45.2 | 190.0 | 1 | TAG 8 | ETG 8-12* | |
| **TGFH 53K-8** [1] | 52.6 | 7.70 | 8.50 | 7.20 | 260.00 | - | 45.2 | 215.0 | 1 | TAG 8 | ETG 8-12* | |
| **TGFH 52K-9** [1] | 52.6 | 8.70 | 10.00 | 8.20 | 190.00 | - | 45.2 | 190.0 | 1 | TAG 9 | ETG 8-12* | |
| **TGFH 53K-9** [1] | 52.6 | 8.70 | 10.00 | 8.20 | 260.00 | - | 45.2 | 215.0 | 1 | TAG 9 | ETG 8-12* | |
| **TGFHR/L 53K-12** [1] | 52.6 | 11.70 | 12.70 | 10.00 | 260.00 | - | 45.2 | 215.0 | 1 | TAG 12 | ETG 8-12* | |
| **TGFH 100-9** | 100.0 | 8.70 | 10.00 | 8.20 | 460.00 | - | 92.5 | 450.0 | 0 | TAG 9 | ETG 8-12* | |
| **TGFH 100-12** | 100.0 | 11.70 | 12.70 | 10.00 | 460.00 | - | 92.5 | 450.0 | 0 | TAG 12 | ETG 8-12* | |
| **TGFH 150-12** | 150.0 | 11.70 | 12.70 | 10.00 | 610.00 | - | 142.5 | 600.0 | 0 | TAG 12 | ETG 8-12* | |

- For user guide, see pages 540-547

[1] With coolant holes, the recommended coolant pressure is 10 bar min.; cooling tube SGCU 341 should be ordered separately
[2] Minimum cutting width
[3] Maximum cutting width
[4] 0 - Without coolant supply, 1 - With coolant supply
[5] Thickness beyond the D.O.C. area is 2.50 mm
[6] Thickness beyond the D.O.C. area is 1.60 mm
* Optional, should be ordered separately

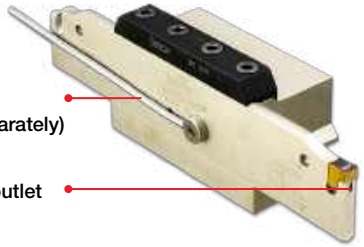
**Inserts:** TAG N-A • TAG N-C/W/M • TAG N-HF • TAG N-J/JS/JT • TAG N-LF • TAG N-MF • TAG N-UT • TAG R/L-C • TAG R/L-J/JS • TAGB/TAGBA

**Holders:** C#-TBK-R/L • HSK A-WH-TBK-R/L • SGTBF • SGTBK • SGTBR/L • SGTBU/SGTBN • UBHCR/L

**K TYPE COOLANT**

**Coolant inlet SGCU-341 (should be ordered separately)**

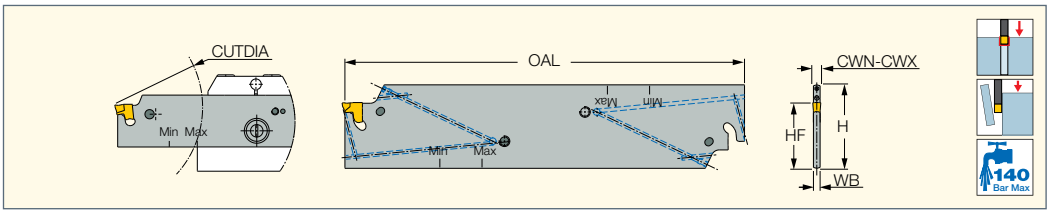
**Coolant outlet**



TANG-GRIP PARTING LINE JETCUT

## TGFH-JHP

Parting and Grooving Blades with Channels for Low and High-Pressure Coolant Carrying TANG-GRIP Inserts




| Designation | H | CWN(2) | CWX(3) | WB | OAL | HF | CUTDIA | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|
| TGFH 26C-3-JHP | 26.0 | 2.80 | 3.50 | 2.50 | 140.00 | 21.4 | 75.0 | TAG 3 | SGC 340 | ETG 3-4-SH* |
| TGFH 32C-3-JHP | 32.0 | 2.80 | 3.50 | 2.50 | 150.00 | 24.8 | 90.0 | TAG 3 | SGC 340 | ETG 3-4-SH* |
| TGFH 26C-4-JHP | 26.0 | 3.70 | 4.50 | 3.40 | 140.00 | 21.4 | 75.0 | TAG 4 | SGC 340 | ETG 3-4-SH* |
| TGFH 32C-4-JHP | 32.0 | 3.70 | 4.50 | 3.40 | 150.00 | 24.8 | 90.0 | TAG 4 | SGC 340 | ETG 3-4-SH* |
| TGFH 32C-5-JHP | 32.0 | 4.70 | 5.50 | 4.00 | 160.00 | 24.8 | 120.0 | TAG 5 | SGC 340 | ETG 5-7* |
| TGFH 32C-6-JHP (1) | 32.0 | 5.70 | 6.50 | 5.20 | 160.00 | 24.8 | 120.0 | TAG 6 | SGC 340 | ETG 5-7* |

- For user guide and accessories, see pages 540-547

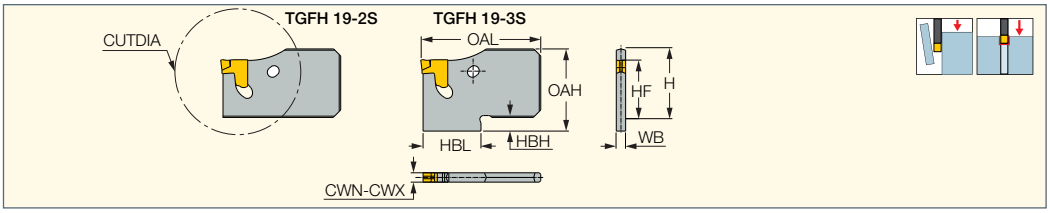
(1) Only an upper channel
(2) Minimum cutting width
(3) Maximum cutting width
* Optional, should be ordered separately

**Inserts:** TAG N-A • TAG N-C/W/M • TAG N-HF • TAG N-J/JS/JT • TAG N-LF • TAG N-MF • TAG N-UT • TAG R/L-C • TAG R/L-J/JS
• TAGB/TAGBA
**Holders:** TGTBU-JHP

TANG-GRIP PARTING LINE

## TGFH-S

Parting and Grooving Single-Sided Blades Carrying TANG-GRIP Inserts




| Designation | H | CWN(1) | CWX(2) | WB | OAL | HF | OAH | HBH | HBL | CDX(3) | CUTDIA | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TGFH 19-2S | 19.0 | 1.80 | 2.40 | 1.65 | 32.00 | 15.7 | 19.0 | - | - | 12.00 | 36.0 | ETG 2* |
| TGFH 19-3S | 19.0 | 2.80 | 3.50 | 2.50 | 34.60 | 15.7 | 22.0 | 3.0 | 15.5 | 16.00 | 40.0 | ETG 3-4-SH* |

- For Dmax and Tmax drawing, see SGBHR/L holder

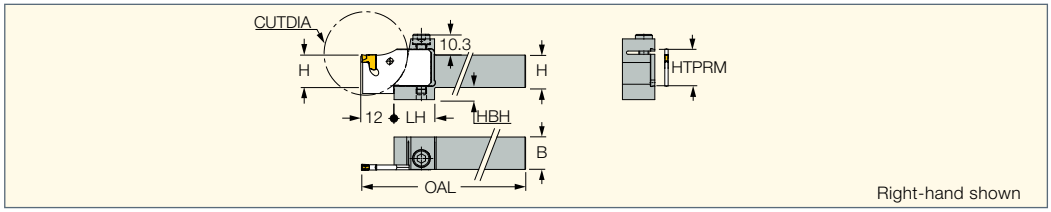
(1) Minimum cutting width
(2) Maximum cutting width
(3) Cutting depth maximum
* Optional, should be ordered separately

**Inserts:** TAG N-A • TAG N-C/W/M • TAG N-HF • TAG N-J/JS/JT • TAG N-LF • TAG N-MF • TAG N-UT • TAG R/L-C • TAG R/L-J/JS

SELF-GRIP

## SGBHR/L

Tool Blocks for SELF-GRIP Single-Sided Blades




| Designation | H | B | HBH | OAL | HTPRM | LH | CDX(1) | CUTDIA |
|---|---|---|---|---|---|---|---|---|
| SGBHR/L 1010 | 10.0 | 10.0 | 10.0 | 154.00 | 19.0 | 20.0 | 16.00 | 40.0 |
| SGBHR 1212 | 12.0 | 12.0 | 8.0 | 154.00 | 19.0 | 20.0 | 16.00 | 40.0 |
| SGBHR 1414 | 14.0 | 14.0 | 6.0 | 154.00 | 19.0 | 20.0 | 16.00 | 40.0 |
| SGBHR/L 1616 | 16.0 | 16.0 | 6.0 | 154.00 | 19.0 | 20.0 | 16.00 | 40.0 |
| SGBHR/L 2020 | 20.0 | 20.0 | 2.0 | 154.00 | 19.0 | 20.0 | 16.00 | 40.0 |
| SGBHR/L 2525 | 25.0 | 25.0 | - | 154.00 | 19.0 | 20.0 | 16.00 | 40.0 |

- For Dmax and Tmax dimensions, see TGFH-S adapters

(1) Cutting depth maximum
**Tools:** TGFH-S

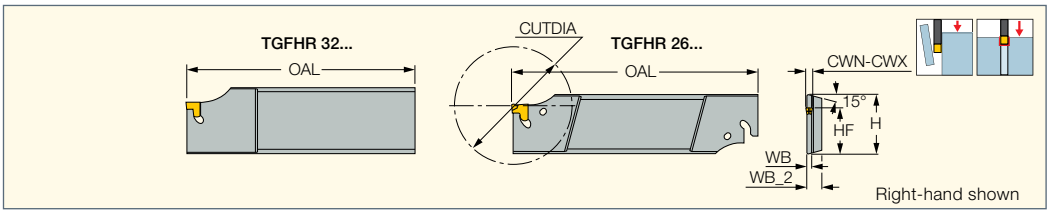
### Spare Parts

| Designation | | | |
|---|---|---|---|
| SGBHL 1010 | SET ESG 1 | SR M5X25DIN912 | HW 4.0 |
| SGBHR 1010 | | SR M5X25DIN912 | HW 4.0 |
| SGBHR 1212 | | SR M5X25DIN912 | HW 4.0 |
| SGBHR 1414 | SET ESG 1 | SR M5X25DIN912 | HW 4.0 |
| SGBHR/L 1616 | | SR M5X25DIN912 | HW 4.0 |
| SGBHL 2020 | | SR M5X25DIN912 | HW 4.0 |
| SGBHR 2020 | SET ESG 1 | SR M5X25DIN912 | HW 4.0 |
| SGBHR/L 2525 | | SR M5X25DIN912 | HW 4.0 |

TANG-GRIP PARTING LINE

## TGFHR/L

Single- and Double-Ended Parting and Grooving Reinforced Blades Carrying TANG-GRIP Tangentially Clamped Inserts




| Designation | H | CWN(1) | CWX(2) | WB | WB_2 | OAL | HF | CUTDIA | |
|---|---|---|---|---|---|---|---|---|---|
| TGFHL 26T16-2 | 26.0 | 1.80 | 2.40 | 1.65 | 7.9 | 110.50 | 21.4 | 43.0 | ETG 2* |
| TGFHR 26T16-3 | 26.0 | 2.80 | 3.50 | 2.50 | 7.9 | 110.50 | 21.4 | 43.0 | ETG 3-4-SH* |
| TGFHR/L 26T23-2 | 26.0 | 1.80 | 2.40 | 1.65 | 7.9 | 110.50 | 21.4 | 46.0 | ETG 2* |
| TGFHR/L 26T23-3 | 26.0 | 2.80 | 3.50 | 2.50 | 7.9 | 110.50 | 21.4 | 46.0 | ETG 3-4-SH* |
| TGFHR/L 32T22-2 | 32.0 | 1.80 | 2.40 | 1.65 | 7.9 | 110.50 | 24.8 | 42.0 | ETG 2* |
| TGFHR/L 32T22-3 | 32.0 | 2.80 | 3.50 | 2.50 | 7.9 | 110.50 | 24.8 | 42.0 | ETG 3-4-SH* |
| TGFHR/L 32T33-3 | 32.0 | 2.80 | 3.50 | 2.50 | 7.9 | 110.50 | 24.8 | 66.0 | ETG 3-4-SH* |
| TGFHR/L 32T33-4 | 32.0 | 3.70 | 4.50 | 3.40 | 7.9 | 110.50 | 24.8 | 66.0 | ETG 3-4-SH* |

- For user guide, see pages 540-547

(1) Minimum cutting width

(2) Maximum cutting width

* Optional, should be ordered separately

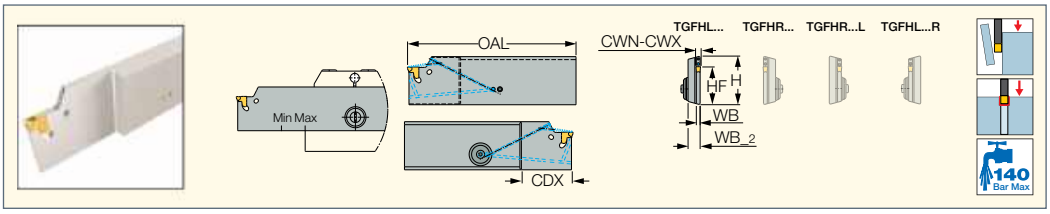
**Inserts:** TAG N-A • TAG N-C/W/M • TAG N-HF • TAG N-J/JS/JT • TAG N-LF • TAG N-MF • TAG N-UT • TAG R/L-C • TAG R/L-J/JS

**Holders:** C#-TBK-R/L • HSK A-WH-TBK-R/L • SGTBF • SGTBK • SGTBR/L • SGTBU/SGTBN • UBHCR/L

TANG-GRIP PARTING LINE JETCUT

## TGFHR/L-JHP

Parting and Grooving Reinforced Blades with Channels for High-Pressure Coolant Carrying TANG-GRIP Inserts




| Designation | CWN(1) | CWX(2) | WB_2 | WB | OAL | H | HF | CDX(3) | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TGFHR/L 32C-3T33-JHP | 2.80 | 3.50 | 7.9 | 2.50 | 110.50 | 32.0 | 24.8 | 33.00 | TAG 3 | ETG 3-4-SH* | SGC 340 |
| TGFHL 32C-3T33R-JHP | 2.80 | 3.50 | 7.9 | 2.50 | 110.50 | 32.0 | 24.8 | 33.00 | TAG 3 | ETG 3-4-SH* | SGC 340 |
| TGFHR 32C-3T33L-JHP | 2.80 | 3.50 | 7.9 | 2.50 | 110.50 | 32.0 | 24.8 | 33.00 | TAG 3 | ETG 3-4-SH* | SGC 340 |

- For user guide and accessories, see pages 540-547

(1) Minimum cutting width

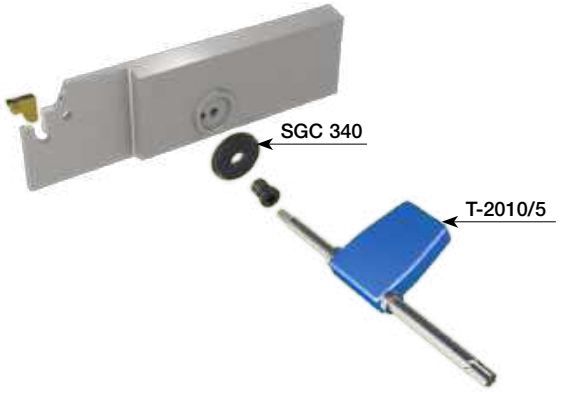
(2) Maximum cutting width

(3) Cutting depth maximum

* Optional, should be ordered separately

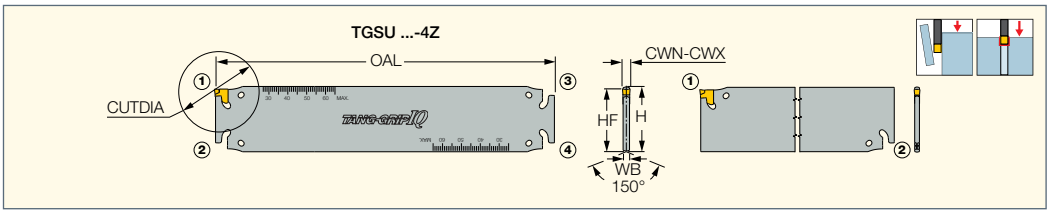
**Inserts:** TAG N-A • TAG N-C/W/M • TAG N-HF • TAG N-J/JS/JT • TAG N-LF • TAG N-MF • TAG N-UT • TAG R/L-C • TAG R/L-J/JS

**Holders:** TGTBU-JHP



## TGSU

Parting and Grooving Flat Top Blades with Tangential Pockets Carrying TANG-GRIP Single-Ended Inserts




| Designation | H | CWN(2) | CWX(3) | CUTDIA | NOP(4) | WB | OAL | HF | CSP(5) | Insert | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TGSU 35-1.4-IQ | 35.0 | 1.40 | 1.40 | 35.0 | 2 | 2.50 (6) | 180.00 | 33.2 | 0 | TAG 1.4 | ETG 1.4/1.6* |
| TGSU 35-2-IQ | 35.0 | 1.80 | 2.40 | 59.5 | 2 | 2.50 (7) | 160.00 | 33.2 | 0 | TAG 2 | ETG 2* |
| TGSU 35-3-IQ-4Z | 35.0 | 2.80 | 3.50 | 120.0 | 4 | 2.50 | 180.00 | 33.2 | 0 | TAG 3 | ETG 3-4-SH* |
| TGSU 35-4-IQ-4Z | 35.0 | 3.70 | 4.50 | 120.0 | 4 | 3.40 | 180.00 | 33.2 | 0 | TAG 4 | ETG 3-4-SH* |
| TGSU 35-5-IQ | 35.0 | 4.70 | 5.50 | 144.0 | 2 | 4.00 | 180.00 | 33.2 | 0 | TAG 5 | ETG 5-7* |
| TGSU 35-6-IQ | 35.0 | 5.70 | 6.50 | 144.0 | 2 | 5.20 | 180.00 | 33.2 | 0 | TAG 6 | ETG 5-7* |
| TGSU 35-7-IQ | 35.0 | 6.80 | 7.50 | 144.0 | 2 | 6.00 | 180.00 | 33.2 | 0 | TAG 7 | ETG 5-7* |
| TGSU 35C-8-IQ (1) | 35.0 | 7.70 | 8.50 | 144.0 | 2 | 7.20 | 180.00 | 33.2 | 1 | TAG 8 | ETG 8-12* |
| TGSU 35C-9-IQ (1) | 35.0 | 8.70 | 10.00 | 144.0 | 2 | 8.20 | 180.00 | 33.2 | 1 | TAG 9 | ETG 8-12* |
| TGSU 56C-7-IQ (1) | 56.0 | 6.80 | 7.50 | 220.0 | 2 | 6.00 | 260.00 | 53.6 | 1 | TAG 7 | ETG 5-7* |
| TGSU 56C-8-IQ (1) | 56.0 | 7.70 | 8.50 | 220.0 | 2 | 7.20 | 260.00 | 53.6 | 1 | TAG 8 | ETG 8-12* |
| TGSU 56C-9-IQ (1) | 56.0 | 8.70 | 10.00 | 220.0 | 2 | 8.20 | 260.00 | 53.6 | 1 | TAG 9 | ETG 8-12* |

- For user guide, see pages 540-547

(1) C- Internal coolant, use with TGTBU HD blocks only; cooling tube SGCU 341 should be ordered separately
(2) Minimum cutting width
(3) Maximum cutting width
(4) Number of pockets
(5) 0 - Without coolant supply, 1 - With coolant supply
(6) Thickness at the D.O.C. area is 1.05 mm
(7) Thickness at the D.O.C. area is 1.65 mm
* Optional, should be ordered separately

**Inserts:** TAG N-A • TAG N-C/W/M • TAG N-HF • TAG N-J/JS/JT • TAG N-LF • TAG N-MF • TAG N-UT • TAG R/L-C • TAG R/L-J/JS • TAGB/TAGBA

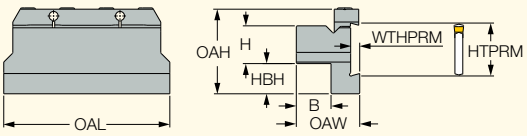
**Holders:** TGTBU

**TGSU 35-3-IQ-4Z**
**TGSU 35-4-IQ-4Z**




## TGTBU

Tool Blocks for TGSU Parting and Grooving Blades




Choose blade by HTPRM dimension

| Designation | H | B | HTPRM | WTHPRM | OAW | OAH | HBH | OAL | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TGTBU 20-35 | 20.0 | 19.0 | 35.0 | 6.00 | 38.00 | 56.0 | 23.7 | 110.00 | BKU 110 | SR M6X16 DIN912 | HW 5.0 |
| TGTBU 25-35 | 25.0 | 23.0 | 35.0 | 6.00 | 42.00 | 56.0 | 18.7 | 110.00 | BKU 110 | SR M6X16 DIN912 | HW 5.0 |
| TGTBU 32-35 | 32.0 | 29.0 | 35.0 | 6.00 | 48.00 | 56.0 | 11.7 | 110.00 | BKU 110 | SR M6X16 DIN912 | HW 5.0 |
| TGTBU 32-35 HD (1) | 32.0 | 30.0 | 35.0 | 8.00 | 55.00 | 64.0 | 18.0 | 130.00 | BK 509 | SR M8X20DIN912 | HW 6.0 |
| TGTBU 40-35 | 40.0 | 41.0 | 35.0 | 6.00 | 60.00 | 56.0 | 3.7 | 110.00 | BKU 110 | SR M6X16 DIN912 | HW 5.0 |
| TGTBU 40-35 HD (1) | 40.0 | 41.0 | 35.0 | 8.00 | 66.00 | 64.0 | 10.0 | 130.00 | BK 509 | SR M8X20DIN912 | HW 6.0 |
| TGTBU 40-56 HD (1) | 40.0 | 41.0 | 56.0 | 8.00 | 66.00 | 72.0 | 28.0 | 130.00 | BK 509 | SR M8X20DIN912 | HW 6.0 |

(1) HD - recommended blocks for TGSU...-8, TGSU...-9 blades

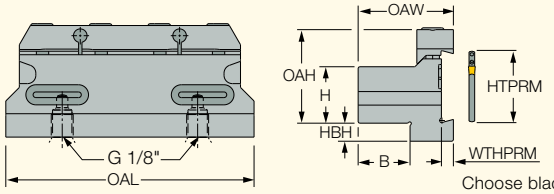
**Tools:** TGSU

JETCUT

## TGTBU-JHP

Tool Blocks for Parting and Grooving Blades for High-Pressure Coolant






Choose blade by prism height dimension

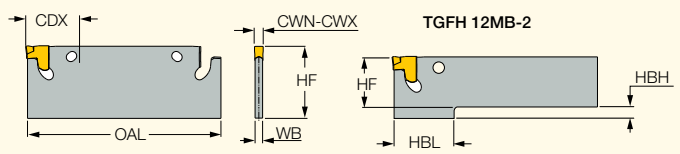
| Designation | H | B | HTPRM | OAW | OAH | HBH | WTHPRM | OAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TGTBU 16-5G-JHP | 16.0 | 16.9 | 26.0 | 35.60 | 29.9 | 13.1 | 4.10 | 86.00 | BKU 86 | SR M6X16 DIN912 | HW 5.0 | OR 14X2.5N N |
| TGTBU 20-5G-JHP | 20.0 | 20.9 | 26.0 | 39.60 | 33.9 | 9.1 | 4.10 | 86.00 | BKU 86 | SR M6X16 DIN912 | HW 5.0 | OR 14X2.5N N |
| TGTBU 20-35-JHP | 20.0 | 19.0 | 35.0 | 38.00 | 32.3 | 23.7 | 6.00 | 110.00 | BKU 210 | SR M6X20 DIN912 | HW 5.0 | OR 14X2.5N N |
| TGTBU 20-6G-JHP | 20.0 | 19.0 | 32.0 | 39.20 | 36.4 | 15.0 | 5.30 | 100.00 | BKU 100 | SR M6X16 DIN912 | HW 5.0 | OR 14X2.5N N |
| TGTBU 25-5G-JHP | 25.0 | 26.1 | 26.0 | 44.10 | 39.0 | 5.5 | 4.10 | 110.00 | BKU 105 | SR M6X16 DIN912 | HW 5.0 | OR 14X2.5N N |
| TGTBU 25-6G-JHP | 25.0 | 23.0 | 32.0 | 43.20 | 41.4 | 8.0 | 5.30 | 110.00 | BKU 110 | SR M6X16 DIN912 | HW 5.0 | OR 14X2.5N N |
| TGTBU 25-35-JHP | 25.0 | 23.0 | 35.0 | 42.00 | 37.3 | 18.7 | 6.00 | 110.00 | BKU 210 | SR M6X20 DIN912 | HW 5.0 | OR 14X2.5N N |
| TGTBU 32-6G-JHP | 32.0 | 29.0 | 32.0 | 49.20 | 48.4 | 5.0 | 5.30 | 110.00 | BKU 110 | SR M6X16 DIN912 | HW 5.0 | OR 14X2.5N N |
| TGTBU 32-35-JHP | 32.0 | 29.0 | 35.0 | 48.00 | 44.3 | 11.7 | 6.00 | 110.00 | BKU 210 | SR M6X20 DIN912 | HW 5.0 | OR 14X2.5N N |

**Tools:** DGFH-JHP • DGFHR/L-BC-JHP • TGFH-JHP • TGFHR/L-JHP

TANG-GRIP PARTING LINE

## TGFH-MB

Parting and Grooving Blades for Other Manufacturers Blocks




| Designation | CWN(1) | CWX(2) | WB | OAL | HF | HBH | HBL | CDX(3) | Insert | |
|---|---|---|---|---|---|---|---|---|---|---|
| TGFH 12MB-2 L58 | 1.80 | 2.40 | 1.65 | 58.00 | 12.2 | 2.8 | 15.5 | 11.50 | TAG 2 | ETG 2* |
| TGFH 17MB-2 L58 | 1.80 | 2.40 | 1.65 | 58.00 | 17.2 | - | - | 11.50 | TAG 2 | ETG 2* |
| TGFH 22MB-2 L58 | 1.80 | 2.40 | 1.65 | 58.00 | 22.2 | - | - | 11.50 | TAG 2 | ETG 2* |
| TGFH 17MB-3 | 2.80 | 3.50 | 2.50 | 64.00 | 17.2 | - | - | 12.00 | TAG 3 | ETG 3-4-SH* |
| TGFH 22MB-3 | 2.80 | 3.50 | 2.50 | 64.00 | 22.2 | - | - | 12.00 | TAG 3 | ETG 3-4-SH* |
| TGFH 22MB-3-L84 | 2.80 | 3.50 | 2.50 | 84.00 | 22.2 | - | - | 16.00 | TAG 3 | ETG 3-4-SH* |
| TGFH 28MB-3 | 2.80 | 3.50 | 2.50 | 100.00 | 28.0 | - | - | 19.00 | TAG 3 | ETG 3-4-SH* |
| TGFH 17MB-4 | 3.70 | 4.50 | 3.40 | 70.00 | 17.2 | - | - | 14.00 | TAG 4 | ETG 3-4-SH* |
| TGFH 22MB-4 | 3.70 | 4.50 | 3.40 | 70.00 | 22.2 | - | - | 14.00 | TAG 4 | ETG 3-4-SH* |
| TGFH 22MB-4-L90 | 3.70 | 4.50 | 3.40 | 90.00 | 22.2 | - | - | 17.00 | TAG 4 | ETG 3-4-SH* |
| TGFH 28MB-4 | 3.70 | 4.50 | 3.40 | 100.00 | 28.0 | - | - | 19.00 | TAG 4 | ETG 3-4-SH* |

• For user guide, see pages 540-547

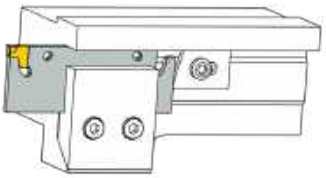
(1) Minimum cutting width

(2) Maximum cutting width

(3) Cutting depth maximum

* Optional, should be ordered separately

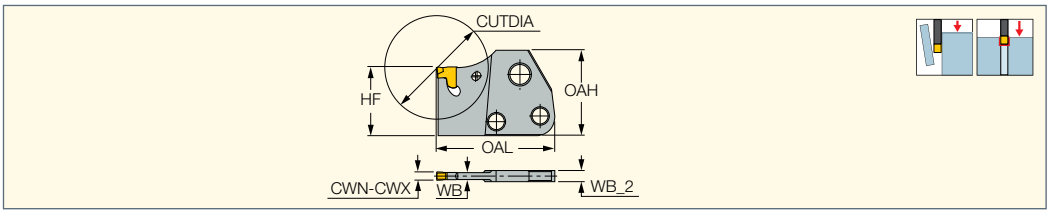
**Inserts:** TAG N-A • TAG N-C/W/M • TAG N-HF • TAG N-J/JS/JT • TAG N-LF • TAG N-MF • TAG N-UT • TAG R/L-C • TAG R/L-J/JS



TANG-GRIP PARTING LINE

## TGAD

Parting and Grooving Adapters Carrying TANG-GRIP Tangentially Clamped Inserts




| Designation | CWN(1) | CWX(2) | WB_2 | WB | OAL | CUTDIA | HF | OAH | Insert | |
|---|---|---|---|---|---|---|---|---|---|---|
| TGAD 1.4N | 1.40 | 1.40 | 3.20 | 1.1 | 41.50 | 32.0 | 24.0 | 29.0 | TAG 1.4 | ETG 1.4/1.6* |
| TGAD 2N | 1.80 | 2.40 | 3.20 | 1.7 | 41.50 | 32.0 | 24.0 | 30.0 | TAG 2 | ETG 2* |
| TGAD 3N | 2.80 | 3.50 | 4.00 | 2.4 | 41.50 | 35.0 | 24.0 | 30.0 | TAG 3 | ETG 3-4-SH* |
| TGAD 4N | 3.70 | 4.50 | 3.20 | 3.2 | 50.50 | 50.0 | 24.0 | 30.0 | TAG 4 | ETG 3-4-SH* |
| TGAD 5N | 4.70 | 5.50 | 4.00 | 4.0 | 50.50 | 50.0 | 24.0 | 30.0 | TAG 5 | ETG 5-7* |

- For user guide, see pages 540-547

(1) Minimum cutting width

(2) Maximum cutting width

* Optional, should be ordered separately

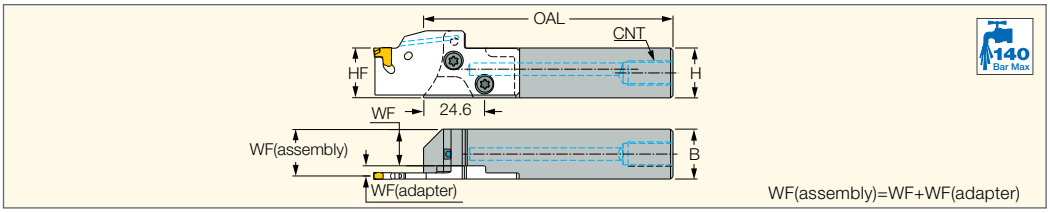
**Inserts:** TAG N-A • TAG N-C/W/M • TAG N-HF • TAG N-J/JS/JT • TAG N-LF • TAG N-MF • TAG N-UT • TAG R/L-C • TAG R/L-J/JS

**Holders:** DGHAL-DECO • MAHPR/L-JHP • MAHR/L-JHP • MAHR/L • MAHPR/L • C#-MAHD • C#-MAHPD • C#-MAHDR-45 • HSK A63WH-MAHUR/L • HSK A63WH-MAHDR-45 • HSK A63WH-MAHDOR • IM-MAHD • C#-MAHD-JHP • C#-MAHPD-JHP • IM-MAHPD • MAHR/L-JHP-MC

MODUGRIP MODULAR GRIP CARTRIDGES JETCUT

## NMAHR/L-JHP

Holders with High-Pressure Coolant Channels Carrying MODU-GRIP Adapters




| Designation | H | B | OAL | WF | CNT | HF |
|---|---|---|---|---|---|---|
| NMAHR/L 20-MG-JHP | 20.0 | 20.0 | 100.00 | 14.70 | G1/8 | 20.0 |
| NMAHR/L 25-MG-JHP | 25.0 | 25.0 | 100.00 | 19.70 | G1/8 | 25.0 |

**Tools:** D/HGAD RE/LE-JHP • PCAD RE/LE-JHP • TGAD RE/LE-JHP

### Spare Parts

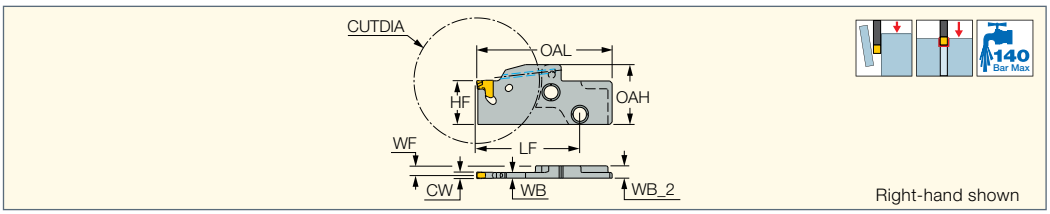
| Designation | | | | |
|---|---|---|---|---|
| NMAHR/L-JHP | SR M5-04451 | SW6-T-SH | BLD T20/S7 | OR 5X1N |

TANG-GRIP PARTING LINE JETCUT

MODUGRIP MODULAR GRIP CARTRIDGES

## TGAD RE/LE-JHP

Parting and Grooving Adapters with Channels for High-Pressure Coolant Carrying TANG-GRIP Inserts




| Designation | CWN(1) | CWX(2) | WF | WB | WB_2 | LF | OAL | OAH | HF | CUTDIA | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TGAD 2R/LE-D54-JHP | 1.80 | 2.40 | 4.48 | 1.65 | 5.3 | 44.40 | 58.30 | 25.80 | 18.9 | 54.0 | TAG 2 |
| TGAD 3R/LE-D54-JHP | 3.00 | 3.50 | 4.08 | 2.45 | 5.3 | 44.40 | 58.30 | 25.80 | 18.9 | 54.0 | TAG 3 |

- For user guide and accessories, see pages 540-547

(1) Minimum cutting width

(2) Maximum cutting width

**Inserts:** TAG N-A • TAG N-C/W/M • TAG N-HF • TAG N-J/JS/JT • TAG N-LF • TAG N-MF • TAG N-UT • TAG R/L-C • TAG R/L-J/JS

**Holders:** NMAHR/L-JHP

### Spare Parts

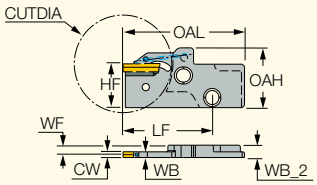
| Designation | |
|---|---|
| TGAD 2R/LE-D54-JHP | ETG 2* |
| TGAD 3R/LE-D54-JHP | ETG 3-4-SH* |

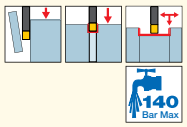
* Optional, should be ordered separately

DO-GRIP TWISTED 2-SIDED JETCUT
MODUGRIP MODULAR GRIP CARTRIDGES

## D/HGAD RE/LE-JHP

Parting and Grooving Adapters with Channels for High-Pressure Coolant Carrying DO-GRIP Inserts




| Designation | CWN[2] | CWX[3] | WF | WB | WB_2 | LF | OAL | OAH | HF | CUTDIA | Insert | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DGAD 2R/LE-D38-JHP [1] | 1.90 | 2.50 | 4.50 | 1.60 | 5.3 | 40.40 | 54.35 | 25.80 | 18.9 | 38.0 | DGN 2 | EDG 33A* |
| DGAD 3R/LE-D38-JHP [1] | 3.00 | 3.18 | 4.08 | 2.45 | 5.3 | 40.40 | 54.35 | 25.80 | 18.9 | 38.0 | DGN 3 | EDG 33A* |
| HGAD 3R/LE-D42-JHP | 3.00 | 3.00 | 4.08 | 2.45 | 5.3 | 38.40 | 52.35 | 25.80 | 18.9 | 42.0 | HGN 3/GRIP 3 | EDG 23B* |

- For user guide and accessories, see pages 540-547

[1] For parting and external grooving only

[2] Minimum cutting width

[3] Maximum cutting width

* Optional, should be ordered separately

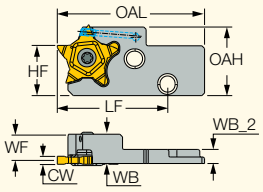
**Inserts:** DGN-P • DGN-UT/UA • DGN-WP • DGN-Z • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGR-P • DGR-WP • DGR-Z/ZS • DGR/L-C DGRC/LC-C • DGR/L-J/JS • GRIP • GRIP (full radius) • HGN-C • HGN-J • HGN-UT • HGR/L-C • HGR/L-J/JS

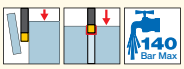
**Holders:** NMAHR/L-JHP

PENTACUT PARTING & GROOVING LINE JETCUT
MODUGRIP MODULAR GRIP CARTRIDGES

## PCAD RE/LE-JHP

Parting and Grooving Adapters with Channels for High-Pressure Coolant Carrying PENTA 24 Inserts




Right-hand shown

| Designation | CWN[1] | CWX[2] | WF | WB | WB_2 | LF | OAL | OAH | HF | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| PCAD 24R/LE-JHP | 0.50 | 3.18 | 5.20 | 11.00 | 5.3 | 41.40 | 55.30 | 25.80 | 18.9 | PENTA 24 |

- For user guide and accessories, see pages 540-547

[1] Minimum cutting width

[2] Maximum cutting width

**Inserts:** PENTA 24-BSPT • PENTA 24-ISO • PENTA 24-MT • PENTA 24-NPT • PENTA 24-UN • PENTA 24-W • PENTA 24-WT • PENTA 24N-C • PENTA 24N-C (full radius) • PENTA 24N-J • PENTA 24N-J (full radius) • PENTA 24N-PF (full radius) • PENTA 24N-PF/P • PENTA 24N-Z • PENTA 24R-C • PENTA 24R-P • PENTA 24R/L-J • PENTA 24R/L-Z

**Holders:** NMAHR/L-JHP

### Spare Parts

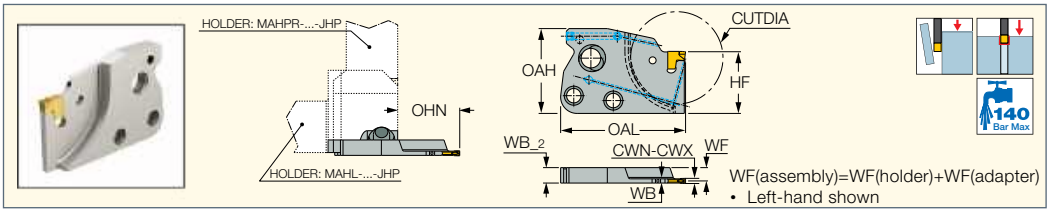
| Designation | |
|---|---|
| PCAD 24LE-JHP | SR 16-212-01397L |
| PCAD 24RE-JHP | SR 16-212-01397 |



TANG-GRIP JETCUT PARTING LINE
MODULAR-GRIP

## TAGPAD-JHP

Parting and Grooving Adapters with Coolant Channels for High-Pressure Carrying TANG-GRIP Inserts




| Designation | CWN(1) | CWX(2) | CUTDIA | OHN(3) | WF | WB | WB_2 | OAL | OAH | HF | Insert | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAGPAD 2R/L-D42-JHP | 1.80 | 2.40 | 42.0 | 24.0 | 5.18 | 1.65 | 6.0 | 48.40 | 33.0 | 24.0 | TAG 2 | ETG 2* |
| TAGPAD 2R/L-D52-JHP | 1.80 | 2.40 | 52.0 | 29.0 | 5.18 | 1.65 | 6.0 | 53.40 | 33.0 | 24.0 | TAG 2 | ETG 2* |
| TAGPAD 3R/L-D42-JHP | 2.80 | 3.50 | 42.0 | 24.0 | 4.80 | 2.40 | 6.0 | 48.40 | 33.0 | 24.0 | TAG 3 | ETG 3-4-SH* |
| TAGPAD 3R/L-D52-JHP | 2.80 | 3.50 | 52.0 | 29.0 | 4.80 | 2.40 | 6.0 | 53.40 | 33.0 | 24.0 | TAG 3 | ETG 3-4-SH* |

• For user guide and accessories see pages 540-547
(1) Minimum cutting width
(2) Maximum cutting width
(3) Minimum overhang
* Optional, should be ordered separately

**Inserts:** TAG N-A • TAG N-C/W/M • TAG N-HF • TAG N-J/JS/JT • TAG N-LF • TAG N-MF • TAG N-UT • TAG R/L-C • TAG R/L-J/JS
**Holders:** ABC MAHDR-#-XL-JHP • DT##/2 MAHD#-#-XL-JHP • MAHR/L-JHP-MC • MS##-##-MG-JHP • MS-ES#####-GWS-MG-JHP • TR45 MAHDR-#-XL-JHP • V## MAHD#-#-XL-##-JHP • V## MAHD-XL-JHP

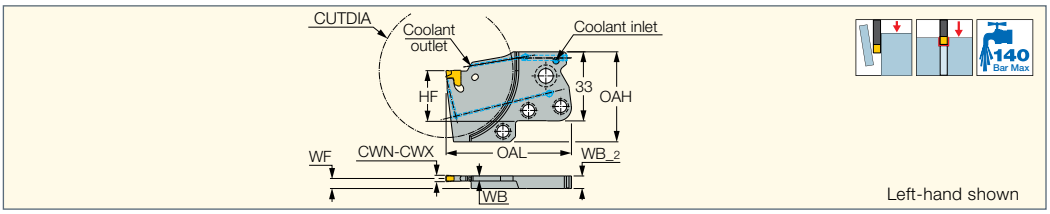
### Flow Rate vs. Pressure

| Designation | 70 Bar Flow Rate (liters/min) | 100 Bar Flow Rate (liters/min) | 140 Bar Flow Rate (liters/min) |
|---|---|---|---|
| TAGPAD 2R/L-D42-JHP | 5 | 6 | 7 |
| TAGPAD 2R/L-D52-JHP | 5 | 6 | 7 |
| TAGPAD 3R/L-D42-JHP | 8.5 | 10 | 12 |
| TAGPAD 3R/L-D52-JHP | 8.5 | 10 | 12 |

TANG-GRIP JETCUT PARTING LINE

## TAGPAD-XL-JHP

Extra Long Parting and Grooving Adapters with Channels for High-Pressure Coolant Carrying TANG-GRIP Inserts




| Designation | CWN(1) | CWX(2) | WF | WB | WB_2 | OAL | OAH | HF | CUTDIA | Insert | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TAGPAD-XL 2R/L-D65-JHP | 1.80 | 2.40 | 5.20 | 1.60 | 6.0 | 60.00 | 43.0 | 34.0 | 65.0 | TAG 2 | ETG 2* |
| TAGPAD-XL 3R/L-D52-JHP | 2.80 | 3.50 | 4.80 | 2.40 | 6.0 | 53.40 | 43.0 | 34.0 | 52.0 | TAG 3 | ETG 3-4-SH* |
| TAGPAD-XL 3R/L-D65-JHP | 2.80 | 3.50 | 4.80 | 2.40 | 6.0 | 59.90 | 43.0 | 34.0 | 65.0 | TAG 3 | ETG 3-4-SH* |
| TAGPAD-XL 3R/L-D82-JHP | 2.80 | 3.50 | 4.80 | 2.40 | 6.0 | 70.40 | 43.0 | 34.0 | 82.0 | TAG 3 | ETG 3-4-SH* |
| TAGPAD-XL 3R/L-D102-JHP | 2.80 | 3.50 | 4.80 | 2.40 | 6.0 | 82.50 | 43.0 | 34.0 | 102.0 | TAG 3 | ETG 3-4-SH* |
| TAGPAD-XL 4R/L-D52-JHP | 3.70 | 4.50 | 4.30 | 3.40 | 6.0 | 53.40 | 43.0 | 34.0 | 52.0 | TAG 4 | ETG 3-4-SH* |
| TAGPAD-XL 4R/L-D65-JHP | 3.70 | 4.50 | 4.30 | 3.40 | 6.0 | 60.00 | 43.0 | 34.0 | 65.0 | TAG 4 | ETG 3-4-SH* |
| TAGPAD-XL 4R/L-D82-JHP | 3.70 | 4.50 | 4.30 | 3.40 | 6.0 | 70.00 | 43.0 | 34.0 | 82.0 | TAG 4 | ETG 3-4-SH* |
| TAGPAD-XL 4R/L-D102-JHP | 3.70 | 4.50 | 4.30 | 3.40 | 6.0 | 83.00 | 43.0 | 34.0 | 102.0 | TAG 4 | ETG 3-4-SH* |

• For user guide and accessories, see pages 540-547
(1) Minimum cutting width
(2) Maximum cutting width
* Optional, should be ordered separately

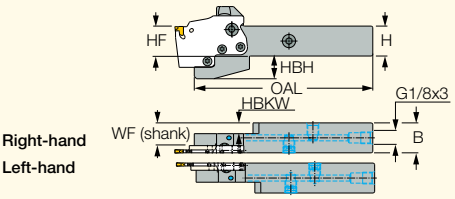
**Inserts:** TAG N-A • TAG N-C/W/M • TAG N-HF • TAG N-J/JS/JT • TAG N-LF • TAG N-MF • TAG N-UT • TAG R/L-C • TAG R/L-J/JS
**Holders:** ABC MAHDR-#-XL-JHP • MAHPR/L-XL-JHP • MAHR/L-MG-XL-JHP • MAHR/L-MG-XL-JHP-MC • TR TNK36 MAHDL-R-XL-JHP • TR45 MAHDR-#-XL-JHP • TR45TNL MAHDN-R-XL-JHP • V## MAHD#-#-XL-##-JHP • V## MAHD-XL-JHP

JETCUT

## MAHR/L-MG-XL-JHP

Holders with High-Pressure Coolant Channels for Interchangeable Adapters






WF(assembly)=WF(shank)+WF(adapter)

| Designation | H | B | OAL | HBH | WF | HBKW |
|---|---|---|---|---|---|---|
| MAHR/L 20-MG-XL-JHP | 20.0 | 20.0 | 149.10 | 24.0 | 14.0 | 4.00 |
| MAHR/L 25-MG-XL-JHP | 25.0 | 25.0 | 149.10 | 19.0 | 19.0 | 9.00 |

• For user guide and accessories, see pages 540-547

**Tools:** DGPAD-XL-JHP • TAGPAD-XL-JHP • TAGPAD-Y-JHP • TNFPAD-XL-JHP

### Spare Parts

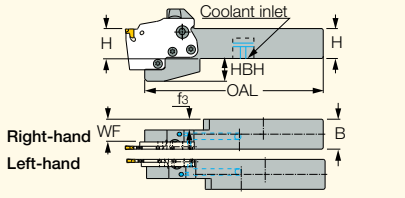
| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| MAHR/L 20-MG-XL-JHP | SR M6X12DIN6912-P | HW 5.0 | SR M5-04451 | T-20/5 | SR M6X14-XT DIN 912 | OR 5X1N | PLG G1/8 TL360 |
| MAHR/L 25-MG-XL-JHP | SR M6X12DIN6912-P | HW 5.0 | SR M5-04451 | T-20/5 | SR M6X14-XT DIN 912 | OR 5X1N | PLG G1/8 TL360 |



JETCUT

## MAHR/L-MG-XL-JHP-MC

Holders with Bottom Inlets for High-Pressure Coolant Channels Carrying Parting and Grooving Adapters

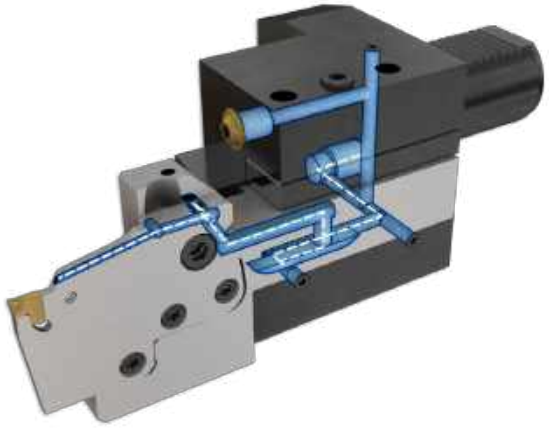



WF(assembly)=WF(shank)+WF(adapter)

| Designation | H | B | OAL | HBH | WF | HBKW |
|---|---|---|---|---|---|---|
| MAHR/L 20-MG-XL-JHP-MC | 20.0 | 20.0 | 116.10 | 10.0 | 14.0 | 4.00 |
| MAHR/L 25-MG-XL-JHP-MC | 25.0 | 25.0 | 114.00 | 10.0 | 19.0 | 9.00 |

• For Tmax, refer to the adapters data

**Tools:** DGPAD-XL-JHP • TAGPAD-XL-JHP • TAGPAD-Y-JHP • TNFPAD-XL-JHP



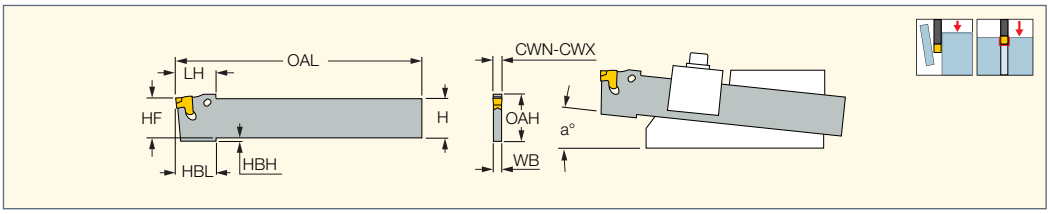
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| MAHR/L-MG-XL-JHP-MC | SR M6X14-XT DIN 912 | HW 5.0 | SR M5-04451 | T-20/5 | SR M6X12DIN6912-P | OR 5X1N |

TANG-GRIP PARTING LINE

## TGFS

Blades for Multi-Spindle Machines - Replacement for HSS and Brazed Tools




| Designation | CWN(1) | CWX(2) | H | WB | OAL | OAH | HF | LH | HBL | HBH | CUTDIA | a° | Insert | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TGFS 0-17-2 | 1.80 | 2.40 | 17.2 | 1.65 | 110.00 | 17.2 | 17.2 | - | 18.00 | 1.8 | 35.0 | 0 | TAG 2 | ETG 2* |
| TGFS 0-17-3 | 2.80 | 3.50 | 17.2 | 2.50 | 110.00 | 19.0 | 17.2 | - | 18.00 | 1.8 | 60.0 | 0 | TAG 3 | ETG 3-4-SH* |
| TGFS 5-17-2 | 1.80 | 2.40 | 17.4 | 1.65 | 110.00 | 18.9 | 17.5 | 18.0 | 18.00 | 1.5 | 35.0 | 5 | TAG 2 | ETG 2* |
| TGFS 5-17-3 | 2.80 | 3.50 | 17.4 | 2.50 | 110.00 | 20.7 | 17.5 | 18.0 | 18.00 | 1.5 | 60.0 | 5 | TAG 3 | ETG 3-4-SH* |
| TGFS 5-17-4 | 3.70 | 4.50 | 17.4 | 3.40 | 110.00 | 20.7 | 17.5 | 18.0 | 18.00 | 1.5 | 60.0 | 5 | TAG 4 | ETG 3-4-SH* |
| TGFS 5-22-2 | 1.80 | 2.40 | 22.2 | 1.65 | 150.00 | 23.8 | 22.4 | 18.0 | - | - | 50.0 | 5 | TAG 2 | ETG 2* |
| TGFS 5-22-3 | 2.80 | 3.50 | 22.2 | 2.50 | 150.00 | 24.1 | 22.4 | 18.0 | - | - | 75.0 | 5 | TAG 3 | ETG 3-4-SH* |
| TGFS 5-22-4 | 3.70 | 4.50 | 22.2 | 3.40 | 150.00 | 24.1 | 22.4 | 18.0 | - | - | 80.0 | 5 | TAG 4 | ETG 3-4-SH* |
| TGFS 5-28-4 | 3.70 | 4.50 | 28.6 | 3.40 | 150.00 | 30.4 | 28.7 | 18.0 | - | - | 100.0 | 5 | TAG 4 | ETG 3-4-SH* |

- For user guide, see pages 540-547

(1) Minimum cutting width

(2) Maximum cutting width

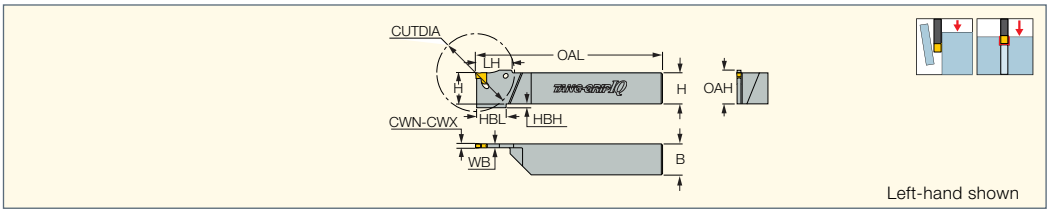
* Optional, should be ordered separately

**Inserts:** TAG N-A • TAG N-C/W/M • TAG N-HF • TAG N-J/JS/JT • TAG N-LF • TAG N-MF • TAG N-UT • TAG R/L-C • TAG R/L-J/JS

TANG-GRIP IQ 350 LINE

## TGTR/L-IQ

Integral Shank TANG-GRIP Toolholders for Parting and Grooving




| Designation | CWN(2) | CWX(3) | H | B | WB | OAL | OAH | LH | HBL | HBH | CUTDIA | Insert | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TGTR/L 1010-1.4-IQ | 1.40 | 1.45 | 10.0 | 10.0 | 1.05 | 140.00 | 15.0 | - | 15.50 | 5.0 | 20.0 | TAG 1.4 | ETG 1.4/1.6* |
| TGTR/L 1212-1.4-IQ | 1.40 | 1.45 | 12.0 | 12.0 | 1.05 | 140.00 | 12.0 | - | 16.00 | 3.0 | 30.0 | TAG 1.4 | ETG 1.4/1.6* |
| TGTR/L 1616-1.4-IQ | 1.40 | 1.45 | 16.0 | 16.0 | 1.05 | 140.00 | 16.0 | - | 16.00 | - | 30.0 | TAG 1.4 | ETG 1.4/1.6* |
| TGTR/L 2020-1.4-IQ | 1.40 | 1.45 | 20.0 | 20.0 | 1.05 | 140.00 | 20.0 | - | 16.00 | - | 30.0 | TAG 1.4 | ETG 1.4/1.6* |
| TGTR/L 1010-1.6-IQ | 1.60 | 1.64 | 10.0 | 10.0 | 1.30 | 120.00 | - | - | 16.00 | 5.0 | 28.0 | TAG 1.6 | ETG 1.4/1.6* |
| TGTR/L 1212-1.6-IQ | 1.60 | 1.64 | 12.0 | 12.0 | 1.30 | 120.00 | - | - | 16.00 | 3.0 | 32.0 | TAG 1.6 | ETG 1.4/1.6* |
| TGTR/L 1616-1.6-IQ | 1.60 | 1.64 | 16.0 | 16.0 | 1.30 | 120.00 | - | - | 16.00 | - | 35.0 | TAG 1.6 | ETG 1.4/1.6* |
| TGTR/L 1010-2-IQ | 1.80 | 2.40 | 10.0 | 10.0 | 1.65 | 150.00 | 15.0 | - | 15.50 | 5.0 | 28.0 | TAG 2 | ETG 2* |
| TGTR/L 1212-2-IQ | 1.80 | 2.40 | 12.0 | 12.0 | 1.65 | 150.00 | 15.0 | - | 17.00 | 3.0 | 32.0 | TAG 2 | ETG 2* |
| TGTR/L 1612-2-L120-IQ | 1.80 | 2.50 | 16.0 | 12.0 | 1.65 | 120.00 | 16.0 | - | 16.00 | - | 35.0 | TAG 2 | ETG 2* |
| TGTR/L 1616-2-IQ | 1.80 | 2.40 | 16.0 | 16.0 | 1.65 | 150.00 | 16.0 | - | 16.00 | - | 35.0 | TAG 2 | ETG 2* |
| TGTR/L 2012-2-IQ | 1.80 | 2.40 | 20.0 | 12.0 | 1.65 | 125.00 | 20.0 | - | 16.00 | - | 35.0 | TAG 2 | ETG 2* |
| TGTR/L 1212-3-IQ | 2.80 | 3.50 | 12.0 | 12.0 | 2.50 | 150.00 | 19.0 | - | 19.00 | 7.0 | 32.0 | TAG 3 | ETG 3-4-SH* |
| TGTR/L 1612-3-L120-IQ | 2.80 | 3.50 | 16.0 | 12.0 | 2.50 | 120.00 | 19.0 | - | 19.00 | 3.0 | 35.0 | TAG 3 | ETG 3-4-SH* |
| TGTR/L 1616-3-IQ | 2.80 | 3.50 | 16.0 | 16.0 | 2.50 | 150.00 | 19.0 | - | 19.00 | 3.0 | 35.0 | TAG 3 | ETG 3-4-SH* |
| TGTR/L 2012-3-IQ | 2.80 | 3.50 | 20.0 | 12.0 | 2.50 | 125.00 | 20.0 | - | 19.00 | - | 43.0 | TAG 3 | ETG 3-4-SH* |
| TGTR/L 2020-3-IQ | 2.80 | 3.50 | 20.0 | 20.0 | 2.50 | 120.50 | 21.7 | 23.4 | 19.00 | - | 54.0 | TAG 3 | ETG 3-4* |
| TGTR/L 2525-3-IQ | 2.80 | 3.50 | 25.0 | 25.0 | 2.50 | 150.50 | 26.7 | 23.4 | 19.00 | - | 56.0 | TAG 3 | ETG 3-4* |
| TGTR 2525K-3 (1) | 2.80 | 3.50 | 25.0 | 25.0 | 2.50 | 150.00 | 26.7 | 23.4 | 19.00 | - | 56.0 | TAG 3 | ETG 3-4* |
| TGTR/L 2020-4-IQ | 3.70 | 4.50 | 20.0 | 20.0 | 3.40 | 120.50 | 21.7 | 23.4 | 19.00 | - | 57.0 | TAG 4 | ETG 3-4* |
| TGTR/L 2525-4-IQ | 3.70 | 4.50 | 25.0 | 25.0 | 3.40 | 150.50 | 26.7 | 23.4 | 19.00 | - | 65.0 | TAG 4 | ETG 3-4* |
| TGTR/L 2020-5-IQ | 4.70 | 5.50 | 20.0 | 20.0 | 4.00 | 120.00 | 21.7 | - | 19.00 | - | 57.0 | TAG 5 | ETG 5-7* |
| TGTR/L 2525-5-IQ | 4.70 | 5.50 | 25.0 | 25.0 | 4.00 | 150.00 | 25.0 | - | 19.00 | - | 76.0 | TAG 5 | ETG 5-7* |
| TGTR/L 2525-6-IQ | 5.70 | 6.50 | 25.0 | 25.0 | 5.20 | 150.00 | 25.0 | - | 19.00 | - | 76.0 | TAG 6 | ETG 5-7* |

- For user guide, see pages 540-547

(1) With coolant

(2) Minimum cutting width

(3) Maximum cutting width

* Optional, should be ordered separately

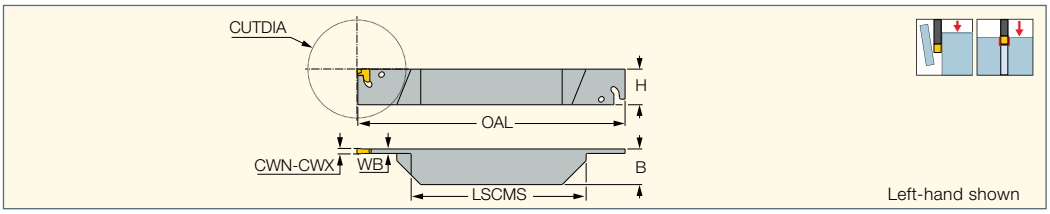
**Inserts:** TAG N-A • TAG N-C/W/M • TAG N-HF • TAG N-J/JS/JT • TAG N-LF • TAG N-MF • TAG N-UT • TAG R/L-C • TAG R/L-J/JS

- TAGB/TAGBA

TANG-GRIP IQ 350 LINE

## TGTR/L-IQ-2Z

Integral Shank TANG-GRIP Toolholders with 2 Pockets for Parting and Grooving




| Designation | CWN(1) | CWX(2) | CUTDIA | H | B | WB | OAL | LSCMS | Insert | |
|---|---|---|---|---|---|---|---|---|---|---|
| TGTR/L 2020-3-IQ-2Z | 2.80 | 3.50 | 54.0 | 20.0 | 20.0 | 2.50 | 150.00 | 98.90 | TAG 3 | ETG 3-4-SH* |
| TGTR/L 2525-3-IQ-2Z | 2.80 | 3.50 | 56.0 | 25.0 | 25.0 | 2.50 | 150.00 | 98.00 | TAG 3 | ETG 3-4-SH* |
| TGTR/L 2020-4-IQ-2Z | 3.70 | 4.50 | 57.0 | 20.0 | 20.0 | 3.40 | 150.00 | 95.00 | TAG 4 | ETG 3-4-SH* |
| TGTR/L 2525-4-IQ-2Z | 3.70 | 4.50 | 65.0 | 25.0 | 25.0 | 3.40 | 150.00 | 88.00 | TAG 4 | ETG 3-4-SH* |

- For user guide, see pages 540-547

(1) Minimum cutting width

(2) Maximum cutting width

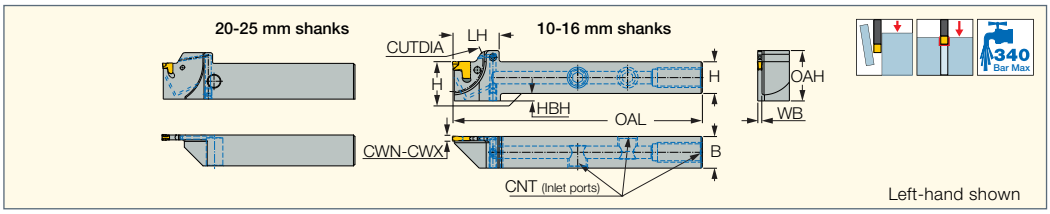
* Optional, should be ordered separately

**Inserts:** TAG N-A • TAG N-C/W/M • TAG N-HF • TAG N-J/JS/JT • TAG N-LF • TAG N-MF • TAG N-UT • TAG R/L-C • TAG R/L-J/JS

TANG-GRIP PARTING LINE JETCUT

## TGTR/L-JHP

Parting and Grooving Tools with Channels for High-Pressure Coolant Carrying TANG-GRIP Inserts




| Designation | CWN(1) | CWX(2) | H | B | WB | OAL | OAH | LH | HBH | CNT | CUTDIA | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TGTR/L 1010-2JHP | 1.80 | 2.50 | 10.0 | 10.0 | 1.72 | 100.00 | 19.5 | 18.5 | 5.0 | UNF 5/16-24 | 24.0 | TAG 2 |
| TGTR/L 1212-2JHP | 1.80 | 2.50 | 12.0 | 12.0 | 1.72 | 100.00 | 19.5 | 18.5 | 3.0 | UNF 5/16-24 | 24.0 | TAG 2 |
| TGTR/L 1616-2JHP | 1.80 | 2.50 | 16.0 | 16.0 | 1.72 | 120.00 | 21.5 | 25.5 | - | UNF 5/16-24 | 35.0 | TAG 2 |
| TGTR/L 2012-2JHP | 1.80 | 2.50 | 20.0 | 12.0 | 1.72 | 120.00 | 25.6 | 25.5 | - | UNF 5/16-24 | 35.0 | TAG 2 |
| TGTR/L 1616-3JHP | 2.80 | 3.50 | 16.0 | 16.0 | 2.50 | 120.00 | 24.5 | 25.5 | 3.0 | UNF 5/16-24 | 35.0 | TAG 3 |
| TGTR/L 2020-3JHP | 2.80 | 3.50 | 20.0 | 20.0 | 2.50 | 120.00 | 27.0 | 35.0 | - | G 1/8-28 | 54.0 | TAG 3 |
| TGTR/L 2525-3JHP | 2.80 | 3.50 | 25.0 | 25.0 | 2.50 | 150.00 | 32.5 | 35.0 | - | G 1/8-28 | 56.0 | TAG 3 |
| TGTR/L 2020-4JHP | 3.70 | 4.50 | 20.0 | 20.0 | 3.40 | 120.00 | 27.0 | 35.0 | - | G 1/8-28 | 54.0 | TAG 4 |
| TGTR/L 2525-4JHP | 3.70 | 4.50 | 25.0 | 25.0 | 3.40 | 150.00 | 32.5 | 35.0 | - | G 1/8-28 | 56.0 | TAG 4 |

- For user guide and accessories, see pages 540-547

(1) Minimum cutting width

(2) Maximum cutting width

**Inserts:** TAG N-A • TAG N-C/W/M • TAG N-HF • TAG N-J/JS/JT • TAG N-LF • TAG N-MF • TAG N-UT • TAG R/L-C • TAG R/L-J/JS

### Flow Rate vs. Pressure

| Designation | 70 Bar Flow Rate (liters/min) | 100 Bar Flow Rate (liters/min) | 140 Bar Flow Rate (liters/min) |
|---|---|---|---|
| TGTR/L...-2JHP | 2-4 | 4-6 | 6-8 |
| TGTR/L...-3JHP | 7-9 | 9-11 | 11-13 |
| TGTR/L...-4JHP | 7-9 | 9-11 | 11-13 |

### Spare Parts

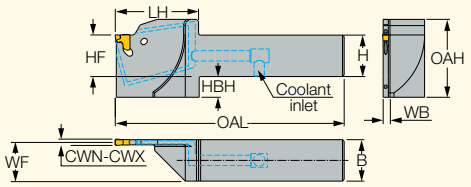
| Designation | | | | | |
|---|---|---|---|---|---|
| TGTR/L 1010-2JHP | ETG 2-SH-T* | | SR 5/16XUNF-TL-S | | HW 5/32" |
| TGTR/L 1212-2JHP | ETG 2-SH-T* | | SR 5/16UNF TL360 | | HW 5/32" |
| TGTR/L 1616-2JHP | ETG 2* | | SR 5/16UNF TL360 | | HW 5/32" |
| TGTR/L 2012-2JHP | ETG 2* | | SR 5/16UNF TL360 | | HW 5/32" |
| TGTR/L 1616-3JHP | ETG 3-4-SH* | | SR 5/16UNF TL360 | | HW 5/32" |
| TGTR/L 2020-3JHP | ETG 3-4-SH* | PLG G1/8 TL360 | | HW 5.0 | |
| TGTR/L 2525-3JHP | ETG 3-4-SH* | PLG G1/8 TL360 | SR 5/16UNF TL360 | HW 5.0 | HW 5/32" |
| TGTR/L 2020-4JHP | ETG 3-4-SH* | PLG G1/8 TL360 | | HW 5.0 | |
| TGTR/L 2525-4JHP | ETG 3-4-SH* | PLG G1/8 TL360 | SR 5/16UNF TL360 | HW 5.0 | HW 5/32" |

* Optional, should be ordered separately

TANG-GRIP JETCUT PARTING LINE

## TGTR/L-JHP-MC

Parting and Grooving Toolholders with Bottom Inlets for High-Pressure Coolant Carrying TANG-GRIP Inserts




Left-hand shown

| Designation | CWN(1) | CWX(2) | H | B | HF | WB | OAL | OAH | LH | HBH | CUTDIA(3) | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TGTR/L 2020-D42-2-JHP-MC | 1.80 | 2.50 | 20.0 | 20.0 | 20.0 | 1.72 | 99.00 | 25.70 | 29.0 | - | 42.0 | TAG 2 |
| TGTR/L 2020-D65-3-JHP-MC | 2.80 | 3.50 | 20.0 | 20.0 | 20.1 | 2.50 | 110.50 | 37.60 | 40.5 | 10.0 | 65.0 | TAG 3 |
| TGTR/L 2020-D82-3-JHP-MC | 2.80 | 3.50 | 20.0 | 20.0 | 20.1 | 2.50 | 119.00 | 38.80 | 49.0 | 10.0 | 82.0 | TAG 3 |
| TGTR/L 2525-D65-3-JHP-MC | 2.80 | 3.50 | 25.0 | 25.0 | 25.1 | 2.50 | 126.00 | 37.60 | 41.0 | 5.0 | 65.0 | TAG 3 |
| TGTR/L 2525-D82-3-JHP-MC | 2.80 | 3.50 | 25.0 | 25.0 | 25.1 | 2.50 | 134.50 | 38.80 | 49.5 | 5.0 | 82.0 | TAG 3 |

- For user guide and accessories, see pages 540-547

(1) Minimum cutting width

(2) Maximum cutting width

(3) Maximum cutting diameter

**Inserts:** TAG N-A • TAG N-C/W/M • TAG N-HF • TAG N-J/JS/JT • TAG N-LF • TAG N-MF • TAG N-UT • TAG R/L-C • TAG R/L-J/JS

### Spare Parts

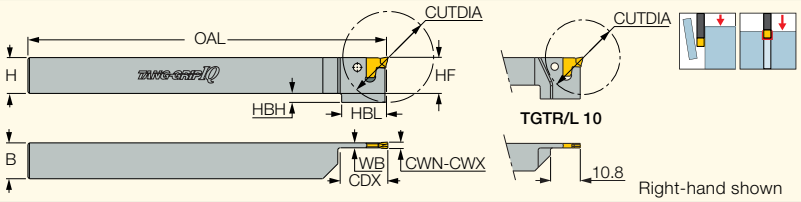
| Designation |  |
|---|---|
| TGTR/L 2020-D42-2-JHP-MC | ETG 2* |
| TGTR/L 2020-D65-3-JHP-MC | ETG 3-4-SH* |
| TGTR/L 2020-D82-3-JHP-MC | ETG 3-4-SH* |
| TGTR/L 2525-D65-3-JHP-MC | ETG 3-4-SH* |
| TGTR/L 2525-D82-3-JHP-MC | ETG 3-4-SH* |

* Optional, should be ordered separately

TANG-GRIP IQ 350 LINE

## TGTR/L-2T..SH-L120

Integral Shank Short-Head TANG-GRIP Toolholders for Parting and Grooving




Right-hand shown

| Designation | CWN(1) | CWX(2) | H | HF | B | WB | OAL | HBL | HBH | CDX(3) | CUTDIA(4) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TGTR/L 1010-2T10SH-L120-IQ | 1.80 | 2.50 | 10.0 | 10.1 | 10.0 | 1.65 | 120.00 | 15.0 | 5.0 | 10.00 | 26.0 |
| TGTR/L 1212-2T15SH-L120-IQ | 1.80 | 2.50 | 12.0 | 12.1 | 12.0 | 1.65 | 120.00 | 15.0 | 3.0 | 15.00 | 30.0 |
| TGTR/L 1616-2T18SH-L120-IQ | 1.80 | 2.50 | 16.0 | 16.1 | 16.0 | 1.65 | 120.00 | - | - | 18.00 | 36.0 |

- For user guide, see pages 540-547

(1) Minimum cutting width

(2) Maximum cutting width

(3) Cutting depth maximum

(4) For parting

* Optional, should be ordered separately

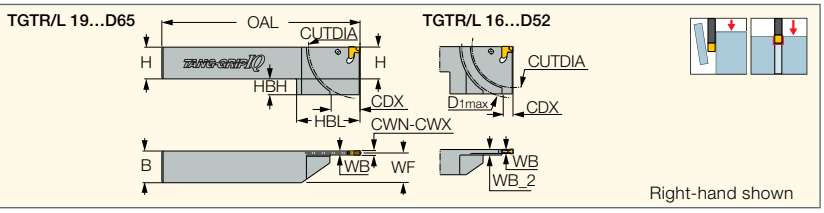
**Inserts:** TAG N-A • TAG N-C/W/M • TAG N-J/JS/JT • TAG N-LF • TAG N-MF • TAG N-UT • TAG R/L-C • TAG R/L-J/JS

TANG-GRIP IQ 350 LINE

## TGTR/L-D

Integral Shank TANG-GRIP Toolholders with Reinforced Blades for Parting and Grooving Mainly Sub-Spindle Machines






| Designation | CW | CWN(1) | CWX(2) | H | B | WB | WB_2 | OAL | HBL | WF | HBH | CUTDIA | D1 max | CDX | Insert | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TGTR/L 1616-2-D52-IQ | 2.00 | 1.80 | 2.40 | 16.0 | 16.0 | 1.65 | 3.50 | 125.00 | 40.0 | 15.20 | 14.0 | 52.0 | 65.0 | 6.00 | TAG 2 | ETG 2* |
| TGTR/L 2020-2-D65-IQ | 2.00 | 1.80 | 2.40 | 20.0 | 20.0 | 1.65 | - | 125.00 | 40.0 | 19.20 | 10.0 | 65.0 | - | 18.00 | TAG 2 | ETG 2* |
| TGTR/L 1616-3-D52-IQ | 3.00 | 2.80 | 3.50 | 16.0 | 16.0 | 2.50 | 3.50 | 125.00 | 40.0 | 14.80 | 14.0 | 52.0 | 65.0 | 6.00 | TAG 3 | ETG 3-4-SH* |
| TGTR/L 2020-3-D65-IQ | 3.00 | 2.80 | 3.50 | 20.0 | 20.0 | 2.50 | - | 125.00 | 40.0 | 18.80 | 10.0 | 65.0 | - | 18.00 | TAG 3 | ETG 3-4-SH* |

- For user guide, see pages 540-547

(1) Minimum cutting width

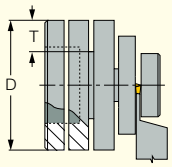
(2) Maximum cutting width

* Optional, should be ordered separately

**Inserts:** TAG N-A • TAG N-C/W/M • TAG N-HF • TAG N-J/JS/JT • TAG N-LF • TAG N-MF • TAG N-UT • TAG R/L-C • TAG R/L-J/JS

## Depth Capacity DGTR/L-D

Table Determining Depth of Cut as Function of Workpiece Diameter

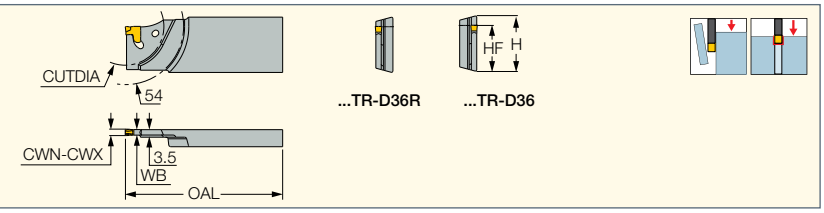



| Designation | Tmax | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| TGTR/L 1616-2-D52-IQ | 20 | 25 | 19 | 16 | 15 | 13 | 11 | 10 | 9 | 8 |
| TGTR/L 2020-2-D65-IQ | 20 | 25 | 30 | 31 | 29 | 26 | 24 | 23 | 22 | 20 |
| TGTR/L 1616-3-D52-IQ | 20 | 25 | 20 | 17 | 15 | 13 | 11 | 10 | 9 | 8 |
| TGTR/L 2020-3-D65-IQ | 20 | 25 | 30 | 31 | 29 | 26 | 24 | 23 | 22 | 20 |
| D → | 40 | 50 | 60 | 70 | 80 | 100 | 120 | 150 | 200 | 300 |

TANG-GRIP PARTING LINE

## TGFHL-TR

Reinforced Blades for TRAUB and Index Machines Carrying TANG-GRIP Tangentially Clamped Inserts




| Designation | H | CWN(1) | CWX(2) | WB | OAL | HF | CUTDIA | Insert | |
|---|---|---|---|---|---|---|---|---|---|
| TGFHL 26-2TR-D36 | 26.0 | 1.80 | 2.40 | 1.65 | 110.00 | 21.4 | 36.0 | TAG 2 | ETG 2* |
| TGFHL 26-2TR-D36R | 26.0 | 1.80 | 2.40 | 1.65 | 110.00 | 21.4 | 36.0 | TAG 2 | ETG 2* |
| TGFHL 26-3TR-D36 | 26.0 | 2.80 | 3.50 | 2.50 | 110.00 | 21.4 | 36.0 | TAG 3 | ETG 3-4-SH* |
| TGFHL 26-3TR-D36R | 26.0 | 2.80 | 3.50 | 2.50 | 110.00 | 21.4 | 36.0 | TAG 3 | ETG 3-4-SH* |

- For user guide, see pages 540-547

(1) Minimum cutting width

(2) Maximum cutting width

* Optional, should be ordered separately

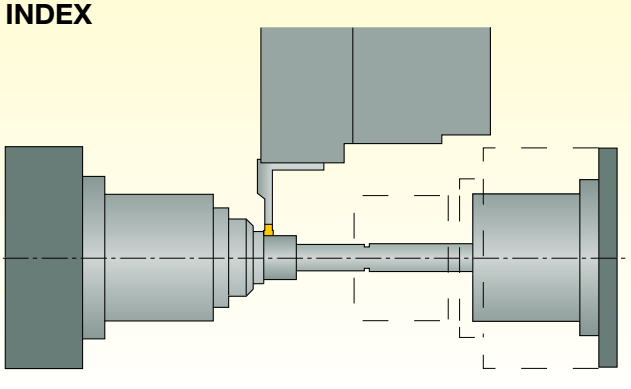
**Inserts:** TAG N-A • TAG N-C/W/M • TAG N-HF • TAG N-J/JS/JT • TAG N-LF • TAG N-MF • TAG N-UT • TAG R/L-C • TAG R/L-J/JS

**Holders:** SGTBR/L • SGTBU/SGTBN • UBHCR/L

TRAUB



**INDEX**



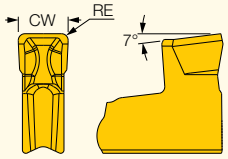
TANGFGRIP HIGH FEED PARTING

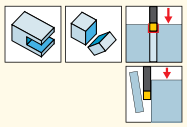
TANGGRIP PARTING LINE

## TAG N-HF

Single-Ended Inserts for High Feed Parting and Grooving, Hard Materials and Tough Applications





| Designation | Dimensions CW | CWTOL(1) | RE | Tough ↔ Hard IC830 | IC1030 | IC1010 | IC808 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| TAG N3HF | 3.00 | 0.040 | 0.40 | ● | ● | ● | ● | 0.25-0.35 |
| TAG N4HF | 4.00 | 0.040 | 0.50 | ● | ● | ● | ● | 0.30-0.40 |
| TAG N5HF | 5.00 | 0.040 | 0.50 | ● | | | ● | 0.30-0.40 |

• For cutting speed recommendations and user guide, see pages 540-547

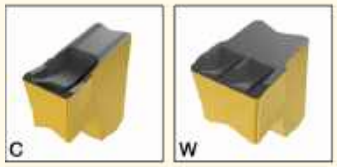
(1) Cutting width tolerance (+/-)

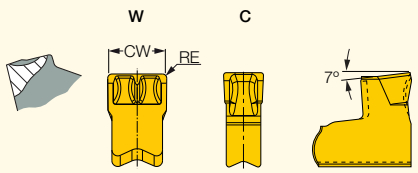
**Tools:** ADMP D45 • TAGPAD-JHP • TAGPAD-XL-JHP • TAGPAD-Y-JHP • TGAD • TGAD RE/LE-JHP • TGAQ • TGAQ-ECD (JET-CROWN) • TGAQ-JHP • TGFH-JHP • TGFH-MB • TGFH-S • TGFH/R/L • TGFHL-TR • TGFHR/L • TGFHR/L-JHP • TGFS • TGSU • TGTR/L-D • TGTR/L-IQ • TGTR/L-IQ-2Z • TGTR/L-JHP • TGTR/L-JHP-MC

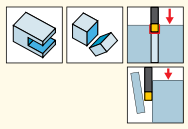
TANGGRIP PARTING LINE

## TAG N-C/W/M

Single-Ended Inserts for Parting, Grooving and Slitting Bars, Hard Materials and Tough Applications



| Designation | Dimensions CW | CWTOL(3) | RE | Tough ↔ Hard IC830 | IC928 | IC1030 | IC5400 | IC1010 | IC808 | IC908 | IC30N | IC20 | IC807 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAG N1.4C | 1.40 | 0.04 | 0.16 | | | | | | | | | | ● | 0.04-0.10 |
| TAG N1.6C | 1.60 | 0.04 | 0.16 | ● | | | | | ● | | | | | 0.04-0.14 |
| TAG N2C | 2.00 | 0.04 | 0.20 | ● | | ● | ● | ● | ● | | ● | ● | | 0.05-0.16 |
| TAG N2.4C | 2.40 | 0.04 | 0.16 | ● | | | | | ● | | | | | 0.06-0.18 |
| TAG N3CB (1) | 3.00 | 0.04 | 0.35 | ● | | | | | ● | | | | | 0.12-0.30 |
| TAG N3C | 3.05 | 0.04 | 0.20 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | 0.10-0.25 |
| TAG N3M (2) | 3.05 | 0.04 | 0.20 | ● | | | | | | ● | | | | 0.06-0.18 |
| TAG N3W | 3.05 | 0.04 | 0.20 | ● | | | | | | ● | | | | 0.10-0.25 |
| TAG N4C | 4.00 | 0.04 | 0.24 | ● | ● | ● | ● | ● | ● | ● | | ● | ● | 0.10-0.30 |
| TAG N4CB (1) | 4.00 | 0.04 | 0.40 | ● | | | | | | ● | | | | 0.10-0.33 |
| TAG N4M (2) | 4.00 | 0.04 | 0.24 | ● | | | | | | ● | | | | 0.06-0.20 |
| TAG N4W | 4.00 | 0.04 | 0.24 | ● | | | | | | ● | | | | 0.10-0.30 |
| TAG N4.8C | 4.80 | 0.04 | 0.30 | ● | | | | | ● | | | | | 0.10-0.35 |
| TAG N5C | 5.05 | 0.04 | 0.25 | ● | | | | | ● | | | ● | | 0.10-0.35 |
| TAG N6.3C | 6.30 | 0.04 | 0.35 | ● | | | | | ● | | | | | 0.15-0.40 |
| TAG N7W | 7.00 | 0.08 | 0.50 | ● | | | | | ● | | | | | 0.18-0.40 |
| TAG N8C | 8.00 | 0.10 | 0.50 | ● | | | | | ● | | | | | 0.20-0.70 |
| TAG N9.5W | 9.50 | 0.05 | 0.50 | ● | | | | | ● | | | | | 0.22-0.80 |
| TAG N9.5C | 9.50 | 0.10 | 0.50 | ● | | | | | ● | | | | | 0.25-0.80 |
| TAG N12.7W | 12.70 | 0.10 | 0.85 | ● | | | | | ● | | | | | 0.30-0.80 |

• Feed values for grade IC20 should be decreased by 50% • For cutting speed recommendations and user guide, see pages 540-547

(1) Larger corner radii for interrupted cut and high feed applications

(2) Similar to C-type, but with a modified edge; improved chip control at medium feeds

(3) Cutting width tolerance (+/-)

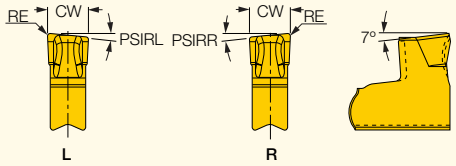
**Tools:** ADMP D45 • Anti-Vibration Blades • TAGPAD-JHP • TAGPAD-XL-JHP • TAGPAD-Y-JHP • TGAD • TGAD RE/LE-JHP • TGAQ • TGAQ-ECD (JET-CROWN) • TGAQ-JHP • TGBHR/L • TGBHR/L-JHP • TGFH-JHP • TGFH-MB • TGFH-S • TGFH/R/L • TGFHL-TR • TGFHR/L • TGFHR/L-JHP • TGFS • TGSU • TGTR/L-2T..SH-L120 • TGTR/L-D • TGTR/L-IQ • TGTR/L-IQ-2Z • TGTR/L-JHP • TGTR/L-JHP-MC

TANG-GRIP PARTING LINE

## TAG R/L-C

Single-Ended Inserts for Parting Bars, Hard Materials and Tough Parting Applications








| Designation | Dimensions CW | CWTOL(1) | RE | PSIRR | PSIRL | Tough ↔ Hard IC830 | IC928 | IC808 | IC908 | IC30N | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TAG L2C-6D | 2.05 | 0.10 | 0.20 | - | 6.0 | ● | | ● | | | 0.04-0.12 |
| TAG R2C-6D | 2.05 | 0.10 | 0.20 | 6.0 | - | ● | | ● | | | 0.04-0.12 |
| TAG R2.4C-8D | 2.40 | 0.10 | 0.16 | 8.0 | - | | | ● | | | 0.05-0.13 |
| TAG L3C-6D | 3.00 | 0.10 | 0.20 | - | 6.0 | ● | ● | ● | ● | | 0.08-0.18 |
| TAG R3C-6D | 3.00 | 0.10 | 0.20 | 6.0 | - | ● | ● | ● | ● | | 0.08-0.18 |
| TAG R3C-8D | 3.00 | 0.10 | 0.20 | 8.0 | - | | | | | ● | 0.06-0.16 |
| TAG L3C-15D | 3.00 | 0.10 | 0.20 | - | 15.0 | ● | ● | ● | ● | | 0.08-0.16 |
| TAG R3C-15D | 3.00 | 0.10 | 0.20 | 15.0 | - | ● | ● | ● | ● | | 0.08-0.16 |
| TAG L4C-4D | 4.05 | 0.10 | 0.24 | - | 4.0 | ● | | ● | | | 0.08-0.20 |
| TAG R4C-4D | 4.05 | 0.10 | 0.24 | 4.0 | - | ● | ● | ● | ● | | 0.08-0.20 |
| TAG L5C-4D | 5.05 | 0.10 | 0.25 | - | 4.0 | ● | | ● | | | 0.10-0.25 |
| TAG R5C-4D | 5.05 | 0.10 | 0.25 | 4.0 | - | ● | | ● | | | 0.10-0.25 |
| TAG L6.3C-4D | 6.35 | 0.10 | 0.35 | - | 4.0 | ● | | ● | | | 0.12-0.30 |
| TAG R6.3C-4D | 6.35 | 0.10 | 0.35 | 4.0 | - | ● | | ● | | | 0.12-0.30 |

• For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting width tolerance (+/-)

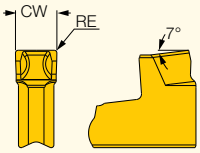
**Tools:** ADMP D45 • TAGPAD-JHP • TAGPAD-XL-JHP • TAGPAD-Y-JHP • TGAD • TGAD RE/LE-JHP • TGAQ • TGAQ-ECD (JET-CROWN) • TGAQ-JHP • TGBHR/L • TGFH-JHP • TGFH-MB • TGFH-S • TGFH/R/L • TGFHL-TR • TGFHR/L • TGFHR/L-JHP • TGFS • TGSU • TGTR/L-2T..SH-L120 • TGTR/L-D • TGTR/L-IQ • TGTR/L-IQ-2Z • TGTR/L-JHP • TGTR/L-JHP-MC

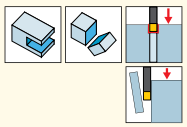
TANG-GRIP PARTING LINE

## TAG N-MF

Single-Ended Inserts for Parting Grooving and Slitting Stainless and Alloy Steel at Medium Feed





| Designation | Dimensions CW | CWTOL(1) | RE | Tough ↔ Hard IC830 | IC1030 | IC5400 | IC1010 | IC808 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| TAG N2MF | 2.00 | 0.05 | 0.20 | ● | ● | ● | ● | ● | 0.04-0.15 |
| TAG N3MF | 3.05 | 0.05 | 0.20 | ● | ● | ● | ● | ● | 0.06-0.18 |
| TAG N4MF | 4.00 | 0.05 | 0.25 | ● | ● | ● | ● | ● | 0.07-0.22 |
| TAG N5MF | 5.00 | 0.05 | 0.25 | ● | | | | ● | 0.08-0.25 |

• For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting width tolerance (+/-)

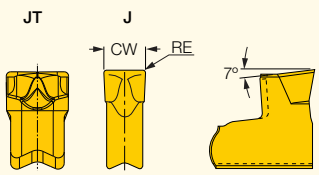
**Tools:** ADMP D45 • TAGPAD-JHP • TAGPAD-XL-JHP • TAGPAD-Y-JHP • TGAD • TGAD RE/LE-JHP • TGAQ • TGAQ-ECD (JET-CROWN) • TGAQ-JHP • TGFH-JHP • TGFH-MB • TGFH-S • TGFH/R/L • TGFHL-TR • TGFHR/L • TGFHR/L-JHP • TGFS • TGSU • TGTR/L-2T..SH-L120 • TGTR/L-D • TGTR/L-IQ • TGTR/L-IQ-2Z • TGTR/L-JHP • TGTR/L-JHP-MC

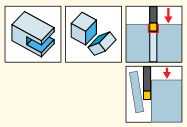
TANG-GRIP PARTING LINE

## TAG N-J/JS/JT

Single-Ended Inserts for Parting, Grooving and Slitting Soft Materials



| Designation | Dimensions CW | RE | CWTOL[2] | RETOL[3] | Tough ↔ Hard IC830 | IC928 | IC1030 | IC5400 | IC1010 | IC808 | IC908 | IC20 | IC807 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAG N1.4J | 1.40 | 0.16 | 0.04 | 0.030 | ● | | | | | ● | | | ● | 0.03-0.10 |
| TAG N1.6J | 1.60 | 0.16 | 0.04 | 0.030 | ● | | | | | ● | | | | 0.03-0.12 |
| TAG N2JS [1] | 2.00 | 0.02 | 0.04 | 0.020 | ● | | | | | ● | | | | 0.03-0.08 |
| TAG N2J | 2.00 | 0.20 | 0.04 | 0.040 | ● | | ● | ● | ● | ● | | ● | | 0.04-0.12 |
| TAG N2JT | 2.00 | 0.20 | 0.04 | 0.040 | ● | ● | | ● | | ● | ● | | | 0.04-0.14 |
| TAG N3JS [1] | 3.05 | 0.02 | 0.04 | 0.020 | ● | | | | | ● | | | | 0.04-0.10 |
| TAG N3J | 3.05 | 0.20 | 0.04 | 0.030 | ● | ● | ● | ● | ● | ● | ● | ● | ● | 0.04-0.16 |
| TAG N3JT | 3.05 | 0.20 | 0.04 | 0.030 | ● | | | ● | | ● | ● | | | 0.05-0.18 |
| TAG N3.2JT | 3.25 | 0.20 | 0.04 | 0.030 | ● | | | | | ● | | | | 0.05-0.18 |
| TAG N4J | 4.00 | 0.24 | 0.04 | 0.030 | ● | ● | ● | ● | ● | ● | ● | | ● | 0.04-0.18 |
| TAG N4JT | 4.05 | 0.24 | 0.04 | 0.030 | ● | | | ● | | ● | ● | | | 0.06-0.20 |
| TAG N5J | 5.05 | 0.25 | 0.04 | 0.040 | ● | | | | ● | ● | | | | 0.05-0.20 |
| TAG N5JT | 5.05 | 0.25 | 0.04 | 0.040 | ● | | | | | ● | ● | | | 0.06-0.22 |
| TAG N6.3J | 6.35 | 0.34 | 0.04 | 0.040 | ● | | | | | ● | | | | 0.06-0.22 |
| TAG N6.3JT | 6.35 | 0.34 | 0.04 | 0.040 | ● | | | | | | ● | | | 0.08-0.25 |
| TAG N7JT | 7.05 | 0.50 | 0.04 | 0.040 | ● | | | | | ● | | | | 0.10-0.28 |

- JT chipformer has the basic positive configuration of the J-type and a reinforced negative frontal edge; most suitable for soft materials at low to medium feeds.
- For cutting speed recommendations and user guide, see pages 540-547

[1] Sharp corners cannot be used on TGSF slitting cutters

[2] Cutting width tolerance (+/-)

[3] Corner radius tolerance (+/-)

**Tools:** ADMP D45 • TAGPAD-JHP • TAGPAD-XL-JHP • TAGPAD-Y-JHP • TGAD • TGAD RE/LE-JHP • TGAQ • TGAQ-ECD (JET-CROWN) • TGAQ-JHP • TGBHR/L • TGFH-JHP • TGFH-MB • TGFH-S • TGFH/R/L • TGFHL-TR • TGFHR/L • TGFHR/L-JHP • TGFS • TGSU • TGTR/L-2T..SH-L120 • TGTR/L-D • TGTR/L-IQ • TGTR/L-IQ-2Z • TGTR/L-JHP • TGTR/L-JHP-MC

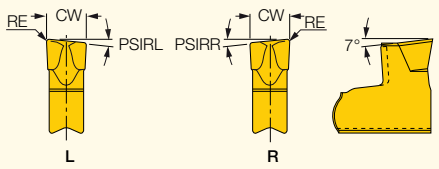


TANG-GRIP PARTING LINE

## TAG R/L-J/JS

TANG-GRIP Inserts for Parting Soft Materials, Tubes, Small Diameters and Thin-Walled Parts






| Designation | Dimensions CW | RE | PSIRL | PSIRR | Tough ↔ Hard IC830 | IC928 | IC808 | IC908 | IC807 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| TAG L1.4J-8D | 1.40 | 0.16 | 8.0 | - | ● | | ● | | ● | 0.03-0.08 |
| TAG R1.4J-8D | 1.40 | 0.16 | - | 8.0 | ● | | ● | | ● | 0.03-0.08 |
| TAG L1.4JS-10D (1) | 1.40 | 0.02 | 10.0 | - | ● | | ● | | ● | 0.02-0.06 |
| TAG R1.4JS-10D (1) | 1.40 | 0.02 | - | 10.0 | ● | | ● | | ● | 0.02-0.06 |
| TAG L2J-6D | 2.00 | 0.20 | 6.0 | - | ● | | ● | | | 0.03-0.10 |
| TAG R2J-6D | 2.00 | 0.20 | - | 6.0 | ● | | ● | | | 0.03-0.10 |
| TAG L2JS-6D (1) | 2.00 | 0.02 | 6.0 | - | ● | | ● | | | 0.02-0.08 |
| TAG R2JS-6D (1) | 2.00 | 0.02 | - | 6.0 | ● | | ● | | | 0.02-0.08 |
| TAG L2J-15D | 2.00 | 0.20 | 15.0 | - | ● | | ● | | | 0.03-0.08 |
| TAG R2J-15D | 2.00 | 0.20 | - | 15.0 | ● | | ● | | | 0.03-0.08 |
| TAG L2JS-15D (1) | 2.00 | 0.02 | 15.0 | - | ● | | ● | | | 0.02-0.06 |
| TAG R2JS-15D (1) | 2.00 | 0.02 | - | 15.0 | ● | | ● | | | 0.02-0.06 |
| TAG L3J-6D | 3.00 | 0.20 | 6.0 | - | ● | ● | ● | ● | | 0.04-0.14 |
| TAG R3J-6D | 3.00 | 0.20 | - | 6.0 | ● | ● | ● | ● | | 0.04-0.14 |
| TAG L3JS-6D (1) | 3.00 | 0.02 | 6.0 | - | ● | | ● | | | 0.03-0.10 |
| TAG R3JS-6D (1) | 3.00 | 0.02 | - | 6.0 | ● | | ● | | | 0.03-0.10 |
| TAG L3J-15D | 3.00 | 0.20 | 15.0 | - | ● | ● | ● | ● | | 0.04-0.12 |
| TAG R3J-15D | 3.00 | 0.20 | - | 15.0 | ● | ● | ● | ● | | 0.04-0.12 |
| TAG L3JS-15D (1) | 3.00 | 0.02 | 15.0 | - | ● | | ● | | | 0.03-0.08 |
| TAG R3JS-15D (1) | 3.00 | 0.02 | - | 15.0 | ● | | ● | | | 0.03-0.08 |
| TAG L4J-4D | 4.00 | 0.24 | 4.0 | - | ● | | ● | | | 0.04-0.15 |
| TAG R4J-4D | 4.00 | 0.24 | - | 4.0 | ● | ● | ● | ● | | 0.04-0.15 |
| TAG L5J-4D | 5.05 | 0.25 | 4.0 | - | ● | | ● | | | 0.05-0.18 |
| TAG R5J-4D | 5.05 | 0.25 | - | 4.0 | ● | | ● | | | 0.05-0.18 |
| TAG L6.3J-4D | 6.35 | 0.35 | 4.0 | - | ● | | ● | | | 0.05-0.20 |
| TAG R6.3J-4D | 6.35 | 0.35 | - | 4.0 | ● | | ● | | | 0.05-0.20 |

• For cutting speed recommendations and user guide, see pages 540-547

(1) Sharp corners cannot be used on TGSF slitting cutters

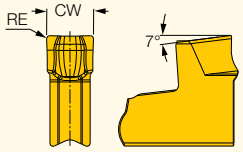
**Tools:** ADMP D45 • TAGPAD-JHP • TAGPAD-XL-JHP • TAGPAD-Y-JHP • TGAD • TGAD RE/LE-JHP • TGAQ • TGAQ-ECD (JET-CROWN) • TGAQ-JHP • TGBHR/L • TGFH-JHP • TGFH-MB • TGFH-S • TGFH/R/L • TGFHL-TR • TGFHR/L • TGFHR/L-JHP • TGFS • TGSU • TGTR/L-2T..SH-L120 • TGTR/L-D • TGTR/L-IQ • TGTR/L-IQ-2Z • TGTR/L-JHP • TGTR/L-JHP-MC

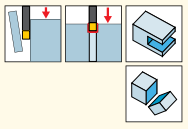
TANG-GRIP PARTING LINE

## TAG N-LF

Single-Ended Inserts for Parting, Grooving and Slitting Stainless Steel





| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | Tough ↔ Hard IC830 | IC1030 | IC5400 | IC1010 | IC808 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| TAG N2LF | 2.00 | 0.20 | 0.04 | 0.030 | ● | ● | ● | ● | ● | 0.03-0.08 |
| TAG N3LF | 3.05 | 0.20 | 0.04 | 0.030 | ● | ● | ● | ● | ● | 0.04-0.10 |

• For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

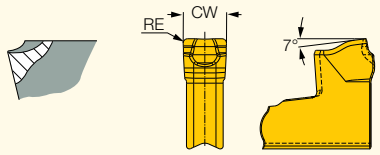
**Tools:** ADMP D45 • TAGPAD-JHP • TAGPAD-XL-JHP • TGAD • TGAD RE/LE-JHP • TGAQ • TGAQ-ECD (JET-CROWN) • TGAQ-JHP • TGFH-JHP • TGFH-MB • TGFH-S • TGFH/R/L • TGFHL-TR • TGFHR/L • TGFHR/L-JHP • TGFS • TGSU • TGTR/L-2T..SH-L120 • TGTR/L-D • TGTR/L-IQ • TGTR/L-IQ-2Z • TGTR/L-JHP • TGTR/L-JHP-MC

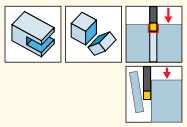
TANG-GRIP PARTING LINE

## TAG N-UT

Single-Sided Inserts for Parting, Grooving & Slitting at Low Feeds on Cr-Ni Alloys, Ductile Materials & Low Carbon Steel



| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | Tough ↔ Hard IC830 | IC808 | IC908 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| TAG N2UT | 2.00 | 0.20 | 0.04 | 0.040 | ● | ● | ● | 0.03-0.10 |
| TAG N3UT | 3.00 | 0.30 | 0.04 | 0.040 | ● | ● | | 0.04-0.12 |
| TAG N4UT | 4.00 | 0.30 | 0.04 | 0.040 | | | ● | 0.05-0.15 |
| TAG N5UT | 5.00 | 0.30 | 0.04 | 0.040 | | | ● | 0.05-0.18 |
| TAG N6UT | 6.00 | 0.85 | 0.04 | 0.040 | | | ● | 0.06-0.22 |

- For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

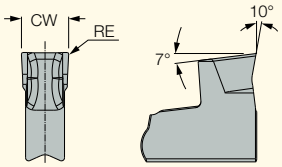
**Tools:** ADMP D45 • TAGPAD-JHP • TAGPAD-XL-JHP • TAGPAD-Y-JHP • TGAD • TGAD RE/LE-JHP • TGAQ • TGAQ-ECD (JET-CROWN) • TGAQ-JHP • TGBHR/L • TGFH-JHP • TGFH-MB • TGFH-S • TGFH/R/L • TGFHL-TR • TGFHR/L • TGFHR/L-JHP • TGFS • TGSU • TGTR/L-2T..SH-L120 • TGTR/L-D • TGTR/L-IQ • TGTR/L-IQ-2Z • TGTR/L-JHP • TGTR/L-JHP-MC

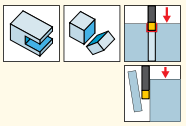
TANG-GRIP PARTING LINE

## TAG N-A

Single-Ended Inserts for Parting, Grooving and Slitting Aluminum



| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | IC20 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|
| TAG N2A | 2.00 | 0.20 | 0.04 | 0.040 | ● | 0.02-0.10 |
| TAG N3A | 3.07 | 0.20 | 0.04 | 0.040 | ● | 0.03-0.14 |
| TAG N4A | 4.00 | 0.24 | 0.04 | 0.030 | ● | 0.03-0.16 |

- For cutting speed recommendations and user guide, see pages 540-547

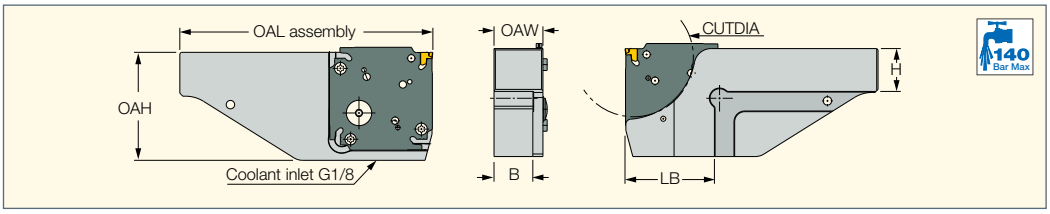
(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

**Tools:** ADMP D45 • TAGPAD-JHP • TAGPAD-XL-JHP • TAGPAD-Y-JHP • TGAD • TGAD RE/LE-JHP • TGAQ • TGAQ-ECD (JET-CROWN) • TGAQ-JHP • TGFH-JHP • TGFH-MB • TGFH-S • TGFH/R/L • TGFHL-TR • TGFHR/L • TGFHR/L-JHP • TGFS • TGSU • TGTR/L-2T..SH-L120 • TGTR/L-D • TGTR/L-IQ • TGTR/L-IQ-2Z • TGTR/L-JHP • TGTR/L-JHP-MC

# LOGIQ-F-GRIP

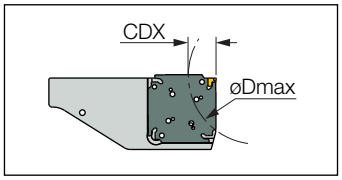
**TGTBQ-JHP**
Tool Blocks for Square TANG-F-GRIP and DO-F-GRIP Parting and Grooving Adapters for High-Pressure Coolant




| Designation | OAH | H | B | OAW | OAL | LB | CUTDIA |
|---|---|---|---|---|---|---|---|
| TGTBQ 20L-D52-JHP | 50.00 | 20.0 | 20.5 | 26.50 | 122.00 | 34.00 | 52.0 |
| TGTBQ 20R-D52-JHP | 50.00 | 20.0 | 20.5 | 26.50 | 122.00 | 34.00 | 52.0 |
| TGTBQ 25L-D52-JHP | 50.00 | 25.0 | 25.5 | 31.50 | 132.00 | 34.00 | 52.0 |
| TGTBQ 25R-D52-JHP | 50.00 | 25.0 | 25.5 | 31.50 | 132.00 | 34.00 | 52.0 |
| TGTBQ 20L-D82-JHP | 64.00 | 20.0 | 20.5 | 26.50 | 140.00 | 53.00 | 82.0 |
| TGTBQ 20R-D82-JHP | 64.00 | 20.0 | 20.5 | 26.50 | 140.00 | 53.00 | 82.0 |
| TGTBQ 25L-D82-JHP | 64.00 | 25.0 | 25.5 | 31.50 | 150.00 | 53.00 | 82.0 |
| TGTBQ 25R-D82-JHP | 64.00 | 25.0 | 25.5 | 31.50 | 150.00 | 53.00 | 82.0 |
| TGTBQ 32L-D82-JHP | 64.00 | 32.0 | 32.5 | 38.50 | 150.50 | 53.50 | 82.0 |
| TGTBQ 32R-D82-JHP | 64.00 | 32.0 | 32.5 | 38.50 | 150.50 | 53.50 | 82.0 |
| TGTBQ 25L-D120-JHP | 95.00 | 25.0 | 25.5 | 31.50 | 165.00 | 67.00 | 120.0 |
| TGTBQ 25R-D120-JHP | 95.00 | 25.0 | 25.5 | 31.50 | 165.00 | 67.00 | 120.0 |
| TGTBQ 32L-D120-JHP | 95.00 | 32.0 | 32.5 | 38.50 | 165.00 | 67.00 | 120.0 |
| TGTBQ 32R-D120-JHP | 95.00 | 32.0 | 32.5 | 38.50 | 165.00 | 67.00 | 120.0 |
| TGTBQ 25L-D160-JHP | 107.00 | 25.0 | 25.5 | 31.50 | 190.50 | 92.50 | 160.0 |
| TGTBQ 25R-D160-JHP | 107.00 | 25.0 | 25.5 | 31.50 | 190.50 | 92.50 | 160.0 |
| TGTBQ 32L-D160-JHP | 107.00 | 32.0 | 32.5 | 38.50 | 190.50 | 92.50 | 160.0 |
| TGTBQ 32R-D160-JHP | 107.00 | 32.0 | 32.5 | 38.50 | 190.50 | 92.50 | 160.0 |
| TGTBQ 40L-D160-JHP | 107.00 | 40.0 | 40.5 | 46.50 | 190.50 | 92.50 | 160.0 |
| TGTBQ 40R-D160-JHP | 107.00 | 40.0 | 40.5 | 46.50 | 190.50 | 92.50 | 160.0 |

**Tools:** DGAQ • DGAQ-JHP • TGAQ • TGAQ-JHP

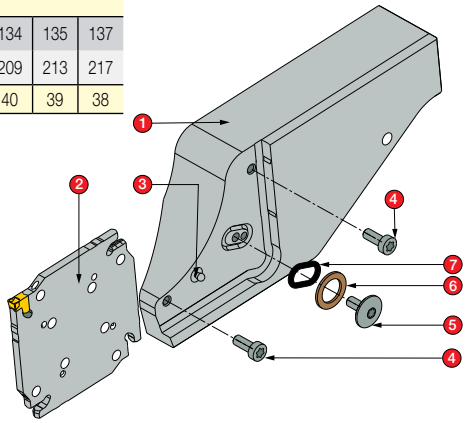
## Table determining depth of cut for grooving as function of workpiece diameter




| Designation | øDmax | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TGTBQ...D52-JHP | 53 | 54 | 55 | 56 | 57 | 59 | 61 | 64 | 67 | 71 | 75 | 81 | 88 | 96 | 107 | 122 | 141 | 169 |
| TGTBQ...D82-JHP | 107 | 110 | 114 | 119 | 124 | 130 | 137 | 145 | 154 | 165 | 178 | 194 | 213 | 237 | 267 | 308 | 363 | 443 |
| TGTBQ...D120-JHP | 202 | 210 | 219 | 229 | 240 | 253 | 267 | 283 | 302 | 324 | 349 | 380 | 417 | 462 | 518 | 592 | 689 | 827 |
| TGTBQ...D160-JHP | 345 | 361 | 377 | 396 | 418 | 441 | 468 | 499 | 534 | 576 | 624 | 682 | 753 | 840 | 951 | 1096 | 1294 | 1583 |
| CDX | 21 | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 |

| Designation | øDmax | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TGTBQ...D82-JHP | 83 | 83 | 84 | 84 | 85 | 86 | 87 | 88 | 89 | 91 | 92 | 94 | 96 | 98 | 101 | 103 |
| TGTBQ...D120-JHP | 139 | 141 | 143 | 145 | 148 | 150 | 153 | 156 | 160 | 164 | 168 | 172 | 177 | 183 | 188 | 195 |
| TGTBQ...D160-JHP | 220 | 225 | 229 | 234 | 239 | 245 | 251 | 257 | 264 | 271 | 279 | 288 | 298 | 308 | 320 | 332 |
| CDX | 37 | 36 | 35 | 34 | 33 | 32 | 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 |

| Designation | øDmax | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TGTBQ...D120-JHP | 121 | 122 | 123 | 123 | 124 | 125 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 134 | 135 | 137 |
| TGTBQ...D160-JHP | 171 | 177 | 181 | 183 | 184 | 186 | 188 | 190 | 193 | 195 | 198 | 200 | 203 | 206 | 209 | 213 | 217 |
| CDX | 56-60 | 53-55 | 52 | 51 | 50 | 49 | 48 | 47 | 46 | 45 | 44 | 43 | 42 | 41 | 40 | 39 | 38 |




1. **Block:** TGTBQ...D...
2. **Blade:** T/DGAQ...
3. **Locating Pin:** Side thrust Pin 3mm
4. **Screw:** SR M4x10 ISO 14580
5. **Screw:** SR M4x9-Seal-JHP
6. **Seal washer:** CSW 1/8″
7. **O-ring:** O-ring 10x2 NBR

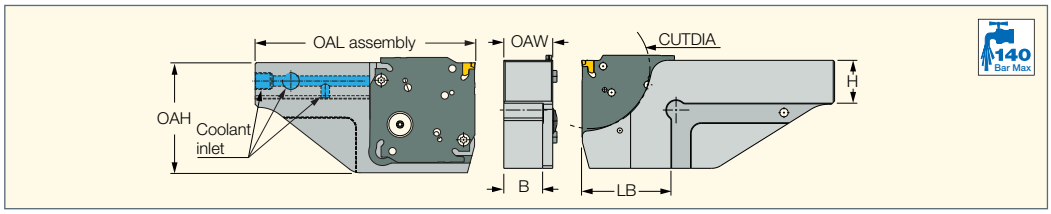
## Spare Parts

| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| TGTBQ-JHP | SR M4X9-SEAL-JHP | SIDE THRUST PIN 3mm | JHP COPPER SEAL 1/8" | SR ISO 14580 M4X10 | SW6-SD | BLD T20/S7 | O-RING 10X2 NBR |

LOGIQ F GRIP HIGH FEED GRIP HOLDER

## TGTBQ-JHP-MC

Tool Blocks for Parting and Grooving Square Adapters for High-Pressure Coolant with Three Cooling Inlets




| Designation | OAH | H | B | OAW | OAL | LB | CUTDIA |
|---|---|---|---|---|---|---|---|
| TGTBQ 20R/L-D52-JHP-MC | 50.00 | 20.0 | 20.5 | 26.50 | 112.00 | 42.00 | 52.0 |
| TGTBQ 25R/L-D52-JHP-MC | 50.00 | 25.0 | 26.5 | 31.50 | 125.00 | 40.00 | 52.0 |
| TGTBQ 20R/L-D82-JHP-MC | 64.00 | 20.0 | 20.5 | 26.50 | 127.50 | 57.50 | 82.0 |
| TGTBQ 25R/L-D82-JHP-MC | 64.00 | 25.0 | 26.5 | 31.50 | 142.50 | 57.50 | 82.0 |
| TGTBQ 25R/L-D120-JHP-MC | 95.00 | 25.0 | 26.5 | 31.50 | 158.00 | 73.00 | 120.0 |

**Tools:** DGAQ • DGAQ-JHP • TGAQ • TGAQ-JHP

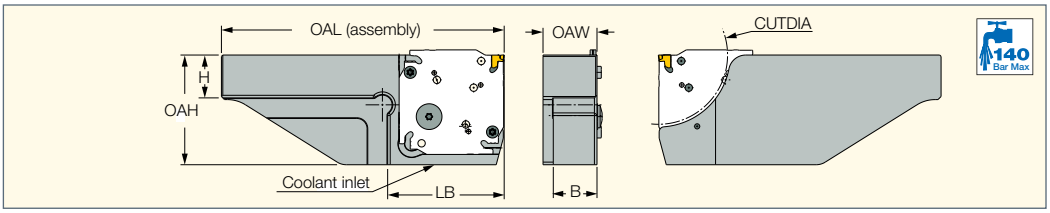
### Spare Parts

| Designation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TGTBQ-JHP-MC | SR M4X9-SEAL-JHP | SIDE THRUST PIN 3mm | JHP COPPER SEAL 1/8" | SR ISO 14580 M4X10 | BLD T20/S7 | SW6-SD | O-RING 10X2 NBR | PLG G1/8 TL360 |

LOGIQ F GRIP HIGH FEED GRIP HOLDER

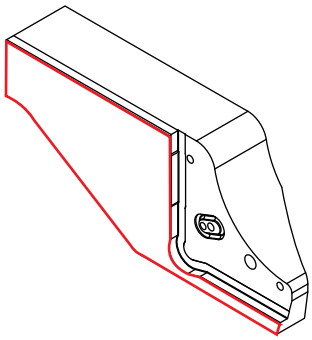
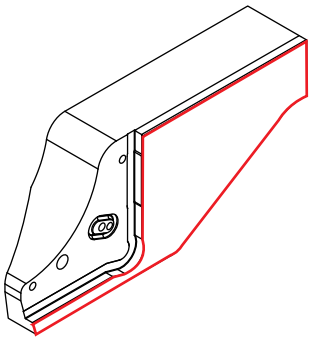
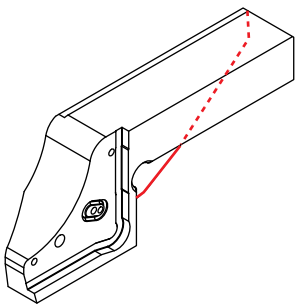
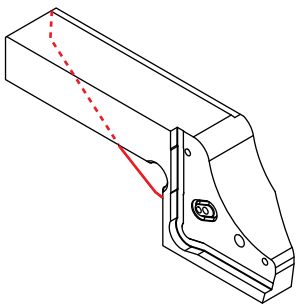
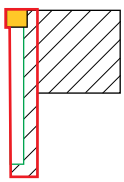
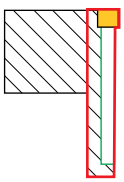
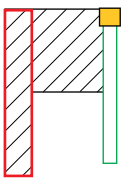
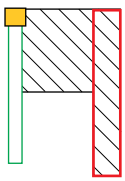
## TGTBQ-JHP-RIB

Tool Blocks for Square F-GRIP Parting and Grooving Adapters with High-Pressure Coolant for Machining next to Spindle




| Designation | OAH | H | B | OAW | OAL | LB | CUTDIA |
|---|---|---|---|---|---|---|---|
| TGTBQ 25L-R-D52-JHP | 50.00 | 25.0 | 25.5 | 31.50 | 153.50 | 55.50 | 52.0 |
| TGTBQ 25R-L-D52-JHP | 50.00 | 25.0 | 25.5 | 31.50 | 153.50 | 55.50 | 52.0 |
| TGTBQ 25L-R-D82-JHP | 64.00 | 25.0 | 25.5 | 31.50 | 165.00 | 68.00 | 82.0 |
| TGTBQ 25R-L-D82-JHP | 64.00 | 25.0 | 25.5 | 31.50 | 165.00 | 68.00 | 82.0 |
| TGTBQ 25L-R-D120-JHP | 95.00 | 25.0 | 25.5 | 31.50 | 195.00 | 97.00 | 120.0 |
| TGTBQ 25R-L-D120-JHP | 95.00 | 25.0 | 25.5 | 31.50 | 195.00 | 97.00 | 120.0 |

**Tools:** DGAQ • DGAQ-JHP • TGAQ • TGAQ-JHP

| Standard Holders | | NEW Reinforced Rib on the Opposite Side | |
|---|---|---|---|
| TGTBQ 25 L -D82 -JHP | TGTBQ 25 R -D82 -JHP | TGTBQ 25 R -D82L -JHP | TGTBQ 25 L -D82R-JHP |
|  |  |  |  |
|  |  |  |  |
| L- Pocket orientation | R- Pocket orientation | R- Pocket orientation<br>L-Reinforcement rib side | L- Pocket orientation<br>R-Reinforcement rib side |

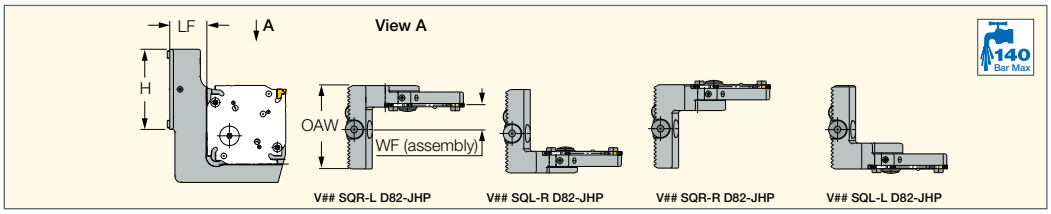
### Spare Parts

| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| TGTBQ-JHP-RIB | SR ISO 14580 M4X10 | SIDE THRUST PIN 3mm | SR M4X9-SEAL-JHP | BLD T20/S7 | SW6-SD | O-RING 10X2 NBR | JHP COPPER SEAL 1/8" |

LOGIQ F GRIP HIGH FEED GRIP HOLDER

## V## SQ#-#-D82-JHP

Intermediate Holders for TANG-F-GRIP and DO-F-GRIP Square Type D82 Adapters Designed for Modular Tooling Systems



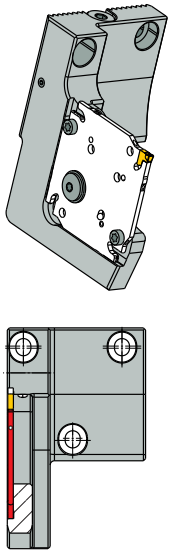

| Designation | H | LF | OAW | WF[1] |
|---|---|---|---|---|
| V60 SQL-L-D82-JHP | 62.0 | 34.70 | 64.50 | 28.95 |
| V60 SQL-R-D82-JHP | 62.0 | 34.70 | 64.50 | 15.35 |
| V60 SQR-L-D82-JHP | 62.0 | 34.70 | 64.50 | 18.85 |
| V60 SQR-R-D82-JHP | 62.0 | 34.70 | 64.50 | 32.45 |
| V85 SQL-L-D82-JHP | 83.0 | 34.70 | 85.00 | 40.95 |
| V85 SQL-R-D82-JHP | 83.0 | 34.70 | 85.00 | 27.35 |
| V85 SQR-L-D82-JHP | 83.0 | 34.70 | 85.00 | 27.35 |
| V85 SQR-R-D82-JHP | 83.0 | 34.70 | 85.00 | 40.95 |

(1) When 3mm width insert is used.

**Tools:** DGAQ • DGAQ-JHP • TGAQ • TGAQ-JHP

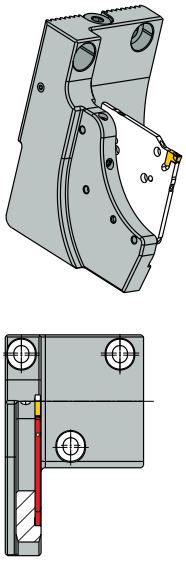
## Identification Key

V60 SQL-L-D82-JHP



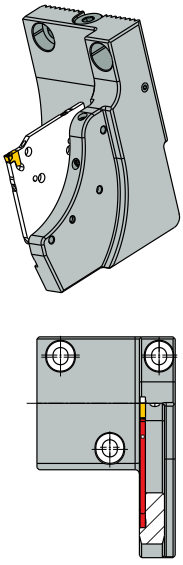
L- Holder (prism) orientation
L- Pocket side

V60 SQL-R-D82-JHP



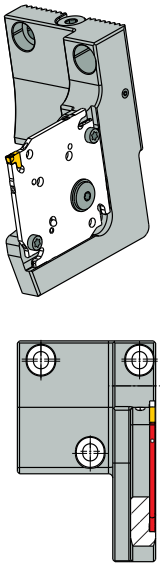
L- Holder (prism) orientation
R- Pocket side

V60 SQR-L-D82-JHP



R- Holder (prism) orientation
L- Pocket side

V60 SQR-R-D82-JHP



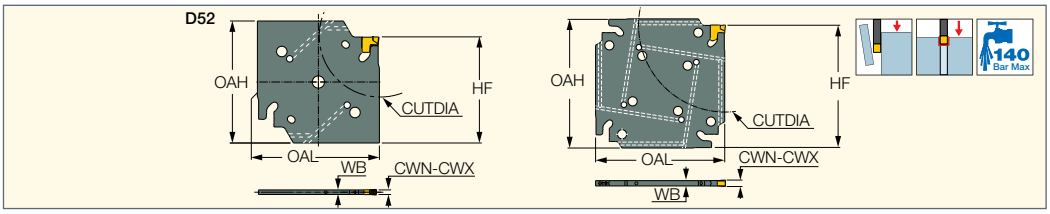
R- Holder (prism) orientation
R- Pocket side

### Spare Parts

| Designation | | | | | |
|---|---|---|---|---|---|
| V## SQ#-#-D82-JHP | SR M4X9-SEAL-JHP | JHP COPPER SEAL 1/8" | O-RING 10X2 NBR | SIDE THRUST PIN 3mm | SR ISO 14580 M4X10 |

# TANG-F-GRIP

**TGAQ-JHP**
Parting and Grooving Square Adapters with Internal Coolant Holes Carrying TANG-GRIP Tangentially Clamped Inserts




| Designation | OAL | OAH | CWN(1) | CWX(2) | WB | HF | CUTDIA(3) | MIID(4) | CSP(5) |
|---|---|---|---|---|---|---|---|---|---|
| TGAQ D52-2-2Z-JHP | 50.00 | 50.00 | 1.80 | 2.50 | 1.65 | 43.5 | 52.0 | TAG 2 | 1 |
| TGAQ D52-3-2Z-JHP | 50.00 | 50.00 | 2.80 | 3.50 | 2.50 | 43.5 | 52.0 | TAG 3 | 1 |
| TGAQ D52-4-2Z-JHP | 50.00 | 50.00 | 3.70 | 4.50 | 3.40 | 43.5 | 52.0 | TAG 4 | 1 |
| TGAQ D82-2-4Z-JHP | 61.00 | 61.00 | 1.80 | 2.50 | 1.65 | 58.0 | 82.0 | TAG 2 | 1 |
| TGAQ D82-3-4Z-JHP | 61.00 | 61.00 | 2.80 | 3.50 | 2.50 | 58.0 | 82.0 | TAG 3 | 1 |
| TGAQ D82-4-4Z-JHP | 61.00 | 61.00 | 3.70 | 4.50 | 3.40 | 58.0 | 82.0 | TAG 4 | 1 |
| TGAQ D120-3-4Z-JHP | 90.50 | 90.50 | 2.80 | 3.50 | 2.50 | 84.0 | 120.0 | TAG 3 | 1 |
| TGAQ D120-4-4Z-JHP | 90.50 | 90.50 | 3.70 | 4.50 | 3.40 | 84.0 | 120.0 | TAG 4 | 1 |
| TGAQ D120-5-4Z-JHP | 90.50 | 90.50 | 4.70 | 5.50 | 4.00 | 84.0 | 120.0 | TAG 5 | 1 |
| TGAQ D160-3-4Z-JHP | 100.00 | 100.00 | 2.80 | 3.50 | 2.50 | 97.0 | 160.0 | TAG 3 | 1 |
| TGAQ D160-4-4Z-JHP | 100.00 | 100.00 | 3.70 | 4.50 | 3.40 | 97.0 | 160.0 | TAG 4 | 1 |
| TGAQ D160-5-4Z-JHP | 100.00 | 100.00 | 4.70 | 5.50 | 4.00 | 97.0 | 160.0 | TAG 5 | 1 |

- Suitable for all TANG-GRIP inserts

(1) Minimum cutting width
(2) Maximum cutting width
(3) Maximum diameter for parting
(4) Master insert identification
(5) 0 - Without coolant supply, 1 - With coolant supply

**Inserts:** TAG N-A • TAG N-C/W/M • TAG N-HF • TAG N-J/JS/JT • TAG N-LF • TAG N-MF • TAG N-UT • TAG R/L-C • TAG R/L-J/JS
**Holders:** TGTBQ-JHP • TGTBQ-JHP-MC • TGTBY-JHP • V## SQ#-#-D82-JHP

## Flow Rate vs. Pressure

| Designation | 70 Bar Flow Rate (liters/min) | 100 Bar Flow Rate (liters/min) | 140 Bar Flow Rate (liters/min) |
|---|---|---|---|
| TGAQ D.../-2.../-3...-JHP | 4-7 | 5-8 | 6-9 |
| TGAQ D.../-4.../-5...-JHP | 6-7 | 7-8 | 8-9 |

## Spare Parts

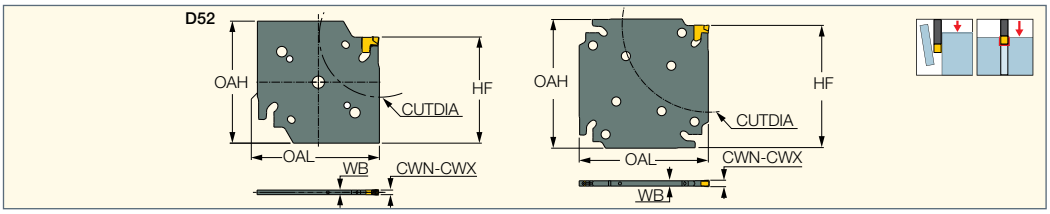
| Designation |  |  |  |
|---|---|---|---|
| TGAQ D52-2-2Z-JHP | SR M4X9-SEAL-JHP | JHP COPPER SEAL 1/8" | ETG 2* |
| TGAQ D52-3-2Z-JHP | SR M4X9-SEAL-JHP | JHP COPPER SEAL 1/8" | ETG 3-4-SH* |
| TGAQ D52-4-2Z-JHP | SR M4X9-SEAL-JHP | JHP COPPER SEAL 1/8" | ETG 3-4-SH* |
| TGAQ D82-2-4Z-JHP | SR M4X9-SEAL-JHP | JHP COPPER SEAL 1/8" | ETG 2* |
| TGAQ D82-3-4Z-JHP | SR M4X9-SEAL-JHP | JHP COPPER SEAL 1/8" | ETG 3-4-SH* |
| TGAQ D82-4-4Z-JHP | SR M4X9-SEAL-JHP | JHP COPPER SEAL 1/8" | ETG 3-4-SH* |
| TGAQ D120-3-4Z-JHP | SR M4X9-SEAL-JHP | JHP COPPER SEAL 1/8" | ETG 3-4-SH* |
| TGAQ D120-4-4Z-JHP | SR M4X9-SEAL-JHP | JHP COPPER SEAL 1/8" | ETG 3-4-SH* |
| TGAQ D120-5-4Z-JHP | SR M4X9-SEAL-JHP | JHP COPPER SEAL 1/8" | ETG 5-7* |
| TGAQ D160-3-4Z-JHP | SR M4X9-SEAL-JHP | JHP COPPER SEAL 1/8" | ETG 3-4-SH* |
| TGAQ D160-4-4Z-JHP | SR M4X9-SEAL-JHP | JHP COPPER SEAL 1/8" | ETG 3-4-SH* |
| TGAQ D160-5-4Z-JHP | SR M4X9-SEAL-JHP | JHP COPPER SEAL 1/8" | ETG 5-7* |

* Optional, should be ordered separately

TANG-GRIP HIGH FEED PARTING

## TGAQ

Parting and Grooving Square Adapters Carrying TANG-GRIP Tangentially Clamped Inserts




| Designation | OAL | OAH | CWN[1] | CWX[2] | WB | HF | CUTDIA[3] | MIID[4] | CSP[5] |
|---|---|---|---|---|---|---|---|---|---|
| TGAQ D52-2-2Z | 50.00 | 50.00 | 1.80 | 2.50 | 1.65 | 43.5 | 52.0 | TAG 2 | 0 |
| TGAQ D52-3-2Z | 50.00 | 50.00 | 2.80 | 3.50 | 2.50 | 43.5 | 52.0 | TAG 3 | 0 |
| TGAQ D52-4-2Z | 50.00 | 50.00 | 3.70 | 4.50 | 3.40 | 43.5 | 52.0 | TAG 4 | 0 |
| TGAQ D82-2-4Z | 61.00 | 61.00 | 1.80 | 2.50 | 1.65 | 58.0 | 82.0 | TAG 2 | 0 |
| TGAQ D82-3-4Z | 61.00 | 61.00 | 2.80 | 3.50 | 2.50 | 58.0 | 82.0 | TAG 3 | 0 |
| TGAQ D82-4-4Z | 61.00 | 61.00 | 3.70 | 4.50 | 3.40 | 58.0 | 82.0 | TAG 4 | 0 |
| TGAQ D120-3-4Z | 90.50 | 90.50 | 2.80 | 3.50 | 2.50 | 84.0 | 120.0 | TAG 3 | 0 |
| TGAQ D120-4-4Z | 90.50 | 90.50 | 3.70 | 4.50 | 3.40 | 84.0 | 120.0 | TAG 4 | 0 |
| TGAQ D120-5-4Z | 90.50 | 90.50 | 4.70 | 5.50 | 4.00 | 84.0 | 120.0 | TAG 5 | 0 |
| TGAQ D160-3-4Z | 100.00 | 100.00 | 2.80 | 3.50 | 2.50 | 97.0 | 160.0 | TAG 3 | 0 |
| TGAQ D160-4-4Z | 100.00 | 100.00 | 3.70 | 4.50 | 3.40 | 97.0 | 160.0 | TAG 4 | 0 |
| TGAQ D160-5-4Z | 100.00 | 100.00 | 4.70 | 5.50 | 4.00 | 97.0 | 160.0 | TAG 5 | 0 |

- Suitable for all TANG-GRIP inserts

[1] Minimum cutting width
[2] Maximum cutting width
[3] Maximum diameter for parting
[4] Master insert identification
[5] 0 - Without coolant supply, 1 - With coolant supply

**Inserts:** TAG N-A • TAG N-C/W/M • TAG N-HF • TAG N-J/JS/JT • TAG N-LF • TAG N-MF • TAG N-UT • TAG R/L-C • TAG R/L-J/JS
**Holders:** TGTBQ-JHP • TGTBQ-JHP-MC • TGTBY-JHP • V## SQ#-#-D82-JHP

### Spare Parts

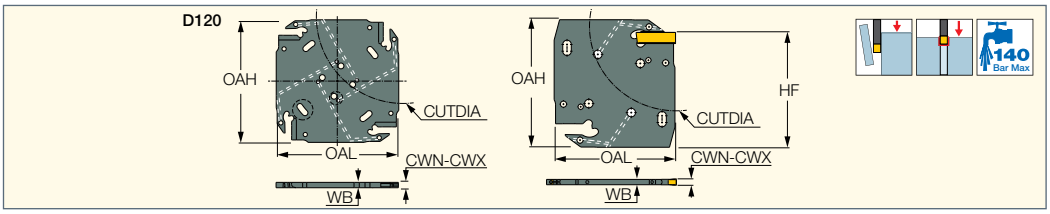
| Designation |  |  |
|---|---|---|
| TGAQ D52-2-2Z | SR ISO 14580 M4X10 | ETG 2* |
| TGAQ D52-3-2Z | SR ISO 14580 M4X10 | ETG 3-4-SH* |
| TGAQ D52-4-2Z | SR ISO 14580 M4X10 | ETG 3-4-SH* |
| TGAQ D82-2-4Z | SR ISO 14580 M4X10 | ETG 2* |
| TGAQ D82-3-4Z | SR ISO 14580 M4X10 | ETG 3-4-SH* |
| TGAQ D82-4-4Z | SR ISO 14580 M4X10 | ETG 3-4-SH* |
| TGAQ D120-3-4Z | SR ISO 14580 M4X10 | ETG 3-4-SH* |
| TGAQ D120-4-4Z | SR ISO 14580 M4X10 | ETG 3-4-SH* |
| TGAQ D120-5-4Z | SR ISO 14580 M4X10 | ETG 5-7* |
| TGAQ D160-3-4Z | SR ISO 14580 M4X10 | ETG 3-4-SH* |
| TGAQ D160-4-4Z | SR ISO 14580 M4X10 | ETG 3-4-SH* |
| TGAQ D160-5-4Z | SR ISO 14580 M4X10 | ETG 5-7* |

* Optional, should be ordered separately



# DO-F-GRIP

## DGAQ-JHP
Parting and Grooving Square Adapters with Internal Coolant Holes Carrying DO-GRIP Inserts




| Designation | OAL | OAH | CWN[1] | CWX[2] | WB | HF | CUTDIA[3] | MIID[4] | CSP[5] |
|---|---|---|---|---|---|---|---|---|---|
| DGAQ D52-2-2Z-JHP | 50.00 | 50.00 | 1.90 | 2.50 | 1.72 | 43.5 | 52.0 | DGN 2 | 1 |
| DGAQ D52-3-2Z-JHP | 50.00 | 50.00 | 3.00 | 3.18 | 2.50 | 43.5 | 52.0 | DGN 3 | 1 |
| DGAQ D52-4-2Z-JHP | 50.00 | 50.00 | 4.00 | 4.00 | 3.20 | 43.5 | 52.0 | DGN 4 | 1 |
| DGAQ D82-3-2Z-JHP | 64.40 | 64.40 | 3.00 | 3.18 | 2.50 | 58.0 | 82.0 | DGN 3 | 1 |
| DGAQ D82-4-2Z-JHP | 64.40 | 64.40 | 4.00 | 4.00 | 3.20 | 58.0 | 82.0 | DGN 4 | 1 |
| DGAQ D82-5-2Z-JHP | 64.40 | 64.40 | 5.00 | 5.00 | 4.00 | 58.0 | 82.0 | DGN 5 | 1 |
| DGAQ D120-4-4Z-JHP | 90.50 | 90.50 | 4.00 | 4.00 | 3.20 | 84.0 | 120.0 | DGN 4 | 1 |
| DGAQ D120-5-4Z-JHP | 90.50 | 90.50 | 5.00 | 5.00 | 4.00 | 84.0 | 120.0 | DGN 5 | 1 |

- When using 2 and 3mm double-sided inserts, the depth of cut is limited up to 19mm. For larger depth, use a DGNM type single-ended insert.

[1] Minimum cutting width
[2] Maximum cutting width
[3] Maximum diameter for parting
[4] Master insert identification
[5] 0 - Without coolant supply, 1 - With coolant supply

**Inserts:** DGN-LF/LFT • DGN-MF • DGN-P • DGN-UT/UA • DGN-W • DGN-WP • DGN-Z • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGR-P • DGR-WP • DGR-Z/ZS • DGR/L-C DGRC/LC-C • DGR/L-J/JS

**Holders:** TGTBQ-JHP • TGTBQ-JHP-MC • TGTBY-JHP • V## SQ#-#-D82-JHP

### Flow Rate vs. Pressure

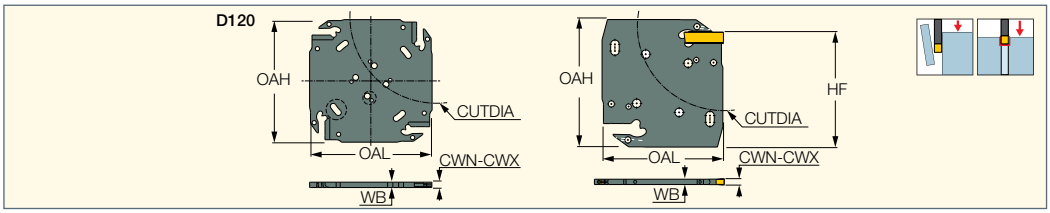
| Designation | 70 Bar Flow Rate (liters/min) | 100 Bar Flow Rate (liters/min) | 140 Bar Flow Rate (liters/min) |
|---|---|---|---|
| DGAQ D.../-2/-3...-JHP | 4-7 | 5-8 | 6-9 |
| DGAQ D.../-4/-5...-JHP | 6-7 | 7-8 | 8-9 |

### Spare Parts

| Designation | | | |
|---|---|---|---|
| DGAQ-JHP | SR M4X9-SEAL-JHP | JHP COPPER SEAL 1/8" | EDG 33A* |

* Optional, should be ordered separately

## DGAQ
Parting and Grooving Square Adapters Carrying DO-GRIP Inserts




| Designation | OAL | OAH | CWN[1] | CWX[2] | WB | HF | CUTDIA[3] | MIID[4] | CSP[5] |
|---|---|---|---|---|---|---|---|---|---|
| DGAQ D52-2-2Z | 50.00 | 50.00 | 1.90 | 2.50 | 1.72 | 43.5 | 52.0 | DGN 2 | 0 |
| DGAQ D52-3-2Z | 50.00 | 50.00 | 3.00 | 3.18 | 2.50 | 43.5 | 52.0 | DGN 3 | 0 |
| DGAQ D52-4-2Z | 50.00 | 50.00 | 4.00 | 4.00 | 3.20 | 43.5 | 52.0 | DGN 4 | 0 |
| DGAQ D82-3-2Z | 64.40 | 64.40 | 3.00 | 3.18 | 2.50 | 58.0 | 82.0 | DGN 3 | 0 |
| DGAQ D82-4-2Z | 64.40 | 64.40 | 4.00 | 4.00 | 3.20 | 58.0 | 82.0 | DGN 4 | 0 |
| DGAQ D82-5-2Z | 64.40 | 64.40 | 5.00 | 5.00 | 4.00 | 58.0 | 82.0 | DGN 5 | 0 |
| DGAQ D120-4-4Z | 90.50 | 90.50 | 4.00 | 4.00 | 3.20 | 84.0 | 120.0 | DGN 4 | 0 |
| DGAQ D120-5-4Z | 90.50 | 90.50 | 5.00 | 5.00 | 4.00 | 84.0 | 120.0 | DGN 5 | 0 |

- When using 2 and 3mm double-sided inserts, the depth of cut is limited up to 19mm. For larger depth, use a DGNM type single-ended insert.

[1] Minimum cutting width
[2] Maximum cutting width
[3] Maximum diameter for parting
[4] Master insert identification
[5] 0 - Without coolant supply, 1 - With coolant supply

**Inserts:** DGN-LF/LFT • DGN-MF • DGN-P • DGN-UT/UA • DGN-W • DGN-WP • DGN-Z • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGR-P • DGR-WP • DGR-Z/ZS • DGR/L-C DGRC/LC-C • DGR/L-J/JS

**Holders:** TGTBQ-JHP • TGTBQ-JHP-MC • TGTBY-JHP • V## SQ#-#-D82-JHP

### Spare Parts

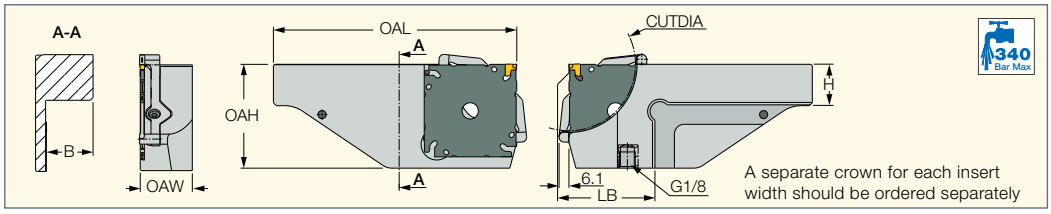
| Designation | | |
|---|---|---|
| DGAQ | SR ISO 14580 M4X10 | EDG 33A* |

* Optional, should be ordered separately

# JET-CROWN

LOGIQ F GRIP HIGH FEED GRIP HOLDER
JET CROWN LOGIQ JET COOLANT

**TGTBQ-ECD-JHP (JET-CROWN)**
Tool Blocks for Square TANG-F-GRIP (TGAQ-ECD) Parting and Grooving Adapters for High-Pressure Coolant




| Designation | OAH | H | B | OAW | OAL | LB | CUTDIA |
|---|---|---|---|---|---|---|---|
| TGTBQ 20L-D65-ECD-JHP | 55.00 | 20.0 | 20.5 | 26.50 | 129.00 | 42.00 | 65.0 |
| TGTBQ 20R-D65-ECD-JHP | 55.00 | 20.0 | 20.5 | 26.50 | 129.00 | 42.00 | 65.0 |
| TGTBQ 25L-D65-ECD-JHP | 55.00 | 25.0 | 25.5 | 31.50 | 139.00 | 42.00 | 65.0 |
| TGTBQ 25R-D65-ECD-JHP | 55.00 | 25.0 | 25.5 | 31.50 | 139.00 | 42.00 | 65.0 |
| TGTBQ 20L-D82-ECD-JHP | 64.00 | 20.0 | 20.5 | 26.50 | 140.00 | 53.00 | 82.0 |
| TGTBQ 20R-D82-ECD-JHP | 64.00 | 20.0 | 20.5 | 26.50 | 140.00 | 53.00 | 82.0 |
| TGTBQ 25L-D82-ECD-JHP | 64.00 | 25.0 | 25.5 | 31.50 | 150.00 | 53.00 | 82.0 |
| TGTBQ 25R-D82-ECD-JHP | 64.00 | 25.0 | 25.5 | 31.50 | 150.00 | 53.00 | 82.0 |

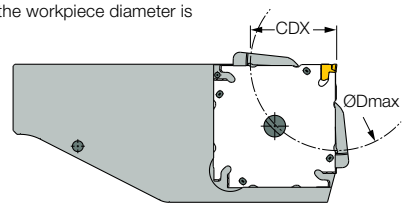
- A separate crown for each insert width should be ordered separately.

**Tools:** TGAQ-ECD (JET-CROWN)

## Depth of cut as function of workpiece diameter

| Designation | Dmax | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TGTBQ ..R/L-D65-ECD | 98 | 95 | 90 | 87 | 84 | 81 | 78 | 76 | 74 | 73 | 72 | 70 | 69 | 68 | 67 | 66 | 65 | | | | |
| CDX | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20-21 | 22 | 23-24 | 25-33 | 32.5 | | | | |
| TGTBQ ..R/L-D82-ECD | 118 | 116 | 112 | 108 | 105 | 102 | 99 | 97 | 95 | 93 | 91 | 90 | 89 | 88 | 87 | 86 | 85 | 84 | 83 | 82 | |
| CDX | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 31 | 41 | |

The tool cannot be used for grooving applications when the workpiece diameter is larger than 118mm.



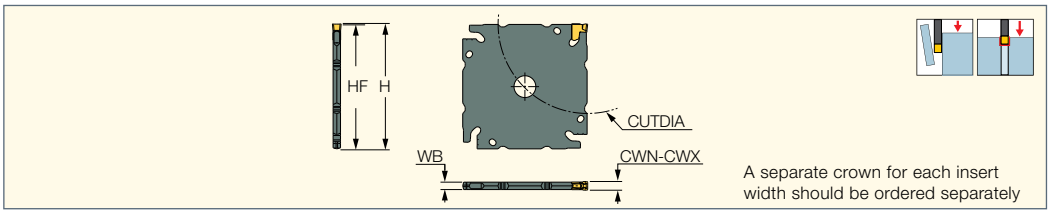



### Spare Parts

| Designation | | | |
|---|---|---|---|
| TGTBQ-ECD-JHP (JET-CROWN) | SR M7-R-L | BLD T20/S7 | SW6-SD |

TANG F GRIP HIGH FEED PARTING
JET CROWN LOGIQ JET COOLANT

**TGAQ-ECD (JET-CROWN)**
Parting and Grooving Square Adapters Compatible with TANG-GRIP Inserts (Single-Ended)




| Designation | CWN(1) | CWX(2) | WB | H | HF(3) | CUTDIA | MIID(4) |
|---|---|---|---|---|---|---|---|
| TGAQ D65-2-4Z-ECD | 1.80 | 2.50 | 1.65 | 49.0 | 48.7 | 65.0 | TAG N2 |
| TGAQ D65-3-4Z-ECD | 2.80 | 3.50 | 2.50 | 49.0 | 48.7 | 65.0 | TAG N3 |
| TGAQ D82-2-4Z-ECD | 1.80 | 2.50 | 1.65 | 58.0 | 57.7 | 82.0 | TAG N2 |
| TGAQ D82-3-4Z-ECD | 2.80 | 3.50 | 2.50 | 58.0 | 57.7 | 82.0 | TAG N3 |
| TGAQ D82-4-4Z-ECD | 3.70 | 3.40 | 3.40 | 58.0 | 57.7 | 82.0 | TAG N4 |

- Suitable for all TANG-GRIP inserts

(1) Minimum cutting width
(2) Maximum cutting width
(3) Related to insert
(4) Master insert identification

**Inserts:** TAG N-A • TAG N-C/W/M • TAG N-HF • TAG N-J/JS/JT • TAG N-LF • TAG N-MF • TAG N-UT • TAG R/L-C • TAG R/L-J/JS
**Holders:** TGTBQ-ECD-JHP (JET-CROWN)

### Spare Parts

| Designation | | |
|---|---|---|
| TGAQ D65-2-4Z-ECD | ECD D65-2-TG* | ETG 2* |
| TGAQ D65-3-4Z-ECD | ECD D65-3-TG* | ETG 3-4-SH* |
| TGAQ D82-2-4Z-ECD | ECD D82-2-TG* | ETG 2* |
| TGAQ D82-3-4Z-ECD | ECD D82-3-TG* | ETG 3-4-SH* |
| TGAQ D82-4-4Z-ECD | ECD D82-4-TG* | ETG 3-4-SH* |

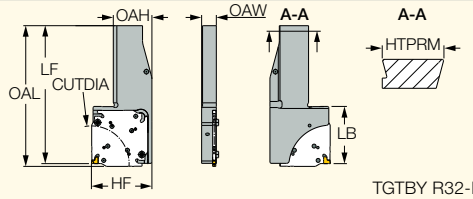
* Optional, should be ordered separately



LOGIQFGRIP HIGH FEED Y-AXIS

## TGTBY-JHP

Y-Axis Intermediate Prismatic Holders for Square JHP Adapters on Multi-Task Machines for Parting and Grooving




TGTBY R32-D82R-JHP with TGAQ Shown

| Designation | OAH | HF | OAW | LF | LB | CUTDIA | OAL[1] | OAL_2[2] | HTPRM |
|---|---|---|---|---|---|---|---|---|---|
| TGTBY L32-D82R-JHP | 42.00 | 65.8 | 16.00 | 150.00 | 62.00 | 82.0 | 153.00 | 156.40 | 32.00 |
| TGTBY R32-D82L-JHP | 42.00 | 65.8 | 16.00 | 150.00 | 62.00 | 82.0 | 153.00 | 156.40 | 32.00 |
| TGTBY R32-D82R-JHP | 42.00 | 65.8 | 16.00 | 150.00 | 62.00 | 82.0 | 153.00 | 156.40 | 32.00 |
| TGTBY L32-D82L-JHP | 42.00 | 65.8 | 16.00 | 150.00 | 62.00 | 82.0 | 153.00 | 156.40 | 32.00 |

- Can be used also for X-axis (multi-task machines) - location pin should be removed
- For set up procedure see page 520

[1] Overall length with TGAQ adapter

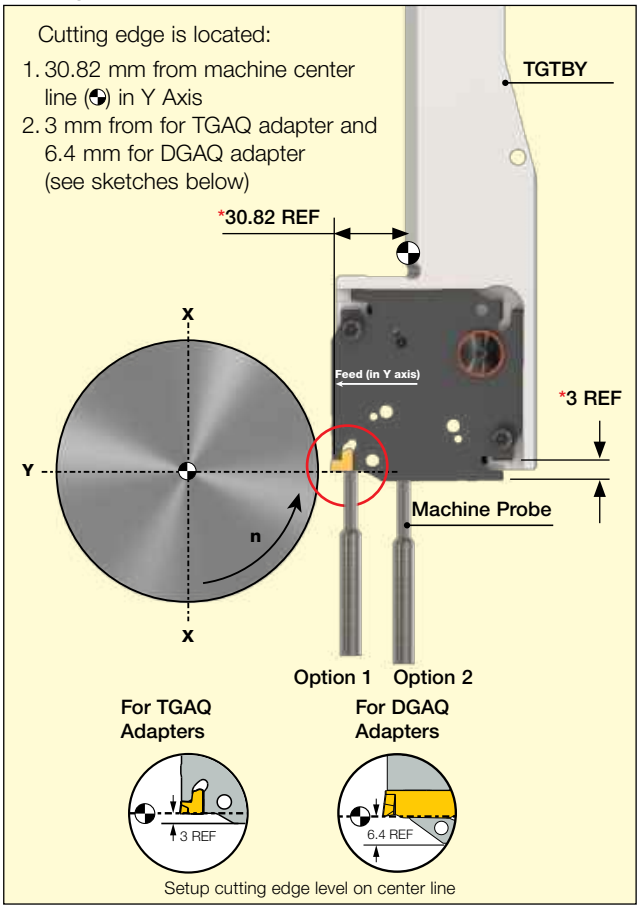
[2] Overall length with DGAQ adapter

**Tools:** DGAQ • DGAQ-JHP • TGAQ • TGAQ-JHP



# Y-Axis Tool Setup on Multi-Task Machines

## Parting and Setup in Y-Axis Direction




* For Y-Axis cut off, compensate 30.82 mm in Y-Axis direction and compensate 3 mm for TGAQ adapters or 6.4 mm for DGAQ adapters in X-Axis direction.

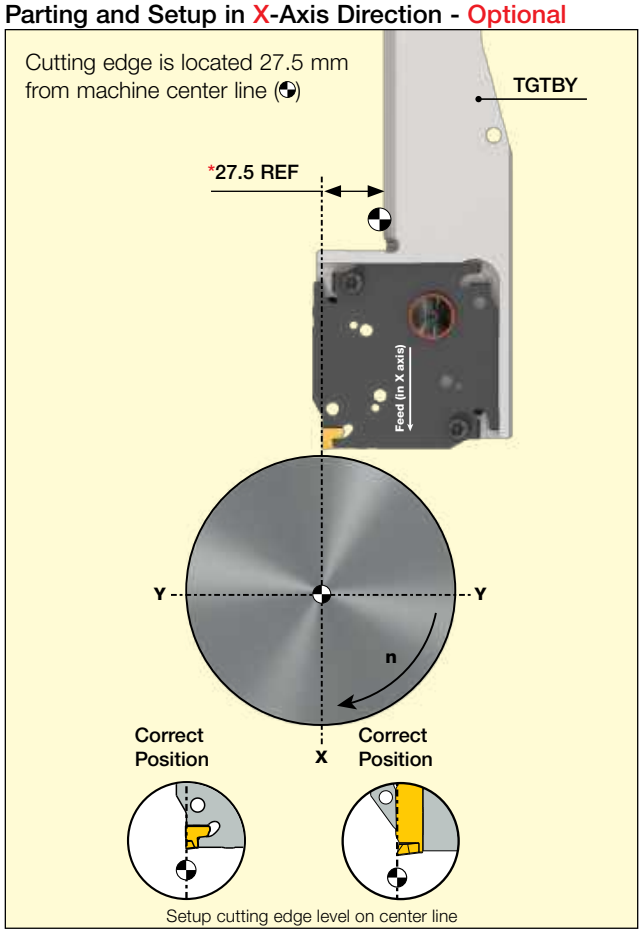
Set the cutting edge on the center line:

Option 1 - Gauge the cutting edge - this is preferable due to better accuracy

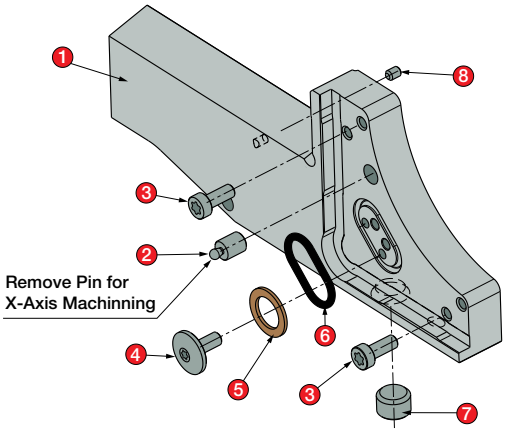
Option 2 - Gauge the blade and compensate 3mm / 6.4mm

1. **Block:** TGTBY
2. **Locating pin:** Side thrust Pin 3 mm
3. **Clamping screw :** SR M4x10 ISO 14580
4. **Clamping & sealing screw:** SR M4x9-Seal-JHP
5. **Seal washer:** CSW 1/8″
6. **O-ring:** O-ring 10x2 NBR
7. **Lower sealing plug:** Plug G1/8-6.5 TL360
8. **Upper sealing screw:** SR M3x4-**DIN913**

## Parting and Setup in X-Axis Direction - Optional




* For X-Axis cut off, compensate 27.5 mm in Y-Axis direction. Location pin should be removed.




## Spare Parts

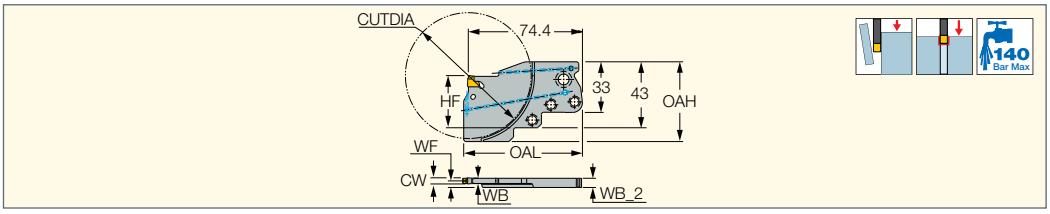
| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| TGTBY-JHP | SR ISO 14580 M4X10 | SR M4X9-SEAL-JHP | OR 16X2 NBR | JHP COPPER SEAL 1/8" | BLD T20/S7 | SW6-SD | PLG G1/8 TL360 | HW 5.0 | SIDE THRUST PIN 3mm |

# SELF-5-GRIP

TANG-GRIP Y AXIS PARTING LINE

## TAGPAD-Y-JHP

Y-Axis Adapters for Parting & Grooving on Multi-Task Machines & Turning Centers with JHP Channels and TANG-GRIP Inserts




| Designation | CW | WF | WB | WB_2 | OAL | OAH | HF | CUTDIA | MIID(1) | |
|---|---|---|---|---|---|---|---|---|---|---|
| TAGPAD-Y-D82R/L-3C | 3.00 | 4.80 | 2.40 | 6.0 | 77.40 | 52.00 | 34.0 | 82.0 | TAG N3HF | ETG 3-4-SH* |
| TAGPAD-Y-D82R/L-4C | 4.00 | 4.30 | 3.40 | 6.0 | 77.40 | 52.00 | 34.0 | 82.0 | TAG N4HF | ETG 3-4-SH* |

- Can be offered for parting up to 125mm diameter as semi standard: TAGPAD-Y-125R\L-3C, TAGPAD-Y-125R\L-4C
- For set up procedure and user guide, see page 550
- **The tool types shown are currently unavailable in the USA, Canada, China, Japan and Korea.**

(1) Master insert identification

* Optional, should be ordered separately

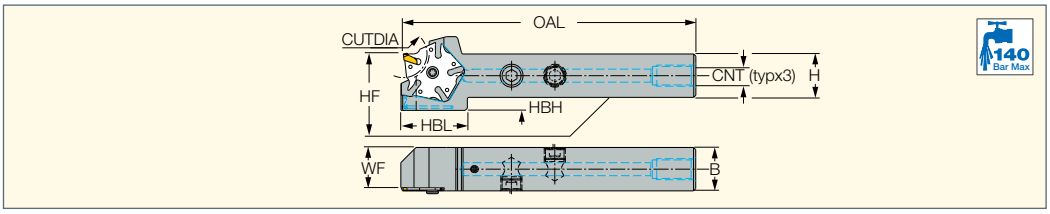
**Inserts:** TAG N-A • TAG N-C/W/M • TAG N-HF • TAG N-J/JS/JT • TAG N-MF • TAG N-UT • TAG R/L-C • TAG R/L-J/JS

**Holders:** ABC MAHDR-#-XL-JHP • MAHPR/L-XL-JHP • MAHR/L-MG-XL-JHP • MAHR/L-MG-XL-JHP-MC • TR45 MAHDR-#-XL-JHP • V## MAHD#-#-XL-##-JHP • V## MAHD-XL-JHP

SLIMGRIP NARROW INSERTS

## THMPR/L D22-JHP

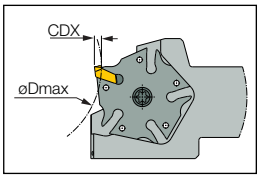
Holders with High-Pressure Coolant Channels for Pentagonal SLIM-GRIP Adapters




| Designation | H | HF | HBH | B | WF | CUTDIA | OAL | HBL | CNT |
|---|---|---|---|---|---|---|---|---|---|
| THMPR/L 16-D22-JHP | 16.0 | 16.1 | 10.0 | 16.0 | 14.60 | 22.0 | 135.00 | 29.6 | UNF 5/16-24 |
| THMPR/L 20-D22-JHP | 20.0 | 20.1 | 6.0 | 20.0 | 18.60 | 22.0 | 135.00 | 29.6 | G1/8 |

**Tools:** ADMP D22

| THMPR/L...-D22-JHP CDX to øDmax | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| CDX | ≤2.0 | ≤3.0 | ≤4.0 | ≤5.0 | ≤6.0 | ≤7.0 | ≤8.0 | ≤11.0 |
| øDmax | 85 | 80 | 75 | 70 | 65 | 60 | 55 | 50 |




### Spare Parts

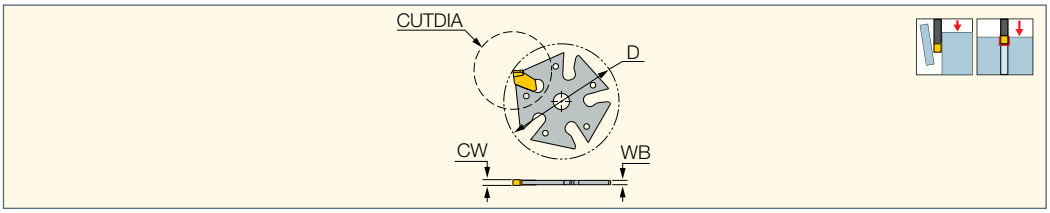
| Designation | | | | |
|---|---|---|---|---|
| THMPR/L 16-D22-JHP | SR 5/16UNF TL360 | HW 5/32" | SR M4-39432 | T-15/5 |
| THMPR/L 20-D22-JHP | PLG G1/8 TL360 | HW 5.0 | SR M4-39432 | T-15/5 |

SELF5GRIP PARTING AND GROOVING

SLIMGRIP NARROW INSERTS

## ADMP D22

Parting and Grooving Adapters with 5 Pockets for SLIM-GRIP Inserts




| Designation | CW | WB | D | CUTDIA | Insert |
|---|---|---|---|---|---|
| ADMP D22-1.2 | 1.20 | 1.06 | 32 | 22.0 | GFT 1.2 |
| ADMP D22-1.6 | 1.60 | 1.20 | 32 | 22.0 | GFT 1.6 |

- For user guide, see pages 540-547

**Inserts:** GFT-C • GFT-J

**Holders:** THMPR/L D22-JHP

### Spare Parts

| Designation | |
|---|---|
| ADMP D22 | ESG-SLM* |

* Optional, should be ordered separately

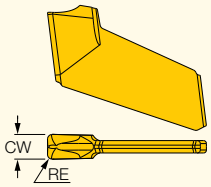
# TANG-5-GRIP

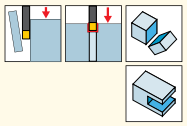
SLIMGRIP NARROW INSERTS

## GFT-J

Thin Parting, Grooving and Slitting Single-Ended Inserts for Soft Materials





| Designation | Dimensions CW | RE | Tough ↔ Hard IC1028 | IC1008 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|
| GFT 0.6J-0.1 | 0.60 | 0.10 | • | • | 0.03-0.05 |
| GFT 0.8J-0.1 | 0.80 | 0.10 | • | • | 0.03-0.07 |
| GFT 1.0J-0.1 | 1.00 | 0.10 | • | • | 0.03-0.09 |
| GFT 1.2J-0.14 | 1.20 | 0.14 | • | • | 0.03-0.10 |
| GFT 1.6J-0.16 | 1.60 | 0.16 | • | • | 0.03-0.12 |

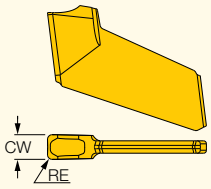
**Tools:** ADMP D22 • SGAQ

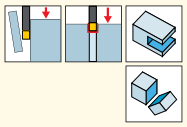
SLIMGRIP NARROW INSERTS

## GFT-C

Thin Parting, Grooving & Slitting Single-Ended Inserts for Soft Materials





| Designation | Dimensions CW | RE | Tough ↔ Hard IC1028 | IC1008 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|
| GFT 1.6C-0.16 | 1.60 | 0.16 | • | • | 0.05-0.15 |

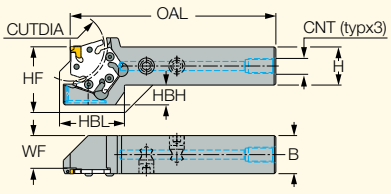
**Tools:** ADMP D22

TANG-GRIP PARTING LINE

TANG 5 GRIP PARTING AND GROOVING

## THMPR/L D45-JHP

Holders with High-Pressure Coolant Channels for Pentagonal TANG-GRIP Adapters







| Designation | H | HF | HBH | B | WF | CUTDIA | OAL | HBL | CNT |
|---|---|---|---|---|---|---|---|---|---|
| THMPR/L 20-D45-JHP | 20.0 | 20.1 | 18.0 | 20.0 | 17.35 | 45.0 | 135.00 | 35.6 | G1/8 |
| THMPR/L 25-D45-JHP | 25.0 | 25.1 | 13.0 | 25.0 | 22.35 | 45.0 | 135.00 | 35.6 | G1/8 |

**Tools:** ADMP D45

### Spare Parts

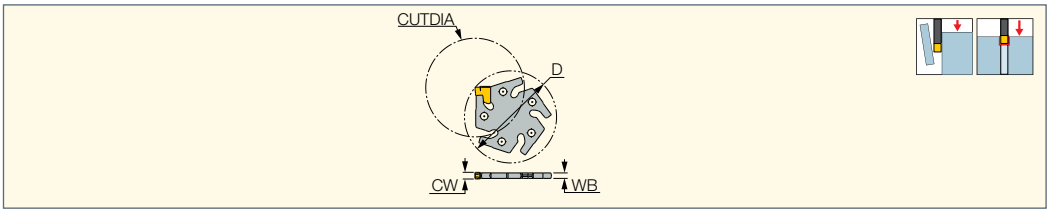
| Designation | | | | |
|---|---|---|---|---|
| THMPR/L D45-JHP | SR M3X8 ISO 14580 BLACK | T-10/5 | PLG G1/8 TL360 | HW 5.0 |

# CUT-GRIP

TANG 5 GRIP PARTING AND GROOVING

## ADMP D45

Parting and Grooving Adapters with 5 Pockets for TANG-GRIP Tangentially Clamped Inserts




| Designation | CWN(1) | CWX(2) | WB | D | CUTDIA | Insert |
|---|---|---|---|---|---|---|
| ADMP D45-2.0 | 1.80 | 2.40 | 1.60 | 42 | 45.0 | TAG 2 |
| ADMP D45-3.0 | 2.80 | 3.50 | 2.50 | 42 | 45.0 | TAG 3 |

- For user guide, see pages 540-547

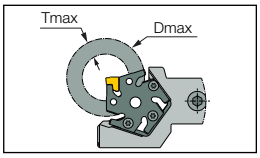
(1) Minimum cutting width

(2) Maximum cutting width

**Inserts:** TAG N-A • TAG N-C/W/M • TAG N-HF • TAG N-J/JS/JT • TAG N-LF • TAG N-MF • TAG N-UT • TAG R/L-C • TAG R/L-J/JS

**Holders:** THMPR/L D45-JHP

| THMPR/L...-D45-JHP Tmax. to Dmax. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Tmax | T≤3.0 | T≤4.0 | T≤5.0 | T≤6.0 | T≤7.0 | T≤8.0 | T≤9.0 | T≤10.0 | T≤22.5 |
| Dmax | 85 | 80 | 75 | 70 | 65 | 60 | 55 | 50 | 45 |




## Spare Parts

| Designation |  |
|---|---|
| ADMP D45-2.0 | ETG 2* |
| ADMP D45-3.0 | ETG 3-4-SH* |

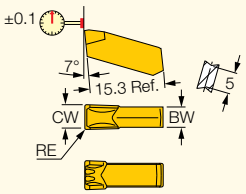
* Optional, should be ordered separately

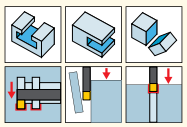
CUT-GRIP

## GIM-C

Parting and Grooving Single-Sided Inserts for Parting Bars, Hard Materials and Tough Applications



| Designation | Dimensions CW | RE | CWTOL(1) | BW | Tough ↔ Hard IC328 | IC830 | IC354 | IC908 | IC20 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| GIM 3C | 3.00 | 0.22 | 0.05 | 2.40 | • | • | • | • | • | 0.15-0.25 |
| GIM 4C | 4.00 | 0.25 | 0.05 | 3.40 | | | | • | | 0.15-0.25 |
| GIM 5C | 5.00 | 0.40 | 0.05 | 4.00 | • | • | • | • | • | 0.15-0.30 |
| GIM 6C | 6.00 | 0.40 | 0.05 | 4.80 | • | | • | • | • | 0.15-0.30 |

- For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting width tolerance (+/-)

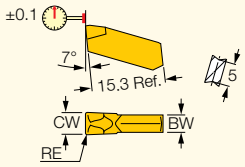
**Tools:** Anti-Vibration Blades • C#-GHDR/L • CGHN 26-M • CGHN 32-DGM • CGHN 32-M • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L

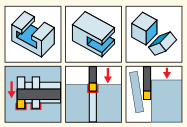
CUTGRIP

## GIM-J

Utility Single-Sided Inserts
for Parting and Grooving
Soft Materials, Tubes
and Small Diameters



| Designation | Dimensions CW | RE | CWTOL[1] | BW | Tough ↔ Hard IC328 | IC830 | IC354 | IC908 | IC20 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| GIM 2.2J | 2.20 | 0.17 | 0.05 | 1.70 | ● | ● | ● | ● | ● | 0.06-0.13 |
| GIM 3J | 3.00 | 0.25 | 0.05 | 2.40 | ● | ● | ● | ● | ● | 0.08-0.15 |
| GIM 4J | 4.00 | 0.25 | 0.05 | 3.20 | ● | ● | ● | ● | ● | 0.08-0.18 |

• For cutting speed recommendations and user guide, see pages 540-547

[1] Cutting width tolerance (+/-)

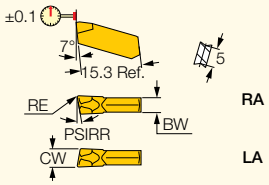
**Tools:** C#-GHDR/L • CGHN 26-M • CGHN 32-DGM • CGHN 32-M • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L • GHSR/L • GHSR/L-JHP-SL • NQCH-GHSR/L-JHP

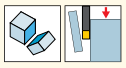
CUTGRIP

## GIM-J-RA/LA

Utility Single-Sided Inserts
for Parting and Grooving
Soft Materials, Parting Tubes
and Small Diameters



| Designation | Dimensions CW | RE | CWTOL[1] | PSIRL | PSIRR | BW | Tough ↔ Hard IC656 | IC328 | IC830 | IC354 | IC908 | IC20 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GIM 2.2J-8LA | 2.20 | 0.17 | 0.05 | 8.0 | - | 1.70 | | ● | | ● | ● | ● | 0.05-0.10 |
| GIM 2.2J-8RA | 2.20 | 0.17 | 0.05 | - | 8.0 | 1.70 | ● | ● | ● | ● | ● | ● | 0.05-0.10 |
| GIM 2.2JS-15LA | 2.20 | 0.02 | 0.05 | 15.0 | - | 1.70 | | ● | | | ● | ● | 0.05-0.10 |
| GIM 2.2JS-15RA | 2.20 | 0.02 | 0.05 | - | 15.0 | 1.70 | | ● | ● | ● | ● | ● | 0.05-0.10 |
| GIM 3J-4LA | 3.00 | 0.22 | 0.05 | 4.0 | - | 2.40 | | | | ● | | ● | 0.05-0.12 |
| GIM 3J-4RA | 3.00 | 0.25 | 0.05 | - | 4.0 | 2.40 | | ● | ● | ● | | ● | 0.05-0.12 |
| GIM 3J-8LA | 3.00 | 0.25 | 0.05 | 8.0 | - | 2.40 | | ● | | ● | ● | ● | 0.05-0.12 |
| GIM 3J-8RA | 3.00 | 0.25 | 0.05 | - | 8.0 | 2.40 | ● | ● | ● | ● | ● | ● | 0.05-0.12 |
| GIM 3JS-15LA | 3.00 | 0.02 | 0.05 | 15.0 | - | 2.40 | | ● | ● | | | ● | 0.05-0.12 |
| GIM 3JS-15RA | 3.00 | 0.02 | 0.05 | - | 15.0 | 2.40 | | ● | ● | | ● | ● | 0.05-0.12 |
| GIM 4J-6LA | 4.00 | 0.25 | 0.05 | 6.0 | - | 3.20 | | | | | | ● | 0.08-0.15 |
| GIM 4J-6RA | 4.00 | 0.25 | 0.05 | - | 6.0 | 3.20 | | | | ● | | ● | 0.08-0.15 |

• For cutting speed recommendations and user guide, see pages 540-547

[1] Cutting width tolerance (+/-)

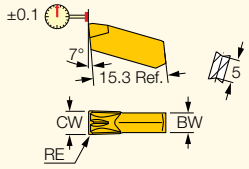
**Tools:** C#-GHDR/L • CGHN 26-M • CGHN 32-DGM • CGHN 32-M • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L • GHSR/L • GHSR/L-JHP-SL • NQCH-GHSR/L-JHP

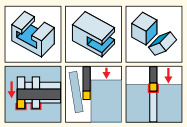
CUTGRIP

## GIM-W

Single-Sided Inserts with Central Ridged Chipformer and Reinforced Edge for Parting and Grooving Alloy Steel



| Designation | Dimensions CW | RE | CWTOL(1) | BW | Tough ↔ Hard IC328 | IC830 | IC354 | IC908 | IC20 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| GIM 2.4 | 2.40 | 0.18 | 0.05 | 2.40 | | | ● | ● | ● | 0.10-0.18 |
| GIM 3 | 3.00 | 0.22 | 0.05 | 2.40 | ● | ● | ● | ● | ● | 0.10-0.18 |
| GIM 3.2 | 3.20 | 0.22 | 0.05 | 2.40 | ● | ● | ● | ● | ● | 0.10-0.20 |
| GIM 4 | 4.00 | 0.25 | 0.05 | 3.20 | ● | ● | ● | ● | ● | 0.15-0.20 |

• For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting width tolerance (+/-)

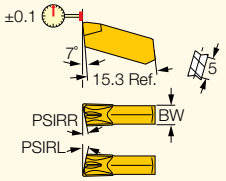
**Tools:** C#-GHDR/L • CGHN 26-M • CGHN 32-DGM • CGHN 32-M • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L

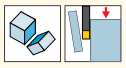
CUTGRIP

## GIM-W-RA/LA

Single-Sided Screw-Clamped Inserts with Central Ridged Chipformer for Parting Alloy Steel



| Designation | Dimensions CW | RE | CWTOL(1) | PSIRL | PSIRR | BW | Tough ↔ Hard IC656 | IC328 | IC830 | IC354 | IC908 | IC20 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GIM 3-4LA | 3.00 | 0.20 | 0.05 | 4.0 | - | 2.40 | | ● | | ● | | ● | 0.08-0.16 |
| GIM 3-8LA | 3.00 | 0.20 | 0.05 | 8.0 | - | 2.40 | | ● | | ● | ● | ● | 0.08-0.16 |
| GIM 3S-15RA | 3.00 | 0.22 | 0.05 | - | 15.0 | 2.40 | | ● | | | | | 0.08-0.16 |
| GIM 3-4RA | 3.00 | 0.25 | 0.05 | - | 4.0 | 2.40 | ● | ● | ● | ● | ● | ● | 0.08-0.16 |
| GIM 3-8RA | 3.00 | 0.25 | 0.05 | - | 8.0 | 2.40 | ● | ● | ● | ● | ● | ● | 0.08-0.16 |
| GIM 3.2-4LA | 3.20 | 0.22 | 0.05 | 4.0 | - | 2.50 | | | | ● | | | 0.08-0.16 |
| GIM 3.2-4RA | 3.20 | 0.22 | 0.05 | - | 4.0 | 2.50 | | ● | | ● | | ● | 0.08-0.16 |
| GIM 3.2-8LA | 3.20 | 0.22 | 0.05 | 8.0 | - | 2.50 | | | | ● | | | 0.08-0.16 |
| GIM 3.2-8RA | 3.20 | 0.22 | 0.05 | - | 8.0 | 2.50 | | ● | | ● | ● | ● | 0.08-0.16 |
| GIM 4-4LA | 4.00 | 0.25 | 0.05 | 4.0 | - | 3.20 | | | | ● | | ● | 0.10-0.16 |
| GIM 4-4RA | 4.00 | 0.25 | 0.05 | - | 4.0 | 3.20 | ● | | | ● | ● | ● | 0.10-0.16 |
| GIM 4-8LA | 4.00 | 0.25 | 0.05 | 8.0 | - | 3.20 | | | | ● | | | 0.10-0.16 |
| GIM 4-8RA | 4.00 | 0.25 | 0.05 | - | 8.0 | 3.20 | | ● | | ● | ● | ● | 0.10-0.16 |

• For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting width tolerance (+/-)

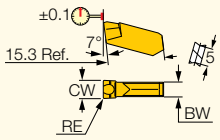
**Tools:** C#-GHDR/L • CGHN 26-M • CGHN 32-DGM • CGHN 32-M • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L

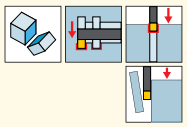
CUTGRIP

## GIM-UT

Single-Ended Screw-Clamped Inserts for Parting and Grooving at Low Feeds on CrNi Alloys and Low Carbon Steel



| Designation | Dimensions CW | RE | CWTOL(1) | BW | Tough ↔ Hard IC656 | IC328 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|
| GIM 4.6UT | 4.60 | 0.60 | 0.03 | 3.80 | ● | ● | 0.03-0.10 |

- For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting width tolerance (+/-)

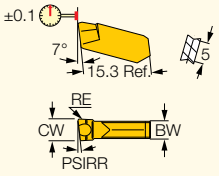
**Tools:** C#-GHDR/L • CGHN 26-M • CGHN 32-DGM • CGHN 32-M • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L

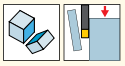
CUTGRIP

## GIM-UT-RA/LA

Single-Ended Screw-Clamped Inserts for Parting at Low Feeds on CrNi Alloys and Low Carbon Steel



| Designation | Dimensions CW | RE | CWTOL(1) | PSIRR | BW | IC328 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|
| GIM 3UT-1.5RA | 3.12 | 0.25 | 0.03 | 1.5 | 2.50 | ● | 0.03-0.10 |

- For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting width tolerance (+/-)

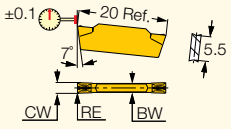
**Tools:** C#-GHDR/L • CGHN 26-M • CGHN 32-DGM • CGHN 32-M • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L

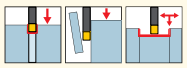
CUTGRIP

## GDMW 2.4

Utility Double-Ended Inserts for External Turning, Grooving and Parting



| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | CDX(3) | Tough ↔ Hard IC830 | IC808 | IC908 | IC20 | IC20N | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GDMW 2.4 | 2.40 | 0.18 | 0.04 | 0.030 | 2.00 | 18.00 | ● | ● | ● | ● | ● | 0.25-1.50 | 0.07-0.12 | 0.05-0.08 |

- For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting width tolerance (+/-)

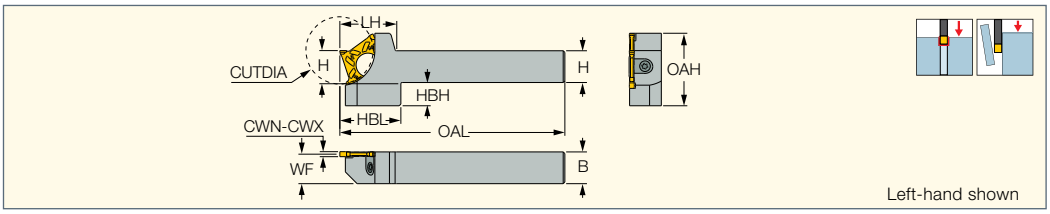
(2) Corner radius tolerance (+/-)

(3) Cutting depth maximum

**Tools:** PADR/L • PHGR/L • PHSR/L

# PENTA-IQ-GRIP

**PCHR/L-D-IQ**
Grooving and Parting
Tools Carrying Inserts
with 5 Cutting Edges




| Designation | H | B | CWN(1) | CWX(2) | WF | CUTDIA | OAL | LH | HBL | HBH | OAH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PCHR/L 12-D22-2-IQ | 12.0 | 12.0 | 2.00 | 2.40 | 11.40 | 22.0 | 100.00 | 26.9 | 25.70 | 8.0 | 25.5 |
| PCHR/L 16-D22-2-IQ | 16.0 | 16.0 | 2.00 | 2.40 | 15.40 | 22.0 | 120.00 | 26.9 | 23.20 | 4.0 | 25.5 |
| PCHR/L 20-D22-2-IQ | 20.0 | 20.0 | 2.00 | 2.40 | 19.40 | 22.0 | 120.00 | 26.9 | - | - | 25.5 |
| PCHR/L 12-D22-3-IQ | 12.0 | 12.0 | 3.00 | 3.20 | 10.70 | 22.0 | 120.00 | 19.7 | 20.00 | 11.0 | 25.5 |
| PCHR/L 16-D22-3-IQ | 16.0 | 16.0 | 3.00 | 3.20 | 14.70 | 22.0 | 120.00 | 19.7 | 20.00 | 7.0 | 25.5 |
| PCHR/L 20-D22-3-IQ | 20.0 | 20.0 | 3.00 | 3.20 | 18.70 | 22.0 | 120.00 | 19.7 | - | - | 25.5 |
| PCHR/L 12-D32-2-IQ | 12.0 | 12.0 | 2.00 | 2.40 | 11.50 | 32.0 | 100.00 | 28.4 | 29.50 | 14.0 | 33.6 |
| PCHR/L 16-D32-2-IQ | 16.0 | 16.0 | 2.00 | 2.40 | 15.50 | 32.0 | 120.00 | 28.4 | 29.50 | 10.0 | 33.6 |
| PCHR/L 20-D32-2-IQ | 20.0 | 20.0 | 2.00 | 2.40 | 19.50 | 32.0 | 120.00 | 28.4 | 29.50 | 6.0 | 33.6 |
| PCHR/L 25-D32-2-IQ | 25.0 | 25.0 | 2.00 | 2.40 | 24.50 | 32.0 | 120.00 | 28.4 | - | - | 33.6 |
| PCHR/L 12-D32-3-IQ | 12.0 | 12.0 | 3.00 | 3.20 | 10.70 | 32.0 | 100.00 | 26.0 | 32.00 | 16.0 | 32.6 |
| PCHR/L 16-D32-3-IQ | 16.0 | 16.0 | 3.00 | 3.20 | 14.70 | 32.0 | 120.00 | 26.0 | 32.00 | 12.0 | 32.6 |
| PCHR/L 20-D32-3-IQ | 20.0 | 20.0 | 3.00 | 3.20 | 18.70 | 32.0 | 120.00 | 26.0 | 32.00 | 8.0 | 32.6 |
| PCHR/L 25-D32-3-IQ | 25.0 | 25.0 | 3.00 | 3.20 | 23.70 | 32.0 | 120.00 | 26.0 | - | - | 32.6 |
| PCHR/L 16-D40-3-IQ | 16.0 | 16.0 | 3.00 | 3.20 | 14.70 | 40.0 | 135.00 | 33.3 | 36.80 | 17.0 | 43.5 |
| PCHR/L 20-D40-3-IQ | 20.0 | 20.0 | 3.00 | 3.20 | 18.70 | 40.0 | 135.00 | 33.3 | 35.60 | 13.0 | 43.5 |
| PCHR/L 25-D40-3-IQ | 25.0 | 25.0 | 3.00 | 3.20 | 23.70 | 40.0 | 135.00 | 33.3 | 33.60 | 8.0 | 43.5 |
| PCHR/L 32-D40-3-IQ | 32.0 | 32.0 | 3.00 | 3.20 | 30.70 | 40.0 | 135.00 | 33.3 | - | - | 43.5 |

(1) Minimum cutting width
(2) Maximum cutting width

**Inserts:** PENTA D-N-C • PENTA D-N-J • PENTA D-N-PB • PENTA D-R/L-C • PENTA D-R/L-J • PENTA D-R/L-PB

**Tmax as a Function of Dmax for PENTA D22**

| Tmax | T≤1.2 | T≤2.0 | T≤3.0 | T≤4.0 | T≤5.0 | T≤7.0 | T≤9.0 | T≤11.0 |
|---|---|---|---|---|---|---|---|---|
| Dmax | N.L(1) | 600 | 130 | 60 | 40 | 30 | 25 | 22 |

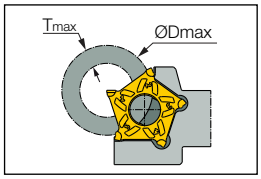
**Tmax as a Function of Dmax for PENTA D32**

| Tmax | T≤1.2 | T≤2 | T≤3.0 | T≤4.0 | T≤5.0 | T≤6.0 | T≤7.0 | T≤8.0 | T≤9.0 | T≤16.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| Dmax | N.L(1) | N.L(1) | 250 | 130 | 80 | 60 | 50 | 45 | 40 | 32 |

**Tmax as a Function of Dmax for PENTA D40**

| Tmax | T≤1.2 | T≤2 | T≤3.0 | T≤4.0 | T≤5.0 | T≤6.0 | T≤7.0 | T≤8.0 | T≤9.0 | T≤10.0 | T≤11.0 | T≤12.0 | T≤13.0 | T≤16.0 | T≤20.0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dmax | N.L(1) | N.L(1) | N.L(1) | 350 | 200 | 140 | 105 | 85 | 75 | 65 | 60 | 55 | 50 | 45 | 40 |

(1) N.L = No Limit




## Spare Parts

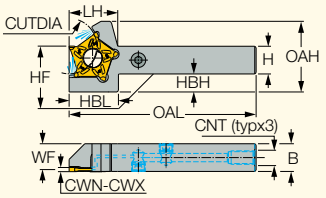
| Designation | | | | |
|---|---|---|---|---|
| PCHR/L 12-D22-2-IQ | SR M6-R-L | LEVER PD22-2 INJ | BLD T15/S7 | SW6-SD |
| PCHR/L 16-D22-2-IQ | SR M6-R-L | LEVER PD22-2 INJ | BLD T15/S7 | SW6-SD |
| PCHR/L 20-D22-2-IQ | SR M6-R-L | LEVER PD22-2 INJ | BLD T15/S7 | SW6-SD |
| PCHR/L 12-D22-3-IQ | SR M6-R-L | LEVER PD22-3 INJ | BLD T15/S7 | SW6-SD |
| PCHR/L 16-D22-3-IQ | SR M6-R-L | LEVER PD22-3 INJ | BLD T15/S7 | SW6-SD |
| PCHL 20-D22-3-IQ | | LEVER PD22-3 INJ* | | |
| PCHR/L 20-D22-3-IQ | SR M6-R-L | | BLD T15/S7 | SW6-SD |
| PCHR 20-D22-3-IQ | | LEVER PD22-3 INJ | | |
| PCHR/L 12-D32-2-IQ | SR M6-R-L | LEVER PD32-2 INJ | BLD T15/S7 | SW6-SD |
| PCHR/L 16-D32-2-IQ | SR M6-R-L | LEVER PD32-2 INJ | BLD T15/S7 | SW6-SD |
| PCHR/L 20-D32-2-IQ | SR M6-R-L | LEVER PD32-2 INJ | BLD T15/S7 | SW6-SD |
| PCHR/L 25-D32-2-IQ | SR M6-R-L | LEVER PD32-2 INJ | BLD T15/S7 | SW6-SD |
| PCHL 12-D32-3-IQ | | LEVER PD32-3 INJ | | |
| PCHR/L 12-D32-3-IQ | SR M6-R-L | | BLD T15/S7 | SW6-SD |
| PCHR 12-D32-3-IQ | | LEVER PD32-3 INJ* | | |
| PCHR/L 16-D32-3-IQ | SR M6-R-L | LEVER PD32-3 INJ | BLD T15/S7 | SW6-SD |
| PCHR/L 20-D32-3-IQ | SR M6-R-L | LEVER PD32-3 INJ | BLD T15/S7 | SW6-SD |
| PCHR/L 25-D32-3-IQ | SR M6-R-L | LEVER PD32-3 INJ | BLD T15/S7 | SW6-SD |
| PCHR/L 16-D40-3-IQ | SR M7-R-L | LEVER PD40 INJ | BLD T20/S7 | SW6-SD |
| PCHR/L 20-D40-3-IQ | SR M7-R-L | LEVER PD40 INJ | BLD T20/S7 | SW6-SD |
| PCHR/L 25-D40-3-IQ | SR M7-R-L | LEVER PD40 INJ | BLD T20/S7 | SW6-SD |
| PCHR/L 32-D40-3-IQ | SR M7-R-L | LEVER PD40 INJ | BLD T20/S7 | SW6-SD |

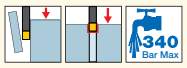
* Optional, should be ordered separately

PENTA IQ GRIP PARTING LINE
JETCUT

## PCHR/L-D-JHP

Grooving and Parting Tools with Channels for High-Pressure Coolant Carrying Inserts with 5 Cutting Edges




| Designation | H | HF | HBH | B | CWN(1) | CWX(2) | WF | CUTDIA | OAL | LH | HBL | OAH | CNT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCHR/L 12-D22-2-JHP | 12.0 | 0.0 | 8.0 | 12.0 | 2.00 | 2.40 | 11.00 | 22.0 | 101.50 | 29.0 | 29.50 | 32.0 | UNF 5/16-24 |
| PCHR/L 16-D22-2-JHP | 16.0 | 0.0 | 4.0 | 16.0 | 2.00 | 2.40 | 15.00 | 22.0 | 121.50 | 29.0 | 29.50 | 32.0 | UNF 5/16-24 |
| PCHR/L 20-D22-2-JHP | 20.0 | 0.0 | - | 20.0 | 2.00 | 2.40 | 19.00 | 22.0 | 121.50 | 29.0 | 29.50 | 32.0 | G 1/8-28 |
| PCHR/L 12-D32-2-JHP | 12.0 | 12.1 | 14.5 | 12.0 | 2.00 | 2.40 | 11.15 | 32.0 | 100.00 | 30.5 | 31.00 | 41.0 | UNF 5/16-24 |
| PCHR/L 16-D32-2-JHP | 16.0 | 16.1 | 10.0 | 16.0 | 2.00 | 2.40 | 15.21 | 32.0 | 120.00 | 25.9 | 27.00 | 41.0 | UNF 5/16-24 |
| PCHR/L 20-D32-2-JHP | 20.0 | 20.1 | 6.5 | 20.0 | 2.00 | 2.40 | 18.40 | 32.0 | 120.00 | 30.5 | 31.00 | 41.0 | G 1/8-28 |
| PCHR/L 25-D32-2-JHP | 25.0 | 25.1 | 1.5 | 25.0 | 2.00 | 2.40 | 23.40 | 32.0 | 120.00 | 29.0 | 29.50 | 41.0 | G 1/8-28 |
| PCHR/L 16-D40-3-JHP | 16.0 | 16.0 | 17.0 | 16.0 | 3.00 | 3.20 | 14.60 | 40.0 | 135.00 | 36.3 | 36.80 | 51.0 | UNF 5/16-24 |
| PCHR/L 20-D40-3-JHP | 20.0 | 20.0 | 13.0 | 20.0 | 3.00 | 3.20 | 18.60 | 40.0 | 135.00 | 35.1 | 35.60 | 51.0 | G 1/8-28 |
| PCHR/L 25-D40-3-JHP | 25.0 | 25.0 | 8.0 | 25.0 | 3.00 | 3.20 | 23.60 | 40.0 | 135.00 | 33.1 | 33.60 | 51.0 | G 1/8-28 |

(1) Minimum cutting width
(2) Maximum cutting width

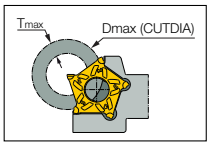
**Inserts:** PENTA D-N-C • PENTA D-N-J • PENTA D-N-PB • PENTA D-R/L-C • PENTA D-R/L-J • PENTA D-R/L-PB

**PCHR/L D22-2...-JHP Dmax for Partting Off 22/T11**

| Tmax | T≤1.0 | T≤2.0 | T≤3.0 | T≤4.0 | T≤5.0 | T≤6.0 | T≤7.0 | T≤8.0 | T≤9.0 | T≤10.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| Dmax | 89 | 64 | 48 | 40 | 34 | 31 | 28 | 27 | 24 | 21 |

**PCHR/L D32-2...-JHP Dmax for Partting Off 32/T16**

| Tmax | T≤1.0 | T≤2.0 | T≤3.0 | T≤4.0 | T≤5.0 | T≤6.0 | T≤7.0 | T≤8.0 | T≤9.0 | T≤10.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| Dmax | 150 | 125 | 100 | 78 | 65 | 57 | 51 | 46 | 43 | 40 |
| Tmax | T≤11.0 | T≤12.0 | T≤13.0 | T≤14.0 | T≤15.0 | | | | | |
| Dmax | 39 | 37 | 35 | 34 | 33 | | | | | |




**PCHR/L D40-3...-JHP Dmax for Partting Off 40/T20**

| Tmax | T≤1.0 | T≤2.0 | T≤3.0 | T≤4.0 | T≤5.0 | T≤6.0 | T≤7.0 | T≤8.0 | T≤9.0 | T≤10.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| Dmax | 400 | 300 | 200 | 145 | 114 | 95 | 82 | 73 | 66 | 61 |
| Tmax | T≤11.0 | T≤12.0 | T≤13.0 | T≤14.0 | T≤15.0 | T≤16.0 | T≤17.0 | T≤18.0 | T≤19.0 | |
| Dmax | 57 | 54 | 51 | 49 | 47 | 46 | 45 | 44 | 42 | |

### Flow Rate vs. Pressure

| Designation | 70 bar Flow Rate (liters/min) | 100 bar Flow Rate (liters/min) | 140 bar Flow Rate (liters/min) |
|---|---|---|---|
| PCHR/L...-2JHP | 2-4 | 4-6 | 6-8 |
| PCHR/L...-3JHP | 7-9 | 9-11 | 11-13 |

### Spare Parts

| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| PCHR/L 12-D22-2-JHP | SR M6-R-L | LEVER PD22-2 INJ | BLD T15/S7 | SW6-SD | HW 5/32" | | SR 5/16UNF TL360 |
| PCHR/L 16-D22-2-JHP | SR M6-R-L | LEVER PD22-2 INJ | BLD T15/S7 | SW6-SD | HW 5/32" | | SR 5/16UNF TL360 |
| PCHL 20-D22-2-JHP | | LEVER PD22-2 INJ* | | | | | |
| PCHR/L 20-D22-2-JHP | SR M6-R-L | | BLD T15/S7 | SW6-SD | HW 5.0 | PLG G1/8 TL360 | |
| PCHR 20-D22-2-JHP | | LEVER PD22-2 INJ | | | | | |
| PCHR/L 12-D32-2-JHP | SR M6-R-L | LEVER PD32-2 INJ | BLD T15/S7 | SW6-SD | HW 5/32" | | SR 5/16UNF TL360 |
| PCHR/L 16-D32-2-JHP | SR M6-R-L | LEVER PD32-2 INJ | BLD T15/S7 | SW6-SD | HW 5/32" | | SR 5/16UNF TL360 |
| PCHR/L 20-D32-2-JHP | SR M6-R-L | LEVER PD32-2 INJ | BLD T15/S7 | SW6-SD | HW 5.0 | PLG G1/8 TL360 | |
| PCHR/L 25-D32-2-JHP | SR M6-R-L | LEVER PD32-2 INJ | BLD T15/S7 | SW6-SD | HW 5.0 | PLG G1/8 TL360 | |
| PCHR/L 16-D40-3-JHP | SR M7-R-L | LEVER PD40 INJ | BLD T20/S7 | SW6-SD | HW 5/32" | | SR 5/16UNF TL360 |
| PCHR/L 20-D40-3-JHP | SR M7-R-L | LEVER PD40 INJ | BLD T20/S7 | SW6-SD | HW 5.0 | PLG G1/8 TL360 | |
| PCHR/L 25-D40-3-JHP | SR M7-R-L | LEVER PD40 INJ | BLD T20/S7 | SW6-SD | HW 5.0 | PLG G1/8 TL360 | |

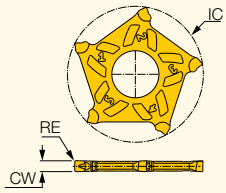
* Optional, should be ordered separately

PENTA IQ GRIP PARTING LINE

## PENTA D-N-J

Inserts with 5 Cutting Edges for Parting and Grooving Soft Materials, Parting Tubes, Small and Thin-Walled Parts






| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | IC | IC808G | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|
| PENTA D22N200J020 | 2.00 | 0.20 | 0.02 | 0.030 | 22.00 | ● | 0.04-0.12 |
| PENTA D22N300J020 | 3.00 | 0.20 | 0.02 | 0.030 | 22.00 | ● | 0.04-0.16 |

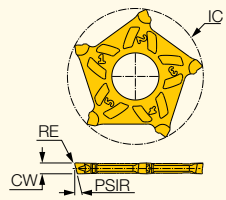
• For cutting speed recommendations and user guide, see pages 540-547
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
**Tools:** PCHR/L-D-IQ • PCHR/L-D-JHP

PENTA IQ GRIP PARTING LINE

## PENTA D-R/L-J

Inserts with 5 Cutting Edges for Parting Tubes, Small and Thin-Walled Parts






Right-hand shown

| Designation | Dimensions CW | RE | IC | PSIRL | PSIRR | IC808G | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|
| PENTA D22L200J-6D | 2.00 | 0.20 | 22.00 | 6.0 | - | ● | 0.04-0.10 |
| PENTA D22R200J-6D | 2.00 | 0.20 | 22.00 | - | 6.0 | ● | 0.04-0.10 |
| PENTA D22L200J-15D | 2.00 | 0.20 | 22.00 | 15.0 | - | ● | 0.04-0.08 |
| PENTA D22R200J-15D | 2.00 | 0.20 | 22.00 | - | 15.0 | ● | 0.04-0.08 |
| PENTA D22L300J-6D | 3.00 | 0.20 | 22.00 | 6.0 | - | ● | 0.04-0.12 |
| PENTA D22R300J-6D | 3.00 | 0.20 | 22.00 | - | 6.0 | ● | 0.04-0.12 |
| PENTA D22L300J-15D | 3.00 | 0.20 | 22.00 | 15.0 | - | ● | 0.04-0.10 |
| PENTA D22R300J-15D | 3.00 | 0.20 | 22.00 | - | 15.0 | ● | 0.04-0.10 |

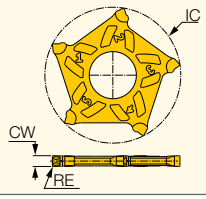
• For cutting speed recommendations and user guide, see pages 540-547
**Tools:** PCHR/L-D-IQ • PCHR/L-D-JHP

PENTA IQ GRIP PARTING LINE

## PENTA D-N-C

Inserts with 5 Cutting Edges for Parting and Grooving Hard Materials, Tough and General Applications






Right-hand shown

| Designation | Dimensions RE | CW | RETOL(1) | CWTOL(2) | IC | IC808G | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|
| PENTA D32N200C020 | 0.20 | 2.00 | 0.030 | 0.02 | 30.25 | ● | 0.04-0.14 |
| PENTA D32N300C020 | 0.20 | 3.00 | 0.030 | 0.02 | 30.25 | ● | 0.06-0.22 |
| PENTA D40N300C020 | 0.20 | 3.02 | 0.030 | 0.02 | 37.80 | ● | 0.06-0.22 |

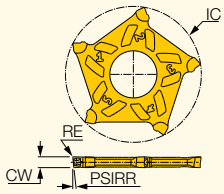
• For cutting speed recommendations and user guide, see pages 540-547
(1) Corner radius tolerance (+/-)
(2) Cutting width tolerance (+/-)
**Tools:** PCHR/L-D-IQ • PCHR/L-D-JHP

PENTA IQ GRIP PARTING LINE

## PENTA D-R/L-C

Inserts with 5 Cutting Edges for Parting Hard Materials, Tough and General Applications








Right-hand shown

| Designation | Dimensions CW | RE | IC | PSIRL | PSIRR | IC808G | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|
| PENTA D32L200C-6D | 2.00 | 0.10 | 30.25 | 6.0 | - | ● | 0.04-0.12 |
| PENTA D32R200C-6D | 2.00 | 0.10 | 30.25 | - | 6.0 | ● | 0.04-0.12 |
| PENTA D32L200C-15D | 2.00 | 0.20 | 30.25 | 15.0 | - | ● | 0.04-0.10 |
| PENTA D32R200C-15D | 2.00 | 0.20 | 30.25 | - | 15.0 | ● | 0.04-0.10 |
| PENTA D32L300C-6D | 3.00 | 0.20 | 30.25 | 6.0 | - | ● | 0.04-0.14 |
| PENTA D32R300C-6D | 3.00 | 0.20 | 30.25 | - | 6.0 | ● | 0.04-0.14 |
| PENTA D32L300C-15D | 3.00 | 0.20 | 30.25 | 15.0 | - | ● | 0.04-0.10 |
| PENTA D32R300C-15D | 3.00 | 0.20 | 30.25 | - | 15.0 | ● | 0.04-0.10 |
| PENTA D40L300C-6D | 3.00 | 0.20 | 37.80 | 6.0 | - | ● | 0.04-0.14 |
| PENTA D40R300C-6D | 3.00 | 0.20 | 37.80 | - | 6.0 | ● | 0.04-0.14 |
| PENTA D40L300C-15D | 3.00 | 0.20 | 37.80 | 15.0 | - | ● | 0.04-0.10 |
| PENTA D40R300C-15D | 3.00 | 0.20 | 37.80 | - | 15.0 | ● | 0.04-0.10 |

• For cutting speed recommendations and user guide, see pages 540-547

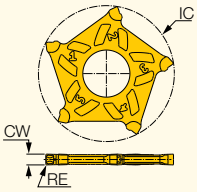
**Tools:** PCHR/L-D-IQ • PCHR/L-D-JHP

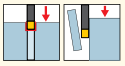
PENTA IQ GRIP PARTING LINE

## PENTA D-N-PB

Pentagonal Inserts for Parting and Grooving Bearing Steel and Other Ductile Materials





| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | IC | IC808G | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|
| PENTA D40N300PB020 | 3.00 | 0.20 | 0.02 | 0.030 | 37.80 | ● | 0.03-0.10 |

• For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

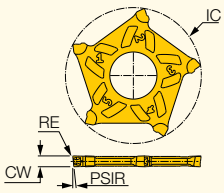
**Tools:** PCHR/L-D-IQ • PCHR/L-D-JHP

PENTA IQ GRIP PARTING LINE

## PENTA D-R/L-PB

Pentagonal Inserts for Parting Bearing Steel and other Ductile Materials








Right-hand shown

| Designation | Dimensions CW | RE | IC | PSIRL | PSIRR | IC808G | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|
| PENTA D40L300PB-6D | 3.00 | 0.20 | 37.80 | 6.0 | - | ● | 0.03-0.08 |
| PENTA D40R300PB-6D | 3.00 | 0.20 | 37.80 | - | 6.0 | ● | 0.03-0.08 |
| PENTA D40L300PB-15D | 3.00 | 0.10 | 37.80 | 15.0 | - | ● | 0.03-0.06 |
| PENTA D40R300PB-15D | 3.00 | 0.10 | 37.80 | - | 15.0 | ● | 0.03-0.06 |

• For cutting speed recommendations and user guide, see pages 540-547

**Tools:** PCHR/L-D-IQ • PCHR/L-D-JHP

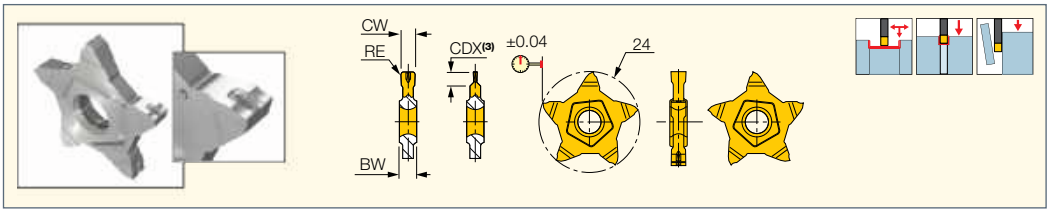
## Identification System for Standard Inserts

| PENTA | 24 | N | 150 | J | 010 |
|---|---|---|---|---|---|
| Family name | Circular circumference of the insert | Insert lead angle (K) N, R, L | Cutting edge width CW(mm) x100 | Chipbreaker style J, Z | Corner radius RE (mm)x100 for neutral insert. (k=0) Or lead angle for right- or left-hand inserts. |

PENTACUT PARTING & GROOVING LINE

### PENTA 24N-J

Inserts with 5 Cutting Edges for Parting and Grooving Soft Materials, Tubes, Small and Thin-Walled Parts




| Designation | Dimensions | | | | | | Tough ↔ Hard | | | | Recommended Machining Data |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | CW | RE | CWTOL(1) | RETOL(2) | BW | CDX(3) | IC1010 | IC1008 | IC908 | IC807G | f groove (mm/rev) |
| PENTA 24N050J000 | 0.50 | 0.00 | 0.02 | 0.020 | 4.00 | 1.00 | | | • | | 0.02-0.04 |
| PENTA 24N050J004 | 0.50 | 0.04 | 0.02 | 0.020 | 4.00 | 2.50 | | • | | | 0.02-0.05 |
| PENTA 24N080J000 | 0.80 | 0.00 | 0.02 | 0.020 | 4.00 | 1.60 | | | • | | 0.02-0.05 |
| PENTA 24N100J004 | 1.00 | 0.04 | 0.02 | 0.020 | 4.00 | 3.50 | | | • | | 0.03-0.07 |
| PENTA 24N100J006 | 1.00 | 0.06 | 0.02 | 0.020 | 4.00 | 3.50 | | • | | • | 0.03-0.07 |
| PENTA 24N104J000 | 1.04 | 0.00 | 0.02 | 0.020 | 4.00 | 2.00 | | | • | | 0.02-0.07 |
| PENTA 24N120J000 | 1.20 | 0.00 | 0.02 | 0.020 | 4.00 | 2.00 | | | • | • | 0.03-0.07 |
| PENTA 24N125J010 | 1.25 | 0.10 | 0.02 | 0.020 | 4.00 | 2.00 | | | • | | 0.03-0.07 |
| PENTA 24N140J000 | 1.40 | 0.00 | 0.02 | 0.020 | 4.00 | 2.00 | | | • | | 0.03-0.08 |
| PENTA 24N147J000 | 1.47 | 0.00 | 0.02 | 0.020 | 4.00 | 2.50 | | | • | | 0.03-0.08 |
| PENTA 24N150J010 | 1.50 | 0.10 | 0.00 | 0.020 | 4.00 | 5.00 | • | • | • | • | 0.03-0.10 |
| PENTA 24N157J015 | 1.57 | 0.15 | 0.02 | 0.030 | 4.00 | 3.00 | | | • | • | 0.00-0.12 |
| PENTA 24N170J010 | 1.70 | 0.10 | 0.02 | 0.030 | 4.00 | 3.00 | | | • | • | 0.03-0.12 |
| PENTA 24N178J018 | 1.78 | 0.18 | 0.02 | 0.030 | 4.00 | 3.00 | | | • | • | 0.04-0.12 |
| PENTA 24N185J015 | 1.85 | 0.15 | 0.02 | 0.030 | 4.00 | 3.00 | | | • | | 0.04-0.12 |
| PENTA 24N196J015 | 1.96 | 0.15 | 0.02 | 0.030 | 4.00 | 3.00 | | | • | • | 0.04-0.12 |
| PENTA 24N196J040 | 1.96 | 0.40 | 0.02 | 0.030 | 4.00 | 3.00 | | | • | | 0.03-0.10 |
| PENTA 24N200J020 | 2.00 | 0.20 | 0.02 | 0.030 | 4.00 | 6.00 | • | • | • | • | 0.04-0.12 |
| PENTA 24N222J015 | 2.22 | 0.15 | 0.02 | 0.030 | 4.00 | 3.50 | | | • | • | 0.04-0.16 |
| PENTA 24N230J020 | 2.30 | 0.20 | 0.02 | 0.030 | 4.00 | 3.50 | | | • | • | 0.04-0.16 |
| PENTA 24N239J015 | 2.39 | 0.15 | 0.02 | 0.030 | 4.00 | 5.00 | | | • | • | 0.04-0.16 |
| PENTA 24N247J020 | 2.47 | 0.20 | 0.02 | 0.030 | 4.00 | 5.00 | | | • | • | 0.04-0.16 |
| PENTA 24N270J010 | 2.70 | 0.10 | 0.02 | 0.020 | 4.00 | 5.00 | | | • | | 0.04-0.16 |
| PENTA 24N287J020 | 2.87 | 0.20 | 0.02 | 0.030 | 4.00 | 6.50 | | | • | | 0.04-0.16 |
| PENTA 24N300J000 | 3.00 | 0.00 | 0.02 | 0.020 | 4.00 | 6.50 | | | • | | 0.04-0.10 |
| PENTA 24N300J020 | 3.00 | 0.20 | 0.02 | 0.030 | 4.00 | 6.50 | • | | • | • | 0.04-0.16 |
| PENTA 24N300J040 | 3.00 | 0.40 | 0.02 | 0.030 | 4.00 | 6.50 | | | • | • | 0.04-0.16 |
| PENTA 24N315J015 | 3.15 | 0.15 | 0.02 | 0.030 | 4.00 | 6.50 | | | • | | 0.04-0.16 |
| PENTA 24N318J020 | 3.18 | 0.20 | 0.02 | 0.030 | 4.00 | 6.50 | | | • | • | 0.04-0.16 |
| PENTA 24N330J010 | 3.30 | 0.10 | 0.02 | 0.030 | 5.00 | 6.40 | | | • | | 0.04-0.16 |
| PENTA 24N348J020 | 3.48 | 0.20 | 0.02 | 0.030 | 5.00 | 6.40 | | | • | | 0.04-0.18 |
| PENTA 24N356J020 | 3.56 | 0.20 | 0.02 | 0.030 | 5.00 | 6.40 | | | • | | 0.04-0.18 |
| PENTA 24N374J020 | 3.74 | 0.20 | 0.02 | 0.030 | 5.00 | 6.40 | | | • | | 0.04-0.18 |
| PENTA 24N398J020 | 3.98 | 0.20 | 0.02 | 0.030 | 5.00 | 6.20 | | | • | | 0.04-0.18 |
| PENTA 24N400J040 | 4.00 | 0.40 | 0.02 | 0.030 | 5.00 | 6.20 | | | • | | 0.04-0.18 |
| PENTA 24N423J010 | 4.23 | 0.10 | 0.02 | 0.030 | 5.00 | 6.20 | | | • | | 0.04-0.18 |

• Recessing is possible only with 2.39 mm and wider inserts • For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) For grooving and parting depth relative to part diameter, see page 535

**Tools:** PCAD RE/LE-JHP • PCADR/L • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-24 • PCHR/L-24-JHP • PCHR/L-24-JHP-MC

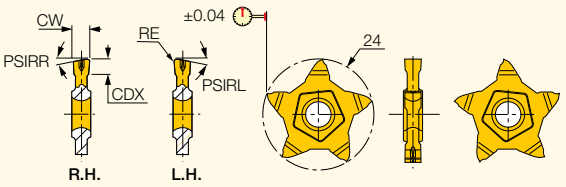
# PENTACUT R/L Parting Inserts

PENTACUT PARTING & GROOVING LINE

## PENTA 24R/L-J

Inserts with 5 Cutting Edges for Parting Tubes, Small and Thin-Walled Parts






| Designation | Dimensions CW | CDX(1) | RE | CWTOL(2) | PSIRL | PSIRR | CUTDIA(3) | IC1008 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| PENTA 24L100J15D | 1.00 | 3.50 | 0.06 | 0.02 | 15.0 | - | 7.0 | ● | 0.02-0.06 |
| PENTA 24R100J15D | 1.00 | 3.50 | 0.06 | 0.02 | - | 15.0 | 7.0 | ● | 0.02-0.06 |
| PENTA 24L150J06D | 1.50 | 5.00 | 0.10 | 0.02 | 6.0 | - | 10.0 | ● | 0.03-0.09 |
| PENTA 24L150J15D | 1.50 | 5.00 | 0.06 | 0.02 | 15.0 | - | 10.0 | ● | 0.03-0.08 |
| PENTA 24R150J06D | 1.50 | 5.00 | 0.06 | 0.02 | - | 6.0 | 10.0 | ● | 0.03-0.09 |
| PENTA 24R150J15D | 1.50 | 5.00 | 0.06 | 0.02 | - | 15.0 | 10.0 | ● | 0.03-0.08 |
| PENTA 24L200J06D | 2.00 | 6.00 | 0.10 | 0.02 | 6.0 | - | 12.0 | ● | 0.04-0.10 |
| PENTA 24L200J15D | 2.00 | 6.00 | 0.10 | 0.02 | 15.0 | - | 12.0 | ● | 0.04-0.09 |
| PENTA 24R200J06D | 2.00 | 6.00 | 0.10 | 0.02 | - | 6.0 | 12.0 | ● | 0.04-0.10 |
| PENTA 24R200J15D | 2.00 | 6.00 | 0.10 | 0.02 | - | 15.0 | 12.0 | ● | 0.04-0.09 |

• For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting depth maximum

(2) Cutting width tolerance (+/-)

(3) For grooving and parting depths relative to part diameter, see page 535

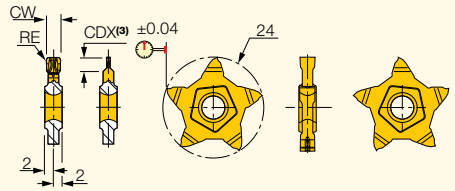
**Tools:** PCAD RE/LE-JHP • PCADR/L • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-24 • PCHR/L-24-JHP • PCHR/L-24-JHP-MC

PENTACUT PARTING & GROOVING LINE

## PENTA 24N-C

Inserts with 5 Cutting Edges for Parting and Grooving Bars, Hard Materials and Tough Applications






| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | IC908 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|
| PENTA 24N150C010 | 1.50 | 0.10 | 0.02 | 0.050 | 5.00 | ● | 0.05-0.11 |
| PENTA 24N157C015 | 1.57 | 0.15 | 0.02 | 0.050 | 3.00 | ● | 0.05-0.12 |
| PENTA 24N170C010 | 1.70 | 0.10 | 0.02 | 0.050 | 3.00 | ● | 0.05-0.13 |
| PENTA 24N178C018 | 1.78 | 0.18 | 0.02 | 0.050 | 3.00 | ● | 0.05-0.14 |
| PENTA 24N196C015 | 1.96 | 0.15 | 0.02 | 0.050 | 3.00 | ● | 0.05-0.15 |
| PENTA 24N200C020 | 2.00 | 0.20 | 0.02 | 0.050 | 6.00 | ● | 0.05-0.16 |
| PENTA 24N222C015 | 2.22 | 0.15 | 0.02 | 0.050 | 3.50 | ● | 0.05-0.16 |
| PENTA 24N230C020 | 2.30 | 0.20 | 0.02 | 0.050 | 3.50 | ● | 0.06-0.17 |
| PENTA 24N239C015 | 2.39 | 0.15 | 0.02 | 0.050 | 5.00 | ● | 0.07-0.18 |
| PENTA 24N247C020 | 2.47 | 0.20 | 0.02 | 0.050 | 5.00 | ● | 0.08-0.18 |
| PENTA 24N270C010 | 2.70 | 0.10 | 0.02 | 0.050 | 6.20 | ● | 0.09-0.18 |
| PENTA 24N287C020 | 2.87 | 0.20 | 0.02 | 0.050 | 6.20 | ● | 0.10-0.18 |
| PENTA 24N300C020 | 3.00 | 0.20 | 0.02 | 0.050 | 6.20 | ● | 0.10-0.20 |
| PENTA 24N300C040 | 3.00 | 0.40 | 0.02 | 0.050 | 6.20 | ● | 0.10-0.20 |
| PENTA 24N318C020 | 3.18 | 0.20 | 0.02 | 0.050 | 6.20 | ● | 0.10-0.20 |
| PENTA 24N478C055 | 4.78 | 0.55 | 0.02 | 0.050 | 6.20 | ● | 0.10-0.25 |
| PENTA 24N486C040 | 4.86 | 0.40 | 0.02 | 0.050 | 6.20 | ● | 0.10-0.25 |
| PENTA 24N500C040 | 5.00 | 0.40 | 0.02 | 0.050 | 6.20 | ● | 0.10-0.25 |

• Recessing is possible only with 2.39 mm and wider inserts • For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) For grooving and parting depths relative to part diameter, see page 535

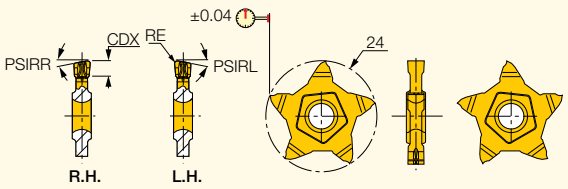
**Tools:** PCAD RE/LE-JHP • PCADR/L • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-24 • PCHR/L-24-JHP • PCHR/L-24-JHP-MC

PENTACUT PARTING & GROOVING LINE

## PENTA 24R-C

Inserts with 5 Cutting Edges for Parting Bars, Hard Materials and Tough Applications






| Designation | Dimensions CW | RE | CWTOL(1) | CDX(2) | PSIRR | IC1008 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|
| PENTA 24R150C06D | 1.50 | 0.06 | 0.02 | 5.00 | 6.0 | ● | 0.03-0.10 |
| PENTA 24R200C06D | 2.00 | 0.10 | 0.02 | 6.00 | 6.0 | ● | 0.04-0.12 |

• For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting width tolerance (+/-)

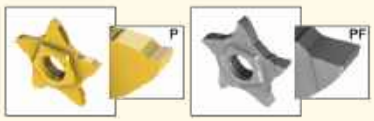
(2) Cutting depth maximum

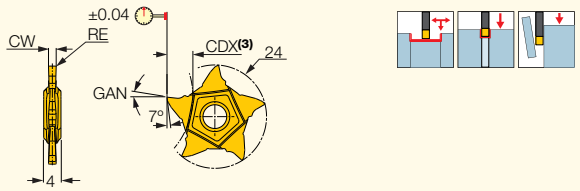
**Tools:** PCAD RE/LE-JHP • PCADR/L • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-24 • PCHR/L-24-JHP • PCHR/L-24-JHP-MC

PENTACUT PARTING & GROOVING LINE

## PENTA 24N-PF/P

Pentagonal Inserts with a High Positive Flat Rake for Parting and Precision Grooving




| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | GAN | Tough ↔ Hard IC1008 | IC908 | IC30N | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| PENTA 24N050PF005 | 0.50 | 0.05 | 0.02 | 0.020 | 2.50 | 6.0 | | | ● | 0.01-0.04 |
| PENTA 24N075PF005 | 0.75 | 0.05 | 0.02 | 0.020 | 2.50 | 6.0 | | | ● | 0.02-0.05 |
| PENTA 24N095PF005 | 0.95 | 0.05 | 0.02 | 0.020 | 4.00 | 6.0 | | | ● | 0.02-0.05 |
| PENTA 24N100P005 | 1.00 | 0.05 | 0.02 | 0.020 | 3.50 | 12.0 | ● | | | 0.02-0.05 |
| PENTA 24N100PF010 | 1.00 | 0.10 | 0.02 | 0.020 | 4.00 | 6.0 | | ● | ● | 0.03-0.06 |
| PENTA 24N125PF020 | 1.25 | 0.20 | 0.02 | 0.020 | 5.00 | 6.0 | | | ● | 0.03-0.06 |
| PENTA 24N145PF020 | 1.45 | 0.20 | 0.02 | 0.020 | 6.20 | 6.0 | | | ● | 0.03-0.06 |
| PENTA 24N150P005 | 1.50 | 0.05 | 0.02 | 0.020 | 5.00 | 12.0 | ● | | | 0.02-0.07 |
| PENTA 24N150PF020 | 1.50 | 0.20 | 0.02 | 0.030 | 6.00 | 6.0 | | ● | ● | 0.03-0.09 |
| PENTA 24N175PF020 | 1.75 | 0.20 | 0.02 | 0.030 | 6.20 | 6.0 | | | ● | 0.02-0.08 |
| PENTA 24N185PF020 | 1.85 | 0.20 | 0.02 | 0.030 | 6.00 | 6.0 | | | ● | 0.03-0.10 |
| PENTA 24N200P005 | 2.00 | 0.05 | 0.02 | 0.020 | 6.00 | 12.0 | ● | | | 0.02-0.08 |
| PENTA 24N200PF020 | 2.00 | 0.20 | 0.02 | 0.030 | 6.50 | 6.0 | | ● | ● | 0.04-0.10 |
| PENTA 24N230PF020 | 2.30 | 0.20 | 0.02 | 0.030 | 6.20 | 6.0 | | | ● | 0.04-0.14 |
| PENTA 24N239PF015 | 2.39 | 0.15 | 0.02 | 0.030 | 6.50 | 6.0 | | ● | | 0.04-0.14 |
| PENTA 24N250PF020 | 2.50 | 0.20 | 0.02 | 0.030 | 6.50 | 6.0 | | ● | ● | 0.04-0.14 |
| PENTA 24N300PF020 | 3.00 | 0.20 | 0.02 | 0.030 | 6.50 | 6.0 | | ● | ● | 0.04-0.14 |
| PENTA 24N300PF030 | 3.00 | 0.30 | 0.02 | 0.030 | 6.20 | 6.0 | | | ● | 0.04-0.15 |
| PENTA 24N400PF020 | 4.00 | 0.20 | 0.02 | 0.030 | 6.50 | 6.0 | | | ● | 0.04-0.16 |
| PENTA 24N400PF040 | 4.00 | 0.40 | 0.02 | 0.030 | 6.20 | 6.0 | | | ● | 0.04-0.16 |

• For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) For grooving and parting depths relative to part diameter, see page 535

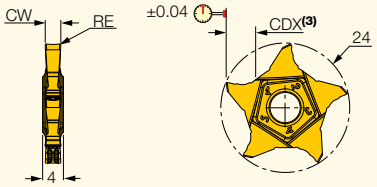
**Tools:** PCAD RE/LE-JHP • PCADR/L • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-24 • PCHR/L-24-JHP • PCHR/L-24-JHP-MC

PENTACUT
PARTING & GROOVING LINE

## PENTA 24N-Z

Inserts with 5 Cutting Edges for Grooving and Parting Tubes, Small and Thin-Walled Parts






| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | IC908 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|
| PENTA 24N150Z010 | 1.50 | 0.10 | 0.02 | 0.020 | 5.00 | ● | 0.05-0.08 |
| PENTA 24N200Z020 | 2.00 | 0.20 | 0.02 | 0.030 | 6.40 | ● | 0.04-0.12 |
| PENTA 24N300Z020 | 3.00 | 0.20 | 0.02 | 0.000 | 6.40 | ● | 0.04-0.16 |

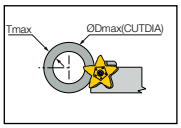
- Cutting edge with high positive rake, suitable for parting tubes, thin walled parts and for small diameters
- Suitable for machining soft materials and bearing steel at low to medium feeds
- For cutting speed recommendations and user guide, see pages 540-547

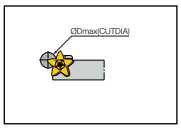
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) For grooving and parting depths relative to part diameter, see page 535

**Tools:** PCAD RE/LE-JHP • PCADR/L • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-24 • PCHR/L-24-JHP • PCHR/L-24-JHP-MC

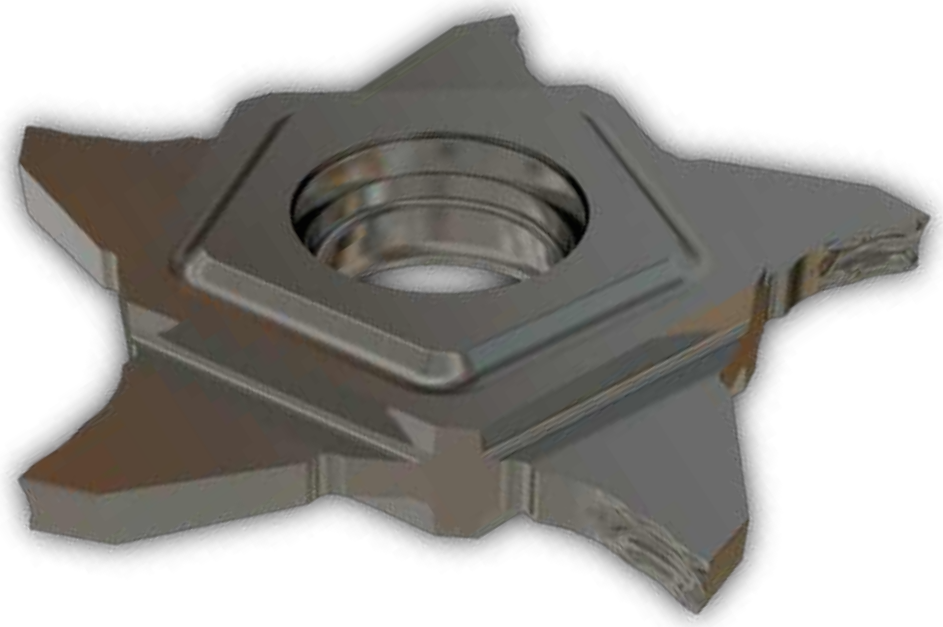
ØDmax as a Function of Parting / Grooving Depth (T) for PENTA 24 Inserts

| CW±0.02 | CDX(3) | CDX / ØDmax | T≤3.0 | T≤3.5 | T≤4.0 | T≤4.5 | T≤5.0 | T≤5.5 | T≤6.5 | T≤6.4 |
|---|---|---|---|---|---|---|---|---|---|---|
| CW=0.50 (1) | 1.0 | 1.0 / N.L. | - | - | - | - | - | - | - | - |
| CW=0.50 (2) | 2.5 | | | 250 | | | | | | |
| CW=0.80 | 1.6 | 1.6 / N.L. | - | - | - | - | - | - | - | - |
| CW=1.00 | 3.5 | | N.L. | 250 | - | - | - | - | - | - |
| 1.04≤CW≤1.40 | 2.0 | 2.0 / N.L. | - | - | - | - | - | - | - | - |
| CW=1.47 | 2.5 | 2.5 / N.L. | - | - | - | - | - | - | - | - |
| CW=1.50 | 5.0 | | N.L. | 470 | 210 | 70 | 30 | - | - | - |
| 1.57≤CW≤1.96 | 3.0 | | N.L. | - | - | - | - | - | - | - |
| CW=2.00 | 6.0(4) | | N.L. | 470 | 210 | 130 | 75 | 45 | 20 | - |
| 2.22≤CW≤2.30 | 3.5 | | N.L. | 250 | - | - | - | - | - | - |
| 2.39≤CW≤2.50 | 5.0 | | N.L. | 470 | 210 | 70 | 30 | - | - | - |
| 2.70≤CW≤3.18 | 6.4 | | N.L. | 470 | 210 | 135 | 100 | 70 | 40 | 20 |




(1) Refers to PENTA 24N050J000 - a precision grooving insert (2) Refers to PENTA 24N050J004 - a parting insert (3) CUTDIA for parting = 2 x CDX
(4) For full radius insert, CDX = 3.0, ØDmax = No limit

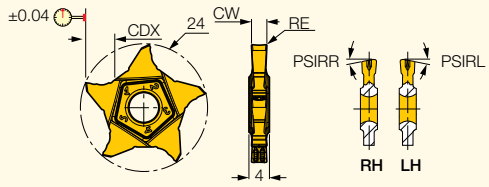


PENTACUT
PARTING & GROOVING LINE

## PENTA 24R/L-Z

Inserts with 5 Cutting Edges for Parting Tubes, Small and Thin-Walled Parts





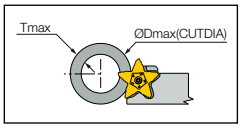

| Designation | Dimensions CW | PSIRL | PSIRR | RE | CUTDIA | CDX(1) | IC1008 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| **PENTA 24L150Z06D** | 1.50 | 6.0 | - | 0.06 | 10.0 | 5.00 | ● | 0.03-0.09 |
| **PENTA 24L150Z15D** | 1.50 | 15.0 | - | 0.06 | 10.0 | 5.00 | ● | 0.03-0.08 |
| **PENTA 24R150Z06D** | 1.50 | - | 6.0 | 0.06 | 10.0 | 5.00 | ● | 0.03-0.09 |
| **PENTA 24R150Z15D** | 1.50 | - | 15.0 | 0.06 | 10.0 | 5.00 | ● | 0.03-0.08 |
| **PENTA 24L200Z06D** | 2.00 | 6.0 | - | 0.10 | 12.8 | 6.40 | ● | 0.04-0.10 |
| **PENTA 24L200Z15D** | 2.00 | 15.0 | - | 0.10 | 12.8 | 6.40 | ● | 0.04-0.09 |
| **PENTA 24R200Z06D** | 2.00 | - | 6.0 | 0.10 | 12.8 | 6.40 | ● | 0.04-0.10 |
| **PENTA 24R200Z15D** | 2.00 | - | 15.0 | 0.10 | 12.8 | 6.40 | ● | 0.04-0.09 |
| **PENTA 24L300Z06D** | 3.00 | 6.0 | - | 0.20 | 12.8 | 6.40 | ● | 0.04-0.13 |
| **PENTA 24L300Z15D** | 3.00 | 15.0 | - | 0.20 | 12.8 | 6.40 | ● | 0.04-0.12 |
| **PENTA 24R300Z06D** | 3.00 | - | 6.0 | 0.20 | 12.8 | 6.40 | ● | 0.04-0.15 |
| **PENTA 24R300Z15D** | 3.00 | - | 15.0 | 0.20 | 12.8 | 6.40 | ● | 0.04-0.14 |

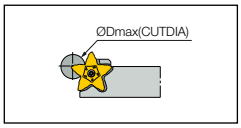
- Cutting edge with high positive rake, suitable for parting tubes, thin walled parts and for small diameters
- Suitable for machining soft materials and bearing steel at low to medium feeds
- For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting depth maximum

**Tools:** PCAD RE/LE-JHP • PCADR/L • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-24 • PCHR/L-24-JHP • PCHR/L-24-JHP-MC

| W±0.02 | Tmax(1) | Tmax / Dmax | Dmax as a Function of Parting / Grooving Depth (T) for PENTA 24 Inserts T≤3.0 | T≤3.5 | T≤4.0 | T≤4.5 | T≤5.0 | T≤5.5 | T≤6.0 | T≤6.2 | T≤6.4 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **W=0.50** | 1.0 | 1.0 / N.L. | - | - | - | - | - | - | - | - | - |
| **W=0.50** | 2.5 | 2.5 / N.L. | - | - | - | - | - | - | - | - | - |
| **W=0.80** | 1.6 | 1.6 / N.L. | - | - | - | - | - | - | - | - | - |
| **W=1.00** | 3.5 | | N.L. | 250 | - | - | - | - | - | - | - |
| **1.04≤W≤1.40** | 2.0 | 2.0 / N.L. | - | - | - | - | - | - | - | - | - |
| **W=1.47** | 2.5 | 2.5 / N.L. | - | - | - | - | - | - | - | - | - |
| **W=1.50** | 5.0 | | N.L. | 470 | 210 | 70 | 30 | - | - | - | - |
| **1.57≤W≤1.96** | 3.0 | | N.L. | - | - | - | - | - | - | - | - |
| **W=2.00** | 6.0(2) | | N.L. | 470 | 210 | 130 | 75 | 45 | 20 | - | - |
| **2.22≤W≤2.30** | 3.5 | | N.L. | 250 | - | - | - | - | - | - | - |
| **2.39≤W≤2.50** | 5.0 | | N.L. | 470 | 210 | 70 | 30 | - | - | - | - |
| **2.70≤W≤3.18** | 6.2 | | N.L. | 470 | 210 | 135 | 100 | 70 | 40 | 20 | - |
| **3.19≤W≤3.74** | 6.4 | | N.L. | 350 | 180 | 115 | 80 | 52 | 32 | 26 | 20 |
| **3.75≤W≤4.00** | 6.2 | | N.L. | 350 | 180 | 115 | 80 | 62 | 32 | 18 | - |
| **4.01≤W≤4.23** | 6.2 | | N.L. | 350 | 180 | 115 | 80 | 62 | 42 | 25 | - |



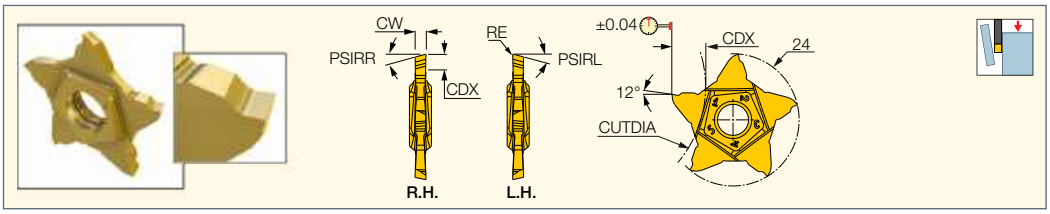

(1) Dmax for parting = 2 x Tmax

(2) For full radius insert , Tmax = 3.0, Dmax = No limit

PENTACUT PARTING & GROOVING LINE

## PENTA 24R-P

Inserts with 5 Cutting Edges for Parting Soft Materials, Thin Walls and Miniature Parts




| Designation | Dimensions CW | CDX(1) | RE | CWTOL(2) | CUTDIA(3) | PSIRR | IC1008 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| PENTA 24R100P06D | 1.00 | 3.50 | 0.05 | 0.02 | 7.2 | 6.0 | ● | 0.02-0.04 |
| PENTA 24R100P15D | 1.00 | 3.50 | 0.05 | 0.02 | 7.2 | 15.0 | ● | 0.02-0.03 |
| PENTA 24R150P06D | 1.50 | 5.00 | 0.05 | 0.02 | 11.0 | 6.0 | ● | 0.02-0.05 |
| PENTA 24R150P15D | 1.50 | 5.00 | 0.05 | 0.02 | 11.0 | 15.0 | ● | 0.02-0.04 |
| PENTA 24R200P06D | 2.00 | 6.00 | 0.05 | 0.02 | 12.6 | 6.0 | ● | 0.02-0.07 |
| PENTA 24R200P15D | 2.00 | 6.00 | 0.05 | 0.02 | 12.6 | 15.0 | ● | 0.02-0.05 |

• For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting depth maximum

(2) Cutting width tolerance (+/-)

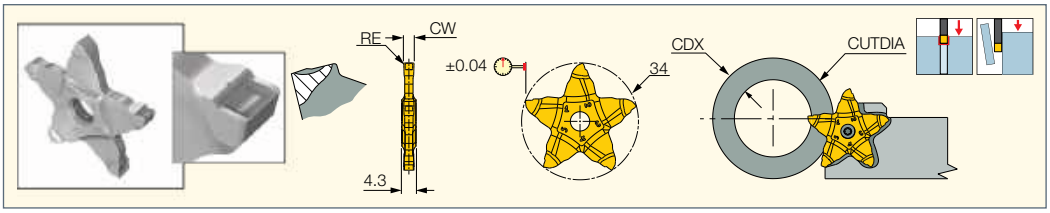
(3) For grooving and parting depths relative to part diameter, see page 535

**Tools:** PCAD RE/LE-JHP • PCADR/L • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-24 • PCHR/L-24-JHP • PCHR/L-24-JHP-MC

PENTACUT PARTING & GROOVING LINE

## PENTA 34N-C

Inserts with 5 Cutting Edges for Parting and Grooving Hard Materials, Tough and General Applications




| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | IC908 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|
| PENTA 34N150C015 | 1.50 | 0.15 | 0.02 | 0.030 | 8.00 | ● | 0.03-0.07 |
| PENTA 34N200C020 | 2.00 | 0.20 | 0.02 | 0.030 | 8.00 | ● | 0.04-0.14 |
| PENTA 34N200C100 | 2.00 | 1.00 | 0.02 | 0.050 | 8.00 | ● | 0.05-0.16 |
| PENTA 34N222C015 | 2.22 | 0.15 | 0.02 | 0.030 | 8.00 | ● | 0.05-0.14 |
| PENTA 34N230C020 | 2.30 | 0.20 | 0.02 | 0.030 | 8.00 | ● | 0.05-0.14 |
| PENTA 34N239C015 | 2.39 | 0.15 | 0.02 | 0.030 | 8.00 | ● | 0.05-0.15 |
| PENTA 34N239C120 | 2.39 | 1.20 | 0.02 | 0.050 | 8.00 | ● | 0.05-0.18 |
| PENTA 34N247C020 | 2.47 | 0.20 | 0.02 | 0.030 | 8.00 | ● | 0.05-0.18 |
| PENTA 34N250C020 | 2.50 | 0.20 | 0.02 | 0.030 | 8.00 | ● | 0.05-0.18 |
| PENTA 34N270C010 | 2.70 | 0.10 | 0.02 | 0.030 | 10.00 | ● | 0.05-0.18 |
| PENTA 34N287C020 | 2.87 | 0.20 | 0.02 | 0.030 | 10.00 | ● | 0.05-0.18 |
| PENTA 34N300C000 | 3.00 | 0.00 | 0.02 | 0.000 | 10.00 | ● | 0.04-0.10 |
| PENTA 34N300C020 | 3.00 | 0.20 | 0.02 | 0.030 | 10.00 | ● | 0.06-0.22 |
| PENTA 34N300C040 | 3.00 | 0.40 | 0.02 | 0.030 | 10.00 | ● | 0.06-0.25 |
| PENTA 34N300C150 | 3.00 | 1.50 | 0.02 | 0.050 | 10.00 | ● | 0.06-0.20 |
| PENTA 34N315C015 | 3.15 | 0.15 | 0.02 | 0.030 | 10.00 | ● | 0.06-0.20 |
| PENTA 34N318C020 | 3.18 | 0.20 | 0.02 | 0.030 | 10.00 | ● | 0.06-0.22 |
| PENTA 34N330C010 | 3.30 | 0.10 | 0.02 | 0.020 | 10.00 | ● | 0.06-0.20 |
| PENTA 34N348C020 | 3.48 | 0.20 | 0.02 | 0.030 | 10.00 | ● | 0.06-0.25 |
| PENTA 34N350C025 | 3.50 | 0.25 | 0.02 | 0.030 | 10.00 | ● | 0.06-0.30 |
| PENTA 34N398C020 | 3.98 | 0.20 | 0.02 | 0.030 | 10.00 | ● | 0.06-0.30 |
| PENTA 34N400C030 | 4.00 | 0.30 | 0.02 | 0.030 | 10.00 | ● | 0.06-0.30 |

• For cutting speed recommendations and user guide, see pages 540-547

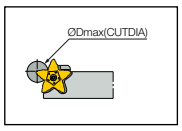
(1) Cutting width tolerance (+/-)

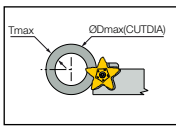
(2) Corner radius tolerance (+/-)

(3) For grooving and parting depths relative to part diameter, see page 536

**Tools:** PCADR/L • PCADR/L 34N-RE • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-34 • PCHR/L-34-JHP

| | ØDmax as a Function of Parting / Grooving Depth (T) for PENTA 34 Inserts | | | | | | |
|---|---|---|---|---|---|---|---|
| CW±0.02 | T≤5.0 | T≤6.0 | T≤7.0 | T≤8.0 | T≤8.5 | T≤9.0 | T≤10.0 |
| 1.50 ≤ CW ≤ 2.69 | N.L. | 350 | 165 | 100 | 55 | - | - |
| 2.70 ≤ CW ≤ 4.00 | | | | | | 55 | 20 |



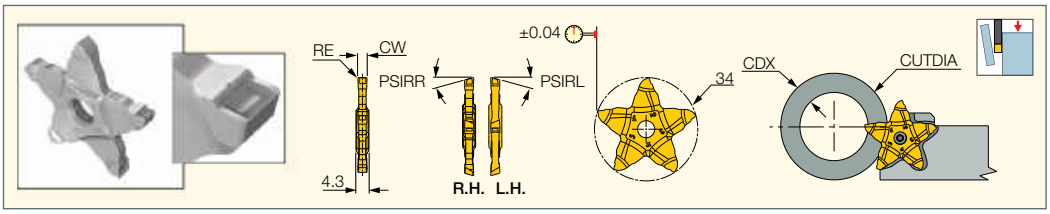

CUTDIA for parting = 2 x CDX

N.L. = No Limit

PENTACUT PARTING & GROOVING LINE

## PENTA 34R/L-C

Inserts with 5 Cutting Edges for Parting Hard Materials, Tough and General Applications




| Designation | Dimensions CW | RE | CUTDIA(1) | CDX(2) | PSIRL | PSIRR | IC908 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| PENTA 34L150C08D | 1.50 | 0.07 | 18.0 | 8.00 | 8.0 | - | ● | 0.03-0.08 |
| PENTA 34R150C08D | 1.50 | 0.07 | 18.0 | 8.00 | - | 8.0 | ● | 0.03-0.08 |
| PENTA 34L200C06D | 2.00 | 0.10 | 18.0 | 8.00 | 6.0 | - | ● | 0.04-0.12 |
| PENTA 34R200C06D | 2.00 | 0.10 | 18.0 | 8.00 | - | 6.0 | ● | 0.04-0.12 |
| PENTA 34L200C15D | 2.00 | 0.10 | 18.0 | 8.00 | 15.0 | - | ● | 0.04-0.10 |
| PENTA 34R200C15D | 2.00 | 0.10 | 18.0 | 8.00 | - | 15.0 | ● | 0.04-0.10 |
| PENTA 34L300C06D | 3.00 | 0.20 | 20.0 | 10.00 | 6.0 | - | ● | 0.04-0.14 |
| PENTA 34R300C06D | 3.00 | 0.20 | 20.0 | 10.00 | - | 6.0 | ● | 0.06-0.14 |
| PENTA 34L300C15D | 3.00 | 0.20 | 20.0 | 10.00 | 15.0 | - | ● | 0.04-0.10 |
| PENTA 34R300C15D | 3.00 | 0.20 | 20.0 | 10.00 | - | 15.0 | ● | 0.06-0.12 |

• For cutting speed recommendations and user guide, see pages 540-547

(1) For grooving and parting depths relative to part diameter, see page 536

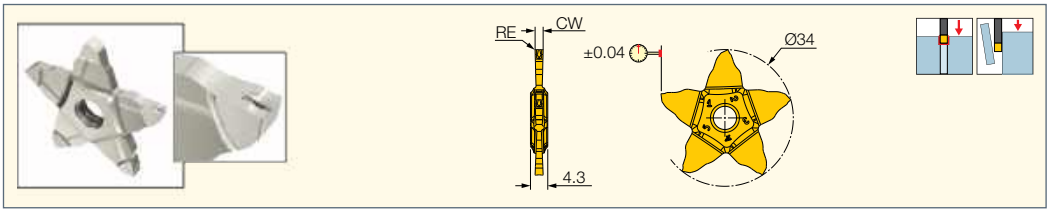
(2) Cutting depth maximum

**Tools:** PCADR/L • PCADR/L 34N-RE • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-34 • PCHR/L-34-JHP

PENTACUT PARTING & GROOVING LINE

## PENTA 34N-J

Inserts with 5 Cutting Edges for Parting and Grooving Soft Materials, Parting Tubes, Small and Thin-Walled Parts




| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | IC908 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|
| PENTA 34N150J015 | 1.50 | 0.15 | 0.02 | 0.002 | 8.50 | ● | 0.03-0.10 |
| PENTA 34N200J020 | 2.00 | 0.20 | 0.02 | 0.002 | 8.50 | ● | 0.04-0.12 |
| PENTA 34N200J100 | 2.00 | 1.00 | 0.02 | 0.002 | 8.50 | ● | 0.05-0.12 |
| PENTA 34N239J015 | 2.39 | 0.15 | 0.02 | 0.002 | 8.50 | ● | 0.04-0.16 |
| PENTA 34N239J120 | 2.39 | 1.20 | 0.02 | 0.002 | 8.50 | ● | 0.06-0.16 |
| PENTA 34N250J020 | 2.50 | 0.20 | 0.02 | 0.002 | 8.50 | ● | 0.04-0.16 |
| PENTA 34N270J010 | 2.70 | 0.10 | 0.02 | 0.002 | 10.00 | ● | 0.04-0.16 |
| PENTA 34N300J000 | 3.00 | 0.00 | 0.02 | 0.000 | 10.00 | ● | 0.04-0.10 |
| PENTA 34N300J020 | 3.00 | 0.20 | 0.02 | 0.002 | 10.00 | ● | 0.04-0.16 |
| PENTA 34N300J040 | 3.00 | 0.40 | 0.02 | 0.002 | 10.00 | ● | 0.04-0.16 |
| PENTA 34N300J150 | 3.00 | 1.50 | 0.02 | 0.002 | 10.00 | ● | 0.06-0.20 |
| PENTA 34N318J020 | 3.18 | 0.20 | 0.02 | 0.002 | 10.00 | ● | 0.20-0.16 |

• Recessing is possible only with 2.39 mm and wider inserts • For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

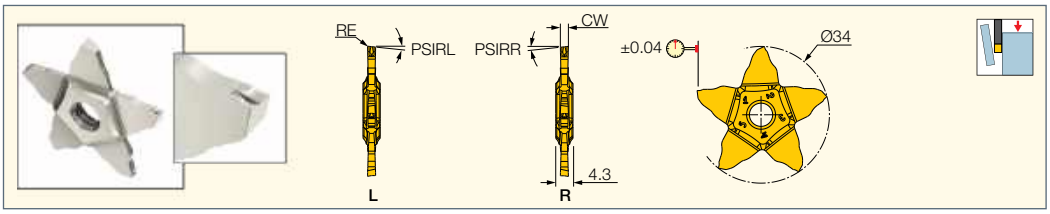
(3) For grooving and parting depths relative to part diameter, see page 536

**Tools:** PCADR/L • PCADR/L 34N-RE • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-34 • PCHR/L-34-JHP

PENTACUT PARTING & GROOVING LINE

## PENTA 34R/L-J

Inserts with 5 Cutting Edges for Parting Tubes, Small and Thin-Walled Parts




| Designation | Dimensions CW | RE | CWTOL(1) | CUTDIA(2) | PSIRL | PSIRR | IC908 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| PENTA 34L150J06D | 1.50 | 0.07 | 0.02 | 18.0 | 6.0 | - | ● | 0.03-0.09 |
| PENTA 34L150J15D | 1.50 | 0.07 | 0.02 | 18.0 | 15.0 | - | ● | 0.03-0.08 |
| PENTA 34R150J06D | 1.50 | 0.07 | 0.02 | 18.0 | - | 6.0 | ● | 0.03-0.09 |
| PENTA 34R150J15D | 1.50 | 0.07 | 0.02 | 18.0 | - | 15.0 | ● | 0.03-0.08 |
| PENTA 34L200J06D | 2.00 | 0.10 | 0.02 | 18.0 | 6.0 | - | ● | 0.04-0.10 |
| PENTA 34L200J15D | 2.00 | 0.10 | 0.02 | 18.0 | 15.0 | - | ● | 0.04-0.09 |
| PENTA 34R200J06D | 2.00 | 0.10 | 0.02 | 18.0 | - | 6.0 | ● | 0.04-0.10 |
| PENTA 34R200J15D | 2.00 | 0.10 | 0.02 | 18.0 | - | 15.0 | ● | 0.04-0.09 |

- For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting width tolerance (+/-)

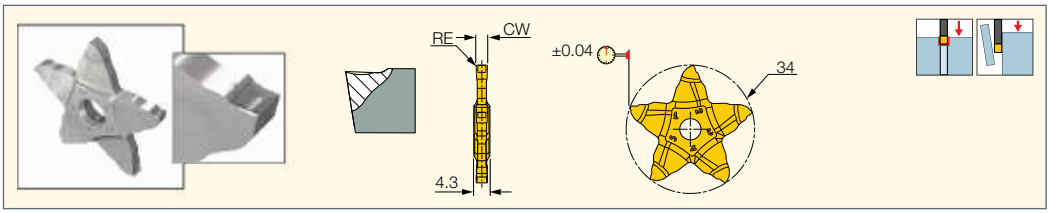
(2) For grooving and parting depths relative to part diameter, see page 536

**Tools:** PCADR/L • PCADR/L 34N-RE • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-34 • PCHR/L-34-JHP

PENTACUT PARTING & GROOVING LINE

## PENTA 34N-PB

Parting and Grooving Pentagonal Inserts for Parting Bearing Steel and Other Ductile Materials




| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | IC908 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|
| PENTA 34N150PB015 | 1.50 | 0.15 | 0.02 | 0.030 | 8.50 | ● | 0.03-0.06 |
| PENTA 34N200PB020 | 2.00 | 0.20 | 0.02 | 0.030 | 8.50 | ● | 0.03-0.08 |
| PENTA 34N300PB020 | 3.00 | 0.20 | 0.02 | 0.030 | 9.50 | ● | 0.03-0.10 |

- For cutting speed recommendations and user guide, see pages 540-547

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

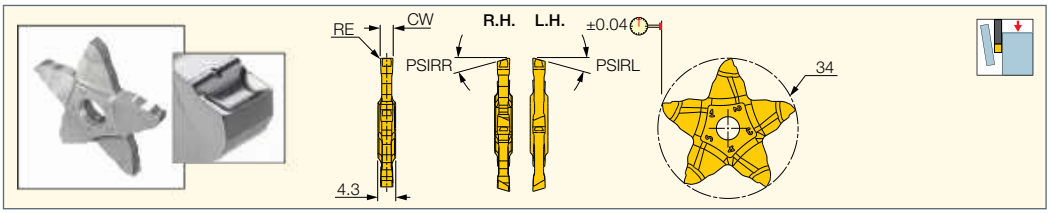
(3) For grooving and parting depths relative to part diameter, see page 536

**Tools:** PCADR/L • PCADR/L 34N-RE • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-34 • PCHR/L-34-JHP

PENTACUT
PARTING & GROOVING LINE

## PENTA 34R/L-PB

Pentagonal Inserts for Parting Bearing Steel and other Ductile Materials

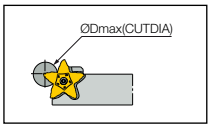


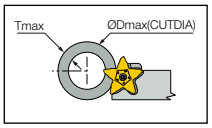

| Designation | Dimensions CW | RE | CUTDIA | PSIRL | PSIRR | IC908 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|
| **PENTA 34R150PB-6D** | 1.50 | 0.07 | 18.0 | - | 6.0 | ● | 0.03-0.05 |
| **PENTA 34L150PB-6D** | 1.50 | 0.07 | 18.0 | 6.0 | - | ● | 0.03-0.05 |
| **PENTA 34R200PB-6D** | 2.00 | 0.10 | 18.0 | - | 6.0 | ● | 0.03-0.06 |
| **PENTA 34L200PB-6D** | 2.00 | 0.10 | 18.0 | 6.0 | - | ● | 0.03-0.06 |
| **PENTA 34R300PB-6D** | 3.00 | 0.20 | 20.0 | - | 6.0 | ● | 0.03-0.08 |
| **PENTA 34L300PB-6D** | 3.00 | 0.20 | 20.0 | 6.0 | - | ● | 0.03-0.08 |

• For cutting speed recommendations and user guide, see pages 540-547

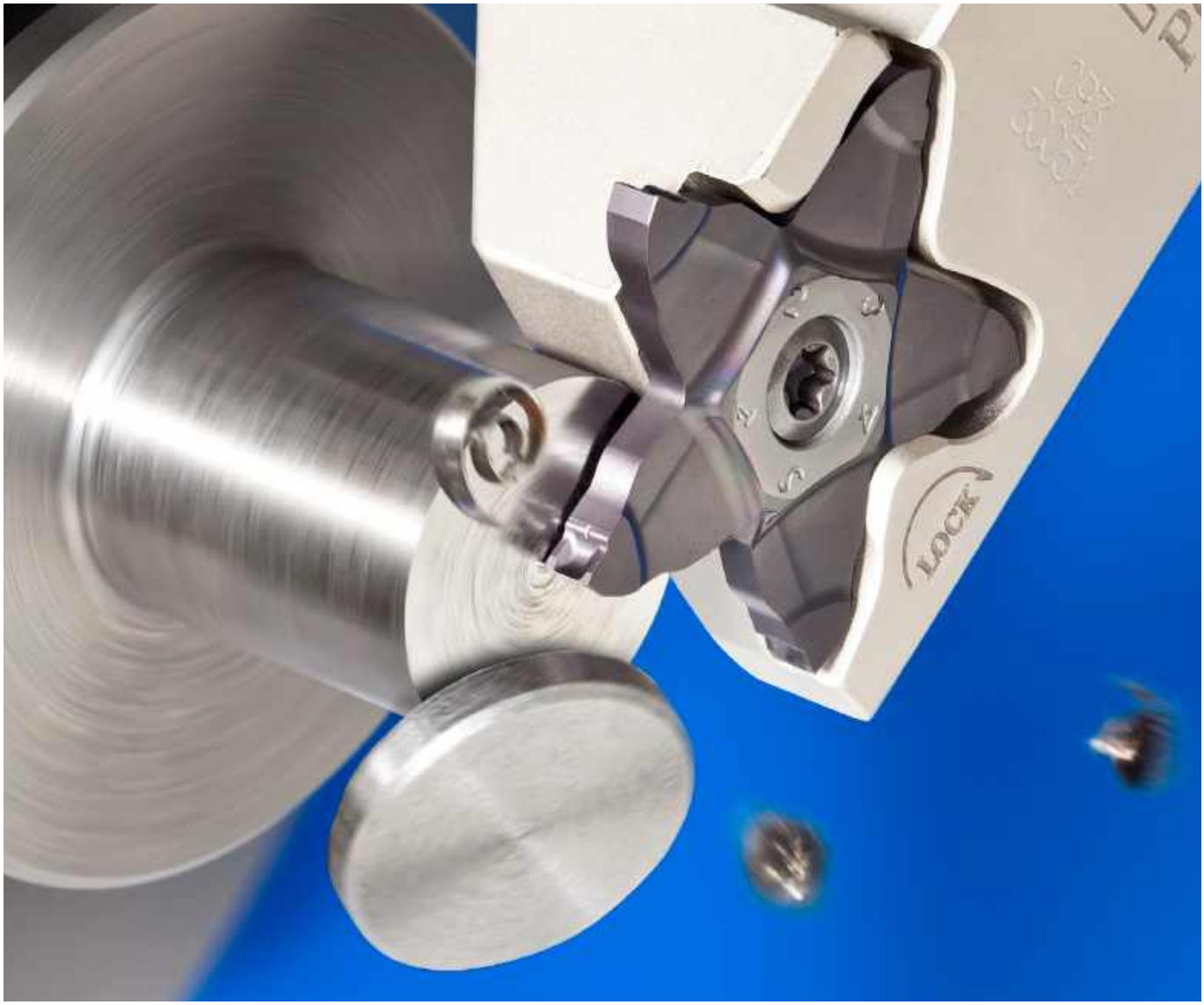
**Tools:** PCADR/L • PCADR/L 34N-RE • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-34 • PCHR/L-34-JHP

| $W^{\pm 0.02}$ | Dmax as a Function of Parting / Grooving Depth (T) for PENTA 34 Inserts T≤5.0 | T≤6.0 | T≤7.0 | T≤8.0 | T≤8.5 | T≤9.0 | T≤10.0 |
|---|---|---|---|---|---|---|---|
| 1.50 ≤ W ≤ 2.69 | N.L. | 350 | 165 | 100 | 55 | - | - |
| 2.70 ≤ W ≤ 4.00 | | | | | | 55 | 20 |




Dmax for parting = 2 x Tmax
N.L. = No Limit



## Parting and Grooving

### Selection of Inserts

For a proper match of insert and cutting material to application, the following variables must be taken into consideration:

- Width of cut (width of insert)
- Chipformer style
- Lead angle
- Corner radius
- Carbide grade

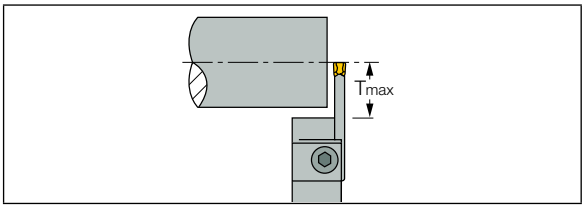
### Width of Cut (W.O.C.) and Depth of Cut (D.O.C.)

In selecting **W.O.C.**, the main factor to consider is the required **D.O.C.** The ratio **D.O.C.**≈ 8x**W.O.C.** is of practical use on alloy steel of average machinability. For example, applying a 3 mm **W.O.C.** insert **TAG N3C** to cut-off a 48 mm solid bar.
Additional factors which affect **D.O.C.** capacity, relative to the ratio, are:

### Holder or Blade Size

To minimize risk of vibration and deflection always choose:

- Blade or toolholder with smallest possible overhang.
- Toolholder with maximum shank dimension.
- Blade height (B) dimension which is larger than Tmax.
- Blade or holder with maximum blade width (largest possible insert seat size).
  Example:
- A **W.O.C.** 9.5 mm on blade TGFH 53K-9 (B=52.6 mm) extends the ratio of **D.O.C.** to **W.O.C.** by some 50% to 120 mm.




### Insert Support

A self-clamped tool is recommended for deep radial machining. A screw-clamp holder is recommended for axial and small **D.O.C.** machining.

### 90˚ Mounting

It is very important that the insert is mounted at 90º to the center line of the workpiece in order to obtain perpendicular surfaces and reduce the risk of vibration.

### Workpiece Machinability

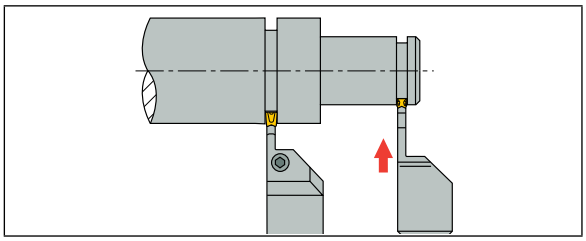
The workpiece material affects all of the above factors.

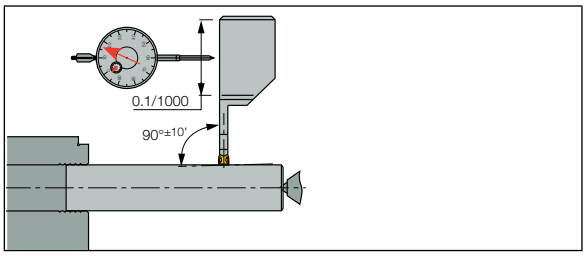
### Machine Power and Setup Rigidity

Excessive **W.O.C.** on a light-duty machine will yield vibration and may even stop spindle rotation.

### Expensive Workpiece Material

On costly metals the narrowest applicable **W.O.C.** should be used.



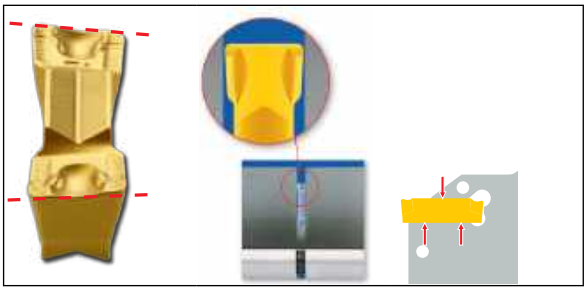


## Insert Positioning

### The Twisted Insert for Cut-Off and Grooving Applications

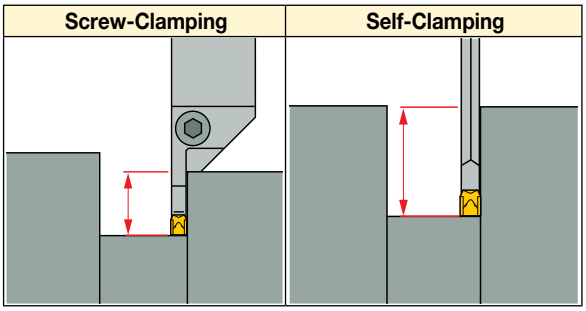
Machining depths longer than insert length is made possible with the double-ended, twisted insert body.

The rear edge is slanted in relation to the frontal edge so it does not come into contact with the machined groove surface when the tool penetrates deeply into the workpiece.



### Clamping

Extended, prismatic surfaces guarantee reliable, foolproof clamping even in unstable machining conditions.




Small diameters **(D.O.C.)** with screw-clamped Inserts

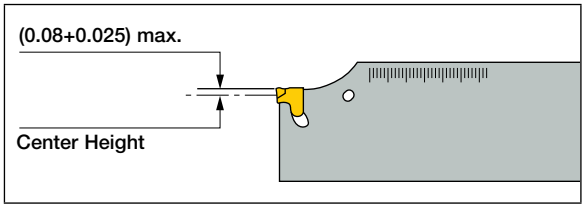
Large diameters **(D.O.C.)** with self-clamped Inserts

**Setup**

- The optimal cutting edge height above the center of **TANG-GRIP** tools is up to 0.08 mm + 0.025 mm **W.O.C.**, an advantage when cutting solid bar to center
- Cut-off as close to chuck as possible
- On new applications, first machine in the low or middle range of recommended speeds and feeds

**Machining**

- Consistency of speed and feed improves performance
- Apply coolant abundantly
- Secure inserts into clean pockets
- Cutting forces on soft workpiece materials may be insufficient to push insert well into pocket. Tap insert into place using a plastic hammer
- On a conventional lathe, lock the carriage to prevent axial motion during cut-off

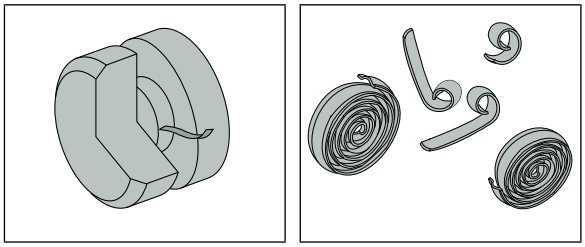



**Usage**

- Replace worn inserts promptly, the price of a new one is much less than the risk of damage from continuing with one that is worn out
- Replace blades that have worn or damaged pockets
- Never try to repair damaged pockets
- Chip curling is dependent on the chipformer type and the machining conditions

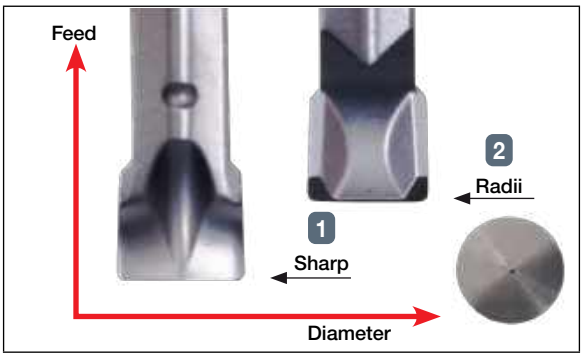
**Chipformer Features**

- Narrows the chip
- Eliminates friction with groove walls, prevents chip jam overload
- Permits higher feeds
- Produces unscratched surfaces, eliminating additional facing
- Curls the chips into compact spirals for easy disposal



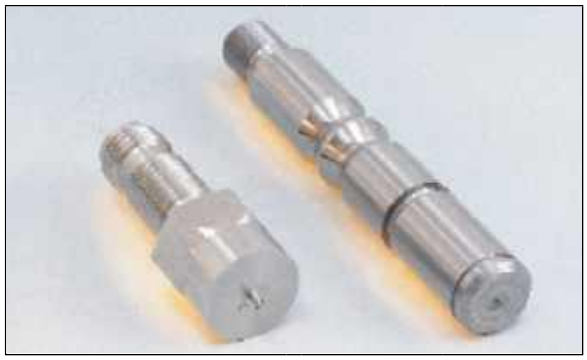
## Selection of Corner Radius

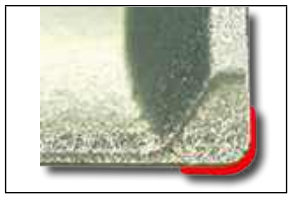
1 A smaller corner radius (r) will reduce the load on the workpiece and produce a smaller size burr
2 At the same time, a large corner radius allows for higher feeds and increased tool life

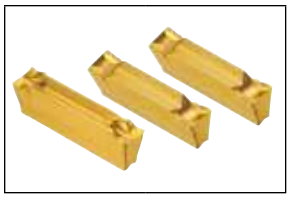



### Standard Corner Radius

- Standard medium corner size
- For general applications and materials







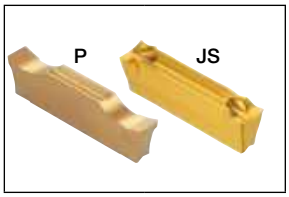
Medium (standard) corner radius

### "S" Sharp Corners

- Cutting edge with positive rake and sharp corners
- When a minimum burr (pip) size is essential
- For small feeds
- For small diameters or thin walls
- For CNCs, multi-spindle and screw machines



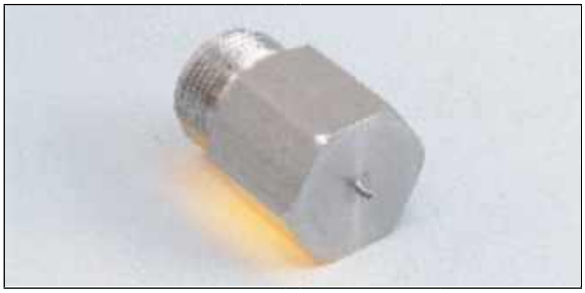


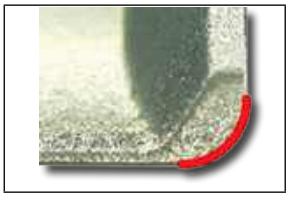



Sharp corner

### "B" Large Corner Radius

- Reinforced corners with stronger cutting edge
- For tough applications and interrupted cuts



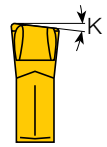
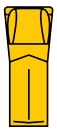
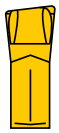


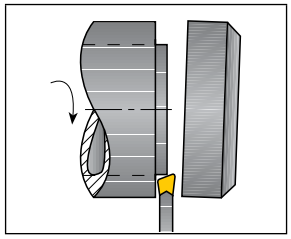


Large corner radius

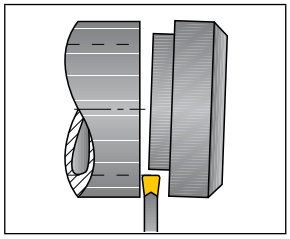
## Lead Angle

Lead angle **(K)** on cut-off inserts reduces size of burr remaining on workpiece. Increasing the lead angle reduces the burr, but also reduces possible feed rates and tool life. Therefore, neutral inserts are recommended for parts on which a burr is tolerated.
Insert designations such as **TAG R... DGR (R.H.)** and **TAG L... DGL (L.H.)** comply with standard terms for turning direction. When looking toward the chuck from the workpiece, **R.H.**=counterclockwise **(C.C.)** rotation of workpiece and **L.H.**=clockwise **(C)** rotation of workpiece. **C.C.** requires right-hand inserts; C requires left-hand inserts. A neutral insert with 0º lead angle increases **D.O.C.** capacity.

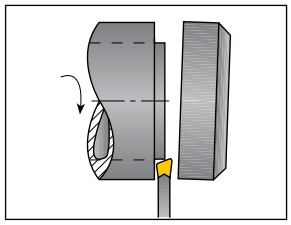
| Left | Neutral | Right |
|---|---|---|
| TAG L/DGL | TAG N/DGN | TAG R/DGR |
|   |  |  |



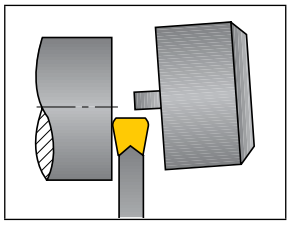
TAGR/GFR/DGR



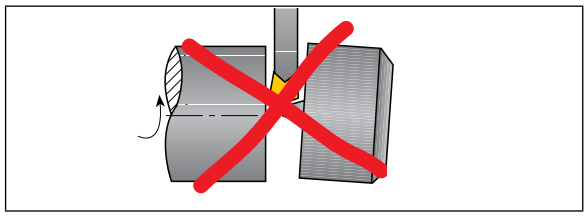
TAGR/GFN/DGN



TAG R/DGR



TAG N/DGN



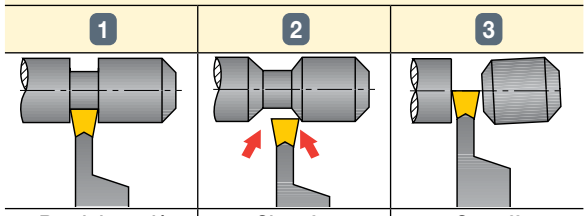
TAG R/DGR-WRONG

## Neutral Insert vs. Lead Angle Type

| | | | |
|---|---|---|---|
| | |  |  |
| **Lifetime** |  | ✔ | |
| **Chip Control** |  | ✔ | |
| **Burr Size** |  | | ✔ |
| **Surface Finish** |  | ✔ | |
| **Part Straightness** |  | ✔ | |

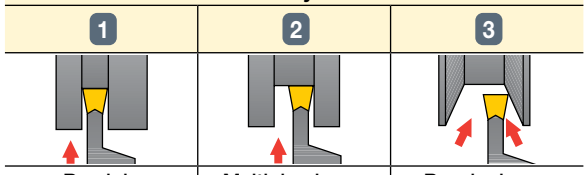
## General Rules for Specific Applications

**Chamfer and Cut-Off**



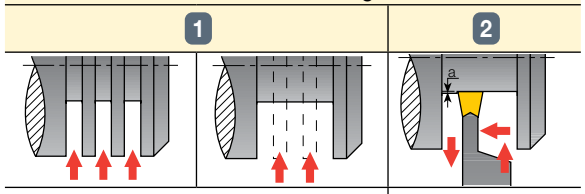

| 1 | 2 | 3 |
|---|---|---|
| Break in and/ or groove | Chamfer | Cut-off |

**V-Belt Pulley Grooves**




| 1 | 2 | 3 |
|---|---|---|
| Break in | Multiple plunge to depth at minor width of groove | Bevel, plunge and turn to minor diameter |

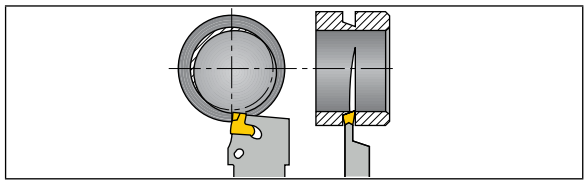
**Neck Recessing**




| 1 | 2 |
|---|---|
| Multiple plunge grooves | Necking On neck turning, DOC (a)=up to size of insert corner radius |

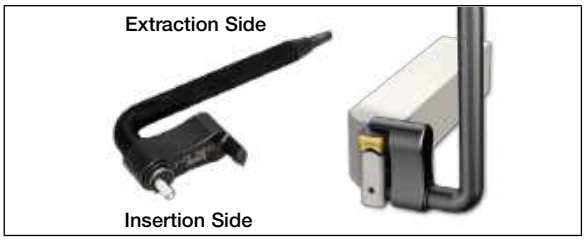
### Cut-Off on Eccentric Tubes

Inserts with 4° lead angle are usually recommended for tubes. However, the combination of eccentric bore and machine resiliency may increase feed-snap on breakthrough and damage the cutting edge. Changing to 6° lead angle inserts will moderate breakthrough. Alternatively, inserts with an extra negative rake-land that strengthens the cutting edge are available on request.



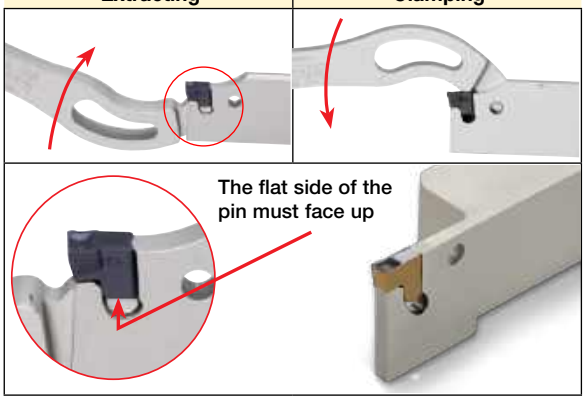
## Clamping / Extraction Instructions

**TANG-GRIP** The tools are equipped with a user-friendly clamping and extraction device.



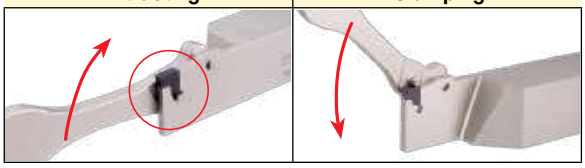

ETG 8-12 Extractor for 8 to 12.7 mm inserts

| Extracting | Clamping |
|---|---|




ETG 5-7 (for 5-7 mm tools)
ETG 2 (for 2 mm tools)
ETG 1.4 (for 1.4 mm tools)

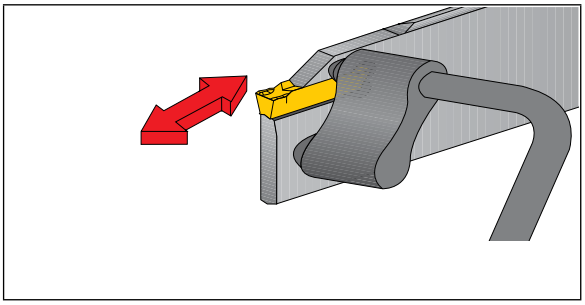
| Extracting | Clamping |
|---|---|



ETG 3-4 (for 3 and 4 mm tools)

## Clamping / Extraction Instructions

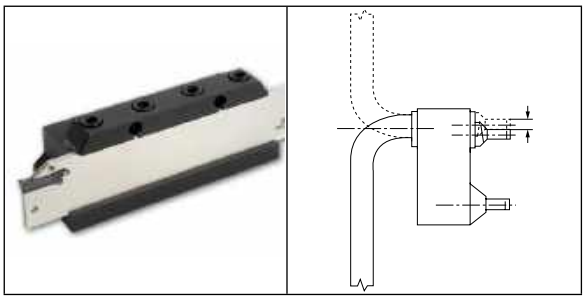
### Extractor for DGN/R/L Double-Ended Inserts Do-Grip Insert Clamping/Extracting



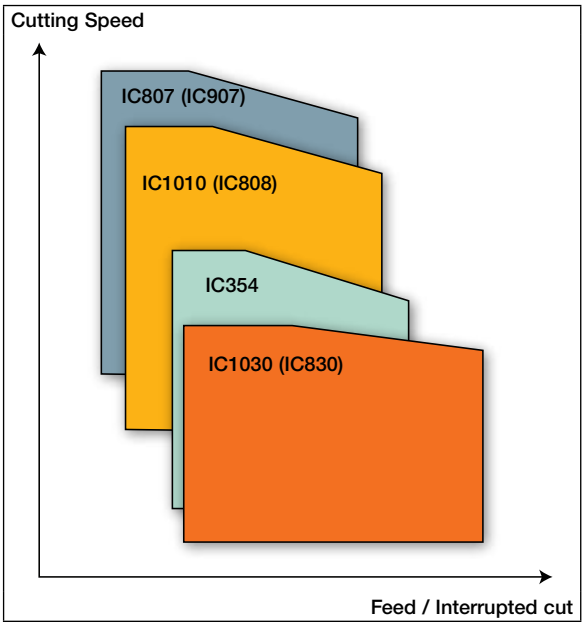
Extracting the insert

### Eccentric Extractor for Insert Indexing

Simple to operate; controlled rotation requires low force; guarantees limited upper jaw movement and secures maximum load on blade.



## Grade Application Range




## Selection Guide for Parting Grades

| Material groups | | ISO P | | ISO M | ISO K | ISO N | ISO S | ISO H |
|---|---|---|---|---|---|---|---|---|
| | | 1-11 | 12-13 | 14 | 15-20 | 21-28 | 31-37 | 38-41 |
| | | Steel | Stainless Steel Ferritic & Martensitic | Stainless Steel Austenitic & Duplex (Ferritic - Austenitic) | Cast Iron | Non-ferrous | High Temperature Alloys | Hard Steel & Cast Iron |
| PARTING | Harder | IC807 (IC907) | IC807 (IC907) | IC807 (IC907) | | **IC20** | **IC807 (IC907)** | **IC807 (IC907)** |
| | | | IC808 | IC808 | **IC807 (IC907)** | | IC20 | |
| | | **IC808** | IC1010 | IC1010 | IC20 | | IC808 | IC808 |
| | | IC1010 | **IC5400** | **IC5400** | IC808 | | IC1010 | IC1010 |
| | | IC830 | IC830 | IC830 | IC1010 | | IC830 | |
| | Tougher | IC1030 | IC1030 | IC1030 | | | IC1030 | |

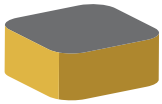
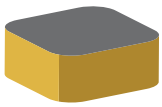
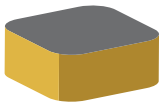
■ First choice

## Machining Data and Parting Speed Recommendations

| ISO | Material | | Condition | Tensile Strength [N/mm²] | Hardness HB | Material Group No. |
|---|---|---|---|---|---|---|
| P | Non-alloy steel and cast steel, free cutting steel | < 0.25 %C | Annealed | 420 | 125 | 1 |
| | | >= 0.25 %C | Annealed | 650 | 190 | 2 |
| | | < 0.55 %C | Quenched and tempered | 850 | 250 | 3 |
| | | >= 0.55 %C | Annealed | 750 | 220 | 4 |
| | | | Quenched and tempered | 1000 | 300 | 5 |
| | Low alloy steel and cast steel (less than 5% of alloying elements) | | Annealed | 600 | 200 | 6 |
| | | | Quenched and tempered | 930 | 275 | 7 |
| | | | | 1000 | 300 | 8 |
| | | | | 1200 | 350 | 9 |
| | High alloyed steel, cast steel, and tool steel | | Annealed | 680 | 200 | 10 |
| | | | Quenched and tempered | 1100 | 325 | 11 |
| | Stainless steel and cast steel | | Ferritic/martensitic | 680 | 200 | 12 |
| | | | Martensitic | 820 | 240 | 13 |
| M | Stainless steel and cast steel | | Austenitic, duplex | 600 | 180 | 14 |
| K | Grey cast iron (GG) | | Ferritic/pearlitic | | 180 | 15 |
| | | | Pearlitic/martensitic | | 260 | 16 |
| | Cast iron nodular (GGG) | | Ferritic | | 160 | 17 |
| | | | Pearlitic | | 250 | 18 |
| | Malleable cast iron | | Ferritic | | 130 | 19 |
| | | | Pearlitic | | 230 | 20 |
| N | Aluminum-wrought alloys | | Not hardenable | | 60 | 21 |
| | | | Hardenable | | 100 | 22 |
| | Aluminum-cast alloys | <=12% Si | Not hardenable | | 75 | 23 |
| | | | Hardenable | | 90 | 24 |
| | | >12% Si | High temperature | | 130 | 25 |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 |
| | | | Brass | | 90 | 27 |
| | | | Electrolitic copper | | 100 | 28 |
| | Non-metallic | | Duroplastics, fiber plastics | | | 29 |
| | | | Hard rubber | | | 30 |
| S | High temp. alloys | Fe based | Annealed | | 200 | 31 |
| | | | Hardened | | 280 | 32 |
| | | Ni or Co based | Annealed | | 250 | 33 |
| | | | Hardened | | 350 | 34 |
| | | | Cast | | 320 | 35 |
| | Titanium alloys | | Pure | RM 400 | | 36 |
| | | | Alpha+beta alloys hardened | RM 1050 | | 37 |
| H | Hardened steel | | Hardened | | 55 HRC | 38 |
| | | | Hardened | | 60 HRC | 39 |
| | Chilled cast iron | | Cast | | 400 | 40 |
| | Cast iron | | Hardened | | 55 HRC | 41 |

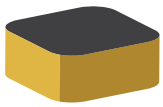
| Material Group No. | IC907/807 | IC30N | IC354 | IC1010/ IC908/808/1008 | IC5400 | IC1030/ IC830/928/1028 | IC328 |
|---|---|---|---|---|---|---|---|
| 1 | 160 - 240 | 130 - 190 | 115 - 170 | 135 - 200 | 110 - 160 | 100 - 150 | 95 - 140 |
| 2 | 150 - 205 | 120 - 160 | 105 - 145 | 125 - 170 | 100 - 135 | 95 - 125 | 85 - 120 |
| 3 | 115 - 170 | 90 - 135 | 80 - 120 | 95 - 140 | 75 - 110 | 70 - 105 | 65 - 100 |
| 4 | 125 - 190 | 100 - 150 | 90 - 135 | 105 - 160 | 85 - 130 | 80 - 120 | 75 - 110 |
| 5 | 100 - 160 | 80 - 130 | 70 - 115 | 85 - 135 | 70 - 110 | 65 - 100 | 60 - 95 |
| 6 | 125 - 190 | 100 - 150 | 90 - 135 | 105 - 160 | 85 - 130 | 80 - 120 | 75 - 110 |
| 7 | 100 - 170 | 80 - 135 | 70 - 120 | 85 - 140 | 70 - 110 | 65 - 105 | 60 - 100 |
| 8 | 100 - 160 | 80 - 130 | 70 - 115 | 85 - 135 | 70 - 110 | 65 - 100 | 60 - 95 |
| 9 | 90 - 150 | 70 - 120 | 65 - 105 | 75 - 125 | 60 - 100 | 55 - 95 | 50 - 85 |
| 10 | 150 - 205 | 120 - 160 | 105 - 145 | 125 - 170 | 100 - 135 | 95 - 125 | 85 - 120 |
| 11 | 90 - 150 | 70 - 120 | 65 - 105 | 75 - 125 | 60 - 100 | 55 - 95 | 50 - 85 |
| | IC20N | IC907/807 | IC808 | IC908 | IC5400 | IC830/928/1028 | IC328 |
| 12 | 170 - 300 | 115 - 210 | 110 - 200 | 105 - 190 | 85 - 150 | 80 - 140 | 75 - 135 |
| 13 | 150 - 290 | 105 - 200 | 100 - 190 | 95 - 180 | 75 - 145 | 70 - 135 | 65 - 125 |
| | IC20N | IC907/807 | IC808 | IC908 | IC5400 | IC830/928/1028 | IC328 |
| 14 | 140 - 260 | 95 - 175 | 90 - 170 | 85 - 160 | 70 - 130 | 65 - 120 | 60 - 110 |
| | IC907/807 | IC808 | IC908 | IC20 | | | |
| 15 | 170 - 305 | 145 - 270 | 140 - 255 | 70 - 125 | | | |
| 16 | 150 - 215 | 130 - 190 | 125 - 180 | 60 - 90 | | | |
| 17 | 160 - 265 | 140 - 230 | 135 - 220 | 65 - 110 | | | |
| 18 | 125 - 205 | 110 - 180 | 105 - 170 | 50 - 85 | | | |
| 19 | 190 - 320 | 170 - 280 | 160 - 265 | 80 - 130 | | | |
| 20 | 160 - 265 | 140 - 230 | 135 - 220 | 65 - 110 | | | |
| | IC907/807 | IC908/808 | IC20 | | | | |
| 21 | 360 - 1080 | 330 - 990 | 300 - 900 | | | | |
| 22 | 270 - 900 | 250 - 825 | 225 - 750 | | | | |
| 23 | 270 - 900 | 250 - 825 | 225 - 750 | | | | |
| 24 | 180 - 540 | 165 - 495 | 150 - 450 | | | | |
| 25 | 180 - 360 | 165 - 330 | 150 - 300 | | | | |
| 26 | 180 - 360 | 165 - 330 | 150 - 300 | | | | |
| 27 | 130 - 270 | 120 - 250 | 110 - 225 | | | | |
| 28 | 90 - 180 | 80 - 165 | 75 - 150 | | | | |
| 29 | 40 - 180 | 40 - 165 | 35 - 150 | | | | |
| | IC807 | IC907 | IC908 | IC808 | IC830/328/928/1028 | IC20 | |
| 31 | 50 - 70 | 45 - 70 | 40 - 60 | 40 - 65 | 30 - 45 | 30 - 40 | |
| 32 | 35 - 55 | 35 - 50 | 30 - 45 | 30 - 45 | 20 - 35 | 20 - 30 | |
| 33 | 35 - 55 | 35 - 50 | 30 - 45 | 30 - 45 | 20 - 35 | 20 - 30 | |
| 34 | 30 - 50 | 30 - 45 | 25 - 40 | 25 - 40 | 20 - 30 | 15 - 30 | |
| 35 | 25 - 35 | 25 - 35 | 20 - 30 | 20 - 30 | 15 - 20 | 15 - 20 | |
| 36 | 115 - 190 | 110 - 185 | 95 - 160 | 100 - 170 | 70 - 120 | 65 - 110 | |
| 37 | 40 - 50 | 40 - 50 | 35 - 45 | 35 - 45 | 30 - 40 | 40 - 50 | |
| | IC807 | IC907 | IC808 | IC908 | | | |
| 38 | 35-45 | 30-40 | 30-40 | 25-35 | | | |
| 39 | 30-40 | 25-35 | 25-35 | 20-30 | | | |
| 40 | 45-65 | 40-60 | 40-60 | 30-50 | | | |
| 41 | 40-50 | 35-45 | 35-45 | 30-40 | | | |

## ISCAR Parting Grades Chart

| | Grade | ISO | Grade Description | Coating Layers | Coating Color* |
|---|---|---|---|---|---|
| PVD COATED | IC308 | P15-P30<br><br><br><br>S15-S30<br> | A tough submicron grain size substrate with PVD coating. Suitable for steel, alloy steels and stainless steel at low to medium cutting speeds under stable conditions. | TiCN<br>Base |  |
| | IC328 | P30-P45<br>M25-M40<br><br><br><br> | A tough substrate with PVD coating, suitable for a wide range of applications on steels and stainless steel at low to medium speeds and medium to high feeds. The grade is recommended for interrupted cuts and machining under unstable conditions. | TiCN<br>Base |  |
| | IC354 | P20-P40<br>M20-M30<br><br><br><br> | A tough substrate with PVD coating, suitable for general use on a wide range of carbon steels, alloy steels and stainless steel at moderate speeds and feeds. | TiCN<br>Base |  |
| | IC807 | P10-P20<br>M05-M15<br>K15-K30<br><br>S10-S20<br>H05-H15 | A hard submicron grain size substrate with PVD coating and a special SUMOTEC surface treatment. Suitable for machining steels, alloy steels, austenitic stainless steel, high temperature alloys and hard steels at moderate to relatively high cutting speeds under stable conditions. Features high wear resistance and plastic deformation durability. | TiN<br>TiAlN<br>Base |  |
| | IC808 | P15-P30<br>M20-M30<br>K20-K40<br><br>S15-S30<br>H20-H30 | A tough submicron grain size substrate with PVD coating and a special SUMOTEC surface treatment. Recommended for general use for a large variety of applications and materials such as steels, alloy steels, austenitic stainless steel and high temperature alloys at moderate cutting speeds and feeds. Features high wear resistance and chipping durability. | TiN<br>TiAlN<br>Base |  |
| | IC830 | P30-P45<br>M25-M40<br><br><br><br> | A tough substrate with PVD coating and a special SUMOTEC surface treatment. Suitable for machining steel and stainless steel at low to medium cutting speeds and moderate to high feeds. The grade features high toughness and recommended for interrupted cuts and machining under unstable conditions. May be used on high temperature alloys at low cutting speeds. | TiN<br>TiAlN<br>Base |  |
| | IC907 | P10-P20<br>M05-M15<br>K15-K30<br><br>S10-S20<br>H05-H15 | A hard submicron grain size substrate with PVD coating, suitable for a wide range of materials such as steels, alloy steels, hard steels, austenitic stainless steel and heat resistant alloys at moderate to relatively high cutting speeds under stable conditions. Features high wear resistance and plastic deformation durability. | TiAlN<br>Base |  |
| | IC908 | P15-P30<br>M20-M30<br>K20-K40<br><br>S15-S30<br>H20-H30 | A tough submicron grain size substrate with PVD coating, recommended general use in a large variety of operations and materials such as steels, alloy steels, austenitic stainless steel and high temperature alloys at moderate cutting speeds. Features high wear resistance and chipping durability. | TiAlN<br>Base |  |
| | IC928 | P30-P45<br>M25-M40<br><br><br><br> | A tough substrate with PVD coating, suitable for machining steel and stainless steel at low to medium cutting speeds and moderate to high feeds. The grade is recommended for interrupted cut and machining at unstable conditions. | AlTiCrN<br>Base |  |

* For coated grades

## ISCAR Parting Grades Chart

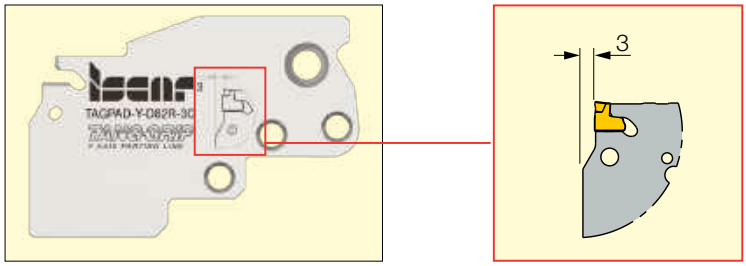
| | Grade | ISO | Grade Description | Coating Layers | Coating Color* |
|---|---|---|---|---|---|
| PVD COATED | IC1008 | P15-P30<br>M20-M30<br>K20-K40<br><br>S15-S30<br>H20-H30 | A tough submicron grain size substrate with PVD coating. Recommended for general use on a wide range of applications and materials as steels, alloy steels, austenitic stainless steel and high temperature alloys at moderate cutting speeds. | TiN<br>TiAlN<br>Base |  |
| | IC1010 | P15-P30<br>M20-M30<br>K20-K40<br><br>S15-S30<br>H20-H30 | A tough submicron grain size substrate with PVD coating. Recommended for general use on a wide range of applications and materials such as steels, alloy steels, austenitic stainless steel and high temperature alloys at moderate cutting speeds and low to medium feeds. The grade features improved toughness and wear resistance which extends tool life. | TiN<br>AlTiN<br>Base |  |
| | IC1028 | P30-P45<br>M25-M40<br><br><br><br> | A tough substrate with PVD coating, suitable for machining steel and stainless steel at low to medium cutting speeds and moderate to high feeds. The grade is recommended for interrupted cuts and machining under unstable conditions. | TiN<br>AlTiCrN<br>Base |  |
| | IC1030 | P30-P45<br>M25-M40<br><br><br><br> | A tough substrate with PVD coating, suitable for machining steel and stainless steel at low to medium cutting speeds and moderate to high feeds. Recommended for interrupted cuts and machining under unstable conditions. The grade features improved toughness and wear resistance which extends tool life. | TiN<br>AlTiN<br>Base |  |
| CVD COATED | IC5400 | P30-P45<br>M25-M45<br><br><br><br> | A tough substrate with MTCVD coating and a special SUMOTEC post coating treatment. Suitable for machining steel and stainless steel at low to medium cutting speeds and moderate to high feeds under stable and unstable machining conditions. | TiN<br>$Al_2O_3$<br>TiCN<br>Base |  |

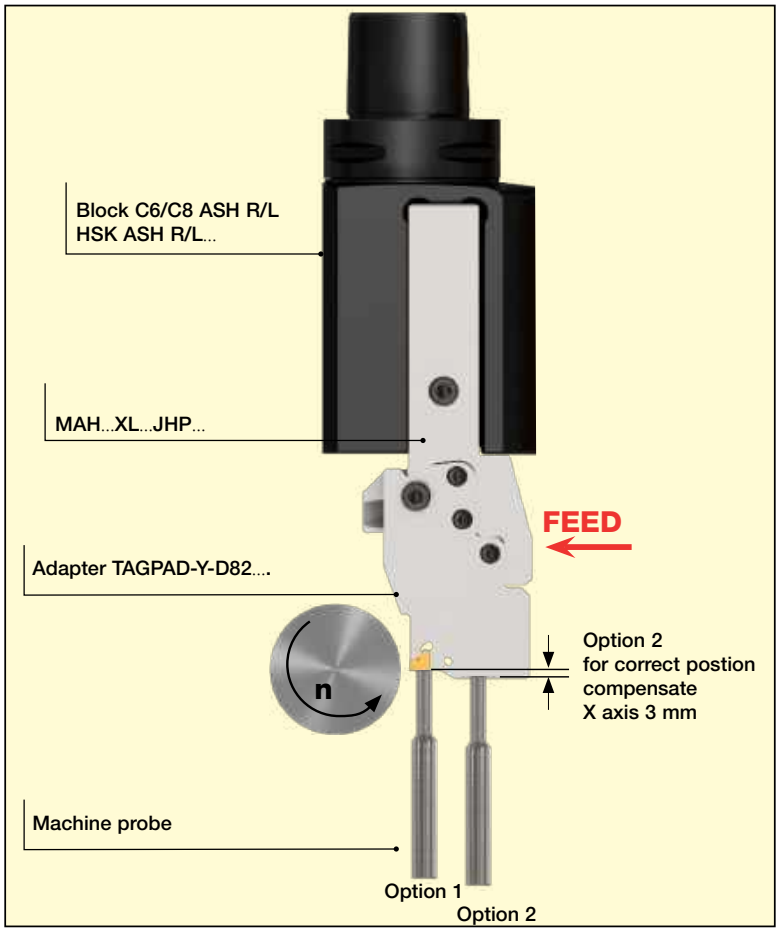
* For coated grades

| | Grade | ISO | Grade Description | Uncoated Layers | Uncoated |
|---|---|---|---|---|---|
| CERMET | IC30N | P10-P30<br>M10-M20<br><br><br><br> | A tough cermet grade, suitable for machining, steels and stainless steel at medium to high cutting speeds and low feeds. Features excellent surface finish, very good wear resistance and prevents built-up edge. | Base |  |
| UNCOATED | IC20 | <br><br>K10-K20<br>N05-N25<br>S10-S20<br>H10-H20 | A hard-uncoated carbide grade for machining aluminum and other non-ferrous materials at medium to high cutting speeds. Can be used for cast iron at low cutting speeds. Suitable also for machining high temperature and Titanium alloys, at low cutting speeds. | Base |  |

## Y Axis TAGPAD setup on Multi-Task and Turning Center Machines

For setup in X direction, use the dimensions marked on the adapter. Setup in Y Axis is not needed.




* Option 1 is preferable due to better accuracy

### Setting in X Axis

Set the cutting edge on the center line:
Option 1 - Gauge the cutting edge
Option 2 - Gauge the blade and compensate 3mm

# FACE GROOVING AND TURNING



# CONTENTS

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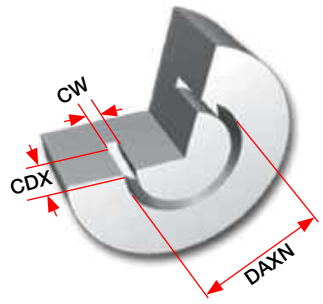
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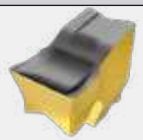
# Selection Guide

HELIFACE

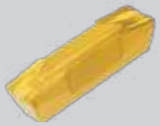
## A Variety of Inserts for Face Machining Applications




### Face Grooving DAXN 6–40 mm

| | | DAXN | DAXX | CWN | CWX | CDX | Page |
|---|---|---|---|---|---|---|---|
| Picco |  | 6 | - | 1 | 3 | 30 | 592-597 |
| MIFR/MEFL |  | 8 | - | 1.5 | 3.5 | 15 | 602 |
| GFQR |  | 12 | 19 | 1 | 2.5 | 3 | 600 |
| HGPL |  | 12 | ∞ | 3 | 6 | ∞ | 580 |
| GRIP |  | 12 | ∞ | 3 | 6.35 | ∞ | 579 |
| DGN |  | 21 | ∞ | 4 | 6 | ∞ | 486 |
| HFPR/L |  | 12 | ∞ | 3 | 6 | ∞ | 578 |
| TNF |  | 30 | 700 | 3 | 6 | ∞ | 587 |
| HFPN |  | 27 | 130 | 2 | 2 | 14 | 577 |

### Face Grooving DAXN 24–80 mm

| | | DAXN | DAXX | CWN | CWX | CDX | Page |
|---|---|---|---|---|---|---|---|
| PENTA 34F |  | 22 | ∞ | 2.39 | 4 | 5 | 591-592 |
| GDMY/N |  | 50 | ∞ | 8 | 8 | 27 | 290, 584 |
| GIF |  | 80 | ∞ | 8 | 10 | 27 | 583 |
| GIFG 8 |  | 50 | ∞ | 8 | 8 | 25 | 583 |
| GIMM 8CC |  | 80 | ∞ | 8 | 8 | ∞ | 585 |
| GDMM CC |  | 50 | ∞ | 7 | 8 | ∞ | 585 |
| GIA-K |  | 80 | ∞ | 8 | 8 | 25 | 583 |
| GFF |  | 25 | 55 | 2.1 | 6 | 35 | 591 |

HELIFACE

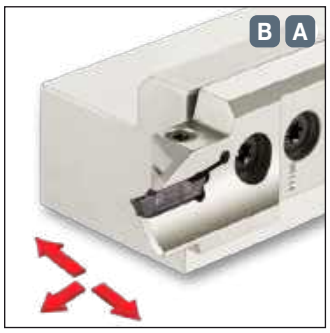
## Small Diameter
## Face Machining Systems




**Tool: HGHR/L see page 560**
**Insert: GRIP... / HGPL...**

CW = 3-6.35 mm
CDX = 6 mm
DAXN = 12 mm

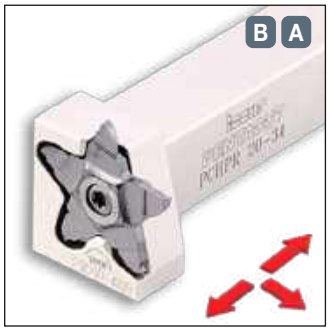
Integral shank toolholder with double-ended inserts.
Used for face grooving and face turning of small parts for 12 mm minimum groove diameter.




**Tool: HGAER/L... (adapter) see page 567**
**Tool: HFAER/L... (adapter) see pages 567-568**
**Insert: HFPR/L...**

CW = 3-6 mm
CDX = 32 mm
DAXN = 12 mm

Exchangeable external adapters.
Used with **HELIFACE** and GRIP inserts for deep face machining.




**Tool: PCHPR/L see page 592**
**Insert: PENTA 34F...**

CW = 2.39-4 mm
CDX = 5 mm
DAXN = 22 mm

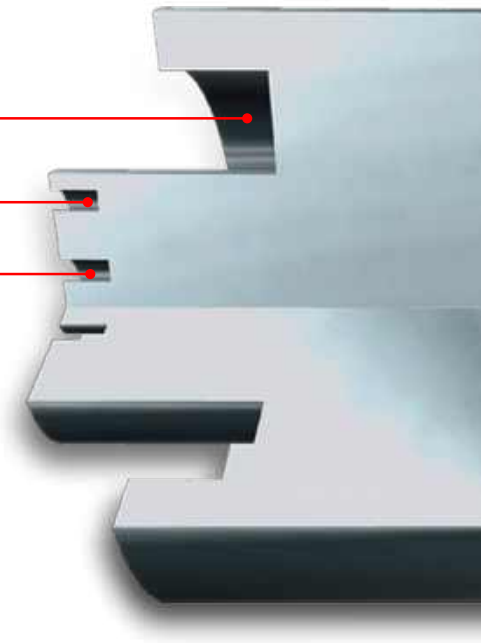
Pentagonal insert for face grooving and recessing up to 5 mm depth of cut at a minimum of 22 mm diameter.

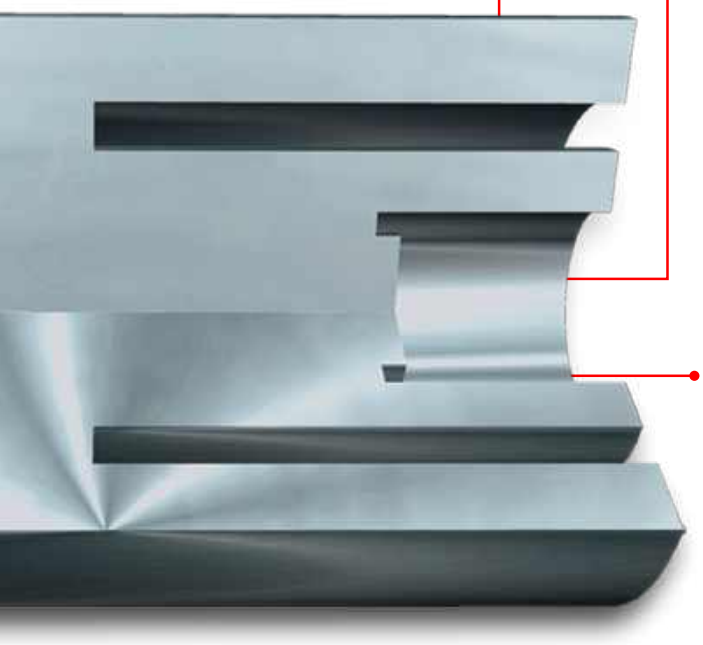



**Tool: PICCO R010 see pages 594-595**

CW = 1-5 mm
CDX = 6 mm
DAXN = 6 mm

Small solid carbide bars for machining shallow grooves from 6 mm minimum diameter.







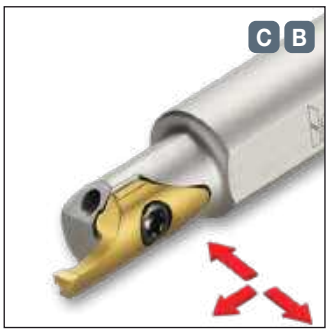

**Tool: PICCO R015** see page 599

CW = 2.5-3 mm

CDX = 30 mm

DAXN = 8 mm

Small solid carbide bars for machining deep face grooves of up to 30 and 8 mm minimum diameter.



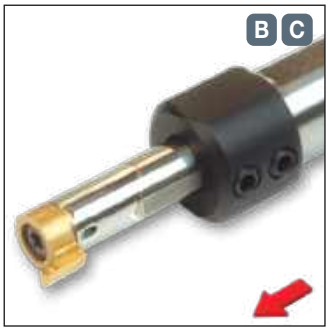

**Tool: MIFHR ...** see page 600
**Insert: MIFR ...**

CW = 1.5-3.5 mm

CDX = 5.5 mm

DAXN = 8 mm

**MINCUT**-A family of internal face grooving and face turning tools for machining small diameters ranging from 8-60 mm.
Strong and stable tangential pocket with internal coolant.




**Tool: MGCH 09C** see page 600
**Insert: GFQR...**

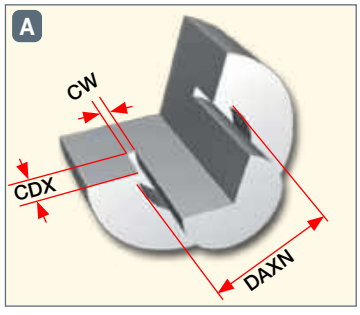
CW = 1-2.5 mm

CDX = 3 mm

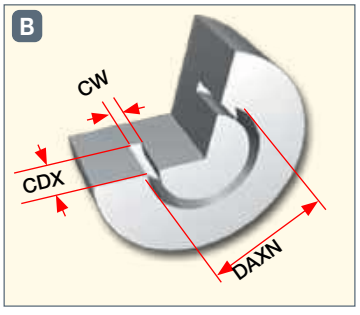
DAXN = 12 mm

A screw-clamped insert on an internal coolant solid carbide bar. Used for machining shallow grooves from 12 mm minimum diameter.

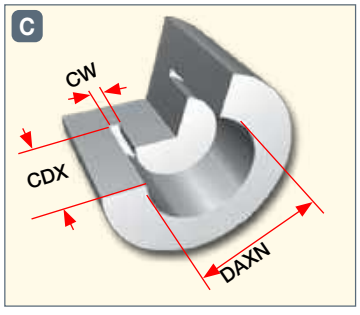
## Main Applications




Grooving Next to a Shaft



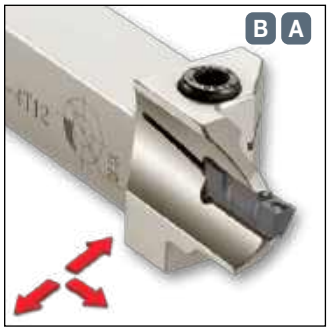

External Grooving




Internal Grooving

HELIFACE

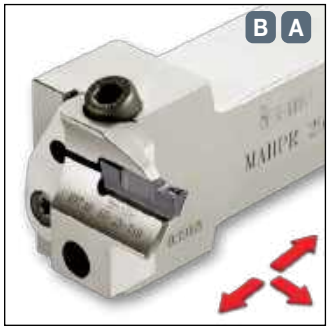
## Medium Diameter
## Face Machining Systems




**Tool: HFHR/L... see pages 560-563**
**Insert: HFPR/L...**

CW = 3-6 mm
CDX = 32 mm
DAXN = 25 mm

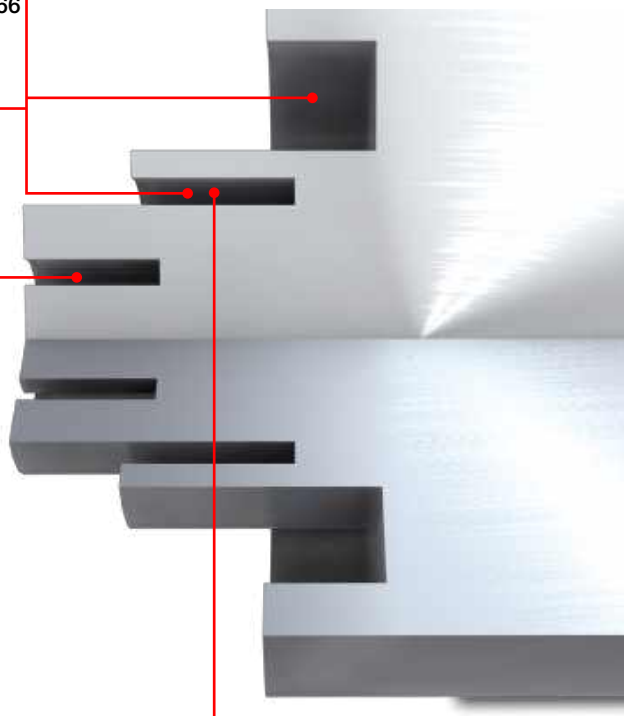
Integral shank toolholders carrying **HELIFACE** and GRIP inserts. For deep face grooving and side face turning.

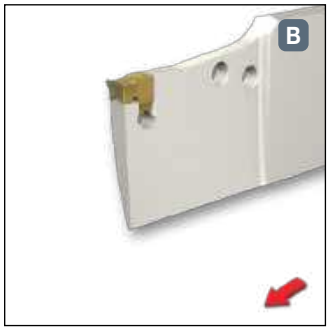



**Tool: HFPAD... (adapter) see pages 564-566**
**Insert: HFPR/L...**

CW = 3-6 mm
CDX = 20 mm
DAXN = 25 mm

Slanted, screw-clamped adapter carrying **HELIFACE** and GRIP inserts. A part of the **MODULAR-GRIP** system. Very rigid, for tough face operations.

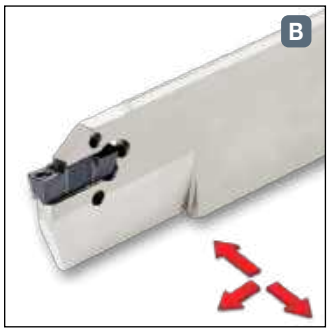





**Tool: TNFFH see page 585**
**Insert: TNF 3-6C...**

CW = 3-6 mm
CDX = 35 mm
DAXN = 30 mm

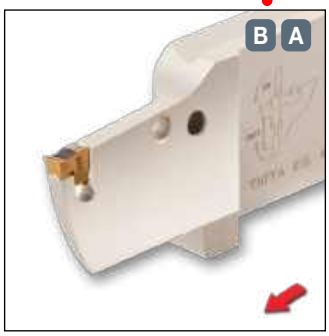
Adapter and blade toolholders carrying TNF 3-6C inserts. For deep face grooving.




**Tool: HFFR/L... see page 566**
**Insert: HFPR/L...**

CW = 4-6 mm
CDX = 38 mm
DAXN = 48 mm

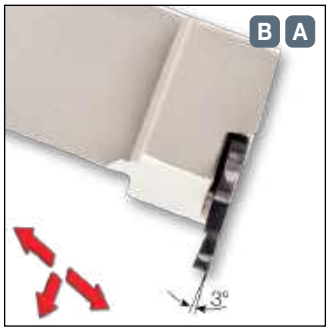
Economical, double-ended blades carrying **HELIFACE** and GRIP inserts. Recommended for deep face grooving and face turning to a maximum depth of 38 mm.




**Tool: TNFFA see page 586**
**Insert: TNF 3-6C...**

CW = 3-6 mm
CDX = 35 mm
DAXN = 30 mm

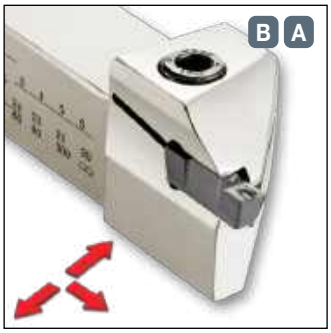
Reinforced blades carrying TNF 3-6C inserts. Recommended for face grooving only. Can machine along a shaft. Excellent chip evacuation.




**Tool: PCHPRS/LS** see page 592
**Insert: PENTA 34F-RS/LS...**

CW = 2.39-4 mm
CDX = 5 mm
DAXN = 22 mm

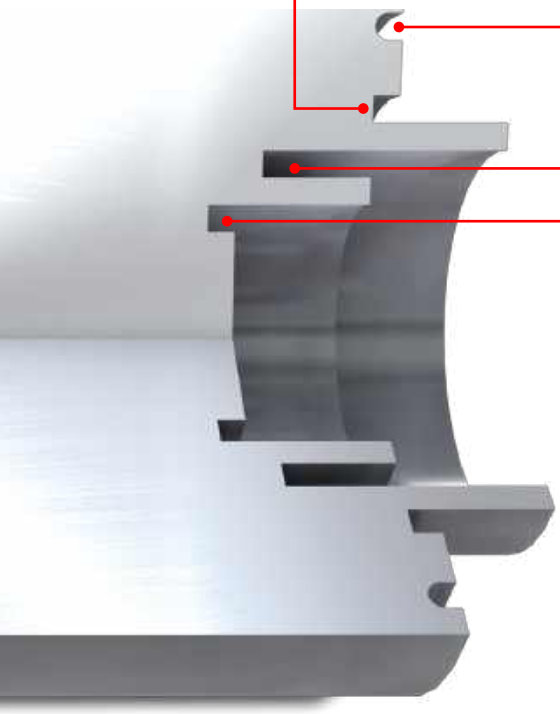
Pentagonal insert for face grooving and recessing next to shoulders up to 5 mm depth of cut at a minimum of 22 mm diameter.

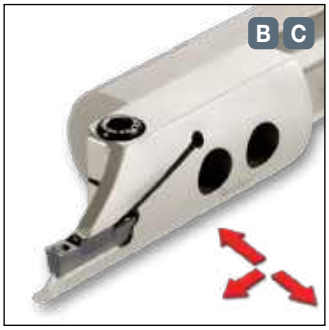



**Tool: HFHR/L..-M** see page 568
**Insert: HFPR/L...**

CW = 3-6 mm
CDX = 5.3 mm
DAXN = 20 mm

Integral toolholders carrying **HELIFACE** and GRIP inserts. For machining up to 5.3 mm depth of cut. 3-6 mm wide inserts can be mounted in the same pocket.

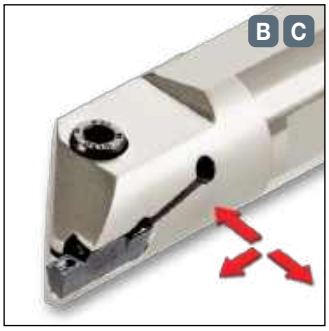





**Tool: HFAIR/L...& HGAIR/L (adapter)** see pages 574, 570
**Insert: HFPR/L...**

CW = 3-6 mm
CDX = 12 mm
DAXN = 32 mm

Exchangeable, internal coolant adapters carrying **HELIFACE** and GRIP inserts. Recommended for deep internal face machining.

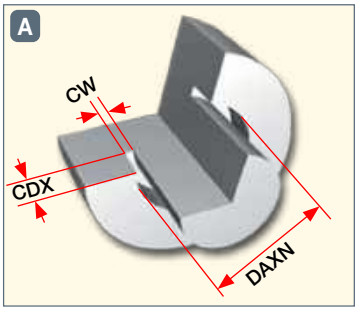



**Tool: HFIR/L..-MC** see page 576
**Insert: HFPR/L...**

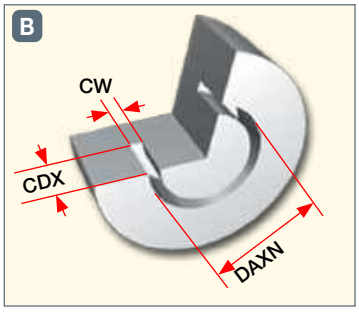
CW = 3-6 mm
CDX = 5 mm
DAXN = 20 mm

Boring bars for shallow face machining of up to 5 mm depth carrying **HELIFACE** and GRIP inserts. Internal coolant. 3-6 mm width inserts can be mounted in the same pocket.

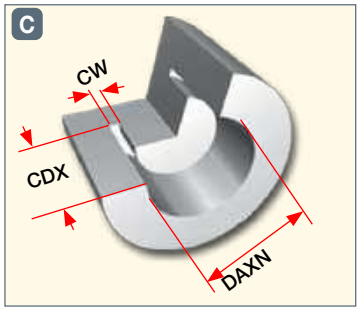
## Main Applications




Grooving Next to a Shaft

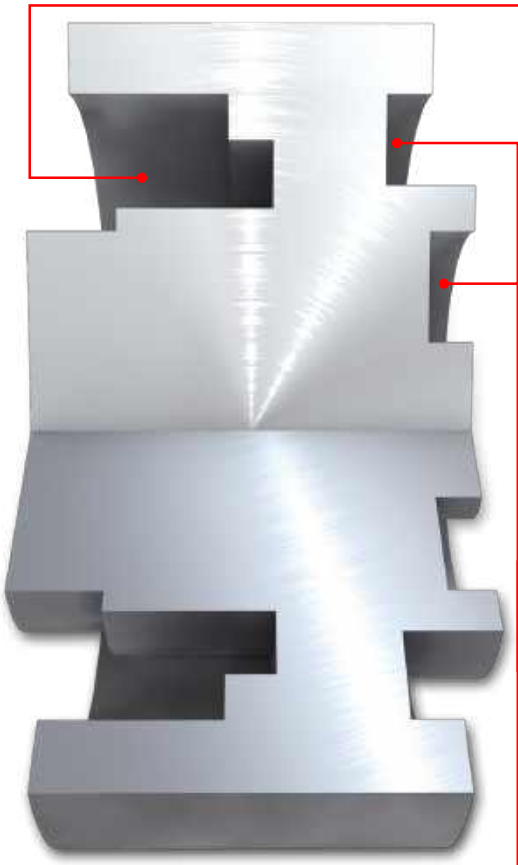



External Grooving




Internal Grooving

## Large Diameter
## Face Machining Systems

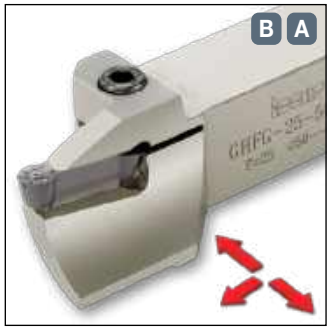





**Tool: CGFG 51-..R/L-P8**
**see page 582**
**Insert: GIMY 8...**

CW = 8 mm
CDX = 120 mm
DAXN = 180 mm

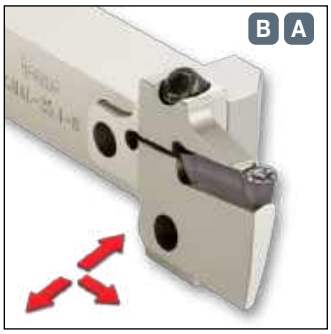
Blades carrying 8 mm single-ended **CUT-GRIP** inserts. Can machine up to 120 mm depth next to a shaft. Used for large diameters.




**Tool: GHFG ..R/L-8** **see page 581**
**Insert: GDMY 8..**

CW = 8 mm
CDX = 25 mm
DAXN = 50 mm

Integral toolholders carrying 8 mm **CUT-GRIP** inserts. For heavy machining of medium and large parts. Can machine next to a shaft of up to 25 mm depth.

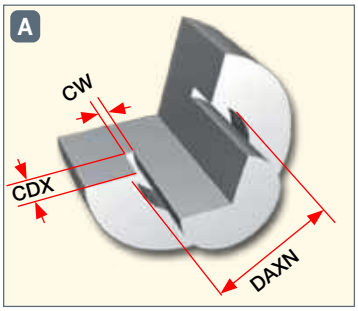



**Tool: GAFG ..R/L-8 (adapter)** **see page 582**
**Insert: GDMM 8CC**

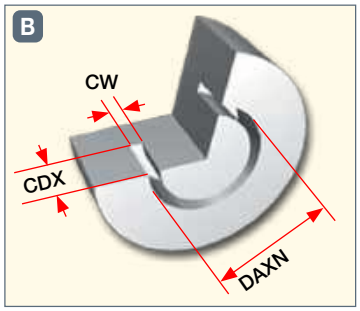
CW = 8 mm
CDX = 25 mm
DAXN = 80 mm

Exchangeable adapters carrying 8 mm **CUT-GRIP** inserts. Can machine up to 25 mm depth next to a shaft. For heavy machining of medium and large parts.

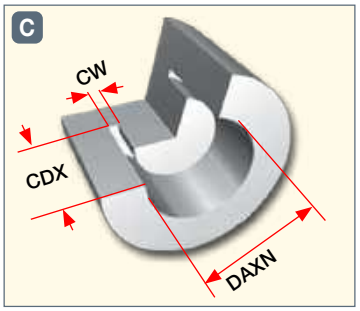
### Main Applications



Grooving Next to a Shaft



External Grooving

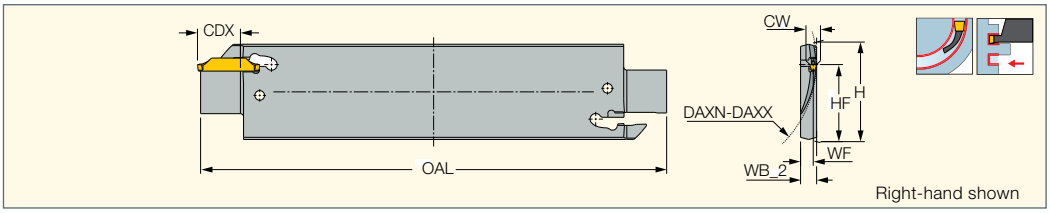


Internal Grooving

## HELI-FACE and HELI-GRIP

HELIFACE

### HFFH
Face Grooving Blades




| Designation | DAXN(1) | DAXX(2) | CW | CDX | WF | WB_2 | HF | H | OAL | |
|---|---|---|---|---|---|---|---|---|---|---|
| HFFH 38R/L-2 | 38.0 | 45.0 | 2.00 | 14.00 | 4.50 | 5.2 | 24.8 | 32.0 | 150.00 | EDG 33B* |
| HFFH 45R/L-2 | 45.0 | 60.0 | 2.00 | 14.00 | 4.40 | 5.2 | 24.8 | 32.0 | 150.00 | EDG 33B* |
| HFFH 60R/L-2 | 60.0 | 80.0 | 2.00 | 14.00 | 4.40 | 5.2 | 24.8 | 32.0 | 150.00 | EDG 33B* |
| HFFH 80R/L-2 | 80.0 | 100.0 | 2.00 | 14.00 | 4.40 | 5.2 | 24.8 | 32.0 | 150.00 | EDG 33B* |
| HFFH 100R/L-2 | 100.0 | 130.0 | 2.00 | 14.00 | 4.40 | 5.2 | 24.8 | 32.0 | 150.00 | EDG 33B* |

- H dimension links blades and blocks

(1) Minimum penetration diameter

(2) Maximum penetration diameter * Optional, should be ordered separately

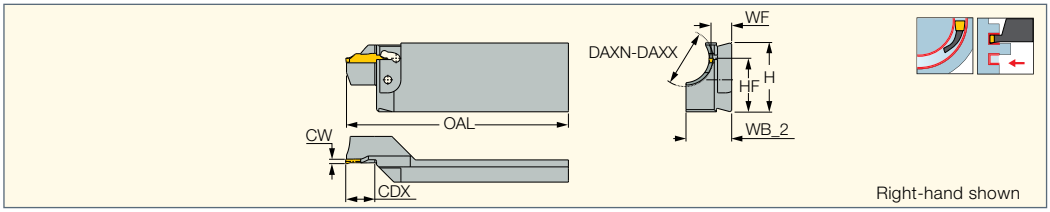
**Inserts:** HFPN

**Holders:** C#-TBK-R/L • HSK A-WH-TBK-R/L • SGTBF • SGTBK • SGTBU/SGTBN • UBHCR/L



HELIFACE

### HFFA
Reinforced Face Grooving Blades




| Designation | CW | DAXN(1) | DAXX(2) | CDX | H | WF | HF | OAL | WB_2 | |
|---|---|---|---|---|---|---|---|---|---|---|
| HFFA 27R/L-2 | 2.00 | 27.0 | 29.0 | 14.00 | 32.0 | 9.50 | 24.8 | 102.00 | 21.0 | EDG 33B* |
| HFFA 29R/L-2 | 2.00 | 29.0 | 33.0 | 14.00 | 32.0 | 9.50 | 24.8 | 102.00 | 18.5 | EDG 33B* |
| HFFA 33R/L-2 | 2.00 | 33.0 | 38.0 | 14.00 | 32.0 | 9.50 | 24.8 | 102.00 | 17.5 | EDG 33B* |
| HFFA 38R/L-2 | 2.00 | 38.0 | 46.0 | 14.00 | 32.0 | 9.50 | 24.8 | 102.00 | 13.5 | EDG 33B* |
| HFFA 46R/L-2 | 2.00 | 46.0 | 60.0 | 14.00 | 32.0 | 9.50 | 24.8 | 102.00 | 13.5 | EDG 33B* |
| HFFA 60R/L-2 | 2.00 | 60.0 | 80.0 | 14.00 | 32.0 | 9.50 | 24.8 | 102.00 | 14.0 | EDG 33B* |
| HFFA 80R/L-2 | 2.00 | 80.0 | 105.0 | 14.00 | 32.0 | 9.50 | 24.8 | 102.00 | 16.1 | EDG 33B* |

- For user guide, see pages 604-615

(1) Minimum penetration diameter

(2) Maximum penetration diameter

* Optional, should be ordered separately

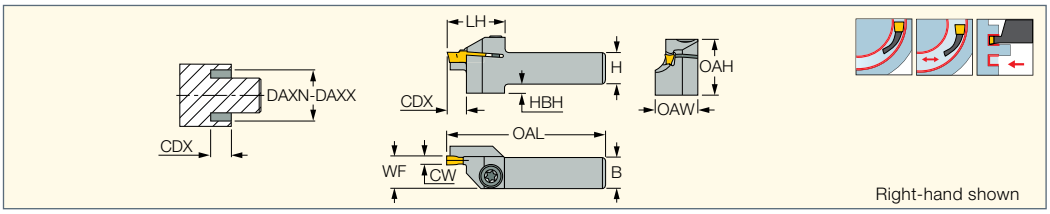
**Inserts:** HFPN

**Holders:** SGTBU/SGTBN • UBHCR/L

HELIFACE

## HGHR/L-3

Integral Holders for Face Grooving and Turning




| Designation | H | B | CW | CDX | HBH | WF | DAXN(1) | DAXX(2) | OAL | LH | OAH | OAW | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HGHR 1010-12-3T6 | 10.0 | 10.0 | 3.00 | 6.00 | 2.0 | 9.50 | 12.0 | 16.0 | 120.00 | 19.0 | 19.0 | 13.70 | SR 76-1400 | T-20/3 |
| HGHR 1010-16-3T6 | 10.0 | 10.0 | 3.00 | 6.00 | 2.0 | 9.50 | 16.0 | 25.0 | 120.00 | 19.0 | 19.0 | 12.80 | SR 76-1400 | T-20/3 |
| HGHR/L 1212-12-3T6 | 12.0 | 12.0 | 3.00 | 6.00 | - | 11.00 | 12.0 | 16.0 | 120.00 | 19.0 | 19.0 | 15.70 | SR 76-1400 | T-20/3 |
| HGHR 1212-16-3T6 | 12.0 | 12.0 | 3.00 | 6.00 | - | 11.00 | 16.0 | 25.0 | 120.00 | 19.0 | 19.0 | 14.80 | SR 76-1400 | T-20/3 |
| HGHR/L 1616-12-3T6 | 16.0 | 16.0 | 3.00 | 6.00 | - | 15.00 | 12.0 | 16.0 | 120.00 | 19.0 | 21.0 | 19.70 | SR 76-1400 | T-20/3 |
| HGHR/L 1616-16-3T6 | 16.0 | 16.0 | 3.00 | 6.00 | - | 15.00 | 16.0 | 25.0 | 120.00 | 19.0 | 21.0 | 18.80 | SR 76-1400 | T-20/3 |
| HGHR/L 2020-12-3T6 | 20.0 | 20.0 | 3.00 | 6.00 | - | 20.00 | 12.0 | 16.0 | 120.00 | 19.0 | 25.0 | 24.00 | SR 76-1400 | T-20/3 |
| HGHR/L 2020-16-3T6 | 20.0 | 20.0 | 3.00 | 6.00 | - | 20.00 | 16.0 | 25.0 | 120.00 | 19.0 | 25.0 | 24.00 | SR 76-1400 | T-20/3 |
| HGHR/L 2525-12-3T6 | 25.0 | 25.0 | 3.00 | 6.00 | - | 25.00 | 12.0 | 16.0 | 120.00 | 19.0 | 30.0 | 29.00 | SR 76-1400 | T-20/3 |
| HGHR/L 2525-16-3T6 | 25.0 | 25.0 | 3.00 | 6.00 | - | 25.00 | 16.0 | 25.0 | 120.00 | 19.0 | 30.0 | 29.00 | SR 76-1400 | T-20/3 |

• HGN & GRIP inserts can be used only with right-hand toolholders, HGPL inserts only with left-hand toolholders • For user guide, see pages 604-615

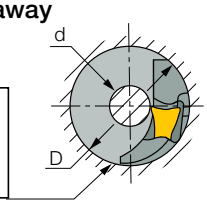
(1) Minimum penetration diameter

(2) Maximum penetration diameter

**Inserts:** GRIP • GRIP (full radius) • HGN-C • HGN-J • HGN-UT • HGPL

### No limitation for widening groove toward or away from center, except for the following tools:

Limitation of widening toward center depends on the major diameter (D) as per chart.



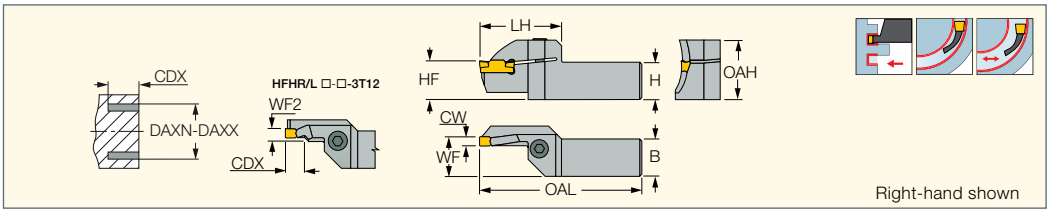

**HGHR/L...-12-3T6**

| D | d |
|---|---|
| 12.0 | 4.0 |
| 13.0 | 1.0 |
| 13.5 | 0 |

HELIFACE

## HFHR/L-3T

Integral Holders for Facing




| Designation | CW | CDX | H | HF | B | OAL | WF | WF2 | DAXN(2) | DAXX(3) | LH | OAH | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HFHR/L 20-25-3T12 | 3.00 | 12.00 | 20.0 | 20.0 | 20.0 | 140.00 | 20.50 | 5.3 | 25.0 | 30.0 | 38.0 | 28.0 | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 20-30-3T12 | 3.00 | 12.00 | 20.0 | 20.0 | 20.0 | 140.00 | 20.50 | 5.3 | 30.0 | 38.0 | 38.0 | 29.0 | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 20-38-3T12 | 3.00 | 12.00 | 20.0 | 20.0 | 20.0 | 140.00 | 20.50 | 5.3 | 38.0 | 48.0 | 38.0 | 30.0 | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 20-48-3T12 | 3.00 | 12.00 | 20.0 | 20.0 | 20.0 | 140.00 | 20.50 | 5.3 | 48.0 | 60.0 | 38.0 | 30.0 | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-25-3T12 | 3.00 | 12.00 | 25.0 | 25.0 | 25.0 | 150.00 | 25.50 | 5.3 | 25.0 | 30.0 | 38.0 | 33.0 | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-30-3T12 | 3.00 | 12.00 | 25.0 | 25.0 | 25.0 | 150.00 | 25.50 | 5.3 | 30.0 | 38.0 | 38.0 | 34.0 | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-38-3T12 | 3.00 | 12.00 | 25.0 | 25.0 | 25.0 | 150.00 | 25.50 | 5.3 | 38.0 | 48.0 | 38.0 | 35.0 | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 20-60-3T22 (1) | 3.00 | 22.00 | 20.0 | 20.0 | 20.0 | 140.00 | 20.50 | - | 60.0 | 75.0 | 40.0 | 31.0 | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-48-3T22 (1) | 3.00 | 22.00 | 25.0 | 25.0 | 25.0 | 150.00 | 25.50 | - | 48.0 | 60.0 | 40.0 | 36.0 | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-60-3T22 (1) | 3.00 | 22.00 | 25.0 | 25.0 | 25.0 | 150.00 | 25.50 | - | 60.0 | 75.0 | 40.0 | 36.0 | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 20-75-3T25 (1) | 3.00 | 25.00 | 20.0 | 20.0 | 20.0 | 140.00 | 20.50 | - | 75.0 | 100.0 | 43.0 | 31.0 | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-75-3T25 (1) | 3.00 | 25.00 | 25.0 | 25.0 | 25.0 | 150.00 | 25.50 | - | 75.0 | 100.0 | 43.0 | 36.0 | SR M6X16 DIN912 | HW 5.0 |

• For user guide, see pages 604-615

(1) For deep face grooving only.

(2) Minimum penetration diameter

(3) Maximum penetration diameter

**Inserts:** HFPR/L • HFPR/L (full radius)

### No limitation for widening groove toward or away from center, except for the following tools:

**HFHR/L-:-25-3T12**

| D | d |
|---|---|
| 25 | 5 |
| 26 | 2 |
| ≥27 | 0 |

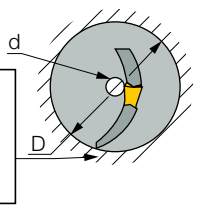
**HFHR/L-:-25-4T12**

| D | d |
|---|---|
| 25 | 1 |
| ≥26 | 0 |

**HFHR/L-:-29-4T12**

| D | d |
|---|---|
| 29 | 1 |
| ≥46 | 0 |

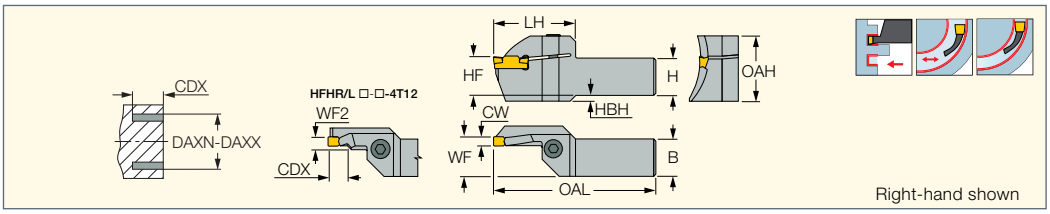
Limitation of widening toward center (d) depends on the major diameter (D) as per chart.



HELIFACE

## HFHR/L-4T

Integral Holders for Facing




| Designation | CW | CDX | H | HF | B | OAL | WF | WF2 | DAXN(1) | DAXX(2) | LH | OAH | HBH | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HFHR/L 20-25-4T12 | 4.00 | 12.00 | 20.0 | 20.0 | 20.0 | 140.00 | 20.60 | 6.2 | 25.0 | 29.0 | 39.0 | 29.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 20-29-4T12 | 4.00 | 12.00 | 20.0 | 20.0 | 20.0 | 140.00 | 20.60 | 6.2 | 29.0 | 34.0 | 39.0 | 30.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-25-4T12 | 4.00 | 12.00 | 25.0 | 25.0 | 25.0 | 150.00 | 25.60 | 6.2 | 25.0 | 29.0 | 39.0 | 34.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-29-4T12 | 4.00 | 12.00 | 25.0 | 25.0 | 25.0 | 150.00 | 25.60 | 6.2 | 29.0 | 34.0 | 39.0 | 35.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 20-34-4T20 | 4.00 | 20.00 | 20.0 | 20.0 | 20.0 | 140.00 | 20.60 | - | 34.0 | 40.0 | 39.0 | 30.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-34-4T20 | 4.00 | 20.00 | 25.0 | 25.0 | 25.0 | 150.00 | 25.60 | - | 34.0 | 40.0 | 39.0 | 35.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 20-40-4T25 | 4.00 | 25.00 | 20.0 | 20.0 | 20.0 | 140.00 | 20.60 | - | 40.0 | 48.0 | 44.0 | 31.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 20-48-4T25 | 4.00 | 25.00 | 20.0 | 20.0 | 20.0 | 140.00 | 20.60 | - | 48.0 | 60.0 | 44.0 | 32.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 20-60-4T25 | 4.00 | 25.00 | 20.0 | 20.0 | 20.0 | 140.00 | 20.60 | - | 60.0 | 75.0 | 44.0 | 32.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 20-75-4T25 | 4.00 | 25.00 | 20.0 | 20.0 | 20.0 | 140.00 | 20.60 | - | 75.0 | 100.0 | 44.0 | 34.0 | 2.0 | SR M6X16 DIN912 | HW 5.0 |
| HFHL 25-100-4T25 | 4.00 | 25.00 | 25.0 | 25.0 | 25.0 | 150.00 | 25.60 | - | 100.0 | 140.0 | 44.0 | 37.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHL 25-140-4T25 | 4.00 | 25.00 | 25.0 | 25.0 | 25.0 | 150.00 | 25.74 | - | 140.0 | 240.0 | 44.0 | 37.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-240-4T25 | 4.00 | 25.00 | 25.0 | 25.0 | 25.0 | 150.00 | 25.60 | - | 240.0 | 800.0 | 44.0 | 37.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-40-4T25 | 4.00 | 25.00 | 25.0 | 25.0 | 25.0 | 150.00 | 25.60 | - | 40.0 | 48.0 | 44.0 | 36.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-48-4T25 | 4.00 | 25.00 | 25.0 | 25.0 | 25.0 | 150.00 | 25.60 | - | 48.0 | 60.0 | 44.0 | 37.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-60-4T25 | 4.00 | 25.00 | 25.0 | 25.0 | 25.0 | 150.00 | 25.60 | - | 60.0 | 75.0 | 44.0 | 37.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHL 25-75-4T25 | 4.00 | 25.00 | 25.0 | 25.0 | 25.0 | 150.00 | 25.60 | - | 75.0 | 100.0 | 44.0 | 37.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR 25-100-4T25 | 4.00 | 25.00 | 25.0 | 25.0 | 25.0 | 150.00 | 25.74 | - | 100.0 | 140.0 | 44.0 | 37.0 | - | | |
| HFHR 25-140-4T25 | 4.00 | 25.00 | 25.0 | 25.0 | 25.0 | 150.00 | 25.60 | - | 140.0 | 240.0 | 44.0 | 37.0 | - | | |
| HFHR 25-75-4T25 | 4.00 | 25.00 | 25.0 | 25.0 | 25.0 | 150.00 | 25.80 | - | 75.0 | 100.0 | 44.0 | 37.0 | - | | |

• DGN & GRIP 4 mm inserts can be used only with right-hand tools, HGPL 4 mm with left-hand tools • For user guide, see pages 604-615

(1) Minimum penetration diameter

(2) Maximum penetration diameter

**Inserts:** DGN-MF • HFPR/L • HFPR/L (full radius) • GRIP • GRIP (full radius) • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • HGPL

### Penetration Range

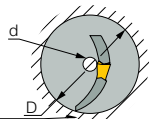
**HFHR/L-:-25-4T12**

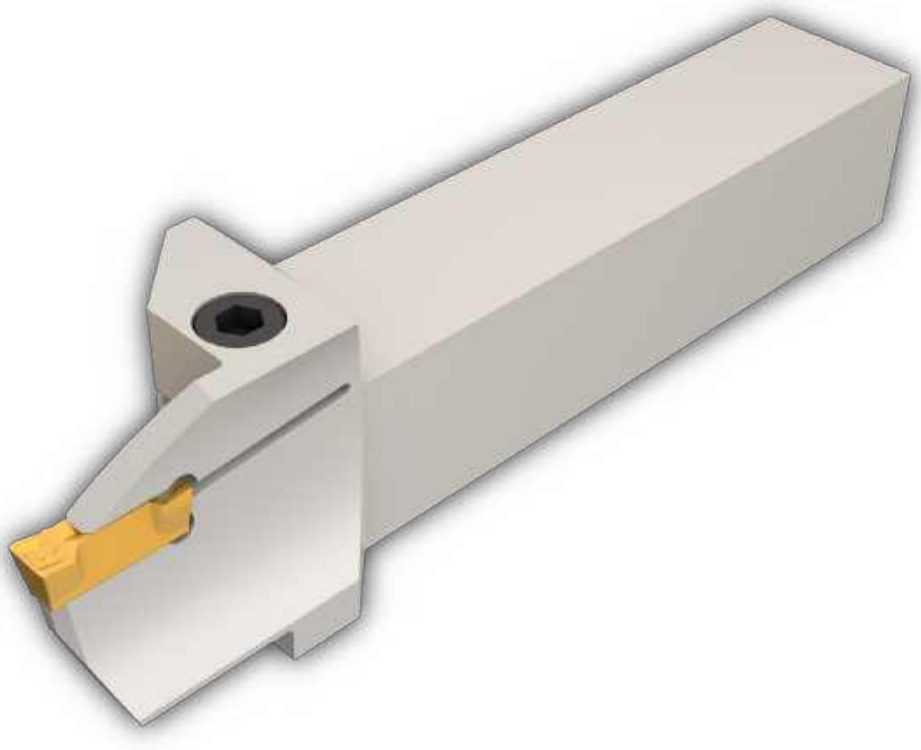
| D | d |
|---|---|
| 25 | 1 |
| ≥26 | 0 |

**HFHR/L-:-29-4T12**

| D | d |
|---|---|
| 29 | 1 |
| ≥46 | 0 |

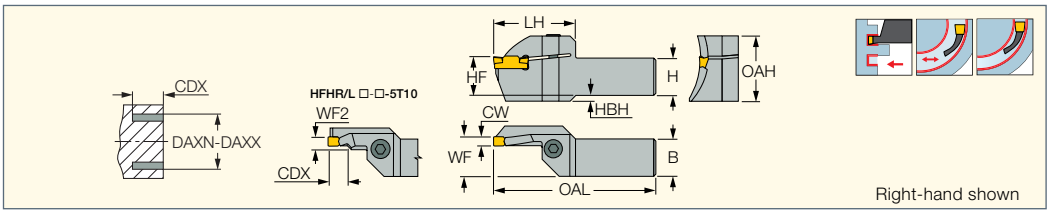
Limitation of widening toward center (d) depends on the major diameter (D) as per chart



HELIFACE

## HFHR/L-5T
Integral Holders for Facing




| Designation | CW | CDX | H | HF | B | OAL | WF2 | WF | DAXN(1) | DAXX(2) | LH | OAH | HBH | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HFHR/L 20-25-5T10 | 5.00 | 10.00 | 20.0 | 20.0 | 20.0 | 140.00 | 7.1 | 21.00 | 25.0 | 30.0 | 38.0 | 28.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-25-5T10 | 5.00 | 10.00 | 25.0 | 25.0 | 25.0 | 150.00 | 7.1 | 26.00 | 25.0 | 30.0 | 38.0 | 33.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-110-5T14 | 5.00 | 14.00 | 25.0 | 25.0 | 25.0 | 150.00 | - | 23.50 | 110.0 | 200.0 | 32.5 | 33.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-52-5T14 | 5.00 | 14.00 | 25.0 | 25.0 | 25.0 | 150.00 | - | 23.50 | 52.0 | 75.0 | 32.5 | 33.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-75-5T14 | 5.00 | 14.00 | 25.0 | 25.0 | 25.0 | 150.00 | - | 23.50 | 75.0 | 110.0 | 32.5 | 33.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 20-28-5T15 | 5.00 | 17.00 | 20.0 | 20.0 | 20.0 | 140.00 | - | 21.00 | 28.0 | 31.0 | 34.0 | 30.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 20-31-5T15 | 5.00 | 17.00 | 20.0 | 20.0 | 20.0 | 140.00 | - | 21.00 | 31.0 | 35.0 | 34.0 | 30.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-28-5T15 | 5.00 | 17.00 | 25.0 | 25.0 | 25.0 | 150.00 | - | 26.00 | 28.0 | 31.0 | 34.0 | 35.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-31-5T15 | 5.00 | 17.00 | 25.0 | 25.0 | 25.0 | 150.00 | - | 26.00 | 31.0 | 35.0 | 34.0 | 35.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 20-35-5T20 | 5.00 | 20.00 | 20.0 | 20.0 | 20.0 | 140.00 | - | 21.00 | 35.0 | 40.0 | 39.0 | 31.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 20-40-5T20 | 5.00 | 20.00 | 20.0 | 20.0 | 20.0 | 140.00 | - | 21.00 | 40.0 | 45.0 | 39.0 | 31.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHL 25-200-5T20 | 5.00 | 20.00 | 25.0 | 25.0 | 25.0 | 150.00 | - | 23.50 | 200.0 | 800.0 | 32.5 | 33.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-35-5T20 | 5.00 | 20.00 | 25.0 | 25.0 | 25.0 | 150.00 | - | 26.00 | 35.0 | 40.0 | 39.0 | 36.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHL 25-40-5T20 | 5.00 | 20.00 | 25.0 | 25.0 | 25.0 | 140.00 | - | 26.00 | 40.0 | 45.0 | 39.0 | 36.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR 25-200-5T20 | 5.00 | 20.00 | 25.0 | 25.0 | 25.0 | 150.00 | - | 26.00 | 200.0 | 800.0 | 32.5 | 33.0 | - | | |
| HFHR 25-40-5T20 | 5.00 | 20.00 | 25.0 | 25.0 | 25.0 | 150.00 | - | 26.00 | 40.0 | 45.0 | 39.0 | 36.0 | - | | |
| HFHR/L 20-45-5T25 | 5.00 | 25.00 | 20.0 | 20.0 | 20.0 | 140.00 | - | 21.00 | 45.0 | 55.0 | 44.0 | 32.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 20-55-5T25 | 5.00 | 25.00 | 20.0 | 20.0 | 20.0 | 140.00 | - | 21.00 | 55.0 | 70.0 | 44.0 | 35.0 | 3.0 | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-45-5T25 | 5.00 | 25.00 | 25.0 | 25.0 | 25.0 | 150.00 | - | 26.00 | 45.0 | 55.0 | 44.0 | 37.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-55-5T25 | 5.00 | 25.00 | 25.0 | 25.0 | 25.0 | 150.00 | - | 26.00 | 55.0 | 70.0 | 44.0 | 37.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 20-70-5T28 | 5.00 | 28.00 | 20.0 | 20.0 | 20.0 | 140.00 | - | 21.00 | 70.0 | 95.0 | 47.0 | 35.0 | 3.0 | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-130-5T32 | 5.00 | 32.00 | 25.0 | 25.0 | 25.0 | 150.00 | - | 26.00 | 130.0 | 180.0 | 51.0 | 37.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-180-5T32 | 5.00 | 32.00 | 25.0 | 25.0 | 25.0 | 150.00 | - | 26.00 | 180.0 | 800.0 | 51.0 | 37.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-70-5T32 | 5.00 | 32.00 | 25.0 | 25.0 | 25.0 | 150.00 | - | 26.00 | 70.0 | 95.0 | 51.0 | 37.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-95-5T32 | 5.00 | 32.00 | 25.0 | 25.0 | 25.0 | 150.00 | - | 26.00 | 95.0 | 130.0 | 51.0 | 37.0 | - | SR M6X16 DIN912 | HW 5.0 |

- DGN & GRIP 5.. inserts can be used only with right-hand tools, HGPL 5.. inserts with left-hand tools
- For user guide, see pages 604-615

(1) Minimum penetration diameter

(2) Maximum penetration diameter

**Inserts:** HFPR/L • HFPR/L (full radius) • GRIP • GRIP (full radius) • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGN-W • HGPL

### No limitation for widening groove toward or away from center, except for the following tools:

**HFHR/L- □ -31-5T15**

| D | d |
|---|---|
| 31 | 15 |
| 32 | 10 |
| 33 | 7 |
| 34 | 4 |
| 35 | 2 |
| ≥36 | 0 |

**HFHR/L- □ -30-6T10**

| D | d |
|---|---|
| 30 | 7 |
| 31 | 4 |
| 32 | 1 |
| ≥33 | 0 |

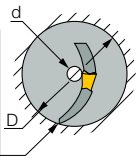
**HFHR/L-□-25-5T10**

| D | d |
|---|---|
| 25 | 4 |
| 26 | 1 |
| ≥27 | 0 |

**HFHR/L- □ -28-5T15**

| D | d |
|---|---|
| 28 | 13 |
| 29 | 8 |
| 30 | 5 |
| 31 | 3 |
| 32 | 1 |
| ≥33 | 0 |

Limitation of widening toward center (d) depends on the major diameter (D) as per chart

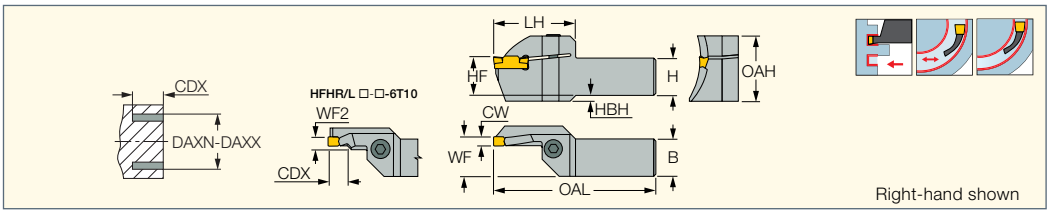





HELIFACE

## HFHR/L-6T

Integral Holders for Facing




| Designation | CW | CDX | H | HF | B | OAL | WF2 | WF | DAXN(1) | DAXX(2) | LH | OAH | HBH | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HFHL 20-26-6T10 | 6.00 | 10.00 | 20.0 | 20.0 | 20.0 | 140.00 | 7.9 | 21.40 | 26.0 | 30.0 | 39.0 | 29.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 20-30-6T15 | 6.00 | 17.00 | 20.0 | 20.0 | 20.0 | 140.00 | - | 21.40 | 30.0 | 38.0 | 36.0 | 30.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-30-6T15 | 6.00 | 17.00 | 25.0 | 25.0 | 25.0 | 150.00 | - | 26.40 | 30.0 | 38.0 | 36.0 | 35.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 20-38-6T20 | 6.00 | 20.00 | 20.0 | 20.0 | 20.0 | 140.00 | - | 21.40 | 38.0 | 50.0 | 39.0 | 31.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-100-6T20 | 6.00 | 20.00 | 25.0 | 25.0 | 25.0 | 150.00 | - | 26.00 | 100.0 | 200.0 | 40.0 | 33.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-200-6T20 | 6.00 | 20.00 | 25.0 | 25.0 | 25.0 | 150.00 | - | 23.00 | 200.0 | 3000.0 | 37.5 | 33.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-38-6T20 | 6.00 | 20.00 | 25.0 | 25.0 | 25.0 | 150.00 | - | 26.40 | 38.0 | 50.0 | 39.0 | 36.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-50-6T20 | 6.00 | 20.00 | 25.0 | 25.0 | 25.0 | 150.00 | - | 23.00 | 50.0 | 65.0 | 37.5 | 33.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-65-6T20 | 6.00 | 20.00 | 25.0 | 25.0 | 25.0 | 150.00 | - | 23.00 | 65.0 | 100.0 | 37.5 | 33.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 20-50-6T25 | 6.00 | 25.00 | 20.0 | 20.0 | 20.0 | 140.00 | - | 21.40 | 50.0 | 70.0 | 44.0 | 32.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-50-6T25 | 6.00 | 25.00 | 25.0 | 25.0 | 25.0 | 150.00 | - | 26.40 | 50.0 | 70.0 | 44.0 | 37.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-100-6T32 | 6.00 | 32.00 | 25.0 | 25.0 | 25.0 | 150.00 | - | 26.40 | 100.0 | 180.0 | 51.0 | 37.0 | - | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-180-6T32 | 6.00 | 32.00 | 25.0 | 25.0 | 25.0 | 150.00 | - | 26.40 | 180.0 | 400.0 | 51.0 | 40.0 | 3.0 | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-400-6T32 | 6.00 | 32.00 | 25.0 | 25.0 | 25.0 | 150.00 | - | 26.40 | 400.0 | 3000.0 | 51.0 | 40.0 | 3.0 | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25-70-6T32 | 6.00 | 32.00 | 25.0 | 25.0 | 25.0 | 150.00 | - | 26.40 | 70.0 | 100.0 | 51.0 | 37.0 | - | SR M6X16 DIN912 | HW 5.0 |

• DGN & GRIP 6.. inserts can be used only with right-hand tools, HGPL 6.. inserts with left-hand tools • For user guide, see pages 604-615

(1) Minimum penetration diameter

(2) Maximum penetration diameter

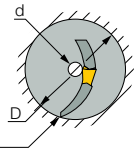
**Inserts:** HFPR/L • HFPR/L (full radius) • GRIP • GRIP (full radius) • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • HGPL

**No limitation for widening groove toward or away from center, except for the following tools:**

HFHR/L- □ -30-6T10

| D | d |
|---|---|
| 30 | 7 |
| 31 | 4 |
| 32 | 1 |
| ≥33 | 0 |

Limitation of widening toward center (d) depends on the major diameter (D) as per chart

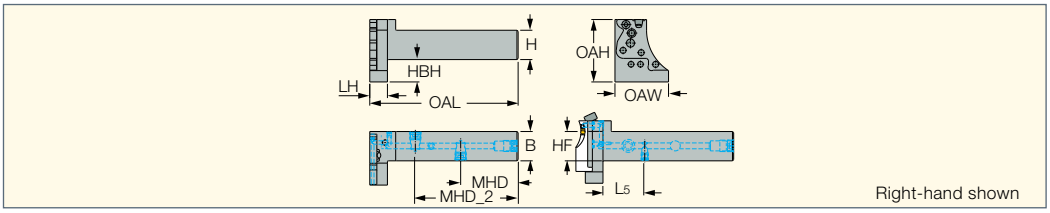



MODULAR-GRIP

JETCUT

## MAHPR/L-XL-JHP

Holders with High Pressure Coolant Channels for MODULAR-GRIP Perpendicularly Mounted Adapters




| Designation | H | B | LH | OAL | HBH | OAH | OAW | HF | L5 | MHD | MHD_2 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MAHPR/L-XL-20-JHP-MCG | 20.0 | 20.0 | 23.0 | 120.00 | 24.0 | 53.00 | 45.00 | 20.0 | 29.00 | 50.00 | 85.00 |
| MAHPR/L-XL-25-JHP-MCG | 25.0 | 25.0 | 15.0 | 120.00 | 19.0 | 53.00 | 45.50 | 25.0 | 35.00 | 50.00 | 90.00 |

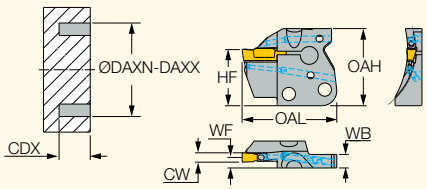
**Tools:** DGPAD-XL-JHP • HFPAD-JHP • TAGPAD-XL-JHP • TAGPAD-Y-JHP • TNFPAD-XL-JHP

### Spare Parts

| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| MAHPR/L-XL-20-JHP-MCG | SR M5-04451 | T-20/5 | SR M6X16 DIN912 | HW 5.0 | OR 5X1N | SR M4X4 DIN913 TL360 | SR M6X6 DIN913 TL360 | PLG G1/8 TL360 | SUPPORT MG-XL-5113377 |
| MAHPR/L-XL-25-JHP-MCG | SR M5-04451 | T-20/5 | SR M6X16 DIN912 | HW 5.0 | OR 5X1N | SR M4X4 DIN913 TL360 | SR M6X6 DIN913 TL360 | PLG G1/8 TL360 | SUPPORT MG-XL-5113377 |

MODULAR-GRIP

## HFPAD-JHP
Adapters for Face Machining






Right-hand shown

| Designation | CW | CDX | WF | WB | OAL | HF | OAH | DAXN(1) | DAXX(2) |
|---|---|---|---|---|---|---|---|---|---|
| HFPAD 3R/L-40-T10-JHP | 3.00 | 10.00 | 4.80 | 5.80 | 39.50 | 24.0 | 33.00 | 40.0 | 65.0 |
| HFPAD 3R/L-115-T18-JHP | 3.00 | 18.00 | 4.80 | 5.80 | 43.50 | 24.0 | 33.00 | 115.0 | 400.0 |
| HFPAD 3R/L-65-T18-JHP | 3.00 | 18.00 | 4.80 | 5.80 | 43.50 | 24.0 | 33.00 | 65.0 | 115.0 |
| HFPAD 4R/L-44-T14-JHP | 4.00 | 14.00 | 4.80 | 5.80 | 40.50 | 24.0 | 33.00 | 44.0 | 58.0 |
| HFPAD 4R/L-58-T14-JHP | 4.00 | 14.00 | 4.80 | 5.80 | 40.50 | 24.0 | 33.00 | 58.0 | 88.0 |
| HFPAD 4R/L-88-T14-JHP | 4.00 | 14.00 | 4.50 | 5.80 | 40.50 | 24.0 | 33.00 | 88.0 | 175.0 |
| HFPAD 4R/L-175-T20-JHP | 4.00 | 20.00 | 4.80 | 6.50 | 45.50 | 24.0 | 33.00 | 175.0 | 800.0 |
| HFPAD 5R/L-110-T14-JHP | 5.00 | 14.00 | 4.50 | 6.30 | 45.50 | 24.0 | 33.00 | 110.0 | 200.0 |
| HFPAD 5R/L-40-T14-JHP | 5.00 | 14.00 | 4.50 | 6.30 | 40.50 | 24.0 | 33.00 | 40.0 | 50.0 |
| HFPAD 5L-50-T14-JHP | 5.00 | 14.00 | 4.50 | 6.30 | 40.50 | 24.0 | 33.00 | 50.0 | 75.0 |
| HFPAD 5R/L-75-T14-JHP | 5.00 | 14.00 | 4.50 | 6.30 | 40.50 | 24.0 | 33.00 | 75.0 | 110.0 |
| HFPAD 5R/L-200-T20-JHP | 5.00 | 20.00 | 4.50 | 6.60 | 45.50 | 24.0 | 33.00 | 200.0 | 800.0 |
| HFPAD 6R/L-60-T14-JHP | 6.00 | 14.00 | 4.50 | 6.80 | 40.50 | 24.0 | 33.00 | 60.0 | 100.0 |
| HFPAD 6R/L-100-T20-JHP | 6.00 | 20.00 | 4.50 | 6.80 | 45.50 | 24.0 | 33.00 | 100.0 | 200.0 |
| HFPAD 6R/L-200-T20-JHP | 6.00 | 20.00 | 4.50 | 7.10 | 45.50 | 24.0 | 33.00 | 200.0 | 3000.0 |

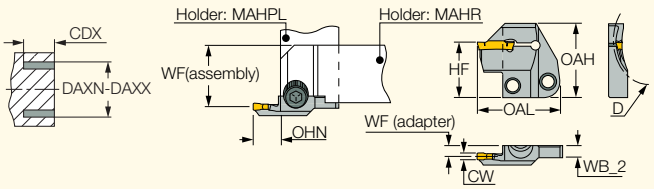
• WF(assembly)=WF(shank) + WF(adapter) • HGN,GRIP,DGN inserts can be used only with right-hand adapters, HGPL inserts with left-hand adapters
• For user guide, see pages 604-615
(1) Minimum axial grooving diameter
(2) Maximum axial grooving diameter

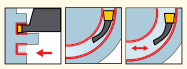
**Inserts:** DGN-MF • DGN-W • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • GRIP • GRIP (full radius) • HFPR/L • HFPR/L (full radius) • HGN-C • HGN-J • HGN-UT • HGPL

**Holders:** C#-MAHD-JHP • C#-MAHPD-JHP • MAHPR/L-JHP • MAHPR/L-XL-JHP • MAHR/L-JHP • MAHR/L-JHP-MC

MODULAR-GRIP

## HFPAD-3
Adapters for Face Machining



Left-hand shown

| Designation | DAXN(1) | DAXX(2) | CW | CDX | OHN(3) | WF(4) | WB_2 | OAL | HF | OAH |
|---|---|---|---|---|---|---|---|---|---|---|
| HFPAD 3R/L-25-T10 | 25.0 | 30.0 | 3.00 | 10.00 | 15.0 | 4.80 | 5.8 | 39.50 | 24.0 | 32.0 |
| HFPAD 3R/L-30-T10 | 30.0 | 40.0 | 3.00 | 10.00 | 15.0 | 4.80 | 5.8 | 39.50 | 24.0 | 32.0 |
| HFPAD 3R/L-40-T10 | 40.0 | 65.0 | 3.00 | 10.00 | 15.0 | 4.80 | 5.8 | 39.50 | 24.0 | 32.0 |
| HFPAD 3R/L-65-T18 | 65.0 | 115.0 | 3.00 | 18.00 | 19.0 | 4.80 | 5.8 | 43.50 | 24.0 | 32.0 |
| HFPAD 3R/L-115-T18 | 115.0 | 400.0 | 3.00 | 18.00 | 19.0 | 4.80 | 5.8 | 43.50 | 24.0 | 32.0 |

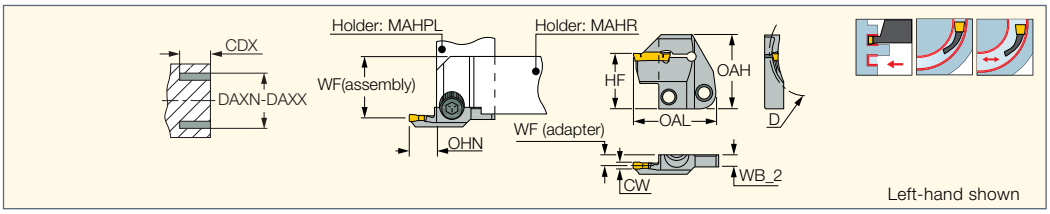
• WF(assembly)=WF(shank) + WF(adapter) • HGN & GRIP 3.. inserts can be used only with right-hand adapters, HGPL 3.. inserts with left-hand adapters
• For user guide, see pages 604-615
(1) Minimum penetration diameter
(2) Maximum penetration diameter
(3) Minimum overhang
(4) WF(adapter)

**Inserts:** GRIP • GRIP (full radius) • HGN-C • HGN-J • HGN-UT • HGPL

**Holders:** C#-MAHD-JHP • C#-MAHPD-JHP • IH-HFPAD • MAHR/L-JHP-MC • MAHPR/L-JHP • MAHR/L-JHP • MAHR/L • MAHPR/L • C#-MAHD • C#-MAHPD • C#-MAHDR-45 • C#-MAHDOR • HSK A63WH-MAHUR/L • HSK A63WH-MAHDR-45 • HSK A63WH-MAHDOR • IM-MAHD • IM-MAHPD

MODULAR GRIP

## HFPAD-4
Adapters for Face Machining




| Designation | DAXN(1) | DAXX(2) | CW | CDX | OHN(3) | WF(4) | WB_2 | OAL | HF | OAH |
|---|---|---|---|---|---|---|---|---|---|---|
| HFPAD 4R/L-25-T10 | 25.0 | 31.0 | 4.00 | 10.00 | 16.0 | 4.50 | 5.8 | 40.50 | 24.0 | 32.0 |
| HFPAD 4R/L-31-T10 | 31.0 | 44.0 | 4.00 | 10.00 | 16.0 | 4.50 | 5.8 | 40.50 | 24.0 | 32.0 |
| HFPAD 4R/L-44-T14 | 44.0 | 58.0 | 4.00 | 14.00 | 16.0 | 4.50 | 5.8 | 40.50 | 24.0 | 32.0 |
| HFPAD 4R/L-58-T14 | 58.0 | 88.0 | 4.00 | 14.00 | 16.0 | 4.50 | 5.8 | 40.50 | 24.0 | 32.0 |
| HFPAD 4R/L-88-T14 | 88.0 | 175.0 | 4.00 | 14.00 | 16.0 | 4.50 | 5.8 | 40.50 | 24.0 | 32.0 |
| HFPAD 4R/L-175-T20 | 175.0 | 800.0 | 4.00 | 20.00 | 21.0 | 4.50 | 6.5 | 45.50 | 24.0 | 32.0 |

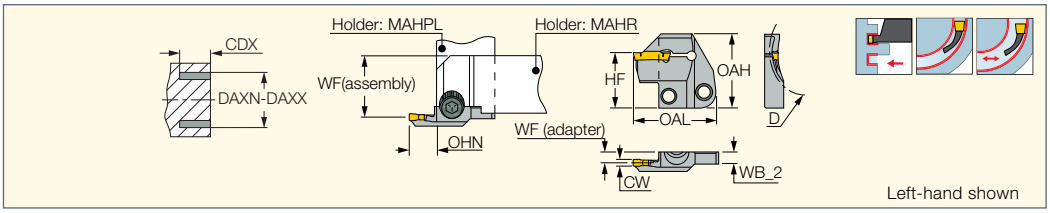
- WF(assembly)=WF(shank) + WF(adapter) • DGN & GRIP 4.. inserts can be used only with right-hand adapters, HGPL 4.. inserts with left-hand adapters
- For user guide, see pages 604-615

(1) Minimum penetration diameter
(2) Maximum penetration diameter
(3) Minimum overhang
(4) WF(adapter)

**Inserts:** DGN-MF • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • GRIP • GRIP (full radius) • HFPR/L • HFPR/L (full radius) • HGPL
**Holders:** C#-MAHD-JHP • C#-MAHPD-JHP • IH-HFPAD • MAHR/L-JHP-MC • MAHPR/L-JHP • MAHR/L-JHP • MAHR/L • MAHPR/L • C#-MAHD • C#-MAHPD • C#-MAHDR-45 • C#-MAHDOR • HSK A63WH-MAHUR/L • HSK A63WH-MAHDR-45 • HSK A63WH-MAHDOR • IM-MAHD • IM-MAHPD

MODULAR GRIP

## HFPAD-5
Adapters for Face Machining

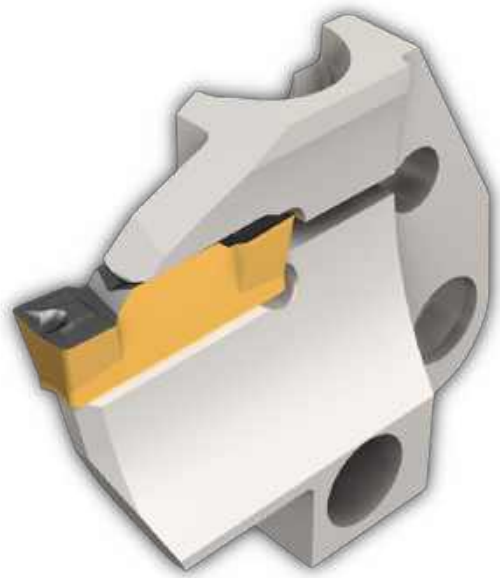



| Designation | DAXN(1) | DAXX(2) | CW | CDX | OHN(3) | WF(4) | WB_2 | OAL | HF | OAH |
|---|---|---|---|---|---|---|---|---|---|---|
| HFPAD 5R/L-40-T14 | 40.0 | 50.0 | 5.00 | 14.00 | 16.0 | 4.50 | 6.3 | 40.50 | 24.0 | 32.0 |
| HFPAD 5R/L-50-T14 | 50.0 | 75.0 | 5.00 | 14.00 | 16.0 | 4.50 | 6.3 | 40.50 | 24.0 | 32.0 |
| HFPAD 5R/L-75-T14 | 75.0 | 110.0 | 5.00 | 14.00 | 16.0 | 4.50 | 6.3 | 40.50 | 24.0 | 32.0 |
| HFPAD 5R/L-110-T14 | 110.0 | 200.0 | 5.00 | 14.00 | 16.0 | 4.50 | 6.3 | 40.50 | 24.0 | 32.0 |
| HFPAD 5R/L-200-T20 | 200.0 | 800.0 | 5.00 | 20.00 | 21.0 | 4.50 | 6.6 | 45.50 | 24.0 | 32.0 |

- WF(assembly)=WF(shank) + WF(adapter) • DGN & GRIP 5.. inserts can be used only with right-hand adapters, HGPL 5.. inserts with left-hand adapters
- For user guide, see pages 604-615

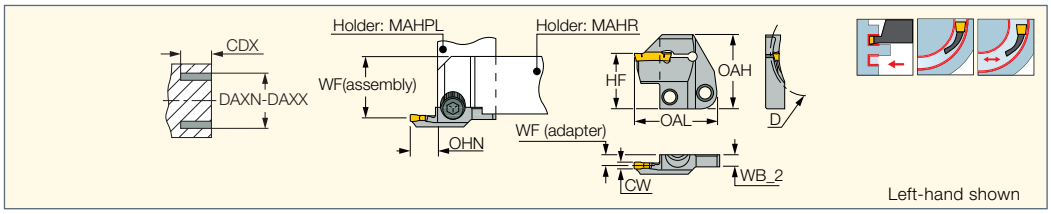
(1) Minimum penetration diameter
(2) Maximum penetration diameter
(3) Minimum overhang
(4) WF(adapter)

**Inserts:** HFPR/L • HFPR/L (full radius) • GRIP • GRIP (full radius) • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGN-W • HGPL
**Holders:** C#-MAHD-JHP • C#-MAHPD-JHP • IH-HFPAD • MAHR/L-JHP-MC • MAHPR/L-JHP • MAHR/L-JHP • MAHR/L • MAHPR/L • C#-MAHD • C#-MAHDOR • C#-MAHPD • C#-MAHDR-45 • HSK A63WH-MAHUR/L • HSK A63WH-MAHDR-45 • HSK A63WH-MAHDOR • IM-MAHD • IM-MAHPD



MODULAR-GRIP

## HFPAD-6
Adapters for Face Machining

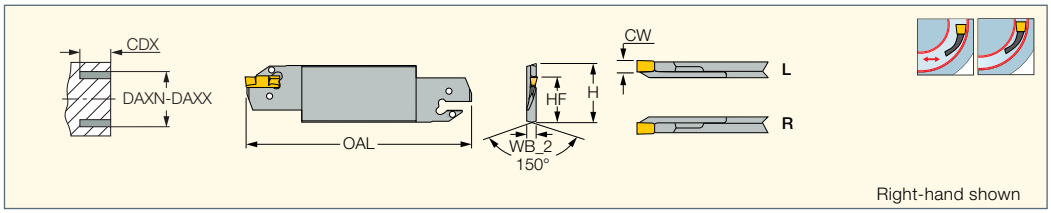



| Designation | DAXN(1) | DAXX(2) | CW | CDX | OHN(3) | WF(4) | WB_2 | OAL | HF | OAH |
|---|---|---|---|---|---|---|---|---|---|---|
| HFPAD 6R/L-60-T14 | 60.0 | 100.0 | 6.00 | 14.00 | 16.0 | 4.50 | 6.8 | 40.50 | 24.0 | 32.0 |
| HFPAD 6R/L-100-T20 | 100.0 | 200.0 | 6.00 | 20.00 | 21.0 | 4.50 | 6.8 | 45.50 | 24.0 | 32.0 |
| HFPAD 6R/L-200-T20 | 200.0 | 3000.0 | 6.00 | 20.00 | 21.0 | 4.50 | 7.1 | 45.50 | 24.0 | 32.0 |

• WF(assembly)=WF(shank) + WF(adapter) • DGN & GRIP 6.. inserts can be used only with right-hand adapters, HGPL 6.. inserts with left-hand adapters
• For user guide, see pages 604-615
(1) Minimum penetration diameter
(2) Maximum penetration diameter
(3) Minimum overhang
(4) WF(adapter)
**Inserts:** HFPR/L • HFPR/L (full radius) • GRIP • GRIP (full radius) • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • HGPL
**Holders:** C#-MAHD-JHP • C#-MAHPD-JHP • IH-HFPAD • MAHR/L-JHP-MC • MAHPR/L-JHP • MAHR/L-JHP • MAHR/L • MAHPR/L • C#-MAHD
• C#-MAHPD • C#-MAHDR-45 • C#-MAHDOR • HSK A63WH-MAHUR/L • HSK A63WH-MAHDR-45 • HSK A63WH-MAHDOR • IM-MAHD • IM-MAHPD

HELIFACE

## HFFR/L-T
Blades for Face Machining

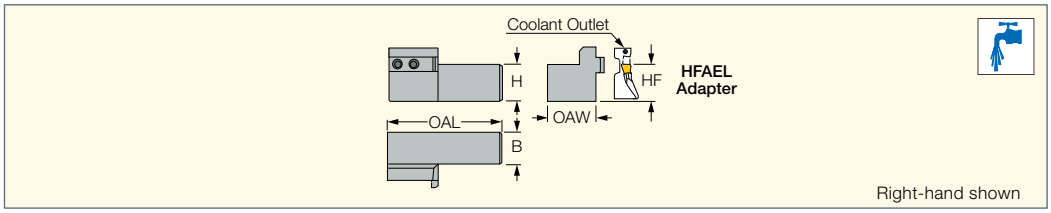



| Designation | CW | DAXN(2) | DAXX(3) | CDX | OAL | HF | H | WB_2 | |
|---|---|---|---|---|---|---|---|---|---|
| HFFR/L 48-4T25 (1) | 4.00 | 48.0 | 60.0 | 25.00 | 150.00 | 24.8 | 32.0 | 5.2 | EDG 33B* |
| HFFR/L 60-4T25 | 4.00 | 60.0 | 75.0 | 25.00 | 150.00 | 24.8 | 32.0 | 5.2 | EDG 33B* |
| HFFR/L 75-4T30 | 4.00 | 75.0 | 140.0 | 30.00 | 150.00 | 24.8 | 32.0 | 5.2 | EDG 33B* |
| HFFR/L 140-4T30 | 4.00 | 140.0 | 1500.0 | 30.00 | 150.00 | 24.8 | 32.0 | 3.2 | EDG 33B* |
| HFFR/L 70-5T32 | 5.00 | 70.0 | 95.0 | 32.00 | 150.00 | 24.8 | 32.0 | 5.2 | EDG 33B* |
| HFFR/L 95-5T35 | 5.00 | 95.0 | 130.0 | 35.00 | 150.00 | 24.8 | 32.0 | 5.2 | EDG 33B* |
| HFFR/L 130-5T38 | 5.00 | 130.0 | 180.0 | 38.00 | 150.00 | 24.8 | 32.0 | 5.2 | EDG 33B* |
| HFFR/L 180-5T38 | 5.00 | 180.0 | 1500.0 | 38.00 | 150.00 | 24.8 | 32.0 | 4.0 | EDG 33B* |
| HFFR/L 90-6T32 | 6.00 | 90.0 | 180.0 | 32.00 | 150.00 | 24.8 | 32.0 | 5.2 | EDG 33B* |
| HFFR/L 180-6T38 | 6.00 | 180.0 | 400.0 | 38.00 | 150.00 | 24.8 | 32.0 | 5.2 | EDG 33B* |

• After initial groove, no limitation to widening groove outward or toward center. • DGN & GRIP inserts can be used only with right-hand adapters, HGPL inserts with left-hand blades
• For user guide, see pages 604-615
(1) HGPL 4...Y with LH blade
(2) Minimum penetration diameter
(3) Maximum penetration diameter
* Optional, should be ordered separately
**Inserts:** DGN-MF • HFPR/L • HFPR/L (full radius) • GRIP • GRIP (full radius) • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGN-W
• HGPL
**Holders:** SGTBF • SGTBU/SGTBN • UBHCR/L

HELIFACE

## HAR/L
Face Machining Adapter Holders

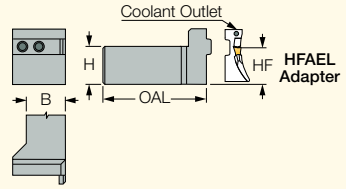



| Designation | OAL | B | H | HF | OAW | | |
|---|---|---|---|---|---|---|---|
| HAR/L 25C | 110.00 | 25.0 | 25.0 | 25.0 | 39.00 | SR 14-519 | T-20/3 |
| HAR/L 32C | 130.00 | 32.0 | 32.0 | 32.0 | 46.00 | SR 14-519 | T-20/3 |

• Holders for adapters HFAER/L & HGAER/L, HFAIR/L & HGAIR/L
**Tools:** HFAER/L-4 • HFAER/L-5T, 6T • HFAIR/L-4 • HFAIR/L-DG • HGAER/L-3 • HGAIR/L-3

HELIFACE

## HAPR/L
Face Machining Perpendicular Holders for Adapters




Left-hand shown

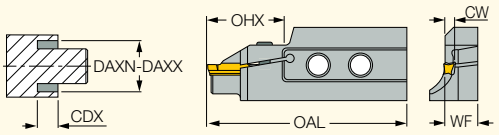
| Designation | OAL | H | HF | B | | |
|---|---|---|---|---|---|---|
| HAPR/L 25C | 124.00 | 25.0 | 25.0 | 25.0 | SR 14-519 | T-20/3 |
| HAPR/L 32C | 139.00 | 32.0 | 32.0 | 32.0 | SR 14-519 | T-20/3 |

- Holders for adapters HFAER/L & HGAER/L, HFAIR/L & HGAIR/L.

**Tools:** HFAER/L-4 • HFAER/L-5T, 6T • HFAIR/L-4 • HFAIR/L-DG • HGAER/L-3 • HGAIR/L-3

HELIFACE

## HGAER/L-3
Adapters for External Facing Along Shafts




Right-hand shown

| Designation | CDX | CW | DAXN(1) | DAXX(2) | OHX(3) | WF | OAL |
|---|---|---|---|---|---|---|---|
| HGAER/L 12-3M | 2.00 | 3.00 | 12.0 | 500.0 | 21.0 | 10.2 | 55.00 |
| HGAER/L 12-3T6 | 6.00 | 3.00 | 12.0 | 15.0 | 21.0 | 10.2 | 55.00 |
| HGAER/L 14-3T7 | 7.00 | 3.00 | 14.0 | 17.0 | 21.0 | 10.2 | 55.00 |
| HGAER/L 17-3T8 | 8.00 | 3.00 | 17.0 | 21.0 | 21.0 | 10.2 | 55.00 |
| HGAER/L 21-3T9 | 9.00 | 3.00 | 21.0 | 25.0 | 21.0 | 10.2 | 55.00 |

- GRIP 3... inserts can be used with right-hand adapters only, HGPL 3 with left-hand adapters • For user guide, see pages 604-615

(1) Minimum penetration diameter
(2) Maximum penetration diameter
(3) Maximum overhang

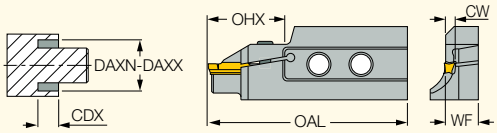
**Inserts:** GRIP • GRIP (full radius) • HGPL
**Holders:** C#-HAD • C#-HAPR/L • HAPR/L • HAR/L • IM-HAD • IM-HAPR/L

### Spare Parts

| Designation | | |
|---|---|---|
| HGAER/L-3 | SR 16-236 P | T-15/3 |

HELIFACE

## HFAER/L-4
Adapters for External Facing Along Shafts




Right-hand shown

| Designation | CDX | CW | DAXN(1) | DAXX(2) | OAL | OHX(3) | WF | | |
|---|---|---|---|---|---|---|---|---|---|
| HFAER/L 40-4T20 | 20.00 | 4.00 | 40.0 | 48.0 | 68.50 | 21.0 | 11.6 | SR M5X16 DIN912 | HW 4.0 |
| HFAER/L 48-4T20 | 20.00 | 4.00 | 48.0 | 60.0 | 68.50 | 21.0 | 11.6 | SR M5X16 DIN912 | HW 4.0 |
| HFAER/L 60-4T25 | 25.00 | 4.00 | 60.0 | 75.0 | 68.50 | 26.0 | 11.6 | SR M5X16 DIN912 | HW 4.0 |
| HFAER/L 75-4T25 | 25.00 | 4.00 | 75.0 | 100.0 | 68.50 | 26.0 | 11.6 | SR M5X16 DIN912 | HW 4.0 |

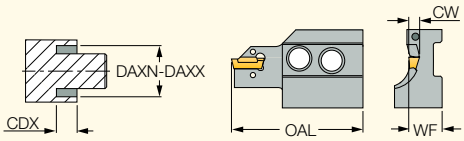
- DGN & GRIP inserts can be used only with right-hand adapters, HGPL inserts with left-hand blades • For user guide, see pages 604-615

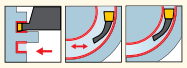
(1) Minimum penetration diameter
(2) Maximum penetration diameter
(3) Maximum overhang

**Inserts:** DGN-MF • HFPR/L • HFPR/L (full radius) • GRIP • GRIP (full radius) • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • HGPL
**Holders:** C#-HAD • C#-HAPR/L • HAPR/L • HAR/L • IM-HAD • IM-HAPR/L

HELIFACE

## HFAER/L-5T, 6T
Adapters for External Facing Along Shafts



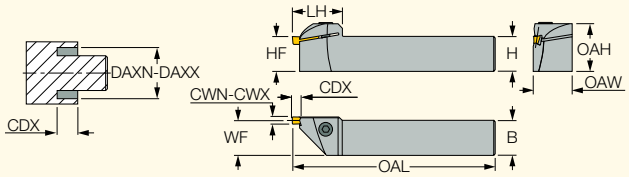
Right-hand shown

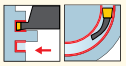
| Designation | CW | CDX | DAXN(1) | DAXX(2) | OAL | WF | |
|---|---|---|---|---|---|---|---|
| HFAER/L 70C-5T25 | 5.00 | 25.00 | 70.0 | 95.0 | 66.00 | 12.2 | EDG 33B* |
| HFAER/L 95C-5T25 | 5.00 | 25.00 | 95.0 | 130.0 | 66.00 | 12.2 | EDG 33B* |
| HFAER/L 70C-6T28 | 6.00 | 28.00 | 70.0 | 100.0 | 69.00 | 12.3 | EDG 33B* |
| HFAER/L 100C-6T32 | 6.00 | 32.00 | 100.0 | 180.0 | 73.00 | 12.3 | EDG 33B* |
| HFAER/L 180C-6T32 | 6.00 | 32.00 | 180.0 | 400.0 | 73.00 | 12.3 | EDG 33B* |

• After initial groove, no limitation to widening groove outward from or toward center • Adapters can be mounted on standard HAR/L, HAPR/L, HAI holders for external machining
• DGN & GRIP inserts can be used only with right-hand adapters, HGPL inserts with left-hand blades • For user guide, see pages 604-615
(1) Minimum penetration diameter
(2) Maximum penetration diameter * Optional, should be ordered separately
**Inserts:** HFPR/L • HFPR/L (full radius) • GRIP • GRIP (full radius) • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGN-W • HGPL
**Holders:** C#-HAD • C#-HAPR/L • HAPR/L • HAR/L • IM-HAD • IM-HAPR/L

HELIFACE

## HFHR/L-M
Toolholders for Shallow Face Grooving



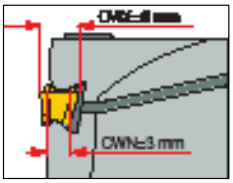
Right-hand shown

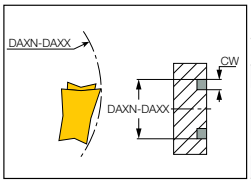
| Designation | CWN(1) | CWX(2) | CDX | WF | H | HF | B | OAL | DAXN(3) | DAXX(4) | OAH | OAW | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HFHR/L 20M | 3.00 | 6.00 | 5.30 | 20.00 | 20.0 | 20.0 | 20.0 | 130.00 | 20.0 | 2000.0 | 29.0 | 22.50 | SR M6X16 DIN912 | HW 5.0 |
| HFHR/L 25M | 3.00 | 6.00 | 5.30 | 25.00 | 25.0 | 25.0 | 25.0 | 150.00 | 20.0 | 2000.0 | 34.0 | 27.50 | SR M6X16 DIN912 | HW 5.0 |

• DGN & GRIP 4.. - 6.. inserts can be used only with right-hand tools, HGPL 4.. - 6.. inserts with left-hand tools • After initial groove, no limitation to widening groove outward or toward center
• For user guide, see pages 604-615
(1) Minimum cutting width
(2) Maximum cutting width
(3) Minimum penetration diameter
(4) Maximum penetration diameter
**Inserts:** HFPR/L • HFPR/L (full radius)

## HFHR/L- □ M & HFHPR/L- □ M
Integral Toolholders

For shallow machining up to max. 5 mm depth of groove. One toolholder can be mounted with inserts in 3-6 mm widths. The initial major diameter groove is limited by the insert's geometry of each size.
After the initial groove, face recessing outward or toward the center is not limited by the insert's geometry.



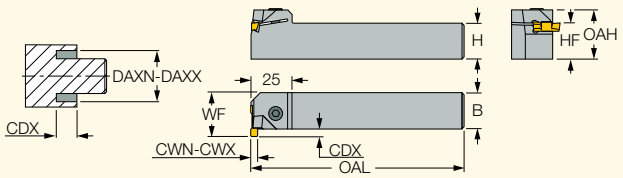



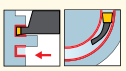

Insert initial face grooving range

| DAXN-DAXX | | |
|---|---|---|
| CW | DAXN | DAXX |
| 3 | 25.6 | 51.5 |
| 4 | 24.1 | 73.7 |
| 5 | 22.1 | 170 |
| 6 | 20.8 | ∞ |

HELIFACE

## HFHPR/L-M
Perpendicular Toolholders for Shallow Face Grooving



Right-hand shown

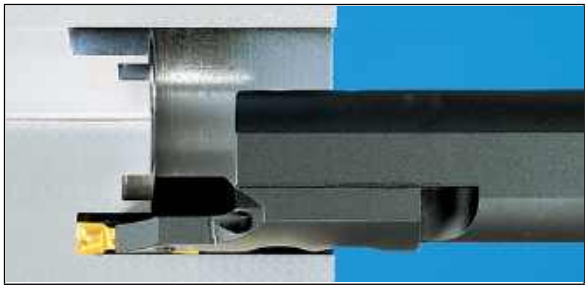
| Designation | CWN(1) | CWX(2) | CDX | WF | H | B | OAL | DAXN(3) | DAXX(4) | OAH | HF | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HFHPR/L 20M | 3.00 | 6.00 | 5.00 | 25.30 | 20.0 | 20.0 | 130.00 | 20.0 | 2000.0 | 29.0 | 20.0 | SR M6X16 DIN912 | HW 5.0 |
| HFHPR/L 25M | 3.00 | 6.00 | 5.00 | 30.30 | 25.0 | 25.0 | 150.00 | 20.0 | 2000.0 | 34.0 | 25.0 | SR M6X16 DIN912 | HW 5.0 |

• DGN & GRIP 4.. - 6.. inserts can be used only with right-hand tools, HGPL 4.. - 6.. inserts with left-hand tools • After initial groove, no limitation to widening groove outward or toward center
• For user guide, see pages 604-615
(1) Minimum cutting width
(2) Maximum cutting width
(3) Minimum penetration diameter
(4) Maximum penetration diameter
**Inserts:** HFPR/L • HFPR/L (full radius)

# Boring Bars for Adapters

## HGAIR/L & HFAIR/L Adapters and HAI Holders

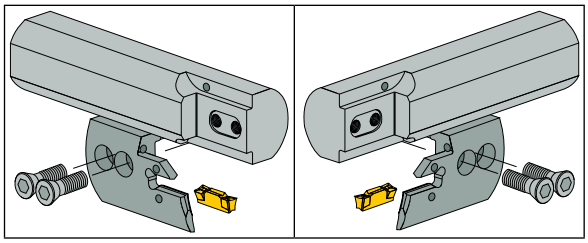
Adapter clamped on HAI round shank holders can machine deep internal boring and grooving applications. The tool can bore down to the bottom, and is supplied with internal coolant for better performance.



| HFAIR/L & HGAIR/L | HAI Holders |
|---|---|
|  |  |
| Exchangeable adapters, see pages 574, 570 | For adapters, see page 574 |

| HFAIR/L HGAIR/L | - ☐ | C | - ☐ | T - ☐ |
|---|---|---|---|---|
| **HELIFACE** Internal adapters right or left | Min. initial groove diameter | Internal coolant | Insert width | Max. depth of groove |

## HAI Holder System Assembly

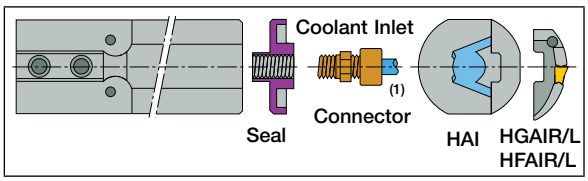


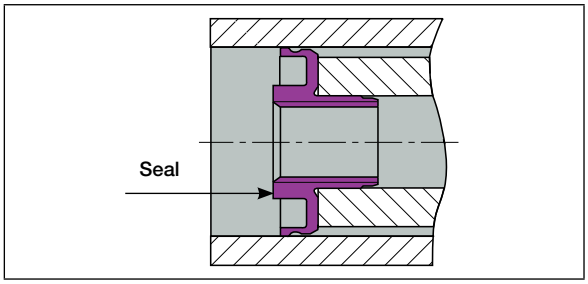
**HFAIL & HGAIL**
**Left-hand Adapters**

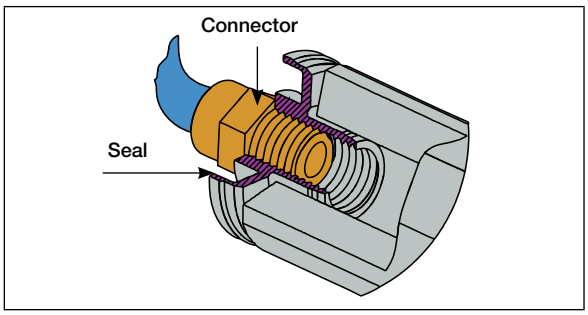
**HFAIR & HGAIR**
**Right-hand Adapters**

The same HAI boring bar can be used with right- and left-hand adapters in a wide range of face machining applications. The two screws and the central guiding slot on the adapter correspond to the key and holes on the holder ensuring strong, safe, and accurate clamping.

## Coolant System



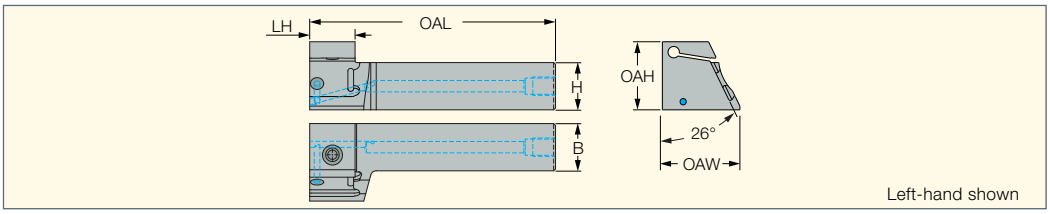

(1) Connector for coolant inlet BSP 1/8 thread. For PL-20, use M6 thread. Connector not supplied with tools.



NEOFACE FACE GROOVING

## BHSR/L-JHP

Holders for Double-Sided Face Grooving Blades with Inclined Clamping Position and JHP Cooling Hole



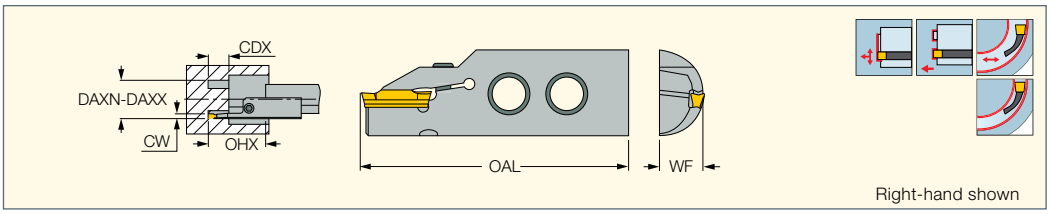
Left-hand shown

| Designation | H | B | OAL | LH | OAH | OAW | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| BHSL 25-26-B1-JHP | 25.0 | 25.0 | 130.00 | 24.0 | 36.00 | 41.00 | SR M6X18 DIN912 | HW 5.0 | OR 5X1N | SR M4X3 DIN913 |

HELIFACE

## HGAIR/L-3

Adapters for Internal Face Grooving and Turning



Right-hand shown

| Designation | CDX | DAXN(1) | DAXX(2) | CW | OAL | WF | OHX(3) | | |
|---|---|---|---|---|---|---|---|---|---|
| HGAIR/L 12-3M | 2.00 | 12.0 | 500.0 | 3.00 | 55.00 | 10.2 | 21.0 | SR 16-236 P | T-15/3 |
| HGAIR/L 12-3T6 | 6.00 | 12.0 | 15.0 | 3.00 | 55.00 | 10.2 | 21.0 | SR 16-236 P | T-15/3 |
| HGAIR/L 14-3T7 | 7.00 | 14.0 | 17.0 | 3.00 | 55.00 | 10.2 | 21.0 | SR 16-236 P | T-15/3 |
| HGAIR/L 17-3T8 | 8.00 | 17.0 | 21.0 | 3.00 | 55.00 | 10.2 | 21.0 | SR 16-236 P | T-15/3 |
| HGAIR/L 21-3T9 | 9.00 | 21.0 | 25.0 | 3.00 | 55.00 | 10.2 | 21.0 | SR 16-236 P | T-15/3 |
| HGAIR/L 25-3T9 | 9.00 | 25.0 | 34.0 | 3.00 | 55.00 | 10.2 | 21.0 | SR 16-236 P | T-15/3 |
| HGAIR/L 35-3T10 | 10.00 | 35.0 | 45.0 | 3.00 | 56.00 | 10.3 | 22.0 | SR 16-236 P | T-15/3 |
| HGAIR/L 45-3T10 | 10.00 | 45.0 | 65.0 | 3.00 | 56.00 | 10.3 | 22.0 | SR 16-236 P | T-15/3 |
| HGAIR/L 65-3T18 | 18.00 | 65.0 | 115.0 | 3.00 | 64.00 | 11.3 | 30.0 | SR 16-236 P | T-15/3 |
| HGAIR/L 115-3T18 | 18.00 | 115.0 | 400.0 | 3.00 | 64.00 | 11.3 | 30.0 | SR 16-236 P | T-15/3 |

• HGN & GRIP 3.. inserts can be used only with right-hand adapters, HGPL 3.. inserts with left-hand adapters • For user guide, see pages 604-615

(1) Minimum penetration diameter

(2) Maximum penetration diameter

(3) Maximum overhang

**Inserts:** GRIP • GRIP (full radius) • HGN-C • HGN-J • HGN-UT • HGPL

**Holders:** C#-HAD • C#-HAPR/L • HAI-C • HAPR/L • HAR/L • IH-HFAIR • IM-HAD • IM-HAPR/L

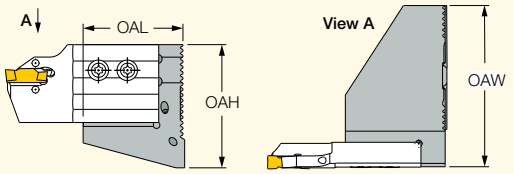


HELIFACE

TANG-GRIP FACE MACHINING LINE

## IH-HFAIR

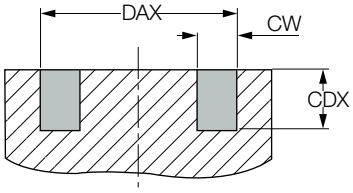
Intermediate Serrated Cartridge for Standard HELI-FACE HFAIR Adapters.

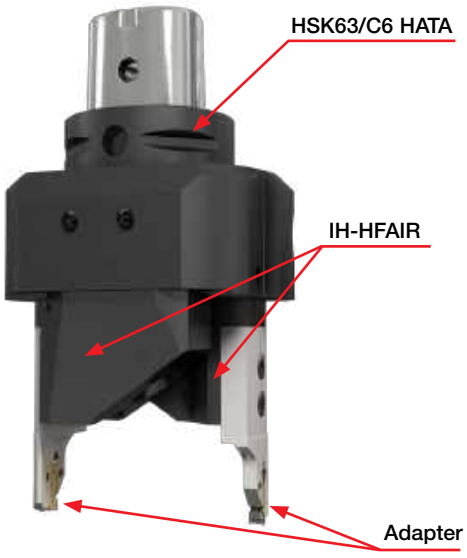



| Designation | OAH | OAW | OAL |
|---|---|---|---|
| IH-HFAIR | 55.40 | 72.50 | 44.90 |

**Tools:** HFAIR/L-DG • HGAIR/L-3

## HSK63 HATA+IH-HFAIR
## C6 HATA+IH-HFAIR




### Spare Parts

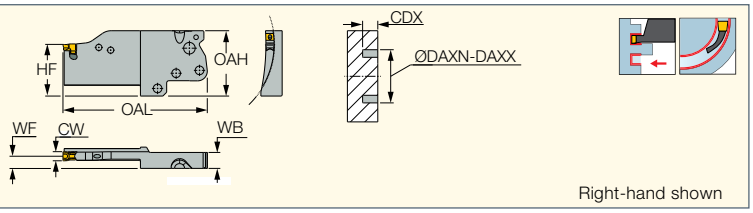
| Designation | | | | |
|---|---|---|---|---|
| IH-HFAIR | SR 14-519 | T-20/3 | O-RING 19X2 NBR | SR M6X20-XT |

TANG-GRIP FACE MACHINING LINE

MODULAR-GRIP

## TNFPAD-XL-JHP

Adapters for Face Machining




| Designation | CW | CDX | WF | WB | OAL | HF | OAH | DAXN(1) | DAXX(2) |
|---|---|---|---|---|---|---|---|---|---|
| TNFPAD-XL 4L-35T20-JHP | 4.00 | 20.00 | 8.00 | 9.50 | 65.00 | 34.0 | 43.00 | 35.0 | 53.0 |
| TNFPAD-XL 4L-45T20-JHP | 4.00 | 20.00 | 8.00 | 9.50 | 65.00 | 34.0 | 43.00 | 45.0 | 68.0 |
| TNFPAD-XL 4R/L-35T35-JHP | 4.00 | 35.00 | 8.00 | 9.50 | 80.00 | 34.0 | 43.00 | 35.0 | 53.0 |
| TNFPAD-XL 4R/L-45T35-JHP | 4.00 | 35.00 | 8.00 | 9.50 | 80.00 | 34.0 | 43.00 | 45.0 | 68.0 |
| TNFPAD-XL 5L-60T20-JHP | 5.00 | 20.00 | 8.00 | 10.00 | 65.00 | 34.0 | 43.00 | 60.0 | 90.0 |
| TNFPAD-XL 5R/L-60T40-JHP | 5.00 | 40.00 | 8.00 | 10.00 | 85.00 | 34.0 | 43.00 | 60.0 | 90.0 |
| TNFPAD-XL 6L-110T20-JHP | 6.00 | 20.00 | 8.00 | 10.50 | 65.00 | 34.0 | 43.00 | 110.0 | 312.0 |
| TNFPAD-XL 6L-80T20-JHP | 6.00 | 20.00 | 8.00 | 10.50 | 65.00 | 34.0 | 43.00 | 80.0 | 122.0 |
| TNFPAD-XL 6L-80T45-JHP | 6.00 | 45.00 | 8.00 | 10.50 | 90.00 | 34.0 | 43.00 | 80.0 | 122.0 |
| TNFPAD-XL 6R/L-110T50-JHP | 6.00 | 50.00 | 8.00 | 10.50 | 95.00 | 34.0 | 43.00 | 110.0 | 312.0 |

• WF(assembly)=WF(shank) + WF(adapter) • TNF 4..5..6 inserts can be used with left and right hand adapters. • For user guide, see pages 604-615

(1) Minimum axial grooving diameter

(2) Maximum axial grooving diameter

**Inserts:** TNF GN-IQ • TNF-M-IQ • TNF-P-IQ

**Holders:** ABC MAHDR-#-XL-JHP • IH-TNFPAD • MAHPR/L-XL-JHP • MAHR/L-MG-XL-JHP • MAHR/L-MG-XL-JHP-MC • V## MAHD#-#-XL-##-JHP • V## MAHD-XL-JHP

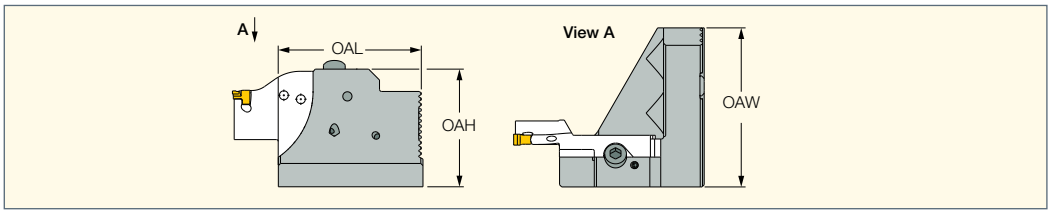
### Spare Parts

| Designation | |
|---|---|
| TNFPAD-XL-JHP | ETF 3-6 |

HELIFACE
TANG-GRIP FACE MACHINING LINE

## IH-TNFPAD

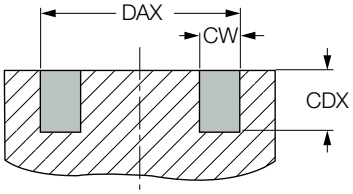
Intermediate Serrated Cartridge for standard TANG-FACE TNFPAD-XL R Adapters

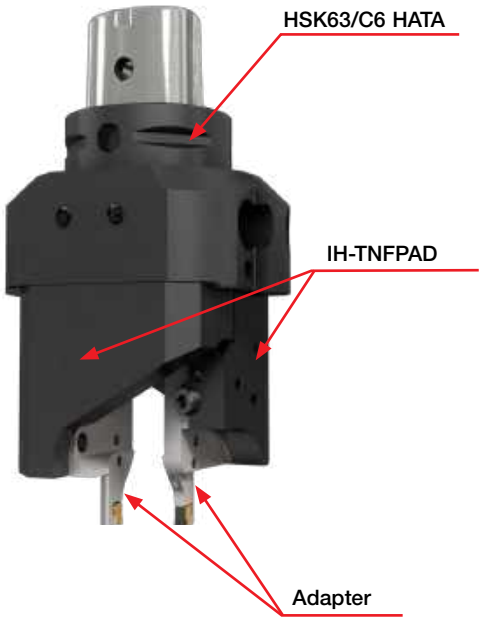



| Designation | OAH | OAW | OAL |
|---|---|---|---|
| IH-TNFPAD | 54.00 | 73.00 | 65.70 |

**Tools:** TNFPAD-XL-JHP

### HSK63 HATA + IH-TNFPAD
### C6 HATA + IH-TNFPAD




| Designation | CW (min) | CW (max) | CDX | DAX (min) | DAX (max) |
|---|---|---|---|---|---|
| TNFPAD-XL 4L-35T20-JHP | 4.00 | 6.90 | 20.00 | 35.0 | 53.0 |
| TNFPAD-XL 4L-45T20-JHP | 4.00 | 6.90 | 20.00 | 45.0 | 68.0 |
| TNFPAD-XL 4R/L-35T35-JHP | 4.00 | 6.90 | 35.00 | 35.0 | 53.0 |
| TNFPAD-XL 4R/L-45T35-JHP | 4.00 | 6.90 | 35.00 | 45.0 | 68.0 |
| TNFPAD-XL 5L-60T20-JHP | 5.00 | 8.90 | 20.00 | 60.0 | 90.0 |
| TNFPAD-XL 5R/L-60T40-JHP | 5.00 | 8.90 | 40.00 | 60.0 | 90.0 |
| TNFPAD-XL 6L-110T20-JHP | 6.00 | 10.90 | 20.00 | 110.0 | 312.0 |
| TNFPAD-XL 6L-80T20-JHP | 6.00 | 10.90 | 20.00 | 80.0 | 122.0 |
| TNFPAD-XL 6L-80T45-JHP | 6.00 | 10.90 | 45.00 | 80.0 | 122.0 |
| TNFPAD-XL 6R/L-110T50-JHP | 6.00 | 10.90 | 50.00 | 110.0 | 312.0 |

### Spare Parts

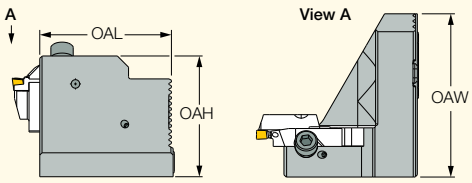
| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| IH-TNFPAD | SR M6X14-XT DIN 912 | BLD T20/M7 | SW6-SD | SR M5-04451 | SR M6X20-XT | O-RING 19X2 NBR | OR 5X1N |

HELIFACE

TANG-GRIP FACE MACHINING LINE

## IH-HFPAD

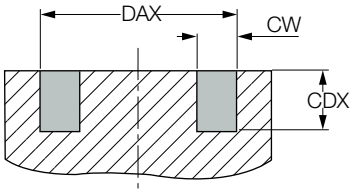
Intermediate Serrated Cartridge
For standard HFPAD R Adapters

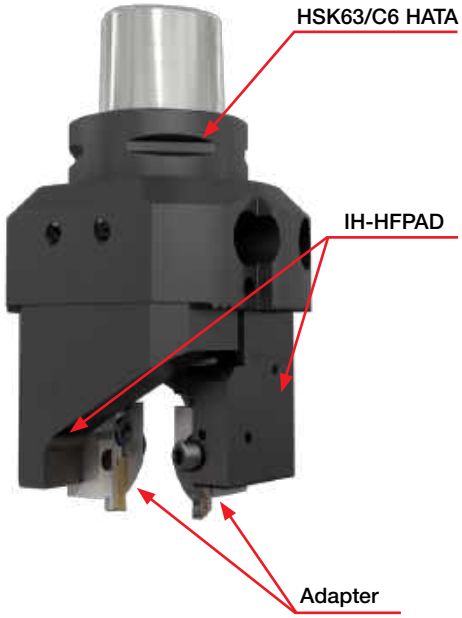



| Designation | OAH | OAW | OAL |
|---|---|---|---|
| IH-HFPAD | 54.00 | 73.00 | 58.90 |

**Tools:** HFPAD-3 • HFPAD-4 • HFPAD-5 • HFPAD-6

### HSK63 HATA+IH-HFPAD
### C6 HATA+IH-HFPAD




| Adapters | CW (min) | CW (max) | CDX | DAX (min) | DAX (max) |
|---|---|---|---|---|---|
| HFPAD 3R-25-T10 | 3 | 5.1 | 10 | 25 | 30 |
| HFPAD 3R-30-T10 | 3 | 5.1 | 10 | 30 | 40 |
| HFPAD 3R-40-T10 | 3 | 5.1 | 10 | 40 | 65 |
| HFPAD 3R-65-T18 | 3 | 5.1 | 18 | 65 | 99.2 |
| HFPAD 4R-25-T10 | 4 | 6.9 | 10 | 25 | 31 |
| HFPAD 4R-31-T10 | 4 | 6.9 | 10 | 31 | 44 |
| HFPAD 4R-44-T14 | 4 | 6.9 | 14 | 44 | 58 |
| HFPAD 4R-58-T14 | 4 | 6.9 | 14 | 58 | 88 |
| HFPAD 4R-88-T14 | 4 | 6.9 | 14 | 88 | 100.8 |
| HFPAD 5R-40-T14 | 5 | 8.1 | 14 | 40 | 50 |
| HFPAD 5R-50-T14 | 5 | 8.1 | 14 | 50 | 75 |
| HFPAD 5R-75-T14 | 5 | 8.1 | 14 | 75 | 101.8 |
| HFPAD 6R-60-T14 | 6 | 10.1 | 14 | 60 | 100 |
| HFPAD 6R-100-T20 | 6 | 10.1 | 20 | 100 | 102.8 |
| HFPAD 3R-30-T10-JHP | 3 | 5.1 | 10 | 30 | 40 |
| HFPAD 3R-40-T10-JHP | 3 | 5.1 | 10 | 40 | 65 |
| HFPAD 3R-65-T18-JHP | 3 | 5.1 | 18 | 65 | 99.2 |
| HFPAD 4R-44-T14-JHP | 4 | 6.9 | 14 | 44 | 58 |
| HFPAD 4R-58-T14-JHP | 4 | 6.9 | 14 | 58 | 88 |
| HFPAD 4R-88-T14-JHP | 4 | 6.9 | 14 | 88 | 100.8 |
| HFPAD 5R-40-T14-JHP | 5 | 8.1 | 14 | 40 | 50 |
| HFPAD 5R-75-T14-JHP | 5 | 8.1 | 14 | 75 | 101.8 |
| HFPAD 6R-60-T14-JHP | 6 | 10.1 | 14 | 60 | 100 |
| HFPAD 6R-100-T20-JHP | 6 | 10.1 | 20 | 100 | 102.8 |

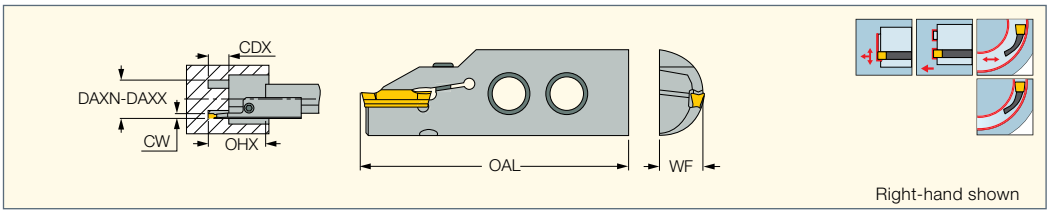
## Spare Parts

| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| IH-HFPAD | SR M6X20-XT | SR M5-04451 | SR M6X12DIN6912 | HW 5.0 | T-20/5 | O-RING 19X2 NBR | OR 5X1N | BLD T20/M7 | SW6-SD |

HELIFACE

## HFAIR/L-4

Adapters for Internal Face Grooving and Turning




| Designation | CDX | CW | DAXN(1) | DAXX(2) | OAL | WF | OHX(3) | | |
|---|---|---|---|---|---|---|---|---|---|
| HFAIR/L 34-4T18 | 18.00 | 4.00 | 34.0 | 40.0 | 67.00 | 15.3 | 33.0 | SR M5X16 DIN912 | HW 4.0 |
| HFAIR/L 40-4T20 | 20.00 | 4.00 | 40.0 | 48.0 | 67.00 | 15.3 | 33.0 | SR M5X16 DIN912 | HW 4.0 |
| HFAIR/L 48-4T20 | 20.00 | 4.00 | 48.0 | 60.0 | 67.00 | 15.3 | 33.0 | SR M5X16 DIN912 | HW 4.0 |
| HFAIR/L 60-4T25 | 25.00 | 4.00 | 60.0 | 75.0 | 67.00 | 15.3 | 33.0 | SR M5X16 DIN912 | HW 4.0 |

• DGN & GRIP inserts can be used only with right-hand adapters, HGPL inserts with left-hand blades • For user guide, see pages 604-615

(1) Minimum penetration diameter

(2) Maximum penetration diameter

(3) Maximum overhang

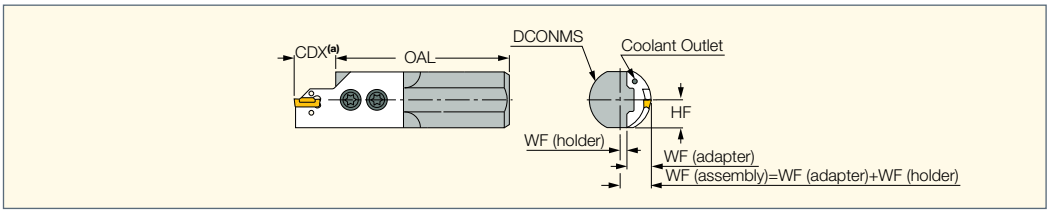
**Inserts:** DGN-MF • HFPR/L • HFPR/L (full radius) • GRIP • GRIP (full radius) • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • HGPL

**Holders:** C#-HAD • C#-HAPR/L • HAI-C • HAPR/L • HAR/L • IM-HAD • IM-HAPR/L

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## HAI-C

Boring Bars with Coolant Holes for Internal Grooving and Turning Adapters




| Designation | DCONMS | OAL | HF | WF(1) | CSP(2) | | | |
|---|---|---|---|---|---|---|---|---|
| HAI 20 | 20.00 | 130.00 | 9.0 | 0.50 | 0 | SR 14-519 | T-20/3 | |
| HAI 25C | 25.00 | 150.00 | 11.5 | 3.00 | 1 | SR 14-519 | T-20/3 | PL 25 |
| HAI 32C | 32.00 | 200.00 | 14.5 | 6.50 | 1 | SR 14-519 | T-20/3 | PL 32 |
| HAI 40C | 40.00 | 250.00 | 18.0 | 10.50 | 1 | SR 14-519 | T-20/3 | PL 40 |

• The HAI boring bars can be used with right and left-hand adapters • (a) CDX - see corresponding adapters

(1) Holder

(2) 0 - Without coolant supply, 1 - With coolant supply

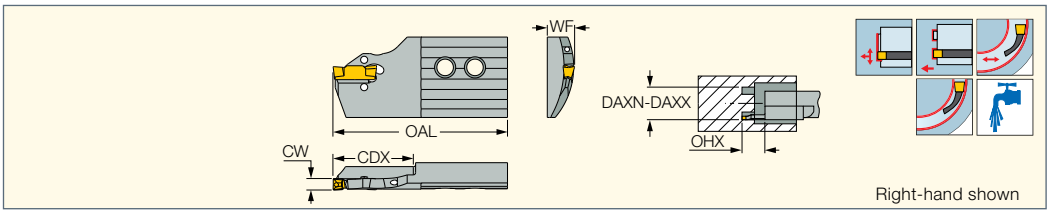
**Tools:** HFAIR/L-4 • HFAIR/L-DG • HGAIR/L-3



HELIFACE

## HFAIR/L-DG

Adapters for Internal Face Grooving and Turning




| Designation | CW | DAXN(1) | DAXX(2) | CDX | WF | OHX(3) | OAL | |
|---|---|---|---|---|---|---|---|---|
| HFAIR/L 75C-4T30DG | 4.00 | 75.0 | 140.0 | 30.00 | 10.9 | 34.5 | 68.50 | EDG 33B* |
| HFAIR/L 140C-4T30DG | 4.00 | 140.0 | - | 30.00 | 10.9 | 34.5 | 68.50 | EDG 33B* |
| HFAIR/L 55C-5T25DG | 5.00 | 55.0 | 70.0 | 25.00 | 11.9 | 32.0 | 66.00 | EDG 33B* |
| HFAIR/L 70C-5T25DG | 5.00 | 70.0 | 95.0 | 25.00 | 11.9 | 32.0 | 66.00 | EDG 33B* |
| HFAIR/L 95C-5T35DG | 5.00 | 95.0 | 130.0 | 35.00 | 11.9 | 39.5 | 73.50 | EDG 33B* |
| HFAIR/L 130C-5T38DG | 5.00 | 130.0 | 180.0 | 38.00 | 11.9 | 42.5 | 76.50 | EDG 33B* |
| HFAIR/L 180C-5T38DG | 5.00 | 180.0 | - | 38.00 | 11.9 | 42.5 | 76.50 | EDG 33B* |
| HFAIR/L 70C-6T28DG | 6.00 | 70.0 | 100.0 | 28.00 | 12.0 | 35.0 | 69.00 | EDG 33B* |
| HFAIR/L 100C-6T32DG | 6.00 | 100.0 | 180.0 | 32.00 | 12.0 | 39.0 | 73.00 | EDG 33B* |
| HFAIR/L 180C-6T38DG | 6.00 | 180.0 | - | 38.00 | 12.4 | 42.5 | 76.50 | EDG 33B* |

• After initial groove, no limitation to widening groove outward or toward center • DGN inserts can be used on right- and left-hand tools, GRIP inserts only on right-hand tools, HFPR/L right-hand inserts on right-hand tools (same for left-hand), and HGPL inserts only on left-hand tools.

(1) Minimum penetration diameter

(2) Maximum penetration diameter

(3) Maximum overhang

* Optional, should be ordered separately

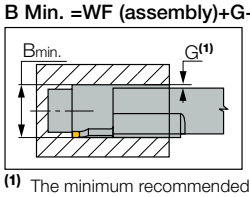
**Inserts:** DGN-MF • HFPR/L • HFPR/L (full radius) • GRIP • GRIP (full radius) • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGN-W • HGPL

**Holders:** C#-HAD • C#-HAPR/L • HAI-C • HAPR/L • HAR/L • IH-HFAIR • IM-HAD • IM-HAPR/L

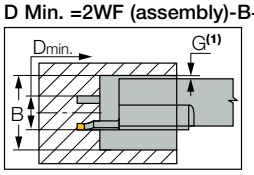
**Adapters can be used for internal machining along bore. Adapters can be mounted on standard HAI boring bars for internal machining, and on HAR/L, HAPR/L holders for external machining.**

### Boring, Face Grooving and Face Recessing Capacity

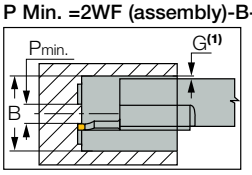
**Boring**
**B Min. =WF (assembly)+G+DCONMS/2**




**Face Grooving**
**D Min. =2WF (assembly)-B+2G+DCONMS**




**Face Recessing**
**P Min. =2WF (assembly)-B-2CW+2G+DCONMS**



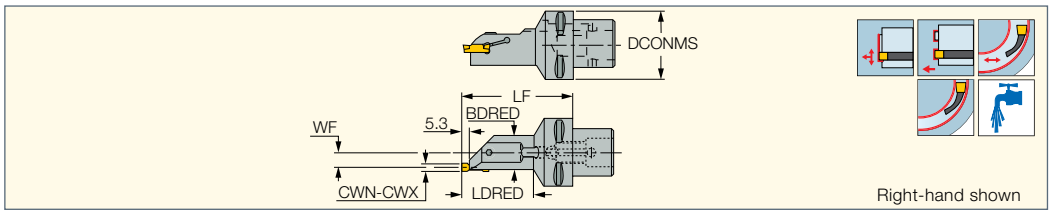

(1) The minimum recommended value for clearance (G) is 0.5 mm

* WF (assembly)=WF(adapter)+WF(holder)

CAMFIX

## C#-HFIR/L-MC

Boring Bars for Internal Grooving and Turning with CAMFIX Exchangeable Shanks




| Designation | CWN(1) | CWX(2) | DCONMS | WF | LDRED | LF | BDRED | CDI(3) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C4 HFIR/L-MC | 3.00 | 6.00 | 40.00 | 11.30 | 52.0 | 80.0 | 25.00 | 1 | SR M5X16 DIN912 | HW 4.0 | EZ 83 |
| C5 HFIR-MC | 3.00 | 6.00 | 50.00 | 11.30 | 52.0 | 80.0 | 25.00 | 1 | SR M5X16 DIN912 | HW 4.0 | EZ 83 |

• DGN & GRIP 4.. - 6.. inserts can be used only with right-hand tools, HGPL 4.. - 6.. inserts with left-hand tools • After initial groove, no limitation to widening groove outward or toward center

• For user guide, see pages 604-615

(1) Minimum cutting width

(2) Maximum cutting width

(3) 1 - Hole for data chip, 0 - Without hole for data chip

**Inserts:** DGN-MF • HFPR/L • HFPR/L (full radius) • GRIP • GRIP (full radius) • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGN-W • HGPL

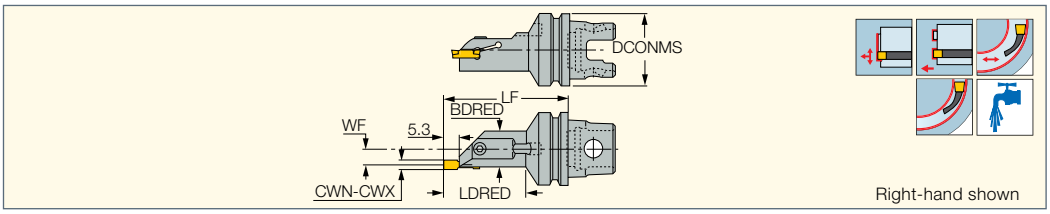
**Holders:** HSK-C#

## ISO 26622-1 XMZ

HELIFACE

### IM-HFIR-MC

Tools for Internal Grooving and Turning with ISO 26622-1(*) Tapered Shank




| Designation | DCONMS | LF | BDRED | WF | LDRED | CWN(1) | CWX(2) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| IM40 HFIR-MC | 40.00 | 80.0 | 25.00 | 11.30 | 52.0 | 3.00 | 6.00 | SR M5X16 DIN912 | HW 4.0 | EZ 83 |
| IM50 HFIR-MC | 50.00 | 80.0 | 25.00 | 11.30 | 52.0 | 3.00 | 6.00 | SR M5X16 DIN912 | HW 4.0 | EZ 83 |

• (*) Tools with orientation holes in the flange groove can be supplied on request • DGN & GRIP 4.. - 6.. inserts can be used only with right-hand tools, HGPL 4.. - 6.. inserts with left-hand tools

• After initial groove, no limitation to widening groove outward or toward center • For user guide, see pages 604-615

(1) Minimum cutting width

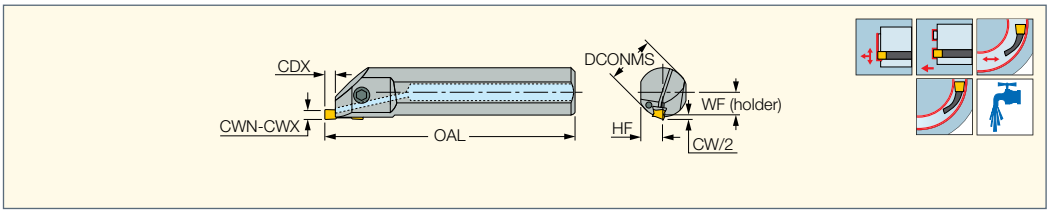
(2) Maximum cutting width

**Inserts:** DGN-MF • HFPR/L • HFPR/L (full radius) • GRIP • GRIP (full radius) • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGN-W

HELIFACE

### HFIR/L-MC

Boring Bars for Internal Grooving and Turning




| Designation | DCONMS | CWN(1) | CWX(2) | CDX | OAL | WF | HF | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| HFIR/L 16MC | 16.00 | 3.00 | 6.00 | 5.00 | 150.00 | 11.14 | 7.5 | SR M5X16 DIN912 | HW 4.0 | PL 16 |
| HFIR/L 20MC | 20.00 | 3.00 | 6.00 | 5.00 | 170.00 | 11.14 | 9.0 | SR M5X16 DIN912 | HW 4.0 | PL 20 |
| HFIR/L 25MC | 25.00 | 3.00 | 6.00 | 5.00 | 200.00 | 11.14 | 11.5 | SR M5X16 DIN912 | HW 4.0 | PL 25 |
| HFIR/L 32MC | 32.00 | 3.00 | 6.00 | 5.00 | 250.00 | 14.68 | 14.5 | SR M6X20 DIN912 | HW 5.0 | PL 32 |
| HFIR/L 40MC | 40.00 | 3.00 | 6.00 | 5.00 | 300.00 | 18.70 | 18.0 | SR M6X20 DIN912 | HW 5.0 | PL 40 |

• DGN & GRIP 4.. - 6.. inserts can be used only with right-hand tools, HGPL 4.. - 6.. inserts with left-hand tools • After initial groove, no limitation to widening groove outward or toward center

• For user guide, see pages 604-615

(1) Minimum cutting width

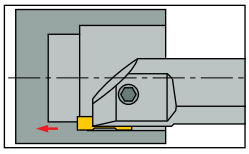
(2) Maximum cutting width

**Inserts:** DGN-MF • DGN-W • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • GRIP • GRIP (full radius) • HFPR/L • HFPR/L (full radius)

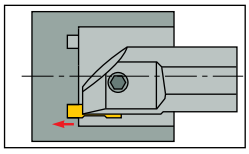
• HGPL

**Holders:** DT30/2 ##L70WN • DT30/2 ADR-##-20-55

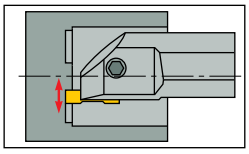
**Boring**



**Internal Face Grooving**



**Internal Face Recessing**



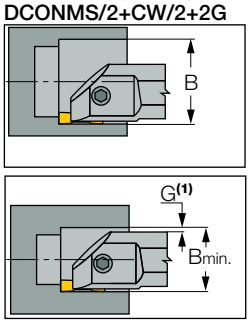
### HFIR/L- □ MC Integral Boring Bars

For shallow, internal face machining to max. 5 mm depth of groove. One boring bar can be mounted with inserts in 4-6 mm widths.

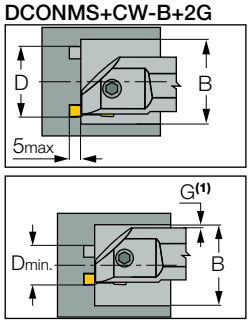
The initial major diameter groove is limited by the insert's geometry of each size. After the initial groove, face recessing outward or toward center is not limited by the insert's geometry.

### Boring, Face Grooving & Face Recessing Capacity

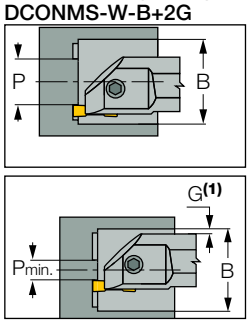
**Boring**
**B Min. =WF(holder)+ DCONMS/2+CW/2+2G**




**Face Grooving**
**D Min. =2WF (holder)+ DCONMS+CW-B+2G**




**Face Recessing**
**P Min. =2WF (holder)+ DCONMS-W-B+2G**




(1) The minimum recommended value for clearance (G) is 0.5 mm

Insert Initial Face Grooving Range

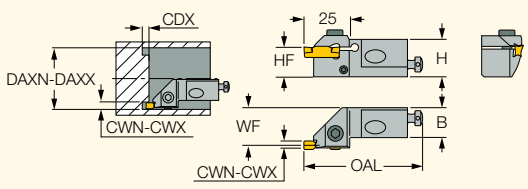
| | D | |
|---|---|---|
| CW | Min. | Max. |
| 4 | 23 | 90 |
| 5 | 21 | 300 |
| 6 | 20 | ∞ |

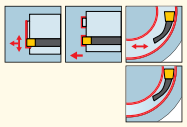
HELIFACE

## CR HFIR-M

Cartridges for Face Grooving and Turning

| CW | DAXN-DAXX | |
|---|---|---|
| | Min | Max |
| 3 | 60 | 130 |
| 4,5,6 | 60 | ∞ |



Right-hand shown

| Designation | CWN(1) | CWX(2) | HF | B | H | OAL | WF | CDX |
|---|---|---|---|---|---|---|---|---|
| CR HFIR-16M | 3.00 | 6.00 | 16.0 | 16.0 | 20.0 | 67.00 | 20.00 | 5.00 |
| CR HFIR-20M | 3.00 | 6.00 | 20.0 | 20.0 | 24.0 | 72.00 | 24.00 | 5.00 |

- Used for shallow internal face machining to max. 5 mm depth of groove
- Inserts in 3-6 mm widths can be mounted on the cartridges
- Only DGN & GRIP 4.. - 6.. inserts can be used with the right-hand tools

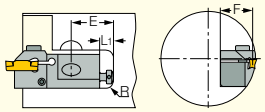
(1) Minimum cutting width

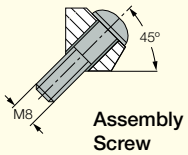
(2) Maximum cutting width

**Inserts:** DGN-MF • HFPR/L • HFPR/L (full radius) • GRIP • GRIP (full radius) • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGN-W

## CR-HFIR/L-M

Assembly Dimensions




| Designation | E | L1(1) | F(2) | Rmax. | Assembly Screw(3) |
|---|---|---|---|---|---|
| CR HFIR/L-16M | 25 | 8 | 20 | 6 | M8X30 |
| CR HFIR/L-20M | 30 | 10 | 24 | 6 | M8X30 |

(1) L adjustment$^{\pm 1}$

(2) F adjustment $^{+0.3}_{-0}$

(3) Assembly screws ISO 7380 are recommended

### Spare Parts

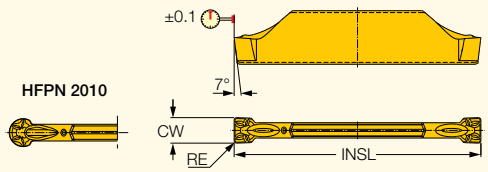
| Designation | | | | | |
|---|---|---|---|---|---|
| CR HFIR-16M | SR M5X20DIN912 | HW 4.0 | SR 76-1401 | SR M4X10 DIN916 | HW 2.0 |
| CR HFIR-20M | SR M5X20DIN912 | HW 4.0 | SR 76-1401 | SR M4X10 DIN913 | HW 2.0 |

HELIFACE

## HFPN

Utility Double-Ended Face Machining Inserts








| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | INSL | IC808 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|
| HFPN 2002 | 2.00 | 0.20 | 0.04 | 0.030 | 19.40 | ● | 0.03-0.10 |
| HFPN 2010 | 2.00 | 1.00 | 0.04 | 0.030 | 19.40 | ● | 0.03-0.10 |

- For cutting speed recommendations and user guide, see pages 604-615

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

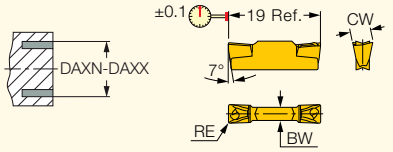
**Tools:** HFFA • HFFH

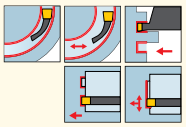
HELIFACE

## HFPR/L

Utility Double-Ended Face Machining Inserts





No depth penetration limit

| Designation | Dimensions | | | | | | | Tough ↔ Hard | | | | | | | | Recommended Machining Data | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CW | RE | CWTOL(1) | RETOL(2) | BW | DAXN(3) | DAXX(4) | IC830 | IC354 | IC8250 | IC808 | IC9015 | IC20 | IC5010 | IC806 | $a_p$ (mm) | f face-groove (mm/rev) | f face-turn (mm/rev) |
| **HFPR/L 3003** | 3.00 | 0.30 | 0.05 | 0.050 | 2.10 | 25.6 | 51.5 | ● | ● | ● | ● | | ● | ● | ● | 0.30-1.50 | 0.08-0.20 | 0.10-0.20 |
| **HFPR/L 4004** | 4.00 | 0.40 | 0.05 | 0.050 | 2.80 | 24.1 | 73.7 | ● | ● | ● | ● | | ● | ● | ● | 0.40-2.00 | 0.10-0.24 | 0.15-0.25 |
| **HFPR/L 5004** | 5.00 | 0.40 | 0.05 | 0.050 | 3.40 | 22.1 | 170.0 | ● | ● | ● | ● | ● | ● | ● | ● | 0.50-2.50 | 0.12-0.24 | 0.15-0.35 |
| **HFPR/L 6004** | 6.00 | 0.40 | 0.05 | 0.050 | 4.00 | 20.8 | - | ● | ● | ● | ● | | ● | ● | ● | 0.40-3.00 | 0.12-0.28 | 0.15-0.40 |

- For cutting speed recommendations and user guide, see pages 604-615

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Minimum axial grooving diameter-applies to type M tools only. For other tools, apply the diameter limitations that are recorded on each tool.

(4) Maximum axial grooving diameter-applies to type M tools only. For other tools, apply the diameter limitations that are recorded on each tool.

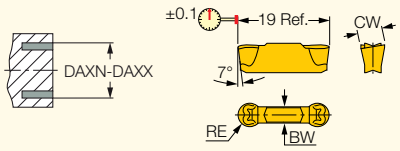
**Tools:** C#-HFIR/L-MC • CR HFIR-M • HFAER/L-4 • HFAER/L-5T, 6T • HFAIR/L-4 • HFAIR/L-DG • HFFR/L-T • HFHPR/L-M • HFHR/L-3T • HFHR/L-4T • HFHR/L-5T • HFHR/L-6T • HFHR/L-M • HFIR/L-MC • HFPAD-4 • HFPAD-5 • HFPAD-6 • HFPAD-JHP • IM-HFIR-MC

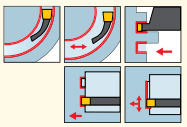
HELIFACE

## HFPR/L (full radius)

Utility Double-Ended Full Radius Face Machining Inserts





No depth penetration limit.

| Designation | Dimensions | | | | | | | Tough ↔ Hard | | | | | | | | Recommended Machining Data | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CW | RE | CWTOL(1) | RETOL(2) | BW | DAXN(3) | DAXX(4) | IC830 | IC354 | IC8250 | IC808 | IC9015 | IC20 | IC5010 | IC806 | $a_p$ (mm) | f face-groove (mm/rev) | f face-turn (mm/rev) |
| **HFPR/L 3015** | 3.00 | 1.50 | 0.05 | 0.050 | 2.10 | 25.6 | 51.5 | ● | ● | ● | ● | | ● | ● | ● | 0.00-1.50 | 0.08-0.20 | 0.12-0.20 |
| **HFPR/L 4020** | 4.00 | 2.00 | 0.05 | 0.050 | 2.80 | 24.1 | 73.7 | ● | ● | ● | ● | | ● | ● | ● | 0.00-2.00 | 0.10-0.24 | 0.15-0.25 |
| **HFPL 5025** | 5.00 | 2.50 | 0.05 | 0.050 | 3.40 | 22.1 | 170.0 | ● | ● | ● | ● | | ● | ● | ● | 0.00-2.50 | 0.12-0.24 | 0.15-0.35 |
| **HFPR 5025** | 5.00 | 2.50 | 0.05 | 0.050 | 3.40 | 22.1 | 170.0 | ● | ● | | ● | ● | ● | ● | ● | 0.00-2.50 | 0.12-0.24 | 0.15-0.35 |
| **HFPR/L 6030** | 6.00 | 3.00 | 0.05 | 0.050 | 4.00 | 20.8 | - | ● | ● | ● | ● | | ● | ● | ● | 0.00-3.00 | 0.12-0.28 | 0.20-0.40 |

- For cutting speed recommendations and user guide, see pages 604-615

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Minimum axial grooving diameter-applies to type M tools only. For other tools, apply the diameter limitations that are recorded on each tool.

(4) Maximum axial grooving diameter-applies to type M tools only. For other tools, apply the diameter limitations that are recorded on each tool.

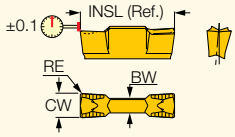
**Tools:** C#-HFIR/L-MC • CR HFIR-M • HFAER/L-4 • HFAER/L-5T, 6T • HFAIR/L-4 • HFAIR/L-DG • HFFR/L-T • HFHPR/L-M • HFHR/L-3T • HFHR/L-4T • HFHR/L-5T • HFHR/L-6T • HFHR/L-M • HFIR/L-MC • HFPAD-4 • HFPAD-5 • HFPAD-6 • HFPAD-JHP • IM-HFIR-MC

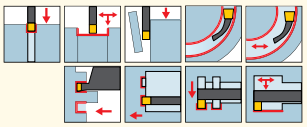
HELI-GRIP

## GRIP

Utility Double-Ended Inserts for External, Internal and Face Machining



No depth penetration limit

| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | INSL | BW | Tough ↔ Hard IC830 | IC8250 | IC08 | IC808 | IC908 | IC418 | IC5010 | IC806 | IC807 | IC804 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) | f face-groove (mm/rev) | f face-turn (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GRIP 3002Y** | 3.00 | 0.20 | 0.05 | 0.050 | 15.80 | 2.30 | ● | ● | ● | ● | ● | | | ● | ● | ● | 0.25-1.80 | 0.14-0.18 | 0.07-0.11 | 0.08-0.20 | 0.10-0.20 |
| **GRIP 3003Y** | 3.00 | 0.30 | 0.05 | 0.050 | 15.80 | 2.30 | ● | ● | ● | ● | ● | ● | ● | ● | | | 0.40-1.80 | 0.15-0.19 | 0.07-0.11 | 0.08-0.20 | 0.10-0.20 |
| **GRIP 318-040Y** | 3.18 | 0.40 | 0.05 | 0.050 | 15.80 | 2.30 | ● | | | ● | ● | ● | | ● | | | 0.50-1.90 | 0.17-0.22 | 0.07-0.12 | 0.08-0.20 | 0.10-0.20 |
| **GRIP 4002Y** | 4.00 | 0.20 | 0.05 | 0.050 | 19.00 | 2.80 | ● | ● | ● | ● | ● | | | ● | ● | | 0.25-2.40 | 0.16-0.21 | 0.09-0.14 | 0.10-0.24 | 0.15-0.30 |
| **GRIP 4004Y** | 4.00 | 0.40 | 0.05 | 0.050 | 19.00 | 2.80 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | 0.50-2.40 | 0.18-0.24 | 0.09-0.15 | 0.10-0.24 | 0.15-0.30 |
| **GRIP 476-080Y** | 4.76 | 0.80 | 0.05 | 0.050 | 19.00 | 3.10 | ● | ● | | ● | ● | ● | | ● | | | 1.00-2.80 | 0.21-0.33 | 0.10-0.20 | 0.10-0.24 | 0.15-0.30 |
| **GRIP 5005Y** | 5.00 | 0.50 | 0.05 | 0.050 | 19.00 | 3.30 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | 0.60-3.00 | 0.20-0.30 | 0.11-0.20 | 0.12-0.24 | 0.15-0.35 |
| **GRIP 5008Y** | 5.00 | 0.80 | 0.05 | 0.050 | 19.00 | 3.40 | ● | ● | | ● | ● | ● | ● | ● | ● | | 1.00-3.00 | 0.23-0.35 | 0.11-0.21 | 0.12-0.24 | 0.15-0.35 |
| **GRIP 6005Y** | 6.00 | 0.50 | 0.05 | 0.050 | 19.00 | 4.20 | ● | ● | | ● | ● | ● | ● | ● | ● | | 0.60-3.60 | 0.22-0.36 | 0.13-0.23 | 0.12-0.28 | 0.15-0.40 |
| **GRIP 6008Y** | 6.00 | 0.80 | 0.05 | 0.050 | 19.00 | 4.20 | ● | ● | | ● | ● | ● | ● | ● | ● | | 1.00-3.60 | 0.24-0.42 | 0.13-0.25 | 0.12-0.28 | 0.15-0.40 |
| **GRIP 635-080Y** | 6.35 | 0.80 | 0.05 | 0.050 | 19.00 | 4.20 | | ● | | ● | ● | ● | | ● | | | 1.00-3.80 | 0.25-0.44 | 0.14-0.27 | 0.12-0.28 | 0.15-0.40 |

• For cutting speed recommendations and user guide, see pages 604-615

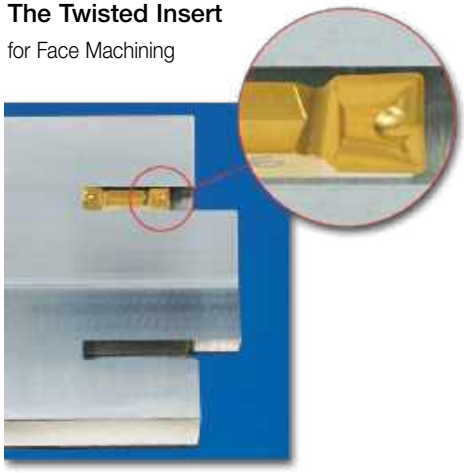
(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

**Tools:** C#-HELIR/L • C#-HFIR/L-MC • CR HFIR-M • D/HGAD RE/LE-JHP • DGAD/HGAD • DGFH • DGFH-JHP • DGFS • DGTR/L • HELIIR/L • HELIR/L • HFAER/L-4 • HFAER/L-5T, 6T • HFAIR/L-4 • HFAIR/L-DG • HFFR/L-T • HFHR/L-4T • HFHR/L-5T • HFIR/L-MC • HFPAD-3 • HFPAD-4 • HFPAD-5 • HFPAD-6 • HFPAD-JHP • HGAER/L-3 • HGAIR/L-3 • HGFH • HGHR/L-3 • HGPAD • HGPAD-JHP • IM-HFIR-MC

## The Twisted Insert

for Face Machining



The double-ended, twisted insert body makes it possible to machine deeper than the insert's length.
A unique chipformer for controlled chip flow in axial and radial directions.
The rear angle is slanted in relation to the frontal edge so it does not come into contact with the machined groove surface as the tool penetrates deeply into the workpiece.

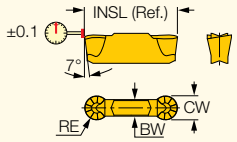


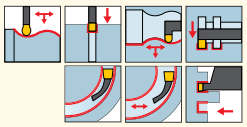
HELIGRIP

## GRIP (full radius)

Utility Double-Ended Full Radius Inserts for External, Internal and Face Machining



No depth penetration limit

| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | INSL | BW | Tough ↔ Hard IC830 | IC8250 | IC08 | IC808 | IC908 | IC418 | IC5010 | IC806 | IC807 | IC804 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) | f face-groove (mm/rev) | f face-turn (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GRIP 3015Y** | 3.00 | 1.50 | 0.05 | 0.050 | 15.80 | 2.10 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | 0.00-1.50 | 0.18-0.26 | 0.07-0.13 | 0.08-0.20 | 0.10-0.20 |
| **GRIP 318-159Y** | 3.18 | 1.59 | 0.05 | 0.050 | 15.80 | 2.30 | | | | ● | ● | | | ● | | | 0.00-1.50 | 0.19-0.28 | 0.07-0.13 | 0.08-0.20 | 0.10-0.20 |
| **GRIP 4020Y** | 4.00 | 2.00 | 0.05 | 0.050 | 19.00 | 2.80 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | 0.00-2.00 | 0.20-0.34 | 0.09-0.17 | 0.10-0.24 | 0.15-0.30 |
| **GRIP 476-238Y** | 4.76 | 2.38 | 0.05 | 0.050 | 19.00 | 3.20 | | | | ● | ● | ● | | ● | | | 0.00-2.30 | 0.21-0.40 | 0.10-0.20 | 0.10-0.24 | 0.15-0.30 |
| **GRIP 5025Y** | 5.00 | 2.50 | 0.05 | 0.050 | 19.00 | 3.40 | ● | ● | | ● | ● | ● | | ● | ● | ● | 0.00-2.50 | 0.23-0.42 | 0.11-0.21 | 0.12-0.24 | 0.15-0.35 |
| **GRIP 6030Y** | 6.00 | 3.00 | 0.05 | 0.050 | 19.00 | 4.20 | ● | ● | ● | ● | ● | ● | ● | ● | ● | | 0.00-3.00 | 0.24-0.50 | 0.13-0.25 | 0.12-0.28 | 0.15-0.40 |
| **GRIP 635-318Y** | 6.35 | 3.18 | 0.05 | 0.050 | 19.00 | 4.00 | | | | ● | ● | | | ● | | | 0.00-3.10 | 0.25-0.53 | 0.14-0.27 | 0.12-0.28 | 0.15-0.40 |

• For cutting speed recommendations and user guide, see pages 604-615

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

**Tools:** C#-HELIR/L • C#-HFIR/L-MC • CR HFIR-M • D/HGAD RE/LE-JHP • DGAD/HGAD • DGFH • DGFH-JHP • DGFS • DGTR/L • HELIIR/L • HELIR/L • HFAER/L-4 • HFAER/L-5T, 6T • HFAIR/L-4 • HFAIR/L-DG • HFFR/L-T • HFHR/L-4T • HFHR/L-5T • HFHR/L-6T • HFIR/L-MC • HFPAD-3 • HFPAD-4 • HFPAD-5 • HFPAD-6 • HFPAD-JHP • HGAER/L-3 • HGAIR/L-3 • HGFH • HGHR/L-3 • HGPAD • HGPAD-JHP • IM-HFIR-MC

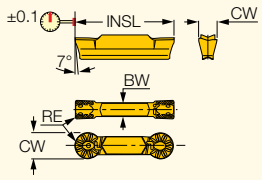
HELIGRIP

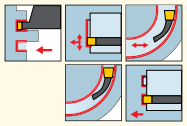
## HGPL

Utility Double-Ended Inserts for Face Machining







| Designation | Dimensions CW | BW | RE | CWTOL(1) | RETOL(2) | INSL | Tough ↔ Hard IC328 | IC354 | IC08 | IC808 | IC908 | IC806 | Recommended Machining Data $a_p$ (mm) | f face-groove (mm/rev) | f face-turn (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HGPL 3015Y** | 3.00 | 2.10 | 1.50 | 0.03 | 0.050 | 16.00 | | | | ● | ● | | 0.00-1.50 | 0.08-0.20 | 0.12-0.23 |
| **HGPL 3002Y** | 3.00 | 2.30 | 0.20 | 0.03 | 0.050 | 16.00 | | ● | ● | ● | ● | | 0.24-1.80 | 0.08-0.20 | 0.12-0.23 |
| **HGPL 3003Y** | 3.00 | 2.30 | 0.30 | 0.03 | 0.050 | 16.00 | ● | ● | ● | ● | ● | | 0.36-1.80 | 0.08-0.20 | 0.12-0.23 |
| **HGPL 4002Y** | 4.00 | 2.80 | 0.20 | 0.03 | 0.050 | 19.00 | | ● | ● | ● | ● | | 0.24-2.40 | 0.10-0.24 | 0.16-0.30 |
| **HGPL 4004Y** | 4.00 | 2.80 | 0.40 | 0.03 | 0.050 | 19.00 | | ● | ● | ● | ● | | 0.48-2.40 | 0.10-0.24 | 0.16-0.30 |
| **HGPL 4020Y** | 4.00 | 2.80 | 2.00 | 0.03 | 0.050 | 19.00 | | | ● | ● | ● | | 0.00-2.00 | 0.10-0.24 | 0.16-0.30 |
| **HGPL 5005Y** | 5.00 | 3.30 | 0.50 | 0.03 | 0.050 | 19.00 | | ● | | ● | ● | | 0.60-3.00 | 0.12-0.24 | 0.20-0.38 |
| **HGPL 5025Y** | 5.00 | 3.30 | 2.50 | 0.03 | 0.050 | 19.00 | | | ● | ● | ● | | 0.00-2.50 | 0.12-0.24 | 0.20-0.38 |
| **HGPL 6005Y** | 6.00 | 4.20 | 0.50 | 0.03 | 0.050 | 19.00 | | ● | | ● | ● | ● | 0.60-3.60 | 0.12-0.28 | 0.24-0.45 |
| **HGPL 6030Y** | 6.00 | 4.20 | 3.00 | 0.03 | 0.050 | 19.00 | | | ● | ● | ● | | 0.00-3.00 | 0.12-0.28 | 0.24-0.45 |

• No depth penetration limit • For cutting speed recommendations and user guide, see pages 604-615

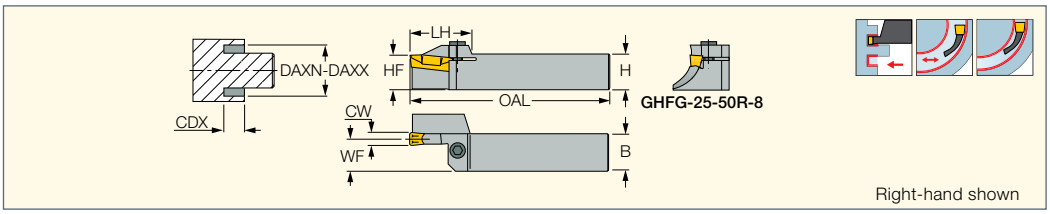
(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

**Tools:** C#-HFIR/L-MC • HFAER/L-4 • HFAER/L-5T, 6T • HFAIR/L-4 • HFAIR/L-DG • HFFR/L-T • HFHR/L-4T • HFHR/L-5T • HFHR/L-6T • HFIR/L-MC • HFPAD-3 • HFPAD-4 • HFPAD-5 • HFPAD-6 • HFPAD-JHP • HGAER/L-3 • HGAIR/L-3 • HGHR/L-3

# CUT-GRIP

## GHFG-R/L-8
Holders for Face Grooving and Turning Along Shafts




| Designation | CDX | DAXN(1) | DAXX(2) | H | HF | B | OAL | LH | WF | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GHFG 25-50R/L-8 | 25.00 | 50.0 | 64.0 | 25.0 | 25.0 | 25.0 | 150.00 | 41.0 | 22.00 | SR M6X20 DIN912 | HW 5.0 |
| GHFG 25-63R/L-8 | 25.00 | 63.0 | 82.0 | 25.0 | 25.0 | 25.0 | 150.00 | 41.0 | 22.00 | SR M6X20 DIN912 | HW 5.0 |
| GHFG 32-63R-8 | 25.00 | 63.0 | 82.0 | 32.0 | 32.0 | 32.0 | 170.00 | 41.0 | 30.00 | SR M6X20 DIN912 | HW 5.0 |

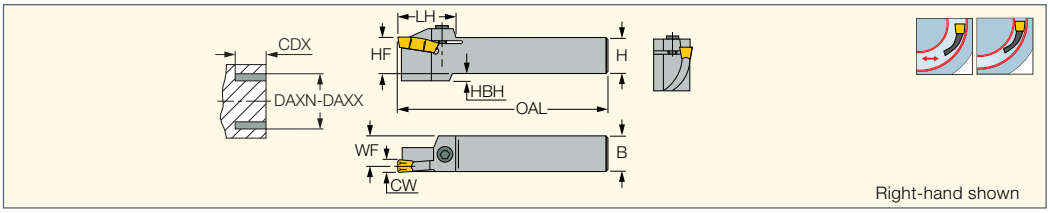
- For user guide, see pages 604-615

(1) Minimum penetration diameter

(2) Maximum penetration diameter

**Inserts:** GDMF • GDMM-CC • GDMN • GDMU • GDMY • GDMY (full radius) • GDMY-F • GIA-K (long pocket) • GIF (long pocket) • GIF-E (W=8,10 full radius) • GIF-E (W=8,10) • GIFG-E (W=8)

## GHFGR/L-8
Holders for Face Grooving and Turning




| Designation | CDX | DAXN(1) | DAXX(2) | H | HF | B | OAL | LH | WF | HBH | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GHFGR/L 25-80-8 | 23.00 | 80.0 | 115.0 | 25.0 | 25.0 | 25.0 | 150.00 | 43.5 | 21.30 | 6.0 | SR M6X20 DIN912 | HW 5.0 |
| GHFGR/L 32-80-8 | 23.00 | 80.0 | 115.0 | 32.0 | 32.0 | 32.0 | 170.00 | 43.5 | 28.30 | - | SR M6X20 DIN912 | HW 5.0 |
| GHFGR/L 25-105-8 | 25.00 | 105.0 | 160.0 | 25.0 | 25.0 | 25.0 | 150.00 | 43.5 | 21.30 | 6.0 | SR M6X20 DIN912 | HW 5.0 |
| GHFGR/L 32-105-8 | 25.00 | 105.0 | 160.0 | 32.0 | 32.0 | 32.0 | 170.00 | 43.5 | 28.30 | - | SR M6X20 DIN912 | HW 5.0 |
| GHFGR/L 25-155-8 | 25.00 | 155.0 | 510.0 | 25.0 | 25.0 | 25.0 | 150.00 | 43.5 | 21.30 | 6.0 | SR M6X20 DIN912 | HW 5.0 |
| GHFGR/L 32-155-8 | 25.00 | 155.0 | 510.0 | 32.0 | 32.0 | 32.0 | 170.00 | 43.5 | 28.30 | - | SR M6X20 DIN912 | HW 5.0 |

- No limitation to widening the groove either way after initial grooving • CDX depends on the penetration diameter and the insert
- For user guide, see pages 604-615

(1) Minimum penetration diameter

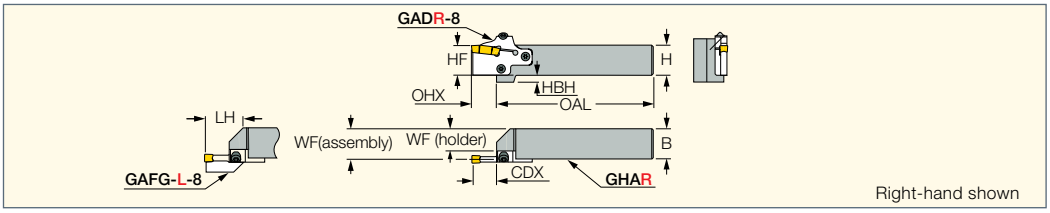
(2) Maximum penetration diameter

**Inserts:** GDMF • GDMM-CC • GDMN • GDMU • GDMY • GDMY (full radius) • GDMY-F • GIA-K (long pocket) • GIF (long pocket) • GIF-E (W=8,10 full radius) • GIF-E (W=8,10) • GIFG-E (W=8) • GIPA/GIDA 8 (full radius)

| CDX for GHFGR/L (25/32)-80-8 | | | | | | | |
|---|---|---|---|---|---|---|---|
| D | GIF 8... | GIFG 8... | GDMY 8... | GIPA 8... | GIDA 8... | GIA 8... | GDMM 8CC... |
| 80 | 16 | 23 | 23 | 20 | 24 | 16 | 24 |
| 82 | 17 | 23 | 23 | 20 | 24 | 17 | 24 |
| 84 | 18 | 23 | 23 | 21 | 24 | 18 | 24 |
| 86 | 19 | 23 | 23 | 21 | 24 | 19 | 24 |
| 88 | 20 | 23 | 23 | 22 | 24 | 20 | 24 |
| 90 | 20 | 23 | 23 | 22 | 24 | 20 | 24 |
| 96 | 20 | 23 | 23 | 22 | 24 | 20 | 24 |
| 104 | 20 | 23 | 23 | 22 | 24 | 20 | 24 |
| 115 | 22 | 23 | 23 | 22 | 24 | 22 | 24 |
| **CDX for GHFGR/L (25/32)-105-8** | | | | | | | |
| D | GIF 8... | GIFG 8... | GDMY 8... | GIPA 8... | GIDA 8... | GIA 8... | GDMM 8CC... |
| 105 | 21 | 23 | 23 | 23 | 24 | 21 | 24 |
| 114 | 22 | 23 | 23 | 23 | 24 | 22 | 24 |
| 126 | 23 | 23 | 24 | 23 | 24 | 23 | 24 |
| 140-160 | 24 | 24 | 24 | 23 | 24 | 24 | 24 |
| **CDX for GHFGR/L (25/32)-155-8** | | | | | | | |
| D | GIF 8... | GIFG 8... | GDMY 8... | GIPA 8... | GIDA 8... | GIA 8... | GDMM 8CC... |
| 155 | 24 | 24 | 24 | 23 | 24 | 24 | 24 |
| 180 | 24 | 24 | 24 | 23 | 24 | 24 | 24 |
| 210-510 | 24 | 24 | 24 | 23 | 24 | 24 | 24 |

CUTGRIP

## GHAR/L-8
External Holders for Grooving and Turning Adapters




| Designation | H | HF | B | WF(1) | OAL | LH | OHX(2) | HBH | TGA(3) | CDX(4) | FG(5) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GHAR/L 25-8 | 25.0 | 25.0 | 25.0 | 16.0 | 124.50 | 45.0 | 25.50 | 14.0 | GADR/L 8 | 25.50 | GAFG...R/L-8 | SR 14-519 | T-20/5 | SR M6X25 DIN912 | HW 5.0 |
| GHAR/L 32-8 | 32.0 | 32.0 | 32.0 | 23.0 | 144.50 | 45.0 | 25.50 | 7.0 | GADR/L 8 | 25.50 | GAFG...R/L-8 | SR 14-519 | T-20/5 | SR M6X25 DIN912 | HW 5.0 |

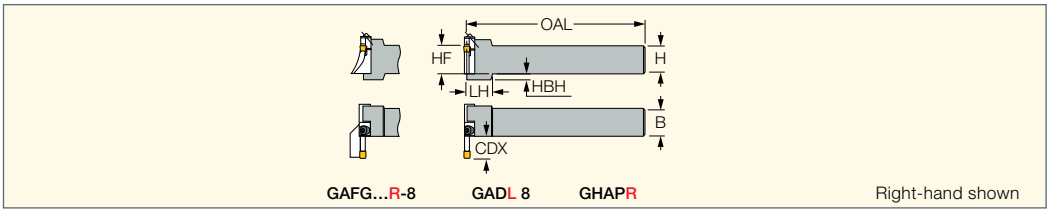
- Adapters GADR/L-8 for turning and grooving, GAFG-R/L-8 for face-grooving (to be ordered separately)

(1) WF(holder)
(2) Maximum overhang
(3) Adapter for Turning & Grooving
(4) See specific adapter dimensions
(5) Adapter for Face Grooving

**Tools:** GADR/L-8 • GAFG-R/L-8 • PCADR/L 34N-RE

CUTGRIP

## GHAPR/L-8
External Holders for Grooving and Turning Perpendicularly Oriented Adapters




| Designation | H | HF | B | OAL | LH | HBH | TGA(1) | CDX(2) | FG(3) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GHAPR/L 32-8 | 32.0 | 32.0 | 32.0 | 155.00 | 30.0 | 7.0 | GADR/L 8 | 25.50 | GAFG...R/L-8 | SR 14-519 | T-20/5 | SR M6X25 DIN912 | HW 5.0 |

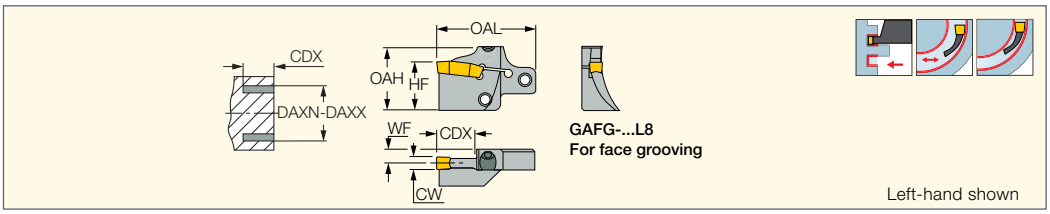
- Adapters GADR/L-8 for turning and grooving, GAFG-R/L-8 for face-grooving (to be ordered separately)

(1) Adapter for Turning & Grooving
(2) See specific adapter dimensions
(3) Adapter for Face Grooving

**Tools:** GADR/L-8 • GAFG-R/L-8 • PCADR/L 34N-RE

CUTGRIP

## GAFG-R/L-8
Adapters for Face Machining




| Designation | CW | DAXN(1) | DAXX(2) | CDX(3) | WF | HF | OAH | OAL |
|---|---|---|---|---|---|---|---|---|
| GAFG 80R/L-8 | 8.00 | 80.0 | 115.0 | 23.00 | 9.00 | 32.0 | 42.0 | 63.50 |
| GAFG 105R/L-8 | 8.00 | 105.0 | 160.0 | 25.00 | 9.00 | 32.0 | 42.0 | 63.50 |
| GAFG 155R/L-8 | 8.00 | 155.0 | 510.0 | 25.00 | 9.00 | 32.0 | 42.0 | 63.50 |

- No limitation for widening the groove either way after initial grooving • For user guide, see pages 604-615

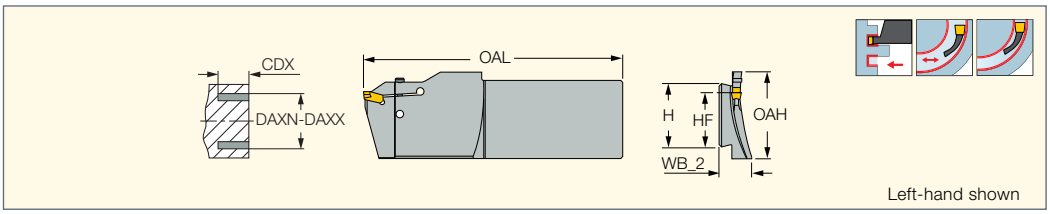
(1) Minimum penetration diameter
(2) Maximum penetration diameter
(3) For GIFG-8 & GDMY-8 CDX=25 mm for DAX range

**Inserts:** GDMA • GDMF • GDMM-CC • GDMN • GDMU • GDMY • GDMY (full radius) • GDMY-F • GIA-K (long pocket) • GIF (long pocket) • GIF-E (W=8,10 full radius) • GIF-E (W=8,10) • GIFG-E (W=8) • GIPA/GIDA 8 (full radius)

**Holders:** C#-GHAD-8 • C#-GHAPR/L-8 • GHAPR/L-8 • GHAR/L-8 • IM-GHAD-8

CUTGRIP

## CGFG 51-P8
Blades for Face Machining Carrying 8 mm Inserts




| Designation | CW | DAXN(1) | DAXX(2) | CDX | H | HF | OAL | OAH | WB_2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CGFG 51-180R/L-P8 | 8.00 | 180.0 | 240.0 | 70.00 | 52.6 | 45.0 | 200.00 | 60.0 | 27.5 | SR M4-2052 | HW 3.0 |
| CGFG 51-240R/L-P8 | 8.00 | 240.0 | 320.0 | 80.00 | 52.6 | 45.0 | 210.00 | 70.0 | 26.0 | SR M4-2052 | HW 3.0 |
| CGFG 51-320R/L-P8 | 8.00 | 320.0 | 440.0 | 90.00 | 52.6 | 45.0 | 220.00 | 80.0 | 24.5 | SR M4-2052 | HW 3.0 |
| CGFG 51-440R/L-P8 | 8.00 | 440.0 | 700.0 | 100.00 | 52.6 | 45.0 | 230.00 | 90.0 | 22.5 | SR M4-2052 | HW 3.0 |
| CGFG 51-700R/L-P8 | 8.00 | 700.0 | 1500.0 | 120.00 | 52.6 | 45.0 | 250.00 | 100.0 | 20.0 | SR M4-2052 | HW 3.0 |

- For user guide, see pages 604-615

(1) Minimum penetration diameter
(2) Maximum penetration diameter

**Inserts:** GIMF • GIMM 8CC • GIMY • GIMY (full radius) • GIMY-F • GIPY

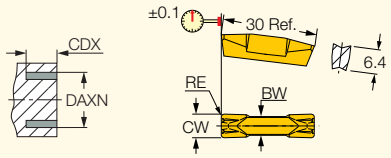
**Holders:** SGTBK • SGTBU/SGTBN

CUTGRIP

## GIFG-E (W=8)

Inserts for Deep Face Grooving and Turning








| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | DAXN(3) | CDX(4) | BW | Tough ↔ Hard IC635 | IC20 | Recommended Machining Data f face-groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| GIFG 8.00E-0.80 | 8.00 | 0.80 | 0.02 | 0.050 | 50.0 | 25.00 | 6.00 | ● | ● | 0.15-0.25 |
| GIFG 8.00E-1.20 | 8.00 | 1.20 | 0.02 | 0.050 | 50.0 | 25.00 | 6.00 | ● | | 0.15-0.25 |

• For cutting speed recommendations, see pages 604-615

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Minimum axial grooving diameter

(4) Cutting depth maximum

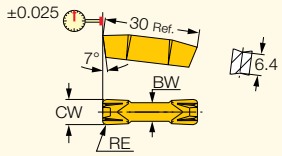
**Tools:** GAFG-R/L-8 • GHFG-R/L-8 • GHFGR/L-8

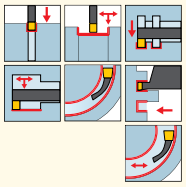
CUTGRIP

## GIF-E (W=8,10)

Precision Double-Ended Inserts for Grooving and Turning



| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | CDX(3) | Tough ↔ Hard IC830 | IC8250 | IC808 | IC908 | IC20 | IC5010 | IC428 | IC806 | IC807 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GIF 8.00E-0.40 | 8.00 | 0.40 | 0.02 | 0.030 | 6.00 | 27.00 | | ● | ● | ● | | | | | | 0.50-4.80 | 0.29-0.48 | 0.18-0.31 |
| GIF 8.00E-0.80 | 8.00 | 0.80 | 0.02 | 0.050 | 6.00 | 27.00 | ● | ● | ● | ● | ● | ● | ● | ● | ● | 1.00-4.80 | 0.32-0.56 | 0.18-0.34 |
| GIF 8.00E-1.20 | 8.00 | 1.20 | 0.02 | 0.050 | 6.00 | 27.00 | ● | ● | ● | ● | ● | ● | ● | | | 1.45-4.80 | 0.32-0.62 | 0.18-0.34 |
| GIF 10.00E-0.80 | 10.00 | 0.80 | 0.02 | 0.050 | 8.00 | 27.00 | ● | ● | ● | ● | ● | ● | ● | | ● | 1.00-6.00 | 0.35-0.65 | 0.22-0.40 |
| GIF 10.00E-1.20 | 10.00 | 1.20 | 0.02 | 0.050 | 8.00 | 27.00 | ● | ● | ● | ● | ● | | | ● | | 1.45-6.00 | 0.35-0.72 | 0.22-0.40 |

• DMIN for internal machining = 65 mm • For cutting speed recommendations and user guide, see pages 604-615

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Cutting depth maximum

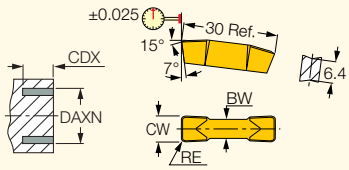
**Tools:** C#-GHDR/L • CGHN-8-10D • GADR/L-8 • GADR/L-JHP • GAFG-R/L-8 • GHDR/L (long pocket) • GHDR/L-JHP (long pocket) • GHFG-R/L-8 • GHFGR/L-8 • GHIR/L (W=7.0-8.3)

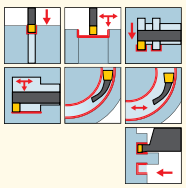
CUTGRIP

## GIA-K (long pocket)

Flat Top Precision Double-Ended Inserts with T-Land for Machining Cast Iron



| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | CDX(3) | DAXN(4) | Tough ↔ Hard IC5010 | IC428 | Recommended Machining Data $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GIA 8.00K-0.80 | 8.00 | 0.80 | 0.02 | 0.050 | 6.00 | 25.00 | 160.0 | ● | ● | 1.00-4.80 | 0.36-0.64 | 0.18-0.38 |
| GIA 8.00K-1.20 | 8.00 | 1.20 | 0.02 | 0.050 | 6.00 | 25.00 | 160.0 | ● | ● | 1.45-4.80 | 0.36-0.70 | 0.18-0.38 |

• DMIN for internal machining = 65 mm • For cutting speed recommendations and user guide, see pages 604-615

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Cutting depth maximum

(4) Minimum axial grooving diameter

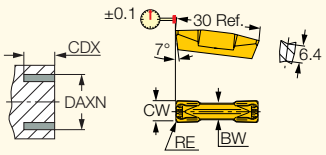
**Tools:** C#-GHDR/L • CGHN-8-10D • GADR/L-8 • GADR/L-JHP • GAFG-R/L-8 • GHDR/L (long pocket) • GHDR/L-JHP (long pocket) • GHFG-R/L-8 • GHFGR/L-8 • GHIR/L (W=7.0-8.3)

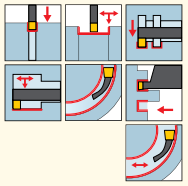
CUTGRIP

## GDMY

Utility Double-Ended Inserts
for Grooving and Turning



| Designation | Dimensions | | | | | | | Tough ↔ Hard | | | | | | | Recommended Machining Data | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CW | RE | CWTOL(1) | RETOL(2) | BW | DAXN(3) | CDX(4) | IC830 | IC8250 | IC808 | IC908 | IC20 | IC5010 | IC428 | $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
| **GDMY 808** | 8.00 | 0.80 | 0.05 | 0.050 | 6.00 | 50.0 | 27.00 | • | • | • | • | • | • | • | 1.00-4.80 | 0.32-0.56 | 0.18-0.34 |

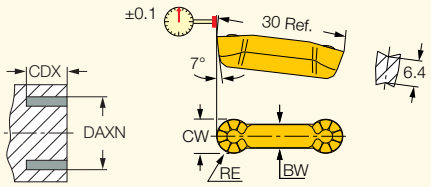
• DMIN for internal machining = 65 mm • For cutting speed recommendations and user guide, see pages 604-615
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Minimum axial grooving diameter
(4) Cutting depth maximum
**Tools:** C#-GHDR/L • CGHN-8-10D • GADR/L-8 • GADR/L-JHP • GAFG-R/L-8 • GHDR/L (long pocket) • GHDR/L-JHP (long pocket)
• GHFG-R/L-8 • GHFGR/L-8 • GHIR/L (W=7.0-8.3)

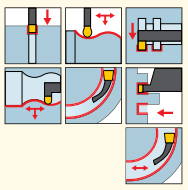
CUTGRIP

## GDMY (full radius)

Utility Double-Ended Full Radius
Inserts for Grooving and Profiling





| Designation | Dimensions | | | | | | | Tough ↔ Hard | | | | | | | | Recommended Machining Data | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CW | RE | CWTOL(1) | RETOL(2) | BW | DAXN(3) | CDX | IC830 | IC8250 | IC808 | IC908 | IC20 | IC5010 | IC428 | IC806 | $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
| **GDMY 840** | 8.00 | 4.00 | 0.05 | 0.050 | 5.60 | 50.0 | 25.00 | • | • | • | • | • | • | • | • | 0.00-4.00 | 0.32-0.67 | 0.18-0.34 |

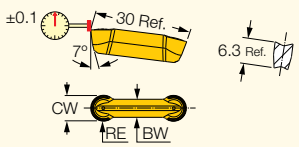
• Can cut arcs to 250° • DMIN for internal machining = 65 mm • For cutting speed recommendations and user guide, see pages 604-615
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Minimum axial grooving diameter
**Tools:** C#-GHDR/L • CGHN-8-10D • GADR/L-8 • GADR/L-JHP • GAFG-R/L-8 • GHDKR/L • GHDR/L (long pocket) • GHDR/L-JHP (long pocket)
• GHFG-R/L-8 • GHFGR/L-8 • GHIR/L (W=7.0-8.3)

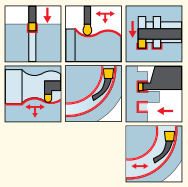
CUTGRIP

## GDMY-F

Utility Double-Ended Inserts
for Grooving and Profiling
Ductile Materials



| Designation | Dimensions | | | | | | Tough ↔ Hard | | Recommended Machining Data | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | CW | RE | CWTOL(1) | RETOL(2) | BW | CDX(3) | IC808 | IC908 | $a_p$ (mm) | f turn (mm/rev) | f groove (mm/rev) |
| **GDMY 840F** | 8.00 | 4.00 | 0.05 | 0.050 | 5.60 | 25.00 | • | • | 0.00-4.00 | 0.32-0.67 | 0.18-0.34 |

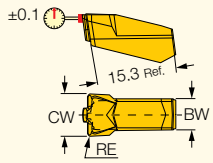
• DMIN for internal applications = 65 mm • For cutting speed recommendations and user guide, see pages 604-615
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum
**Tools:** C#-GHDR/L • CGHN-8-10D • GADR/L-8 • GADR/L-JHP • GAFG-R/L-8 • GHDR/L (long pocket) • GHDR/L-JHP (long pocket)
• GHFG-R/L-8 • GHFGR/L-8 • GHIR/L (W=7.0-8.3)

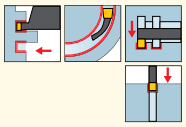
# TANG-GRIP

## GIMM 8CC

Single-Ended Utility Insert with a Frontal Chip Splitter for External Rough Grooving and Side Turning





| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | Tough ↔ Hard IC808 | IC908 | Recommended Machining Data f face-groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| GIMM 8CC | 8.00 | 0.80 | 0.05 | 0.050 | 5.80 | • | • | 0.30-0.45 |

- For cutting speed recommendations, see pages 604-615

(1) Cutting width tolerance (+/-)

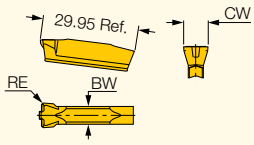
(2) Corner radius tolerance (+/-)

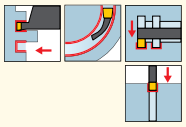
**Tools:** Anti-Vibration Blades • CGFG 51-P8 • CGHN-P8 • CGHR/L-P8DG • CGPAD • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L

## GDMM-CC

Single-Ended Utility Insert for External Rough Grooving and Side Turning with a Frontal Chip Splitter





| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | BW | Tough ↔ Hard IC830 | IC354 | IC808 | IC907 | Recommended Machining Data f face-groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| GDMM 7CC | 7.00 | 0.80 | 0.05 | 0.050 | 6.00 | | • | | | 0.30-0.45 |
| GDMM 8CC | 8.00 | 0.80 | 0.05 | 0.050 | 5.60 | • | | • | • | 0.30-0.45 |

- For cutting speed recommendations, see pages 604-615

(1) Cutting width tolerance (+/-)

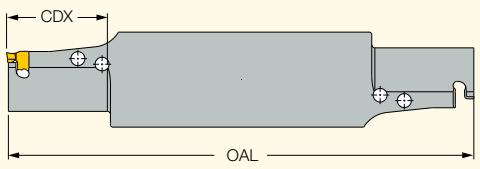
(2) Corner radius tolerance (+/-)

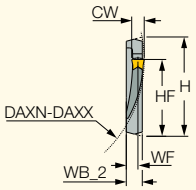
**Tools:** C#-GHDR/L • GADR/L-8 • GADR/L-JHP • GAFG-R/L-8 • GHDR/L (long pocket) • GHDR/L-JHP (long pocket) • GHFG-R/L-8 • GHFGR/L-8 • GHIR/L (W=7.0-8.3)

TANG-GRIP FACE MACHINING LINE

## TNFFH-IQ

Face Grooving Blades






Right-hand shown

| Designation | CW | DAXN(1) | DAXX(2) | CDX | HF | H | WF | WB_2 | OAL | Insert | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TNFFH 65R/L-3IQ | 3.00 | 65.0 | 90.0 | 18.00 | 24.8 | 32.0 | 4.10 | 5.2 | 150.00 | TNF 3... | ETF 3-6* |
| TNFFH 90R/L-3IQ | 3.00 | 90.0 | 120.0 | 18.00 | 24.8 | 32.0 | 4.10 | 5.2 | 150.00 | TNF 3... | ETF 3-6* |
| TNFFH 120R/L-3IQ | 3.00 | 120.0 | 160.0 | 24.00 | 24.8 | 32.0 | 4.10 | 5.2 | 150.00 | TNF 3... | ETF 3-6* |
| TNFFH 80R/L-4IQ | 4.00 | 80.0 | 150.0 | 32.00 | 24.8 | 32.0 | 3.80 | 5.2 | 150.00 | TNF 4... | ETF 3-6* |
| TNFFH 150R/L-4IQ | 4.00 | 150.0 | 500.0 | 32.00 | 24.8 | 32.0 | 3.80 | 5.2 | 150.00 | TNF 4... | ETF 3-6* |
| TNFFH 80R/L-5IQ | 5.00 | 80.0 | 150.0 | 30.00 | 24.8 | 32.0 | 3.50 | 5.2 | 150.00 | TNF 5... | ETF 3-6* |
| TNFFH 150R/L-5IQ | 5.00 | 150.0 | 500.0 | 35.00 | 24.8 | 32.0 | 3.50 | 5.2 | 150.00 | TNF 5... | ETF 3-6* |
| TNFFH 80R/L-6IQ | 6.00 | 80.0 | 150.0 | 30.00 | 24.8 | 32.0 | 3.30 | 5.2 | 150.00 | TNF 6... | ETF 3-6* |
| TNFFH 150R/L-6IQ | 6.00 | 150.0 | 700.0 | 35.00 | 24.8 | 32.0 | 3.30 | 5.2 | 150.00 | TNF 6... | ETF 3-6* |

- H dimension links blades and blocks

(1) Minimum penetration diameter

(2) Maximum penetration diameter

* Optional, should be ordered separately

**Inserts:** TNF GN-IQ • TNF-M-IQ • TNF-P-IQ

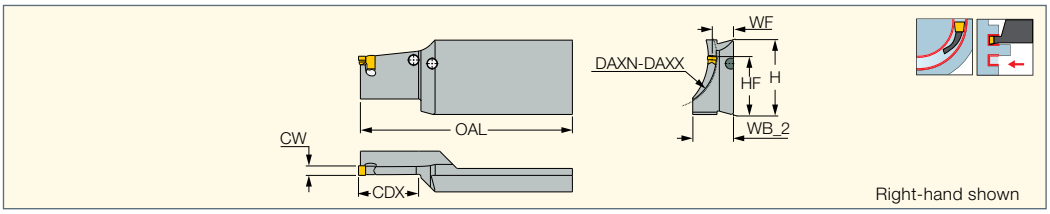


ETF 3-6 extractor (to be ordered separately)

TANG-GRIP FACE MACHINING LINE

## TNFFA-IQ

Reinforced Face Grooving Blades




| Designation | CW | DAXN(1) | DAXX(2) | CDX | H | WF | HF | OAL | WB_2 | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| TNFFA 30R/L-3IQ | 3.00 | 30.0 | 35.0 | 19.00 | 32.0 | 9.50 | 24.8 | 90.00 | 18.5 | TNF 3... |
| TNFFA 35R/L-3IQ | 3.00 | 35.0 | 40.0 | 19.00 | 32.0 | 9.50 | 24.8 | 90.00 | 18.5 | TNF 3... |
| TNFFA 40R/L-3IQ | 3.00 | 40.0 | 46.0 | 23.00 | 32.0 | 9.50 | 24.8 | 90.00 | 18.5 | TNF 3... |
| TNFFA 46R/L-3IQ | 3.00 | 46.0 | 54.0 | 25.00 | 32.0 | 9.50 | 24.8 | 90.00 | 18.5 | TNF 3... |
| TNFFA 54R/L-3IQ | 3.00 | 54.0 | 65.0 | 26.00 | 32.0 | 9.50 | 24.8 | 90.00 | 18.5 | TNF 3... |
| TNFFA 65R/L-3IQ | 3.00 | 65.0 | 80.0 | 27.00 | 32.0 | 9.50 | 24.8 | 90.00 | 18.5 | TNF 3... |
| TNFFA 80R/L-3IQ | 3.00 | 80.0 | 100.0 | 27.00 | 32.0 | 9.50 | 24.8 | 90.00 | 16.7 | TNF 3... |
| TNFFA 35R/L-4IQ | 4.00 | 35.0 | 45.0 | 25.00 | 32.0 | 9.00 | 24.8 | 90.00 | 18.1 | TNF 4... |
| TNFFA 45R/L-4IQ | 4.00 | 45.0 | 60.0 | 25.00 | 32.0 | 9.00 | 24.8 | 90.00 | 17.3 | TNF 4... |
| TNFFA 60R/L-4IQ | 4.00 | 60.0 | 80.0 | 27.00 | 32.0 | 9.00 | 24.8 | 90.00 | 18.0 | TNF 4... |
| TNFFA 80R/L-4IQ | 4.00 | 80.0 | 130.0 | 27.00 | 32.0 | 9.00 | 24.8 | 90.00 | 14.8 | TNF 4... |
| TNFFA 40R/L-5IQ | 5.00 | 40.0 | 50.0 | 25.00 | 32.0 | 9.70 | 24.8 | 90.00 | 18.0 | TNF 5... |
| TNFFA 50R/L-5IQ | 5.00 | 50.0 | 70.0 | 28.00 | 32.0 | 9.70 | 24.8 | 90.00 | 18.0 | TNF 5... |
| TNFFA 70R/L-5IQ | 5.00 | 70.0 | 100.0 | 30.00 | 32.0 | 9.70 | 24.8 | 90.00 | 18.0 | TNF 5... |
| TNFFA 100R/L-5IQ | 5.00 | 100.0 | 180.0 | 35.00 | 32.0 | 9.70 | 24.8 | 90.00 | 18.0 | TNF 5... |
| TNFFA 45R/L-6IQ | 6.00 | 45.0 | 60.0 | 25.00 | 32.0 | 10.20 | 24.8 | 90.00 | 18.0 | TNF 6... |
| TNFFA 60R/L-6IQ | 6.00 | 60.0 | 80.0 | 28.00 | 32.0 | 10.20 | 24.8 | 90.00 | 18.0 | TNF 6... |
| TNFFA 80R/L-6IQ | 6.00 | 80.0 | 110.0 | 30.00 | 32.0 | 10.20 | 24.8 | 90.00 | 18.0 | TNF 6... |
| TNFFA 110R/L-6IQ | 6.00 | 110.0 | 300.0 | 35.00 | 32.0 | 10.20 | 24.8 | 90.00 | 14.8 | TNF 6... |

• For user guide, see pages 604-615

(1) Minimum penetration diameter

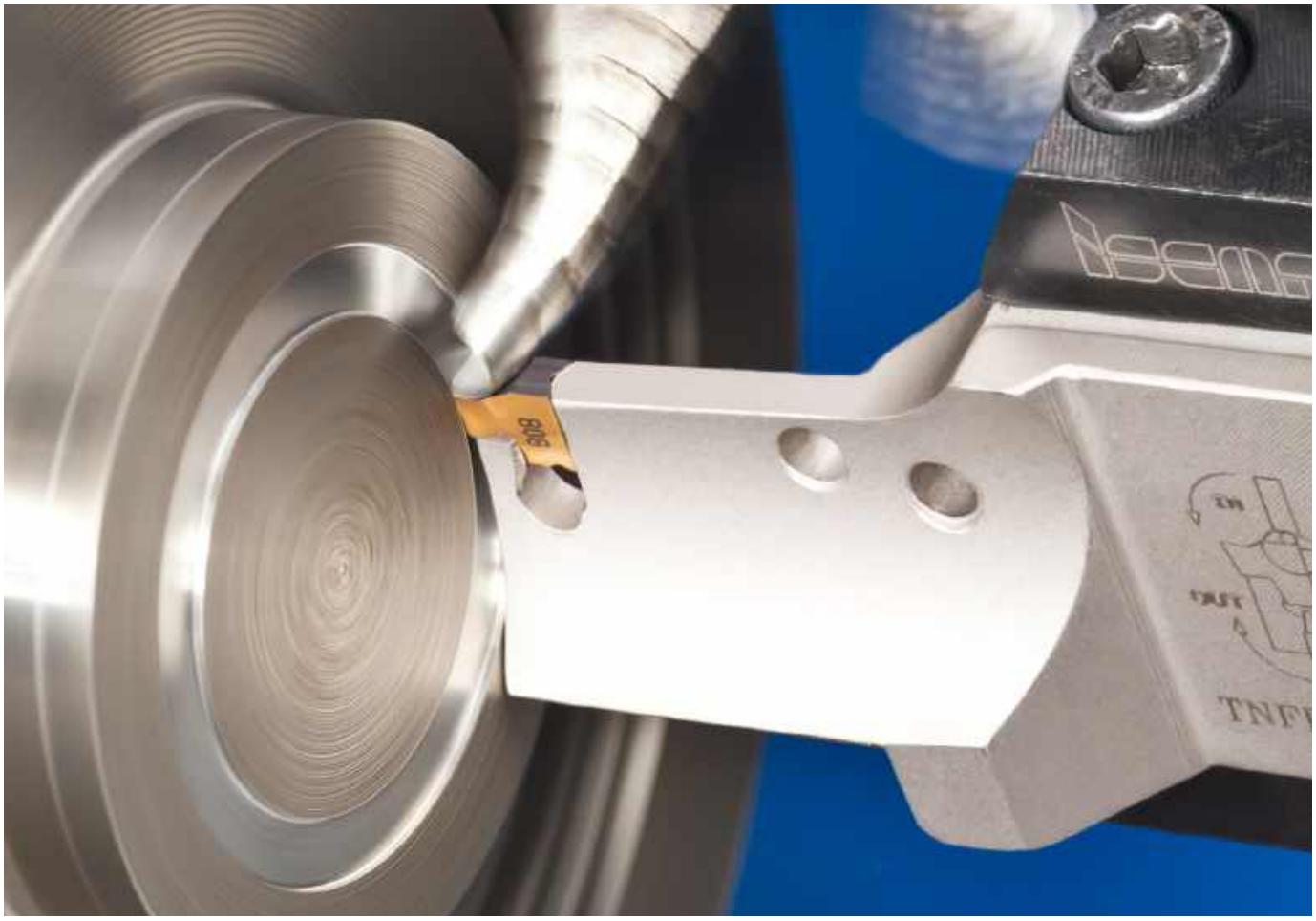
(2) Maximum penetration diameter

**Inserts:** TNF GN-IQ • TNF-M-IQ • TNF-P-IQ

### Spare Parts

| Designation |  |
|---|---|
| TNFFA-IQ | ETF 3-6* |

* Optional, should be ordered separately

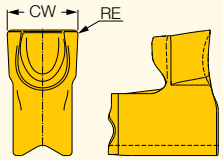


TANG-GRIP FACE MACHINING LINE

## TNF-P-IQ

Face Grooving Single-Ended Inserts for Machining Steel






| Designation | Dimensions CW | RE | CWTOL(1) | IC808 | Recommended Machining Data f face-groove (mm/rev) |
|---|---|---|---|---|---|
| TNF 3P-IQ | 3.00 | 0.30 | 0.05 | ● | 0.10-0.15 |
| TNF 4P-IQ | 4.00 | 0.25 | 0.05 | ● | 0.10-0.15 |
| TNF 5P-IQ | 5.00 | 0.35 | 0.05 | ● | 0.12-0.20 |
| TNF 6P-IQ | 6.00 | 0.35 | 0.05 | ● | 0.12-0.20 |

• For user guide, see pages 604-615

(1) Cutting width tolerance (+/-)

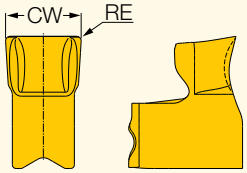
**Tools:** TNFFA-IQ • TNFFH-IQ • TNFPAD-XL-JHP

TANG-GRIP FACE MACHINING LINE

## TNF-M-IQ

Face Grooving Single-Ended Inserts for Machining Stainless Steel and High Temperature Alloys






| Designation | Dimensions CW | RE | CWTOL(1) | IC808 | Recommended Machining Data f face-groove (mm/rev) |
|---|---|---|---|---|---|
| TNF 3M-IQ | 3.00 | 0.30 | 0.05 | ● | 0.08-0.10 |
| TNF 4M-IQ | 4.00 | 0.25 | 0.05 | ● | 0.08-0.12 |
| TNF 5M-IQ | 5.00 | 0.35 | 0.05 | ● | 0.12-0.20 |
| TNF 6M-IQ | 6.00 | 0.35 | 0.05 | ● | 0.12-0.20 |

• For user guide, see pages 604-615

(1) Cutting width tolerance (+/-)

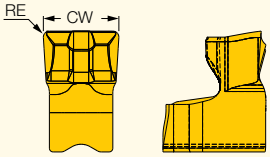
**Tools:** TNFFA-IQ • TNFFH-IQ • TNFPAD-XL-JHP

TANG-GRIP FACE MACHINING LINE

## TNF GN-IQ

Face Grooving Single-Ended Inserts for Machining Steel






| Designation | Dimensions CW | RE | CWTOL(1) | IC808 | Recommended Machining Data f face-groove (mm/rev) |
|---|---|---|---|---|---|
| TNF 3GN-IQ | 3.00 | 0.30 | 0.05 | ● | 0.06-0.10 |
| TNF 4GN-IQ | 4.00 | 0.25 | 0.05 | ● | 0.06-0.12 |
| TNF 5GN-IQ | 5.00 | 0.35 | 0.05 | ● | 0.08-0.16 |
| TNF 6GN-IQ | 6.00 | 0.35 | 0.05 | ● | 0.08-0.20 |

• For user guide, see pages 604-615

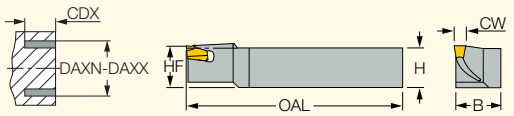
(1) Cutting width tolerance (+/-)

**Tools:** TNFFA-IQ • TNFFH-IQ • TNFPAD-XL-JHP

# SELF-GRIP

**SELF-GRIP**

**SGFFR/L**
Face Grooving Integral Shank Tools




Left-hand shown

| Designation | CW | H | B | CDX | DAXN(1) | DAXX(2) | HF | OAL | Insert | |
|---|---|---|---|---|---|---|---|---|---|---|
| SGFFR/L 20-25-2 | 2.10 | 20.0 | 20.0 | 13.00 | 25.0 | 30.0 | 20.0 | 120.00 | GFF 2R/L | ESG 0.5 |
| SGFFR/L 20-30-2 | 2.10 | 20.0 | 20.0 | 14.00 | 29.0 | 36.0 | 20.0 | 120.00 | GFF 2R/L | ESG 0.5 |
| SGFFR/L 20-35-2 | 2.10 | 20.0 | 20.0 | 16.00 | 35.0 | 46.0 | 20.8 | 120.00 | GFF 2N | ESG 0.5 |
| SGFFR/L 20-45-2 | 2.10 | 20.0 | 20.0 | 20.00 | 45.0 | 61.0 | 20.8 | 120.00 | GFF 2N | ESG 0.5 |
| SGFFR/L 20-60-2 | 2.10 | 20.0 | 20.0 | 20.00 | 60.0 | 80.0 | 20.8 | 120.00 | GFF 2N | ESG 0.5 |
| SGFFR/L 25-35-2 | 2.10 | 25.0 | 25.0 | 16.00 | 35.0 | 46.0 | 25.8 | 130.00 | GFF 2N | ESG 0.5 |
| SGFFR/L 25-45-2 | 2.10 | 25.0 | 25.0 | 20.00 | 45.0 | 61.0 | 25.8 | 130.00 | GFF 2N | ESG 0.5 |
| SGFFR/L 25-60-2 | 2.10 | 25.0 | 25.0 | 20.00 | 60.0 | 80.0 | 25.8 | 130.00 | GFF 2N | ESG 0.5 |
| SGFFR 25-25-2 | 2.10 | 25.0 | 25.0 | 13.00 | 25.0 | 30.0 | 25.0 | 130.00 | GFF 2N | ESG 0.5 |
| SGFFR 25-30-2 | 2.10 | 25.0 | 25.0 | 14.00 | 29.0 | 36.0 | 25.0 | 130.00 | GFF 2N | ESG 0.5 |
| SGFFR/L 20-30-3 | 3.00 | 20.0 | 20.0 | 16.00 | 30.0 | 35.0 | 20.0 | 120.00 | GFF 3R/L | SET ESG 1 |
| SGFFR 20-35-3 | 3.00 | 20.0 | 20.0 | 18.00 | 34.4 | 40.6 | 20.0 | 120.00 | GFF 3R/L | SET ESG 1 |
| SGFFR 20-40-3 | 3.00 | 20.0 | 20.0 | 20.00 | 40.0 | 47.0 | 20.0 | 120.00 | GFF 3R/L | SET ESG 1 |
| SGFFR 20-46-3 | 3.00 | 20.0 | 20.0 | 22.00 | 46.0 | 55.0 | 20.0 | 120.00 | GFF 3R/L | SET ESG 1 |
| SGFFR 20-55-3 | 3.00 | 20.0 | 20.0 | 22.00 | 54.0 | 65.0 | 21.2 | 120.00 | GFF 3N | SET ESG 1 |
| SGFFR 20-65-3 | 3.00 | 20.0 | 20.0 | 23.00 | 64.0 | 80.0 | 21.0 | 120.00 | GFF 3N | SET ESG 1 |
| SGFFR 20-80-3 | 3.00 | 20.0 | 20.0 | 24.00 | 79.0 | 100.0 | 20.7 | 120.00 | GFF 3N | SET ESG 1 |
| SGFFR/L 25-40-3 | 3.00 | 25.0 | 25.0 | 20.00 | 40.0 | 47.0 | 25.0 | 130.00 | GFF 3R/L | SET ESG 1 |
| SGFFR/L 25-55-3 | 3.00 | 25.0 | 25.0 | 24.00 | 54.0 | 65.0 | 26.2 | 130.00 | GFF 3N | SET ESG 1 |
| SGFFR 25-30-3 | 3.00 | 25.0 | 25.0 | 16.00 | 30.0 | 35.0 | 25.0 | 130.00 | GFF 3R/L | SET ESG 1 |
| SGFFR 25-35-3 | 3.00 | 25.0 | 25.0 | 18.00 | 34.4 | 40.6 | 25.0 | 130.00 | GFF 3R/L | SET ESG 1 |
| SGFFR 25-46-3 | 3.00 | 25.0 | 25.0 | 22.00 | 46.0 | 55.0 | 25.0 | 130.00 | GFF 3R/L | SET ESG 1 |
| SGFFR 25-65-3 | 3.00 | 25.0 | 25.0 | 25.00 | 64.0 | 80.0 | 26.0 | 130.00 | GFF 3N | SET ESG 1 |
| SGFFR 25-80-3 | 3.00 | 25.0 | 25.0 | 26.00 | 79.0 | 100.0 | 25.7 | 130.00 | GFF 3N | SET ESG 1 |
| SGFFR/L 20-35-4 | 4.00 | 20.0 | 20.0 | 20.00 | 35.0 | 45.0 | 20.0 | 120.00 | GFF 4N | SET ESG 1 |
| SGFFR 20-45-4 | 4.00 | 20.0 | 20.0 | 25.00 | 44.0 | 58.0 | 20.0 | 120.00 | GFF 4N | SET ESG 1 |
| SGFFR 20-60-4 | 4.00 | 20.0 | 20.0 | 25.00 | 57.0 | 80.0 | 20.0 | 120.00 | GFF 4N | SET ESG 1 |
| SGFFR 20-80-4 | 4.00 | 20.0 | 20.0 | 25.00 | 79.0 | 130.0 | 20.0 | 120.00 | GFF 4N | SET ESG 1 |
| SGFFR/L 25-45-4 | 4.00 | 25.0 | 25.0 | 25.00 | 44.0 | 58.0 | 25.0 | 150.00 | GFF 4N | SET ESG 1 |
| SGFFR/L 25-60-4 | 4.00 | 25.0 | 25.0 | 26.00 | 57.0 | 80.0 | 25.0 | 150.00 | GFF 4N | SET ESG 1 |
| SGFFR/L 25-80-4 | 4.00 | 25.0 | 25.0 | 26.00 | 79.0 | 130.0 | 25.0 | 150.00 | GFF 4N | SET ESG 1 |
| SGFFR 25-35-4 | 4.00 | 25.0 | 25.0 | 20.00 | 35.0 | 45.0 | 25.0 | 150.00 | GFF 4N | SET ESG 1 |
| SGFFR/L 20-50-5 | 5.00 | 20.0 | 20.0 | 25.00 | 50.0 | 75.0 | 20.0 | 120.00 | GFF 5N | SET ESG 1 |
| SGFFR 20-75-5 | 5.00 | 20.0 | 20.0 | 26.00 | 74.0 | 130.0 | 20.0 | 120.00 | GFF 5N | SET ESG 1 |
| SGFFR/L 25-100-5 | 5.00 | 25.0 | 25.0 | 30.00 | 100.0 | 180.0 | 25.0 | 150.00 | GFF 5N | SET ESG 1 |
| SGFFR 25-50-5 | 5.00 | 25.0 | 25.0 | 26.00 | 50.0 | 71.0 | 25.0 | 150.00 | GFF 5N | SET ESG 1 |
| SGFFR 25-70-5 | 5.00 | 25.0 | 25.0 | 28.00 | 69.0 | 102.0 | 25.0 | 150.00 | GFF 5N | SET ESG 1 |
| SGFFR 20-60-6 | 6.00 | 20.0 | 20.0 | 25.00 | 57.0 | 60.0 | 20.0 | 120.00 | GFF 6N | SET ESG 1 |
| SGFFR/L 25-100-6 | 6.00 | 25.0 | 25.0 | 30.00 | 100.0 | 180.0 | 25.0 | 150.00 | GFF 6N | SET ESG 1 |
| SGFFR/L 25-60-6 | 6.00 | 25.0 | 25.0 | 30.00 | 57.0 | 77.0 | 25.0 | 150.00 | GFF 6N | SET ESG 1 |
| SGFFR/L 25-75-6 | 6.00 | 25.0 | 25.0 | 30.00 | 75.0 | 102.0 | 25.0 | 150.00 | GFF 6N | SET ESG 1 |

- Important: Apply R.H. insert on R.H. tool and L.H. insert on L.H. tool. Neutral insert only as indicated

(1) Minimum penetration diameter

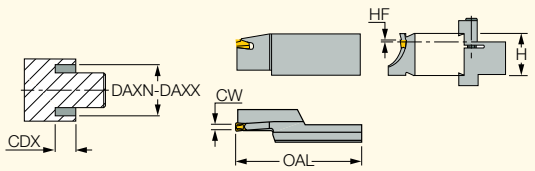
(2) Maximum penetration diameter

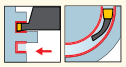
**Inserts:** GFF-N • GFF-R/L

SELF-GRIP

## SGFFA

Reinforced Face Grooving Blades
for Standard Tool Blocks



Right-hand shown

| Designation | CW | CDX | DAXN[1] | DAXX[2] | H | HF | OAL | |
|---|---|---|---|---|---|---|---|---|
| SGFFA 25-R/L-2 | 2.10 | 13.00 | 25.0 | 30.0 | 32.0 | 0.0 | 80.00 | ESG 0.5 |
| SGFFA 30-L-2 | 2.10 | 14.00 | 29.0 | 36.0 | 32.0 | 0.0 | 80.00 | ESG 0.5 |
| SGFFA 35-L-2 | 2.10 | 16.00 | 35.0 | 46.0 | 32.0 | 0.8 | 80.00 | ESG 0.5 |
| SGFFA 45-L-2 | 2.10 | 20.00 | 45.0 | 61.0 | 32.0 | 0.8 | 80.00 | ESG 0.5 |
| SGFFA 60-L-2 | 2.10 | 20.00 | 60.0 | 80.0 | 32.0 | 0.8 | 80.00 | ESG 0.5 |
| SGFFA 80-L-2 | 2.10 | 20.00 | 79.0 | 102.0 | 32.0 | 0.8 | 80.00 | ESG 0.5 |
| SGFFA 35-L-3 | 3.00 | 20.00 | 34.4 | 40.6 | 32.0 | 0.0 | 90.00 | SET ESG 1 |
| SGFFA 40-L-3 | 3.00 | 22.00 | 40.0 | 47.0 | 32.0 | 0.0 | 90.00 | SET ESG 1 |
| SGFFA 46-L-3 | 3.00 | 24.00 | 46.0 | 55.0 | 32.0 | 0.0 | 90.00 | SET ESG 1 |
| SGFFA 55-L-3 | 3.00 | 25.00 | 54.0 | 65.0 | 32.0 | 1.2 | 90.00 | SET ESG 1 |
| SGFFA 65-L-3 | 3.00 | 26.00 | 64.0 | 80.0 | 32.0 | 1.0 | 90.00 | SET ESG 1 |
| SGFFA 80-L-3 | 3.00 | 28.00 | 79.0 | 100.0 | 32.0 | 0.7 | 95.00 | SET ESG 1 |
| SGFFA 35-L-4 | 4.00 | 25.00 | 35.0 | 45.0 | 32.0 | 0.0 | 90.00 | SET ESG 1 |
| SGFFA 45-R/L-4 | 4.00 | 25.00 | 44.0 | 58.0 | 32.0 | 0.0 | 90.00 | SET ESG 1 |
| SGFFA 40-R/L-5 | 5.00 | 25.00 | 40.0 | 52.0 | 32.0 | 0.0 | 90.00 | SET ESG 1 |
| SGFFA 50-R/L-5 | 5.00 | 28.00 | 50.0 | 71.0 | 32.0 | 0.0 | 95.00 | SET ESG 1 |
| SGFFA 70-L-5 | 5.00 | 30.00 | 69.0 | 102.0 | 32.0 | 0.0 | 95.00 | SET ESG 1 |
| SGFFA 100-L-5 | 5.00 | 35.00 | 100.0 | 180.0 | 32.0 | 0.0 | 100.00 | SET ESG 1 |
| SGFFA 45-R/L-6 | 6.00 | 25.00 | 44.0 | 58.0 | 32.0 | 0.0 | 90.00 | SET ESG 1 |
| SGFFA 60-L-6 | 6.00 | 30.00 | 57.0 | 77.0 | 32.0 | 0.0 | 95.00 | SET ESG 1 |
| SGFFA 75-R/L-6 | 6.00 | 35.00 | 75.0 | 102.0 | 32.0 | 0.0 | 100.00 | SET ESG 1 |

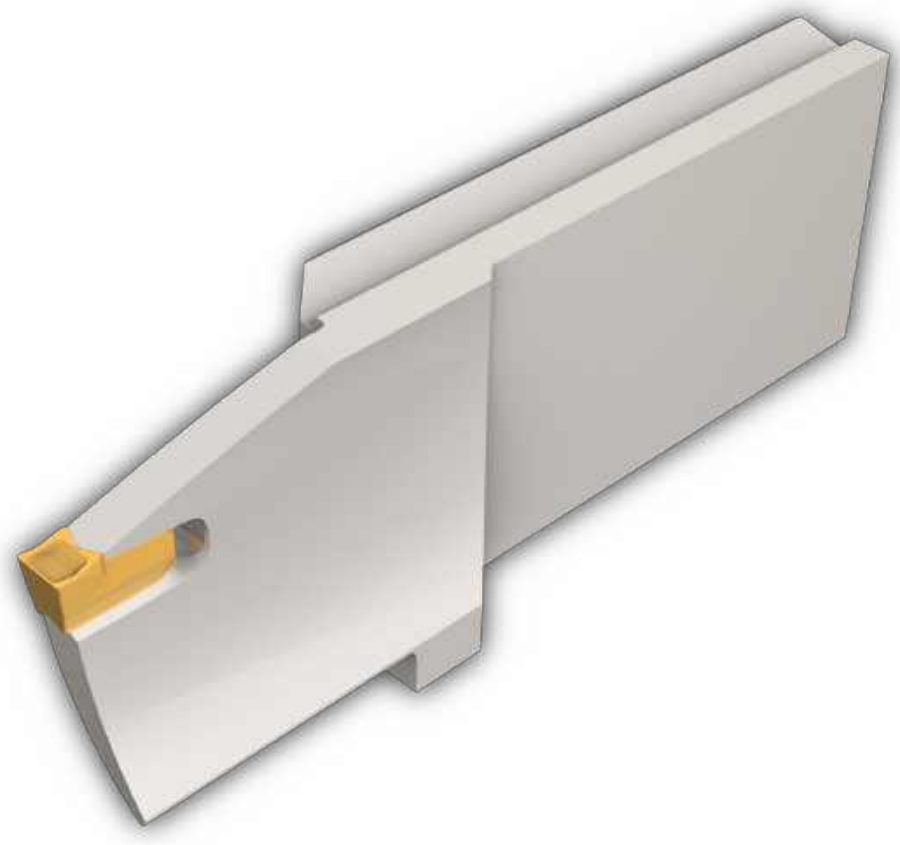
• Important: Apply R.H. insert on R.H. tool and L.H. insert on L.H. tool. Neutral insert only as indicated • H dimension links blades and blocks

[1] Minimum penetration diameter

[2] Maximum penetration diameter

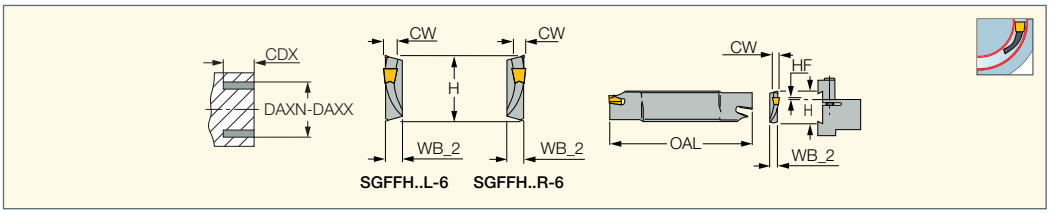
**Inserts:** GFF-N • GFF-R/L

**Holders:** SGTBF • SGTBU/SGTBN • UBHCR/L



SELFGRIP

## SGFFH
Face Grooving Blades




| Designation | CW | CDX | DAXN(1) | DAXX(2) | HF | H | WB_2 | OAL |
|---|---|---|---|---|---|---|---|---|
| SGFFH 35-R/L-2 | 2.10 | 20.00 | 35.0 | 46.0 | 0.8 | 32.0 | 5.2 | 150.00 |
| SGFFH 45-R/L-2 | 2.10 | 20.00 | 45.0 | 61.0 | 0.8 | 32.0 | 5.2 | 150.00 |
| SGFFH 60-R-2 | 2.10 | 20.00 | 60.0 | 80.0 | 0.8 | 32.0 | 5.2 | 150.00 |
| SGFFH 80-R/L-2 | 2.10 | 20.00 | 79.0 | 102.0 | 0.8 | 32.0 | 4.0 | 150.00 |
| SGFFH 100-R/L-2 | 2.10 | 20.00 | 101.0 | 132.0 | 0.0 | 32.0 | 4.0 | 150.00 |
| SGFFH 75-R/L-3 | 3.00 | 20.00 | 65.0 | 92.0 | 1.0 | 32.0 | 5.2 | 150.00 |
| SGFFH 90-R/L-3 | 3.00 | 20.00 | 90.0 | 122.0 | 0.2 | 32.0 | 5.2 | 150.00 |
| SGFFH 120-R/L-3 | 3.00 | 25.00 | 120.0 | 160.0 | 0.0 | 32.0 | 5.2 | 150.00 |
| SGFFH 80-R/L-4 | 4.00 | 30.00 | 80.0 | 155.0 | 2.5 | 32.0 | 5.2 | 150.00 |
| SGFFH 150-R/L-4 | 4.00 | 30.00 | 150.0 | 500.0 | 2.5 | 32.0 | 5.2 | 150.00 |
| SGFFH 80-R/L-5 | 5.00 | 32.00 | 80.0 | 162.0 | 0.0 | 32.0 | 5.2 | 150.00 |
| SGFFH 150-R/L-5 | 5.00 | 35.00 | 150.0 | 600.0 | 0.0 | 32.0 | 5.2 | 150.00 |
| SGFFH 90-R/L-6 | 6.00 | 32.00 | 90.0 | 150.0 | 0.0 | 32.0 | 8.0 | 150.00 |
| SGFFH 150-R/L-6 | 6.00 | 35.00 | 148.0 | 700.0 | 0.0 | 32.0 | 5.2 | 150.00 |

• Important: Apply R.H. insert on R.H. tool and L.H. insert on L.H. tool. Neutral insert only as indicated • H dimension links blades and blocks

(1) Minimum penetration diameter

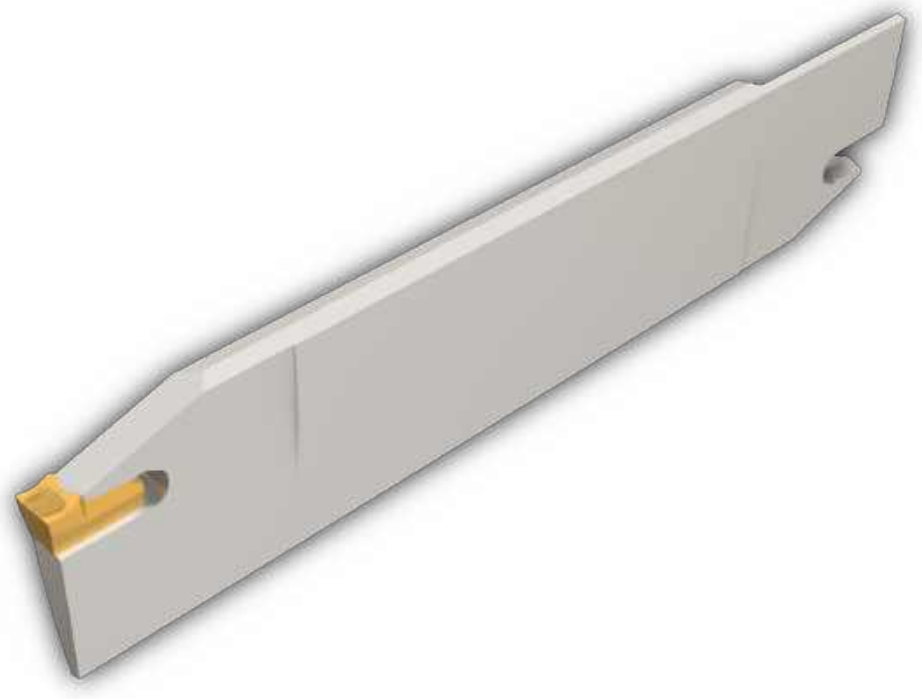
(2) Maximum penetration diameter

**Inserts:** GFF-N

**Holders:** SGTBF • SGTBK • SGTBU/SGTBN • UBHCR/L

### Spare Parts

| Designation | |
|---|---|
| SGFFH 35-L-2 | SET ESG 0.5 |
| SGFFH 35-R-2 | ESG 0.5 |
| SGFFH 45-L-2 | SET ESG 0.5 |
| SGFFH 45-R-2 | ESG 0.5 |
| SGFFH 60-R-2 | ESG 0.5 |
| SGFFH 80-R/L-2 | ESG 0.5 |
| SGFFH 100-R/L-2 | ESG 0.5 |
| SGFFH 75-R/L-3 | SET ESG 1 |
| SGFFH 90-R/L-3 | SET ESG 1 |
| SGFFH 120-R/L-3 | SET ESG 1 |
| SGFFH 80-R/L-4 | SET ESG 1 |
| SGFFH 150-R/L-4 | SET ESG 1 |
| SGFFH 80-R/L-5 | SET ESG 1 |
| SGFFH 150-R/L-5 | SET ESG 1 |
| SGFFH 90-R/L-6 | SET ESG 1 |
| SGFFH 150-R/L-6 | SET ESG 1 |

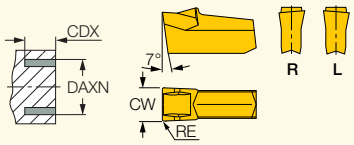


# PENTACUT

SELFGRIP

## GFF-R/L
Face Grooving Inserts





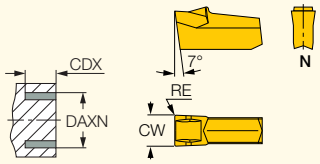

| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | DAXN(3) | DAXX(4) | Tough ↔ Hard IC354 | IC20 | Recommended Machining Data f face-groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| GFF 2R | 2.10 | 0.20 | 0.10 | 0.050 | 25.0 | 36.0 | ● | ● | 0.03-0.13 |
| GFF 3L | 3.00 | 0.30 | 0.10 | 0.050 | 30.0 | 55.0 | | ● | 0.03-0.15 |
| GFF 3R | 3.00 | 0.30 | 0.10 | 0.050 | 30.0 | 55.0 | ● | ● | 0.03-0.15 |

(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Minimum axial grooving diameter
(4) Maximum axial grooving diameter
**Tools:** SGFFA • SGFFR/L

SELFGRIP

## GFF-N
Face Grooving Inserts





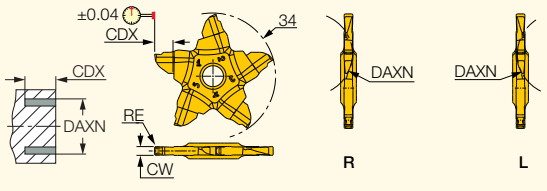

| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | DAXN(3) | Tough ↔ Hard IC354 | IC20 | Recommended Machining Data f face-groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| GFF 2N | 2.10 | 0.20 | 0.10 | 0.050 | 35.0 | ● | ● | 0.03-0.13 |
| GFF 3N | 3.00 | 0.30 | 0.10 | 0.050 | 54.0 | ● | ● | 0.03-0.15 |
| GFF 4N | 4.00 | 0.25 | 0.10 | 0.050 | 35.0 | ● | ● | 0.04-0.18 |
| GFF 5N | 5.00 | 0.25 | 0.10 | 0.050 | 40.0 | ● | ● | 0.05-0.18 |
| GFF 6N | 6.00 | 0.25 | 0.10 | 0.050 | 44.0 | ● | ● | 0.05-0.20 |

• Grooving depth is limited only by the tool being used
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Minimum axial grooving diameter
**Tools:** SGFFA • SGFFH • SGFFR/L

PENTACUT PARTING & GROOVING LINE

## PENTA 34F-R/L
Pentagonal Inserts for Face Grooving and Recessing





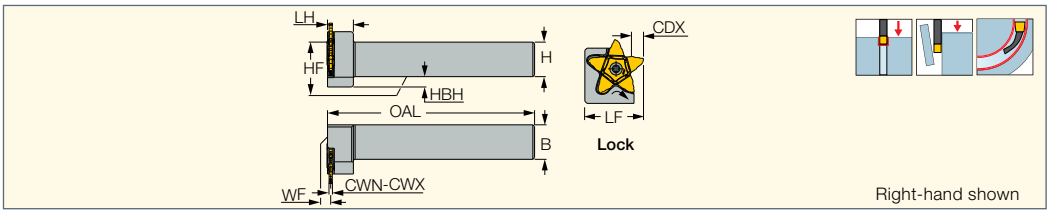

| Designation | Dimensions CW | RE | RETOL(1) | CDX | DAXN(2) | IC908 | Recommended Machining Data f face-groove (mm/rev) |
|---|---|---|---|---|---|---|---|
| PENTA 34F239-0.15-22R/L | 2.39 | 0.15 | 0.020 | 5.00 | 22.0 | ● | 0.08-0.12 |
| PENTA 34F247-0.20-22R/L | 2.47 | 0.20 | 0.020 | 5.00 | 22.0 | ● | 0.08-0.12 |
| PENTA 34F300-0.40-22R/L | 3.00 | 0.40 | 0.020 | 5.00 | 22.0 | ● | 0.08-0.15 |
| PENTA 34F400-0.40-22R/L | 4.00 | 0.40 | 0.020 | 5.00 | 22.0 | ● | 0.08-0.15 |

• For cutting speed recommendations, see pages 604-615
(1) Corner radius tolerance (+/-)
(2) Minimum axial grooving diameter
**Tools:** PCADR/L • PCADR/L 34N-RE • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-34 • PCHR/L-34-JHP

PENTACUT PARTING & GROOVING LINE

## PCHPR/L

Perpendicular Holders Carrying Inserts with 5 Cutting Edges for Facing, Grooving, Parting and Recessing




| Designation | H | B | CWN(1) | CWX(2) | CDX(3) | HF | WF | LF | OAL | LH | HBH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PCHPR/L 16-24 | 16.0 | 16.0 | 0.50 | 3.20 (4) | 6.50 | 16.0 | 1.50 (5) | 23.5 | 120.00 | 11.5 | - |
| PCHPR/L 20-24 | 20.0 | 20.0 | 0.50 | 3.20 (4) | 6.50 | 20.0 | 1.50 (5) | 28.0 | 120.00 | 11.5 | - |
| PCHPR/L 25-24 | 25.0 | 25.0 | 0.50 | 3.20 (4) | 6.50 | 25.0 | 1.50 (5) | 33.0 | 135.00 | 11.5 | - |
| PCHPR/L 20-34 | 20.0 | 20.0 | 1.40 | 4.00 | 10.00 | 20.0 | 1.90 | 34.0 | 120.00 | 15.0 | 6.0 |
| PCHPR/L 25-34 | 25.0 | 25.0 | 1.40 | 4.00 | 10.00 | 25.0 | 1.90 | 34.0 | 135.00 | 15.0 | - |

(1) Minimum cutting width
(2) Maximum cutting width
(3) For specific information, refer to insert data
(4) Up to 6.2 mm width may be ordered on request
(5) Valid for inserts with CW<3.2 mm

**Inserts:** PENTA 24-BSPT • PENTA 24-ISO • PENTA 24-MT • PENTA 24-NPT • PENTA 24-UN • PENTA 24-W • PENTA 24-WT • PENTA 24N-C • PENTA 24N-C (full radius) • PENTA 24N-J • PENTA 24N-J (full radius) • PENTA 24N-PF (full radius) • PENTA 24N-PF/P • PENTA 24N-Z • PENTA 24R-C • PENTA 24R-P • PENTA 24R/L-J • PENTA 24R/L-Z • PENTA 34F-R/L • PENTA 34N-C • PENTA 34N-J • PENTA 34N-PB • PENTA 34R/L-C • PENTA 34R/L-J • PENTA 34R/L-PB

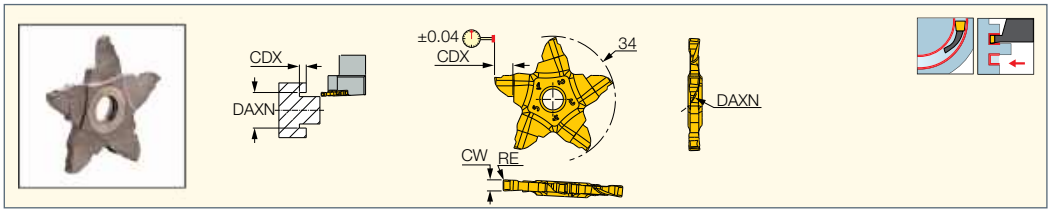
### Spare Parts

| Designation | | |
|---|---|---|
| PCHPL 16-24 | SR 16-212-01397 | T-20/5 |
| PCHPR 16-24 | SR 16-212-01397L | T-20/5 |
| PCHPL 20-24 | SR 16-212-01397 | T-20/5 |
| PCHPR 20-24 | SR 16-212-01397L | T-20/5 |
| PCHPL 25-24 | SR 16-212-01397 | T-20/5 |
| PCHPR 25-24 | SR 16-212-01397L | T-20/5 |
| PCHPR/L 20-34 | SR 16-212-01397 | T-20/5 |
| PCHPR/L 25-34 | SR 16-212-01397 | T-20/5 |

PENTACUT PARTING & GROOVING LINE

## PENTA 34F-RS/LS

Pentagonal Inserts for Face Grooving and Recessing Along Shafts up to 5 mm Depth of Cut at a Minimum of 22 mm Diameter




| Designation | Dimensions CW | RE | CDX | DAXN(1) | IC908 | Recommended Machining Data f face-groove (mm/rev) |
|---|---|---|---|---|---|---|
| PENTA 34F239-0.15-22R/LS | 2.39 | 0.15 | 5.00 | 22.0 | • | 0.08-0.12 |
| PENTA 34F247-0.20-22R/LS | 2.47 | 0.20 | 5.00 | 22.0 | • | 0.08-0.12 |
| PENTA 34F300-0.40-22R/LS | 3.00 | 0.40 | 5.00 | 22.0 | • | 0.08-0.15 |
| PENTA 34F400-0.40-22R/LS | 4.00 | 0.40 | 5.00 | 22.0 | • | 0.08-0.15 |

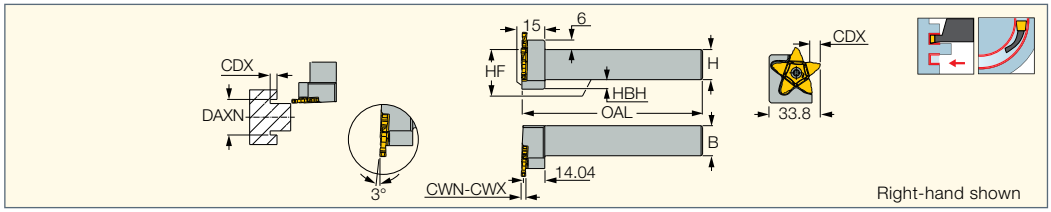
• For cutting speed recommendations, see pages 604-615
(1) Minimum axial grooving diameter

**Tools:** PCHPRS/LS

PENTACUT PARTING & GROOVING LINE

## PCHPRS/LS

Perpendicular Shank Tools Carrying Pentagonal Inserts for Machining Next to Long Central Shafts




| Designation | H | B | CWN(1) | CWX(2) | OAL | HBH | CDX(3) | HF | | |
|---|---|---|---|---|---|---|---|---|---|---|
| PCHPR/LS 20-34 | 20.0 | 20.0 | 2.39 | 4.00 | 120.00 | 6.0 | 5.00 | 20.0 | SR 16-212-01397RS | T-20/5 |
| PCHPR/LS 25-34 | 25.0 | 25.0 | 2.39 | 4.00 | 135.00 | - | 5.00 | 25.0 | SR 16-212-01397RS | T-20/5 |

(1) Minimum cutting width
(2) Maximum cutting width
(3) Insert limit

**Inserts:** PENTA 34F-RS/LS

# FACE TOOLS FOR MINIATURE PARTS



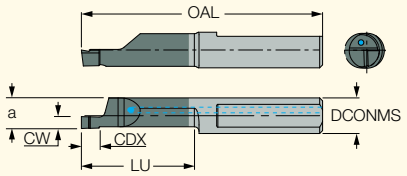
# Tools for Miniature Parts

## PICCO-CUT

JETCUT PICCOCUT

**PICCO-010/610-N**
**(Face Grooving)**
Inserts with Internal Coolant Channel for Face Grooving






| Designation | Dimensions DAXN[1] | CW | CDX | DCONMS | a | LU | OAL | IC908 | Recommended Machining Data f face-groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| PICCO R 010.1006-10N | 6.0 | 1.00 | 1.50 | 6.05 | 5.20 | 9.0 | 32.00 | ● | 0.01-0.04 |
| PICCO R 010.1506-10N | 6.0 | 1.50 | 2.00 | 6.05 | 5.20 | 9.0 | 32.00 | ● | 0.01-0.04 |
| PICCO R 010.1008-10N | 8.0 | 1.00 | 1.50 | 7.05 | 5.90 | 9.0 | 32.00 | ● | 0.01-0.04 |
| PICCO R 010.1008-20N | 8.0 | 1.00 | 1.50 | 7.05 | 5.90 | 19.0 | 41.00 | ● | 0.01-0.04 |
| PICCO R 010.1008-30N | 8.0 | 1.00 | 1.50 | 7.05 | 5.90 | 29.0 | 51.00 | ● | 0.01-0.04 |
| PICCO R 610.1008-10N | 8.0 | 1.00 | 1.50 | 6.05 | 5.20 | 9.0 | 32.00 | ● | 0.01-0.04 |
| PICCO R/L 010.1508-20N | 8.0 | 1.50 | 2.50 | 7.05 | 5.90 | 19.0 | 41.00 | ● | 0.01-0.04 |
| PICCO R 010.1508-10N | 8.0 | 1.50 | 2.50 | 7.05 | 5.90 | 9.0 | 32.00 | ● | 0.01-0.04 |
| PICCO R 010.1508-30N | 8.0 | 1.50 | 2.50 | 7.05 | 5.90 | 29.0 | 51.00 | ● | 0.01-0.04 |
| PICCO R 610.1508-10N | 8.0 | 1.50 | 2.50 | 6.05 | 5.20 | 9.0 | 32.00 | ● | 0.01-0.04 |
| PICCO R 610.1508-20N | 8.0 | 1.50 | 2.50 | 6.05 | 5.20 | 19.0 | 41.00 | ● | 0.01-0.04 |
| PICCO R/L 010.2008-30N | 8.0 | 2.00 | 3.00 | 7.05 | 5.90 | 29.0 | 51.00 | ● | 0.02-0.05 |
| PICCO R 010.2008-10N | 8.0 | 2.00 | 3.00 | 7.05 | 5.90 | 9.0 | 32.00 | ● | 0.02-0.05 |
| PICCO R 010.2008-20N | 8.0 | 2.00 | 3.00 | 7.05 | 5.90 | 19.0 | 41.00 | ● | 0.02-0.05 |
| PICCO R 610.2008-10N | 8.0 | 2.00 | 3.00 | 6.05 | 5.20 | 9.0 | 32.00 | ● | 0.02-0.05 |
| PICCO R 610.2008-20N | 8.0 | 2.00 | 3.00 | 6.05 | 5.20 | 19.0 | 41.00 | ● | 0.02-0.05 |
| PICCO R 010.2508-10N | 8.0 | 2.50 | 3.50 | 7.05 | 5.90 | 9.0 | 32.00 | ● | 0.02-0.05 |
| PICCO R 010.2508-20N | 8.0 | 2.50 | 3.50 | 7.05 | 5.90 | 19.0 | 41.00 | ● | 0.02-0.05 |
| PICCO R 610.2508-10N | 8.0 | 2.50 | 3.50 | 6.05 | 5.20 | 9.0 | 32.00 | ● | 0.02-0.05 |
| PICCO R 010.3008-10N | 8.0 | 3.00 | 3.50 | 7.05 | 5.90 | 9.0 | 32.00 | ● | 0.02-0.06 |
| PICCO R 010.3008-20N | 8.0 | 3.00 | 3.50 | 7.05 | 5.90 | 19.0 | 41.00 | ● | 0.02-0.06 |
| PICCO R 010.3008-30N | 8.0 | 3.00 | 3.50 | 7.05 | 5.90 | 29.0 | 51.00 | ● | 0.02-0.06 |
| PICCO R 610.3008-10N | 8.0 | 3.00 | 3.50 | 6.05 | 5.20 | 9.0 | 32.00 | ● | 0.02-0.06 |
| PICCO R 610.3008-20N | 8.0 | 3.00 | 3.50 | 6.05 | 5.20 | 19.0 | 41.00 | ● | 0.02-0.06 |

- Only right-hand inserts are available as standard
- All inserts are with sharp corners
- Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only
- For detailed cutting data, see page 604

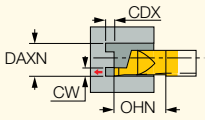
(1) Minimum axial grooving diameter

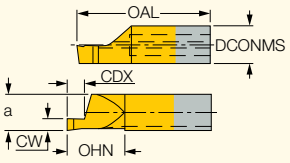


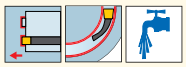
PICCOCUT

## PICCO-010/610
## (Face Grooving)
Inserts for Face Grooving





Right-hand shown

| Designation | Dimensions DAXN(1) | CW | CDX | DCONMS | a | OHN(2) | OAL | IC228 | Recommended Machining Data f face-groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| PICCO R 010.1006-10 | 6.0 | 1.00 | 1.50 | 6.00 | 5.20 | 11.0 | 26.00 | ● | 0.01-0.04 |
| PICCO R 010.1506-10 | 6.0 | 1.50 | 2.00 | 6.00 | 5.20 | 11.0 | 26.00 | ● | 0.01-0.04 |
| PICCO R 010.1008-10 | 8.0 | 1.00 | 1.50 | 7.00 | 5.90 | 11.0 | 26.00 | ● | 0.01-0.04 |
| PICCO R 010.1008-20 | 8.0 | 1.00 | 1.50 | 7.00 | 5.90 | 21.0 | 35.00 | ● | 0.01-0.04 |
| PICCO R 010.1008-30 | 8.0 | 1.00 | 1.50 | 7.00 | 5.90 | 30.0 | 45.00 | ● | 0.01-0.04 |
| PICCO R 610.1008-10 | 8.0 | 1.00 | 1.50 | 6.00 | 5.20 | 11.0 | 26.00 | ● | 0.01-0.04 |
| PICCO R 610.1008-20 | 8.0 | 1.00 | 1.50 | 6.00 | 5.20 | 20.0 | 35.00 | ● | 0.01-0.04 |
| PICCO R/L 010.1508-20 | 8.0 | 1.50 | 2.50 | 7.00 | 5.90 | 21.0 | 35.00 | ● | 0.01-0.04 |
| PICCO R/L 010.1508-30 | 8.0 | 1.50 | 2.50 | 7.00 | 5.90 | 30.0 | 45.00 | ● | 0.01-0.04 |
| PICCO R 010.1508-10 | 8.0 | 1.50 | 2.50 | 7.00 | 5.90 | 11.0 | 26.00 | ● | 0.01-0.04 |
| PICCO R 610.1508-10 | 8.0 | 1.50 | 2.50 | 6.00 | 5.20 | 11.0 | 26.00 | ● | 0.01-0.04 |
| PICCO R 610.1508-20 | 8.0 | 1.50 | 2.50 | 6.00 | 5.20 | 20.0 | 35.00 | ● | 0.01-0.04 |
| PICCO R/L 010.2008-30 | 8.0 | 2.00 | 3.00 | 7.00 | 5.90 | 30.0 | 45.00 | ● | 0.02-0.05 |
| PICCO R 010.2008-10 | 8.0 | 2.00 | 3.00 | 7.00 | 5.90 | 11.0 | 26.00 | ● | 0.02-0.05 |
| PICCO R 010.2008-20 | 8.0 | 2.00 | 3.00 | 7.00 | 5.90 | 21.0 | 35.00 | ● | 0.02-0.05 |
| PICCO R 610.2008-10 | 8.0 | 2.00 | 3.00 | 6.00 | 5.20 | 11.0 | 26.00 | ● | 0.02-0.05 |
| PICCO R 610.2008-20 | 8.0 | 2.00 | 3.00 | 6.00 | 5.20 | 20.0 | 35.00 | ● | 0.02-0.05 |
| PICCO R 010.2508-10 | 8.0 | 2.50 | 3.50 | 7.00 | 5.90 | 11.0 | 26.00 | ● | 0.02-0.05 |
| PICCO R 010.2508-20 | 8.0 | 2.50 | 3.50 | 7.00 | 5.90 | 21.0 | 35.00 | ● | 0.02-0.05 |
| PICCO R 010.2508-30 | 8.0 | 2.50 | 3.50 | 7.00 | 5.90 | 30.0 | 45.00 | ● | 0.02-0.05 |
| PICCO R 610.2508-10 | 8.0 | 2.50 | 3.50 | 6.00 | 5.20 | 11.0 | 26.00 | ● | 0.02-0.05 |
| PICCO R 610.2508-20 | 8.0 | 2.50 | 3.50 | 6.00 | 5.20 | 20.0 | 35.00 | ● | 0.02-0.05 |
| PICCO R 010.3008-10 | 8.0 | 3.00 | 3.50 | 7.00 | 5.90 | 11.0 | 26.00 | ● | 0.02-0.06 |
| PICCO R 010.3008-20 | 8.0 | 3.00 | 3.50 | 7.00 | 5.90 | 21.0 | 35.00 | ● | 0.02-0.06 |
| PICCO R 010.3008-30 | 8.0 | 3.00 | 3.50 | 7.00 | 5.90 | 30.0 | 45.00 | ● | 0.02-0.06 |
| PICCO R 610.3008-10 | 8.0 | 3.00 | 3.50 | 6.00 | 5.20 | 11.0 | 26.00 | ● | 0.02-0.06 |
| PICCO R 610.3008-20 | 8.0 | 3.00 | 3.50 | 6.00 | 5.20 | 20.0 | 35.00 | ● | 0.02-0.06 |

• Only right-hand inserts are available as standard • All inserts are with sharp corners • For detailed cutting data, see page 604

(1) Minimum axial grooving diameter

(2) Minimum overhang

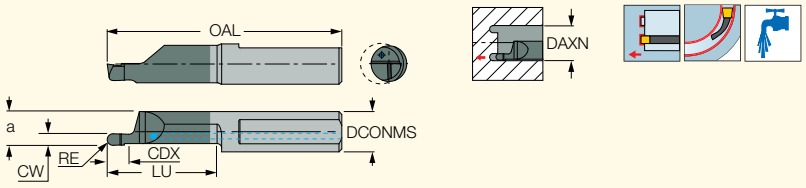


JETCUT PICCOCUT

## PICCO-010-N (Full Radius for Face Grooving)

Inserts with Internal Coolant Channel for Round Profile Face Grooving






| Designation | Dimensions DAXN(1) | CW | RE | CDX | DCONMS | a | LU | OAL | IC908 | Recommended Machining Data f face-groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| PICCO R 010.1005-10N | 8.0 | 1.00 | 0.50 | 2.00 | 7.05 | 5.90 | 9.0 | 32.00 | ● | 0.01-0.04 |
| PICCO R 010.1005-20N | 8.0 | 1.00 | 0.50 | 2.00 | 7.05 | 5.90 | 19.0 | 41.00 | ● | 0.01-0.04 |
| PICCO R 010.1608-10N | 8.0 | 1.60 | 0.80 | 3.00 | 7.05 | 5.90 | 9.0 | 32.00 | ● | 0.01-0.05 |
| PICCO R 010.1608-20N | 8.0 | 1.60 | 0.80 | 3.00 | 7.05 | 5.90 | 19.0 | 41.00 | ● | 0.01-0.05 |
| PICCO R 010.2010-10N | 8.0 | 2.00 | 1.00 | 4.00 | 7.05 | 5.90 | 9.0 | 32.00 | ● | 0.02-0.05 |
| PICCO R 010.2010-20N | 8.0 | 2.00 | 1.00 | 4.00 | 7.05 | 5.90 | 19.0 | 41.00 | ● | 0.02-0.05 |
| PICCO R 010.2512-10N | 8.0 | 2.50 | 1.25 | 5.00 | 7.05 | 5.90 | 9.0 | 32.00 | ● | 0.02-0.05 |
| PICCO R 010.3015-10N | 8.0 | 3.00 | 1.50 | 6.00 | 7.05 | 5.90 | 9.0 | 32.00 | ● | 0.02-0.05 |
| PICCO R 010.3015-20N | 8.0 | 3.00 | 1.50 | 6.00 | 7.05 | 5.90 | 19.0 | 41.00 | ● | 0.02-0.05 |

- Only right-hand inserts are available as standard, left-hand inserts on request
- Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only
- For detailed cutting data, see page 604

(1) Minimum axial grooving diameter

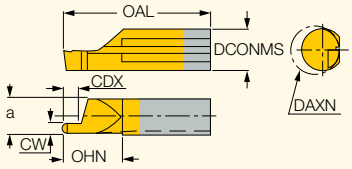


PICCOCUT

## PICCO-010 (Round Face Groove)

Inserts for Round Profile Face Grooving






Right-hand shown

| Designation | Dimensions DAXN(1) | CW | RE | CDX | DCONMS | a | OHN(2) | OAL | IC1008 | Recommended Machining Data f face-groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|
| PICCO R 010.1005-10 | 8.0 | 1.00 | 0.50 | 2.00 | 7.00 | 5.90 | 11.0 | 26.00 | ● | 0.01-0.04 |
| PICCO R 010.1005-20 | 8.0 | 1.00 | 0.50 | 2.00 | 7.00 | 5.90 | 20.0 | 35.00 | ● | 0.01-0.04 |
| PICCO R 010.1608-10 | 8.0 | 1.60 | 0.80 | 3.00 | 7.00 | 5.90 | 11.0 | 26.00 | ● | 0.01-0.05 |
| PICCO R 010.1608-20 | 8.0 | 1.60 | 0.80 | 3.00 | 7.00 | 5.90 | 20.0 | 35.00 | ● | 0.01-0.05 |
| PICCO R 010.2010-10 | 8.0 | 2.00 | 1.00 | 4.00 | 7.00 | 5.90 | 11.0 | 26.00 | ● | 0.02-0.05 |
| PICCO R 010.2010-20 | 8.0 | 2.00 | 1.00 | 4.00 | 7.00 | 5.90 | 20.0 | 35.00 | ● | 0.02-0.05 |
| PICCO R 010.2512-10 | 8.0 | 2.50 | 1.25 | 5.00 | 7.00 | 5.90 | 11.0 | 26.00 | ● | 0.02-0.05 |
| PICCO R 010.2512-20 | 8.0 | 2.50 | 1.25 | 5.00 | 7.00 | 5.90 | 20.0 | 35.00 | ● | 0.02-0.05 |
| PICCO R 010.3015-10 | 8.0 | 3.00 | 1.50 | 6.00 | 7.00 | 5.90 | 11.0 | 26.00 | ● | 0.02-0.05 |
| PICCO R 010.3015-20 | 8.0 | 3.00 | 1.50 | 6.00 | 7.00 | 5.90 | 20.0 | 35.00 | ● | 0.02-0.05 |

- Only right-hand inserts are available as standard, left-hand inserts on request
- For detailed cutting data, see page 604

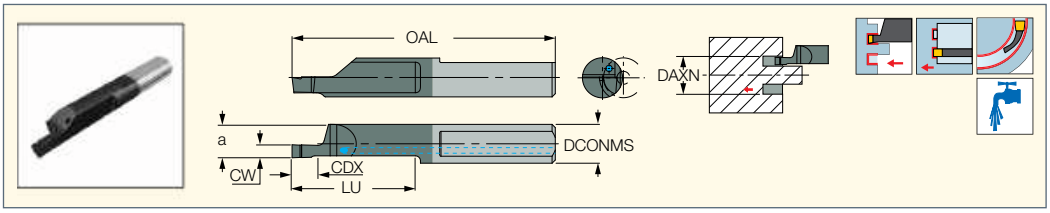
(1) Minimum axial grooving diameter

(2) Minimum overhang

JETCUT PICCOCUT

## PICCO-620-N (Face Grooving along Shaft)

Inserts with Internal Coolant Channel for Grooving along Shaft Dmin 6 mm




| Designation | Dimensions DAXN[1] | CW | CDX | DCONMS | a | LU | OAL | IC908 | Recommended Machining Data f face-groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| PICCO R 620.1006-20N | 6.0 | 1.00 | 2.00 | 6.05 | 5.20 | 19.0 | 41.00 | ● | 0.01-0.04 |
| PICCO R 620.1506-20N | 6.0 | 1.50 | 3.00 | 6.05 | 5.20 | 19.0 | 41.00 | ● | 0.01-0.05 |
| PICCO R 620.2006-20N | 6.0 | 2.00 | 4.00 | 6.05 | 5.20 | 19.0 | 41.00 | ● | 0.02-0.06 |
| PICCO R 620.2506-20N | 6.0 | 2.50 | 5.00 | 6.05 | 5.20 | 19.0 | 41.00 | ● | 0.02-0.06 |
| PICCO R 620.3006-20N | 6.0 | 3.00 | 6.00 | 6.05 | 5.20 | 19.0 | 41.00 | ● | 0.02-0.06 |

- Only right-hand inserts are available as standard, left-hand inserts on request
- All carbide inserts are with sharp corners
- Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only
- For detailed cutting data, see page 604

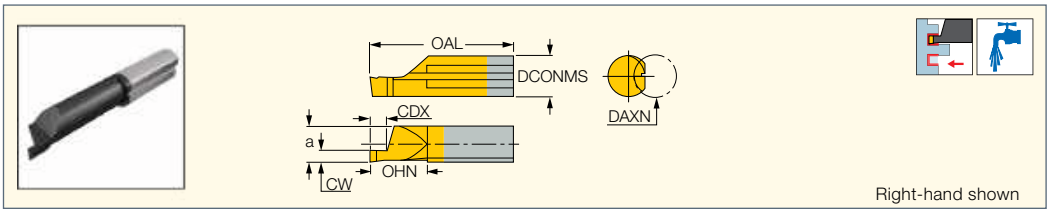
(1) Minimum axial grooving diameter



PICCOCUT

## PICCO-620 (Groove Along Shaft)

Inserts for Grooving Along a Shaft Dmin 6 mm




| Designation | Dimensions DAXN[1] | CW | CDX | DCONMS | a | OHN[2] | OAL | IC1008 | Recommended Machining Data f face-groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| PICCO R 620.1006-20 | 6.0 | 1.00 | 2.00 | 6.00 | 5.20 | 20.0 | 35.00 | ● | 0.01-0.04 |
| PICCO R 620.1506-20 | 6.0 | 1.50 | 3.00 | 6.00 | 5.20 | 20.0 | 35.00 | ● | 0.01-0.05 |
| PICCO R 620.2006-20 | 6.0 | 2.00 | 4.00 | 6.00 | 5.20 | 20.0 | 35.00 | ● | 0.02-0.06 |
| PICCO R 620.2506-20 | 6.0 | 2.50 | 5.00 | 6.00 | 5.20 | 20.0 | 35.00 | ● | 0.02-0.06 |
| PICCO R 620.3006-20 | 6.0 | 3.00 | 6.00 | 6.00 | 5.20 | 20.0 | 35.00 | ● | 0.02-0.06 |

- Only right-hand inserts are available as standard, left-hand inserts on request
- All carbide inserts are with sharp corners
- For detailed cutting data, see page 604

(1) Minimum axial grooving diameter

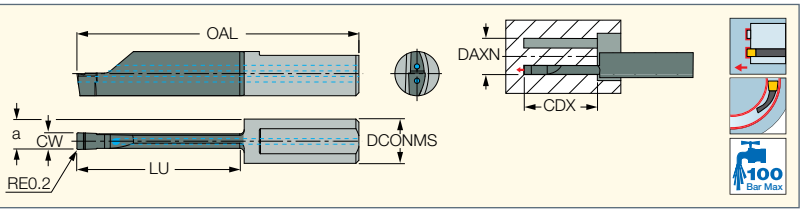
(2) Minimum overhang

PICCOCUT JETCUT

## PICCO-016/020-N (Face Grooving)

Inserts with Internal Coolant Channel for Deep Face Grooving

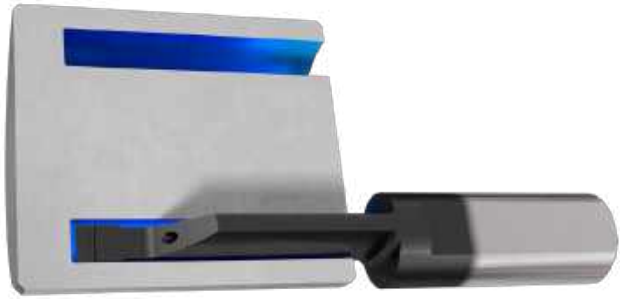





| Designation | Dimensions DAXN(1) | CW | LU | CDX | DCONMS | a | OAL | IC908 | Recommended Machining Data f face-groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| PICCO R016.0300-10N | 16.0 | 3.00 | 9.00 | 9.00 | 8.00 | 5.50 | 32.00 | ● | 0.01-0.05 |
| PICCO R016.0300-20N | 16.0 | 3.00 | 19.00 | 19.00 | 8.00 | 5.50 | 41.00 | ● | 0.01-0.05 |
| PICCO R016.0400-20N | 16.0 | 4.00 | 19.00 | 19.00 | 8.00 | 6.00 | 41.00 | ● | 0.01-0.05 |
| PICCO R020.0300-25N | 20.0 | 3.00 | 24.00 | 24.00 | 8.00 | 5.50 | 46.00 | ● | 0.01-0.05 |
| PICCO R020.0300-30N | 20.0 | 3.00 | 29.00 | 29.00 | 8.00 | 5.50 | 51.00 | ● | 0.01-0.04 |
| PICCO R020.0300-40N | 20.0 | 3.00 | 39.00 | 39.00 | 8.00 | 5.50 | 61.00 | ● | 0.01-0.04 |
| PICCO R020.0400-25N | 20.0 | 4.00 | 24.00 | 24.00 | 8.00 | 6.00 | 46.00 | ● | 0.01-0.06 |
| PICCO R020.0400-30N | 20.0 | 4.00 | 29.00 | 29.00 | 8.00 | 6.00 | 51.00 | ● | 0.01-0.06 |
| PICCO R020.0400-40N | 20.0 | 4.00 | 39.00 | 39.00 | 8.00 | 6.00 | 61.00 | ● | 0.01-0.05 |
| PICCO R020.0500-25N | 20.0 | 5.00 | 24.00 | 24.00 | 8.00 | 6.50 | 46.00 | ● | 0.02-0.06 |
| PICCO R020.0500-30N | 20.0 | 5.00 | 29.00 | 29.00 | 8.00 | 6.50 | 51.00 | ● | 0.02-0.06 |
| PICCO R020.0500-35N | 20.0 | 5.00 | 34.00 | 34.00 | 8.00 | 6.50 | 56.00 | ● | 0.02-0.05 |
| PICCO R020.0500-40N | 20.0 | 5.00 | 39.00 | 39.00 | 8.00 | 6.50 | 61.00 | ● | 0.02-0.05 |

- All inserts have two coolant holes which may be used with coolant pressure up to 100 bars
- Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only
- For detailed cutting data, see page 604

(1) Minimum axial grooving diameter

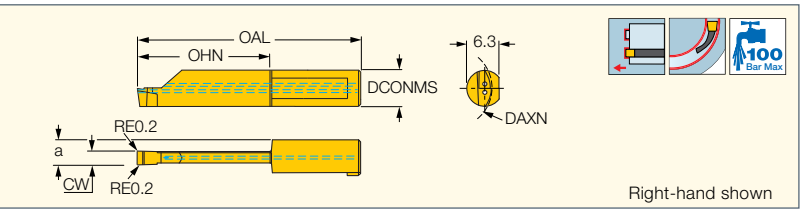


PICCOCUT

## PICCO-016/020 (Face Grooving)

Inserts with Coolant Holes for Deep Face Grooving






| Designation | Dimensions DAXN(1) | CW | OHN(2) | DCONMS | a | OAL | IC1008 | Recommended Machining Data f face-groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| PICCO R 016.0300-10 | 16.0 | 3.00 | 10.00 | 8.00 | 5.50 | 30.00 | ● | 0.01-0.05 |
| PICCO R 016.0300-20 | 16.0 | 3.00 | 20.00 | 8.00 | 5.50 | 40.00 | ● | 0.01-0.05 |
| PICCO R 016.0400-10 | 16.0 | 4.00 | 10.00 | 8.00 | 6.00 | 30.00 | ● | 0.01-0.05 |
| PICCO R 016.0400-20 | 16.0 | 4.00 | 20.00 | 8.00 | 6.00 | 40.00 | ● | 0.01-0.05 |
| PICCO R 020.0300-25 | 20.0 | 3.00 | 25.00 | 8.00 | 5.50 | 45.00 | ● | 0.01-0.05 |
| PICCO R 020.0300-30 | 20.0 | 3.00 | 30.00 | 8.00 | 5.50 | 50.00 | ● | 0.01-0.04 |
| PICCO R 020.0300-35 | 20.0 | 3.00 | 35.00 | 8.00 | 5.50 | 55.00 | ● | 0.01-0.04 |
| PICCO R 020.0300-40 | 20.0 | 3.00 | 40.00 | 8.00 | 5.50 | 60.00 | ● | 0.01-0.04 |
| PICCO R 020.0400-25 | 20.0 | 4.00 | 25.00 | 8.00 | 6.00 | 45.00 | ● | 0.01-0.06 |
| PICCO R 020.0400-30 | 20.0 | 4.00 | 30.00 | 8.00 | 6.00 | 50.00 | ● | 0.01-0.06 |
| PICCO R 020.0400-35 | 20.0 | 4.00 | 35.00 | 8.00 | 6.00 | 55.00 | ● | 0.01-0.05 |
| PICCO R 020.0400-40 | 20.0 | 4.00 | 40.00 | 8.00 | 6.00 | 60.00 | ● | 0.01-0.05 |
| PICCO R 020.0500-20 | 20.0 | 5.00 | 20.00 | 8.00 | 6.50 | 40.00 | ● | 0.02-0.06 |
| PICCO R 020.0500-25 | 20.0 | 5.00 | 25.00 | 8.00 | 6.50 | 45.00 | ● | 0.02-0.06 |
| PICCO R 020.0500-30 | 20.0 | 5.00 | 30.00 | 8.00 | 6.50 | 50.00 | ● | 0.02-0.06 |
| PICCO R 020.0500-35 | 20.0 | 5.00 | 35.00 | 8.00 | 6.50 | 55.00 | ● | 0.02-0.05 |
| PICCO R 020.0500-40 | 20.0 | 5.00 | 40.00 | 8.00 | 6.50 | 60.00 | ● | 0.02-0.05 |

- All inserts have two coolant holes which may be used with coolant pressure up to 100 bars
- For detailed cutting data, see page 604

(1) Minimum axial grooving diameter

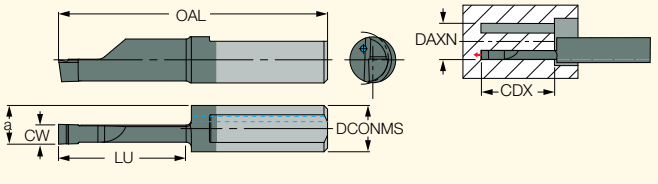
(2) Minimum overhang

JETCUT PICCOCUT

## PICCO-015-N (Face Grooving)

Inserts with Internal Coolant Channel for Deep Face Grooving

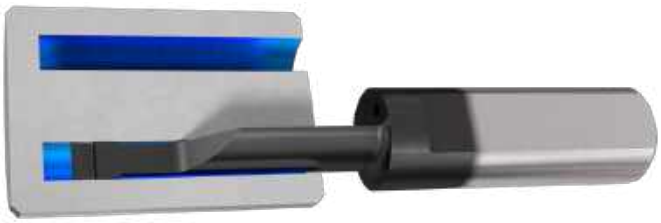





| Designation | Dimensions DAXN(1) | CW | LU | DCONMS | a | OAL | IC908 | Recommended Machining Data f face-groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| PICCO R 015.2515-20N | 8.0 | 2.50 | 19.00 | 7.05 | 5.90 | 41.00 | ● | 0.01-0.04 |
| PICCO R 015.3015-20N | 8.0 | 3.00 | 19.00 | 7.05 | 5.90 | 41.00 | ● | 0.02-0.05 |
| PICCO R 015.3015-30N | 8.0 | 3.00 | 29.00 | 7.05 | 5.90 | 51.00 | ● | 0.01-0.04 |

- Only right-hand inserts are available as standard, left-hand inserts on request
- All inserts are with sharp corners
- Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only
- For detailed cutting data, see page 604

(1) Minimum axial grooving diameter

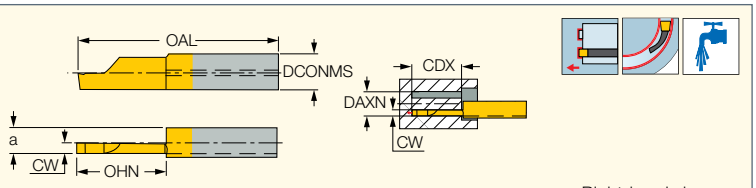


PICCOCUT

## PICCO-015 (Face Grooving)

Inserts for Deep Face Grooving






Right-hand shown

| Designation | Dimensions DAXN(1) | CW | OHN(2) | DCONMS | a | OAL | CDX | IC228 | Recommended Machining Data f face-groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| PICCO R 015.2515-20 | 8.0 | 2.50 | 20.00 | 7.00 | 5.90 | 35.00 | 20.00 | ● | 0.01-0.04 |
| PICCO R/L 015.3015-20 | 8.0 | 3.00 | 20.00 | 7.00 | 5.90 | 35.00 | 20.00 | ● | 0.02-0.05 |
| PICCO R 015.3015-30 | 8.0 | 3.00 | 30.00 | 7.00 | 5.90 | 45.00 | 30.00 | ● | 0.01-0.04 |

- Only right-hand inserts are available as standard, left-hand inserts on request
- All inserts are with sharp corners
- For detailed cutting data, see page 604

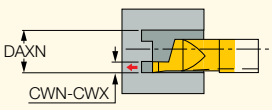
(1) Minimum axial grooving diameter

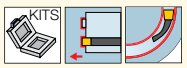
(2) Minimum overhang

PICCOCUT

## KIT PICCO Face

Contains One Toolholder and a Set of Solid Carbide Miniature Face Turning and Grooving Boring Bars




| Designation | DAXN(1) | CWN(2) | CWX(3) |
|---|---|---|---|
| KIT PICCO SET-4R | 8.0 | 1.00 | 3.00 |

(1) Minimum axial grooving diameter

(2) Minimum cutting width

(3) Maximum cutting width

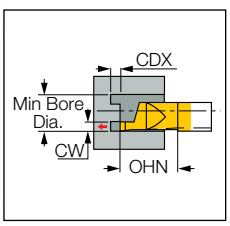
## PICCO

Face Grooving PICCO Mini-Bar Tool Set - 4R

| Designation | Mini Bore Dia. | OHN | CDX | CW | Pcs. | Designation |
|---|---|---|---|---|---|---|
| PICCO 16.D6 | | | | | 1x | Holder |
| PICCO R/L 010.1008-10 | 8.0 | 11 | 1.5 | 1.0 | 1x | Mini Carbide Bar |
| PICCO R/L 010.1508-10 | 8.0 | 11 | 2.5 | 1.5 | 1x | Mini Carbide Bar |
| PICCO R/L 010.2008-10 | 8.0 | 11 | 3.0 | 2.0 | 1x | Mini Carbide Bar |
| PICCO R/L 010.2508-20 | 8.0 | 21 | 3.5 | 2.5 | 1x | Mini Carbide Bar |
| PICCO R/L 010.3008-20 | 8.0 | 21 | 3.5 | 3.0 | 1x | Mini Carbide Bar |

**Available grade:** IC228



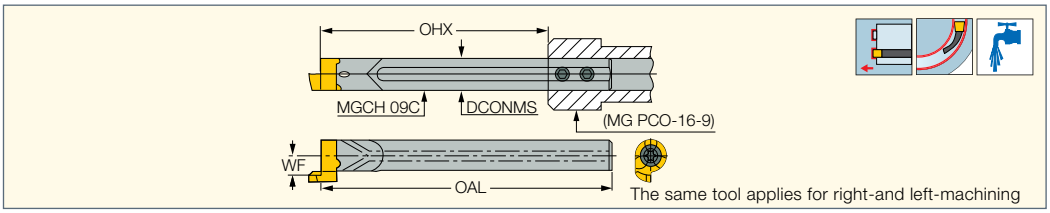


# CHAMGROOVE

## CHAMGROOVE

### MGCH-C (face)

Face Machining Tools Carrying GFQR Inserts for Dmin 12 - Dmax 19 mm Penetration Range

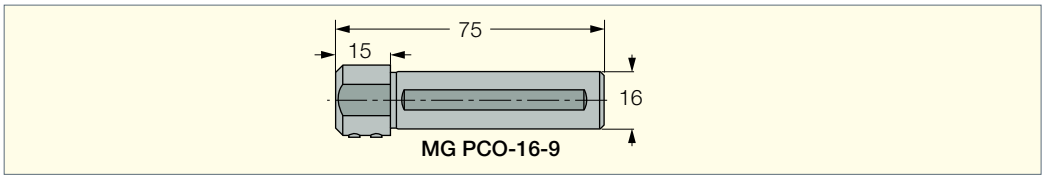



| Designation | DCONMS | OAL | OHX(1) | WF | | |
|---|---|---|---|---|---|---|
| MGCH 09C | 9.00 | 83.50 | 65.0 | 5.50 | SR 76-2145 | T-15/5 |

(1) Maximum overhang
**Inserts:** GFQR
**Holders:** PICCO/MG PCO (Holder)

### MG PCO

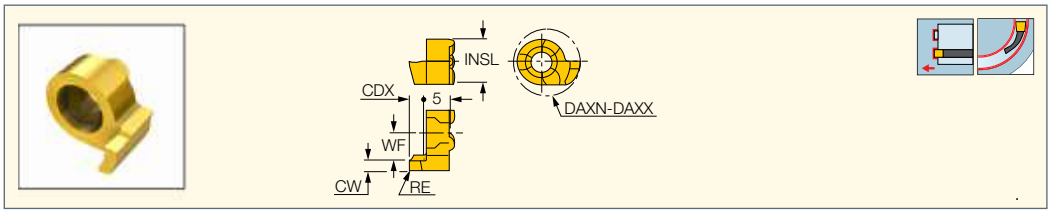
Holder Bar for Adjustable Shank




## CHAMGROOVE

### GFQR

Face Grooving Inserts




| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | CDX | DAXN(3) | DAXX(4) | IC528 | Recommended Machining Data f face-groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| GFQR 12-1.00-0.05 | 1.00 | 0.05 | 0.02 | 0.030 | 1.50 | 12.0 | 16.0 | • | 0.01-0.04 |
| GFQR 12-1.50-0.20 | 1.50 | 0.20 | 0.02 | 0.030 | 2.50 | 12.0 | 17.0 | • | 0.01-0.04 |
| GFQR 12-2.00-0.20 | 2.00 | 0.20 | 0.02 | 0.030 | 3.00 | 12.4 | 18.0 | • | 0.02-0.05 |
| GFQR 12-2.50-0.20 | 2.50 | 0.20 | 0.02 | 0.030 | 3.00 | 13.0 | 19.0 | • | 0.02-0.05 |

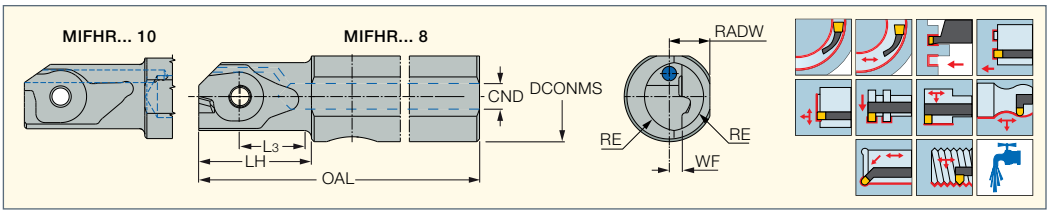
• For detailed cutting data, see page 604
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Minimum penetration diameter
(4) Maximum penetration diameter

# MINCUT

## MINCUT MINI FACE LINE

### MIFHR

Bars for Face and Internal Grooving, Undercutting and Threading Inserts



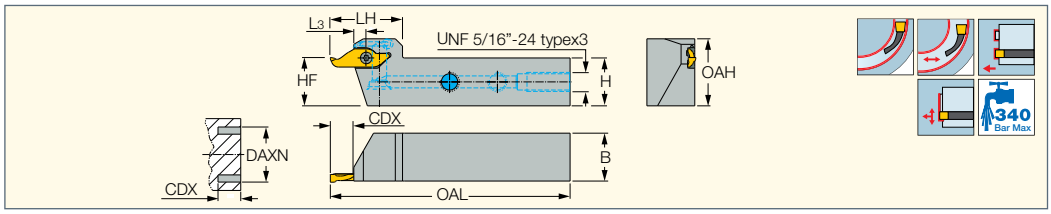

| Designation | DCONMS | CND | WF | RADW | OAL | L3 | LH | RE | Insert | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIFHR 8SC-8-SRK (1) | 8.00 | 1.2 | 1.4 | 3.70 | 75.00 | 7.40 | 11.7 | 3.80 | MI.R 8 | SR 14-297 | T-8/5 | |
| MIFHR 10C-8 | 10.00 | 5.0 | 1.4 | 4.50 | 102.50 | 7.40 | 12.5 | 3.80 | MI.R 8 | SR 14-297 | T-8/5 | |
| MIFHR 12C-8 | 12.00 | 5.0 | 1.4 | 5.50 | 102.50 | 7.40 | 12.5 | 3.80 | MI.R 8 | SR 14-297 | T-8/5 | |
| MIFHR 12C-10 (2) | 12.00 | 6.0 | 2.4 | 5.50 | 90.00 | 11.20 | 17.2 | 4.60 | MI.R 10 | SR 34-506 M3X0.5 | T-9/5 | |
| MIFHR 16C-10 (2) | 16.00 | 6.0 | 2.4 | 7.50 | 90.00 | 11.20 | 17.2 | 4.60 | MI.R 10 | SR 34-506 M3X0.5 | T-9/5 | |
| MIFHR 16C-15 | 16.00 | 8.0 | 2.7 | 7.50 | 100.00 | 12.50 | 19.0 | 10.30 | MI.R 15 | SR 34-506/L | T-9/5 | PL 16 |
| MIFHR 20C-15 | 20.00 | 8.5 | 4.7 | 9.00 | 100.00 | 12.50 | 19.0 | 11.30 | MI.R 15 | SR 34-506/L | T-9/5 | PL 20 |

(1) Solid carbide shank
(2) Only face grooving inserts are available for this tool
**Inserts:** MEFL • MIFR • MIGR 8 • MITR 8-MT • MIUR 8
**Holders:** PICCO/MG PCO (Holder)

MINCUT MINI FACE LINE

## MFHR-JHP

Square Shank Tools for
MIFR 10 Face Grooving Inserts




| Designation | H | B | OAL | LH | L3 | CDX | DAXN(1) | OAH | HF | Insert | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MFHR 12C-10-JHP | 12.0 | 12.0 | 100.00 | 27.0 | 5.20 | 9.00 | 10.0 | 20.0 | 12.0 | MI.R 10 | SR 34-506 | T-9/5 | SR 5/16UNF TL360 |
| MFHR 16C-10-JHP | 16.0 | 16.0 | 100.00 | 27.0 | 5.20 | 9.00 | 10.0 | 24.0 | 16.0 | MI.R 10 | SR 34-506 | T-9/5 | SR 5/16UNF TL360 |
| MFHR 20C-10-JHP | 20.0 | 20.0 | 100.00 | 30.0 | 5.20 | 9.00 | 10.0 | 28.0 | 20.0 | MI.R 10 | SR 34-506 | T-9/5 | SR 5/16UNF TL360 |

• For DAXN, refer to insert data • For user guide and accessories, see pages 604-615

(1) Minimum axial grooving diameter

**Inserts:** MEFL • MIFR

### Flow Rate vs. Pressure

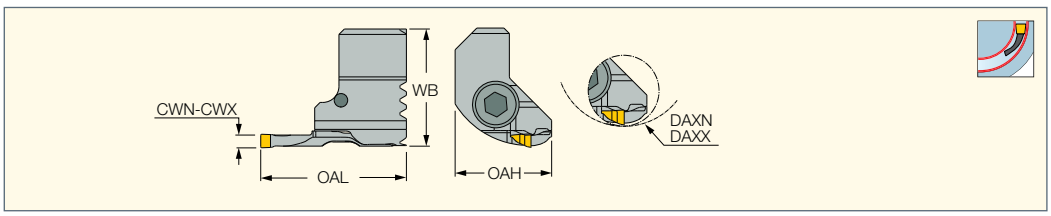
| Designation | 70 Bar Flow Rate (liters/min) | 100 Bar Flow Rate (liters/min) | 140 Bar Flow Rate (liters/min) |
|---|---|---|---|
| MFHR 12C-10-JHP | 3 | 5-9 | 9-11 |
| MFHR 16C-10-JHP | 3 | 7-9 | 9-11 |




MINCUT MINI FACE LINE

## IHSR-MIFR

Trepanning Cartridges Carrying
MINCUT Inserts Mounted on the
BHR MB32-32X63 Boring Head




| Designation | DAXN(1) | DAXX(2) | CWN(3) | CWX(4) | OAL | WB | OAH | Insert | | |
|---|---|---|---|---|---|---|---|---|---|---|
| IHSR 8-21 MIFR8 | 8.0 | 21.0 | 1.50 | 2.20 | 32.00 | 23.00 | 17.50 | MI.R 8 | SR 14-297 | T-8/5 |
| IHSR 19-34 MIFR10 | 19.0 | 34.0 | 2.00 | 3.00 | 27.00 | 22.00 | 17.80 | MI.R 10 | SR 34-506 | T-9/5 |

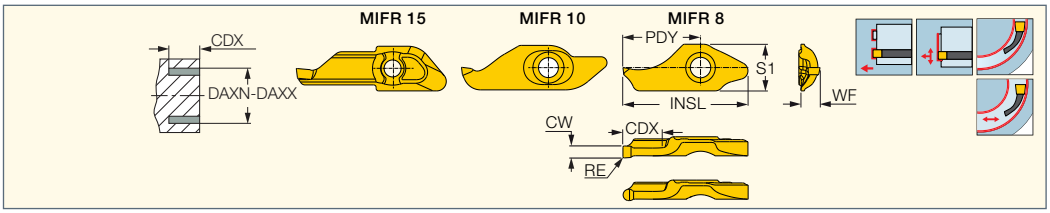
(1) Minimum axial grooving diameter
(2) Maximum axial grooving diameter
(3) Minimum cutting width
(4) Maximum cutting width

**Inserts:** MIFR

MIN CUT MINI FACE LINE

## MIFR

Screw-Clamped Inserts for Internal Face Grooving and Turning




| Designation | Dimensions | | | | | | | | | | | IC908 | Recommended Machining Data | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | INSL | CW | CWTOL(1) | RE | RETOL(2) | WF | S1 | DAXN(3) | DAXX(4) | CDX | PDY | | f face-groove (mm/rev) | f face-turn (mm/rev) |
| MIFR 8-1.50-0.20 | 17.70 | 1.50 | 0.02 | 0.20 | 0.020 | 2.60 | 6.5 | 8.0 | 11.5 | 5.50 | 11.00 | ● | 0.02-0.10 | 0.02-0.06 |
| MIFR 8-1.60-0.80 | 17.70 | 1.60 | 0.02 | 0.80 | 0.020 | 2.60 | 6.5 | 8.0 | 12.1 | 5.50 | 11.00 | ● | 0.02-0.10 | 0.02-0.06 |
| MIFR 8-2.00-0.20 | 17.70 | 2.00 | 0.02 | 0.20 | 0.020 | 2.80 | 6.5 | 8.0 | 16.0 | 5.50 | 11.00 | ● | 0.02-0.10 | 0.02-0.06 |
| MIFR 8-2.20-0.20 | 17.70 | 2.20 | 0.02 | 0.20 | 0.020 | 2.90 | 6.5 | 8.0 | 21.0 | 5.50 | 11.00 | ● | 0.02-0.10 | 0.02-0.06 |
| MIFR 10-2.00-0.20 | 25.10 | 2.00 | 0.02 | 0.20 | 0.020 | 3.00 | 7.6 | 10.0 | - | 9.00 | 14.80 | ● | 0.02-0.10 | 0.02-0.06 |
| MIFR 10-2.00-1.00 | 25.10 | 2.00 | 0.02 | 1.00 | 0.020 | 3.00 | 7.6 | 10.0 | - | 9.00 | 14.80 | ● | 0.02-0.10 | 0.02-0.06 |
| MIFR 10-2.50-0.20 | 25.10 | 2.50 | 0.02 | 0.20 | 0.020 | 3.10 | 7.6 | 10.0 | 30.0 | 9.00 | 14.80 | ● | 0.02-0.10 | 0.02-0.06 |
| MIFR 10-2.50-1.25 | 25.10 | 2.50 | 0.02 | 1.25 | 0.020 | 3.30 | 7.6 | 10.0 | - | 9.00 | 14.80 | ● | 0.02-0.10 | 0.02-0.06 |
| MIFR 10-3.00-0.20 | 25.10 | 3.00 | 0.02 | 0.20 | 0.020 | 3.40 | 7.6 | 10.0 | 30.0 | 9.00 | 14.80 | ● | 0.02-0.10 | 0.02-0.06 |
| MIFR 10-3.00-1.50 | 25.10 | 3.00 | 0.02 | 1.50 | 0.020 | 3.30 | 7.6 | 10.0 | 34.0 | 9.00 | 14.80 | ● | 0.02-0.10 | 0.02-0.06 |
| MIFR 15-2.50-0.20 | 30.00 | 2.50 | 0.02 | 0.20 | 0.020 | 5.55 | 9.0 | 15.0 | 60.0 | 15.00 | 19.30 | ● | 0.03-0.05 | 0.03-0.04 |
| MIFR 15-2.50-1.25 | 30.00 | 2.50 | 0.02 | 1.25 | 0.020 | 5.55 | 9.0 | 12.0 | 47.0 | 15.00 | 19.30 | ● | 0.03-0.05 | 0.03-0.04 |
| MIFR 15-3.00-0.20 | 30.00 | 3.00 | 0.02 | 0.20 | 0.020 | 5.85 | 9.0 | 15.0 | 60.0 | 15.00 | 19.30 | ● | 0.03-0.05 | 0.03-0.04 |
| MIFR 15-3.00-1.50 | 30.00 | 3.00 | 0.02 | 1.50 | 0.020 | 5.85 | 9.0 | 10.0 | - | 15.00 | 19.30 | ● | 0.03-0.05 | 0.03-0.04 |
| MIFR 15-3.50-0.20 | 30.00 | 3.50 | 0.02 | 0.20 | 0.020 | 6.00 | 9.0 | 10.0 | - | 15.00 | 19.30 | ● | 0.03-0.05 | 0.03-0.04 |

- Recommended cutting speeds and feeds can increased by 20-30% for aluminum, and reduced by 20-30% for titanium and Inconel
- For cutting speed recommendations, see page 606

(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Minimum axial grooving diameter
(4) Maximum axial grooving diameter

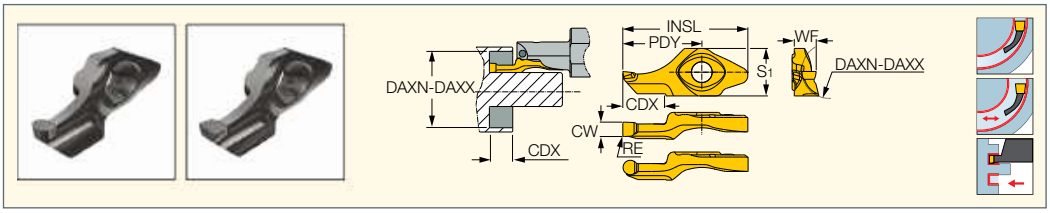
**Tools:** IHSR-MIFR • MFHR-JHP • MIFHR




MIN CUT MINI FACE LINE

## MEFL

Screw-Clamped Inserts for External Face Grooving and Turning Next to Shafts




| Designation | Dimensions | | | | | | | | | | | IC908 | Recommended Machining Data | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CW | RE | CWTOL(1) | RETOL(2) | WF | S1 | CDX | PDY | INSL | DAXN(3) | DAXX(4) | | f face-groove (mm/rev) | f face-turn (mm/rev) |
| MEFL 8-1.50-0.20 | 1.50 | 0.20 | 0.02 | 0.020 | 2.60 | 6.6 | 5.50 | 11.00 | 17.40 | 8.0 | 15.0 | ● | 0.02-0.10 | 0.02-0.06 |
| MEFL 8-1.60-0.80 | 1.60 | 0.80 | 0.02 | 0.020 | 2.70 | 6.6 | 5.50 | 11.00 | 17.40 | 7.0 | 12.1 | ● | 0.02-0.10 | 0.02-0.06 |
| MEFL 8-2.00-0.20 | 2.00 | 0.20 | 0.02 | 0.020 | 3.10 | 6.6 | 5.50 | 11.00 | 17.40 | 7.0 | 20.0 | ● | 0.02-0.10 | 0.02-0.06 |
| MEFL 8-2.00-1.00 | 2.00 | 1.00 | 0.02 | 0.020 | 2.90 | 6.6 | 5.50 | 11.00 | 17.40 | 7.0 | 14.0 | ● | 0.02-0.10 | 0.02-0.06 |
| MEFL 8-2.20-0.20 | 2.20 | 0.20 | 0.02 | 0.020 | 3.10 | 6.6 | 5.50 | 11.00 | 17.40 | 7.0 | 20.0 | ● | 0.02-0.10 | 0.02-0.06 |
| MEFL 10-2.50-0.20 | 2.50 | 0.20 | 0.02 | 0.020 | 3.15 | 7.6 | 9.00 | 14.85 | 24.50 | 10.0 | 45.0 | ● | 0.02-0.06 | 0.02-0.05 |
| MEFL 10-2.50-1.25 | 2.50 | 1.25 | 0.02 | 0.020 | 3.15 | 7.6 | 9.00 | 14.85 | 24.50 | 10.0 | 45.0 | ● | 0.02-0.06 | 0.02-0.05 |
| MEFL 10-3.00-0.20 | 3.00 | 0.20 | 0.02 | 0.020 | 3.60 | 7.6 | 9.00 | 14.85 | 24.50 | 10.0 | 100.0 | ● | 0.02-0.06 | 0.02-0.05 |
| MEFL 10-3.00-1.50 | 3.00 | 1.50 | 0.02 | 0.020 | 3.40 | 7.6 | 9.00 | 14.85 | 24.50 | 10.0 | 100.0 | ● | 0.02-0.06 | 0.02-0.05 |

- For cutting speed recommendations, see pages 606

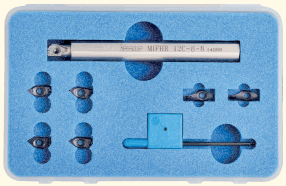
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Minimum axial grooving diameter
(4) Maximum axial grooving diameter

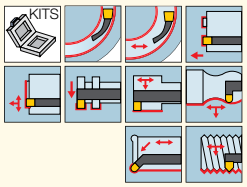
**Tools:** MFHR-JHP • MIFHR

MIN CUT
MINI FACE LINE

## MINCUT KIT

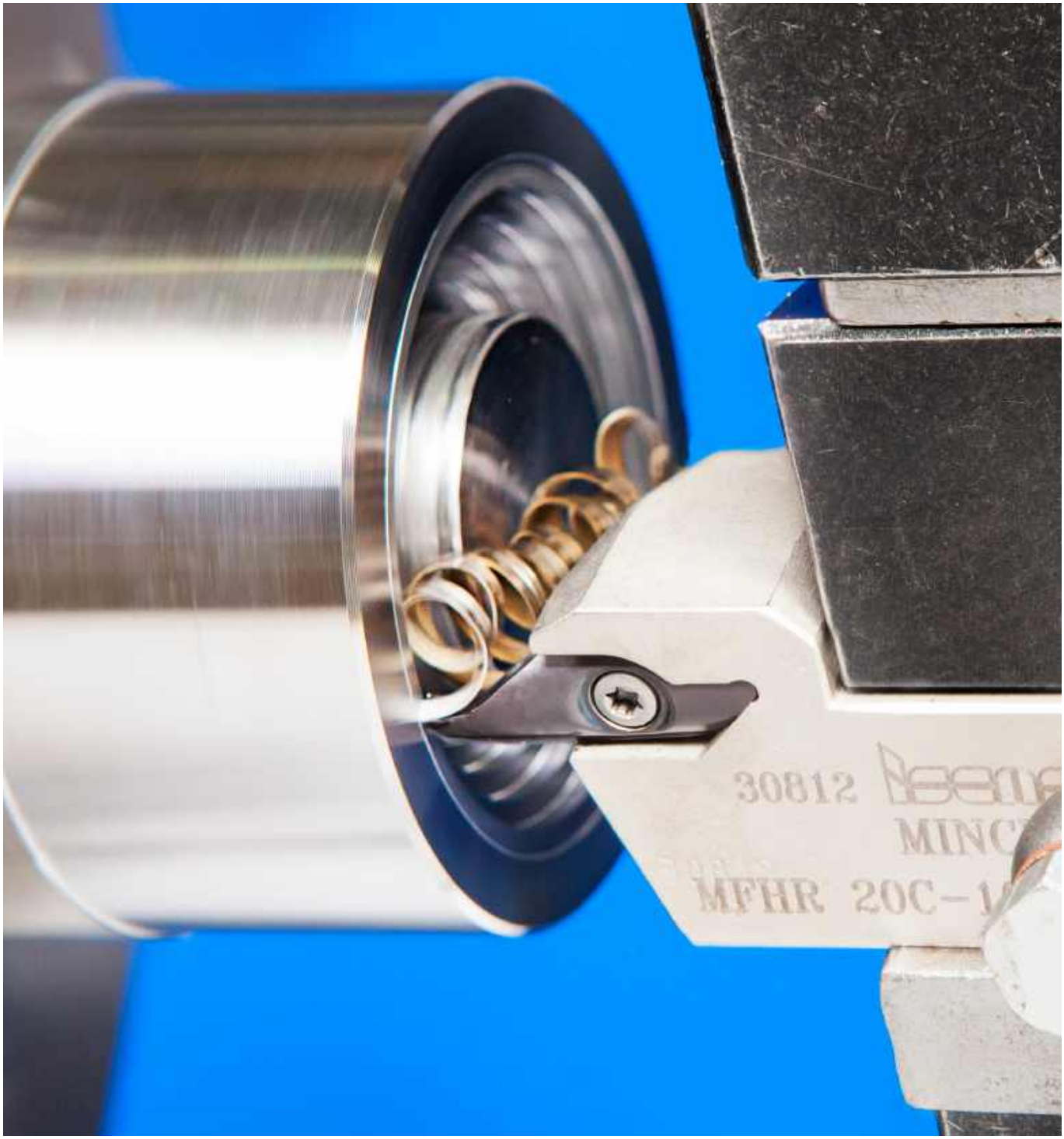
Contains One Toolholder and a Set of 6 Different Inserts for Internal Face Grooving and Turning Applications






| Designation | Qty |
|---|---|
| KIT MINCUT | 7 |

| Catalog No | Designation | Quantity |
|---|---|---|
| 2801523 | MIFHR 12C-8 | 1 |
| 6404029 | MIGR 8-1.60-0.80 | 1 |
| 6404045 | MIFR 8-2.20-0.20 | 1 |
| 6404049 | MIFR 8-1.60-0.80 | 1 |
| 6405165 | MITR 8-MT1-0.05 | 1 |
| 6405188 | MIUR 8-1.00-0.50 | 1 |
| 6405194 | MIGR 8-2.00-0.10 | 1 |



## Cutting Speed Recommendations

HELIFACE

### Machining Data for Face Machining

| ISO | Material | | Condition | Tensile Strength [N/mm²] | Hardness HB | Material Group No. |
|---|---|---|---|---|---|---|
| P | Non-alloy steel and cast steel, free cutting steel | < 0.25 %C | Annealed | 420 | 125 | 1 |
| | | >= 0.25 %C | Annealed | 650 | 190 | 2 |
| | | < 0.55 %C | Quenched and tempered | 850 | 250 | 3 |
| | | >= 0.55 %C | Annealed | 750 | 220 | 4 |
| | | | Quenched and tempered | 1000 | 300 | 5 |
| | Low alloy steel and cast steel (less than 5% of alloying elements) | | Annealed | 600 | 200 | 6 |
| | | | Quenched and tempered | 930 | 275 | 7 |
| | | | | 1000 | 300 | 8 |
| | | | | 1200 | 350 | 9 |
| | High alloyed steel, cast steel, and tool steel | | Annealed | 680 | 200 | 10 |
| | | | Quenched and tempered | 1100 | 325 | 11 |
| | | | | | | |
| | Stainless steel and cast steel | | Ferritic/martensitic | 680 | 200 | 12 |
| | | | Martensitic | 820 | 240 | 13 |
| M | Stainless steel and cast steel | | Austenitic | 600 | 180 | 14 |
| K | Cast iron nodular (GG) | | Ferritic/pearlitic | | 180 | 15 |
| | | | Pearlitic/ Martensitic | | 260 | 16 |
| | Grey cast iron (GGG) | | Ferritic | | 160 | 17 |
| | | | Pearlitic | | 250 | 18 |
| | Malleable cast iron | | Ferritic | | 130 | 19 |
| | | | Pearlitic | | 230 | 20 |
| N | Aluminum-wrought alloys | | Not cureable | | 60 | 21 |
| | | | Cured | | 100 | 22 |
| | Aluminum-cast-alloys | <=12% Si | Not cureable | | 75 | 23 |
| | | | Cured | | 90 | 24 |
| | | >12% Si | High temperature | | 130 | 25 |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 |
| | | | Brass | | 90 | 27 |
| | | | Electrolitic copper | | 100 | 28 |
| | Non-metallic | | Duroplastics, fiber plastics | | | 29 |
| | | | Hard rubber | | | 30 |
| S | High temp. alloys | Fe based | Annealed | | 200 | 31 |
| | | | Cured | | 280 | 32 |
| | | Ni or Co based | Annealed | | 250 | 33 |
| | | | Cured | | 350 | 34 |
| | | | Cast | | 320 | 35 |
| | Titanium Ti alloys | | | RM 400 | | 36 |
| | | | Alpha+beta alloys cured | RM 1050 | | 37 |
| H | Hardened steel | | Hardened | | 55 HRC | 38 |
| | | | Hardened | | 60 HRC | 39 |
| | Chilled cast iron | | Cast | | 400 | 40 |
| | Cast iron | | Hardened | | 55 HRC | 41 |

| Material No. | IC228/528 | IC830 | IC354 | IC908 | IC808 | IC8250 |
|---|---|---|---|---|---|---|
| 1 | 85 - 125 | 90 - 135 | 95 - 145 | 120 - 180 | 125 - 190 | 180 - 270 |
| 2 | 75 - 110 | 80 - 115 | 90 - 125 | 110 - 155 | 115 - 165 | 165 - 230 |
| 3 | 60 - 85 | 65 - 95 | 70 - 100 | 85 - 125 | 90 - 130 | 125 - 185 |
| 4 | 65 - 100 | 70 - 110 | 75 - 115 | 95 - 145 | 100 - 150 | 140 - 215 |
| 5 | 50 - 85 | 55 - 90 | 60 - 95 | 75 - 120 | 80 - 125 | 110 - 180 |
| 6 | 65 - 100 | 70 - 110 | 75 - 115 | 95 - 145 | 100 - 150 | 140 - 215 |
| 7 | 50 - 85 | 55 - 95 | 60 - 100 | 75 - 125 | 80 - 130 | 110 - 185 |
| 8 | 50 - 85 | 55 - 90 | 60 - 95 | 75 - 120 | 80 - 125 | 110 - 180 |
| 9 | 50 - 75 | 50 - 80 | 55 - 90 | 70 - 110 | 75 - 115 | 105 - 165 |
| 10 | 75 - 110 | 80 - 115 | 90 - 125 | 110 - 155 | 115 - 165 | 165 - 230 |
| 11 | 50 - 75 | 50 - 80 | 55 - 90 | 70 - 110 | 75 - 115 | 105 - 165 |

| | IC806 | IC808 | IC354 | IC830 | IC20 | |
|---|---|---|---|---|---|---|
| 12 | 110 - 200 | 100 - 180 | 80 - 145 | 75 - 135 | 50 - 90 | |
| 13 | 100 - 185 | 90 - 170 | 70 - 135 | 65 - 125 | 45 - 85 | |

| | IC806 | IC808 | IC354 | IC830 | IC20 | |
|---|---|---|---|---|---|---|
| 14 | 90 - 170 | 80 - 155 | 65 - 125 | 60 - 115 | 40 - 75 | |

| | IC5010 | IC428 | IC8250 | IC808 | IC20 | |
|---|---|---|---|---|---|---|
| 15 | 135 - 255 | 125 - 230 | 110 - 205 | 85 - 160 | 60 - 115 | |
| 16 | 120 - 180 | 110 - 160 | 100 - 145 | 75 - 110 | 55 - 80 | |
| 17 | 130 - 215 | 120 - 195 | 110 - 175 | 85 - 135 | 60 - 95 | |
| 18 | 105 - 170 | 95 - 155 | 85 - 140 | 65 - 110 | 45 - 75 | |
| 19 | 160 - 265 | 145 - 240 | 130 - 215 | 100 - 170 | 70 - 120 | |
| 20 | 130 - 215 | 120 - 195 | 110 - 175 | 85 - 135 | 60 - 95 | |

| | IC808 | IC20 | | | | |
|---|---|---|---|---|---|---|
| 21 | 330 - 990 | 300 - 900 | | | | |
| 22 | 250 - 825 | 225 - 750 | | | | |
| 23 | 250 - 825 | 225 - 750 | | | | |
| 24 | 165 - 495 | 150 - 450 | | | | |
| 25 | 165 - 330 | 150 - 300 | | | | |
| 26 | 165 - 330 | 150 - 300 | | | | |
| 27 | 120 - 250 | 110 - 225 | | | | |
| 28 | 80 - 165 | 75 - 150 | | | | |
| 29 | 40 - 165 | 35 - 150 | | | | |
| 30 | | | | | | |

| | IC806 | IC908 | IC808 | IC830 | IC20 | |
|---|---|---|---|---|---|---|
| 31 | 45 - 70 | 35 - 55 | 35 - 60 | 25 - 40 | 25 - 40 | |
| 32 | 30 - 50 | 25 - 40 | 25 - 40 | 20 - 30 | 15 - 30 | |
| 33 | 30 - 50 | 25 - 40 | 25 - 40 | 20 - 30 | 15 - 30 | |
| 34 | 25 - 45 | 20 - 35 | 20 - 35 | 15 - 25 | 15 - 25 | |
| 35 | 20 - 30 | 15 - 25 | 15 - 25 | 10 - 20 | 10 - 15 | |
| 36 | 105 - 180 | 85 - 145 | 90 - 150 | 65 - 110 | 60 - 100 | |
| 37 | 40 - 50 | 30 - 40 | 30 - 40 | 25 - 35 | 35 - 45 | |

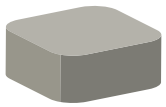
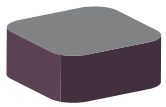
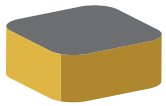
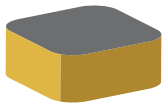
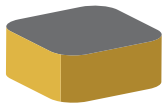
| | IC808 | IC20 | | | | |
|---|---|---|---|---|---|---|
| 38 | 25-30 | 20-30 | | | | |
| 39 | 20-30 | 15-25 | | | | |
| 40 | 30-45 | 30-40 | | | | |
| 41 | 25-30 | 25-30 | | | | |

CHAMGROOVE PICCOCUT

## Machining Data for Face Machining

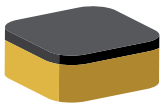
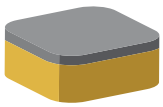
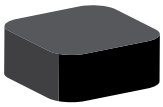
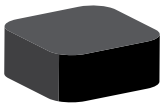
| ISO | Material | | Condition | Tensile Strength [N/mm²] | Hardness HB | Material No. | Cutting Speed (m/min) | GFQR IC528 Feed (mm/rev) | PICCO IC228 Feed (mm/rev) | MIFR/ MEFL 8 IC908 Feed (mm/rev) | MIFR 10 IC908 Feed (mm/rev) | MIFR 15 IC908 Feed (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | Non-alloy steel and cast steel, free cutting steel | < 0.25 %C | Annealed | 420 | 125 | 1 | 80-180 | 0.02-0.08 | 0.015-0.05 | 0.015-0.08 | 0.03-0.10 | 0.03-0.08 |
| | | >= 0.25 %C | Annealed | 650 | 190 | 2 | | | | | | |
| | | < 0.55 %C | Quenched and tempered | 850 | 250 | 3 | 80-130 | 0.02-0.06 | 0.015-0.04 | | | |
| | | >= 0.55 %C | Annealed | 750 | 220 | 4 | | | | | | |
| | | | Quenched and tempered | 1000 | 300 | 5 | 80-120 | 0.02-0.06 | 0.015-0.04 | | | |
| | Low alloy and cast steel (less than 5% of alloying elements) | | Annealed | 600 | 200 | 6 | 80-140 | 0.02-0.08 | 0.015-0.04 | | | |
| | | | Quenched and tempered | 930 | 275 | 7 | 80-140 | 0.02-0.08 | 0.015-0.04 | | | |
| | | | | 1000 | 300 | 8 | 80-120 | 0.02-0.06 | 0.015-0.03 | | | |
| | | | | 1200 | 350 | 9 | 80-120 | 0.02-0.05 | 0.015-0.03 | | | |
| | High alloyed steel, cast steel, and tool steel | | Annealed | 680 | 200 | 10 | 80-140 | 0.02-0.08 | 0.015-0.04 | | | |
| | | | Quenched and tempered | 1100 | 325 | 11 | 80-120 | 0.02-0.08 | 0.015-0.03 | | | |
| | Stainless steel and cast steel | | Ferritic/ martensitic | 680 | 200 | 12 | 40-120 | 0.02-0.08 | 0.015-0.04 | 0.015-0.07 | 0.03-0.08 | 0.02-0.05 |
| | | | Martensitic | 820 | 240 | 13 | 40-120 | 0.02-0.07 | 0.015-0.04 | 0.015-0.07 | 0.03-0.08 | 0.02-0.05 |
| M | Stainless steel and cast steel | | Austenitic | 600 | 180 | 14 | 40-100 | 0.02-0.06 | 0.015-0.03 | 0.015-0.07 | 0.03-0.08 | 0.02-0.05 |
| K | Cast iron nodular (GG) | | Ferritic/ pearlitic | | 180 | 15 | 80-140 | 0.02-0.08 | 0.015-0.05 | 0.02-0.10 | 0.05-0.12 | 0.04-0.10 |
| | | | Pearlitic/ Martensitic | | 260 | 16 | 80-120 | 0.02-0.07 | 0.015-0.04 | | | |
| | Grey cast iron (GGG) | | Ferritic | | 160 | 17 | 80-140 | 0.02-0.08 | 0.015-0.04 | | | |
| | | | Pearlitic | | 250 | 18 | 80-120 | 0.02-0.07 | 0.015-0.04 | | | |
| | Malleable cast iron | | Ferritic | | 130 | 19 | 80-140 | 0.02-0.06 | 0.015-0.04 | | | |
| | | | Pearlitic | | 230 | 20 | 80-120 | 0.02-0.07 | 0.015-0.04 | | | |
| N | Aluminum-wrought alloys | | Not cureable | | 60 | 21 | 150-320 | 0.02-0.08 | 0.015-005 | 0.02-0.10 | 0.05-0.15 | 0.05-0.12 |
| | | | Cured | | 100 | 22 | 100-250 | 0.02-0.08 | 0.015-005 | | | |
| | Aluminum-cast-alloys | <=12% Si | Not cureable | | 75 | 23 | 150-300 | 0.02-0.08 | 0.015-005 | | | |
| | | | Cured | | 90 | 24 | 150-300 | 0.02-0.08 | 0.015-005 | | | |
| | | >12% Si | High temperature | | 130 | 25 | 100-150 | 0.02-0.08 | 0.015-005 | | | |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 | 80-230 | 0.02-0.08 | 0.015-005 | | | |
| | | | Brass | | 90 | 27 | 70-200 | 0.02-0.08 | 0.015-005 | | | |
| | | | Electrolitic copper | | 100 | 28 | 50-180 | 0.02-0.08 | 0.015-005 | | | |
| | Non-metallic | | Duroplastics, fiber plastics | | | 29 | | | | | | |
| | | | Hard rubber | | | 30 | | | | | | |
| S | High temp. alloys | Fe based | Annealed | | 200 | 31 | 20-40 | 0.02-0.06 | 0.015-0.04 | 0.015-0.7 | 0.02-0.08 | 0.02-0.05 |
| | | | Cured | | 280 | 32 | 15-30 | 0.02-0.06 | 0.015-0.04 | | | |
| | | Ni or Co based | Annealed | | 250 | 33 | 15-20 | 0.02-0.06 | 0.015-0.04 | | | |
| | | | Cured | | 350 | 34 | 15-20 | 0.02-0.06 | 0.015-0.04 | | | |
| | | | Cast | | 320 | 35 | 15-20 | 0.02-0.06 | 0.015-0.04 | | | |
| | Titanium Ti alloys | | | RM 400 | | 36 | 40-120 | 0.02-0.06 | 0.015-0.04 | | | |
| | | | Alpha+beta alloys cured | RM 1050 | | 37 | 20-50 | 0.02-0.06 | 0.015-0.04 | | | |
| H | Hardened steel | | Hardened | | 55 HRC | 38 | | | | | | |
| | | | Hardened | | 60 HRC | 39 | | | | | | |
| | Chilled cast iron | | Cast | | 400 | 40 | | | | | | |
| | Cast iron | | Hardened | | 55 HRC | 41 | | | | | | |

## ISCAR Face Gooving Grades Chart

| | Grade | ISO | Grade Description | Coating Layers | Coating Color* |
|---|---|---|---|---|---|
| PVD COATED | IC354 | P20-P40<br>M20-M30 | A tough substrate with PVD coating, suitable for general use on a wide range of carbon steels, alloy steels and stainless steel at moderate speeds and feeds. | TiCN<br>Base |  |
| | IC806 | M05-M15<br>S10-S20 | A hard submicron grain size substrate with PVD coating and a special SUMOTEC surface treatment.<br>Excellent for machining high temperature alloys and Titanium alloys, at moderate to relatively high cutting speeds.<br>Features high wear resistance and plastic deformation durability. | TiAlN<br>AlTiN<br>Base |  |
| | IC807 | P10-P20<br>M05-M15<br>K15-K30<br>S10-S20<br>H05-H15 | A hard submicron grain size substrate with PVD coating and a special SUMOTEC surface treatment. Suitable for machining steels, alloy steels, austenitic stainless steel, high temperature alloys and hard steels at moderate to relatively high cutting speeds under stable conditions. Features high wear resistance and plastic deformation durability. | TiN<br>TiAlN<br>Base |  |
| | IC808 | P15-P30<br>M20-M30<br>K20-K40<br>S15-S30<br>H20-H30 | A tough submicron grain size substrate with PVD coating and a special SUMOTEC surface treatment. Recommended for general use for a large variety of applications and materials such as steels, alloy steels, austenitic stainless steel and high temperature alloys at moderate cutting speeds and feeds. Features high wear resistance and chipping durability. | TiN<br>TiAlN<br>Base |  |
| | IC830 | P30-P45<br>M25-M40<br>S20-S30 | A tough substrate with PVD coating and a special SUMOTEC surface treatment. Suitable for machining steel and stainless steel at low to medium cutting speeds and moderate to high feeds. The grade features high toughness and recommended for interrupted cuts and machining under unstable conditions. May be used on high temperature alloys at low cutting speeds. | TiN<br>TiAlN<br>Base |  |
| | IC908 | P15-P30<br>M20-M30<br>K20-K40<br>S15-S30<br>H20-H30 | A tough submicron grain size substrate with PVD coating, recommended for general use in a large variety of operations and materials such as steels, alloy steels, austenitic stainless steel and high temperature alloys at moderate cutting speeds.<br>Features high wear resistance and chipping durability. | TiAlN<br>Base |  |

* For coated grades

## ISCAR Face Gooving Grades Chart

| | Grade | ISO | Grade Description | Coating Layers | Coating Color* |
|---|---|---|---|---|---|
| CVD COATED | IC5010 | K10-K20 | A hard substrate with MTCVD coating with a special SUMOTEC surface treatment. Recommended for machining gray and nodular cast iron at moderate to high cutting speeds, provides very good resistance to chipping. | TiN<br>$Al_2O_3$<br>TiCN<br>Base |  |
| | IC8250 | P15-P35<br>M15-M25 | A tough substrate with a cobalt enriched layer and MTCVD coating with a special SUMOTEC surface treatment. Recommended for general use machining of steels, alloy steels and martensitic stainless steel in a wide range of conditions. Features high toughness and good wear resistance. | TiN<br>$Al_2O_3$<br>TiCN<br>Base |  |
| | IC418 | K10-K25 | A tough substrate with multilayer CVD coating. Recommended for machining gray and nodular cast iron at medium to high cutting speeds. Can be used for interrupted cuts and under heavy machining conditions. | $Al_2O_3$<br>Tic<br>Base |  |
| | IC428 | K05-K20<br>H15-H25 | A hard substrate with multilayer CVD coating. Recommended for machining gray and nodular cast iron at moderate to high cutting speeds. | $Al_2O_3$<br>Tic<br>Base |  |
| | IC9015 | P10-P25<br>K10-K15 | A hard substrate with a cobalt enriched layer and MTCVD coating. Recommended for high speed machining of steels, alloy steels and martensitic stainless steel with moderate feeds at stable conditions. | TiN<br>$Al_2O_3$<br>TiCN<br>Base |  |

* For coated grades

| | Grade | ISO | Grade Description | Coating Layers | Uncoated |
|---|---|---|---|---|---|
| UNCOATED | IC08 | M15-M30<br>N10-N25<br>S20-S30 | A tough uncoated submicron carbide grade, suitable for steels, stainless steel and high temperature alloys at low cutting speeds. Good choice for non-ferrous materials. | Base |  |
| | IC20 | K10-K20<br>N05-N25<br>S10-S20<br>H10-H20 | A hard-uncoated carbide grade for machining aluminum and other non-ferrous materials at medium to high cutting speeds. Can be used for cast iron at low cutting speeds. Suitable also for machining high temperature and Titanium alloys, at low cutting speeds. | Base |  |

## Clamping the Insert

Clamping an insert correctly into the holder is necessary for stable machining.

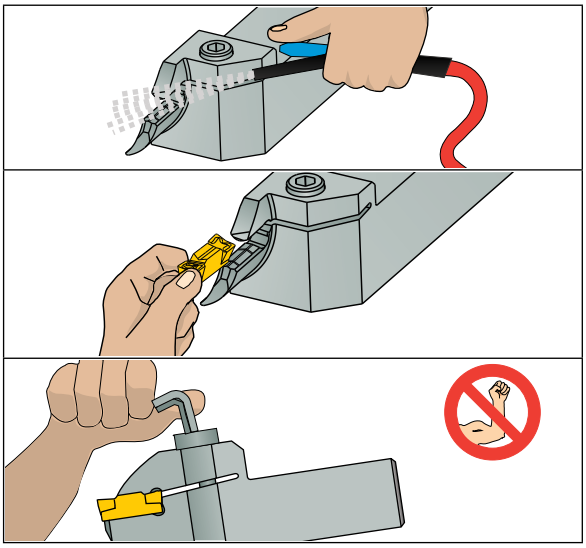
- Be sure that the seat is clean of dirt and swarf.
- In the first stage of clamping, ease the insert gently into place. Make sure that the prismatic surfaces match.

## Screw Clamping Torque

| Insert Width | Nxm |
|---|---|
| 3 | 4-5 |
| 4 | 5-6 |
| 5 | 6-7 |
| 6/8 | 7-9 |
| CGFG 51... | 4-6 |



The unique chipformer is designed for deep grooving and face turning both toward and away from the center with excellent chip formation.

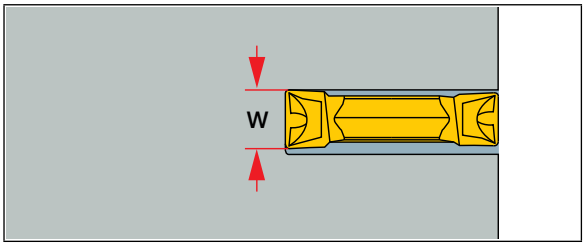


| HELI-FACE HFPR/L & HGPL Type | HELI-GRIP GRIP...Y Type |
|---|---|
|  |  |
| For general use in turning & grooving on all types of materials. Use for deep grooving in low-to-medium feeds 0.04-0.15 mm/rev. Min grooving dia. 12 mm. | The "all in one" insert for parting, external grooving and turning, internal grooving and turning, face grooving and turning. |

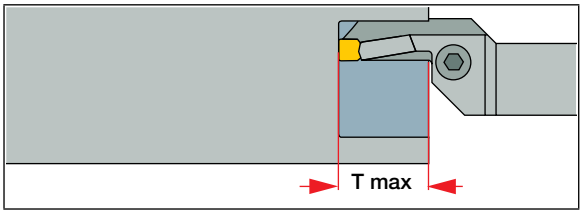
| DO-GRIP DGN...C Type | DO-GRIP DGN...J Type |
|---|---|
|  |  |
| For grooving operations only. Strong cutting edge for hard materials and tough applications in feeds 0.1-0.2 mm/rev. | For grooving operations only. Positive rake, for soft materials in low-to-medium feeds 0.05-0.15 mm/rev. |

## Face Machining Guide

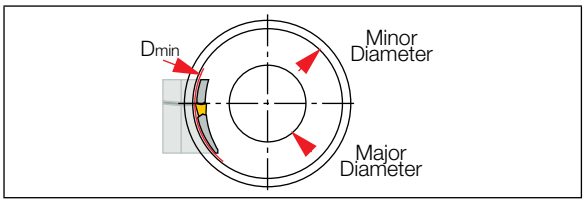
Tool Selection - Follow these recommendations to choose the right tool for high peformance.




Choose the widest possible insert and tool, according to the cutting width and geometry to be machined.



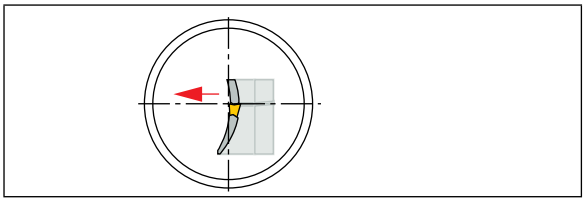

Choose the shortest tool blade overhang, according to the maximum depth required.



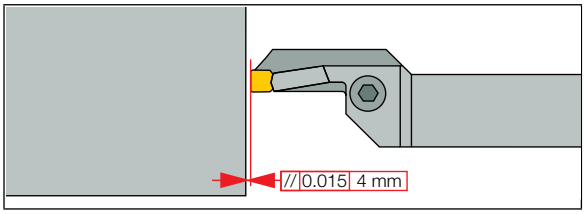

Choose the tool range with the largest diameter, depending on the initial grooving diameter required in the application.

Remark: On integral shank tools the given range refers to the holder capacity.

## Tool Adjustment - Prior to machining, check and adjust the following tool positions.



Check the cutting edge height at center line, machine in light turning down to center and check for burr.

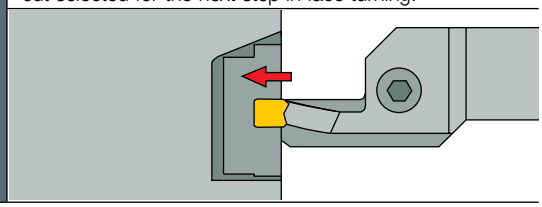



Check parallelism of the cutting edge and machined surface. Correct position can guarantee good surface quality when face turning in both directions.

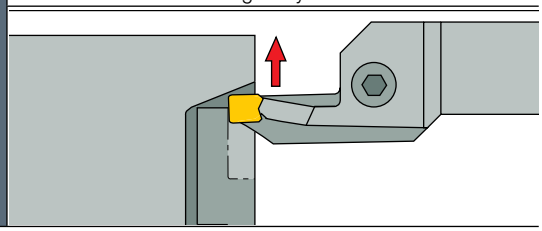
## Face Machining Guide

Recommended machining sequence in roughing operation using multifunction HELI-FACE tools.

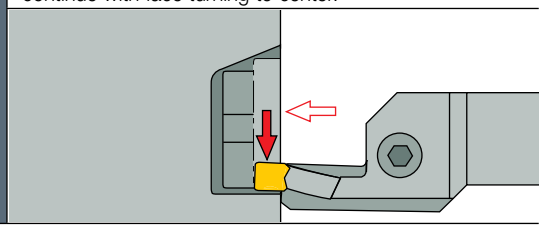
1 Groove at the initial diameter up to the depth of cut selected for the next step in face turning.



2 Continue with face turning away from the center.



3 After rapid positioning back into initial groove, continue with face turning to center.

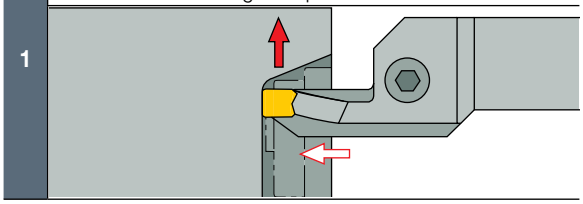


Note: When face grooving, reduce the speed by 40% in relation to that used in face turning.

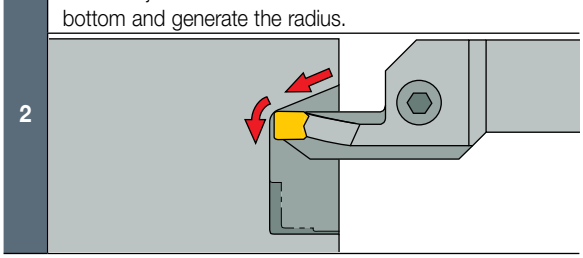
## Optimizing the Machining Sequence

Recommended machining sequence using multifunction tools.

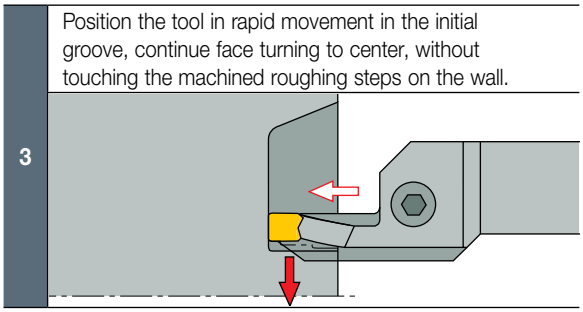
1 Groove at the initial diameter to the final depth of the groove and continue face turning away from the center to the tangential point on the radius.



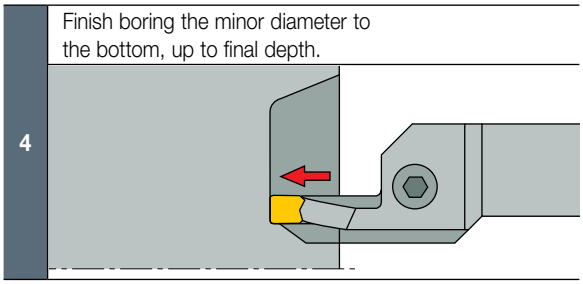
2 Finish major diameter toward the bottom and generate the radius.



3 Position the tool in rapid movement in the initial groove, continue face turning to center, without touching the machined roughing steps on the wall.



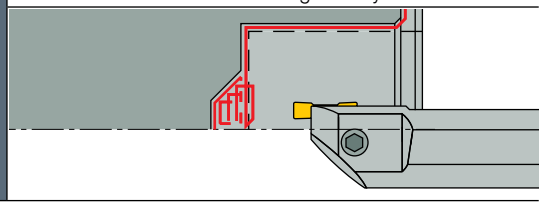
4 Finish boring the minor diameter to the bottom, up to final depth.



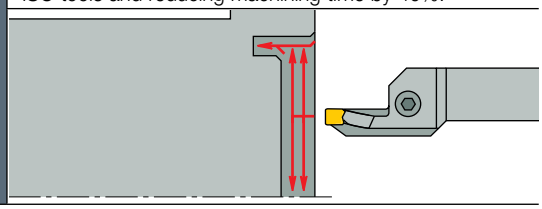
Note: When face grooving, reduce the speed by 40% in relation to that used in face turning.

## The Multifunction Advantage

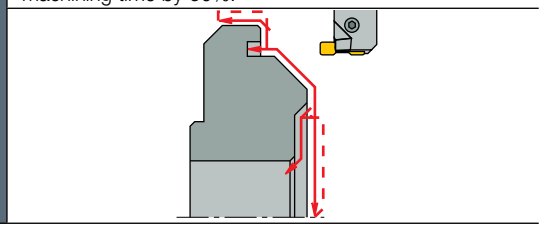
1 The **HELI-FACE** internal boring bar HFIR/L MC typewith internal coolant can replace the three different ISO tools and shorten machining time by 20%.



2 A single multifunction tool machines the whole part: grooving, face turning and chamfering, replacing three ISO tools and reducing machining time by 40%.



3 A single integral **HELI-FACE** tool HFHPL-M replaces three ISO tools and reduces machining time by 50%.

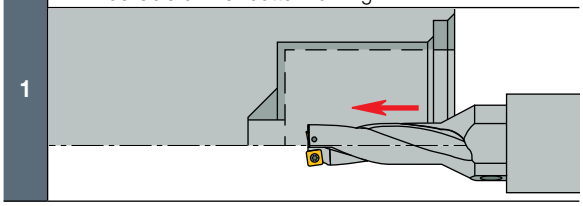


Note: When face grooving, reduce the speed by 40% in relation to that used in face turning.

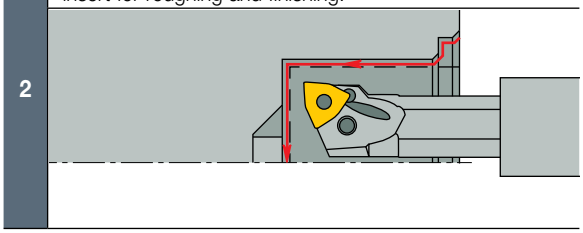
## The Multifunction Advantage

This workpiece was machined using three different conventional tools.

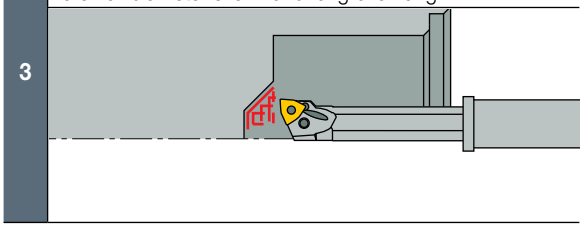
1 An indexable drill for bottom drilling.



2 A standard internal boring bar with a trigon insert for roughing and finishing.

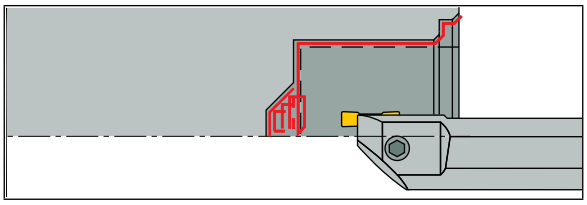


3 A standard internal boring bar with a trigon insert for bottom machining. This operation requires a small diameter shank and long overhang.



## The HELI-FACE Solution

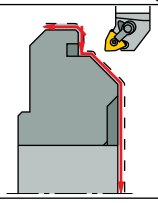
The **HELI-FACE** internal boring bar HFIR/L MC type with internal coolant can replace the three different ISO tools and shorten machining time by 20%.



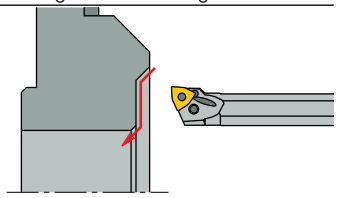
## The Multifunction Advantage

This part was machined using three different conventional tools.

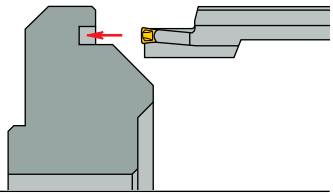
1 A standad ISO tool for external turning.



2 A boring bar for face turning and chamfering.

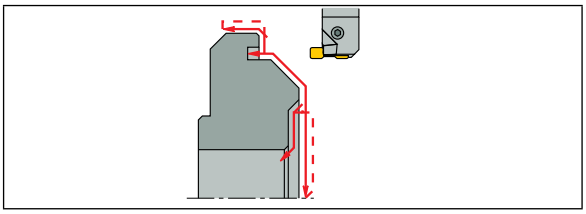


3 A face grooving tool for grooving, recessing and chamfering.



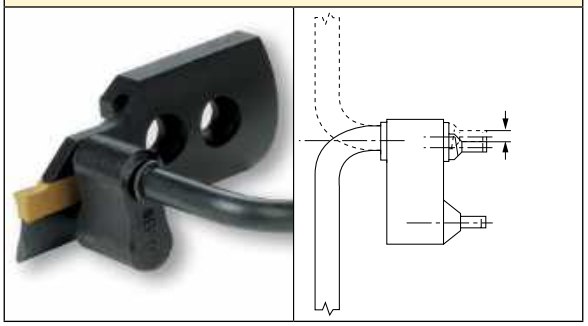
## The HELI-FACE Solution

A single integral **HELI-FACE** tool HFHPL-M replaces three ISO tools and reduces machining time by 50%.



## Insert Replacement

**EDG 33B**



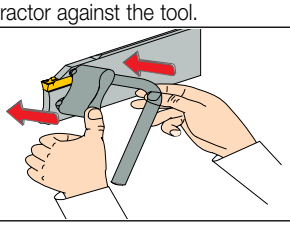
**Eccentric Extractor**

Simple to operate; controlled rotation requires low force; guarantees limited upper jaw movement and secures maximum load on blade.
Two extractor pins are placed in the two holes in the holder blades.

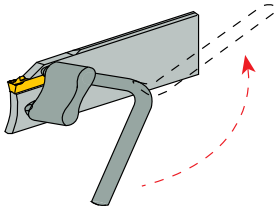
## Indexing

Place the EDG extractor in the holes

1 Hold the extractor against the tool.

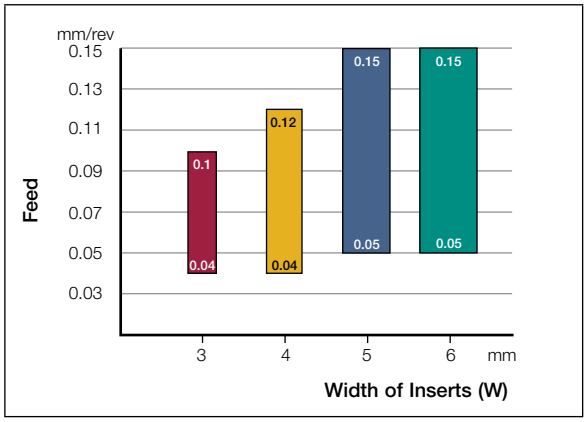


2 Rotate the eccentric handle to lift the upper jaw.

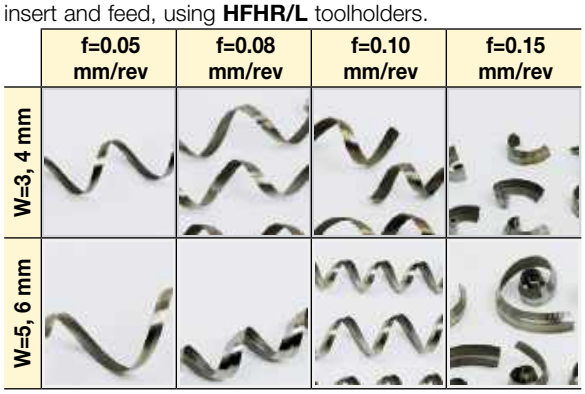


## Machining Conditions in Face Grooving

Recommended feed range for grooving with **HFPR/L** inserts in various widths.

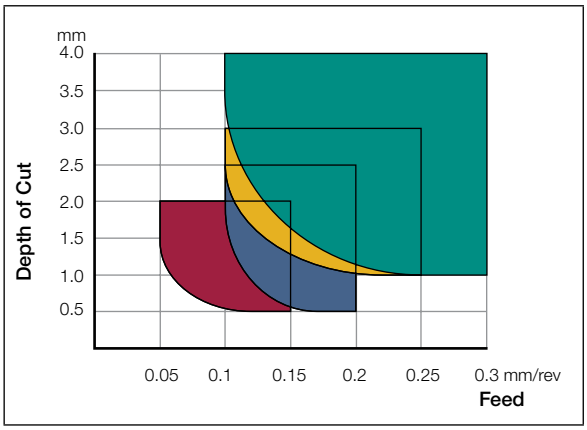



Chip shapes for grooving, according to width of insert and feed, using **HFHR/L** toolholders.

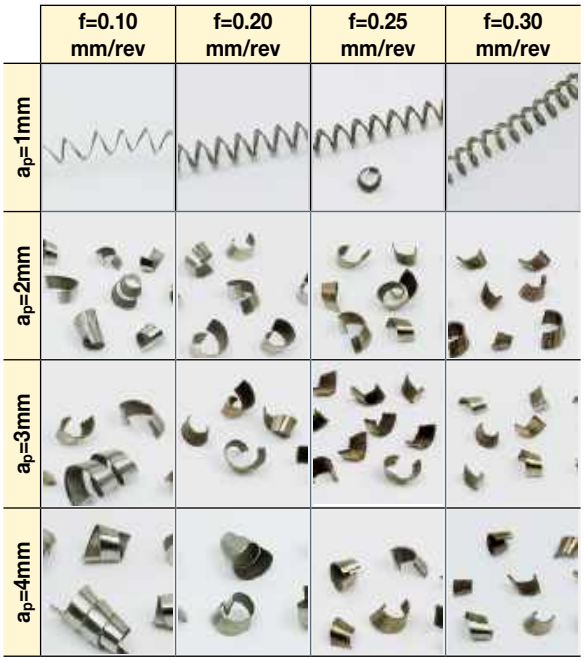



Note: In face grooving, narrowed and deformed chips are preferred. Curled and long chips can flow out more easily from deep grooves.

Recommended depth of cut and feed range for face turning using **HFHR/L** toolholders carrying **HFPR/L** inserts in various widths.




Chip shapes in face turning with inserts HFPR/L-5004 & **HFPR/L** 6004 and **HFHR/L** toolholders.



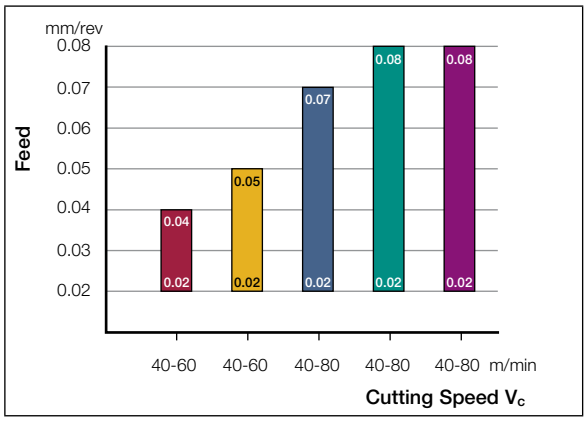

Note: In roughing, increase feed at small depth of cut and reduce feed at large depth of cut.

- HFPR/L 3003 GRIP/HGPL 300Y
- HFPR/L 4004 GRIP/HGPL 400Y
- HFPR/L 5004 GRIP/HGPL 500Y
- HFPR/L 6004 GRIP/HGPL 600Y

## Face Grooving and Turning Recommendations

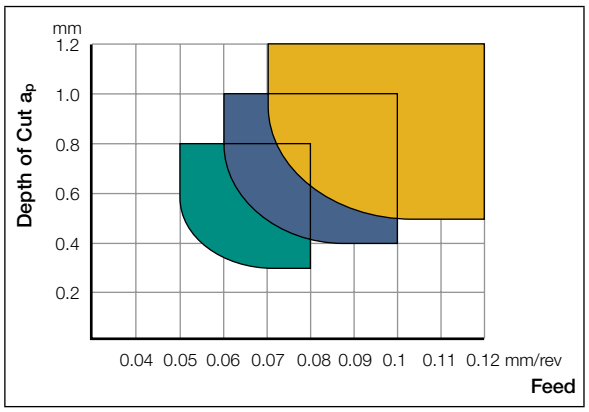
### Using Adapters for 3 mm Inserts

Recommended feed range for grooving with Grip 3... and **HGPL 3...** inserts and **HGAIR/L** and **HGAER/L** adapters. Feed range changes according to adapter type.




- **HGAIR/L 12-3T6**
  **HGAER/L 12-3T6**
- **HGAIR/L 14-3T7**
  **HGAER/L 14-3T7**
- **HGAIR/L 17-3T8**
  **HGAER/L 17-3T8**
- **HGAIR/L 21-3T9**
  **HGAER/L 21-3T9**
- **HGAIR/L 25-3T9**

Recommended depth of cut and feed range for turning with **HGPL 3...** inserts with **HGAIR/L** and **HGAER/L** adapters. Feed range changes according to adapter type.

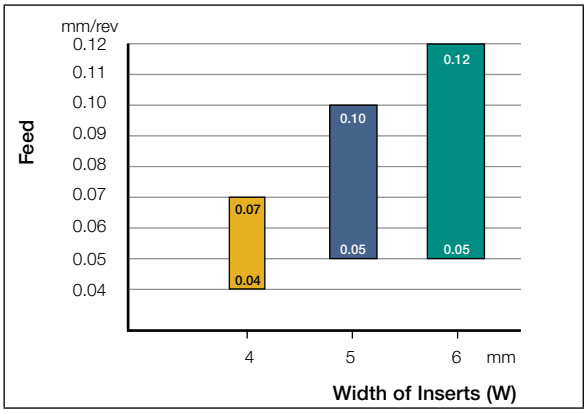



- **HGAIR/L 21-3T9**
  **HGAER/L 21-3T9**
  **HGAIR/L 25-3T9**
- **HGAIR/L 14-3T7**
  **HGAER/L 14-3T7**
  **HGAIR/L 17-3T8**
  **HGAER/L 17-3T8**
- **HGAIR/L 12-3T6**
  **HGAER/L 12-3T6**

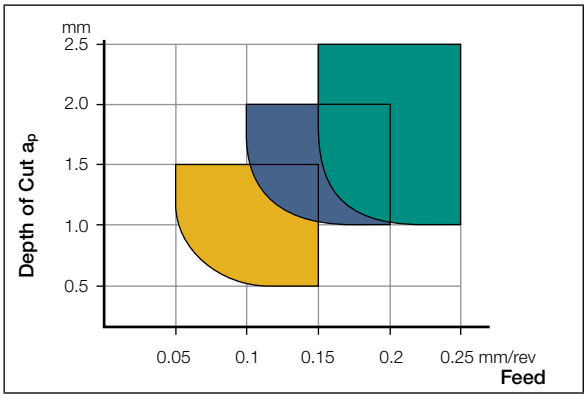
Note: In roughing, increase feed at small depth of cut, and reduce feed at large depth of cut.

### Using Adapters for 4-6 mm Inserts

Recommended feed range in grooving with **HFPR/L** inserts and **HFAIR/L** & **HFAER/L** adapters.




Recommended depth of cut and feed range in turning with **HFPR/L** inserts and **HFAIR/L** & **HFAER/L** adapters. Feed range changes according to adapter type.



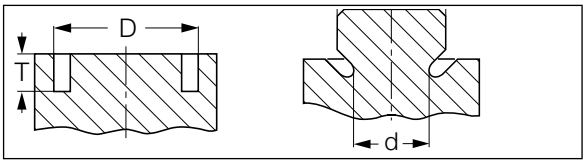

- **HFAIR/L- ...4**
  **HFAER/L- ...4**
- **HFAIR/L- ...5**
  **HFAER/L- ...5**
- **HFAIR/L- ...6**
  **HFAER/L- ...6**

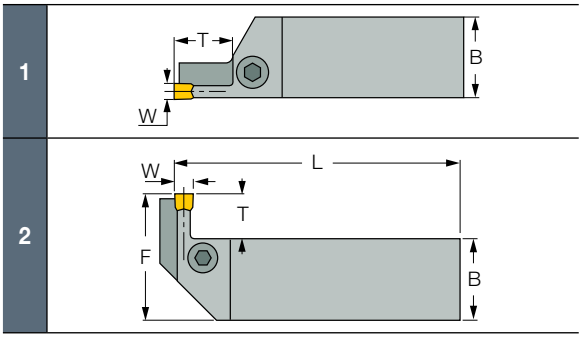
Note: In roughing, reduce feed when depth of cut is increased, ad increase feed at small depth of cut.

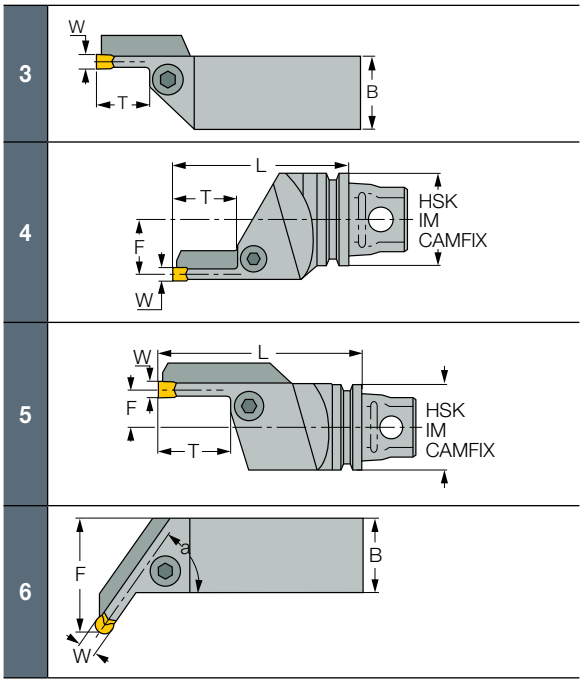
## Specially Tailored

### Semi-Standard Face Grooving and Undercutting Tools

The following drawings show typical semi-standard face grooving tools that can be ordered. Please specify all relevant dimensions and attach workpiece material geometric details.




### Grade Selection for Facing Applications

| Material groups | | ISO P | | ISO M | ISO K | ISO N | ISO S | ISO H |
|---|---|---|---|---|---|---|---|---|
| | | 1-11 | 12-13 | 14 | 15-20 | 21-28 | 31-37 | 38-41 |
| | | Steel | Stainless Steel Ferritic & Martensitic | Stainless Steel Austenitic & Duplex (Ferritic-Austenitic) | Cast Iron | Non-ferrous | High Temperature Alloys | Hard Steel & Cast Iron |
| FACING | Harder | IC808 | IC808 | IC808 | IC5010 | | | IC808 |
| | | IC8250 | IC8250 | IC8250 | | IC20 | IC20 | |
| | | IC830 | IC830 | | | IC08 | | IC908 |
| | Tougher | | | | IC428 | | IC808 | |

■ First choice



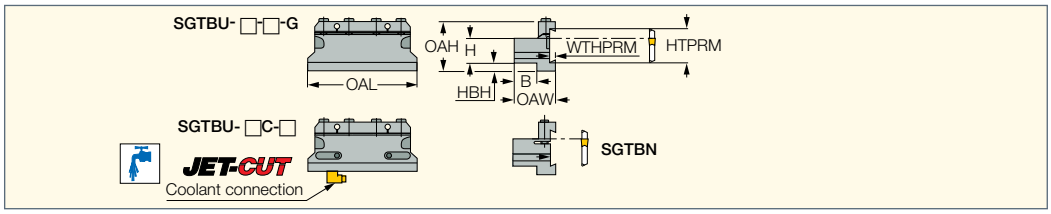
# TOOL BLOCKS



# TOOL BLOCKS

## SGTBU/SGTBN

Blocks for Various Parting and Grooving Blades




| Designation | H | B | HTPRM | OAW | OAH | HBH | WTHPRM | OAL |
|---|---|---|---|---|---|---|---|---|
| SGTBN 16-2 | 16.0 | 16.0 | 19.0 | 26.00 | 30.0 | 4.0 | 2.00 | 76.00 |
| SGTBU 16-5G | 16.0 | 17.0 | 26.0 | 34.00 | 43.0 | 13.0 | 4.10 | 86.00 |
| SGTBU 20-5G | 20.0 | 21.0 | 26.0 | 38.00 | 43.0 | 9.0 | 4.10 | 86.00 |
| SGTBU 20-6G | 20.0 | 19.1 | 32.0 | 38.20 | 50.0 | 12.9 | 5.30 | 100.00 |
| SGTBU 25-5G | 25.0 | 26.1 | 26.0 | 43.10 | 45.0 | 5.0 | 4.10 | 110.00 |
| SGTBU 25-6G | 25.0 | 23.0 | 32.0 | 42.20 | 50.0 | 7.8 | 5.30 | 110.00 |
| SGTBU 25-8M | 25.0 | 23.0 | 45.0 | 42.20 | 70.0 | 27.0 | 5.30 | 110.00 |
| SGTBU 25C-6 (1) | 25.0 | 23.0 | 32.0 | 42.20 | 50.0 | 7.8 | 5.30 | 110.00 |
| SGTBU 32-25-6G | 32.0 | 25.1 | 32.0 | 44.15 | 54.0 | 4.8 | 5.30 | 110.00 |
| SGTBU 32-6G | 32.0 | 29.1 | 32.0 | 28.20 | 54.0 | 4.8 | 5.30 | 110.00 |
| SGTBU 32-8M | 32.0 | 29.0 | 45.0 | 48.20 | 70.0 | 20.0 | 5.30 | 110.00 |
| SGTBU 32C-14 (1) | 32.0 | 28.0 | 52.6 | 63.00 | 99.8 | 41.7 | 12.60 | 140.00 |
| SGTBU 40-6G | 40.0 | - | 32.0 | 60.00 | 57.0 | - | 5.30 | 114.00 |
| SGTBU 40-9 | 40.0 | 41.0 | 52.6 | 66.00 | 81.0 | 22.0 | 8.00 | 130.00 |
| SGTBU 40C-14 (1) | 40.0 | 28.0 | 52.6 | 63.00 | 99.8 | 33.8 | 12.60 | 140.00 |
| SGTBU 50-9 | 50.0 | 41.0 | 52.6 | 66.00 | 83.0 | 14.0 | 8.00 | 135.00 |
| SGTBU 50C-14 (1) | 50.0 | 28.0 | 52.6 | 63.00 | 99.8 | 23.8 | 12.60 | 140.00 |
| SGTBU 100-9-12 (2) | 50.0 | 49.0 | 100.0 | 106.00 | 155.0 | 73.5 | 15.00 | 225.00 |
| SGTBU 150-9-12 (2) | 50.0 | 49.0 | 150.0 | 106.00 | 209.0 | 127.5 | 15.00 | 306.00 |

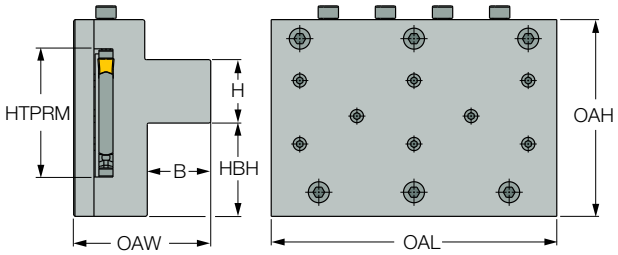
- Choose blade by HTPRM and WTHPRM dimensions

(1) Elbow-style connector unit supplied with each JET-CUT tool block

(2) See more detailed information below

**Tools:** Anti-Vibration Blades • CGFG 51-P8 • CGHN-8-10D • CGHN-D • CGHN-DG • CGHN-P8 • CGHR/L-12-14D • CGHR/L-P8DG • DGFH • DGFHR/L • DGFHR/L-B-D..(R/L) • HFFA • HFFH • HFFR/L-T • HGFH • PCHBR/L • SGFFA • SGFFH • TGFH/R/L • TGFHL-TR • TGFHR/L • TGHN-D • TNFFA-IQ • TNFFH-IQ

## SGTBU 100/150-9-12






### Spare Parts

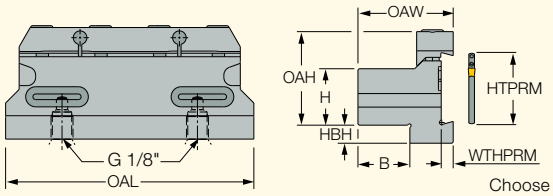
| Designation | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| SGTBN 16-2 | | SR M5X20DIN912 | | HW 4.0 | | | | | | |
| SGTBU 16-5G | BKU 86 | SR M6X16 DIN912 | | HW 5.0 | | | | | | |
| SGTBU 20-5G | BKU 86 | SR M6X16 DIN912 | | HW 5.0 | | | | | | |
| SGTBU 20-6G | BKU 100 | SR M6X16 DIN912 | | HW 5.0 | | | | | | |
| SGTBU 25-5G | BKU 105 | SR M6X16 DIN912 | | HW 5.0 | | | | | | |
| SGTBU 25-6G | BKU 110 | SR M6X16 DIN912 | | HW 5.0 | | | | | | |
| SGTBU 25-8M | BKU 110 | SR M6X16 DIN912 | SR M6X30 DIN912 | HW 5.0 | | | | | | |
| SGTBU 25C-6 | BKU 110 | SR M6X16 DIN912 | | HW 5.0 | | | SGCU-344* | CF 343* | CGF 343* | CGM 343* |
| SGTBU 32-25-6G | BKU 110 | SR M6X16 DIN912 | | HW 5.0 | | | | | | |
| SGTBU 32-6G | BKU 110 | SR M6X16 DIN912 | | HW 5.0 | | | | | | |
| SGTBU 32-8M | BKU 110 | SR M6X16 DIN912 | | HW 5.0 | | | | | | |
| SGTBU 32C-14 | BKU 32-14 | SR M10X30 DIN912 | | HW 8.0 | JHP ELBOW 90-G1/8-7/16UNF | OR 34X2.5N | | | | |
| SGTBU 40-6G | BKU 110 | SR M6X16 DIN912 | | HW 5.0 | | | | | | |
| SGTBU 40-9 | BK 509 | SR M8X25DIN912 | | HW 6.0 | | | | | | |
| SGTBU 40C-14 | BKU 32-14 | SR M10X30 DIN912 | | HW 8.0 | JHP ELBOW 90-G1/8-7/16UNF | OR 34X2.5N | | | | |
| SGTBU 50-9 | BK 509 | SR M8X25DIN912 | | HW 6.0 | | | | | | |
| SGTBU 50C-14 | BKU 32-14 | SR M10X30 DIN912 | | HW 8.0 | JHP ELBOW 90-G1/8-7/16UNF | OR 34X2.5N | | | | |
| SGTBU 100-9-12 | | SR M10X25 DIN912 | | HW 8.0 | | | | | | |
| SGTBU 150-9-12 | | SR M10X25 DIN912 | | HW 8.0 | | | | | | |

* Optional, should be ordered separately

JETCUT

## TGTBU-JHP

Tool Blocks for Parting and Grooving Blades for High Pressure Coolant




Choose blade by prism height dimension

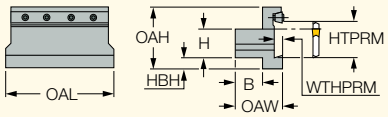
| Designation | H | B | HTPRM | OAW | OAH | HBH | WTHPRM | OAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TGTBU 16-5G-JHP | 16.0 | 16.9 | 26.0 | 35.60 | 29.9 | 13.1 | 4.10 | 86.00 | BKU 86 | SR M6X16 DIN912 | HW 5.0 | OR 14X2.5N N |
| TGTBU 20-5G-JHP | 20.0 | 20.9 | 26.0 | 39.60 | 33.9 | 9.1 | 4.10 | 86.00 | BKU 86 | SR M6X16 DIN912 | HW 5.0 | OR 14X2.5N N |
| TGTBU 20-35-JHP | 20.0 | 19.0 | 35.0 | 38.00 | 32.3 | 23.7 | 6.00 | 110.00 | BKU 210 | SR M6X20 DIN912 | HW 5.0 | OR 14X2.5N N |
| TGTBU 20-6G-JHP | 20.0 | 19.0 | 32.0 | 39.20 | 36.4 | 15.0 | 5.30 | 100.00 | BKU 100 | SR M6X16 DIN912 | HW 5.0 | OR 14X2.5N N |
| TGTBU 25-5G-JHP | 25.0 | 26.1 | 26.0 | 44.10 | 39.0 | 5.5 | 4.10 | 110.00 | BKU 105 | SR M6X16 DIN912 | HW 5.0 | OR 14X2.5N N |
| TGTBU 25-6G-JHP | 25.0 | 23.0 | 32.0 | 43.20 | 41.4 | 8.0 | 5.30 | 110.00 | BKU 110 | SR M6X16 DIN912 | HW 5.0 | OR 14X2.5N N |
| TGTBU 25-35-JHP | 25.0 | 23.0 | 35.0 | 42.00 | 37.3 | 18.7 | 6.00 | 110.00 | BKU 210 | SR M6X20 DIN912 | HW 5.0 | OR 14X2.5N N |
| TGTBU 32-6G-JHP | 32.0 | 29.0 | 32.0 | 49.20 | 48.4 | 5.0 | 5.30 | 110.00 | BKU 110 | SR M6X16 DIN912 | HW 5.0 | OR 14X2.5N N |
| TGTBU 32-35-JHP | 32.0 | 29.0 | 35.0 | 48.00 | 44.3 | 11.7 | 6.00 | 110.00 | BKU 210 | SR M6X20 DIN912 | HW 5.0 | OR 14X2.5N N |

**Tools:** DGFH-JHP • DGFHR/L-BC-JHP • TGFH-JHP • TGFHR/L-JHP

## TOOL BLOCKS

### SGTBK

Blocks for Heavy Duty Parting and Grooving Blades




| Designation | H | B | WTHPRM | HTPRM | OAW | OAH | HBH | OAL | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SGTBK 32-9 | 32.0 | 28.0 | 8.50 | 32.0 | 48.00 | 62.0 | 3.0 | 120.00 | BK 32-9 WEDG | SR M6X16 DIN912 | HW 5.0 |
| SGTBK 38-9 | 38.0 | 35.0 | 8.50 | 52.6 | 60.00 | 90.0 | 25.0 | 135.00 | BK 40-9 | SR M6X20 DIN912 | HW 5.0 |
| SGTBK 40-9 | 40.0 | 35.0 | 8.50 | 52.6 | 60.00 | 90.0 | 23.0 | 135.00 | BK 40-9 | SR M6X20 DIN912 | HW 5.0 |
| SGTBK 50-9 | 50.0 | 40.0 | 8.50 | 52.6 | 65.00 | 90.0 | 15.0 | 135.00 | BK 40-9 | SR M6X20 DIN912 | HW 5.0 |

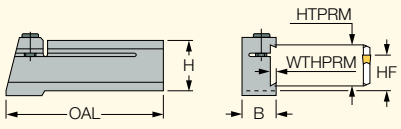
• Choose blade by HTPRM dimension

**Tools:** Anti-Vibration Blades • CGFG 51-P8 • CGHN-8-10D • CGHN-P8 • CGHR/L-12-14D • CGHR/L-P8DG • DGFH • HFFH • PCHBR/L • SGFFH • TGFH/R/L • TGFHR/L • TNFFH-IQ

## TOOL BLOCKS

### SGTBR/L

Blocks for Parting and Grooving Blades for Conventional Lathes




Right-hand shown

| Designation | H | HF | HTPRM | B | OAL | WTHPRM | | |
|---|---|---|---|---|---|---|---|---|
| SGTBR 19-2 | 25.0 | 19.0 | 19.0 | 19.0 | 100.00 | 2.00 | SR M6X25 DIN912 | HW 5.0 |
| SGTBL 25-6 | 32.0 | 25.0 | 26.0 | 20.0 | 121.50 | 5.00 | SR M6X25 DIN912 | HW 5.0 |
| SGTBR 25-6 | 32.0 | 25.0 | 26.0 | 20.0 | 120.00 | 5.00 | SR M6X30 DIN912 | HW 5.0 |

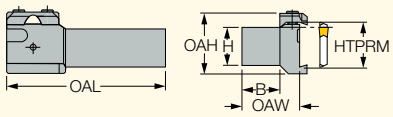
• Choose blade by HTPRM dimension

**Tools:** DGFH • DGFHR/L • DGFHR/L-B-D..(R/L) • HGFH • PCHBR/L • TGFH/R/L • TGFHL-TR • TGFHR/L

## TOOL BLOCKS

### UBHCR/L

Holders for Grooving, Turning and Parting Blades




Right-hand shown

| Designation | H | HTPRM | B | OAH | OAW | OAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| UBHCR/L 20-26 | 20.0 | 26.0 | 20.0 | 42.0 | 35.60 | 100.00 | BKU 176 307 | SR M6X16 DIN912 | HW 5.0 | SPRING PLUNGER M6X14X3.5 |
| UBHCR/L 25-32 | 25.0 | 32.0 | 25.0 | 46.0 | 40.00 | 130.00 | BKU 176 307 | SR M6X16 DIN912 | HW 5.0 | SPRING PLUNGER M6X14X3.5 |
| UBHCR/L 32-32 | 32.0 | 32.0 | 32.0 | 46.0 | 47.00 | 130.00 | BKU 176 307 | SR M6X16 DIN912 | HW 5.0 | SPRING PLUNGER M6X14X3.5 |

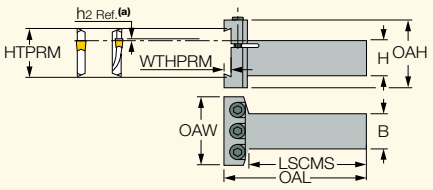
- Choose blade by HTPRM dimension

**Tools:** CGHN-D • CGHN-DG • CGHN-S • CGHR/L-P8DG • DGFH • DGFHR/L • DGFHR/L-B-D..(R/L)
• HFFA • HFFH • HFFR/L-T • HGFH • SGFFA • SGFFH • TGFH/R/L • TGFHL-TR • TGFHR/L • TGHN-D
• TGHN-S • TNFFA-IQ • TNFFH-IQ

## TOOL BLOCKS

### SGTBF

Perpendicular Blocks for Parting and Grooving Blades




| Designation | H | B | HTPRM | OAL | LSCMS | OAW | OAH | WTHPRM | | |
|---|---|---|---|---|---|---|---|---|---|---|
| SGTBF 25-A | 25.0 | 25.0 | 32.0 | 102.00 | 80.00 | 48.00 | 48.0 | 5.50 | SR M6X40 DIN912 | HW 5.0 |
| SGTBF 32-A | 32.0 | 32.0 | 32.0 | 116.00 | 100.00 | 48.00 | 48.0 | 5.50 | SR M6X40 DIN912 | HW 5.0 |

- (a) h2 Ref. as defined for SELF-GRIP face grooving blades • Choose blade by HTPRM dimension

**Tools:** DGFH • DGFHR/L • DGFHR/L-B-D..(R/L) • HFFH • HFFR/L-T • HGFH • SGFFA • SGFFH
• TGFH/R/L • TGFHR/L • TNFFA-IQ • TNFFH-IQ

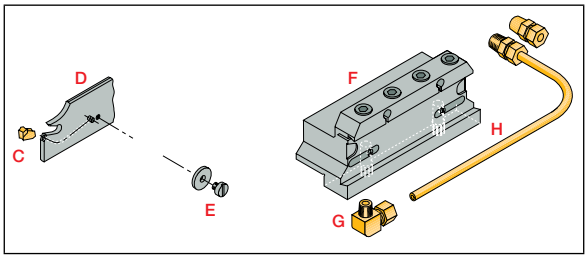


## JETCUT Assembly

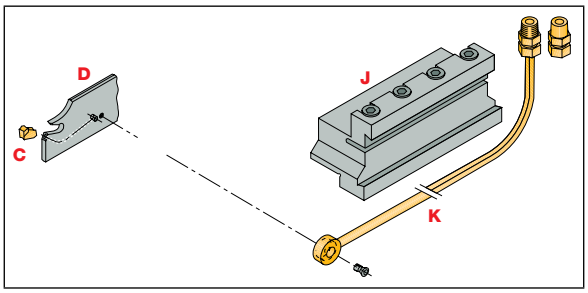
SELF-GRIP

- **C** Insert **GF**☐
- **D** Blade **SGFH**☐**K-**☐
- **E** Cap **SGC 340** supplied with a blade; to be used with Option 1 only.
- **F** Tool block **SGTBU**☐**C-**☐
- **G** Elbow-style connector unit supplied with each tool block
- **H** **SGCU-344 H 3/16”** copper Tube 343 (length 250 mm)
- **J** Standard current tool blocks **SGTBN, SGTBU, SGTBF**
- **K** Coolant connection unit **SGCU**-341
- **M** Integral shank holder **SGTFR/L**☐**K-**☐

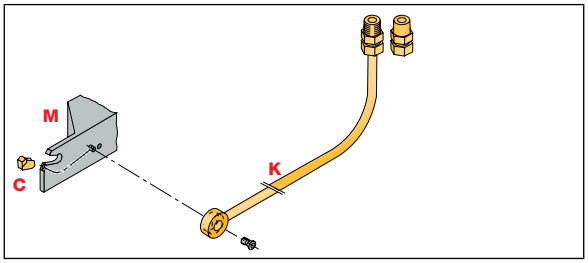
**Option 1:**
Coolant supplied through the tool block.




**Option 2:**
Coolant supplied directly to the blade.




**Option 3:**
Coolant supplied directly to the integral shank tool.



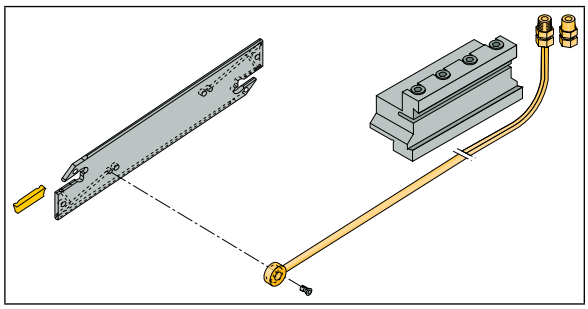

DO-GRIP 500 STRAIGHT LINE

The coolant supply tube can be used with the following options:

- DGTR...C integral tool
- DGFH-C blades used on regular blocks by connecting directly to the blade
- SGTBU-C blocks with coolant passages and connecting ports

### The Right Connection for Your Application

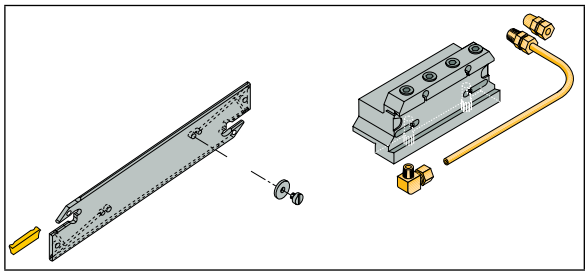
**Option 1:**
Coolant supplied directly to the blade.



**SGCU 341 Coolant connection unit**

Connectors:
**CGM 343** (G1/8 external thread)
**CGF 343** (G1/8 internal thread)
**CF 343** (NPT1/8 internal thread)

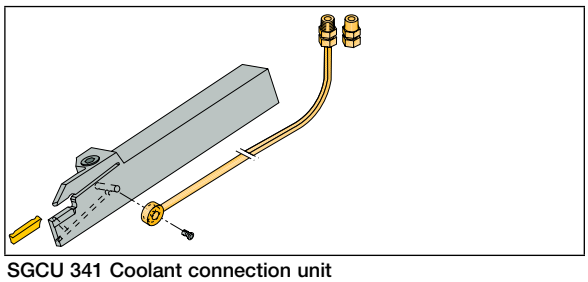
**Option 2:**
Coolant supplied through the tool block.



**SGCU 344 Elbow connector**

**TUBE 343**
3/16” copper tube (length 250 mm)
(G1/8 external thread) (G1/8 internal thread)
(NPT1/8 external thread) (NPT1/8 internal thread)

**Option 3:**
Coolant supplied directly to the tool.



**SGCU 341 Coolant connection unit**

Connectors:
**CGM 343** (G1/8 external thread)
**CGF 343** (G1/8 internal thread)
**CF 343** (NPT1/8 internal thread)



# EXCHANGEABLE HEADS HOLDERS



# CONTENTS

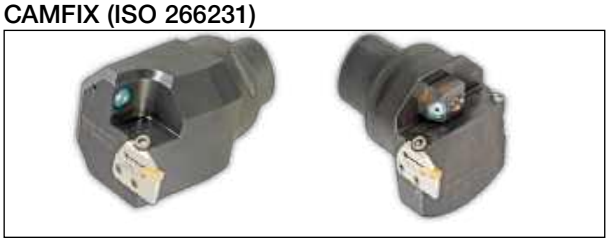
CAMFIX (ISO 26623-1) ..... 622
HSK-T (ISO 12164-3 T Type and ICTM Standard) ..... 631
IM (ISO 26622-1 and Mazak XMZ Standard) ..... 633

## CAMFIX (ISO 26623-1)

**ISCAR** offers a wide range of tools for three types of Quick Change systems:

1 **CAMFIX** (ISO 26623-1)
2 **HSK**-T (ISO 12164-3 T Type and ICTM Standards)
3 IM (ISO 26622-1 and **Mazak** XMZ Standards)

**CAMFIX (ISO 266231)**



Quick Change tools are expensive compared to standard shank tools. **ISCAR** offers economical solutions by using adapters, blades or regular tools and boring bars on the Quick Change adaptations.

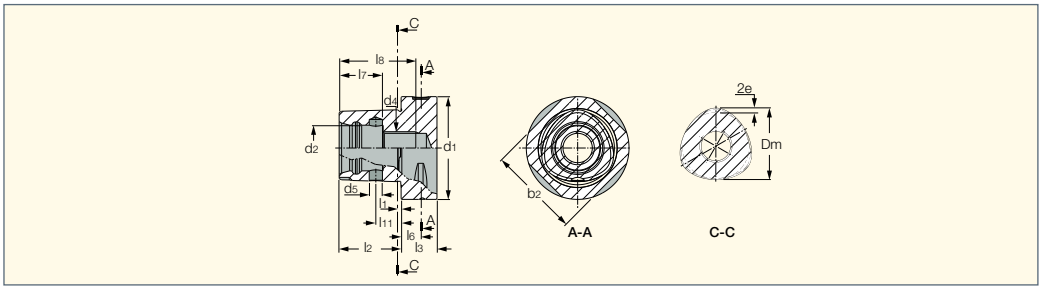
**HSK-T (ISO 1264-3 T Type and ICTM Standard)**






**CAMFIX**

**CAMFIX ISO 26623-1**
Toolholder Standard




| CAMFIX | b2 | d1 ±0.1 | d2 | d4 | d5 ±0.1 | Dm | e | l1 | l2 ±0.1 | l3 min | l6 ±0.15 | l7 ±0.15 | l8 min | l11 ±0.1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C3 | 28,3 | 32 | 15 | M12x1.5 | 3,6 | 22 | 0,7 | 2,5 | 19 | 15 | 6 | 13 | 25 | 8 |
| C4 | 35,3 | 40 | 18 | M14x1.5 | 4,6 | 28 | 0,9 | 2,5 | 24 | 20 | 8 | 15 | 30 | 11,5 |
| C5 | 44,4 | 50 | 21 | M16x1.5 | 6,1 | 35 | 1,12 | 3 | 30 | 20 | 10 | 20 | 37 | 14 |
| C6 | 55,8 | 63 | 28 | M20x2 | 8,1 | 44 | 1,4 | 3 | 38 | 22 | 12 | 27 | 47 | 15,5 |
| C8 | 71,1 | 80 | 32 | M20x2 | 9,1 | 55 | 2 | 3 | 48 | 30 | 12 | 28 | 48 | 25 |
| C8X | 88,7 | 100 | 32 | M20x2 | 9,1 | 55 | 2 | 3 | 48 | 32 | 16 | 28 | 48 | 25 |
| C10 | 88,3 | 100 | 43 | M24x2 | 12 | 72 | 2,8 | 3 | 60 | 36 | 16 | 40 | 70 | 26,5 |

## *CAMFIX* - ISO 26623-1 Standard Quick Change Shanks

### Features

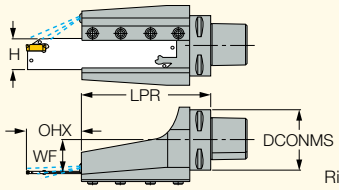
- Symmetrical design: Due to the symmetrical design, the torque load is distributed on the polygon, providing a self-centering effect.
- Rigidity: The **CAMFIX** clamping mechanism is extremely rigid against bending forces.
- Accuracy: The taper and face contact ensure high repeatability within 2 microns when operated with an automatic tool changer.




## TOOL BLOCKS
## CAMFIX

### C#-TBK-R/L

Blocks with CAMFIX Exchangeable Shanks for Parting and Grooving Blades




Right-hand shown • OHX = See specific blade dimensions

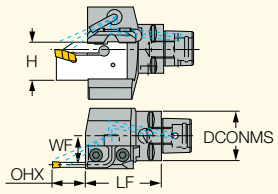
| Designation | DCONMS | WF | LPR | H | CP(1) | CDI(2) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C6 TBK-32R/L | 63.00 | 32.0 | 138.00 | 32.0 | 100 | 1 | BK 32-9 WEDG | SR M6X16 DIN912 | HW 5.0 | EZ 125 | SR M8X6 DIN913 |
| C8 TBK-52R | 80.00 | 40.5 | 161.00 | 52.0 | 100 | 1 | BK 40-9 | SR M6X16 DIN912 | HW 5.0 | EZ 125 | SR M8X6 DIN913 |

(1) Coolant pressure (Bar)
(2) 1 - Hole for data chip, 0 - Without hole for data chip
**Tools:** CGHN-DG • CGHR/L-P8DG • DGFH • DGFHR/L • DGFHR/L-B-D..(R/L) • HFFH • HGFH • PCHBR/L • TGFH/R/L • TGFHR/L • TNFFH-IQ

## TOOL BLOCKS
## CAMFIX

### C#-TBU

Blocks with CAMFIX Exchangeable Tapered Shanks for Parting and Grooving Blades




Right-hand shown • OHX= See specific blade dimensions

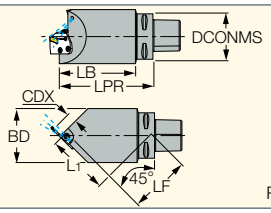
| Designation | DCONMS | WF | LF | H | CDI(1) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| C4 TBU-32R/L | 40.00 | 21.0 | 60.00 | 32.0 | 1 | BKU 176 307 | SR M6X25 DIN912 | HW 5.0 | SR M6X8 DIN916 | EZP 5 | EZ 125 |
| C5 TBU-32R | 50.00 | 30.0 | 64.00 | 32.0 | 1 | BKU 176 307 | SR M6X25 DIN912 | HW 5.0 | SR M6X8 DIN916 | EZP 5 | EZ 125 |

(1) 1 - Hole for data chip, 0 - Without hole for data chip
**Tools:** CGHN-S • TGHN-S

## MODULAR-GRIP
## CAMFIX

### C#-MAHDR-45

Holders with CAMFIX Exchangeable Shanks for Parting, Grooving, Turning and Facing Adapters




Right-hand shown • CDX = See specific adapter dimensions

| Designation | DCONMS | LPR | L1 | LB | LF | BD | CP(1) | CDI(2) |
|---|---|---|---|---|---|---|---|---|
| C6 MAHDR-45 | 63.00 | 130.00 | 91.9 | 105.78 | 89.0 | 75.00 | 100 | 1 |
| C8 MAHDR-45 | 80.00 | 130.00 | 91.9 | - | 89.0 | 80.00 | 100 | 1 |

• For mill-turn machines
(1) Coolant pressure (Bar)
(2) 1 - Hole for data chip, 0 - Without hole for data chip
**Tools:** CGPAD • DGAD-B-D • DGAD/HGAD • HFPAD-3 • HFPAD-4 • HFPAD-5 • HFPAD-6 • HGPAD • PCADR/L • SCLCR-PAD • SDJCR-PAD • SVJCR-PAD • SWAPR-PAD • TGAD • TGPAD




### Spare Parts

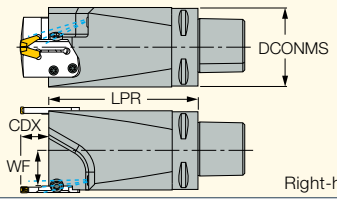
| Designation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| C6 MAHDR-45 | SR M5-04451 | T-20/5 | SR 14-519(a) | SR M6X20DIN7984 | HW 4.0 | SR M6X6DIN551 14H/22H(c) | SR M5X4 DIN913 | EZ 83 |
| C8 MAHDR-45 | SR M5-04451 | T-20/5 | SR 14-519(a) | SR M6X20-XT(b) | HW 5.0 | SR M6X6DIN551 14H/22H(c) | SR M5X6 DIN913 | EZ 83 |

(a) For DGAD, HGAD and PCADR/L adapters; supplied in the attached plastic bag
(b) For CGPAD, HGPAD, TGPAD and HFPAD adapters; supplied with the tools
(c) Used to prevent chips from entering the upper locking screw hole

MODULAR-GRIP
CAMFIX

## C#-MAHDOR

Holders with CAMFIX Exchangeable Shanks for Parting, Grooving, Turning and Facing Adapters




Right-hand shown • CDX = See specific adapter dimensions

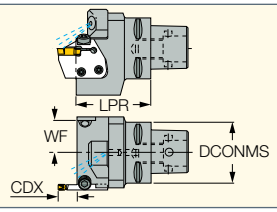
| Designation | DCONMS | WF | LPR | CDI(1) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C6 MAHDOR | 63.00 | 29.0 | 130.00 | 1 | SR M5-04451 | T-20/5 | SR 14-519(a) | SR M6X20-XT(b) | HW 5.0 | SR M6X6DIN551 14H/22H(c) | EZ 125 |
| C8 MAHDOR | 80.00 | 37.5 | 130.00 | 1 | SR M5-04451 | T-20/5 | SR 14-519(a) | SR M6X20-XT(b) | HW 5.0 | SR M6X6DIN551 14H/22H(c) | EZ 125 |

(1) 1 - Hole for data chip, 0 - Without hole for data chip
(a) For DGAD, HGAD and PCADR/L adapters; supplied in the attached plastic bag
(b) For CGPAD, HGPAD, TGPAD and HFPAD adapters; supplied with the tools
(c) Used to prevent chips from entering the upper locking screw hole
**Tools:** DGAD-B-D • DGAD/HGAD • HFPAD-3 • HFPAD-4 • HFPAD-5 • HFPAD-6 • HGPAD • SCLCR-PAD • SDJCR-PAD • SVJCR-PAD • SWAPR-PAD

MODULAR-GRIP
CAMFIX

## C#-MAHD

Holders with CAMFIX Exchangeable Shanks for Parting, Grooving, Turning and Facing Adapters




Right-hand shown • CDX = See specific adapter dimensions

| Designation | DCONMS | LPR | WF | CP(1) | CDI(2) |
|---|---|---|---|---|---|
| C3 MAHD | 32.00 | 50.00 | 18.5 | 100 | 0 |
| C4 MAHD | 40.00 | 46.50 | 22.1 | 100 | 1 |
| C5 MAHD | 50.00 | 47.00 | 23.0 | 100 | 1 |
| C6 MAHD | 63.00 | 50.00 | 29.0 | 100 | 1 |
| C8 MAHD | 80.00 | 60.00 | 37.5 | 100 | 1 |

(1) Coolant pressure (Bar)
(2) 1 - Hole for data chip, 0 - Without hole for data chip
**Tools:** CGPAD • DGAD-B-D • DGAD/HGAD • HFPAD-3 • HFPAD-4 • HFPAD-5 • HFPAD-6 • HGPAD • PCADR/L • SCLCR-PAD • SDJCR-PAD • SVJCR-PAD • SWAPR-PAD • TGAD • TGPAD

### Spare Parts

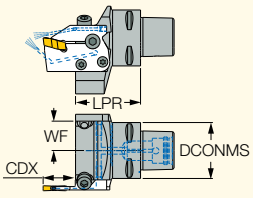
| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| C#-MAHD | SR M5-04451 | T-20/5 | SR 14-519(a) | SR M6X20-XT(b) | HW 5.0 | SR M6X6DIN551 14H/22H(c) | EZ 125 | EZA 125 | SR 76-1022 |

(a) For DGAD, HGAD and PCADR/L adapters; supplied in the attached plastic bag
(b) For CGPAD, HGPAD, TGPAD and HFPAD adapters; supplied with the tools
(c) Used to prevent chips from entering the upper locking screw hole

MODULAR-GRIP
JETCUT CAMFIX

## C#-MAHD-JHP

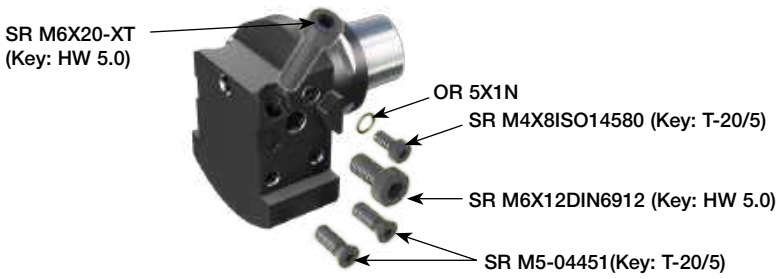
Holders with CAMFIX Exchangeable Shanks and High Pressure Coolant Channels for MODULAR-GRIP Adapters




Right-hand shown
• CDX = See specific adapter dimensions
• WF=WF(shank)+WF(adapter)

| Designation | DCONMS | LPR | WF | CDI(1) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C3 MAHD-JHP | 32.00 | 45.00 | 18.5 | 0 | SR M5-04451 | T-20/5 | SR M6X12DIN6912 | SR M6X20-XT | HW 5.0 | OR 5X1N | SR M4X8ISO14580 BLACK |
| C4 MAHD-JHP | 40.00 | 46.50 | 21.0 | 1 | SR M5-04451 | T-20/5 | SR M6X12DIN6912 | SR M6X20-XT | HW 5.0 | OR 5X1N | SR M4X8ISO14580 BLACK |
| C5 MAHD-JHP | 50.00 | 47.00 | 26.0 | 1 | SR M5-04451 | T-20/5 | SR M6X12DIN6912 | SR M6X20-XT | HW 5.0 | OR 5X1N | SR M4X8ISO14580 BLACK |
| C6 MAHD-JHP | 63.00 | 50.00 | 32.5 | 1 | SR M5-04451 | T-20/5 | SR M6X12DIN6912 | SR M6X20-XT | HW 5.0 | OR 5X1N | SR M4X8ISO14580 BLACK |

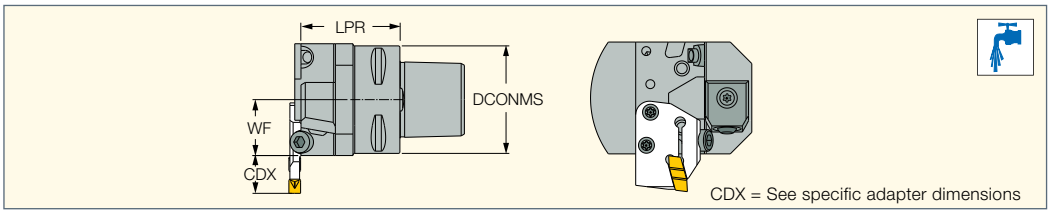
• For user guide and accessories, see pages 78-84, 624
(1) 1 - Hole for data chip, 0 - Without hole for data chip
**Tools:** CGPAD • CGPAD-JHP • DGAD-B-D • DGAD/HGAD • DGPAD-JHP • HFPAD-3 • HFPAD-4 • HFPAD-5 • HFPAD-6 • HFPAD-JHP • HGPAD • HGPAD-JHP • PCADR/L • PCADR/L-JHP • PCADRS/LS-JHP • SCLCR-PAD • SDJCR-PAD • SVJCR-PAD • SWAPR-PAD • TAGPAD-JHP • TGAD • TGPAD • TGPAD-JHP



MODULAR GRIP
CAMFIX

## C#-MAHPD

Perpendicular Holders with CAMFIX Exchangeable Shanks Carrying Adapters for Parting, Grooving, Turning and Facing




| Designation | DCONMS | LPR | WF | CP(1) | CDI(2) |
|---|---|---|---|---|---|
| C4 MAHPD | 40.00 | 46.00 | 25.00 | 100 | 1 |
| C5 MAHPD | 50.00 | 46.00 | 26.00 | 100 | 1 |
| C6 MAHPD | 63.00 | 47.00 | 33.00 | 100 | 1 |
| C8 MAHPD | 80.00 | 56.00 | 42.00 | 100 | 1 |

(1) Coolant pressure (Bar)
(2) 1 - Hole for data chip, 0 - Without hole for data chip
**Tools:** CGPAD • DGAD-B-D • DGAD/HGAD • HFPAD-3 • HFPAD-4 • HFPAD-5 • HFPAD-6 • HGPAD • PCADR/L • SCLCR-PAD • SDJCR-PAD • SVJCR-PAD • SWAPR-PAD • TGAD • TGPAD

### Spare Parts

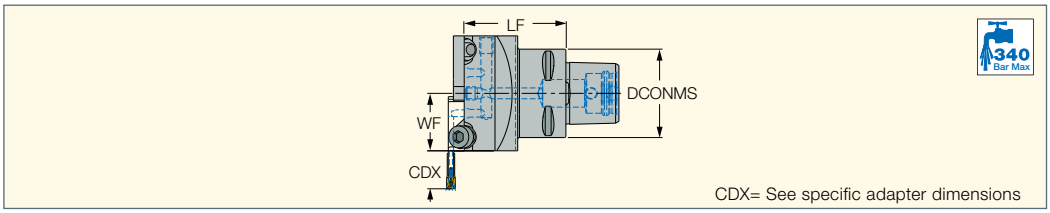
| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| C#-MAHPD | SR M5-04451 | T-20/5 | SR 14-519(a) | SR M6X20-XT(b) | HW 5.0 | SR M6X6DIN551 14H/22H(c) | EZ 125 | SR 76-1022 | EZA-21414 |

(a) For DGAD, HGAD and PCADR/L adapters; supplied in the attached plastic bag
(b) For CGPAD, HGPAD, TGPAD and HFPAD adapters; supplied with the tools
(c) Used to prevent chips from entering the upper locking screw hole

MODULAR GRIP
JETCUT CAMFIX

## C#-MAHPD-JHP

Perpendicular Holders with CAMFIX Exchangeable Shanks for Parting, Grooving, Turning and Facing Adapters



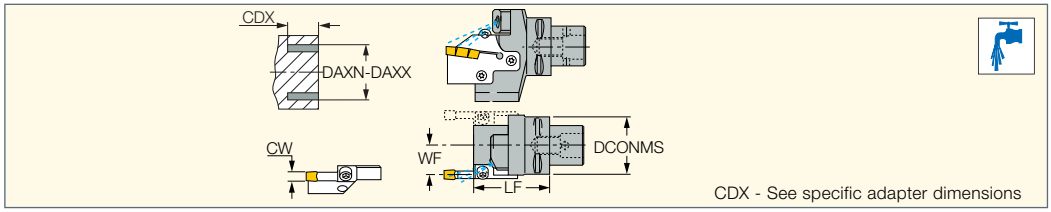

| Designation | DCONMS | LF | WF | CDI(1) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C3 MAHPD-JHP | 32.00 | 40.00 | 26.00 | 0 | SR M5-04451 | T-20/5 | SR M6X12DIN6912 | SR M6X20-XT | HW 5.0 | OR 5X1N | SR M4X8ISO14580 BLACK |
| C4 MAHPD-JHP | 40.00 | 46.00 | 26.00 | 1 | SR M5-04451 | T-20/5 | SR M6X12DIN6912 | SR M6X20-XT | HW 5.0 | OR 5X1N | SR M4X8ISO14580 BLACK |
| C5 MAHPD-JHP | 50.00 | 46.00 | 26.00 | 1 | SR M5-04451 | T-20/5 | SR M6X12DIN6912 | SR M6X20-XT | HW 5.0 | OR 5X1N | SR M4X8ISO14580 BLACK |
| C6 MAHPD-JHP | 63.00 | 46.00 | 33.00 | 1 | SR M5-04451 | T-20/5 | SR M6X12DIN6912 | SR M6X20-XT | HW 5.0 | OR 5X1N | SR M4X8ISO14580 BLACK |

• For user guide and accessories, see pages 78-84, 624
(1) 1 - Hole for data chip, 0 - Without hole for data chip
**Tools:** CGPAD • CGPAD-JHP • DGAD-B-D • DGAD/HGAD • DGPAD-JHP • HFPAD-3 • HFPAD-4 • HFPAD-5 • HFPAD-6 • HFPAD-JHP • HGPAD • HGPAD-JHP • PCADR/L • PCADR/L-JHP • PCADRS/LS-JHP • SCLCR-PAD • SDJCR-PAD • SVJCR-PAD • SWAPR-PAD • TAGPAD-JHP • TGAD • TGPAD • TGPAD-JHP

CUTGRIP CAMFIX

## C#-GHAD-8

Holders with CAMFIX Exchangeable Shanks for Grooving, Turning and Facing Adapters




| Designation | DCONMS | LF | WF | CW | DAXN(1) | DAXX(2) | CDX(3) | CP(4) | CDI(5) |
|---|---|---|---|---|---|---|---|---|---|
| C5 GHAD-8 | 50.00 | 65.00 | 26.00 | 8.00 | 80.0 | 510.0 | 25.00 | 100 | 1 |
| C6 GHAD-8 | 63.00 | 65.00 | 32.50 | 8.00 | 80.0 | 510.0 | 25.00 | 100 | 1 |

• For user guide and accessories see page 624
(1) Minimum axial grooving diameter
(2) Maximum axial grooving diameter
(3) Cutting depth maximum
(4) Coolant pressure (Bar)
(5) 1 - Hole for data chip, 0 - Without hole for data chip
**Tools:** GADR/L-8 • GAFG-R/L-8 • PCADR/L 34N-RE

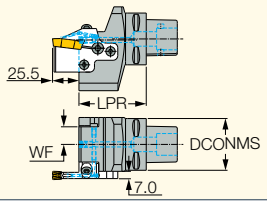
### Spare Parts

| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| C#-GHAD-8 | SR 14-519 | T-20/5 | SR M6X25 DIN912 | HW 5.0 | SR 76-1022 | EZA 125 | EZ 125 |

CUTGRIP JETCUT
CAMFIX

## C#-GHAD-JHP

Holders with High Pressure Coolant Channels and CAMFIX Exchangeable Shanks for Grooving and Turning



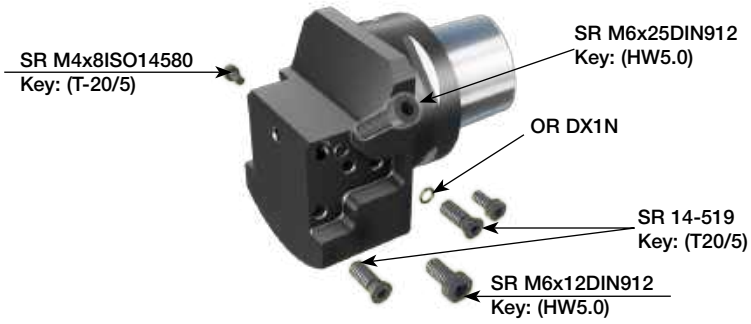

340 Bar Max

| Designation | DCONMS | LPR | WF | CDI(1) |
|---|---|---|---|---|
| C5 GHAD-8-JHP | 50.00 | 65.00 | 17.00 | 1 |
| C6 GHAD-8-JHP | 63.00 | 65.00 | 23.50 | 1 |
| C8 GHAD-8-JHP | 80.00 | 74.00 | 38.50 | 1 |

- For user guide and accessories see pages 78-84, 624

(1) 1 - Hole for data chip, 0 - Without hole for data chip

**Tools:** GADR/L-JHP



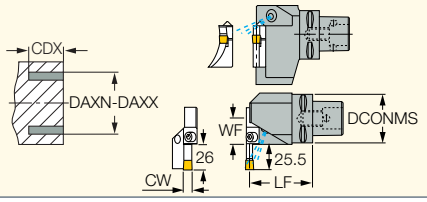

### Spare Parts

| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| C5 GHAD-8-JHP | SR 14-519 | T-20/5 | SR M6X25 DIN912 | HW 5.0 | SR M6X12DIN6912 | OR 5X1N | SR M4X8ISO14580 BLACK |
| C6 GHAD-8-JHP | SR 14-519 | T-20/5 | SR M6X25 DIN912 | HW 5.0X120 MM | SR M6X12DIN6912 | OR 5X1N | SR M4X8ISO14580 BLACK |
| C8 GHAD-8-JHP | SR 14-519 | T-20/5 | SR M6X25 DIN912 | HW 5.0X120 MM | SR M6X12DIN6912 | OR 5X1N | SR M4X8ISO14580 BLACK |

CAMFIX

## C#-GHAPR/L-8

Perpendicular Holders with CAMFIX Exchangeable Shanks for Grooving, Turning and Facing Adapters




Right-hand shown
- CDX - See specific adapter dimensions

| Designation | DCONMS | LF | WF | CW | DAXN(1) | DAXX(2) | CDX(3) | CP(4) | CDI(5) |
|---|---|---|---|---|---|---|---|---|---|
| C5 GHAPR/L-8 | 50.00 | 64.00 | 26.00 | 8.00 | 80.0 | 510.0 | 25.00 | 100 | 1 |
| C6 GHAPR/L-8 | 63.00 | 75.00 | 33.00 | 8.00 | 80.0 | 510.0 | 25.00 | 100 | 1 |

- For user guide and accessories see page 624

(1) Minimum axial grooving diameter
(2) Maximum axial grooving diameter
(3) Cutting depth maximum
(4) Coolant pressure (Bar)
(5) 1 - Hole for data chip, 0 - Without hole for data chip

**Tools:** GADR/L-8 • GAFG-R/L-8 • PCADR/L 34N-RE

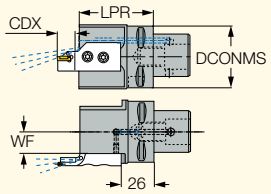
### Spare Parts

| Designation | | | | | |
|---|---|---|---|---|---|
| C5 GHAPR/L-8 | SR 14-519 | T-20/5 | SR M6X25 DIN912 | HW 5.0 | EZ 125 |
| C6 GHAPL-8 | SR 14-519 | T-20/5 | SR M6X25 DIN912 | HW 5.0 | EZ 125 |
| C6 GHAPR-8 | SR 14-519 | T-20/5 | SR M6X25 DIN912 | HW 5.0 | |

CAMFIX

## C#-HAD

Holders with CAMFIX Exchangeable Tapered Shanks for Internal Facing Adapters




CDX - See specific adapter dimensions

| Designation | DCONMS | LPR | WF | CDI(1) | | | | |
|---|---|---|---|---|---|---|---|---|
| C4 HAD | 40.00 | 60.00 | 18.0 | 1 | SR 14-519 | T-20/3 | SR M4X6DIN912 | HW 3.0 |
| C5 HAD | 50.00 | 60.00 | 18.0 | 1 | SR 14-519 | T-20/3 | SR M4X6DIN912 | HW 3.0 |
| C6 HAD | 63.00 | 60.00 | 22.0 | 1 | SR 14-519 | T-20/3 | SR M4X6DIN912 | HW 3.0 |

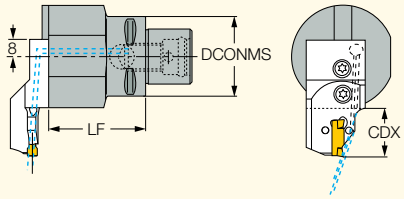
(1) 1 - Hole for data chip, 0 - Without hole for data chip

**Tools:** HFAER/L-4 • HFAER/L-5T, 6T • HFAIR/L-4 • HFAIR/L-DG • HGAER/L-3 • HGAIR/L-3

CAMFIX

## C#-HAPR/L

Perpendicular Holders with CAMFIX Exchangeable Shanks for Internal Facing Adapters




Right-hand shown
- CDX - See specific adapter dimensions

| Designation | DCONMS | LF | CDI(1) | | |
|---|---|---|---|---|---|
| C4 HAPR/L | 40.00 | 50.00 | 1 | SR 14-519 | T-20/3 |
| C6 HAPR/L | 63.00 | 50.00 | 1 | SR 14-519 | T-20/3 |

(1) 1 - Hole for data chip, 0 - Without hole for data chip

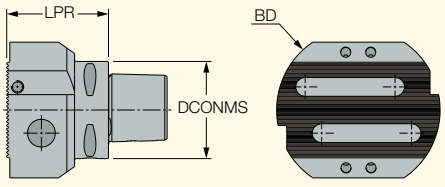
**Tools:** HFAER/L-4 • HFAER/L-5T, 6T • HFAIR/L-4 • HFAIR/L-DG • HGAER/L-3 • HGAIR/L-3

HELIFACE

TANG-GRIP FACE MACHINING LINE

## C#-HATA

CAMFIX Toolholder with a Serrated Connection Adaptation




| Designation | DCONMS | BD | LPR | CDI(1) |
|---|---|---|---|---|
| C6 HATA | 63.00 | 106.00 | 66.00 | 1 |

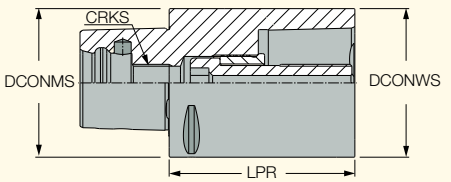
(1) 1 - Hole for data chip, 0 - Without hole for data chip

### Spare Parts

| Designation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| C6 HATA | SR M8X45 DIN 913 | SR M8X25 DIN913 | HW 4.0 | SR M6X6 DIN913 TL360 | HW 3.0 | BH NUT BHR MB80 | SR M12X35DIN912 | HW 10.0 |

## CAMFIX

### EX C# (CAMFIX extension)
CAMFIX Extension Adapters




| Designation | DCONMS | DCONWS | LPR | CRKS | CDI(1) | kg |
|---|---|---|---|---|---|---|
| C3 EX C3X060 | 32.00 | 32.00 | 60.00 | M12 | 0 | 0.40 |
| C3 EX C3X080 | 32.00 | 32.00 | 80.00 | M12 | 0 | 0.50 |
| C4 EX C4X060 | 40.00 | 40.00 | 60.00 | M14 | 0 | 0.50 |
| C4 EX C4X080 | 40.00 | 40.00 | 80.00 | M14 | 0 | 0.70 |
| C5 EX C5X080 | 50.00 | 50.00 | 80.00 | M16 | 0 | 1.13 |
| C5 EX C5X100 | 50.00 | 50.00 | 100.00 | M16 | 0 | 1.42 |
| C6 EX C6X100 | 63.00 | 63.00 | 100.00 | M20 | 0 | 2.23 |
| C6 EX C6X140 | 63.00 | 63.00 | 140.00 | M20 | 0 | 3.13 |
| C8 EX C8X100 | 80.00 | 80.00 | 100.00 | M20 | 0 | 3.65 |
| C8 EX C8X125 | 80.00 | 80.00 | 125.00 | M20 | 0 | 4.60 |

(1) 1 - Hole for data chip, 0 - Without hole for data chip

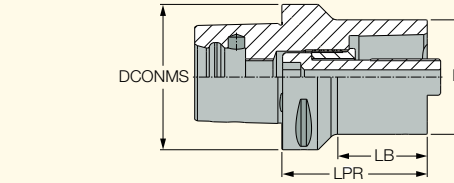
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| C3 EX C3X060 | SR M12X50 C3 | HW 7.0* | MT RING M18X15XC3 | COOLING TUBE C3* | WRENCH COOL TUBE C3* | WRENCH C3 DRW NUT* |
| C3 EX C3X080 | SR M12X50 C3 | HW 7.0* | MT RING M18X15XC3 | COOLING TUBE C3* | WRENCH COOL TUBE C3* | WRENCH C3 DRW NUT* |
| C4 EX C4X060 | SR M14X58 C4 | HW 8.0* | MT RING M22X17XC4 | COOLING TUBE C4* | WRENCH COOL TUBE C4* | WRENCH C4 DRW NUT* |
| C4 EX C4X080 | SR M14X58 C4 | HW 8.0* | MT RING M22X17XC4 | COOLING TUBE C4* | WRENCH COOL TUBE C4* | WRENCH C4 DRW NUT* |
| C5 EX C5X080 | SR M16X70 C5 | HW 10.0* | MT RING M25X20XC5 | COOLING TUBE C5* | WRENCH COOL TUBE C5* | WRENCH C5 DRW NUT* |
| C5 EX C5X100 | SR M16X70 C5 | HW 10.0* | MT RING M25X20XC5 | COOLING TUBE C5* | WRENCH COOL TUBE C5* | WRENCH C5 DRW NUT* |
| C6 EX C6X100 | SR M20X87 C6/8 | HW 14.0* | MT RING M30X24XC6/8 | COOLING TUBE C6* | WRENCH COOL TUBE C6* | WRENCH C6-8 DRW NUT* |
| C6 EX C6X140 | SR M20X87 C6/8 | HW 14.0* | MT RING M30X24XC6/8 | COOLING TUBE C6* | WRENCH COOL TUBE C6* | WRENCH C6-8 DRW NUT* |
| C8 EX C8X100 | SR M20X87 C6/8 | HW 14.0* | MT RING M30X24XC6/8 | COOLING TUBE C8* | WRENCH COOL TUBE C8* | WRENCH C6-8 DRW NUT* |
| C8 EX C8X125 | SR M20X87 C6/8 | HW 14.0* | MT RING M30X24XC6/8 | COOLING TUBE C8* | WRENCH COOL TUBE C8* | WRENCH C6-8 DRW NUT* |

* Optional, should be ordered separately

## CAMFIX

### RE-C#
CAMFIX Reduction Adapters




| Designation | DCONMS | DCONWS | LPR | LB | CDI(1) | kg |
|---|---|---|---|---|---|---|
| C6 RE C3X070 | 63.00 | 32.00 | 70.00 | 39.00 | 0 | 1.10 |
| C8 RE C3X060 | 80.00 | 32.00 | 60.00 | 29.30 | 0 | 1.70 |
| C6 RE C4X080 | 63.00 | 40.00 | 80.00 | 51.40 | 0 | 1.20 |
| C8 RE C4X070 | 80.00 | 40.00 | 70.00 | 36.50 | 0 | 1.90 |
| C6 RE C5X080 | 63.00 | 50.00 | 80.00 | 51.50 | 0 | 1.50 |
| C8 RE C5X080 | 80.00 | 50.00 | 80.00 | 49.30 | 0 | 2.20 |
| C8 RE C6X080 | 80.00 | 63.00 | 80.00 | 53.10 | 0 | 2.50 |
| C8 RE C6X120 | 80.00 | 63.00 | 120.00 | 12.00 | 0 | 4.00 |

(1) 1 - Hole for data chip, 0 - Without hole for data chip

### Spare Parts

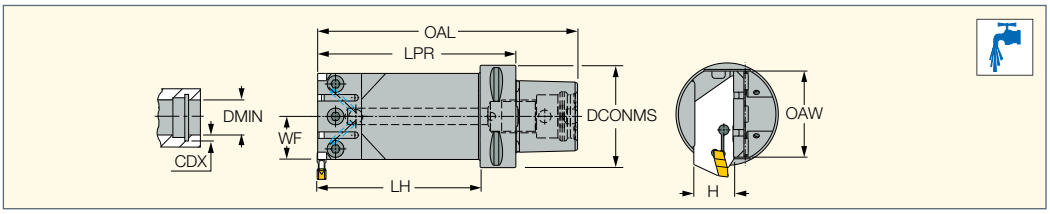
| Designation | | | | | | |
|---|---|---|---|---|---|---|
| C6 RE C3X070 | SR M12X50 C3 | HW 7.0* | MT RING M18X15XC3 | COOLING TUBE C6* | WRENCH COOL TUBE C6* | WRENCH C3 DRW NUT* |
| C8 RE C3X060 | SR M12X50 C3 | HW 7.0* | MT RING M18X15XC3 | COOLING TUBE C8* | WRENCH COOL TUBE C8* | WRENCH C3 DRW NUT* |
| C6 RE C4X080 | SR M14X58 C4 | HW 8.0* | MT RING M22X17XC4 | COOLING TUBE C6* | WRENCH COOL TUBE C6* | WRENCH C4 DRW NUT* |
| C8 RE C4X070 | SR M14X58 C4 | HW 8.0* | MT RING M22X17XC4 | COOLING TUBE C8* | WRENCH COOL TUBE C8* | WRENCH C4 DRW NUT* |
| C6 RE C5X080 | SR M16X70 C5 | HW 10.0* | MT RING M25X20XC5 | COOLING TUBE C6* | WRENCH COOL TUBE C6* | WRENCH C5 DRW NUT* |
| C8 RE C5X080 | SR M16X70 C5 | HW 10.0* | MT RING M25X20XC5 | COOLING TUBE C8* | WRENCH COOL TUBE C8* | WRENCH C5 DRW NUT* |
| C8 RE C6X080 | SR M20X87 C6/8 | HW 14.0* | MT RING M30X24XC6/8 | COOLING TUBE C8* | WRENCH COOL TUBE C8* | WRENCH C6-8 DRW NUT* |
| C8 RE C6X120 | SR M20X87 C6/8 | HW 14.0* | MT RING M30X24XC6/8 | COOLING TUBE C8* | WRENCH COOL TUBE C8* | WRENCH C6-8 DRW NUT* |

* Optional, should be ordered separately

MODULAR-GRIP
CAMFIX

## C#-GHIC

CUT-GRIP holders with CAMFIX Exchangeable Shanks for Internal Grooving and Turning Blades




| Designation | DCONMS | LPR | H | OAW | WF | OAL | LH | CDI(1) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C5 GHIC-70 | 50.00 | 120.00 | 26.0 | 53.00 | 26.50 | 150.00 | 100.0 | 1 | SR M8X6 DIN913 | SR M6X16 DIN912 | SR M3X4 DIN913 |
| C6 GHIC-70 | 63.00 | 122.00 | 26.0 | 53.00 | 26.50 | 160.00 | 100.0 | 1 | SR M8X6 DIN913 | SR M6X16 DIN912 | SR M3X4 DIN913 |

- Data for DMIN and CDX parameters presents in CGHN 26-M, SGFH 26-M, TGHN 26-M adapters

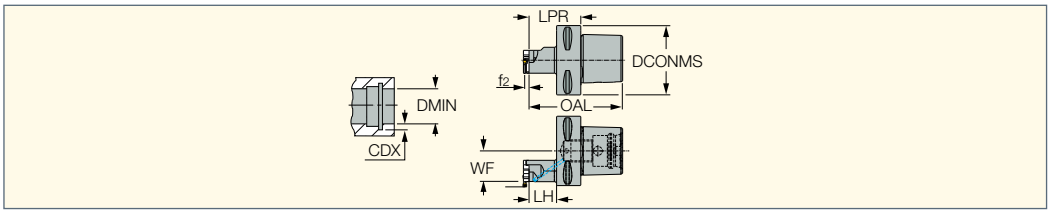
(1) 1 - Hole for data chip, 0 - Without hole for data chip

**Tools:** CGHN 26-M • TGHN 26-M

MODULAR-GRIP
CAMFIX

## C#-GHAIR/L

Boring Bars with CAMFIX Exchangeable Shanks for Internal Grooving and Turning




| Designation | DCONMS | LH | LPR | WF | Adapter | OAL | CDI(1) |
|---|---|---|---|---|---|---|---|
| C3 GHAIL-20 | 32.00 | 20.0 | 35.00 | 16.00 | GEAIL-20 | 54.00 | 0 |
| C3 GHAIR-20 | 32.00 | 20.0 | 35.00 | 16.00 | GEAIR-20 | 54.00 | 0 |
| C4 GHAIL-20 | 40.00 | 20.0 | 40.00 | 20.00 | GEAIL-20 | 64.00 | 1 |
| C4 GHAIR-20 | 40.00 | 20.0 | 40.00 | 20.00 | GEAIR-20 | 64.00 | 1 |
| C4 GHAIL-25 | 40.00 | 25.0 | 45.00 | 20.00 | GEAIL-25 | 69.00 | 1 |
| C4 GHAIR-25 | 40.00 | 25.0 | 45.00 | 20.00 | GEAIR-25 | 71.40 | 1 |
| C4 GHAIL-32 | 40.00 | 32.0 | 52.00 | 20.00 | GAIL-32 | 76.00 | 1 |
| C4 GHAIR-32 | 40.00 | 32.0 | 52.00 | 20.00 | GAIR-32 | 76.00 | 1 |
| C5 GHAIL-20 | 50.00 | 20.0 | 40.00 | 25.00 | GEAIL-20 | 70.00 | 1 |
| C5 GHAIR-20 | 50.00 | 20.0 | 40.00 | 25.00 | GEAIR-20 | 70.00 | 1 |
| C5 GHAIL-25 | 50.00 | 25.0 | 45.00 | 25.00 | GEAIL-25 | 75.00 | 1 |
| C5 GHAIR-25 | 50.00 | 25.0 | 45.00 | 25.00 | GEAIR-25 | 75.00 | 1 |
| C5 GHAIL-40 | 50.00 | 40.0 | 60.00 | 25.00 | GEAIL-40 | 90.00 | 1 |
| C5 GHAIR-40 | 50.00 | 40.0 | 60.00 | 25.00 | GEAIR-40 | 90.00 | 1 |
| C6 GHAIL-25 | 63.00 | 25.0 | 47.00 | 31.50 | GEAIL-25 | 85.00 | 1 |
| C6 GHAIR-25 | 63.00 | 25.0 | 47.00 | 31.50 | GEAIR-25 | 85.00 | 1 |
| C6 GHAIL-40 | 63.00 | 40.0 | 62.00 | 31.50 | GAIL-40 | 100.00 | 1 |
| C6 GHAIR-40 | 63.00 | 40.0 | 62.00 | 31.50 | GAIR-40 | 100.00 | 1 |

- DMIN, CDX, f2 data present in GAIR, GEAIR adapters

(1) 1 - Hole for data chip, 0 - Without hole for data chip

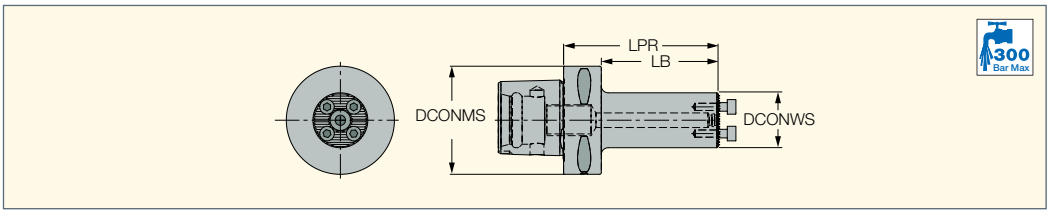
**Tools:** GAIR/L • GEAIR/L

### Spare Parts

| Designation | | |
|---|---|---|
| C3 GHAIR-20 | SR 76-2057 | T-8/5 |
| C4 GHAIR-20 | SR 76-2057 | T-8/5 |
| C4 GHAIR-25 | SR 16-236 P | T-15/5 |
| C4 GHAIR/L-32 | SR 16-236 P | T-15/5 |
| C5 GHAIR-20 | SR 76-2057 | T-8/5 |
| C5 GHAIR-25 | SR 16-236 P | T-15/5 |
| C5 GHAIR/L-40 | SR 16-212 | T-20/5 |
| C6 GHAIR-25 | SR 16-236 P | T-15/5 |
| C6 GHAIR/L-40 | SR 16-212 | T-20/5 |

## CAMFIX

### C#-SH-JHP
Serrated Connection Shanks with a CAMFIX Exchangeable Adaptation




| Designation | DCONMS | DCONWS | LPR | LB | CRKS | kg | CDI(1) |
|---|---|---|---|---|---|---|---|
| C4-SH-D16-2.5D-JHP | 40.00 | 16.00 | 40.00 | 20.00 | M14 | 0.31 | 1 |
| C4-SH-D20-2.5D-JHP | 40.00 | 20.00 | 50.00 | 30.00 | M14 | 0.35 | 1 |
| C4-SH-D25-2.5D-JHP | 40.00 | 25.00 | 55.00 | 35.00 | M14 | 0.41 | 1 |
| C4-SH-D32-2.5D-JHP | 40.00 | 32.00 | 75.00 | 55.00 | M14 | 0.63 | 1 |
| C4-SH-D40-3D-JHP | 40.00 | 40.00 | 80.00 | 80.00 | M14 | 0.88 | 1 |
| C5-SH-D16-2.5D-JHP | 50.00 | 16.00 | 40.00 | 20.00 | M16 | 0.50 | 1 |
| C5-SH-D20-2.5D-JHP | 50.00 | 20.00 | 50.00 | 30.00 | M16 | 0.54 | 1 |
| C5-SH-D25-2.5D-JHP | 50.00 | 25.00 | 55.00 | 35.00 | M16 | 0.61 | 1 |
| C5-SH-D32-2.5D-JHP | 50.00 | 32.00 | 75.00 | 55.00 | M16 | 0.00 | 1 |
| C5-SH-D40-3D-JHP | 50.00 | 40.00 | 100.00 | 80.00 | M16 | 1.26 | 1 |
| C6-SH-D16-2.5D-JHP | 63.00 | 16.00 | 40.00 | 18.00 | M20 | 0.83 | 1 |
| C6-SH-D20-2.5D-JHP | 63.00 | 20.00 | 50.00 | 28.00 | M20 | 0.87 | 1 |
| C6-SH-D25-2.5D-JHP | 63.00 | 25.00 | 65.00 | 43.00 | M20 | 0.00 | 1 |
| C6-SH-D32-3D-JHP | 63.00 | 32.00 | 90.00 | 68.00 | M20 | 1.26 | 1 |
| C6-SH-D32-4D-JHP | 63.00 | 32.00 | 125.00 | 103.00 | M20 | 0.00 | 1 |
| C6-SH-D40-3D-JHP | 63.00 | 40.00 | 100.00 | 78.00 | M20 | 1.61 | 1 |
| C6-SH-D40-4D-JHP | 63.00 | 40.00 | 140.00 | 118.00 | M20 | 1.99 | 1 |

(1) 1 - Hole for data chip, 0 - Without hole for data chip

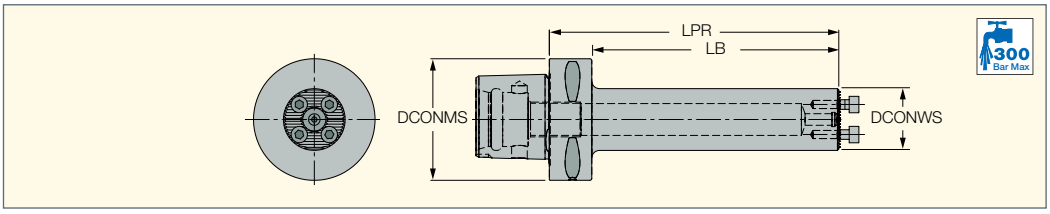
**Tools:** AVC-D-SIR/L • AVC-DDUNR/L • AVC-DVUNR/L • AVC-GAIR/L • AVC-GEAIR/L • AVC-PCLNR/L • AVC-PCLXR/L • AVC-SCLCR/L • AVC-SDJCN-Y • AVC-SDUCR/L • AVC-SRDCN-Y • AVC-SVLCR/L • AVC-SVUCR/L

### Spare Parts

| Designation | | |
|---|---|---|
| C4-SH-D16-2.5D-JHP | SR M3X10DIN912 | HW 2.5 |
| C4-SH-D20-2.5D-JHP | SR M3.5XL10-D5.5 | HW 2.5 |
| C5-SH-D16-2.5D-JHP | SR M3X10DIN912 | HW 2.5 |
| C5-SH-D20-2.5D-JHP | SR M3.5XL10-D5.5 | HW 2.5 |
| C6-SH-D16-2.5D-JHP | SR M3X10DIN912 | HW 2.5 |
| C6-SH-D20-2.5D-JHP | SR M3.5XL10-D5.5 | HW 2.5 |

## CAMFIX

### C#-SH-E-JHP
Serrated Connection Shanks with Carbide Core and a CAMFIX Exchangeable Adaptation




| Designation | DCONMS | DCONWS | LPR | LB | CRKS | kg | CDI(1) |
|---|---|---|---|---|---|---|---|
| C6-SH-D16-5D-E-JHP | 63.00 | 16.00 | 80.00 | 58.00 | M20 | 0.93 | 1 |
| C6-SH-D20-5D-E-JHP | 63.00 | 20.00 | 100.00 | 78.00 | M20 | 1.06 | 1 |
| C6-SH-D25-5D-E-JHP | 63.00 | 25.00 | 115.00 | 93.00 | M20 | 1.29 | 1 |
| C6-SH-D32-5D-E-JHP | 63.00 | 32.00 | 150.00 | 128.00 | M20 | 0.00 | 1 |
| C6-SH-D40-5D-E-JHP | 63.00 | 40.00 | 185.00 | 163.00 | M20 | 2.68 | 1 |

(1) 1 - Hole for data chip, 0 - Without hole for data chip

**Tools:** AVC-D-SIR/L • AVC-DDUNR/L • AVC-DVUNR/L • AVC-GAIR/L • AVC-GEAIR/L • AVC-PCLNR/L • AVC-PCLXR/L • AVC-SCLCR/L • AVC-SDJCN-Y • AVC-SDUCR/L • AVC-SRDCN-Y • AVC-SVLCR/L • AVC-SVUCR/L

### Spare Parts

| Designation | | |
|---|---|---|
| C6-SH-D16-5D-E-JHP | HW 2.5 | SR M3X10DIN912 |
| C6-SH-D20-5D-E-JHP | HW 2.5 | SR M3.5XL10-D5.5 |

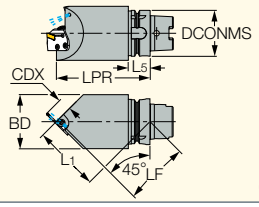
# HSK-T (ISO 12164-3 T Type and ICTM Standard)

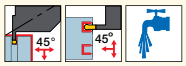
MODULAR-GRIP

HSK

## HSK A63WH-MAHDR-45

Holders with HSK Tapered Shanks for MODULAR-GRIP, Parting, Grooving and Facing Adapters




CDX = See specific adapter dimensions • Right-handshown

| Designation | DCONMS | LPR | L1 | L5 | LF | BD | CP(1) | CDI(2) |
|---|---|---|---|---|---|---|---|---|
| HSK A63WH MAHDR 45 | 63.00 | 130.00 | 91.9 | 30.00 | 89.0 | 75.00 | 100 | 1 |

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately) • Complies with ICTM standard (ISO 12164-3)

(1) Coolant pressure (Bar)

(2) 1 - Hole for data chip, 0 - Without hole for data chip

**Tools:** CGPAD • DGAD-B-D • DGAD/HGAD • HFPAD-3 • HFPAD-4 • HFPAD-5 • HFPAD-6 • HGPAD • PCADR/L • SCLCR-PAD • SDJCR-PAD • SVJCR-PAD • SWAPR-PAD • TGAD • TGPAD




### Spare Parts

| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| HSK A63WH MAHDR 45 | SR M5-04451 | T-20/5 | SR 14-519(a) | SR M6X20-XT | HW 5.0 | SR M6X6DIN551 14H/22H(b) | SATZ-M8X1-M3 |

(a) For DGAD, HGAD and PCADR/L adapters; supplied in the attached plastic bag

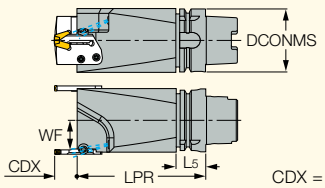
(b) Used to prevent chips from entering the upper locking screw hole when it is not used for the adaptation; supplied in the attached plastic bag

MODULAR-GRIP

HSK

## HSK A63WH-MAHDOR

Holders with HSK Exchangeable Shanks for Parting, Grooving, Turning and Facing Adapters






CDX = See specific adapter dimensions • Right-hand shown

| Designation | DCONMS | WF | LPR | L5 | CDI(1) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| HSK A63WH MAHDOR | 63.00 | 29.0 | 130.00 | 30.00 | 1 | SR M5-04451 | T-20/5 | SR 14-519(a) | SR M6X20-XT(b) | HW 5.0 | SR M6X6DIN551 14H/22H(c) | EZ 125 |

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately) • Complies with ICTM standard (ISO 12164-3)

(1) 1 - Hole for data chip, 0 - Without hole for data chip

(a) For DGAD, HGAD and PCADR/L adapters; supplied in the attached plastic bag

(b) For CGPAD, HGPAD, TGPAD and HFPAD adapters; supplied with the tools

(c) Used to prevent chips from entering the upper locking screw hole when it is not used for the adaptation; supplied in the attached plastic bag

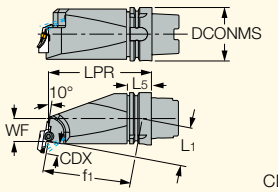
**Tools:** CGPAD • DGAD-B-D • DGAD/HGAD • HFPAD-3 • HFPAD-4 • HFPAD-5 • HFPAD-6 • HGPAD • PCADR/L • SCLCR-PAD • SDJCR-PAD • SVJCR-PAD • SWAPR-PAD • TGAD • TGPAD

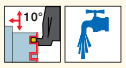
MODULAR GRIP

## HSK

### HSK A63WH-MAHUR/L

Holders with HSK-T Shanks for 10° Mounting on Mill-Turn Machines for Parting, Grooving, Turning and Facing Adapters




CDX = See specific adapter dimensions • Right-handshown

| Designation | DCONMS | f1 | WF | LPR | L1 | L5 | CP(1) | CDI(2) |
|---|---|---|---|---|---|---|---|---|
| HSK A63WH MAHUR/L 10 | 63.00 | 113.1 | 29.00 | 130.00 | 49.4 | 30.00 | 100 | 1 |

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately) • Complies with ICTM standard (ISO 12164-3)

(1) Coolant pressure (Bar)

(2) 1 - Hole for data chip, 0 - Without hole for data chip

**Tools:** CGPAD • DGAD-B-D • DGAD/HGAD • HFPAD-3 • HFPAD-4 • HFPAD-5 • HFPAD-6 • HGPAD • PCADR/L • SCLCR-PAD • SDJCR-PAD • SVJCR-PAD • SWAPR-PAD • TGAD • TGPAD • TTADR/L-JHP

### Spare Parts

| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| HSK A63WH MAHUR/L 10 | SR M5-04451 | T-20/5 | SR 14-519(a) | SR M6X20-XT(b) | HW 5.0 | SR M6X6DIN551 14H/22H(c) | EZ 125 |

(a) For DGAD, HGAD and PCADR/L adapters; supplied in the attached plastic bag

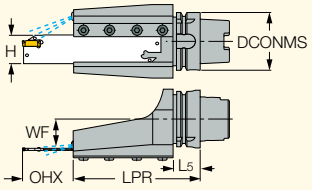
(b) For CGPAD, HGPAD, TGPAD and HFPAD adapters; supplied with the tools

(c) Used to prevent chips from entering the upper locking screw hole when it is not used for the adaptation; supplied in the attached plastic bag

## TOOL BLOCKS HSK

### HSK A-WH-TBK-R/L

Blocks with HSK Exchangeable Tapered Shanks for Parting and Grooving Blades






OHX = See specific blade dimensions
• Right-hand shown

| Designation | DCONMS | LPR | L5 | WF | H(1) | CP(2) | CDI(3) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| HSK A63WH TBK 32R/L | 63.00 | 138.00 | 30.00 | 32.0 | 32.0 | 100 | 1 | BK 32-9 WEDG | SR M6X16 DIN912 | HW 5.0 | EZ 125 |

• Complies with ICTM standard (ISO 12164-3) • Not suitable for ATC for some Multi-Tasking Machine models, please consult your MTB

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately)

(1) Blade size H has to fit this dimension

(2) Coolant pressure (Bar)

(3) 1 - Hole for data chip, 0 - Without hole for data chip

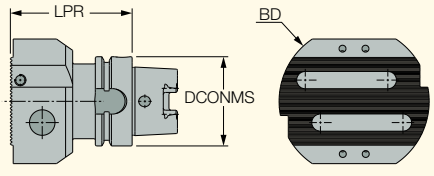
**Tools:** CGHN-DG • CGHR/L-P8DG • DGFH • DGFHR/L • DGFHR/L-B-D..(R/L) • HFFH • HGFH • PCHBR/L • TGFH/R/L • TGFHR/L • TNFFH-IQ

HELIFACE

TANG GRIP
FACE MACHINING LINE

### HSK 63 HATA

HSK Toolholder with a Serrated Connection Adaptation




| Designation | DCONMS | BD | LPR |
|---|---|---|---|
| HSK63 HATA | 63.00 | 106.00 | 86.00 |

### Spare Parts

| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| HSK63 HATA | SR M6X6 DIN913 | SR M8X25 DIN913 | HW 4.0 | SR M6X6 DIN913 TL360 | HW 3.0 | BH NUT BHR MB80 | SR M12X35DIN912 | HW 10.0 | SR M8X45 DIN 913 |

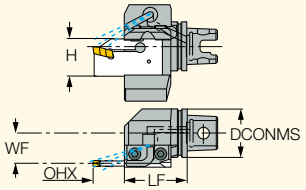
# IM (ISO 26622-1 and Mazak XMZ Standard)

## ISO 26622-1 XMZ

ISCAR GRIP

### IM-TBU

Blocks with an ISO 26622-1(*) Tapered Shank for Parting and Grooving Blades




OHX - See specific blade dimensions
• Right-hand shown

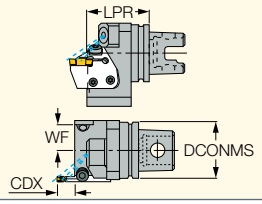
| Designation | DCONMS | H | LF | WF | CDI(1) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| IM40 TBU-32R | 40.00 | 32.0 | 51.00 | 23.0 | 0 | BKU 176 307 | SR M6X25 DIN912 | HW 5.0 | SR M6X6 DIN913 | EZP 5 | EZ 125 |
| IM50 TBU-32R | 50.00 | 32.0 | 61.00 | 30.0 | 0 | BKU 176 307 | SR M6X25 DIN912 | HW 5.0 | SR M6X6 DIN913 | EZP 5 | EZ 125 |
| IM63 TBU-32L | 63.00 | 32.0 | 63.00 | 38.0 | 0 | BKU 176 307 | SR M6X25 DIN912 | HW 5.0 | SR M6X6 DIN913 | EZP 5 | EZ 125 |

• (*) Tools with orientation holes in the flange groove can be supplied on request
(1) 1 - Hole for data chip, 0 - Without hole for data chip
**Tools:** CGHN-S • TGHN-S

## MODULAR GRIP
## ISO 26622-1 XMZ

### IM-MAHD

Holders with an ISO 26622-1(*) Tapered Shank for Parting, Grooving, Turning and Facing Adapters




CDX = See specific adapter dimensions
• Right-handshown

| Designation | DCONMS | LPR | WF | CDI(1) |
|---|---|---|---|---|
| IM40 MAHD | 40.00 | 43.00 | 18.0 | 0 |
| IM50 MAHD | 50.00 | 47.00 | 23.0 | 0 |
| IM63 MAHD | 63.00 | 52.00 | 29.0 | 0 |

• (*) Tools with orientation holes in the flange groove can be supplied on request
(1) 1 - Hole for data chip, 0 - Without hole for data chip
**Tools:** CGPAD • DGAD-B-D • DGAD/HGAD • HFPAD-3 • HFPAD-4 • HFPAD-5 • HFPAD-6 • HGPAD • PCADR/L • SCLCR-PAD • SDJCR-PAD • SVJCR-PAD • SWAPR-PAD • TGAD • TGPAD

### Spare Parts

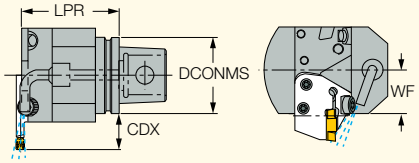
| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| IM-MAHD | SR M5-04451 | T-20/5 | SR 14-519(a) | SR M6X20-XT(b) | HW 5.0 | SR M6X6DIN551 14H/22H(c) | SR 76-1022 | EZA 125 | EZ 125 |

(a) For DGAD, HGAD and PCADR/L adapters; supplied in the attached plastic bag
(b) For CGPAD, HGPAD, TGPAD and HFPAD adapters; supplied with the tools
(c) Used to prevent chips from entering the upper locking screw hole when it is not used for the adaptation; supplied in the attached plastic bag

## MODULAR GRIP
## ISO 26622-1 XMZ

### IM-MAHPD

Perpendicular Holders with an ISO 26622-1(*) Tapered Shank for Parting, Grooving, Turning and Facing Adapters




CDX = See specific adapter dimensions
• Right-hand shown

| Designation | DCONMS | LPR | WF | CDI(1) |
|---|---|---|---|---|
| IM40 MAHPD | 40.00 | 44.00 | 25.00 | 0 |
| IM50 MAHPD | 50.00 | 45.00 | 26.00 | 0 |
| IM63 MAHPD | 63.00 | 45.00 | 33.00 | 0 |

• (*) Tools with orientation holes in the flange groove can be supplied on request
(1) 1 - Hole for data chip, 0 - Without hole for data chip
**Tools:** CGPAD • DGAD-B-D • DGAD/HGAD • HFPAD-3 • HFPAD-4 • HFPAD-5 • HFPAD-6 • HGPAD • PCADR/L • SCLCR-PAD • SDJCR-PAD • SVJCR-PAD • SWAPR-PAD • TGAD • TGPAD

### Spare Parts

| Designation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| IM-MAHPD | SR M5-04451 | T-20/5 | SR 14-519(a) | SR M6X20-XT(b) | HW 5.0 | SR M6X6DIN551 14H/22H(c) | EZP 5 | EZ 125 |

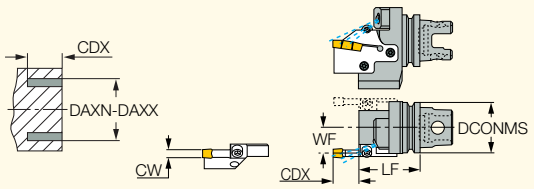
(a) For DGAD, HGAD and PCADR/L adapters; supplied in the attached plastic bag
(b) For CGPAD, HGPAD, TGPAD and HFPAD adapters; supplied with the tools
(c) Used to prevent chips from entering the upper locking screw hole when it is not used for the adaptation; supplied in the attached plastic bag

## ISO 26622-1 XMZ

**ISCAR GRIP**

### IM-GHAD-8

Holders with an ISO 26622-1(*) Tapered Shank for Grooving, Turning and Facing Adapters




CDX - See specific adapter dimensions

| Designation | DCONMS | CW | LF | WF | DAXN(1) | DAXX(2) | CDX(3) | CDI(4) |
|---|---|---|---|---|---|---|---|---|
| IM50 GHAD-8 | 50.00 | 8.00 | 60.00 | 26.00 | 80.0 | 510.0 | 25.00 | 0 |
| IM63 GHAD-8 | 63.00 | 8.00 | 65.00 | 32.50 | 80.0 | 510.0 | 25.00 | 0 |

- (*) Tools with orientation holes in the flange groove can be supplied on request

(1) Minimum axial grooving diameter

(2) Maximum axial grooving diameter

(3) Cutting depth maximum

(4) 1 - Hole for data chip, 0 - Without hole for data chip

**Tools:** GADR/L-8 • GAFG-R/L-8 • PCADR/L 34N-RE

### Spare Parts

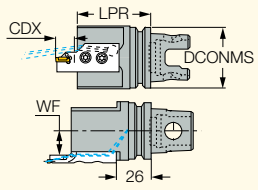
| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| IM-GHAD-8 | SR 14-519 | T-20/5 | SR M6X25 DIN912 | HW 5.0 | SR 76-1022 | EZA 125 | EZ 125 |

## ISO 26622-1 XMZ

**ISCAR GRIP**

### IM-HAD

Holders with an ISO 26622-1(*) Tapered Shank for Internal Facing Adapters




CDX - See specific adapter dimensions

| Designation | DCONMS | LPR | WF | CDI(1) | | | | |
|---|---|---|---|---|---|---|---|---|
| IM40 HAD | 40.00 | 60.00 | 18.0 | 0 | SR 14-519 | T-20/3 | HW 3.0 | SR M4X6DIN912 |
| IM50 HAD | 50.00 | 60.00 | 18.0 | 0 | SR 14-519 | T-20/3 | HW 3.0 | SR M4X6DIN912 |

- (*) Tools with orientation holes in the flange groove can be supplied on request

(1) 1 - Hole for data chip, 0 - Without hole for data chip

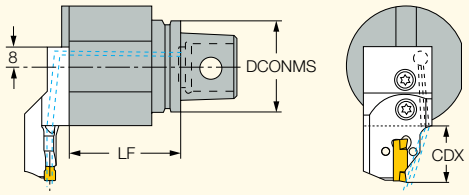
**Tools:** HFAER/L-4 • HFAER/L-5T, 6T • HFAIR/L-4 • HFAIR/L-DG • HGAER/L-3 • HGAIR/L-3

## ISO 26622-1 XMZ

**ISCAR GRIP**

### IM-HAPR/L

Perpendicular Holders with an ISO 26622-1 (*) Tapered Shank for Internal Facing Adapters




CDX - See specific adapter dimensions
- Right-hand shown

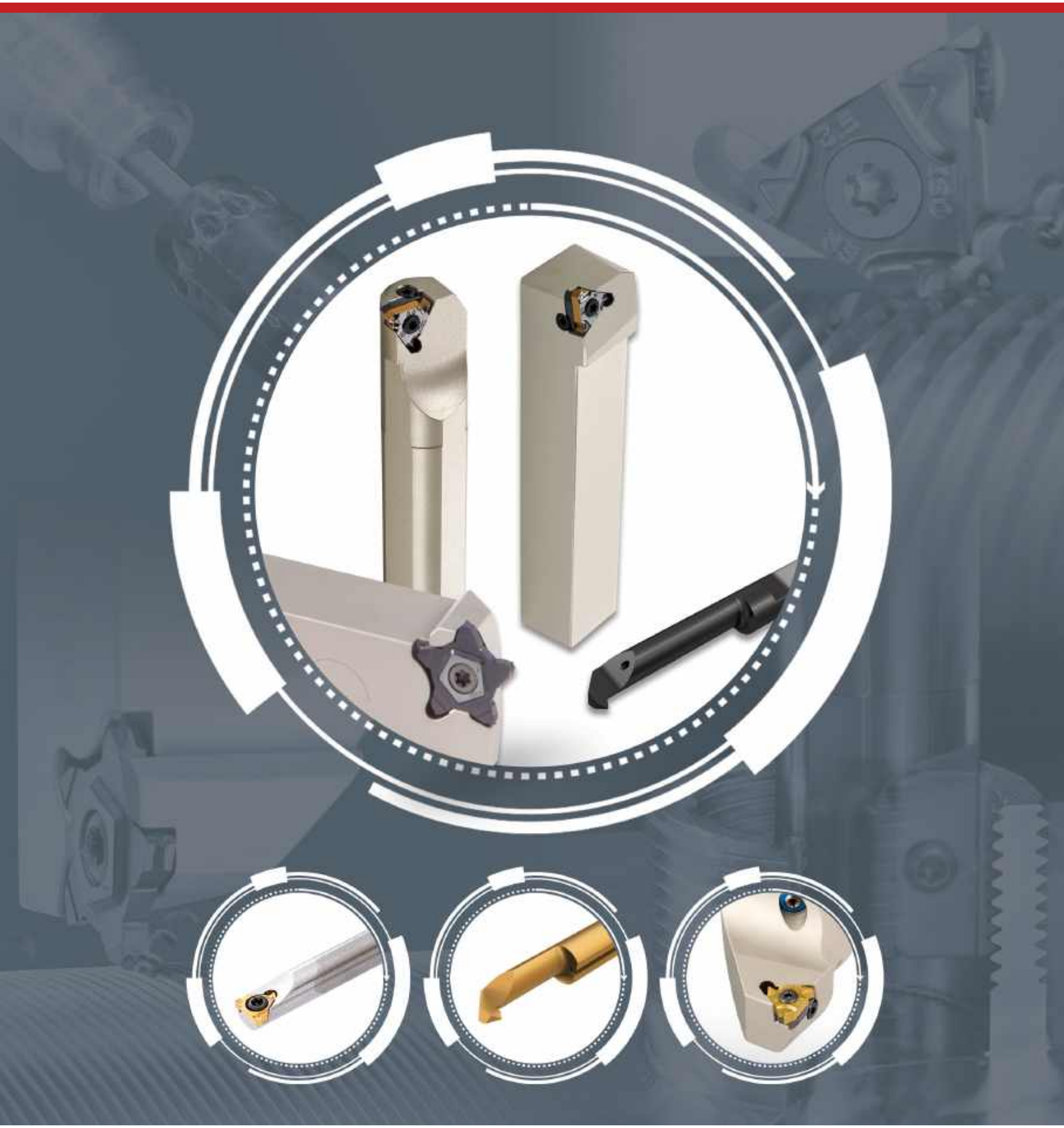
| Designation | DCONMS | LF | CDI(1) | | |
|---|---|---|---|---|---|
| IM40 HAPR/L | 40.00 | 50.00 | 0 | SR 14-519 | T-20/3 |
| IM50 HAPR | 50.00 | 50.00 | 0 | SR 14-519 | T-20/3 |

- (*) Tools with orientation holes in the flange groove can be supplied on request

(1) 1 - Hole for data chip, 0 - Without hole for data chip

**Tools:** HFAER/L-4 • HFAER/L-5T, 6T • HFAIR/L-4 • HFAIR/L-DG • HGAER/L-3 • HGAIR/L-3

# THREADING TOOLS & INSERTS



Member IMC Group

ISCAR

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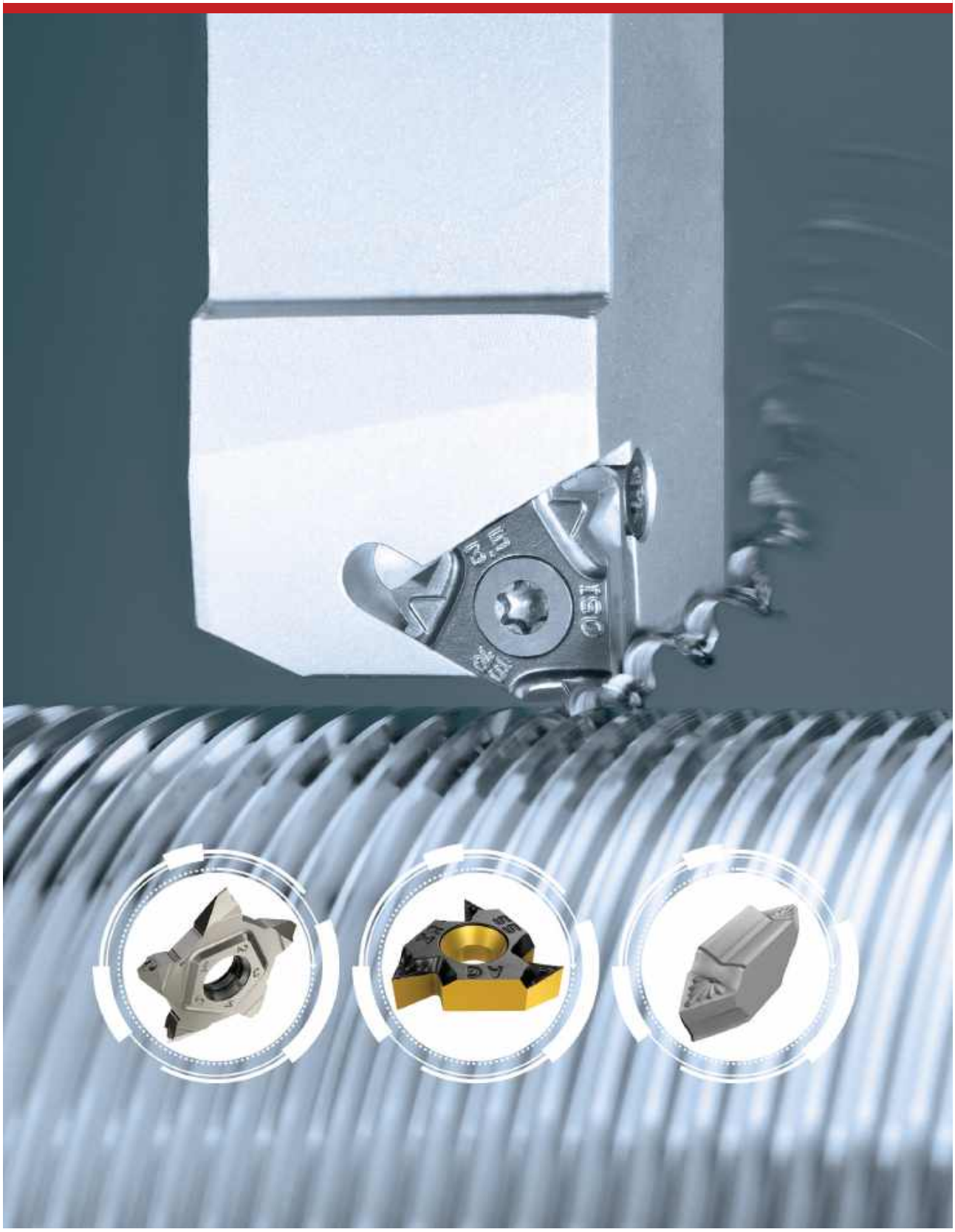
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# THREADING INSERTS



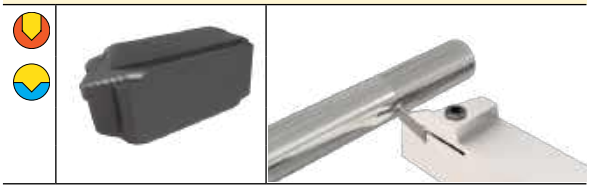
## Main Types of Laydown Inserts

| B/M-TYPE | U-TYPE | REGULAR TYPE | MULTI-TOOTH |
|---|---|---|---|
|  |  |  |  |

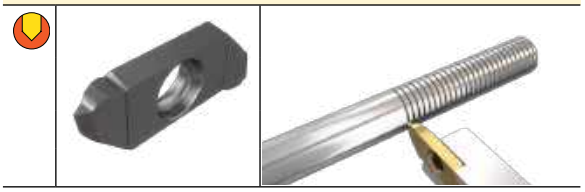
## Additional Threading Systems

### External

**CUT-GRIP External**



**SWISSCUT External**



**PENTACUT External**

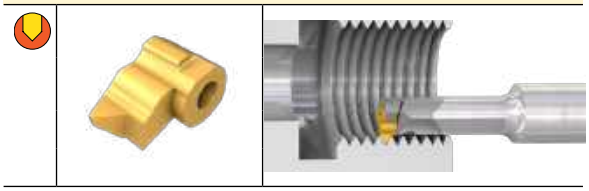


Partial profile

Full profile

### Internal

**MINICHAM Internal**



Minimum bore dia. 4 mm

**PICCOCUT Mini-Bar**



Minimum bore dia. 2.4 mm

**CHAMGROOVE Internal**



Minimum bore dia. 8.0 mm

**CUT-GRIP Internal**



Minimum bore dia. 12.5 mm



Minimum bore dia. 20 mm



Partial profile

Full profile

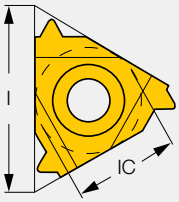
ISCARTHREAD

## Insert Identification System

| 16 | E | R | M | 1.50 | ISO | 2M | IC808 |
|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

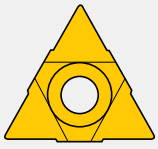
### 1. Insert Size

| l (mm) | IC |
|---|---|
| 06 | 5/32" |
| 08 | 3/16" |
| 11 | 1/4" |
| 16 | 3/8" |
| 22 | 1/2" |
| 27 | 5/8" |




### 2. Application

| | |
|---|---|
| E | External |
| I | Internal |
| UE | U-type, External |
| UI | U-type, Internal |
| UEI | U-type, External and Internal |



U-type



Regular Type

### 3. Hand of Tool

| | |
|---|---|
| R | Right-hand |
| L | Left-hand |
| RL | Right- and Left-hand |

### 4. Type

| | |
|---|---|
| B | Peripherally ground & chipformer |
| M | Press to size with a chipformer |
| □ | No indication regular type |

### 5. Pitch

**Full Profile (value by number)**

0.35-9.0 mm

72-2 TPI

**Partial Profile (range by letter)**

| | mm | TPI |
|---|---|---|
| A | 0.5-1.5 | 48-16 |
| AG | 0.5-3.0 | 48-8 |
| G | 1.75-3.0 | 14-8 |
| N | 3.5-5.0 | 7-5 |
| Q | 5.5-6.0 | 4.5-4 |
| U | 5.5-9.0 | 4.5-2.75 |

### 6. Thread Standard

| | |
|---|---|
| 60 | Partial Profile 60° |
| 55 | Partial Profile 55° |
| ISO | ISO Metric |
| UN | American UN |
| W | Whitworth |
| BSPT | British BSPT |
| RND | Round DIN 405 |
| TR | Trapeze DIN 103 |
| ACME | ACME |
| STACME | Stub ACME |
| ABUT | American Buttress |
| UNJ | UNJ |
| NPT | NPT |
| API RD | API Round |
| BUT | API Buttress Casing |
| API | API |
| H90 | H-90 |
| EL | Extreme Line Casing |
| MJ | ISO 5855 |

### 7. No. of Teeth (Optional)

| | |
|---|---|
| 2M | 2 teeth |
| 3M | 3 teeth |

### 8. Grade

| |
|---|
| IC1007 |
| IC908 |
| IC808 |
| IC508 |
| IC250 |
| IC228 |
| IC50M |
| IC806 |

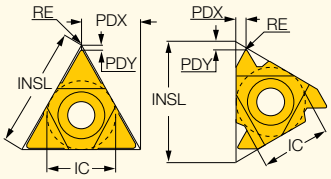
# Partial Profle 55° (Whitworth)

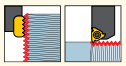
**ISCARTHREAD**

## ER/L-55°

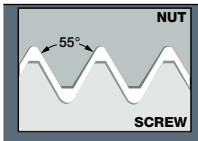
External Laydown Threading Inserts with a 55° Partial Profile for General Industry





External right-hand shown




| Designation | Dimensions IC | TPN[2] | TPX[3] | TPIX[4] | TPIN[5] | INSL | RE | PDY | PDX | Tough ↔ Hard IC228 | IC50M | IC250 | IC808 | IC908 | IC1007 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11ER A 55 | 6.35 | 0.500 | 1.500 | 48.00 | 16.00 | 11.00 | 0.05 | 0.8 | 0.9 | | | ● | | ● | |
| 16EL A 55 | 9.52 | 0.500 | 1.500 | 48.00 | 16.00 | 16.49 | 0.05 | 0.8 | 0.9 | | ● | ● | | | |
| 16ER A 55 | 9.52 | 0.500 | 1.500 | 48.00 | 16.00 | 16.49 | 0.05 | 0.8 | 0.9 | | ● | ● | | ● | |
| 16EL AG 55 | 9.52 | 0.500 | 3.000 | 48.00 | 8.00 | 16.49 | 0.07 | 1.2 | 1.7 | | | ● | | ● | |
| 16ER AG 55 | 9.52 | 0.500 | 3.000 | 48.00 | 8.00 | 16.49 | 0.07 | 1.2 | 1.7 | ● | | ● | | ● | ● |
| 16ERB AG 55 [1] | 9.52 | 0.500 | 3.000 | 48.00 | 8.00 | 16.49 | 0.07 | 1.2 | 1.7 | | | | | ● | |
| 16ERM AG 55 [1] | 9.52 | 0.500 | 3.000 | 48.00 | 8.00 | 16.49 | 0.07 | 1.2 | 1.7 | | ● | ● | ● | ● | ● |
| 16EL G 55 | 9.52 | 1.750 | 3.000 | 14.00 | 8.00 | 16.49 | 0.20 | 1.2 | 1.7 | | | ● | | | |
| 16ER G 55 | 9.52 | 1.750 | 3.000 | 14.00 | 8.00 | 16.49 | 0.23 | 1.2 | 1.7 | | | ● | | ● | |
| 16ERB G 55 [1] | 9.52 | 1.750 | 3.000 | 14.00 | 8.00 | 16.49 | 0.23 | 1.2 | 1.7 | | | | | ● | |
| 16ERM G 55 [1] | 9.52 | 1.750 | 3.000 | 14.00 | 8.00 | 16.49 | 0.23 | 1.2 | 1.7 | | | ● | ● | ● | ● |
| 22EL N 55 | 12.70 | 3.500 | 5.000 | 7.00 | 5.00 | 22.00 | 0.42 | 1.7 | 2.5 | | | ● | | | |
| 22ER N 55 | 12.70 | 3.500 | 5.000 | 7.00 | 5.00 | 22.00 | 0.48 | 1.7 | 2.5 | | | ● | | ● | |
| 22UEIRL U 55 | 12.70 | 5.500 | 8.000 | 4.50 | 3.25 | 22.00 | 0.60 | 0.9 | 11.0 | | ● | ● | | | |
| 27ER Q 55 | 15.88 | 5.500 | 6.000 | 4.50 | 4.00 | 27.50 | 0.60 | 2.0 | 2.9 | | | ● | | ● | |
| 27UEIRL U 55 | 15.88 | 6.500 | 9.000 | 4.00 | 2.75 | 27.50 | 0.81 | 1.2 | 13.7 | | | ● | | | |

- For insert identification system, see pages 640-641
- For threading between walls use GRIP-type inserts TIP-WT, GEPI-WT, TIPI-WT
- For detailed cutting data, see page 713

[1] With pressed chipformer
[2] Threads per inch maximum
[3] Threads per inch minimum
[4] Threads per inch maximum
[5] Threads per inch minimum

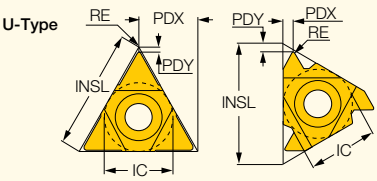
**Tools:** C#-SER/L • SER-D • SER/L

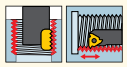
**ISCARTHREAD**

## IR/L-55°

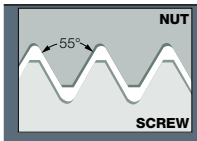
Internal Laydown Threading Inserts with a 55° Partial Profile for General Industry





Internal left-hand shown




| Designation | Dimensions IC | TPIX[2] | TPIN[3] | INSL | RE | PDY | PDX | Tough ↔ Hard IC228 | IC928 | IC50M | IC250 | IC508 | IC808 | IC908 | IC1007 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 06IL A 55 | 4.00 | 48.00 | 20.00 | 6.88 | 0.07 | 0.6 | 0.6 | ● | | | | | | | |
| 06IR A 55 | 4.00 | 48.00 | 20.00 | 6.88 | 0.08 | 0.6 | 0.6 | ● | | | | | | | |
| 08IL A 55 | 5.00 | 48.00 | 16.00 | 8.24 | 0.08 | 0.6 | 0.7 | ● | | | | | | | |
| 08IR A 55 | 5.00 | 48.00 | 16.00 | 8.24 | 0.08 | 0.6 | 0.7 | ● | ● | | | | | ● | |
| 08UIRL U 55 | 5.00 | 18.00 | 12.00 | 8.24 | 0.10 | 0.9 | 4.0 | ● | | | | | | | |
| 11IL A 55 | 6.35 | 48.00 | 16.00 | 11.00 | 0.05 | 0.8 | 0.9 | | | | ● | | | ● | |
| 11IR A 55 | 6.35 | 48.00 | 16.00 | 11.00 | 0.05 | 0.8 | 0.9 | ● | | | ● | | | ● | ● |
| 16IR A 55 | 9.52 | 48.00 | 16.00 | 16.49 | 0.05 | 0.8 | 0.9 | | | ● | | | | ● | |
| 16IL AG 55 | 9.52 | 48.00 | 8.00 | 16.49 | 0.07 | 1.2 | 1.7 | | | | | | | ● | |
| 16IR AG 55 | 9.52 | 48.00 | 8.00 | 16.49 | 0.07 | 1.2 | 1.7 | | | | ● | | | ● | |
| 16IRB AG 55 [1] | 9.52 | 48.00 | 8.00 | 16.49 | 0.07 | 1.2 | 1.7 | | | | | | | ● | |
| 16IRM AG 55 [1] | 9.52 | 48.00 | 8.00 | 16.49 | 0.05 | 1.2 | 1.7 | | | | ● | | ● | ● | ● |
| 16IL G 55 | 9.52 | 14.00 | 8.00 | 16.49 | 0.20 | 1.2 | 1.7 | | | | | | | ● | |
| 16IR G 55 | 9.52 | 14.00 | 8.00 | 16.49 | 0.23 | 1.2 | 1.7 | | | | ● | ● | | ● | |
| 16IRB G 55 [1] | 9.52 | 14.00 | 8.00 | 16.49 | 0.23 | 1.2 | 1.7 | | | | | | | ● | |
| 16IRM G 55 [1] | 9.52 | 14.00 | 8.00 | 16.49 | 0.20 | 1.2 | 1.7 | | | | ● | | ● | ● | ● |
| 22IR N 55 | 12.70 | 7.00 | 5.00 | 22.00 | 0.42 | 1.7 | 2.5 | | | ● | ● | | | ● | |
| 27IR Q 55 | 15.88 | 4.00 | 4.00 | 27.50 | 0.60 | 2.0 | 2.9 | | | | | | | ● | |

- For insert identification system, see pages 640-641
- For threading between walls use GRIP-type inserts TIP-WT, GEPI-WT, TIPI-WT.
- For detailed cutting data, see page 713

[1] With pressed chipformer
[2] Threads per inch maximum
[3] Threads per inch minimum

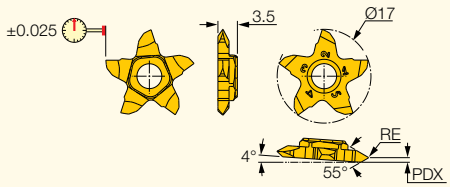
**Tools:** AVC-D-SIR/L • MGSIR/L • PICIN-MGSIR/L • SIR/L

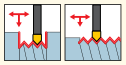
PENTACUT THREADING LINE

## PENTA 17-WT-RS/LS

Precision Ground Pentagonal External Threading Inserts with a 55° Partial Profile for General Industry





| Designation | Dimensions TPIX(1) | TPIN(2) | RE | PDX | IC1008 |
|---|---|---|---|---|---|
| PENTA 17-WTL003LS | 72.00 | 16.00 | 0.03 | 0.80 | ● |
| PENTA 17-WTR003RS | 72.00 | 16.00 | 0.03 | 0.80 | ● |
| PENTA 17-WTL008LS | 31.00 | 8.00 | 0.08 | 1.40 | ● |
| PENTA 17-WTR008RS | 31.00 | 8.00 | 0.08 | 1.40 | ● |

(1) Threads per inch maximum
(2) Threads per inch minimum

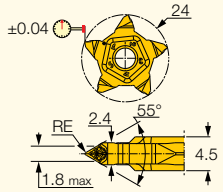
**Tools:** NQCH-PCHR/L-S-JHP • PCADRS/LS-JHP • PCHRS/LS-17 • PCHRS/LS-17-JHP • Y-PCHRS-17 • Y-PCHRS-17-JHP

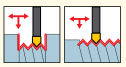
PENTACUT THREADING LINE

## PENTA 24-WT

Precision Ground Pentagonal External Threading Inserts with a Whitworth 55° Partial Profile





| Designation | Dimensions TPIX(2) | TPIN(3) | RE | IC908 |
|---|---|---|---|---|
| PENTA 24A-WT-0.15 (1) | 24.00 | 8.00 | 0.15 | ● |
| PENTA 24A-WT-0.05 (1) | 80.00 | 8.00 | 0.05 | ● |

• TPIN=6.4/D(inch) D-nominal thread diameter (inch)
(1) Flat rake (without a chipformer)
(2) Threads per inch maximum
(3) Threads per inch minimum

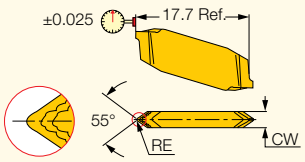
**Tools:** PCAD RE/LE-JHP • PCADR/L • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-24 • PCHR/L-24-JHP • PCHR/L-24-JHP-MC

ISCARTHREAD
CUTGRIP

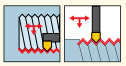
## TIP-WT

Precision Ground Double-Ended Threading Inserts with a 55° Partial Profile and a Chipformer






TIP inserts are 1.6 mm longer than GIP in the same pocket



| Designation | Dimensions CW | RE | RETOL(2) | TPIX(3) | TPIN(4) | Tough ↔ Hard IC08 | IC908 |
|---|---|---|---|---|---|---|---|
| TIP 2WT-0.05 (1) | 2.40 | 0.05 | 0.030 | 54.00 | 12.00 | ● | ● |
| TIP 4WT-0.15 (1) | 4.00 | 0.15 | 0.030 | 19.00 | 7.00 | ● | ● |
| TIP 5WT-0.25 (1) | 5.50 | 0.25 | 0.030 | 12.00 | 6.00 | | ● |

• Toolholder seat needs to be modified according to insert profile to ensure clearance • Pitch max 0.187xD
(1) TPIN(thread per inch minimum) = D/6.4 • D-Diameter of thread (inch)
(2) Corner radius tolerance (+/-)
(3) Threads per inch maximum
(4) Threads per inch minimum

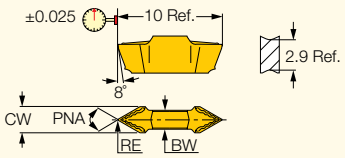
**Tools:** C#-GHDR/L • CGHN 26-M • CGHN 32-DGM • CGHN 32-M • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L • GHSR/L • GHSR/L-JHP-SL • NQCH-GHSR/L-JHP

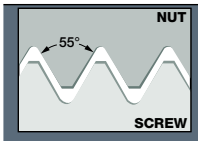
ISCARTHREAD
CUTGRIP

## GEPI-WT

Precision Ground Double-Ended Threading Inserts with a 55° Partial Profile and a Chipformer for 11.5 mm Bore Diameter






| Designation | Dimensions | | | | | | | | | Tough ↔ Hard | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | CW | RE | RETOL(1) | PNA | BW | TPN(2) | TPX(3) | TPIN(4) | TPIX(5) | IC08 | IC908 |
| GEPI 2.5-WT0.05 | 2.50 | 0.05 | 0.030 | 55.0 | 1.80 | 0.470 | 2.540 | 10.00 | 54.00 | ● | ● |

• Toolholder seat needs to be modified according to insert profile to ensure clearance • Pitch max 0.167xD, TPI min D/6.0

(1) Corner radius tolerance (+/-)
(2) Thread pitch minimum (mm)
(3) Thread pitch maximum (mm)
(4) Threads per inch minimum
(5) Threads per inch maximum

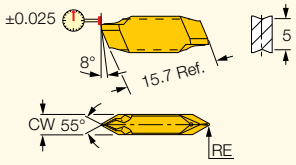
**Tools:** AVC-GEAIR/L • E-GEHIR / E-GHIR • GEAIR/L • GEHIMR/L • GEHIMR/L-SC • GEHIR/L • GEHIR/L-SC • GEHSR • GEHSR/L-SL

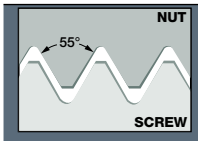
ISCARTHREAD
CUTGRIP

## TIPI-WT

Double-Ended Internal Threading Inserts with a 55° Partial Profile and a Chipformer for 20 mm Min. Bore Diameter






| Designation | Dimensions | | | | | | Tough ↔ Hard | |
|---|---|---|---|---|---|---|---|---|
| | CW | RE | RETOL(1) | TPN(2) | TPIX(3) | TPIN(4) | IC08 | IC908 |
| TIPI 3.4WT-0.10 | 3.40 | 0.10 | 0.030 | 0.950 | 27.00 | 8.00 | ● | ● |
| TIPI 5.4WT-0.20 | 5.40 | 0.20 | 0.030 | 1.670 | 15.00 | 5.00 | | ● |

• Toolholder seat needs to be modified according to insert profile to ensure clearance • Pitch max 0.187xD, TPI min D/5.25 D=Diameter of thread (pitch max<=CW)

(1) Corner radius tolerance (+/-)
(2) Thread pitch minimum (mm)
(3) Threads per inch maximum
(4) Threads per inch minimum

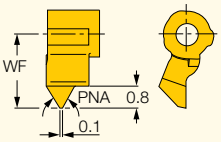
**Tools:** AVC-GAIR/L • GAIR/L • GHIR/L (W=1.9-6.4) • GHIR/L-SC (W=2-4.8)

ISCARTHREAD
MINICHAM

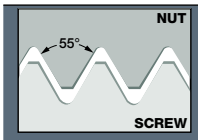
## UMGR-A55

Mini Indexable Inserts with Whitworth Partial Profile for Threading in 5.2 mm and Larger Holes






Right-hand shown




| Designation | Dimensions | | | | | | | IC508 |
|---|---|---|---|---|---|---|---|---|
| | WF | PNA | TPIX(1) | TPIN(2) | TPN(3) | TPX(4) | DMIN | |
| UMGR 4.0-A55 | 2.70 | 55.0 | 40.00 | 24.00 | 0.500 | 1.400 | 5.20 | ● |

(1) Threads per inch maximum
(2) Threads per inch minimum
(3) Thread pitch minimum (mm)
(4) Thread pitch maximum (mm)

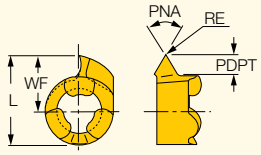
**Tools:** MGUHR

ISCARTHREAD
CHAMGROOVE

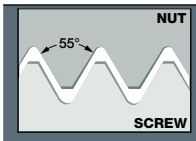
## GIQR/L-WT

Internal Inserts with Whitworth Partial Profile for Threading in 8 mm and Larger Holes






Left-hand shown




| Designation | Dimensions L | RE | PNA | PDPT(1) | WF | DMIN | TPIN(2) | TPIX(3) | IC528 |
|---|---|---|---|---|---|---|---|---|---|
| GIQR/L 8-WT-0.05 | 7.78 | 0.05 | 55.0 | 1.50 | 4.80 | 8.00 | 16.00 | 50.00 | ● |
| GIQR/L 11-WT-0.05 | 10.68 | 0.05 | 55.0 | 2.00 | 6.70 | 11.00 | 11.00 | 50.00 | ● |

• Can be used for thread milling by circular interpolation • TPI min D/5.9 • D-diameter of thread (pitch max<=W) • For cutting speed recommendations, see page 713

(1) Cutting depth maximum

(3) Threads per inch maximum

(3) Threads per inch maximum

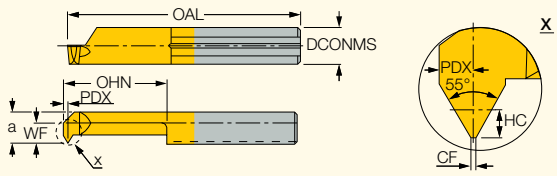
**Tools:** MG • MGCH

ISCARTHREAD
PICCOCUT

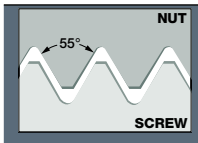
## PICCO-55°-Thread

Inserts for 55° Internal Threading Profile






Right-hand shown




| Designation | Dimensions DCONMS | TPIX(1) | TPIN(2) | HC | CF | PDX | WF | a | OHN(3) | OAL | DMIN | IC228 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PICCO R 005.5548-15 | 5.00 | 48.00 | 24.00 | 0.40 | 0.06 | 0.5 | 1.90 | 4.40 | 15.0 | 30.00 | 4.80 | ● |
| PICCO R 006.5548-15 | 6.00 | 48.00 | 24.00 | 0.40 | 0.06 | 0.5 | 2.30 | 5.30 | 15.0 | 30.00 | 6.00 | ● |
| PICCO R 006.5524-15 | 6.00 | 24.00 | 16.00 | 0.81 | 0.12 | 0.8 | 2.30 | 5.30 | 15.0 | 30.00 | 6.00 | ● |
| PICCO R 007.5524-15 | 7.00 | 24.00 | 16.00 | 0.81 | 0.12 | 0.8 | 2.80 | 6.30 | 15.0 | 30.00 | 7.00 | ● |

• All mini-bars have sharp corners • For detailed cutting data, see page 713

(1) Threads per inch maximum

(2) Threads per inch minimum

(3) Minimum overhang

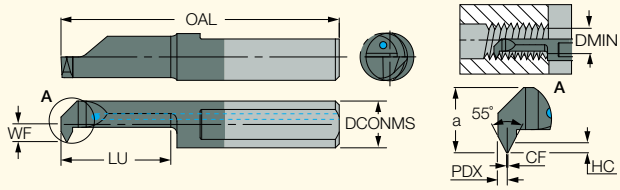
**Holders:** GHPCOR • PICCO ACE • PICCO/MG PCO (holder)

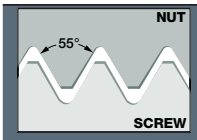
ISCARTHREAD
PICCOCUT

## PICCO-55°-N (55° Threading)

Inserts with Internal Coolant Channel for 55° Internal Threading Profile






| Designation | Dimensions DCONMS | TPIX(1) | TPIN(2) | HC | CF | PDX | WF | a | LU | OAL | DMIN | IC908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PICCO R 006.5524-15N | 6.05 | 24.00 | 16.00 | 0.81 | 0.12 | 0.8 | 2.30 | 5.30 | 14.0 | 36.00 | 6.00 | ● |
| PICCO R 007.5524-15N | 7.05 | 24.00 | 16.00 | 0.81 | 0.12 | 0.8 | 2.80 | 6.30 | 14.0 | 36.00 | 7.00 | ● |

• All mini-bars have sharp corners • Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only • For detailed cutting data, see page 713

(1) Threads per inch maximum

(2) Threads per inch minimum

**Holders:** PICCO ACE-N • PICCO-N (holder)

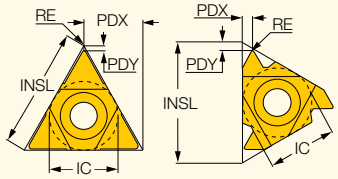


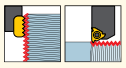
# Partial Profle 60°

**ISCARTHREAD**

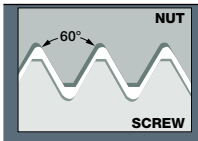
**ER/L-60°**
External Laydown Threading Inserts with a 60° Partial Profile for General Industries





External right-hand shown




| Designation | Dimensions | | | | | | | | | Tough ↔ Hard | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | IC | TPN[2] | TPX[3] | TPIX[4] | TPIN[5] | INSL | RE | PDY | PDX | IC228 | IC50M | IC250 | IC08 | IC508 | IC808 | IC908 | IC1007 |
| **11EL A 60** | 6.35 | 0.500 | 1.500 | 48.00 | 16.00 | 11.00 | 0.05 | 0.8 | 0.9 | | | | | | | ● | |
| **11ER A 60** | 6.35 | 0.500 | 1.500 | 48.00 | 16.00 | 11.00 | 0.06 | 0.8 | 0.9 | | | | | | | ● | |
| **16EL A 60** | 9.52 | 0.500 | 1.500 | 48.00 | 16.00 | 16.49 | 0.06 | 0.8 | 0.9 | | ● | ● | | | | ● | |
| **16ER A 60** | 9.52 | 0.500 | 1.500 | 48.00 | 16.00 | 16.49 | 0.06 | 0.8 | 0.9 | ● | | ● | ● | | | ● | ● |
| **16ERB A 60** [1] | 9.52 | 0.500 | 1.500 | 48.00 | 16.00 | 16.49 | 0.06 | 0.8 | 0.8 | | | | ● | | | ● | |
| **16ERM A 60** [1] | 9.52 | 0.500 | 1.500 | 48.00 | 16.00 | 16.49 | 0.05 | 0.8 | 0.9 | | ● | ● | | | ● | ● | ● |
| **16EL AG 60** | 9.52 | 0.500 | 3.000 | 48.00 | 8.00 | 16.49 | 0.06 | 1.2 | 1.7 | | ● | ● | | | | ● | |
| **16ER AG 60** | 9.52 | 0.500 | 3.000 | 48.00 | 8.00 | 16.49 | 0.06 | 1.2 | 1.7 | ● | ● | ● | ● | ● | | ● | ● |
| **16ERB AG 60** [1] | 9.52 | 0.500 | 3.000 | 48.00 | 8.00 | 16.49 | 0.06 | 1.2 | 1.7 | | | | | | | ● | |
| **16ERM AG 60** [1] | 9.52 | 0.500 | 3.000 | 48.00 | 8.00 | 16.49 | 0.06 | 1.2 | 1.7 | | ● | ● | | ● | ● | ● | ● |
| **16EL G 60** | 9.52 | 1.750 | 3.000 | 14.00 | 8.00 | 16.49 | 0.22 | 1.2 | 1.7 | | | ● | | | | ● | |
| **16ER G 60** | 9.52 | 1.750 | 3.000 | 14.00 | 8.00 | 16.49 | 0.22 | 1.2 | 1.7 | ● | | ● | ● | | | ● | ● |
| **16ERB G 60** [1] | 9.52 | 1.750 | 3.000 | 14.00 | 8.00 | 16.49 | 0.22 | 1.2 | 1.7 | | | | | | | ● | |
| **16ERM G 60** [1] | 9.52 | 1.750 | 3.000 | 14.00 | 8.00 | 16.49 | 0.25 | 1.2 | 1.7 | | ● | ● | | | ● | ● | ● |
| **22EL N 60** | 12.70 | 3.500 | 5.000 | 7.00 | 5.00 | 22.00 | 0.42 | 1.7 | 2.5 | | ● | | | | | ● | |
| **22ER N 60** | 12.70 | 3.500 | 5.000 | 7.00 | 5.00 | 22.00 | 0.42 | 1.7 | 2.5 | ● | ● | ● | ● | | | ● | ● |
| **22ERM N 60** [1] | 12.70 | 3.500 | 5.000 | 7.00 | 5.00 | 22.00 | 0.32 | 1.7 | 2.5 | | ● | ● | | | ● | ● | ● |
| **22UEIRL U 60** | 12.70 | 5.500 | 8.000 | 4.50 | 3.25 | 22.00 | 0.28 | 0.6 | 0.6 | | | ● | | | | ● | |
| **27EL Q 60** | 15.88 | 5.500 | 6.000 | 4.50 | 4.00 | 27.50 | 0.63 | 2.0 | 3.0 | ● | | | | | | | |
| **27ER Q 60** | 15.88 | 5.500 | 6.000 | 4.50 | 4.00 | 27.50 | 0.63 | 2.0 | 3.0 | | ● | ● | | | | ● | |
| **27UEIRL U 60** | 15.88 | 6.500 | 9.000 | 4.00 | 2.75 | 27.50 | 0.28 | 1.0 | 13.7 | | ● | ● | | | | | |

- For Insert Identification System, see pages 640-641 • For threading between walls use GRIP-type inserts SCIR/L B/F -MTR/L, TIP-MT, GEPI-MT, TIPI-MT.
- For technical information and detailed cutting data, see pages 713-729

[1] With pressed chipformer
[2] Thread pitch minimum (mm)
[3] Thread pitch maximum (mm)
[4] Threads per inch maximum
[5] Threads per inch minimum

**Tools:** C#-SER/L • SER-D • SER/L

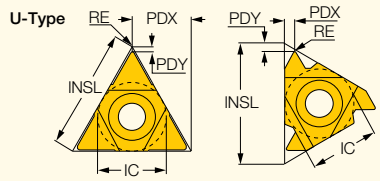


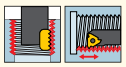
ISCARTHREAD

## IR/L-60°

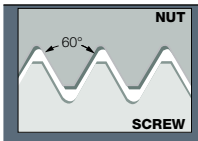
Internal Laydown Threading Inserts with a 60° Partial Profile for General Industry





Internal left-hand shown




| Designation | Dimensions IC | TPN(2) | TPX(3) | TPIX(4) | TPIN(5) | INSL | RE | PDY | PDX | Tough ↔ Hard IC28 | IC228 | IC50M | IC250 | IC08 | IC508 | IC808 | IC908 | IC1007 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 06IL A 60 | 4.00 | 0.500 | 1.250 | 48.00 | 20.00 | 6.88 | 0.04 | 0.6 | 0.6 | | ● | | | | | | | |
| 06IR A 60 | 4.00 | 0.500 | 1.250 | 48.00 | 20.00 | 6.88 | 0.04 | 0.6 | 0.6 | ● | ● | | | | | | ● | |
| 06IRM A 60 (1) | 4.00 | 0.500 | 1.250 | 48.00 | 20.00 | 6.88 | 0.05 | 0.5 | 0.6 | | ● | | | | | | | |
| 08IL A 60 | 5.00 | 0.500 | 1.500 | 48.00 | 16.00 | 8.24 | 0.05 | 0.6 | 0.7 | | ● | | | | | | | |
| 08IR A 60 | 5.00 | 0.500 | 1.500 | 48.00 | 16.00 | 8.24 | 0.05 | 0.5 | 0.7 | ● | ● | | | ● | | | ● | ● |
| 08IRM A 60 (1) | 5.00 | 0.500 | 1.500 | 48.00 | 16.00 | 8.24 | 0.04 | 0.6 | 0.7 | | ● | | | | | ● | ● | ● |
| 08UIRL U 60 | 5.00 | 1.250 | 2.000 | 18.00 | 12.00 | 8.24 | 0.10 | 0.8 | 4.0 | | ● | | | | | | | |
| 11IL A 60 | 6.35 | 0.500 | 1.500 | 48.00 | 16.00 | 11.00 | 0.04 | 0.8 | 0.9 | | | ● | ● | | | | ● | |
| 11IR A 60 | 6.35 | 0.500 | 0.500 | 48.00 | 16.00 | 11.00 | 0.04 | 0.8 | 0.9 | | ● | ● | ● | ● | | | ● | ● |
| 11IRM A 60 (1) | 6.35 | 0.500 | 1.500 | 48.00 | 16.00 | 11.00 | 0.05 | 0.7 | 0.9 | | | | ● | | | ● | ● | ● |
| 16IL A 60 | 9.52 | 0.500 | 1.500 | 48.00 | 16.00 | 16.49 | 0.04 | 0.8 | 0.8 | | | | ● | | | | ● | |
| 16IR A 60 | 9.52 | 0.500 | 1.500 | 48.00 | 16.00 | 16.49 | 0.04 | 0.8 | 0.9 | | ● | ● | ● | | | | ● | ● |
| 16IRB A 60 (1) | 9.52 | 0.500 | 1.500 | 48.00 | 16.00 | 16.49 | 0.04 | 0.8 | 0.8 | | | | | | | | ● | |
| 16IRM A 60 (1) | 9.52 | 0.500 | 1.500 | 48.00 | 16.00 | 16.49 | 0.05 | 0.8 | 0.9 | | | | ● | | | ● | ● | ● |
| 16IL AG 60 | 9.52 | 0.500 | 3.000 | 48.00 | 8.00 | 16.49 | 0.04 | 1.2 | 1.7 | | | | ● | | | | ● | ● |
| 16IR AG 60 | 9.52 | 0.500 | 3.000 | 48.00 | 8.00 | 16.49 | 0.04 | 1.2 | 1.7 | | ● | ● | ● | | ● | | ● | ● |
| 16IRB AG 60 (1) | 9.52 | 0.500 | 3.000 | 48.00 | 8.00 | 16.49 | 0.03 | 1.2 | 1.7 | | | | | | | | ● | |
| 16IRM AG 60 (1) | 9.52 | 0.500 | 3.000 | 48.00 | 8.00 | 16.49 | 0.05 | 1.2 | 1.7 | | | ● | ● | | | ● | ● | ● |
| 16IL G 60 | 9.52 | 1.750 | 3.000 | 14.00 | 8.00 | 16.49 | 0.13 | 1.2 | 1.7 | | | | | | | | ● | |
| 16IR G 60 | 9.52 | 1.750 | 3.000 | 14.00 | 8.00 | 16.49 | 0.13 | 1.2 | 1.7 | | ● | ● | ● | ● | | | ● | ● |
| 16IRB G 60 (1) | 9.52 | 1.750 | 3.000 | 14.00 | 8.00 | 16.49 | 0.13 | 1.2 | 1.7 | | | | | | | | ● | |
| 16IRM G 60 (1) | 9.52 | 1.750 | 3.000 | 14.00 | 8.00 | 16.49 | 0.10 | 1.2 | 1.7 | | | ● | ● | | | ● | ● | ● |
| 22IL N 60 | 12.70 | 3.500 | 5.000 | 7.00 | 5.00 | 22.00 | 0.22 | 1.7 | 2.5 | | | | | | | | ● | |
| 22IR N 60 | 12.70 | 3.500 | 5.000 | 7.00 | 5.00 | 22.00 | 0.22 | 1.7 | 2.5 | | | | ● | ● | | | ● | ● |
| 22IRM N 60 (1) | 12.70 | 3.500 | 5.000 | 7.00 | 5.00 | 22.00 | 0.19 | 1.7 | 2.5 | | | ● | ● | | | ● | ● | ● |
| 27IL Q 60 | 15.88 | 5.500 | 6.000 | 4.50 | 4.00 | 27.50 | 0.31 | 2.1 | 3.1 | | | ● | | | | | | |
| 27IR Q 60 | 15.88 | 5.500 | 6.000 | 4.50 | 4.00 | 27.50 | 0.31 | 1.9 | 2.7 | | | | ● | | | | ● | |

• For Insert Identification System, see pages 640-641 • For technical information and detailed cutting data, see pages 713-729

(1) With a pressed chipformer

(2) Thread pitch minimum (mm)

(3) Thread pitch maximum (mm)

(4) Threads per inch maximum

(5) Threads per inch minimum

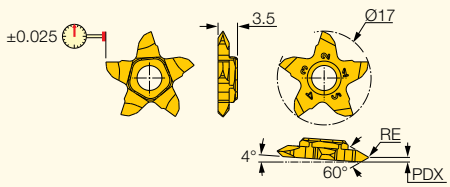
**Tools:** AVC-D-SIR/L • MGSIR/L • PICIN-MGSIR/L • SIR/L

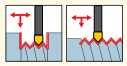
PENTACUT THREADING LINE

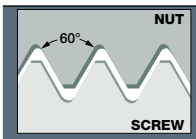
## PENTA 17-MT-RS/LS

Precision Ground Pentagonal External Threading Inserts with a 60° Partial Profile for General Industry








| Designation | Dimensions TPIN(1) | TPIX(2) | TPN(3) | TPX(4) | RE | PDX | IC1008 |
|---|---|---|---|---|---|---|---|
| PENTA 17-MTL008LS | 8.00 | 36.00 | 0.700 | 3.000 | 0.08 | 1.40 | ● |
| PENTA 17-MTR008RS | 8.00 | 36.00 | 0.700 | 3.000 | 0.08 | 1.40 | ● |
| PENTA 17-MTL003LS | 17.00 | 80.00 | 0.300 | 1.500 | 0.03 | 0.80 | ● |
| PENTA 17-MTR003RS | 17.00 | 80.00 | 0.300 | 1.500 | 0.03 | 0.80 | ● |

(1) Threads per inch minimum

(2) Threads per inch maximum

(3) Thread pitch minimum (mm)

(4) Thread pitch maximum (mm)

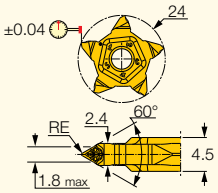
**Tools:** NQCH-PCHR/L-S-JHP • PCADRS/LS-JHP • PCHRS/LS-17 • PCHRS/LS-17-JHP • Y-PCHRS-17 • Y-PCHRS-17-JHP

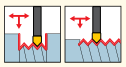
PENTACUT THREADING LINE

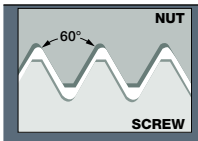
## PENTA 24-MT

Precision Ground Pentagonal External Threading Inserts with a 60° Partial Profile for General Industry








| Designation | Dimensions TPN[2] | TPX[3] | RE | IC908 |
|---|---|---|---|---|
| PENTA 24A-MT-0.05 [1] | 0.250 | 3.000 | 0.05 | ● |
| PENTA 24-MT-0.05 | 0.250 | 3.500 | 0.05 | ● |
| PENTA 24A-MT-0.15 | 0.800 | 3.000 | 0.15 | ● |

- TPX=0.175xD

[1] Flat rake (without a chipformer)
[2] Thread pitch minimum (mm)
[3] Thread pitch maximum (mm)

**Tools:** PCAD RE/LE-JHP • PCADR/L • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-24 • PCHR/L-24-JHP • PCHR/L-24-JHP-MC

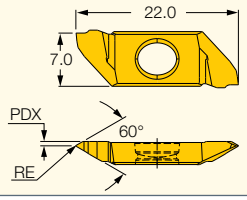
ISCARTHREAD

SWISSCUT INNOVAL LINE

## SCIR/L-22-MTR/MTL

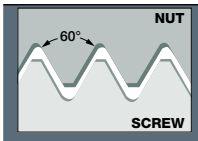
Threading Inserts with a 60° Partial Profile








Left-hand shown




| Designation | Dimensions RE | PDX | TPN[1] | TPX[2] | TPIX[3] | TPIN[4] | Tough ↔ Hard IC1008 | IC07 | IC1007 |
|---|---|---|---|---|---|---|---|---|---|
| SCIL 22-MTL003 | 0.03 | 0.4 | 0.300 | 0.900 | 83.00 | 28.00 | ● | ● | ● |
| SCIR 22-MTR003 | 0.03 | 0.4 | 0.300 | 0.900 | 83.00 | 28.00 | ● | ● | ● |
| SCIL 22-MTL007 | 0.07 | 0.5 | 0.700 | 1.100 | 36.00 | 23.00 | ● | ● | ● |
| SCIL 22-MTR007 | 0.07 | 0.5 | 0.700 | 1.100 | 36.00 | 23.00 | ● | | |
| SCIR 22-MTL007 | 0.07 | 0.5 | 0.700 | 1.100 | 36.00 | 23.00 | ● | | |
| SCIR 22-MTR007 | 0.07 | 0.5 | 0.700 | 1.100 | 36.00 | 23.00 | ● | ● | ● |
| SCIL 22-MTL010 | 0.10 | 0.8 | 0.900 | 1.700 | 28.00 | 15.00 | ● | ● | ● |
| SCIR 22-MTR010 | 0.10 | 0.8 | 0.900 | 1.700 | 28.00 | 15.00 | ● | ● | ● |

- For detailed cutting data, see page 713

[1] Thread pitch minimum (mm)
[2] Thread pitch maximum (mm)
[3] Threads per inch maximum
[4] Threads per inch minimum

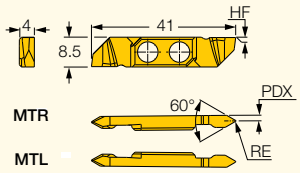
**Tools:** NQCH-SCHR/L-BF-JHP • NQCH-Y-SCHR-BF-JHP • SCHR/L-22BF • SCHR/L-22BF-JHP • Y-SCHR-22BF • Y-SCHR-22BF-JHP

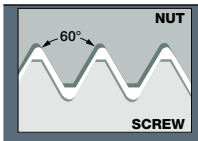
SWISSCUT EXTRA LONG
ISCARTHREAD

## SCIR/L-41-MTR/MTL

Threading Inserts with
a 60° Partial Profile






| Designation | Dimensions RE | PDX | TPN(1) | TPX(2) | TPIN(3) | TPIX(4) | HF(5) | IC1008 |
|---|---|---|---|---|---|---|---|---|
| SCIL 41-MTL006 | 0.06 | 0.90 | 0.400 | 1.500 | 17.00 | 64.00 | 0.2 | ● |
| SCIR 41-MTR006 | 0.06 | 0.90 | 0.400 | 1.500 | 17.00 | 64.00 | 0.2 | ● |
| SCIL 41-MTL020 | 0.20 | 1.60 | 1.500 | 2.500 | 10.00 | 17.00 | 0.2 | ● |
| SCIR 41-MTR020 | 0.20 | 1.60 | 1.500 | 2.500 | 10.00 | 17.00 | 0.2 | ● |

• For detailed cutting data, see page 713

(1) Thread pitch minimum (mm)
(2) Thread pitch maximum (mm)
(3) Threads per inch minimum
(4) Threads per inch maximum
(5) Cutting edge below center

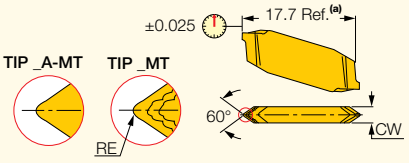
**Tools:** SCHR/L-41BF

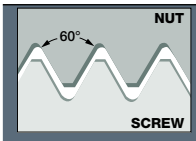
ISCARTHREAD
CUTGRIP

## TIP-MT

Precision Ground Double-Ended
Threading Inserts with a 60°
Partial Profile and Chipformer






| Designation | Dimensions CW | RE | RETOL(2) | TPN(3) | TPIX(4) | TPIN(5) | TPX(6) | Tough ↔ Hard IC08 | IC908 |
|---|---|---|---|---|---|---|---|---|---|
| TIP 2A-MT-0.05 (1) | 2.40 | 0.05 | 0.030 | 0.450 | 56.00 | 12.00 | 2.120 | | ● |
| TIP 2MT-0.05 | 2.40 | 0.05 | 0.030 | 0.450 | 56.00 | 12.00 | 2.120 | ● | ● |
| TIP 2MT-0.14 | 2.40 | 0.14 | 0.030 | 1.110 | 23.00 | 12.00 | 2.120 | ● | ● |
| TIP 4A-MT-0.15 (1) | 4.00 | 0.15 | 0.030 | 1.270 | 20.00 | 7.00 | 3.630 | | ● |
| TIP 4MT-0.15 | 4.00 | 0.15 | 0.030 | 1.270 | 20.00 | 7.00 | 3.630 | | ● |
| TIP 4MT-0.20 | 4.00 | 0.20 | 0.030 | 1.600 | 16.00 | 7.00 | 3.630 | ● | ● |
| TIP 5MT-0.25 | 5.50 | 0.25 | 0.030 | 1.950 | 13.00 | 5.00 | 5.100 | ● | ● |

• (a) TIP inserts are 1.6 mm longer than GIP in the same pocket • Toolholder seat needs to be modified according to insert profile to ensure clearance

(1) Without chipformer (flat rake)
(2) Corner radius tolerance (+/-)
(3) Thread pitch minimum (mm)
(4) Threads per inch maximum
(5) Threads per inch minimum
(6) Thread pitch maximum (mm)

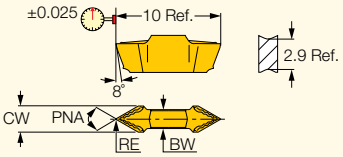
**Tools:** C#-GHDR/L • CGHN 26-M • CGHN 32-DGM • CGHN 32-M • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L • GHSR/L • GHSR/L-JHP-SL • NQCH-GHSR/L-JHP

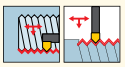
ISCARTHREAD
CUTGRIP

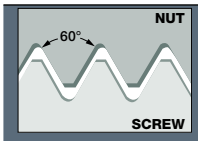
## GEPI-MT

Precision Ground Internal Double-Ended Threading Inserts with a 60° Partial Profile for General Applications








| Designation | Dimensions CW | RE | RETOL(1) | PNA | BW | TPN(2) | TPX(3) | TPIN(4) | TPIX(5) | Tough ↔ Hard IC08 | IC908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GEPI 2.5-MT0.05 | 2.50 | 0.05 | 0.030 | 60.0 | 1.80 | 0.910 | 2.540 | 10.00 | 28.00 | ● | ● |

- Toolholder seat needs to be modified according to insert profile to ensure clearance • Pitch max 0.187xD, TPI min D/5.35
- D=Diameter of thread (pitch max<=CW)

(1) Corner radius tolerance (+/-)
(2) Thread pitch minimum (mm)
(3) Thread pitch maximum (mm)
(4) Threads per inch minimum
(5) Threads per inch maximum

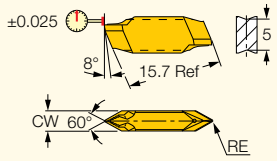
**Tools:** AVC-GEAIR/L • E-GEHIR / E-GHIR • GEAIR/L • GEHIMR/L • GEHIMR/L-SC • GEHIR/L • GEHIR/L-SC • GEHSR • GEHSR/L-SL

ISCARTHREAD
CUTGRIP

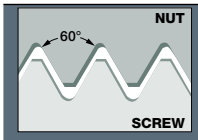
## TIPI-MT

Precision Ground Double-Ended Internal Threading Inserts with 60° Partial Profile and Chipformer for 20mm Min. Bore Dia.








| Designation | Dimensions CW | RE | RETOL(1) | TPN(2) | TPIX(3) | TPIN(4) | TPX(5) | Tough ↔ Hard IC08 | IC908 |
|---|---|---|---|---|---|---|---|---|---|
| TIPI 3.4MT-0.10 | 3.40 | 0.10 | 0.030 | 1.800 | 14.00 | 8.00 | 3.180 | ● | ● |
| TIPI 5.4MT-0.20 | 5.40 | 0.20 | 0.030 | 3.190 | 8.00 | 5.00 | 5.100 | ● | ● |

- Toolholder seat needs to be modified according to insert profile to ensure clearance. • Pitch max 0.205xD, TPI min D/4.8
- D=Diameter of thread (pitch max<=CW) • TIPI inserts are 1.6 mm longer than GIPI in the same pocket

(1) Corner radius tolerance (+/-)
(2) Thread pitch minimum (mm)
(3) Threads per inch maximum
(4) Threads per inch minimum
(5) Thread pitch maximum (mm)

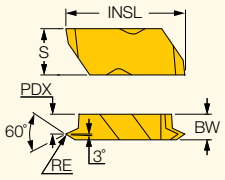
**Tools:** AVC-GAIR/L • CGIN 26 • GAIR/L • GHIR/L (W=1.9-6.4) • GHIR/L-C (W=4-6.4) • GHIR/L-SC (W=2-4.8)

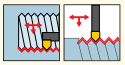
NOTCHGRIP
GROOVE-TURN LINE
ISCARTHREAD

## 60° PARTIAL PROFILE THREADING FLTF

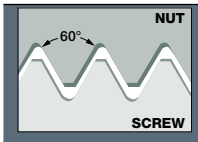
Double-Ended Precision Flat Top Threading Inserts





Right-hand shown




| Designation | Dimensions TPIN(1) | TPIX(2) | TPIN_DF2(3) | TPIX_DF2(4) | RE | PDX | BW | S | INSL | TPN_DF2 | TPX_DF2 | IC908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FLTF-3R/L | 9.00 | 24.00 | 10.00 | 44.00 | 0.00 | 3.60 | 4.95 | 8.74 | 22.60 | 2.500 | 1.750 | ● |
| FLTF-4R/L | 9.00 | 24.00 | 10.00 | 44.00 | 0.00 | 5.10 | 6.48 | 11.51 | 28.45 | 2.500 | 1.750 | ● |
| FLTF-2R/L | 12.00 | 24.00 | 14.00 | 44.00 | 0.00 | 2.80 | 3.81 | 5.56 | 12.95 | 0.600 | 1.750 | ● |

- DMIN according to related boring bar

(1) TPI int. min.
(2) TPI int. max.
(3) TPI ext. min.
(4) TPI ext. max.

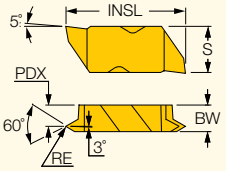
**Tools:** FLASR/L • FLSR/L

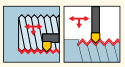
NOTCH GRIP GROOVE-TURN LINE
ISCAR THREAD

## 60° PARTIAL PROFILE THREADING FLTK

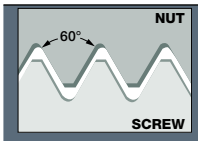
Double-Ended Precision Positive Rake Threading Inserts





Right-hand shown




| Designation | Dimensions | | | | | | | | | | IC908 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | TPIN[1] | TPIX[2] | TPIN_ DF2[3] | TPIX_ DF2[4] | RE | TTP | PDX | BW | S | INSL | |
| FLTK-3R/L | 9.00 | 24.00 | 10.00 | 44.00 | 0.00 | BOTH | 3.60 | 4.95 | 8.74 | 22.60 | ● |
| FLTK-4R/L | 9.00 | 24.00 | 10.00 | 44.00 | 0.00 | BOTH | 5.10 | 6.48 | 11.51 | 28.45 | ● |
| FLTK-2R/L | 12.00 | 24.00 | 14.00 | 44.00 | 0.00 | BOTH | 2.80 | 3.81 | 5.56 | 12.95 | ● |

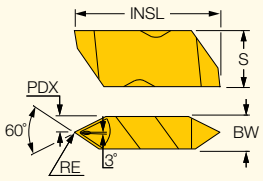
• DMIN according to related boring bar
[1] TPI int. min.
[2] TPI int. max.
[3] TPI ext. min.
[4] TPI ext. max.
**Tools:** FLASR/L • FLSR/L

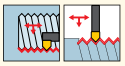
NOTCH GRIP GROOVE-TURN LINE
ISCAR THREAD

## 60° PARTIAL PROFILE THREADING FLT-CB

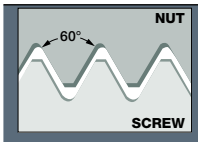
Double-Ended Precision Threading Inserts with Chipbreakers





Right-hand shown




| Designation | Dimensions | | | | | | | | | IC908 |
|---|---|---|---|---|---|---|---|---|---|---|
| | TPIN[1] | TPIX[2] | TPIN_ DF2[3] | TPIX_ DF2[4] | RE | PDX | BW | S | INSL | |
| FLT-4R/L-HCB | 4.00 | 12.00 | 4.00 | 20.00 | 0.00 | 3.30 | 6.48 | 11.51 | 28.45 | ● |
| FLT-3R/LC-HCB | 5.00 | 6.00 | 6.00 | 11.00 | 0.00 | 2.50 | 4.95 | 8.74 | 22.60 | ● |
| FLT-3R/L-HCB | 5.00 | 12.00 | 6.00 | 20.00 | 0.00 | 2.50 | 4.95 | 8.74 | 22.60 | ● |
| FLT-3R/L-FCB | 7.00 | 20.00 | 8.00 | 36.00 | 0.00 | 2.50 | 4.95 | 8.74 | 22.60 | ● |
| FLT-3R/L-CB | 8.00 | 12.00 | 8.00 | 20.00 | 0.00 | 2.50 | 4.95 | 8.74 | 22.60 | ● |

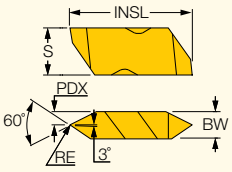
• DMIN according to related boring bar
[1] TPI int. min.
[2] TPI int. max.
[3] TPI ext. min.
[4] TPI ext. max.
**Tools:** FLASR/L • FLSR/L

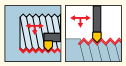
NOTCH GRIP GROOVE-TURN LINE
ISCAR THREAD

## 60° PARTIAL PROFILE THREADING FLT

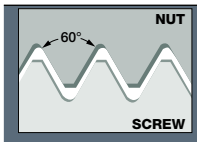
Double-Ended Precision Flat Top Threading Inserts





Right-hand shown




| Designation | Dimensions | | | | | | | | | IC908 |
|---|---|---|---|---|---|---|---|---|---|---|
| | TPIN[1] | TPIX[2] | TPIN_DF2[3] | TPIX_DF2[4] | RE | PDX | BW | S | INSL | |
| FLT-4R/L | 4.00 | 12.00 | 4.00 | 20.00 | 0.00 | 3.30 | 6.48 | 11.51 | 28.45 | ● |
| FLT-3R/L | 5.00 | 12.00 | 6.00 | 20.00 | 0.00 | 2.50 | 4.95 | 8.74 | 22.60 | ● |
| FLT-3010R/L | 5.00 | 12.00 | 6.00 | 18.00 | 0.00 | 2.50 | 4.95 | 8.74 | 22.60 | ● |
| FLT-2R/L | 7.00 | 20.00 | 8.00 | 36.00 | 0.00 | 1.90 | 3.81 | 5.56 | 12.95 | ● |

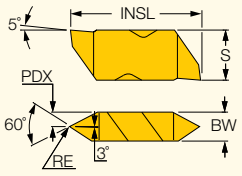
• DMIN according to related boring bar
[1] TPI int. min.
[2] TPI int. max.
[3] TPI ext. min.
[4] TPI ext. max.
**Tools:** FLASR/L • FLSR/L

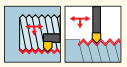
NOTCH GRIP GROOVE-TURN LINE
ISCARTHREAD

## 60° PARTIAL PROFILE THREADING FLTP

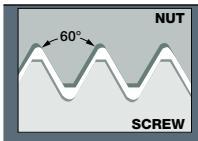
Double-Ended Precision Positive Rake Threading Inserts





Right-hand shown




| Designation | Dimensions TPIN[1] | TPIX[2] | TPIN_ DF2[3] | TPIX_ DF2[4] | RE | PDX | BW | S | INSL | IC908 |
|---|---|---|---|---|---|---|---|---|---|---|
| FLTP-4R/L | 4.00 | 12.00 | 4.00 | 20.00 | 0.00 | 3.30 | 6.50 | 11.51 | 28.45 | ● |
| FLTP-3R/L | 5.00 | 12.00 | 6.00 | 20.00 | 0.00 | 2.50 | 5.00 | 8.74 | 22.60 | ● |
| FLTP-2R/L | 7.00 | 20.00 | 8.00 | 36.00 | 0.00 | 1.90 | 3.80 | 5.56 | 12.95 | ● |

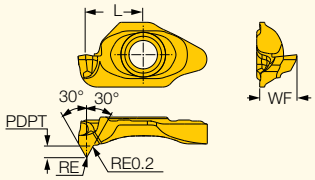
• DMIN according to related boring bar
(1) TPI int. min.
(2) TPI int. max.
(3) TPI ext. min.
(4) TPI ext. max.
**Tools:** FLASR/L • FLSR/L

ISCARTHREAD
MIN CUT MINI FACE LINE

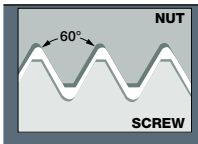
## MITR 8-MT

Internal ISO Metric Threading Inserts for Partial Profile








| Designation | Dimensions PDPT[1] | RE | L | WF | DMIN[2] | TPN[3] | TPX[4] | IC908 |
|---|---|---|---|---|---|---|---|---|
| MITR 8-MT2-0.1 | 1.17 | 0.10 | 5.75 | 3.80 | 10.00 | 1.500 | 2.000 | ● |
| MITR 8-MT1-0.05 | 1.23 | 0.05 | 5.75 | 3.80 | 10.00 | 0.750 | 1.250 | ● |

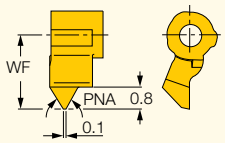
(1) Cutting depth maximum
(2) Minimum diameter
(3) Thread pitch minimum (mm)
(4) Thread pitch maximum (mm)
**Tools:** MIFHR

ISCARTHREAD
MINICHAM

## UMGR-A60

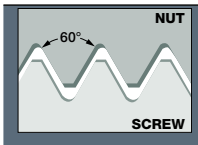
Mini Indexable Inserts with a 60° Partial Profile for Threading in 5.2 mm and Larger Holes








Right-hand shown




| Designation | Dimensions PNA | WF | DMIN | TPN[1] | TPX[2] | TPIN[3] | TPIX[4] | IC508 |
|---|---|---|---|---|---|---|---|---|
| UMGR 4.0-A60 | 60.0 | 2.70 | 5.20 | 0.600 | 1.250 | 20.00 | 40.00 | ● |

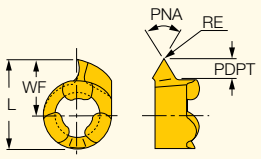
• For detailed cutting data, see page 713
(1) Thread pitch minimum (mm)
(2) Thread pitch maximum (mm)
(3) Threads per inch minimum
(4) Threads per inch maximum
**Tools:** MGUHR

**ISCARTHREAD**
**CHAMGROOVE**

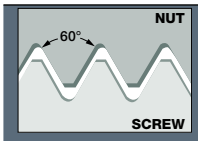
## GIQR/L-MT

Internal Threading Inserts with a 60° Partial Profile for Threading in 8 mm and Larger Holes






Left-hand shown




| Designation | Dimensions L | RE | PNA | PDPT(1) | WF | DMIN(2) | TPN(3) | TPX(4) | TPIN(5) | TPIX(6) | IC528 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GIQR/L 8-MT-0.05 | 7.78 | 0.05 | 60.0 | 1.50 | 4.80 | 8.00 | 0.500 | 1.590 | 16.00 | 50.00 | ● |
| GIQR/L 11-MT-0.05 | 10.68 | 0.05 | 60.0 | 2.00 | 6.70 | 11.00 | 0.500 | 2.300 | 11.00 | 50.00 | ● |

• Can be used for thread milling by circular interpolation • Pitch max 0.19xD • D-diameter of thread • For cutting speed recommendations, see page 713

(1) Cutting depth maximum
(2) Minimum diameter
(3) Thread pitch minimum (mm)
(4) Thread pitch maximum (mm)
(5) Threads per inch minimum
(6) Threads per inch maximum

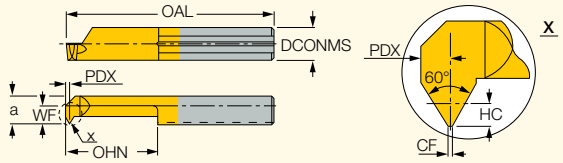
**Tools:** MG • MGCH

**ISCARTHREAD**
**PICCOCUT**

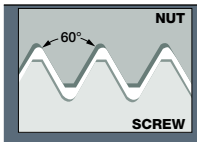
## PICCO R/L-60°-Thread

Inserts with a 60° Internal Thread Profile for 2.4 mm Min. Bore Diameter






Right-hand shown




| Designation | Dimensions DCONMS | HC | CF | PDX | WF | a | OHN(1) | OAL | DMIN | TPN(2) | TPX(3) | TPIN(4) | TPIX(5) | Tough ↔ Hard IC228 | IC908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PICCO R 003.0105-8 | 4.00 | 0.27 | 0.04 | 0.3 | 0.30 | 2.30 | 8.0 | 22.00 | 2.40 | 0.500 | 0.700 | 36.00 | 48.00 | | ● |
| PICCO R 004.0105-10 | 4.00 | 0.27 | 0.09 | 0.4 | 1.00 | 3.00 | 10.0 | 24.00 | 3.20 | 0.500 | 0.750 | 36.00 | 48.00 | | ● |
| PICCO R/L 004.0205-15 | 4.00 | 0.27 | 0.06 | 0.4 | 1.50 | 3.50 | 15.0 | 30.00 | 4.00 | 0.500 | 0.750 | 36.00 | 48.00 | ● | |
| PICCO R/L 005.0205-15 | 5.00 | 0.27 | 0.06 | 0.4 | 1.90 | 4.40 | 15.0 | 30.00 | 5.00 | 0.500 | 0.750 | 36.00 | 48.00 | ● | |
| PICCO L 005.0407-15 | 5.00 | 0.40 | 0.09 | 0.5 | 1.90 | 4.40 | 15.0 | 30.00 | 5.00 | 0.750 | 1.000 | 24.00 | 36.00 | ● | |
| PICCO R 005.0407-15 | 5.00 | 0.40 | 0.09 | 0.5 | 1.90 | 4.40 | 15.0 | 30.00 | 5.00 | 0.750 | 1.000 | 24.00 | 36.00 | ● | ● |
| PICCO R 005.0407-20 | 5.00 | 0.40 | 0.09 | 0.5 | 1.90 | 4.40 | 20.0 | 35.00 | 5.00 | 0.750 | 1.000 | 24.00 | 36.00 | | ● |
| PICCO R/L 005.0510-15 | 5.00 | 0.55 | 0.12 | 0.6 | 1.90 | 4.40 | 15.0 | 30.00 | 4.80 | 1.000 | 1.250 | 20.00 | 24.00 | ● | |
| PICCO R 005.0510-20 | 5.00 | 0.55 | 0.12 | 0.6 | 1.90 | 4.40 | 20.0 | 35.00 | 4.80 | 1.000 | 1.250 | 20.00 | 24.00 | | ● |
| PICCO R/L 006.0510-15 | 6.00 | 0.55 | 0.12 | 0.6 | 2.30 | 5.30 | 15.0 | 30.00 | 6.00 | 1.000 | 1.250 | 20.00 | 24.00 | ● | |
| PICCO R 006.0510-22 | 6.00 | 0.55 | 0.12 | 0.6 | 2.30 | 5.30 | 22.0 | 37.00 | 6.00 | 1.000 | 1.250 | 20.00 | 24.00 | | ● |
| PICCO R/L 006.0612-15 | 6.00 | 0.68 | 0.15 | 0.7 | 2.30 | 5.30 | 15.0 | 30.00 | 6.00 | 1.250 | 1.500 | 16.00 | 20.00 | ● | |
| PICCO R 006.0612-22 | 6.00 | 0.68 | 0.15 | 0.7 | 2.30 | 5.30 | 22.0 | 37.00 | 6.00 | 1.250 | 1.500 | 16.00 | 20.00 | | ● |
| PICCO R/L 006.0815-15 | 6.00 | 0.81 | 0.18 | 0.8 | 2.30 | 5.30 | 15.0 | 30.00 | 6.00 | 1.500 | 1.750 | 14.00 | 16.00 | ● | |
| PICCO R 006.0815-22 | 6.00 | 0.81 | 0.18 | 0.8 | 2.30 | 5.30 | 22.0 | 37.00 | 6.00 | 1.500 | 1.750 | 14.00 | 16.00 | | ● |
| PICCO R/L 007.0815-15 | 7.00 | 0.81 | 0.18 | 0.8 | 2.70 | 6.30 | 15.0 | 30.00 | 7.00 | 1.500 | 1.750 | 14.00 | 16.00 | ● | |

• For detailed cutting data, see page 713

(1) Minimum overhang
(2) Thread pitch minimum (mm)
(3) Thread pitch maximum (mm)
(4) Threads per inch minimum
(5) Threads per inch maximum

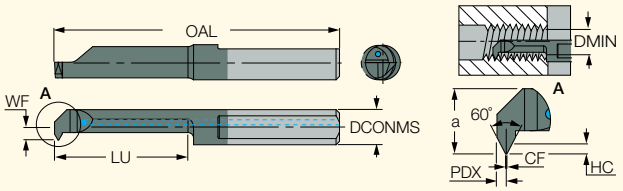
**Holders:** GHPCOR • PICCO ACE • PICCO/MG PCO (holder)

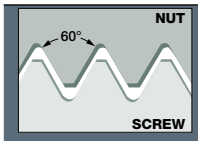
## ISCARTHREAD
## PICCOCUT

### PICCO R/L60°-N (60° Threading)

Inserts with a 60° Internal Thread Profile and Internal Coolant Channel for 2.4 mm Min. Bore Diameter






| Designation | Dimensions | | | | | | | | | | | | | IC908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | HC | CF | PDX | WF | a | LU | OAL | DMIN | TPN(1) | TPX(2) | TPIN(3) | TPIX(4) | |
| PICCO R 003.0105-8N | 4.05 | 0.27 | 0.04 | 0.3 | 0.30 | 2.30 | 7.0 | 31.00 | 2.40 | 0.500 | 0.700 | 36.00 | 48.00 | ● |
| PICCO R 004.0105-10N | 4.05 | 0.27 | 0.09 | 0.4 | 1.00 | 3.00 | 9.0 | 31.00 | 3.20 | 0.500 | 0.750 | 36.00 | 48.00 | ● |
| PICCO R 004.0205-15N | 4.05 | 0.27 | 0.06 | 0.4 | 1.50 | 3.50 | 14.0 | 36.00 | 4.00 | 0.500 | 0.750 | 36.00 | 48.00 | ● |
| PICCO R 005.0205-15N | 5.05 | 0.27 | 0.06 | 0.4 | 1.90 | 4.40 | 14.0 | 36.00 | 5.00 | 0.500 | 0.750 | 36.00 | 48.00 | ● |
| PICCO R 005.0407-15N | 5.05 | 0.40 | 0.09 | 0.5 | 1.90 | 4.40 | 14.0 | 36.00 | 5.00 | 0.750 | 1.000 | 24.00 | 36.00 | ● |
| PICCO R/L 005.0510-15N | 5.05 | 0.55 | 0.12 | 0.6 | 1.90 | 4.40 | 14.0 | 36.00 | 4.80 | 1.000 | 1.250 | 20.00 | 24.00 | ● |
| PICCO R 005.0510-20N | 5.05 | 0.55 | 0.12 | 0.6 | 1.90 | 4.40 | 19.0 | 41.00 | 4.80 | 1.000 | 1.250 | 20.00 | 24.00 | ● |
| PICCO R 006.0510-15N | 6.05 | 0.55 | 0.12 | 0.6 | 2.30 | 5.30 | 14.0 | 36.00 | 6.00 | 1.000 | 1.250 | 20.00 | 24.00 | ● |
| PICCO R 006.0510-22N | 6.05 | 0.55 | 0.12 | 0.6 | 2.30 | 5.30 | 21.0 | 43.00 | 6.00 | 1.000 | 1.250 | 20.00 | 24.00 | ● |
| PICCO R 006.0612-15N | 6.05 | 0.68 | 0.15 | 0.7 | 2.30 | 5.30 | 14.0 | 36.00 | 6.00 | 1.250 | 1.500 | 16.00 | 20.00 | ● |
| PICCO R 006.0815-15N | 6.05 | 0.81 | 0.18 | 0.8 | 2.30 | 5.30 | 14.0 | 36.00 | 6.00 | 1.500 | 1.750 | 14.00 | 16.00 | ● |
| PICCO R/L 007.0815-15N | 7.05 | 0.81 | 0.18 | 0.8 | 2.70 | 6.30 | 14.0 | 36.00 | 7.00 | 1.500 | 1.750 | 14.00 | 16.00 | ● |

• Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only • For detailed cutting data, see page 713

(1) Thread pitch minimum (mm)
(2) Thread pitch maximum (mm)
(3) Threads per inch minimum
(4) Threads per inch maximum

**Holders:** PICCO ACE-N • PICCO-N (holder)

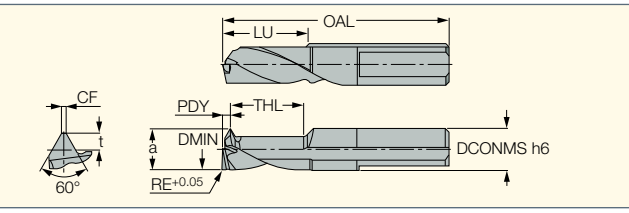


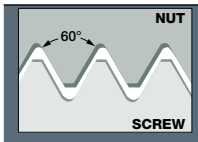
## MULTIFUNCTION TOOLS

### PICCO-MFT

Solid Carbide Tools for Drilling, Facing, Int. and Ext. Turning and Threading on Swiss and Small CNC Machines






| Designation | Dimensions | | | | | | | | | | | IC908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | DMIN | LU | TPN(2) | TPX(3) | t | a | CF | THL | OAL | PDY | RE | |
| PICCO R/L-MFT60 6-4 L08 | 6.00 | 4.00 | 8.0 | 0.500 | 0.750 | 0.46 | 3.90 | 0.06 | 7.3 | 30.00 | 1.3 | 0.10 | ● |
| PICCO R-MFT60 6-4 L12 | 6.00 | 4.00 | 12.0 | 0.500 | 0.750 | 0.46 | 3.90 | 0.06 | 11.6 | 34.00 | 1.2 | 0.20 | ● |
| PICCO R/L-MFT60 6-5 L10 | 6.00 | 5.00 | 10.0 | 0.500 | 1.000 | 0.61 | 4.90 | 0.06 | 9.0 | 32.00 | 1.4 | 0.10 | ● |
| PICCO R/L-MFT60 6-5 L15 (1) | 6.00 | 5.00 | 15.0 | 0.500 | 1.000 | 0.61 | 4.90 | 0.06 | 14.4 | 37.00 | 1.4 | 0.30 | ● |
| PICCO R/L-MFT60 6-6 L18 (1) | 6.00 | 6.00 | 18.0 | 0.500 | 1.000 | 0.61 | 5.90 | 0.06 | 17.3 | 43.00 | 1.4 | 0.30 | ● |
| PICCO R-MFT60 6-6 L12 | 6.00 | 6.00 | 12.0 | 0.500 | 1.000 | 0.61 | 5.90 | 0.06 | 11.0 | 34.00 | 1.4 | 0.10 | ● |
| PICCO R/L-MFT60 8-7 L14 | 8.00 | 7.00 | 14.0 | 0.750 | 1.250 | 0.76 | 6.90 | 0.09 | 13.0 | 41.00 | 1.5 | 0.10 | ● |
| PICCO R-MFT60 8-7 L21 | 8.00 | 7.00 | 21.0 | 0.750 | 1.250 | 0.76 | 6.90 | 0.09 | 20.0 | 55.00 | 1.5 | 0.30 | ● |
| PICCO R/L-MFT60 8-8 L16 | 8.00 | 8.00 | 16.0 | 0.900 | 1.500 | 0.92 | 7.90 | 0.11 | 15.0 | 43.00 | 1.5 | 0.10 | ● |
| PICCO L-MFT60 8-8 L24 (1) | 8.00 | 8.00 | 24.0 | 0.900 | 1.500 | 0.92 | 7.90 | 0.11 | 23.0 | 57.00 | 1.5 | 0.30 | ● |
| PICCO R-MFT60 8-8 L24 | 8.00 | 8.00 | 24.0 | 0.900 | 1.500 | 0.92 | 7.90 | 0.11 | 23.0 | 51.00 | 1.5 | 0.30 | ● |

• Applications: Drilling; face turning; internal chamfering; internal turning/boring; internal profiling; external chamfering; external turning; internal And external 60° threading (right- and left-hand)

(1) Available on request
(2) Thread pitch minimum (mm)
(3) Thread pitch maximum (mm)

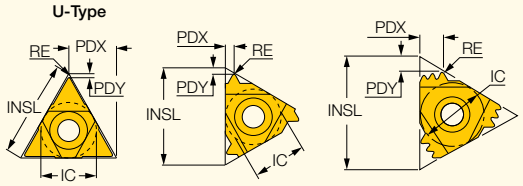
**Holders:** PICCO/MG PCO (holder)

# Full Profile ISO

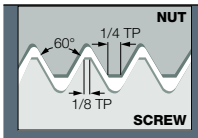
**ISCARTHREAD**

**ER/L-ISO**
External ISO Metric
(DIN13 12-1986 class: 6g)
Laydown Threading Inserts
for General Industry






External right-hand shown




| Designation | Dimensions IC | TP[3] | RE | INSL | PDY | PDX | CICT[4] | Tough ↔ Hard IC228 | IC50M | IC250 | IC08 | IC508 | IC808 | IC908 | IC1007 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **11EL 0.35 ISO** | 6.35 | 0.350 | 0.04 | 11.00 | 0.8 | 0.4 | 1 | | | | | | | • | |
| **11ER 0.35 ISO** | 6.35 | 0.350 | 0.04 | 11.00 | 0.6 | 0.4 | 1 | | | | | | | • | |
| **11ER 0.40 ISO** | 6.35 | 0.400 | 0.04 | 11.00 | 0.7 | 0.4 | 1 | | | | | | | • | |
| **11ER 0.45 ISO** | 6.35 | 0.450 | 0.05 | 11.00 | 0.7 | 0.4 | 1 | • | | | | | | | |
| **11EL 0.50 ISO** | 6.35 | 0.500 | 0.06 | 11.00 | 0.6 | 0.6 | 1 | | | | | | | • | |
| **11ER 0.50 ISO** | 6.35 | 0.500 | 0.06 | 11.00 | 0.6 | 0.6 | 1 | | | • | | | | • | |
| **11ER 0.60 ISO** | 6.35 | 0.600 | 0.07 | 11.00 | 0.6 | 0.6 | 1 | | | | | | | • | |
| **11ER 0.70 ISO** | 6.35 | 0.700 | 0.11 | 11.00 | 0.6 | 0.6 | 1 | | | | | | | • | |
| **11EL 0.75 ISO** | 6.35 | 0.750 | 0.08 | 11.00 | 0.6 | 0.6 | 1 | | | | | | | • | |
| **11ER 0.75 ISO** | 6.35 | 0.750 | 0.11 | 11.00 | 0.6 | 0.6 | 1 | | | | | | | • | |
| **11ER 0.80 ISO** | 6.35 | 0.800 | 0.12 | 11.00 | 0.6 | 0.6 | 1 | | | | | | | • | |
| **11EL 1.00 ISO** | 6.35 | 1.000 | 0.13 | 11.00 | 0.7 | 0.7 | 1 | | | • | | | | | |
| **11ER 1.00 ISO** | 6.35 | 1.000 | 0.13 | 11.00 | 0.7 | 0.7 | 1 | | | | | | | • | |
| **11ER 1.25 ISO** | 6.35 | 1.250 | 0.16 | 11.00 | 0.8 | 0.9 | 1 | | | | | | | • | |
| **11EL 1.50 ISO** | 6.35 | 1.500 | 0.19 | 11.00 | 0.8 | 0.9 | 1 | | | | | | | • | |
| **11ER 1.50 ISO** | 6.35 | 1.500 | 0.19 | 11.00 | 1.0 | 0.8 | 1 | | | • | | | | • | |
| **11ER 1.75 ISO** | 6.35 | 1.750 | 0.22 | 11.00 | 1.1 | 0.8 | 1 | | | • | | | | | |
| **16ER/L 0.35 ISO** | 9.52 | 0.350 | 0.04 | 16.49 | 0.6 | 0.4 | 1 | | | | | | | • | |
| **16EL 0.40 ISO** | 9.52 | 0.400 | 0.05 | 16.49 | 0.7 | 0.4 | 1 | | | | | | | • | |
| **16ER 0.40 ISO** | 9.52 | 0.400 | 0.05 | 16.49 | 0.6 | 0.4 | 1 | | | | | | | • | |
| **16ER 0.45 ISO** | 9.52 | 0.450 | 0.05 | 16.49 | 0.6 | 0.4 | 1 | | | | | | | • | |
| **16EL 0.50 ISO** | 9.52 | 0.500 | 0.06 | 16.49 | 0.6 | 0.6 | 1 | | | | | | | • | |
| **16ER 0.50 ISO** | 9.52 | 0.500 | 0.06 | 16.49 | 0.6 | 0.6 | 1 | | | • | • | | | • | • |
| **16ERM 0.50 ISO** | 9.52 | 0.500 | 0.06 | 16.49 | 0.6 | 0.6 | 1 | | | | | | | • | |
| **16ER 0.60 ISO** | 9.52 | 0.600 | 0.10 | 16.49 | 0.6 | 0.6 | 1 | | | | | | | • | |
| **16EL 0.70 ISO** | 9.52 | 0.700 | 0.11 | 16.49 | 0.6 | 0.6 | 1 | | | | | | | • | |
| **16ER 0.70 ISO** | 9.52 | 0.700 | 0.11 | 16.49 | 0.6 | 0.6 | 1 | | | • | | | | • | • |
| **16EL 0.75 ISO** | 9.52 | 0.750 | 0.11 | 16.49 | 0.6 | 0.6 | 1 | | | | | | | • | |
| **16ER 0.75 ISO** | 9.52 | 0.750 | 0.11 | 16.49 | 0.6 | 0.6 | 1 | | | • | • | | | • | • |
| **16ER 0.75 ISO 3M** [1] | 9.52 | 0.750 | 0.07 | 16.49 | 1.4 | 1.9 | 3 | | | | | | | • | |
| **16ERM 0.75 ISO** [2] | 9.52 | 0.750 | 0.08 | 16.49 | 0.6 | 0.6 | 1 | | | | | | • | • | • |
| **16EL 0.80 ISO** | 9.52 | 0.800 | 0.12 | 16.49 | 0.6 | 0.6 | 1 | | | • | | | | | |
| **16ER 0.80 ISO** | 9.52 | 0.800 | 0.12 | 16.49 | 0.6 | 0.6 | 1 | | | • | | | | • | • |
| **16ERB 0.80 ISO** [2] | 9.52 | 0.800 | 0.12 | 16.49 | 0.7 | 0.7 | 1 | | | | | | | • | |
| **16EL 1.00 ISO** | 9.52 | 1.000 | 0.13 | 16.49 | 0.7 | 0.7 | 1 | | | • | • | | | • | |
| **16ER 1.00 ISO** | 9.52 | 1.000 | 0.13 | 16.49 | 0.7 | 0.7 | 1 | • | • | • | • | | | • | • |
| **16ER 1.00 ISO 3M** [1] | 9.52 | 1.000 | 0.07 | 16.49 | 1.7 | 2.5 | 3 | | | | | | | • | |
| **16ERB 1.00 ISO** [2] | 9.52 | 1.000 | 0.13 | 16.49 | 0.7 | 0.7 | 1 | | | | | | | • | |
| **16ERM 1.00 ISO** [2] | 9.52 | 1.000 | 0.11 | 16.49 | 0.7 | 0.7 | 1 | | • | • | | • | • | • | • |
| **16EL 1.25 ISO** | 9.52 | 1.250 | 0.16 | 16.49 | 0.8 | 0.9 | 1 | | | • | • | | | • | |
| **16ER 1.25 ISO** | 9.52 | 1.250 | 0.16 | 16.49 | 0.8 | 0.9 | 1 | | | • | • | | | • | • |
| **16ERB 1.25 ISO** [2] | 9.52 | 1.250 | 0.16 | 16.49 | 0.8 | 0.9 | 1 | | | | | | | • | |
| **16ERM 1.25 ISO** [2] | 9.52 | 1.250 | 0.14 | 16.49 | 0.8 | 0.9 | 1 | | | • | | | • | • | • |
| **16EL 1.50 ISO** | 9.52 | 1.500 | 0.19 | 16.49 | 0.9 | 1.2 | 1 | | | • | • | | | • | • |
| **16ER 1.50 ISO** | 9.52 | 1.500 | 0.19 | 16.49 | 0.9 | 1.2 | 1 | • | • | • | • | | | • | • |
| **16ER 1.50 ISO 2M** [1] | 9.52 | 1.500 | 0.18 | 16.49 | 1.5 | 2.3 | 2 | | | | | | | • | |
| **16ERB 1.50 ISO** [2] | 9.52 | 1.500 | 0.19 | 16.49 | 0.8 | 1.0 | 1 | | | | | | | • | |
| **16ERM 1.50 ISO** [2] | 9.52 | 1.500 | 0.19 | 16.49 | 0.8 | 1.0 | 1 | | • | • | | • | • | • | • |
| **16EL 1.75 ISO** | 9.52 | 1.750 | 0.22 | 16.49 | 0.9 | 1.2 | 1 | | | | | | | • | |
| **16ER 1.75 ISO** | 9.52 | 1.750 | 0.22 | 16.49 | 0.9 | 1.2 | 1 | • | | • | • | | | • | • |
| **16ERB 1.75 ISO** [2] | 9.52 | 1.750 | 0.22 | 16.49 | 0.9 | 1.2 | 1 | | | | | | | • | |
| **16ERM 1.75 ISO** [2] | 9.52 | 1.750 | 0.20 | 16.49 | 0.9 | 1.2 | 1 | | | • | | | • | • | • |

- For Insert Identification System, see pages 640-641 • For threading between walls use GRIP-type inserts TIP-ISO class: 6g
- For technical information and detailed cutting data, see pages 713-729

[1] Multi-tooth
[2] With pressed chipformer
[3] Thread pitch
[4] Number of teeth per corner

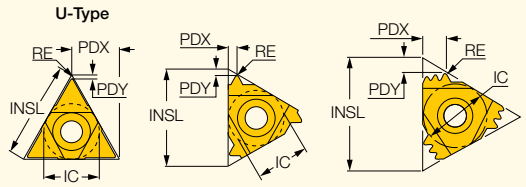
**Tools:** C#-SER/L • SER-D • SER/L • SER/L-JHP • SER/L-JHP-MC

ISCARTHREAD

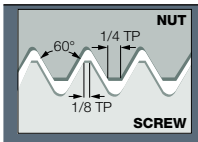
## ER/L-ISO (Continued)

External ISO Metric
(DIN13 12-1986 class: 6g)
Laydown Threading Inserts
for General Industry






External right-hand shown

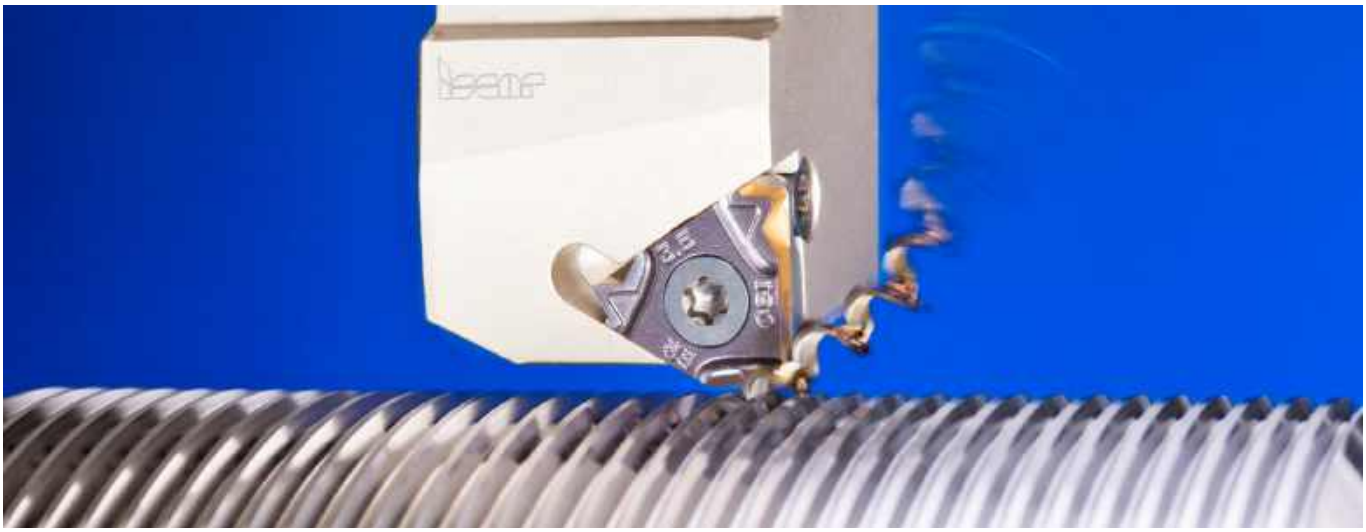



| Designation | Dimensions IC | TP[3] | RE | INSL | PDY | PDX | CICT[4] | Tough ↔ Hard IC228 | IC50M | IC250 | IC08 | IC508 | IC808 | IC908 | IC1007 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16EL 2.00 ISO | 9.52 | 2.000 | 0.25 | 16.49 | 1.0 | 1.3 | 1 | • | | • | | | | • | |
| 16ER 2.00 ISO | 9.52 | 2.000 | 0.25 | 16.49 | 1.0 | 1.3 | 1 | • | • | • | • | | | • | • |
| 16ER 2.00 ISO 2M [1] | 9.52 | 2.000 | 0.09 | 16.49 | 1.8 | 2.9 | 2 | | | | | | | • | |
| 16ERB 2.00 ISO [2] | 9.52 | 2.000 | 0.25 | 16.49 | 0.9 | 1.2 | 1 | | | | | | | • | |
| 16ERM 2.00 ISO [2] | 9.52 | 2.000 | 0.24 | 16.49 | 1.0 | 1.3 | 1 | | | • | | • | • | • | • |
| 16EL 2.50 ISO | 9.52 | 2.500 | 0.32 | 16.49 | 1.1 | 1.5 | 1 | | | | | | | • | |
| 16ER 2.50 ISO | 9.52 | 2.500 | 0.32 | 16.49 | 1.1 | 1.5 | 1 | | • | • | | | | • | • |
| 16ERB 2.50 ISO | 9.52 | 2.500 | 0.32 | 16.49 | 1.1 | 1.5 | 1 | | | | | | | • | |
| 16ERM 2.50 ISO [2] | 9.52 | 2.500 | 0.30 | 16.49 | 1.1 | 1.5 | 1 | | | • | | | • | • | • |
| 16EL 3.00 ISO | 9.52 | 3.000 | 0.38 | 16.49 | 1.2 | 1.6 | 1 | | | | | | | • | |
| 16ER 3.00 ISO | 9.52 | 3.000 | 0.38 | 16.49 | 1.2 | 1.6 | 1 | • | • | • | | • | | • | • |
| 16ERB 3.00 ISO [2] | 9.52 | 3.000 | 0.38 | 16.49 | 1.2 | 1.6 | 1 | | | | | | | • | |
| 16ERM 3.00 ISO [2] | 9.52 | 3.000 | 0.38 | 16.49 | 1.2 | 1.6 | 1 | | • | • | | • | • | • | • |
| 22ER 1.50 ISO 3M [1] | 12.70 | 1.500 | 0.07 | 22.00 | 2.3 | 3.7 | 3 | | | • | | | | • | |
| 22ER 2.00 ISO 2M [1] | 12.70 | 2.000 | 0.25 | 22.00 | 2.0 | 3.0 | 2 | | | | | | | • | |
| 22ER 2.00 ISO 3M [1] | 12.70 | 2.000 | 0.25 | 22.00 | 3.1 | 5.0 | 3 | | | • | | | | • | |
| 22EL 3.50 ISO | 12.70 | 3.500 | 0.46 | 22.00 | 1.6 | 2.3 | 1 | • | | • | | | | | |
| 22ER 3.50 ISO | 12.70 | 3.500 | 0.46 | 22.00 | 1.6 | 2.3 | 1 | | | • | | | | • | |
| 22ERM 3.50 ISO [2] | 12.70 | 3.500 | 0.48 | 22.00 | 1.6 | 2.3 | 1 | | | | | | • | • | |
| 22EL 4.00 ISO | 12.70 | 4.000 | 0.52 | 22.00 | 1.6 | 2.3 | 1 | | | • | | | | • | |
| 22ER 4.00 ISO | 12.70 | 4.000 | 0.52 | 22.00 | 1.6 | 2.3 | 1 | | • | • | | | | • | • |
| 22ERM 4.00 ISO [2] | 12.70 | 4.000 | 0.52 | 22.00 | 1.6 | 2.3 | 1 | | | | | | • | • | |
| 22ER 4.50 ISO | 12.70 | 4.500 | 0.58 | 22.00 | 1.6 | 2.3 | 1 | | | • | | | | • | |
| 22EL 5.00 ISO | 12.70 | 5.000 | 0.66 | 22.00 | 1.7 | 2.5 | 1 | | | • | | | | | |
| 22ER 5.00 ISO | 12.70 | 5.000 | 0.66 | 22.00 | 1.7 | 2.5 | 1 | | | • | | | | • | |
| 22ER 6.00 ISO | 12.70 | 6.000 | 0.79 | 22.00 | 1.9 | 2.7 | 1 | | | • | | | | | |
| 22UERL 5.50 ISO | 12.70 | 5.500 | 0.70 | 22.00 | 2.3 | 11.0 | 1 | | | • | | | | | |
| 22EL 6.00 ISO | 12.70 | 6.000 | 0.78 | 22.00 | 2.0 | 2.7 | 1 | | | • | | | | | |
| 22UERL 6.00 ISO | 12.70 | 6.000 | 0.78 | 22.00 | 2.6 | 11.0 | 1 | • | | • | | | | | |
| 27ER 3.00 ISO 2M [1] | 15.88 | 3.000 | 0.38 | 27.50 | 2.9 | 4.6 | 2 | | | | | | | • | |
| 27ER 5.50 ISO | 15.88 | 5.500 | 0.71 | 27.50 | 2.0 | 2.9 | 1 | | | | | | | • | |
| 27EL 6.00 ISO | 15.88 | 6.000 | 0.78 | 27.50 | 2.0 | 2.9 | 1 | | | | | | | • | |
| 27ER 6.00 ISO | 15.88 | 6.000 | 0.78 | 27.50 | 2.0 | 2.9 | 1 | • | | • | | | | • | |
| 27UERL 8.00 ISO | 15.88 | 8.000 | 1.08 | 27.50 | 2.4 | 13.7 | 1 | | | | | | | • | |

- For Insert Identification System, see pages 640-641
- For threading between walls use GRIP-type inserts TIP-ISO class: 6g
- For technical information and detailed cutting data, see pages 713-729

[1] Multi-tooth
[2] With pressed chipformer
[3] Thread pitch
[4] Number of teeth per corner

**Tools:** C#-SER/L • SER-D • SER/L • SER/L-JHP • SER/L-JHP-MC

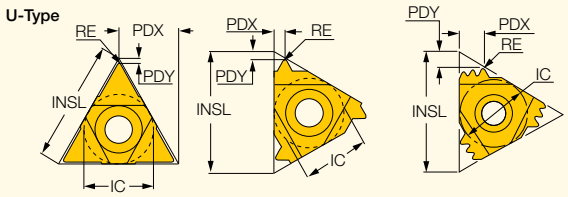


ISCARTHREAD

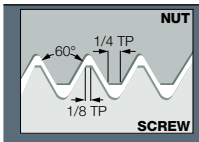
## IR/L-ISO

Internal ISO Metric
(DIN13 12-1986 class 6H)
Laydown Threading Inserts
for General Industry






Internal left-hand shown




| Designation | Dimensions IC | TP[3] | RE | INSL | PDY | PDX | CICT[4] | Tough ↔ Hard IC28 | IC228 | IC928 | IC50M | IC250 | IC08 | IC508 | IC808 | IC908 | IC1007 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 06IL 0.50 ISO | 4.00 | 0.500 | 0.04 | 6.88 | 0.6 | 0.4 | 1 | | • | | | | | | | | |
| 06IR 0.50 ISO | 4.00 | 0.500 | 0.04 | 6.88 | 0.6 | 0.4 | 1 | | • | • | | | | | | • | |
| 06IL 0.75 ISO | 4.00 | 0.750 | 0.06 | 6.88 | 0.6 | 0.5 | 1 | | • | | | | | | | | |
| 06IR 0.75 ISO | 4.00 | 0.750 | 0.06 | 6.88 | 0.6 | 0.5 | 1 | | • | • | | | | | | • | |
| 06IL 1.00 ISO | 4.00 | 1.000 | 0.05 | 6.88 | 0.6 | 0.6 | 1 | | • | | | | | | | | |
| 06IR 1.00 ISO | 4.00 | 1.000 | 0.05 | 6.88 | 0.6 | 0.6 | 1 | | • | • | | | | | | • | |
| 06IL 1.25 ISO | 4.00 | 1.250 | 0.07 | 6.88 | 0.6 | 0.6 | 1 | | • | | | | | | | | |
| 06IR 1.25 ISO | 4.00 | 1.250 | 0.07 | 6.88 | 0.6 | 0.6 | 1 | | • | • | | | | | | • | |
| 08IL 0.50 ISO | 5.00 | 0.500 | 0.04 | 8.24 | 0.6 | 0.4 | 1 | | • | | | | | | | | |
| 08IR 0.50 ISO | 5.00 | 0.500 | 0.04 | 8.24 | 0.6 | 0.4 | 1 | | • | • | | | | | | • | |
| 08IR 0.75 ISO | 5.00 | 0.750 | 0.05 | 8.24 | 0.6 | 0.5 | 1 | | • | • | | | | | | • | |
| 08IL 1.00 ISO | 5.00 | 1.000 | 0.07 | 8.24 | 0.6 | 0.6 | 1 | | • | | | | | | | | |
| 08IR 1.00 ISO | 5.00 | 1.000 | 0.07 | 8.24 | 0.6 | 0.6 | 1 | | • | • | | | | | | • | |
| 08IL 1.25 ISO | 5.00 | 1.250 | 0.09 | 8.24 | 0.6 | 0.7 | 1 | | • | | | | | | | | |
| 08IR 1.25 ISO | 5.00 | 1.250 | 0.09 | 8.24 | 0.6 | 0.7 | 1 | | • | • | | | | | | • | |
| 08IL 1.50 ISO | 5.00 | 1.500 | 0.10 | 8.24 | 0.6 | 0.7 | 1 | | • | | | | | | | | |
| 08IR 1.50 ISO | 5.00 | 1.500 | 0.10 | 8.24 | 0.6 | 0.7 | 1 | • | • | • | | | | | | • | |
| 08IL 1.75 ISO | 5.00 | 1.750 | 0.15 | 8.24 | 0.6 | 0.9 | 1 | | • | | | | | | | | |
| 08IR 1.75 ISO | 5.00 | 1.750 | 0.15 | 8.24 | 0.6 | 0.8 | 1 | | • | • | | | | | | • | |
| 08UIRL 2.00 ISO | 5.00 | 2.000 | 0.14 | 8.24 | 0.8 | 4.3 | 1 | | • | | | | | | | | |
| 11IL 0.35 ISO | 6.35 | 0.350 | 0.04 | 11.00 | 0.8 | 0.3 | 1 | | | | | | • | | | | |
| 11IR 0.35 ISO | 6.35 | 0.350 | 0.04 | 11.00 | 0.8 | 0.3 | 1 | | | | | | | | | • | |
| 11IR 0.40 ISO | 6.35 | 0.400 | 0.03 | 11.00 | 0.8 | 0.4 | 1 | | | | | | | | | • | |
| 11IL 0.50 ISO | 6.35 | 0.500 | 0.04 | 11.00 | 0.8 | 0.6 | 1 | | | | | | | | | • | |
| 11IR 0.50 ISO | 6.35 | 0.500 | 0.04 | 11.00 | 0.8 | 0.6 | 1 | | | | | • | • | | | • | |
| 11IRB 0.50 ISO | 6.35 | 0.500 | 0.04 | 11.00 | 0.8 | 0.6 | 1 | | | | | | | | | • | |
| 11IRM 0.50 ISO | 6.35 | 0.500 | 0.04 | 11.00 | 0.3 | 0.4 | 1 | | | | | | | | | • | |
| 11IR 0.70 ISO | 6.35 | 0.700 | 0.05 | 11.00 | 0.6 | 0.6 | 1 | | | | | | | | | • | |
| 11IR/L 0.75 ISO | 6.35 | 0.750 | 0.05 | 11.00 | 0.6 | 0.6 | 1 | | | | | | | | | • | |
| 11IRB 0.75 ISO | 6.35 | 0.750 | 0.05 | 11.00 | 0.1 | 0.6 | 1 | | | | | | | | | • | |
| 11IRM 0.75 ISO | 6.35 | 0.750 | 0.06 | 11.00 | 0.3 | 0.5 | 1 | | | | | | | | | • | |
| 11IR 0.80 ISO | 6.35 | 0.800 | 0.04 | 11.00 | 0.6 | 0.6 | 1 | | | | | | | | | • | |
| 11IRB 0.80 ISO | 6.35 | 0.800 | 0.04 | 11.00 | 0.6 | 0.6 | 1 | | | | | | | | | • | |
| 11IL 1.00 ISO | 6.35 | 1.000 | 0.07 | 11.00 | 0.6 | 0.7 | 1 | | | | | | | | | • | |
| 11IR 1.00 ISO | 6.35 | 1.000 | 0.07 | 11.00 | 0.6 | 0.7 | 1 | | • | | • | • | • | | | • | • |
| 11IRB 1.00 ISO | 6.35 | 1.000 | 0.07 | 11.00 | 0.6 | 0.6 | 1 | | | | | | | | | • | |
| 11IRM 1.00 ISO [1] | 6.35 | 1.000 | 0.05 | 11.00 | 0.6 | 0.7 | 1 | | | | | | | | • | • | • |
| 11IR/L 1.25 ISO | 6.35 | 1.250 | 0.09 | 11.00 | 0.8 | 0.8 | 1 | | | | | | | | | • | |
| 11IRB 1.25 ISO | 6.35 | 1.250 | 0.09 | 11.00 | 0.8 | 0.9 | 1 | | | | | | | | | • | |
| 11IL 1.50 ISO | 6.35 | 1.500 | 0.12 | 11.00 | 0.8 | 1.0 | 1 | | | | | • | | | | • | |
| 11IR 1.50 ISO | 6.35 | 1.500 | 0.12 | 11.00 | 0.8 | 1.0 | 1 | | • | | • | • | • | | | • | • |
| 11IRB 1.50 ISO | 6.35 | 1.500 | 0.12 | 11.00 | 0.8 | 1.0 | 1 | | | | | | | | | • | |
| 11IRM 1.50 ISO [1] | 6.35 | 1.500 | 0.08 | 11.00 | 0.8 | 1.0 | 1 | | | | | • | | | | • | • |
| 11IL 1.75 ISO | 6.35 | 1.750 | 0.12 | 11.00 | 0.8 | 1.0 | 1 | | | | • | | | | | • | |
| 11IR 1.75 ISO | 6.35 | 1.750 | 0.12 | 11.00 | 0.8 | 1.0 | 1 | | | | | | | | | • | |
| 11IRB 1.75 ISO | 6.35 | 1.750 | 0.12 | 11.00 | 0.8 | 1.0 | 1 | | | | | | | | | • | |
| 11IRM 1.75 ISO | 6.35 | 1.750 | 0.15 | 11.00 | 0.6 | 0.9 | 1 | | | | | | | | | • | |
| 11IL 2.00 ISO | 6.35 | 2.000 | 0.14 | 11.00 | 0.8 | 0.9 | 1 | | | | | | | | | • | |
| 11IR 2.00 ISO | 6.35 | 2.000 | 0.14 | 11.00 | 0.8 | 0.9 | 1 | | • | | | • | | • | | • | • |
| 11IRM 2.00 ISO | 6.35 | 2.000 | 0.16 | 11.00 | 0.6 | 1.0 | 1 | | | | | | | | | • | |
| 16IR 0.35 ISO | 9.52 | 0.350 | 0.02 | 16.49 | 0.6 | 0.3 | 1 | | | | | | | | | • | |
| 16IR/L 0.40 ISO | 9.52 | 0.400 | 0.03 | 16.49 | 0.6 | 0.4 | 1 | | | | | | | | | • | |

• For Insert Identification System, see pages 640-641 • Tolerance: Class 6H. • For technical information and detailed cutting data, see pages 713-729

[1] With pressed chipformer
[2] Multi-tooth
[3] Thread pitch
[4] Number of teeth per corner

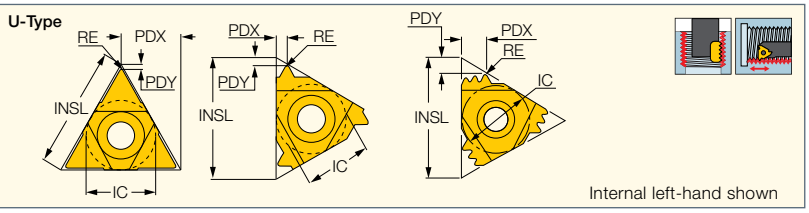
**Tools:** AVC-D-SIR/L • MGSIR/L • PICIN-MGSIR/L • SIR/L

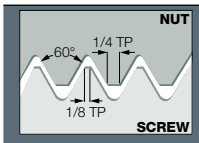
ISCARTHREAD

## IR/L-ISO (Continued)

Internal ISO Metric
(DIN13 12-1986 class 6H)
Laydown Threading Inserts
for General Industry






| Designation | Dimensions IC | TP[3] | RE | INSL | PDY | PDX | CICT[4] | Tough ↔ Hard IC28 | IC228 | IC928 | IC50M | IC250 | IC08 | IC508 | IC808 | IC908 | IC1007 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16IL 0.45 ISO | 9.52 | 0.450 | 0.02 | 16.49 | 0.8 | 0.4 | 1 | | | | | | | | | • | |
| 16IL 0.50 ISO | 9.52 | 0.500 | 0.04 | 16.49 | 0.6 | 0.6 | 1 | | | | | | | | | • | |
| 16IR 0.50 ISO | 9.52 | 0.500 | 0.04 | 16.49 | 0.6 | 0.6 | 1 | | | | | • | • | | | • | |
| 16IR 0.60 ISO | 9.52 | 0.600 | 0.04 | 16.49 | 0.6 | 0.6 | 1 | | | | | | | | | • | |
| 16IR 0.70 ISO | 9.52 | 0.700 | 0.05 | 16.49 | 0.6 | 0.6 | 1 | | | | | • | | | | • | |
| 16IL 0.75 ISO | 9.52 | 0.750 | 0.05 | 16.49 | 0.6 | 0.6 | 1 | | | | | | | | | • | |
| 16IR 0.75 ISO | 9.52 | 0.750 | 0.05 | 16.49 | 0.6 | 0.6 | 1 | | | | | | • | | | • | |
| 16IL 0.80 ISO | 9.52 | 0.800 | 0.05 | 16.49 | 0.6 | 0.6 | 1 | | | | • | | | | | | |
| 16IR 0.80 ISO | 9.52 | 0.800 | 0.05 | 16.49 | 0.6 | 0.6 | 1 | | | | | • | | | | | |
| 16IL 1.00 ISO | 9.52 | 1.000 | 0.07 | 16.49 | 0.7 | 0.8 | 1 | | | | | | | | | • | |
| 16IR 1.00 ISO | 9.52 | 1.000 | 0.07 | 16.49 | 0.7 | 0.8 | 1 | | | | • | • | • | | | • | • |
| 16IR 1.00 ISO 3M [2] | 9.52 | 1.000 | 0.07 | 16.49 | 1.5 | 2.5 | 3 | | | | | | | | | • | |
| 16IRB 1.00 ISO [1] | 9.52 | 1.000 | 0.07 | 16.49 | 0.7 | 0.8 | 1 | | | | | | | | | • | |
| 16IRM 1.00 ISO [1] | 9.52 | 1.000 | 0.05 | 16.49 | 0.6 | 0.7 | 1 | | | | • | • | | • | • | • | • |
| 16IL 1.25 ISO | 9.52 | 1.250 | 0.09 | 16.49 | 0.8 | 0.9 | 1 | | | | • | | • | | | • | |
| 16IR 1.25 ISO | 9.52 | 1.250 | 0.09 | 16.49 | 0.8 | 0.9 | 1 | | | | | • | • | | | • | |
| 16IRB 1.25 ISO [1] | 9.52 | 1.250 | 0.09 | 16.49 | 0.7 | 0.8 | 1 | | | | | | | | | • | |
| 16IRM 1.25 ISO [1] | 9.52 | 1.250 | 0.06 | 16.49 | 0.8 | 0.9 | 1 | | | | | • | | | | • | • |
| 16IL 1.50 ISO | 9.52 | 1.500 | 0.12 | 16.49 | 0.9 | 1.0 | 1 | | | | • | • | | | | • | • |
| 16IR 1.50 ISO | 9.52 | 1.500 | 0.12 | 16.49 | 0.9 | 1.0 | 1 | | • | | • | • | • | | | • | • |
| 16IR 1.50 ISO 2M [2] | 9.52 | 1.500 | 0.10 | 16.49 | 1.5 | 2.3 | 2 | | | | | | | | | • | |
| 16IRB 1.50 ISO [1] | 9.52 | 1.500 | 0.12 | 16.49 | 0.1 | 1.2 | 1 | | | | | | | | | • | |
| 16IRM 1.50 ISO [1] | 9.52 | 1.500 | 0.08 | 16.49 | 0.8 | 1.0 | 1 | | | | • | • | | • | • | • | • |
| 16IL 1.75 ISO | 9.52 | 1.750 | 0.12 | 16.49 | 0.9 | 1.2 | 1 | | | | | | | | | • | |
| 16IR 1.75 ISO | 9.52 | 1.750 | 0.12 | 16.49 | 0.9 | 1.2 | 1 | | | | | • | • | | | • | |
| 16IRB 1.75 ISO [1] | 9.52 | 1.750 | 0.12 | 16.49 | 0.9 | 1.2 | 1 | | | | | | | | | • | |
| 16IRM 1.75 ISO [1] | 9.52 | 1.750 | 0.10 | 16.49 | 0.9 | 1.2 | 1 | | | | | • | | | • | • | • |
| 16IL 2.00 ISO | 9.52 | 2.000 | 0.16 | 16.49 | 0.9 | 1.2 | 1 | | | | | • | | | | • | |
| 16IR 2.00 ISO | 9.52 | 2.000 | 0.16 | 16.49 | 0.9 | 1.2 | 1 | | • | | | • | | • | | • | • |
| 16IR 2.00 ISO 2M [2] | 9.52 | 2.000 | 0.14 | 16.49 | 1.6 | 2.7 | 2 | | | | | | | | | • | |
| 16IRB 2.00 ISO [1] | 9.52 | 2.000 | 0.14 | 16.49 | 1.0 | 1.2 | 1 | | | | | | | | | • | |
| 16IRM 2.00 ISO [1] | 9.52 | 2.000 | 0.11 | 16.49 | 1.0 | 1.3 | 1 | | | | | • | | • | • | • | • |
| 16IL 2.50 ISO | 9.52 | 2.500 | 0.18 | 16.49 | 1.1 | 1.5 | 1 | | | | | | | | | • | |
| 16IR 2.50 ISO | 9.52 | 2.500 | 0.18 | 16.49 | 1.1 | 1.5 | 1 | | • | | | • | | | | • | • |
| 16IRB 2.50 ISO | 9.52 | 2.500 | 0.18 | 16.49 | 1.2 | 1.5 | 1 | | | | | | | | | • | |
| 16IRM 2.50 ISO [1] | 9.52 | 2.500 | 0.14 | 16.49 | 1.1 | 1.5 | 1 | | | | | • | | | • | • | • |
| 16IL 3.00 ISO | 9.52 | 3.000 | 0.21 | 16.49 | 1.1 | 1.5 | 1 | | | | | | | | | • | |
| 16IR 3.00 ISO | 9.52 | 3.000 | 0.21 | 16.49 | 1.1 | 1.5 | 1 | | • | | | • | | | | • | • |
| 16IRB 3.00 ISO [1] | 9.52 | 3.000 | 0.21 | 16.49 | 1.1 | 1.5 | 1 | | | | | | | | | • | |
| 16IRM 3.00 ISO [1] | 9.52 | 3.000 | 0.22 | 16.49 | 1.1 | 1.5 | 1 | | | | | • | | • | • | • | • |
| 22IR 1.50 ISO 3M [2] | 12.70 | 1.500 | 0.11 | 22.00 | 2.3 | 3.7 | 3 | | | | | • | | | | • | |
| 22IR 2.00 ISO 2M [2] | 12.70 | 2.000 | 0.15 | 22.00 | 2.3 | 3.0 | 2 | | | | | | | | | • | |
| 22IR 2.00 ISO 3M [2] | 12.70 | 2.000 | 0.13 | 22.00 | 3.1 | 5.0 | 3 | | | | | | | | | • | |
| 22IL 3.00 ISO | 12.70 | 3.000 | 0.17 | 22.00 | 1.1 | 1.5 | 1 | | • | | | | | | | | |
| 22IL 3.50 ISO | 12.70 | 3.500 | 0.23 | 22.00 | 1.6 | 2.3 | 1 | | | | | • | | | | | |
| 22IR 3.50 ISO | 12.70 | 3.500 | 0.23 | 22.00 | 1.6 | 2.3 | 1 | | | | | • | | | | • | • |
| 22IL 4.00 ISO | 12.70 | 4.000 | 0.27 | 22.00 | 1.6 | 2.3 | 1 | | | | | | | | | • | |
| 22IR 4.00 ISO | 12.70 | 4.000 | 0.27 | 22.00 | 1.6 | 2.3 | 1 | | | | • | • | | | | • | |
| 22IL 4.50 ISO | 12.70 | 4.500 | 0.31 | 22.00 | 1.6 | 2.3 | 1 | | | | | • | | | | | |
| 22IR 4.50 ISO | 12.70 | 4.500 | 0.31 | 22.00 | 1.6 | 2.3 | 1 | | | | | • | | | | • | |
| 22IL 5.00 ISO | 12.70 | 5.000 | 0.32 | 22.00 | 1.7 | 2.5 | 1 | | | | • | | | | | • | |
| 22IR 5.00 ISO | 12.70 | 5.000 | 0.32 | 22.00 | 1.7 | 2.5 | 1 | | | | | • | | | | • | |

• For Insert Identification System, see pages 640-641 • Tolerance: Class 6H. • For technical information and detailed cutting data, see pages 713-729

[1] With pressed chipformer

[2] Multi-tooth

[3] Thread pitch

[4] Number of teeth per corner

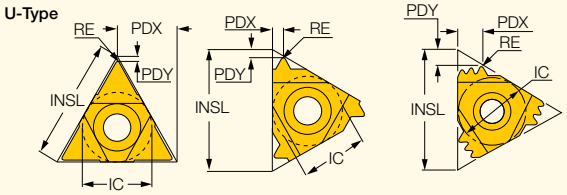
**Tools:** AVC-D-SIR/L • MGSIR/L • PICIN-MGSIR/L • SIR/L

ISCARTHREAD

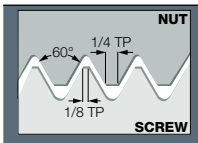
## IR/L-ISO (Continued)

Internal ISO Metric
(DIN13 12-1986 class 6H)
Laydown Threading Inserts
for General Industry






Internal left-hand shown




| Designation | Dimensions IC | TP[3] | RE | INSL | PDY | PDX | CICT[4] | Tough ↔ Hard IC28 | IC228 | IC928 | IC50M | IC250 | IC08 | IC508 | IC808 | IC908 | IC1007 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **22IR 6.00 ISO** | 12.70 | 6.000 | 0.40 | 22.00 | 1.7 | 2.5 | 1 | | | | | | | | | ● | |
| **22UIRL 5.50 ISO** | 12.70 | 5.500 | 0.36 | 22.00 | 2.3 | 11.0 | 1 | | | | | ● | | | | | |
| **22UIRL 6.00 ISO** | 12.70 | 6.000 | 0.40 | 22.00 | 2.1 | 11.0 | 1 | | | | | ● | | | | | |
| **27IR 3.00 ISO 2M [2]** | 15.88 | 3.000 | 0.21 | 27.50 | 3.1 | 4.6 | 2 | | | | | | | | | ● | |
| **27IR 5.50 ISO** | 15.88 | 5.500 | 0.36 | 27.50 | 1.8 | 2.5 | 1 | | | | | ● | | | | ● | |
| **27IR 6.00 ISO** | 15.88 | 6.000 | 0.40 | 27.50 | 1.8 | 2.5 | 1 | | | | | ● | | | | ● | |
| **27UIRL 8.00 ISO** | 15.88 | 8.000 | 0.50 | 27.50 | 2.5 | 13.8 | 1 | | | | | | | | | ● | |

• For Insert Identification System, see pages 640-641 • Tolerance: Class 6H. • For technical information and detailed cutting data, see pages 713-729

[1] With pressed chipformer

[2] Multi-tooth

[3] Thread pitch

[4] Number of teeth per corner

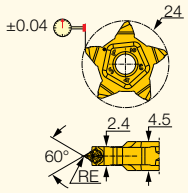
**Tools:** AVC-D-SIR/L • MGSIR/L • MTET Single Point • PICIN-MGSIR/L • SIR/L

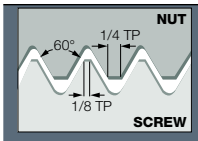
PENTACUT THREADING LINE

## PENTA 24-ISO

Precision Ground ISO Metric
Full Profile Pentagonal
External Threading Inserts
with a Chipformer






| Designation | Dimensions TP[1] | RE | IC908 |
|---|---|---|---|
| **PENTA 24-0.5-ISO** | 0.500 | 0.08 | ● |
| **PENTA 24-0.75-ISO** | 0.750 | 0.11 | ● |
| **PENTA 24-0.8-ISO** | 0.800 | 0.12 | ● |
| **PENTA 24-1.0-ISO** | 1.000 | 0.14 | ● |
| **PENTA 24-1.25-ISO** | 1.250 | 0.18 | ● |
| **PENTA 24-1.5-ISO** | 1.500 | 0.22 | ● |
| **PENTA 24-1.75-ISO** | 1.750 | 0.25 | ● |
| **PENTA 24-2.0-ISO** | 2.000 | 0.28 | ● |

• DMIN(mm)=5.435xTP

[1] Thread pitch

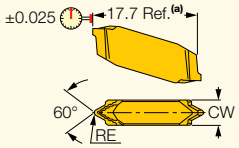
**Tools:** PCAD RE/LE-JHP • PCADR/L • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-24 • PCHR/L-24-JHP • PCHR/L-24-JHP-MC

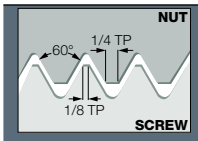
ISCARTHREAD
CUTGRIP

## TIP-P-ISO

Precision Ground ISO Metric Full Profile Double-Ended External Threading Inserts with a Chipformer






| Designation | Dimensions TP(1) | CW | RE | RETOL(2) | Tough ↔ Hard IC08 | IC908 |
|---|---|---|---|---|---|---|
| TIP 2P0.5-ISO | 0.500 | 2.40 | 0.08 | 0.030 | • | • |
| TIP 2P0.75-ISO | 0.750 | 2.40 | 0.11 | 0.030 | • | • |
| TIP 2P0.8-ISO | 0.800 | 2.40 | 0.12 | 0.030 | • | • |
| TIP 2P1.0-ISO | 1.000 | 2.40 | 0.14 | 0.030 | • | • |
| TIP 2P1.25-ISO | 1.250 | 2.40 | 0.18 | 0.030 | • | • |
| TIP 2P1.5-ISO | 1.500 | 2.40 | 0.22 | 0.030 | • | • |
| TIP 2P1.75-ISO | 1.750 | 2.40 | 0.25 | 0.030 | • | • |
| TIP 4P2.0-ISO | 2.000 | 4.00 | 0.28 | 0.030 | • | • |
| TIP 4P2.5-ISO | 2.500 | 4.00 | 0.35 | 0.050 | • | • |
| TIP 4P3.0-ISO | 3.000 | 4.00 | 0.42 | 0.050 | | • |
| TIP 4P3.5-ISO | 3.500 | 4.00 | 0.48 | 0.050 | | • |
| TIP 5P4.0-ISO | 4.000 | 5.50 | 0.55 | 0.050 | | • |
| TIP 5P5.0-ISO | 5.000 | 5.50 | 0.68 | 0.050 | | • |

• (a) TIP inserts are 1.6 mm longer than GIP in the same pocket • Toolholder seat needs to be modified according to insert profile to ensure clearance

(1) Thread pitch

(2) Corner radius tolerance (+/-)

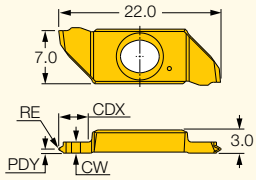
**Tools:** C#-GHDR/L • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L • GHSR/L • GHSR/L-JHP-SL • NQCH-GHSR/L-JHP

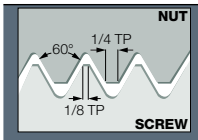
ISCARTHREAD
SWISSCUT INNOVAL LINE

## SCIR-22-MTR-ISO

Precision Ground ISO Metric Full Profile Threading Inserts






| Designation | Dimensions TP(1) | CW | CDX(2) | RE | PDY | IC1008 |
|---|---|---|---|---|---|---|
| SCIR 22-MTR-0.3ISO | 0.300 | 1.00 | 3.00 | 0.03 | 0.2 | • |
| SCIR 22-MTR-0.4ISO | 0.400 | 1.00 | 3.00 | 0.04 | 0.2 | • |
| SCIR 22-MTR-0.5ISO | 0.500 | 1.00 | 3.00 | 0.06 | 0.3 | • |
| SCIR 22-MTR-0.75ISO | 0.750 | 1.00 | 3.00 | 0.10 | 0.4 | • |
| SCIR 22-MTR-1.0ISO | 1.000 | 1.50 | 4.00 | 0.14 | 0.6 | • |
| SCIR 22-MTR-1.5ISO | 1.500 | 2.00 | 4.00 | 0.20 | 0.8 | • |

(1) Thread pitch

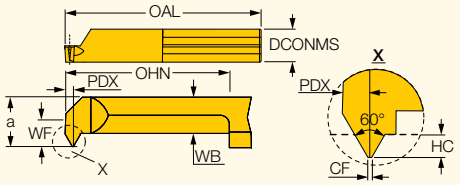
(2) Cutting depth maximum

**Tools:** NQCH-SCHR/L-BF-JHP • NQCH-Y-SCHR-BF-JHP • SCHR/L-22BF • SCHR/L-22BF-JHP • Y-SCHR-22BF • Y-SCHR-22BF-JHP

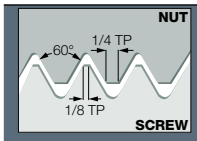
## PICCOCUT

### PICCO ISO Full Profile
Inserts for ISO Standard
Full Profile Thread






Right-hand shown



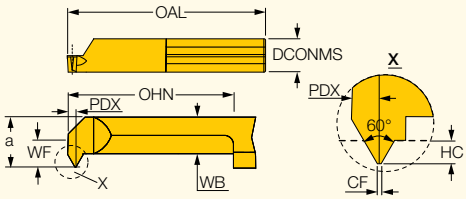

| Designation | Dimensions | | | | | | | | | | | IC908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TP[1] | DCONMS | WF | a | OAL | OHN[2] | WB | PDX | HC | CF | DMIN | |
| PICCO R/L 105.0510-15 | 1.000 | 5.00 | 1.90 | 4.40 | 30.00 | 15.0 | 3.30 | 0.6 | 0.54 | 0.12 | 4.80 | ● |
| PICCO R/L 106.0612-15 | 1.250 | 6.00 | 2.30 | 5.30 | 30.00 | 15.0 | 3.40 | 0.7 | 0.67 | 0.15 | 6.00 | ● |
| PICCO R/L 106.0815-15 | 1.500 | 6.00 | 2.30 | 5.30 | 30.00 | 15.0 | 3.40 | 0.8 | 0.81 | 0.18 | 6.00 | ● |
| PICCO R/L 107.0815-15 | 1.500 | 7.00 | 2.80 | 6.30 | 30.00 | 15.0 | 3.80 | 0.8 | 0.81 | 0.18 | 7.00 | ● |

[1] Thread pitch
[2] Minimum overhang
**Holders:** GHPCOR • PICCO ACE • PICCO/MG PCO (holder)

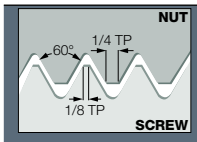
## PICCOCUT

### PICCO ISO Full Profile Fine
Inserts for ISO Fine Pitch
Full Profile Thread






Right-hand shown




| Designation | Dimensions | | | | | | | | | | | IC908 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TP[1] | DCONMS | WF | a | OAL | OHN[2] | WB | PDX | HC | CF | DMIN | |
| PICCO R/L 104.0205-15 | 0.500 | 5.00 | 1.50 | 3.50 | 30.00 | 15.0 | 2.40 | 0.4 | 0.27 | 0.06 | 4.00 | ● |
| PICCO R/L 105.0205-15 | 0.500 | 5.00 | 1.90 | 4.40 | 30.00 | 15.0 | 3.30 | 0.4 | 0.27 | 0.06 | 5.00 | ● |
| PICCO R/L 105.0407-15 | 0.750 | 5.00 | 1.90 | 4.40 | 30.00 | 15.0 | 3.30 | 0.5 | 0.40 | 0.09 | 5.00 | ● |
| PICCO R/L 106.0510-15 | 1.000 | 6.00 | 2.30 | 5.30 | 30.00 | 15.0 | 3.40 | 0.6 | 0.54 | 0.12 | 6.00 | ● |

[1] Thread pitch
[2] Minimum overhang
**Holders:** GHPCOR • PICCO ACE • PICCO/MG PCO (holder)

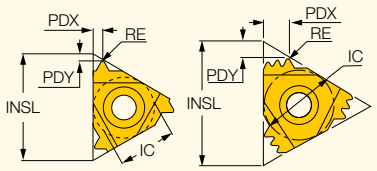


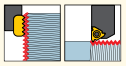
# Full Profile UN

**ISCARTHREAD**

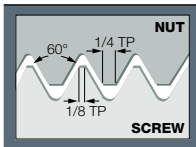
**ER/L-UN**
External American UN
Full Profile (UN, UNC, UNF, UNEF)
Laydown Threading Inserts for
General Industry





External right-hand shown




| Designation | Dimensions IC | TPI[3] | RE | INSL | PDY | PDX | CICT[4] | Tough ↔ Hard IC228 | IC50M | IC250 | IC08 | IC508 | IC808 | IC908 | IC1007 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **11ER 44 UN** | 6.35 | 44.0 | 0.05 | 11.00 | 0.6 | 0.6 | 1 | | | | | | | • | |
| **11ER 32 UN** | 6.35 | 32.0 | 0.10 | 11.00 | 0.6 | 0.6 | 1 | | | | | | | • | |
| **11ER 28 UN** | 6.35 | 28.0 | 0.10 | 11.00 | 0.6 | 0.7 | 1 | | | | • | | | • | |
| **11ER 24 UN** | 6.35 | 24.0 | 0.12 | 11.00 | 0.7 | 0.8 | 1 | | | | | | | • | |
| **11EL 20 UN** | 6.35 | 20.0 | 0.15 | 11.00 | 0.8 | 0.9 | 1 | | | | | | | • | |
| **11ER 20 UN** | 6.35 | 20.0 | 0.15 | 11.00 | 0.8 | 0.9 | 1 | | | • | • | | | • | |
| **11ER 18 UN** | 6.35 | 18.0 | 0.17 | 11.00 | 0.8 | 1.0 | 1 | | | | • | | | • | |
| **11ER 16 UN** | 6.35 | 16.0 | 0.18 | 11.00 | 0.9 | 1.1 | 1 | | • | • | | | | • | |
| **16ER 72 UN** | 9.52 | 72.0 | 0.04 | 16.49 | 0.8 | 0.4 | 1 | | | | | | | • | |
| **16ER 56 UN** | 9.52 | 56.0 | 0.06 | 16.49 | 0.7 | 0.4 | 1 | | | | | | | • | |
| **16ER 48 UN** | 9.52 | 48.0 | 0.05 | 16.49 | 0.6 | 0.6 | 1 | | | | | | | • | |
| **16ER 40 UN** | 9.52 | 40.0 | 0.06 | 16.49 | 0.6 | 0.6 | 1 | | | | • | • | | • | |
| **16EL 36 UN** | 9.52 | 36.0 | 0.07 | 16.49 | 0.6 | 0.6 | 1 | | | | | | | • | |
| **16ER 36 UN** | 9.52 | 36.0 | 0.08 | 16.49 | 0.6 | 0.6 | 1 | | | | | | | • | |
| **16EL 32 UN** | 9.52 | 32.0 | 0.10 | 16.49 | 0.6 | 0.6 | 1 | | | | | | | • | |
| **16ER 32 UN** | 9.52 | 32.0 | 0.10 | 16.49 | 0.6 | 0.6 | 1 | | | • | | | | • | • |
| **16EL 28 UN** | 9.52 | 28.0 | 0.11 | 16.49 | 0.6 | 0.7 | 1 | | | | | | | • | |
| **16ER 28 UN** | 9.52 | 28.0 | 0.11 | 16.49 | 0.6 | 0.7 | 1 | | | • | • | | | • | • |
| **16ER 27 UN** | 9.52 | 27.0 | 0.10 | 16.49 | 0.7 | 0.8 | 1 | | • | | | | | | |
| **16EL 24 UN** | 9.52 | 24.0 | 0.13 | 16.49 | 0.7 | 0.8 | 1 | | | | | | | • | |
| **16ER 24 UN** | 9.52 | 24.0 | 0.13 | 16.49 | 0.7 | 0.8 | 1 | | | • | • | | | • | • |
| **16ERB 24 UN** [1] | 9.52 | 24.0 | 0.13 | 16.49 | 0.7 | 0.8 | 1 | | | | | | | • | |
| **16ERM 24 UN** [1] | 9.52 | 24.0 | 0.11 | 16.49 | 0.7 | 0.8 | 1 | | | • | | | | • | • |
| **16EL 20 UN** | 9.52 | 20.0 | 0.16 | 16.49 | 0.8 | 0.8 | 1 | | | • | • | | | • | |
| **16ER 20 UN** | 9.52 | 20.0 | 0.16 | 16.49 | 0.8 | 0.9 | 1 | | | • | • | | | • | • |
| **16ERB 20 UN** [1] | 9.52 | 20.0 | 0.16 | 16.49 | 0.8 | 0.9 | 1 | | | | | | | • | |
| **16ERM 20 UN** [1] | 9.52 | 20.0 | 0.14 | 16.49 | 0.8 | 0.9 | 1 | | | • | | | • | • | • |
| **16EL 18 UN** | 9.52 | 18.0 | 0.17 | 16.49 | 0.7 | 0.8 | 1 | | | | • | | | • | |
| **16ER 18 UN** | 9.52 | 18.0 | 0.17 | 16.49 | 0.7 | 0.8 | 1 | | • | • | | | | • | • |
| **16ERB 18 UN** [1] | 9.52 | 18.0 | 0.18 | 16.49 | 0.7 | 0.8 | 1 | | | | | | | • | |
| **16ERM 18 UN** [1] | 9.52 | 18.0 | 0.15 | 16.49 | 0.8 | 1.0 | 1 | | | • | | | • | • | • |
| **16EL 16 UN** | 9.52 | 16.0 | 0.18 | 16.49 | 0.9 | 1.1 | 1 | | | • | | | | • | |
| **16ER 16 UN** | 9.52 | 16.0 | 0.20 | 16.49 | 1.0 | 1.2 | 1 | • | | • | | | | • | • |
| **16ER 16 UN 2M** [2] | 9.52 | 16.0 | 0.09 | 16.49 | 1.5 | 2.3 | 2 | | | | | | | • | |
| **16ERB 16 UN** [1] | 9.52 | 16.0 | 0.20 | 16.49 | 1.0 | 1.2 | 1 | | | | | | | • | |
| **16ERM 16 UN** [1] | 9.52 | 16.0 | 0.19 | 16.49 | 0.9 | 1.1 | 1 | | | • | | | • | • | • |
| **16EL 14 UN** | 9.52 | 14.0 | 0.22 | 16.49 | 1.0 | 1.2 | 1 | | | • | | • | | | |
| **16ER 14 UN** | 9.52 | 14.0 | 0.23 | 16.49 | 1.0 | 1.2 | 1 | | | • | | | | • | • |
| **16ER 14 UN 2M** [2] | 9.52 | 14.0 | 0.09 | 16.49 | 1.6 | 2.6 | 2 | | | | | | | • | |
| **16ERB 14 UN** [1] | 9.52 | 14.0 | 0.23 | 16.49 | 1.0 | 1.2 | 1 | | | | | | | • | |
| **16ERM 14 UN** [1] | 9.52 | 14.0 | 0.22 | 16.49 | 1.0 | 1.2 | 1 | | | • | | | • | • | • |
| **16EL 13 UN** | 9.52 | 13.0 | 0.24 | 16.49 | 1.0 | 1.2 | 1 | | | • | | | | • | |
| **16ER 13 UN** | 9.52 | 13.0 | 0.24 | 16.49 | 1.0 | 1.2 | 1 | | | • | • | | | • | |
| **16ERB 13 UN** [1] | 9.52 | 13.0 | 0.25 | 16.49 | 0.9 | 1.2 | 1 | | | | | | | • | |
| **16ERM 13 UN** [1] | 9.52 | 13.0 | 0.24 | 16.49 | 1.0 | 1.3 | 1 | | | | | | | • | |
| **16EL 12 UN** | 9.52 | 12.0 | 0.27 | 16.49 | 1.1 | 1.2 | 1 | | | • | | | | • | |
| **16ER 12 UN** | 9.52 | 12.0 | 0.27 | 16.49 | 1.1 | 1.2 | 1 | | | • | • | | | • | • |
| **16ER 12 UN 2M** [2] | 9.52 | 12.0 | 0.27 | 16.49 | 2.2 | 3.4 | 2 | | | | | | | • | |
| **16ERB 12 UN** [1] | 9.52 | 12.0 | 0.27 | 16.49 | 0.9 | 1.2 | 1 | | | | | | | • | |
| **16ERM 12 UN** [1] | 9.52 | 12.0 | 0.25 | 16.49 | 1.1 | 1.4 | 1 | | • | • | | | • | • | • |
| **16ER 11.5 UN** | 9.52 | 11.5 | 0.27 | 16.49 | 1.2 | 1.5 | 1 | | | • | | | | • | |
| **16EL 11 UN** | 9.52 | 11.0 | 0.28 | 16.49 | 1.1 | 1.5 | 1 | | | | | | | • | |
| **16ER 11 UN** | 9.52 | 11.0 | 0.29 | 16.49 | 1.1 | 1.5 | 1 | | | • | | | | • | |

- For Insert Identification System, see pages 640-641 • Tolerance: Class 2A • For threading between walls use GRIP-type insert TIP-UN
- For technical information and detailed cutting data, see pages 713-729

[1] With pressed chipformer.
[2] Multi-tooth
[3] Threads per inch
[4] Number of teeth per corner

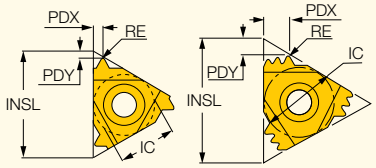
**Tools:** C#-SER/L • SER-D • SER/L • SER/L-JHP • SER/L-JHP-MC

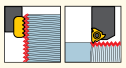
ISCARTHREAD

## ER/L-UN (continued)

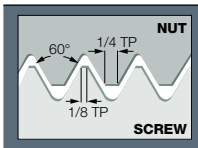
External American UN
Full Profile (UN, UNC, UNF, UNEF)
Laydown Threading Inserts for
General Industry





External right-hand shown




| Designation | Dimensions | | | | | | | Tough ↔ Hard | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | IC | TPI[3] | RE | INSL | PDY | PDX | CICT[4] | IC228 | IC50M | IC250 | IC08 | IC508 | IC808 | IC908 | IC1007 |
| 16ERB 11 UN [1] | 9.52 | 11.0 | 0.29 | 16.49 | 1.1 | 1.5 | 1 | | | | | | | ● | |
| 16EL 10 UN | 9.52 | 10.0 | 0.32 | 16.49 | 1.1 | 1.5 | 1 | | | ● | | | | ● | |
| 16ER 10 UN | 9.52 | 10.0 | 0.32 | 16.49 | 1.1 | 1.5 | 1 | | | ● | ● | | | ● | ● |
| 16ERB 10 UN [1] | 9.52 | 10.0 | 0.32 | 16.49 | 1.1 | 1.5 | 1 | | | | | | | ● | |
| 16ERM 10 UN | 9.52 | 10.0 | 0.32 | 16.49 | 1.1 | 1.5 | 1 | | | | | | | ● | |
| 16ER 9 UN | 9.52 | 9.0 | 0.35 | 16.49 | 1.3 | 1.6 | 1 | | | | | | | ● | |
| 16ERB 9 UN [1] | 9.52 | 9.0 | 0.35 | 16.49 | 1.3 | 1.6 | 1 | | | | | | | ● | |
| 16EL 8 UN | 9.52 | 8.0 | 0.40 | 16.49 | 1.2 | 1.6 | 1 | | | ● | | | | ● | |
| 16ER 8 UN | 9.52 | 8.0 | 0.40 | 16.49 | 1.2 | 1.6 | 1 | | | ● | | | | ● | ● |
| 16ERB 8 UN [1] | 9.52 | 8.0 | 0.40 | 16.49 | 1.2 | 1.6 | 1 | | | | | | | ● | |
| 16ERM 8 UN [1] | 9.52 | 8.0 | 0.41 | 16.49 | 1.2 | 1.6 | 1 | | | ● | | | | ● | |
| 22ER 12 UN 2M [2] | 12.70 | 12.0 | 0.27 | 22.00 | 2.2 | 3.4 | 2 | | | | | | | ● | |
| 22ER 12 UN 3M [2] | 12.70 | 12.0 | 0.27 | 22.00 | 3.2 | 5.2 | 3 | | ● | | | | | ● | |
| 22ER 7 UN | 12.70 | 7.0 | 0.47 | 22.00 | 1.6 | 2.3 | 1 | | | ● | | | | ● | |
| 22ER 6 UN | 12.70 | 6.0 | 0.56 | 22.00 | 1.6 | 2.3 | 1 | | | | ● | | | ● | |
| 22ER 5 UN | 12.70 | 5.0 | 0.67 | 22.00 | 1.7 | 2.5 | 1 | | ● | ● | | | | ● | |
| 27ER 8 UN 2M [2] | 15.88 | 8.0 | 0.41 | 27.50 | 3.1 | 4.9 | 2 | | | | | | | ● | |
| 27ER 4.5 UN | 15.88 | 4.5 | 0.75 | 27.50 | 1.9 | 2.7 | 1 | | | | | | | ● | |
| 27ER 4 UN | 15.88 | 4.0 | 0.85 | 27.50 | 0.7 | 0.8 | 1 | | ● | ● | ● | | | ● | |

- For Insert Identification System, see pages 640-641 • Tolerance: Class 2A • For threading between walls use GRIP-type insert TIP-UN
- For technical information and detailed cutting data, see pages 713-729

[1] With pressed chipformer.
[2] Multi-tooth
[3] Threads per inch
[4] Number of teeth per corner

**Tools:** C#-SER/L • SER-D • SER/L • SER/L-JHP • SER/L-JHP-MC

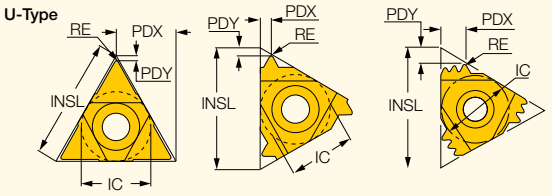


ISCARTHREAD

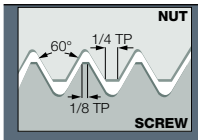
## IR/L-UN

Internal American UN Full Profile (UN, UNC, UNF, UNEF) Laydown Threading Inserts for General Industry






Internal left-hand shown




| Designation | Dimensions IC | TPI[4] | RE | INSL | PDY | PDX | CICT[5] | Tough ↔ Hard IC228 | IC928 | IC50M | IC250 | IC08 | IC508 | IC808 | IC908 | IC1007 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 06IR 32 UN | 4.00 | 32.0 | 0.05 | 6.88 | 0.6 | 0.5 | 1 | • | | | | | | | | |
| 06IL 24 UN | 4.00 | 24.0 | 0.07 | 6.88 | 0.6 | 0.6 | 1 | • | | | | | | | | |
| 06IR 24 UN | 4.00 | 24.0 | 0.08 | 6.88 | 0.6 | 0.6 | 1 | • | | | | | | | | |
| 06IR 20 UN | 4.00 | 20.0 | 0.09 | 6.88 | 0.6 | 0.6 | 1 | • | | | | | | | | |
| 06IL 18 UN | 4.00 | 18.0 | 0.07 | 6.88 | 0.6 | 0.7 | 1 | • | | | | | | | | |
| 06IR 18 UN | 4.00 | 18.0 | 0.10 | 6.88 | 0.6 | 0.7 | 1 | • | | | | | | | | |
| 08IR 32 UN | 5.00 | 32.0 | 0.04 | 8.24 | 0.6 | 0.5 | 1 | • | | | | | | | | |
| 08IL 28 UN | 5.00 | 28.0 | 0.04 | 8.24 | 0.6 | 0.6 | 1 | • | | | | | | | | |
| 08IR 28 UN | 5.00 | 27.0 | 0.05 | 8.24 | 0.5 | 0.6 | 1 | • | | | | | | | | |
| 08IL 24 UN | 5.00 | 24.0 | 0.08 | 8.24 | 0.6 | 0.6 | 1 | • | | | | | | | | |
| 08IR 24 UN | 5.00 | 24.0 | 0.08 | 8.24 | 0.6 | 0.6 | 1 | • | | | | | | | | |
| 08IR/L 20 UN | 5.00 | 20.0 | 0.08 | 8.24 | 0.7 | 0.7 | 1 | • | | | | | | | | |
| 08IR 18 UN | 5.00 | 18.0 | 0.08 | 8.24 | 0.6 | 0.7 | 1 | • | | | | | | | | |
| 08IR 16 UN | 5.00 | 16.0 | 0.09 | 8.24 | 0.6 | 0.7 | 1 | • | | | | | | | | |
| 08IR 14 UN | 5.00 | 14.0 | 0.10 | 8.24 | 0.6 | 0.8 | 1 | • | | | | | | | • | |
| 08UIRL 13 UN | 5.00 | 13.0 | 0.10 | 8.24 | 1.0 | 4.0 | 1 | | | | | | | | • | |
| 08UIRL 12 UN | 5.00 | 12.0 | 0.10 | 8.24 | 0.9 | 4.0 | 1 | | • | | | | | | | |
| 08UIRL 11 UN | 5.00 | 11.0 | 0.10 | 8.24 | 0.9 | 4.0 | 1 | • | | | | | | | | |
| 11IR 36 UN | 6.35 | 36.0 | 0.04 | 11.00 | 0.6 | 0.6 | 1 | | | | | | | | • | |
| 11IL 32 UN | 6.35 | 32.0 | 0.04 | 11.00 | 0.6 | 0.6 | 1 | | | | | | | | • | |
| 11IR 32 UN | 6.35 | 32.0 | 0.05 | 11.00 | 0.6 | 0.6 | 1 | | | | | | | | • | |
| 11IRB 32 UN | 6.35 | 32.0 | 0.04 | 11.00 | 0.6 | 0.6 | 1 | | | | | | | | • | |
| 11IL 28 UN | 6.35 | 28.0 | 0.04 | 11.00 | 0.6 | 0.7 | 1 | | | | | | | | • | |
| 11IR 28 UN | 6.35 | 28.0 | 0.05 | 11.00 | 0.6 | 0.6 | 1 | | | | | | | | • | |
| 11IRB 28 UN | 6.35 | 28.0 | 0.05 | 11.00 | 0.6 | 0.6 | 1 | | | | | | | | • | |
| 11IR/L 24 UN | 6.35 | 24.0 | 0.07 | 11.00 | 0.8 | 0.8 | 1 | | | | | | | | • | |
| 11IRB 24 UN | 6.35 | 24.0 | 0.08 | 11.00 | 0.6 | 0.6 | 1 | | | | | | | | • | |
| 11IR/L 20 UN | 6.35 | 20.0 | 0.09 | 11.00 | 0.8 | 0.9 | 1 | | | | | | | | • | |
| 11IRB 20 UN | 6.35 | 20.0 | 0.09 | 11.00 | 0.8 | 0.9 | 1 | | | | | | | | • | |
| 11IL 18 UN | 6.35 | 18.0 | 0.10 | 11.00 | 0.9 | 1.0 | 1 | | | | | | | | • | |
| 11IR 18 UN | 6.35 | 18.0 | 0.07 | 11.00 | 0.8 | 1.0 | 1 | | | | • | | | | • | • |
| 11IRB 18 UN | 6.35 | 18.0 | 0.10 | 11.00 | 0.9 | 1.0 | 1 | | | | | | | | • | |
| 11IL 16 UN | 6.35 | 16.0 | 0.11 | 11.00 | 0.9 | 1.0 | 1 | | | | | | | | • | |
| 11IR 16 UN | 6.35 | 16.0 | 0.09 | 11.00 | 0.9 | 1.0 | 1 | | | | • | | | | • | • |
| 11IRB 16 UN | 6.35 | 16.0 | 0.11 | 11.00 | 0.9 | 1.0 | 1 | | | | | | | | • | |
| 11IL 14 UN | 6.35 | 14.0 | 0.10 | 11.00 | 0.9 | 1.1 | 1 | | | | • | | | | • | |
| 11IR 14 UN | 6.35 | 14.0 | 0.10 | 11.00 | 0.9 | 1.0 | 1 | | | • | • | | | | • | |
| 11IRB 14 UN | 6.35 | 14.0 | 0.13 | 11.00 | 0.9 | 1.0 | 1 | | | | | | | | • | |
| 11IR 12 UN | 6.35 | 12.0 | 0.12 | 11.00 | 0.9 | 1.1 | 1 | | | | • | | | | • | |
| 11IRB 12 UN | 6.35 | 12.0 | 0.13 | 11.00 | 0.9 | 1.0 | 1 | | | | | | | | • | |
| 11IR 11 UN | 6.35 | 11.0 | 0.14 | 11.00 | 0.8 | 1.0 | 1 | | | | • | | | | • | |
| 16IR 32 UN | 9.52 | 32.0 | 0.04 | 16.49 | 0.6 | 0.6 | 1 | | | | • | | | | • | |
| 16IL 28 UN | 9.52 | 28.0 | 0.04 | 16.49 | 0.6 | 0.7 | 1 | | | | | | | | • | |
| 16IR 28 UN | 9.52 | 28.0 | 0.05 | 16.49 | 0.6 | 0.6 | 1 | | | | | | | | • | |
| 16IR 24 UN | 9.52 | 24.0 | 0.05 | 16.49 | 0.7 | 0.8 | 1 | | | | • | | | | • | |
| 16IRB 24 UN [1] | 9.52 | 24.0 | 0.07 | 16.49 | 0.7 | 0.8 | 1 | | | | | | | | • | |
| 16IL 20 UN | 9.52 | 20.0 | 0.06 | 16.49 | 0.8 | 0.9 | 1 | | | | • | | | | • | |
| 16IR 20 UN | 9.52 | 20.0 | 0.06 | 16.49 | 0.8 | 0.9 | 1 | | | • | • | • | | | • | • |
| 16IRB 20 UN [1] | 9.52 | 20.0 | 0.09 | 16.49 | 0.8 | 0.8 | 1 | | | | | | | | • | |
| 16IRM 20 UN [1] | 9.52 | 20.0 | 0.06 | 16.49 | 0.8 | 0.9 | 1 | | | | | | | | • | • |
| 16IL 18 UN | 9.52 | 18.0 | 0.08 | 16.49 | 0.7 | 0.8 | 1 | | | | | | | | • | |

• For Insert Identification System, see pages 640-641 • Tolerance: class 2B,ANSI B1, 3M-1986. • For technical information and detailed cutting data, see pages 713-729

[1] With pressed chipformer

[2] Multi-tooth

[3] With pressed chipformer.

[4] Threads per inch

[5] Number of teeth per corner

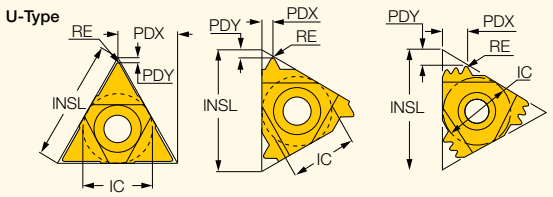
**Tools:** AVC-D-SIR/L • MGSIR/L • PICIN-MGSIR/L • SIR/L

ISCARTHREAD

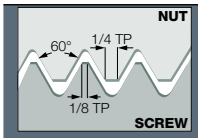
## IR/L-UN (Continued)

Internal American UN Full Profile (UN, UNC, UNF, UNEF) Laydown Threading Inserts for General Industry






Internal left-hand shown




| Designation | Dimensions IC | TPI[4] | RE | INSL | PDY | PDX | CICT[5] | Tough ↔ Hard IC228 | IC928 | IC50M | IC250 | IC08 | IC508 | IC808 | IC908 | IC1007 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16IR 18 UN | 9.52 | 18.0 | 0.08 | 16.49 | 0.7 | 0.8 | 1 | | | | ● | | | | ● | |
| 16IRB 18 UN [1] | 9.52 | 18.0 | 0.08 | 16.49 | 0.7 | 0.8 | 1 | | | | | | | | ● | |
| 16IRM 18 UN [1] | 9.52 | 18.0 | 0.08 | 16.49 | 0.8 | 1.0 | 1 | | | | | | | ● | ● | |
| 16IL 16 UN | 9.52 | 16.0 | 0.11 | 16.49 | 1.0 | 1.1 | 1 | | | | | | | | ● | |
| 16IR 16 UN | 9.52 | 16.0 | 0.11 | 16.49 | 0.9 | 1.1 | 1 | | | | ● | | | | ● | |
| 16IR 16 UN-2M [2] | 9.52 | 16.0 | 0.09 | 16.49 | 1.5 | 2.3 | 2 | | | | | | ● | | ● | |
| 16IRB 16 UN [3] | 9.52 | 16.0 | 0.11 | 16.49 | 0.9 | 1.1 | 1 | | | | | | | | ● | |
| 16IRM 16 UN [1] | 9.52 | 16.0 | 0.09 | 16.49 | 0.9 | 1.1 | 1 | | | | ● | | | | ● | ● |
| 16IL 14 UN | 9.52 | 14.0 | 0.10 | 16.49 | 0.9 | 1.1 | 1 | | | | ● | | | | ● | |
| 16IR 14 UN | 9.52 | 14.0 | 0.13 | 16.49 | 0.9 | 1.1 | 1 | | | | ● | | | | ● | |
| 16IRB 14 UN [1] | 9.52 | 14.0 | 0.13 | 16.49 | 0.9 | 1.1 | 1 | | | | | | | | ● | |
| 16IRM 14 UN [1] | 9.52 | 14.0 | 0.11 | 16.49 | 0.9 | 1.2 | 1 | | | | ● | | | ● | ● | ● |
| 16IL 12 UN | 9.52 | 12.0 | 0.12 | 16.49 | 1.0 | 1.1 | 1 | | | | ● | | | | ● | |
| 16IR 12 UN | 9.52 | 12.0 | 0.13 | 16.49 | 1.0 | 1.1 | 1 | | | | ● | ● | | | ● | ● |
| 16IRB 12 UN [1] | 9.52 | 12.0 | 0.13 | 16.49 | 1.0 | 1.1 | 1 | | | | | | | | ● | |
| 16IRM 12 UN [1] | 9.52 | 12.0 | 0.12 | 16.49 | 1.1 | 1.4 | 1 | | | | ● | | | ● | ● | ● |
| 16IR 11.5 UN | 9.52 | 11.5 | 0.14 | 16.49 | 1.0 | 1.1 | 1 | | | | | | | | ● | |
| 16IR 11 UN | 9.52 | 11.0 | 0.14 | 16.49 | 1.0 | 1.1 | 1 | | | | | | | | ● | |
| 16IR/L 10 UN | 9.52 | 10.0 | 0.15 | 16.49 | 1.1 | 1.5 | 1 | | | | ● | | | | ● | |
| 16IRB 10 UN [1] | 9.52 | 10.0 | 0.15 | 16.49 | 1.1 | 1.5 | 1 | | | | | | | | ● | |
| 16IR 9 UN | 9.52 | 9.0 | 0.17 | 16.49 | 1.2 | 1.7 | 1 | | | | | | | | ● | |
| 16IL 8 UN | 9.52 | 8.0 | 0.23 | 16.49 | 1.1 | 1.5 | 1 | | | | ● | ● | | | ● | |
| 16IR 8 UN | 9.52 | 8.0 | 0.23 | 16.49 | 1.1 | 1.5 | 1 | | | | ● | ● | | | ● | ● |
| 16IRB 8 UN [1] | 9.52 | 8.0 | 0.23 | 16.49 | 1.1 | 1.5 | 1 | | | | | | | | ● | |
| 16IRM 8 UN [1] | 9.52 | 8.0 | 0.20 | 16.49 | 1.1 | 1.5 | 1 | | | | ● | | | ● | ● | ● |
| 22IR 16 UN 3M [2] | 12.70 | 16.0 | 0.07 | 22.00 | 2.5 | 4.0 | 3 | | | | | | | | ● | |
| 22IR 12 UN 2M [2] | 12.70 | 12.0 | 0.09 | 22.00 | 2.3 | 3.4 | 2 | | | | | | | | ● | |
| 22IR 12 UN 3M [2] | 12.70 | 12.0 | 0.13 | 22.00 | 3.2 | 5.2 | 3 | | | | | | | | ● | |
| 22IL 7 UN | 12.70 | 7.0 | 0.22 | 22.00 | 1.6 | 2.3 | 1 | | | | | | | | ● | |
| 22IR 7 UN | 12.70 | 7.0 | 0.22 | 22.00 | 1.6 | 2.3 | 1 | ● | | | ● | | | | ● | |
| 22IR 6 UN | 12.70 | 6.0 | 0.26 | 22.00 | 1.6 | 2.3 | 1 | | | | ● | | | | ● | |
| 22IR 5 UN | 12.70 | 5.0 | 0.32 | 22.00 | 1.6 | 2.3 | 1 | | | | ● | | | | ● | |
| 22UIRL 4.5 UN | 12.70 | 4.5 | 0.36 | 22.00 | 2.4 | 11.0 | 1 | | | | ● | | | | | |
| 27IR 8 UN 2M [2] | 15.88 | 8.0 | 0.19 | 27.50 | 3.1 | 4.9 | 2 | | | | | | | | ● | |
| 27IR 4.5 UN | 15.88 | 4.5 | 0.36 | 27.50 | 1.7 | 2.4 | 1 | | | | ● | | | | ● | |
| 27IR 4 UN | 15.88 | 4.0 | 0.41 | 27.50 | 1.8 | 2.5 | 1 | | | | ● | | | | ● | |

• For Insert Identification System, see pages 640-641 • Tolerance: class 2B,ANSI B1, 3M-1986. • For technical information and detailed cutting data, see pages 713-729

[1] With pressed chipformer

[2] Multi-tooth

[3] With pressed chipformer.

[4] Threads per inch

[5] Number of teeth per corner

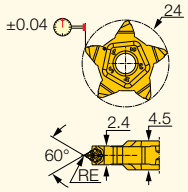
**Tools:** AVC-D-SIR/L • MGSIR/L • PICIN-MGSIR/L • SIR/L

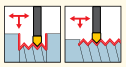
PENTACUT THREADING LINE

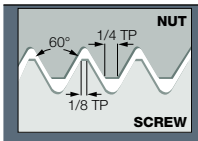
## PENTA 24-UN

American UN (UNC, UNF, UNEF)
Precision Ground Full Profile
Pentagonal External Inserts
with a Chipformer








| Designation | Dimensions TPI[1] | Dimensions RE | IC908 |
|---|---|---|---|
| PENTA 24-24-UN | 24.0 | 0.13 | ● |
| PENTA 24-20-UN | 20.0 | 0.16 | ● |
| PENTA 24-18-UN | 18.0 | 0.18 | ● |
| PENTA 24-16-UN | 16.0 | 0.21 | ● |
| PENTA 24-14-UN | 14.0 | 0.23 | ● |

• DMIN(inch)=5.435/TPI • Tolerance: Class 2A

[1] Threads per inch

**Tools:** PCAD RE/LE-JHP • PCADR/L • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-24 • PCHR/L-24-JHP • PCHR/L-24-JHP-MC

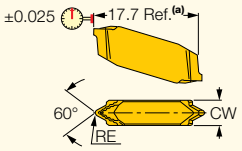
ISCARTHREAD

CUTGRIP

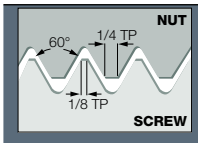
## TIP-P-UN

American UN (UNC,UNF,UNEF)
Precision Ground External
Double-Ended Full Profile Threading
Inserts with a Chipformer








| Designation | Dimensions CW | RE | RETOL[1] | TPI[2] | Tough ↔ Hard IC08 | IC808 | IC908 |
|---|---|---|---|---|---|---|---|
| TIP 2P32-UN | 2.40 | 0.10 | 0.030 | 32.0 | ● | | ● |
| TIP 2P28-UN | 2.40 | 0.11 | 0.030 | 28.0 | ● | | ● |
| TIP 2P24-UN | 2.40 | 0.13 | 0.030 | 24.0 | ● | | ● |
| TIP 2P20-UN | 2.40 | 0.16 | 0.030 | 20.0 | ● | | ● |
| TIP 2P18-UN | 2.40 | 0.18 | 0.030 | 18.0 | ● | | ● |
| TIP 2P16-UN | 2.40 | 0.20 | 0.030 | 16.0 | ● | | ● |
| TIP 2P14-UN | 2.40 | 0.23 | 0.030 | 14.0 | ● | | ● |
| TIP 2P13-UN | 2.40 | 0.25 | 0.030 | 13.0 | ● | | ● |
| TIP 2P12-UN | 2.40 | 0.27 | 0.030 | 12.0 | ● | | ● |
| TIP 4P11-UN | 4.00 | 0.30 | 0.030 | 11.0 | | | ● |
| TIP 4P10-UN | 4.00 | 0.33 | 0.050 | 10.0 | | ● | ● |
| TIP 4P08-UN | 4.00 | 0.41 | 0.050 | 8.0 | | | ● |

• (a) TIP inserts are 1.6 mm longer than GIP in the same pocket • Toolholder seat needs to be modified according to insert profile to ensure clearance

[1] Corner radius tolerance (+/-)

[2] Threads per inch

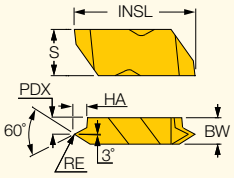
**Tools:** C#-GHDR/L • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L • GHSR/L • GHSR/L-JHP-SL • NQCH-GHSR/L-JHP

NOTCH GRIP GROOVE-TURN LINE
ISCAR THREAD

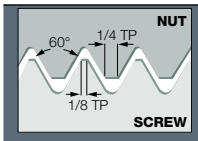
## UN THREADING FLTC-E

Double-Ended, Precision, Flat
Top Full Profile Threading Inserts






Right-hand shown




| Designation | Dimensions | | | | | | | IC908 |
|---|---|---|---|---|---|---|---|---|
| | TPI[1] | RE | HA | PDX | BW | S | INSL | |
| FLTC-3R/L7E | 7.0 | 0.43 | 2.74 | 2.70 | 4.95 | 8.74 | 22.60 | ● |
| FLTC-3R/L8E | 8.0 | 0.38 | 2.39 | 2.70 | 4.95 | 8.74 | 22.60 | ● |
| FLTC-3R/L9E | 9.0 | 0.33 | 2.13 | 2.70 | 4.95 | 8.74 | 22.60 | ● |
| FLTC-3R/L10E | 10.0 | 0.30 | 1.93 | 2.70 | 4.95 | 8.74 | 22.60 | ● |
| FLTC-3R/L11E | 11.0 | 0.28 | 1.75 | 2.70 | 4.95 | 8.74 | 22.60 | ● |
| FLTC-3R/L12E | 12.0 | 0.25 | 1.30 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLTC-3R/L14E | 14.0 | 0.23 | 1.37 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLTC-3R/L16E | 16.0 | 0.20 | 1.17 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLTC-3R/L18E | 18.0 | 0.18 | 1.04 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLTC-3R/L20E | 20.0 | 0.15 | 0.94 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLTC-3R/L24E | 24.0 | 0.13 | 0.79 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLTC-3R/L28E | 28.0 | 0.08 | 0.58 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLTC-3R/L32E | 32.0 | 0.08 | 0.53 | 3.80 | 4.95 | 8.74 | 22.60 | ● |

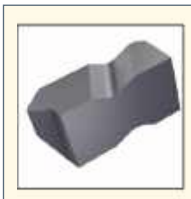
(1) Threads per inch

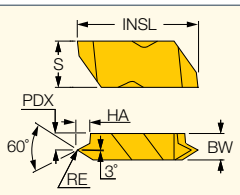
**Tools:** FLASR/L • FLSR/L

NOTCH GRIP GROOVE-TURN LINE
ISCAR THREAD

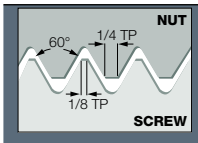
## UN THREADING FLTC-I

Double-Ended, Precision, Flat
Top Full Profile Threading Inserts






Right-hand shown




| Designation | Dimensions | | | | | | | IC908 |
|---|---|---|---|---|---|---|---|---|
| | TPI[1] | RE | HA | PDX | BW | S | INSL | |
| FLTC-3R/L7I | 7.0 | 0.23 | 2.34 | 2.70 | 4.95 | 8.74 | 22.60 | ● |
| FLTC-3R/L8I | 8.0 | 0.18 | 2.06 | 2.70 | 4.95 | 8.74 | 22.60 | ● |
| FLTC-3R/L9I | 9.0 | 0.15 | 1.83 | 2.70 | 4.95 | 8.74 | 22.60 | ● |
| FLTC-3R/L10I | 10.0 | 0.13 | 1.65 | 2.70 | 4.95 | 8.74 | 22.60 | ● |
| FLTC-3R/L11I | 11.0 | 0.13 | 1.50 | 2.70 | 4.95 | 8.74 | 22.60 | ● |
| FLTC-3R/L12I | 12.0 | 0.10 | 1.22 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLTC-3R/L14I | 14.0 | 0.08 | 1.12 | 3.76 | 4.95 | 8.74 | 22.60 | ● |
| FLTC-3R/L16I | 16.0 | 0.08 | 1.02 | 3.76 | 4.95 | 8.74 | 22.60 | ● |
| FLTC-3R/L18I | 18.0 | 0.08 | 0.91 | 3.76 | 4.95 | 8.74 | 22.60 | ● |
| FLTC-3R/L20I | 20.0 | 0.08 | 0.79 | 3.76 | 4.95 | 8.74 | 22.60 | ● |
| FLTC-3R/L24I | 24.0 | 0.08 | 0.66 | 3.76 | 4.95 | 8.74 | 22.60 | ● |
| FLTC-3R/L28I | 28.0 | 0.08 | 0.58 | 3.76 | 4.95 | 8.74 | 22.60 | ● |

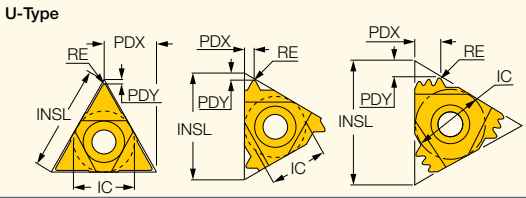
(1) Threads per inch

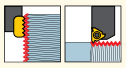
# Full Profile W ( Whitworth BSW, BSF, BSP)

ISCARTHREAD

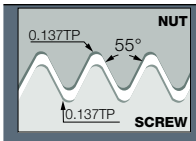
**ER/L-W**
External Whitworth
(BSW, BSF, BSP)
B.S.84-1956 DIN259
Medium Class Full Profile
Laydown Threading Inserts





External right-hand shown




| Designation | Dimensions IC | TPI[3] | RE | INSL | PDY | PDX | CICT[4] | Tough ↔ Hard IC228 | IC50M | IC250 | IC08 | IC508 | IC808 | IC908 | IC1007 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **11ER/L 19 W** | 6.35 | 19.0 | 0.15 | 11.00 | 0.8 | 1.0 | 1 | | | | | | | • | |
| **11ER 14 W** | 6.35 | 14.0 | 0.21 | 11.00 | 0.9 | 1.1 | 1 | | | | | | | • | |
| **16ER 32 W** | 9.52 | 32.0 | 0.09 | 16.49 | 0.6 | 0.6 | 1 | | • | | | | | | |
| **16ER 28 W** | 9.52 | 28.0 | 0.11 | 16.49 | 0.6 | 0.7 | 1 | | | • | | | | • | • |
| **16ER 26 W** | 9.52 | 26.0 | 0.12 | 16.49 | 0.7 | 0.7 | 1 | | | | | | | • | |
| **16ER 24 W** | 9.52 | 24.0 | 0.14 | 16.49 | 0.7 | 0.8 | 1 | | | | | | | • | |
| **16ER 22 W** | 9.52 | 22.0 | 0.13 | 16.49 | 0.8 | 0.9 | 1 | | | | | | | • | |
| **16ER 20 W** | 9.52 | 20.0 | 0.16 | 16.49 | 0.7 | 0.8 | 1 | | | | | | | • | |
| **16EL 19 W** | 9.52 | 19.0 | 0.17 | 16.49 | 0.7 | 0.8 | 1 | | | | | | | • | |
| **16ER 19 W** | 9.52 | 19.0 | 0.17 | 16.49 | 0.7 | 0.8 | 1 | • | | • | | | | • | • |
| **16ERB 19 W [1]** | 9.52 | 19.0 | 0.17 | 16.49 | 0.7 | 0.8 | 1 | | | | | | | • | |
| **16ERM 19 W [1]** | 9.52 | 19.0 | 0.16 | 16.49 | 0.8 | 1.0 | 1 | | • | • | | | • | • | • |
| **16EL 18 W** | 9.52 | 18.0 | 0.17 | 16.49 | 0.9 | 1.2 | 1 | | | | | | | • | |
| **16ER 18 W** | 9.52 | 18.0 | 0.17 | 16.49 | 0.9 | 1.2 | 1 | | • | | | | | • | |
| **16ER 16 W** | 9.52 | 16.0 | 0.20 | 16.49 | 0.9 | 1.2 | 1 | | | | | | | • | |
| **16ERB 16 W [1]** | 9.52 | 16.0 | 0.20 | 16.49 | 0.9 | 1.2 | 1 | | | | | | | • | |
| **16ERM 16 W [1]** | 9.52 | 16.0 | 0.20 | 16.49 | 0.9 | 1.1 | 1 | | | • | | | • | • | • |
| **16EL 14 W** | 9.52 | 14.0 | 0.23 | 16.49 | 1.0 | 1.2 | 1 | | | | | | | • | |
| **16ER 14 W** | 9.52 | 14.0 | 0.23 | 16.49 | 1.0 | 1.2 | 1 | • | | • | | | | • | |
| **16ER 14 W 2M [2]** | 9.52 | 14.0 | 0.21 | 16.49 | 1.7 | 2.7 | 2 | | | | | | | • | |
| **16ERB 14 W [1]** | 9.52 | 14.0 | 0.23 | 16.49 | 1.0 | 1.2 | 1 | | | | | | | • | |
| **16ERM 14 W [1]** | 9.52 | 14.0 | 0.24 | 16.49 | 1.0 | 1.2 | 1 | | • | • | | | • | • | • |
| **16ER/L 12 W** | 9.52 | 12.0 | 0.27 | 16.49 | 1.2 | 1.4 | 1 | | | | | | | • | |
| **16EL 11 W** | 9.52 | 11.0 | 0.29 | 16.49 | 1.1 | 1.5 | 1 | | | • | | | | • | |
| **16ER 11 W** | 9.52 | 11.0 | 0.29 | 16.49 | 1.1 | 1.5 | 1 | • | • | • | • | • | | • | • |
| **16ERB 11 W [1]** | 9.52 | 11.0 | 0.29 | 16.49 | 1.1 | 1.5 | 1 | | | | | | | • | |
| **16ERM 11 W [1]** | 9.52 | 11.0 | 0.27 | 16.49 | 1.1 | 1.5 | 1 | | | • | | • | • | • | • |
| **16ER 10 W** | 9.52 | 10.0 | 0.32 | 16.49 | 1.1 | 1.5 | 1 | | | • | | | | • | |
| **16ERB 10 W [1]** | 9.52 | 10.0 | 0.32 | 16.49 | 1.1 | 1.5 | 1 | | | | | | | • | |
| **16ER 9 W** | 9.52 | 9.0 | 0.34 | 16.49 | 1.2 | 1.7 | 1 | | | • | | | | | |
| **16EL 8 W** | 9.52 | 8.0 | 0.39 | 16.49 | 1.2 | 1.5 | 1 | | | | | | | • | |
| **16ER 8 W** | 9.52 | 8.0 | 0.41 | 16.49 | 1.2 | 1.6 | 1 | | | | | | | • | |
| **22ER 14 W 3M [2]** | 12.70 | 14.0 | 0.21 | 22.00 | 2.8 | 4.5 | 3 | | | | | | | • | |
| **22ER 11 W 2M [2]** | 12.70 | 11.0 | 0.09 | 22.00 | 2.2 | 3.4 | 2 | | | | | | | • | |
| **22ER 7 W** | 12.70 | 7.0 | 0.45 | 22.00 | 1.6 | 2.3 | 1 | | | | | | | • | |
| **22ER 6 W** | 12.70 | 6.0 | 0.52 | 22.00 | 1.6 | 2.3 | 1 | | | | | | | • | |
| **22ER 5 W** | 12.70 | 5.0 | 0.65 | 22.00 | 1.7 | 2.4 | 1 | | | • | | | | | |
| **27ER 4 W** | 15.88 | 4.0 | 0.85 | 27.50 | 2.0 | 2.9 | 1 | | | | | | | • | |
| **27UEIRL 3.5 W** | 15.88 | 3.5 | 0.95 | 27.50 | 2.1 | 13.7 | 1 | | | | | | | • | |

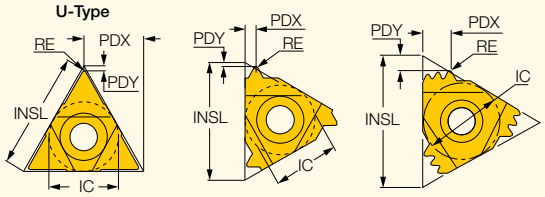
• For Insert Identification System, see pages 640-641 • For threading between walls use GRIP-type insert TIP-BSW • Tolerance: medium class
• For technical information and detailed cutting data, see pages 713-729
**(1)** With pressed chipformer
**(2)** Multi-tooth
**(3)** Threads per inch
**(4)** Number of teeth per corner
**Tools:** C#-SER/L • SER-D • SER/L • SER/L-JHP • SER/L-JHP-MC

**ISCARTHREAD**

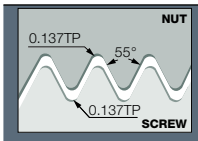
## IR/L-W

Internal Whitworth
(BSW, BSF, BSP)
B.S.84-1956 DIN259
Medium Class Full Profile
Laydown Threading Inserts






Internal left-hand shown




| Designation | Dimensions IC | TPI[3] | RE | INSL | PDY | PDX | CICT[4] | Tough ↔ Hard IC228 | IC928 | IC50M | IC250 | IC08 | IC508 | IC808 | IC908 | IC1007 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 06IR 26 W | 4.00 | 26.0 | 0.10 | 6.88 | 0.7 | 0.6 | 1 | • | | | | | | | | |
| 08IR 28 W | 5.00 | 28.0 | 0.11 | 8.24 | 0.5 | 0.6 | 1 | • | | | | | | | | |
| 08IR 19 W | 5.00 | 19.0 | 0.15 | 8.24 | 0.6 | 0.6 | 1 | • | • | | | | | | • | |
| 08IR 18 W | 5.00 | 18.0 | 0.16 | 8.24 | 0.6 | 0.7 | 1 | • | | | | | | | | |
| 08IR 16 W | 5.00 | 16.0 | 0.18 | 8.24 | 0.6 | 0.7 | 1 | • | | | | | | | | |
| 11IR 36 W | 6.35 | 36.0 | 0.07 | 11.00 | 0.6 | 0.6 | 1 | | | | | • | | | | |
| 11IR 28 W | 6.35 | 28.0 | 0.10 | 11.00 | 0.6 | 0.7 | 1 | | | | • | | | | | |
| 11IRB 28 W | 6.35 | 28.0 | 0.10 | 11.00 | 0.6 | 0.6 | 1 | | | | | | | | • | |
| 11IR 26 W | 6.35 | 26.0 | 0.10 | 11.00 | 0.7 | 0.7 | 1 | • | | | | | | | | |
| 11IR/L 24 W | 6.35 | 24.0 | 0.11 | 11.00 | 0.7 | 0.8 | 1 | | | | | | | | • | |
| 11IRB 24 W | 6.35 | 24.0 | 0.11 | 11.00 | 0.6 | 0.6 | 1 | | | | | | | | • | |
| 11IR 20 W | 6.35 | 20.0 | 0.14 | 11.00 | 0.8 | 0.9 | 1 | | | | • | | | | • | |
| 11IRB 20 W | 6.35 | 20.0 | 0.14 | 11.00 | 0.8 | 0.9 | 1 | | | | | | | | • | |
| 11IR 19 W | 6.35 | 19.0 | 0.15 | 11.00 | 0.8 | 1.0 | 1 | | | | • | | | | • | • |
| 11IRB 19 W | 6.35 | 19.0 | 0.17 | 11.00 | 0.7 | 0.9 | 1 | | | | | | | | • | |
| 11IL 18 W | 6.35 | 18.0 | 0.16 | 11.00 | 0.8 | 1.0 | 1 | | | | | | | | • | |
| 11IR 18 W | 6.35 | 18.0 | 0.18 | 11.00 | 0.8 | 0.9 | 1 | | | | | | | | • | |
| 11IRB 18 W | 6.35 | 18.0 | 0.18 | 11.00 | 0.9 | 0.9 | 1 | | | | | | | | • | |
| 11IR 16 W | 6.35 | 16.0 | 0.18 | 11.00 | 0.9 | 1.1 | 1 | | | | | | | | • | |
| 11IRB 16 W | 6.35 | 16.0 | 0.18 | 11.00 | 0.8 | 0.9 | 1 | | | | | | | | • | |
| 11IL 14 W | 6.35 | 14.0 | 0.23 | 11.00 | 0.9 | 1.1 | 1 | | | | | | | | • | |
| 11IR 14 W | 6.35 | 14.0 | 0.23 | 11.00 | 0.9 | 1.1 | 1 | • | | | • | • | | | • | • |
| 11IRB 14 W | 6.35 | 14.0 | 0.23 | 11.00 | 0.9 | 1.0 | 1 | | | | | | | | • | |
| 16IR 32 W | 9.52 | 32.0 | 0.09 | 16.49 | 0.6 | 0.6 | 1 | | | • | | | | | | |
| 16IR 28 W | 9.52 | 28.0 | 0.09 | 16.49 | 0.6 | 0.7 | 1 | | | | • | | | | | |
| 16IR 26 W | 9.52 | 26.0 | 0.12 | 16.49 | 0.8 | 0.8 | 1 | | | | | | | | • | |
| 16IR 24 W | 9.52 | 24.0 | 0.11 | 16.49 | 0.7 | 0.8 | 1 | | | | | | | | • | |
| 16IR 22 W | 9.52 | 22.0 | 0.13 | 16.49 | 0.8 | 0.9 | 1 | | | | | | | | • | |
| 16IL 20 W | 9.52 | 20.0 | 0.14 | 16.49 | 0.8 | 0.9 | 1 | | | | • | | | | • | |
| 16IR 20 W | 9.52 | 20.0 | 0.14 | 16.49 | 0.7 | 0.8 | 1 | | | | • | | | | • | |
| 16IRM 20 W [1] | 9.52 | 20.0 | 0.14 | 16.49 | 0.8 | 0.9 | 1 | | | | | | | | • | |
| 16IR 19 W | 9.52 | 19.0 | 0.17 | 16.49 | 0.7 | 0.8 | 1 | | | | • | | | | • | |
| 16IRB 19 W [1] | 9.52 | 19.0 | 0.17 | 16.49 | 0.7 | 0.8 | 1 | | | | | | | | • | |
| 16IRM 19 W [1] | 9.52 | 19.0 | 0.15 | 16.49 | 0.8 | 1.0 | 1 | | | | • | | | | | |
| 16IR/L 18 W | 9.52 | 18.0 | 0.18 | 16.49 | 0.8 | 0.8 | 1 | | | | | | | | • | |
| 16IR 16 W | 9.52 | 16.0 | 0.20 | 16.49 | 1.0 | 1.0 | 1 | | | | | | | | • | |
| 16IRB 16 W [1] | 9.52 | 16.0 | 0.20 | 16.49 | 1.0 | 1.2 | 1 | | | | | | | | • | |
| 16IRM 16 W [1] | 9.52 | 16.0 | 0.18 | 16.49 | 0.9 | 1.1 | 1 | | | | | | | | • | |
| 16IL 14 W | 9.52 | 14.0 | 0.23 | 16.49 | 1.0 | 1.2 | 1 | | | | | | | | • | |
| 16IR 14 W | 9.52 | 14.0 | 0.23 | 16.49 | 1.0 | 1.2 | 1 | • | | | • | • | | | • | • |
| 16IR 14 W 2M [2] | 9.52 | 14.0 | 0.19 | 16.49 | 1.7 | 2.6 | 2 | | | | | | | | • | • |
| 16IRB 14 W [1] | 9.52 | 14.0 | 0.23 | 16.49 | 1.0 | 1.2 | 1 | | | | | | | | • | |
| 16IRM 14 W [1] | 9.52 | 14.0 | 0.21 | 16.49 | 1.0 | 1.2 | 1 | | | | • | | | • | • | • |
| 16IR 12 W | 9.52 | 12.0 | 0.27 | 16.49 | 1.2 | 1.5 | 1 | | | | | | | | • | |
| 16IL 11 W | 9.52 | 11.0 | 0.29 | 16.49 | 1.1 | 1.5 | 1 | | | | | | | | • | |
| 16IR 11 W | 9.52 | 11.0 | 0.29 | 16.49 | 1.1 | 1.5 | 1 | • | | • | • | • | | | • | • |
| 16IRB 11 W [1] | 9.52 | 11.0 | 0.28 | 16.49 | 1.1 | 1.5 | 1 | | | | | | | | • | |
| 16IRM 11 W [1] | 9.52 | 11.0 | 0.27 | 16.49 | 1.1 | 1.5 | 1 | | | | • | | • | • | • | • |
| 16IR 10 W | 9.52 | 10.0 | 0.32 | 16.49 | 1.1 | 1.1 | 1 | | | | | | | | • | |
| 16IRB 10 W [1] | 9.52 | 10.0 | 0.31 | 16.49 | 1.1 | 1.5 | 1 | | | | | | | | • | |
| 16IR 9 W | 9.52 | 9.0 | 0.34 | 16.49 | 1.2 | 1.7 | 1 | | | | • | | | | | |
| 16IL 8 W | 9.52 | 8.0 | 0.41 | 16.49 | 1.1 | 1.1 | 1 | | | • | | | | | • | |
| 16IR 8 W | 9.52 | 8.0 | 0.41 | 16.49 | 1.1 | 1.1 | 1 | | | | | | | | • | |
| 22IR 14 W 3M [2] | 12.70 | 14.0 | 0.21 | 22.00 | 2.8 | 4.5 | 3 | | | | | | | | • | |
| 22IR 11 W 2M [2] | 12.70 | 11.0 | 0.09 | 22.00 | 2.3 | 3.4 | 2 | | | | | | | | • | |
| 22IR 7 W | 12.70 | 7.0 | 0.45 | 22.00 | 1.6 | 2.3 | 1 | | | | | | | | • | |
| 22IR 6 W | 12.70 | 6.0 | 0.52 | 22.00 | 1.6 | 2.3 | 1 | | | | • | | | | | |
| 22IR 5 W | 12.70 | 5.0 | 0.65 | 22.00 | 1.7 | 2.4 | 1 | | | | • | | | | | |
| 27IR 4.5 W | 15.88 | 4.5 | 0.73 | 27.50 | 1.8 | 2.6 | 1 | | | | • | | | | | |
| 27IR 4 W | 15.88 | 4.0 | 0.82 | 27.50 | 2.0 | 2.9 | 1 | | | | | | | | • | |

• For Insert Identification System, see pages 640-641 • Tolerance: medium class • For technical information and detailed cutting data, see pages 713-729
[1] With pressed chipformer [2] Multi-tooth [3] Threads per inch [4] Number of teeth per corner

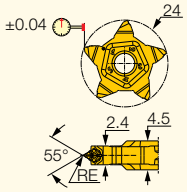
**Tools:** AVC-D-SIR/L • MGSIR/L • PICIN-MGSIR/L • SIR/L

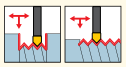
PENTACUT THREADING LINE

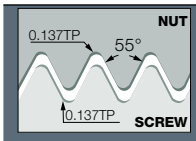
## PENTA 24-W

Whitworth (BSW, BSF, BSP)
B.S.84-1956 DIN 259 Pentagonal
Full Profile External Threading
Inserts with a Chipformer








| Designation | Dimensions TPI(1) | Dimensions RE | IC908 |
|---|---|---|---|
| PENTA 24-28-W | 28.0 | 0.09 | ● |
| PENTA 24-19-W | 19.0 | 0.15 | ● |
| PENTA 24-14-W | 14.0 | 0.21 | ● |

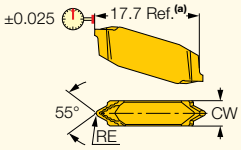
• DMIN(inch)=5.435/TPI
(1) Threads per inch
**Tools:** PCAD RE/LE-JHP • PCADR/L • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-24 • PCHR/L-24-JHP • PCHR/L-24-JHP-MC

ISCARTHREAD
CUTGRIP

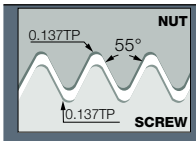
## TIP-P-BSW

American (BSW, BSF, BSP)
Precision Ground External
Double-Ended Full Profile Threading
Inserts with a Chipformer








| Designation | Dimensions CW | Dimensions RE | Dimensions TPI(1) | Tough ↔ Hard IC08 | Tough ↔ Hard IC908 |
|---|---|---|---|---|---|
| TIP 2P28-BSW | 2.40 | 0.11 | 28.0 | ● | ● |
| TIP 2P26-BSW | 2.40 | 0.12 | 26.0 | ● | ● |
| TIP 2P24-BSW | 2.40 | 0.12 | 24.0 | ● | ● |
| TIP 2P20-BSW | 2.40 | 0.16 | 20.0 | ● | ● |
| TIP 2P19-BSW | 2.40 | 0.16 | 19.0 | ● | ● |
| TIP 2P18-BSW | 2.40 | 0.17 | 18.0 | ● | ● |
| TIP 2P16-BSW | 2.40 | 0.19 | 16.0 | ● | ● |
| TIP 2P14-BSW | 2.40 | 0.22 | 14.0 | ● | ● |
| TIP 4P12-BSW | 4.00 | 0.25 | 12.0 | | ● |
| TIP 4P11-BSW | 4.00 | 0.28 | 11.0 | ● | ● |
| TIP 4P10-BSW | 4.00 | 0.31 | 10.0 | | ● |

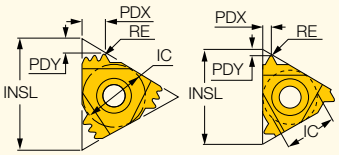
• (a) TIP inserts are 1.6 mm longer than GIP in the same pocket • Toolholder seat needs to be modified according to insert profile to ensure clearance
(1) Threads per inch
**Tools:** C#-GHDR/L • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket)
• GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L • GHSR/L • GHSR/L-JHP-SL • NQCH-GHSR/L-JHP

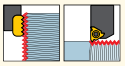
# NPT

ISCARTHREAD

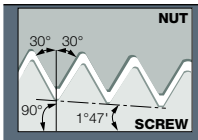
**ER/L-NPT**
External NPT
(National Pipe Threads)
Full Profile Laydown
Threading Inserts for Steam,
Gas and Water Pipes





External right-hand shown




| Designation | Dimensions | | | | | | | Tough ↔ Hard | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | IC | TPI[3] | RE | INSL | PDY | PDX | CICT[4] | IC228 | IC50M | IC250 | IC808 | IC908 | IC1007 |
| **16ER 27 NPT** | 9.52 | 27.0 | 0.04 | 16.49 | 0.7 | 0.8 | 1 | | | ● | | ● | |
| **16ER 18 NPT** | 9.52 | 18.0 | 0.06 | 16.49 | 0.8 | 1.0 | 1 | ● | | ● | | ● | ● |
| **16ERB 18 NPT** [1] | 9.52 | 18.0 | 0.06 | 16.49 | 0.9 | 1.1 | 1 | | | | | ● | |
| **16ERM 18 NPT** [1] | 9.52 | 18.0 | 0.05 | 16.49 | 0.8 | 1.0 | 1 | | | | ● | ● | ● |
| **16EL 14 NPT** | 9.52 | 14.0 | 0.07 | 16.49 | 0.9 | 1.2 | 1 | | | | | ● | |
| **16ER 14 NPT** | 9.52 | 14.0 | 0.07 | 16.49 | 0.9 | 1.2 | 1 | ● | | ● | | ● | ● |
| **16ERB 14 NPT** [1] | 9.52 | 14.0 | 0.07 | 16.49 | 0.9 | 1.2 | 1 | | | | | ● | |
| **16ERM 14 NPT** [1] | 9.52 | 14.0 | 0.05 | 16.49 | 0.9 | 1.2 | 1 | | ● | ● | ● | ● | ● |
| **16EL 11.5 NPT** | 9.52 | 11.5 | 0.09 | 16.49 | 1.1 | 1.5 | 1 | | | | | ● | |
| **16ER 11.5 NPT** | 9.52 | 11.5 | 0.09 | 16.49 | 1.1 | 1.5 | 1 | | ● | ● | | ● | ● |
| **16ERB 11.5 NPT** [1] | 9.52 | 11.5 | 0.09 | 16.49 | 1.1 | 1.5 | 1 | | | | | ● | |
| **16ERM 11.5 NPT** [1] | 9.52 | 11.5 | 0.09 | 16.49 | 1.1 | 1.5 | 1 | | | ● | ● | ● | ● |
| **16ER 8 NPT** | 9.52 | 8.0 | 0.11 | 16.49 | 1.4 | 1.6 | 1 | | ● | ● | | ● | |
| **16ERB 8 NPT** [1] | 9.52 | 8.0 | 0.11 | 16.49 | 1.4 | 1.7 | 1 | | | | | ● | |
| **16ERM 8 NPT** [1] | 9.52 | 8.0 | 0.12 | 16.49 | 1.3 | 1.8 | 1 | | | ● | ● | ● | ● |
| **22ER 11.5 NPT 2M** [2] | 12.70 | 11.5 | 0.09 | 22.00 | 2.3 | 3.5 | 2 | | | | | ● | |
| **27ER 11.5 NPT 3M** [2] | 15.88 | 11.5 | 0.09 | 27.50 | 3.3 | 5.5 | 3 | | | | | ● | |
| **27ER 8 NPT 2M** [2] | 15.88 | 8.0 | 0.09 | 27.50 | 3.3 | 5.0 | 2 | | | | | ● | |

- For Insert Identification System, see pages 640-641 • For threading between walls use GRIP-type insert TIP-NPT. • National Pipe Threads ANSI/ASME B1.20.1-1983
- For technical information and detailed cutting data, see pages 713-729

[1] With pressed chipformer
[2] Multi-tooth
[3] Threads per inch
[4] Number of teeth per corner

**Tools:** C#-SER/L • SER-D • SER/L

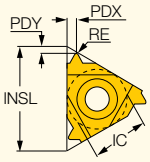


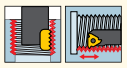
ISCARTHREAD

## IR/L-NPT

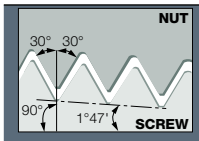
Internal NPT
(National Pipe Threads)
Full Profile Laydown
Threading Inserts for Steam,
Gas and Water Pipes





Internal left-hand shown




| Designation | Dimensions IC | TPI[3] | RE | INSL | PDY | PDX | CICT[4] | Tough ↔ Hard IC228 | IC50M | IC250 | IC08 | IC508 | IC808 | IC908 | IC1007 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 06IR 27 NPT | 4.00 | 27.0 | 0.04 | 6.88 | 0.6 | 0.6 | 1 | • | | | | | | | |
| 08IR 18 NPT | 5.00 | 18.0 | 0.06 | 8.24 | 0.6 | 0.8 | 1 | • | | | | | | • | |
| 11IL 18 NPT | 6.35 | 18.0 | 0.06 | 11.00 | 0.8 | 1.0 | 1 | | | | | | | • | |
| 11IR 18 NPT | 6.35 | 18.0 | 0.06 | 11.00 | 0.8 | 1.0 | 1 | | | • | | | | • | |
| 11IRB 18 NPT | 6.35 | 18.0 | 0.06 | 11.00 | 0.8 | 1.0 | 1 | | | | | | | • | |
| 11IL 14 NPT | 6.35 | 14.0 | 0.07 | 11.00 | 0.8 | 1.0 | 1 | | | • | | | | | |
| 11IR 14 NPT | 6.35 | 14.0 | 0.07 | 11.00 | 0.8 | 1.0 | 1 | | | • | | | | • | • |
| 16IR 27 NPT | 9.52 | 27.0 | 0.04 | 16.49 | 0.7 | 0.8 | 1 | | | | | | | • | |
| 16IR 18 NPT | 9.52 | 18.0 | 0.06 | 16.49 | 0.8 | 1.0 | 1 | | | | | | | • | |
| 16IRM 14 NPT [1] | 9.52 | 14.0 | 0.05 | 16.49 | 0.9 | 1.2 | 1 | | | • | | | • | • | • |
| 16IRB 14 NPT [1] | 9.52 | 14.0 | 0.07 | 16.49 | 0.9 | 1.2 | 1 | | | | | | | • | |
| 16IL 14 NPT | 9.52 | 14.0 | 0.07 | 16.49 | 0.9 | 1.2 | 1 | | | | | | | • | |
| 16IR 14 NPT | 9.52 | 14.0 | 0.07 | 16.49 | 0.9 | 1.2 | 1 | • | | • | | | | • | • |
| 16IRM 11.5 NPT [1] | 9.52 | 11.5 | 0.09 | 16.49 | 1.1 | 1.5 | 1 | | | | | • | • | • | • |
| 16IRB 11.5 NPT [1] | 9.52 | 11.5 | 0.09 | 16.49 | 1.1 | 1.5 | 1 | | | | | | | • | |
| 16IL 11.5 NPT | 9.52 | 11.5 | 0.09 | 16.49 | 1.1 | 1.5 | 1 | | | • | | | | • | |
| 16IR 11.5 NPT | 9.52 | 11.5 | 0.09 | 16.49 | 1.1 | 1.5 | 1 | | • | | | | | • | • |
| 16IRM 8 NPT [1] | 9.52 | 8.0 | 0.12 | 16.49 | 1.3 | 1.8 | 1 | | | | | | • | • | • |
| 16IRB 8 NPT [1] | 9.52 | 8.0 | 0.11 | 16.49 | 1.2 | 1.7 | 1 | | | | | | | • | |
| 16IL 8 NPT | 9.52 | 8.0 | 0.11 | 16.49 | 1.3 | 1.8 | 1 | | | • | | | | • | |
| 16IR 8 NPT | 9.52 | 8.0 | 0.11 | 16.49 | 1.2 | 1.7 | 1 | | | • | • | | | • | |
| 22IR 11.5 NPT 2M [2] | 12.70 | 11.5 | 0.09 | 22.00 | 2.3 | 3.5 | 2 | | | | | | | • | |
| 27IR 11.5 NPT 3M [2] | 15.88 | 11.5 | 0.09 | 27.50 | 3.3 | 5.5 | 3 | | | | | | | • | |
| 27IR 8 NPT 2M [2] | 15.88 | 8.0 | 0.12 | 27.50 | 3.1 | 5.0 | 2 | | | | | | | • | |

- For Insert Identification System, see pages 640-641 • National Pipe Threads ANSI/ASME B1.20.1-1983
- For technical information and detailed cutting data, see pages 713-729

[1] With pressed chipformer
[2] Multi-tooth
[3] Threads per inch
[4] Number of teeth per corner

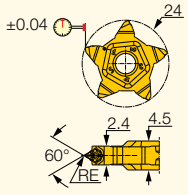
**Tools:** AVC-D-SIR/L • MGSIR/L • PICIN-MGSIR/L • SIR/L

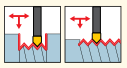
PENTACUT THREADING LINE

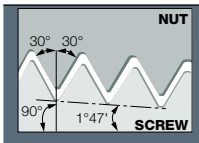
## PENTA 24-NPT

NPT (National Pipe Threads)
Precision Ground Pentagonal
External Full Profile Threading
Inserts with a Chipformer








| Designation | Dimensions TPI[1] | RE | IC908 |
|---|---|---|---|
| PENTA 24-18-NPT | 18.0 | 0.07 | • |
| PENTA 24-14-NPT | 14.0 | 0.09 | • |

[1] Threads per inch

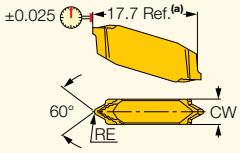
**Tools:** PCAD RE/LE-JHP • PCADR/L • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-24 • PCHR/L-24-JHP • PCHR/L-24-JHP-MC

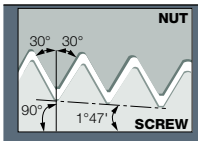
ISCARTHREAD
CUTGRIP

## TIP-P-NPT

NPT (National Pipe Threads)
Precision Ground Double-Ended
External Full Profile Threading
Inserts with a Chipformer






| Designation | Dimensions CW | RE | RETOL(1) | TPI(2) | Tough ↔ Hard IC08 | IC908 |
|---|---|---|---|---|---|---|
| TIP 2P27-NPT | 2.40 | 0.05 | 0.030 | 27.0 | ● | ● |
| TIP 2P18-NPT | 2.40 | 0.07 | 0.030 | 18.0 | ● | ● |
| TIP 2P14-NPT | 2.40 | 0.09 | 0.030 | 14.0 | | ● |
| TIP 4P11.5-NPT | 4.00 | 0.10 | 0.030 | 11.5 | ● | ● |
| TIP 4P8-NPT | 4.00 | 0.13 | 0.030 | 8.0 | ● | ● |

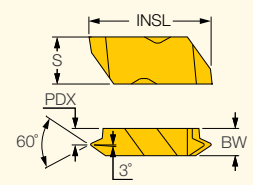
• (a) TIP inserts are 1.6 mm longer than GIP in the same pocket • Toolholder seat needs to be modified according to insert profile to ensure clearance
(1) Corner radius tolerance (+/-)
(2) Threads per inch
**Tools:** C#-GHDR/L • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L • GHSR/L • GHSR/L-JHP-SL • NQCH-GHSR/L-JHP

NOTCHGRIP GROOVE-TURN LINE
ISCARTHREAD

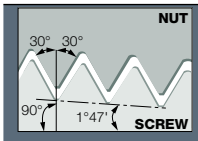
## NPT THREADING
## FLDC-V-75

Double-Ended, Precision,
Flat Top Threading Inserts






Right-hand shown




| Designation | Dimensions TPI(1) | IPF | PDX | BW | S | INSL | IC908 |
|---|---|---|---|---|---|---|---|
| FLDC-3-8VR/L75 | 8.0 | 3/4 | 2.50 | 4.95 | 8.74 | 22.60 | ● |
| FLDC-3-115VR/L75 | 11.5 | 3/4 | 3.70 | 4.95 | 8.74 | 22.60 | ● |
| FLDC-3-14VR/L-75 | 14.0 | 3/4 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLDC-3-18VR/L-75 | 18.0 | 3/4 | 3.90 | 4.95 | 8.74 | 22.60 | ● |
| FLDC-3-27VR/L-75 | 27.0 | 3/4 | 4.10 | 4.95 | 8.74 | 22.60 | ● |

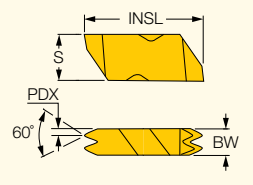
• DMIN according to related boring bar
(1) Threads per inch
**Tools:** FLASR/L • FLSR/L

NOTCHGRIP GROOVE-TURN LINE
ISCARTHREAD

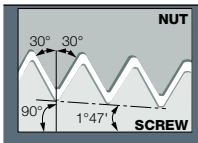
## NPT THREADING
## FLDC-NPT-E

Double-Ended, Precision, Flat Top
Multi-Tooth Threading Inserts






Right-hand shown




| Designation | Dimensions TPI(1) | IPF | PDX | BW | S | INSL | IC908 |
|---|---|---|---|---|---|---|---|
| FLDC-3-8NPT 2E | 8.0 | 3/4 | 1.50 | 6.35 | 8.74 | 22.60 | ● |
| FLDC-3-11.5NPT-2E | 11.5 | 3/4 | 1.20 | 6.35 | 8.74 | 22.60 | ● |

(1) Threads per inch

NOTCH-GRIP GROOVE-TURN LINE

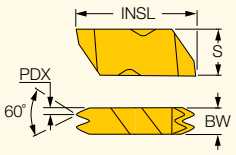
ISCARTHREAD

## NPT THREADING

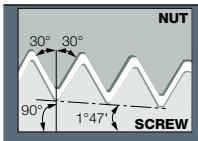
### FLDC-NPT-I

Double-Ended, Precision, Flat Top Multi-Tooth Threading Inserts








| Designation | TPI[1] | IPF | PDX | BW | S | INSL | IC908 |
|---|---|---|---|---|---|---|---|
| FLDC-3-8NPT 2I | 8.0 | 3/4 | 1.50 | 6.35 | 8.74 | 22.60 | ● |
| FLDC-3-11.5NPT-2I | 11.5 | 3/4 | 1.20 | 6.35 | 8.74 | 22.60 | ● |

Dimensions

[1] Threads per inch

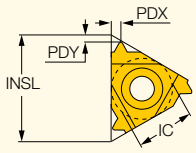
# Full Profile NPTF

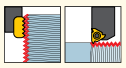
ISCARTHREAD

### ER-NPTF

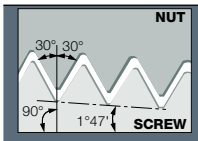
External NPTF (National Pipe Threads) Full Profile Laydown Threading Inserts for Steam, Gas and Water Pipes





External right-hand shown




| Designation | IC | TPI[1] | INSL | PDY | PDX | Tough ↔ Hard: IC250 | IC908 |
|---|---|---|---|---|---|---|---|
| 11ER 14 NPTF | 6.35 | 14.0 | 11.00 | 0.8 | 1.0 | | ● |
| 16ER 27 NPTF | 9.52 | 27.0 | 16.49 | 0.7 | 0.8 | | ● |
| 16ER 18 NPTF | 9.52 | 18.0 | 16.49 | 0.8 | 0.9 | | ● |
| 16ER 14 NPTF | 9.52 | 14.0 | 16.49 | 0.9 | 1.1 | ● | ● |
| 16ER 11.5 NPTF | 9.52 | 11.5 | 16.49 | 1.1 | 1.5 | | ● |

Dimensions

- For Insert Identification System, see pages 640-641 • (National Pipe Threads-Dry Seal) ANSI/ASME B1.20.1-1976 full profile
- For technical information and detailed cutting data, see pages 713-729

[1] Threads per inch

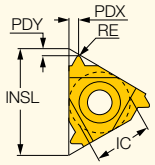
**Tools:** C#-SER/L • SER-D • SER/L

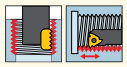
ISCARTHREAD

### IR/L-NPTF

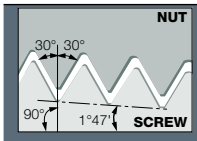
Internal NPTF (National Pipe Threads) Full Profile Laydown Threading Inserts for Steam, Gas and Water Pipes





Internal left-hand shown




| Designation | IC | TPI[1] | RE | INSL | PDY | PDX | Tough ↔ Hard: IC228 | IC250 | IC908 |
|---|---|---|---|---|---|---|---|---|---|
| 06IR 27 NPTF | 4.00 | 27.0 | 0.04 | 6.88 | 0.7 | 0.6 | ● | | |
| 08IR 27 NPTF | 5.00 | 27.0 | 0.04 | 8.24 | 0.6 | 0.6 | ● | | |
| 08IL 18 NPTF | 5.00 | 18.0 | 0.06 | 8.24 | 0.6 | 0.8 | ● | | |
| 08IR 18 NPTF | 5.00 | 18.0 | 0.04 | 8.24 | 0.6 | 0.8 | ● | | |
| 11IR 18 NPTF | 6.35 | 18.0 | 0.04 | 11.00 | 0.8 | 1.0 | | | ● |
| 11IRB 18 NPTF | 6.35 | 18.0 | 0.04 | 11.00 | 0.8 | 1.0 | | | ● |
| 11IR 14 NPTF | 6.35 | 14.0 | 0.04 | 16.49 | 0.8 | 1.1 | | | ● |
| 16IR 18 NPTF | 9.52 | 18.0 | 0.06 | 16.49 | 0.8 | 1.0 | | | ● |
| 16IL 14 NPTF | 9.52 | 14.0 | 0.07 | 16.49 | 0.9 | 1.2 | | | ● |
| 16IR 14 NPTF | 9.52 | 14.0 | 0.04 | 16.49 | 0.9 | 1.2 | | ● | ● |
| 16IR 11.5 NPTF | 9.52 | 11.5 | 0.04 | 16.49 | 1.1 | 1.5 | | ● | ● |

Dimensions

- For Insert Identification System, see pages 640-641 • (National Pipe Threads-Dry seal) ANSI/ASME B1.20.1-1976 • For technical information and detailed cutting data, see pages713-729

[1] Threads per inch

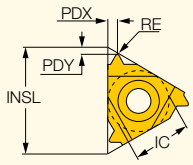
**Tools:** AVC-D-SIR/L • MGSIR/L • PICIN-MGSIR/L • SIR/L

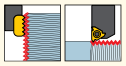
# BSPT British Standard Pipe

ISCARTHREAD

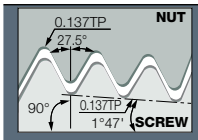
## ER/L-BSPT
External BSPT
(British Standard Pipe)
B.S.21-1957 Full Profile
Laydown Threading Inserts





External right-hand shown




| Designation | Dimensions IC | INSL | TPI(2) | RE | PDY | PDX | Tough ↔ Hard IC250 | IC808 | IC908 | IC1007 |
|---|---|---|---|---|---|---|---|---|---|---|
| 16ER 28 BSPT | 9.52 | 16.49 | 28.0 | 0.11 | 0.6 | 0.6 | | | • | |
| 16EL 19 BSPT | 9.52 | 16.49 | 19.0 | 0.16 | 0.7 | 0.8 | | | • | |
| 16ER 19 BSPT | 9.52 | 16.49 | 19.0 | 0.16 | 0.7 | 0.8 | • | | • | • |
| 16EL 14 BSPT | 9.52 | 16.49 | 14.0 | 0.23 | 1.0 | 1.1 | | | • | |
| 16ER 14 BSPT | 9.52 | 16.49 | 14.0 | 0.23 | 1.0 | 1.1 | • | | • | • |
| 16ERB 14 BSPT (1) | 9.52 | 16.49 | 14.0 | 0.23 | 1.0 | 1.1 | | | • | |
| 16ERM 14 BSPT (1) | 9.52 | 16.49 | 14.0 | 0.24 | 1.0 | 1.2 | | • | • | • |
| 16EL 11 BSPT | 9.52 | 16.49 | 11.0 | 0.29 | 1.1 | 1.5 | | | • | |
| 16ER 11 BSPT | 9.52 | 16.49 | 11.0 | 0.29 | 1.1 | 1.5 | • | | • | |
| 16ERB 11 BSPT (1) | 9.52 | 16.49 | 11.0 | 0.29 | 1.1 | 1.5 | | | • | |
| 16ERM 11 BSPT (1) | 9.52 | 16.49 | 11.0 | 0.31 | 1.1 | 1.5 | | | • | • |

• For Insert Identification System, see pages 640-641 • For threading between walls use insert TIP-BSPT • For technical information and detailed cutting data, see pages 713-729

(1) With pressed chipformer

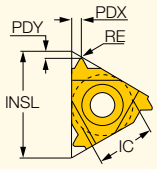
(2) Threads per inch

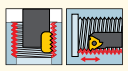
**Tools:** C#-SER/L • SER-D • SER/L

ISCARTHREAD

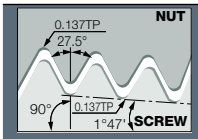
## IR/L-BSPT
Internal BSPT
(British Standard Pipe)
B.S.21-1957 Full Profile
Laydown Threading Inserts





Internal left-hand shown




| Designation | Dimensions IC | INSL | TPI(2) | RE | PDY | PDX | Tough ↔ Hard IC228 | IC250 | IC808 | IC908 | IC1007 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 06IR 28 BSPT | 4.00 | 6.88 | 28.0 | 0.11 | 0.7 | 0.6 | • | | | | |
| 08IR 28 BSPT | 5.00 | 8.24 | 28.0 | 0.11 | 0.6 | 0.6 | • | | | | |
| 08IR 19 BSPT | 5.00 | 8.24 | 19.0 | 0.16 | 0.6 | 0.7 | • | | | | |
| 11IR 19 BSPT | 6.35 | 11.00 | 19.0 | 0.16 | 0.8 | 0.9 | | • | | • | • |
| 11IRB 19 BSPT | 6.35 | 11.00 | 19.0 | 0.16 | 0.8 | 0.9 | | | | • | |
| 11IR/L 14 BSPT | 6.35 | 11.00 | 14.0 | 0.23 | 0.9 | 1.0 | | | | • | |
| 16IR 28 BSPT | 9.52 | 16.49 | 28.0 | 0.11 | 0.6 | 0.6 | | | | • | |
| 16IR 19 BSPT | 9.52 | 16.49 | 19.0 | 0.16 | 0.8 | 0.9 | | • | | | |
| 16IRB 14 BSPT (1) | 9.52 | 16.49 | 14.0 | 0.23 | 1.0 | 1.1 | | | | • | |
| 16IRM 14 BSPT (1) | 9.52 | 16.49 | 14.0 | 0.21 | 1.0 | 1.2 | | | • | • | • |
| 16IL 14 BSPT | 9.52 | 16.49 | 14.0 | 0.21 | 1.0 | 1.2 | | | | • | |
| 16IR 14 BSPT | 9.52 | 16.49 | 14.0 | 0.23 | 1.0 | 1.1 | | | | • | |
| 16IRM 11 BSPT (1) | 9.52 | 16.49 | 11.0 | 0.28 | 1.1 | 1.5 | | | • | • | • |
| 16IRB 11 BSPT (1) | 9.52 | 16.49 | 11.0 | 0.29 | 1.1 | 1.5 | | | | • | |
| 16IL 11 BSPT | 9.52 | 16.49 | 11.0 | 0.29 | 1.1 | 1.5 | | | | • | |
| 16IR 11 BSPT | 9.52 | 16.49 | 11.0 | 0.29 | 1.1 | 1.5 | • | • | | • | |

• For Insert Identification System, see pages 640-641 • For technical information and detailed cutting data, see pages 713-729

(1) With pressed chipformer

(2) Threads per inch

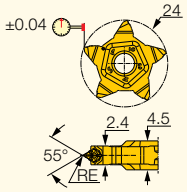
**Tools:** AVC-D-SIR/L • MGSIR/L • PICIN-MGSIR/L • SIR/L

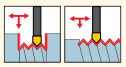
PENTACUT THREADING LINE

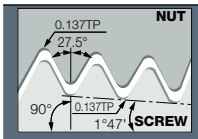
## PENTA 24-BSPT

BSPT (British Standard Pipe) Precision Ground External Pentagonal Full Profile Threading Inserts with a Chipformer








| Designation | Dimensions TPI[1] | RE | IC908 |
|---|---|---|---|
| PENTA 24-19-BSPT | 19.0 | 0.16 | ● |
| PENTA 24-14-BSPT | 14.0 | 0.22 | ● |

- DMIN(inch)=5.435/TPI

(1) Threads per inch

**Tools:** PCAD RE/LE-JHP • PCADR/L • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-24 • PCHR/L-24-JHP • PCHR/L-24-JHP-MC

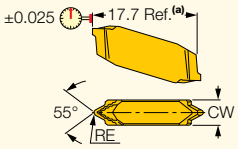
ISCARTHREAD

CUTGRIP

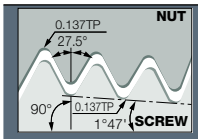
## TIP-P-BSPT

Precision Ground BSPT (British Standard Pipe) External Double-Ended Full Profile Threading Inserts with a Chipformer








| Designation | Dimensions CW | RE | RETOL[1] | TPI[2] | Tough ↔ Hard IC08 | IC908 |
|---|---|---|---|---|---|---|
| TIP 2P28-BSPT | 2.40 | 0.11 | 0.030 | 28.0 | ● | ● |
| TIP 2P19-BSPT | 2.40 | 0.16 | 0.030 | 19.0 | ● | ● |
| TIP 2P14-BSPT | 2.40 | 0.22 | 0.030 | 14.0 | ● | ● |
| TIP 4P11-BSPT | 4.00 | 0.28 | 0.030 | 11.0 | ● | ● |

- (a) TIP inserts are 1.6 mm longer than GIP in the same pocket • Toolholder seat needs to be modified according to insert profile to ensure clearance

(1) Corner radius tolerance (+/-)

(2) Threads per inch

**Tools:** C#-GHDR/L • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L • GHSR/L • GHSR/L-JHP-SL • NQCH-GHSR/L-JHP



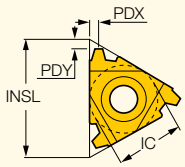
# STACME

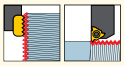
ISCARTHREAD

## ER/L-STACME

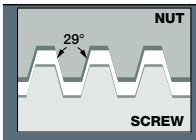
External STUB ACME Laydown Threading Inserts with a Shallow ACME Profile for Control Valves





External right-hand shown




| Designation | Dimensions IC | INSL | TPI[1] | PDY | PDX | Tough ↔ Hard IC50M | IC250 | IC908 |
|---|---|---|---|---|---|---|---|---|
| 16EL 16 STACME | 9.52 | 16.49 | 16.0 | 1.0 | 1.0 | | • | |
| 16ER 16 STACME | 9.52 | 16.49 | 16.0 | 1.0 | 1.0 | | | • |
| 16ER 14 STACME | 9.52 | 16.49 | 14.0 | 1.1 | 1.1 | | • | |
| 16EL 12 STACME | 9.52 | 16.49 | 12.0 | 1.2 | 1.2 | | | • |
| 16ER 12 STACME | 9.52 | 16.49 | 12.0 | 1.2 | 1.2 | | • | • |
| 16EL 10 STACME | 9.52 | 16.49 | 10.0 | 1.3 | 1.3 | • | | |
| 16ER 10 STACME | 9.52 | 16.49 | 10.0 | 1.3 | 1.2 | | | • |
| 16EL 8 STACME | 9.52 | 16.49 | 8.0 | 1.5 | 1.5 | | | • |
| 16ER 8 STACME | 9.52 | 16.49 | 8.0 | 1.5 | 1.5 | • | • | • |
| 16EL 6 STACME | 9.52 | 16.49 | 6.0 | 1.8 | 1.8 | | | • |
| 16ER 6 STACME | 9.52 | 16.49 | 6.0 | 1.7 | 1.7 | | • | • |
| 22EL 5 STACME | 12.70 | 22.00 | 5.0 | 2.0 | 2.3 | • | | |
| 22ER 5 STACME | 12.70 | 22.00 | 5.0 | 2.0 | 2.3 | | | • |
| 27EL 4 STACME | 15.88 | 27.50 | 4.0 | 2.3 | 2.4 | • | | |
| 27ER 4 STACME | 15.88 | 27.50 | 4.0 | 2.3 | 2.4 | | | • |
| 27EL 3 STACME | 15.88 | 27.50 | 3.0 | 2.8 | 2.9 | | | • |
| 27ER 3 STACME | 15.88 | 27.50 | 3.0 | 2.8 | 2.9 | | • | |

- For Insert Identification System, see pages 640-641 • STUB ACME ASME/ANSI B1.8-1988 Class 2G
- For technical information and detailed cutting data, see pages 713-729

[1] Threads per inch

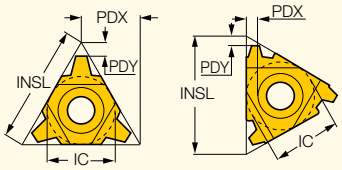
**Tools:** C#-SER/L • SER-D • SER/L

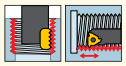
ISCARTHREAD

## IR/L-STACME

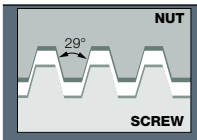
Internal STUB ACME Laydown Threading Inserts with a Shallow ACME Profile for Control Valves





Internal left-hand shown




| Designation | Dimensions IC | INSL | TPI[1] | PDY | PDX | Tough ↔ Hard IC50M | IC250 | IC908 |
|---|---|---|---|---|---|---|---|---|
| 16IL 16 STACME | 9.52 | 16.49 | 16.0 | 1.0 | 1.0 | • | | |
| 16IR 16 STACME | 9.52 | 16.49 | 16.0 | 1.0 | 1.0 | • | | • |
| 16IR 12 STACME | 9.52 | 16.49 | 12.0 | 1.2 | 1.2 | | | • |
| 16IR 10 STACME | 9.52 | 16.49 | 10.0 | 1.2 | 1.2 | • | | • |
| 16IL 8 STACME | 9.52 | 16.49 | 8.0 | 1.5 | 1.5 | | | • |
| 16IR 8 STACME | 9.52 | 16.49 | 8.0 | 1.5 | 1.5 | • | | • |
| 16IR 6 STACME | 9.52 | 16.49 | 6.0 | 1.6 | 1.7 | | • | • |
| 22IR/L 5 STACME | 12.70 | 22.00 | 5.0 | 2.0 | 2.3 | • | | |
| 22UIR 3 STACME | 12.70 | 22.00 | 3.0 | 3.3 | 11.0 | | • | |
| 27IL 4 STACME | 15.88 | 27.50 | 4.0 | 2.3 | 2.4 | • | | |
| 27IR 4 STACME | 15.88 | 27.50 | 4.0 | 2.3 | 2.4 | | | • |
| 27IR/L 3 STACME | 15.88 | 27.50 | 3.0 | 2.8 | 2.9 | | • | |

- For Insert Identification System, see pages 640-641 • Tolerance: Class 2G. • For technical information and detailed cutting data, see pages 713-729

[1] Threads per inch

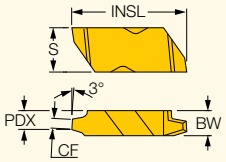
**Tools:** AVC-D-SIR/L • SIR/L

NOTCH GRIP GROOVE-TURN LINE
ISCAR THREAD

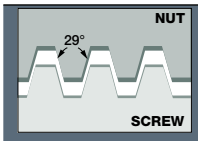
## STUB ACME THREADING
## FLAS-PT-I

Double-Ended, Precision, Flat Top on Internal Threading Ins erts






Right-hand shown




| Designation | Dimensions TPI[1] | CF | PDX | BW | S | INSL | IC908 |
|---|---|---|---|---|---|---|---|
| FLAS-6L2-PT-I | 2.0 | 5.23 | 7.20 | 9.73 | 11.51 | 28.45 | ● |
| FLAS-4L3-PT-I | 3.0 | 3.44 | 5.10 | 6.48 | 11.51 | 28.45 | ● |
| FLAS-3L4-PT-I | 4.0 | 2.55 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLAS-3L5-PT-I | 5.0 | 2.01 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLAS-3L6-PT-I | 6.0 | 1.66 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLAS-3L8-PT-I | 8.0 | 1.21 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLAS-3L10-PT-I | 10.0 | 0.94 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLAS-3L12-PT-I | 12.0 | 0.83 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLAS-3L14-PT-I | 14.0 | 0.70 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLAS-3L16-PT-I | 16.0 | 0.60 | 3.80 | 4.95 | 8.74 | 22.60 | ● |

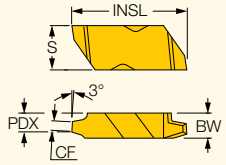
(1) Threads per inch

NOTCH GRIP GROOVE-TURN LINE
ISCAR THREAD

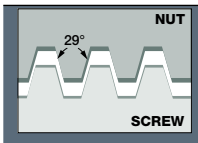
## STUB ACME THREADING
## FLAS-PT-E

Double-Ended, Precision, Flat Top External Threading Inserts






Right-hand shown




| Designation | Dimensions TPI[1] | CF | PDX | BW | S | INSL | IC908 |
|---|---|---|---|---|---|---|---|
| FLAS-3R4-PT-E | 4.0 | 2.55 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLAS-3R5-PT-E | 5.0 | 2.01 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLAS-3R6-PT-E | 6.0 | 1.66 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLAS-3R8-PT-E | 8.0 | 1.21 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLAS-3R10-PT-E | 10.0 | 0.94 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLAS-3R12-PT-E | 12.0 | 0.83 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLAS-3R14-PT-E | 14.0 | 0.70 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLAS-3R16-PT-E | 16.0 | 0.60 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLAS-4R3-PT-E | 3.0 | 3.44 | 5.10 | 6.48 | 11.51 | 28.45 | ● |
| FLAS-6R2-PT-E | 2.0 | 5.23 | 7.20 | 9.73 | 11.51 | 28.45 | ● |

(1) Threads per inch

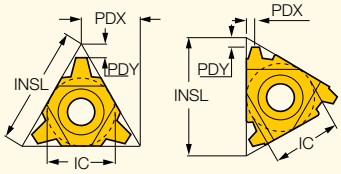
**Tools:** FLASR/L • FLSR/L

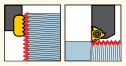
# ACME

## ISCAR THREAD

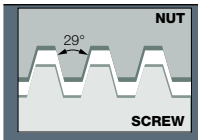
### ER/L-ACME
External ACME Profile Laydown
Threading Inserts for Feed Screws





External right-hand shown




| Designation | Dimensions IC | INSL | TPI[1] | PDY | PDX | Tough ↔ Hard IC50M | IC250 | IC08 | IC908 | IC1007 |
|---|---|---|---|---|---|---|---|---|---|---|
| 11ER 16 ACME | 6.35 | 11.00 | 16.0 | 0.9 | 1.0 | | | | • | |
| 16ER 16 ACME | 9.52 | 16.49 | 16.0 | 1.0 | 1.0 | | • | | • | |
| 16ER 12 ACME | 9.52 | 16.49 | 12.0 | 1.0 | 1.0 | | | | • | |
| 16ER 10 ACME | 9.52 | 16.49 | 10.0 | 1.4 | 1.3 | | • | | • | |
| 16ER/L 8 ACME | 9.52 | 16.49 | 8.0 | 1.3 | 1.5 | | • | | • | |
| 22EL 6 ACME | 12.70 | 22.00 | 6.0 | 1.8 | 2.1 | | | | • | |
| 22ER 6 ACME | 12.70 | 22.00 | 6.0 | 1.8 | 2.1 | • | | | • | |
| 22EL 5 ACME | 12.70 | 22.00 | 5.0 | 2.0 | 2.4 | | | | • | |
| 22ER 5 ACME | 12.70 | 22.00 | 5.0 | 2.0 | 2.4 | | • | | • | |
| 22ER/L 4 ACME | 12.70 | 22.00 | 4.0 | 2.1 | 2.3 | | | | • | |
| 22UERL 4 ACME | 12.70 | 22.00 | 4.0 | 2.3 | 11.0 | • | | | • | |
| 27EL 4 ACME | 15.88 | 27.50 | 4.0 | 2.3 | 2.7 | | | | • | |
| 27ER 4 ACME | 15.88 | 27.50 | 4.0 | 2.3 | 2.6 | | • | • | • | |
| 27UERL 3 ACME | 15.88 | 27.50 | 3.0 | 2.8 | 13.7 | | • | | • | |
| 16EL 6 ACME | 9.52 | 16.49 | 6.0 | 1.4 | 1.6 | | • | | | |
| 16ER 14 ACME | 9.52 | 16.49 | 14.0 | 1.0 | 1.0 | | • | | | |
| 16ER 6 ACME | 9.52 | 16.49 | 6.0 | 1.4 | 1.6 | | • | | | • |

• For Insert Identification System, see pages 640-641 • ACME ASME/ANSI B1.5-1988 Class 3G • For technical information and detailed cutting data, see pages 713-729

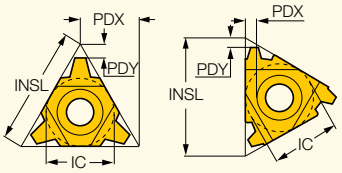
[1] Threads per inch

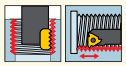
**Tools:** C#-SER/L • SER-D • SER/L

## ISCAR THREAD

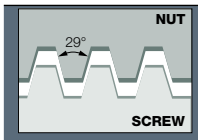
### IR/L-ACME
Internal ACME Profile Laydown
Threading Inserts for Feed Screws





Internal left-hand shown




| Designation | Dimensions IC | INSL | TPI[1] | PDY | PDX | Tough ↔ Hard IC50M | IC250 | IC08 | IC508 | IC908 |
|---|---|---|---|---|---|---|---|---|---|---|
| 16IL 16 ACME | 9.52 | 16.49 | 16.0 | 0.9 | 1.0 | • | | | | |
| 16IR 16 ACME | 9.52 | 16.49 | 16.0 | 0.9 | 1.0 | • | • | | | |
| 16IL 14 ACME | 9.52 | 16.49 | 14.0 | 1.0 | 1.2 | • | | | | |
| 16IL 12 ACME | 9.52 | 16.49 | 12.0 | 1.1 | 1.2 | • | | | | |
| 16IR 12 ACME | 9.52 | 16.49 | 12.0 | 1.1 | 1.2 | | • | • | | • |
| 16IL 10 ACME | 9.52 | 16.49 | 10.0 | 1.3 | 1.3 | • | | | | |
| 16IR 10 ACME | 9.52 | 16.49 | 10.0 | 1.3 | 1.4 | | • | | | |
| 16IL 8 ACME | 9.52 | 16.49 | 8.0 | 1.5 | 1.5 | | | | | • |
| 16IR 8 ACME | 9.52 | 16.49 | 8.0 | 1.3 | 1.5 | | • | | | • |
| 22IL 6 ACME | 12.70 | 22.00 | 6.0 | 1.9 | 2.1 | • | • | | | |
| 22IR 6 ACME | 12.70 | 22.00 | 6.0 | 1.9 | 2.1 | • | • | | | • |
| 22IL 5 ACME | 12.70 | 22.00 | 5.0 | 2.0 | 2.1 | • | | | • | • |
| 22IR 5 ACME | 12.70 | 22.00 | 5.0 | 2.0 | 2.1 | | • | | | • |
| 22IR 4 ACME | 12.70 | 22.00 | 4.0 | 2.1 | 2.1 | | | | | • |
| 22UIRL 4 ACME | 12.70 | 22.00 | 4.0 | 2.3 | 11.0 | | | • | | |
| 27IL 4 ACME | 15.88 | 27.50 | 4.0 | 2.3 | 2.6 | | | | | • |
| 27IR 4 ACME | 15.88 | 27.50 | 4.0 | 2.3 | 2.6 | | • | | | • |
| 27UIRL 3 ACME | 15.88 | 27.50 | 3.0 | 2.8 | 13.7 | | | | | • |

• For Insert Identification System, see pages 640-641 • ACME ASME/ANSI B1.5-1988 Class 3G • For technical information and detailed cutting data, see pages 713-729

[1] Threads per inch

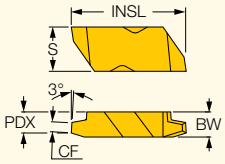
**Tools:** AVC-D-SIR/L • SIR/L

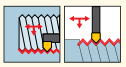
ISCARTHREAD

## ACME THREADING FLA

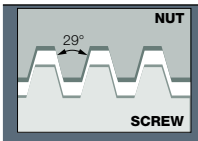
Double-Ended, Precision,
Flat Top Threading Inserts





Right-hand shown




| Designation | Dimensions TPI[1] | CF | PDX | BW | S | INSL | IC908 |
|---|---|---|---|---|---|---|---|
| FLA-6R/L2 | 2.0 | 4.58 | 7.20 | 9.73 | 11.51 | 28.45 | ● |
| FLA-6R/L2.5 | 2.5 | 3.63 | 7.20 | 9.73 | 11.51 | 28.45 | ● |
| FLA-6R/L3 | 3.0 | 3.01 | 7.20 | 9.73 | 11.51 | 28.45 | ● |
| FLA-3R/L4 | 4.0 | 2.22 | 3.40 | 4.95 | 8.74 | 22.60 | ● |
| FLA-4R/L4 | 4.0 | 2.22 | 5.10 | 6.48 | 11.51 | 28.45 | ● |
| FLA-3R/L5 | 5.0 | 1.75 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLA-4R/L5 | 5.0 | 1.75 | 5.10 | 6.48 | 11.51 | 28.45 | ● |
| FLA-3R/L6 | 6.0 | 1.44 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLA-4R/L6 | 6.0 | 1.44 | 5.10 | 6.48 | 11.51 | 28.45 | ● |
| FLA-3R/L8 | 8.0 | 1.04 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLA-4R/L8 | 8.0 | 1.04 | 5.10 | 6.48 | 11.51 | 28.45 | ● |
| FLA-3R/L10 | 10.0 | 0.81 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLA-3R/L12 | 12.0 | 0.72 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLA-3R/L14 | 14.0 | 0.61 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLA-3R/L16 | 16.0 | 0.52 | 3.80 | 4.95 | 8.74 | 22.60 | ● |

• DMIN according to related boring bar

(1) Threads per inch

**Tools:** FLASR/L • FLSR/L

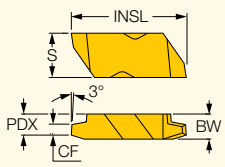
NOTCH-GRIP GROOVE-TURN LINE

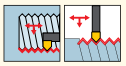
ISCARTHREAD

## ACME THREADING FLAS

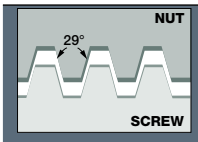
Double-Ended, Precision,
Flat Top Threading Inserts





Right-hand shown




| Designation | Dimensions TPI[1] | CF | PDX | BW | S | INSL | IC908 |
|---|---|---|---|---|---|---|---|
| FLAS-6R/L2 | 2.0 | 5.23 | 7.20 | 9.73 | 11.51 | 28.45 | ● |
| FLAS-4R/L3 | 3.0 | 3.44 | 5.10 | 6.48 | 11.51 | 28.45 | ● |
| FLAS-3L4 | 4.0 | 2.55 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLAS-3R/L5 | 5.0 | 2.01 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLAS-3R/L6 | 6.0 | 1.66 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLAS-3R/L8 | 8.0 | 1.21 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLAS-3R/L10 | 10.0 | 0.94 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLAS-3R/L12 | 12.0 | 0.83 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLAS-3R/L14 | 14.0 | 0.70 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLAS-3R/L16 | 16.0 | 0.60 | 3.80 | 4.95 | 8.74 | 22.60 | ● |

• DMIN according to related boring bar

(1) Threads per inch

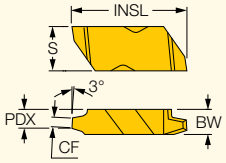
**Tools:** FLASR/L • FLSR/L

# Partial Toping ACME

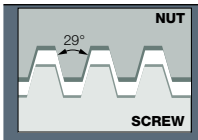
NOTCH GRIP GROOVE-TURN LINE
ISCAR THREAD

## ACME THREADING
## FLA-PT-E
Double-Ended, Precision, Flat Top External Threading Inserts






Right-hand shown




| Designation | Dimensions TPI[1] | CF | PDX | BW | S | INSL | IC908 |
|---|---|---|---|---|---|---|---|
| FLA-3R4-PT-E | 4.0 | 2.22 | 3.40 | 4.95 | 8.74 | 28.45 | ● |
| FLA-3R5-PT-E | 5.0 | 1.75 | 3.80 | 4.95 | 8.74 | 28.45 | ● |
| FLA-3R6-PT-E | 6.0 | 1.44 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLA-3R8-PT-E | 8.0 | 1.04 | 3.80 | 4.95 | 8.74 | 28.45 | ● |
| FLA-3R10-PT-E | 10.0 | 0.81 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLA-3R12-PT-E | 12.0 | 0.72 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLA-3R14-PT-E | 14.0 | 0.61 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLA-3R16-PT-E | 16.0 | 0.52 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLA-4R4-PT-E | 4.0 | 2.22 | 5.10 | 6.48 | 11.51 | 28.45 | ● |
| FLA-4R5-PT-E | 5.0 | 1.75 | 5.10 | 6.48 | 11.51 | 22.60 | ● |
| FLA-4R6-PT-E | 6.0 | 1.44 | 5.10 | 6.48 | 11.51 | 28.45 | ● |
| FLA-4R8-PT-E | 8.0 | 1.04 | 5.10 | 6.48 | 11.51 | 22.60 | ● |
| FLA-6R2-PT-E | 2.0 | 4.58 | 7.20 | 9.73 | 11.51 | 28.45 | ● |
| FLA-6R2.5-PT-E | 2.5 | 3.63 | 7.20 | 9.73 | 11.51 | 28.45 | ● |
| FLA-6R3-PT-E | 3.0 | 3.01 | 7.20 | 9.73 | 11.51 | 28.45 | ● |

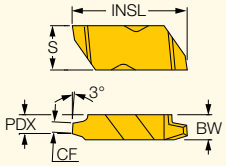
[1] Threads per inch

**Tools:** FLASR/L • FLSR/L

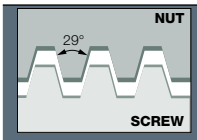
NOTCH GRIP GROOVE-TURN LINE
ISCAR THREAD

## ACME THREADING
## FLA-PT-I
Double-Ended, Precision, Flat Top Internal Threading Inserts






Right-hand shown




| Designation | Dimensions TPI[1] | CF | PDX | BW | S | INSL | IC908 |
|---|---|---|---|---|---|---|---|
| FLA-3L16-PT-I | 16.0 | 0.52 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLA-3L14-PT-I | 14.0 | 0.61 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLA-3L12-PT-I | 12.0 | 0.72 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLA-3L10-PT-I | 10.0 | 0.81 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLA-3L8-PT-I | 8.0 | 1.04 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLA-3L6-PT-I | 6.0 | 1.44 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLA-3L5-PT-I | 5.0 | 1.75 | 3.80 | 4.95 | 8.74 | 22.60 | ● |
| FLA-3L4-PT-I | 4.0 | 2.22 | 3.40 | 4.95 | 8.74 | 22.60 | ● |
| FLA-4L8-PT-I | 8.0 | 1.04 | 5.10 | 6.48 | 11.51 | 28.45 | ● |
| FLA-4L6-PT-I | 6.0 | 1.44 | 5.10 | 6.48 | 11.51 | 28.45 | ● |
| FLA-4L5-PT-I | 5.0 | 1.75 | 5.10 | 6.48 | 11.51 | 28.45 | ● |
| FLA-4L4-PT-I | 4.0 | 2.22 | 5.10 | 6.48 | 11.51 | 28.45 | ● |
| FLA-6L3-PT-I | 3.0 | 3.01 | 7.20 | 9.73 | 11.51 | 28.45 | ● |
| FLA-6L2.5-PT-I | 2.5 | 3.63 | 7.20 | 9.73 | 11.51 | 28.45 | ● |
| FLA-6L2-PT-I | 2.0 | 4.58 | 7.20 | 9.73 | 11.51 | 28.45 | ● |

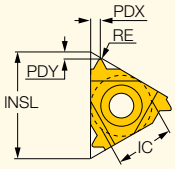
[1] Threads per inch

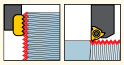
# UNJ

**ISCARTHREAD**

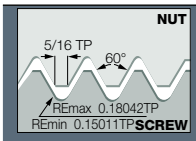
**ER/L-UNJ**
External UNJ Profile Laydown Threading Inserts for the Aviation and Aerospace Industries





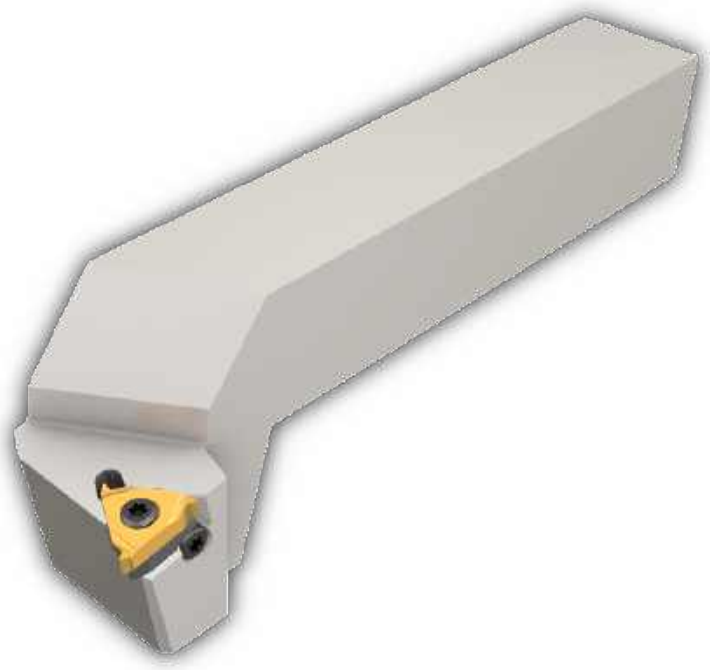



External right-hand shown




| Designation | Dimensions IC | TPI[1] | RE | INSL | PDY | PDX | Tough ↔ Hard IC50M | IC250 | IC08 | IC908 | IC806 | IC1007 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **11ER 28 UNJ** | 6.35 | 28.0 | 0.14 | 11.00 | 0.6 | 0.6 | | | | ● | | |
| **11ER 24 UNJ** | 6.35 | 24.0 | 0.16 | 11.00 | 0.7 | 0.8 | | | | ● | | |
| **11ER 20 UNJ** | 6.35 | 20.0 | 0.19 | 11.00 | 0.8 | 0.9 | | | | ● | | |
| **16ER 40 UNJ** | 9.52 | 40.0 | 0.10 | 16.49 | 0.6 | 0.6 | | | | ● | | |
| **16ER 36 UNJ** | 9.52 | 36.0 | 0.11 | 16.49 | 0.6 | 0.6 | | | | ● | | |
| **16ER 32 UNJ** | 9.52 | 32.0 | 0.13 | 16.49 | 0.6 | 0.6 | | | | ● | ● | |
| **16EL 28 UNJ** | 9.52 | 28.0 | 0.15 | 16.49 | 0.6 | 0.6 | | | | ● | | |
| **16ER 28 UNJ** | 9.52 | 28.0 | 0.15 | 16.49 | 0.6 | 0.6 | | | | ● | ● | |
| **16EL 24 UNJ** | 9.52 | 24.0 | 0.16 | 16.49 | 0.7 | 0.8 | | ● | | | | |
| **16ER 24 UNJ** | 9.52 | 24.0 | 0.18 | 16.49 | 0.7 | 0.8 | | | | ● | ● | |
| **16EL 20 UNJ** | 9.52 | 20.0 | 0.21 | 16.49 | 0.8 | 0.9 | | | | ● | | |
| **16ER 20 UNJ** | 9.52 | 20.0 | 0.21 | 16.49 | 0.8 | 0.9 | | ● | | ● | ● | ● |
| **16EL 18 UNJ** | 9.52 | 18.0 | 0.23 | 16.49 | 0.7 | 0.8 | | | ● | | | |
| **16ER 18 UNJ** | 9.52 | 18.0 | 0.23 | 16.49 | 0.7 | 0.8 | | | | ● | ● | ● |
| **16EL 16 UNJ** | 9.52 | 16.0 | 0.26 | 16.49 | 0.9 | 1.2 | | | | ● | | |
| **16ER 16 UNJ** | 9.52 | 16.0 | 0.26 | 16.49 | 0.9 | 1.2 | ● | | | ● | ● | ● |
| **16EL 14 UNJ** | 9.52 | 14.0 | 0.30 | 16.49 | 1.1 | 1.2 | | | | ● | | |
| **16ER 14 UNJ** | 9.52 | 14.0 | 0.30 | 16.49 | 1.0 | 1.2 | | ● | | ● | ● | |
| **16ER 13 UNJ** | 9.52 | 13.0 | 0.29 | 16.49 | 1.1 | 1.3 | | | | ● | | |
| **16EL 12 UNJ** | 9.52 | 12.0 | 0.35 | 16.49 | 1.1 | 1.2 | | | | ● | | |
| **16ER 12 UNJ** | 9.52 | 12.0 | 0.35 | 16.49 | 1.0 | 1.2 | | | | ● | ● | |
| **16ER 11 UNJ** | 9.52 | 11.0 | 0.32 | 16.49 | 1.1 | 1.5 | | | | ● | | |
| **16ER 10 UNJ** | 9.52 | 10.0 | 0.38 | 16.49 | 1.1 | 1.5 | | | | ● | ● | |
| **16EL 8 UNJ** | 9.52 | 8.0 | 0.48 | 16.49 | 1.2 | 1.6 | | ● | | | | |
| **16ER 8 UNJ** | 9.52 | 8.0 | 0.48 | 16.49 | 1.2 | 1.6 | | | | ● | | |

• UNJ MIL-S-8879C 9-1992 Class 3A • Only right-hand inserts are available in grade IC806 and IC1007 • Thread milling application available only for inserts size 06, 08, 11
• For Insert Identification System, see pages 640-641 • For technical information and detailed cutting data, see pages 713-729
[1] Threads per inch
**Tools:** C#-SER/L • SER-D • SER/L • SER/L-JHP • SER/L-JHP-MC

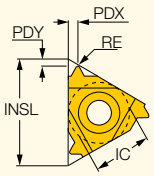


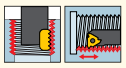
ISCARTHREAD

## IR/L-UNJ

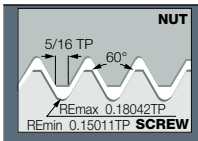
Internal UNJ Profile Laydown Threading Inserts for the Aviation and Aerospace Industries





Internal left-hand shown




| Designation | Dimensions IC | TPI[1] | RE | INSL | PDY | PDX | Tough ↔ Hard IC228 | IC50M | IC250 | IC08 | IC908 | IC806 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 08IR 20 UNJ | 5.00 | 20.0 | 0.09 | 8.24 | 0.6 | 0.7 | ● | | | | | |
| 08IR 18 UNJ | 5.00 | 18.0 | 0.10 | 8.24 | 0.6 | 0.7 | ● | | | | | |
| 11IR 32 UNJ | 6.35 | 32.0 | 0.04 | 11.00 | 0.6 | 0.6 | | | | | ● | |
| 11IRB 32 UNJ | 6.35 | 32.0 | 0.04 | 11.00 | 0.6 | 0.6 | | | | | ● | |
| 11IR 28 UNJ | 6.35 | 28.0 | 0.05 | 11.00 | 0.6 | 0.6 | | | | | ● | |
| 11IRB 28 UNJ | 6.35 | 28.0 | 0.05 | 11.00 | 0.6 | 0.6 | | | | | ● | |
| 11IR 24 UNJ | 6.35 | 24.0 | 0.05 | 11.00 | 0.7 | 0.8 | | | | ● | ● | |
| 11IRB 24 UNJ | 6.35 | 24.0 | 0.05 | 11.00 | 0.6 | 0.6 | | | | | ● | |
| 11IR 20 UNJ | 6.35 | 20.0 | 0.07 | 11.00 | 0.8 | 0.9 | | | | | ● | |
| 11IRB 20 UNJ | 6.35 | 20.0 | 0.07 | 11.00 | 0.8 | 0.9 | | | | | ● | |
| 11IR 18 UNJ | 6.35 | 18.0 | 0.08 | 11.00 | 0.8 | 0.9 | | | | | ● | ● |
| 11IRB 18 UNJ | 6.35 | 18.0 | 0.08 | 11.00 | 0.9 | 1.0 | | | | | ● | |
| 11IR 16 UNJ | 6.35 | 16.0 | 0.09 | 11.00 | 0.8 | 0.9 | | | | | ● | ● |
| 11IRB 16 UNJ | 6.35 | 16.0 | 0.09 | 11.00 | 0.8 | 0.9 | | | | | ● | |
| 11IRB 14 UNJ | 6.35 | 14.0 | 0.10 | 11.00 | 0.8 | 0.9 | | | | | ● | |
| 16IR 32 UNJ | 9.52 | 32.0 | 0.04 | 16.49 | 0.6 | 0.6 | | | | | ● | |
| 16IR 24 UNJ | 9.52 | 24.0 | 0.05 | 16.49 | 0.7 | 0.8 | | ● | | | ● | |
| 16IR 20 UNJ | 9.52 | 20.0 | 0.07 | 16.49 | 0.8 | 0.8 | | | | | ● | |
| 16IR 18 UNJ | 9.52 | 18.0 | 0.07 | 16.49 | 0.7 | 0.8 | | | | | ● | ● |
| 16IL 16 UNJ | 9.52 | 16.0 | 0.09 | 16.49 | 1.0 | 1.2 | | | | | ● | |
| 16IR 16 UNJ | 9.52 | 16.0 | 0.09 | 16.49 | 1.0 | 1.2 | | | ● | | ● | ● |
| 16IR 14 UNJ | 9.52 | 14.0 | 0.10 | 16.49 | 1.0 | 1.1 | | | | | ● | ● |
| 16IL 12 UNJ | 9.52 | 12.0 | 0.12 | 16.49 | 1.1 | 1.0 | | | | | ● | |
| 16IR 12 UNJ | 9.52 | 12.0 | 0.12 | 16.49 | 1.1 | 1.0 | | | | | ● | ● |
| 16IR 10 UNJ | 9.52 | 10.0 | 0.14 | 16.49 | 1.1 | 1.5 | | | | | ● | |
| 16IR/L 8 UNJ | 9.52 | 8.0 | 0.19 | 16.49 | 1.2 | 1.6 | | | | | ● | |

- Thread milling application available only for inserts size 06, 08, 11
- For Insert Identification System, see pages 640-641
- For technical information and detailed cutting data, see pages 713-729

[1] Threads per inch

**Tools:** AVC-D-SIR/L • SIR/L

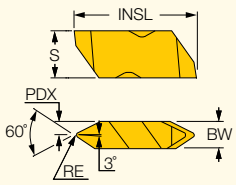
NOTCH-GRIP GROOVE-TURN LINE

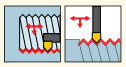
ISCARTHREAD

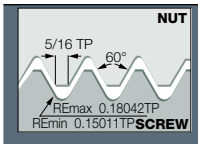
## UNJ THREADING FLJ

Double-Ended, Precision, Flat Top Threading Inserts








| Designation | Dimensions TPI[1] | RE | PDX | BW | S | INSL | IC908 |
|---|---|---|---|---|---|---|---|
| FLJ-3020R/L8 | 8.0 | 0.48 | 2.49 | 4.95 | 8.74 | 22.60 | ● |
| FLJ-3014R/L12 | 12.0 | 0.32 | 2.49 | 4.95 | 8.74 | 22.60 | ● |
| FLJ-3010R/L16 | 16.0 | 0.24 | 2.49 | 4.95 | 8.74 | 22.60 | ● |

- DMIN according to related boring bar

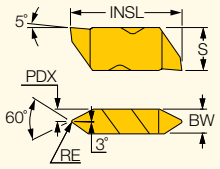
[1] Threads per inch

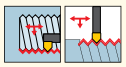
**Tools:** FLASR/L • FLSR/L

NOTCH GRIP GROOVE-TURN LINE
ISCARTHREAD

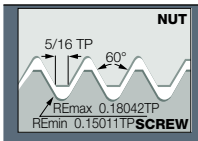
## UNJ THREADING FLJP
Double-Ended, Precision Threading Inserts with a Positive Rake





Right-hand shown



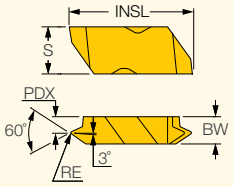

| Designation | Dimensions TPI(1) | RE | PDX | BW | S | INSL | IC908 |
|---|---|---|---|---|---|---|---|
| FLJP-3020R/L8 | 8.0 | 0.48 | 2.50 | 4.95 | 8.74 | 22.60 | ● |
| FLJP-3014R/L12 | 12.0 | 0.32 | 2.50 | 4.95 | 8.74 | 22.60 | ● |
| FLJP-3010R/L16 | 16.0 | 0.24 | 2.50 | 4.95 | 8.74 | 22.60 | ● |

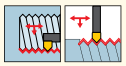
• DMIN according to related boring bar
(1) Threads per inch
**Tools:** FLASR/L • FLSR/L

NOTCH GRIP GROOVE-TURN LINE
ISCARTHREAD

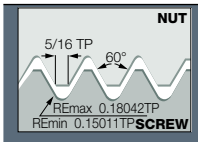
## UNJ THREADING FLJF
Double-Ended, Precision Flat Top Threading Inserts





Right-hand shown



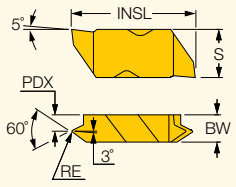

| Designation | Dimensions TPI(1) | RE | PDX | BW | S | INSL | IC908 |
|---|---|---|---|---|---|---|---|
| FLJF-3012R/L14 | 14.0 | 0.27 | 3.58 | 4.95 | 8.74 | 22.60 | ● |
| FLJF-3010R/L16 | 16.0 | 0.24 | 3.60 | 4.95 | 8.74 | 22.60 | ● |
| FLJF-3009R/L18 | 18.0 | 0.21 | 3.60 | 4.95 | 8.74 | 22.60 | ● |
| FLJF-3008R/L20 | 20.0 | 0.19 | 3.60 | 4.95 | 8.74 | 22.60 | ● |
| FLJF-3007R/L24 | 24.0 | 0.16 | 3.60 | 4.95 | 8.74 | 22.60 | ● |
| FLJF-3006R/L28 | 28.0 | 0.14 | 3.60 | 4.95 | 8.74 | 22.60 | ● |
| FLJF-3005R/L32 | 32.0 | 0.12 | 3.60 | 4.95 | 8.74 | 22.60 | ● |

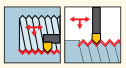
• DMIN according to related boring bar
(1) Threads per inch
**Tools:** FLASR/L • FLSR/L

NOTCH GRIP GROOVE-TURN LINE
ISCARTHREAD

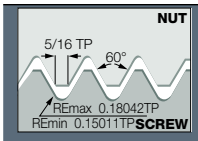
## UNJ THREADING FLJK
Double-Ended, Precision Threading Inserts with a Positive Rake





Right-hand shown




| Designation | Dimensions TPI(1) | RE | PDX | BW | S | INSL | IC908 |
|---|---|---|---|---|---|---|---|
| FLJK-3012R/L14 | 14.0 | 0.27 | 3.58 | 4.95 | 8.74 | 22.60 | ● |
| FLJK-3010R/L16 | 16.0 | 0.24 | 3.60 | 4.95 | 8.74 | 22.60 | ● |
| FLJK-3009R/L18 | 18.0 | 0.21 | 3.60 | 4.95 | 8.74 | 22.60 | ● |
| FLJK-3008R/L20 | 20.0 | 0.19 | 3.60 | 4.95 | 8.74 | 22.60 | ● |
| FLJK-3007R/L24 | 24.0 | 0.16 | 3.60 | 4.95 | 8.74 | 22.60 | ● |
| FLJK-3006R/L28 | 28.0 | 0.14 | 3.60 | 4.95 | 8.74 | 22.60 | ● |
| FLJK-3005R/L32 | 32.0 | 0.12 | 3.60 | 4.95 | 8.74 | 22.60 | ● |

• DMIN according to related boring bar
(1) Threads per inch
**Tools:** FLASR/L • FLSR/L

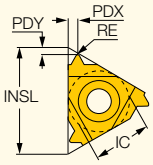
# MJ

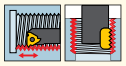
ISCARTHREAD

## IR-MJ

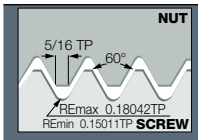
Internal MJ ISO 5855 Metric Full Profile Laydown Threading Inserts for the Aviation and Aerospace Industries





Internal left-hand shown




| Designation | Dimensions IC | TP(1) | INSL | RE | PDY | PDX | Tough ↔ Hard IC908 | IC806 |
|---|---|---|---|---|---|---|---|---|
| **11IR 1.00 MJ** | 6.35 | 1.000 | 11.00 | 0.05 | 0.6 | 0.6 | ● | ● |
| **11IRB 1.00 MJ** | 6.35 | 1.000 | 11.00 | 0.05 | 0.6 | 0.6 | ● | |
| **11IR 1.25 MJ** | 6.35 | 1.250 | 11.00 | 0.07 | 0.8 | 0.9 | ● | ● |
| **11IR 1.50 MJ** | 6.35 | 1.500 | 11.00 | 0.08 | 0.8 | 1.0 | ● | ● |
| **11IRB 1.50 MJ** | 6.35 | 1.500 | 11.00 | 0.08 | 0.8 | 0.9 | ● | |
| **11IR 2.00 MJ** | 6.35 | 2.000 | 11.00 | 0.12 | 0.9 | 1.0 | ● | ● |
| **16IR 1.00 MJ** | 9.52 | 1.000 | 16.49 | 0.05 | 0.7 | 0.8 | ● | ● |
| **16IR 1.25 MJ** | 9.52 | 1.250 | 16.49 | 0.07 | 0.8 | 0.9 | ● | ● |
| **16IR 1.50 MJ** | 9.52 | 1.500 | 16.49 | 0.08 | 1.1 | 1.1 | ● | ● |

- Thread milling application available only for inserts size 06, 08, 11 • For Insert Identification System, see pages 640-641
- For technical information and detailed cutting data, see pages 713-729

(1) Thread pitch

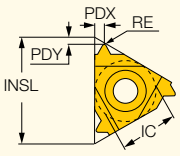
**Tools:** AVC-D-SIR/L • SIR/L

ISCARTHREAD

## ER-MJ

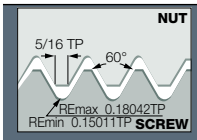
External MJ ISO 5855 Metric Full Profile Laydown Threading Inserts for the Aviation and Aerospace Industries








External right-hand shown




| Designation | Dimensions IC | TP(1) | INSL | RE | PDY | PDX | Tough ↔ Hard IC250 | IC908 | IC806 |
|---|---|---|---|---|---|---|---|---|---|
| **16ER 1.00 MJ** | 9.52 | 1.000 | 16.49 | 0.17 | 0.7 | 0.8 | | ● | ● |
| **16ER 1.25 MJ** | 9.52 | 1.250 | 16.49 | 0.21 | 0.8 | 0.8 | | ● | ● |
| **16ER 1.50 MJ** | 9.52 | 1.500 | 16.49 | 0.25 | 0.9 | 1.1 | ● | ● | ● |
| **16ER 2.00 MJ** | 9.52 | 2.000 | 16.49 | 0.33 | 1.0 | 1.1 | | ● | ● |

- For Insert Identification System, see pages 640-641 • For technical information and detailed cutting data, see pages 713-729

(1) Thread pitch

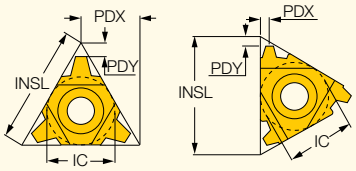
**Tools:** C#-SER/L • SER-D • SER/L

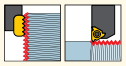
# TR Trapez

ISCARTHREAD

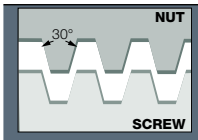
**ER/L-TR**
External Trapeze Shaped
DIN 103 Laydown Threading
Inserts for Feed Screws





External right-hand shown




| Designation | Dimensions IC | TP[2] | INSL | PDY | PDX | Tough ↔ Hard IC228 | IC50M | IC250 | IC908 | IC1007 |
|---|---|---|---|---|---|---|---|---|---|---|
| 16EL 1.5 TR | 9.52 | 1.500 | 16.49 | 1.0 | 1.0 | | | ● | | |
| 16ER 1.5 TR | 9.52 | 1.500 | 16.49 | 1.0 | 1.0 | | | ● | ● | |
| 16EL 2 TR | 9.52 | 2.000 | 16.49 | 1.0 | 1.0 | | | ● | | |
| 16ER 2 TR | 9.52 | 2.000 | 16.49 | 1.0 | 1.0 | | | ● | ● | |
| 16EL 3 TR | 9.52 | 3.000 | 16.49 | 1.4 | 1.6 | | | | ● | |
| 16ER 3 TR | 9.52 | 3.000 | 16.49 | 1.4 | 1.6 | ● | | ● | ● | ● |
| 16ER 4 TR | 9.52 | 4.000 | 16.49 | 1.8 | 1.9 | | | ● | ● | |
| 22EL 4 TR | 12.70 | 4.000 | 22.00 | 1.8 | 1.9 | | | | ● | |
| 22ER 4 TR | 12.70 | 4.000 | 22.00 | 1.8 | 1.9 | | | ● | ● | |
| 22EL 5 TR | 12.70 | 5.000 | 22.00 | 2.0 | 2.4 | | | ● | ● | |
| 22ER 5 TR | 12.70 | 5.000 | 22.00 | 2.0 | 2.4 | | ● | ● | ● | |
| 22ER/L 6 TR | 12.70 | 6.000 | 22.00 | 2.0 | 2.4 | | | | ● | |
| 22UERL 6 TR | 12.70 | 6.000 | 22.00 | 2.0 | 11.0 | | ● | ● | ● | |
| 22UERL 7 TR | 12.70 | 7.000 | 22.00 | 2.3 | 11.0 | | | ● | | |
| 22UERL 8 TR | 12.70 | 8.000 | 22.00 | 2.5 | 11.0 | | | ● | | |
| 27EL 6 TR | 15.88 | 6.000 | 27.50 | 2.3 | 2.6 | | | | ● | |
| 27ER 6 TR | 15.88 | 6.000 | 27.50 | 2.3 | 2.6 | | | ● | ● | |
| 27EL 7 TR | 15.88 | 7.000 | 27.50 | 2.2 | 2.6 | | | ● | | |
| 27ER 7 TR | 15.88 | 7.000 | 27.50 | 2.3 | 2.6 | | | ● | ● | |
| 27UERL 8 TR | 15.88 | 8.000 | 27.50 | 2.5 | 13.7 | | | ● | ● | |
| 27UERL 9 TR | 15.88 | 9.000 | 27.50 | 3.0 | 13.7 | | | ● | ● | |
| 27UERL 10 TR [1] | 15.88 | 10.000 | 27.50 | 3.2 | 13.7 | | | ● | ● | |

• For Insert Identification System, see pages 640-641 • DIN 103 04/1977,1502901/1977 Class 7e • For technical information and detailed cutting data, see pages 713-729

[1] One cutting edge only

[2] Thread pitch

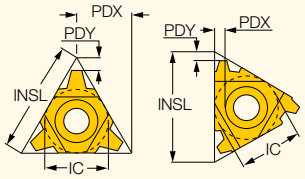
**Tools:** C#-SER/L • SER-D • SER/L

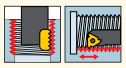
ISCARTHREAD

## IR/L-TR

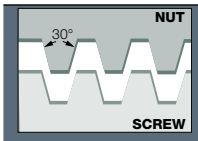
Internal Trapeze Shaped
DIN 103 Laydown Threading
Inserts for Feed Screws





Internal left-hand shown




| Designation | Dimensions IC | TP[2] | INSL | PDY | PDX | Tough ↔ Hard IC228 | IC50M | IC250 | IC908 |
|---|---|---|---|---|---|---|---|---|---|
| 08IR 1.5 TR [1] | 5.00 | 1.500 | 8.24 | 0.60 | 0.6 | • | | | |
| 08UIRL 2 TR | 5.00 | 2.000 | 8.24 | 0.90 | 4.0 | • | | | |
| 16IR 1.5 TR | 9.52 | 1.500 | 16.49 | 1.00 | 1.0 | | | • | • |
| 16IL 2 TR | 9.52 | 2.000 | 16.49 | 1.00 | 1.3 | | | • | • |
| 16IR 2 TR | 9.52 | 2.000 | 16.49 | 1.00 | 1.1 | | | • | • |
| 16IL 3 TR | 9.52 | 3.000 | 16.49 | 1.30 | 1.5 | | | | • |
| 16IR 3 TR | 9.52 | 3.000 | 16.49 | 1.30 | 1.5 | • | | | • |
| 22IL 4 TR | 12.70 | 4.000 | 22.00 | 1.90 | 2.0 | | | | • |
| 22IR 4 TR | 12.70 | 4.000 | 22.00 | 1.90 | 2.0 | | | • | • |
| 22IL 5 TR | 12.70 | 5.000 | 22.00 | 2.00 | 2.3 | | | | • |
| 22IR 5 TR | 12.70 | 5.000 | 22.00 | 2.00 | 2.3 | | | • | • |
| 22IL 6 TR | 12.70 | 6.000 | 22.00 | 2.00 | 2.3 | | | | • |
| 22IR 6 TR | 12.70 | 6.000 | 22.00 | 2.00 | 2.2 | | • | • | • |
| 22UIRL 6 TR | 12.70 | 6.000 | 22.00 | 2.00 | 11.0 | | | • | • |
| 22UIRL 7 TR | 12.70 | 7.000 | 22.00 | 2.30 | 11.0 | | | • | |
| 27IL 6 TR | 15.88 | 6.000 | 27.50 | 2.30 | 2.7 | | | | • |
| 27IR 6 TR | 15.88 | 6.000 | 27.50 | 2.30 | 2.6 | | | • | • |
| 27IR 7 TR | 15.88 | 7.000 | 27.50 | 2.20 | 2.6 | | | • | |
| 27UIRL 8 TR | 15.88 | 8.000 | 27.50 | 2.50 | 13.7 | • | | • | • |
| 27UIRL 9 TR | 15.88 | 9.000 | 27.50 | 3.00 | 13.7 | | | • | • |
| 27UIRL 10 TR [1] | 15.88 | 10.000 | 27.50 | 3.20 | 2.5 | | | | • |

• For Insert Identification System, see pages 640-641 • Tolerance: Class 7H • For technical information and detailed cutting data, see pages 713-729

[1] A single threading corner

[2] Thread pitch

**Tools:** AVC-D-SIR/L • SIR/L

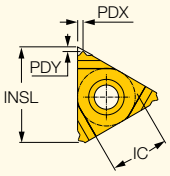
# PG (Panzergewinde)

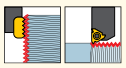
ISCARTHREAD

## ER-PG

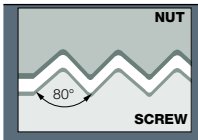
External Threading Inserts
for the Electrical Industry





External right-hand shown




| Designation | Dimensions IC | TPI[1] | INSL | PDY | PDX | RE | Tough ↔ Hard IC08 | IC908 |
|---|---|---|---|---|---|---|---|---|
| 16ER 16 PG | 9.52 | 16.0 | 16.49 | 0.8 | 1.0 | 0.17 | | • |
| 16ER 18 PG | 9.52 | 18.0 | 16.49 | 0.8 | 0.9 | 0.15 | • | • |
| 16ER 20 PG | 9.52 | 20.0 | 16.49 | 0.7 | 0.8 | 0.13 | | • |

• For Insert Identification System, see pages 640-641

[1] Threads per inch

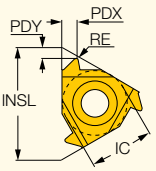
**Tools:** C#-SER/L • SER-D • SER/L

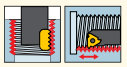
ISCARTHREAD

## IR/L-PG

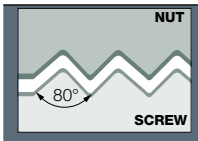
Internal Thread Profile Inserts for the Electrical Industry





Internal left-hand shown




| Designation | Dimensions IC | TPI(1) | RE | INSL | PDY | PDX | IC908 |
|---|---|---|---|---|---|---|---|
| 11IR 18 PG | 6.35 | 18.0 | 0.15 | 11.00 | 0.8 | 0.9 | ● |
| 16IR 18 PG | 9.52 | 18.0 | 0.15 | 16.49 | 0.8 | 0.9 | ● |
| 16IR 16 PG | 9.52 | 16.0 | 0.17 | 16.49 | 0.7 | 0.9 | ● |

• For Insert Identification System, see pages 640-641

(1) Threads per inch

**Tools:** AVC-D-SIR/L • SIR/L

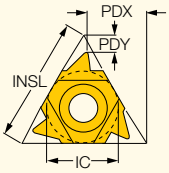
# SAGE (Sagengenwide) Metric Buttress DIN 513

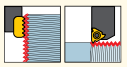
ISCARTHREAD

## ER/L-SAGE

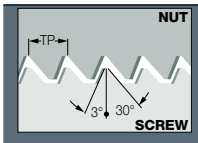
External Buttress Thread (DIN 513) for High Force in One Direction Applications





External right-hand shown




| Designation | Dimensions IC | INSL | TP(2) | PDY | PDX | Tough ↔ Hard IC250 | IC908 |
|---|---|---|---|---|---|---|---|
| 16ER/L 2 SAGE | 9.52 | 16.49 | 2.000 | 1.1 | 1.6 | | ● |
| 22ER 3 SAGE | 12.70 | 22.00 | 3.000 | 1.5 | 2.4 | | ● |
| 22EL 4 SAGE | 12.70 | 22.00 | 4.000 | 1.9 | 3.1 | | ● |
| 22ER 4 SAGE | 12.70 | 22.00 | 4.000 | 1.9 | 3.1 | ● | |
| 22UER 5 SAGE (1) | 12.70 | 22.00 | 5.000 | 1.2 | 11.6 | | ● |
| 22UER/L 6 SAGE (1) | 12.70 | 22.00 | 6.000 | 1.2 | 11.7 | | ● |

• For Insert Identification System, see pages 640-641 • For technical information and detailed cutting data, see pages 713-729

(1) Requires special anvil

(2) Thread pitch

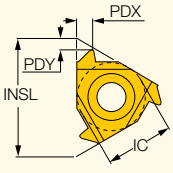
**Tools:** C#-SER/L • SER-D • SER/L

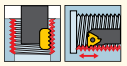
ISCARTHREAD

## IR/L-SAGE

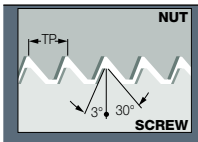
Internal Sagengenwinde (DIN 513) Thread Application for High Force in One Direction





Internal left-hand shown




| Designation | Dimensions IC | TP(2) | INSL | PDY | PDX | IC908 |
|---|---|---|---|---|---|---|
| 16IR/L 2 SAGE | 9.52 | 2.000 | 16.49 | 1.2 | 1.7 | ● |
| 22IR 3 SAGE | 12.70 | 3.000 | 22.00 | 1.9 | 2.9 | ● |
| 22IR 4 SAGE | 12.70 | 4.000 | 22.00 | 2.2 | 3.3 | ● |
| 22UIR 5 SAGE | 12.70 | 5.000 | 22.00 | 1.9 | 11.7 | ● |
| 22UIR 6 SAGE (1) | 12.70 | 6.000 | 22.00 | 2.1 | 11.9 | ● |

• For Insert Identification System, see pages 640-641 • For technical information and detailed cutting data, see pages 713-729

(1) Requires special anvil

(2) Thread pitch

**Tools:** AVC-D-SIR/L • SIR/L

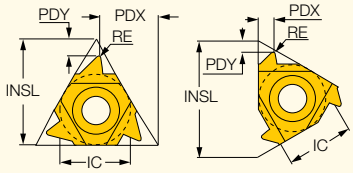
# ABUT (American Buttress)

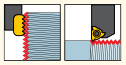
ISCARTHREAD

## ER/L-ABUT

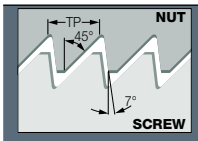
External American Buttress Laydown Threading Inserts for High Force Transmission in One Direction





External right-hand shown




| Designation | Dimensions IC | TPI(1) | RE | INSL | PDY | PDX | Tough ↔ Hard IC250 | IC908 |
|---|---|---|---|---|---|---|---|---|
| 16ER 20 ABUT | 9.52 | 20.0 | 0.07 | 16.49 | 1.0 | 1.3 | | ● |
| 16EL 16 ABUT | 9.52 | 16.0 | 0.09 | 16.49 | 1.1 | 1.5 | | ● |
| 16ER 16 ABUT | 9.52 | 16.0 | 0.09 | 16.49 | 1.1 | 1.5 | ● | ● |
| 16EL 12 ABUT | 9.52 | 12.0 | 0.12 | 16.49 | 1.4 | 2.0 | | ● |
| 16ER 12 ABUT | 9.52 | 12.0 | 0.12 | 16.49 | 1.4 | 2.0 | ● | ● |
| 16ER/L 10 ABUT | 9.52 | 10.0 | 0.15 | 16.49 | 1.5 | 2.3 | | ● |
| 22ER 8 ABUT | 12.70 | 8.0 | 0.18 | 22.00 | 2.1 | 3.3 | ● | ● |
| 22ER 6 ABUT | 12.70 | 6.0 | 0.25 | 22.00 | 2.1 | 3.4 | | ● |
| 22UER 4 ABUT | 12.70 | 4.0 | 0.41 | 22.00 | 2.3 | 9.5 | ● | ● |
| 27UEL 3 ABUT | 15.88 | 3.0 | 0.56 | 27.50 | 3.1 | 11.7 | | ● |
| 27UER 3 ABUT | 15.88 | 3.0 | - | 27.50 | 3.1 | 11.7 | ● | ● |

• For Insert Identification System, see pages 640-641 • ANSI B1.9-1973 Class 2 • For technical information and detailed cutting data, see pages 713-729

(1) Threads per inch

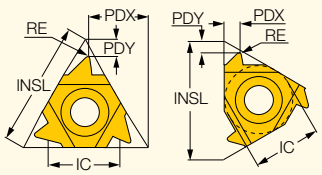
**Tools:** C#-SER/L • SER-D • SER/L

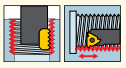
ISCARTHREAD

## IR/L-ABUT

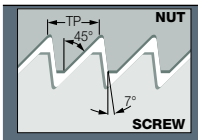
Internal American Buttress Laydown Threading Inserts for High Force Transmission in One Direction





Internal left-hand shown




| Designation | Dimensions IC | TPI(1) | RE | INSL | PDY | PDX | Tough ↔ Hard IC50M | IC250 | IC908 |
|---|---|---|---|---|---|---|---|---|---|
| 11IR 20 ABUT | 6.35 | 20.0 | 0.07 | 11.00 | 1.0 | 1.3 | | | ● |
| 11IL 16 ABUT | 6.35 | 16.0 | 0.09 | 11.00 | 1.0 | 1.5 | | ● | |
| 11IR 16 ABUT | 6.35 | 16.0 | 0.09 | 11.00 | 1.0 | 1.5 | | | ● |
| 16IR 20 ABUT | 9.52 | 20.0 | 0.07 | 16.49 | 1.0 | 1.3 | | ● | ● |
| 16IR/L 16 ABUT | 9.52 | 16.0 | 0.09 | 16.49 | 1.0 | 1.5 | | | ● |
| 16IL 12 ABUT | 9.52 | 12.0 | 0.12 | 16.49 | 1.4 | 2.0 | | | ● |
| 16IR 12 ABUT | 9.52 | 12.0 | 0.12 | 16.49 | 1.4 | 2.0 | | ● | ● |
| 16IL 10 ABUT | 9.52 | 10.0 | 0.15 | 16.49 | 1.5 | 2.3 | | | ● |
| 16IR 10 ABUT | 9.52 | 10.0 | 0.15 | 16.49 | 1.5 | 2.3 | | ● | ● |
| 22IR 8 ABUT | 12.70 | 8.0 | 0.18 | 22.00 | 2.2 | 3.3 | | | ● |
| 22IR 6 ABUT | 12.70 | 6.0 | 0.25 | 22.00 | 2.2 | 3.4 | | | ● |
| 22UIR 4 ABUT | 12.70 | 4.0 | 0.41 | 22.00 | 2.3 | 9.5 | ● | ● | |
| 27UIR 3 ABUT | 15.88 | 3.0 | 0.60 | 27.50 | 3.1 | 11.7 | | | ● |

• For Insert Identification System, see pages 640-641 • ANSI B1.9-1973 Class 2 • For technical information and detailed cutting data, see pages 713-729

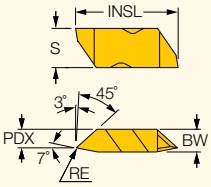
(1) Threads per inch

**Tools:** SIR/L

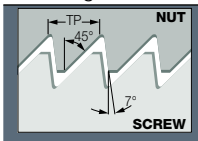
NOTCH GRIP GROOVE-TURN LINE
ISCARTHREAD

## AMERICAN STANDARD BUTTRESS THREADING
## FLTB-A
Double-Ended, Precision, Flat Top Threading Inserts for 7° Lead






Right-hand shown




| Designation | Dimensions TPIN(1) | TPIX(2) | RE | PDX | BW | S | INSL | IC908 |
|---|---|---|---|---|---|---|---|---|
| FLTB-4R/LA | 4.00 | 6.00 | 0.20 | 5.20 | 6.48 | 11.51 | 28.45 | ● |
| FLTB-3R/LA | 8.00 | 16.00 | 0.13 | 4.20 | 4.95 | 8.74 | 22.60 | ● |
| FLTB-2R/LA | 16.00 | 20.00 | 0.05 | 3.20 | 3.81 | 5.56 | 12.95 | ● |

- DMIN according to related boring bar

(1) TPI min.

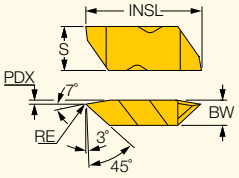
(2) TPI max.

**Tools:** FLASR/L • FLSR/L

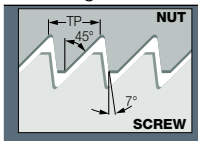
NOTCH GRIP GROOVE-TURN LINE
ISCARTHREAD

## AMERICAN STANDARD BUTTRESS THREADING
## FLTB-B
Double-Ended, Precision, Flat Top Threading Inserts for 45° Lead






Left-hand shown




| Designation | Dimensions TPIN(1) | TPIX(2) | RE | PDX | BW | S | INSL | IC908 |
|---|---|---|---|---|---|---|---|---|
| FLTB-4R/LB | 4.00 | 6.00 | 0.20 | 0.40 | 6.48 | 11.51 | 28.45 | ● |
| FLTB-3R/LB | 8.00 | 16.00 | 0.13 | 0.30 | 4.95 | 8.74 | 22.60 | ● |
| FLTB-2R/LB | 16.00 | 20.00 | 0.05 | 0.30 | 3.81 | 5.56 | 12.95 | ● |

- DMIN according to related boring bar

(1) TPI min.

(2) TPI max.

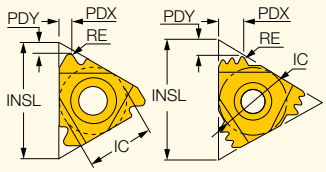
**Tools:** FLASR/L • FLSR/L

# API RD (API ROUND)

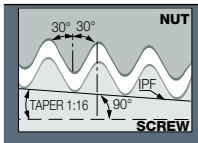
ISCARTHREAD

## ER/L-API RD
External API - Oil Thread Round Profile Laydown Threading Inserts






External right-hand shown




| Designation | Dimensions IC | TPI(2) | RE | INSL | IPF | PDY | PDX | CICT(3) | Tough ↔ Hard IC250 | IC908 |
|---|---|---|---|---|---|---|---|---|---|---|
| 16ER 10 API RD | 9.52 | 10.0 | 0.36 | 16.49 | 0.75 | 1.2 | 1.5 | 1 | ● | ● |
| 16EL 8 API RD | 9.52 | 8.0 | 0.43 | 16.49 | 0.75 | 1.3 | 1.6 | 1 | | ● |
| 16ER 8 API RD | 9.52 | 8.0 | 0.43 | 16.49 | 0.75 | 1.3 | 1.6 | 1 | ● | ● |
| 22ER 10 API RD 2M (1) | 12.70 | 10.0 | 0.36 | 22.00 | 0.75 | 2.4 | 3.7 | 2 | | ● |
| 27ER 8 API RD 2M (1) | 15.88 | 8.0 | 0.43 | 27.50 | 0.75 | 3.0 | 4.5 | 2 | | ● |

- For Insert Identification System, see pages 640-641 • API Spec 5B8-1996. • For technical information and detailed cutting data, see pages 713-729
- For recommended number of passes for multi-tooth inserts, see page 726

(1) Multi-tooth

(2) Threads per inch

(3) Number of teeth per corner

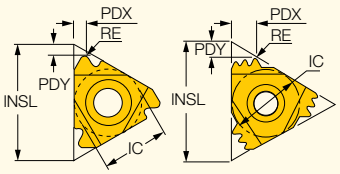
**Tools:** C#-SER/L • SER-D • SER/L

ISCARTHREAD

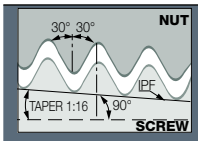
## IR/L-API RD

Internal API - Oil Thread Round Profile Laydown Threading Inserts






Internal left-hand shown




| Designation | Dimensions IC | TPI(2) | RE | INSL | IPF | PDY | PDX | CICT(3) | Tough ↔ Hard IC250 | IC908 |
|---|---|---|---|---|---|---|---|---|---|---|
| 16IL 10 API RD | 9.52 | 10.0 | 0.36 | 16.49 | 0.75 | 1.5 | 1.4 | 1 | | ● |
| 16IR 10 API RD | 9.52 | 10.0 | 0.36 | 16.49 | 0.75 | 1.3 | 1.5 | 1 | ● | ● |
| 16IL 8 API RD | 9.52 | 8.0 | 0.43 | 16.49 | 0.75 | 1.3 | 1.6 | 1 | ● | |
| 16IR 8 API RD | 9.52 | 8.0 | 0.43 | 16.49 | 0.75 | 1.1 | 1.5 | 1 | ● | ● |
| 22IR 10 API RD 2M (1) | 12.70 | 10.0 | 0.36 | 22.00 | 0.75 | 2.4 | 3.7 | 2 | | ● |
| 27IR 8 API RD 2M (1) | 15.88 | 8.0 | 0.43 | 27.50 | 0.75 | 3.0 | 4.5 | 2 | | ● |

- For Insert Identification System, see pages 640-641 • API Spec 5B8-1996 • For technical information and detailed cutting data, see pages 713-729
- For recommended number of passes for multi-tooth inserts see page 726

(1) Multi-tooth
(2) Threads per inch
(3) Number of teeth per corner

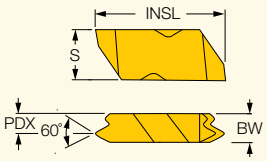
**Tools:** AVC-D-SIR/L • SIR/L

NOTCH-GRIP GROOVE-TURN LINE
ISCARTHREAD

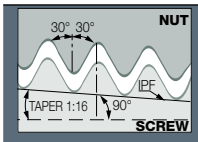
## API ROUND THREADING FLDC-RD-75

Double-Ended, Precision, Flat Top Threading Inserts






Right-hand shown




| Designation | Dimensions TPI(1) | IPF | PDX | BW | S | INSL | IC908 |
|---|---|---|---|---|---|---|---|
| FLDC-3-8RDR/L75 | 8.0 | 3/4 | 5.00 | 3.18 | 8.74 | 22.60 | ● |
| FLDC-3-10RDR/L75 | 10.0 | 3/4 | 5.00 | 3.18 | 8.74 | 22.60 | ● |

- DMIN according to related boring bar

(1) Threads per inch

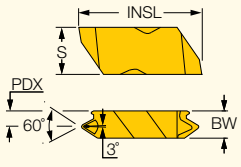
**Tools:** FLASR/L • FLSR/L

NOTCH-GRIP GROOVE-TURN LINE
ISCARTHREAD

## API ROUND THREADING FLDC-RD-75-CB

Double-Ended, Precision, Threading Inserts with a Chipbreaker






Right-hand shown

| Designation | Dimensions TPI(1) | IPF | PDX | BW | S | INSL | IC908 |
|---|---|---|---|---|---|---|---|
| FLDC-3-8RDR/L75-CB | 8.0 | 3/4 | 4.95 | 3.18 | 8.74 | 25.15 | ● |

- DMIN according to related boring bar

(1) Threads per inch

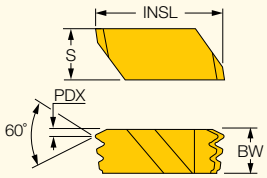
**Tools:** FLASR/L • FLSR/L

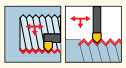
NOTCH-GRIP GROOVE-TURN LINE

ISCARTHREAD

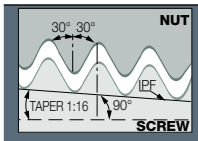
## API ROUND THREADING
## FLDC-RD-75M
Double-Ended Precision, Flat Top Multi-Tooth Threading Inserts





Left-hand shown




| Designation | Dimensions TPI[1] | IPF | PDX | BW | S | INSL | IC908 |
|---|---|---|---|---|---|---|---|
| FLDC-6-8RDR75 | 8.0 | 3/4 | 1.80 | 9.73 | 11.51 | 28.45 | ● |
| FLDC-6-10RDR75 | 10.0 | 3/4 | 3.40 | 9.73 | 11.51 | 28.45 | ● |

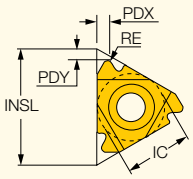
• DMIN according to related boring bar
[1] Threads per inch

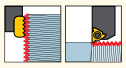
# API

ISCARTHREAD

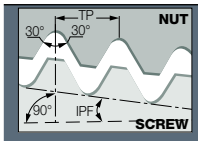
## ER/L-API
External API - Oil Thread Profile Laydown Threading Inserts





External right-hand shown



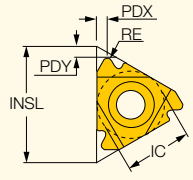

| Designation | Dimensions IC | RE | INSL | TPI[4] | IPF | PDX | PDY | Size[5] | Tough ↔ Hard IC250 | IC908 |
|---|---|---|---|---|---|---|---|---|---|---|
| 22ER 5 API 403 [1] | 12.70 | 0.49 | 22.00 | 5.0 | 3 | 1.8 | 2.5 | 2.375"-4.5"REG | ● | ● |
| 27ER 4 API 382 [2] | 15.88 | 0.96 | 27.50 | 4.0 | 2 | 2.1 | 2.8 | NC23-NC50 | ● | ● |
| 27ER 4 API 383 [2] | 15.88 | 0.96 | 27.50 | 4.0 | 3 | 2.1 | 2.8 | NC56-NC77 | | ● |
| 27EL 4 API 502 [3] | 15.88 | 0.64 | 27.50 | 4.0 | 2 | 2.0 | 3.0 | 6-5/8" REG | ● | |
| 27ER 4 API 502 [3] | 15.88 | 0.64 | 27.50 | 4.0 | 2 | 2.0 | 3.0 | 6-5/8" REG | ● | ● |
| 27ER 4 API 503 [3] | 15.88 | 0.64 | 27.50 | 4.0 | 3 | 2.0 | 3.0 | 5-1/2,7-5/8,8-5/8REG | | ● |

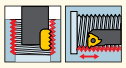
• For Insert Identification System, see pages 640-641 • For technical information and detailed cutting data, see pages 713-729
[1] V-0.040
[2] V-0.050
[3] V-0.038R
[4] Threads per inch
[5] Connection no. or size
**Tools:** C#-SER/L • SER-D • SER/L

ISCARTHREAD

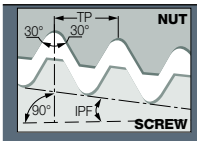
## IR/L-API
Internal API - Oil Thread Profile Laydown Threading Inserts





Internal left-hand shown




| Designation | Dimensions IC | INSL | TPI[4] | RE | PDY | PDX | Size[5] | Tough ↔ Hard IC250 | IC908 |
|---|---|---|---|---|---|---|---|---|---|
| 22IR 5 API 403 [1] | 12.70 | 22.00 | 5.0 | 0.51 | 1.8 | 2.5 | 2.375"-4.5"REG | ● | ● |
| 27IR 4 API 382 [2] | 15.88 | 27.50 | 4.0 | 0.96 | 2.1 | 2.8 | NC23-NC50 | ● | ● |
| 27IR 4 API 383 [2] | 15.88 | 27.50 | 4.0 | 0.96 | 2.1 | 2.8 | NC56-NC77 | | ● |
| 27IR/L 4 API 502 [3] | 15.88 | 27.50 | 4.0 | 0.64 | 2.0 | 3.0 | 6-5/8" REG | ● | |
| 27IR 4 API 503 [3] | 15.88 | 27.50 | 4.0 | 0.64 | 2.0 | 3.0 | 5-1/2,7-5/8,8-5/8REG | ● | |

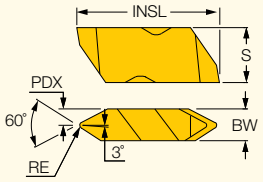
• For Insert Identification System, see pages 640-641 • 0.050, API Spec 74-1994 • For technical information and detailed cutting data, see pages 713-729
[1] V-0.040
[2] V-0.050
[3] V-0.038R
[4] Threads per inch
[5] Connection no. or size
**Tools:** AVC-D-SIR/L • SIR/L

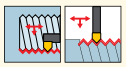
NOTCH GRIP GROOVE-TURN LINE
ISCAR THREAD

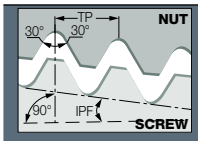
## API PARTIAL PROFILE THREADING FLD

Double-Ended, Precision, Flat Top Partial Profile Threading Inserts








| Designation | Dimensions TPI(1) | RE | PDX | BW | S | INSL | IC908 |
|---|---|---|---|---|---|---|---|
| FLD-4050R/L | 4.0 | 0.51 | 3.25 | 6.48 | 11.51 | 28.45 | ● |
| FLD-3038R/L | 4.0 | 0.84 | 2.08 | 4.95 | 8.74 | 22.60 | ● |
| FLD-4038R/L | 4.0 | 0.84 | 3.25 | 6.48 | 11.51 | 28.45 | ● |
| FLD-3040R/L | 5.0 | 0.38 | 2.08 | 4.95 | 8.74 | 22.60 | ● |
| FLD-4040R/L | 5.0 | 0.38 | 3.25 | 6.48 | 11.51 | 28.45 | ● |

• DMIN according to related boring bar

(1) Threads per inch

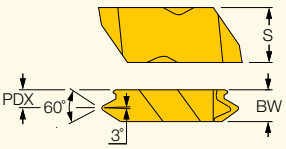
**Tools:** FLASR/L • FLSR/L

NOTCH GRIP GROOVE-TURN LINE
ISCAR THREAD

## API THREADING FLDC-E

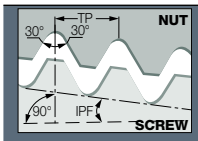
Double-Ended, Precision, Flat Top Threading Inserts






Right-hand shown






| Designation | Dimensions TPI(1) | IPF | PDX | BW | S | INSL | IC908 |
|---|---|---|---|---|---|---|---|
| FLDC-4-425E | 4.0 | 2 | 4.65 | 7.92 | 11.51 | 28.45 | ● |
| FLDC-4-428E | 4.0 | 2 | 4.65 | 7.92 | 11.51 | 28.45 | ● |
| FLDC-4-435E | 4.0 | 3 | 4.65 | 7.92 | 11.51 | 28.45 | ● |
| FLDC-4-438E | 4.0 | 3 | 4.65 | 7.92 | 11.51 | 28.45 | ● |
| FLDC-3-530E | 5.0 | 3 | 3.73 | 6.35 | 8.74 | 22.60 | ● |

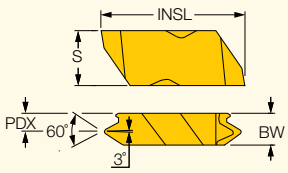
(1) Threads per inch

NOTCH GRIP GROOVE-TURN LINE
ISCAR THREAD

## API THREADING FLDC-I

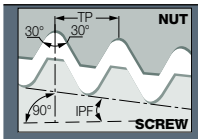
Double-Ended, Precision, Flat Top Threading Inserts






Right-hand shown






| Designation | Dimensions TPI(1) | IPF | PDX | BW | S | INSL | IC908 |
|---|---|---|---|---|---|---|---|
| FLDC-4-425I | 4.0 | 2 | 4.65 | 7.92 | 11.51 | 28.45 | ● |
| FLDC-4-428I | 4.0 | 2 | 4.65 | 7.92 | 11.51 | 28.45 | ● |
| FLDC-4-435I | 4.0 | 3 | 4.65 | 7.92 | 11.51 | 28.45 | ● |
| FLDC-4-438I | 4.0 | 3 | 4.65 | 7.92 | 11.51 | 28.45 | ● |
| FLDC-3-530I | 5.0 | 3 | 3.73 | 6.35 | 8.74 | 22.60 | ● |

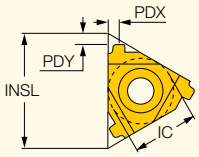
(1) Threads per inch

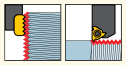
# BUT (API BUTRESS CASING)

ISCARTHREAD

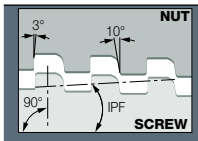
## ER-BUT
External BUT - Oil Thread
Profile Laydown Threading
Inserts for Buttress Casing





External right-hand shown



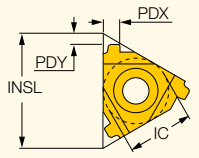

| Designation | Dimensions IC | TPI(1) | INSL | IPF | PDY | PDX | Size(2) | Tough ↔ Hard IC250 | IC908 |
|---|---|---|---|---|---|---|---|---|---|
| 22ER 5 BUT 0.75 | 12.70 | 5.0 | 22.00 | 0.75 | 2.2 | 2.4 | 4-1/2" - 13-3/8" | ● | ● |
| 22ER 5 BUT-1.00 | 12.70 | 5.0 | 22.00 | 1.0 | 2.3 | 2.4 | 16" - 20" | ● | |

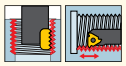
• For Insert Identification System, see pages 640-641 • API STD.5B • For technical information and detailed cutting data, see pages 713-729
(1) Threads per inch
(2) Connection no. or size
**Tools:** C#-SER/L • SER-D • SER/L

ISCARTHREAD

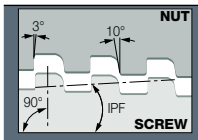
## IR-BUT
Internal BUT - Oil Thread
Profile Laydown Threading
Inserts for Buttress Casing





Internal left-hand shown



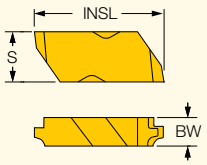

| Designation | Dimensions IC | TPI(1) | INSL | IPF | PDY | PDX | Size(2) | Tough ↔ Hard IC250 | IC908 |
|---|---|---|---|---|---|---|---|---|---|
| 22IR 5 BUT 0.75 | 12.70 | 5.0 | 22.00 | 0.75 | 2.2 | 2.4 | 4-1/2" - 13-3/8" | | ● |
| 22IR 5 BUT 1.00 | 12.70 | 5.0 | 22.00 | 1.00 | 2.3 | 2.4 | 16" - 20" | ● | |

• For Insert Identification System, see pages 640-641 • API STD.5B • For technical information and detailed cutting data, see pages 713-729
(1) Threads per inch
(2) Connection no. or size
**Tools:** AVC-D-SIR/L • SIR/L

NOTCH-GRIP GROOVE-TURN LINE
ISCARTHREAD

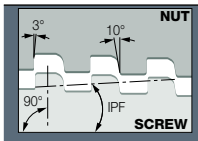
## API BUTTRESS THREADING FLDC-B-E
Double-Ended, Precision,
Flat Top Threading Inserts








Right-hand shown




| Designation | Dimensions TPI(1) | IPF | BW | S | INSL | IC908 |
|---|---|---|---|---|---|---|
| FLDC-3-5B1E | 5.0 | 1 | 6.35 | 8.74 | 22.60 | ● |
| FLDC-4-5B1E | 5.0 | 1 | 6.48 | 11.51 | 28.45 | ● |
| FLDC-3-5B75E | 5.0 | 3/4 | 6.35 | 8.74 | 22.60 | ● |
| FLDC-4-5B75E | 5.0 | 3/4 | 6.48 | 11.51 | 28.45 | ● |

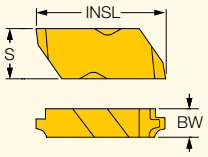
(1) Threads per inch

NOTCH GRIP
GROOVE-TURN LINE
ISCARTHREAD

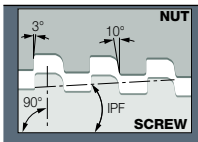
## API BUTTRESS THREADING FLDC-B-I

Double-Ended, Precision, Flat Top Threading Inserts






Right-hand shown




| Designation | Dimensions TPI(1) | IPF | BW | PDX | S | INSL | IC908 |
|---|---|---|---|---|---|---|---|
| FLDC-3-5B1I | 5.0 | 1 | 6.35 | 10.22 | 8.74 | 22.60 | ● |
| FLDC-4-5B1I | 5.0 | 1 | 6.48 | 16.05 | 11.51 | 28.45 | ● |
| FLDC-3-5B75I | 5.0 | 3/4 | 6.35 | 10.22 | 8.74 | 22.60 | ● |
| FLDC-4-5B75I | 5.0 | 3/4 | 6.48 | 16.05 | 11.51 | 28.45 | ● |

(1) Threads per inch

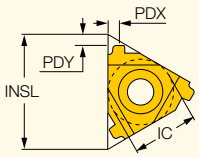
# Extreme Line Casing

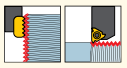
ISCARTHREAD

## ER-EL

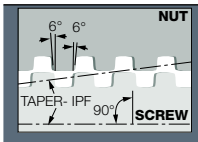
External EL - Extreme Line Oil Thread Profile Laydown Threading Inserts





External right-hand shown




| Designation | Dimensions IC | TPI(1) | INSL | IPF | PDY | PDX | Size(2) | Tough ↔ Hard IC250 | IC908 |
|---|---|---|---|---|---|---|---|---|---|
| 22ER 6 EL 1.5 | 12.70 | 6.0 | 22.00 | 1.5 | 1.9 | 1.9 | 5" - 7-5/8" | ● | ● |
| 22ER 5 EL 1.25 | 12.70 | 5.0 | 22.00 | 1.25 | 2.1 | 2.0 | 8-5/8" - 10-3/4" | | ● |

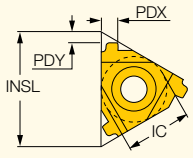
• For Insert Identification System, see pages 640-641 • ANSI B1.9.1973 Class 2
(1) Threads per inch
(2) Connection no. or size
**Tools:** C#-SER/L • SER-D • SER/L

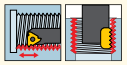
ISCARTHREAD

## IR-EL

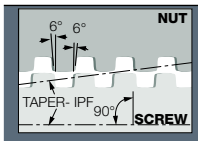
Internal EL - Extreme Line Oil Thread Profile Laydown Threading Inserts





Internal left-hand shown




| Designation | Dimensions IC | TPI(1) | INSL | IPF | PDY | PDX | Size(2) | IC908 |
|---|---|---|---|---|---|---|---|---|
| 22IR 6 EL 1.5 | 12.70 | 6.0 | 22.00 | 1.5 | 1.9 | 1.9 | 5" - 7-5/8" | ● |

• For Insert Identification System, see pages 640-641 • ANSI B1.9.1973 Class 2
(1) Threads per inch
(2) Connection no. or size
**Tools:** AVC-D-SIR/L • SIR/L

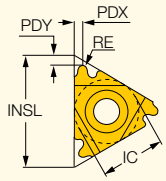
# RND DIN 405 Round

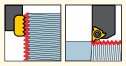
ISCARTHREAD

## ER/L-RND

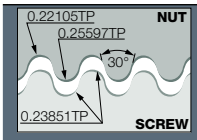
External DIN 405 Round Laydown Threading Inserts for Fire Fighting and Food Industry Pipe Couplings





External right-hand shown




| Designation | Dimensions | | | | | | Tough ↔ Hard | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | IC | TPI[2] | RE | INSL | PDY | PDX | IC228 | IC250 | IC508 | IC908 |
| 16EL 10 RND | 9.52 | 10.0 | 0.61 | 16.49 | 1.1 | 1.2 | | | | ● |
| 16ER 10 RND | 9.52 | 10.0 | 0.61 | 16.49 | 1.1 | 1.2 | | ● | | ● |
| 16ER/L 8 RND | 9.52 | 8.0 | 0.76 | 16.49 | 1.4 | 1.3 | | ● | | ● |
| 16ERM 8 RND [1] | 9.52 | 8.0 | 0.75 | 16.49 | 1.4 | 1.3 | | | | ● |
| 16EL 6 RND | 9.52 | 6.0 | 1.01 | 16.49 | 1.5 | 1.7 | | ● | | |
| 16ER 6 RND | 9.52 | 6.0 | 1.01 | 16.49 | 1.5 | 1.6 | | ● | | ● |
| 16ERM 6 RND [1] | 9.52 | 6.0 | 1.01 | 16.49 | 1.5 | 1.7 | | | ● | ● |
| 22EL 6 RND | 12.70 | 6.0 | 1.01 | 22.00 | 1.5 | 1.7 | | ● | | |
| 22ER 6 RND | 12.70 | 6.0 | 1.01 | 22.00 | 1.5 | 1.7 | ● | | | ● |
| 22EL 4 RND | 12.70 | 4.0 | 1.51 | 22.00 | 2.2 | 2.3 | | | | ● |
| 22ER 4 RND | 12.70 | 4.0 | 1.51 | 22.00 | 2.2 | 2.3 | | ● | | ● |
| 27ER 4 RND | 15.88 | 4.0 | 1.51 | 27.50 | 2.2 | 2.3 | | ● | | |

• For Insert Identification System, see pages 640-641 • Tolerance: Class 7H • For technical information and detailed cutting data, see pages 713-729

[1] With pressed chipformer

[2] Threads per inch

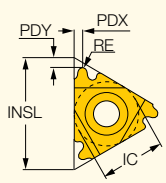
**Tools:** C#-SER/L • SER-D • SER/L

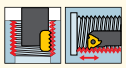
ISCARTHREAD

## IR/L-RND

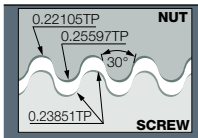
Internal DIN 405 Round Laydown Threading Inserts for Fire Fighting and Food Industry Pipe Couplings





Internal left-hand shown




| Designation | Dimensions | | | | | | Tough ↔ Hard | |
|---|---|---|---|---|---|---|---|---|
| | IC | TPI[2] | RE | INSL | PDY | PDX | IC250 | IC908 |
| 16IR 10 RND | 9.52 | 10.0 | 0.36 | 16.49 | 1.1 | 1.2 | | ● |
| 16IR/L 8 RND | 9.52 | 8.0 | 0.70 | 16.49 | 1.4 | 1.4 | | ● |
| 16IL 6 RND | 9.52 | 6.0 | 0.94 | 16.49 | 1.4 | 1.5 | | ● |
| 16IR 6 RND | 9.52 | 6.0 | 0.94 | 16.49 | 1.4 | 1.4 | ● | ● |
| 16IRM 6 RND [1] | 9.52 | 6.0 | 0.94 | 16.49 | 1.4 | 1.5 | | ● |
| 22IR 6 RND | 12.70 | 6.0 | 0.94 | 22.00 | 1.5 | 1.7 | | ● |
| 22IR 4 RND | 12.70 | 4.0 | 1.40 | 22.00 | 2.2 | 2.3 | | ● |
| 27IR 4 RND | 15.88 | 4.0 | 1.40 | 27.50 | 2.2 | 2.3 | ● | |

• For Insert Identification System, see pages 640-641 • Tolerance: Class 7H • For technical information and detailed cutting data, see pages 713-729

[1] With pressed chipformer

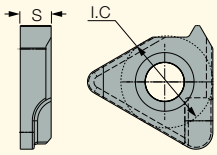
[2] Threads per inch

**Tools:** AVC-D-SIR/L • SIR/L

# Anvils

**Thread anvils EL/IR**
Thread Anvils for External
Left & Internal Right

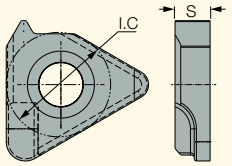





| Designation | IC | a° | S |
|---|---|---|---|
| AI16 -0 | 9.52 | 0 | 3.20 |
| AI16M-0 | 9.52 | 0 | 3.20 |
| AI16 -0.50 | 9.52 | -0.5 | 3.20 |
| AI16 +0.5 | 9.52 | 0.5 | 3.20 |
| AI16M+0.5 | 9.52 | 0.5 | 3.20 |
| AI16 -1.50 | 9.52 | -1.5 | 3.20 |
| AI16 | 9.52 | 1.5 | 3.20 |
| AI16M | 9.52 | 1.5 | 3.20 |
| AI16 +2.5 | 9.52 | 2.5 | 3.20 |
| AI16M+2.5 | 9.52 | 2.5 | 3.20 |
| AI16 +3.5 | 9.52 | 3.5 | 3.20 |
| AI16 +4.5 | 9.52 | 4.5 | 3.20 |
| AI22-0 | 12.70 | 0 | 4.00 |
| AI22M-0 | 12.70 | 0 | 4.00 |
| AI22U-0 | 12.70 | 0 | 4.00 |
| AI22 -0.5 | 12.70 | -0.5 | 4.00 |
| AI22U -0.5 | 12.70 | -0.5 | 4.00 |
| AI22 +0.50 | 12.70 | 0.5 | 4.00 |
| AI22M+0.5 | 12.70 | 0.5 | 4.00 |
| AI22 -1.50 | 12.70 | -1.5 | 4.00 |
| AI22U -1.5 | 12.70 | -1.5 | 4.00 |
| AI22 | 12.70 | 1.5 | 4.00 |
| AI22M | 12.70 | 1.5 | 4.00 |
| AI22U | 12.70 | 1.5 | 4.00 |
| AI22 +2.5 | 12.70 | 2.5 | 4.00 |
| AI22M+2.5 | 12.70 | 2.5 | 4.00 |
| AI22U +2.50 | 12.70 | 2.5 | 4.00 |
| AI22 +3.5 | 12.70 | 3.5 | 4.00 |
| AI22U +3.5 | 12.70 | 3.5 | 4.00 |
| AI22 +4.5 | 12.70 | 4.5 | 4.00 |
| AI22U +4.5 | 12.70 | 4.5 | 4.00 |
| AI27-0 | 15.88 | 0 | 5.50 |
| AI27M-0 | 15.88 | 0 | 5.50 |
| AI27U-0 | 15.88 | 0 | 5.50 |
| AI27 -0.5 | 15.88 | -0.5 | 3.20 |
| AI27U-0.50 | 15.88 | -0.5 | 5.50 |
| AI27 +0.5-P | 15.88 | 0.5 | 5.50 |
| AI27M+0.5 | 15.88 | 0.5 | 4.00 |
| AI27U +0.50 | 15.88 | 0.5 | 5.50 |
| AI27 -1.5 | 15.88 | -1.5 | 5.50 |
| AI27U -1.5 | 15.88 | -1.5 | 5.50 |
| AI27 | 15.88 | 1.5 | 5.50 |
| AI27M | 15.88 | 1.5 | 5.50 |
| AI27U | 15.88 | 1.5 | 5.50 |
| AI27 +2.5 | 15.88 | 2.5 | 5.50 |
| AI27U +2.5 | 15.88 | 2.5 | 5.50 |
| AI27U +2.5TR | 15.88 | 2.5 | 5.50 |
| AI27 +3.5 | 15.88 | 3.5 | 5.50 |
| AI27U +3.5 | 15.88 | 3.5 | 5.50 |
| AI27U +3.5TR | 15.88 | 3.5 | 5.50 |
| AI27 +4.5 | 15.88 | 4.5 | 5.50 |
| AI27U +4.5 | 15.88 | 4.5 | 5.50 |
| AI27U +4.5TR | 15.88 | 4.5 | 5.50 |

**Thread anvils ER/IL**
Thread Anvils for External
Right & Internal Left






| Designation | IC | a° | S |
|---|---|---|---|
| AE16 -0 | 9.52 | 0 | 3.20 |
| AE16M -0 | 9.52 | 0 | 3.20 |
| AE16 -0.5 | 9.52 | -0.5 | 3.20 |
| AE16M -0.5 | 9.52 | -0.5 | 3.20 |
| AE16 +0.5 | 9.52 | 0.5 | 3.20 |
| AE16M +0.5 | 9.52 | 0.5 | 3.20 |
| AE16 -1.5 | 9.52 | -1.5 | 3.20 |
| AE16M -1.5 | 9.52 | -1.5 | 3.20 |
| AE16 | 9.52 | 1.5 | 3.20 |
| AE16M | 9.52 | 1.5 | 3.20 |
| AE16 +2.5 | 9.52 | 2.5 | 3.20 |
| AE16M +2.5 | 9.52 | 2.5 | 3.20 |
| AE16 +3.5 | 9.52 | 3.5 | 3.20 |
| AE16 +4.5 | 9.52 | 4.5 | 3.20 |
| AE22 -0 | 12.70 | 0 | 4.00 |
| AE22M -0 | 12.70 | 0 | 4.00 |
| AE22U -0 | 12.70 | 0 | 4.00 |
| AE22 -0.5 | 12.70 | -0.5 | 4.00 |
| AE22M -0.5 | 12.70 | -0.5 | 4.00 |
| AE22U -0.5 | 12.70 | -0.5 | 4.00 |
| AE22 +0.5 | 12.70 | 0.5 | 4.00 |
| AE22M +0.5 | 12.70 | 0.5 | 4.00 |
| AE22U +0.5 | 12.70 | 0.5 | 4.00 |
| AE22 -1.5 | 12.70 | -1.5 | 4.00 |
| AE22U -1.5 | 12.70 | -1.5 | 4.00 |
| AE22 | 12.70 | 1.5 | 4.00 |
| AE22M | 12.70 | 1.5 | 4.00 |
| AE22U | 12.70 | 1.5 | 4.00 |
| AE22 +2.5 | 12.70 | 2.5 | 4.00 |
| AE22M +2.5 | 12.70 | 2.5 | 4.00 |
| AE22U +2.5 | 12.70 | 2.5 | 4.00 |
| AE22 +3.5 | 12.70 | 3.5 | 4.00 |
| AE22U +3.5 | 12.70 | 3.5 | 4.00 |
| AE22 +4.5 | 12.70 | 4.5 | 4.00 |
| AE22U +4.5 | 12.70 | 4.5 | 4.00 |
| AE27 -0 | 15.88 | 0 | 5.50 |
| AE27M -0 | 15.88 | 0 | 5.50 |
| AE27U -0 | 15.88 | 0 | 5.50 |
| AE27 -0.5 | 15.88 | -0.5 | 5.50 |
| AE27U -0.5 | 15.88 | -0.5 | 5.50 |
| AE27 +0.5 | 15.88 | 0.5 | 5.50 |
| AE27M +0.5 | 15.88 | 0.5 | 5.50 |
| AE27U +0.5 | 15.88 | 0.5 | 5.50 |
| AE27 -1.5 | 15.88 | -1.5 | 5.50 |
| AE27U -1.5 | 15.88 | -1.5 | 5.50 |
| AE27 | 15.88 | 1.5 | 5.50 |
| AE27M | 15.88 | 1.5 | 5.50 |
| AE27U | 15.88 | 1.5 | 5.50 |
| AE27 +2.5 | 15.88 | 2.5 | 5.50 |
| AE27U +2.5 | 15.88 | 2.5 | 5.50 |
| AE27U +2.5TR | 15.88 | 2.5 | 5.50 |
| AE27 +3.5 | 15.88 | 3.5 | 5.50 |
| AE27U +3.5 | 15.88 | 3.5 | 5.50 |
| AE27U +3.5TR | 15.88 | 3.5 | 5.50 |
| AE27 +4.5 | 15.88 | 4.5 | 5.50 |
| AE27U +4.5 | 15.88 | 4.5 | 5.50 |
| AE27U +4.5TR | 15.88 | 4.5 | 5.50 |

# THREADING TOOLS



## Toolholder Identification System

| S | E | R | 2020 | K | 16 | □ |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

### 1 Clamping System

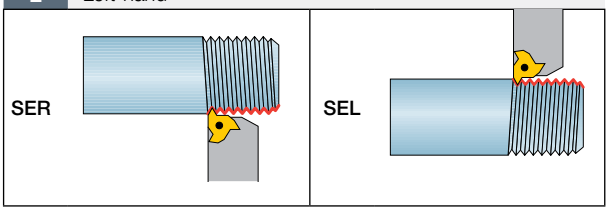
| | |
|---|---|
| S | Screw Clamping |

### 2 Application

| | |
|---|---|
| E | External |
| I | Internal |

### 3 Hand of Tool

| | |
|---|---|
| R | Right-hand |
| L | Left-hand |




### 4 Type

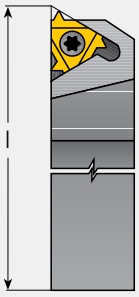
External Toolholders
Shank: hxb
2020-20x20 mm

*** Optional Prefix**

| | |
|---|---|
| C<br>HSK<br>KM | Exchangeable Adaptation System |

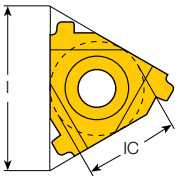
### 5 Tool Length

| | mm |
|---|---|
| D | 60 |
| F | 80 |
| H | 100 |
| K | 125 |
| L | 140 |
| M | 150 |
| P | 170 |
| R | 200 |
| S | 250 |
| T | 300 |
| U | 350 |
| V | 400 |



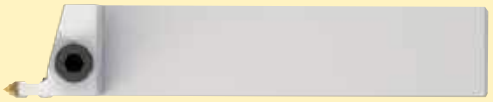
### 6 Insert Size

| l (mm) | IC |
|---|---|
| 06 | 5/32" |
| 08 | 3/16" |
| 08U | 3/16" |
| 11 | 1/4" |
| 16 | 3/8" |
| 22 | 1/2" |
| 22U | 1/2" |
| 27 | 5/8" |
| 27U | 5/8" |




### 7 Optional Specifications

| | |
|---|---|
| U | For U-type inserts |
| B | Bore for coolant |
| C | Carbide shank |
| O | Offset style |
| D | Drop head |
| G | Gang tool |
| SP | Special |

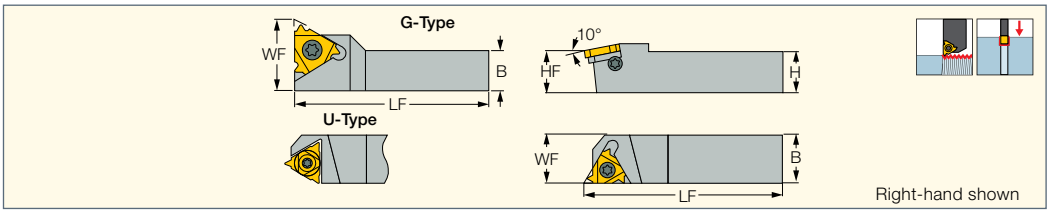
| Tool Types | | |
|---|---|---|
| C#-SER/L<br>HSK-SEL |  | Standard <br>U-Type  |
| ISCAR GROOVE-TURN TOOLS | |  |
| PENTACUT Carrying Inserts with 5 Threading Corners. For tool information, refer to the section on GROOVE-TURN. | |  |

| Boring Bars | | |
|---|---|---|
| E-SIR-HEAD |  | Standard <br>U-Type  |
| GROOVE-TURN Boring Bars | |  |
| CHAMGROOVE Holder and Carbide Bar | |  |
| CHAMGROOVE Integral | |  |
| PICCOCUT Holders and Carbide Bars | |  |

# External Threading Toolholders

ISCARTHREAD

**SER/L**
External Threading Toolholders




| Designation | H | HF | B | LF | WF | Insert[2] |
|---|---|---|---|---|---|---|
| SER 0808 H11 [1] | 8.0 | 8.0 | 8.0 | 100.00 | 11.00 | 11 ER.. |
| SER/L 1010 H11 [1] | 10.0 | 10.0 | 10.0 | 100.00 | 11.00 | 11 ER/L.. |
| SER/L 1212 F16 | 12.0 | 12.0 | 12.0 | 80.00 | 12.00 | 16 ER/L.. |
| SER 1212 X16 | 12.0 | 12.0 | 12.0 | 120.00 | 12.00 | 16 ER/L.. |
| SER/L 1616 H16 | 16.0 | 16.0 | 16.0 | 100.00 | 16.00 | 16 ER/L.. |
| SER 1616 K16G | 16.0 | 16.0 | 16.0 | 125.00 | 21.70 | 16 ER.. |
| SER/L 2020-16-AD | 20.0 | 20.0 | 20.0 | 67.00 | 20.00 | 16 ER/L.. |
| SER/L 2020 K16 | 20.0 | 20.0 | 20.0 | 125.00 | 20.00 | 16 ER/L.. |
| SER/L 2525 M16 | 25.0 | 25.0 | 25.0 | 150.00 | 25.00 | 16 ER/L.. |
| SER/L 3232 P16 | 32.0 | 32.0 | 32.0 | 170.00 | 32.00 | 16 ER/L.. |
| SER/L 2525 M22 | 25.0 | 25.0 | 25.0 | 150.00 | 25.00 | 22 ER/L.. |
| SER/L 3232 P22 | 32.0 | 32.0 | 32.0 | 170.00 | 32.00 | 22 ER/L.. |
| SER 4040 R22 | 40.0 | 40.0 | 40.0 | 200.00 | 40.00 | 22 ER/L.. |
| SER/L 2525 M22U | 25.0 | 25.0 | 25.0 | 150.00 | 28.00 | 22 UER/L.. |
| SER/L 3232 P22U | 32.0 | 32.0 | 32.0 | 170.00 | 32.00 | 22 UER/L.. |
| SEL 4040 R22U | 40.0 | 40.0 | 40.0 | 200.00 | 40.00 | 22 UER/L.. |
| SER/L 2525 M27 | 25.0 | 25.0 | 25.0 | 150.00 | 25.00 | 27 ER/L.. |
| SER/L 3232 P27 | 32.0 | 32.0 | 32.0 | 170.00 | 32.00 | 27 ER/L.. |
| SER 4040 R27 | 40.0 | 40.0 | 40.0 | 200.00 | 40.00 | 27 ER/L.. |
| SER/L 2525 M27U | 25.0 | 25.0 | 25.0 | 150.00 | 32.00 | 27 UER/L.. |
| SER/L 3232 P27U | 32.0 | 32.0 | 32.0 | 170.00 | 32.00 | 27 UER/L.. |
| SER/L 4040 R27U | 40.0 | 40.0 | 40.0 | 200.00 | 40.00 | 27 UER/L.. |

- All tools are made for 1.5 helix angle
- For multi-tooth inserts use anvils AE16M / AI16M; AE22M / AI22M; AE27M / AI27M
- For GTGA inserts, use anvil AE 16-0

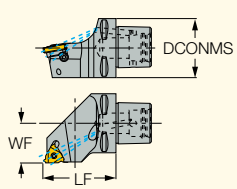
[1] Toolholder without anvil [2] Right-hand inserts (ER) for right-hand tools (SER)

## Spare Parts

| Designation | | | | | |
|---|---|---|---|---|---|
| SER 0808 H11 | SR M2.6-L6.7-S11 | | | | T-8/5 |
| SER/L 1010 H11 | SR M2.6-L6.7-S11 | | | | T-8/5 |
| SEL 1212 F16 | SR 5-40-L12.2-S16 | SR 5-40-L6.8-A16 | | AI16 | T-10/5 |
| SER 1212 F16 | SR 5-40-L12.2-S16 | SR 5-40-L6.8-A16 | AE16 | | T-10/5 |
| SER 1212 X16 | SR 5-40-L12.2-S16 | SR 5-40-L6.8-A16 | AE16 | | T-10/5 |
| SEL 1616 H16 | SR 5-40-L12.2-S16 | SR 5-40-L6.8-A16 | | AI16 | T-10/5 |
| SER 1616 H16 | SR 5-40-L12.2-S16 | SR 5-40-L6.8-A16 | AE16 | | T-10/5 |
| SER 1616 K16G | SR 5-40-L12.2-S16 | SR 5-40-L6.8-A16 | AE16 | | T-10/5 |
| SEL 2020-16-AD | SR 5-40-L12.2-S16 | SR 5-40-L6.8-A16 | | AI16 | T-10/5 |
| SER 2020-16-AD | SR 5-40-L12.2-S16 | SR 5-40-L6.8-A16 | AE16 | | T-10/5 |
| SEL 2020 K16 | SR 5-40-L12.2-S16 | SR 5-40-L6.8-A16 | | AI16 | T-10/5 |
| SER 2020 K16 | SR 5-40-L12.2-S16 | SR 5-40-L6.8-A16 | AE16 | | T-10/5 |
| SEL 2525 M16 | SR 5-40-L12.2-S16 | SR 5-40-L6.8-A16 | | AI16 | T-10/5 |
| SER 2525 M16 | SR 5-40-L12.2-S16 | SR 5-40-L6.8-A16 | AE16 | | T-10/5 |
| SEL 3232 P16 | SR 5-40-L12.2-S16 | SR 5-40-L6.8-A16 | | AI16 | T-10/5 |
| SER 3232 P16 | SR 5-40-L12.2-S16 | SR 5-40-L6.8-A16 | AE16 | | T-10/5 |
| SEL 2525 M22 | SR 8-32-L15-S22 | SR 8-32-L5.8-A22 | | AI22 | T-20/5 |
| SER 2525 M22 | SR 8-32-L15-S22 | SR 8-32-L5.8-A22 | AE22 | | T-20/5 |
| SEL 3232 P22 | SR 8-32-L15-S22 | SR 8-32-L5.8-A22 | | AI22 | T-20/5 |
| SER 3232 P22 | SR 8-32-L15-S22 | SR 8-32-L5.8-A22 | AE22 | | T-20/5 |
| SER 4040 R22 | SR 8-32-L15-S22 | SR 8-32-L5.8-A22 | AE22 | | T-20/5 |
| SEL 2525 M22U | SR 8-32-L15-S22 | SR 8-32-L5.8-A22 | | AI22U | T-20/5 |
| SER 2525 M22U | SR 8-32-L15-S22 | SR 8-32-L5.8-A22 | AE22U | | T-20/5 |
| SEL 3232 P22U | SR 8-32-L15-S22 | SR 8-32-L5.8-A22 | | AI22U | T-20/5 |
| SER 3232 P22U | SR 8-32-L15-S22 | SR 8-32-L5.8-A22 | AE22U | | T-20/5 |
| SEL 4040 R22U | SR 8-32-L15-S22 | SR 8-32-L5.8-A22 | | AI22U | T-20/5 |
| SEL 2525 M27 | SR M5-L22-S40 | SR M5-L5.8-A27 | | AI27 | T-25/3 |
| SER 2525 M27 | SR M5-L22-S40 | SR M5-L5.8-A27 | AE27 | | T-25/3 |
| SEL 3232 P27 | SR M5-L22-S40 | SR M5-L5.8-A27 | | AI27 | T-25/3 |
| SER 3232 P27 | SR M5-L22-S40 | SR M5-L5.8-A27 | AE27 | | T-25/3 |
| SER 4040 R27 | SR M5-L22-S40 | SR M5-L5.8-A27 | AE27 | | T-25/3 |
| SEL 2525 M27U | SR M5-L22-S40 | SR M5-L5.8-A27 | | AI27U | T-25/3 |
| SER 2525 M27U | SR M5-L22-S40 | SR M5-L5.8-A27 | AE27U | | T-25/3 |
| SEL 3232 P27U | SR M5-L22-S40 | SR M5-L5.8-A27 | | AI27U | T-25/3 |
| SER 3232 P27U | SR M5-L22-S40 | SR M5-L5.8-A27 | AE27U | | T-25/3 |
| SEL 4040 R27U | SR M5-L22-S40 | SR M5-L5.8-A27 | | AI27U | T-25/3 |
| SER 4040 R27U | SR M5-L22-S40 | SR M5-L5.8-A27 | AE27U | | T-25/3 |

ISCARTHREAD
CAMFIX

## C#-SER/L
External Threading Tools with CAMFIX Exchangeable Shanks




Right-hand shown

| Designation | DCONMS | WF | LF | Insert(1) | CP(2) | CDI(3) |
|---|---|---|---|---|---|---|
| C4 SEL-27050-16 | 40.00 | 27.00 | 50.00 | 16ER/L... | 200 | 1 |
| C4 SER-27050-16 | 40.00 | 27.00 | 50.00 | 16ER/L... | 0 | 1 |
| C5 SEL-35060-16 | 50.00 | 35.00 | 60.00 | 16ER/L... | 200 | 1 |
| C5 SER-35060-16 | 50.00 | 35.00 | 60.00 | 16ER/L... | 0 | 1 |
| C6 SEL-45065-16 | 63.00 | 45.00 | 65.00 | 16ER/L... | 200 | 1 |
| C6 SER-45065-16 | 63.00 | 45.00 | 65.00 | 16ER/L... | 0 | 1 |
| C4 SER/L-27050-22 | 40.00 | 27.00 | 50.00 | 22ER/L... | 200 | 1 |
| C5 SER/L-35060-22 | 50.00 | 35.00 | 60.00 | 22ER/L... | 200 | 1 |
| C6 SER/L-45065-22 | 63.00 | 45.00 | 65.00 | 22ER/L... | 200 | 1 |
| C8 SER/L-55080-22 | 80.00 | 55.00 | 80.00 | 22ER/L... | 200 | 1 |

(1) Right-hand inserts for right-hand tools and vice versa
(2) Coolant pressure (Bar)
(3) 1 - Hole for data chip, 0 - Without hole for data chip

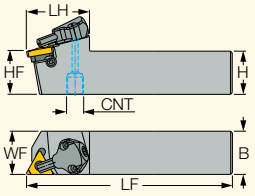
**Inserts:** ER-BUT • ER-EL • ER-MJ • ER-NPTF • ER-PG • ER/L-55° • ER/L-60° • ER/L-ABUT • ER/L-ACME • ER/L-API • ER/L-API RD • ER/L-BSPT • ER/L-ISO • ER/L-NPT • ER/L-RND • ER/L-SAGE • ER/L-STACME • ER/L-TR • ER/L-UN • ER/L-UNJ • ER/L-W • GTGA • GTMA
**Holders:** HSK-C#

### Spare Parts

| Designation | | | | | |
|---|---|---|---|---|---|
| C4 SEL-27050-16 | AI16 | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 | |
| C4 SER-27050-16 | AE16 | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 | EZ 83 |
| C5 SEL-35060-16 | AI16 | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 | EZ 104 |
| C5 SER-35060-16 | AE16 | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 | EZ 104 |
| C6 SEL-45065-16 | AI16 | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 | |
| C6 SER-45065-16 | AE16 | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 | |
| C4 SEL-27050-22 | AI22 | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 | |
| C4 SER-27050-22 | AE22 | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 | |
| C5 SEL-35060-22 | AI22 | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 | |
| C5 SER-35060-22 | AE22 | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 | |
| C6 SEL-45065-22 | AI22 | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 | |
| C6 SER-45065-22 | AE22 | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 | |
| C8 SEL-55080-22 | AI22 | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 | |
| C8 SER-55080-22 | AE22 | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 | |

ISCARTHREAD
JETCUT

## SER/L-JHP
External Threading Tools with Coolant Channels




300 Bar Max

| Designation | H | B | HF | LF | LH | WF | CNT | Insert(1) |
|---|---|---|---|---|---|---|---|---|
| SER/L 2020 K16-JHP | 20.0 | 20.0 | 20.0 | 125.00 | 37.0 | 20.00 | G1/8-28 | 16 ER/L.. |
| SER/L 2525 M16-JHP | 25.0 | 25.0 | 25.0 | 150.00 | 37.0 | 25.00 | G1/8-28 | 16 ER/L.. |
| SER/L 3232 P16-JHP | 32.0 | 32.0 | 32.0 | 170.00 | 37.0 | 32.00 | G1/8-28 | 16 ER/L.. |

• All tools are made for 1.5 helix angle • For multi-tooth inserts use anvils AE16M / AI16M; AE22M / AI22M; AE27M / AI27M
• For GTGA inserts, use anvil AE 16-0
(1) Right-hand inserts (ER) for right-hand tools (SER)

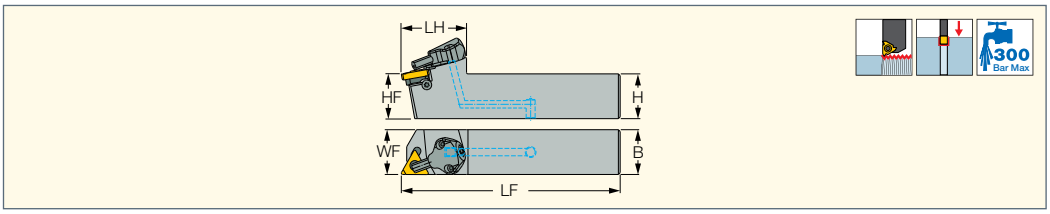
**Inserts:** ER-MJ • ER-NPTF • ER-PG • ER/L-55° • ER/L-60° • ER/L-ABUT • ER/L-ACME • ER/L-API RD • ER/L-BSPT • ER/L-ISO • ER/L-NPT • ER/L-RND • ER/L-SAGE • ER/L-STACME • ER/L-TR • ER/L-UN • ER/L-UNJ • ER/L-W • GTGA • GTMA

### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| SEL 2020 K16-JHP | SR 5-40-L12.2-S16 | AI16 | T-8/5 | SR 5-40-L6.8-A16 | T-10/5 | CU-V-JHP |
| SER 2020 K16-JHP | SR 5-40-L12.2-S16 | AE16 | T-8/5 | SR 5-40-L6.8-A16 | T-10/5 | CU-V-JHP |
| SEL 2525 M16-JHP | SR 5-40-L12.2-S16 | AI16 | T-8/5 | SR 5-40-L6.8-A16 | T-10/5 | CU-V-JHP |
| SER 2525 M16-JHP | SR 5-40-L12.2-S16 | AE16 | T-8/5 | SR 5-40-L6.8-A16 | T-10/5 | CU-V-JHP |
| SEL 3232 P16-JHP | SR 5-40-L12.2-S16 | AI16 | T-8/5 | SR 5-40-L6.8-A16 | T-10/5 | CU-V-JHP |
| SER 3232 P16-JHP | SR 5-40-L12.2-S16 | AE16 | T-8/5 | SR 5-40-L6.8-A16 | T-10/5 | CU-V-JHP |

ISCARTHREAD
JETCUT

## SER/L-JHP-MC
External Threading Tools with Bottom Inlet Coolant Channels




| Designation | H | HF | B | LF | LH | WF | Insert[1] |
|---|---|---|---|---|---|---|---|
| SER/L 2020X16 JHP-MC | 20.0 | 20.0 | 20.0 | 107.00 | 36.2 | 20.00 | 16 ER/L.. |
| SER/L 2525X16 JHP-MC | 25.0 | 25.0 | 25.0 | 122.00 | 36.2 | 25.00 | 16 ER/L.. |

- All tools are made for 1.5 helix angle
- For multi-tooth inserts use anvils AE16M / AI16M; AE22M / AI22M; AE27M / AI27M
- For GTGA inserts, use anvil AE 16-0

[1] Right-hand inserts (ER) for right-hand tools (SER)

**Inserts:** ER-MJ • ER-NPTF • ER-PG • ER/L-55° • ER/L-60° • ER/L-ABUT • ER/L-ACME • ER/L-API RD • ER/L-BSPT • ER/L-ISO • ER/L-NPT • ER/L-RND • ER/L-SAGE • ER/L-STACME • ER/L-TR • ER/L-UN • ER/L-UNJ • ER/L-W • GTGA • GTMA

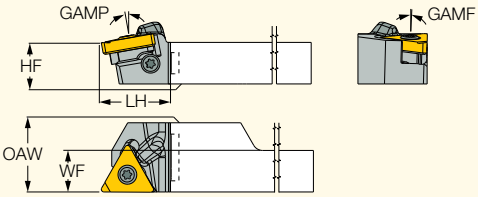
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| SEL 2020X16 JHP-MC | SR 5-40-L12.2-S16 | AI16 | T-8/5 | SR 5-40-L6.8-A16 | T-10/5 | CU-V-JHP |
| SER 2020X16 JHP-MC | SR 5-40-L12.2-S16 | AE16 | T-8/5 | SR 5-40-L6.8-A16 | T-10/5 | CU-V-JHP |
| SEL 2525X16 JHP-MC | SR 5-40-L12.2-S16 | AI16 | T-8/5 | SR 5-40-L6.8-A16 | T-10/5 | CU-V-JHP |
| SER 2525X16 JHP-MC | SR 5-40-L12.2-S16 | AE16 | T-8/5 | SR 5-40-L6.8-A16 | T-10/5 | CU-V-JHP |

NEOSWISS INDEXABLE HEADS JETCUT

## NQCH-SER/L-JHP
Screw Lock JETCUT Modular Heads which Mount ISO Laydown Threading Inserts for Swiss-Type Machines






Right hand tool shown

| Designation | WF | HF | LH | OAW | GAMP | GAMF | Insert |
|---|---|---|---|---|---|---|---|
| NQCH12-SEL-16-JHP | 12.00 | 11.8 | 20.6 | 20.00 | 10.0 | 1.5 | 16EL.. |
| NQCH12-SER-16-JHP | 12.00 | 11.8 | 20.6 | 20.00 | 10.0 | 1.5 | 16ER.. |
| NQCH16-SEL-16-JHP | 16.00 | 15.8 | 20.6 | 20.00 | 10.0 | 1.5 | 16EL.. |
| NQCH16-SER-16-JHP | 16.00 | 15.8 | 20.6 | 20.00 | 10.0 | 1.5 | 16ER.. |

**Inserts:** ER-MJ • ER-NPTF • ER-PG • ER/L-55° • ER/L-60° • ER/L-ABUT • ER/L-ACME • ER/L-API RD • ER/L-BSPT • ER/L-ISO • ER/L-NPT • ER/L-RND • ER/L-SAGE • ER/L-STACME • ER/L-TR • ER/L-UN • ER/L-UNJ • ER/L-W • GTGA • GTMA

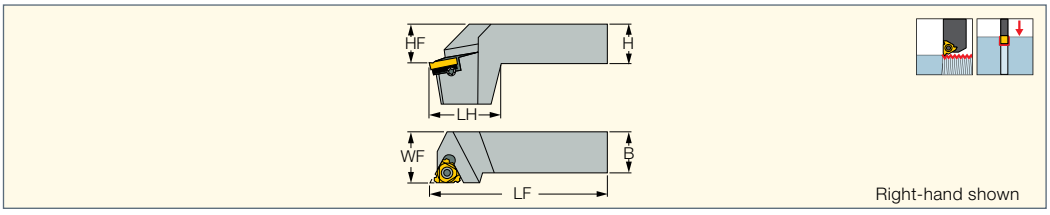
**Holders:** NQCH-JHP

### Spare Parts

| Designation | | | | |
|---|---|---|---|---|
| NQCH12-SEL-16-JHP | AI16 | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 |
| NQCH12-SER-16-JHP | AE16 | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 |
| NQCH16-SEL-16-JHP | AI16 | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 |
| NQCH16-SER-16-JHP | AE16 | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 |

ISCARTHREAD

## SER-D
External Threading Drophead Toolholders




Right-hand shown

| Designation | H | HF | B | LF | WF | LH | Insert | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SER 2525 M16D | 25.0 | 25.0 | 25.0 | 150.00 | 32.00 | 38.0 | 16 ER.. | SR 5-40-L12.2-S16 | T-10/5 | AE16 | SR 5-40-L6.8-A16 |
| SER 2525 M22D | 25.0 | 25.0 | 25.0 | 150.00 | 32.00 | 38.0 | 22 ER.. | SR 8-32-L15-S22 | T-20/5 | AE22 | SR 8-32-L5.8-A22 |

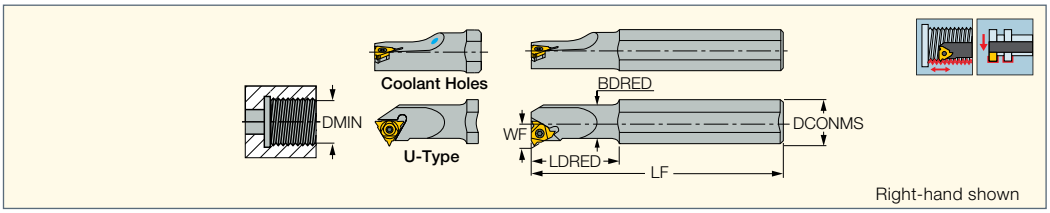
- All toolholders are made for 1.5 helix angle.
- For GTGA inserts, use anvil AE 16-0

**Inserts:** GTMA

# Internal Threading Toolholders

ISCARTHREAD

**SIR/L**
Internal Threading Bars




| Designation | DMIN | DCONMS | BDRED | LF | LDRED | WF | CSP(4) | Shank m.(5) | Insert(6) |
|---|---|---|---|---|---|---|---|---|---|
| SIR/L 0005 H06CB (1) | 6.40 | 6.00 | 5.10 | 100.00 | 25.0 | 4.30 | 1 | C | 06 IR/IL.. |
| SIR/L 0005 H06 (2) | 6.40 | 12.00 | 5.10 | 100.00 | 12.0 | 4.30 | 0 | S | 06 IR/IL.. |
| SIR 0005 H06-W (2) | 6.40 | 12.00 | 5.10 | 100.00 | 12.0 | 4.30 | 0 | S | 06 IR/IL.. |
| SIR/L 0007 K08CB (1) | 9.00 | 8.00 | 6.60 | 125.00 | 30.0 | 5.30 | 1 | C | 08 IR/IL.. |
| SIR/L 0008 K08UCB | 9.00 | 8.00 | 7.30 | 125.00 | 35.0 | 6.40 | 1 | C | 08 UIRL.. |
| SIR/L 0007 K08 (2) | 9.00 | 16.00 | 6.60 | 125.00 | 18.0 | 5.30 | 0 | S | 08 IR/IL.. |
| SIR/L 0008 K08U (2) | 9.00 | 16.00 | 7.30 | 125.00 | 21.0 | 6.60 | 0 | S | 08 UIRL.. |
| SIR/L 0010 H11 (2) | 12.00 | 10.00 | 10.00 | 100.00 | - | 7.40 | 0 | S | 11 IR/IL.. |
| SIR/L 0010 M11CB (1) | 12.00 | 10.00 | 10.00 | 150.00 | - | 7.40 | 1 | C | 11 IR/IL.. |
| SIR 0010 H11B (2) | 12.00 | 10.00 | 10.00 | 100.00 | - | 7.40 | 1 | S | 11 IR/IL.. |
| SIR/L 0010 K11 (2) | 12.00 | 16.00 | 10.00 | 125.00 | 25.0 | 6.50 | 0 | S | 11 IR/IL.. |
| SIR/L 0010 K11B (2) | 12.00 | 16.00 | 10.00 | 125.00 | 25.0 | 7.40 | 1 | S | 11 IR/IL.. |
| SIR/L 0012 P11CB (1) | 15.00 | 12.00 | 12.00 | 170.00 | - | 8.40 | 1 | C | 11 IR/IL.. |
| SIL 0013 L11 (2) | 15.00 | 16.00 | 13.00 | 140.00 | 32.0 | 8.90 | 0 | S | 11 IR/IL.. |
| SIR 0013 L11 (2) | 15.00 | 16.00 | 13.00 | 140.00 | 32.0 | 8.90 | 0 | S | 11 IR/L.. |
| SIR/L 0013 M16 (2) | 16.00 | 16.00 | 13.00 | 150.00 | 32.0 | 10.00 | 0 | S | 16 IR/L.. |
| SIL 0013 M16B (2) | 16.00 | 16.00 | 13.00 | 150.00 | 32.0 | 10.20 | 1 | S | 16 IR/L.. |
| SIR 0013 M16B (2) | 16.00 | 16.00 | 13.00 | 150.00 | 32.0 | 10.00 | 1 | S | 16 IR/L.. |
| SIR 0016 R16CB (1) | 19.00 | 16.00 | 16.00 | 200.00 | - | 11.70 | 1 | C | 16 IR/IL.. |
| SIR/L 0016 P16 (2) | 19.00 | 20.00 | 16.00 | 170.00 | 40.0 | 11.40 | 0 | S | 16 IR/L.. |
| SIR/L 0016 P16B (2) | 19.00 | 20.00 | 16.00 | 170.00 | 40.0 | 11.70 | 1 | S | 16 IR/L.. |
| SIR/L 0020 P16 | 24.00 | 20.00 | 20.00 | 170.00 | - | 13.70 | 0 | S | 16 IR/L.. |
| SIR/L 0020 P16B | 24.00 | 20.00 | 20.00 | 170.00 | - | 13.70 | 1 | S | 16 IR/L.. |
| SIR/L 0020 P22 (2) | 24.00 | 20.00 | 20.00 | 170.00 | - | 15.60 | 0 | S | 22 IR/L.. |
| SIR/L 0020-16-AD | 24.00 | 20.00 | 20.00 | 80.00 | - | 13.70 | 0 | S | 16 IR/L.. |
| SIR 0020 S16CB | 24.00 | 20.00 | 20.00 | 250.00 | - | 13.70 | 1 | C | 16 IR/L.. |
| SIR 0025 S16CB | 28.00 | 25.00 | 25.00 | 250.00 | - | 16.20 | 1 | C | 16 IR/L.. |
| SIR/L 0025 R16 | 29.00 | 25.00 | 25.00 | 200.00 | - | 16.30 | 0 | S | 16 IR/L.. |
| SIL 0025 R16B | 29.00 | 25.00 | 25.00 | 200.00 | - | 16.20 | 1 | S | 16 IR/L.. |
| SIR/L 0025 R22 | 29.00 | 25.00 | 25.00 | 200.00 | - | 17.20 | 0 | S | 22 IR/L.. |
| SIR/L 0025 R22B | 29.00 | 25.00 | 25.00 | 200.00 | - | 18.10 | 1 | S | 22 IR/L.. |
| SIL 0025-16-AD | 29.00 | 25.00 | 25.00 | 100.00 | - | 16.30 | 0 | S | 16 IR/L.. |
| SIR 0025 R16B | 29.00 | 25.00 | 25.00 | 200.00 | - | 16.30 | 1 | S | 16 IR/L.. |
| SIR 0025-16-AD | 29.00 | 25.00 | 25.00 | 100.00 | - | 16.20 | 0 | S | 16 IR/L.. |
| SIR/L 0032 S16 | 36.00 | 32.00 | 32.00 | 250.00 | - | 19.70 | 0 | S | 16 IR/L.. |
| SIR/L 0032 S22 | 38.00 | 32.00 | 32.00 | 250.00 | - | 21.50 | 0 | S | 22 IR/L.. |
| SIR/L 0032 S22U | 38.00 | 32.00 | 32.00 | 250.00 | - | 25.50 | 0 | S | 22 UIRL.. |
| SIL 0032 S27 | 40.00 | 32.00 | 32.00 | 250.00 | - | 22.40 | 0 | S | 27 IR/L |
| SIR/L 0032 S27U (3) | 40.00 | 32.00 | 32.00 | 250.00 | - | 24.70 | 0 | S | 27 UIRL.. |
| SIR 0032 S27 | 40.00 | 32.00 | 32.00 | 250.00 | - | 22.40 | 0 | S | 27 IR/L.. |
| SIR/L 0040 T16 | 44.00 | 40.00 | 40.00 | 300.00 | - | 23.70 | 0 | S | 16 IR/L.. |
| SIR/L 0040 T22 | 46.00 | 40.00 | 40.00 | 300.00 | - | 25.80 | 0 | S | 22 IR/L.. |
| SIR 0040 T22U | 46.00 | 40.00 | 40.00 | 300.00 | - | 29.50 | 0 | S | 22 UIRL.. |
| SIR/L 0040 T27 | 48.00 | 40.00 | 40.00 | 300.00 | - | 26.60 | 0 | S | 27 IR/L.. |
| SIR 0040 T27U (3) | 48.00 | 40.00 | 40.00 | 300.00 | - | 29.40 | 0 | S | 27 UIRL.. |
| SIR/L 0050 U16 | 54.00 | 50.00 | 50.00 | 350.00 | - | 28.70 | 0 | S | 16 IR/L.. |
| SIR/L 0050 U22 | 56.00 | 50.00 | 50.00 | 350.00 | - | 30.60 | 0 | S | 22 IR/L.. |
| SIR/L 0050 U27 | 58.00 | 50.00 | 50.00 | 350.00 | - | 31.60 | 0 | S | 27 IR/L.. |
| SIR 0050 U27U (3) | 58.00 | 50.00 | 50.00 | 350.00 | - | 34.30 | 0 | S | 27 UIRL.. |
| SIR/L 0060 V27 | 68.00 | 60.00 | 60.00 | 400.00 | - | 36.60 | 0 | S | 27 IR/L.. |
| SIR/L 0060 V27U (3) | 68.00 | 60.00 | 60.00 | 400.00 | - | 39.30 | 0 | S | 27 UIRL.. |

- B-steel shank with coolant hole, CB-carbide shank with coolant hole
- All toolholders provide 1.5 helix angle, either via the pocket or the anvil supplied
- For GTGA inserts, use anvil AL 16-0

(1) Carbide shank without anvil
(2) Toolholder without anvil
(3) For ACME, STUB ACME, TRAPEZ (DIN 103) and ROUND (DIN 405) thread profiles check in user guide for anvil information
(4) 0 - Without coolant supply, 1 - With coolant supply
(5) C-carbide,S-steel
(6) Right-hand inserts (IR) for right-hand tools (SIR)

**Holders:** DT30/2 ##L70WN • DT30/2 ADR-##-20-55

## Spare Parts

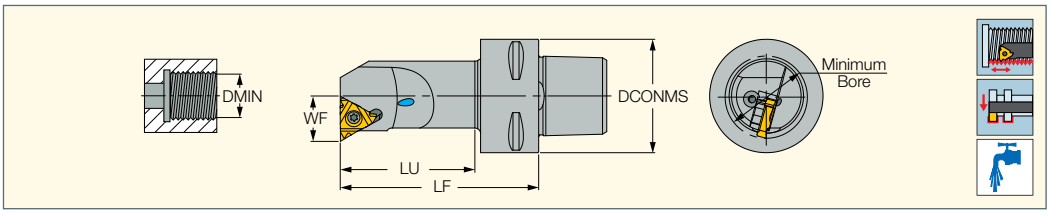
| Designation |  |  |  |  |  |  |
|---|---|---|---|---|---|---|
| **SIR/L 0005 H06CB** | | | | SR 14-552 | T-6/5 | |
| **SIR/L 0005 H06** | | | | SR 14-552 | T-6/5 | |
| **SIR 0005 H06-W** | | | | SR 14-552 | T-6/5 | |
| **SIR/L 0007 K08CB** | | | | SR 14-558 | T-6/5 | |
| **SIR/L 0008 K08UCB** | | | | SR 14-558 | T-6/5 | |
| **SIR/L 0007 K08** | | | | SR 14-558 | T-6/5 | |
| **SIR/L 0008 K08U** | | | | SR 14-558 | T-6/5 | |
| **SIR/L 0010 H11** | | | | SR M2.6-L6.7-S11 | T-8/5 | |
| **SIR/L 0010 M11CB** | | | | SR M2.6-L6.7-S11 | T-8/5 | |
| **SIR 0010 H11B** | | | | SR M2.6-L6.7-S11 | T-8/5 | |
| **SIR/L 0010 K11** | | | | SR M2.6-L6.7-S11 | T-8/5 | |
| **SIR/L 0010 K11B** | | | | SR M2.6-L6.7-S11 | T-8/5 | PL 16 |
| **SIR/L 0012 P11CB** | | | | SR M2.6-L6.7-S11 | T-8/5 | |
| **SIR/L 0013 L11** | | | | SR M2.6-L6.7-S11 | T-8/5 | |
| **SIR/L 0013 M16** | | | | SR 5-40-L9.7-S16S | T-10/5 | |
| **SIR/L 0013 M16B** | | | | SR 5-40-L9.7-S16S | T-10/5 | PL 16 |
| **SIR 0016 R16CB** | | | | SR 5-40-L9.7-S16S | T-10/5 | |
| **SIR/L 0016 P16** | | | | SR 5-40-L9.7-S16S | T-10/5 | |
| **SIR/L 0016 P16B** | | | | SR 5-40-L9.7-S16S | T-10/5 | PL 20 |
| **SIL 0020 P16** | | AE16 | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 | |
| **SIL 0020 P16B** | | AE16 | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 | PL 20 |
| **SIR/L 0020 P22** | | | | SR 8-32-L12-S22S | T-20/5 | |
| **SIL 0020-16-AD** | | AE16 | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 | |
| **SIR 0020 P16** | AI16 | | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 | |
| **SIR 0020 P16B** | AI16 | | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 | PL 20 |
| **SIR 0020 S16CB** | AI16 | | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 | |
| **SIR 0020-16-AD** | AI16 | | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 | |
| **SIR 0025 S16CB** | AI16 | | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 | |
| **SIL 0025 R16** | | AE16 | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 | |
| **SIR 0025 R16** | AI16 | | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 | |
| **SIL 0025 R16B** | | AE16 | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 | PL 25 |
| **SIR 0025 R16B** | AI16 | | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 | PL 25 |
| **SIL 0025 R22** | | AE22 | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 | |
| **SIR 0025 R22** | AI22 | | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 | |
| **SIL 0025 R22B** | | AE22 | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 | PL 25 |
| **SIR 0025 R22B** | AI22 | | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 | PL 25 |
| **SIL 0025-16-AD** | | AE16 | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 | |
| **SIR 0025-16-AD** | AI16 | | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 | |
| **SIL 0032 S16** | | AE16 | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 | |
| **SIR 0032 S16** | AI16 | | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 | |
| **SIL 0032 S22** | | AE22 | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 | |
| **SIL 0032 S22U** | | AE22U | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 | |
| **SIR 0032 S22** | AI22 | | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 | |
| **SIR 0032 S22U** | AI22U | | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 | |
| **SIL 0032 S27** | | AE27 | SR M5-L5.8-A27 | SR M5-L22-S40 | T-25/3 | |
| **SIL 0032 S27U** | | AE27U | SR M5-L5.8-A27 | SR M5-L22-S40 | T-25/3 | |
| **SIR 0032 S27** | AI27 | | SR M5-L5.8-A27 | SR M5-L22-S40 | T-25/3 | |
| **SIR 0032 S27U** | AI27U | | SR M5-L5.8-A27 | SR M5-L22-S40 | T-25/3 | |
| **SIL 0040 T16** | | AE16 | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 | |
| **SIR 0040 T16** | AI16 | | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 | |
| **SIL 0040 T22** | | AE22 | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 | |
| **SIR 0040 T22** | AI22 | | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 | |
| **SIR 0040 T22U** | AI22U | | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 | |
| **SIL 0040 T27** | | AE27 | SR M5-L5.8-A27 | SR M5-L22-S40 | T-25/3 | |
| **SIR 0040 T27** | AI27 | | SR M5-L5.8-A27 | SR M5-L22-S40 | T-25/3 | |
| **SIR 0040 T27U** | AI27U | | SR M5-L5.8-A27 | SR M5-L22-S40 | T-25/3 | |
| **SIL 0050 U16** | | AE16 | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 | |
| **SIR 0050 U16** | AI16 | | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 | |
| **SIL 0050 U22** | | AE22 | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 | |
| **SIR 0050 U22** | AI22 | | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 | |
| **SIL 0050 U27** | | AE27 | SR M5-L5.8-A27 | SR M5-L22-S40 | T-25/3 | |
| **SIR 0050 U27** | AI27 | | SR M5-L5.8-A27 | SR M5-L22-S40 | T-25/3 | |
| **SIR 0050 U27U** | AI27U | | SR M5-L5.8-A27 | SR M5-L22-S40 | T-25/3 | |
| **SIL 0060 V27** | | AE27 | SR M5-L5.8-A27 | SR M5-L22-S40 | T-25/3 | |
| **SIL 0060 V27U** | | AE27U | SR M5-L5.8-A27 | SR M5-L22-S40 | T-25/3 | |
| **SIR 0060 V27** | AI27 | | SR M5-L5.8-A27 | SR M5-L22-S40 | T-25/3 | |
| **SIR 0060 V27U** | AI27U | | SR M5-L5.8-A27 | SR M5-L22-S40 | T-25/3 | |

**ISCARTHREAD**

**CAMFIX**

## C#-SIR/L

Internal Threading Bars with CAMFIX Exchangeable Shanks




| Designation | DCONMS | DMIN | WF | LU | LF | Insert | CP[1] | CDI[2] |
|---|---|---|---|---|---|---|---|---|
| C4 SIR/L-12060-16 | 40.00 | 20.00 | 11.70 | 37.0 | 60.00 | 16 IR/L.. | 300 | 1 |
| C4 SIR/L-14060-16 | 40.00 | 25.00 | 13.50 | 38.0 | 60.00 | 16 IR/L.. | 300 | 1 |
| C4 SIR-15065-22 | 40.00 | 25.00 | 15.40 | 42.0 | 65.00 | 22 IR/L.. | 300 | 1 |
| C4 SIL-17070-16 | 40.00 | 29.00 | 16.00 | 48.0 | 70.00 | 16 IR/L.. | 300 | 1 |
| C4 SIL-19070-22 | 40.00 | 29.00 | 17.90 | 48.0 | 70.00 | 22 IR/L.. | 300 | 1 |
| C4 SIR-17070-16 | 40.00 | 29.00 | 16.00 | 48.0 | 70.00 | 16 IR/L.. | 300 | 1 |
| C4 SIR-19070-22 | 40.00 | 29.00 | 17.90 | 48.0 | 70.00 | 22 IR/L.. | 300 | 1 |
| C4 SIR/L-22090-16 | 40.00 | 36.00 | 19.50 | 69.0 | 90.00 | 16 IR/L.. | 300 | 1 |
| C4 SIR/L-22090-22 | 40.00 | 38.00 | 21.40 | 69.0 | 90.00 | 22 IR/L.. | 300 | 1 |
| C4 SIR/L-27080-16 | 40.00 | 44.00 | 23.50 | 60.0 | 80.00 | 16 IR/L.. | 300 | 1 |
| C4 SIR/L-27080-22 | 40.00 | 46.00 | 25.40 | 60.0 | 80.00 | 22 IR/L.. | 300 | 1 |
| C5 SIR/L-12060-16 | 50.00 | 20.00 | 11.70 | 35.0 | 60.00 | 16 IR/L.. | 300 | 1 |
| C5 SIR/L-14060-16 | 50.00 | 25.00 | 13.50 | 36.0 | 60.00 | 16 IR/L.. | 300 | 1 |
| C5 SIR/L-15065-22 | 50.00 | 25.00 | 15.40 | 41.0 | 65.00 | 22 IR/L.. | 300 | 1 |
| C5 SIR/L-17070-16 | 50.00 | 29.00 | 16.00 | 47.0 | 70.00 | 16 IR/L.. | 300 | 1 |
| C5 SIR/L-19070-22 | 50.00 | 29.00 | 17.90 | 47.0 | 70.00 | 22 IR/L.. | 300 | 1 |
| C5 SIR/L-22090-16 | 50.00 | 36.00 | 19.50 | 68.0 | 90.00 | 16 IR/L.. | 300 | 1 |
| C5 SIR/L-22090-22 | 50.00 | 38.00 | 21.40 | 68.0 | 90.00 | 22 IR/L.. | 300 | 1 |
| C5 SIR/L-27105-16 | 50.00 | 44.00 | 23.50 | 84.0 | 105.00 | 16 IR/L.. | 300 | 1 |
| C5 SIR/L-27105-22 | 50.00 | 46.00 | 25.40 | 84.0 | 105.00 | 22 IR/L.. | 300 | 1 |
| C6 SIR/L-14070-16 | 63.00 | 25.00 | 13.50 | 42.0 | 70.00 | 16 IR/L.. | 300 | 1 |
| C6 SIR/L-17075-16 | 63.00 | 29.00 | 16.00 | 48.0 | 75.00 | 16 IR/L.. | 300 | 1 |
| C6 SIR/L-19075-22 | 63.00 | 29.00 | 17.90 | 48.0 | 75.00 | 22 IR/L.. | 300 | 1 |
| C6 SIR/L-22090-16 | 63.00 | 36.00 | 19.50 | 64.0 | 90.00 | 16 IR/L.. | 300 | 1 |
| C6 SIR/L-22090-22 | 63.00 | 38.00 | 21.40 | 64.0 | 90.00 | 22 IR/L.. | 300 | 1 |
| C6 SIR/L-27105-16 | 63.00 | 44.00 | 23.50 | 80.0 | 105.00 | 16 IR/L.. | 300 | 1 |
| C6 SIL-27105-22 | 63.00 | 46.00 | 25.40 | 80.0 | 105.00 | 22 IR/L.. | 300 | 1 |
| C6 SIR-27105-22 | 63.00 | 46.00 | 25.40 | 8.0 | 105.00 | 22 IR/L.. | 300 | 1 |

[1] Coolant pressure (Bar)

[2] 1 - Hole for data chip, 0 - Without hole for data chip

**Inserts:** GTMA • IR-BUT • IR-EL • IR-MJ • IR/L-55° • IR/L-60° • IR/L-ACME • IR/L-API • IR/L-API RD • IR/L-BSPT • IR/L-ISO • IR/L-NPT • IR/L-NPTF • IR/L-PG • IR/L-RND • IR/L-SAGE • IR/L-STACME • IR/L-TR • IR/L-UN • IR/L-UNJ • IR/L-W • GTGA

## Spare Parts

| Designation | | | | | |
|---|---|---|---|---|---|
| C4 SIL-12060-16 | | AE16 | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 |
| C4 SIR-12060-16 | AI16 | | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 |
| C4 SIL-14060-16 | | AE16 | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 |
| C4 SIR-14060-16 | AI16 | | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 |
| C4 SIR-15065-22 | AI22 | | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 |
| C4 SIL-17070-16 | | AE16 | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 |
| C4 SIL-19070-22 | | AE22 | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 |
| C4 SIR-17070-16 | AI16 | | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 |
| C4 SIR-19070-22 | AI22 | | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 |
| C4 SIL-22090-16 | | AE16 | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 |
| C4 SIR-22090-16 | AI16 | | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 |
| C4 SIL-22090-22 | | AE22 | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 |
| C4 SIR-22090-22 | AI22 | | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 |
| C4 SIL-27080-16 | | AE16 | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 |
| C4 SIR-27080-16 | AI16 | | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 |
| C4 SIL-27080-22 | | AE22 | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 |
| C4 SIR-27080-22 | AI22 | | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 |
| C5 SIL-12060-16 | | AE16 | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 |
| C5 SIR-12060-16 | AI16 | | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 |
| C5 SIL-14060-16 | | AE16 | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 |
| C5 SIL-15065-22 | | AE22 | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 |
| C5 SIR-14060-16 | AI16 | | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 |
| C5 SIR-15065-22 | AI22 | | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 |
| C5 SIL-17070-16 | | AE16 | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 |
| C5 SIL-19070-22 | | AE22 | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 |
| C5 SIR-17070-16 | AI16 | | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 |
| C5 SIR-19070-22 | AI22 | | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 |
| C5 SIL-22090-16 | | AE16 | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 |
| C5 SIR-22090-16 | AI16 | | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 |
| C5 SIL-22090-22 | | AE22 | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 |

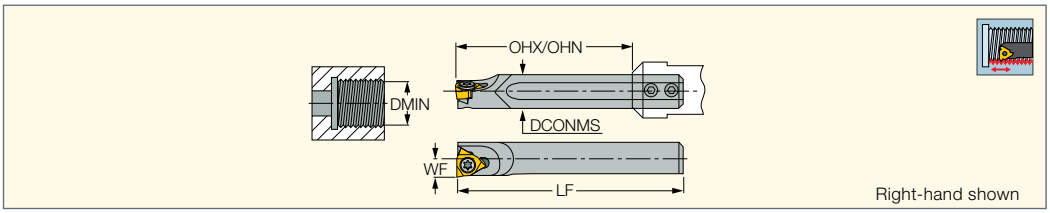
## Spare Parts

| | | | | | |
|---|---|---|---|---|---|
| **C5 SIR-22090-22** | AI22 | | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 |
| **C5 SIL-27105-16** | | AE16 | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 |
| **C5 SIR-27105-16** | AI16 | | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 |
| **C5 SIL-27105-22** | | AE22 | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 |
| **C5 SIR-27105-22** | AI22 | | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 |
| **C6 SIL-14070-16** | | AE16 | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 |
| **C6 SIR-14070-16** | AI16 | | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 |
| **C6 SIL-17075-16** | | AE16 | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 |
| **C6 SIL-19075-22** | | AE22 | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 |
| **C6 SIR-17075-16** | AI16 | | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 |
| **C6 SIR-19075-22** | AI22 | | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 |
| **C6 SIL-22090-16** | | AE16 | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 |
| **C6 SIR-22090-16** | AI16 | | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 |
| **C6 SIL-22090-22** | | AE22 | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 |
| **C6 SIR-22090-22** | AI22 | | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 |
| **C6 SIL-27105-16** | | AE16 | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 |
| **C6 SIR-27105-16** | AI16 | | SR 5-40-L6.8-A16 | SR 5-40-L12.2-S16 | T-10/5 |
| **C6 SIL-27105-22** | | AE22 | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 |
| **C6 SIR-27105-22** | AI22 | | SR 8-32-L5.8-A22 | SR 8-32-L15-S22 | T-20/5 |

ISCARTHREAD

### MGSIR/L

Solid Carbide Bars for Internal Turning and Threading




| Designation | DCONMS | LF | OHN(1) | OHX(2) | WF | DMIN | | |
|---|---|---|---|---|---|---|---|---|
| **MGSIR/L 06-06** | 6.00 | 59.00 | 16.0 | 42.0 | 3.90 | 7.00 | SR 14-552 | T-6/5 |
| **MGSIR/L 08-06** | 8.00 | 72.00 | 20.0 | 56.0 | 5.00 | 9.20 | SR 14-552 | T-6/5 |

- In order to maintain high machining reliability, we strongly recommend replacing the clamping screw every 10 insert indexes

(1) Minimum overhang in adjustment range

(2) Maximum overhang in adjustment range

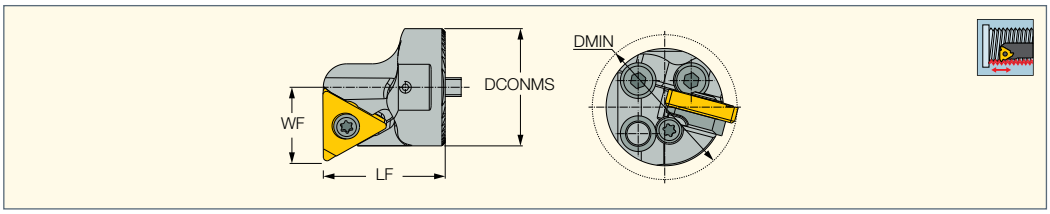
**Inserts:** IR/L-55° • IR/L-60° • IR/L-BSPT • IR/L-ISO • IR/L-NPT • IR/L-NPTF • IR/L-UN • IR/L-W

**Holders:** SBB



FLASHTURN ECO LINE
WHISPERLINE ANTI-VIBRATION

## AVC-D-SIR/L
Interchangeable Boring Heads for Threading Inserts




| Designation | WF | DCONMS | DMIN | LF | CSP(2) |
|---|---|---|---|---|---|
| AVC-D25-SIR/L-16 | 16.20 | 25.00 | 29.00 | 26.00 | 1 |
| AVC-D32-SIR/L-16 | 19.70 | 32.00 | 36.00 | 27.00 | 1 |
| AVC-D40-SIR/L-16 (1) | 23.70 | 40.00 | 44.00 | 30.00 | 1 |
| AVC-D32-SIR/L-22 | 21.60 | 32.00 | 38.00 | 32.00 | 1 |
| AVC-D40-SIR/L-22 (1) | 25.60 | 40.00 | 46.00 | 38.00 | 1 |

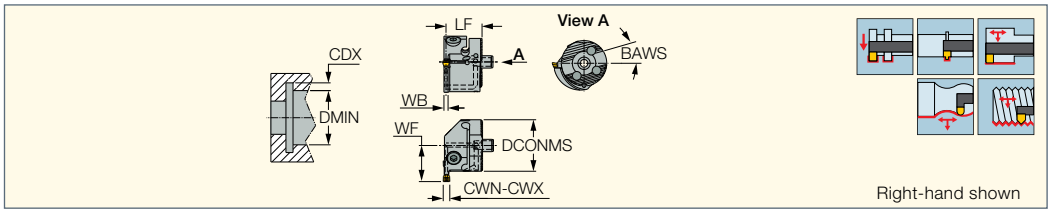
(1) DMIN of 50mm shank is DMIN of requested head + 10mm • DMIN of 60mm shanks is DMIN of requested head + 20mm
(2) 0 - Without coolant supply, 1 - With coolant supply
**Inserts:** GTGA • GTMA • IR-BUT • IR-EL • IR-MJ • IR/L-55° • IR/L-60° • IR/L-ACME • IR/L-API • IR/L-API RD • IR/L-BSPT • IR/L-ISO • IR/L-NPT • IR/L-NPTF • IR/L-PG • IR/L-RND • IR/L-SAGE • IR/L-STACME • IR/L-TR • IR/L-UN • IR/L-UNJ • IR/L-W
**Holders:** AV-D • C#-SH-E-JHP • C#-SH-JHP • SH-D

### Spare Parts

| Designation | | | | |
|---|---|---|---|---|
| AVC-D25-SIL-16 | AE16 | SR 5-40-L12.2-S16 | SR 5-40-L6.8-A16 | T-10/5 |
| AVC-D25-SIR-16 | AI16 | SR 5-40-L12.2-S16 | SR 5-40-L6.8-A16 | T-10/5 |
| AVC-D32-SIL-16 | AE16 | SR 5-40-L12.2-S16 | SR 5-40-L6.8-A16 | T-10/5 |
| AVC-D32-SIR-16 | AI16 | SR 5-40-L12.2-S16 | SR 5-40-L6.8-A16 | T-10/5 |
| AVC-D40-SIL-16 | AE16 | SR 5-40-L12.2-S16 | SR 5-40-L6.8-A16 | T-10/5 |
| AVC-D40-SIR-16 | AI16 | SR 5-40-L12.2-S16 | SR 5-40-L6.8-A16 | T-10/5 |
| AVC-D32-SIL-22 | AE22 | SR 8-32-L15-S22 | SR 8-32-L5.8-A22 | T-20/5 |
| AVC-D32-SIR-22 | AI22 | SR 8-32-L15-S22 | SR 8-32-L5.8-A22 | T-20/5 |
| AVC-D40-SIL-22 | AE22 | SR 8-32-L15-S22 | SR 8-32-L5.8-A22 | T-20/5 |
| AVC-D40-SIR-22 | AI22 | SR 8-32-L15-S22 | SR 8-32-L5.8-A22 | T-20/5 |

CUTGRIP

## AVC-GEAIR/L
Internal Grooving Turning and Threading Adapters




| Designation | DMIN | CWN(1) | CWX(2) | DCONMS | CDX(3) | WF | LF | WB | BAWS | MIID(4) |
|---|---|---|---|---|---|---|---|---|---|---|
| AVC-D16-GEAIR/L-2 | 21.00 | 1.90 | 2.40 | 16.00 | 3.00 | 12.00 | 14.50 | 1.60 | 45 | GEPI 2.00-0.10 |
| AVC-D16-GEAIR/L-3 | 21.00 | 2.40 | 2.70 | 16.00 | 3.00 | 12.00 | 14.50 | 2.00 | 45 | GEPI 3.00-0.20 |
| AVC-D20-GEAIR/L-2 | 26.00 | 1.90 | 2.40 | 20.00 | 3.00 | 14.70 | 13.50 | 1.60 | 15 | GEPI 2.00-0.10 |
| AVC-D20-GEAIR/L-3 | 26.00 | 2.40 | 3.18 | 20.00 | 3.00 | 14.70 | 13.50 | 2.00 | 15 | GEPI 3.00-0.20 |
| AVC-D25-GEAIR/L-2 | 31.00 | 1.90 | 2.40 | 25.00 | 4.00 | 17.50 | 17.50 | 1.60 | 15 | GEPI 2.00-0.10 |
| AVC-D25-GEAIR/L-3 | 31.00 | 2.40 | 3.18 | 25.00 | 4.00 | 17.50 | 17.50 | 2.00 | 15 | GEPI 3.00-0.20 |

- Using the adapters with CAMFIX holders is only possible in case the machine has an option for rotating the CAMFIX Axis.
- For user guide, see pages 713-729

(1) Minimum cutting width
(2) Maximum cutting width
(3) Cutting depth maximum
(4) Master insert identification
**Inserts:** GEMI • GEMI (full radius) • GEPI • GEPI (full radius) • GEPI-MT • GEPI-WT
**Holders:** AV-D • C#-SH-E-JHP • C#-SH-JHP • SH-D • SH-S#-N-AVC

### Spare Parts

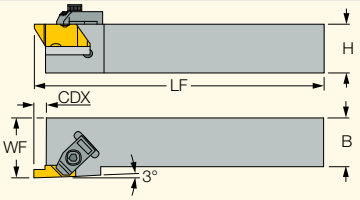
| Designation | | | | | |
|---|---|---|---|---|---|
| AVC-D16-GEAIR/L-2 | SR 14-551 | | | | T-9/5 |
| AVC-D16-GEAIR/L-3 | SR 14-551 | | | | T-9/5 |
| AVC-D20-GEAIR/L-2 | SR 34-510 | | SW6-SD | BLD T15/M7 | |
| AVC-D20-GEAIR/L-3 | SR 34-510 | | SW6-SD | BLD T15/M7 | |
| AVC-D25-GEAIR/L-2 | SR M4X14 DIN912 | HW 3.0 | | | |
| AVC-D25-GEAIR/L-3 | SR M4X14 DIN912 | HW 3.0 | | | |

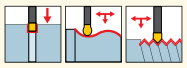
# Tools for External Grooving and Threading Inserts

NOTCH GRIP GROOVE-TURN LINE

## FLSR/L

Tools for External Grooving and Threading Inserts



Right-hand shown

| Designation | SSC(1) | B | CDX | WF | LF | Insert |
|---|---|---|---|---|---|---|
| FLSR/L-2020M2 | 2.0 | 20.0 | 3.00 | 25.00 | 125.00 | FL/IN_-2 |
| FLSR/L-2020M3 | 3.0 | 20.0 | 5.00 | 25.00 | 125.00 | FL/IN_-3 |
| FLSR/L-2525M2 | 2.0 | 25.0 | 3.00 | 32.00 | 150.00 | FL/IN_-2 |
| FLSR/L-2525M3 | 3.0 | 25.0 | 5.00 | 32.00 | 150.00 | FL/IN_-3 |

(1) Seat size code

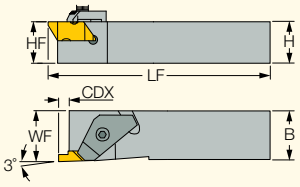
**Inserts:** 60° PARTIAL PROFILE THREADING FLT • 60° PARTIAL PROFILE THREADING FLT-CB • 60° PARTIAL PROFILE THREADING FLTF • 60° PARTIAL PROFILE THREADING FLTK • 60° PARTIAL PROFILE THREADING FLTP • ACME THREADING FLA • ACME THREADING FLA-PT-E • ACME THREADING FLAS • AMERICAN STANDARD BUTTRESS THREADING FLTB-A • AMERICAN STANDARD BUTTRESS THREADING FLTB-B • API PARTIAL PROFILE THREADING FLD • API ROUND THREADING FLDC-RD-75 • API ROUND THREADING FLDC-RD-75-CB • NPT THREADING FLDC-V-75 • STUB ACME THREADING FLAS-PT-E • UN THREADING FLTC-E • UNJ THREADING FLJ • UNJ THREADING FLJF • UNJ THREADING FLJK • UNJ THREADING FLJP

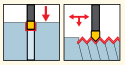
NOTCH GRIP GROOVE-TURN LINE

ISCARTHREAD

## FLASR/L

External Tools for Grooving and Threading for Swiss-type Machines

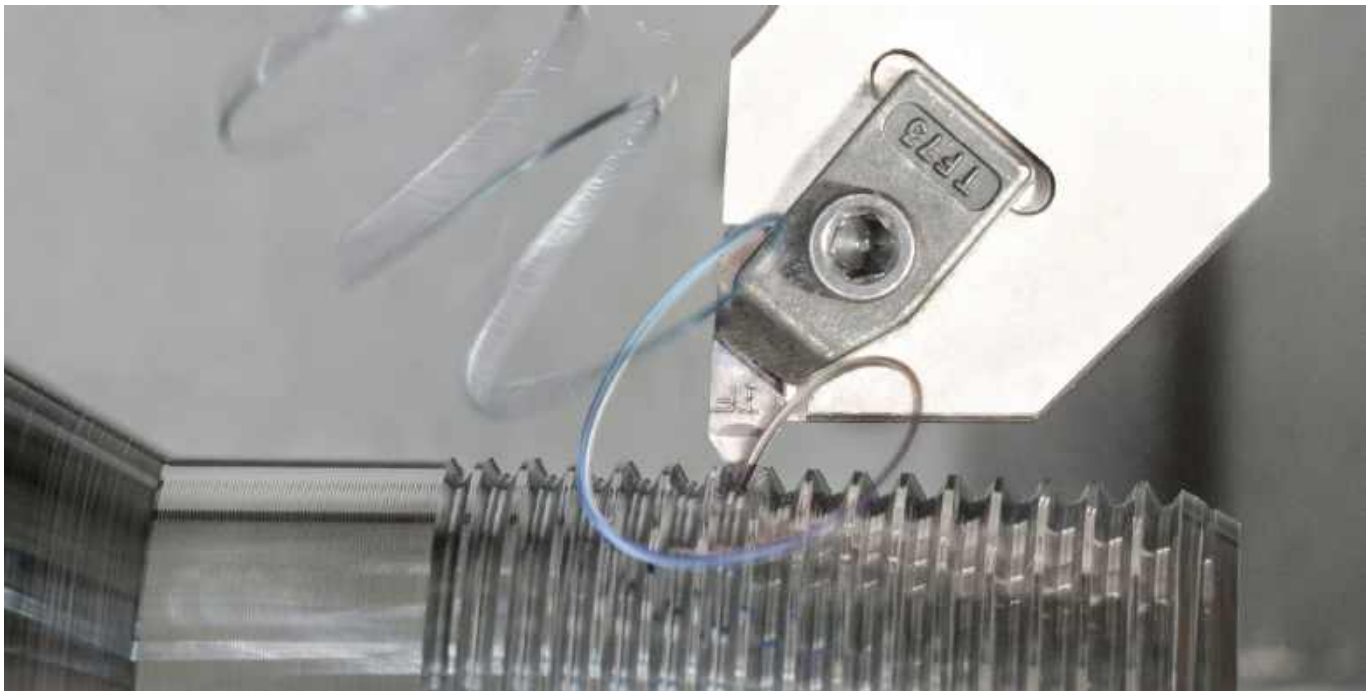


| Designation | SSC(1) | H | HF | B | CDX | WF | LF | Insert |
|---|---|---|---|---|---|---|---|---|
| FLASR/L-1010M2 | 2.0 | 10.0 | 10.0 | 10.0 | 3.51 | 10.00 | 150.00 | FL/IN_-2 |
| FLASR/L-1212M2 | 2.0 | 12.0 | 12.0 | 12.0 | 3.51 | 12.00 | 150.00 | FL/IN_-2 |
| FLASR-1616M2 | 2.0 | 16.0 | 16.0 | 16.0 | 3.51 | 16.00 | 150.00 | FL/IN_-2 |
| FLASR/L-1616M3 | 3.0 | 16.0 | 16.0 | 16.0 | 5.31 | 16.00 | 125.00 | FL/IN_-3 |

(1) Seat size code

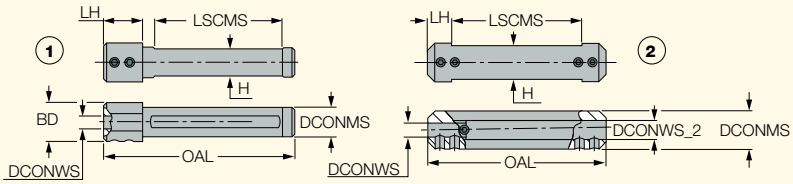
**Inserts:** 60° PARTIAL PROFILE THREADING FLT • 60° PARTIAL PROFILE THREADING FLT-CB • 60° PARTIAL PROFILE THREADING FLTF • 60° PARTIAL PROFILE THREADING FLTK • 60° PARTIAL PROFILE THREADING FLTP • ACME THREADING FLA • ACME THREADING FLA-PT-E • ACME THREADING FLAS • AMERICAN STANDARD BUTTRESS THREADING FLTB-A • AMERICAN STANDARD BUTTRESS THREADING FLTB-B • API PARTIAL PROFILE THREADING FLD • API ROUND THREADING FLDC-RD-75 • API ROUND THREADING FLDC-RD-75-CB • NPT THREADING FLDC-V-75 • STUB ACME THREADING FLAS-PT-E • UN THREADING FLTC-E • UNJ THREADING FLJ • UNJ THREADING FLJF • UNJ THREADING FLJK • UNJ THREADING FLJP



## PICCOCUT

### PICCO/MG PCO (holder)

Holders for PICCO Inserts and Small Diameter Boring Bars

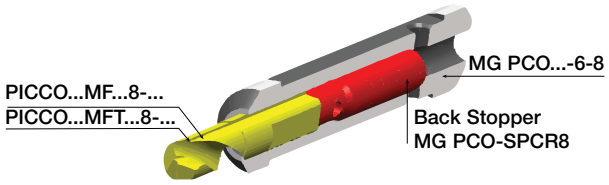



| Designation | DCONMS | DCONWS | DCONWS_2 | OAL | LH | LSCMS | H | BD | Fig. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PICCO 12-4-5 | 12.00 | 4.00 | 5.00 | 75.00 | 10.00 | 55.00 | 10.3 | - | 2 | SR M5X4-PF | HW 2.5 | | |
| PICCO 16-4-5 | 16.00 | 4.00 | 5.00 | 75.00 | 10.00 | 55.00 | 14.0 | - | 2 | SR M5X6-PF | HW 2.5 | | |
| PICCO 20-4-5 | 20.00 | 4.00 | 5.00 | 90.00 | 10.00 | 70.00 | 18.0 | - | 2 | SR M5X6-PF | HW 2.5 | | |
| PICCO 22-4-5 (1) | 22.00 | 4.00 | 5.00 | 90.00 | 10.00 | 70.00 | 20.0 | - | 2 | SR M5X6-PF | HW 2.5 | | |
| PICCO 16-6-7 | 16.00 | 6.00 | 7.00 | 75.00 | 10.00 | 55.00 | 14.0 | - | 2 | SR M5X6-PF | HW 2.5 | | |
| PICCO 20-6-7 | 20.00 | 6.00 | 7.00 | 90.00 | 10.00 | 70.00 | 18.0 | - | 2 | SR M5X6-PF | HW 2.5 | | |
| PICCO 22-6-7 (1) | 22.00 | 6.00 | 7.00 | 90.00 | 10.00 | 70.00 | 20.0 | - | 2 | SR M5X6-PF | HW 2.5 | | |
| MG PCO-12-6 | 12.00 | 6.00 | - | 75.00 | 15.00 | 50.80 | 11.0 | 18.00 | 1 | SR M5X6-PF | HW 2.5 | | |
| MG PCO-16-6-8 | 16.00 | 6.00 | 8.00 | 75.00 | 10.00 | 55.00 | 14.0 | - | 2 | SR M5X6-PF | HW 2.5 | | MG PCO-SPCR8 |
| MG PCO-20-6-8 | 20.00 | 6.00 | 8.00 | 90.00 | 10.00 | 70.00 | 18.0 | - | 2 | SR M5X6-PF | HW 2.5 | | MG PCO-SPCR8 |
| MG PCO-22-6-8 (1) | 22.00 | 6.00 | 8.00 | 90.00 | 10.00 | 70.00 | 20.0 | - | 2 | SR M5X6-PF | HW 2.5 | | MG PCO-SPCR8 |
| MG PCO-25-6-8 | 25.00 | 6.00 | 8.00 | 90.00 | 10.00 | 70.00 | 23.0 | - | 2 | SR M5X6-PF | HW 2.5 | | MG PCO-SPCR8 |
| MG PCO-16-9 | 16.00 | 9.00 | - | 75.00 | 15.00 | 53.00 | 15.0 | 20.00 | 1 | SR M5X6-PF | HW 2.5 | PL 16 | |

- Holders are suitable for right- and left-hand inserts, and boring bars

(1) Tools for Swiss-type CNC

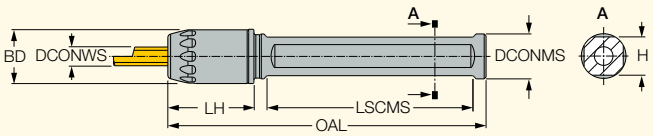
**Tools:** PICIN-MGSIR/L • PICIN-SCLCR/L • PICIN-SWUBR/L




## PICCOACE

### PICCO ACE

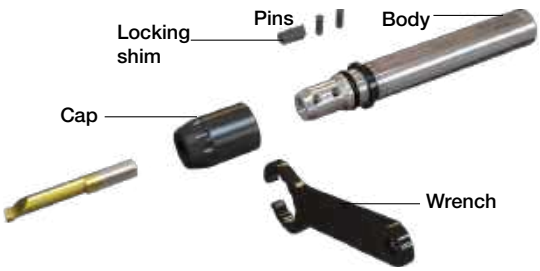
Holders for PICCOCUT Inserts

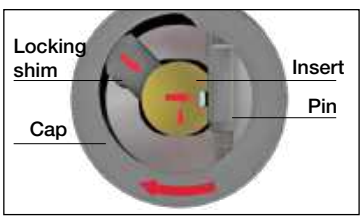



| Designation | DCONMS | DCONWS | BD | OAL | LH | LSCMS | H | | |
|---|---|---|---|---|---|---|---|---|---|
| PICCO ACE 12-4 | 12.00 | 4.00 | 14.50 | 85.00 | 23.00 | 53.00 | 10.3 | PL 16 M6-D5 | WRENCH ACE 4-5 |
| PICCO ACE 12-5 | 12.00 | 5.00 | 14.50 | 85.00 | 23.00 | 53.00 | 10.3 | PL 16 M6-D5 | WRENCH ACE 4-5 |
| PICCO ACE 16-4 | 16.00 | 4.00 | 14.50 | 85.00 | 21.50 | 53.50 | 14.0 | PL 16 M6-D5 | WRENCH ACE 4-5 |
| PICCO ACE 16-5 | 16.00 | 5.00 | 14.50 | 85.00 | 21.50 | 53.00 | 14.0 | PL 16 M6-D5 | WRENCH ACE 4-5 |
| PICCO ACE 16-6 | 16.00 | 6.00 | 19.90 | 85.00 | 23.00 | 53.50 | 14.0 | PL 16 M6-D5 | WRENCH ACE 6-7 |
| PICCO ACE 16-7 | 16.00 | 7.00 | 19.90 | 85.00 | 23.00 | 53.50 | 14.0 | PL 16 M6-D5 | WRENCH ACE 6-7 |
| PICCO ACE 20-4 | 20.00 | 4.00 | 14.50 | 150.00 | 21.50 | 118.00 | 18.0 | PL 16 M6-D5 | WRENCH ACE 4-5 |
| PICCO ACE 20-5 | 20.00 | 5.00 | 14.50 | 150.00 | 21.50 | 118.00 | 18.0 | PL 16 M6-D5 | WRENCH ACE 4-5 |
| PICCO ACE 20-6 | 20.00 | 6.00 | 19.90 | 150.00 | 21.50 | 118.00 | 18.0 | PL 16 M6-D5 | WRENCH ACE 6-7 |
| PICCO ACE 20-7 | 20.00 | 7.00 | 19.90 | 150.00 | 21.50 | 118.00 | 18.0 | PL 16 M6-D5 | WRENCH ACE 6-7 |
| PICCO ACE 22-4 | 22.00 | 4.00 | 14.50 | 150.00 | 21.50 | 118.00 | 20.0 | PL 16 M6-D5 | WRENCH ACE 4-5 |
| PICCO ACE 22-5 | 22.00 | 5.00 | 14.50 | 150.00 | 21.50 | 118.00 | 20.0 | PL 16 M6-D5 | WRENCH ACE 4-5 |
| PICCO ACE 22-6 | 22.00 | 6.00 | 19.90 | 150.00 | 21.50 | 118.00 | 20.0 | PL 16 M6-D5 | WRENCH ACE 6-7 |
| PICCO ACE 22-7 | 22.00 | 7.00 | 19.90 | 150.00 | 21.50 | 118.00 | 20.0 | PL 16 M6-D5 | WRENCH ACE 6-7 |
| PICCO ACE 25-4 | 25.00 | 4.00 | 14.50 | 150.00 | 21.50 | 118.00 | 20.0 | PL 16 M6-D5 | WRENCH ACE 4-5 |
| PICCO ACE 25-5 | 25.00 | 5.00 | 14.50 | 150.00 | 21.50 | 118.00 | 20.0 | PL 16 M6-D5 | WRENCH ACE 4-5 |
| PICCO ACE 25-6 | 25.00 | 6.00 | 19.90 | 150.00 | 21.50 | 118.00 | 20.0 | PL 16 M6-D5 | WRENCH ACE 6-7 |
| PICCO ACE 25-7 | 25.00 | 7.00 | 19.90 | 150.00 | 21.50 | 118.00 | 20.0 | PL 16 M6-D5 | WRENCH ACE 6-7 |

- Holders are suitable for right- and left-hand PICCO inserts

**Tools:** PICIN-MGSIR/L • PICIN-SCLCR/L • PICIN-SWUBR/L



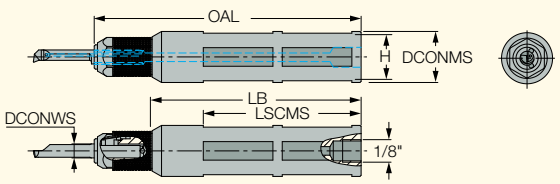






PICCOACE JETCUT

## PICCO ACE-N

Holders for PICCO-JETCUT Inserts with Internal Coolant Channels




| Designation | DCONMS | DCONWS | OAL | LSCMS | LB | H |
|---|---|---|---|---|---|---|
| PICCO ACE 16-4N | 16.00 | 4.05 | 115.00 | 68.00 | 90.00 | 14.0 |
| PICCO ACE 16-5N | 16.00 | 5.05 | 115.00 | 68.00 | 90.00 | 14.0 |
| PICCO ACE 16-6N | 16.00 | 6.05 | 115.00 | 68.00 | 90.00 | 14.0 |
| PICCO ACE 16-7N | 16.00 | 7.05 | 115.00 | 68.00 | 90.00 | 14.0 |
| PICCO ACE 20-4N | 20.00 | 4.05 | 115.00 | 68.00 | 90.00 | 18.0 |
| PICCO ACE 20-5N | 20.00 | 5.05 | 115.00 | 68.00 | 90.00 | 18.0 |
| PICCO ACE 20-6N | 20.00 | 6.05 | 115.00 | 68.00 | 90.00 | 18.0 |
| PICCO ACE 20-7N | 20.00 | 7.05 | 115.00 | 68.00 | 90.00 | 18.0 |
| PICCO ACE 22-4N | 22.00 | 4.05 | 115.00 | 68.00 | 90.00 | 20.0 |
| PICCO ACE 22-6N | 22.00 | 6.05 | 115.00 | 68.00 | 90.00 | 20.0 |
| PICCO ACE 25-4N | 25.00 | 4.05 | 115.00 | 68.00 | 90.00 | 23.0 |
| PICCO ACE 25-5N | 25.00 | 5.05 | 115.00 | 68.00 | 90.00 | 23.0 |
| PICCO ACE 25-6N | 25.00 | 6.05 | 115.00 | 68.00 | 90.00 | 23.0 |
| PICCO ACE 25-7N | 25.00 | 7.05 | 115.00 | 68.00 | 90.00 | 23.0 |

- Holders are suitable for right and left-hand PICCO...-N type solid tools only

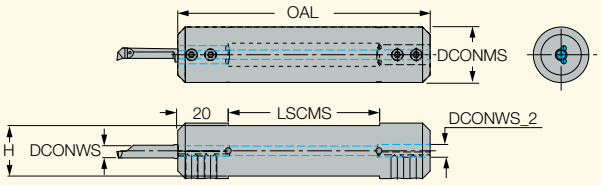
### Spare Parts

| Designation |  |  |  |
|---|---|---|---|
| PICCO ACE 16-4N | UM600H.K | UM600H.M4 | PIN 2X10 DIN6325 |
| PICCO ACE 16-5N | UM600H.K | UM600H.M5 | PIN 2X10 DIN6325 |
| PICCO ACE 16-6N | UM600H.K | UM600H.M6 | ZAD 2X12 DIN 6325 m6 |
| PICCO ACE 16-7N | UM600H.K | UM600H.M7 | ZAD 2X12 DIN 6325 m6 |
| PICCO ACE 20-4N | UM600H.K | UM600H.M4 | PIN 2X10 DIN6325 |
| PICCO ACE 20-5N | UM600H.K | UM600H.M5 | PIN 2X10 DIN6325 |
| PICCO ACE 20-6N | UM600H.K | UM600H.M6 | ZAD 2X12 DIN 6325 m6 |
| PICCO ACE 20-7N | UM600H.K | UM600H.M7 | ZAD 2X12 DIN 6325 m6 |
| PICCO ACE 22-4N | UM600H.K | UM600H.M4 | PIN 2X10 DIN6325 |
| PICCO ACE 22-6N | UM600H.K | UM600H.M6 | ZAD 2X12 DIN 6325 m6 |
| PICCO ACE 25-4N | UM600H.K | UM600H.M4 | PIN 2X10 DIN6325 |
| PICCO ACE 25-5N | UM600H.K | UM600H.M5 | PIN 2X10 DIN6325 |
| PICCO ACE 25-6N | UM600H.K | UM600H.M6 | ZAD 2X12 DIN 6325 m6 |
| PICCO ACE 25-7N | UM600H.K | UM600H.M7 | ZAD 2X12 DIN 6325 m6 |

JETCUT PICCOCUT

## PICCO-N (holder)

Holders for PICCO-JETCUT Inserts with Internal Coolant Channels



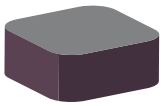
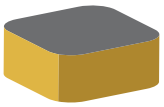
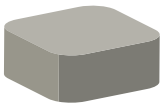

| Designation | DCONMS | DCONWS | DCONWS_2 | OAL | LSCMS | H |  |
|---|---|---|---|---|---|---|---|
| PICCO 16-4-5N | 16.00 | 4.05 | 5.05 | 85.00 | 45.00 | 14.0 | SR M5X0.5X6 T10 |
| PICCO 20-4-5N | 20.00 | 4.05 | 5.05 | 100.00 | 60.00 | 18.0 | SR M5X0.5X8 T10 |
| PICCO 22-4-5N | 22.00 | 4.05 | 5.05 | 100.00 | 60.00 | 20.0 | SR M5X0.5X8 T10 |
| PICCO 16-6-7N | 16.00 | 6.05 | 7.05 | 85.00 | 45.00 | 14.0 | SR M5X0.5X6 T10 |
| PICCO 16-6-8N | 16.00 | 6.05 | 8.00 | 85.00 | 45.00 | 14.0 | SR M5X0.5X6 T10 |
| PICCO 20-6-7N | 20.00 | 6.05 | 7.05 | 100.00 | 60.00 | 18.0 | SR M5X0.5X8 T10 |
| PICCO 20-6-8N | 20.00 | 6.05 | 8.00 | 100.00 | 60.00 | 18.0 | SR M5X0.5X8 T10 |
| PICCO 22-6-7N | 22.00 | 6.05 | 7.05 | 100.00 | 60.00 | 20.0 | SR M5X0.5X8 T10 |

- Holders are suitable for right- and left-hand inserts, and boring bars

## Machining Data for Threading

| ISO | Material | | Condition | Tensile Strength ($N/mm^2$) | Hardness HB | Material Group No. | Coated | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | IC228 | IC908 | IC808 | IC1007 |
| | | | | | | | Cutting Speed (m/min) | | | |
| P | Non-alloy steel and cast steel, free cutting steel | < 0.25 %C | Annealed | 420 | 125 | 1 | 60-100 | 115-190 | 125-205 | 135-230 |
| | | >= 0.25 %C | Annealed | 650 | 190 | 2 | 60-95 | 110-180 | 120-195 | 130-220 |
| | | < 0.55 %C | Quenched and tempered | 850 | 250 | 3 | 50-90 | 100-175 | 105-185 | 120-210 |
| | | >= 0.55 %C | Annealed | 750 | 220 | 4 | 45-85 | 90-165 | 95-175 | 110-200 |
| | | | Quenched and tempered | 1000 | 300 | 5 | 45-85 | 90-165 | 95-175 | 110-200 |
| | Low alloy and cast steel (less than 5% of alloying elements) | | Annealed | 600 | 200 | 6 | 50-95 | 100-180 | 105-195 | 120-215 |
| | | | Quenched and tempered | 930 | 275 | 7 | 40-75 | 75-140 | 80-150 | 90-170 |
| | | | | 1000 | 300 | 8 | 35-70 | 70-135 | 75-145 | 85-160 |
| | | | | 1200 | 350 | 9 | 35-70 | 70-135 | 75-145 | 85-160 |
| | High alloyed steel, cast steel, and tool steel | | Annealed | 680 | 200 | 10 | 40-65 | 80-120 | 85-130 | 95-145 |
| | | | Quenched and tempered | 1100 | 325 | 11 | 25-50 | 50-100 | 55-105 | 60-120 |
| | Stainless steel and cast steel | | Ferritic/martensitic | 680 | 200 | 12 | 35-70 | 70-130 | 75-140 | 85-155 |
| | | | Martensitic | 820 | 240 | 13 | 45-60 | 85-110 | 90-120 | 100-130 |
| M | Stainless steel and cast steel | | Austenitic, duplex | 600 | 180 | 14 | 45-75 | 90-140 | 95-150 | 110-170 |
| K | Gray cast iron (GG) | | Ferritic/pearlitic | | 180 | 15 | 65-85 | 125-160 | 135-170 | 150-190 |
| | | | Pearlitic /martensitic | | 260 | 16 | 45-65 | 90-120 | 95-130 | 110-145 |
| | Nodular cast iron (GGG) | | Ferritic | | 160 | 17 | 35-70 | 70-130 | 75-140 | 85-155 |
| | | | Pearlitic | | 250 | 18 | 30-60 | 60-115 | 65-125 | 70-140 |
| | Malleable cast iron | | Ferritic | | 130 | 19 | 30-35 | 60-70 | 65-75 | 70-85 |
| | | | Pearlitic | | 230 | 20 | 30-75 | 60-145 | 65-155 | 70-175 |
| N | Aluminum-wrought alloys | | Not hardenable | | 60 | 21 | 50-195 | 100-365 | 105-390 | 120-440 |
| | | | Hardenable | | 100 | 22 | 40-115 | 80-220 | 85-235 | 95-265 |
| | Aluminum-cast alloys | <=12% Si | Not hardenable | | 75 | 23 | 105-215 | 200-400 | 215-430 | 240-480 |
| | | | Hardenable | | 90 | 24 | 105-150 | 200-280 | 215-300 | 240-335 |
| | | >12% Si | High temperature | | 130 | 25 | 105-150 | 200-280 | 215-300 | 240-335 |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 | 40-135 | 80-255 | 85-275 | 95-305 |
| | | | Brass | | 90 | 27 | 40-135 | 80-255 | 85-275 | 95-305 |
| | | | Electrolytic copper | | 100 | 28 | 40-130 | 80-255 | 85-275 | 95-305 |
| | Non metallic | | Duroplastics, fiber plastics | | | 29 | 40-130 | 80-250 | 85-265 | 95-300 |
| | | | Hard rubber | | | 30 | 40-130 | 80-250 | 85-265 | 95-300 |
| S | High temperature alloys | Fe based | Annealed | | 200 | 31 | 25-30 | 45-60 | 50-65 | 55-70 |
| | | | Hardened | | 280 | 32 | 15-25 | 35-50 | 35-55 | 40-60 |
| | | Ni or Co based | Annealed | | 250 | 33 | 10-15 | 20-30 | 20-30 | 25-35 |
| | | | Hardened | | 350 | 34 | 5-10 | 15-25 | 15-25 | 18-30 |
| | | | Cast | | 320 | 35 | 5-10 | 15-25 | 15-25 | 18-30 |
| | Titanium alloys | | Pure | 400 | | 36 | 75-90 | 140-170 | 150-180 | 170-205 |
| | | | Alpha+beta alloys hardened | 1050 | | 37 | 25-35 | 50-70 | 55-75 | 60-85 |
| H | Hardened steel | | Hardened | | 55 HRC | 38 | 25-30 | 45-60 | 50-65 | 55-70 |
| | | | Hardened | | 60 HRC | 39 | 25-30 | 45-60 | 50-65 | 55-70 |
| | Chilled cast iron | | Cast | | 400 | 40 | 25-30 | 45-60 | 50-65 | 55-70 |
| | Cast iron | | Hardened | | 55 HRC | 41 | 25-30 | 45-60 | 50-65 | 55-70 |

## ISCAR Threading Grades Chart

| | Grade | ISO | Grade Description | Coating Layers | Coating Color* |
|---|---|---|---|---|---|
| PVD COATED | IC228 | P30-P45<br>M25-M40 | A very substrate with PVD coating, suitable for machining steels and stainless steel at low to medium cutting speeds. | TiN<br>TICN<br>Base |  |
| | IC250 | P15-P35<br>M20-M40 | A tough substrate with PVD coating. Suitable for machining steels and alloy steels at low to medium cutting speeds. | TiN<br>TICN<br>Base |  |
| | IC806 | M05-M15<br>S10-S20 | A hard submicron grain size substrate with PVD coating and a special SUMOTEC surface treatment. Excellent for machining high temperature alloys and Titanium alloys, at moderate to relatively high cutting speeds. Features high wear resistance and plastic deformation durability. | TiAlN<br>AlTiN<br>Base |  |
| | IC808 | P15-P30<br>M20-M30<br>K20-K40<br>S15-S30<br>H20-H30 | A tough submicron grain size substrate with PVD coating and a special SUMOTEC surface treatment. Recommended for general use for a large variety of applications and materials such as steels, alloy steels, austenitic stainless steel and high temperature alloys at moderate cutting speeds and feeds. Features high wear resistance and chipping durability. | TiN<br>TiAlN<br>Base |  |
| | IC908 | P15-P30<br>M20-M30<br>K20-K40<br>S15-S30<br>H20-H30 | A tough submicron grain size substrate with PVD coating, recommended for general use in a large variety of operations and materials such as steels, alloy steels, austenitic stainless steel and high temperature alloys at moderate cutting speeds. Features high wear resistance and chipping durability. | TiAlN<br>Base |  |
| | IC1007 | P10-P20<br>M05-M15<br>K15-K30<br>S10-S20<br>H05-H15 | A hard submicron grain size substrate with PVD coating, suitable for a wide range of materials such as steels, alloy steels, hard steels, austenitic stainless steel and heat resistant alloys at moderate to high speeds under stable conditions. Features high wear resistance and plastic deformation durability. Good choice for non-ferrous materials and cast iron. | TiN<br>TiAlN<br>Base |  |

* For coated grades

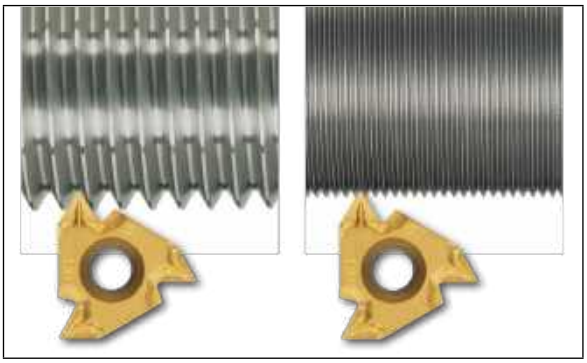
| | Grade | ISO | Grade Description | Coating Layers | Uncoated |
|---|---|---|---|---|---|
| UNCOATED | IC08 | M15-M30<br>N10-N25<br>S20-S30 | A tough uncoated submicron carbide grade, suitable for steels, stainless steel and high temperature alloys at low cutting speeds. Good choice for non-ferrous materials. | Base |  |

## User Guide and Cutting Data

### Types and Profiles of Threading Inserts

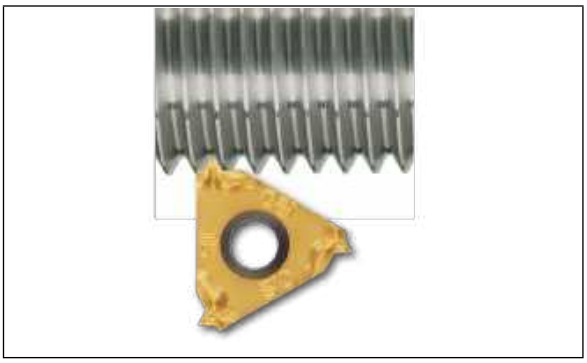
#### Partial Profile

- Performs different thread standards and is suitable for a wide range of pitches that have a common angle (60º or 55º)
- Inserts with a small root-corner radius suitable for the smallest pitch of the range
- Additional operations to complete the outer/ internal diameter are necessary
- Not recommended for mass production
- Eliminates the need for different inserts

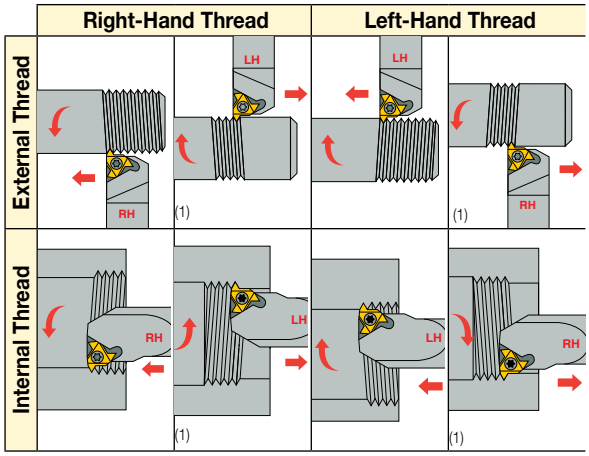


#### Full Profile

- Performs a complete thread profile
- Root corner radius is only suitable for the relevant pitch
- Recommended for mass production
- Suitable for one profile only



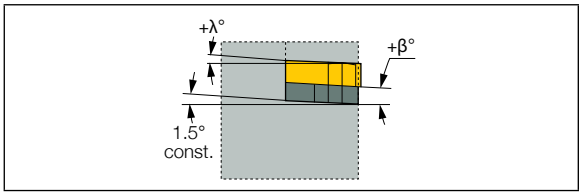
### Thread Turning Methods



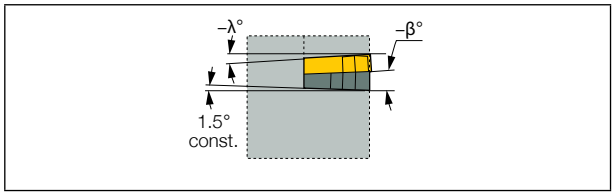

(1) Change anvil to negative

## Anvil Selection According to Thread Helix Angle λ

| | | Standard | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Thread Helix Angle λ | | >4° | 3°-4° | 2°-3° | 1°-2° | 0°-1° | Negative Anvils | |
| | Inclination Angle β | 4.5° | 3.5° | 2.5° | 1.5° | 0.5° | -0.5° | -1.5° |
| I (d) | Toolholder | Anvil Designation | | | | | | |
| 16 | EX RH OR IN LH | AE16+4.5 | AE16+3.5 | AE16+2.5 | AE16 | AE16+0.5 | AE16-0.5 | AE16-1.5 |
| (3/8) | EX LH OR IN RH | AI16+4.5 | AI16+3.5 | AI16+2.5 | AI16 | AI16+0.5 | AI16-0.5 | AI16-1.5 |
| 22 | EX RH OR IN LH | AE22+4.5 | AE22+3.5 | AE22+2.5 | AE22 | AE22+0.5 | AE22-0.5 | AE22-1.5 |
| (1/2) | EX LH OR IN RH | AI22+4.5 | AI22+3.5 | AI22+2.5 | AI22 | AI22+0.5 | AI22-0.5 | AI22-1.5 |
| 27 | EX RH OR IN LH | AE27+4.5 | AE27+3.5 | AE27+2.5 | AE27 | AE27+0.5 | AE27-0.5 | AE27-1.5 |
| (5/8) | EX LH OR IN RH | AI27+4.5 | AI27+3.5 | AI27+2.5 | AI27 | AI27+0.5 | AI27-0.5 | AI27-1.5 |
| 22U | EX RH OR IN LH | AE22U+4.5 | AE22U+3.5 | AE22U+2.5 | AE22U | AE22U+0.5 | AE22U-0.5 | AE22U-1.5 |
| (1/2U) | EX LH OR IN RH | AI22U+4.5 | AI22U+3.5 | AI22U+2.5 | AI22U | AI22U+0.5 | AI22U-0.5 | AI22U-1.5 |
| 27U | EX RH OR IN LH | AE27U+4.5 | AE27U+3.5 | AE27U+2.5 | AE27U | AE27U+0.5 | AE27U-0.5 | AE27U-1.5 |
| (5/8U) | EX LH OR IN RH | AI27U+4.5 | AI27U+3.5 | AI27U+2.5 | AI27U | AI27U+0.5 | AI27U-0.5 | AI27U-1.5 |



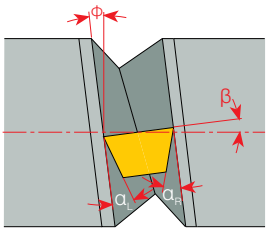
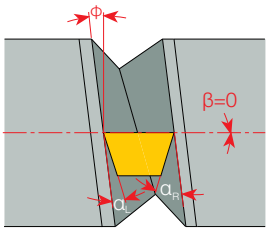

Anvils for positive inclination angle applicable when turning **RH** thread with **RH** holders or **LH** thread with **LH** toolholders.




Anvils for negative inclination used when turning **RH** thread with **LH** holder or **LH** thread with **RH** toolholder.

## Anvils for Laydown Inserts

The parameter for tilting the threading insert relative to the helix angle of threading is of great importance when threading is produced. This parameter ensures proper operation of the insert during threading production in terms of equal load distribution applied to the insert, equal distribution of forces operating on the insert, development of uniform wear on both sides of the cutting edge, and avoiding friction of the insert with the side of the threading profile. If the side clearance insert angles (α) are not equal in relation to the helix angle (φ), the insert must be tilted. This is performed by using anvils.

| Recommended | Less Recommended |
|---|---|
| $\alpha_L=\alpha_R$ | $\alpha_L\neq\alpha_R$ |
|  |  |



### Quick and easy way to select a correct anvil

Helix (Lead) angle calculation by formula

or

Helix (Lead) angle area from the graph

↓

Recommendation for an inclination angle (β°) according to the thread turning method definition and dependent on the thread standard

↓

Recommendation for a suitable anvil according to the insert size and type of toolholder (internal or external)

The anvil should be selected from the table according to the threading standard. The correct anvil depends on the right inclination angle (β) and insert size. The inclination angle (β) is obtained by selecting the thread turning method and finding the helix angle (ϕ) for single-start threading, or lead angle (ϕL) for the multi-start threading.
The helix angle (ϕ) and the lead angle (ϕL) are determined as exact values by using the formula below or as a graph area (see below: Helix (Lead) angle area by using graph, depending on the threading diameter and lead.

| **Helix angle ($\phi$) calculation by using the Single-Start Threading Formula** | **Lead angle ($\phi_L$) calculation by using the Single-Start Threading Formula** |
|---|---|
| $\phi=\arctan\left(\frac{P}{\pi \times Dpitch}\right)$ | $\phi_L=\arctan\left(\frac{Lead}{\pi \times Dpitch}\right)$<br>$Lead= n \times P$ |
| When:<br>$\phi$ = Helix angle<br>Dpitch = Pitch diameter*<br>* effective diameter of threading<br>$P$ = Threading pitch<br>$\pi$ ≈ 3.142 | When:<br>$\phi_L$ = Lead angle<br>Dpitch = Pitch diameter*<br>* effective diameter of threading<br>$P$ = Threading pitch<br>$n$ = number of threading starts<br>$\pi$ ≈ 3.142 |

**Usable formulas**

$$\text{Lead (inch)} = \frac{1 \text{ inch}}{\text{TPI}} \times \text{No. of starts}$$

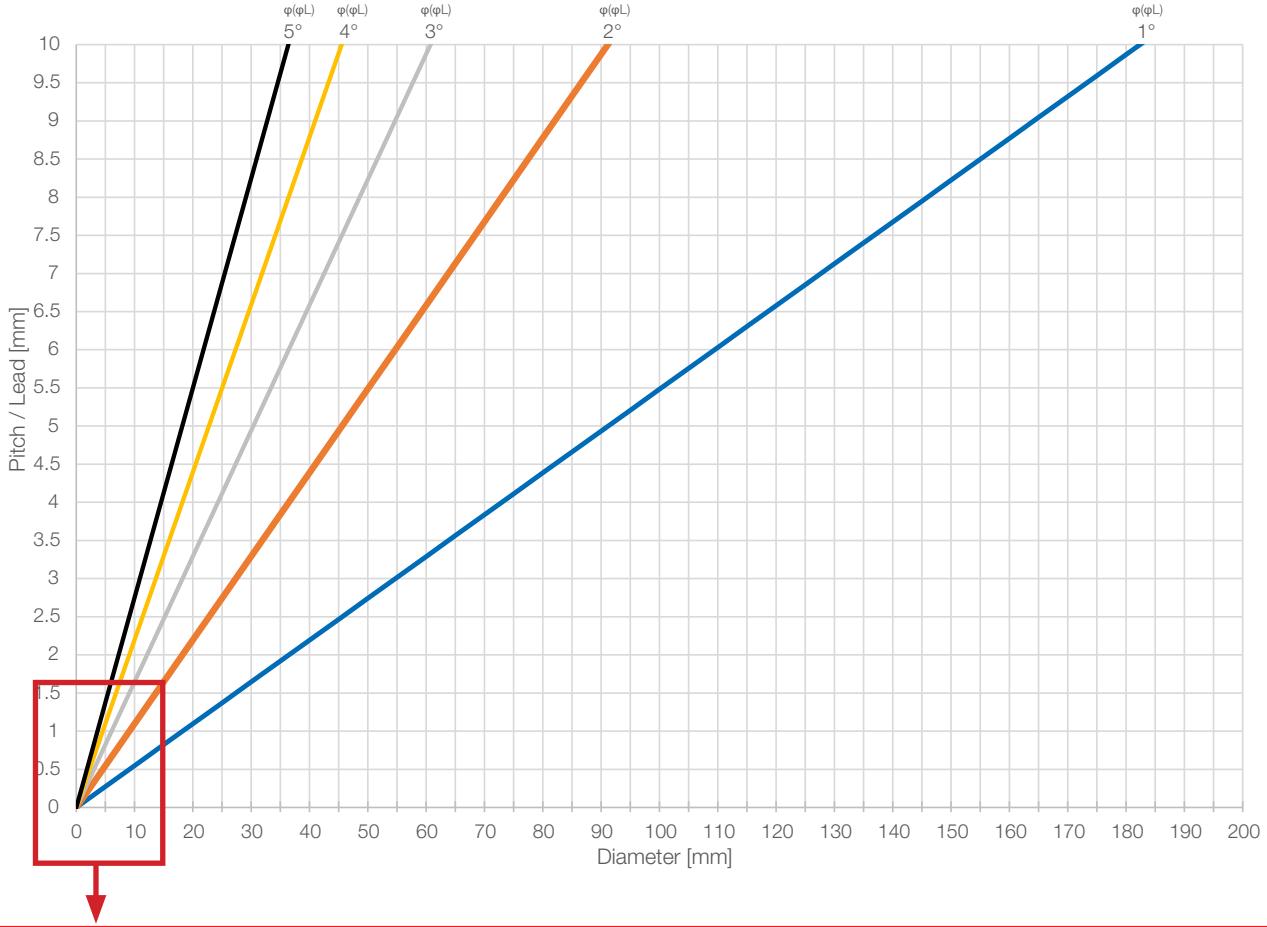
TPI = No. of threading per inch

1 inch = 25.4 mm

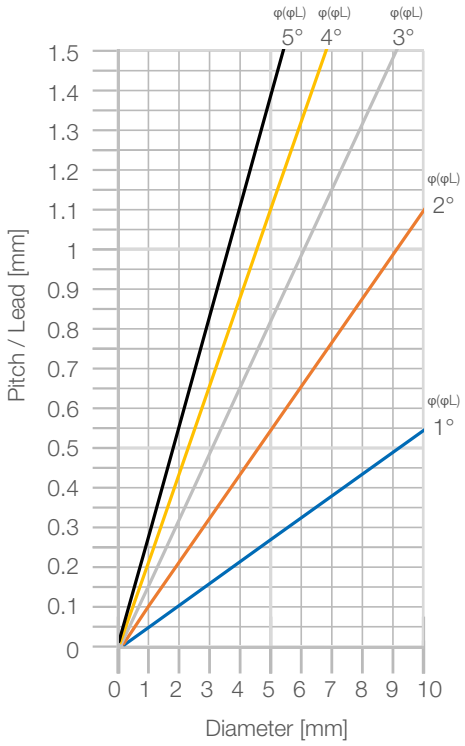
$$\text{Pitch (mm)} = \frac{25.4}{\text{TPI}}$$

## Helix (Lead) angle area by using graph

Helix angle evaluation

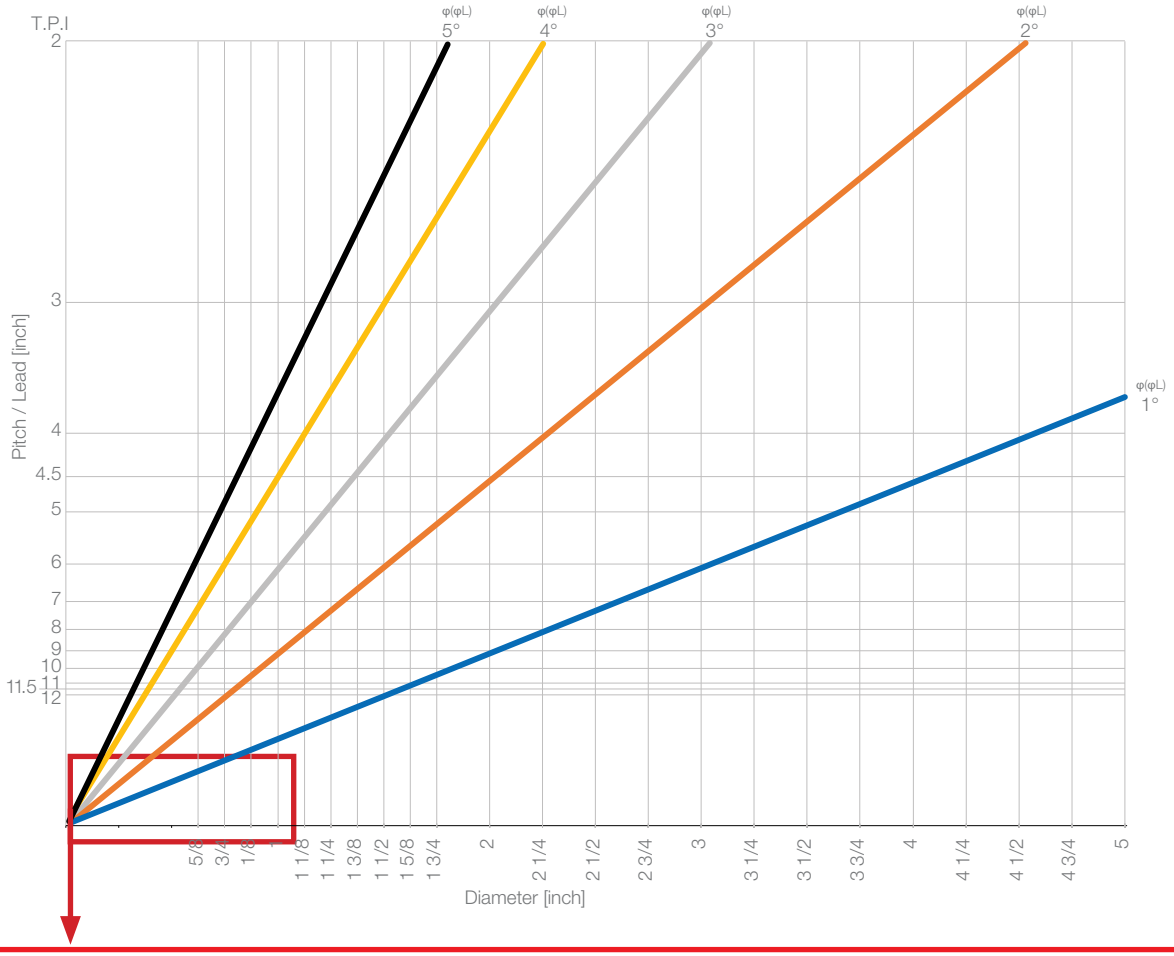



Detailed view for small pitch/diameter

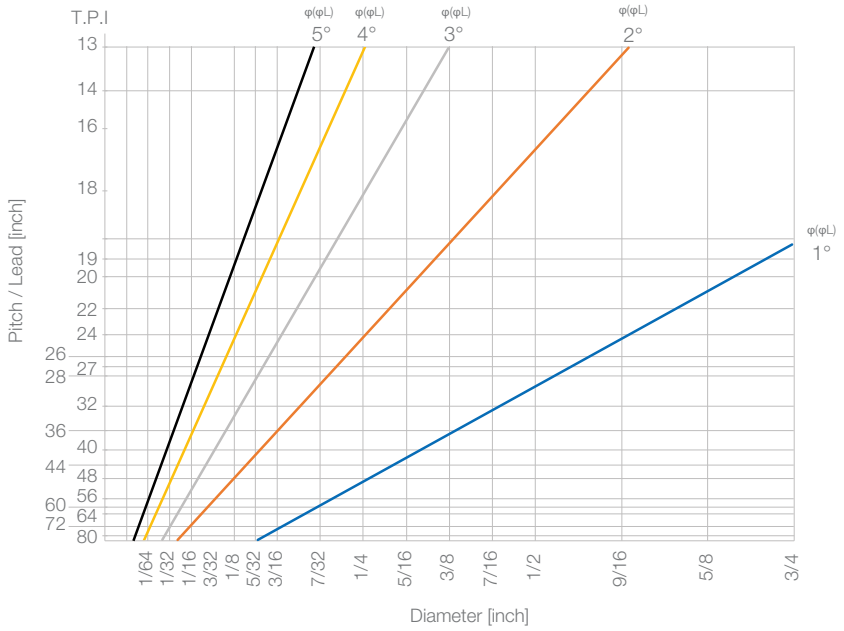


## Helix (Lead) angle area by using graph

Helix angle evaluation




Detailed view for small pitch/diameter



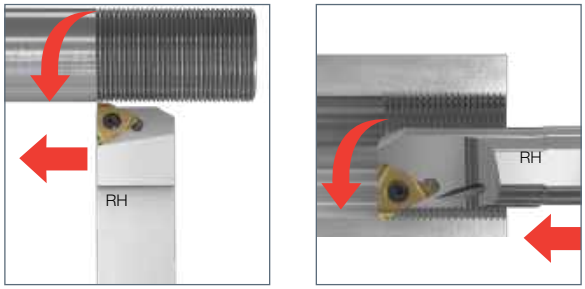
## Anvil selection for symmetric threading profiles

The table below defines the recommended insert inclination angle (β) and anvil selection according to the helix angle (ϕ) for single-start threading and the lead angle (ϕL) for multi-start threading, depending on the threading turning method for machining the following symmetric threading profiles:

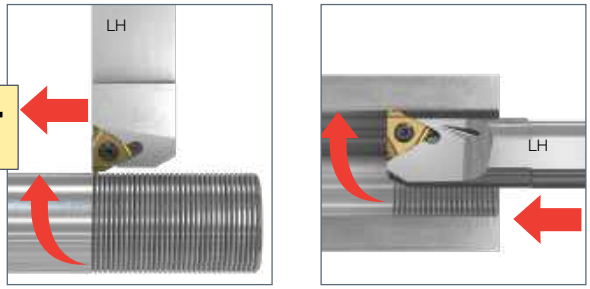
- partial profile threading with an angle profile of 60°, 55° only
- full profile threading according to ISO, UN, Whitworth, NPT, BSPT, Trapeze, ACME, RD standards only

**Thread turning method**

Production of right-hand threading with right-hand holder




Production of left-hand threading with left-hand holder



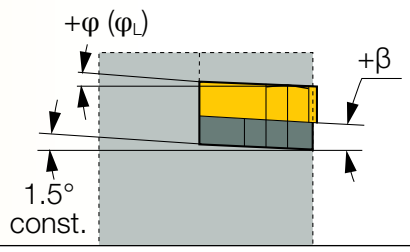

**Anvil selection**

| | | | Positive Anvils | | | | |
|---|---|---|---|---|---|---|---|
| **Threading helix (lead) angle ϕ (ϕL)** | | **ϕ (ϕL)≥ 5°** | **4°≤ϕ (ϕL)<5°** | **3°<ϕ (ϕL)≤4°** | **2°<ϕ (ϕL)≤3°** | **1°<ϕ (ϕL)≤2°** | **0°<ϕ (ϕL)≤1°** |
| **Inclination Angle β** | | | **4.5°** | **3.5°** | **2.5°** | **1.5° (std)** | **0.5°** |
| **IC** | **Toolholder** | **Anvil Designation** | | | | | |
| 16 (3/8) | EX RH OR IN LH EX RH OR IN LH | special solution | AE 16+4.5 AI 16+4.5 | AE 16+3.5 AI 16-3.5 | AE 16+2.5 AI 16+2.5 | * AE 16+1.5 * AI 16+1.5 | AE 16+0.5 AI 16+0.5 |
| 22 (1/2) | EX RH OR IN LH EX RH OR IN LH | | AE 22+4.5 AI 22+4.5 | AE 22+3.5 AI 22+3.5 | AE 22+2.5 AI 22+2.5 | * AE 22+1.5 * AI 22+1.5 | AE 22+0.5 AI 22+0.5 |
| 27 (5/8) | EX RH OR IN LH EX RH OR IN LH | | AE 27-4.5 AI 27+4.5 | AE 27+3.5 AI 27+3.5 | AE 27+2.5 AI 27+2.5 | * AE 27+1.5 * AI 27+1.5 | AE 27+0.5 AI 27+0.5 |
| 22U (1/2U) | EX RH OR IN LH EX RH OR IN LH | | AE 22U+4.5 AI 22U+4.5 | AE 22U+3.5 AI 22U+3.5 | AE 22U+2.5 AI 22U+2.5 | * AE 22U+1.5 * AI 22U+1.5 | AE 22U+0.5 AI 22U+0.5 |
| 27U (5/8U) | EX RH OR IN LH EX RH OR IN LH | | AE 27U+4.5 AI 27U+4.5 | AE 27U+3.5 AI 27U+3.5 | AE 27U+2.5 AI 27U+2.5 | * AE 27U+1.5 * AI 27U+1.5 | AE 27U+0.5 AI 27U+0.5 |

* Standard anvil supplied with tool

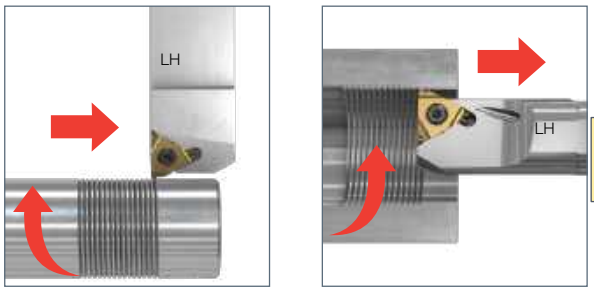
**Positive Anvils**

Feed Towards the Chuck



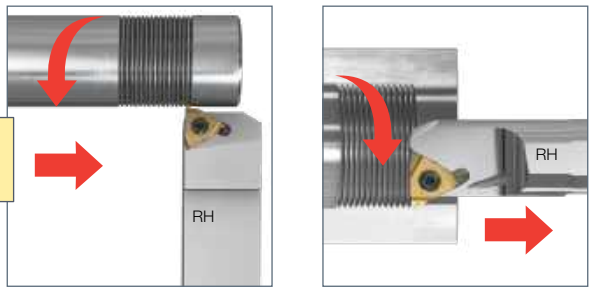
## Thread turning method

Production of right-hand threading with left-hand holder*




* Change anvil to negative

Production of left-had threading with right-hand holder*




* Change anvil to negative

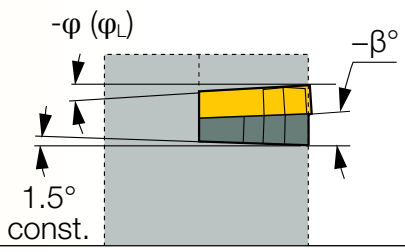
## Anvil selection

| | | Negative Anvils | | |
|---|---|---|---|---|
| **Threading helix (lead) angle ϕ (ϕL)** | | **0°<ϕ (ϕL)≤1°** | **1°<ϕ (ϕL)≤2°** | **ϕ (ϕL)≥2°** |
| **Inclination Angle β** | | **-0.5°** | **-1.5°** | |
| **IC** | **Toolholder** | **Anvil Designation** | | |
| 16<br>(3/8) | EX RH OR IN LH<br>EX RH OR IN LH | AE 16-0.5<br>AI 16-0.5 | AE 16-1.5<br>AI 16-1.5 | special solution |
| 22<br>(1/2) | EX RH OR IN LH<br>EX RH OR IN LH | AE 22-0.5<br>AI 22-0.5 | AE 22-1.5<br>AI 22-1.5 | |
| 27<br>(5/8) | EX RH OR IN LH<br>EX RH OR IN LH | AE 27-0.5<br>AI 27-0.5 | AE 27-1.5<br>AI 27-1.5 | |
| 22U<br>(1/2U) | EX RH OR IN LH<br>EX RH OR IN LH | AE 22U-0.5<br>AI 22U-0.5 | AE22U-1.5<br>AI 22U-1.5 | |
| 27U<br>(5/8U) | EX RH OR IN LH<br>EX RH OR IN LH | AE 27U-0.5<br>AI 27U-0.5 | AE 27U-1.5<br>AI 27U-1.5 | |

- EX - Anvil for external threading
- IN - Anvil for internal threading

## Negative Anvils

Feed Towards the Tailstock

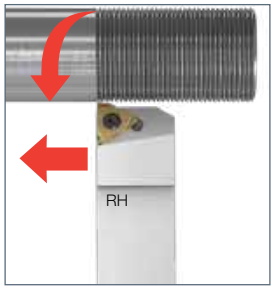


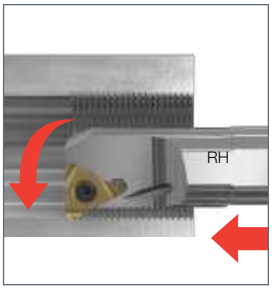
## Anvil selection for ABUT threading standard only

The table below defines the recommended insert inclination angle (β) and anvil selection according to helix angle (ϕ) for single-start threading and according to lead angle (ϕL) for multi-start threading, depending on the threading turning method for machining asymmetric threading profile according to ABUT threading standard only.

**Threading turning method**

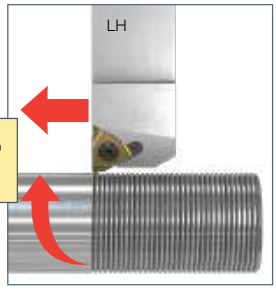
Production of right-hand threading with right-hand holder

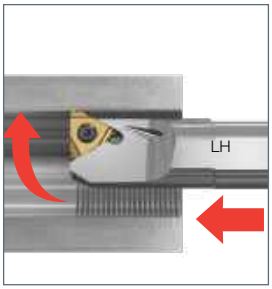



or

Production of left-hand threading with left-hand holder




**Anvil selection**

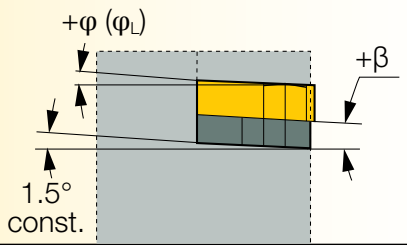
| | | | Positive Anvils | | Negative Anvils | |
|---|---|---|---|---|---|---|
| **Threading helix (lead) angle ϕ (ϕL)** | | **ϕ (ϕL)>3.5°** | **3°<ϕ (ϕL)≤3.5°** | **2°<ϕ (ϕL)≤3°** | **1°<ϕ (ϕL)≤2°** | **0°<ϕ (ϕL)≤1°** |
| **Inclination angle β** | | | **1.5° (std)** | **0.5** | **-0.5°** | **-1.5°** |
| **IC** | **Toolholder** | **Anvil designation** | | | | |
| 16 (3/8) | EX RH OR IN LH<br>EX LH OR IN RH | special solution | * AE 16 +1.5<br>* AI16 +1.5 | AE 16 +0.5<br>AI16 +0.5 | AE 16 -0.5<br>AI 16 -0.5 | AE 16 -1.5<br>AI 16 -1.5 |
| 22 (1/2) | EX RH OR IN LH<br>EX LH OR IN RH | | * AE 22 +1.5<br>* AI 22 +1.5 | AE 22 +0.5<br>AI 22 +0.5 | AE 22 -0.5<br>AI 22 -0.5 | AE 22 -1.5<br>AI 22 -1.5 |
| 27 (5/8) | EX RH OR IN LH<br>EX LH OR IN RH | | * AE 27 +1.5<br>* AI 27 +1.5 | AE 27 +0.5<br>AI 27 +0.5 | AE 27 -0.5<br>AI 27 -0.5 | AE 27 -1.5<br>AI 27 -1.5 |
| 22U (1/2U) | EX RH OR IN LH<br>EX LH OR IN RH | | * AE 22U +1.5<br>* AI 22U +1.5 | AE 22U +0.5<br>AI 22U +0.5 | AE 22U -0.5<br>AI 22U -0.5 | AE 22U -1.5<br>AI 22U -1.5 |
| 27U (5/8U) | EX RH OR IN LH<br>EX LH OR IN RH | | * AE 27U +1.5<br>* AI 27U +1.5 | AE 27U +0.5<br>AI 27U +0.5 | AE 27U -0.5<br>AI 27U -0.5 | AE 27U -1.5<br>AI 27U -1.5 |

* Standard anvil supplied with tool

- EX - Anvil for external threading
- IN - Anvil for internal threading

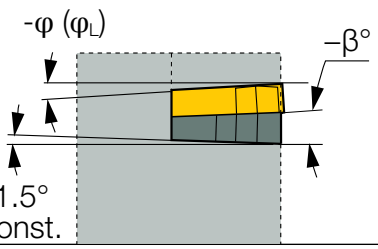
**Positive Anvils**

Feed Towards the Chuck




**Negative Anvils**

Feed Towards the Tailstock

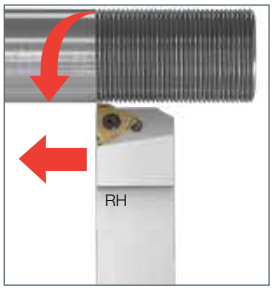


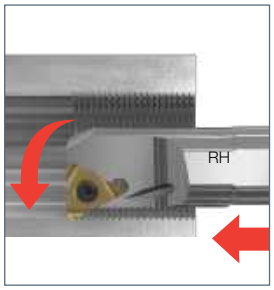
## Anvil selection for SAGE threading standard only

The table below defines the recommended insert inclination angle (β) and anvil selection according to helix angle (φ) for single-start threading and according to lead angle (φL) for multi-start threading, depending on the thread turning method for machining asymmetric threading profile according to SAGE thread standard only.

**thread turning method**

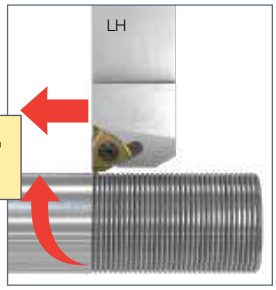
Production of right-hand threading with right-hand holder

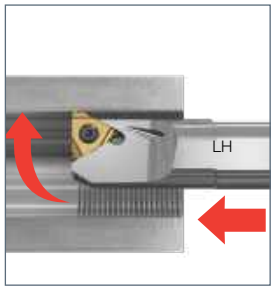



or

Production of left-hand threading with left-hand holder



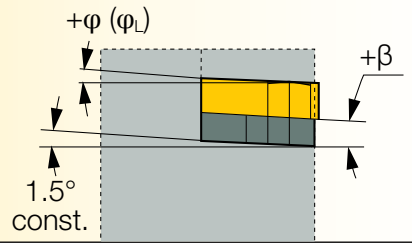
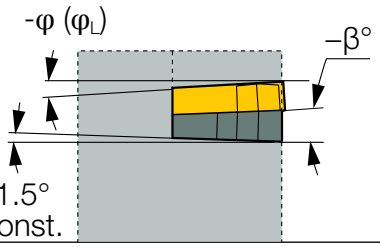




**Anvil selection**

| | | | Positive Anvils | | | Negative Anvils | |
|---|---|---|---|---|---|---|---|
| **Threading helix (lead) angle φ (φL)** | | **φ (φL)>5.6°** | **5°<φ (φL)≤5.6°** | **3°<φ (φL)≤5°** | **2°<φ (φL)≤3°** | **1°<φ (φL)≤2°** | **0°<φ (φL)≤1°** |
| **Inclination angle β** | | | **2.5°** | **1.5°(std)** | **0.5°** | **-0.5°** | **-1.5°** |
| **IC** | **Toolholder** | **Anvil designation** | | | | | |
| 16 (3/8) | EX RH OR IN LH<br>EX RH OR IN LH | special solution | AE 16 +2.5<br>AI 16 +2.5 | * AE 16 +1.5<br>* AI 16 +1.5 | AE 16 +0.5<br>AI16 +0.5 | AE 16 -0.5<br>AI 16 -0.5 | AE 16 -1.5<br>AI 16 -1.5 |
| 22 (1/2) | EX RH OR IN LH<br>EX RH OR IN LH | | AE 22 +2.5<br>AI 22 +2.5 | * AE 22 +1.5<br>* AI 22 +1.5 | AE 22 +0.5<br>AI 22 +0.5 | AE 22 -0.5<br>AI 22 -0.5 | AE 22 -1.5<br>AI 22 -1.5 |
| 27 (5/8) | EX RH OR IN LH<br>EX RH OR IN LH | | AE 27 +2.5<br>AI 27 +2.5 | * AE 27 +1.5<br>* AI 27 +1.5 | AE 27 +0.5<br>AI 27 +0.5 | AE 27 -0.5<br>AI 27 -0.5 | AE 27 -1.5<br>AI 27 -1.5 |
| 22U (1/2U) | EX RH OR IN LH<br>EX RH OR IN LH | | AE 22U +2.5<br>AI 22U +2.5 | * AE 22U +1.5<br>* AI 22U +1.5 | AE 22U +0.5<br>AI 22U +0.5 | AE 22U -0.5<br>AI 22U -0.5 | AE 22U -1.5<br>AI 22U -1.5 |
| 27U (5/8U) | EX RH OR IN LH<br>EX RH OR IN LH | | AE 27U +2.5<br>AI 27U +2.5 | * AE 27U +1.5<br>* AI 27U +1.5 | AE 27U +0.5<br>AI 27U +0.5 | AE 27U -0.5<br>AI 27U -0.5 | AE 27U -1.5<br>AI 27U -1.5 |

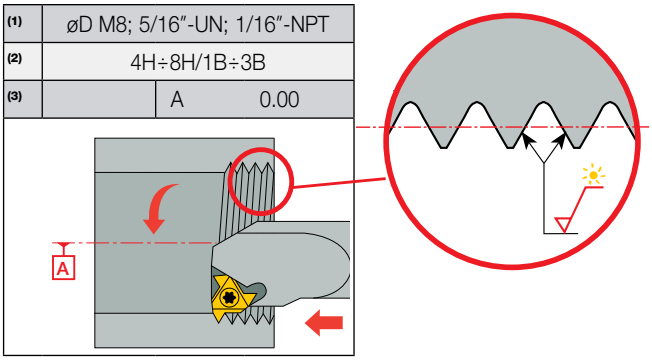
* Standard anvil supplied with tool

- EX - Anvil for external threading
- IN - Anvil for internal threading

| Positive Anvils | Negative Anvils |
|---|---|
| Feed Towards the Chuck | Feed Towards the Tailstock |
|  |  |

## Mini-Tool Features

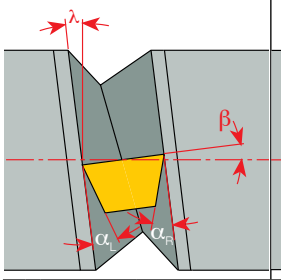
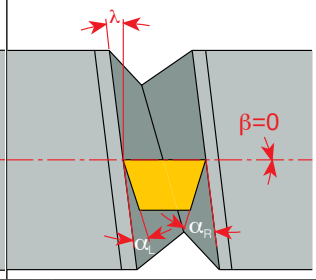
| | | | |
|---|---|---|---|
| (1) | øD M8; 5/16"-UN; 1/16"-NPT | | |
| (2) | 4H÷8H/1B÷3B | | |
| (3) | | A | 0.00 |




(1) Smallest possible thread
(2) All tolerances
(3) Minimum runout
(4) High surface quality

## Flank Clearance and Effective Inclination Angle

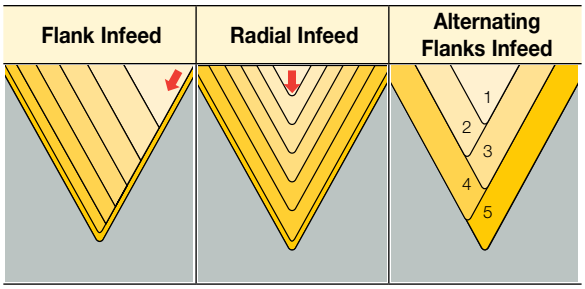
Inclination angle β of the cutting edges corresponds to a specific thread helix angle l and ensures an equal clearance angle on both sides of the insert.

| αl=αr ✔ | Incorrect αl<αr ✘ |
|---|---|
|  |  |



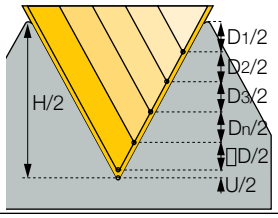
| | |
|---|---|
| **α** - Flank clearance angle | **H** - Depth of thread profile (on ø) |
| **λ** - Helix angle | **D** - Depth of pass (on ø) |
| **β** - Effective inclination angle is achieved by selecting the suitable anvil | **U** - Depth of finishing pass (on ø) |

## Infeed Methods for Threading Operations



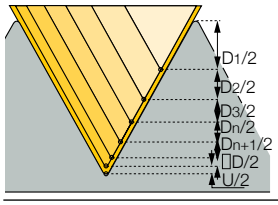
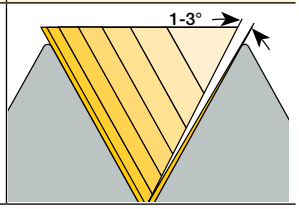

## Flank Equal

**Equal depth of cut for each pass**




$$\frac{D_1}{2} = \frac{D_2}{2} = \frac{D_3}{2} = \frac{D_n}{2}$$

## Diminished depth of cut for each pass

| Flank Diminishing | Modified Flank Infeed |
|---|---|
|  |  |



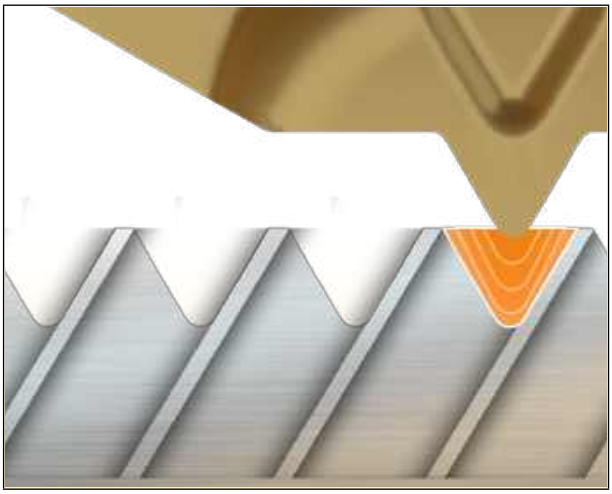
$$\frac{D_1}{2} > \frac{D_2}{2} > \frac{D_3}{2} > \frac{D_n}{2} > \frac{D_{n+1}}{2}$$

## Depth per Pass and Number of Passes

In order to produce threads, the cutting tool needs to make several numbers of cuts along the workpiece surface. The parameters of depth per pass and number of passes have a very important role in threading production. These parameters have a direct effect on cutting edge wear, tool life, threading surface quality, and threading production stability.
The two methods most common in determining the depth per pass and the number of passes are constant chip area by decreasing depth per pass or constant depth per pass. The choice of method does not depend on the selected infeed methods (radial infeed, flank infeed, modified flank infeed, alternating flank infeed), which are described in chapter 2.12.
The depth per pass and number of passes parameters depend on the type of equipment, tool overhang, machine stability, workpiece material, cutter geometry and the threading depth required.

### Constant chip area by decreasing depth per pass (recommended)

This is the most common method and is generally recommended, as in most cases it ensures high productivity. The principle of this method is that the initial cutting depth at the first pass is the largest, and then gradually decreases at each pass to ensure material removal within a constant chip area.
The calculation of passes is designed so that the last pass, which is destined to be a finish pass, will be 0.05 - 0.1 mm (0.0019 - 0.0039 inches). Using this method ensures constant loads on cutting edge and uniform wear, which increases tool life.



### Formula for calculation of depth per pass

$$\Delta a_{p(i)} = \frac{a_p}{\sqrt{n_a - 1}} \times \sqrt{C}$$

**When:**

$\Delta a_{p(i)}$ — Depth of cut i pass ($i = 1...n_a$)

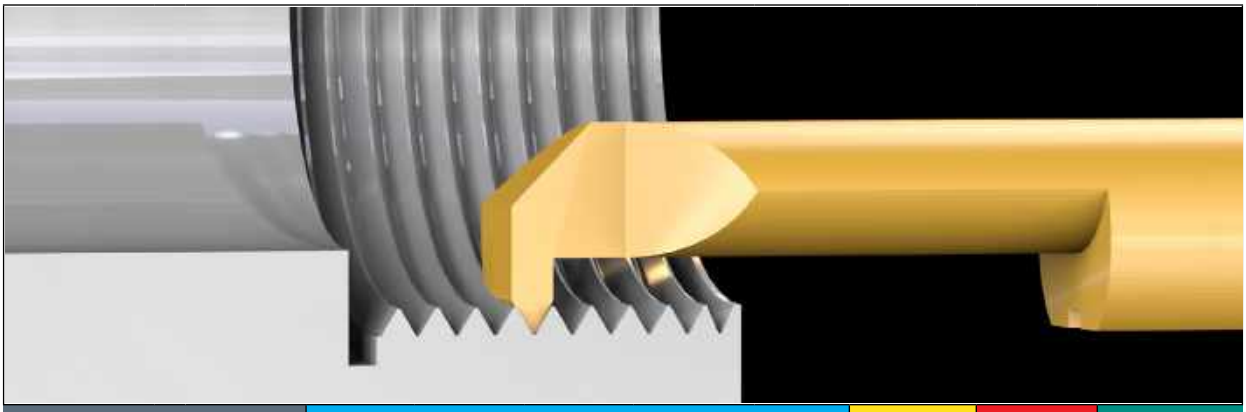
$i$ — Pass

$a_p$ — Total depth of cut

$n_a$ — Number of passes

$C$ — Constant value:
For 1st pass: C=0.3; For 2nd pass: C=1; For 3rd pass and higher: C = i – 1

## Cutting Data



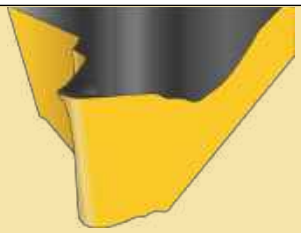
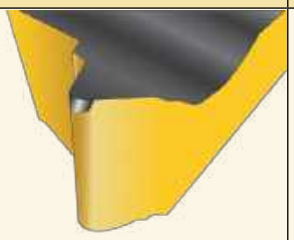
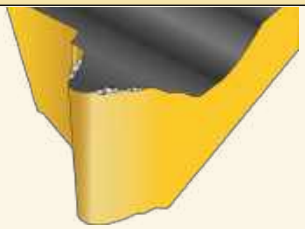
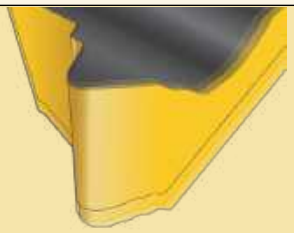
| Carbide Grade | | Steel (N/mm Tensile Strength) | | | | | Stainless Steel | Cast Iron | Non-ferrous |
|---|---|---|---|---|---|---|---|---|---|
| | | 400-500 | 500-700 | 700-850 | 850-1150 | >1150 | | | |
| Cutting Speed $V_c$ (m/min) | IC228 | 160 | 140 | 120 | 90 | 70 | 90 | 100 | 300 |
| | IC908 | 185 | 160 | 140 | 105 | 80 | 105 | 115 | 350 |
| **Pitch (p) mm** | **TPI** | **No. of Passes** | | | | | | | |
| 0.5 | 48 | 6 | 6 | 7 | 7 | 8 | 8 | 7 | 6 |
| 0.75 | 32 | 8 | 8 | 9 | 9 | 10 | 10 | 9 | 8 |
| 1.0 | 24 | 10 | 10 | 12 | 12 | 12 | 12 | 12 | 10 |
| 1.25 | 20-19 | 12 | 12 | 14 | 14 | 15 | 15 | 14 | 12 |
| 1.5 | 16 | 15 | 15 | 17 | 17 | 18 | 18 | 17 | 15 |

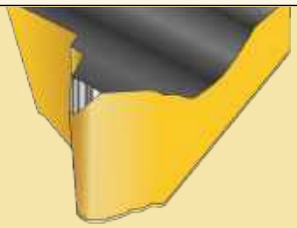
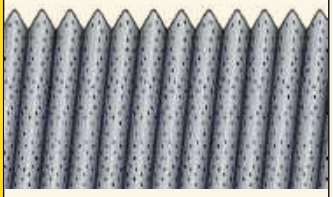
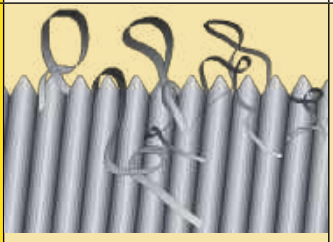
For internal threading of small diameters, the PVD coated grade IC228 is recommended.

| Material groups | | ISO P | | ISO M | ISO K | ISO N | ISO S | ISO H |
|---|---|---|---|---|---|---|---|---|
| | | 1-11 | 12-13 | 14 | 15-20 | 21-28 | 31-37 | 38-41 |
| | | Steel | Stainless Steel Ferritic & Martensitic | Stainless Steel Austenitic & Duplex (Ferritic-Austenitic) | Cast Iron | Non-ferrous | High Temperature Alloys | Hard Steel & Cast Iron |
| THREADING | Harder | **IC1007** | IC1007 | IC1007 | **IC1007** | IC08 | **IC806** | **IC1007** |
| | | IC808 (IC908) | | | IC808 (IC908) | | IC1007 | |
| | | IC250 (IC950) | **IC808 (IC908)** | **IC808 (IC908)** | IC250 (IC950) | **IC228** | IC808 (IC908) | IC808 (IC908) |
| | Tougher | IC228 | IC228 | IC228 | IC228 | IC28 | | |

First choice

## Troubleshooting

| | | Cause | Solution |
|---|---|---|---|
| **Plastic Deformation** |  | • Excessive heat in cutting zone<br>• Wrong carbide grade<br>• Inadequate coolant supply<br>• Depth of cut too large<br>• Cutting speed too high<br>• Nose radius too small | • Reduce RPM / Reduce depth of cut / Check turned dia.<br>• Use coated grade / Use harder grade<br>• Apply coolant<br>• Reduce depth of cut / Increase no. of passes<br>• Reduce cutting speed<br>• If possible use insert with larger radius |
| **Premature Wear** |  | • Cutting speed too high<br>• Infeed depth too small<br>• Highly abrasive material<br>• Inadequate coolant supply<br>• Wrong inclination anvil<br>• Wrong turned dia. prior to threading<br>• Insert is above center line | • Reduce RPM<br>• Modify flank infeed / Increase depth of cut<br>• Use coated grade<br>• Apply coolant<br>• Reselect anvil<br>• Check turned dia.<br>• Check center height |
| **Insert Breakage** |  | • Wrong turned dia. prior to threading<br>• Wrong grade<br>• Poor chip control<br>• Incorrect center height | • Check turned dia.<br>• Use tougher grade<br>• Change to M-Type / B-Type inserts and use modified flank infeed<br>• Check center height |
| **Build Up Edge** |  | • Cutting edge too cold<br>• Wrong grade<br>• Inadequate coolant supply<br>• Incorrect cutting speed | • Increase RPM / Increase depth of cut<br>• Use coated grade<br>• Apply coolant<br>• Increase cutting speed |
| **Vibration** |  | • Incorrect workpiece clamping<br>• Incorrect tool setup<br>• Incorrect cutting speed<br>• Incorrect center height | • Use soft jaws<br>• Check tool overhang / Use anti-vibration bars<br>• Increase cutting speed<br>• Check center height |

| | | Cause | Solution |
|---|---|---|---|
| **Incorrect Thread Profile** | | • Unsuitable threading profile<br>• Incorrect center height<br>• Incorrect pitch in the program | • Adjust to correct tool, anvil, and insert<br>• Adjust center height<br>• Change the program |
| **Broken Nose During 1st Pass** |  | • Cutting edge too cold<br>• Depth of cut too large<br>• Wrong grade<br>• Wrong turned dia. prior to threading<br>• Incorrect center height<br>• Infeed depth too shallow<br>• Wrong inclination anvil<br>• Tool overhang tool long | • Reduce RPM<br>• Reduce depth of cut/Increase number of infeed passes<br>• Use tougher grade<br>• Check turned dia.<br>• Adjust center height<br>• Change depth of cut<br>• Reselect anvil<br>• Reduce tool overhang / Use Anti-vibration bar |
| **Poor Surface Finish** |  | • Wrong cutting speed<br>• Excessive heat in cutting zone<br>• Poor chip control<br>• Inadequate coolant supply<br>• Wrong inclination anvil<br>• Tool overhang too long<br>• Incorrect center height | • Increase/reduce RPM<br>• Reduce depth of cut<br>• Modify flank infeed<br>• Apply coolant<br>• Reselect anvil<br>• Reduce tool overhang<br>• Check center height |
| **Poor Chip Control** |  | • Excessive heat in cutting zone<br>• Wrong grade<br>• Inadequate coolant supply<br>• Wrong turned dia. prior to threading<br>• Incorrect method of infeed | • Reduce RPM /change depth of cut /check turned dia.<br>• Use coated grade /check turned dia./use M/B-Type inserts<br>• Apply coolant<br>• Check turned dia.<br>• Modify flank infeed 3-5° |

## Special Request Form Thread Turning

**Project Information**

Customer _____ Industry _____ Country _____

Customer Goal (Productivity, Economy, etc.):

Proposal for: ☐ Finish Insert ☐ Rough Insert ☐ Holder ☐ Machining Concept

**ISCAR** Representative: Email: _____ Tel: _____

Competitors: _____ Target Price: _____ Annual Consumption: _____

**Threading**

Designation _____ Pitch _____ Standard _____ Tolerance Clas _____

Major Dia. _____ Minor Dia. _____ Pitch Dia. _____ Number of Starts _____

Threading Depth _____ ☐ Through Hole ☐ Blind Hole

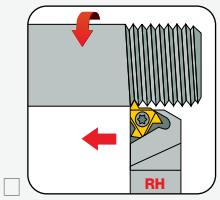
Special Form _____

For non-standard profiles, detailed information must be supplied (drawing, dimensions & tolerances)

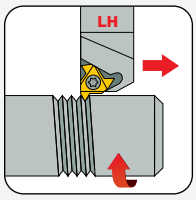
**Application**

Part _____ Material _____ Hardness _____

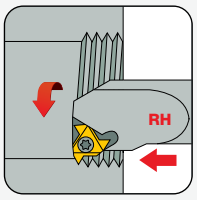
**RH** Right-hand Threading



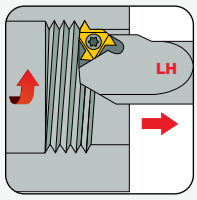

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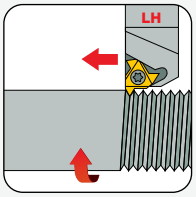



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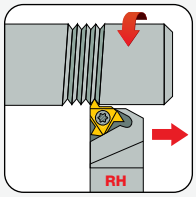



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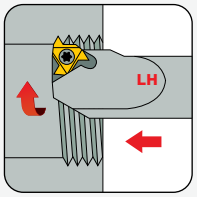
**LH** Left-hand Threading



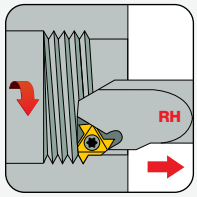

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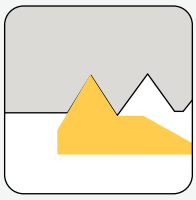



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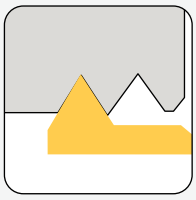



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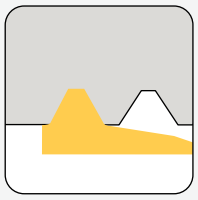
Insert Profile:



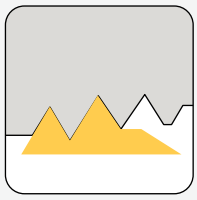
☐ Full



☐ Partial

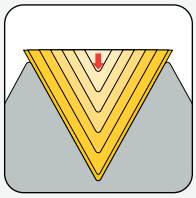


☐ Semi-Partial

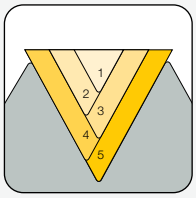


☐ Multi-Point

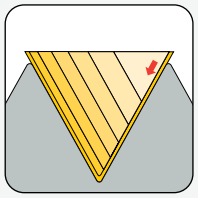
Infeed:



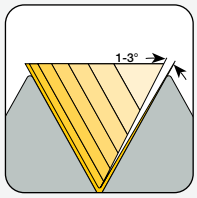
☐ Radial




☐ Incremental



☐ Flank




☐ Modified Flank

**Attachments** ☐ Drawing ☐ Model ☐ Sketch ☐ Photo

**Machine** Model _____ Shank Type/Size _____

Coolant: ☐ Internal ☐ External ☐ None Type: _____

Remarks: _____

# NON-ROTATING TOOL HOLDERS



Member IMC Group

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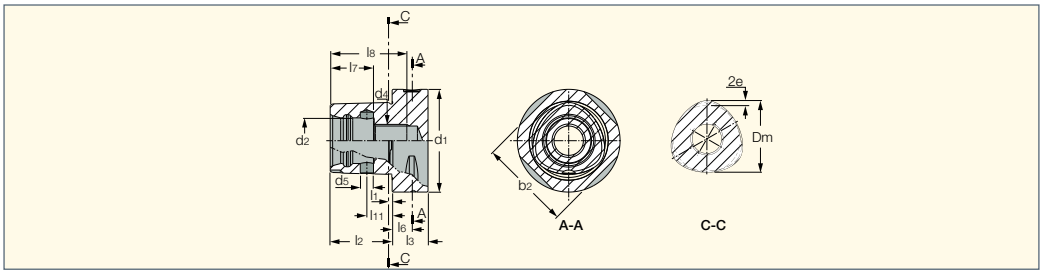
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# CAMFIX Shanks

## CAMFIX (ISO 26623-1)

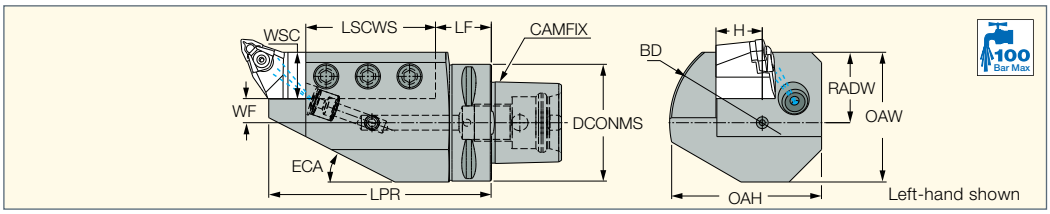
Toolholder Standard




| CAMFIX | b2 | d1 ±0.1 | d2 | d4 | d5 ±0.1 | Dm | e | l1 | l2 ±0.1 | l3 min | l6 ±0.15 | l7 ±0.15 | l8 min | l11 ±0.1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C3 | 28,3 | 32 | 15 | M12x1.5 | 3,6 | 22 | 0,7 | 2,5 | 19 | 15 | 6 | 13 | 25 | 8 |
| C4 | 35,3 | 40 | 18 | M14x1.5 | 4,6 | 28 | 0,9 | 2,5 | 24 | 20 | 8 | 15 | 30 | 11,5 |
| C5 | 44,4 | 50 | 21 | M16x1.5 | 6,1 | 35 | 1,12 | 3 | 30 | 20 | 10 | 20 | 37 | 14 |
| C6 | 55,8 | 63 | 28 | M20x2 | 8,1 | 44 | 1,4 | 3 | 38 | 22 | 12 | 27 | 47 | 15,5 |
| C8 | 71,1 | 80 | 32 | M20x2 | 9,1 | 55 | 2 | 3 | 48 | 30 | 12 | 28 | 48 | 25 |
| C8X | 88,7 | 100 | 32 | M20x2 | 9,1 | 55 | 2 | 3 | 48 | 32 | 16 | 28 | 48 | 25 |
| C10 | 88,3 | 100 | 43 | M24x2 | 12 | 72 | 2,8 | 3 | 60 | 36 | 16 | 40 | 70 | 26,5 |

## C#-ASHR/L

Holders with CAMFIX Exchangeable Shanks for External Square Shank Tools




| Designation | DCONMS | H | WSC | WF | LPR | LSCWS | LF | OAH | RADW | OAW | ECA | BD | CDI(2) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C4 ASHR/L 16-1 | 40.00 | 16.0 | 16.0 | 7.00 | 104.00 | 70.00 | 34.00 | 50.00 | 23.0 | 43.50 | 30.0 | 60.00 | 1 |
| C5 ASHR/L 20-1 | 50.00 | 20.0 | 20.0 | 10.00 | 98.00 | 63.50 | 24.50 | 78.00 | 30.0 | 59.00 | 30.0 | 90.00 | 1 |
| C6 ASHR/L 20-1 | 63.00 | 20.0 | 20.0 | 10.00 | 100.00 | 63.50 | 26.50 | 78.00 | 30.0 | 59.00 | 30.0 | 90.00 | 1 |
| C6 ASHR/L 25-1 | 63.00 | 25.0 | 25.0 | 13.00 | 120.00 | 70.00 | 30.00 | 82.00 | 38.0 | 70.00 | 27.0 | 100.00 | 1 |
| C6 ASHR 25 1-J (1) | 63.00 | 25.0 | 25.0 | 4.50 | 120.00 | 999.00 | 82.00 | 86.50 | 29.5 | 61.00 | 4.1 | 90.00 | 1 |
| C8 ASHR/L 32-1 | 80.00 | 32.0 | 32.0 | 8.00 | 140.00 | 90.00 | 40.00 | 87.00 | 40.0 | 80.00 | 27.0 | 110.00 | 1 |

(1) Recommended for Mazak INTEGREX! No interference problem on machine magazine

(2) 1 - Hole for data chip, 0 - Without hole for data chip

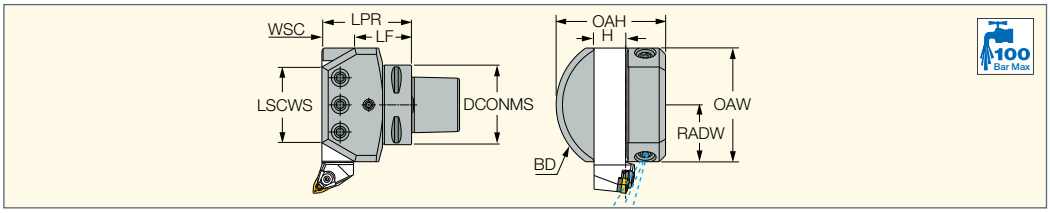
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| C4 ASHR/L 16-1 | SR M8X16 DIN915 | HW 5.0* | SATZ-M10X1-M5 | COOLING TUBE C4* | WRENCH NOZZLE HP M10* | WRENCH COOL TUBE C4* |
| C5 ASHR/L 20-1 | SR M10X25 DIN915 | HW 5.0* | SATZ-M10X1-M5 | COOLING TUBE C5* | WRENCH NOZZLE HP M10* | WRENCH COOL TUBE C5* |
| C6 ASHR/L 20-1 | SR M10X25 DIN915 | HW 5.0* | SATZ-M10X1-M5 | COOLING TUBE C6* | WRENCH NOZZLE HP M10* | WRENCH COOL TUBE C6* |
| C6 ASHR/L 25-1 | SR M12X30 DIN915 | HW 6.0* | SATZ-M12X1-M6 | COOLING TUBE C6* | WRENCH NOZZLE HP M12* | WRENCH COOL TUBE C6* |
| C8 ASHR/L 32-1 | SR M12X30 DIN915 | HW 6.0* | SATZ-M12X1-M6 | COOLING TUBE C8* | WRENCH NOZZLE HP M12* | WRENCH COOL TUBE C8* |

* Optional, should be ordered separately

## C#-ASHA

Perpendicular Holders with CAMFIX Shanks for External Square Shank Tools




| Designation | DCONMS | H | WSC | LPR | LSCWS | LF | RADW | OAW | OAH | BD | CDI(1) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C5 ASHA 20 | 50.00 | 20.0 | 20.0 | 58.00 | 46.00 | 38.00 | 38.0 | 76.00 | 76.5 | 90.00 | 1 |
| C6 ASHA 20 | 63.00 | 20.0 | 20.0 | 60.00 | 46.00 | 40.00 | 38.0 | 76.00 | 76.5 | 90.00 | 1 |
| C6 ASHA 25 | 63.00 | 25.0 | 25.0 | 71.00 | 61.00 | 46.00 | 45.0 | 90.00 | 86.6 | 110.00 | 1 |
| C8 ASHA 32 | 80.00 | 32.0 | 32.0 | 85.00 | 80.00 | 53.00 | 55.0 | 110.00 | 95.0 | 142.00 | 1 |

(1) 1 - Hole for data chip, 0 - Without hole for data chip

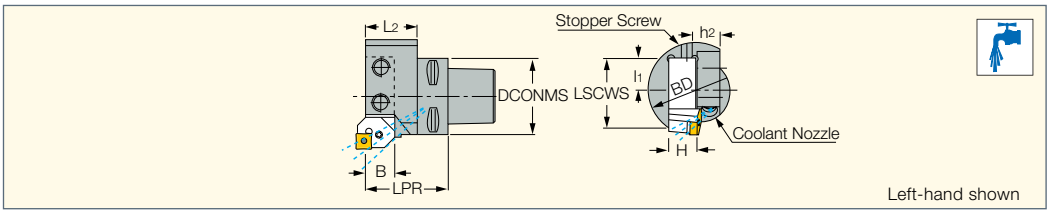
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| C5 ASHA 20 | SR M10X25 DIN915 | HW 5.0* | SATZ-M10X1-M5 | WRENCH NOZZLE HP M10* | COOLING TUBE C5* | WRENCH COOL TUBE C5* |
| C6 ASHA 20 | SR M10X25 DIN915 | HW 5.0* | SATZ-M10X1-M5 | WRENCH NOZZLE HP M10* | COOLING TUBE C6* | WRENCH COOL TUBE C6* |
| C6 ASHA 25 | SR M12X30 DIN915 | HW 6.0* | SATZ-M12X1-M6 | WRENCH NOZZLE HP M12* | COOLING TUBE C6* | WRENCH COOL TUBE C6* |
| C8 ASHA 32 | SR M12X30 DIN915 | HW 6.0* | SATZ-M12X1-M6 | WRENCH NOZZLE HP M12* | COOLING TUBE C8* | WRENCH COOL TUBE C8* |

* Optional, should be ordered separately

## CAMFIX

### C#-ADE
Holders with CAMFIX Exchangeable Shanks for External Square Shank Tools




| Designation | DCONMS | LPR | L2 | B | BD | LSCWS | l1 | H | h2 | CP(1) | CDI(2) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C3 ADE 16R/L | 32.00 | 45.00 | 28.10 | 16.0 | 65.00 | 45.0 | 20.00 | 16.0 | 20.0 | 100 | 0 |
| C4 ADE-20L | 40.00 | 49.20 | 29.10 | 20.0 | 87.00 | 57.0 | 32.00 | 20.0 | 26.0 | 100 | 1 |
| C4 ADE-20R | 40.00 | 49.20 | 27.30 | 20.0 | 87.00 | 57.0 | 32.00 | 20.0 | 26.0 | 100 | 1 |
| C5 ADE-20R/L | 50.00 | 55.20 | 35.10 | 20.0 | 87.00 | 57.0 | 32.00 | 20.0 | 26.0 | 100 | 1 |

• Use the tools with AD suffix • Regular tools should be shortened
(1) Coolant pressure (Bar)
(2) 1 - Hole for data chip, 0 - Without hole for data chip

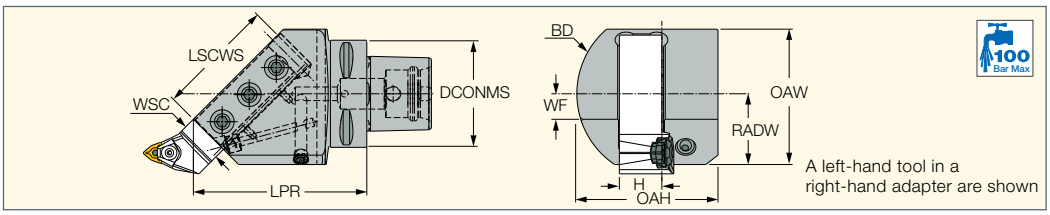
### Spare Parts

| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| C3 ADE 16R/L | SR M10X20 DIN915 | HW 3.0* | SR M6X8 DIN916(a) | HW 5.0* | COOLING TUBE C3* | WRENCH COOL TUBE C3* | SATZ-M8X1-M3 |
| C4 ADE-20L | SR M10X16DIN912 | HW 4.0 | SR M8X10 DIN913(a) | HW 8.0* | COOLING TUBE C4* | WRENCH COOL TUBE C4* | SATZ-M10X1-M5 |
| C4 ADE-20R | SR M10X16DIN912 | | SR M8X10 DIN913(a) | HW 8.0* | COOLING TUBE C4* | WRENCH COOL TUBE C4* | SATZ-M10X1-M5 |
| C5 ADE-20L | SR M10X16 | HW 4.0 | SR M8X10 DIN916(a) | HW 8.0* | COOLING TUBE C5* | WRENCH COOL TUBE C5* | EZ 125 |
| C5 ADE-20R | SR M10X16 | HW 4.0 | SR M8X10 DIN916(a) | | COOLING TUBE C5* | WRENCH COOL TUBE C5* | EZ 125 |

* Optional, should be ordered separately
(a) Stopper screw

## CAMFIX

### C#-ASHR/L-45
Holders with CAMFIX Exchangeable Shanks Carrying Square Shank Tools for 45° Mounting on Turn-Mill Machines




| Designation | DCONMS | H | WSC | WF | LPR | LSCWS | OAH | RADW | OAW | BD | CDI(1) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C5 ASHR/L 20-45 | 50.00 | 20.0 | 20.0 | 15.00 | 96.30 | - | 62.00 | 36.0 | 67.50 | 72.00 | 1 |
| C6 ASHR/L 20-45 | 63.00 | 20.0 | 20.0 | 15.00 | 98.30 | - | 62.00 | 36.0 | 67.50 | 72.00 | 1 |
| C6 ASHR/L 25-45 | 63.00 | 25.0 | 25.0 | 15.00 | 102.00 | 70.00 | 83.00 | 41.6 | 79.60 | 100.00 | 1 |
| C8 ASHR/L 32-45 | 80.00 | 32.0 | 32.0 | 17.00 | 140.00 | 100.00 | 110.00 | 50.0 | 110.00 | 140.00 | 1 |

(1) 1 - Hole for data chip, 0 - Without hole for data chip

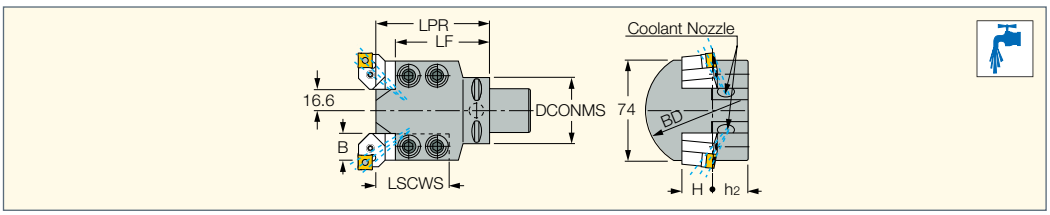
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| C5 ASHR/L 20-45 | SR M10X25 DIN915 | HW 5.0* | SATZ-M10X1-M5 | WRENCH NOZZLE HP M10* | COOLING TUBE C5* | WRENCH COOL TUBE C5* |
| C6 ASHR/L 20-45 | SR M10X25 DIN915 | HW 5.0* | SATZ-M10X1-M5 | WRENCH NOZZLE HP M10* | COOLING TUBE C6* | WRENCH COOL TUBE C6* |
| C6 ASHR/L 25-45 | SR M12X30 DIN915 | HW 6.0* | SATZ-M10X1-M5 | WRENCH NOZZLE HP M10* | COOLING TUBE C6* | WRENCH COOL TUBE C6* |
| C8 ASHR/L 32-45 | SR M12X30 DIN915 | HW 6.0* | SATZ-M12X1-M6 | WRENCH NOZZLE HP M12* | COOLING TUBE C8* | WRENCH COOL TUBE C8* |

* Optional, should be ordered separately

## CAMFIX

### C#-ADES
Holders with CAMFIX Exchangeable Shanks for External Square Shank Tools




| Designation | DCONMS | LPR | LSCWS | LF | B | BD | H | h2 | CDI(1) |
|---|---|---|---|---|---|---|---|---|---|
| C4 ADES-20 | 40.00 | 85.00 | 54.00 | 71.00 | 20.0 | 90.00 | 20.0 | 26.0 | 1 |
| C5 ADES-20 | 50.00 | 85.00 | 54.00 | 71.00 | 20.0 | 90.00 | 20.0 | 26.0 | 1 |

• Use the tools with AD suffix. Regular tools should be shortened.
(1) 1 - Hole for data chip, 0 - Without hole for data chip

### Spare Parts

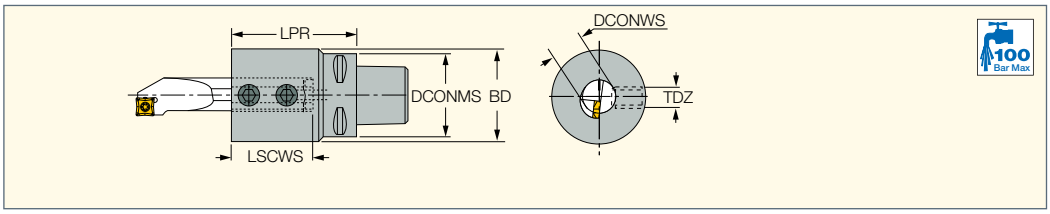
| Designation | | | | | |
|---|---|---|---|---|---|
| C4 ADES-20 | SR M10X16 | SR M8X6 DIN913 | SATZ-M10X1-M5 | COOLING TUBE C4* | WRENCH COOL TUBE C4* |
| C5 ADES-20 | SR M10X16 | SR M8X6 DIN913 | SATZ-M10X1-M5 | COOLING TUBE C5* | WRENCH COOL TUBE C5* |

* Optional, should be ordered separately

## CAMFIX

### C#-ADI

Holders with CAMFIX Exchangeable Shanks for Boring Bars




| Designation | DCONMS | LPR | LSCWS | DCONWS | BD | TDZ | kg | CDI(1) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C3 ADI 10 | 32.00 | 50.00 | 20.0 | 10.00 | 36.00 | M6 | 0.30 | 0 | SR M6X10 DIN1835B | HW 3.0* | COOLING TUBE C3* | WRENCH COOL TUBE C3* |
| C3 ADI 12 | 32.00 | 50.00 | 21.5 | 12.00 | 36.00 | M8 | 0.30 | 0 | SR M8X10 DIN1835-B | HW 4.0* | COOLING TUBE C3* | WRENCH COOL TUBE C3* |
| C3 ADI 16 | 32.00 | 50.00 | 29.5 | 16.00 | 36.00 | M8 | 0.30 | 0 | SR M8X10 DIN1835-B | HW 4.0* | COOLING TUBE C3* | WRENCH COOL TUBE C3* |
| C4 ADI 10 | 40.00 | 50.00 | 20.0 | 10.00 | 36.00 | M6 | 0.47 | 1 | SR M6X10 DIN1835B | HW 3.0* | COOLING TUBE C4* | WRENCH COOL TUBE C4* |
| C4 ADI 12 | 40.00 | 50.00 | 24.0 | 12.00 | 36.00 | M8 | 0.46 | 1 | SR M8X10 DIN1835-B | HW 4.0* | COOLING TUBE C4* | WRENCH COOL TUBE C4* |
| C4 ADI 16 | 40.00 | 50.00 | 32.0 | 16.00 | 36.00 | M8 | 0.43 | 1 | SR M8X10 DIN1835-B | HW 4.0* | COOLING TUBE C4* | WRENCH COOL TUBE C4* |
| C4 ADI 20 | 40.00 | 60.00 | 40.0 | 20.00 | 36.00 | M10 | 0.47 | 1 | SR M10X12 DIN1835-B | HW 5.0* | COOLING TUBE C4* | WRENCH COOL TUBE C4* |
| C4 ADI 25 | 40.00 | 70.00 | 45.0 | 25.00 | 54.00 | M12 | 0.97 | 1 | SR M12X16 DIN1835-B | HW 6.0* | COOLING TUBE C4* | WRENCH COOL TUBE C4* |
| C5 ADI 10 | 50.00 | 60.00 | 26.0 | 10.00 | 36.00 | M6 | 0.73 | 1 | SR M6X10 DIN1835B | HW 3.0* | COOLING TUBE C5* | WRENCH COOL TUBE C5* |
| C5 ADI 12 | 50.00 | 60.00 | 26.0 | 12.00 | 36.00 | M8 | 0.72 | 1 | SR M8X10 DIN1835-B | HW 4.0* | COOLING TUBE C5* | WRENCH COOL TUBE C5* |
| C5 ADI 16 | 50.00 | 60.00 | 32.0 | 16.00 | 36.00 | M8 | 0.69 | 1 | SR M8X10 DIN1835-B | HW 4.0* | COOLING TUBE C5* | WRENCH COOL TUBE C5* |
| C5 ADI 20 | 50.00 | 60.00 | 40.0 | 20.00 | 36.00 | M10 | 0.69 | 1 | SR M10X12 DIN1835-B | HW 5.0* | COOLING TUBE C5* | WRENCH COOL TUBE C5* |
| C5 ADI 25 | 50.00 | 70.00 | 50.0 | 25.00 | 54.00 | M12 | 1.11 | 1 | SR M12X16 DIN1835-B | HW 6.0* | COOLING TUBE C5* | WRENCH COOL TUBE C5* |
| C5 ADI 32 | 50.00 | 100.00 | 76.0 | 32.00 | 68.00 | M12 | 2.15 | 1 | SR M12X16 DIN1835-B | HW 6.0* | COOLING TUBE C5* | WRENCH COOL TUBE C5* |
| C6 ADI 12 | 63.00 | 65.00 | 36.0 | 12.00 | 36.00 | M8 | 1.07 | 1 | SR M8X10 DIN1835-B | HW 4.0* | COOLING TUBE C6* | WRENCH COOL TUBE C6* |
| C6 ADI 16 | 63.00 | 65.00 | 36.0 | 16.00 | 36.00 | M8 | 1.05 | 1 | SR M8X10 DIN1835-B | HW 4.0* | COOLING TUBE C6* | WRENCH COOL TUBE C6* |
| C6 ADI 20 | 63.00 | 65.00 | 40.0 | 20.00 | 36.00 | M10 | 1.00 | 1 | SR M10X12 DIN1835-B | HW 5.0* | COOLING TUBE C6* | WRENCH COOL TUBE C6* |
| C6 ADI 25 | 63.00 | 76.00 | 51.0 | 25.00 | 54.00 | M12 | 0.80 | 1 | SR M12X16 DIN1835-B | HW 6.0* | COOLING TUBE C6* | WRENCH COOL TUBE C6* |
| C6 ADI 32 | 63.00 | 100.00 | 76.0 | 32.00 | 68.00 | M12 | 2.44 | 1 | SR M12X16 DIN1835-B | HW 6.0* | COOLING TUBE C6* | WRENCH COOL TUBE C6* |
| C6 ADI 40 | 63.00 | 100.00 | 76.0 | 40.00 | 98.00 | M12 | 4.47 | 1 | SR M12X16 DIN1835-B | HW 6.0* | COOLING TUBE C6* | WRENCH COOL TUBE C6* |
| C6 ADI 50 | 63.00 | 115.00 | 76.0 | 50.00 | 98.00 | M12 | 4.80 | 1 | SR M12X16 DIN1835-B | HW 6.0* | COOLING TUBE C6* | WRENCH COOL TUBE C6* |
| C8 ADI 12 | 80.00 | 70.00 | 36.0 | 12.00 | 36.00 | M8 | 2.05 | 1 | SR M8X10 DIN1835-B | HW 4.0* | COOLING TUBE C8* | WRENCH COOL TUBE C8* |
| C8 ADI 16 | 80.00 | 70.00 | 36.0 | 16.00 | 36.00 | M8 | 2.00 | 1 | SR M8X10 DIN1835-B | HW 4.0* | COOLING TUBE C8* | WRENCH COOL TUBE C8* |
| C8 ADI 20 | 80.00 | 70.00 | 40.0 | 20.00 | 36.00 | M10 | 1.98 | 1 | SR M10X12 DIN1835-B | HW 5.0* | COOLING TUBE C8* | WRENCH COOL TUBE C8* |
| C8 ADI 25 | 80.00 | 80.00 | 51.0 | 25.00 | 54.00 | M12 | 2.43 | 1 | SR M12X16 DIN1835-B | HW 6.0* | COOLING TUBE C8* | WRENCH COOL TUBE C8* |
| C8 ADI 32 | 80.00 | 110.00 | 86.0 | 32.00 | 68.00 | M12 | 3.44 | 1 | SR M12X16 DIN1835-B | HW 6.0* | COOLING TUBE C8* | WRENCH COOL TUBE C8* |
| C8 ADI 40 | 80.00 | 115.00 | 86.0 | 40.00 | 98.00 | M12 | 5.81 | 1 | SR M12X16 DIN1835-B | HW 6.0* | COOLING TUBE C8* | WRENCH COOL TUBE C8* |
| C8 ADI 50 | 80.00 | 115.00 | 86.0 | 50.00 | 98.00 | M12 | 5.36 | 1 | SR M12X16 DIN1835-B | HW 6.0* | COOLING TUBE C8* | WRENCH COOL TUBE C8* |

• Use the tools with "AD" suffix • Regular tools should be shortened

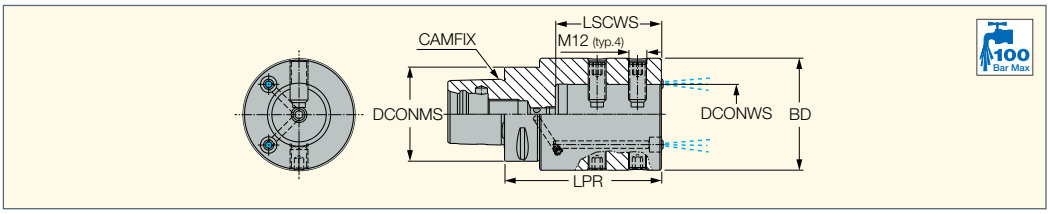
(1) 1 - Hole for data chip, 0 - Without hole for data chip

* Optional, should be ordered separately

## CAMFIX

### C#-ABB

Adapters with CAMFIX Exchangeable Shanks for Boring Bars with Reduction Sleeves




| Designation | DCONMS | DCONWS | BD | LPR | LSCWS | CDI(2) |
|---|---|---|---|---|---|---|
| C4 ABB 25-60 | 40.00 | 25.00 | 63.00 | 100.00 | 60.0 | 1 |
| C5 ABB-25-60 | 50.00 | 25.00 | 63.00 | 100.00 | 60.0 | 1 |
| C6 ABB-25-60 | 63.00 | 25.00 | 63.00 | 100.00 | 60.0 | 1 |
| C6 ABB-40-70 | 63.00 | 40.00 | 75.00 | 105.00 | 71.0 | 1 |
| C6ABB-25-60C (1) | 63.00 | 25.00 | 63.00 | 95.00 | 60.0 | 1 |
| C6ABB-40-70C (1) | 63.00 | 40.00 | 75.00 | 105.00 | 71.0 | 1 |
| C8 ABB 25-60 | 80.00 | 25.00 | 63.00 | 100.00 | 60.0 | 1 |
| C8 ABB 40-72 | 80.00 | 40.00 | 75.00 | 105.00 | 71.0 | 1 |

• For SC reduction sleeves, see page 741

(1) Different coolant outlet position and number of screws

(2) 1 - Hole for data chip, 0 - Without hole for data chip

## Spare Parts

| Designation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| C4 ABB 25-60 | SR M10X12 DIN1835-B(a) | SR M10X20 DIN915(b) | SR M10X6DIN913(c) | HW 5.0* | SATZ-M12X1-M6 | WRENCH NOZZLE HP M12* | COOLING TUBE C4* | WRENCH COOL TUBE C4* |
| C5 ABB-25-60 | SR M10X12 DIN1835-B(a) | SR M10X20 DIN915(b) | SR M10X6DIN913(c) | HW 5.0* | SATZ-M12X1-M6 | WRENCH NOZZLE HP M12* | COOLING TUBE C5* | WRENCH COOL TUBE C5* |
| C6 ABB-25-60 | SR M10X12 DIN1835-B(a) | SR M10X20 DIN915(b) | SR M10X6DIN913(c) | HW 5.0* | SATZ-M12X1-M6 | WRENCH NOZZLE HP M12* | COOLING TUBE C6* | WRENCH COOL TUBE C6* |
| C6 ABB-40-70 | SR M12X16 DIN1835-B(a) | SR M12X30 DIN915(b) | SR M10X6DIN913(c) | HW 6.0* | SATZ-M12X1-M6 | WRENCH NOZZLE HP M12* | | |
| C8 ABB 25-60 | SR M10X12 DIN1835-B(a) | SR M10X20 DIN915(b) | SR M10X6DIN913(c) | HW 5.0* | SATZ-M12X1-M6 | WRENCH NOZZLE HP M12* | COOLING TUBE C8* | WRENCH COOL TUBE C8* |
| C8 ABB 40-72 | SR M12X16 DIN1835-B(a) | SR M12X30 DIN915(b) | SR M10X6DIN913(c) | HW 6.0* | SATZ-M12X1-M6 | WRENCH NOZZLE HP M12* | COOLING TUBE C8* | WRENCH COOL TUBE C8* |

* Optional, should be ordered separately

(a) Used on A-type sleeves

(b) Used on B-type sleeves

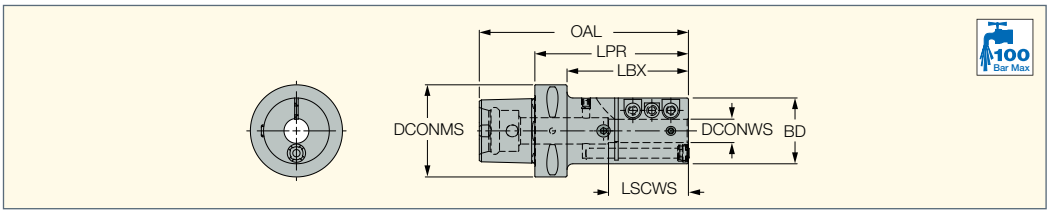
(c) Rear stopper screw

CAMFIX

WHISPERLINE ANTI-VIBRATION

## C#-AV-JHP

CAMFIX Holders for Anti-Vibration Tools

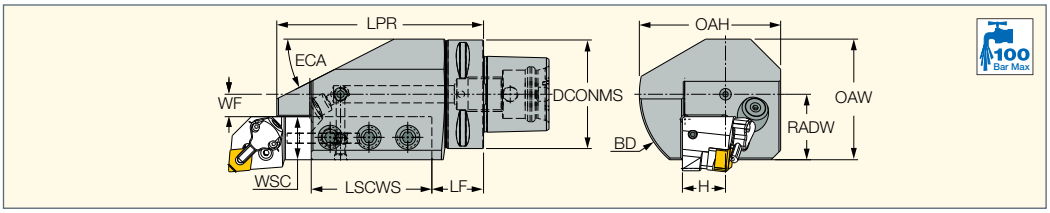



| Designation | DCONMS | DCONWS | OAL | BD | LPR | LSCWS | LBX | kg |
|---|---|---|---|---|---|---|---|---|
| C6 AV-D16-JHP | 63.00 | 16.00 | 143.00 | 45.00 | 105.00 | 55.00 | 83.00 | 1.57 |
| C6 AV-D20-JHP | 63.00 | 20.00 | 143.00 | 55.00 | 105.00 | 80.00 | 83.00 | 2.00 |
| C6 AV-D25-JHP | 63.00 | 25.00 | 143.00 | 55.00 | 105.00 | 80.00 | 83.00 | 1.89 |
| C6 AV-D32-JHP | 63.00 | 32.00 | 143.00 | 65.00 | 105.00 | 85.00 | 66.60 | 2.23 |
| C6 AV-D40-JHP | 63.00 | 40.00 | 143.00 | 75.00 | 105.00 | 85.00 | 64.00 | 2.49 |

CAMFIX

## C#-ASHR/L-HPMC

Holders with CAMFIX Exchangeable Shanks for External Square Shank Tools with High-Pressure Multi-Connection




| Designation | DCONMS | LPR | LSCWS | LF | WF | H | WSC | OAH | RADW | OAW | BD | ECA | CDI[1] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C6 ASHR/L 25-1 HPMC | 63.00 | 120.00 | 70.00 | 30.00 | 13.00 | 25.0 | 25.0 | 82.00 | 38.00 | 70.00 | 100.00 | 27.0 | 1 |

[1] 1 - Hole for data chip, 0 - Without hole for data chip

### Spare Parts

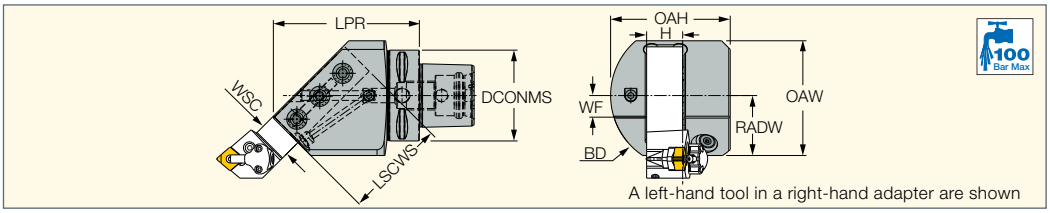
| Designation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| C6 ASHR/L 25-1 HPMC | SATZ-M12X1-M6 | SR M12X30 DIN915 | SR M8X6 DIN913 | SR M6X6 DIN913 | HW 6.0* | COOLING TUBE C6* | WRENCH COOL TUBE C6* | WRENCH NOZZLE HP M12* |

* Optional, should be ordered separately

CAMFIX

## C#-ASHR/L-45-HPMC

Holders with CAMFIX Exchangeable Shanks Carrying Square Shank Tools for 45° Mounting on Turn-Mill Machines with HPMC




| Designation | DCONMS | H | WSC | LSCWS | LPR | OAH | RADW | OAW | WF | BD | CDI[1] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C6 ASHR/L 25-45 HPMC | 63.00 | 25.0 | 25.0 | 70.00 | 101.30 | 83.00 | 38.00 | 79.60 | 15.00 | 100.00 | 1 |

[1] 1 - Hole for data chip, 0 - Without hole for data chip

### Spare Parts

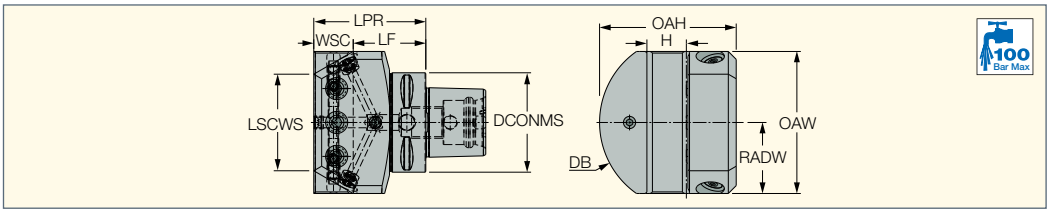
| Designation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| C6 ASHR/L 25-45 HPMC | SATZ-M10X1-M5 | SR M12X30 DIN915 | SR M8X6 DIN913 | SR M6X6 DIN913 | HW 6.0* | COOLING TUBE C6* | WRENCH COOL TUBE C6* | WRENCH NOZZLE HP M10* |

* Optional, should be ordered separately

CAMFIX

## C#-ASHA-HPMC

Perpendicular Holders with CAMFIX Shanks for External Square Shank Tools with High-Pressure Multi-Connection




| Designation | DCONMS | H | WSC | LPR | LSCWS | LF | RADW | OAW | OAH | BD | CDI[1] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C6 ASHA 25 HPMC | 63.00 | 25.0 | 25.0 | 71.00 | 61.20 | 46.00 | 45.00 | 90.00 | 86.50 | 110.00 | 1 |

[1] 1 - Hole for data chip, 0 - Without hole for data chip

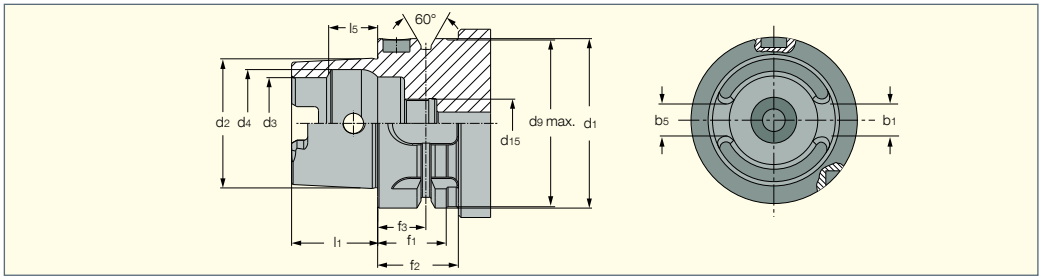
### Spare Parts

| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| C6 ASHA 25 HPMC | SATZ-M12X1-M6 | SR M12X30 DIN915 | SR M8X6 DIN913 | SR M8X10 DIN913 | SR M6X6 DIN913 | HW 6.0* | COOLING TUBE C6* | WRENCH COOL TUBE C6* | WRENCH NOZZLE HP M12* |

* Optional, should be ordered separately

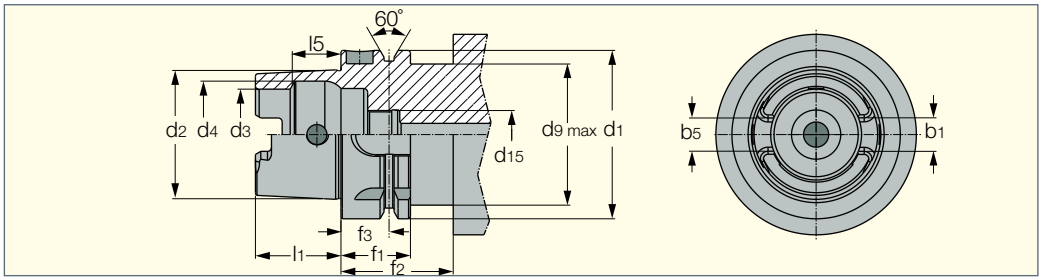
# HSK Shanks

## HSK A WH Complies with ICTM Standards (ISO 12164-3)



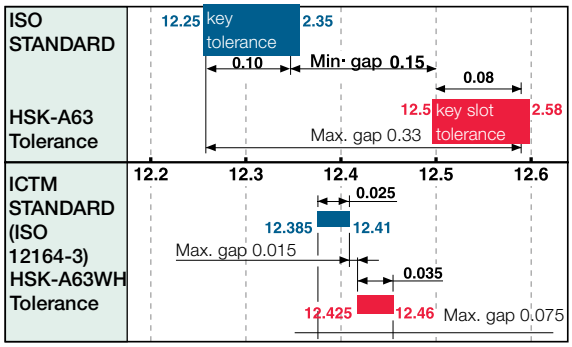

| HSK-A WH | d1 h10 | d2 | d3 H10 | d4 H11 | d9 max | d15 | l1-0.2 | l5 Js10 | b1 ±0.04 | b5 ±0.035 | f1 -0.1 | f2 min | f3 ±0.1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 63 | 63 | 48 | 34 | 40 | 62 | M18X1 | 32 | 18.13 | 12.54 | 12.425 | 26 | 30 | 18 |
| 100 | 100 | 75 | 53 | 63 | 99 | M24X1.5 | 50 | 28.56 | 20.02 | 19.91 | 29 | 34 | 20 |

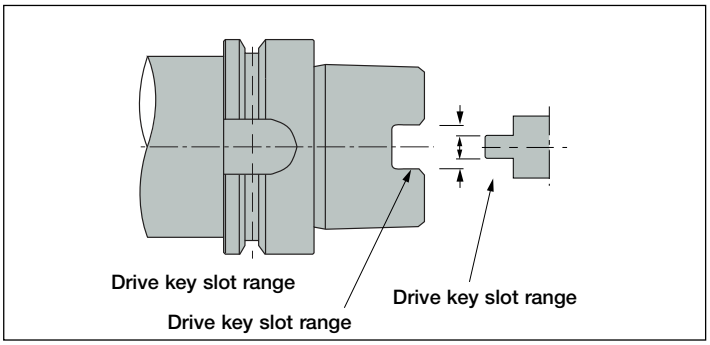
## HSK A TM Suitable for all Multi-Tasking Machine Models




| HSK A-TM | d1 h10 | d2 | d3 H10 | d4 H11 | d9 max | d15 | l1-0.2 | l5 JS10 | b1 ±0.04 | b5 ±0.035 | f1-0.1 | f2 min | f3 ±0.1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 63 | 63 | 48 | 34 | 40 | 52.8 | M18x1 | 32 | 18.13 | 12.54 | 12.425 | 26 | 42 | 18 |

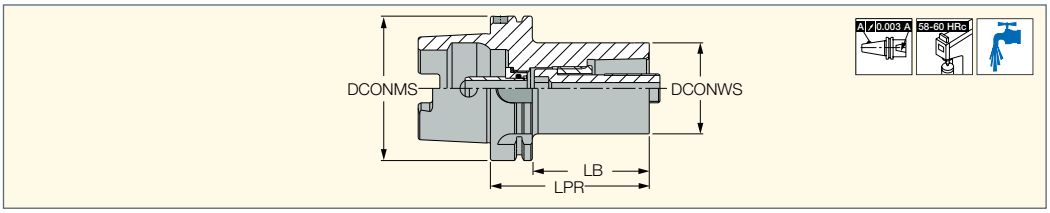
### HSK A vs. HSK A...WH Tolerance




## HSK CAMFIX

**HSK-C#**
CAMFIX (ISO 26623-1)
Holders with HSK DIN 69893
Form A Tapered Shanks




| Designation | DCONMS | DCONWS | LPR | LB | kg |
|---|---|---|---|---|---|
| C4 AD HSK A63WHX080 | 63.00 | 40.00 | 80.00 | 54.00 | 1.10 |
| C5 AD HSK A63WHX90 | 63.00 | 50.00 | 90.00 | 64.00 | 1.44 |
| C5 AD HSK A100WHX100 | 100.00 | 50.00 | 100.00 | 71.00 | 2.90 |
| C6 AD HSK A100-110 | 100.00 | 63.00 | 110.00 | 81.00 | 4.00 |
| C6 AD HSK A100WHX110 | 100.00 | 63.00 | 110.00 | 81.00 | 3.61 |
| C8 AD HSK A100WHX120 | 100.00 | 80.00 | 120.00 | 91.00 | 4.79 |

- Note: To enable clamping the part to be attached, first remove the cooling tube

### Spare Parts

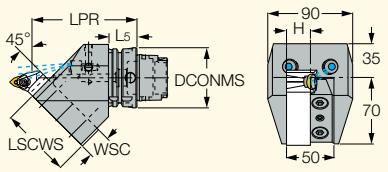
| Designation | | | | | | |
|---|---|---|---|---|---|---|
| C4 AD HSK A63WHX080 | SR M14X58 C4 | HW 8.0* | MT RING M22X17XC4 | COOLING TUBE HSK A63 C5 | WRENCH COOL TUBE HSK63* | WRENCH C4 DRW NUT* |
| C5 AD HSK A63WHX90 | SR M16X70 C5 | HW 10.0* | MT RING M25X20XC5 | COOLING TUBE HSK A63 C5 | WRENCH COOL TUBE HSK63* | WRENCH C5 DRW NUT* |
| C5 AD HSK A100WHX100 | SR M16X70 C5 | HW 10.0* | MT RING M25X20XC5 | COOLING TUBE HSK A100 | WRENCH COOL TUBE HSK100* | WRENCH C5 DRW NUT* |
| C6 AD HSK A100WHX110 | SR M20X87 C6/8 | HW 14.0* | MT RING M30X24XC6/8 | COOLING TUBE HSK A100C6/8 | WRENCH COOL TUBE HSK100* | WRENCH C6-8 DRW NUT* |
| C8 AD HSK A100WHX120 | SR M20X87 C6/8 | HW 14.0* | MT RING M30X24XC6/8 | COOLING TUBE HSK A100C6/8 | WRENCH COOL TUBE HSK100* | WRENCH C6-8 DRW NUT* |

* Optional, should be ordered separately

## HSK

### HSK A63WH-ASHN-45

Square Shank Tool Adapters with HSK Exchangeable Shanks for 45° Mounting on Turn-Mill Machines




Right-hand shown

| Designation | DCONMS | H | WSC | LPR | LSCWS | L5 | CDI[2] | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| HSK A63WH ASHN 25 45 [1] | 63.00 | 25.0 | 25.0 | 121.00 | 72.00 | 42.00 | 1 | SR M10X25 DIN912 | SR M8X20 DIN916 | SATZ-M12X1-M6 | WRENCH NOZZLE HP M12* |

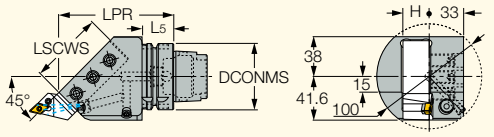
- A cooling tube must be used with all coolant through HSK spindles (should be ordered separately)
- For using left-hand toolholder, the position of the clamping spacer must be changed
- Complies with ICTM standard (ISO 12164-3)

[1] Not suitable for ATC (automatic tool changer) on some multi-tasking machine models, please consult your MTB
[2] 1 - Hole for data chip, 0 - Without hole for data chip
* Optional, should be ordered separately

## HSK

### HSK A63WH-ASHR/L-45

Square Shank Tool Adapters with HSK-T Exchangeable Shanks for 45° Mounting on Turn-Mill Machines




A left-hand tool in a right-hand adapter are shown

| Designation | DCONMS | H | LPR | LSCWS | L5 | CDI[2] | | | |
|---|---|---|---|---|---|---|---|---|---|
| HSK A63WH ASHR/L 25 45 [1] | 63.00 | 25.0 | 110.00 | 70.00 | 30.00 | 1 | SR M12X30 DIN915 | SATZ-M10X1-M5 | WRENCH NOZZLE HP M10* |

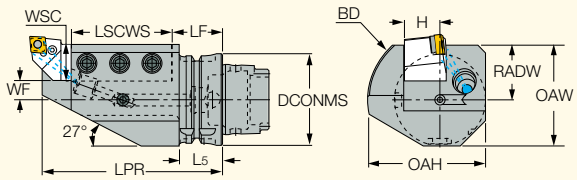
- A cooling tube must be used with all coolant through HSK spindles (should be ordered separately)
- Complies with ICTM standard (ISO 12164-3)

[1] Not suitable for ATC (automatic tool changer) on some multi-tasking machine models, please consult your MTB
[2] 1 - Hole for data chip, 0 - Without hole for data chip
* Optional, should be ordered separately

## HSK

### HSK A-WH-ASHR/L-1

Square Shank Tool Adapters with HSK Exchangeable Shanks for Turn-Mill Machines




Left-hand shown

| Designation | DCONMS | H | WSC | WF | LPR | LSCWS | LF | L5 | OAH | RADW | OAW | BD | CDI[1] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HSK A63WH ASHR/L 25 1 | 63.00 | 25.0 | 25.0 | 13.00 | 125.00 | 70.00 | 35.00 | 30.00 | 82.00 | 38.0 | 70.00 | 100.00 | 1 |
| HSK A100WH ASHR/L 32 1 | 100.00 | 32.0 | 32.0 | 8.00 | 145.00 | 90.00 | 45.00 | 38.00 | 85.00 | 40.0 | 84.00 | 100.00 | 1 |

- Complies with ICTM standard (ISO 12164-3)
- Not suitable for ATC (automatic tool changer) on some multi-tasking machine models, please consult your MTB
- A cooling tube must be used with all coolant through HSK spindles (should be ordered separately)

[1] 1 - Hole for data chip, 0 - Without hole for data chip

### Spare Parts

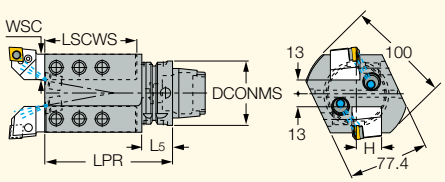
| Designation | | | | |
|---|---|---|---|---|
| HSK A-WH-ASHR/L-1 | SR M12X30 DIN915 | HW 6.0* | SATZ-M12X1-M6 | WRENCH NOZZLE HP M12* |

* Optional, should be ordered separately

## HSK

### HSK A63WH-ASHR/L-2

Twin Square Shank Tool Adapters with HSK Exchangeable Shanks for Turn-Mill Machines




Left-hand shown

| Designation | DCONMS | H | WSC | LPR | LSCWS | L5 | CDI[2] | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| HSK A63WH ASHR/L 25 2 [1] | 63.00 | 25.0 | 25.0 | 125.00 | 95.00 | 30.00 | 1 | SR M12X30 DIN915 | SATZ-M12X1-M6 | WRENCH NOZZLE HP M12* |

- Complies with ICTM standard (ISO 12164-3)
- A cooling tube must be used with all coolant through HSK spindles (should be ordered separately)

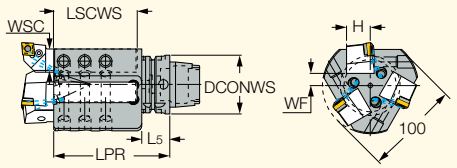
[1] Not suitable for ATC (automatic tool changer) on some multi-tasking machine models, please consult your MTB
[2] 1 - Hole for data chip, 0 - Without hole for data chip
* Optional, should be ordered separately

Tools: PCLXR/L-JHP • SER/L-JHP

## HSK

### HSK A63WH-ASHR/L-3

Triple Square Shank Tool Adapters with HSK Exchangeable Shanks for Mounting on Turn-Mill Machines




Left-hand shown

| Designation | DCONMS | H | WSC | WF | LPR | LSCWS | L5 | CDI(2) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| HSK A63WH ASHR/L 25 3 (1) | 63.00 | 25.0 | 25.0 | 13.00 | 125.00 | 90.00 | 30.00 | 1 | SR M12X30 DIN915 | SATZ-M8X1-M3 |

- Complies with ICTM standard (ISO 12164-3)
- A cooling tube must be used with all coolant through HSK spindles (should be ordered separately)

(1) Not suitable for ATC (automatic tool changer) on some multi-tasking machine models, please consult your MTB

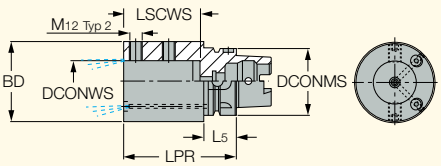
(2) 1 - Hole for data chip, 0 - Without hole for data chip

Tools: SER/L-JHP

## HSK

### HSK A-WH ABB

Adapters with HSK Exchangeable Shanks for Boring Bars with Reduction Sleeves




| Designation | DCONMS | BD | DCONWS | LPR | LSCWS | L5 | CDI(1) |
|---|---|---|---|---|---|---|---|
| HSK A63WH ABB 40 | 63.00 | 75.00 | 40.00 | 105.00 | 71.0 | 30.00 | 1 |
| HSK A100WH ABB 40 | 100.00 | 82.00 | 40.00 | 115.00 | 71.0 | 29.00 | 1 |
| HSK A100WH ABB 50 | 100.00 | 92.00 | 50.00 | 125.00 | 83.0 | 29.00 | 1 |

- Complies with ICTM standard (ISO 12164-3)
- Not suitable for ATC (automatic tool changer) on some multi-tasking machine models, please consult your MTB
- A cooling tube must be used with all coolant through HSK spindles (should be ordered separately)

(1) 1 - Hole for data chip, 0 - Without hole for data chip

### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| HSK A-WH ABB | SR M12X16 DIN1835-B(a) | SR M12X30 DIN915(b) | SR M10X6DIN913(c) | HW 6.0* | SATZ-M12X1-M6 | WRENCH NOZZLE HP M12* |

* Optional, should be ordered separately

(a) Used on A-type sleeves

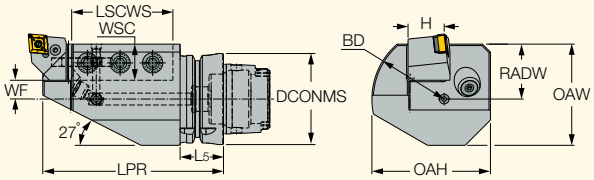
(b) Used on B type sleeves

(c) Rear stopper screw

## HSK

### HSK A63WH-ASHR/L-HPMC

Holders with HSK Exchangeable Shanks for External Square Shank Tools with High-Pressure Multi-Connection



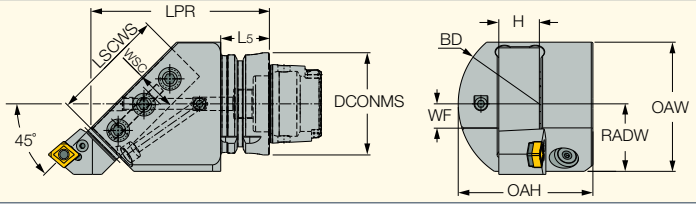

| Designation | DCONMS | LPR | LSCWS | L5 | WF | H | WSC | OAH | RADW | OAW | BD | CDI(1) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HSK A63WH ASHR/L25-1 HPMC | 63.00 | 125.00 | 70.00 | 30.00 | 13.00 | 25.0 | 25.0 | 82.00 | 38.00 | 70.00 | 100.00 | 1 |

(1) 1 - Hole for data chip, 0 - Without hole for data chip

## HSK

### HSK A63WH-ASHR/L-45-HPMC

Holders with HSK Exchangeable Shanks Carrying Square Shank Tools for 45° Mounting on Turn-Mill Machines with HPMC




| Designation | DCONMS | H | WSC | LSCWS | LPR | L5 | OAH | RADW | OAW | WF | BD | CDI(1) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HSK A63WH ASHR/L25-45 HPMC | 63.00 | 25.0 | 25.0 | 70.00 | 110.00 | 30.00 | 83.00 | 41.60 | 79.60 | 15.00 | 100.00 | 1 |

(1) 1 - Hole for data chip, 0 - Without hole for data chip

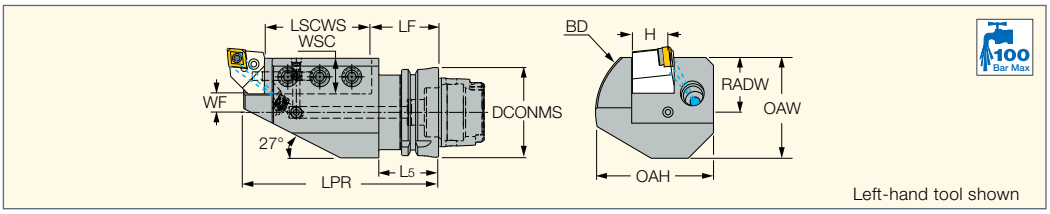
### Spare Parts

| Designation | | |
|---|---|---|
| HSK A63WH ASHL25-45 HPMC | SR M6X6 DIN913 | SR M12X30 DIN915 |
| HSK A63WH ASHR25-45 HPMC | SR M6X6 DIN913 | SR M8X6 DIN913 |

## HSK

### HSK A-TM-ASHR/L-1-HPMC

Square Shank Tool Adapters with HSK Exchangeable Shanks for Multi-Tasking Machines with High-Pressure Coolant Channels




| Designation | DCONMS | H | WSC | WF | LPR | LSCWS | LF | L5 | OAH | RADW | OAW | BD | CDI(1) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HSK A63TM ASHR/L 25 1 HPMC | 63.00 | 25.0 | 25.0 | 13.00 | 137.00 | 70.00 | 47.00 | 42.00 | 82.00 | 38.0 | 70.00 | 100.00 | 1 |

- A cooling tube must be used with all coolant through HSK spindles (should be ordered separately)

(1) 1 - Hole for data chip, 0 - Without hole for data chip

### Spare Parts

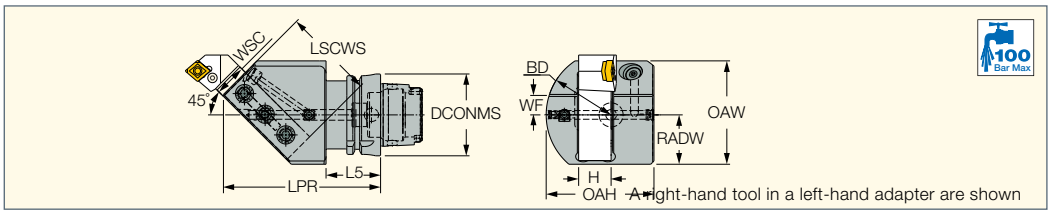
| Designation | | | | | |
|---|---|---|---|---|---|
| HSK A63TM ASHR/L 25 1 HPMC | SR M12X30 DIN915 | SR M8X6 DIN913 | SATZ-M12X1-M6 | WRENCH NOZZLE HP M12* | SR M6X6 DIN913 |

* Optional, should be ordered separately

## HSK

### HSK A63TM-ASHR/L-45-HPMC

Square Shank Tool Adapters with HSK-T Exchangeable Shanks for 45° Mounting on Multi-Tasking Machines




| Designation | DCONMS | H | WSC | WF | LPR | LSCWS | L5 | OAH | RADW | OAW | BD | CDI(1) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HSK A63TM ASHR/L 25 45 HPMC | 63.00 | 25.0 | 25.0 | 15.00 | 121.00 | 70.00 | 42.00 | 58.00 | 38.00 | 79.60 | 100.00 | 1 |

- A cooling tube must be used with all coolant through HSK spindles (should be ordered separately)

(1) 1 - Hole for data chip, 0 - Without hole for data chip

### Spare Parts

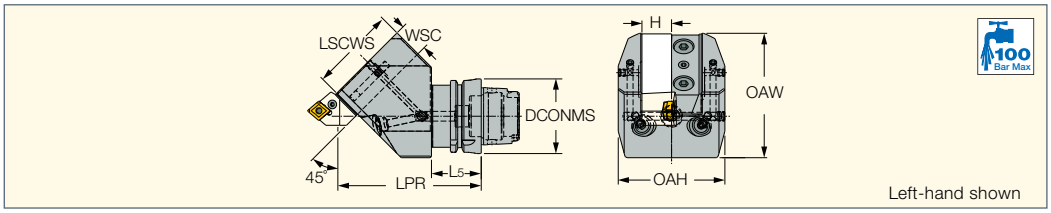
| Designation | | | | | |
|---|---|---|---|---|---|
| HSK A63TM ASHR/L 25 45 HPMC | SR M12X30 DIN915 | SR M8X6 DIN913 | SATZ-M12X1-M6 | WRENCH NOZZLE HP M12* | SR M6X6 DIN913 |

* Optional, should be ordered separately

## HSK

### HSK A63TM-ASHN-45-HPMC

Square Shank Tool Adapters with HSK Exchangeable Shanks for 45° Mounting on Multi-Tasking Machines




| Designation | DCONMS | H | WSC | LPR | LSCWS | L5 | OAH | OAW | CDI(1) |
|---|---|---|---|---|---|---|---|---|---|
| HSK A63TM ASHN 25 45 HPMC | 63.00 | 25.0 | 25.0 | 121.00 | 72.00 | 42.00 | 90.00 | 105.00 | 1 |

- A cooling tube must be used with all coolant through HSK spindles (should be ordered separately)
- For using left-hand toolholder, the position of the clamping spacer must be changed

(1) 1 - Hole for data chip, 0 - Without hole for data chip

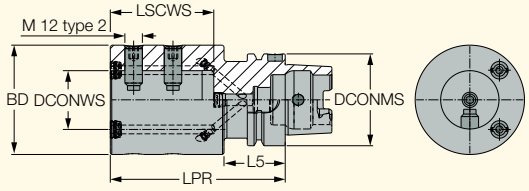
### Spare Parts

| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| HSK A63TM ASHN 25 45 HPMC | SR M10X25 DIN912 | SR M8X20 DIN916 | SATZ-M12X1-M6 | WRENCH NOZZLE HP M12* | SPRING PIN DIN 1481 3X5 | SR M8X6 DIN913 | SR M6X6 DIN913 |

* Optional, should be ordered separately

## *HSK*

### HSK A63TM ABB
Adapters with HSK Exchangeable Shanks for Boring Bars with Reduction Sleeves




| Designation | DCONMS | DCONWS | BD | LPR | LSCWS | L5 | CDI(1) |
|---|---|---|---|---|---|---|---|
| HSK A63TM ABB 40 | 63.00 | 40.00 | 100.00 | 120.00 | 71.0 | 42.00 | 1 |

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately) • For SC reduction sleeves, see page 741

(1) 1 - Hole for data chip, 0 - Without hole for data chip

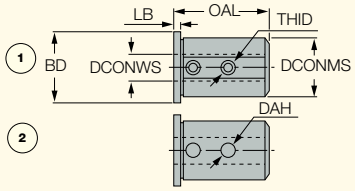
### Spare Parts

| Designation | | | | | | |
|---|---|---|---|---|---|---|
| HSK A63TM ABB 40 | SR M12X30 DIN915 | SR M12X16 DIN1835-B | SATZ-M12X1-M6 | WRENCH NOZZLE HP M12* | SR M10X6DIN913 | SR M5X4 DIN913 |

* Optional, should be ordered separately

## *Accessories*

### SC-T (sleeves)
Reduction Sleeves for Holders with Exchangeable Adaptation




| Designation | DCONMS | DCONWS | BD | OAL | LB | THID | DAH | Fig. | | |
|---|---|---|---|---|---|---|---|---|---|---|
| SC 32T10A | 32.00 | 10.00 | 39.00 | 70.00 | 8.00 | M6 | - | 1 | | |
| SC 32T12A | 32.00 | 12.00 | 39.00 | 70.00 | 8.00 | M6 | - | 1 | | |
| SC 32T16A | 32.00 | 16.00 | 39.00 | 70.00 | 8.00 | M6 | - | 1 | | |
| SC 32T20A | 32.00 | 20.00 | 39.00 | 70.00 | 8.00 | M6 | - | 1 | | |
| SC 32T25B | 32.00 | 25.00 | 39.00 | 80.00 | 15.00 | M8 | - | 1 | | |
| SC 25T10A | 25.00 | 10.00 | 31.00 | 62.00 | 6.00 | M8 | - | 1 | SR M8X6 DIN916 | HW 4.0* |
| SC 25T12A | 25.00 | 12.00 | 31.00 | 62.00 | 6.00 | M8 | - | 1 | SR M8X6 DIN916 | HW 4.0* |
| SC 25T16B | 25.00 | 16.00 | 31.00 | 62.00 | 6.00 | - | 12.00 | 2 | | |
| SC 25T20B | 25.00 | 20.00 | 31.00 | 62.00 | 6.00 | - | 12.00 | 2 | | |
| SC 25T6A | 25.00 | 6.00 | 31.00 | 62.00 | 6.00 | M6 | - | 1 | SR M6X6 DIN916 | HW 3.0* |
| SC 25T8A | 25.00 | 8.00 | 31.00 | 62.00 | 6.00 | M8 | - | 1 | SR M8X6 DIN916 | HW 4.0* |
| SC 40T10A | 40.00 | 10.00 | 46.00 | 66.00 | 6.00 | M8 | - | 1 | SR M8X10 DIN1835-B | HW 4.0* |
| SC 40T12A | 40.00 | 12.00 | 46.00 | 66.00 | 6.00 | M8 | - | 1 | SR M8X10 DIN1835-B | HW 4.0* |
| SC 40T16B | 40.00 | 16.00 | 46.00 | 66.00 | 6.00 | - | 15.00 | 2 | | |
| SC 40T20B | 40.00 | 20.00 | 46.00 | 66.00 | 6.00 | - | 15.00 | 2 | | |
| SC 40T25B | 40.00 | 25.00 | 46.00 | 66.00 | 6.00 | - | 15.00 | 2 | | |
| SC 40T32B | 40.00 | 32.00 | 46.00 | 66.00 | 6.00 | - | 15.00 | 2 | | |
| SC 40T6A | 40.00 | 6.00 | 46.00 | 66.00 | 6.00 | M6 | - | 1 | SR M6X10 DIN1835B | HW 3.0* |
| SC 40T8A | 40.00 | 8.00 | 46.00 | 66.00 | 6.00 | M6 | - | 1 | SR M8X10 DIN1835-B | HW 4.0* |
| SC 50 T40B | 50.00 | 40.00 | 56.00 | 86.00 | 6.00 | - | 15.00 | 2 | | |
| SC 50T10A | 50.00 | 10.00 | 56.00 | 76.00 | 6.00 | M8 | - | 1 | SR M8X6 DIN916 | HW 4.0* |
| SC 50T12A | 50.00 | 12.00 | 56.00 | 76.00 | 6.00 | M8 | - | 1 | SR M8X6 DIN916 | HW 4.0* |
| SC 50T16B | 50.00 | 16.00 | 56.00 | 86.00 | 6.00 | - | 15.00 | 2 | | |
| SC 50T20B | 50.00 | 20.00 | 56.00 | 86.00 | 6.00 | - | 15.00 | 2 | | |
| SC 50T25B | 50.00 | 25.00 | 56.00 | 86.00 | 6.00 | - | 15.00 | 2 | | |
| SC 50T32B | 50.00 | 32.00 | 56.00 | 86.00 | 6.00 | - | 15.00 | 2 | | |
| SC 50T6A | 50.00 | 6.00 | 56.00 | 76.00 | 6.00 | M6 | - | 1 | SR M6X6 DIN916 | HW 3.0* |
| SC 50T8A | 50.00 | 8.00 | 56.00 | 76.00 | 6.00 | M8 | - | 1 | SR M8X6 DIN916 | HW 4.0* |

* Optional, should be ordered separately

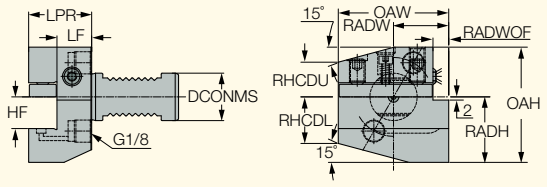
# VDI Shanks

## TOOL BLOCKS

### VDI-B1/B4A-JHPMC

Radially Oriented, Short, Right-Hand Holders with VDI DIN69880 Shanks for Square Shank Tools






| Designation | DCONMS | HF | LPR | OAW | RADW | RADWOF | RHCDL | RHCDU | RADH | OAH | CDI(1) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VDI16 B1A-161234-JHPMC | 16.00 | 12.0 | 34.00 | 42.00 | 23.00 | 5.00 | 16.00 | 15.00 | 22.00 | 42.00 | 0 |
| VDI16 B4A-161234-JHPMC | 16.00 | 12.0 | 34.00 | 42.00 | 23.00 | 5.00 | 16.00 | 15.00 | 22.00 | 42.00 | 0 |
| VDI20 B1A-201640-JHPMC | 20.00 | 16.0 | 40.00 | 55.00 | 30.00 | 7.00 | 19.00 | 19.00 | 30.00 | 55.00 | 0 |
| VDI20 B4A-201640-JHPMC | 20.00 | 16.0 | 40.00 | 55.00 | 30.00 | 7.00 | 19.00 | 19.00 | 30.00 | 55.00 | 0 |
| VDI25 B1A-252040-JHPMC | 25.00 | 20.0 | 40.00 | 70.00 | 35.00 | 10.00 | 29.50 | 22.00 | 38.50 | 70.00 | 0 |
| VDI30 B1B4A-302040-JHPMC | 30.00 | 20.0 | 40.00 | 70.00 | 35.00 | 10.00 | 29.50 | 22.00 | 41.50 | 73.00 | 0 |
| VDI40 B1B4A-402544-JHPMC | 40.00 | 25.0 | 44.00 | 85.00 | 42.50 | 12.50 | 35.00 | 30.00 | 48.00 | 86.00 | 0 |
| VDI50 B1B4A-502544-JHPMC | 50.00 | 25.0 | 44.00 | 85.00 | 42.50 | 12.50 | 43.00 | 30.00 | 48.00 | 91.00 | 0 |

- Form B1 radial R.H. short, form B4 radial overhead L.H. short.

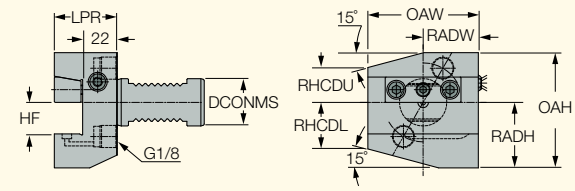
(1) 1 - Hole for data chip, 0 - Without hole for data chip

## TOOL BLOCKS

### VDI-B1/B4AK-JHPMC

Radially Oriented, Short, Right-Hand, Wedge Clamping Holders with VDI DIN69880 Shanks for Square Shank Tools






| Designation | DCONMS | HF | LPR | OAW | RADW | RHCDL | RHCDU | RADH | OAH | CDI(1) |
|---|---|---|---|---|---|---|---|---|---|---|
| VDI30 B1B4AK-302040-JHPMC | 30.00 | 20.0 | 40.00 | 70.00 | 35.00 | 29.50 | 22.00 | 41.50 | 73.00 | 0 |
| VDI40 B1B4AK-402544-JHPMC | 40.00 | 25.0 | 44.00 | 85.00 | 42.50 | 35.00 | 30.00 | 48.00 | 86.00 | 0 |
| VDI50 B1B4AK-502544-JHPMC | 50.00 | 25.0 | 44.00 | 85.00 | 42.50 | 43.00 | 30.00 | 48.00 | 91.00 | 0 |

- Form B1 radial R.H. short, form B4 radial overhead L.H. short.

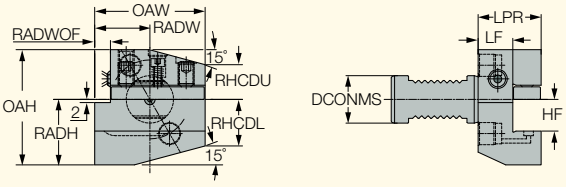
(1) 1 - Hole for data chip, 0 - Without hole for data chip

## TOOL BLOCKS

### VDI-B2/B3A-JHPMC

Radially Oriented, Short, Left-Hand Holders with VDI DIN69880 Shanks for Square Shank Tools






| Designation | DCONMS | HF | LPR | OAW | RADW | RADWOF | RHCDL | RHCDU | RADH | OAH | CDI(1) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VDI16 B2A-161234-JHPMC | 16.00 | 12.0 | 34.00 | 42.00 | 23.00 | 5.00 | 16.00 | 15.00 | 22.00 | 42.00 | 0 |
| VDI16 B3A-161234-JHPMC | 16.00 | 12.0 | 34.00 | 42.00 | 23.00 | 5.00 | 16.00 | 15.00 | 22.00 | 42.00 | 0 |
| VDI20 B2A-201640-JHPMC | 20.00 | 16.0 | 40.00 | 55.00 | 30.00 | 7.00 | 19.00 | 19.00 | 30.00 | 55.00 | 0 |
| VDI20 B3A-201640-JHPMC | 20.00 | 16.0 | 40.00 | 55.00 | 30.00 | 7.00 | 19.00 | 19.00 | 30.00 | 55.00 | 0 |
| VDI25 B2A-252040-JHPMC | 25.00 | 20.0 | 40.00 | 70.00 | 35.00 | 10.00 | 29.50 | 22.00 | 38.50 | 70.00 | 0 |
| VDI30 B2B3A-302040-JHPMC | 30.00 | 20.0 | 40.00 | 70.00 | 35.00 | 10.00 | 29.50 | 27.00 | 41.50 | 73.00 | 0 |
| VDI40 B2B3A-402544-JHPMC | 40.00 | 25.0 | 44.00 | 85.00 | 42.50 | 12.50 | 35.00 | 30.00 | 48.00 | 86.00 | 0 |
| VDI50 B2B3A-502544-JHPMC | 50.00 | 25.0 | 44.00 | 85.00 | 42.50 | 12.50 | 43.00 | 38.00 | 48.00 | 91.00 | 0 |

- Form B2 radial L.H. short, form B3 radial overhead R.H. short.

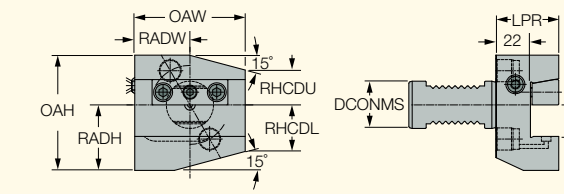
(1) 1 - Hole for data chip, 0 - Without hole for data chip

## TOOL BLOCKS

### VDI-B2/B3AK-JHPMC

Radially Oriented, Short, Left-Hand, Wedge Clamping Holders with VDI DIN69880 Shanks for Square Shank Tools






| Designation | DCONMS | HF | LPR | OAW | RADW | RHCDL | RHCDU | RADH | OAH | CDI(1) |
|---|---|---|---|---|---|---|---|---|---|---|
| VDI30 B2B3AK-302040-JHPMC | 30.00 | 20.0 | 40.00 | 70.00 | 35.00 | 29.50 | 27.00 | 41.50 | 73.00 | 0 |
| VDI40 B2B3AK-402544-JHPMC | 40.00 | 25.0 | 44.00 | 85.00 | 42.50 | 35.00 | 30.00 | 48.00 | 86.00 | 0 |
| VDI50 B2B3AK-502544-JHPMC | 50.00 | 25.0 | 44.00 | 85.00 | 42.50 | 35.00 | 38.00 | 48.00 | 91.00 | 0 |

- Form B2 radial L.H. short, form B3 radial overhead R.H. short.

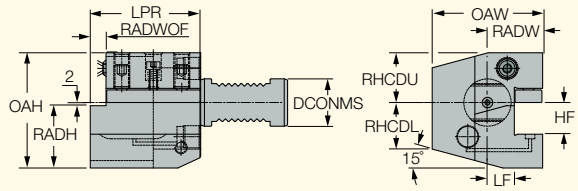
(1) 1 - Hole for data chip, 0 - Without hole for data chip

## TOOL BLOCKS

### VDI-C1/C4A-JHPMC

Axially Oriented, Short, Right-Hand Holders with VDI DIN69880 Shanks for Square Shank Tools






| Designation | DCONMS | HF | LPR | OAW | RADW | LF | RADWOF | RHCDL | RHCDU | RADH | OAH | CDI(1) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VDI16 C1C4A-161244-JHPMC | 16.00 | 12.0 | 44.00 | 43.00 | 5.00 | 13.00 | 5.00 | 15.00 | 15.00 | 23.00 | 45.00 | 0 |
| VDI20 C1C4A-201655-JHPMC | 20.00 | 16.0 | 55.00 | 52.00 | 7.00 | 13.00 | 7.00 | 19.00 | 19.00 | 23.00 | 55.00 | 0 |
| VDI25 C1C4A-252055-JHPMC | 25.00 | 20.0 | 55.00 | 58.00 | 33.00 | 13.00 | 7.00 | 26.00 | 28.00 | 36.00 | 66.00 | 0 |
| VDI30 C1C4A-302070-JHPMC | 30.00 | 20.0 | 70.00 | 70.00 | 35.00 | 17.00 | 10.00 | 26.00 | 22.00 | 38.00 | 70.00 | 0 |
| VDI40 C1C4A-402585-JHPMC | 40.00 | 25.0 | 85.00 | 85.00 | 42.50 | 21.00 | 12.50 | 35.00 | 30.00 | 48.00 | 86.00 | 0 |
| VDI50 C1C4A-502585-JHPMC | 50.00 | 25.0 | 85.00 | 90.50 | 48.00 | 26.00 | 12.50 | 42.00 | 35.00 | 48.00 | 92.00 | 0 |

- Form C1 axial R.H., form C4 axial overhead L.H. short.

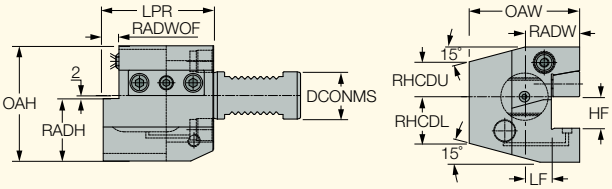
(1) 1 - Hole for data chip, 0 - Without hole for data chip

## TOOL BLOCKS

### VDI-C1/C4AK-JHPMC

Axially Oriented, Short, Right-Hand, Wedge Clamping Holders with VDI DIN69880 Shanks for Square Shank Tools






| Designation | DCONMS | HF | LPR | OAW | RADW | LF | RADWOF | RHCDL | RHCDU | RADH | OAH | CDI(1) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VDI30 C1C4AK-302070-JHPMC | 30.00 | 20.0 | 70.00 | 70.00 | 35.00 | 17.00 | 10.00 | 26.00 | 22.00 | 38.00 | 70.00 | 0 |
| VDI40 C1C4AK-402585-JHPMC | 40.00 | 25.0 | 85.00 | 85.00 | 42.50 | 21.00 | 12.50 | 35.00 | 30.00 | 48.00 | 86.00 | 0 |
| VDI50 C1C4AK-502585-JHPMC | 50.00 | 25.0 | 85.00 | 90.50 | 48.00 | 26.00 | 12.50 | 42.00 | 35.00 | 48.00 | 92.00 | 0 |

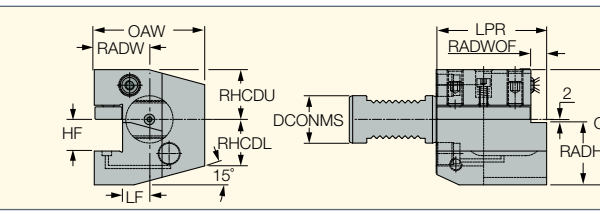
- Form C1 axial R.H., form C4 axial overhead L.H. short.

(1) 1 - Hole for data chip, 0 - Without hole for data chip

## TOOL BLOCKS

### VDI-C2/C3A-JHPMC

Axially Oriented, Short, Left-Hand Holders with VDI DIN69880 Shanks for Square Shank Tools




| Designation | DCONMS | HF | LPR | OAW | RADW | LF | RADWOF | RHCDL | RHCDU | RADH | OAH | CDI(1) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VDI16 C2C3A-161244-JHPMC | 16.00 | 12.0 | 44.00 | 43.00 | 24.00 | 13.00 | 5.00 | 15.00 | 15.00 | 23.00 | 45.00 | 0 |
| VDI20 C2C3A-201655-JHPMC | 20.00 | 16.0 | 55.00 | 58.00 | 33.00 | 19.00 | 7.00 | 19.00 | 19.00 | 28.00 | 55.00 | 0 |
| VDI25 C2C3A-252055-JHPMC | 25.00 | 20.0 | 55.00 | 52.00 | 37.00 | 15.00 | 7.00 | 38.00 | 38.00 | 36.00 | 66.00 | 0 |
| VDI30 C2C3A-302070-JHPMC | 30.00 | 20.0 | 70.00 | 76.00 | 41.00 | 17.00 | 10.00 | 26.00 | 26.00 | 38.00 | 70.00 | 0 |
| VDI40 C2C3A-402585-JHPMC | 40.00 | 25.0 | 85.00 | 90.00 | 47.50 | 21.00 | 12.50 | 35.00 | 30.00 | 48.00 | 86.00 | 0 |
| VDI50 C2C3A-502585-JHPMC | 50.00 | 25.0 | 85.00 | 95.00 | 52.50 | 26.00 | 12.50 | 42.00 | 37.00 | 48.00 | 92.00 | 0 |

- Form C2 axial L.H., form C3 axial overhead R.H. short.

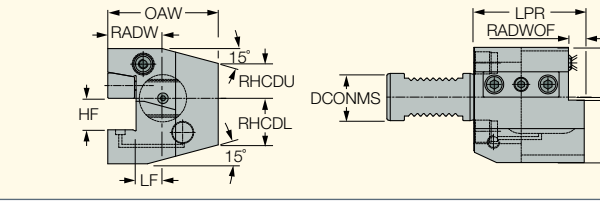
(1) 1 - Hole for data chip, 0 - Without hole for data chip

## TOOL BLOCKS

### VDI-C2/C3AK-JHPMC

Axially Oriented, Short, Left-Hand, Wedge Clamping Holders with VDI DIN69880 Shanks for Square Shank Tools






| Designation | DCONMS | HF | LPR | OAW | RADW | LF | RADWOF | RHCDL | RHCDU | RADH | OAH | CDI(1) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VDI30 C2C3AK-302070-JHPMC | 30.00 | 20.0 | 70.00 | 76.00 | 41.00 | 17.00 | 10.00 | 26.00 | 22.00 | 38.00 | 70.00 | 0 |
| VDI40 C2C3AK-402585-JHPMC | 40.00 | 25.0 | 85.00 | 90.00 | 47.50 | 21.00 | 12.50 | 35.00 | 30.00 | 48.00 | 86.00 | 0 |
| VDI50 C2C3AK-502585-JHPMC | 50.00 | 25.0 | 85.00 | 65.00 | 52.50 | 26.00 | 12.50 | 42.00 | 35.00 | 48.00 | 92.00 | 0 |

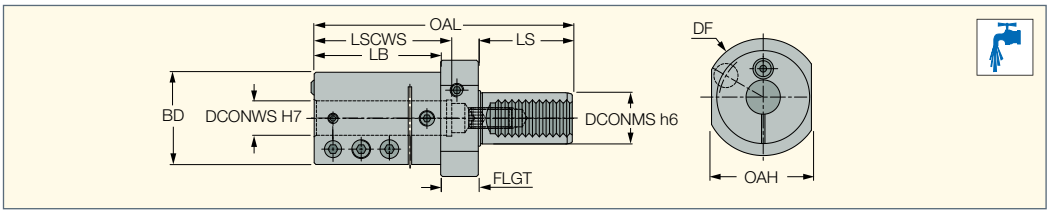
- Form C2 axial L.H., form C3 axial overhead R.H. short.

(1) 1 - Hole for data chip, 0 - Without hole for data chip

WHISPERLINE ANTI-VIBRATION

## VDI AV-JHP

VDI Holders For
Anti-Vibration Tools

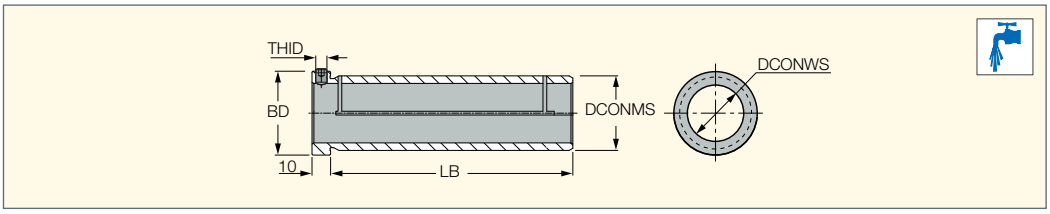



| Designation | DCONMS | DCONWS | OAL | LS | BD | DF | LSCWS | LB | FLGT | OAH |
|---|---|---|---|---|---|---|---|---|---|---|
| VDI30 AV-D16-JHP | 30.00 | 16.00 | 143.00 | 55.0 | 50.00 | 68.00 | 70.00 | 66.0 | 22.00 | 56.00 |
| VDI30 AV-D20-JHP | 30.00 | 20.00 | 151.00 | 55.0 | 54.00 | 68.00 | 80.00 | 74.0 | 22.00 | 56.00 |
| VDI30 AV-D25-JHP | 30.00 | 25.00 | 167.00 | 55.0 | 58.00 | 68.00 | 100.00 | 90.0 | 22.00 | 56.00 |
| VDI30 AV-D32-JHP | 30.00 | 32.00 | 197.00 | 55.0 | 63.00 | 68.00 | 128.00 | 120.0 | 22.00 | 56.00 |
| VDI40 AV-D16-JHP | 40.00 | 16.00 | 151.00 | 63.0 | 50.00 | 83.00 | 70.00 | 66.0 | 22.00 | 65.00 |
| VDI40 AV-D20-JHP | 40.00 | 20.00 | 159.00 | 63.0 | 54.00 | 83.00 | 80.00 | 74.0 | 22.00 | 65.00 |
| VDI40 AV-D25-JHP | 40.00 | 25.00 | 175.00 | 63.0 | 58.00 | 83.00 | 100.00 | 90.0 | 22.00 | 65.00 |
| VDI40 AV-D32-JHP | 40.00 | 32.00 | 205.00 | 63.0 | 63.00 | 83.00 | 128.00 | 120.0 | 22.00 | 65.00 |
| VDI40 AV-D40-JHP | 40.00 | 40.00 | 237.00 | 63.0 | 73.00 | 83.00 | 150.00 | 152.0 | 22.00 | 65.00 |
| VDI50 AV-D16-JHP | 50.00 | 16.00 | 181.00 | 78.0 | 50.00 | 98.00 | 85.00 | 81.0 | 22.00 | 70.00 |
| VDI50 AV-D20-JHP | 50.00 | 20.00 | 181.00 | 78.0 | 54.00 | 98.00 | 89.00 | 73.0 | 30.00 | 70.00 |
| VDI50 AV-D25-JHP | 50.00 | 25.00 | 198.00 | 78.0 | 59.00 | 98.00 | 106.00 | 90.0 | 30.00 | 70.00 |
| VDI50 AV-D32-JHP | 50.00 | 32.00 | 228.00 | 78.0 | 65.00 | 98.00 | 128.00 | 120.0 | 30.00 | 70.00 |
| VDI50 AV-D40-JHP | 50.00 | 40.00 | 260.00 | 78.0 | 73.00 | 98.00 | 160.00 | 152.0 | 30.00 | 70.00 |
| VDI50 AV-D50-JHP | 50.00 | 50.00 | 260.00 | 78.0 | 83.00 | 98.00 | 160.00 | 152.0 | 30.00 | 70.00 |
| VDI60 AV-D25-JHP | 60.00 | 25.00 | 214.00 | 94.0 | 59.00 | 123.00 | 106.00 | 90.0 | 30.00 | 85.00 |
| VDI60 AV-D32-JHP | 60.00 | 32.00 | 244.00 | 94.0 | 65.00 | 123.00 | 128.00 | 120.0 | 30.00 | 85.00 |
| VDI60 AV-D40-JHP | 60.00 | 40.00 | 276.00 | 94.0 | 73.00 | 123.00 | 160.00 | 152.0 | 30.00 | 85.00 |
| VDI60 AV-D50-JHP | 60.00 | 50.00 | 296.00 | 94.0 | 83.00 | 123.00 | 180.00 | 172.0 | 30.00 | 85.00 |
| VDI60 AV-D60-JHP | 60.00 | 60.00 | 296.00 | 94.0 | 102.00 | 123.00 | 180.00 | 172.0 | 30.00 | 85.00 |

WHISPERLINE ANTI-VIBRATION

## AV FLEX-SLEEVE

Reduction Sleeves for Tool
Blocks and VDI Holders



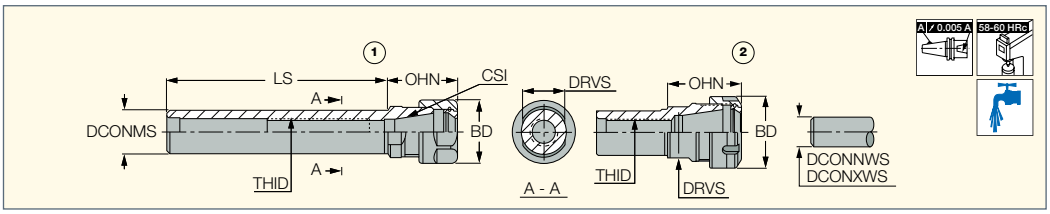

| Designation | DCONMS | DCONWS | BD | LB | THID |
|---|---|---|---|---|---|
| RED PU1S-AV-3225 | 32.00 | 25.00 | 37.00 | 115.00 | M6 |
| RED PU1S-AV-4032 | 40.00 | 32.00 | 45.00 | 127.00 | M6 |
| RED PU1S-AV-5040 | 50.00 | 40.00 | 55.00 | 127.00 | M6 |
| RED PU1S-AV-6050 | 60.00 | 50.00 | 65.00 | 154.00 | M6 |



# Cylindrical Shanks

## *Straight Shank*

**ST-ER**
DIN 6499 ER Collet Chucks
with Straight Shanks




| Designation | DCONMS | CSI | DCONNWS(1) | DCONXWS(2) | LS | OHN(3) | THID | BD | DRVS(4) | Fig. | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ST 16X 50 ER11 F | 16.00 | ER11 | 0.5 | 7.0 | 50.00 | 18.50 | M8 | 19.00 | 13.0 | 1. | 0.06 |
| ST 20X 50 ER11 F | 20.00 | ER11 | 0.5 | 7.0 | 50.00 | 18.50 | M10 | 19.00 | 17.0 | 1. | 0.10 |
| ST 20X100 ER11 | 20.00 | ER11 | 0.5 | 7.0 | 100.00 | 18.50 | M10 | 19.00 | 17.0 | 1. | 0.20 |
| ST 20X150 ER11 | 20.00 | ER11 | 0.5 | 7.0 | 150.00 | 18.50 | M10 | 19.00 | 17.0 | 1. | 0.25 |
| ST 20X 50 ER16 F | 20.00 | ER16 | 0.5 | 10.0 | 50.00 | 32.30 | M12 | 28.00 | 19.0 | 1. | 0.07 |
| ST 20X100 ER16 | 20.00 | ER16 | 0.5 | 10.0 | 100.00 | 30.00 | M12 | 28.00 | 19.0 | 1. | 0.20 |
| ST 20X100 ER16 F | 20.00 | ER16 | 0.5 | 10.0 | 100.00 | 30.00 | M12 | 28.00 | 19.0 | 1. | 0.25 |
| ST 20X150 ER16 | 20.00 | ER16 | 0.5 | 10.0 | 150.00 | 30.00 | M12 | 28.00 | 19.0 | 1. | 0.28 |
| ST 20X 50 ER20 F | 20.00 | ER20 | 1.0 | 13.0 | 50.00 | 42.50 | M12 | 34.00 | 22.0 | 1. | 0.15 |
| ST 25X100 ER20 | 25.00 | ER20 | 1.0 | 13.0 | 100.00 | 36.00 | M16 | 34.00 | 22.0 | 1. | 0.30 |
| ST 25X150 ER20 | 25.00 | ER20 | 1.0 | 13.0 | 150.00 | 36.00 | M16 | 34.00 | 22.0 | 1. | 0.39 |
| ST 20X 50 ER25 F | 20.00 | ER25 | 1.0 | 16.0 | 50.00 | 46.00 | M12 | 42.00 | 28.0 | 2. | 0.34 |
| ST 20X100 ER25 | 20.00 | ER25 | 1.0 | 16.0 | 100.00 | 46.00 | M12 | 42.00 | 28.0 | 2. | 0.29 |
| ST 20X100 ER25 F | 20.00 | ER25 | 1.0 | 16.0 | 100.00 | 46.00 | M12 | 42.00 | 28.0 | 2. | 0.09 |
| ST 25X 50 ER25 F | 25.00 | ER25 | 1.0 | 16.0 | 50.00 | 46.00 | M16 | 42.00 | 28.0 | 2. | 0.22 |
| ST 25X100 ER25 | 25.00 | ER25 | 1.0 | 16.0 | 100.00 | 46.00 | M16 | 42.00 | 28.0 | 2. | 0.36 |
| ST 20X 50 ER32 F | 20.00 | ER32 | 2.0 | 20.0 | 50.00 | 54.00 | M12 | 50.00 | 36.0 | 2. | 0.30 |
| ST 20X100 ER32 | 20.00 | ER32 | 2.0 | 20.0 | 100.00 | 54.00 | M12 | 50.00 | 36.0 | 2. | 0.40 |
| ST 25X 50 ER32 F | 25.00 | ER32 | 2.0 | 20.0 | 50.00 | 52.00 | M16X2 | 50.00 | 36.0 | 2. | 0.32 |
| ST 30X 50 ER32 F | 30.00 | ER32 | 2.0 | 20.0 | 50.00 | 52.00 | M18X1.5 | 50.00 | 36.0 | 2. | 0.39 |
| ST 32X 50 ER32 F | 32.00 | ER32 | 2.0 | 20.0 | 50.00 | 52.00 | M18X1.5 | 50.00 | 36.0 | 2. | 0.42 |
| ST 32X150 ER32 | 32.00 | ER32 | 2.0 | 20.0 | 150.00 | 52.00 | M18X1.5 | 50.00 | 36.0 | 2. | 0.88 |
| ST 40X 75 ER32 F | 40.00 | ER32 | 2.0 | 20.0 | 75.00 | 46.00 | M22X1.5 | 50.00 | 44.0 | 2. | 0.72 |
| ST 25X 50 ER40 F | 25.00 | ER40 | 3.0 | 26.0 | 50.00 | 60.00 | M16X2 | 63.00 | 45.0 | 2. | 0.52 |
| ST 30X 50 ER40 F | 30.00 | ER40 | 3.0 | 26.0 | 50.00 | 60.00 | M18X1.5 | 63.00 | 45.0 | 2. | 0.57 |
| ST 32X 50 ER40 F | 32.00 | ER40 | 3.0 | 26.0 | 50.00 | 60.00 | M18X1.5 | 63.00 | 45.0 | 2. | 0.80 |
| ST 40X 75 ER40 F | 40.00 | ER40 | 3.0 | 26.0 | 75.00 | 55.00 | M22X1.5 | 63.00 | 45.0 | 2. | 0.94 |
| ST 50X 80 ER40 F | 50.00 | ER40 | 3.0 | 26.0 | 80.00 | 60.00 | M28X1.5 | 63.00 | 54.0 | 2. | 1.30 |
| ST 50X 80 ER50 F | 50.00 | ER50 | 10.0 | 34.0 | 80.00 | 77.00 | M36X1.5 | 78.00 | 58.0 | 2. | 1.32 |

(1) Minimum diameter (2) Maximum diameter (3) Minimum overhang (4) Torque key size

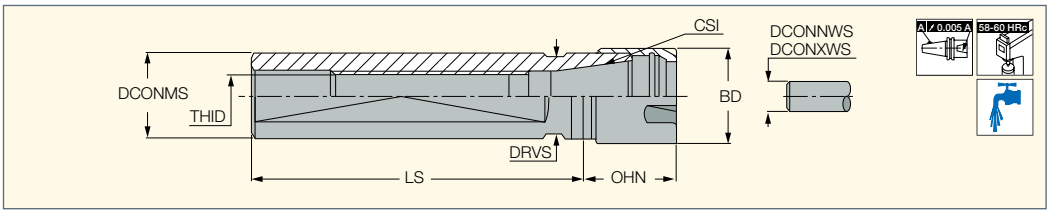
### Spare Parts

| Designation | | | | |
|---|---|---|---|---|
| ST 16X 50 ER11 F | NUT ER11 UM | WRENCH ER11* | PRESET ER-JET 8X1.25* | |
| ST 20X 50 ER11 F | NUT ER11 UM | WRENCH ER11* | PRESET ER-JET 10X1.5* | |
| ST 20X100 ER11 | NUT ER11 UM | WRENCH ER11* | PRESET ER-JET 10X1.5* | |
| ST 20X150 ER11 | NUT ER11 UM | WRENCH ER11* | PRESET ER-JET 10X1.5* | |
| ST 20X 50 ER16 F | NUT ER16 TOP | WRENCH ER16* | PRESET ER-JET 12X1.75* | PRESET ER-JET 12X1.75L* |
| ST 20X100 ER16 | NUT ER16 TOP | WRENCH ER16* | PRESET ER-JET 12X1.75* | PRESET ER-JET 12X1.75L* |
| ST 20X100 ER16 F | NUT ER16 TOP | WRENCH ER16* | PRESET ER-JET 12X1.75* | PRESET ER-JET 12X1.75L* |
| ST 20X150 ER16 | NUT ER16 TOP | WRENCH ER16* | PRESET ER-JET 12X1.75* | PRESET ER-JET 12X1.75L* |
| ST 20X 50 ER20 F | NUT ER20 TOP | WRENCH ER20* | PRESET ER-JET 12X1.75* | PRESET ER-JET 12X1.75L* |
| ST 25X100 ER20 | NUT ER20 TOP | WRENCH ER20* | PRESET ER-JET 16X2* | PRESET ER-JET 16X2L* |
| ST 25X150 ER20 | NUT ER20 TOP | WRENCH ER20* | PRESET ER-JET 16X2* | PRESET ER-JET 16X2L* |
| ST 20X 50 ER25 F | NUT ER25 TOP | WRENCH ER25* | PRESET ER-JET 12X1.75* | PRESET ER-JET 12X1.75L* |
| ST 20X100 ER25 | NUT ER25 TOP | WRENCH ER25* | PRESET ER-JET 12X1.75* | PRESET ER-JET 12X1.75L* |
| ST 20X100 ER25 F | NUT ER25 TOP | WRENCH ER25* | PRESET ER-JET 12X1.75* | PRESET ER-JET 12X1.75L* |
| ST 25X 50 ER25 F | NUT ER25 TOP | WRENCH ER25* | PRESET ER-JET 16X2* | PRESET ER-JET 16X2L* |
| ST 25X100 ER25 | NUT ER25 TOP | WRENCH ER25* | PRESET ER-JET 16X2* | PRESET ER-JET 16X2L* |
| ST 20X 50 ER32 F | NUT ER32 TOP | WRENCH ER32* | PRESET ER-JET 12X1.75* | PRESET ER-JET 12X1.75L* |
| ST 20X100 ER32 | NUT ER32 TOP | WRENCH ER32* | PRESET ER-JET 12X1.75* | PRESET ER-JET 12X1.75L* |
| ST 25X 50 ER32 F | NUT ER32 TOP | WRENCH ER32* | PRESET ER-JET 16X2* | PRESET ER-JET 16X2L* |
| ST 30X 50 ER32 F | NUT ER32 TOP | WRENCH ER32* | PRESET ER-JET 18X1.5* | PRESET ER-JET 18X1.5L* |
| ST 32X 50 ER32 F | NUT ER32 TOP | WRENCH ER32* | PRESET ER-JET 18X1.5* | PRESET ER-JET 18X1.5L* |
| ST 32X150 ER32 | NUT ER32 TOP | WRENCH ER32* | PRESET ER-JET 18X1.5* | PRESET ER-JET 18X1.5L* |
| ST 40X 75 ER32 F | NUT ER32 TOP | WRENCH ER32* | PRESET ER-JET 22X1.5* | PRESET ER-JET 22X1.5L* |
| ST 25X 50 ER40 F | NUT ER40 TOP | WRENCH ER40* | PRESET ER-JET 16X2* | PRESET ER-JET 16X2L* |
| ST 30X 50 ER40 F | NUT ER40 TOP | WRENCH ER40* | PRESET ER-JET 18X1.5* | PRESET ER-JET 18X1.5L* |
| ST 32X 50 ER40 F | NUT ER40 TOP | WRENCH ER40* | PRESET ER-JET 18X1.5* | PRESET ER-JET 18X1.5L* |
| ST 40X 75 ER40 F | NUT ER40 TOP | WRENCH ER40* | PRESET ER-JET 22X1.5* | PRESET ER-JET 22X1.5L* |
| ST 50X 80 ER40 F | NUT ER40 TOP | WRENCH ER40* | PRESET ER-JET 28X1.5* | |
| ST 50X 80 ER50 F | NUT ER50 UM | WRENCH ER50* | | |

* Optional, should be ordered separately

## *Straight Shank*

**ST-ER-MF (mini flat)**
DIN 6499 ER Mini Collet Chucks with Cylindrical Shanks and a Clamping Flat for Swiss-Type CNC Lathes




| Designation | DCONMS | CSI | LS | DCONNWS[6] | DCONXWS[7] | OHN[8] | THID | BD | DRVS[9] | kg |
|---|---|---|---|---|---|---|---|---|---|---|
| **ST 16X 38 ER11 MF [1]** | 16.00 | ER11 | 38.00 | 0.5 | 7.0 | 18.50 | M8X1 | 16.00 | 14.0 | 0.05 |
| **ST 16X 50 ER11 MF** | 16.00 | ER11 | 50.00 | 0.5 | 7.0 | 18.50 | M8X1 | 16.00 | 13.0 | 0.07 |
| **ST 16X140 ER11 MF** | 16.00 | ER11 | 140.00 | 0.5 | 7.0 | 18.50 | M8X1 | 16.00 | 14.0 | 0.18 |
| **ST 16X 35 ER16 MF [1]** | 16.00 | ER16 | 35.00 | 0.5 | 10.0 | 36.00 | M8X1 | 22.00 | 17.0 | 0.12 |
| **ST 20X 50 ER16 MF [2]** | 20.00 | ER16 | 50.00 | 0.5 | 10.0 | 26.00 | M12X1 | 22.00 | 17.0 | 0.10 |
| **ST 20X 70 ER16 MF [2]** | 20.00 | ER16 | 70.00 | 0.5 | 10.0 | 26.00 | M12X1 | 22.00 | 17.0 | 0.17 |
| **ST 20X120 ER16 MF [2]** | 20.00 | ER16 | 120.00 | 0.5 | 10.0 | 26.00 | M12X1 | 22.00 | 17.0 | 0.19 |
| **ST 20X140 ER16 MF [2]** | 20.00 | ER16 | 140.00 | 0.5 | 10.0 | 26.00 | M12X1 | 22.00 | 17.0 | 0.40 |
| **ST 22X 38 ER16 MF [1]** | 22.00 | ER16 | 38.00 | 0.5 | 10.0 | 26.00 | M12X1 | 22.00 | 19.0 | 0.10 |
| **ST 22X 70 ER16 MF [1]** | 22.00 | ER16 | 70.00 | 0.5 | 10.0 | 26.00 | M12X1 | 22.00 | 19.0 | 0.16 |
| **ST 22X100 ER16 MF [1]** | 22.00 | ER16 | 100.00 | 0.5 | 10.0 | 28.00 | M12X1 | 22.00 | 19.0 | 0.27 |
| **ST 22X 80 ER20 MF [1]** | 22.00 | ER20 | 80.00 | 1.0 | 13.0 | 39.00 | M12X1 | 28.00 | 21.0 | 0.21 |
| **ST 22X 70 ER25 MF [1]** | 22.00 | ER25 | 70.00 | 1.0 | 16.0 | 47.00 | M12X1 | 35.00 | 27.0 | 0.25 |
| **ST 25X 65 ER16 MF** | 25.00 | ER16 | 65.00 | 0.5 | 10.0 | 28.00 | M12X1 | 22.00 | 22.0 | 0.22 |
| **ST 25X100 ER20 MF [3]** | 25.00 | ER20 | 100.00 | 1.0 | 13.0 | 28.00 | M14X1 | 28.00 | 22.0 | 0.15 |
| **ST 25X154 ER20 MF [3]** | 25.00 | ER20 | 154.00 | 1.0 | 13.0 | 28.00 | M14X1 | 28.00 | 22.0 | 0.40 |
| **ST 25X 75 ER25 MF [4]** | 25.00 | ER25 | 75.00 | 1.0 | 16.0 | 48.00 | M14X1 | 35.00 | 27.0 | 0.36 |
| **ST 25X145 ER25 MF [3]** | 25.00 | ER25 | 145.00 | 1.0 | 16.0 | 36.00 | M14X1 | 35.00 | 27.0 | 0.08 |
| **ST 32X 70 ER25 MF [5]** | 32.00 | ER25 | 70.00 | 1.0 | 16.0 | 30.00 | M18X1 | 35.00 | 27.0 | 0.35 |

**[1]** For Star machines
**[2]** For Citizen machines
**[3]** For Tornos-Bechler machines
**[4]** For Manurhin machines
**[5]** For Schutte machines
**[6]** Minimum diameter
**[7]** Maximum diameter
**[8]** Minimum overhang
**[9]** Torque key size

### Spare Parts

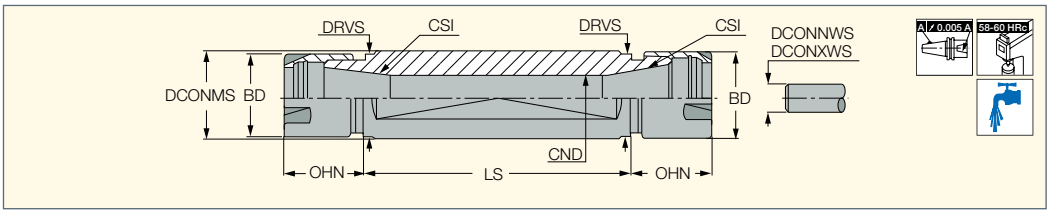
| Designation | | | |
|---|---|---|---|
| **ST 16X 38 ER11 MF** | NUT ER11 MINI | WRENCH ER11 MINI* | PRESET ER-JET 8X1* |
| **ST 16X 50 ER11 MF** | NUT ER11 MINI | WRENCH ER11 MINI* | PRESET ER-JET 8X1* |
| **ST 16X140 ER11 MF** | NUT ER11 MINI | WRENCH ER11 MINI* | PRESET ER-JET 8X1* |
| **ST 16X 35 ER16 MF** | NUT ER16 MINI | WRENCH ER16 MINI* | PRESET ER-JET 8X1* |
| **ST 20X 50 ER16 MF** | NUT ER16 MINI | WRENCH ER16 MINI* | PRESET ER-JET 12X1* |
| **ST 20X 70 ER16 MF** | NUT ER16 MINI | WRENCH ER16 MINI* | PRESET ER-JET 12X1* |
| **ST 20X120 ER16 MF** | NUT ER16 MINI | WRENCH ER16 MINI* | PRESET ER-JET 12X1* |
| **ST 20X140 ER16 MF** | NUT ER16 MINI | WRENCH ER16 MINI* | PRESET ER-JET 12X1* |
| **ST 22X 38 ER16 MF** | NUT ER16 MINI | WRENCH ER16 MINI* | PRESET ER-JET 12X1* |
| **ST 22X 70 ER16 MF** | NUT ER16 MINI | WRENCH ER16 MINI* | PRESET ER-JET 12X1* |
| **ST 22X100 ER16 MF** | NUT ER16 MINI | WRENCH ER16 MINI* | PRESET ER-JET 12X1* |
| **ST 22X 80 ER20 MF** | NUT ER20 MINI | WRENCH ER20 MINI* | PRESET ER-JET 12X1* |
| **ST 22X 70 ER25 MF** | NUT ER25 MINI | WRENCH ER25 MINI* | PRESET ER-JET 12X1* |
| **ST 25X 65 ER16 MF** | NUT ER16 MINI | WRENCH ER16 MINI* | PRESET ER-JET 12X1* |
| **ST 25X100 ER20 MF** | NUT ER20 MINI | WRENCH ER20 MINI* | PRESET ER-JET 14X1* |
| **ST 25X154 ER20 MF** | NUT ER20 MINI | WRENCH ER20 MINI* | PRESET ER-JET 14X1* |
| **ST 25X 75 ER25 MF** | NUT ER25 MINI | WRENCH ER25 MINI* | PRESET ER-JET 14X1* |
| **ST 25X145 ER25 MF** | NUT ER25 MINI | WRENCH ER25 MINI* | PRESET ER-JET 14X1* |
| **ST 32X 70 ER25 MF** | NUT ER25 MINI | WRENCH ER25 MINI* | PRESET ER-JET 18X1* |

* Optional, should be ordered separately

## *Straight Shank*

### ST-ER-MF-D (double-ended)

Double-Ended Mini Collets with Cylindrical Shanks and a Clamping Flat




| Designation | DCONMS | LS | CSI | DCONNWS[3] | DCONXWS[4] | BD | CND | OHN[5] | DRVS[6] | kg |
|---|---|---|---|---|---|---|---|---|---|---|
| ST 16X 50 ER11 MF D | 16.00 | 50.00 | ER11 | 0.5 | 7.0 | 16.00 | 7.5 | 18.50 | 14.0 | 0.07 |
| ST 20X 30 ER11 MF D [1] | 20.00 | 30.00 | ER11 | 0.5 | 7.0 | 16.00 | 7.5 | 18.50 | 17.0 | 0.09 |
| ST 20X 50 ER11 MF D [1] | 20.00 | 50.00 | ER11 | 0.5 | 7.0 | 16.00 | 7.5 | 18.50 | 17.0 | 0.13 |
| ST 20X 55 ER16 MF D [1] | 20.00 | 55.00 | ER16 | 0.5 | 10.0 | 22.00 | 10.5 | 25.00 | 17.0 | 0.12 |
| ST 22X 55 ER16 MF D [2] | 22.00 | 55.00 | ER16 | 0.5 | 10.0 | 22.00 | 10.5 | 28.00 | 19.0 | 0.17 |
| ST 22X 75 ER16 MF D [2] | 22.00 | 75.00 | ER16 | 0.5 | 10.0 | 22.00 | 10.5 | 28.00 | 19.0 | 0.21 |
| ST 25X 62 ER16 MF D | 25.00 | 62.00 | ER16 | 0.5 | 10.0 | 22.00 | 10.5 | 28.00 | 22.0 | 0.23 |
| ST 32X 55 ER20 MF D [2] | 32.00 | 55.00 | ER20 | 1.0 | 13.0 | 28.00 | 13.5 | 28.00 | 27.0 | 0.34 |
| ST 32X 75 ER20 MF D [2] | 32.00 | 75.00 | ER20 | 1.0 | 13.0 | 28.00 | 13.5 | 28.00 | 27.0 | 0.44 |

[1] For Citizen machines
[2] For Star machines
[3] Minimum diameter
[4] Maximum diameter
[5] Minimum overhang
[6] Torque key size

## Spare Parts

| Designation | | |
|---|---|---|
| ST 16X 50 ER11 MF D | NUT ER11 MINI | WRENCH ER11 MINI* |
| ST 20X 30 ER11 MF D | NUT ER11 MINI | WRENCH ER11 MINI* |
| ST 20X 50 ER11 MF D | NUT ER11 MINI | WRENCH ER11 MINI* |
| ST 20X 55 ER16 MF D | NUT ER16 MINI | WRENCH ER16 MINI* |
| ST 22X 55 ER16 MF D | NUT ER16 MINI | WRENCH ER16 MINI* |
| ST 22X 75 ER16 MF D | NUT ER16 MINI | WRENCH ER16 MINI* |
| ST 25X 62 ER16 MF D | NUT ER16 MINI | WRENCH ER16 MINI* |
| ST 32X 55 ER20 MF D | NUT ER20 MINI | WRENCH ER20 MINI* |
| ST 32X 75 ER20 MF D | NUT ER20 MINI | WRENCH ER20 MINI* |

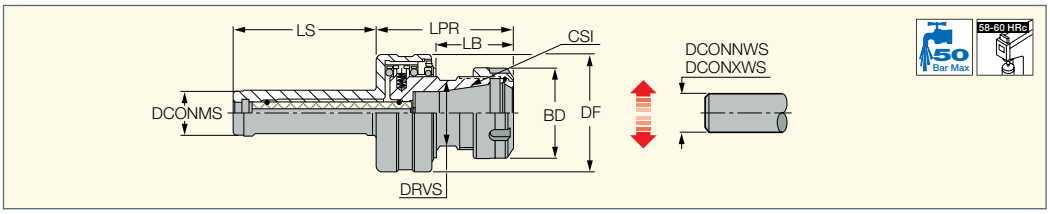
* Optional, should be ordered separately



## *Straight Shank GFI*

### GFI ST-ER

Floating Reamer DIN 6499
Collet Chucks with Cylindrical Shanks with a Clamping Flat



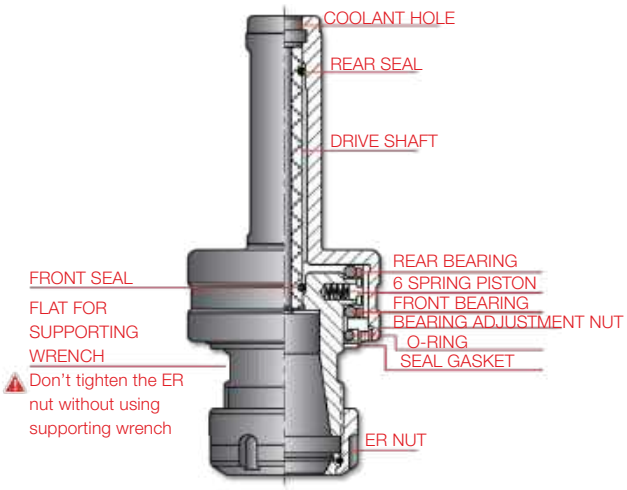

| Designation | DCONMS | CSI | DCONNWS(3) | DCONXWS(4) | LS | LPR | LB | BD | DF | RFI | DRVS(5) | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GFI ST20 ER20 (1) | 20.00 | ER20 | 1.0 | 13.0 | 65.00 | 55.50 | 31.0 | 34.00 | 50.00 | 1.00 | 22.0 | 0.56 |
| GFI ST25 ER32 (2) | 25.00 | ER32 | 2.0 | 20.0 | 80.00 | 76.90 | 45.9 | 50.00 | 65.00 | 1.60 | 36.0 | 1.20 |

- Maximum 2000 RPM!

(1) Radial float from center
(2) Minimum diameter
(3) Maximum diameter
(4) Torque key size
(5) Torque key size

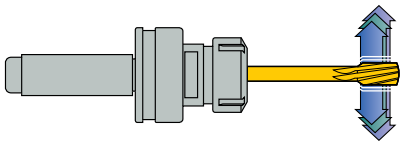
## GFI ER - Floating Reamer Collet Chuck

Floating chuck - adjusts the misalignment between the reamer and workpiece hole to ensure the same accuracy as the reamer itself.




## Application:

The **GFI** floating chuck is a unique holder that compensates for the radial misalignment existing in reaming operations carried out on vertical and horizontal machine tools.



## Features:

Radial self-floating mechanism compensates for misalignment between the reamer and workpiece to ensure the same tolerance as the reamer itself. The special self-centering mechanism eliminates tapered and oversized bores.

## Advantages:

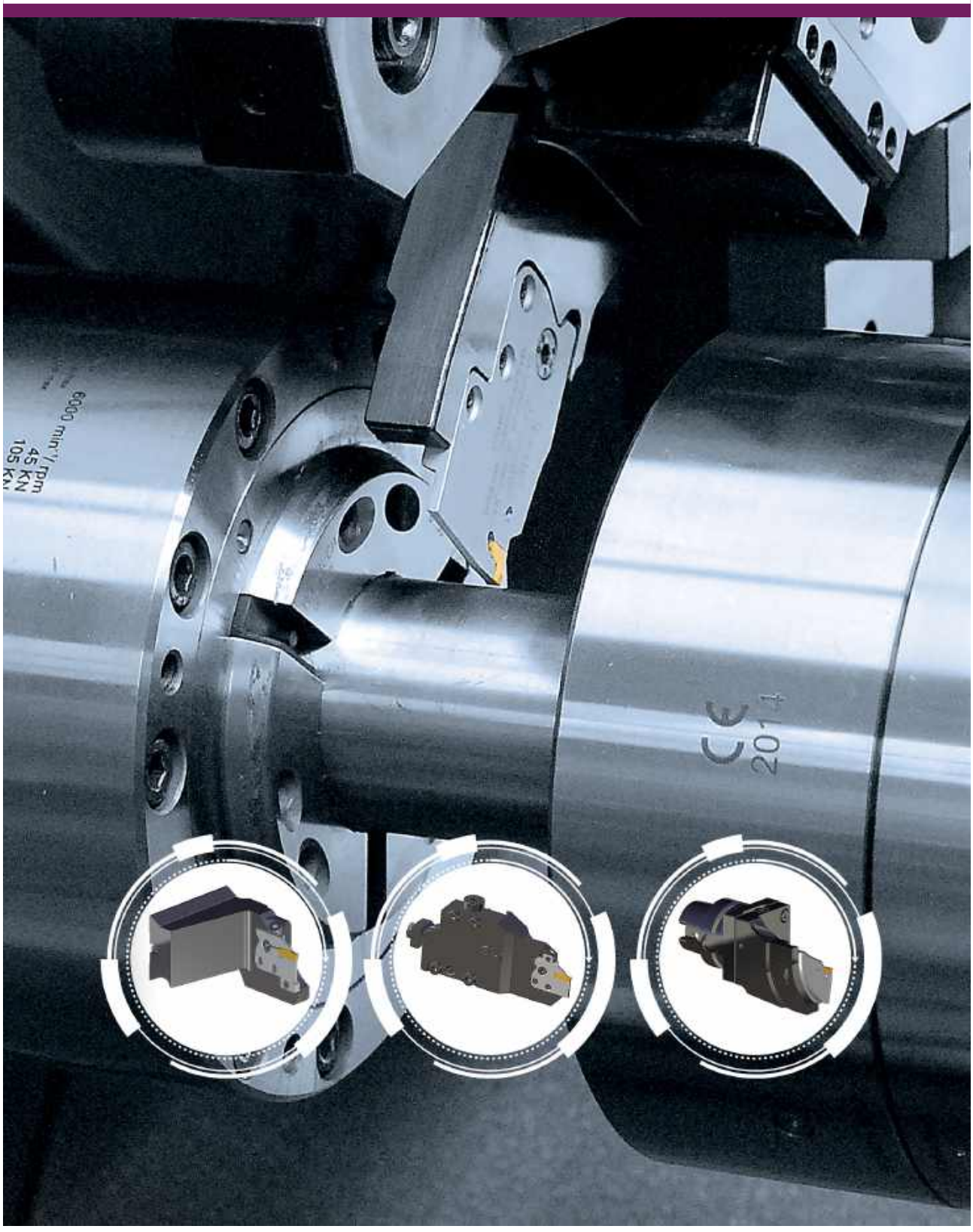
Unique ball bearing and axle drive shaft structure enables vertical and horizontal machining.
Precise and efficient clamping with ER spring collets or ER Coolit collets.

## Spare Parts

| Designation | | |
|---|---|---|
| GFI ST20 ER20 | NUT ER20 TOP | WRENCH ER20* |
| GFI ST25 ER32 | NUT ER32 TOP | WRENCH ER32* |

* Optional, should be ordered separately

# MODULAR-GRIP ADAPTATIONS



## Modular-Grip Adaptations

### Modular Adaptation Systems for **Turning Lathes** and **Multi-Spindle** Machine Tools Carrying ISCAR's MODULAR-GRIP Adapters Featuring Directed Internal Coolant Channels

**Product Features**

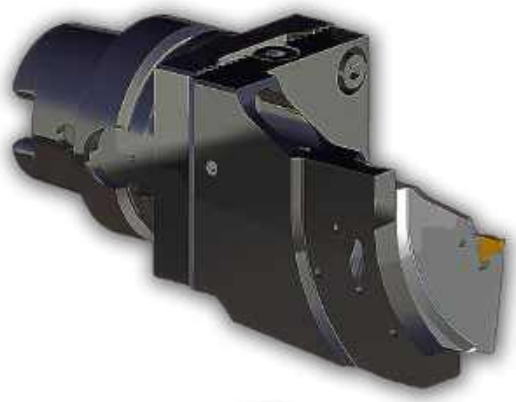
- The unique combination of a rigid tool and efficient coolant improves the insert's tool life, surface finish and part straightness
- Designed for high-pressure coolant up to 150 Bar and also very efficient when using low coolant pressure of 7-10 Bar
- No coolant tubes involved, which means no obstruction for chip evacuation
- Each adapter can carry several types of MODULAR-GRIP blades
- Excellent tool location repeatability after blade replacement for fast setup
- Easy and user-friendly mounting

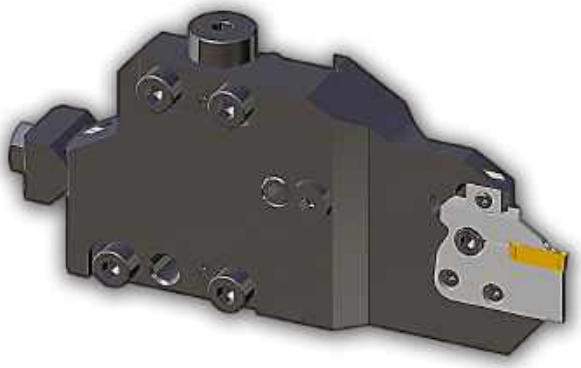
**Available adapters for the following specific machines:**

- STAR
- DOOSAN / HAAS
- MAZAK
- DMG MORI
- BIGLIA / EUROTECH
- MIYANO
- NAKAMURA-TOME
- INDEX ABC
- TRAUB
- OKUMA
- TSUGAMI

**Multi-Spindle machine tools**

- INDEX CNC
- Schütte
- Göltenbodt









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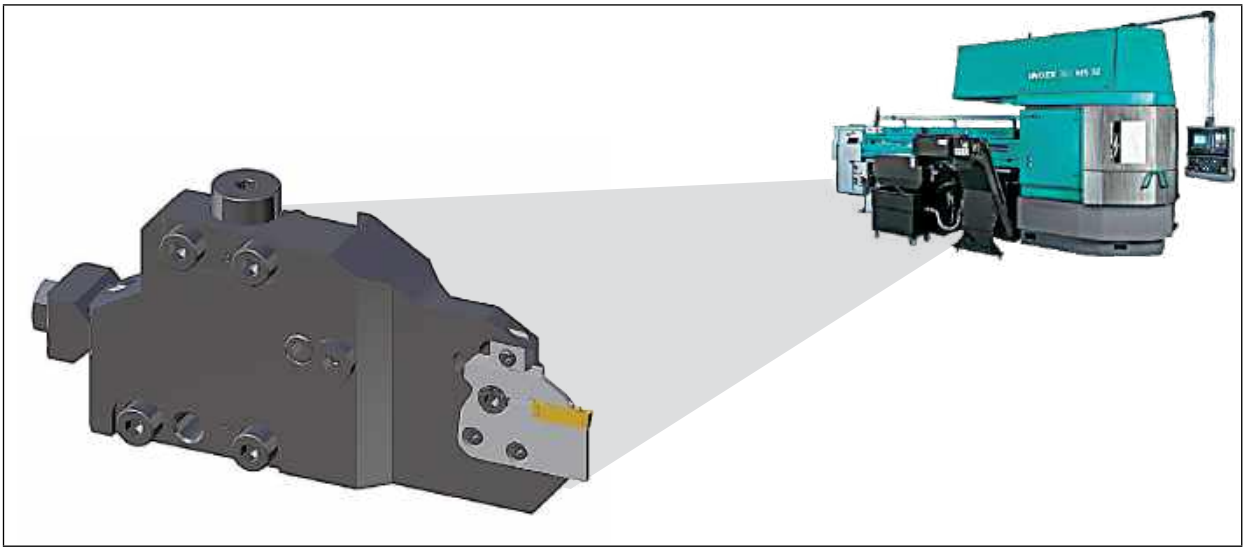
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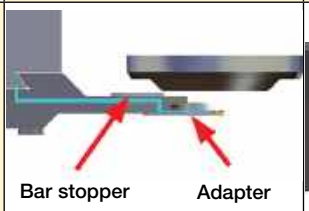
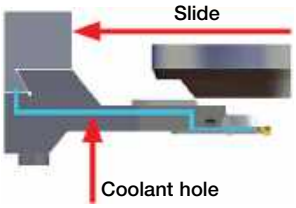
## ISCAR Modular System for Multi-Spindle Machines

MODULAR-GRIP . JETCUT

**Toolholder Systems for INDEX CNC Multi-Spindle Machines with MODULAR-GRIP Adaptation and Directed Internal Coolant**



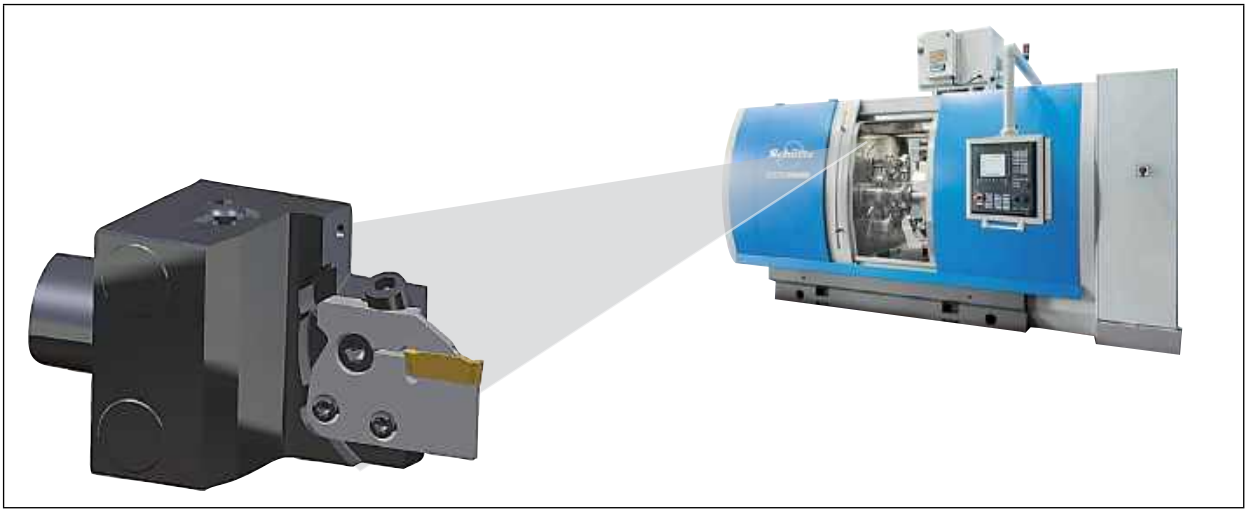
### Features and Benefits of Directed Internal Coolant

| | Customized to the Work Space | No Coolant Tube | Coolant Connection through the Slide | Easy Indexing |
|---|---|---|---|---|
| **Features:** |  |  |  |  |
| **Benefits:** | • High-end stability due to optimized holder design<br>• No interfering contour with the sub-spindle<br>• Reduced setup time due to fixed adapter length<br>• Exchangeable bar stopper | • Chips do not accumulate in the work space (no coolant tube/ hose required)<br>• Reliable coolant supply due to fixed flow orientation (no adjustable coolant nozzle) | • No tube/hose in the work space<br>• Reduced setup time as there are no tube/ hoses to be installed | • Easy handling due to clamping screw accessible from the side<br>• Stable screw clamping |

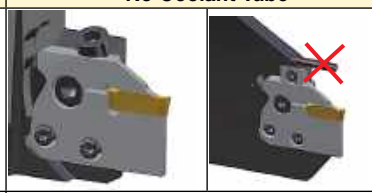
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## ISCAR Modular System for Multi-Spindle Machines

**Toolholder Systems for Schütte CNC Multi-Spindle Machines with MODULAR-GRIP Adaptation and Directed Internal Coolant**



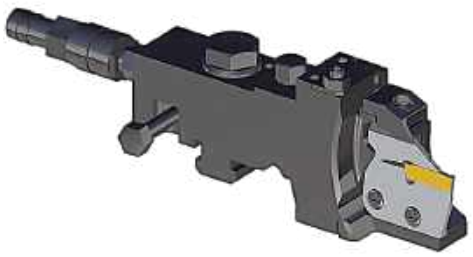
### Features and Benefits of Directed Internal Coolant

| | Adjustable Center Height | No Coolant Tube | Optimized Holder Design |
|---|---|---|---|
| **Features** |  |  |  |
| **Benefits** | • High-end stability due to optimized holder design<br>• No interfering contour with the sub-spindle<br>• Reduced setup time due to fixed adapter length<br>• Exchangeable bar stopper | • Chips do not accumulate in the work space (no coolant tube/hoses required)<br>• Reliable coolant supply due to fixed flow orientation (no free coolant nozzle) | • Low risk of collision<br>• Customized for outer diameter of the sub-spindle<br>• Slim design<br>• Short bar overhang |

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## ISCAR Modular System for Multi-Spindle Machines

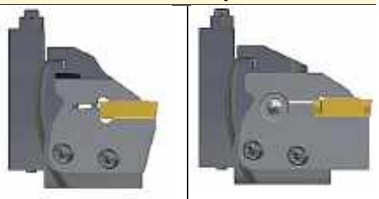
**Toolholder Systems for Göltenbodt GWS Multi-Spindle Machines with MODULAR-GRIP Adaptation and Directed Internal Coolant**



For various common multi-spindle machines such as:

| Gildemeister | MORI-SAY. | INDEX | TORNOS and others |
|---|---|---|---|
|  |  |  |  |

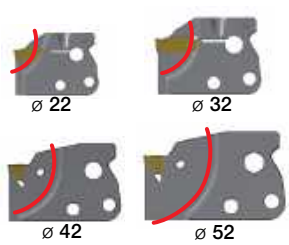
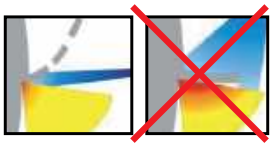
Features and Benefits of Directed Internal Coolant

| | Matches intermediate holders with internal coolant | Coolant connection directly from the intermediate holder | Flexible system due to different adapters |
|---|---|---|---|
| **Features** |  |  |  |
| **Benefits** | • Low investment<br>• Easy switching to toolholders with internal coolant | • Chips do not accumulate in the work space (no coolant tube/hose required)<br>• Reliable coolant supply due to fixed flow orientation (no adjustable coolant nozzle)<br>• Uninterrupted work space | • Variable tool length due to different adapters<br>• Tool length can be adjusted to the travel slide |

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## Adapters with Internal Coolant

### Modular-Grip Adapters with Directed Internal Coolant

| | Extremely Stable | Coolant Connection from the Holder into the Adapter | Coolant / lubrication in the cutting zone | Vario System |
|---|---|---|---|---|
| **Features** |   |  |  |   |
| **Benefits** | • Adapters designed for common bar diameters<br>• Reduced vibration due to strong adapter body<br>• Strong clamping force by screw clamping | • Chips do not accumulate in the work space (no coolant tube/hose required)<br>• No tube/hoses to be removed in case of tool breakage<br>• Free work space | • Increased tool life<br>• Improved process safety<br>• Better chip control | • Different cutting systems can be used. Grooving and turn-groove operations can be performed with the same holder<br>• Extremely flexible |

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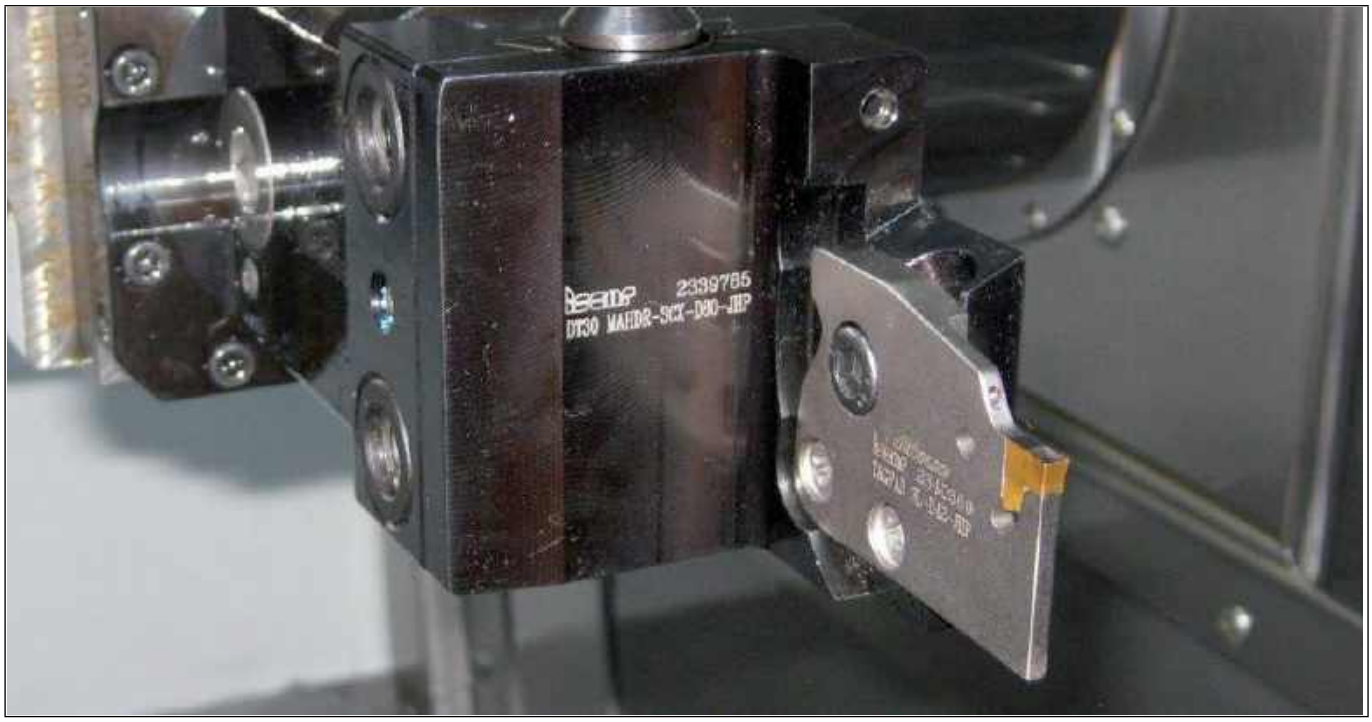
## Tool Selection for INDEX CNC Multi-Spindle Machines

| Machine | Toolholder | Width | Adapter | | Insert | | Geometry / Feed | Tough ↔ Hard | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | DGPAD | TAGPAD | TAG | DGN | | IC830 | IC5400 | IC808 |
|  Index MS16 | MS16- JHP | 1,5 mm | DGFH MS16-1.5D16-JHP | | DGN 150..J | | LF / MF / C — low / high | • | • | • |
| | | 2 mm | DGFH MS16-1.5D16-JHP | | DGN 2002 | | | | | |
|  Index MS18 | MS18- 22-MG- JHP | 2 mm | DGPAD 2L-D22-JHP | | DGN 2002 | | LF / MF / C — low / high | • | • | • |
|  Index MS22 | MS18- 22-MG- JHP | 2 mm | DGPAD 2L-D22-JHP | | DGN 2002 | | LF / MF / C — low / high | • | • | • |
|  Index MS32 | MS32- 40-MG- JHP | 2 mm | DGPAD 2L-D32-JHP | | DGN 2002 | | LF / MF / C — low / high | • | • | • |
| | | 3,1 mm | DGPAD 3L-D32-JHP | | DGN 3102 | | | | | |
|  Index MS40 | MS32- 40-MG- JHP | 2 mm | | TAGPAD 2L-D42-JHP | | TAG N2 | LF / MF / C — low / high | • | • | • |
| | | 3 mm | | TAGPAD 3L-D42-JHP | | TAG N3 | | | | |
|  Index MS52 | MS32- 40-MG- JHP oder MS52-MG-JHP | 2 mm | | TAGPAD 2L-D52-JHP | | TAG N2 | LF / MF / C — low / high | • | • | • |
| | | 3 mm | | TAGPAD 3L-D52-JHP | | TAG N3 | | | | |

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## Tool Selection for Schütte CNC Multi-Spindle Machines SCX

| System Size | Toolholder | Intermediate holder | Width | Adapter | | Insert | | Geometry / Feed | Tough ↔ Hard | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| |  |  |  | DGPAD  | TAGPAD  | TAG  | DGN  | | IC830 | IC5400 | IC808 |
|  SCX-32 | C3 DT30/2-L23 | DT30/2 MAHDR-SCX-D80-JHP | 2 mm | DGPAD 2L-D32-JHP | | DGN 2002 | | LF  MF  C  low high | • | • | • |
| | C4 DT30/2-L23 | | 3,1 mm | DGPAD 3L-D32-JHP | | DGN 3102 | | | | | |
|  SCX-46 | C3 DT30/2-L23 | DT30/2 MAHDR-SCX-D80-JHP | 2 mm | TAGPAD 2L-D52-JHP | | TAG N2 | | LF  MF  C  low high | • | • | • |
| | C4 DT30/2-L23 | | 3 mm | TAGPAD 3L-D52-JHP | | TAG N3 | | | | | |




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## Tool Selection for Göltenbodt GWS Systems

| System Size | Max. Diameter | Width of Cut (W) | Length L | Toolholder Right Hand | Toolholder Left Hand | Adapter DGPAD | Adapter TAGPAD | Insert TAG | Insert DGN | Geometry / Feed | Tough ↔ Hard IC830 | IC5400 | IC808 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  GWS02 | 20 mm | 2 mm | 51 mm | MS-ES02012-GWS-MG-JHP | | DGPAD 2R/ L-D20-GWS-JHP* | | DGN 2002 | | LF, MF, C; low → high | • | • | • |
| | | | 59 mm | MS-ES02013-GWS-MG-JHP | | | | | | | | | |
| | 32 mm | 2 mm | 59,5 mm | MS-ES02012-GWS-MG-JHP | | DGPAD 2R/ L-D32-JHP* | | | | | | | |
| | | | 67,5 mm | MS-ES02013-GWS-MG-JHP | | | | | | | | | |
| | | 3,1 mm | 59,5 mm | MS-ES02012-GWS-MG-JHP | | DGPAD 3R/ L-D32-JHP* | | DGN 3102 | | | | | |
| | | | 67,5 mm | MS-ES02013-GWS-MG-JHP | | | | | | | | | |
|  GWS09 | 20 mm | 2 mm | 61 mm | MS-ES09003-GWS-MG-JHP | | DGPAD 2R/ L-D20-GWS-JHP* | | DGN 2002 | | LF, MF, C; low → high | • | • | • |
| | 32 mm | 2 mm | 59,5 mm | MS-ES09003-GWS-MG-JHP | | DGPAD 2R/ L-D32-JHP* | | | | | | | |
| | | 3,1 mm | 59,5 mm | MS-ES09003-GWS-MG-JHP | | DGPAD 3R/ L-D32-JHP* | | DGN 3102 | | | | | |
| | 42 mm | 2 mm | 62,6 mm | MS-ES09003-GWS-MG-JHP | | TAGPAD 2R/ L-D42-JHP* | | TAG N2 | | | | | |
| | | 3 mm | 62,4 mm | MS-ES09003-GWS-MG-JHP | | TAGPAD 3R/ L-D42-JHP* | | TAG N3 | | | | | |
| | 52 mm | 2 mm | 67,6 mm | MS-ES09003-GWS-MG-JHP | | TAGPAD 2R/ L-D52-JHP* | | TAG N2 | | | | | |
| | | 3 mm | 67,4 mm | MS-ES09003-GWS-MG-JHP | | TAGPAD 3R/ L-D52-JHP* | | TAG N3 | | | | | |
|  GWS41 | 20 mm | 2 mm | 59 mm | MS-ES41008-GWS-MG-JHP | MS-ES41009-GWS-MG-JHP | DGPAD 2R/ L-D20-GWS-JHP* | | DGN 2002 | | LF, MF, C; low → high | • | • | • |
| | 32 mm | 2 mm | 67,5 mm | MS-ES41008-GWS-MG-JHP | MS-ES41009-GWS-MG-JHP | DGPAD 2R/ L-D32-JHP* | | | | | | | |
| | | 3,1 mm | 67,5 mm | MS-ES41008-GWS-MG-JHP | MS-ES41009-GWS-MG-JHP | DGPAD 3R/ L-D32-JHP* | | DGN 3102 | | | | | |
| | 42 mm | 2 mm | 70,6 mm | MS-ES41008-GWS-MG-JHP | MS-ES41009-GWS-MG-JHP | TAGPAD 2R/ L-D42-JHP* | | TAG N2 | | | | | |
| | | 3 mm | 70,4 mm | MS-ES41008-GWS-MG-JHP | MS-ES41009-GWS-MG-JHP | TAGPAD 3R/ L-D42-JHP* | | TAG N3 | | | | | |
| | 52 mm | 2 mm | 75,6 mm | MS-ES41008-GWS-MG-JHP | MS-ES41009-GWS-MG-JHP | TAGPAD 2R/ L-D52-JHP* | | TAG N2 | | | | | |
| | | 3 mm | 75,4 mm | MS-ES41008-GWS-MG-JHP | MS-ES41009-GWS-MG-JHP | TAGPAD 3R/ L-D52-JHP* | | TAG N3 | | | | | |

*Selection of right hand or left hand adapter see page 761

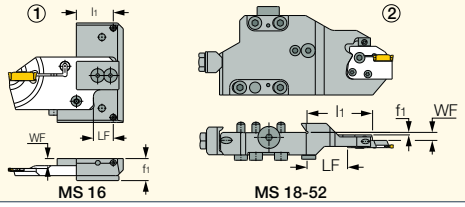
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INDEX JETCUT

MODULAR-GRIP

## MS##-##-MG-JHP

Toolholders for INDEX CNC Multi-Spindle Machines with Internal Coolant Supply for MODULAR-GRIP Adapters

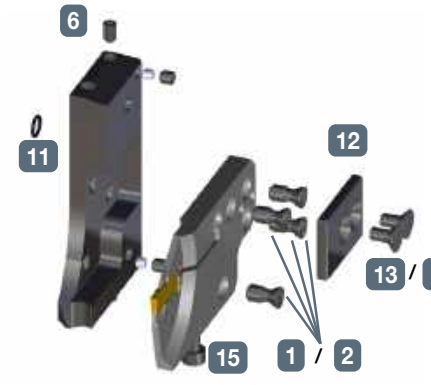



WF (assembly) = WF+WF (Adapter)

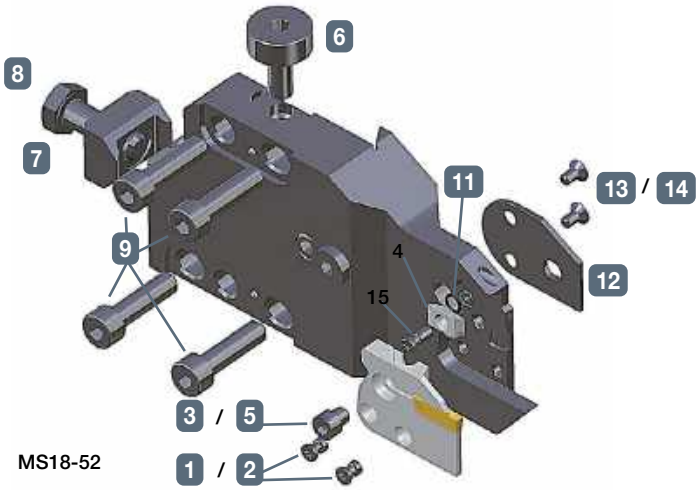
| Designation | LF | l1 | WF | f1 | Fig. | Adapter | Adapter2 |
|---|---|---|---|---|---|---|---|
| MS 16-JHP | 14.00 | 26.00 | 5.00 | 15.5 | 1 | DGFH MS16-1.5D16-JHP | - |
| MS 18/22-MG-JHP | 46.20 | 67.00 | 13.60 | 8.1 | 2 | DGPAD 2L-D22-JHP | - |
| MS 18/22-MG-JHP L-69.7 | 24.20 | 48.00 | 13.60 | 8.0 | 2 | DGPAD 2L-D22-JHP | - |
| MS 32/40-MG-JHP | 45.00 | 69.80 | 13.50 | 8.0 | 2 | DGPAD 2/3L-D32-JHP | TAGPAD 2/3-D42-JHP |
| MS 32/40-MG-JHP-5.1 | 45.00 | 69.80 | 13.50 | 8.0 | 2 | DGPAD 2/3L-D32-JHP | TAGPAD 2/3-D42-JHP |
| MS 32C-HUBVERL-MG-JHP | 74.50 | 99.30 | 13.50 | 8.0 | 2 | DGPAD 2/3L-D32-JHP | TAGPAD 2/3L-D32-JHP |
| MS 40-6/8-MG-JHP | 55.00 | 79.80 | 13.50 | 8.0 | 2 | TAGPAD 2/3L-D42-JHP | DGPAD 2/3L-D42-JHP |
| MS 40-6/8-MG-JHP-7.1 | 55.00 | 79.80 | 13.50 | 8.0 | 2 | TAGPAD 2/3L-D42-JHP | DGPAD 2/3L-D42-JHP |
| MS 52-MG-JHP | 46.60 | - | 4.50 | - | 2 | TAGPAD 2/3-D52-JHP | - |

• For user guide, see pages 752-758 • All trademarks and logos are the property of their respective companies

Tools: CGPAD-JHP • DGPAD-JHP • HGPAD-JHP • PCADR/L-JHP • PCADRS/LS-JHP • TAGPAD-JHP • TGPAD-JHP




MS16




MS18-52

### Spare Parts MS##-##-MG-JHP

| No. | Designation | MS16-JHP | MS18/22-MG-JHP | MS32/40-MG-JHP |
|---|---|---|---|---|
| 1 | Screw | SR M5-04451-L10.5 | SR 16-212-L7.5 | SR 16-212-L7.5 |
| 2 | Key | T-20/5 | T-20/5 | T-20/5 |
| 3 | Screw | | SR M6X6DIN6912-5112367 | SR M6X6DIN6912-5112367 |
| 4 | Wedge | | KEIL 12X30DEG-5112247 | KEIL 12X30DEG-5112247 |
| 5 | Key | | HW 5.0 | HW 5.0 |
| 6 | Screw | SR M4x6 DIN913 45H | WN99-08.0010.0 | WN99-08.0010.0 |
| 7 | Wedge | | WN-11.0012.0 | W00014.0017 |
| 8 | ZI screw | | ISO 4017-DIN 933 M8X30 | ISO 4017-DIN 933 M10X30 |
| 9 | Screw | | SR M6X20DIN912 12.9 | SR M8X30DIN912 |
| 10 | Coolant Tube* | | ROHR M4X1-40 | ROHR M4X1-40 |
| 11 | O-Ring | OR 5X1N | OR 5X1N | OR 5X1N |
| 12 | Bar stopper | W00019.0064 | PLATTE-MS18-22-5112868 | PLATTE-MS18-22-5112868 |
| 13 | Screw | DIN7991-M4X8-8.8 | DIN7991-M4X8-8.8 | DIN7991-M4X8-8.8 |
| 14 | Key | HW 2.5 | HW 2.5 | HW 2.5 |
| 15 | Screw | SR M4x30DIN912 | SR 34-535 | SR 34-535 |

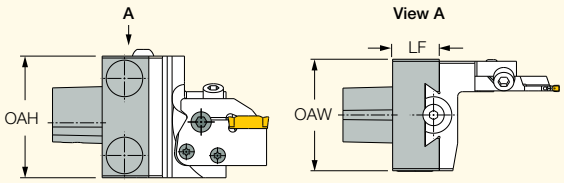
| No. | Designation | MS32/40-MG-JHP-5.1 | MS52-MG-JHP |
|---|---|---|---|
| 1 | Screw | SR 16-212-L7.5 | SR 16-212-L7.5 |
| 2 | Key | T-20/5 | T-20/5 |
| 3 | Screw | SR M6X6DIN6912-5112367 | SR M6X6DIN6912-5112367 |
| 4 | Wedge | KEIL 12X30DEG-5112247 | KEIL 12X30DEG-5112247 |
| 5 | Key | HW 5.0 | HW 5.0 |
| 6 | Screw | WN99-08.0010.0 | WN99-08.0010.0 |
| 7 | Wedge | W00014.0017 | WN-11.0014.0 |
| 8 | ZI screw | ISO 4017-DIN 933 M10X30 | ISO 4017-DIN 933 M10X30 |
| 9 | Screw | SR M8X30DIN912 | |
| 10 | Coolant Tube* | ROHR M4X1-40 | ROHR M4X1-40 |
| 11 | O-Ring | OR 5X1N | OR 5X1N |
| 12 | Bar stopper | PLATTE-MS18-22-5112868 | PLATTE-MS18-22-5112868* |
| 13 | Screw | DIN7991-M4X8-8.8 | DIN7991-M4X8-8.8* |
| 14 | Key | HW 2.5 | HW 2.5 |
| 15 | Screw | SR 34-535 | SR 34-535 |

* Optional, please order separately.

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Schütte CAMFIX
MODULAR-GRIP

**C#-DT##/2-L23**
Toolholder with CAMFIX Adaptation on DT for SCHUTTE Machine Tools

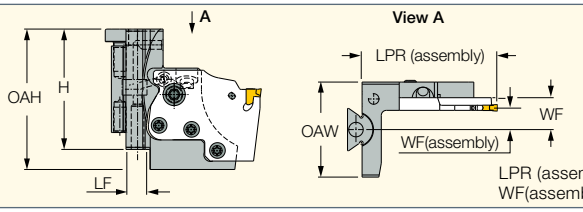



| Designation | OAH | OAW | LF |
|---|---|---|---|
| C3 DT20/2-L23* | 57.00 | 45.00 | 23.50 |
| C3 DT30/2-L23 | 60.00 | 55.00 | 23.50 |
| C4 DT30/2-L23 | 60.00 | 55.00 | 23.50 |

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Schütte MODULAR-GRIP

**DT##/2 MAHD#-#-XL-JHP**
Intermediate Holder with DT Adaptation for MODULAR-GRIP Adapters on SCHUTTE Machine Tools




| Designation | H | OAW | LF | WF | OAH |
|---|---|---|---|---|---|
| DT20/2 MAHDL-L-XL-JHP | 57.0 | 45.00 | 9.10 | 4.50 | 66.50 |
| DT20/2 MAHDN-L-XL-JHP | 57.0 | 45.00 | 9.10 | 6.50 | 66.50 |
| DT20/2 MAHDR-L-XL-JHP | 57.0 | 45.00 | 9.10 | 15.10 | 66.50 |
| DT30/2 MAHDR-L-XL-JHP | 57.0 | 55.00 | 9.10 | 20.10 | 65.85 |
| DT30/2 MAHDR-R-XL-JHP | 57.0 | 55.00 | 9.10 | 21.50 | 65.85 |

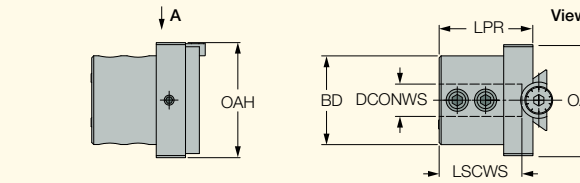
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## Spare Parts

| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| DT##/2 MAHD#-#-XL-JHP | SUPPORT MG-XL-5113377 | T-20/5 | SR M5-04451 | HW 5.0 | SR M5X5 DIN913 TL360 | OR 5X1N | HW 2.5 |

Schütte
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**DT30/2 ##L70WN**
Intermediate Holder with DT30 Adaptation for Boring Bars on SCHUTTE Machine Tools

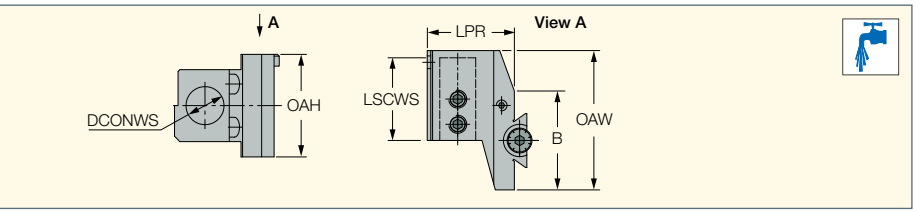



| Designation | OAH | OAW | DCONWS | BD | LPR | LSCWS |
|---|---|---|---|---|---|---|
| DT30/2 16L70WN | 57.00 | 55.00 | 16.00 | 44.00 | 46.50 | 41.00 |
| DT30/2 20L70WN | 57.00 | 55.00 | 20.00 | 48.00 | 46.50 | 41.00 |

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**DT30/2 ADR-##-20-55**
Intermediate Holder with DT30 Adaptation for Boring Bars on SCHUTTE Machine Tools




| Designation | OAH | OAW | DCONWS | LPR | B | LSCWS |
|---|---|---|---|---|---|---|
| DT30/2 ADR-20-55 | 57.00 | 65.00 | 20.00 | 45.50 | 55.0 | 41.00 |
| DT30/2 ADR-Z0-20-55 | 57.00 | 77.50 | 20.00 | 48.50 | 55.0 | 46.00 |

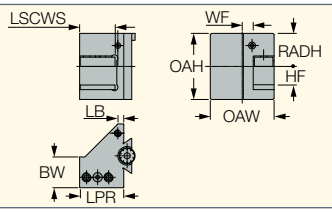
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## DT30/2 ASH# 16/20-1-35080

Intermediate Holder with DT30 Adaptation for Square Shank Tools on SCHUTTE Machine Tools



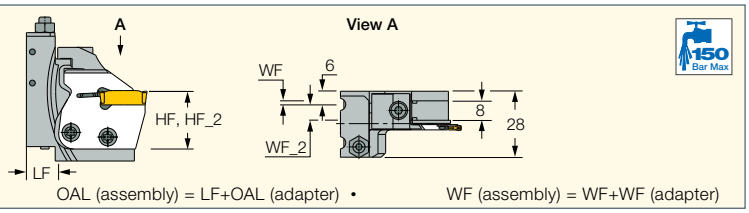

| Designation | HF | WF | LPR | OAH | LB | RADH | BW | OAW | LSCWS |
|---|---|---|---|---|---|---|---|---|---|
| DT30/2 ASHR/L 16/20-1-35080 | 16.0 | 9.50 | 38.00 | 57.00 | 5.00 | 28.50 | 26.50 | 55.00 | 32.00 |

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Göltenbodt Innovation and Precision.
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## MS-ES#####-GWS-MG-JHP

Toolholders for Goltenbodt GWS Systems with Internal Coolant Supply for MODULAR-GRIP Adapters




OAL (assembly) = LF+OAL (adapter) • WF (assembly) = WF+WF (adapter)

| Designation | LF | WF | WF_2 | HF[1] | HF_2[2] |
|---|---|---|---|---|---|
| MS-ES02012-GWS-MG-JHP | 14.00 | 2.00 | 6.00 | 24.0 | 27.0 |
| MS-ES02013-GWS-MG-JHP | 22.00 | 2.00 | 6.00 | 24.0 | 27.0 |
| MS-ES09003-GWS-MG-JHP | 14.00 | 2.00 | 6.00 | 24.0 | 30.0 |
| MS-ES41008-GWS-MG-JHP | 22.00 | 2.00 | 6.00 | 24.0 | 27.0 |
| MS-ES41009-GWS-MG-JHP | 22.00 | 2.00 | 6.00 | 24.0 | 27.0 |

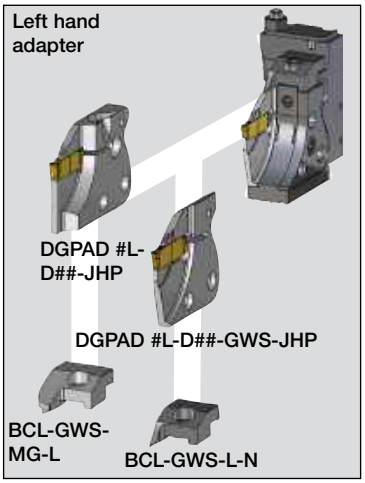
• For user guide, see pages 752-758 • All trademarks and logos are the property of their respective companies

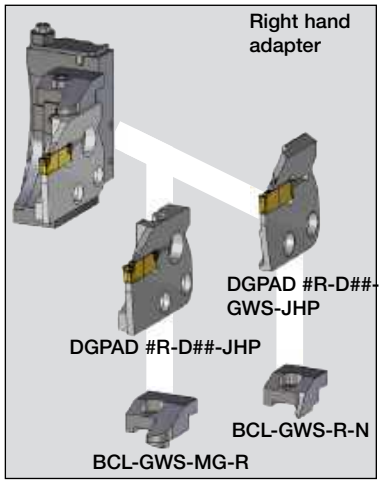
[1] Center height adjustment for GWS43

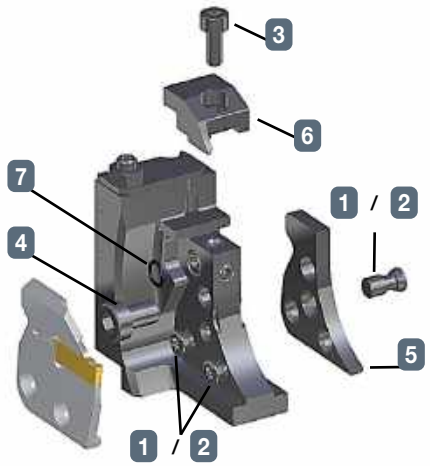
[2] Center height adjustment for GWS60

Tools: CGPAD-JHP • DGPAD-JHP • HGPAD-JHP • PCADR/L-JHP • PCADRS/LS-JHP • TAGPAD-JHP • TGPAD-JHP

### Wedge Selection Guide (must be ordered separately)




### Spare Parts MS-ES#####-GWS-MG-JHP

| No. | Designation | MS-ES02012-GWS-MG-JHP | MS-ES02013-GWS-MG-JHP | MS-ES09003-GWS-MG-JHP | MS-ES41008-GWS-MG-JHP | MS-ES41009-GWS-MG-JHP |
|---|---|---|---|---|---|---|
| 1 | Screw | SR 16-212-L9.5 | SR 16-212-L9.5 | SR 16-212-L9.5 | SR 16-212-L9.5 | SR 16-212-L9.5 |
| 2 | Key | T-20/5 | T-20/5 | T-20/5 | T-20/5 | T-20/5 |
| 3 | Screw | DIN912-M4X10-12.9 | DIN912-M4X10-12.9 | DIN912-M4X10-12.9 | DIN912-M4X10-12.9 | DIN912-M4X10-12.9 |
| 4 | Screw | SR M6X6-DIN6912-10.9 | SR M6X6-DIN6912-10.9 | SR M6X6-DIN6912-10.9 | SR M6X6-DIN6912-10.9 | SR M6X6-DIN6912-10.9 |
| 5 | Dummy | GWS Dummy | GWS Dummy | GWS Dummy | GWS Dummy | GWS Dummy |
| 6 | Wedges* | | | | | |
| 7 | O-Ring | OR 5X1N | OR 5X1N | OR 5X1N | OR 5X1N | OR 5X1N |

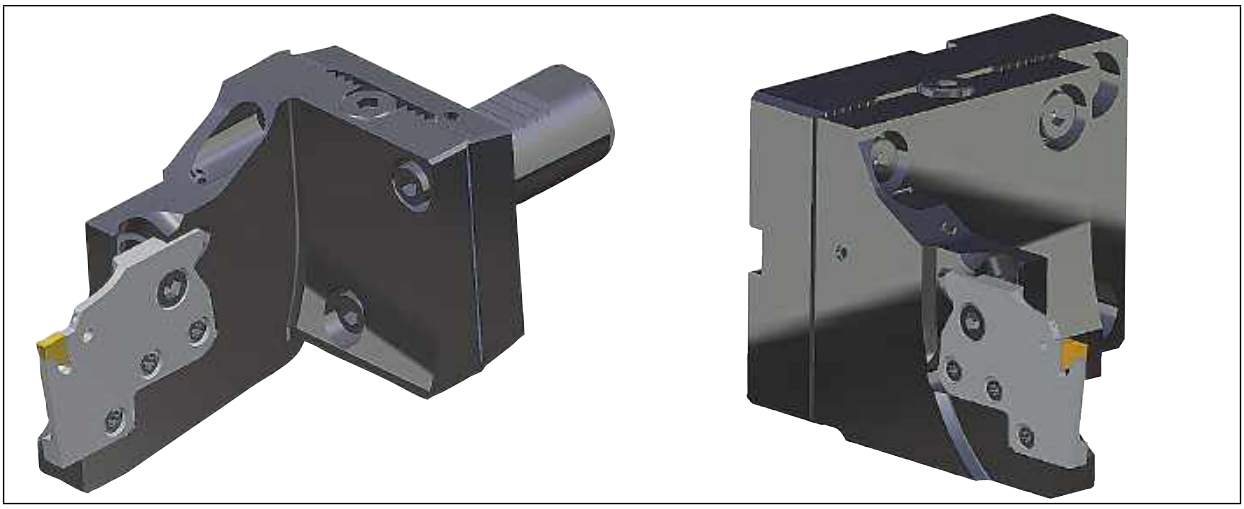
* Should be ordered separately

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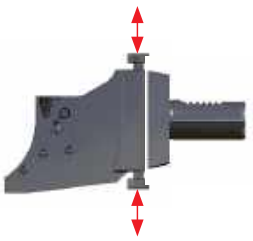
MODULARGRIP.JETCUT

## ISCAR Modular System for Turning Lathes

### Toolholder System with Machine-Specific Adaptations for Turning Lathes



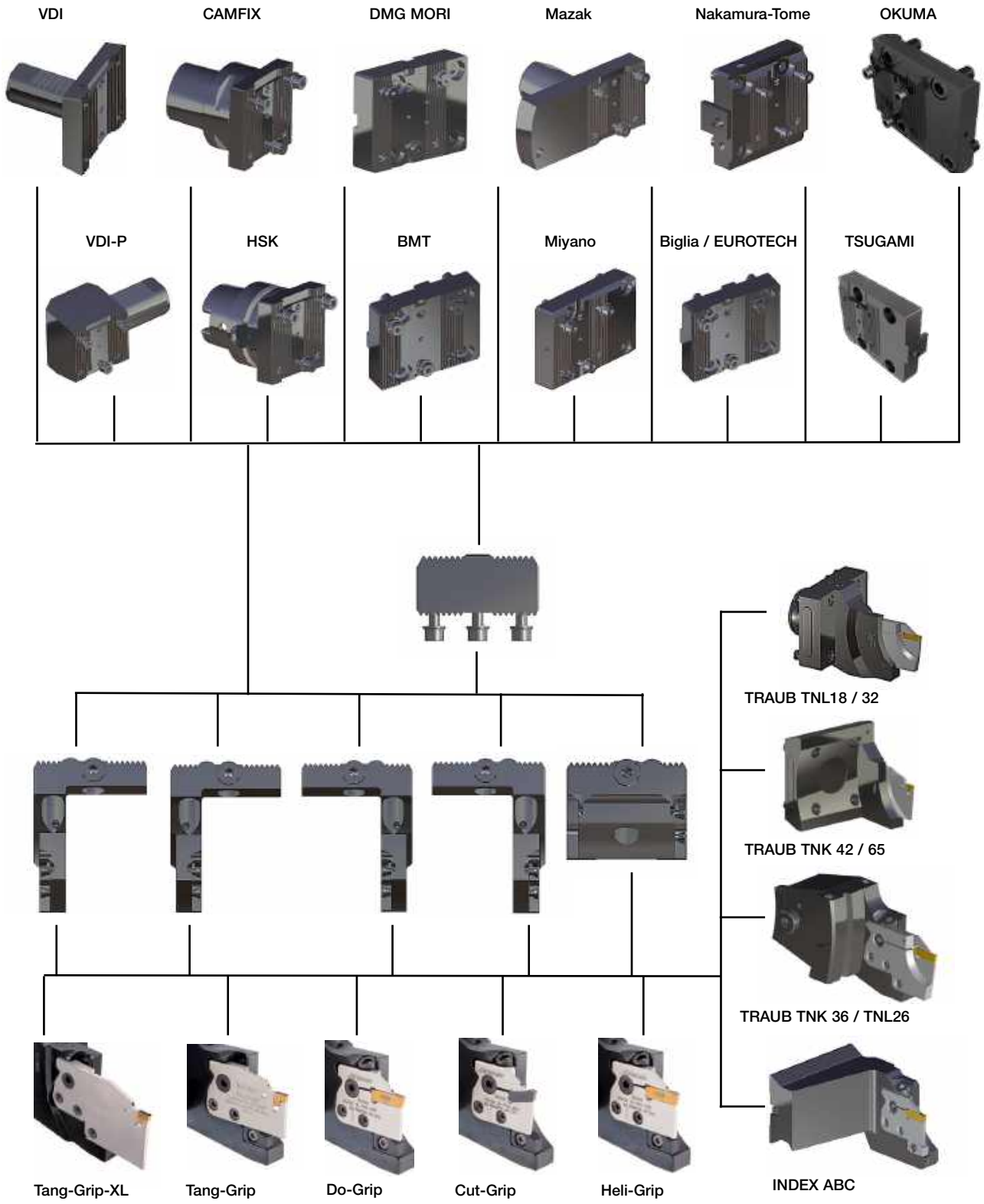
### Features and Benefits of Machine-Specific Toolholder Systems

| | Flexible Vario System | Adjustable Center Height | Optimized Holder Design | No Coolant Tubes / Hoses |
|---|---|---|---|---|
| Features: |  |  |  |  |
| Benefits: | • Uniform intermediate holders and adapters on different machine adaptations<br>• Low tool stock<br>• Modular design | • Optimal tool life due to adjustable center height<br>• Reliable tool life<br>• Turret malpositions can be balanced | • Long tool life due to reduced bar overhang, less vibrations<br>• Slim design<br>• Low risk of collision<br>• Suitable for any machine-specific clamping interface | • Chips do not accumulate in the work space (no coolant tube / hose required)<br>• Reliable coolant supply due to fixed flow orientation (no adjustable coolant nozzle) |

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## ISCAR Modular System for Turning Lathes

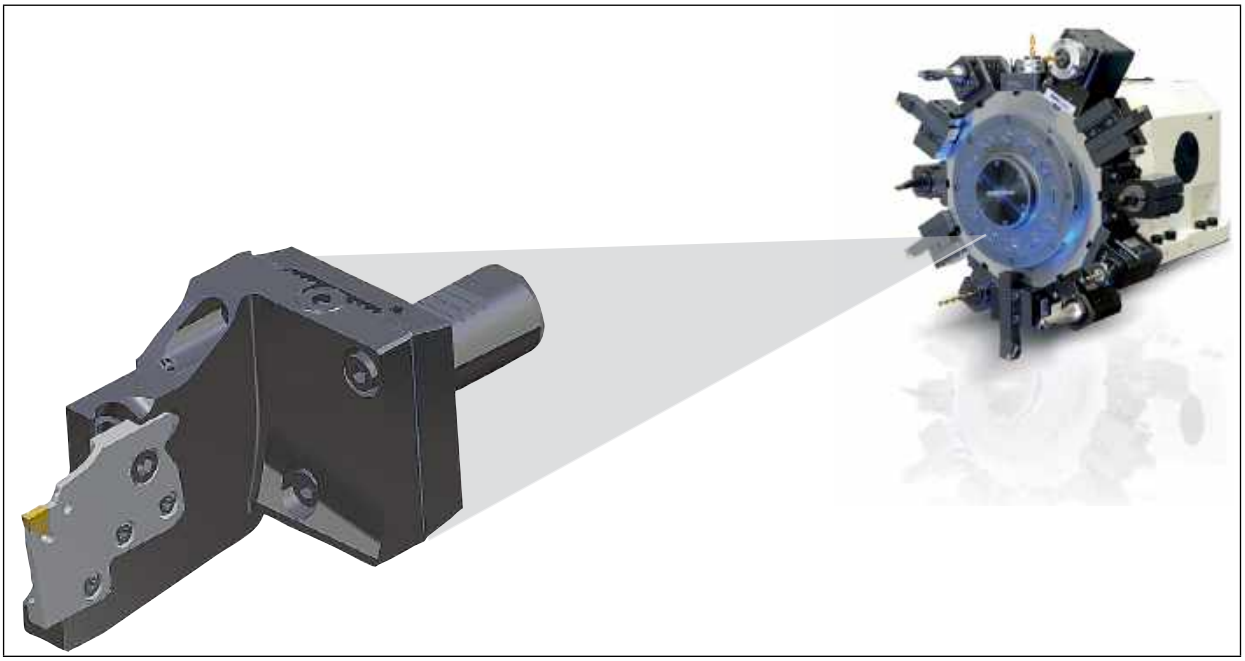
### System Overview



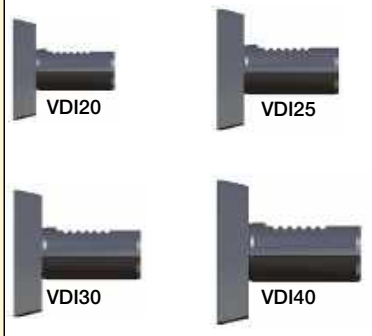
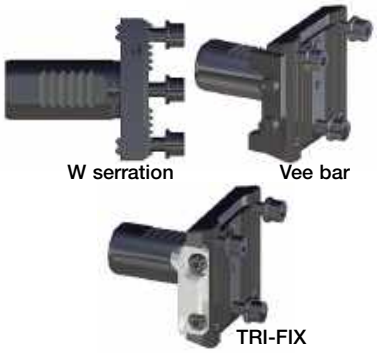
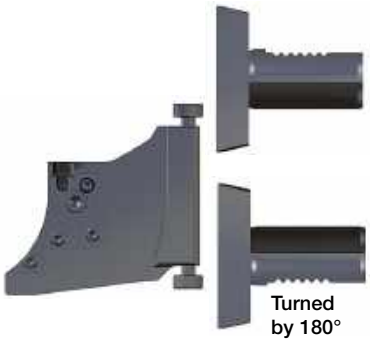

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## ISCAR Modular System for Turning Lathes

**Toolholder System for Star Turrets with VDI and MODULAR-GRIP-XL Adaptations and Directed Internal Coolant**



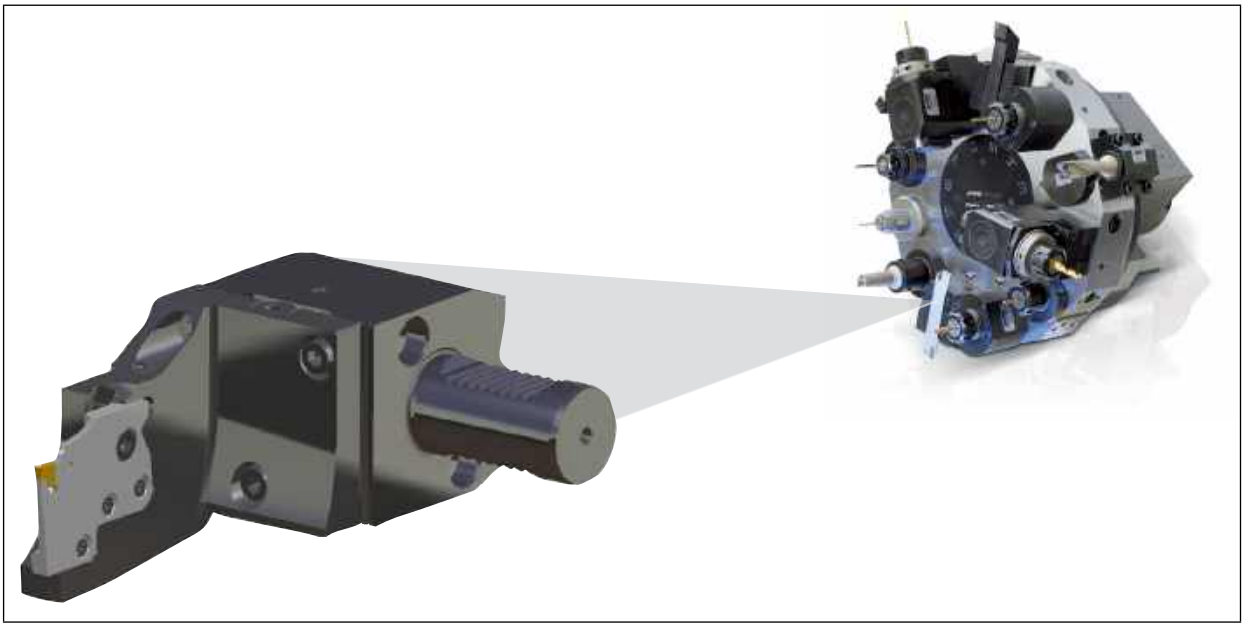
### Features and Benefits of Machine-Specific Toolholder Systems

| | Adaptation Sizes | Alignment Systems | VDI shank can be rotated by 180° |
|---|---|---|---|
| **Features:** |  |  |  |
| **Benefits:** | • DIN69880 (ISO 10889-1)<br>• VDI20<br>• VDI25<br>• VDI30<br>• VDI40 | • Extremely stable, torsion resistant and high-end precision | • The serration can be mounted at the top or bottom<br>• Double-serration is not necessary |

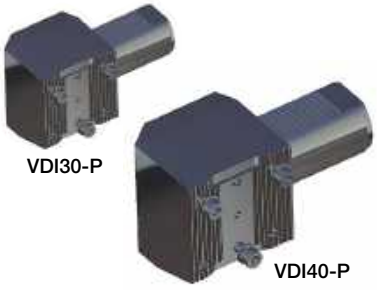
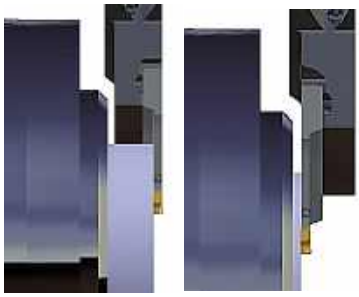
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## ISCAR Modular System for Turning Lathes

Toolholder System for **Disc-Type Turrets** with VDI and MODULAR-GRIP-XL Adaptations and Directed Internal Coolant



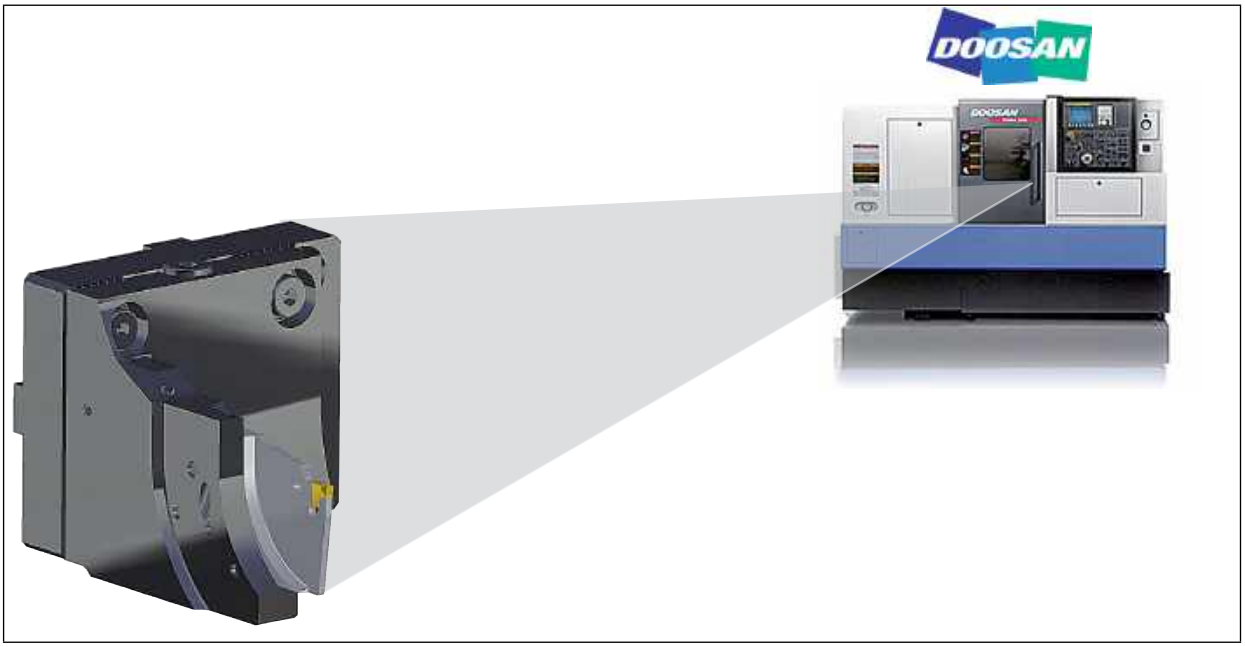
### Features and Benefits of Machine-Specific Toolholder Systems

| | Adaptation Sizes | Parting Next to Main Spindle or Sub-Spindle | Reliable Processes |
|---|---|---|---|
| **Features:** |  VDI30-P VDI40-P |  |  |
| **Benefits:** | • DIN69880 (ISO 10889-1)<br>• VDI30-P<br>• VDI40-P | • Low risk of collision due to optimized tool design<br>• Parting next to main spindle or sub-spindle depending on component length | • Chips do not accumulate in the work space (no coolant tube / hose required)<br>• Reliable coolant supply due to fixed flow orientation (no adjustable coolant nozzle) |

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## ISCAR Modular System for Turning Lathes

**Toolholder System for DOOSAN / HAAS Machines with BMT and MODULAR-GRIP-XL Adaptations and Directed Internal Coolant**



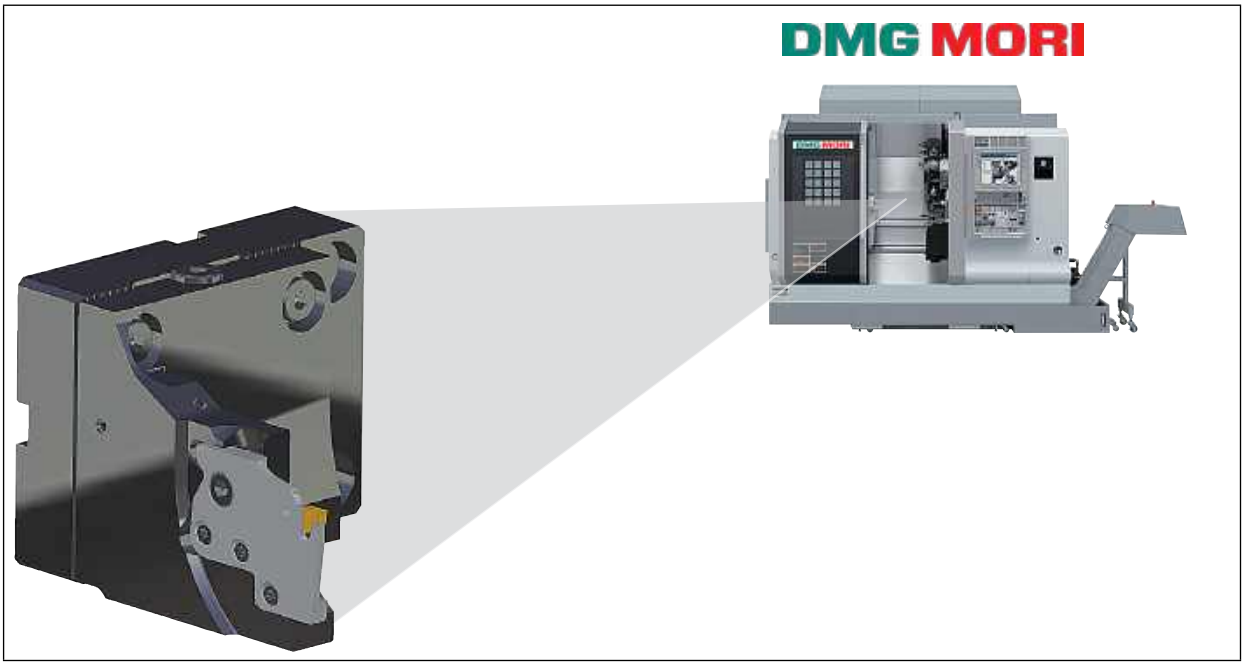

### Features and Benefits of Machine-Specific Toolholder Systems

| | Adaptation Sizes | Holder Turning Ability 180° | Reliable Processes |
|---|---|---|---|
| **Features:** |  BMT45 BMT55 BMT65 |  |  |
| **Benefits:** | • BMT (Base Mounted Turret)<br>• BMT45<br>• BMT55<br>• BMT65 | • Tool can be mounted on the left or right of the turret<br>• Extremely flexible due to few elements | • Chips do not accumulate in the work space (no coolant tube / hose required)<br>• Reliable coolant supply due to fixed flow orientation (no adjustable coolant nozzle) |

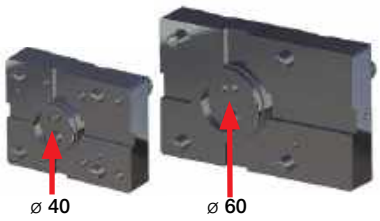
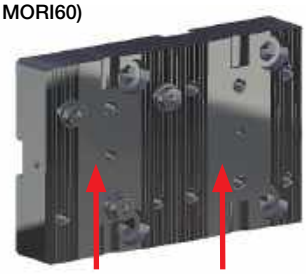
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## ISCAR Modular System for Turning Lathes

Toolholder System for **DMG MORI** Machines with MODULAR-GRIP-XL Adaptation and Directed Internal Coolant



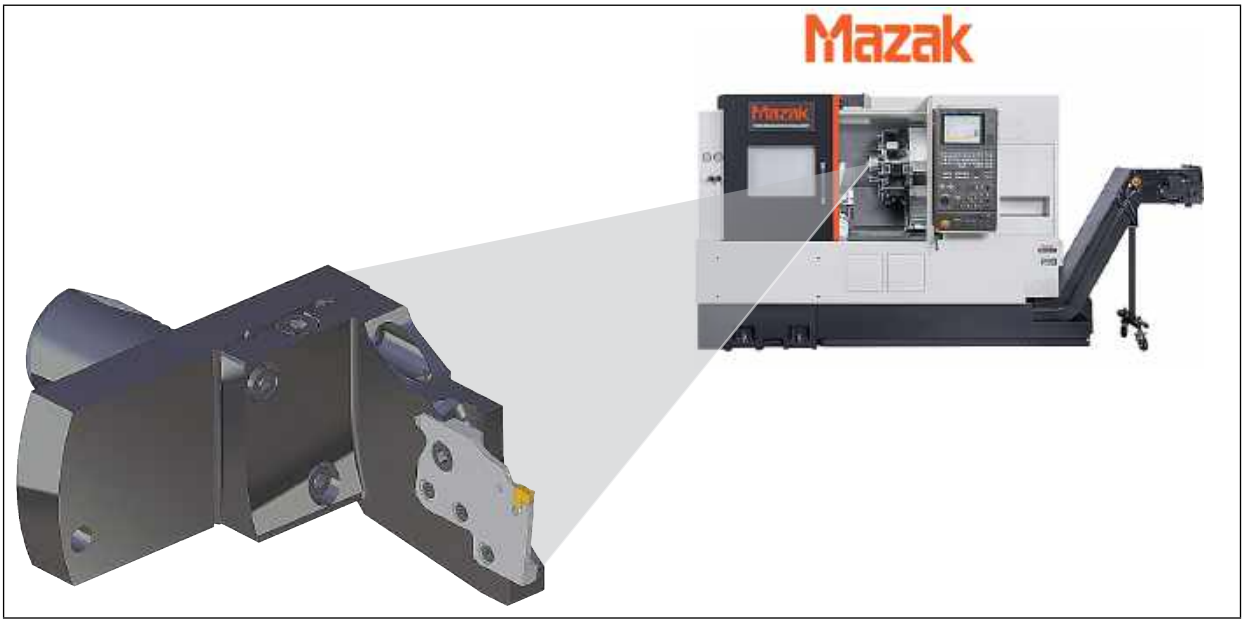

### Features and Benefits of Machine-Specific Toolholder Systems

| | Adaptation Sizes | Two Pockets for Intermediate Holders | Reliable Processes |
|---|---|---|---|
| **Features:** | MORI40 MORI60<br><br>ø 40 ø 60 | (For MORI60)<br><br>1. pocket next to (main) spindle<br>2. pocket next to (sub-) spindle |  |
| **Benefits:** | • DMG MORI turrets for NZ machines<br>• MORI40<br>• For NL machines<br>• MORI60 | • Intermediate holder can be mounted on the left or right side of the turret<br>• Modular flexibility due to few elements | • Chips do not accumulate in the work space (no coolant tube/hose required)<br>• Reliable coolant supply due to fixed flow orientation (no adjustable coolant nozzle) |

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## ISCAR Modular System for Turning Lathes

**Toolholder System for MAZAK Machines with MODULAR-GRIP-XL Adaptation and Directed Internal Coolant**



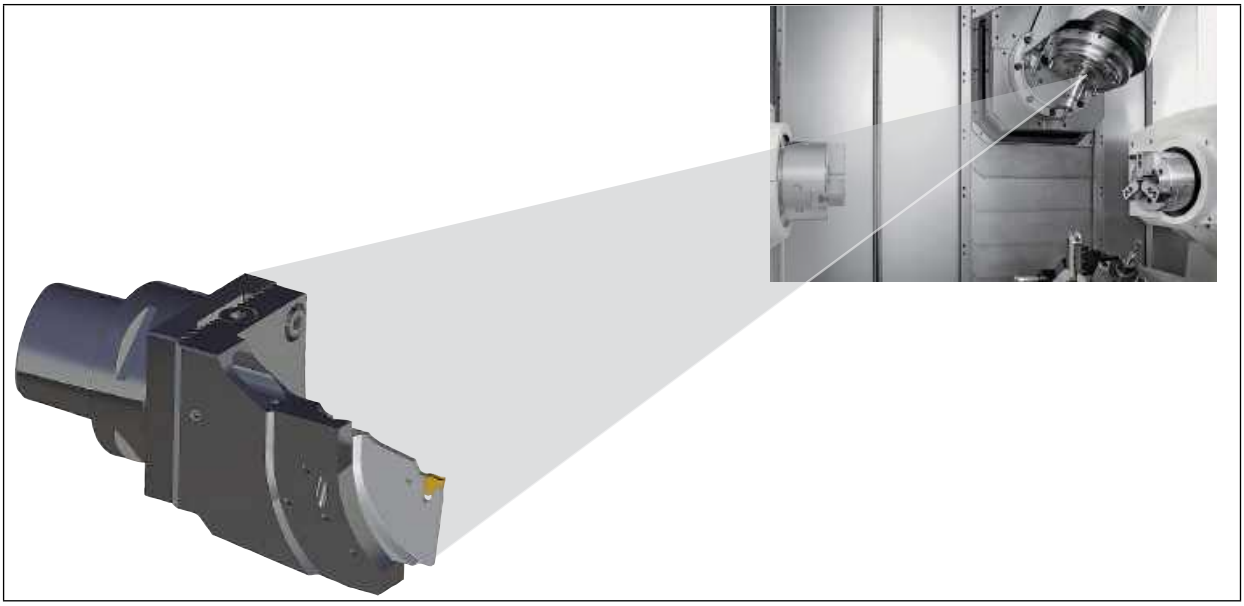

### Features and Benefits of Machine-Specific Toolholder Systems

| | Adaptation Sizes | Adaptation Features | Reliable Processes |
|---|---|---|---|
| **Features:** |  MA4016E MA4020E MA4020T MA5020E MA4016T |  MA####E MA####T |  |
| **Benefits:** | • For Mazak Quick Turn, Hyper Quardrex and Multiplex machines<br>• MA4016E<br>• MA4020E<br>• MA5020E<br>• MA4016T<br>• MA4020T | • Suitable for any common Mazak adaptations | • Chips do not accumulate in the work space (no coolant tube / hose required)<br>• Reliable coolant supply due to fixed flow orientation (no adjustable coolant nozzle) |

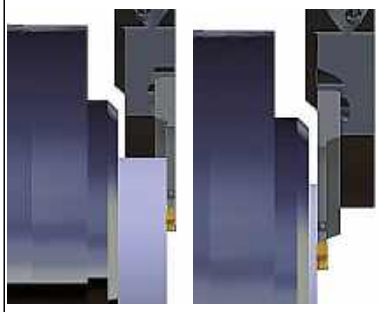
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## ISCAR Modular System for Turning Lathes

Toolholder System for Machines with CAMFIX MODULAR-GRIP-XL
Adaptations and Directed Internal Coolant



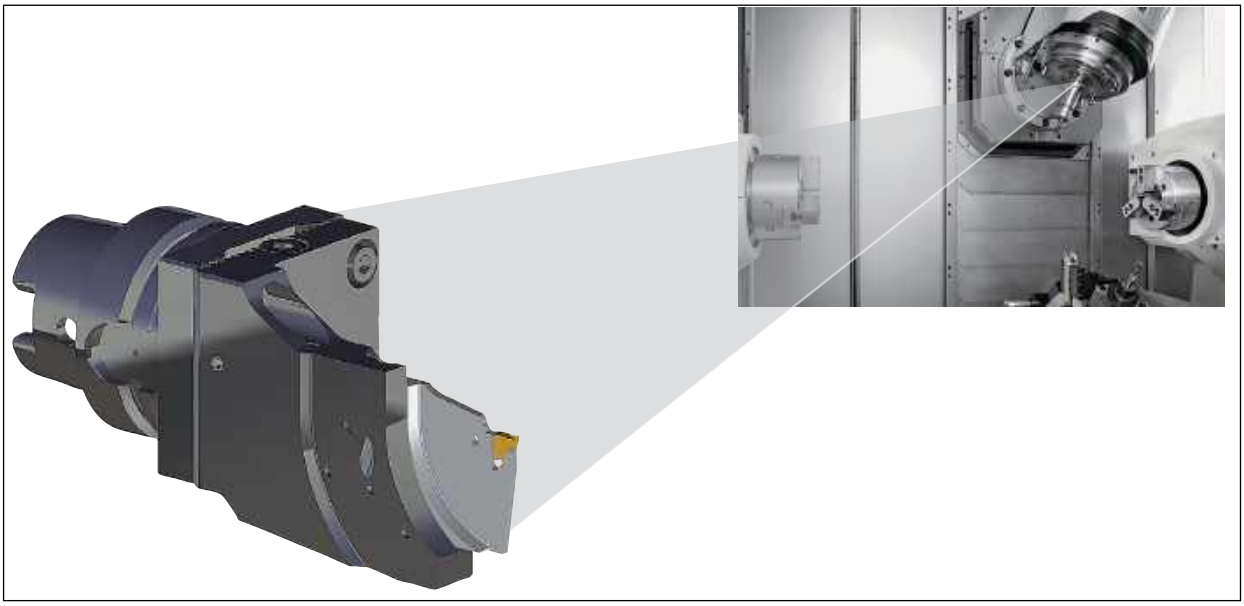
Features and Benefits of Machine-Specific Toolholder Systems

| | Adaptation Sizes | Parting Next to Main Spindle and Sub-Spindle | Reliable Processes |
|---|---|---|---|
| **Features:** |   |  |  |
| **Benefits:** | • For CAMFIX turrets and for turn-mill centers with a CAMFIX ISO26623-1 milling spindle<br>• C4<br>• C5<br>• C6 | • Low risk of collision due to optimized tool design<br>• Parting next to main spindle or sub-spindle depending on the component length | • Chips do not accumulate in the work space (no coolant tube / hose required)<br>• Reliable coolant supply due to fixed flow orientation (no adjustable coolant nozzle) |

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## ISCAR Modular System for Turning Lathes

**Toolholder Systems for Turn-Mill Centers with HSK Shank and MODULAR-GRIP-XL Adaptation and Directed Internal Coolant**



### Features and Benefits of Machine-Specific Toolholder Systems

| | Adaptation Sizes | Relief for Automatic Tool Changers | Reliable Processes |
|---|---|---|---|
| **Features:** |  HSK T 40 HSK T 63 |  Relief for tool exchanger |  |
| **Benefits:** | • For HSK T turrets and for turn-mill centers with HSK T milling spindles<br>• HSK T 40<br>• HSK T 63 | • Tools can be used on machines with an automatic tool exchanger | • Chips do not accumulate in the work space (no coolant tube / hose required)<br>• Reliable coolant supply due to fixed flow orientation (no flexible coolant nozzle) |

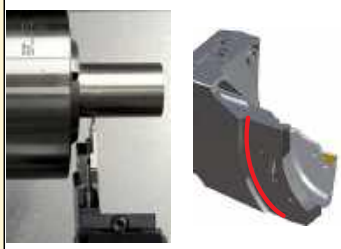
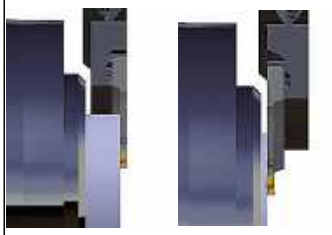
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## ISCAR Modular System for Turning Lathes

Toolholder Systems for **Biglia / EUROTECH, MIYANO** and **NAKAMURA TOME** with MODULAR-GRIP-XL Adaptation and Directed internal Coolant

| Toolholder Systems for Biglia / EUROTECH, Miyano and Nakamura Tome | | |
|---|---|---|
| Biglia / EUROTECH | Miyano | Nakamura-Tome |
|  |  |  |
| • Holder for Biglia / EUROTECH turrets<br>• BI40<br>• BI55 | • Holder for MIYANO turrets<br>• MI40<br>• MI45<br>• MI55 | • Holder for NAKAMURA-TOME turrets<br>• NT55<br>• NT65 |

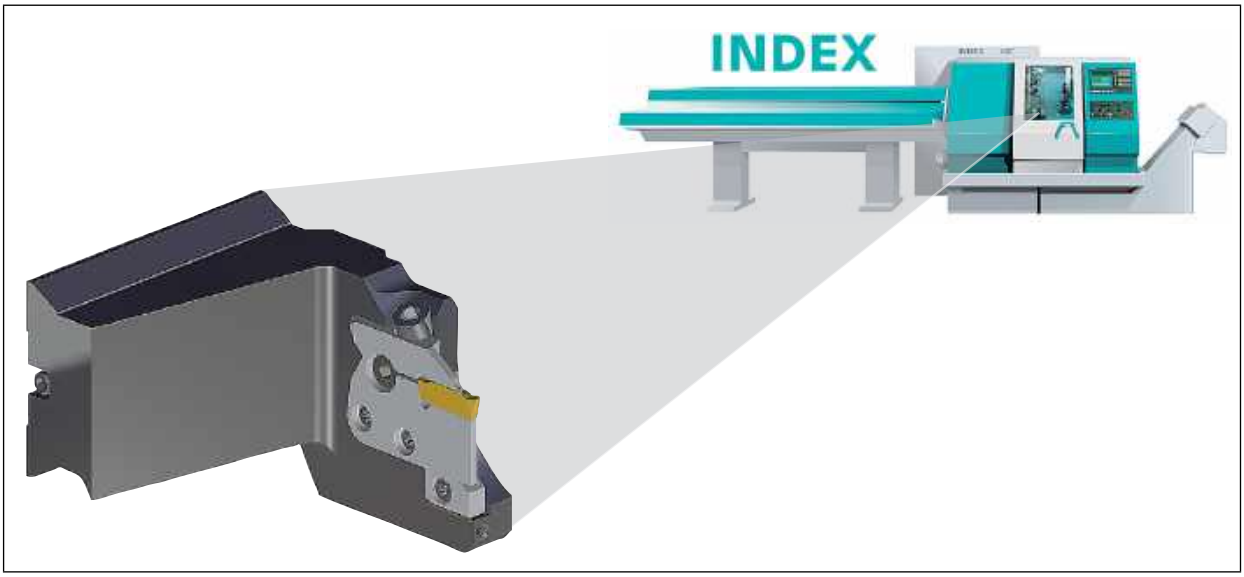
### Features and Benefits of Machine-Specific Toolholder Systems

| | Optimized Holder Design | Parting Next to Main Spindle and Sub-Spindle | Reliable Processes |
|---|---|---|---|
| **Features:** |  |  |  |
| **Benefits:** | • Long tool life due to small bar overhang and less vibrations<br>• Slim design<br>• Low risk of collision<br>• Suitable for any machine-specific clamping device | • Low risk of collision due to optimized tool design<br>• Parting next to main spindle or sub-spindle depending on the correspondent length | • Chips do not accumulate in the work space (no coolant tube / hose required)<br>• Reliable coolant supply due to fixed flow orientation (no adjustable coolant nozzle) |

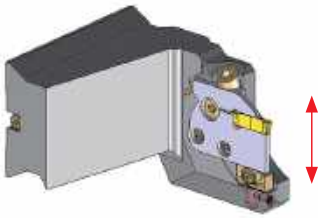
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## ISCAR Modular System for Turning Lathes

Toolholder System for **INDEX ABC** Machines with MODULAR-**GRIP-XL**
Adaptation and Directed Internal Coolant



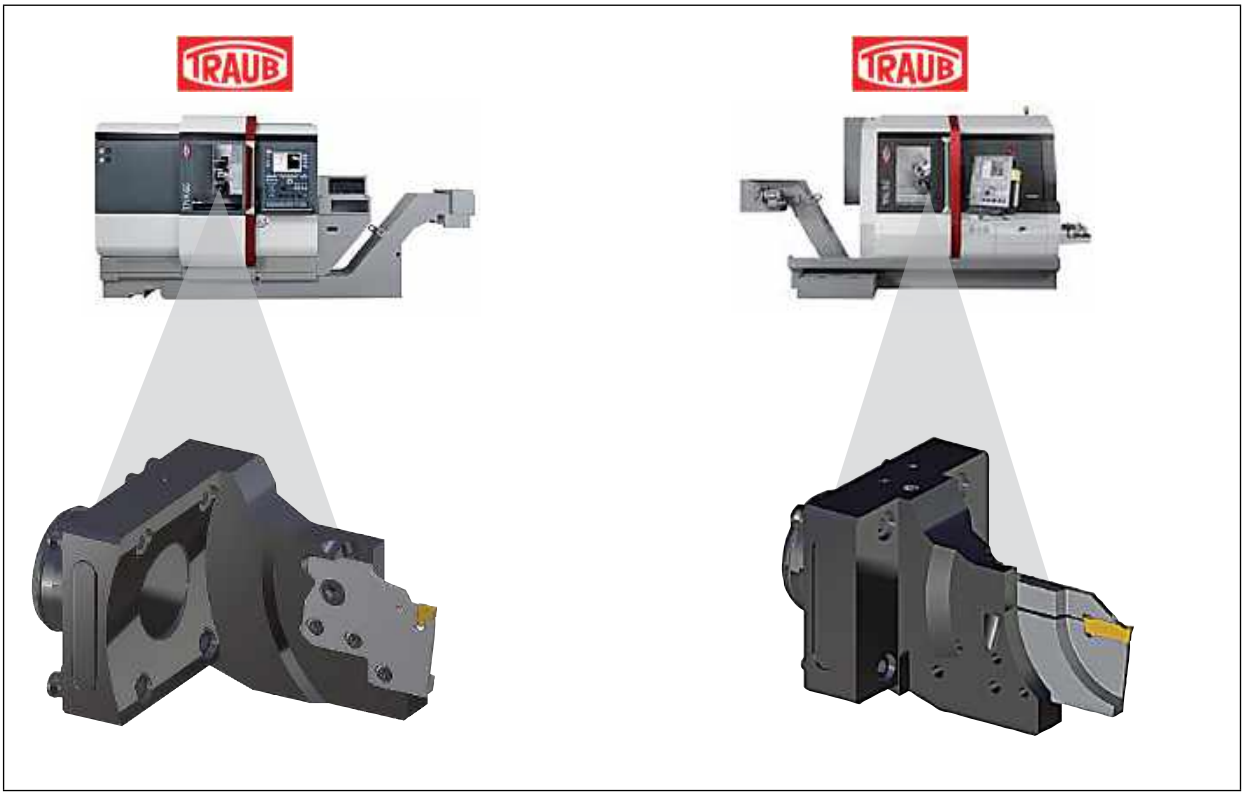

### Features and Benefits of Machine-Specific Toolholder Systems

| | Adaptation Sizes | Height Adjustment +0.2 mm | Machine Optimized Tool Design |
|---|---|---|---|
| **Features:** |  |  |  |
| **Benefits:** | • For Index ABC machines turret 2<br>• Prismatic adaptation | • Mismatch of turrets can be adjusted<br>• Extremely long tool life due to exact center height | • Extremely long tool life due to very stable tool design<br>• Reduced vibrations due to reduced bar overhang<br>• Reliable coolant supply due to fixed flow orientation (no adjustable coolant nozzle) |

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## ISCAR Modular System for Turning Lathes

Toolholder System for **Integral Shank 45** with MODULAR-**GRIP-XL**
Adaptation and Directed Internal Coolant



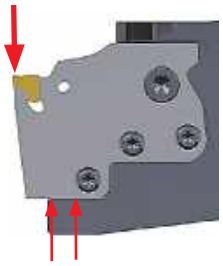
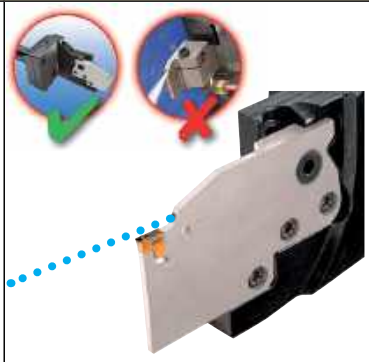
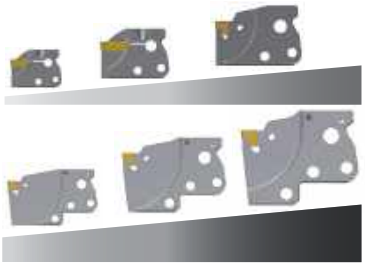

### Features and Benefits of Machine-Specific Toolholder Systems

| | TNK 36 / TNL 26 | TNL 18 / TNL 32 | TNK 42 / TNK 65 |
|---|---|---|---|
| **Features:** |  |  |  |
| **Benefits:** | • Dovetail connection for Traub TNK36 and TNL26 Machines<br>• Tools are suitable for parting and grooving applications<br>• Suitable for any machine-specific clamping device | • Integral shank 45 for Traub TNL18 and TNL32<br>• Tools are suitable for parting and grooving applications<br>• Suitable for any grooving systems with directed internal coolant | • Low risk of collision due to machine-specific tool design<br>• Tool is suitable for parting and grooving applications<br>• Suitable for any machine-specific clamping device |

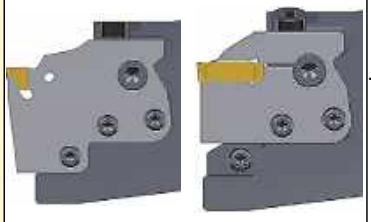
All trademarks and logos are the property of their respective companies

## Adapters with internal coolant

### Features and Benefits of Machine-Specific Toolholder Systems

| | Extremely Stable | Coolant Directly to the Cutting Zone | Additional External Diameters |
|---|---|---|---|
| **Features:** |  |  |  |
| **Benefits:** | • Very long tool life as the cutting forces are directly transmitted to the intermediate holder<br>• Very rigid due to additional clamping screw in the Modular-Grip-XL adapters pocket<br>• Less vibrations due to rigid tool design | • Reliable tool life due to fixed flow orientation (no adjustable coolant nozzle)<br>• Chips do not accumulate in the work space (no coolant tube / hose required)<br>• Very efficient due to small distance between coolant exit and cutting zone | • Long tool life due to reduced vibrations by reinforced tool body<br>• Suitable for all popular bar diameters |

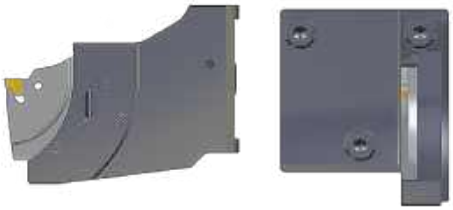
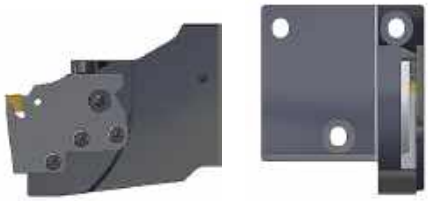
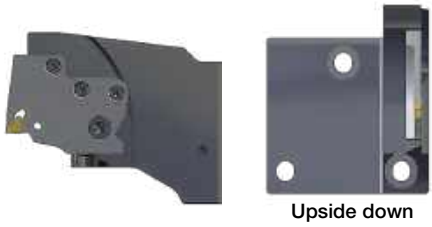
### Features and Benefits of Machine-Specific Toolholder Systems

| | MODULAR-GRIP/ MODULAR-GRIP-XL | Vario System | Coolant Connection from the Turret into the Cutting Zone |
|---|---|---|---|
| **Features:** |  | <br>TAGPAD-JHP TAGPAD-XL-JHP HGPAD-JHP<br>DGPAD-JHP CGPAD-JHP |  |
| **Benefits:** | • Very flexible due to compatibility with existing adapter systems<br>• Modular-Grip and Modular-Grip-XL adapters can be mounted<br>• High rigidity using Modular-Grip adapters by additional support | • Very flexible<br>• Suitable for any JHP grooving systems<br>• Direct cooling for grooving and turn-groove operations<br>• A variety of options with a single holder | • Fast setup, less downtime<br>• Chips do not accumulate in the work space<br>• Easy handling, low risk of error |

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## ISCAR Modular System for Turning Lathes

### Tool Design Overview

| | | |
|---|---|---|
| L-R | #### MAHDL-R-XL-JHP  |  Upside down |
| R-L | #### MAHDR-L-XL-JHP  Upside down |  |
| R-R | #### MAHDR-R-XL-JHP  Upside down |  |
| L-L | #### MAHDL-L-XL-JHP  |  Upside down |

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## ISCAR Modular System for Turning Lathes

Tool Selection

Example:

**VDI30 M A H D R - L XL - JHP**

- **VDI30** — Machine interface
- **R** — Turning direction at the main spindle
- **L** — Position of the adapter pocket

### 1 Defined Machine Adaptations

| Type | VDI | VDI with W-serration | VDI with Vee-bar | VDI for disc type turret | BMT | DMG MORI | MAZAK | CAMFIX | HSK T | Biglia / EUROTECH | Miyano | Nakamura-Tome |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Size | VDI20 | VDI25W | VDI25V | VDI30-P | BMT45 | MORI40 | MA4016E | C4 | HSK T 40 | BI40 | MI40 | NT45 |
| | VDI25 | VDI30W | VDI30V | VDI40-P | BMT55 | MORI60 | MA4020E | C5 | HSK T 63 | BI55 | MI45 | NT55 |
| | VDI30 | VDI40W | VDI40V | | BMT65 | | MA5020E | C6 | | | MI55 | NT65 |
| | VDI40 | | | | | | MA4016T | | | | | |
| | | | | | | | MA4020T | | | | | |

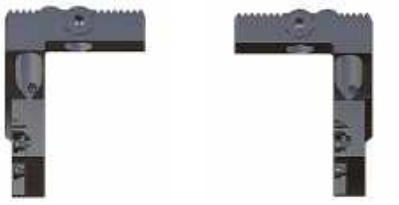
For details on adaptation please see technical information (starting at page 775).

### 2 Defined Turning Direction at the Main Spindle

View through the spindle into the work space

| Right-Turn Direction M3 in CNC program | Left-Turn Direction M4 in CNC program |
|---|---|
|  |  |

### 3 Position of the Adapter Pocket

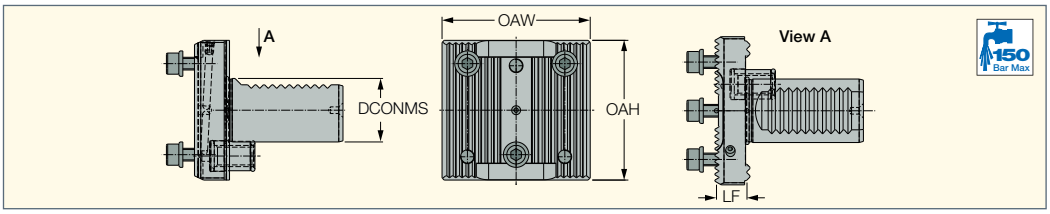
| Adapter on the Right | Adapter on the Left |
|---|---|
|  |  |

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VDI MODULAR-GRIP

## VDI#### V##-JHP

Toolholders for Star Turrets with VDI Adaptation and Internal Coolant Supply for MODULAR-GRIP-XL Adapters



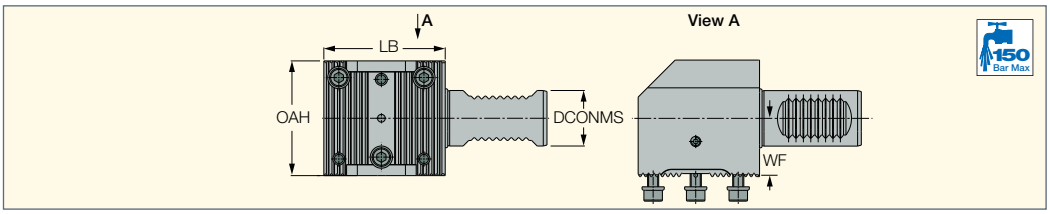

| Designation | DCONMS | OAW | OAH | LF | Align. |
|---|---|---|---|---|---|
| VDI20 V60-JHP | 20.00 | 60.00 | 56.00 | 28.75 | - |
| VDI25 V60-JHP | 25.00 | 60.00 | 61.20 | 12.75 | - |
| VDI25TF V60-JHP | 25.00 | 60.00 | 61.20 | 12.75 | TriFix |
| VDI25V V60-JHP | 25.00 | 60.00 | 61.20 | 12.75 | V-Bar |
| VDI25W V60-JHP | 25.00 | 60.00 | 61.20 | 13.40 | W-toothing |
| VDI30 V60-JHP | 30.00 | 70.00 | 66.00 | 13.75 | - |
| VDI30TF V60-JHP | 30.00 | 70.00 | 66.00 | 13.75 | TriFix |
| VDI30V V60-JHP | 30.00 | 70.00 | 66.00 | 13.75 | V-Bar |
| VDI30W V60-JHP | 30.00 | 70.00 | 66.00 | 14.40 | W-toothing |
| VDI40 V85-JHP | 40.00 | 85.00 | 82.00 | 15.75 | - |
| VDI40TF V85-JHP | 40.00 | 85.00 | 82.00 | 15.75 | TriFix |
| VDI40V V85-JHP | 40.00 | 85.00 | 82.00 | 15.75 | V-Bar |
| VDI40W V85-JHP | 40.00 | 85.00 | 82.00 | 16.35 | W-toothing |

• For user guide, see pages 762-776

VDI MODULAR-GRIP

## VDI##-P V60-JHP

Toolholders for Disc - Type Turrets with VDI Adaptation and Internal Coolant Supply for MODULAR-GRIP-XL Adapters



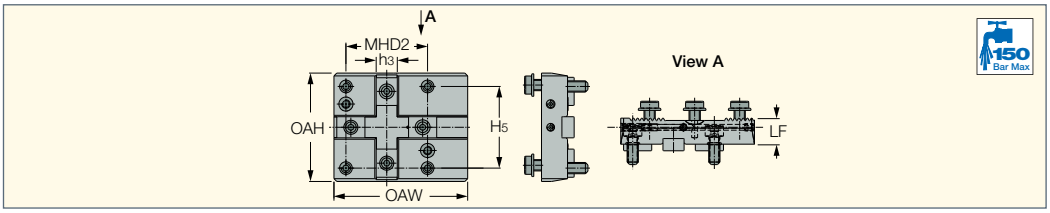

| Designation | DCONMS | LB | OAH | WF | WB |
|---|---|---|---|---|---|
| VDI30-P V60-JHP | 30.00 | 65.60 | 62.00 | 30.75 | 63.00 |
| VDI40-P V60-JHP | 40.00 | 65.60 | 80.00 | 34.75 | 70.50 |

• For user guide, see pages 762-776

DOOSAN HAAS JETCUT

## BMT## V85-JHP

Toolholders for BMT Turrets with Internal Coolant Supply for MODULAR-GRIP-XL Adapters




| Designation | OAW | OAH | LF | H5 | MHD2 | h3 |
|---|---|---|---|---|---|---|
| BMT45 V85-JHP | 95.00 | 77.00 | 17.45 | 58.00 | 58.0 | 15.0 |
| BMT55 V85-JHP | 103.50 | 84.00 | 20.75 | 64.00 | 64.0 | 15.0 |
| BMT65 V85-JHP | 114.50 | 98.00 | 25.75 | 73.00 | 70.0 | 18.0 |
| BMT75 V85-JHP | 120.00 | 112.00 | 29.25 | 90.00 | 90.0 | 25.0 |

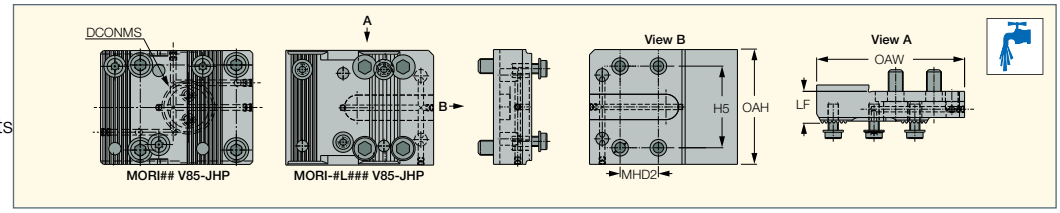
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DMG MORI

JETCUT

## MORI## V85-JHP

Toolholders for DMG MORI Turrets with Internal Coolant Supply for MODULAR-GRIP-XL Adapters




| Designation | OAW | OAH | LF | H5 | MHD2 | DCONMS |
|---|---|---|---|---|---|---|
| MORI-DL151 V85-JHP | 116.00 | 90.00 | 24.25 | 64.00 | 30.0 | - |
| MORI-SL200 V85-JHP | 126.00 | 100.00 | 24.25 | 76.00 | 35.0 | - |
| MORI40 V85-JHP | 111.00 | 83.00 | 25.75 | 62.00 | 70.0 | 39.90 |
| MORI60 V85-JHP | 172.00 | 109.30 | 29.25 | 84.00 | 94.0 | 59.90 |

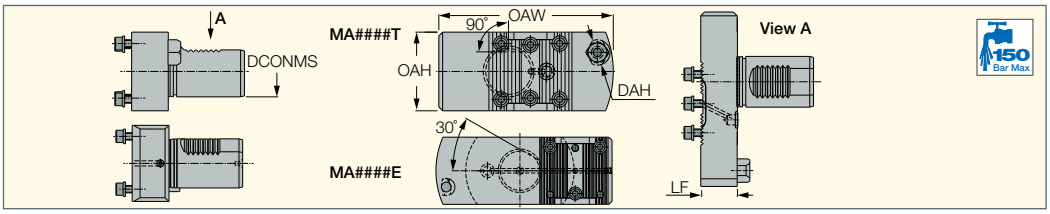
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Mazak JETCUT

## MA##### V##-JHP

Toolholders for Mazak Turrets with Internal Coolant Supply for MODULAR-GRIP-XL Adapters



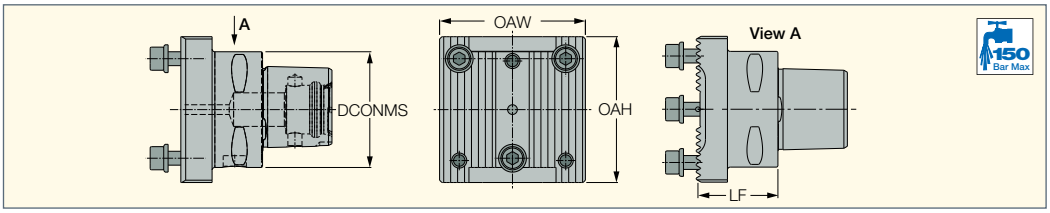

| Designation | DCONMS | DAH | OAW | OAH | LF |
|---|---|---|---|---|---|
| MA4016T V60-JHP | 40.00 | 16.00 | 132.50 | 62.00 | 28.15 |
| MA4020T V60-JHP | 40.00 | 20.00 | 137.50 | 62.00 | 28.15 |
| MA4016E V60-JHP | 40.00 | 16.00 | 162.50 | 62.00 | 29.25 |
| MA4020E V60-JHP | 40.00 | 20.00 | 170.00 | 62.00 | 29.25 |
| MA5020E V85-JHP | 50.00 | 20.00 | 168.50 | 100.00 | 45.75 |

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- For user guide, see pages 762-776

MODULAR-GRIP CAMFIX

## C#-V60-JHP

Toolholders for CAMFIX Adaptations with Internal Coolant Supply for MODULAR-GRIP-XL Adapters



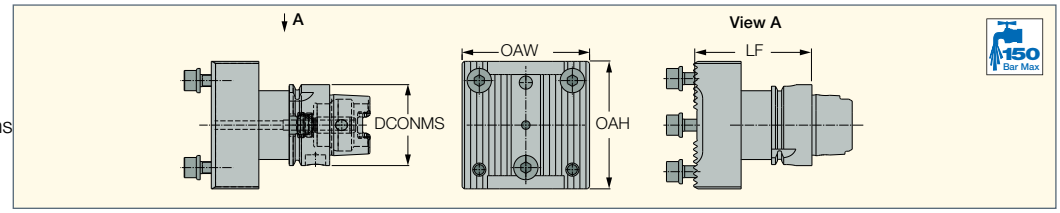

| Designation | DCONMS | OAW | OAH | LF |
|---|---|---|---|---|
| C4 V60-JHP | 40.00 | 63.00 | 63.00 | 34.55 |
| C5 V60-JHP | 50.00 | 63.00 | 63.00 | 34.55 |
| C6 V60-JHP | 63.00 | 63.00 | 63.00 | 36.55 |

- For user guide, see pages 762-776

MODULAR-GRIP HSK

## HSK T ## V60-JHP

Toolholders for HSK-T Adaptations with Internal Coolant Supply for MODULAR-GRIP-XL Adapters



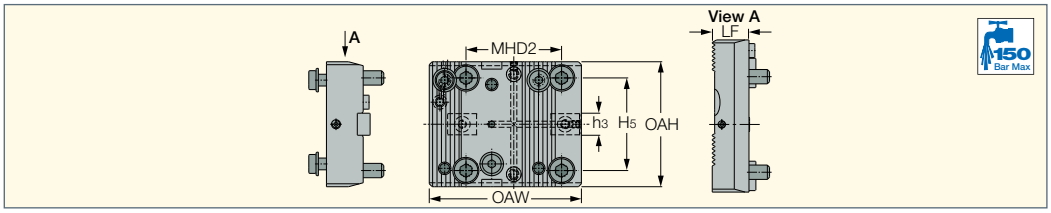

| Designation | DCONMS | OAW | OAH | LF |
|---|---|---|---|---|
| HSK T 40 V60-JHP | 40.00 | 63.00 | 63.00 | 57.75 |
| HSK T 63 V60-JHP | 63.00 | 63.00 | 63.00 | 57.75 |

- For user guide, see pages 762-776

Biglia EUROTECH JETCUT

## BI## V##-JHP

Toolholders for Biglia / EUROTECH Adaptation with Internal Coolant Supply for MODULAR-GRIP-XL Adapters




| Designation | OAW | OAH | LF | H5 | MHD2 | h3 |
|---|---|---|---|---|---|---|
| BI40 V60-JHP | 83.00 | 70.00 | 20.75 | 50.00 | 50.0 | 12.0 |
| BI55 V85-JHP | 103.50 | 85.00 | 24.25 | 63.00 | 65.0 | 15.0 |

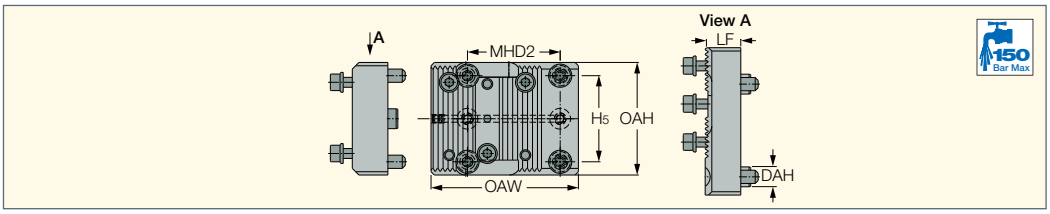
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Miyano JETCUT

## MI## V60-JHP

Toolholders for Miyano Adaptation with Directed Internal Coolant for MODULAR-GRIP-XL Adapters




| Designation | OAW | OAH | LF | H5 | MHD2 | DAH |
|---|---|---|---|---|---|---|
| MI40 V60-JHP | 89.00 | 68.00 | 20.75 | 52.00 | 56.0 | 12.00 |
| MI45 V60-JHP | 102.00 | 72.00 | 13.95 | 56.00 | 68.0 | 12.00 |
| MI55 V60-JHP | 104.00 | 91.00 | 15.25 | 75.00 | 60.0 | 12.00 |

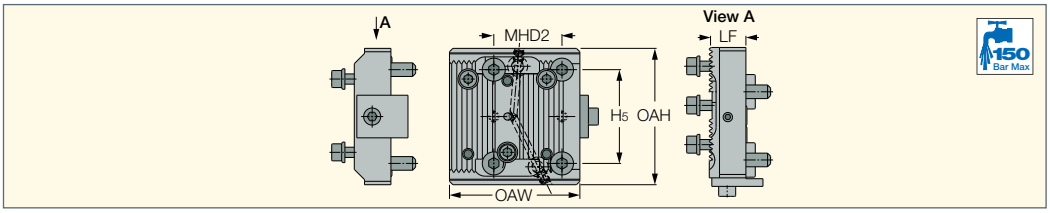
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- For user guide, see pages 762-776

Nakamura-Tome

JETCUT

## NT## V60-JHP

Toolholders for Nakamura-Tome Adaptation with Internal Coolant Supply for MODULAR-GRIP-XL Adapters




| Designation | OAW | OAH | LF | H5 | MHD2 |
|---|---|---|---|---|---|
| NT45 V60-JHP | 76.50 | 80.00 | 20.75 | 55.00 | 40.0 |
| NT55 V60-JHP (1) | 87.50 | 86.00 | 20.75 | 60.00 | 50.0 |
| NT65 V60-JHP | 99.50 | 100.00 | 20.75 | 71.00 | 69.0 |

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- For user guide, see pages 762-776

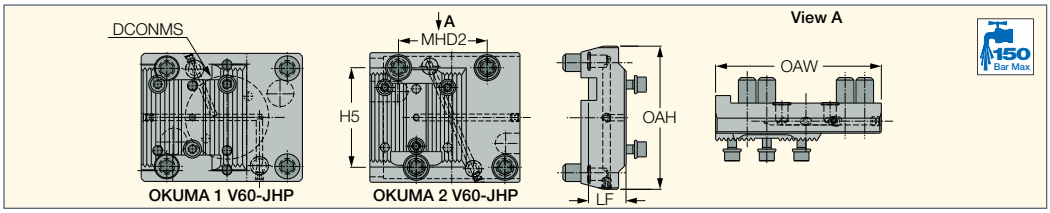
(1) Suitable for CMZ machines

OKUMA

MODULAR-GRIP

## OKUMA # V60-JHP

Toolholders for OKUMA Adaptation with Internal Coolant Supply for MODULAR-GRIP-XL Adapters




| Designation | OAW | OAH | LF | H5 | MHD2 | DCONMS |
|---|---|---|---|---|---|---|
| OKUMA 1 V60-JHP | 107.00 | 85.00 | 19.25 | 65.00 | 80.0 | 55.40 |
| OKUMA 2 V60-JHP | 110.00 (1) | 95.00 | 24.25 | 73.00 | 65.0 | - |

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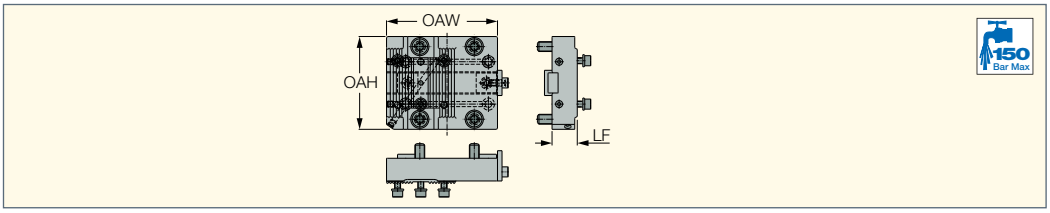
(1) also available in 100.00 mm

TSUGAMI Rem Sales, LLC

MODULAR-GRIP

## TSU-M08 V60-JHP

Base Holders for TSUGAMI Adaptation with Internal Coolant for MODULAR-GRIP-XL Adapters




| Designation | OAW | OAH | LF |
|---|---|---|---|
| TSU-M08-SY V60-JHP | 110.00 | 92.00 | 25.00 |

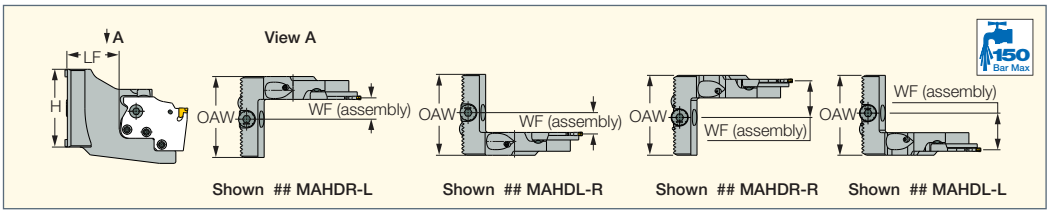
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MODULAR-GRIP JETCUT

## V## MAHD#-#-XL-##-JHP

Intermediate Holders for ISCAR Modular System Holders with Directed Internal Coolant for MODULAR-GRIP-XL Adapters




| Designation | CSI | H | OAW | LF | WF |
|---|---|---|---|---|---|
| V60 MAHDL-L-XL-JHP | V60 | 62.0 | 64.50 | 42.65 | 29.60 |
| V60 MAHDL-L-XL-SH-JHP | V60 | 62.0 | 64.50 | 18.65 | 32.80 |
| V85 MAHDL-L-XL-JHP | V85 | 83.0 | 85.00 | 43.65 | 38.10 |
| V85 MAHDL-L-XL-LH-JHP | V85 | 83.0 | 85.00 | 69.15 | 38.10 |
| V60 MAHDL-R-XL-JHP | V60 | 62.0 | 64.50 | 42.65 | 17.00 |
| V60 MAHDL-R-XL-LH-JHP | V60 | 62.0 | 64.50 | 69.15 | 17.00 |
| V60 MAHDL-R-XL-SH-JHP | V60 | 62.0 | 64.50 | 18.65 | 20.20 |
| V85 MAHDL-R-XL-JHP | V85 | 83.0 | 85.00 | 43.65 | 25.50 |
| V85 MAHDL-R-XL-LH-JHP | V85 | 83.0 | 85.00 | 69.15 | 25.50 |
| V85 MAHDL-R-XL-SH-JHP | V85 | 83.0 | 85.00 | 26.65 | 25.50 |
| V60 MAHDR-L-XL-JHP | V60 | 62.0 | 64.50 | 42.65 | 17.00 |
| V60 MAHDR-L-XL-LH-JHP | V60 | 62.0 | 64.50 | 69.15 | 17.00 |
| V60 MAHDR-L-XL-SH-JHP | V60 | 62.0 | 64.50 | 18.65 | 20.20 |
| V85 MAHDR-L-XL-JHP | V85 | 83.0 | 85.00 | 43.65 | 25.50 |
| V85 MAHDR-L-XL-LH-JHP | V85 | 83.0 | 85.00 | 69.15 | 25.50 |
| V85 MAHDR-L-XL-SH-JHP | V85 | 83.0 | 85.00 | 26.65 | 25.50 |
| V60 MAHDR-R-XL-JHP | V60 | 62.0 | 64.50 | 42.65 | 29.60 |
| V60 MAHDR-R-XL-LH-JHP | V60 | 62.0 | 64.50 | 69.15 | 29.60 |
| V60 MAHDR-R-XL-SH-JHP | V60 | 62.0 | 64.50 | 18.65 | 32.80 |
| V85 MAHDR-R-XL-JHP | V85 | 83.0 | 85.00 | 43.65 | 38.10 |
| V85 MAHDR-R-XL-LH-JHP | V85 | 83.0 | 85.00 | 69.15 | 38.10 |
| V85 MAHDR-R-XL-SH-JHP | V85 | 83.0 | 85.00 | 26.65 | 41.30 |

• For user guide, see pages 762-776

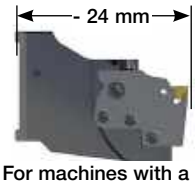
Tools: CGPAD-JHP • DGPAD-JHP • DGPAD-XL-JHP • HGPAD-JHP • PCADR/L-JHP • PCADRS/LS-JHP • TAGPAD-JHP • TAGPAD-XL-JHP • TAGPAD-Y-JHP • TGPAD-JHP • TNFPAD-XL-JHP

**Short Design MAHD-XL-JHP**



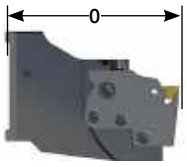

For machines without sub-spindle

**Short Version ...-XL-SH-JHP**

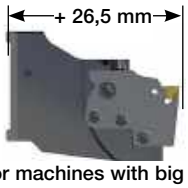



For machines with a small turret swing diameter

**Standard Version ...-XL-JHP**




**Long Version XL-LH-JHP**

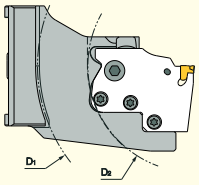



For machines with big sub-spindle diameter

### Intermediate holder spare parts

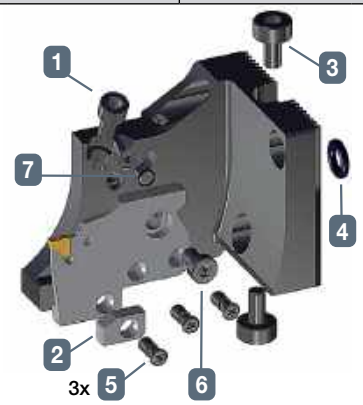
| Designation | (1) Clamping Screw | (2) Dummy | (3) Height Adjustment Screw | (4) O-Ring | (5) Screw | (6) Screw | (7) O-Ring |
|---|---|---|---|---|---|---|---|
| V## MAHD#-#-XL-##-JHP | SR M6x16DIN912 12.9 | Dummy-MG-XL-5113377 | SR 14-0194-56113373 | O RING 8x3 NBR 70 | SR M5-04451 | SR M6x10DIN6912 | OR 5x1N |

### Tool dimensions with Adapter




L = Total tool length
D1= max. diameter of sub-spindle

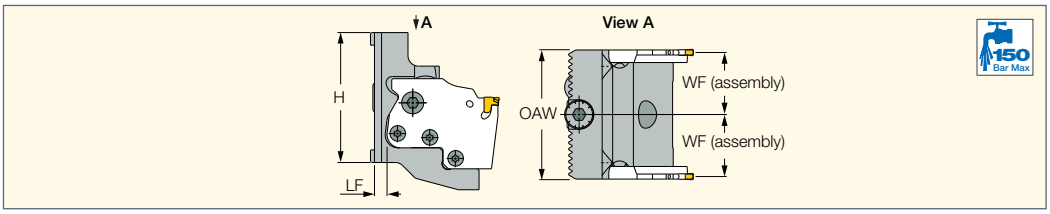
| Adapter | V## MAHD#-#- XL-SH-JHP | | V## MAHD#-#- XL-JHP | | V## MAHD#-#- XL-LH-JHP | |
|---|---|---|---|---|---|---|
| | D1 | D2 | D1 | D2 | D1 | D2 |
| DGPAD ...-D22-JHP | 99 | 46 | 147 | 94 | 200 | 147 |
| DGPAD ...-D32-JHP | 99 | 46 | 147 | 94 | 200 | 147 |
| TAGPAD ...-D42-JHP | 104 | 52 | 152 | 100 | 205 | 153 |
| TAGPAD ...-D52-JHP | 114 | 62 | 162 | 110 | 215 | 163 |
| TAGPAD-XL ...-D52-JHP | 114 | 62 | 162 | 110 | 215 | 163 |
| TAGPAD-XL ...-D65-JHP | 127 | 70 | 175 | 118 | 228 | 171 |
| TAGPAD-XL ...-D82-JHP | 146 | 86 | 194 | 134 | 247 | 187 |
| TAGPAD-XL ...-D102-JHP | 170 | 107 | 218 | 155 | 271 | 208 |




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MODULAR-GRIP
JETCUT

### V## MAHD-XL-JHP
Intermediate Holders for ISCAR Modular System Holders with Directed Internal Coolant for MODULAR-GRIP-XL Adapters



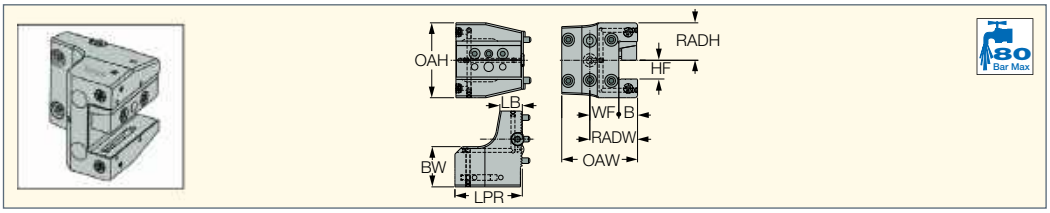

| Designation | CSI | H | OAW | LF | WF |
|---|---|---|---|---|---|
| V60 MAHD-XL-JHP | V60 | 62.0 | 61.60 | 6.05 | 29.50 |
| V85 MAHD-XL-JHP | V85 | 85.0 | 85.00 | 6.05 | 41.30 |

• For user guide, see pages 762-776

Tools: CGPAD-JHP • DGPAD-JHP • HGPAD-JHP • PCADR/L-JHP • PCADRS/LS-JHP • TAGPAD-JHP • TAGPAD-XL-JHP • TAGPAD-Y-JHP • TGPAD-JHP • TNFPAD-XL-JHP

## TOOL BLOCKS

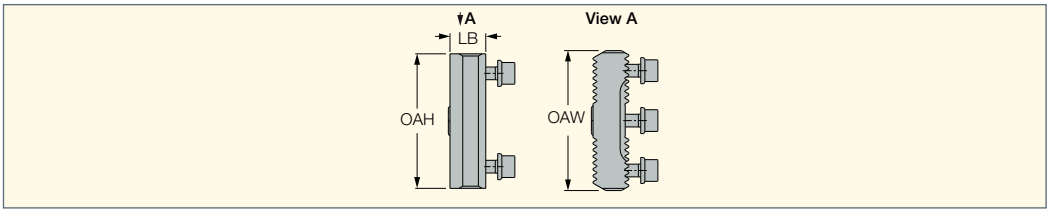
### V-ASH-MC
Axially Oriented, Short, Right-Hand, Wedge Clamping Holders for Square Shank Tools




| Designation | HF | WF | LPR | OAH | RADW | B | LB | RADH | BW | OAW |
|---|---|---|---|---|---|---|---|---|---|---|
| V60 ASH 20-MC | 20.0 | 31.00 | 72.00 | 80.00 | 51.00 | 20.0 | 24.00 | 40.00 | 43.00 | 81.00 |
| V60 ASH 25-MC | 25.0 | 32.00 | 87.00 | 90.00 | 57.00 | 25.0 | 24.00 | 45.00 | 48.00 | 87.00 |
| V85 ASH 25-MC | 25.0 | 43.00 | 87.00 | 100.00 | 68.00 | 25.0 | 26.00 | 50.00 | 55.00 | 110.50 |
| V85 ASHD 25-MC | 25.0 | 43.00 | 87.00 | 100.00 | 68.00 | 25.0 | 26.00 | 50.00 | 55.00 | 110.50 |

MODULAR-GRIP

### V## V##-L##
Spacer for ISCAR Modular System




| Designation | CSI | OAH | OAW | LB |
|---|---|---|---|---|
| V60 V60-L15 | V60 | 62.00 | 64.50 | 15.00 |
| V60 V60-L30 | V60 | 62.00 | 64.50 | 30.00 |
| V85 V85-L30 | V85 | 83.00 | 85.00 | 30.00 |

• For user guide, see pages 762-776

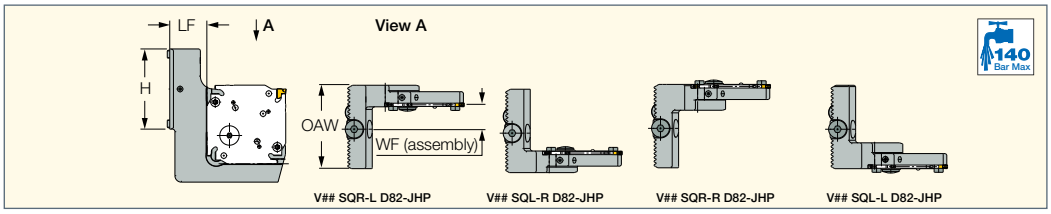
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# Intermediate Holders for Square Type Adapters (TGAQ/DGAQ)

LOGIQ F GRIP HIGH FEED GRIP HOLDER

**V## SQ#-#-D82-JHP**

Intermediate Holders for TANG-F-GRIP and DO-F-GRIP Square Type D82 Adapters Designed for Modular Tooling Systems



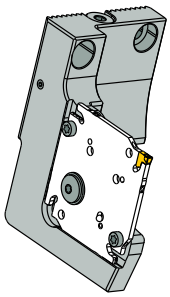

| Designation | H | LF | OAW | WF[1] |
|---|---|---|---|---|
| V60 SQL-L-D82-JHP | 62.0 | 34.70 | 64.50 | 28.95 |
| V60 SQL-R-D82-JHP | 62.0 | 34.70 | 64.50 | 15.35 |
| V60 SQR-L-D82-JHP | 62.0 | 34.70 | 64.50 | 18.85 |
| V60 SQR-R-D82-JHP | 62.0 | 34.70 | 64.50 | 32.45 |
| V85 SQL-L-D82-JHP | 83.0 | 34.70 | 85.00 | 40.95 |
| V85 SQL-R-D82-JHP | 83.0 | 34.70 | 85.00 | 27.35 |
| V85 SQR-L-D82-JHP | 83.0 | 34.70 | 85.00 | 27.35 |
| V85 SQR-R-D82-JHP | 83.0 | 34.70 | 85.00 | 40.95 |

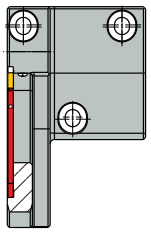
[1] When 3mm width insert is used.

Tools: DGAQ • DGAQ-JHP • TGAQ • TGAQ-JHP

## Identification Key

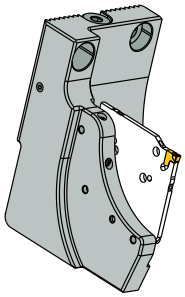
V60 SQL-L-D82-JHP

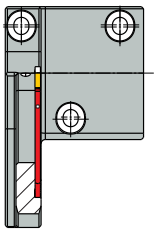




L- Holder (prism) orientation
L- Pocket side

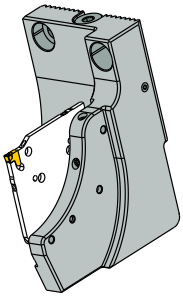
V60 SQL-R-D82-JHP

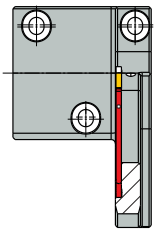




L- Holder (prism) orientation
R- Pocket side

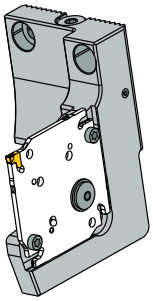
V60 SQR-L-D82-JHP

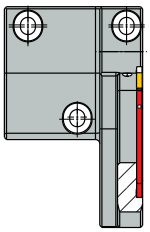




R- Holder (prism) orientation
L- Pocket side

V60 SQR-R-D82-JHP





R- Holder (prism) orientation
R- Pocket side

## Spare Parts

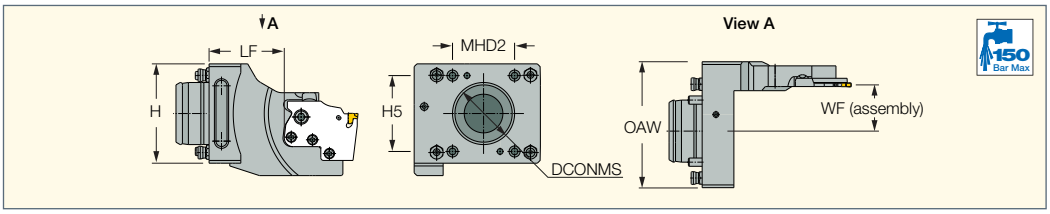
| Designation | | | | | |
|---|---|---|---|---|---|
| V## SQ#-#-D82-JHP | SR M4X9-SEAL-JHP | JHP COPPER SEAL 1/8" | O-RING 10X2 NBR | SIDE THRUST PIN 3mm | SR ISO 14580 M4X10 |



TRAUB JETCUT MODULAR-GRIP

## TR45 MAHDR-#-XL-JHP

Toolholders for TRAUB TNK45 / TNK 65 Machines with Directed Internal Coolant for MODULAR-GRIP-XL Adapters




| Designation | H | OAW | H5 | MHD2 | DCONMS | LF | WF |
|---|---|---|---|---|---|---|---|
| TR45 MAHDR-L-XL-JHP | 72.0 | 91.50 | 55.00 | 45.0 | 45.00 | 54.40 | 33.50 |

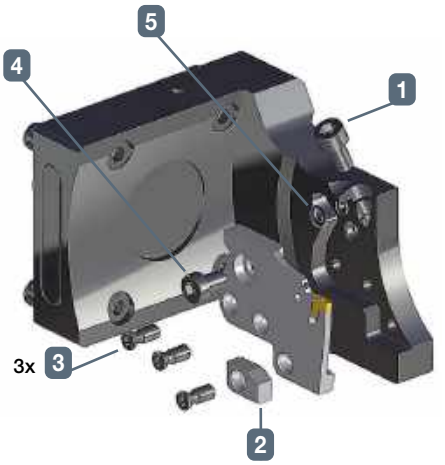
- All trademarks and logos are the property of their respective companies
- For user guide, see pages 762-776

Tools: CGPAD-JHP • DGPAD-JHP • HGPAD-JHP • PCADR/L-JHP • PCADRS/LS-JHP • TAGPAD-JHP • TAGPAD-XL-JHP • TAGPAD-Y-JHP • TGPAD-JHP

### Spare Parts

| Designation | (1) Clamping Screw | (2) Dummy |
|---|---|---|
| TR45 MAHDR-L-XL-JHP | SR M6x16DIN912 12.9 | Dummy-MG-XL-5113377 |

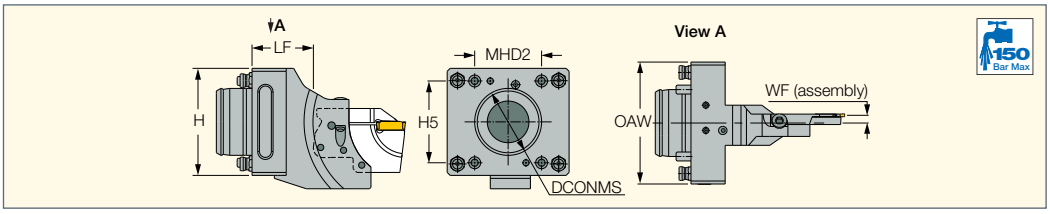
| (3) Screw | (4) Screw | (5) O-Ring |
|---|---|---|
| SR M5-04451 | SR M6x10DIN6912 | OR 5x1N |




TRAUB JETCUT MODULAR-GRIP

## TR45TNL MAHDN-R-XL-JHP

Toolholders for TRAUB TNL16 to TNL18 / TNL32 Machines with Internal Coolant Supply for MODULAR-GRIP-XL Adapters




| Designation | H | OAW | H5 | MHD2 | DCONMS | LF | WF |
|---|---|---|---|---|---|---|---|
| TR45TNL MAHDN-R-XL-JHP | 72.0 | 82.00 | 55.00 | 45.0 | 45.00 | 41.30 | 6.00 |

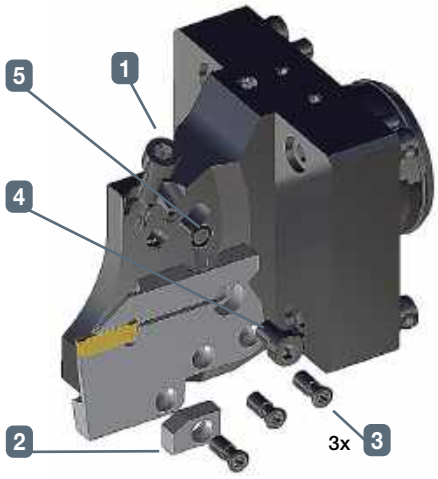
- All trademarks and logos are the property of their respective companies
- For user guide, see pages 762-776

Tools: CGPAD-JHP • DGPAD-XL-JHP • HGPAD-JHP • PCADR/L-JHP • PCADRS/LS-JHP • TAGPAD-XL-JHP • TGPAD-JHP

### Spare Parts

| Designation | (1) Clamping Screw | (2) Dummy |
|---|---|---|
| TR45TNL MAHDN-R-XL-JHP | SR M6x16DIN912 12.9 | Dummy-MG-XL-5113377 |

| (3) Screw | (4) Screw | (5) O-Ring |
|---|---|---|
| SR M5-04451 | SR M6x10DIN6912 | OR 5x1N |

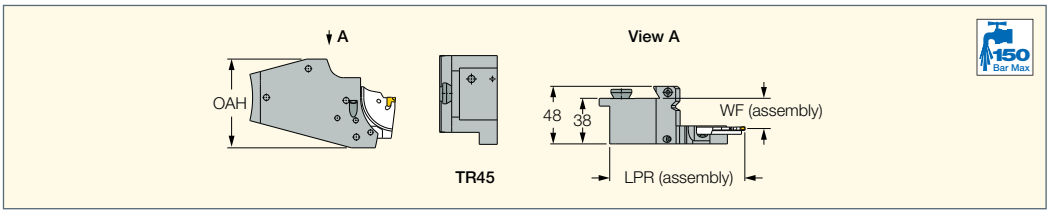



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TRAUB JETCUT MODULAR-GRIP

## TR TNK36 MAHDL-R-XL-JHP

Toolholders for TRAUB TNK36 / TNL26 Machines with Internal Coolant Supply for MODULAR-GRIP-XL Adapters



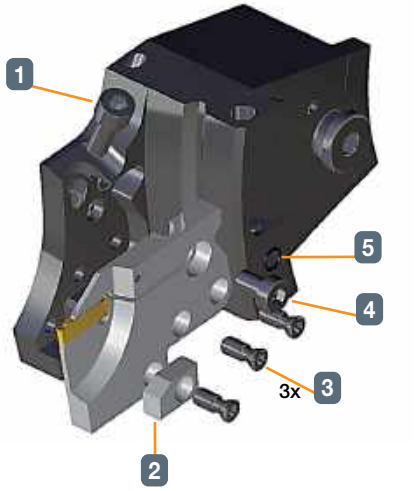

| Designation | OAH | LPR | WF |
|---|---|---|---|
| TR TNK36 MAHDL-R-XL-JHP | 74.00 | 91.50 | 24.50 |

- All trademarks and logos are the property of their respective companies
- For user guide, see pages 762-776

Tools: CGPAD-JHP • DGPAD-XL-JHP • HGPAD-JHP • PCADR/L-JHP • PCADRS/LS-JHP • TAGPAD-XL-JHP • TGPAD-JHP

### Spare Parts

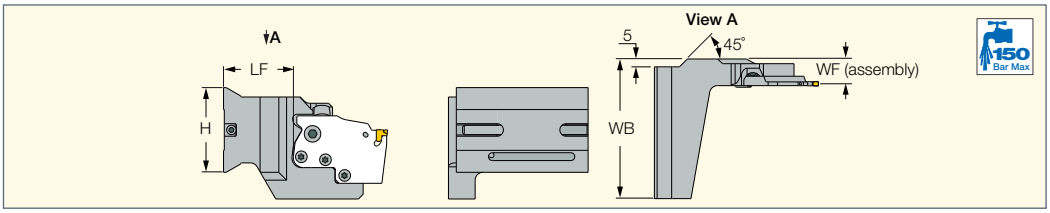
| Designation | (1) Clamping Screw | (2) Dummy | (3) Screw | (4) Screw | (5) O-Ring |
|---|---|---|---|---|---|
| TR TNK36 MAHDL-R-XL-JHP | SR M6x16DIN912 12.9 | Dummy-MG-XL-5113377 | SR M5-04451 | SR M6x10DIN6912 | OR 5x1N |




INDEX JETCUT MODULAR-GRIP

## ABC MAHDR-#-XL-JHP

Toolholders for Index ABC Speedline with Internal Coolant Supply for MODULAR-GRIP-XL Adapters




| Designation | H | WB | LF | WF |
|---|---|---|---|---|
| ABC MAHDR-L-XL-JHP | 56.0 | 91.50 | 44.55 | 17.00 |

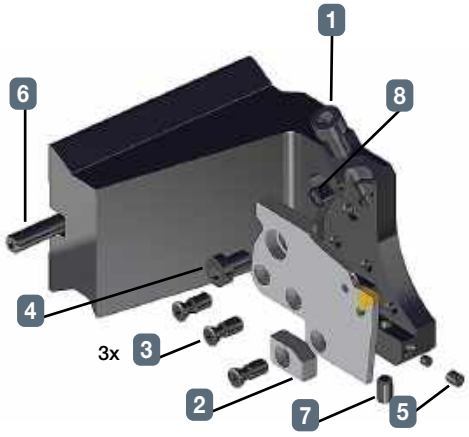
- All trademarks and logos are the property of their respective companies
- For user guide, see pages 762-776

Tools: CGPAD-JHP • DGPAD-JHP • DGPAD-XL-JHP • HGPAD-JHP • PCADR/L-JHP • PCADRS/LS-JHP • TAGPAD-JHP • TAGPAD-XL-JHP • TAGPAD-Y-JHP • TGPAD-JHP • TNFPAD-XL-JHP

### Spare Parts

| Designation | (1) Clamping Screw | (2) Dummy | (3) Screw | (4) Screw | (5) Pin |
|---|---|---|---|---|---|
| ABC MAHDR-#-XL-JHP | SR M6x16DIN912 12.9 | Dummy-MG-XL-5113377 | SR M5-04451 | SR M6x10DIN6912 | SR M4x5DIN913 45H |

| Designation | (6) Stopper Screw | (7) Height Adjustment Screw | (8) O-Ring |
|---|---|---|---|
| ABC MAHDR-#-XL-JHP | DIN913-M6x80-45H | SR M5x8DIN913 45H | OR 5x1N |




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# MATERIALS



Member IMC Group

## MATERIAL GROUPS

### Based on ISO 513 and VDI 3323 standards

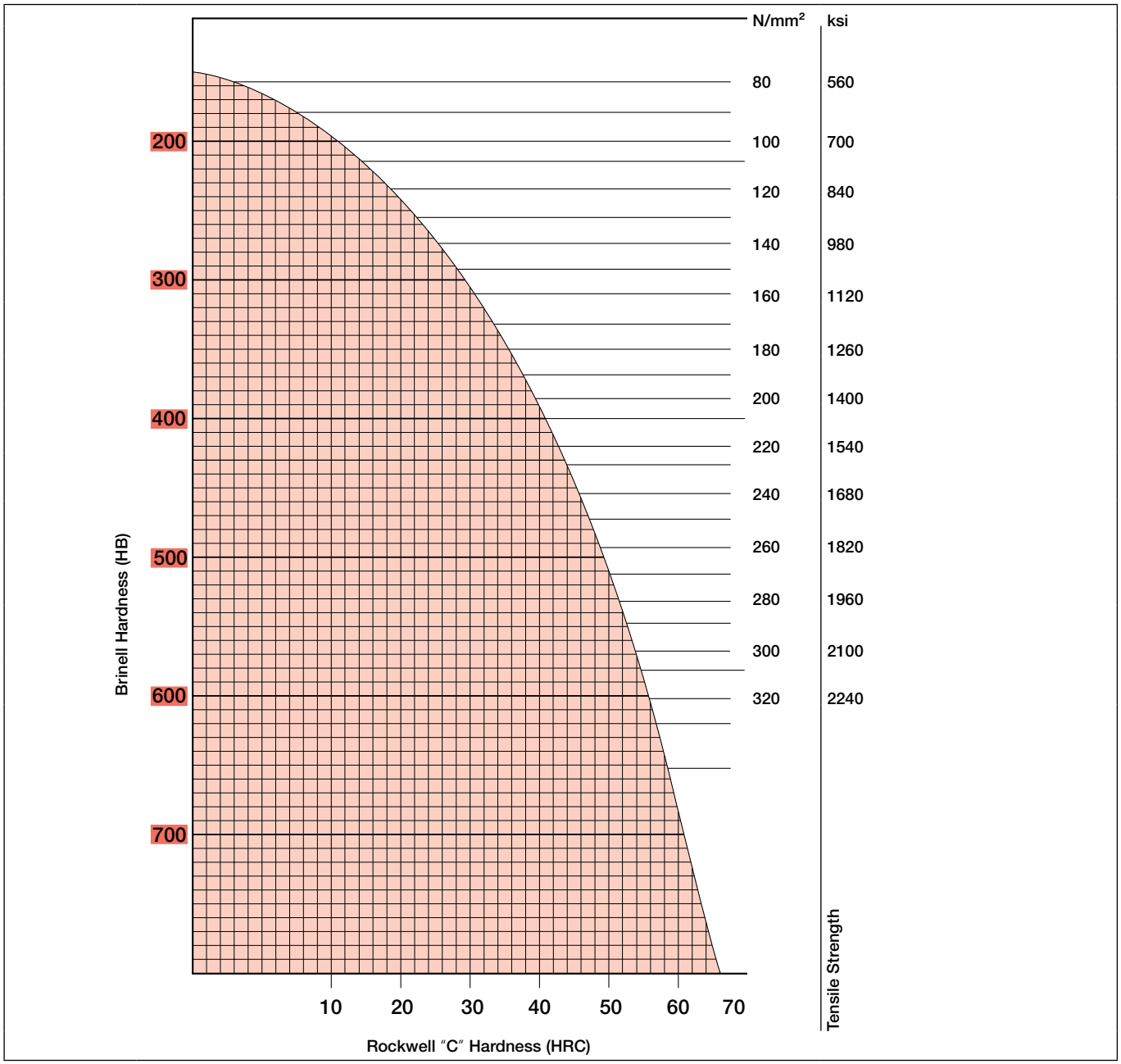
| ISO | Material | | Condition | Tensile Strength [N/mm²] | Kc1(1) [N/mm²] | mc(2) | Hardness HB | Material Group No. |
|---|---|---|---|---|---|---|---|---|
| P | Non-alloy steel and cast steel, free cutting steel | < 0.25 %C | Annealed | 420 | 1350 | 0.21 | 125 | 1 |
| | | ≥ 0.25 %C | Annealed | 650 | 1500 | 0.22 | 190 | 2 |
| | | < 0.55 %C | Quenched and tempered | 850 | 1675 | 0.24 | 250 | 3 |
| | | ≥ 0.55 %C | Annealed | 750 | 1700 | 0.24 | 220 | 4 |
| | | | Quenched and tempered | 1000 | 1900 | 0.24 | 300 | 5 |
| | Low alloy and cast steel (less than 5% of alloying elements) | | Annealed | 600 | 1775 | 0.24 | 200 | 6 |
| | | | Quenched and tempered | 930 | 1675 | 0.24 | 275 | 7 |
| | | | | 1000 | 1725 | 0.24 | 300 | 8 |
| | | | | 1200 | 1800 | 0.24 | 350 | 9 |
| | High alloyed steel, cast steel and tool steel | | Annealed | 680 | 2450 | 0.23 | 200 | 10 |
| | | | Quenched and tempered | 1100 | 2500 | 0.23 | 325 | 11 |
| | Stainless steel and cast steel | | Ferritic/martensitic | 680 | 1875 | 0.21 | 200 | 12 |
| | | | Martensitic | 820 | 1875 | 0.21 | 240 | 13 |
| M | Stainless steel and cast steel | | Austenitic, duplex | 600 | 2150 | 0.20 | 180 | 14 |
| K | Gray cast iron (GG) | | Ferritic / pearlitic | | 1150 | 0.20 | 180 | 15 |
| | | | Pearlitic / martensitic | | 1350 | 0.28 | 260 | 16 |
| | Nodular cast iron (GGG) | | Ferritic | | 1225 | 0.25 | 160 | 17 |
| | | | Pearlitic | | 1350 | 0.28 | 250 | 18 |
| | Malleable cast iron | | Ferritic | | 1225 | 0.25 | 130 | 19 |
| | | | Pearlitic | | 1420 | 0.3 | 230 | 20 |
| N | Aluminum-wrought alloys | | Not hardenable | | 700 | 0.25 | 60 | 21 |
| | | | Hardenable | | 800 | 0.25 | 100 | 22 |
| | Aluminum-cast alloys | ≤12% Si | Not hardenable | | 700 | 0.25 | 75 | 23 |
| | | | Hardenable | | 700 | 0.25 | 90 | 24 |
| | | >12% Si | High temperature | | 750 | 0.25 | 130 | 25 |
| | Copper alloys | >1% Pb | Free cutting | | 700 | 0.27 | 110 | 26 |
| | | | Brass | | 700 | 0.27 | 90 | 27 |
| | | | Electrolytic copper | | 700 | 0.27 | 100 | 28 |
| | Non metallic | | Duroplastics, fiber plastics | | | | | 29 |
| | | | Hard rubber | | | | | 30 |
| S | High temperature alloys | Fe based | Annealed | | 2600 | 0.24 | 200 | 31 |
| | | | Hardened | | 3100 | 0.24 | 280 | 32 |
| | | Ni or Co based | Annealed | | 3300 | 0.24 | 250 | 33 |
| | | | Hardened | | 3300 | 0.24 | 350 | 34 |
| | | | Cast | | 3300 | 0.24 | 320 | 35 |
| | Titanium alloys | | Pure | 400 | 1160 | 0.24 | | 36 |
| | | | Alpha+beta alloys, hardened | 1050 | 1245 | 0.24 | | 37 |
| H | Hardened steel | | Hardened | | 4600 | | 55 HRC | 38 |
| | | | Hardened | | 4700 | | 60 HRC | 39 |
| | Chilled cast iron | | Cast | | 4600 | | 400 | 40 |
| | Cast iron | | Hardened | | 4500 | | 55 HRC | 41 |

Steel
Stainless Steel
Cast Iron
Non-ferrous
High Temp. and Titanium Alloys
Hardened Steel and Cast Iron

(1) Specific cutting force for 1 mm² chip section.
(2) Chip thickness factor.

## MATERIAL GROUPS

Hardness Conversion Table



## According to VDI 3323 Standard

| Material Group No. | USA | Germany | | U.K. | France | Sweden | Italy | Spain | Japan | Russia | EURONORM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | AISI/SAE/ UNS/ ASTM/AA | Werkstoff | DIN | BS | AFNOR | SS | UNI | UNE | JIS | GOST | EN |
| 1 | 1020; G10200; K02301; K02595; K02596; K02597; K02598; K02599; K02702; K0300 | 1.0044 | S275JR; St 44-2; Fe 430 B | EN 43 B; Fe 430 B FN; 43/25 HR; 43/25HS; 43 B; HFW4; HFS4; ERW 3 | E 28-2 | 1411; 1412 | Fe 430 B FN; Fe 430 B | AE 275 B; Fe 430 B FN | SN 400 B; SN 400 C; SN 490 B; SN 490 C; SS 400; STK 400; STKM 19 C; STKR 400; 19 C; SS 41; STK 41 | St4ps; St4sp | S275JR |
| 1 | | 1.0050 | E295; St 50-2; Fe 490-2; ST 50-2 G (E295+CR) | Fe 490-2 FN; 50 B | A 50-2 | 1550; 2172 | Fe 490 | A 490-2; Fe 490-2 FN | SS 490; SS 50 | St5ps; St5sp | |
| 1 | K02404; K02702 | 1.0045 | S355JR; Fe 510 B | 50 B; 4360-50 B | E 36-2 | | Fe 510 B FN | AE 355 B | SN 400 B; SN 400 C; SN 490 B; SN 490 C; SS 490; SS 50 | | S355JR |
| 1 | K02702 | 1.0143 | S275J0; St 44-3 U; Fe 430 C | 43C; 4360-43C | E 28-3 | 1414-01 | Fe 430 C FN | AE 275 D | | | S275J0 |
| 1 | | 1.0130 | P265S; SPH 265 | 164-400B LT 20 | SPH 265; A 42 AP | | | SPH 265 | | | P265S |
| 1 | A 619 | 1.0333 | DC03G1; USt 3; USt 13 | 2 CR; 3 CR | E | | FeP 02 | AP 02 | SPCD | | DC03G1 |
| 1 | K02601; K03000; A 573 Gr. 70; A 611 Gr.D | 1.0144 | S275J2G3 (S275J2); St 44-3 (Fe 430 D 1) | Fe 430 D1 FF; 4360-43 C; 4360-43 D | E 28-3; E 28-4 | 1411; 1412; 1414 | Fe 430 B; Fe 430 C (FN); Fe 430 D (FF) | AE 275 D; Fe 430 D1 FF | SM 400 A; SM 400 B; SM 400 C; SS 400; STK 400; STKR 400; SM 41 A; SM 41 B; SM 41 C | St4kp; St4ps; St4sp | |
| 1 | 1008; G10080; A 621 | 1.0330 | DC01; DC 01; St 2; St 12 | CR 4; CS 4 | C; TC | 1142 | FeP 01; FeP 00 | AP 11; FeP 01; AP 00 | SPCC; CR 1 | | DC01 (FeP 05) |
| 1 | 1015; G10150; K02401 | 1.0037 | S235JR (Fe 360 B); St 37-2 | Fe 360 B; 4360-40 B; ERW 3; CEW 3; 37/23 HR; 37/23 HS; 37/23 CR; 37/23 CS | E 24-2 | 1311 | Fe 360 B; 1449 37/23 HR | AE 235 B; Fe 360 B | STKM 12 A; STKM 12 AC | | |
| 1 | | 1.0035 | S185 (Fe 310-0); St 33 | Fe 310-0; 15 HR; 15 HS; 1449 15 HR; 1449 15 HS | A 33 | 1300 | Fe 320 | Fe 310-0; A 310-0 | SGP; SS 330; SS 34 | St0 | S185 |
| 1 | K02502 | 1.0034 | E195; RSt 34-2 | CEW 2; 34/20 HR; 34/20 HS; 34/20 CR; 1449 34/20CS | A 34-2 NE | | Fe 330 BFN | | | St2ps; St2sp | E195 |
| 1 | | 1.0334 | DD12G1; UStW 23 | | 2 C | | FeP 12 | AP 12 | SPHD | 10kp | |
| 1 | 1006; G10060 | 1.0335 | DD13; StW 24 | 1 CR; 1 CS; 1 HR; 2 HR; 2 HS; 2 CR; 2 CS | 3 C | | FeP 13 | AP13 | SPHE | 08kp | DD13 |
| 1 | A 620 | 1.0338 | DC04; St 4; St 14 | CR 1; CR 2 | ES | 1147 | FeP 04 | AP 04; FeP 04 | SPCE; HR 4 | 08JuA | DC04 (FeP 04) |

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| | AISI/SAE/ UNS/ ASTM/AA | Werkstoff | DIN | BS | AFNOR | SS | UNI | UNE | JIS | GOST | EN |
| 1 | K01700; K02001; K02200; K02201; K02203; K02503; K02601; K02801 | 1.0345 | P235GH; HI; H I | 141-360; 151-360; 154-360; 161-360; 164-360 | A 37 CP | 1330; 1331 | FeE 235; Fe 360 1 KW; Fe 360 1 KG; Fe 360 2 KW; Fe 360 2 KG | A 37 Grado RA II; A 37 Grado RC I | SGV 410; SGV 450; SGV 480; SPV 235; SPV 450; SPV 490; SGV 42; SGV 46; SGV 49; SPV 24; SPV 46; SPV 50 | | P235GH |
| 1 | 1010; G10100 | 1.0301 | C10; C 10 | 040 A 10; 045 M 10; En 2 A; En 2 A/1; En 2 B; En 32 A; 10 CS | C10RR; XC 10; C 10; AF 34 C 10 | | 1 C 10; C 10 | F.151; F.151.A | S 10C | 10 | C10 |
| 1 | | 1.0149 | S275JOH; St 44-3 U; RoSt 44-2 | 43 C; 4360-43C | E 28-3 | 1412-04 | Fe 430 C | Fe 430 C; AE 275 C | | | S275JOH |
| 1 | | 1.0226 | DX51D; St 02 Z | Z2 | GC | 1151 10 | FeP 02 G | FeP 02 G | SGC C | | |
| 1 | A 1011 (SS Grade 36 (230) Type 2); A1011 (SS Grade 36 (250) Type 1) | 1.0114 | S235JO; St 37-3 U; Fe 360 C | 40 C; 4360-40C | E 24-3 | | Fe 360 C FN | AE 235 C | SS 330; SS 34 | | S235JO |
| 1 | A572-60 | 1.8900 | S380N; StE 380 | 4360 55 E | | 2145 | FeE 390 KG | | S 25 C | | S380N |
| 1 | A 572 Gr. 65 | 1.0060 | E335; St 60-2 (Fe 590-2 B) | En 55 C; Fe 590-2-FN; 55 E; 4360-55 E | A 60-2 | 1650 | Fe 590; Fe 60-2 | A 590; Fe 590-2 FN | SM 570; SM 58 | St6ps; St6sp | E335 |
| 1 | | 1.0028 | S250G1T; USt 34-2 | | A 34-2 | | Fe 330; Fe 330 B FU | | SS 330; SS 34 | | |
| 1 | K01700; K02200; K02801 | 1.0112 | P235S; SPH 235 | 164-360B LT20; 1501-164-360B LT20 | A 37 AP; SPH 235 | | Fe 360 C | AE 235 C | | | P235S |
| 1 | | 1.0722 | 10SPb20; 10 SPb 20 | | 10 PbF 2 | | CF 10 SPb 20 | 10 SPb 20; F.2122 | | | 10SPb20 |
| 1 | 1108; 1109; 1111; B1111; B 1111; G11080; G11090 | 1.0721 | 10S20; 10 S 20 | | 10 F 2 | | CF 10 S 20 | 10 S 20; F. 2121 | | | 10S20 |
| 1 | 12L13; 12L14; 12 L 13; 12 L 14; G12134; G12144 | 1.0718 | 11SMnPb30; 9 SMnPb 28 | 230 M 07 Pb; En 1A Pb | S 250 Pb | 1914 | CF 9 SMnPb 28 | F.210.C; F.210.M; 11 SMnPb 28; F.2112 | SUM 22 L; SUM 23 L; SUM 24 L | | 11SMnPb30 |
| 1 | 1213; 1215; G12130; G12150 | 1.0715 | 11SMn30; 9 SMn 28 | 230 M 07; En 1 A | S 250 | 1912 | CF 9 S 22 | F.210.A; F.210.L; 11 SMn 28; F.2111 | SUM 22 | | 11SMn30 |
| 1 | 1020; 1023; G10200; G10230 | 1.1151 | C22E; Ck 22 | 055 M 15; 070 M 20; En 3 A; En 3 C; En 2 | XC 25; XC 18; 2 C 22 | 1450 | C 20; C 25 | F.1120; C 25 K | S 20 C; S 20 CK; S 22 C | 20 | C22E |
| 1 | A 1008 (HSLAS-F Grade 80 [550]); A 1011 (HLAS-F Grade 80 [550]) | 1.0986 | S500MC; QStE 500 TM | 60F55 HR; 60F55 HS; 60F55 CS | E 560 D; S 560 MC | | FeE 560 TM | | | | S500MC |

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| | AISI/SAE/ UNS/ ASTM/AA | Werkstoff | DIN | BS | AFNOR | SS | UNI | UNE | JIS | GOST | EN |
| 1 | A 1008 (HSLAS-F Grade 70 [480]); A 1008 (HSLAS Grade 70 [480] Class 1) | 1.0984 | S500MC; QStE 500 TM | | E 490 D; S 490 MC | 2662 | FeE 490 TM | | | | S500MC |
| 1 | A 1008 (HSLAS Grade 65 [450] Class 1); A 1008 (HSLAS Grade 65 [450] Class 2) | 1.0982 | S460MC; QStE 460 TM | 1501-50F45; 50F45 HR; 50F45 HS; 50F45 CS | | | | | | | S460MC |
| 1 | A 1008 (HSLAS Grade 50 [340] Class 1); A 1008 (HSLAS Grade 50 [340] Class 2) | 1.0976 | S355MC; QStE 360 TM | 46F40 HR; 46F40 HS; 46F40 CS | E 355 D | 2642 | FeE 355 TM | | | | S355MC |
| 1 | A 1008 (HSLAS Grade 50 [340]); A 1008 (HSLAS Grade45 [310] Class 2); A 1011 (HSLAS-F Grade 50 [340]) | 1.0972 | S315MC; QStE 300 TM | 1501-40F30; 43F35 HR; 43F35 HS; 43F35 CS | E 315 D | | | | | | |
| 1 | K01600; K02007; K02700; K02701; K02803; K02900; K03009; K03300; K11803; K12000; K12001; K12037 | 1.0562 | P355N; StE 355 | 225-490A | FeE 355 KG N; E 355 R/FP; A 510 AP | 2106 | FeE 355; FeE 355 KG; FeE 355 KW | AE 355 KG; AE 355 DD | SM 490 A; SM 490 B; SM 490 C; SM 490 YA; SM 490YB STK 490 YB; STK 490; STK 500; SM 50 A; SM 50 B | 15GF | P355N |
| 1 | 1024; K03011; K03014; K12037; K12709 | 1.0570 | S355J2G3 (S355J2); St 52-3 N (Fe 510 D1) | | | 2132; 2134 | fE 510 | AE 355 D; Fe 510 D1 FF | SM 490 A; SM 490 B; SM 490 C; SM 490 YA; SM 490 YB; SM 520 B; SM 520 C; STK 490; STK 500; STKM 16 C | 17GS; 17G1S | S355J2G3 |
| 1 | K01600; K02302; K02700; K02701; K02803; K03301; K11803; K12037; K12609; A 299 (A); A 299 (B) | 1.0566 | P355NL1; TStE 355 | 225-490 A | A 510 FP | 2107 | Fe E 355 KT | | SLA 365; STK 490; STK 500; SLA 37; STK 50; STK 51 | | P355NL1 |
| 1 | K01600; K02007; K02701; K02803; K117803; K12001; K12037; K12609 | 1.0565 | P355NH; WStE 355 | 225/490; 225-490 A; 500 Nb | A 510 AP | 2106 | FeE 355-2; FeE 355 KW | | | | P355NH |
| 1 | K12037 | 1.0549 | S355 NLH; TStE 355 | 50 EE | | 2135 | Fe 510 D | FeE 355 KTM | | | S355 NLH |

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| | AISI/SAE/ UNS/ ASTM/AA | Werkstoff | DIN | BS | AFNOR | SS | UNI | UNE | JIS | GOST | EN |
| 1 | K12000 | 1.0553 | S355JO; St 52-3 U; Fe 510 C | 50 C; 4360-50C | E 36-3 | | Fe 510 C FN | AE 355 C | SCC 3 | | S355JO |
| 1 | A 252 (1); A 252 (2); A 252 (3) | 1.0547 | S355JOH; St 52-3 U | 50 C; 4360-50C | TSE 355-3; E 36-3 | | Fe 510 C | AE 355 C; Fe 510 C | | | S355JOH |
| 1 | K02502 | 1.0036 | S235JRG1; S235JR; Fe 360 B; USt 37-2 | Fe 360 B FU; Fe 360 B FN | | 1311; 1312 | Fe 360 B; Fe 360 C; Fe 360 D | AE 235 B; Fe 360 B | | 16D; St3Kp | |
| 1 | 1020; 1022; 1023; G10200; G10220; G10230 | 1.0402 | C22 | 055 M 15; 070 M 20; En 3 A; En 3 B; En 3 C; En 2; 22 HS; 22 CS | AF 42 C 20; XC 25; 1 C 22 | 1450 | C 20; C 21 | F.112; 1 C 22 | S 20 C; S 22 C | 20 | C22; 2C/2D |
| 1 | K01701; K02505; K02704; K02801 | 1.0425 | P265GH; H II | 151-400; 154-400; 161-400; 164-400 | A 42 CP; A 42 AP | 1431; 1430; 1432 | Fe 410 1 KW; Fe 410 1 KG; Fe 410 1 KT; Fe 410 2 KW; Fe 410 2 KG | A 42 Grado RC I; A 42 Grado RC II; F.6306; F.6307 | SG 295; SGV 410; SGV 450; SGV 480; SPV 315; SPV 355; SG 30; SGV 42; SGV 46; SGV 49; SPV 32; SPV 36 | 16K; 20K | P265GH |
| 1 | A27 65-35 | 1.0443 | HX300PD; H300PD; H 300 PD | | E 23-45 M | 1305 | | | | | HX300PD |
| 1 | K12000; K12037 | 1.0546 | S355NL; TStE 355 | 50 EE; 4360-50EE | E 355 FP | 2135; 2135-01 | FeE 355 KT | AE 355 Grado KT | | | |
| 1 | K12709 | 1.0545 | S355N; StE 355 | 50 E; 4360-50E | E 355 R | 2134 | FeE 355 KG | AE 355 Grado KG | SM 490 A; SM 490 B; SM 490 C; SM 490 YA; SM 490 YB; SM 50 A; SM 50 B; SM 50 C; SM 50 YA; SM 50 YB | | S355N |
| 1 | K02705; K02305; K12709 | 1.0539 | S355NH; StE 335 N | S355NH | S355NH; TSE 355-4 | 2134-04 | Fe 510 B | Fe 355 KGN | | | S355NH |
| 1 | 1213; 1215; G12130; G12150 | 1.0715 | 11SMn30; 9 SMn 28 | 230 M 07; 220 M 07 | S 250 | 1912 | CF 9 S 22 | F.210.A; F.210.L; 11 SMn 28; F.2111 | SUM 22 | | 11SMn30 |
| 1 | | 1.0722 | 10SPb20; 10 SPb 20 | | 10 PbF 2 | | CF 10 SPb 20 | 10 SPb 20; F.2122 | | | 10SPb20 |
| 1 | 1215; G12150; A 29 (1215); A 108 (1215); A 510 (1215); A 510 (1215); A 519 (1215); A 521 (1215) | 1.0736 | 11SMn37; 9 SMn 36 | | S 300 | | CF 9 Mn 36 | 12 SMn 35; F.2113 | SUM 25 | | 11SMn37 |
| 1 | 12L14; 12 L 14; G12144 | 1.0737 | 11SMnPb37; 9 SMnPb 36 | | S 300 Pb | 1926 | CF 9 SMnPb 36 | 12 SMnPb 35; F.2114 | | | 11SMnPb37 |
| 1 | 1010; G10100 | 1.1121 | C10E; Ck 10 | 040 A 10; 045 M 10; En 2 A; En 2 A/1; En 2 B; En 32 A | C10RR; XC 10 | 1265 | 2 C 10; 2 C 15; 1 C 10; C 10 | C 10 k; F.1510 | S 09 CK; S 10 C | 08; 10 | C10E |

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| | AISI/SAE/ UNS/ ASTM/AA | Werkstoff | DIN | BS | AFNOR | SS | UNI | UNE | JIS | GOST | EN |
| 1 | 1015; 1017; G10150; G10170 | 1.1141 | C15E; Ck 15 | 080 A 15; 080 M 15; En 32 C | XC 12; XC 15; XC 18 | 1370 | 1 C 15; C 15 | C 16 k; F.1511; F.1110; C 15 k | S 15 C; S 15 CK | 15 | C15E |
| 1 | 1020; G10200; K02301; K02595; K02596; K02597; K02598; K02599; K02702; K03000 | 1.0044 | S275JR; St 44-2; Fe 430 B | En 43 B; Fe 430 B; 43/25 HR; 43/25 HS; 43 B; HFW 4; HFS 4; ERW 3; CEW 4; SAW 4 | E 28 A; NFA 35-501 E 28 | 1411; 1412 | Fe 430 B FN | AE 275 B; Fe 430 B FN | SN 400 B; SN 400 C; SN 490 B; SN 490 C; SS 400; STK 400; STKM 19 C; STKR 400; 19 C; SS 41; STK 41 | St4ps; St4sp | S275JR |
| 1 | | 1.0250 | S320GD; StE 320-3 Z | | S 320 GD | | | | SGC 440; SZAC 440; SZAH 440; SGLH 440 | | S320GD |
| 1 | | 1.0453 | P265NL; P 265 NL | | | | | | | | P265NL |
| 1 | | 1.0338 | DC04; St 4; St 14 | CR 1; CS 2 | ES | 1147 | FeP 04 | AP 04; FeP 04 | SPCE; HR 4 | 08JuA | DC04 |
| 1 | | | | | | | | | | | |
| 1 | K02001; K02601; K02701 | 1.0116 | S235J2G3 (S235J2); St 37-3 N; Fe 360 D 1 | Fe 360 D1 FF; 37/23 CR; 37/23 CS; 37/23 HR; 37/23 HS; 40 D; HFW 4; HFS 4 | E 24-3; E 24-4; E 24-U | 1312; 1313 | Fe 360 C; D; Fe 360 C FN; Fe 360 D FF; Fe 37-2 | | SS 330; SS 34 | 16D; St3sp | S235J2G3 |
| 1 | 1015; 1017; G10150; G10170 | 1.0401 | C15; C 15 | 080 A 15; 080 M 15; En32 C; 17 CS; 17 HS | C18RR; XC 18; C 18; AF 37 C 12 | 1350 | 1 C 15; C15; C16 | F.111 | S 15 C | | C15 |
| 1 | | 1.0347 | DC03; RRSt; RRSt 13 | CR2; CR3; CS3; 1449 3 CR; 1449 2 CR | E | 1146 | FeP 02; FeP 03 | AP 02; AP02; FeP03 | SPCD; CR 3 | 08Ju | DC03 |
| 1 | K01500; K01702; K02401; K02502; K03000; A570.36 | 1.0038 | S235JR; S235JRG2; RSt 37-2; Fe 360 B | Fe 360 B FU; 37/23 CR; 37/23 CS; 37/23 HR; 37/23 HS; HFW 3; HFS 3; 40 B | E 24-2 NE | 1312 | Fe 360 B FN | AE 235 B FN; AE 235 B FU; Fe 360 B FN; Fe 360 B FU | SS 330; SS 34 | St3ps; St3sp | S235JR |
| 1 | J03001 | 1.0446 | GE240; GS-45 | A 1 | | | | | 230-450; 230-450 W | 25L-3 | GE240 |
| 2 | 1035; G10350 | 1.0501 | C35G; C 35 G | 080 M 30; En 5; 080 M 36 | C 35; AF 55; 1 C 35; XC 38 | 1572; 1550 | C 35; 1 C 35 | F.113 | S 35 C; S 35 CM | | C35G |
| 2 | 1035; G10350 | 1.1183 | C35G; C 35 G; Cf 35 | 080 A 35 | XC 38 TS | 1572 | C 36; C 38 | F.1130; C 35 k | S 35 C; S 35 CM | 35 | C35G |
| 2 | 1039; G10390 | 1.1157 | 40Mn4; 40 Mn 4 | | 35 M 5 | | | | | 40G | |
| 2 | 1040; G10400 | 1.0511 | C40; C 40 | En 8; 080 M 40 | AF 60; C 40; 1 C 40 | | C 40; 1 C 40 | F.114.A | | | C40 |
| 2 | 1045; 1045 H; 1042; G10450; H10450; G10420 | 1.1191 | C45E; Ck 45 | 080 H 46; 080 M 46 | C45RR; XC 45; XC 48 H-1 | 1672 | C 45 | F.1140; F.1142; C 45 k; C48 k | S 45 C; S 45 CM; S 48 C | 45 | C45E |

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| | AISI/SAE/ UNS/ ASTM/AA | Werkstoff | DIN | BS | AFNOR | SS | UNI | UNE | JIS | GOST | EN |
| 2 | 1025; G10250 | 1.1158 | C25E; Ck 25 | 070 M 26 | 2 C 25; XC 25 | | C 25 | F.1120; C 25 k | S 25 C; S 28 C | 25 | C25E |
| 2 | 1043; 1045; G10430; G10450 | 1.0503 | C45; C 45 | 080 M 46 | C 45; AF 65; C 45; 1 C 45 | 1650 | C 45; 1 C 45 | F.114 | S 45 C; S 45 CM | 45 | C45 |
| 2 | 1050; 1055; G10500; G10550 | 1.1213 | C53G; C53E; Cf 53 | | XC 48 TS | | C 53 | | S 50 C; S 50 CM | 50 | |
| 2 | 1140; G11400 | 1.0726 | 35S20; 35 S 20 | 212 M 36 | 35 MF 4 | 1957 | | F.210.G; 35 MnS 6; F.2131 | | | 35S20; 8M |
| 2 | 1139; 1146; G11390; G11460 | 1.0727 | 46S20; 45 S 20 | | 45 MF 4 | | | | | | 46S20 |
| 2 | K12000 | 1.0553 | S355J0; St 52-3 U; Fe 510-C | 50 C | E 36-3 | | Fe 510 C FN | AE 355 C | SCC 3 | | S355J0 |
| 2 | | 1.0551 | S355JRC | | | | | | | | S355JRC |
| 2 | K02700; K02803; K03103; K03300; K12437 | 1.0473 | P355GH; 19 Mn 6 | | A 52 CP | 2101; 2102 | Fe E 355-2 | A 52 RC I, RA II | SGV 410; SGV 450; SGV 480 | | P355GH |
| 2 | | 1.0416 | C18D; GS-38 | | 20-400 M | 1306 | | | | | C18D |
| 2 | K12447 | 1.0577 | S355J2; S355J2G4; Fe 510 D2 | | A 52 FP | 2107 | | A 52 RB II; AE 355 D | | | |
| 2 | 1049; 1050; G10490; G10500 | 1.1206 | C50E; Ck 50 | 080 M 50 | XC 50; 2 C 50 | 1674 | C 50 | | | 50 | C50E |
| 2 | 1330; 1527; G13300; G15270 | 1.1170 | 28Mn6 | 150 M 19; En 14 A; En 14 B | 20 M 5 | | C 28 Mn | | SCMn 1 | 30G | 28Mn6 |
| 2 | 1034; 1035; 1038; G10340; G10350; G10380; C 1034 | 1.1181 | C35E; Ck 35 | 080 M 30; En 5; 080 M 36 | XC35RR; XC32; XC 35; XC 38 H 2; XC 38 H 1; 2 C 35 | 1572 | C 35 | F.1130; C 35 k | S 35 C; S 35 CM; S 38 C | 35 | C35E |
| 2 | | 1.1180 | C35R; Cm 35 | 080 A 35 | XC 38 H 1 u; Cm 35 | | C 35 | F.1135; C 35 k-1 | | | C35R |
| 2 | 1030; G10300 | 1.1178 | C30E; Ck 30 | 080 M 30; En 5 | XC 32 | | C 30 | 2 C 30 | S 30 C; S 30 CM | | C30E |
| 2 | 1049; 1050; G10490; G10500 | 1.0540 | C50 | En 43 A; 080 M 50 | C50 | 1674 | C 50 | 1 C 50 | S 50 C | | C50 |
| 2 | 1536; G15360 | 1.1166 | 34Mn5 | | | | | TO.B | SMn 433 H; SMn 433 HRCH; SMn 433 RCH; SMn 1 H | | |
| 2 | 1025; G10250 | 1.0406 | C25 | 070 M 26 | 1 C 25 | | C 25; 1 C 25 | | | | |
| 2 | | 1.0723 | 15S22; 15 S 20 | 210 A 15; 210 M 15 | | 1922 | | F.210F; F.210.F | SUM 32 | | |
| 2 | | 1.1730 | C45U; C45W; C 45 U; C 45 U | | | | | | | | C45U |
| 3 | 1045; 1049; G10450; G10490 | 1.1201 | C45R; Cm 45 | 080 M 46 | 3 C 45; XC 42 H 1; XC 48 H 1 u | 1660 | C 45 | F.1145; F.1147; C 45 k-1; C 48 k-1 | S 45 C; S 45 CM | 45 | C45R |
| 3 | 1040; G10400 | 1.1186 | C40E; Ck 40 | 080 M 40; En 8 | 2 C 40; XC 42 H 1 | | C 40 | | S 40 C | 40 | C40E |

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| | AISI/SAE/ UNS/ ASTM/AA | Werkstoff | DIN | BS | AFNOR | SS | UNI | UNE | JIS | GOST | EN |
| 3 | 1074; 1075; G10740; G10750 | 1.0614 | C76D; C 76 D; D 75-2 | | XC 75 | | 3 CD 75 | | | 75 | C76D |
| 3 | 1095; G10950 | 1.0618 | C92D; C 92 D; D 95-2 | 95 HS; 95 CS | XC 90 | | 3 CD 95 | | | | C92D |
| 3 | 1086; G10860 | 1.0616 | C86D; C 86 D; D 85-2 | 80 HS; 80 CS | XC 80 | | C 85; 3 CD 85 | | | | C86D |
| 3 | | 1.1165 | G28Mn6; GS-30 Mn 5 | A 5; A 6 | | | | 30 Mn 5; AM 30 Mn 5; F.120.D; F.8211; F.8311 | SCMn 2 | 27ChGSNMDTL; 30GSL | G28Mn6 |
| 3 | K01700; K02001; K02200; K02201; A 516 Gr.70; A 515 Gr. 70; A 414 Gr.F; A 414 Gr.G | 1.0481 | P295GH; 17Mn4; 17 Mn 4 | 224-469 B | A 48 CP; A 48 AP | 2102 | Fe 295 | A 47 RC I; RA II | SG 365; SGV 410; SGV 450; SGV 480; SPV 315; SG 37; SGV 42; SGV 46; SGV 49; SPV 32 | 14G2 | P295GH |
| 3 | 1043; 1045; G10430; G10450 | 1.0503 | C45; C 45 | 080 M 46 | C 45; AF 65; C 45; 1 C 45 | 1650 | C 45; 1 C 45 | F.114 | S 45 C; S 45 CM | | C45 |
| 3 | 1335; 1335 H; 1541; 1541 H; G13350; G15410; H13350; H15410 | 1.1167 | 36Mn5; 36 Mn 5 | 150 M 36 | 40 M 5; 35 Mn 5 | 2120 | | F. 1203-36 Mn 6; F. 8212-36 Mn 5 | SMn 438; SMn 438H; SCMn 3 | 35G2; 35GL | 36Mn5 |
| 3 | 1045; 1045 H; 1042; G10450; H10450; G10420 | 1.1191 | C45E; Ck 45 | 089 H 46; 080 M 46 | C45RR; XC 45; XC 48 H 1 | 1672 | C 45 | F.1140; F.1142; C 45 k; C 48 k | S 45 C; S 45 CM; S 48 C | 45 | C45E |
| 3 | | 1.1303 | 38MnVS6; 38 MnVS 6 | | | | | | | | 38MnVS6 |
| 4 | 1055; G10550 | 1.0535 | C55 | 070 M 55; En 9 | C54; 1 C 55; AF 70; C 55 | 1655 | C 55; 1 C 55 | F.115 | S 55 C; S 55 C-CSP; S 55 CM | 55 | C55 |
| 4 | 1055; G10550 | 1.1203 | C55E; Ck 55 | 070 M 55; En 9 | C50RR; XC 54; XC 50; 2 C 55; XC 55 H 1 | 1655 | C 55 | F.1150; C 55 K | S 55 C; S 55 C-CSP; S 55 CM | 55 | C55E |
| 4 | 1060; G10600 | 1.0601 | C60 | 060 A 62; En 43 D | C60; 1 C 60 | | C 60; 1 C 60 | | S 58 C; S 60-C-CSP; S 60 CM; S 65 C-CSP; S 65 CM | 60; 60G | C60; 43D |
| 4 | 1070; G10700 | 1.1231 | C67S; Ck 67 | 060 A 67; 080 A 67; En 43 E | C68RR; XC 68 | 1770 | C 67 | | S 70 C-CSP; S 70 CM | 65GA; 68GA | C67S |
| 4 | 1074; 1075; 1078; G10700; G10750; G10780 | 1.1248 | C75S; Ck 75 | 060 A 78; 80 | C75RR; XC 75 | 1774 | C 75 | | S 75 CM | 75A | C75S |
| 4 | 1095; G10950 | 1.1274 | C100S; Ck 101 | 95 | C100RR; XC 100 | 1870 | C 100 | | SK 95 -CSP | | C100S |
| 4 | W112; W1; T72301 | 1.1563 | C125U; C 125 W | | Y2 120; C120E3U | | C 120 KU | F.5123; C 120 | SK 120; SK 120 M; SK 2; SK 2 M; TC 120 | U12-1 | C125U |

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| | AISI/SAE/ UNS/ ASTM/AA | Werkstoff | DIN | BS | AFNOR | SS | UNI | UNE | JIS | GOST | EN |
| 4 | 1086; G10860 | 1.1269 | C80S; Ck 85; C 85 E | | C90RR; XC 90 | | C 85 | | SK 85-CP | 85A | C80S |
| 4 | 1055; G10550 | 1.1209 | C55R; Cm 55 | 070 M 55; En 9 | 3 C 55; XC 55 H 1 | | C 55 | F.1155; C 55 k-1 | | | C55R |
| 4 | 1074; 1075; G10740; G10750 | 1.0605 | C75 | 060 A 78 | C 75 | | C 75 | | | 75 | |
| 4 | 1070; G10700 | 1.0603 | C67 | 060 A 67; 080 A 67; En 43 E; 1449 70 HS | C68; XC 65 | | C 67 | | S 70 C-CSP; S 70 CM | | C67 |
| 4 | | 1.1219 | C56E2; Cf 54 | | | | | | C56E2; S55C | | C56E2 |
| 5 | 1055; G10550 | 1.1220 | C56D2; C 56 D 2 | | C 56 D 2 | | | | | | C56D2 |
| 5 | | 1.1217 | C90S; C 90 S | CS95 | C90RR; XC 90; XC90; C90E2U | | | | SK 95 | | C90S |
| 5 | 1060; 1064; G10600; G10640 | 1.1221 | C60E; Ck 60 | 060 A 62; 070 M 60; En 43 D | C60RR; XC 60; X 65; 2 C 60 | 1678 | C 60 | | S 58 C; S 60 C-CSP; S 60 CM; C 65 C-CSP; C 60 CM | 60GA | C60E |
| 5 | 1055; G10550 | 1.1203 | C55E; Ck 55 | 070 M 55; En 9 | C50RR; XC 54; XC 50; XC 55 H 1; 2 C 55 | 1655 | C 55 | F.1150; C 55 k | S 55 C; S 55 C-CSP; S 55 CM | 55 | C55E |
| 6 | 9260; G92600 | 1.5028 | 65Si7; 65 Si 7 | | 60 S 7 | | | | 50 P 7; SUP 6; SUP 6 M; SUP 7; SWOSM | 60S2G | |
| 6 | 9260 H; H92600; 9260; G92600 | 1.5027 | 60Si7 | 251 A 60; 251 H 60 | 60 S 7 | | 60 Si 7 | F.144.B; F.1441 | | 60S2 | |
| 6 | 9255; G92550 | 1.5026 | 56Si7; 56 Si 7; 55Si7; 55 Si 7 | 251 A 58; En 45 A | 55 S 7 | 2085; 2090 | 55 Si 7 | F.144; F.144.A; 56 Si 7; F.1440 | | 55S2; 60S2 | 565Si7; 55Si7 |
| 6 | 9255; G22550 | 1.5025 | 51Si7; 51 S 7 | | 50S7; 51 Si 7 | | 48 Si 7; 50 Si 7 | F.145.B | | | 51Si7 |
| 6 | | 1.5024 | 46Si7 | | 45 S 7; Y 46 S 7; 46 SI 7 | | | F.1451 | | | 46Si7 |
| 6 | G50986; ASTM Grade E50100; ASTM Grade G15116; SAE E50100 | 1.3501 | 100Cr2; 100 Cr 2 | GCr6; B00040; GCr4 | 100C2 | | | | | SchCh4 | |
| 6 | K21390; K21590; ASTM A 182 F22 | 1.7380 | 10CrMo9-10; 10 CrMo 9 10 | 622; 622-490; 622/515; 622/690 | 12 CD 9-10; 10 CD 9.10 | 2218 | 12 CrMo 9 10 | TU.H | SCMQ4E; SCMV 4; SFVA F 22.A; SFVA F 22.B; SFVCM F22B; STBA 24; STFA 24; STPA 24 | 12Ch8 | 10CrMo9-10 |
| 6 | O2; T31502 | 1.2842 | 90MnCrV8; 90 MnCrV 8 | BO 2; BO2 | 90 MnV 8; 90 MV 8 | | 90 MnVCr 8 KU | 90 MnCrV 8; F.5229 | | | 90MnCrV8 |
| 6 | | 1.2550 | 60WCrV7; 60 WCrV 7 | BS1; BS 1 | 55 WC 20 | 2710 | 55 WCrV 8 KU; 58 WCr 9 KU | 60 WCrSiV 8; F.5242 | | | 60WCrV7 |
| 6 | | 1.2241 | 51CrMnV4; 51 CrV 4; 50 CrV 4 | | | | | | | | |
| 6 | L2; T61202 | 1.2210 | 115CrV3; 115 CrV 3 | | 100 C 3 | | 107 CrV 3 KU | F.520.L; F.5125 | | | 115CrV3 |

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| | AISI/SAE/ UNS/ ASTM/AA | Werkstoff | DIN | BS | AFNOR | SS | UNI | UNE | JIS | GOST | EN |
| 6 | | 1.2419 | 105WCr6; 105 WCr 6 | 105WC 13 | 105 WCr 5; 105 WC 13 | 2140 | 107 WCr 5 KU | F.5233; 105 WCr 5 | SKS 2; SKS 2 M; SKS 3; SKS 31 | ChW1G; ChWG | 105WCr6 |
| 6 | 4820; 5120; 5120H; G48200; G51200; H51200 | 1.7147 | 20MnCr5; 20 MnCr 5 | 150 M 19 | 20 MC 5 | 2172 | 20 MnCr 5; Fe52 | F.150.D | SMnC 420 H; SMnC 420 RCH; SMnC 21 H | 18ChG | 20MnCr5 |
| 6 | 9255; G92550 | 1.0904 | 55Si7; 55 Si 7 | 250A53 | 55 S 7 | 2085 | 55 Si 8 | 56 Si 7 | | | |
| 6 | 9254; G92550 | 1.0904 | 55Si7; 55 Si 7 | 250 A 53 | 55 S 7 | 2090 | | | | | |
| 6 | 9262; G95620 | 1.0961 | HDT 450 F; S340 MGC | | 60 SC 6 | | 60 SiCr 8 | 60 SiCr 8; F.1442 | | 60S2; 55S2; 50ChFA | |
| 6 | 4135; 4137; 4135H; 4137H; G41350; G41370; H41350; H41370 | 1.7220 | 34CrMo4; GS34 CrMo 4; G34 CrMo 4 | 708 A 30 | 34 CD 4; 34CrMo4RR; 35 CD 4; | 2234 | 34 CrMo 4 KB; 35 CrMo 4 | 35 CrMo 4 DF; F.125.A; F.125.B; F.1254; F.1250 | SCM 435 H; SCM 435 HRCH; SCM 435 M; SCM 435 RCH; SCM 435TK; SCM 3 H; STKS 3 | 35ChM; AS38ChGM | 34CrMo4 |
| 6 | | 1.5120 | 38MnSi4; 38 MnSi 4 | | | | | | | | |
| 6 | L3; T61203 | 1.2067 | 102Cr6; 102 Cr 6; 100Cr6 | BL 3; BL3 | 100Cr6RR; 100 C 6; 100Cr6; Y 100 C 6 | | 102 Cr 6 KU | F.5230; 100 Cr 6 | SUJ 2 | Ch | 102Cr6 |
| 6 | L1 | 1.2108 | 90CrSi5; 90 CrSi 5 | | | 2092 | 105 WCr 5 | | | | 90CrSi5 |
| 6 | P20; T51620 | 1.2330 | 35CrMo4; 35 CrMo 4 | 708 A 37 | 34 CD 4 | 2234 | 35 CrMo 4 | | | | 35CrMo4 |
| 6 | O1; T31501 | 1.2510 | 100MnCrW4; 100 MnCrW 4 | BO1; BO0; BO 1; BO 0 | 90MnWCrV5; 90 MWCV 5; 8 MO 8 | 2140 | 95 MnWCr 5 KU; 10 WCr 6 | F.522.A; F.5220; 95 MnCrW5; 105 WCr 5 | SKS 31 | | 100MnCrW4 |
| 6 | S1; T41901 | 1.2542 | 45WCrV7; 45 WCrV 7 | BS1; BS 1 | 45 WCrV 8; 45 WCrV 20 | 2710 | 45 WCrV 8 KU | F.524; F.5241; 45 WCrSi 8 | | 5ChW25F | 45WCrV7 |
| 6 | L6; T61206 | 1.2713 | 55NiCrMoV6; 56NiCrMoV6; 55 NiCrMoV 6; 56 NiCrMoV 6 | BH 224; BH 225 | 55 NCDV 7 | | | F.520.S | SKT 4 | 5ChNM | 55NiCrMoV6 |
| 6 | | 1.2721 | 50NiCr13 | | 55 NCV 6 | 2550 | | F.528 | | | |
| 6 | E52100; G52986 | 1.3505 | 100Cr6; 100 Cr 6 | 2 S.135; 535 A 99 | 100Cr6RR; 100 C 6; 100Cr6 | 2258 | 100 Cr 6 | F.131; 100 Cr 6; F.1310 | SUJ 2; SUJ 4 | SchCh 15 | 100Cr6 |
| 6 | K11820; K12020; K12320; A204 Grade A; A182 Grade F1 | 1.5415 | 16Mo3; 15 Mo 3 | 1503-243 B | 15 D 3 | 2912; 16Mo3 | 16 Mo 3 KG; 16 Mo 3 KW; 16 Mo 5 KG; 16 Mo 5 KW | F. 2601; 16 Mo 3 | STBA 12; STFA 12; STPA 12 | | |
| 6 | 4422; G44220; J12522 | 1.5419 | G20Mo5; 20Mo4; GS-22 Mo 4 | 245; B 1; B1 | | | | | SCPH 11 | | G20Mo5 |
| 6 | A 350-LF 5; K13050; K21703; K22103 | 1.5622 | 14Ni6; 14 Ni 6 | | 16 N 6 | | 14 Ni 6 KG; 14 Ni 6 KT | F.2641; 15 Ni 6 | | | 14Ni6 |
| 6 | 3415 | 1.5732 | 14NiCr10; 14 NiCr 10 | | 14 NC 11 | | 16 NiCr 11 | 15 NiCr 11 | SNC 415; SNC 415 H; SNC 415 M | 12ChN3A | 14NiCr10 |

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| | AISI/SAE/ UNS/ ASTM/AA | Werkstoff | DIN | BS | AFNOR | SS | UNI | UNE | JIS | GOST | EN |
| 6 | 3310; 3310 RH; 3312; 3316; 9315; E 3310; E 3316; E9315; G33106 | 1.5752 | 15NiCr13; 14NiCr14; 15 NiCr 13; 14NiCr14 | 655 M 13; 655 H 13; En 36 A | 10 NC 12; 12 NC 15; 14 NC 12; 16 NC 12; 16 NCD 13 | | | 15 NiCr 11; F.1540 | SNC 815 H; SNC 815 HRCH; SNC 815 RCH; SNC 22 H | | 15NiCr13 |
| 6 | | 1.7262 | 15CrMo5; 15 CrMo 5 | | 12 CD 4 | | | 12 CrMo 4; F.150.J; F155; F.1551 | SCM 415 H; SCM 415 HRCH; SCM 415 M; SCM 415 RCH; SCM 415 TK; SCM 21 H | | 15CrMo5 |
| 6 | | 1.6587 | 17CrNiMo6; 17 CrNiMo 6 | 820A16 | 18 NCD 6 | | | 14 NiCrMo 13 | | | |
| 6 | 9310; 9310H; 9310 RH; E 9310 H; G93106; H93100; H93106 | 1.6657 | 14NiCrMo13-4; 14 NiCrMo 13 4 | 832 H 13; 832 M 13; S.157; En 36 C | 16 NCD 13 | | 15 NiCrMo 13; 16 NiCrMo 12 | 14 NiCrMo 13; 14 NiCrMo 13-1; F.1560; F.1569 | | | |
| 6 | 5015; G50150 | 1.7015 | 15Cr3; 15 Cr 3 | 523 M 15 | 12 C 3; 15Cr2RR; 15 C 2 | | | | SCr 415; SCr 415 H; SCr 415 HRCH; SCr 415 RCH; SCr 21 H | 15Ch | 15Cr3 |
| 6 | 5132; 5132 H; G51320; H51320 | 1.7033 | 34Cr4; 34 Cr 4 | 530 A 32; 530 H 32; 530 M 32 | 32 C 4 | | 34 Cr 4; 34 Cr KB | 35 Cr 4; F.8221 | SCr 430; SCr 430 H; SCr 430 HRCH; SCr 430 RCH; SCr 2 H | 35Ch | 34Cr4 |
| 6 | 5140; 5140 H; 5140 RH; G51400; H51400 | 1.7035 | 41Cr4; 41 Cr 4 | 530 A 40; 530 M 40; 530 H 40; En 18 | 42 C 4 | | 41 Cr 4; 41 Cr 4 KB | 41 Cr 4 DF; F.1211; F.1202 | SCr 440; SCr 440 H | 40Ch | 41Cr4 |
| 6 | 5140; G51400 | 1.7045 | 42Cr4; 42 Cr 4 | 530 A 40 | 42 C 4 TS | 2245 | 41 Cr 4 | 42 Cr 4 | SCr 440 | | |
| 6 | 5115; 5117; G51150; G51170 | 1.7131 | 16MnCr5; 16 MnCr 5 | 527 M 17; 590 H 17; 590 M 17 | 16MnCr5RR; 16 MC 5 | 2173 | 16 MnCr 5 | F.1516 | | 18ChG | 16MnCrS5 |
| 6 | | 1.7139 | 16MnCrS5; 16 MnCrS 5 | | BGH 7139; BOHLER E 411; VW 4221; OPEL QS1916; PROCONS 7139; E411; SES | 2127 | | | | | 16MnCrS5 |
| 6 | 5155; 5155 H; 5150; G51550; H51550; G51600 | 1.7176 | 55Cr3; 55 Cr 3 | 525 A 58; 525 A 60; En 48 | 55 C 3; 55Cr3 | 2253 | 55 Cr 3 | F.1431 | SUP 9; SUP 9 A; SUP 9 M | 50ChGA | 55Cr3 |
| 6 | 4142; G41420 | 1.7223 | 41CrMo4; 41 CrMo 4 | | MOC 2; V320 | | 41 CrMo 4 | 42 CrMo 4 | SNB 22-1 | 40ChFA | |
| 6 | 4140; 4140 H; 4140 RH; 4142; 4142 H; 4145; G41400; H41400; G41420; H41420; K14248; K14047 | 1.7225; 1.7227 | 42CrMo4; 42CrMo4V; 42 CrMo 4; 42 CrMo 4 V | 708 M 40; 709 M 40; En 19; En 19 A | 42 CD 4; 40 CD 4; 42CrMo4RR | 2244; 42CrMo4 | 42 CrMo 4; 38 CrMo 4 KB; 41 CrMo 4 | TO.D; TU.L | SCM 440 H; SCM 440 HRCH; SCM 440 M; SCM 440 RCH; SCM 440 TK; SNB 7 Class 2; SCM 4 H; SNB 22-1 | 40ChFA | 42CrMo4 |

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| | AISI/SAE/ UNS/ ASTM/AA | Werkstoff | DIN | BS | AFNOR | SS | UNI | UNE | JIS | GOST | EN |
| 6 | 4147; 4147 H; 4150; 4150 H; 8650; 8650 H; G41470; G41500; G86500; H41470; H41500; H86500 | 1.7228 | 50CrMo4; 50 CrMo 4 | 708 M 40; 708 A 47 | | 2512 | 653 M 31 | | SCM 445 H; SCM 445 HRCH; SCM 445 RCH; SCM 5 H | | 50CrMo4 |
| 6 | 8620; G86200 | 1.7321 | 20MoCr4; 20 MoCr 4 | | | 2625 | | | | BGH 7321; E320; SIQUAL 7321 | 20MoCr4 |
| 6 | K11547; K11562; K11564; K11757; K11789; K12052; ASTM A182 F12 | 1.7335 | 13CrMo4-5; 13 CrMo4 4 | 620; 620-440; 620-470; 620-540; 621 | 15 CD 4-05 | 2216 | 14 CrMo 3; 14CrMo4 5 | TU.E; TU.F; F.2631; 14 CrMo 4 5 | SCMV 2; SFVA 12; STBA 22; STFA 22; STPA 20; STPA 22 | 12ChM; 15ChM | 13CrMo4-5 |
| 6 | K21390; K21590; ASTM A182 F22 | 1.7380 | 10CrMo9-10; 10 CrMo 9 10; GS-12CrMo9-10; GS-12 CrMo 9 10; G 12 CrMo9-12 | 622; 622-490; 622/515; 622/690; 1502-622 | 12 CD 9-10; 10 CD 9.10 | 2218 | 12 CrMo 9; 12 CrMo 10 | TU.H | SCMQ 4 E; SCMV 4; SFVA F 22 A; SFVA F 22 B; SFVCM F 22 B; STBA 24; STFA 24; STPA 24 | 12Ch8 | 10CrMo9-10 |
| 6 | | 1.7715 | 14MoV6-3; 14 MoV 6 3 | 1503-660-440 | | | | 13 MoCrV 6 | | | |
| 6 | E71400; K24065; K24728; A355 Class A | 1.8509 | 41CrAlMo7-10; 41CrAlMo7; 41 CrAlMo 7 | 905 M 39; En 41 B | 40 CAD 6.12 | 2940 | 41 CrAlMo 7 | F.174; 41 CrAlMo 7; F1740 | SACM 645; SACM 1 | 38Ch2MJuA | 41B |
| 6 | | 1.6566 | 17NiCrMo6-4 | | | | | | | | 17NiCrMo6-4 |
| 6 | P20+S | 1.2312 | 40CrMnMoS8-6 | | 40 CMD 8 S | | | | | | |
| 6 | | 1.7149 | 20MnCrS5; 20 MnCrS 5 | | | | | | | | 20MnCrS5 |
| 6 | P20+Ni | 1.2738 | 40CrMnNiMo8-6-4; 40 CrMnNiMo 8 6 4 | | 40 CMND 8 | | | | | 40Ch2GNM | 40CrMnNiMo8-6-4 |
| 6 | | 1.2311 | 40CrMnMo7; 40 CrMnMo 7 | | 40 CMD 8 | | 35 CrMo 8 KU | F.5302 | | | 40CrMnMo7 |
| 6 | | 1.7238 | 49CrMo4; 49 CrMo 4 | | | | | | | | |
| 6 | 4150; G41500 | 1.7701 | 52CrMoV4; 51CrMoV4; 51 CrMoV 4 | | 51 CDV 4; 51CrMoV4 | | 51 CrMoV 4 | | | | 51CrMoV4 |
| 6 | | 1.7337 | 16CrMo4-4; 16 CrMo 4 4 | | | | A 18 CrMo 45 KW | | SCM 415 M; SCM 415; STBA 22; SFVA F12 | | |
| 6 | | 1.7242 | 16CrMo4; 16 CrMo 4 | | 15 CD 3.5 | | 18 CrMo 4 | F.1550; 18 CrMo 4 | SCM 418 H; SCM 418 HRCH; SCM 418 RCH; SCM 418 TK | | 16CrMo4 |
| 6 | 4419; 4419 H; 4520; G44190; H44190; G45200; K11522; K11820; K12020; K12023; K12320; K12821 | 1.5423 | 16Mo5 | | | | 16 Mo 5 KG; 16 Mo 5 KW | TU.D; F.2602 | SB 450 M; SB 480 M; SB 46 M SB 49 M | | |
| 6 | | | | | | | | | | 30ChGSA | |

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| | AISI/SAE/ UNS/ ASTM/AA | Werkstoff | DIN | BS | AFNOR | SS | UNI | UNE | JIS | GOST | EN |
| 6 | HY-80; HY 80; HY80; K31820; MIL-S-21952 | | | | | | | | | | |
| 6 | | | | 605 M 36; En 16; En 16T | | | | | | | |
| 7 | 4130; 4130 H; 4130 RH; G41300; H41300 | 1.7218 | 25CrMo4; 25 CrMo 4; GS-25 CrMo 4; G 25 CrMo 4 | 708 A 25 | 25 CD 4 | 2225 | 25 CrMo 4; 25 CrMo KB | F.222; F.1256 | SCM 420 TK; SCM 430 M; SCM 430 RCH; SCM 430 TK; STKS 1 | 20ChM; 30ChM | 25CrMo4 |
| 7 | | 1.8070 | 21CrMoV5-11; 21 CrMoV 5 11 | | | | 35 NiCr 9 | | | | |
| 7 | | 1.7755 | GS-35 CrMoV 10 4; G35 CrMoV 10-4 | | | | | | | | |
| 7 | | 1.7733 | 24CrMoV5-5 | | 20 CDV 6 | | 21 CrMoV 5 11 | | | | |
| 7 | 4340; 4340 H; 9850; G43400; G98500; H43400; K23028 | 1.6565 | 40NiCrMo6; 40 NiCrMo 6 | 817 M 40; En 24 | | | | F.1275; 40 NiCrMo 7 | SNB 24-1; SNB 24-2; SNB 24-3; SNB 24-4; SNB 24-5; SNCM 439 RCH | 40Ch2N2MA | 40NiCrMo6 |
| 7 | 8640; 8640 H; 8740; 8740 H; 8742; G86400; G87400; G87420; H86400; H87400; K11640 | 1.6546 | 40NiCrMo2-2; 40 NiCrMo 2 2 | | 40 NCD 2; 40 NCD TS | | 40 NiCrMo 2; 40 NiCrMo 2 KB | 40 NiCrMo 2 DF; F.1205; F.1204; TO.E | SNCM 240; SNCM 240 RCH | 38ChGNM | |
| 7 | 8617; 8617 H; 8620; 8620 H; 8620 RH; 8617; G86170; G86200; H86170; H86200; K12147 | 1.6523 | 20NiCrMo2-2; 21NiCrMo2; 21 NiCrMo 2 | 805 H 20; 805 M 20; 806 M 20; En 362 | 20 NCD 2 | 2506 | 20 NiCrMo 2 | 20 NiCrMo 2; 20 NiCrMo 3-1; F.1522; F.1534 | SNCM 220; SNCM 220 H; SNCM 220 HRCH; SNCM 220 M; SNCM 220 RCH; SNCM 21 H | 20ChGNM | 20NiCrMo2-2 |
| 7 | | 1.5755 | 31NiCr14; 31 NiCr 14 | 653 M 31 | 18 NC 13 | | | | | | |
| 7 | 3135 | 1.5710 | 36NiCr6; 36 NiCr 6 | 640 A 35 | 35 NC 6 | | | | SNC 236 | | 36NiCr6 |
| 7 | 4340; G43400; 4337; G43370 | 1.6582 | 34CrNiMo6; 34 CrNiMo 6 | 816 M 6; 817 M 40 | 34 CrNiMo 8; 35 NCD 6 | 2541 | 35 NiCrMo 6 KB | F.1272 | | 38Ch2N2MA | 34CrNiMo6 |
| 7 | | 1.8519 | 31CrMoV9; 31 CrMoV 9 | | | | | | | 30Ch3MF | 31CrMoV9 |
| 7 | 8630 | 1.6545 | 30NiCrMo2-2; 30 NiCrMo 2 2 | | 30 NCD 2 | | 30 NiCrMo 2 KB | | | | |
| 7 | 4340; G43400 | 1.6580 | 30CrNiMo8 | 823 M 30 | 30 CND 8; 30 NCD 8 | | | 30 CrNi Mo 8 | SNCM 431 | | |
| 7 | K01907 | 1.5217 | 20MnV6; 20 MnV 6 N | 55 C; GR 55; Grade 55 | 20MV6; TS E 455 4; TU E 455 4 | | | | | | 20MnV6; S460 |
| 7 | 300M; 4340M; K44220 | 1.6928 | 41SiNiCrMoV7-6 | S 155 | | | | | | | |
| 8 | | 1.8523 | 40CrMoV13-9; 39CrMoV13-9; 39 CrMoV 13 9 | 897 M 39 | | | 36 CrMoV 12 | | | | 40CrMoV13-9 |
| 8 | | 1.8515 | 31CrMo12; 31 CrMo 12 | 722 M 24 | 30 CD 12 | 2240 | 32 CrMo 12 | F.1712; F.124.A | | | 31CrMo12; 40B |

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| | AISI/SAE/ UNS/ ASTM/AA | Werkstoff | DIN | BS | AFNOR | SS | UNI | UNE | JIS | GOST | EN |
| 8 | | 1.8161 | 58CrV4; 58 CrV 4 | | | | | | | | |
| 8 | | 1.7361 | 32CrMo12; 32 CrMo 12 | 722 M 24 | 30 CD 12 | 2240 | 30 CrMo 12 | F.124.A | | | 32CrMo12 |
| 8 | 9840; G98400 | 1.6511 | 36CrNiMo4; 36 CrNiMo 4 | 817 M 37; 816 M 40 | 40 NCD 3; 35 NCD 5 | | 39 NiCrMo 4; 39 NiCrMo 4 KB | F.128; F.1280; 35 NiCrMo 4 | SUP 10 | 40ChGNM; 40ChN2MA | 36CrNiMo4 |
| 8 | 6145; 6150; 6150 H; G61500; H61500 | 1.8159 | 51CrV4; 50CrV4; 50 CrV 4 | 735 A 50; 735 A 51; 735 H 51; 735 M 50; En 47 | 50CrV4RR; 50 CV 4; 51 CV 4 | 2230 | 50 CrV 4 | F.143; F.143.A; 51 CrV 4; F.1430 | SUP 10; SUP 10-CSP; SUP 10 M | 50ChFA; 50ChGFA | 51CrV4 |
| 8 | 3435 | 1.5736 | 36NiCr10; 36 NiCr 10 | | 30 NC 11 | | | | SNC 631; SNC 631 H; SNC 631 M | | |
| 8 | A128 Grade A; J91109; J91129; J91139; J91149 | 1.3401; 1.3403 | X120Mn12; X 120 Mn 12; G-X120 Mn 12 | BW 10 | Z 120 M 12 | 2183 | GX 120 Mn 12 | F.240.A; F.240.A1; AM-X 120 Mn 12; F.8251 | SCMnH 1; SCMnH 11 | 110G13L | |
| 8 | 4142; G41420 | 1.2332 | 47CrMo4 | 708 M 40 | 42 CD 4 | 2244 | 42 CrMo 4 | 42 CrMo 4 | SCM; SCM 440 | | 47CrMo4 |
| 8 | 4140 H; 4140 RH; 4140 HT | | 42CrMo4+QT | | | | | | | | |
| 8 | | | | | | | | | | | |
| 8 | | | | | | | | | | | |
| 8 | | 1.8705 | 21MnCr6-5 | | | | | | | | |
| 8 | | | | | | | | | | | |
| 9 | | 1.6659 | 31NiCrMo13-4 | 830 M 31 | | 2534 | | F.270 | | | |
| 9 | | 1.5864 | 35NiCr18 | | | | | | | | |
| 9 | | | | | | | | | | | |
| 9 | | | | | | | | | | | |
| 9 | | | | | | | | | | | |
| 9 | | 1.8715 | 17MnCr5-3 | | | | | | | | 17MnCr5-3 |
| 10 | K71340; K81340 | 1.5662 | X8Ni9 | 1501-509; 1501-510; 502-650; 509-690 | 9 Ni; Z 8 N 09 | | X 10 Ni 9; X 12 Ni 09 | F.2645; XBNi 09 | SL9N520; SL9N590; STBL 690; STPL 690; SL9N53; SL9N60; STBL 70; STPL 70 | | X8Ni9 |
| 10 | 2515; A2515; 2517; E2517; K41583 | 1.5680 | X12Ni5; 12Ni19; | | Z 18 N 5; Z 10 N 05; 5 Ni | | | | SL5N590; SL5N60 | | X12Ni5 |
| 10 | D4; T30404; D6; T30406 | 1.2436 | X210CrW12; X 210 CrW 12 | BD6 | Z 200 CD 12; Z 210 CW 12-01; X210CrW12-1 | 2312 | X 215 CrW 12 1 KU | F.5213; X210 CrW 12 | SKD 2 | | X210CrW12 |
| 10 | H13; T20813 | 1.2344 | X40CrMoV5-1; X40 CrMoV 5 1 | BH 13 | X 40 CrMoV 5; Z 40 CDV 5 | 2242 | X 40 CrMoV 5 1 1 KU | F.5318; X 40 CrMoSiV 5 | SKD 61 | 4Ch5MF1S | X40CrMoV5-1 |
| 10 | A2; T30102 | 1.2363 | X100CrMoV5; X100CrMoV5-1; X 100 CrMoV 5 1 | BA 2 | X 100 CrMoV 5; Z 100 CDW 5 | 2260 | X 100 CrMoV 5 1 KU | F.536; F.5227; X 100 CrMoV 5 | SKD 12 | | X100CrMoV5 |
| 10 | H21; T20821 | 1.2581 | X30WCrV9-3; X30WCrV9 3 | BH 21 | Z 30 WCV 9 | | X 30 WCrV 9 3 KU | F.5323; X 30 WCrV 9 | SKD 5 | 3Ch2W8F | X30WCrV9-3; X30WCrV9 3 |
| 10 | | 1.2601 | X165CrMoV12; X 165 CrMoV 12 | | | 2310 | X165CrMoW 12KU | | | | X165CrMoV12 |
| 10 | | 1.2316 | X36CrMo17; X38CrMo16 | | | | | | | | X38CrMo16 |
| 10 | M2; T11302 | 1.3343 | HS6-5-2; HS 6-5-2; S 6-5-2 | BM 2; BM2 | Z 85 WDCV 06-05-04-02; 6-5-2; HS6-5-2 | 2722 | | F.550.A; F.5604 | SKH 51 | R6M5 | HS6-5-2 |

| Material Group No. | USA | Germany | | U.K. | France | Sweden | Italy | Spain | Japan | Russia | EURONORM |
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| | AISI/SAE/ UNS/ ASTM/AA | Werkstoff | DIN | BS | AFNOR | SS | UNI | UNE | JIS | GOST | EN |
| 10 | H11; T20811 | 1.2343 | X37CrMoV5-1; X38CrMoV5-1 | BH 11 | Z 38 CDV 5; X38CrMoV | | X 37 CrMoV 5 1 KU | F.520.G; F.5137; X 37 CrMoSiV 5 | SKD 6 | 4Ch5MFS | X37CrMoV5-1 |
| 10 | H12; T20812 | 1.2606; 1.2605 | X37CrMoW5-1; X 37 CrMoW 5 1; X35CrWMoV5; X 35 CrWMoV 5 | BH 12 | Z 35 CWDV 5; X35CrWMoV5 | | X 35 CrMoW 05 KU | F.537 | SKD 62 | 5ChNM | X37CrMoW5-1; X35CrWMoV5 |
| 10 | D2; T30402 | 1.2379 | X153CrMoV12; X155CrVMo12-1; X155 CrVMo 12 1 | BD 2 | X 160 CrMoV 12; Z 160 CDV 12 | 2310 | X 155 CrVMo 12 1 KU | F.520.A | SKD 10; SKD 11 | | X153CrMoV12 |
| 10 | | 1.2085 | X33CrS16; X 33 CrS 16 | | Z 35 V CD 17.S | | | | | | X33CrS16 |
| 10 | | 1.2162 | 21MnCr5; 21 MnCr 5 | | 20 MC 5 | | | | | | 21MnCr5 |
| 10 | | 1.2767 | X45NiCrMo4; 45NiCrMo16; X 45 NiCrMo 4 | | 45 NCD 16 | | 40 NiCrMoV 8 KU | | | | X45NiCrMo4 |
| 10 | | 1.2764 | X19NiCrMo4; X 19 NiCrMo 4; GX19NiCrMo4 | | | | | | | | X19NiCrMo4 |
| 10 | D3; T30403 | 1.2080 | X210Cr12; X 210 Cr 12 | BD 3 | X200Cr12; Z 200 C 12 | | X 205 Cr 12 KU | F.521; F.5212; X 210 Cr 12 | SKD 1 | Ch12 | X210Cr12 |
| 10 | | 1.2367 | X38CrMoV5-3; X 38 CrMoV 5 3 | | | | | | | | X38CrMoV5-3 |
| 10 | | 1.6957 | 27NiCrMoV15-6; 26NiCrMoV14-5; 26 NiCrMoV 14 5 | | | | | | | | |
| 10 | 501; 502; S50100; S50200; K41545 | 1.7362 | X12CrMo5; X 11 CrMo 5; 12CrMo19-5; 12 CrMo 19 5 | | | | | F.240.B; TU.J | SCMV 6; SFVA F 5 A; SFVA F 5 B; SFVA F 5 C; SFVA 5 D; SNB 5 Class 1; STBA 29; STFA 25; STPA 25 | | X12CrMo5 |
| 11 | M33; T11333; M34; T11334 | 1.3249 | HS2-9-2-8; S 2-9-2-8 | BM 34 | | | | 2-9-2-8; F.5611 | | | |
| 11 | M41; T11341 | 1.3246 | HS7-4-2-5; S 7-4-2-5 | | Z 110 WKCDV 07-05-04-04-02 | | | F.5615; HS 7-4-2-5 | | | HS7-4-2-5 |
| 11 | M42; T11342 | 1.3247 | HS2-10-1-8; S 2-10-1-8 | BM 42 | Z 110 DKCWV 09-08-04-02-01; 2-9-1-8; HS2-9-1-8 | 2716 | HS 2-9-1-8 | F.5617; HS 2-10-1-8 | SKH 59 | | HS2-10-1-8 |
| 11 | | 1.3207 | HS10-4-3-10; S 10-4-3-10 | BT 42 | Z 130 WKCDV 10-10-04-04-03; 10-4-3-10; HS10-4-3-10 | | HS 10-4-3-10 | F.550.B; F.5553; HS 10-4-3-10 | SKH 57 | R12F3K10M3-SCh | HS10-4-3-10 |
| 11 | T15; T12015 | 1.3202 | HS12-1-4-5; S 12-1-4-5 | BT 15 | HS12-1-4-5 | | HS 12-1-5-5 | F.5563; HS 12-1-5-5 | | R13F4K5 | |
| 11 | | 1.3243 | HS6-5-2-5; S 6-5-2-5 | BM 35 | 6-5-2-5; 6-5-2-5 HC; HS6-5-2-5; HS6-5-2-5HC; Z 85 WDKCV 06-05-05-04-02; Z 90 WDKCV 06-05-05-04-02 | 2723 | HS 6-5-2-5 | F.550.C; F.5613; HS 6-5-2-5 | SKH 55 | R6M5K5 | HS6-5-2-5 |
| 11 | M7; T11307 | 1.3348 | HS2-9-2; S 2-9-2 | | Z 100 DCWV 09-04-02-02; 2-9-2; HS2-9-2 | 2782 | HS 2 9 2 | F.5607; HS 2-9-2 | SKH 58 | | HS2-9-2 |
| 11 | T4; T12004 | 1.3255 | HS18-1-2-5; S 18-1-2-5 | BT 4 | Z 80 WKCV 19-05-04-01; HS 18-1-1-5 | | HS 18-1-1-5 | F.5530; HS 18-1-1-5 | SKH 3 | | HS18-1-2-5 |

| Material Group No. | USA | Germany | | U.K. | France | Sweden | Italy | Spain | Japan | Russia | EURONORM |
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| | AISI/SAE/ UNS/ ASTM/AA | Werkstoff | DIN | BS | AFNOR | SS | UNI | UNE | JIS | GOST | EN |
| 11 | T1; T12001 | 1.3355 | HS18-0-1; S 18-0-1 | BT 1 | 18-0-1; HS 18-0-1; Z 80 WCV 18-04-01 | 2750 | HS 18-0-1 | F.5520; HS 18-0-1 | SKH 2 | R18 | HS18-0-1 |
| 11 | | | | | | | | | | | |
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| 11 | | | X10NiMoCrV6 | | | | | | | | |
| 12 | 430 F; S43020 | 1.4104 | X12CrMoS17; X 12 CrMoS 17 | | Z 13 CF 17 | 2383 | X 10 CrS 17 | F.3413 | SUS 430 F | | X12CrMoS17 |
| 12 | S31500 | 1.4417 | GX2CrNiMoN25-7-3 | | | 2376 | | | | | GX2CrNiMoN 25-7-3 |
| 12 | | 1.4742 | X10CrAlSi18; X10CrAl18 | | Z 12 CAS 18 | | | F.3113; X 10 CrAl 18 | SUS 21 | 15Ch18SJu | X10CrAlSi18 |
| 12 | | 1.4724 | X10CrAlSi13; X10CrAl13; X 10 CrAl 13 | | | | X 10 CrAl 12 | F.3152; X 10 CrAl 13 | | 10Ch13SJu | X10CrAlSi13 |
| 12 | 434; S43400 | 1.4113 | X6CrMo17-1; X 6 CrMo 17 1 | 434 S 17 | Z 8 CD 17-01 | 2325 | | F.3116 | SUS 434 | | X6CrMo17-1 |
| 12 | HNV-6; HNV6; S65006 | 1.4747 | X80CrNiSi20; X 80 CrNiSi 20 | 443 S 65 | Z 80 CSN 20-02 | | X 80 CrSiNi 20 | F.320B | SUH 4 | | |
| 12 | 446; S44600 | 1.4762 | X10CrAlSi25; X10CrAl24; X 10 CrAl 24 | | Z 10 CAS 24 | 2322 | | F.3154 | SUH 446 | | X10CrAlSi25 |
| 12 | EV 8; S63008 | 1.4871 | X53CrMnNiN21-9; X 53 CrMnNiN 21 9 | 349 S 52 | Z 52 CMN 21-9 Az | | X 53 CrMnNiN 21 9 | F.3217 | SUH 35, SUH 36 | 55Ch20G9AN4 | X53CrMnNiN21-9 |
| 12 | | 1.4001 | X7Cr14; X 7 Cr 14; G-X 7 Cr 13 | | Z 8 C 13 FF | | | | SUS 4105 | | X7Cr14 |
| 12 | 440 B; S44003 | 1.4112 | X90CrMoV18 | | X 89 CrMoV 18-1 | | | SUS 440B | | | X90CrMoV18 |
| 12 | 410 S; 403; S41008; S40300 | 1.4000 | X6Cr13; X 6 Cr 13 | 403 S 17 | Z 8 C 12 | 2301 | X 6 Cr 13 | F.3110 | SUS 403; SUS 403 FB; SUS 410 S | 08Ch13 | X6Cr13 |
| 12 | 410; S41000; S41001; CA-15 | 1.4006 | X12Cr13; GX12Cr13; X 12 Cr 13; X 10 Cr 13 | 410 S 21; ANC 1 grade A; En 56 A | Z 10 C 13; Z 13 C 13 | 2302 | X 12 Cr 13 KG; X 12 Cr 13 KW | F.3401 | SUS 410; SUS 410 FB; SUS 410 TB; SUS 410 TKA; SUS 410 TKC; SUS F 410-A; SUS F 410-B; SUS F 410-C | 12Ch13; 15Ch13L | X13Cr13 |
| 12 | 405; S40500 | 1.4002 | X6CrAl13; X 6 CrAl 13 | 405 S 17 | Z 8 CA 12 | | X 6 CrAl 13 | F.3111 | SUS 405; SUS 405 TB; SUS 405 TP | | X6CrAl13 |
| 12 | 416; S41600 | 1.4005 | X12CrS13; X 12 CrS 13 | 416 S 21; En 56 AM | Z 11 CF 13 | 2380 | X12 CrS 13 | F.3411 | SUS 416 | | X12CrS13 |
| 12 | | 1.4015 | X8Cr17 | | | | | | | | |
| 12 | 430; S43000 | 1.4016 | X6Cr17; X 6 Cr 17 | 430 S 17; 430 S 15; 430 S 18 | Z 8 C 17 | 2320 | X 8 Cr 17 | F.310.D; F.3113 | SUS 430; SUS 430 TB; SUS 430 TKA; SUS 430 TKC; SUS 430 TP | 12Ch17 | X6Cr17 |
| 12 | | 1.4027 | GX20Cr14 | ANC 1 grade B; ANC 1 grade C; 420 C 24; 420 C 29 | Z 20 C 13 M | | | | SCS 2 | 20Ch13L | |

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| | AISI/SAE/ UNS/ ASTM/AA | Werkstoff | DIN | BS | AFNOR | SS | UNI | UNE | JIS | GOST | EN |
| 12 | 420 F; S42020 | 1.4028 | X30Cr13; X 30 Cr 13 | 420 S 37; 420 S 45; En 56 C; En 56 D | Z 33 C 13 Cl; Z 33 C 13; Z 30 C 13 | 2304 | X 30 Cr 13 | F.3403 | SUS 420 F; SUS 420 J 2; SUS 420 J 2-CSP; SUS 420 J 2 FB; SUS 420 J 2 TKA | 30Ch13 | X30Cr13 |
| 12 | | 1.4086 | GX120Cr29; G-X 120 Cr 29 | 452 C 11 | | | | | | | |
| 12 | | 1.4340 | GX40CrNi27-4; G-X 40 CrNi 27 4 | | | | | | | | |
| 12 | | 1.4720 | X20CrMo13; X 20 CrMo 13 | | | | | | | | |
| 12 | 439; 430 Ti; S43035; S43036; XM 8 | 1.4510 | X3CrTi17; X 6 CrTi 17 | | Z 4 CT 17 | | X 6 CrTi 17 | F.3115; X 5 CrTi 17 | SUS 430 LX; SUS 430 LXTB; SUS XM8TB | 08Ch17T | X3CrTi17 |
| 12 | 446-1 | 1.4749 | X18CrN28 | | Z 12 C 25 | | | | | | X18CrN28 |
| 12 | | 1.4511 | X3CrNb17; X 6 CrNb 17 | | Z 4 CNb 17 | | X 6 CrNb 17 | F.3122; X 5 CrNb 17 | SUS 430 LX; SUS 430 LXTB | | X3CrNb17 |
| 12 | 409; S40900 | 1.4512 | X2CrTi12; X 6 CrTi 12 | LW 19; 409 S 19 | Z 3 CT 12 | | X 6 CrTi 12 | F.3121 | SUH 409 L; SUS 409 LTB; SUS 409 TB | | X2CrTi12 |
| 12 | | 1.4418 | X4CrNiMo16-5-1; X 4 CrNiMo 16 5 | | Z 6 CND 16-04-01 | 2387 | | | | | X4CrNiMo16-5-1 |
| 12 | 420; S42000 | 1.4021 | X20Cr13; X 20 Cr 13 | 420 S 37; 420 S 29; En 56 C | Z 20 C 13 Cl; Z 20 C 13 | 2303 | X 20 Cr 13 | F.310.J; F.3402 | SUS 420 J 1; SUS 420 J 1 FB; SUS 420 J 1 TKA | 20Ch13 | X20Cr13 |
| 13 | 420; S42000; S42080 | 1.4031 | X39Cr13; X 38 Cr 13 | | Z 40 C 14 Cl; Z 40 C 14 | 2304 | X 40 Cr 14 | F.3404; X40 Cr 13 | SUS 420 J 2 | 40Ch13 | X39Cr13 |
| 13 | | 1.4922 | X20CrMoV11-1; X20CrMoV12-1; X 20 CrMoV 12 1 | BS 762 | | 2317 | X 20 CrMoNi 12 01 | | | | X20CrMoV11-1; X20CrMoV12-1 |
| 13 | | 1.4923 | X22CrMoV12-1; X21CrMoNiV12-1; X 22 CrMoV 12 1 | | | | | | | | X22CrMoV12-1; X21CrMoNiV12-1 |
| 13 | 420; S42000 | 1.4021 | X20Cr13; X 20 Cr 13 | 420 S 37; 420 S 29; En 56 C | Z 20 C 13 Cl; Z 20 C 13 | 2303 | X 20 Cr 13 | F.310.J; F.3402; X 20 Cr 13 | SUS 420 J 1; SUS 420 J 1 FB; SUS 420 J 1 TKA | 20Ch13 | X20Cr13 |
| 13 | 420; S42000 | 1.4034 | X46Cr13; X 46 Cr 13 | | Z 44 C 14 Cl; Z 44 C 14; Z 38 C 13 M | | X 40 Cr 14 | F.3405; X 40 Cr 13 | | 40Ch13 | X46Cr13 |
| 13 | 431; S43100 | 1.4057 | X17CrNi16-2; X 20 CrNi 17 2; X 22 CrNi 17 | 431 S 29; En 57 | Z 15 CN 16.02 Cl; Z 15 CN 16-02 | 2321 | X16 CrNi 16 | F.313; F.3427; X 19 CrNi 17 2 | SUS 431; SUS 431 FB | 14Ch17N2; 20Ch17N2 | X17CrNi16-2 |
| 13 | CA 6-NM; S41500; J91540 | 1.4313 | X3CrNiMo13-4; X 4 CrNi 13 4 | | Z 6 CN 13-04; Z 6 CN 13-4; Z 4 CND 13.4 M | 2384 | | | | | X3CrNiMo13-4 |
| 13 | | 1.4122 | X39CrMo17-1; X 35 CrMo 17 | | | | X 39 CrMo 17-1 | | | | X39CrMo17-1 |
| 13 | 422; S42200 | 1.4935 | X20CrMoWV12-1; X 20 CrMoWV 12 1 | | | | | | | | X20CrMoWV12-1 |
| 13 | HNV 3; S65007 | 1.4718 | X45CrSi9-3; X 45 CrS 9 3; G-X 45 CrNi 9 3 | 401 S 45; En 52 | Z 45 CS 9 | | X 45 CrSi 8 | F.322; F.3220 | SUH 1 | 40Ch9S2; 4Ch9S2 | X45CrSi9-3 |
| 13 | | 1.2083; 1.2083 ESR | X40Cr14; X 42 Cr 13 | | X40Cr14; Z 40 C 14 | 2314 | X 41 Cr 13 KU | F.5263; X 40 Cr 13 | SUS 420 J 2 | | X40Cr14 |
| 13 | CA 6-NM; J91540 | 1.4317 | GX4CrNi13-4; G-X 5 CrNi 13 4 | 425 C 11; 425 C 12 | Z 4 CND 13 4 M | | GX 6 CrNi 13 04 | | SCS 6; SCS 6X | | GX4CrNi13-4 |
| 13 | S13800; XM-13 | 1.4534 | X3CrNiMoAl 13-8-2; X 3 CrNiMoAl 13 8 2 | FE-PM1503 | | | | | | | X3CrNiMoAl 13-8-2 |

| Material Group No. | USA | Germany | | U.K. | France | Sweden | Italy | Spain | Japan | Russia | EURONORM |
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| | AISI/SAE/ UNS/ ASTM/AA | Werkstoff | DIN | BS | AFNOR | SS | UNI | UNE | JIS | GOST | EN |
| 14 | 15-5PH; 15-5 PH; XM-12; S15500; J92110 | 1.4545; 1.4545.9 | X5CrNiCuNb15-5 | | Z 7 CNU 15-05 | | | | | | X5CrNiCu15-3 |
| 14 | 329; S31260; S32900 | 1.4460 | X3CrNiMo27-5-2; X 4 CrNiMo 27 5 2 | | Z 3 CND 25-07 Az; Z 5 CND 27-05 Az | 2324 | | F.3552; F.3309; X 8 CrNiMo 27-05; X 8 CrNiMo 26 6 | SUS 329 J 1; SUS 329 J 1 FB; SUS 329 J 1 TB; SUS 329 J 1 TP | 10Ch26N5M | X3CrNiMo27-5-2 |
| 14 | 321; S32100 | 1.4541 | X6CrNiTi18-10 | 321 S 31; LW 18; LW 24; LWCF 18; LWCF 24; 321 S 12; 321 S 50; 321 S 51; 321 S 50-490; 1010; 1115 | Z 6 CNT 18-10 | 2337 | X 6 CrNiTi 18 11; X 6 CrNiTi 18 11 KG; X 6 CrNiTi 18 11 KW; X 6 CrNiTi 18 11 KT | F.332; F.3523; X 6 CrNiTi 18 10 | SUS 321 | 06Ch18N10T; 08Ch18N10T; 09Ch18N10T; 12Ch18N10T | X6CrNiTi18-10 |
| 14 | | 1.4425 | X2CrNiMo18-13-3 | | | | | | | | |
| 14 | 316; 316H; 316 H; S31600; S31609 | 1.4401 | X5CrNiMo17-12-2; X 5 CrNiMo 18 10 | 316 S 31; 316 S 33; 316 S 17; 316 S 19; 316 S 40; 316 S 41; 845 | Z 6 CND 17-11; Z 6 CND 17-11-02-FF; Z 7 CND 17-11-02; Z 7 CND 17-12-02 | 2347 | X 5 CrNiMo 17 12; X 5 CrNiMo 17 12 KG; X 5 CrNiMo 17 12 KW | F.310.A; F.3534; X 5 CrNiMo 17 12 2 | SUS 316; SUS 316 A; SUS 316 FB; SUS 316 HFB; SUS 316 HTB; SUS 316 HTP; SUS 316 TB; SUS 316 TBS | 08Ch16N11M3 | X5CrNiMo17-12-2 |
| 14 | | 1.4821 | X20CrNiSi25-4 | | Z20CNS25.04 | | | | | | X20CrNiSi25-4 |
| 14 | J92701 | 1.4312 | GX10CrNi18-8 | ANC 3 grade A; ANC 3 A; 302 C 25 | Z 10 CN 18.9 M | | | | SCS 12; SCS 13A | 10Ch18N9L | |
| 14 | J92605; J93005 | 1.4823 | GX40CrNiSi27-4; G-X 40 CrNiSi 27 4 | | | | | | SCH 11 X | | GX40CrNiSi27-4 |
| 14 | | 1.4585 | GX7CrNiMoCuNb18-18; G-X 7 CrNiMoCuNb 18 18 | | | | X 6 CrNiMoTi 17 12 | | | | |
| 14 | 347; J92640; J82710 | 1.4552 | GX5CrNiNb19-11; G-X 5 CrNiNb 18 9 | 347 C 17; 821 grade Nb | Z 4 CNNb 19.10 M; Z 6 CNNb 18.10 M | | | AM-X 7 CrNiNb 20 10; F.8413 | SCS 21; SCS 21 X | | GX5CrNiNb19-11 |
| 14 | | 1.4500 | GX7NiCrMoCuNb25-20; G-X 7 NiCrMoCuNb 25-20 | | 23 NCDU 25.20 M | | | | | | |
| 14 | 304; S30400 | 1.4301 | X5CrNi18-10; X 5 CrNi 18 9 | 304 S 15; 304 S 31; LW 13; LW 15; LW 21; LWCF 13; LWCF 15; 302 S 17; 304 S 16; 304 S 17; 304 S 40 | Z 4 CN 19-10 FF; Z 5 CN 17-08; Z 6 CN 18-09; Z 7 CN 18-09 | 2333; 2332 | X 5 CrNi 18 10; X 5 CrNi 18 10 KG; X 5 CrNi 18 10 KW; X 5 CrNi 18 10 KT | F.3504; X 5 CrNi 18 10 | SUS 304; SUS 304 A; SUS 304-CSP; SUS 304 FB; SUS 304 TB; SUS 304 TBS; SUS 304 TKA; SUS 304 TKC | 08Ch18N10 | X5CrNi18-10 |
| 14 | 304L; 304 L; S30403; J92500; J92600 | 1.4306; 1.4309 | X2CrNi19-11; GXCrNi19-11 | 304 S 11; LW 20; LWCF 20; S.536; T.74; 304 C 12; 305 S 11 | Z 1 CN 18-12; Z 2 CN 18-10; Z 3 CN 19.10 M; Z 3 CN 18-10; Z 3 CN 19-11; Z 3 CN 19-11 FF | 2352 | X 3 CrNi 18 11; X 2 CrNi 18 11; GX 2 CrNi 19 10 | F.310.G; F.3503; X 2 CrNi 19 10; AM-X 2 CrNi 19 10; F.8412 | SCS19 | 03Ch18N11 | X2CrNi19-11; GXCrNi19-11 |
| 14 | 304H; 304 H; CF-8; J92590; J92600; J92650; J92710 | 1.4308 | GX5CrNi19-10; G-X 6 CrNi 18 9 | 304 C 15 | Z 6 CN 18.10 M; Z 6 CN 19.9 M | | | AM-X 7 CrNi 20 10; F.8411 | SCS 13; SCS 13 A; SCS 13 X | 07Ch18N9L | GX5CrNi19-10; 58E |

| Material Group No. | USA | Germany | | U.K. | France | Sweden | Italy | Spain | Japan | Russia | EURONORM |
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| | AISI/SAE/ UNS/ ASTM/AA | Werkstoff | DIN | BS | AFNOR | SS | UNI | UNE | JIS | GOST | EN |
| 14 | J92701 | 1.4312 | GX10CrNi18-8; G-X 10 CrNi 18 8 | ANC 3 grade A; ANC 3 A; 3025 S 25 | Z 10 CND 18.9 M | | | | SCS 12 | 10Ch18N9L | GX10CrNi18-8 |
| 14 | S32304 | 1.4362 | X2CrNiN23-4; X 2 CrNiN 23 4 | | Z 3 CN 23-04 Az | 2327 | | | | | X2CrNiN23-4 |
| 14 | 201; S20100 | 1.4372 | X12CrMnNiN17-7-5 | | Z 12 CMN 17-07 Az | | | | SUS 201 | | X12CrMnNiN 17-7-5 |
| 14 | 316; S31600 | 1.4436 | X3CrNiMo17-13-3; X 5 CrNiMo 17 13 3 | 316 S 31; 316 S 33; LW 23; LWCF 23; 316 S 19; 316 S 40; 316 S 41; 1.4436 | Z 6 CND 18-12-03; Z6 CND 18-13; Z 7 CND 18-12-03 | 2343 | X 5 CrNiMo 17 13; X 8 CrNiMo 17 13 | F.3538; X 5 CrNiMo 17 13 3 | SUS 316; SUS 316 A; SUS 316 FB; SUS 316 TB; SUS 316 TBS; SUS 316 TKA; SUS 316 TKC; SUS 316 TP | | X3CrNiMo17-13-3 |
| 14 | 316L; 316 L; S31603; J92700; J92800 | 1.4404 | X2CrNiMo17-12-2; X2CrNiMo17-13-2; X 2 CrNiMo 17 12 2; X 2 CrNiMo 17 13 2 | 316 S 11; 316 S 13; 316 S 14; 316 S 30; S.161; S.537; T.75 | Z 2 CND 17-12; Z 3 CND 17-11-02; Z 3 CND 17-12-02; Z 3 CND 17-12-02 FF; Z 3 CND 18-12-03 | 2348 | X 2 CrNiMo 17 12 | F.310.K; F.3533; F.3537 | SUS 316 L; SUS 316 LFB; SUS 316 LTBS; SUS 316 LTP; SUS 316 F 316 L | | X2CrNiMo17-13-2 |
| 14 | 316LN; 316 LN; S31653 | 1.4406 | X2CrNiMoN17-11-2; X2CrNiMoN17-12-2; X 2 CrNiMoN 17 12 2 | 316 S 61; 316 S 63 | Z 2 CND 17-11 Az | | X 2 CrNiMoN 17 12 | F.3542; X 2 CrNiMoN 17 12 2 | SUS 316 LN; SUS F 316 LN | | X2CrNiMoN 17-11-2 |
| 14 | CF-8M; J92900 | 1.4408 | GX5CrNiMo 19-11-2; G-X 6 CrNiMo 18 10 | ANC 4 grade B; ANC 4 B; 316 C 16; 845 grade B | | | | AM-X 7 CrNiMo 20 10; F.8414 | SCS 14; SCS 14 A; SCS 14 X | 07Ch18N10G2S2M2L | GX5CrNiMo 19-11-2 |
| 14 | S32750 | 1.4410 | X2CrNiMoN25-7-4; X 10 CrNiMo 18 9 | | Z 5 CND 25-06 Az | 2328 | | | | | X2CrNiMoN 25-7-4 |
| 14 | 316LN; 316 LN; S31563 | 1.4429 | X2CrNiMoN17-13-3; X 2 CrNiMoN 17 13 3 | 316 S 63; 1.4429 | Z 3 CND 17-12 Az | 2375 | X 2 CrNiMoN 17 13 | F.3543; X 2 CrNiMoN 17 13 3 | SUS 316 LN; SUS F 316 LN | | X2CrNiMoN 17-13-3 |
| 14 | 316L; 316 L; S31603; J92800 | 1.4435 | X2CrNiMo18-4-3; X 2 CrNiMo18 14 3 | 316 S 13; 316 S 11; 316 S 14; 316 S 31; LW 22; LWCF 22; 845 B | Z 3 CND 17-12-03; Z 3 CND 18-14-03 | 2353 | X 2 CrNiMoN 17 13; X 2 CrNiMoN 17 13 KG; X 2 CrNiMoN 17 13 KW | F.3533-X2 CrNiMo 17 13 2 | SUS 316 L; SUS 316 LFB; SUS 316 LTBS; SUS 316 LTP; SUS F 316 L | O3Ch17N14M3 | X2CrNiMo18-4-3 |
| 14 | S31726 | 1.4439 | X2CrNiMoN17-13-5; X 2 CrNiMoN 17 13 5 | | Z 3 CND 18-14-05 Az | | | F.3544; X 2 CrNiMoN 17 13 5 | | | X2CrNiMoN 17-13-5 |
| 14 | 317; S31700 | 1.4449 | X3CrNiMo18-12-3 | 317 S 16 | | | X 5 CrNiMo 18 15 | | SUS 317; SUS 317 TB; SUS 317 TP; SUS F 317 | | X3CrNiMo18-12-3 |
| 14 | 329; S31260; S32900 | 1.4460 | X3CrNiMoN27-5-2; X 4 CrNiMoN 27 5 2 | | Z 5 CND 27-05 Az; Z 3 CND 25-07 Az | 2324 | | F.3552; F.3309; X 8 CrNiMo 27-05; X 8 CrNiMo 26 6 | SUS 329 J 1; SUS 329 J 1 FB; SUS 329 J 1 TB; SUS 329 J 1 TP | 10Ch26N5M | X3CrNiMoN27-5-2 |
| 14 | S31803; S31260; S32900 | 1.4462 | X2CrNiMoN22-5-3; X 2 CrNiMoN 22 5 3 | 318 S 13; 1.4462 | Z 2 CND 24-08 Az; Z 3 CND 25-06-03 Az; Z 3 CND 25 -05 Az | 2377 | | | SUS 329 J 3 L; SUS 329 J 3 LTB; SUS 329 J 3 LTP | | X2CrNiMoN22-5-3 |
| 14 | 631; 17-7PH; 17-7 PH; S17700 | 1.4568; 1.4564; 1.4504 | X7CrNiAl17-7; X 7 CrNiAl 17 7 | 301 S 81 | Z 9 CNA 17-07; Z 8 CNA 17-07 | 2388 | | X 2 CrNiMo 17 12 | SUS 631; SUS 631 J 1; SUS 631-CSP | 09Ch17N7Ju1 | X7CrNiAl17-7 |
| 14 | 443; 444; S44300; S44400 | 1.4521 | X2CrMoTi18-2; X 2 CrMoTi 18 2 | | Z 3 CDT 18-02; Z 3 CDT 18-2 | 2326 | | F.3123; X 2 CrMoTiNb 18 2 | SUS 444; SUS 444 TB; SUS 444 TP | | X2CrMoTi18-2 |
| 14 | 904L; 904 L; N08904 | 1.4539 | X1NiCrMoCu25-20-5; X 1 NiCrMoCuN 25 20 5 | 904 S 13 | Z 2 NCDU 25-20 | 2562 | | | | | X1NiCrMoCu 25-20-5 |

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| | AISI/SAE/ UNS/ ASTM/AA | Werkstoff | DIN | BS | AFNOR | SS | UNI | UNE | JIS | GOST | EN |
| 14 | 630; 17-4PH; 17-4 PH; S17400 | 1.4542 | X5CrNiCuNb16-4; X 5 CrNiChNb 17 4 | | Z 7 CNU 15-05; Z 7 CNU 16-04; Z 7 CNU 17-04 | | | | SUS 630; SUS 630 FB; SUS F 630 | | X5CrNiCuNb16-4 |
| 14 | S31254 | 1.4547 | X1CrNiMoN20-18-7 | | | 2378 | | | | | X1CrNiMoN 20-18-7 |
| 14 | 631; 17-7PH; 17-7 PH; S17700 | 1.4568 | X7CrNiAl17-7; X 7 CrNiAl 17 7 | 301 S 81 | Z 9 CNA 17-07; Z 8 CNA 17-07 | 2388 | | X 2 CrNiMo 17 12 | SUS 631; SUS 631 J 1; SUS 631-CSP | 09Ch17N7Ju1 | X7CrNiAl17-7 |
| 14 | 316 Ti; S31635 | 1.4571 | X6CrNiMoTi17-12-2; X 6 CrNiMoTi 17 12 2 | 320 S 31; 320 S 18 | Z 6 CNDT 17-12 | 2350 | X 6 CrNiMoTi 17 12; X 6 CrNiMoTi 17 12 KG; X 6 CrNiMoTi 17 12 KW | F.310.B; F.3535; X 6 CrNiMoTi 17 12 2 | SUS 316 Ti; SUS 316 TiTB; SUS 316 TiTP | 08Ch16N11M3T; 08Ch17N13M2T; 10Ch17N13M2T | X6CrNiMoTi 17-12-2 |
| 14 | 309S; 309 S; 309; S30908; S30900 | 1.4833 | X12CrNi23-13; X 7 CrNi 23 14 | 309 S 24 | Z 15 CN 23-13; Z 15 CN 24-13 | | X 6 CrNi 23 14 | | SUS 309 S; SUS 309 S TB; SUS 309 S TP | | X12CrNi23-13 |
| 14 | S30415 | 1.4891 | X4CrNiSiN18-10; X 4 CrNiSiN 18 10 | | | 2372 | | | | | X4CrNiSiN 18-10 |
| 14 | S30815 | 1.4893 | X9CrNiSiNCe21-11-2; X 8 CrNiSiN 21 11 | | | 2368 | | | | | X9CrNiSiNCe 21-11-2 |
| 14 | 304H; 304 H; S30409; S30480 | 1.4948 | X6CrNi18-10; X6CrNi18-11; X 6 CrNi 18 11; | 304 S 50; 304 S 51; 801 grade A | Z 5 CN 18-09 | | | | SUS 302 | | X6CrNi18-10 |
| 14 | | 1.4581 | GX5CrNiMoNb19-11-2; G X 5 CrNiMoNb 18 10 | ANC 4 grade C; ANC 4 C; 318 C 17; 845 grade Nb | Z 4 CNDNb 18.12 M | | GX 6 CrNiMoNb 20 11 | | SCS 22 | | GX5CrNiMoNb 19-11-2 |
| 14 | 303; S30300 | 1.4305 | X8CrNiS18-9; X 10 CrNiS 18 9 | 303 S 31 | Z 8 CNF 18-09 | 2346 | X 10 CrNiS 18 09 | F.310.C; F.3508; X 10 CrNiS 18-09 | SUS 303 | 30Ch18N11 | X8CrNiS18-9; 58M |
| 14 | 304L; 304 L; S30403 | 1.4306 | X2CrNi19-11; X 2 CrNi 19 11 | 304 S 11; LW14; LW 20; LWCF 14; LWCF 20; S.536; T.74; 304 C 12; 304 S 11 | Z 1 CN 18-12; Z 3 CN 18-10; Z 3 CN 19-11; Z 3 CN 19-11 FF | 2352 | X 2 CrNi 18 11; X 3 CrNi 18 11 | F.310.G; F.3503; X 2 CrNi 18 10 | SUS 304 L; SUS 304 LFP; SUS 304 LTB; SUS 304 LTBS; SUS 304 LTP; SUS F 304 L | 03Ch18N11 | X2CrNi19-11 |
| 14 | 301; J 230; S30100; S30200 | 1.4310 | X10CrNi18-8; X 12 CrNi 17 7 | 301 S 21; 301 S 22 | Z 11 CN 17-08; Z 11 CN 18-08; Z 12 18-09 | 2331 | X 12 CrNi 17 07 | F.3517; X 2 CrNiN 18 10 | SUS 301; SUS 301-CSP; SUS 302; SUS 302 FB | 12Ch18N9 | X10CrNi18-8 |
| 14 | 304LN; 304 LN; S30453 | 1.4311 | X2CrNiN18-10; X 2 CrNiN 18 10 | 304 S 61 | Z 3 CN 18-10 Az; Z 3 CN 18-07 Az | 2371 | X 2 CrNiN 18 11 | F.3541; X 2 CrNiN 18 10 | SUS 304 LN; SUS F 304 LN | | X2CrNiN18-10 |
| 14 | 304B1; 304B2; 304B3; 304 B1; 304 B2; 304 B3; S30461; S30462; S30463 | 1.4350 | X5CrNi18-9 | 304 S 31 | Z 6 CN 18.09 | 2332; 2333 | X 5 CrNi 18 10 | F.3551 | | | 58E |
| 14 | 317L; 317 L; S31703 | 1.4438 | X2CrNiMo18-15-4; X2 CrNiMo 18 16 4 | 317 S 12 | Z 2 CND 19-15-04; Z 3 CND 19-15-04 | 2367 | X 2 CrNiMo 18 16 | F.3539; X2 CrNiMo 18 16 4 | SUS 317 L; SUS 317 LFB; SUS 317 LTB; SUS 317 LTP; SUS F 317 L; SUS Y 317 L | | X2CrNiMo18-15-4 |

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| | AISI/SAE/ UNS/ ASTM/AA | Werkstoff | DIN | BS | AFNOR | SS | UNI | UNE | JIS | GOST | EN |
| 14 | 321H; 321 H; S32109 | 1.4878 | X12CrNiTi18-10; X 12 CrNiTi 18-9 | 321 S 31 | Z 6 CNT 18-10 | 2337 | X 6 CrNiTi 18.11 | F.3553 | SUS 321; SUS 321 HFB; SUS 321 HTB; SUS 321 HTP; SUS 321 TKA; SUS 321 TP; SUS F 321; SUS Y 321 | | X12CrNiTi18-10; 58B |
| 14 | 347; 348; S34700; S34800 | 1.4550 | X6CrNiNb18-10; X 6 CrNiNb 18 10 | 347 S 31; ANC 3 grade B; ANC 3 B; 347 S 20; 347 S 40; 347 S 50; 347 S 51 | Z 6 CNNb 18-10 | 2338 | X 6 CrNiNb 18 11; X 6 CrNiNb 18 11 KG; X 6 CrNiNb 18 11 KW; X 6 CrNiNb 18 11 KT | F.3524; X 6 CrNiNb 18 10 | SUS 347; SUS 347 FB; SUS 347 HTB; SUS 347 TB; SUS 347 TKA; SUS 347 TP; SUS F 347 | 08Ch18N12B | X6CrNiNb18-10; 58F; |
| 14 | 318; S31803 | 1.4583 | X10CrNiMoNb18-12; X 10CrNiMoNb 18 12 | | Z 6 CNDNb 18-12 | | X 6 CrNiMoNb 20 11 | | | | |
| 14 | 310H; 310 H; 310S; 310 S; S31008; S31009 | 1.4845 | X8CrNi25-21; X 12 CrNi 25 21 | 310 S 16; 310 S 24; 310 S 25; 310 S 31 | Z 8 CN 25-20; Z 12 CN 25-20; Z 12 CN 26-21 | 2361 | X 6 CrNi 25 20 (X 6 CrNi 25 20) | F.331 | SUS 310 S; SUS 310 FB; SUS 310 STG; SUS 310 STP; SUS310 TB; SYS Y 310 S | 10Ch23N18; 20Ch23N18 | X12CrNi25-21 |
| 14 | | 1.4465; 1.4466 | X1CrNiMoN25-22-2; X 2 CrNiMoN 25 22 7 | | | | | | | | X1CrNiMoN 25-22-2 |
| 14 | 309; S30900 | 1.4828 | X15CrNiSi20-12; X 15 CrNiSi 20 12 | 309 S 24 | Z 9 CN 24-13; Z 17 CNS 20-12 | | X 16 CrNi 23 14 | F.3312; X 15 CrNiSi 20-12 | SUH 309; SUS 309 TB; SUS 309 TP | 20Ch20N14S2 | 58C; X15CrNiSi20-12 |
| 14 | HK; J94203; J94204; J94224 | 1.4848 | GX40CrNiSi25-20; G-X 40 CrNiSi 25 20 | 310 C 40; 310 C 45 | | | G X 40 CrNi 26 20 | AM-X 40 CrNi 25 20; F.8452 | SCH 21; SCH 22; SCH 22 X | | GX40CrNiSi25-20 |
| 14 | HK 30; J93503; J94003; J94013; HH | 1.4837; 1.4848+Nb | GX40CrNiSi25-12; G-X 40 CrNiSi 25 12 | 309 C 30 | | | G X 35 CrNi 25 12 | | SCH 13; SCH 13 A; SCH 13 X; SCH 17; SCS 17 | 40Ch24N12SL | GX40CrNiSi25-12 |
| 14 | 310; 314; S3100; S31400; S31500 | 1.4841 | X15CrNiSi25-21; X 15 CrNiSi 25 20 | 314 S 25 | Z 15 CNS 25-20 | | X 16 CrNiSi 25 20 | F.3310; X 15 CrNiSi 25-20 | SUH 310; SUS 310 TB; SUS Y 310 | 20Ch25N20S2 | X15CrNiSi25-21 |
| 14 | | 1.4849 | GX40NiCrSiNb38-19; G-X 40 NiCrSi 38 18 | | | | | | | | GX40NiCrSiNb 38-19 |
| 14 | S32760; SA351/995; 25Cr-7Ni-Mo-N | 1.4501 | X2CrNiMoCuWN25-7-4 | 1.4501 | Z 3 CNDU 25-06 Az | | | | | | X2CrNiMoCuWN 25-7-4 |
| 14 | 348; S34800 | 1.4546 | X5CrNiNb18-10 | 2 S.130; 2 S.143; 3 S.144; 3 S.145; S.525; S.527 | | | | | | | |
| 14 | | 1.4544; 1.4544.9 | | S.524; S.526; 2 S 129 | Z 10 CNT 18-11; 9160/C 63; 9160C201 | | X 6 CrNiTi 18 11 | | | 08Ch18N12T | FE-PA 13 |
| 14 | | 1.6900 | X12CrNi18-9; X 12 CrNi 18 9 | | | | | | | | |
| 14 | | 1.4829 | X12CrNi22-12; X 12 CrNi 22 12 | | | | | | | | |
| 14 | | 1.4882 | X50CrMnNiNbN21-9 | | Z 50 CMNNb 21.09 | | | | | | X50CrMnNiNbN 21-9 |
| 14 | 316N; 316 N; J92804 | 1.4409 | GX2CrNiMo19-11-2; G-X 2 CrNiMo 19 11 2 | | Z 3 CND 19.10 M | | GX2 CrNiMo 19 11 | AM-X 2 CrNiMo 19 11; F.8415 | SCS 16 A; SCS 16 AX SCS 16 AXN | | GX2CrNiMo 19-11-2 |
| 14 | 304L; 304 L J92500; J92620 | 1.4309 | GX2CrNi19-11 | 304 C 12 | Z 3 CN 19.10 M | | GX 2 CrNi 19 10 | AM-X 2 CrNi 19 10; F.8412 | SCS 19; SCS 19 A | | GX2CrNi19-11 |

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| | AISI/SAE/ UNS/ ASTM/AA | Werkstoff | DIN | BS | AFNOR | SS | UNI | UNE | JIS | GOST | EN |
| 15 | A48 25 B; Class 25; No 25 B | 0.6015 | EN-GJL-150; GG 15; EN-JL 1020 | Grade 150 | Ft 15 D; R 15 D | 01 15-00 | G 14; G 15 | FG 15 | FC 15; FC 150 | SCh 15 | EN-GJL-150; EN-JL 1020 |
| 15 | A48-30 B; Class 30, No.30 B | 0.6020 | EN-GJL-200; GG 20; EN-JL 1030 | Grade 220 | Ft 20 D | 01 20-00 | G 20; Gh 190 | FG 20 | FC 20; FC 200 | SCh 20 | EN-GJL-200; EN-JL 1030 |
| 15 | A48-20 B; Class 20; No 20 B | 0.6010 | EN-GJL-100; GG 10; EN-JL 1010 | | Ft 10 D | 01 10-00 | G 10 | FG 10 | FC 10; FC 100 | SCh10 | EN-GJL-100; EN-JL 1010 |
| 16 | A48-45 B; Class 45; No 45 B | 0.6030 | EN-GJL-300; GG 30; EN-JL 1050 | Grade 300 | Ft 30 D | 01 30-00 | G 30 | FG 30 | FC 30; FC 300 | SCh 30 | EN-GJL-300; EN-JL 1050 |
| 16 | A48-50 B; Class 50; No 50 B | 0.6035 | EN-GJL-350; GG 35; EN-JL 1060 | Grade 350 | Ft 35 D | 01 35-00 | G 35 | FG 35 | FC 35; FC350 | SCh 35 | EN-GJL-350; GG 35; EN-JL 1060 |
| 16 | A48-60 B; Class 60; No 60 B | 0.6040 | EN-JLZ; GG 40 | Grade 400 | Ft 40 D | 01 40-00 | | | | SCh 40 | EN-JLZ |
| 16 | A48-40 B; Class 40; No 40 B | 0.6025 | EN-GJL-250; GG 25; EN-JL 140 | Grade260 | Ft 25 D | 01 25-00 | G 25 | FG 25 | FC 25 | SCh 25 | EN-GJL-250; EN-JL 140 |
| 17 | | 0.7033 | EN-GJS-350-22-LT; GGG 35.3 | 350/22 L 40 | FGS 370-/17 | 0717-15 | GS 370-17 | FNG 38-17 | FCD 350-22L | VCh42-12 | EN-GJS-350-22-LT |
| 17 | 60-40-18; A536 60-40-18 | 0.7043 | EN-GJS-400-18; EN-GJS-400-18-LT; GGG-40.3; EN-GJS-400-18A-LT | 370/7; SNG 370/17 | FGS 370-17 | 0717-15 | GSO 400-12 | | | VCh 42-2 | EN-GJS-400-18; EN-GJS-400-18-LT; EN-GJS-400-18A-LT |
| 17 | 60-40-18; A536 60-40-18 | 0.7040 | EN-GJS-400-15; EN-JS 1030; GGG-40 | 420/12; SNG 420/12 | FCS 400-12 | 0717-02 | GS 400-12 | FGE 38-17 | FCD 40 | VCh 42-12 | EN-GJS-400-15; EN-JS 1030 |
| 17 | 65-45-12; A536 65-45-12 | 5.3107 | EN-GJS-450-10 | 450/10; SNG 450/10 | FGS 450-10 | | GS 400-12 | FGE 42-12 | FCD450 | VCh 45 | EN-GJS-450-10 |
| 18 | 65-45-12; A536 65-45-12 | 0.7050 | EN-GJS-500-7; EN-GJS-500-7A; EN-JS 1050; GGG-50 | 500/7 | FGS 500-7 | 0727-02 | GS 500/7 | FGE 50-7 | FCD 50; FCD 500; FCD 500-7 | VCh 50-2 | EN-GJS-500-7; EN-GJS-500-7A; EN-JS 1050 |
| 18 | 80-55-06; A536 80-55-06 | 0.7060 | EN-GJS-600-3; EN-GJS-600-3A; EN-JS 1060; GGG-60 | 600/3 | FGS 600-3 | 0732-03 | GS 600/3 | FGE 60-2 | FCD 60; FCD 600; FCD 600-3 | | |
| 18 | | 0.7652 | GGG-NiMn 13 7 | S-NiMn 13 7 | S-NM 13 7 | 07 32-03 | GGG 60 | GGG 60 | | | |
| 18 | 100-70-03; A536 100-70-03 | 0.7070 | EN-GJS-700-2; EN-JS 1070; GGG-70 | 700/2; SNG700/2 | FGS 700-2 | 0737-01 | GS 700-2 | FGE 70-2 | FCD 70; FCD 700; FCD 700-2 | VCh 70-2 | EN-GJS-700-2; EN-JS 1070 |
| 18 | A439 Type D-2 | 0.7660 | GGG-NiCr 20 2 | S-NiCr 20 2 | S-NC 20-2 | | | | | | |
| 18 | A439 Type D-2 B | 0.7661 | GGG-NiCr 20 3 | S-NiCr 20 3 | S-NC 20 3 | | | | | | |
| 19 | A47-32510; A47 Class 32510; A47 Grade 32510; 32510 | 0.8135 | EN-GJMB-350-10; EN-JM 1130; GTS-35-10; GTS-35 | B 340/12; 310 B340/12 | MN 35-10; A32-702 MN 350-10 | 0810 | B 35-10 | GTS 35; 36114 Type A | FCMB 340; G5703 FCMB 340 | KCh 35-10 | EN-GJMB-350-10; EN-JM 1130 |
| 19 | A47-35018, A47 Class 35018; A47 Grade 35018 | | | | MN 380-18; A32-702 MN 380-18 | | | | | KCh 37-12 | |
| 19 | A47-22010; A47 Class 22010; A47 Grade 22010; UNS F22200 | | | B 32-10; 6681 B 32-10 | | | | | FCMB 310 | KCh 33-8 | |
| 20 | A220-50005; A220 Class 50005; A220 Grade 50005 | 0.8155 | EN-GJMB-550-4; EN-JM1160; GTS-55-04 | P 55-04; P 510/4 | MP 60-3; A32-703 MP 60-3; Mn 550-4 | 0856-00 | P 55-04 | Type C; 36116 Type C | FCMP 540 | KCh 55-4; KCh60-3 | EN-GJMB-550-4; EN-JM1160 |

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| | AISI/SAE/ UNS/ ASTM/AA | Werkstoff | DIN | BS | AFNOR | SS | UNI | UNE | JIS | GOST | EN |
| 20 | A220-70003; A220 Class 70003; A220 Grade 70003 | 0.8165 | EN-GJMB-650-2; EN-JM1180; GTS-65-02 | P 65-02; 6681 P 65-02; P 570/3 | Mn 650-3 | 0862-030 | GMN 65 | | FCMP 590 | KCh 63-3 | EN-GJMB-650-2; EN-JM1180 |
| 20 | A220-70003; A220 Class 70003; A220 Grade 70003 | 0.8170 | EN-GJMB-700-2; EN-JM1190; GTS-70-02 | P 70-2; 6681 P 70-2; P 690/2 | MP 70-2; A 32-703 MP 70-2; Mn 700-2 | 0862-03 | P 70-2; GMN 70 | 36116 Type A | FCMP 690 | KCh 70-2 | EN-GJMB-700-2; EN-JM1190 |
| 20 | A220-45006; A220 Class 45006; A220 Grade 45006 A220-45008; A220 Class 45008; A220 Grade 45008 | 0.8145 | EN-GJMD-450-6; EN-JM1140; GTS-45-06; GTS-45 | P 45-06; 6681 P 45-06 | MP 50-5; A32-703 MP 50-5 | 0854-00 | P 45-06 | Type E; 36116 Type E | | KCh 45-7 | EN-GJMD-450-6; EN-JM1140 |
| 20 | A220-80002; A220 Class 80002; A220 Grade 80002 | | | P 70-2 | MN 700-2 | 854 | | | FCMP 70; FCMP 700 | KCh 80-1.5 | |
| 20 | A220-90001; A220 Class 90001; A220 Grade 90001 | | | | | | | | | | |
| 20 | A220-60004; A220 Class 60004; A220 Grade 60004 | | | | | | | | | | |
| 20 | A220-40010; A220 Class 40010; A220 Grade 40010 | | | | | 0852-00 | | | | | |
| 20 | | 0.8040 | EN-GJMW-400-5; GTW-40-05 | W 40-05 | MB 400-5 | | W 40-05 | 36113 Type A | FCMW 370 | | EN-GJMW-400-5; EN-JM1030 |
| 20 | | 0.8035 | EN-GJMW-350-4; GTW-35-04 | W 35-04 | MB 35-7 | | W 35-04 | 36113 Type B | FCMW 330 | | EN-GJMW-350-4; EN-JM1010 |
| 21 | AA5005; AA5006; A95005; A95006; 5005; 5005A; 5006 | 3.3315 | AlMg1; AlMg1C | N41 | A G0-6 | 144106 | L3350 | | A5005 | 1510; AMg1 | AlMg1C; 5005A |
| 21 | AA1050; A91050; 1050; 1050A | 3.0255 | Al99,5; Al99.5 | 1B | A5 | 14407 | 9001/2 | L-3051 | | AD0 | Al99.5; Al99,5; 1050A |
| 21 | AA1200; A91200 ; 1200; 1200A | 3.0205 | Al99,0; Al99.0; Al99 | 1C | A4 | 144010 | Al99.0 | L-3001 | A1200 | A0 | Al99.0; AL99,0; 1200 |
| 22 | AA2017; A92017; 2017; 2017A | 3.1325; 3.1124 | AlCu2,5Si(A); AlCu2.5Si(A); AlCuMg1 | | A-U4G | | | L-3120 | | V65 | AlCu2,5Si(A); AlCu2.,5Si(A); 2017A |
| 22 | | 3.2315 | AlMgSi1 | H30 | A-SGM0.7 | 144312 | 9006/4 | L-3453 | | AD35 | AlSiMgMn; 6082 |
| 22 | | 3.4345 | AlZnMgCuO,5; AlZnMgCuO.5 | | | | | | | | AlZnMgCu0.5; AlZnMgCu0,5; 7022 |
| 22 | | 3.1655 | AlCu6BiPb; AlCuBiPb | FC1 | A-U5PbBi | 144355 | 9002/5 | L-3192 | A2011 | | AlCu6BiPb; 2011 |
| 22 | AA7075; A97075; 7075 | 3.4365; 3.4364 | AlZn5,5MgCu; AlZn5.5MgCu; AlZnMgCu1,5; AlZnMgCu1.5 | 7075; L95; L96 | A-Z5GU | | 9007/2 | L-3710 | A7075 | B95 | AlZn5.5MgCu; AlZn5,.5MgCu; AW-7075; 7075 |

| Material Group No. | USA | Germany | | U.K. | France | Sweden | Italy | Spain | Japan | Russia | EURONORM |
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| | AISI/SAE/ UNS/ ASTM/AA | Werkstoff | DIN | BS | AFNOR | SS | UNI | UNE | JIS | GOST | EN |
| 22 | AA2024; A92024; 2024 | 3.1355; 3.1354 | AlCuMg2 | 2024; 2L97 | A-U4G1 | | 9002/4; 3583 | L-3140 | A2024 | D16 | AlCu4Mg1; 2024 |
| 22 | | 3.4335 | AlZn4,5Mg1; AlZn4.5Mg1 | H17 | A-Z5G | 144425 | 9007/1 | L-3741 | | | AlZn4.5Mg1; AlZn4,5Mg1; 7020 |
| 22 | AA6061; A96061; 6061 | 3.3211; 3.3214 | AlMg1SiCu | H20 | A-GSUC | | 9006/2 | L-3420 | A6061 | AD33 | EN AW-6061; EN AW-AlMg1SiCu; AlMg1SiCu |
| 23 | | 3.3261 | G-AlMg5Si; GK-AlMg5Si; AlMg5Si; VDS 245 | LM5 | | 144163 | | | | AL13 | EN AC-51400; EN AC-AlMg5Si; G-AlMg5Si; AlMg5Si |
| 23 | | 3.2982 | GD-AlSi12(Cu); G-AlSi12(Cu); AlSi12(Cu); VDS 231 D | | A-S12U | | 3048 | | | | EN AC-47100; EN AC-AlSi12C; G-AlSi12Cu; AlSi12Cu; AlSi12Cu1(Fe) |
| 23 | 520.0; AA 520.0; A05200 | | | | A-G10S | | 3056 | L-2310 | AC7B | A18 | |
| 23 | 222.0; AA 222.0; A02220 | | | LM12 | | | 3041 | L-2110 | | | |
| 23 | 518.0; AA 518.0; A05180 | 3.3292 | G-AlMg9; GD-AlMg9; AlMg9; VDS 349 | | | | | | | | EN AC-51200; EN AC-AlMg9; G-AlMg9; AlMg9 |
| 23 | 203.0; AA 203.0; A02030 | 3.1754 | G-AlCu5Ni1,5; G-AlCu5Ni1.5 | | AU5NKZr | | | | | | |
| 23 | ER4047; A94047 | 3.2585 | SG-AlSi12 | 4047A; NG2 | | 144262 | | | | | SG-AlSi12; EL-AlSi12 |
| 23 | 712.0; AA 712.0; A07120 | | G-AlZn10Si8Mg; GK-AlZn10Si8Mg; AlZn10Si8Mg; VDS 108 | | A-Z5GF | | 3602 | | | | EN AC-71100; EN AC-AlZn10Si8Mg; G-AlZn10Si8Mg; AlZn10Si8Mg |
| 23 | 514.0; 514.1; AA 514.0; AA 514.1; A05140; A05141 | 3.3561 | G-AlMg5; GK-AlMg5; AlMg5; EN AC-51300; VDS 244 | | A-G6 | | 3058 | L-2331 | | AL28; AMg5Mz; | EN AC-51300; EN AC-AlMg5; G-AlMg5; AlMg5 |
| 23 | B413.0; AA B413.0; A24130; B213.0; AA 213.0; A22130 | 3.2581; 3,2582 | G-AlSi12; GK-AlSi12; GD-AlSi12; AlSi12 | LM6 | A-S13 | 144261 | 4514 | L-2520 | AC3 | | EN AC-44200; EN AC-AlSi12; G-AlSi12; GD-AlSi12; AlSi12 |
| 23 | | 3.2211 | G-AlSi11; GK-AlSi11; AlSi11 | | | | | | | | EN AC-44000; EN AC-AlSi11; G-AlSi11 |
| 23 | A444.0; AA A444.0; A14440 | | | | | | | | | AK7 | |
| 23 | | 3.3541 | G-AlMg3; GK-AlMg3; GF-AlMg3; AlMg3; VDC 244 | H20 | A-G3T | 144224 | 3059 | L-2341 | ADC6 | | EN AC-51100; EN AC-AlMg3; G-AlMg3; AlMg3 |
| 24 | 515.0; AA 515.0; A05150 | 3.3241 | G-AlMg3Si; GK-AlMg3Si; GF-AlMg3Si; AlMg3Si; AlMg3Si1 | | | | | | | | G-AlMg3Si1; AlMg3Si |
| 24 | | 3.2373 | G-AlSi9Mg; GK-AlSi9Mg; AlSi9Mg | | A-S9G | | 3051 | | AC4A | AK9 | G-AlSi9Mg; AlSi9Mg |

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| | AISI/SAE/ UNS/ ASTM/AA | Werkstoff | DIN | BS | AFNOR | SS | UNI | UNE | JIS | GOST | EN |
| 24 | A356.0; AA A356.0; A13560; A356.2; AA A356.2; A13562 | 3.2371 | G-AlSi7Mg; GK-AlSi7Mg; GF-AlSi7Mg; AlSi7Mg | 2L99 | A-S7G03 | | | L-2651 | AC4CH | AL9 | G-AlSi7Mg; AlSi7Mg |
| 24 | 204.0; AA 204.0; A02040 | 3.1371 | G-AlCu4TiMg; GK-AlCu4TiMg; GF-AlCu4TiMg; AlCu4TiMg | | AU5GT | | | L-2140 | AC1B | | EN AC-21000; EN AC-AlCu4TiMg; G-AlCu4TiMg |
| 24 | A333.0; AA A333.0; A13330 | 3.2161 | G-AlSi8Cu3; GK-AlSi8Cu3 | | | 144163 | | | | AL13 | EN AC-AlSi8Cu3; EN AC-AlSi8Cu3; G-AlSi8Cu3 |
| 24 | 380.0; AA 380.0; A03800 | 3.2163 | G-AlSi9Cu3; GD-AlSi9Cu3; AlSi9Cu3; VDS 226 | LM24 | A-S9U3 | 144252 | 3610 | L-2630 | AC4B | AK8M3; AK8 | EN AC-46200; EN AC-AlSi8Cu3; G-AlSi9Cu3; AlSi8Cu3 |
| 24 | 365.0; AA 365.0; A03650 | | G-AlSi10MnMg | | | | | | | | EN AC-43500; EN AC-AlSi10MnMg; G-AlSi10MnMg |
| 24 | 319.0; AA 319.0; A03190 | 3.2151 | G-AlSi6Cu4; GK-AlSi6Cu4; AlSi6Cu4; VDS 225 | LM21 | A-S5UZ | 144230 | 7369/4 | L-2620 | AC2B | AK5M | EN AC-45000; EN AC-AlSi6Cu4; G-AlSi6Cu4; AlSi6Cu4 |
| 24 | | 3.2383 | G-AlSi10MgCu; GK-AlSi10MgCu; G-AlSi10Mg(Cu); GK-AlSi10Mg(Cu); AlSi10MgCu; AlSi10Mg(Cu) | | A-S10UG | | | | | | |
| 24 | | 3.2381; 3.2385 | G-AlSi10Mg; GK-AlSi10Mg; GD-AlSi10Mg; AlSi10Mg; VDS 239 | | A-S10G | 144253 | | | | | EN AC-43000; EN AC-AlSi10Mg; G-AlSi10Mg; AlSi10Mg |
| 24 | | 3.1841 | G-AlCu4Ti; AlCu4Ti | | | | | | | AL19 | EN AC-21100; EN AC-AlCu4Ti; G-AlCu4Ti; AlCu4Ti |
| 25 | 390.0; AA 390.0; A03900 | | G-AlSi17Cu4Mg | LM30 | | 4282 | | | | | EN AB-48100; EN AC-48100; G-AlSi17Cu4Mg; AlSi17Cu4Mg |
| 25 | 393.0; AA 393.0; A03930 | | G-AlSi20CuMgNi; AlSi20CuMgNi | LM29 | | | | | | AK21M2N2 | |
| 25 | | | G-AlSi18Cu1MgNi; AlSi18Cu1MgNi | LM28 | | | | | | | |
| 26 | C36000 | 2.0375 | CuZn36Pb3 | CZ124 | CuZn36Pb3 | | 12167 | | C3600; C3601; C3602 | | CuZn36Pb3; CW603N |
| 26 | C83810 | 2.1098 | CuSn3Zn8Pb5-C; G-CuSn2ZnPb | LG1 | | | | | | | CuSn3Zn8Pb5-C |
| 26 | C83600 | 2.1096; 2.1096.01 | CuSn5Zn5Pb5-C; G-CuSn5ZnPb; Rg 5 | LG2 | CuPb5Sn5Zn5; UE5; U-E 5 Pb 5 Z 5 | 5204-15 | | | H5111; H2203 | BrO5Ts5S5 | CuSn5Zn5Pb5-C |
| 26 | C93200 | 2.1090 | CuSn7Zn4Pb7-C; G-CuSn7ZnPb; GC-CuSn7ZnPb; GZ-CuSn7ZnPb; Rg 7 | GC 493K | CuSn7Pb6Zn4; UE7; U-E 7 Z 5 Pb 4 | | | | | | CuSn7Zn4Pb7-C |
| 26 | C93800 | 2.1182 | CuSn7Pb15-C; G-CuPb15Sn; GC-CuPb15Sn; GZ-CuPb15Sn | LB1 | U-Pb15E8; U-Pb 15 E8 | | | C-3300 | | | CuSn7Pb15-C; CC496K |
| 26 | C93700 | 2.1176 | CuSn10Pb10-C; G-CuPb10Sn; GC-CuPb10Sn; GZ-CuPb10Sn | LB2 | U-Pb10 | | | | | | CuSn10Pb10-C |
| 27 | C22000 | 2.0230 | CuZn10; Ms90 | CZ101 | U-Z10; CuZn10 | | P-CuZn10; P-OT90 | | C2200 | L90 | CuZn10; CW501L |

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| | AISI/SAE/ UNS/ ASTM/AA | Werkstoff | DIN | BS | AFNOR | SS | UNI | UNE | JIS | GOST | EN |
| 27 | C86200; SAE 430A | 2.0596 | CuZn34Mn3Al2Fe1-C; G-CuZn34Al2; GK-CuZn34Al2; GZ-CuZn34Al2 | HTB 1 | U-Z36N3; CuZn19Al6Y20 | | | | HBSC4; H5102/class 3; H5102/class 4 | LTs23A; LTs23A6Zh3MTs2 | CuZn34Mn3Al2 Fe1-C; CC764S |
| 27 | C27200 | 2.0335 | CuZn36; Ms64 | CZ108 | U-Z36; CuZn 36 | | C 2700 | | | L63 | CuZn36; CW507L |
| 27 | C27400 | 2.0321 | CuZn37; Ms63 | CZ108 | | | P-CuZn37; P-OT63 | | C2720 | L63 | CuZn37; CW508L |
| 27 | C86400 | 2.0592 | CuZn35Mn2Al1Fe1-C; G-CuZn35Al1; GK-CuZn35Al1; GZ-CuZn35Al1; G-Ms60 | HTB 1 | | | | | HBSC1; CAC301 | | CuZn35Mn2Al1 Fe1-C; CC765S |
| 27 | C46400 | 2.0530 | CuZn38Sn1As; CuZn38Sn1 | CZ112 | | | P-CuZn39Sn1 | | C4640 | LO60-1 | CuZn38Sn1As; CW717R |
| 27 | C23000; 85Cu-15Zn | 2.0240 | CuZn15 ; CuZn 15 | CZ102 | U-Z15; CuZn15 | 5112-02; 5112-04; 5112-05 | | | C2300 | | CuZn15; CW502L |
| 27 | C24000; 80Cu-20Zn | 2.0250 | CuZn20; CuZn 20; Ms80 | CZ103 | CuZn20 | 5114-02; 5114-04; 5114-05 | | | C2400 | | CuZn20; CW503L |
| 27 | C26000; CA260 | 2.0265 | CuZn30; CuZn 30 | CZ106 | CuZn30 | | | | C2600 | | CuZn30; CW505L |
| 28 | C63000 | 2.0966 | CuAl10Ni5Fe4; CuAl 10 Ni 5 Fe 4 | CA 104 | U-A10N; CuAl9Ni5Fe3 | | P-CuAl10Ni5Fe5 | | C6301 | BrAD; BrAZhN10-4-4; N10-4-4 | CuAl10Ni5Fe4; CW307G |
| 28 | C90700 | 2.1050 | CuSn10-C; G-CuSn 10; SnBz10 | CT1 | CuSn8 | | | | | | CuSn10-C; CC480K |
| 28 | C90800; C91700 | 2.1052; 2.1052.01; 2.1052.04; 2.1052.03 | CuSn12-C; G-CuSn12; GZ-CuSn12; SnBz12, Gbz12 | PB2 | UE12P | | | | CAC502C; PBC2C | | CuSn12-C; CC483K |
| 28 | C95800; C95810 | 2.0975 | G-CuAl10Fe5Ni5-C; G-CuAl 10 Ni; NiAlBz-F60 | | CuAl10Fe5Ni5 Y70 | | | | CAC703C | | CC333G |
| 28 | C11000 | 2.0060 | Cu-ETP; E-Cu57; E Cu 57 | C101 | Cu-B | | Cu-DHP | C11020 | C1100 | M1 | Cu-ETP; E-Cu57; CW004A |
| 28 | C81500 | 2.1292 | G-CuCrF 35 | CC1-FF | U-Cr0.8Zr | | | | | | |
| 28 | C10300 | 2.0070 | Cu-HCP; Cu-PHC; SE-Cu | | | | | | C103 | LS60-2 | Cu-HCP; CW020A; Cu-PHC; CW021A |
| 28 | C10100; C10200 | 2.0040 | Cu-OF; OF-Cu | C103; C110 | Ci-c1; Cu-c2 | | | C-1120 | C1011; C1020 | M0b | Cu-OF; CW008A |
| 28 | C86550 | 2.0590 | G-CuZn40Fe; G-SoMsF30 | | | | | | | | G-CuZn40Fe |
| 28 | C18100; C18150 | 2.1293 | CuCr1Zr; CuCrZr | CC102 | U-C1Z; U-Cr0.8Zr | | | | | | CuCr1Zr; CW106C |
| 28 | C11000; C12200 | 2.0090 | Cu-DHP; E-Cu58; E Cu 58 SF-Cu | C106 | Cu-B | | | | C1100; C1220 | M1f | Cu-DHP; E-Cu58; CW024A |
| 28 | C95500 | 2.0971 | CuAl9Ni3Fe2 | | UA9 | | | | | BrA10Zh4N4L | |
| 28 | C61000 | 2.0920 | CuAl8; Cu Al 8 | | CuAl8 | | | | | BrA7 | CuAl8 |
| 29 | | | | | | | | | | | |
| 29 | | | | | | | | | | | |
| 30 | | | | | | | | | | | |
| 30 | | | | | | | | | | | |
| 31 | 330; N08330 | 1.4864 | X12NiCrSi35-16; X12NiCrSi36-16; X12 NiCrSi 36 16 | NA 17; INCOLOY alloy DS | Z 20 NCS 33-16; Z 12 NCS 37-18; Z 12 NCS 35-16 | | | F.3313 | SUH 330 | | |

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| 31 | N08002; N08004; N08005; N08030 | 1.4865 | GX40NiCrSi38-19 GX40NiCrSi38-18; G-X40 NiCrSi38 18 | 330 C 11; 330 C 40; 331 C 40 | | | GX 50 NiCr 39 19 | | SCH 15; SCH 16 | | GX40NiCrSi38-18 |
| 31 | | 1.4558 | X2NiCrAlTi32-20; X2 NiCrAlTi 32 20 | NA 15 | | | | | NCF 800 | | X2NiCrAlTi32-20 |
| 31 | N08031 | 1.4562 | X1NiCrMoCu32-28-7; X1 NiCrMoCu 32 28 7 | | | | | | | | X1NiCrMoCu 32-28-7 |
| 31 | | 1.4958 | X5NiCrAlTi31-20; X5 NiCrAlTi 31 20 | NA 15 | | | | | NCF 800 H; NCF 718 | | X5NiCrAlTi31-20 |
| 31 | N08811 | 1.4959 | X8NiCrAlTi32-21; X8 NiCrAlTi 32 21 | NA 15; NA 15 H | Z 8 NC 33-21; Z 10 NC 32-21 | | | | | | X8NiCrAlTi32-21 |
| 31 | N08028 | 1.4563 | X1NiCrMoCu31-27-4; X1 NiCrMoCu 31 27 4 | | Z 2 NCDU 31-27; Z 1 NCDU 31-27-03 | 2584 | | | | EK77; ChN30MDB | X1NiCrMoCu 31-27-4 |
| 31 | B 163; N08800; N08810; N08332; N08811 | 1.4876 | X10NiCrAlTi32-21; X10NiCrAlTi32-20; X10 NiCrAlTi 32 20 | NA 15; NA 15 H | Z 10 NC 32-21; Z 8 NC 33-21 | | | F.3314; F.3545 | NCF 800; NCF 800 TB; NCF 800 TP | | X10NiCrAlTi32-21 |
| 32 | S590; J 467 | 1.4977 | X40CoCrNi20-20; X40 CoCrNi 20 20 | | Z 42 CNKDWNb | | | | | | |
| 32 | 660; S66286 | 1.4980 | X6NiCrTiMoVB25-15-2; X5NiCrTi26-15 X6 NiCrTiMoVB 25 15 2; X5 NiCrTi 26 15 | HR 51; HR 52 | Z 3 NCT 25; Z 6 NCTDV 25.15 B | | | | | | X6NiCrTiMoVB 25-15-2; X5NiCrTi26-15 |
| 32 | | 1.4943; 1.4944 | X4NiCrTi25-15; X5NiCrTi26-15 | HR 51 | Z 6 NCTDV 25-15 B | 2570 | | | | | X4NiCrTi25-15; X5NiCrTi26-15 |
| 32 | 661; R30155 | 1.4971 | X12CrCoNi21-20; X12 CrCoNi 21 20 | | | | | | | | X12CrCoNi21-20 |
| 32 | Haynes 556; R30556 | | | | | | | | | | |
| 33 | Incoloy 825; N08825; | 2.4858 | NiCr21Mo | NA 16 | NC 21 Fe DU | | | | | ChN38VT | |
| 33 | Hastelloy C-4; N06455 | 2.4610 | NiMo16Cr16Ti | | | | | | | | |
| 33 | Nimonic 75; N06075; AMS 5715 | 2.4630; 2.4951 | NiCr20Ti | HR 5; HR 203-4 | NC 20 T | | | | | | |
| 33 | Inconel 625; N06625; AMS 5666 | 2.4856 | NiCr22Mo9Nb | NA 21 | NC 22 FeDNb | | | | | | |
| 33 | Inconel 690; N06690 | 2.4642 | NiC29Fe | | NC 30 Fe | | | | | | |
| 33 | Monel 400; N04400 | 2.4360; 2.4361 | NiCu30Fe | NA 13 | NU 30 | | | | | | |
| 33 | Hastelloy X; N06002; 5390A; AMS 5754; AMS 5536 | 2.4603; 2.4665 | NiCr30FeMo; NiCr22Fe18Mo; NiCr21Fe18Mo9 | HR 6 | NC 22 FeD | | | | | | |
| 33 | Inconel 617; N06617; AMS 5887 | 2.4663a | NiCr23Co12Mo | | NC 14 K 9 T 5 DWA | | | | | | |
| 33 | Nimonic 90; N07090; AMS 5829 | 2.4632; 2.4969 | NiCr20Co18Ti; NiCr 20 Co 18 Ti | HR 2; HR202; HR 402; HR 501; HR 502; HR 503 | Z 8 NCDT 42 | | | | | | NiCr20Co18Ti |
| 33 | Haynes 214; NO7214 | 2.4646 | NiCr16Al | | | | | | | | |
| 33 | Rene 41; N07041; AMS 5712; AMS 5713 | 2.4973 | NiCr19Co11MoTi; NiCr 19 CoMo | | NC 19 KDT | | | | | | |
| 33 | Hastelloy B2; N10665 | 2.4617; 2.4616; 2.4615 | NiMo28; EL-NiM29; SG(UP)-NiMo27 | | | | | | YNiMo-7 | | NiMo28 |

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| 33 | Udimet L-605; R30605 | 2.4964 | CoCr20W15Ni | | | | | | | | |
| 33 | Monel R-405; N04405 | 2.4360; 2.4361 | NiCu30Fe | NA 13 | NU 30 | | | | | | |
| 33 | Inconel 600; N06600; AMS 5665 | 2.4816 | NiCr15Fe8; NiCr 15 Fe | NA 14 | NC 16 FeT | | | | | ChN78T | NiCr15Fe8 |
| 33 | Inconel 601; N06601 | 2.4851 | NiCr23Fe15A; NiCr 23 Fe | | N C 23 FeA | | | | | ChN60Yu | NiCr23Fe15A |
| 33 | Nimonic 263; N07263; AMS 5872; AMS 5886 | 2.4650 | NiCo20Cr20MoTi; NiCo 20 Cr 20 MoTi MoTi | HR 10; HR 206; HR 404 | NCK 20 D | | | | | | NiCo20Cr20MoTi |
| 34 | Haynes 188; Jetalloy 209; R30188; AMS 5772 | 2.4964 | CoCr22W14Ni | | KC22WN | | | | | | |
| 34 | Monel K-500; N05500 | 2.4375 | NiCu30Al3Ti; NiCu 30 Al | NA 18 | NU 30 AT | | | | | | NiCu30Al3Ti |
| 34 | Inconel 718; N07718; AMS 5596; AMS 5589 | 2.4668 | NiCr19Nb5Mo3; NiCr 19 NbMo; NiCr19Fe19Nb5Mo3 | HR 8 | NC 19 Fe Nb | | | | | | NiCr19Nb5Mo3 |
| 34 | | 2.4955 | NiFe25Cr20NbTi; NiFe 25 Cr 20 NbTi | | NiFe25Cr20NbTi | | | | | | NiFe25Cr20NbTi |
| 34 | Incoloy 925; N09925 | 2.4670 | | | | | | | | | |
| 34 | Nimonic 901; N09901; AMS 5660; AMS 5661 | 2.4662 | NiFe35Cr14MoTi; NiCr13Mo6Ti3; NiCr 13 Mo 6 Ti 3 | | Z8 NCDT 42 | | | | | | |
| 34 | Udimet 500; N07500; AISI 684 | 2.4983 | NiCr18Co18MoAlTi | | NCK 19 DAT | | | | | | NiCr18Co18MoAlTi |
| 34 | Nimonic 80A; N07080 | 2.4631; 2.4952 | NiCr20TiAl; NiCr 20 TiAl | HR 401; HR 601 | NC 20 TA | | | | NCF 80 A | ChN77TYuR; ChN56VMTYu | NiCr20TiAl |
| 34 | Jetalloy 209; AMS 5772 | | CoCr22W14Ni | | KC 22 WN | | | | | | |
| 34 | Altemp S-816 | 2.4989 | CoCr20Ni20W | | | | | | | Altemp S-816 | |
| 34 | MAR-M 246 | 2.4675 | NiCr23Mo16Cu; NiCr 23 Mo 16 Cu | | | | | | | | NiCr23Mo16Cu |
| 34 | Inconel 722; N07722; AMS 5411 | | | | | | | | | | |
| 34 | Waspaloy; N07001; AISI 685; AMS 5704; AMS 5706; AMS 5708; AMS 5544 | 2.4654 | NiCr20Co13Mo4Ti3AL; NiCr 19 Co 14 Mo 4 Ti | | NC 20 K 14 | | | | | | NiCr20Co 13Mo4Ti3AL |
| 34 | Rene 80 | | | | NC14 K9 T5 DWA | | | | | | |
| 35 | 5388C; N30002; CW-12MW; | 2.4883 | G-NiM16CrW | | | | | | | | |
| 35 | N7M; N-7M; N30007 | 2.4685 | G-NiMo28 | | ND 30 M | | | | | | |
| 35 | N12MV; N-12MV; N30012 | 2.4882; 9.4810; 2.4810/9.4810 | G-NiMo30 | | | | | | | | |
| 35 | Nimocast PK24; N13100; AMS 5397 | 2.4674 | G-NiCo15Cr10AlTiMo | HC 204 | NK 15 CAT | | | | | | |
| 35 | Jethete M-252; N07252; AMS 5551 | 2.4916 | G-NiCr19Co; G-NICR 19 Co | | | | | | | | |

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| 35 | Nimocast 713; N07713; AMS 5391; Inconel 713LC | 2.4670 | G-NiCr13Al6MoNb | HC 203 | NC 13 AD | | | | | | |
| 35 | M-35-1; N214135 | 2.4365; 2.4365/9.4365 | G-NiCu40Nb | | | | | | NiCuC | | |
| 36 | Titanium Grade 1; R50250; ASTM GR. 1 | 3.7024; 3.7025 | Ti 1; Ti 99.8 | TA1 | T-35 | | Ti1-Type 1 | Ti-PO1 | Class 2; Gr-1 | VT1-00 | Ti 99.8 |
| 36 | Titanium Grade 2; R50400; AMS 4902; AMS 4941; AST M Gr. 2 | 3.7034; 3.7035; 3.7036 | Ti 2; Ti 99.7 | TA2; TA3; TA4; TA5 | T-40 | | Ti1-Type 2 | Ti-PO2 | Class 2; Gr-2 | VT1-0 | Ti 99.7 |
| 36 | Titanium Grade 3; R50500; ASTM Gr. 3 | 3.7055; 3.7056 | Ti 3; Ti 99.6 | DTD 5023, DTD 5273 | T-50 | | Ti1-Type 3 | | Class 3; Gr-3 | | Ti 99.6 |
| 36 | Titanium Grade 4; R50700; ASTM Gr. 4 | 3.7064; 3.7065; 3.7066 | Ti 4; Ti 99.5 | TA7; TA8; TA9 | T-60 | | Ti1-Type 4 | | Class 4; Gr-4 | | Ti 99.5 |
| 36 | Titanium Grade 7; R52400; Ti-0.15Pd | 3.7235 | | | | | Ti2Pd-Type 7 | | Class 13; Gr-13 | | |
| 37 | Titanium Grade 5; R56400; Ti-6Al-4V | 3.7165; 3.7164 | Ti6Al4V | TA10; TA11; TA12; TA13; TA 28; TA56; Ti-Al-V | TA6V; T-A 6 V; Ti-P.63 | | TiAl6V4-Type 5 | Ti-P63 | Class 6 0; Gr 6 0; SAT-64 | VT6 | Ti6Al4V |
| 37 | Titanium Grade 6Al-2Sn-4Zr-2Mo; R54620; 6Al-2Sn-4Zr-2Mo | 3.7145; 3.7144 | TiAl6Sn2Zr4Mo2 | | | | | | | VT25 | TiAl6Sn2Zr4Mo2 |
| 37 | | 3.7175; 3.7174 | TiAl6V6Sn2 | | | | | | | | |
| 37 | Titanium Grade 9; R56320; Ti-3Al-2.5V | 3.7195; 3.7194 | Ti6Al2.5V | | | | TiAl3V2.5-Type 9 | | Class 6 1; Gr 6 1 | PT-3V | Ti6Al2.5V |
| 37 | | 3.7124 | TiCu2 | TA 21; TA22; TA23; TA24 | T-U2 | | | Ti-P11 | | | |
| 37 | | 3.7185; 3.7184 | Ti4Al4Mo2Sn; TiAl4Mo4Sn4Si0.5 | TA45; TA46; TA47; TA48; TA49; TA50; TA57 | T-A4DE | | | Ti-P68 | | | |
| 37 | Titanium Grade 6; R54520; Ti-5Al-2.5Sn | 3.7115.1; 3.7115 | TiAl5Sn2.5; TiAl 5 Sn 22 | TA14; TA17 | T-A5E; Ti-P.65 | | | | SAT-525 | VT5-1 | TiAl5Sn2.5 |
| 37 | R56410; Ti-10V-2Fe-3Al | | | | | | | | | | |
| 37 | Titanium grade 23; R56401; Ti-6Al-4V-ELI | | Ti6Al4V ELI | TA11 | | | TiAl6V4ELI-Type 5.1 | | Class 6 1; Gr 6 1 | | |
| 37 | | | | | | | | | | VST 5553 | Ti5Al5V5Mo3Cr; Ti-5Al-5V-5Mo-3Cr |
| 37 | Ti-4Al-3Mo-1V | | | | T-A4D3V | | | | | VT14 | |
| 37 | | | | | | | | | | VT22 | |

| Material Group No. | USA | Germany | | U.K. | France | Sweden | Italy | Spain | Japan | Russia | EURONORM |
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| | AISI/SAE/ UNS/ ASTM/AA | Werkstoff | DIN | BS | AFNOR | SS | UNI | UNE | JIS | GOST | EN |
| 38 | | 1.2762 | 75CrMoNiW6-7; 75 CrMoNiW 6 7 | | | | | | | | 75CrMoNiW6-7 |
| 38 | W1; T72301 | 1.1625 | C80W2; C 80 W2 | BW 18 | | | | F.520.U; F.5107; C 80 | SK 75; SK 85; SK 85 M; SK 5; SK 5 M; SK 6 | U8-1 | C80W2 |
| 38 | W110; T72301 | 1.1545 | C105U; C 105 W 1; C 105 U | | C 105 E 2 U; Y1 105; C105E2U | 1880 | C 100 KU | F.515; F.516 | SK 105; SK 3; TC 105 | U10A-1; U10A-2; U11-1 | C105U |
| 38 | | 1.6746 | 32NiCrMo14-5; 32 NiCrMo 14-5 | 832 M 31 | 35 NCD 14 | | | F.1262-32 NiCrMo 12 | | | 32NiCrMo14-5 |
| 38 | W210; T72302 | 1.2833 | 100V1; 100 V 1 | BW 2 | C 105 E 2 UV 1; Y1 105 V; 100 V 2 | | 102 V 2 KU | | SKS 43 | | 100V1 |
| 38 | 6145; 6150; 6150 H; G61500; H61500 | 1.8159 | 51CrV4; 50CrV4; 50 CrV 4 | 735 A 50; 735 A 51; 735 H 51; 735 M 50; En 47 | 50CrV4RR; 50 CV 4; 51 CV 4 | 2230 | 50 CrV 4 | F.143; F.143.A; 51 CrV 4; F.1430 | SUP 10; SUP 10-CSP; SUP 10 M | 50ChFA; 50ChGFA | 51CrV4 |
| 38 | P20; T51620 | 1.2330 | 35CrMo4; 35 CrMo 4 | 708 A 37 | 34 CD 4 | 2234 | 35 CrMo 4 | | | | 35CrMo4 |
| 38 | | | | | | | | | | | |
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| 38 | | 1.8721 | 26MnCr6-3 | | | | | | | | 26MnCr6-3 |
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| 38 | | | | | | | | | | | |
| 38 | | 1.2083; 1.2083 ESR | X40Cr14; X 42 Cr 13 | | X40Cr14; Z 40 C 14 | 2314 | X 41 Cr 13 KU | F.5263; X 40 Cr 13 | SUS 420 J 2 | | X40Cr14 |
| 38 | 300M; 4340M; K44220 | 1.6928 | 41SiNiCrMoV7-6 | | | | | | | | S 155 |
| 38 | | | | | | | | | | 30ChGSA | |
| 39 | A2; T30102 | 1.2363 | X100CrMoV5; X100CrMoV5-1; X 100 CrMoV 5 1 | BA 2 | X 100 CrMoV 5; Z 100 CDW 5 | 2260 | X 100 CrMoV 5 1 KU | F.536; F.5227; X 100 CrMoV 5 | SKD 12 | | X100CrMoV5 |
| 39 | D2; T30402 | 1.2379 | X153CrMoV12; X155CrVMo12-1; X155 CrVMo 12 1 | BD 2 | X 160 CrMoV 12; Z 160 CDV 12 | 2310 | X 155 CrVMo 12 1 KU | F.520.A | SKD 10; SKD 11 | | X153CrMoV12 |
| 39 | D3; T30403 | 1.2080 | X210Cr12; X 210 Cr 12 | BD 3 | X200Cr12; Z 200 C 12 | | X 205 Cr 12 KU | F.521; F.5212; X 210 Cr 12 | SKD 1 | Ch12 | X210Cr12 |
| 39 | L3; T61203 | 1.2067 | 102Cr6; 102 Cr 6; 100 Cr 6 | BL 3; BL3 | 100Cr6RR; 100 C 6; 100Cr6; Y 100 C 6 | | 102 Cr 6 KU | F.5230; 100 Cr 6 | SUJ 2 | Ch | 102Cr6 |
| 39 | M1; H41; T11301; T20841 | 1.3346 | HS2-9-1; S 2-9-1 | BM 1 | HS 2-8-1; Z 85 DCWV 08-04-02-01 | | | | | | HS2-9-1 |
| 39 | T1; T12001 | 1.3355 | HS18-0-1; S 18-0-1 | BT 1 | 18-0-1; HS 18-0-1; Z 80 WCV 18-04-01 | 2750 | HS 18-0-1 | F.5520; HS 18-0-1 | SKH 2 | R18 | HS18-0-1 |
| 39 | O2; T31502 | 1.2842 | 90MnCrV8; 90 MnCrV 8 | BO 2; BO2 | 90 MnV 8; 90 MV 8 | | 90 MoVCr 8 KU | 90 MnCrV 8; F.5229 | | | 90MnCrV8 |
| 39 | H13; T20813 | 1.2344 | X40CrMoV5-1; X40 CrMoV 5 1 | BH 13 | X 40 CrMoV 5; Z 40 CDV 5 | 2242 | X 40 CrMoV 5 1 1 KU | F.5318; X 40 CrMoSiV 5 | SKD 61 | 4Ch5MF1S | X40CrMoV5-1 |
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| | AISI/SAE/ UNS/ ASTM/AA | Werkstoff | DIN | BS | AFNOR | SS | UNI | UNE | JIS | GOST | EN |
| 39 | 440C; S44004; S44025 | 1.4125 | X105CrMo17; X105 CrMo 17 | | Z 100 CD 17 Cl; Z 100 CD 17 | | | | SUS 440 C | 95Ch18; 110Ch18M-SChD | X105CrMo17 |
| 40 | A 532 III A 25% Cr | 0.9650 | G-X 260 Cr 27 | Grade 3 D | | 0466-00 | | | | ChWG | |
| 40 | Ni-Hard 4 | 0.9630 | G-X 300 CrNiSi 9 5 2 | | | | | | | | |
| 40 | Ni-Hard 1 | 0.9625 | G-X 330 NiCr 4 2 | Grade 2 B | | 0513-00 | | | | | |
| 40 | A 532 III A 25% Cr | 0.9655 | G-X 300 CrMo 27 1 | Grade 3 E | | | | | | 20Ch25N20S2 | |
| 40 | Ni-Hard 2 | 0.9620 | G-X 260 NiCr 4 2 | Grade 2 A | | 0512-00 | | | | | |
| 41 | A532 IID20%CrMo-LC | 0.9645; 5.5609 | G-X 260 CrMoNi 20 2 1 | Grade 3C | | | | | | | EN-GJN-HV600(XCr23) |
| 41 | A532 IIC15%CrMo-HC | 0.9635; 0.9640 | G-X 300 CrMo 15 3; G-X 300 CrMoNi 15 2 1 | Grade 3A; Grade 3B | | | | | | | EN-GJN-HV600(XCr14) |

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