# PARTING

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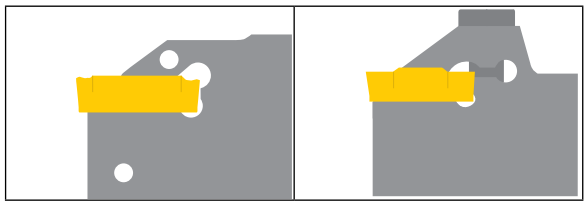
## Clamping Systems

### 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

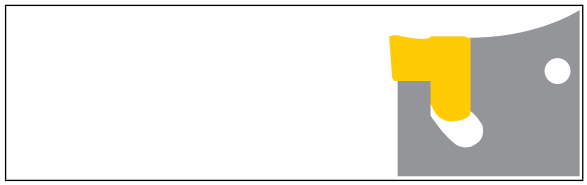
FIRST CHOICE!



Self-clamped | Screw-clamped

### TANG-GRIP

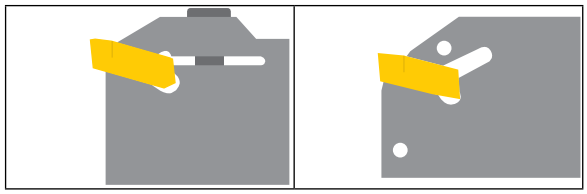
- Very rigid clamping in a tangentially oriented pocket
- Enables machining at very high feed rates and provides excellent straightness and surface finish
- Recommended for parting large diameter parts and for interrupted cuts
- Offers a free, unobstructed chip flow



TANG-GRIP

### CUT-GRIP

- Single-ended insert
- Self- and screw-clamped options

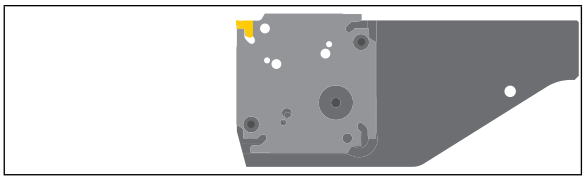


Screw-clamped | Self-clamped

### 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

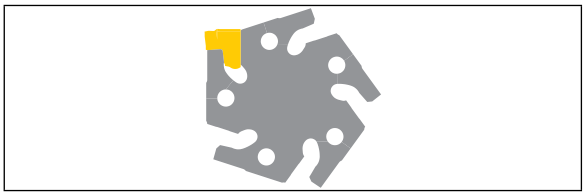


LOGIQ-F-GRIP

### 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

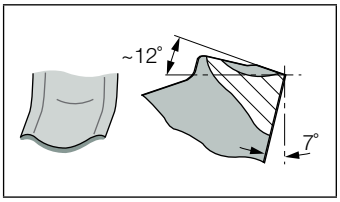
## Main Chipformers

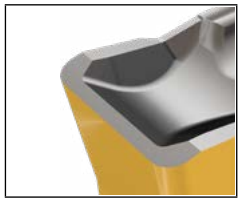
### HF-Type

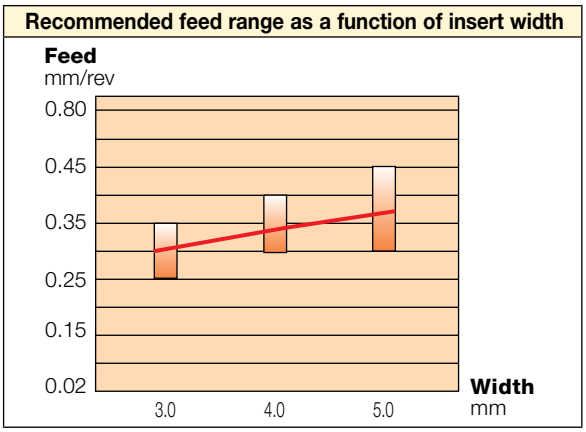
- For high feed machining only!
- Reinforced cutting edge (negative rake)
- Should be used with short extension tools

$$f \approx \frac{W\ insert}{12}\ [mm/rev]$$

| Alloy Steel | Austenitic Stainless | High Temp. Alloys | Nonferrous Materials | Cast Iron |
|---|---|---|---|---|
| ✓ | ✗ | ✗ | ✗ | ✓ |





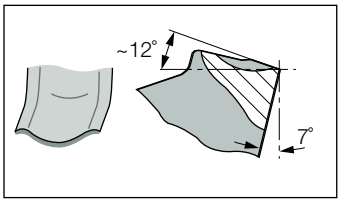

### C-Type

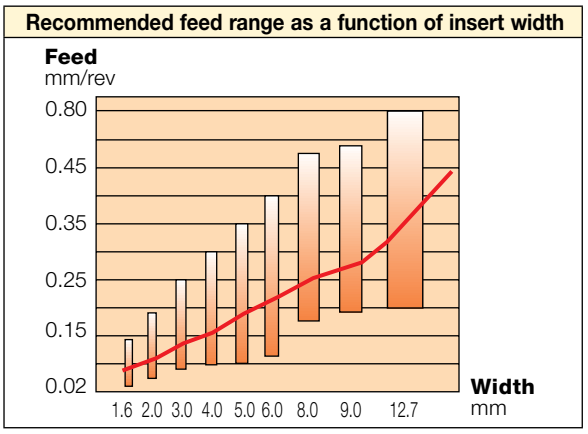
- First choice for parting of bars, hard materials and tough applications
- A positive rake, single cavity with negative land and shoulders provides extra cutting-edge strength
- Medium-to-high feed

$$f \approx \frac{W\ insert}{18}\ [mm/rev]$$

| 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%.**



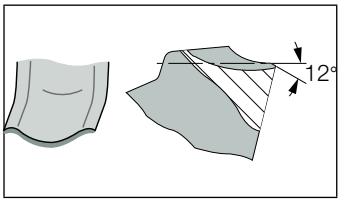



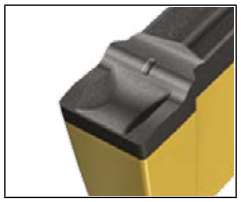

### MF Type

- 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 |
|---|---|---|---|---|
| ✓ | ✓ | ✓ | ✗ | ✓ |



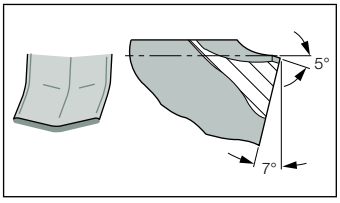
## JT-Type

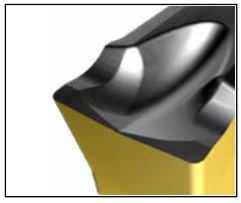
Based on the J-type chipformer with a T-land reinforced frontal cutting edge.

- 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.

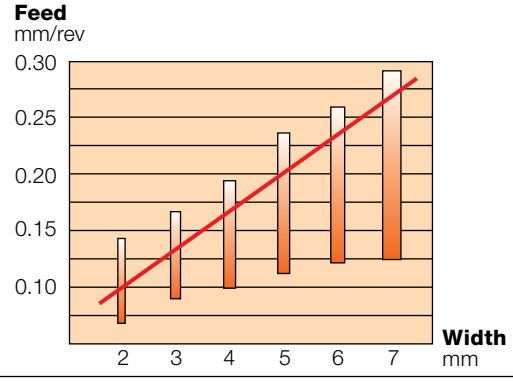
$$f \approx \frac{\text{W insert}}{24} \text{ [mm/rev]}$$

| Alloy Steel | Austenitic Stainless | High Temp. Alloys | Nonferrous Materials | Cast Iron |
|---|---|---|---|---|
| ✓ | ✓ | ✓ | ✗ | ✓ |



**Recommended feed range as a function of insert width**



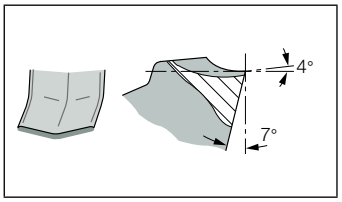

## J-Type

- First choice for soft materials, parting tubes, small diameters and thin-walled parts
- Cutting edge with positive rake
- Low-to-medium feed

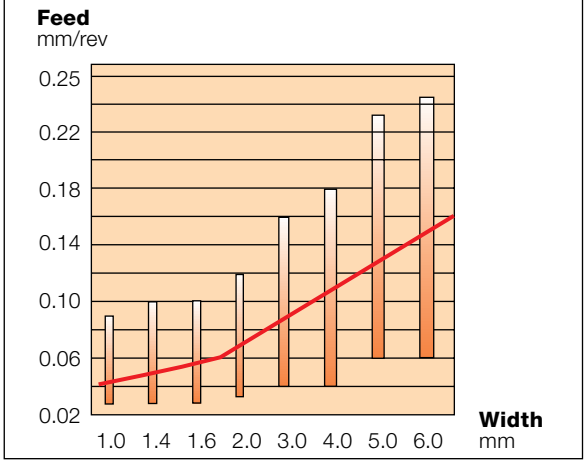
$$f \approx \frac{\text{W insert}}{26} \text{ [mm/rev]}$$

| 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**



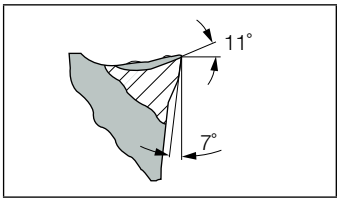
## PARTING

### 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

$$f \approx \frac{W\ insert}{28}\ [mm/rev]$$

| Alloy Steel | Austenitic Stainless | High Temp. Alloys | Nonferrous Materials | Cast Iron |
|---|---|---|---|---|
| ✓ | ✓ | ✓ | ✓ | ✗ |

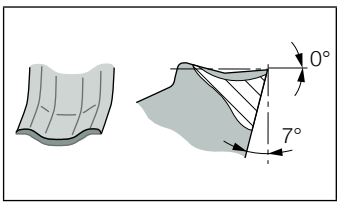



### LF

- Parting and Grooving Insert for Stainless Steel & soft materials
- Miniature Parts
- Low Feeds

$$f \approx \frac{W\ insert}{31}\ [mm/rev]$$

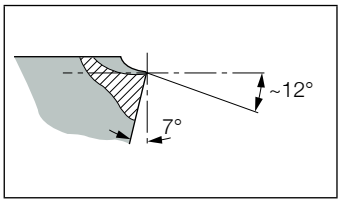
| Alloy Steel | Austenitic Stainless | High Temp. Alloys | Nonferrous Materials | Cast Iron |
|---|---|---|---|---|
| ✓ | ✓ | ✓ | ✗ | ✗ |



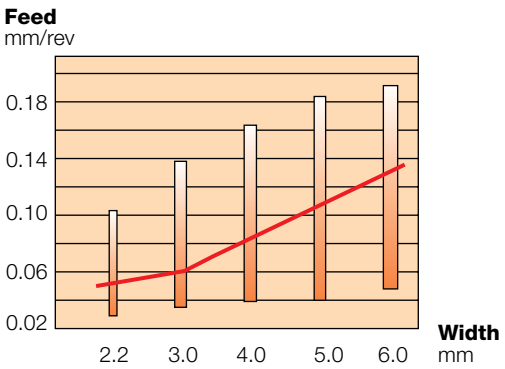

### UA/UT-Type

- 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

$$f \approx \frac{W\ insert}{40}\ [mm/rev]$$




**Recommended feed range as a function of insert width**

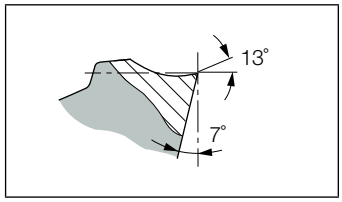


### P-Type

- 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 |
|---|---|---|---|---|
| ✓ | ✓ | ✗ | ✓ | ✗ |

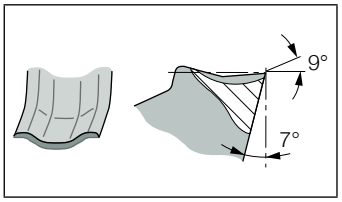


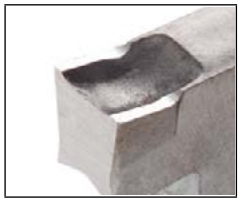

### A-Type

- 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 |
|---|---|---|---|---|
| ✗ | ✗ | ✗ | ✓ | ✗ |



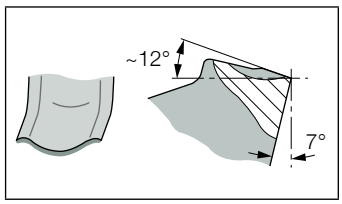



### M-Type

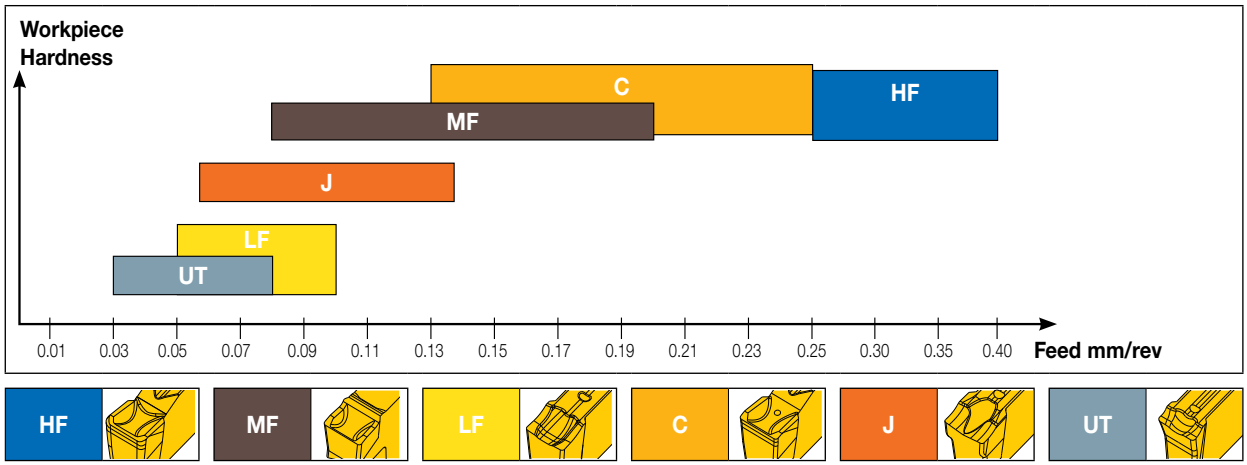
- Similar to C-type, but with modified edge (smaller K-land)
- Improved chip control at medium feed

$$f \approx \frac{\text{W insert}}{22} \text{ [mm/rev]}$$

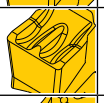
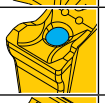
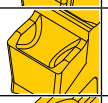
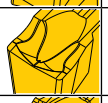
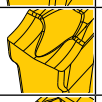
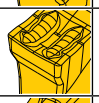
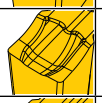
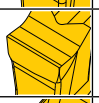
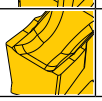
| Alloy Steel | Austenitic Stainless | High Temp. Alloys | Nonferrous Materials | Cast Iron |
|---|---|---|---|---|
| ✓ | ✗ | ✓ | ✗ | ✗ |




## Main Chipformers Recommended Feed




### Selection of Chipformers for Various Workpiece Materials

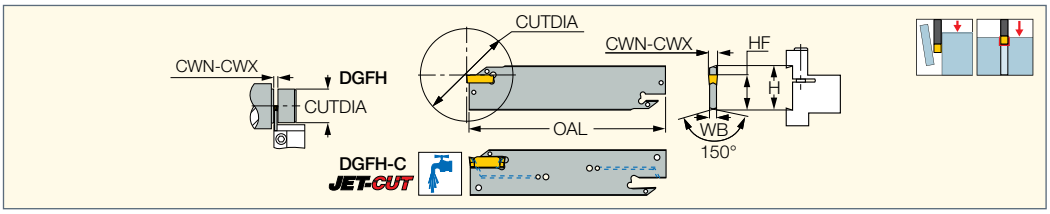
| | Inserts | | Alloy Steel | Austenitic Stainless | High Temp. Alloys | Nonferrous Materials | Cast Iron |
|---|---|---|---|---|---|---|---|
| |  | HF | ✔ | ✘ | ✘ | ✘ | ✔ |
| |  | C | ✔ | ✘ | ✔ (IC20 only) | ✔ (IC20 only) | ✔ |
| High |  | W | ✔ | ✘ | ✘ | ✘ | ✔ |
| |  | C-jet (Coolant) | ✔ | ✔ | ✔ | ✘ | ✘ |
| |  | MF | ✔ | Medium to high feed | ✔ | ✘ | ✔ |
| |  | JT | ✔ | ✔ | ✔ | ✘ | ✔ |
| Feed |  | J | ✔ | ✔ | ✔ | ✔ | ✘ |
| |  | Z | ✔ | ✔ | ✔ | ✔ | ✘ |
| |  | LFT | ✔ | ✔ | ✔ | ✘ | ✘ |
| |  | LF | ✔ | ✔ | ✔ | ✘ | ✘ |
| Low |  | UT | ✔ | ✘ | ✘ | ✘ | ✘ |
| |  | P | ✔ | ✔ | ✘ | ✔ | ✘ |
| |  | A | ✘ | ✘ | ✘ | ✔ | ✘ |

✔ First choice

DO-GRIP 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 538-547

[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.

**For inserts, see pages:** DGN-LF/LFT (485) • DGN-MF (485) • DGN/DGNC/DGNM-C (481) • DGR/L-C DGRC/LC-C (482) • DGN/DGNM-J/JS/JT (483) • DGR/L-J/JS (484) • DGN-P (487) • DGN-UT/UA (487) • DGN-W (482) • DGN-WP (488) • DGN-Z (486) • DGR-P (488) • DGR-WP (488) • DGR-Z/ZS (486) • GRIP (269) • GRIP (full radius) (270)

**For holders, see pages:** C#-TBK-R/L (623) • HSK A-WH-TBK-R/L (632) • SGTBF (618) • SGTBK (617) • SGTBR/L (617) • SGTBU/SGTBN (616) • UBHCR/L (618)

### Spare Parts

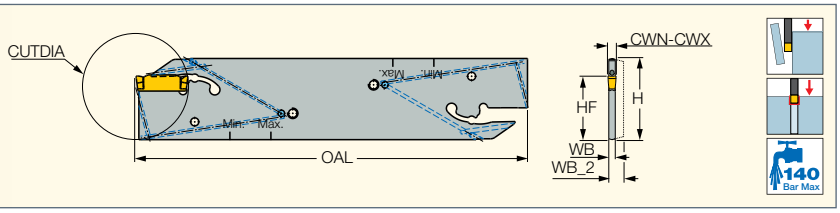
| Designation | | | | | | |
|---|---|---|---|---|---|---|
| DGFH 26-1.4 | EDG 23B* | | | | | |
| DGFH 26-2 | EDG 23A* | | | | | |
| DGFH 26-3 | EDG 23A* | | | | | |
| DGFH 26C-3 | EDG 23A* | SGC 340 | SGCU 341* | CGF 343* | CF 343* | CGM 343* |
| DGFH 26-4 | EDG 23A* | | | | | |
| DGFH 32-1.4 | EDG 23B* | | | | | |
| 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 538-547

[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

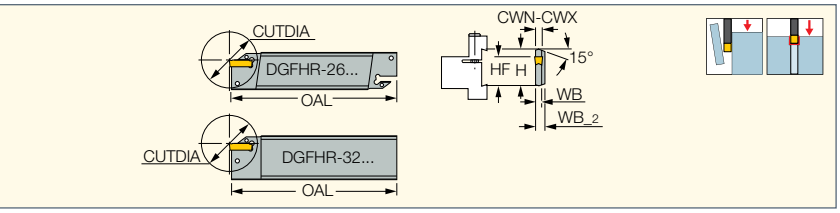
**For inserts, see pages:** DGN-LF/LFT (485) • DGN-MF (485) • DGN-P (487) • DGN-UT/UA (487) • DGN-W (482) • DGN-WP (488) • DGN-Z (486) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • DGR-P (488) • DGR-WP (488) • DGR-Z/ZS (486) • DGR/L-C DGRC/LC-C (482) • DGR/L-J/JS (484) • GRIP (269) • GRIP (full radius) (270)

**For holders, see pages:** TGTBU-JHP (497)

DO-GRIP TWISTED 2-SIDED

## DGFHR/L

Parting and Grooving Reinforced Blades Carrying DO-GRIP Inserts



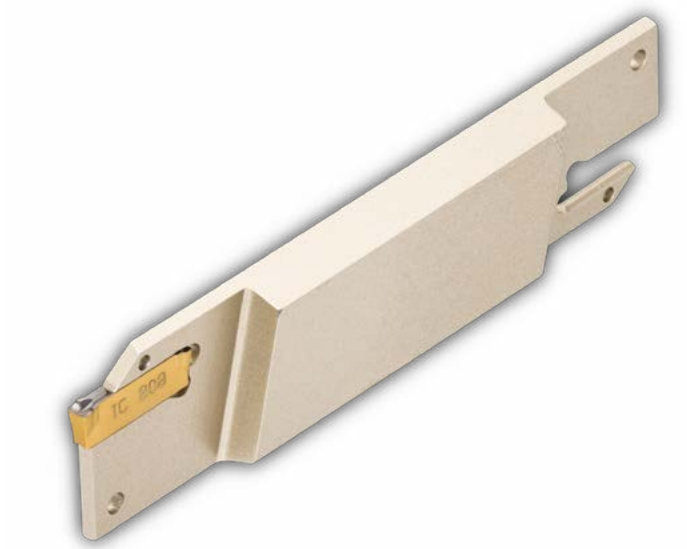

| Designation | H | CWN[1] | CWX[2] | WB_2 | WB | OAL | HF | CUTDIA[3] | Machines | Insert | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DGFHR 26T16-2 | 26.0 | 1.90 | 2.50 | 8.0 | 1.70 | 110.00 | 21.4 | 42.0 | TNS-30 | DG. 1.../DG. 2.. | EDG 23A* |
| DGFHR/L 26T23-2 | 26.0 | 1.90 | 2.50 | 8.0 | 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 479
- For user guide, see pages 538-547

[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

**For inserts, see pages:** DGN-LF/LFT (485) • DGN-P (487) • DGN-UT/UA (487) • DGN-WP (488) • DGN-Z (486) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • DGR-P (488) • DGR-WP (488) • DGR-Z/ZS (486) • DGR/L-C DGRC/LC-C (482) • DGR/L-J/JS (484)

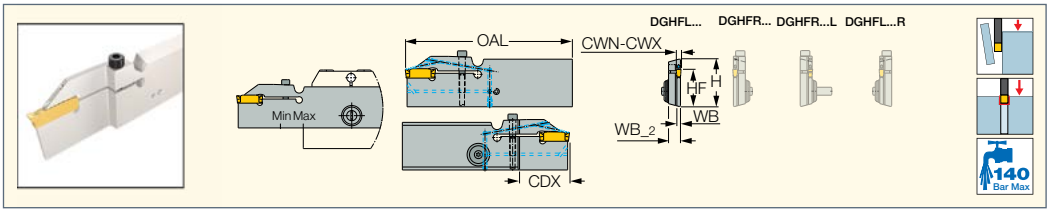
**For holders, see pages:** C#-TBK-R/L (623) • HSK A-WH-TBK-R/L (632) • SGTBF (618) • SGTBR/L (617) • SGTBU/SGTBN (616) • UBHCR/L (618)



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 538-547

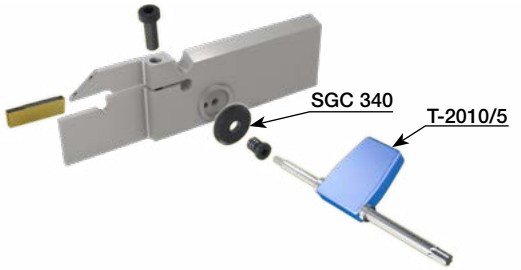
(1) Minimum cutting width • For DG: 1.0 insert - modify holder

(2) Maximum cutting width

(3) The specified limit refers to the tool

**For inserts, see pages:** DGN-LF/LFT (485) • DGN-MF (485) • DGN-P (487) • DGN-UT/UA (487) • DGN-Z (486) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • DGR-Z/ZS (486) • DGR/L-C DGRC/LC-C (482) • DGR/L-J/JS (484)

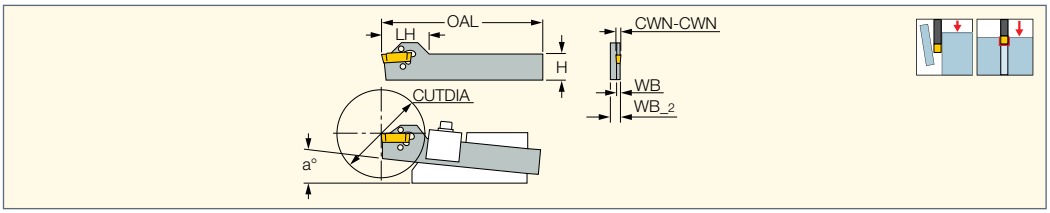
**For holders, see pages:** TGTBU-JHP (497)




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 479
- For user guide, see pages 538-547

(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

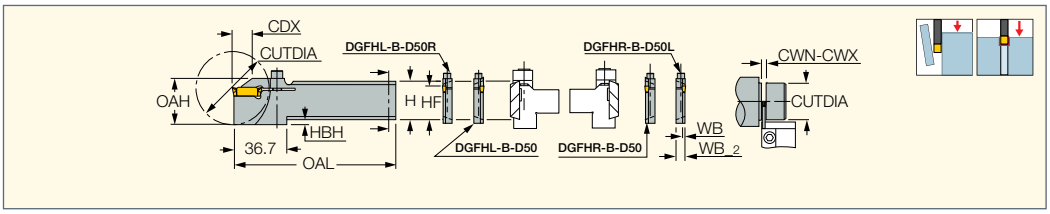
* Optional, should be ordered separately

**For inserts, see pages:** DGN-LF/LFT (485) • DGN/DGNC/DGNM-C (481) • DGR/L-C DGRC/LC-C (482) • DGN/DGNM-J/JS/JT (483) • DGR/L-J/JS (484) • DGN-P (487) • DGN-UT/UA (487) • DGN-WP (488) • DGN-Z (486) • DGR-P (488) • DGR-WP (488) • DGR-Z/ZS (486) • GRIP (269) • GRIP (full radius) (270)

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 479
- For user guide, see pages 538-547

[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

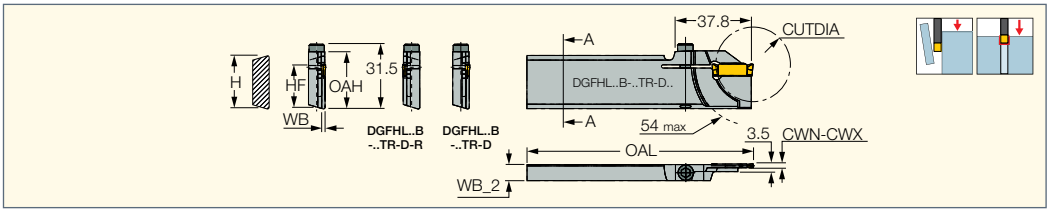
**For inserts, see pages:** DGN-LF/LFT (485) • DGN-MF (485) • DGN-P (487) • DGN-UT/UA (487) • DGN-WP (488) • DGN-Z (486) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • DGR-P (488) • DGR-WP (488) • DGR-Z/ZS (486) • DGR/L-C DGRC/LC-C (482) • DGR/L-J/JS (484)

**For holders, see pages:** C#-TBK-R/L (623) • HSK A-WH-TBK-R/L (632) • SGTBF (618) • SGTBR/L (617) • SGTBU/SGTBN (616) • UBHCR/L (618)

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 479
- For user guide, see pages 538-547

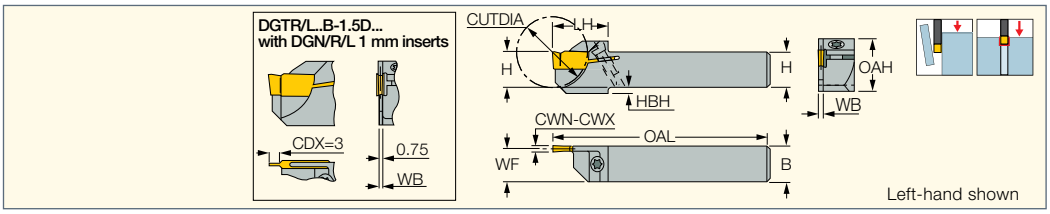
[1] Do not use DG.. 1.4 on this tool!
[2] Mounted on all ISCAR standard blocks
[3] Minimum cutting width
[4] Maximum cutting width
[5] The specified limit refers to the tool
[6] For DG: 1.0 insert - modify holder

**For inserts, see pages:** DGN-LF/LFT (485) • DGN-P (487) • DGN-UT/UA (487) • DGN-WP (488) • DGN-Z (486) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • DGR-Z/ZS (486) • DGR/L-C DGRC/LC-C (482) • DGR/L-J/JS (484)

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 |

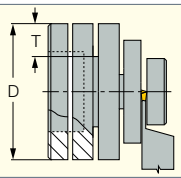
- DGN/R/L 1 mm inserts can also be mounted into pocket sizes 2 and 3. For insert depth capacity table and modification instructions for the 2 and 3 holder pockets, see page 479
- For user guide, see pages 538-547

[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)

**For inserts, see pages:** DGN-LF/LFT (485) • DGN-P (487) • DGN-UT/UA (487) • DGN-WP (488) • DGN-Z (486) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • DGR-P (488) • DGR-WP (488) • DGR-Z/ZS (486) • DGR/L-C DGRC/LC-C (482) • DGR/L-J/JS (484)

## 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 |

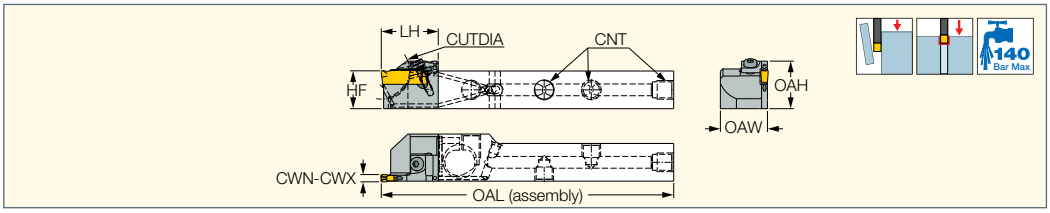
NL- No Limit

**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

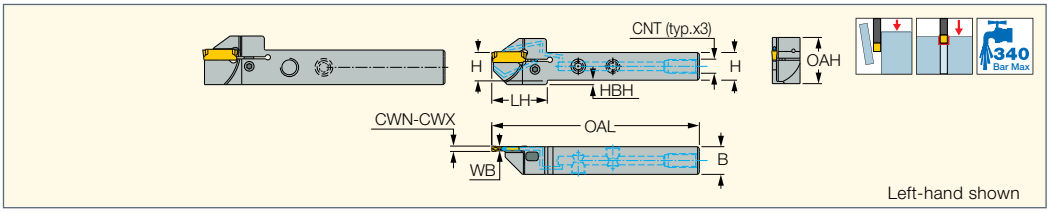
**For inserts, see pages:** DGN-LF/LFT (485) • DGN-MF (485) • DGN-P (487) • DGN-UT/UA (487) • DGN-W (482) • DGN-WP (488) • DGN-Z (486) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • DGR-P (488) • DGR-WP (488) • DGR-Z/ZS (486) • DGR/L-C DGRC/LC-C (482) • DGR/L-J/JS (484)

**For holders, see pages:** NQCH-JHP (61)

DO-GRIP JETCUT TWISTED 2-SIDED

## 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 479 • For user guide, see pages 538-547

(1) Minimum cutting width

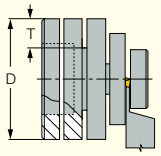
(2) Maximum cutting width

(3) Maximum cutting diameter

**For inserts, see pages:** DGN-LF/LFT (485) • DGN-MF (485) • DGN-P (487) • DGN-UT/UA (487) • DGN-WP (488) • DGN-Z (486) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • DGR-P (488) • DGR-WP (488) • DGR-Z/ZS (486) • DGR/L-C DGRC/LC-C (482) • DGR/L-J/JS (484)

## 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

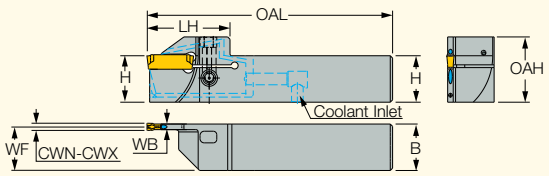
| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| DGTR/L 12B-2D24-JHP-SL | PIN-32121 | SR M5-24145-RL | | SR 5/16UNF TL360 | BLD HW2.5 | HW 5/32" | SW6-SD |
| DGTR/L 16B-2D35-JHP-SL | PIN-32121 | SR M5-24145-RL | | SR 5/16UNF TL360 | BLD HW2.5 | HW 5/32" | SW6-SD |
| DGTR/L 20B-2D35-JHP-SL | 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 TWISTED 2-SIDED JETCUT

## DGTR/L-B-D-JHP-SL-MC

Parting and Grooving Side Lock Type Tools with Bottom Inlets for High-Pressure Coolant




Left-hand shown

| 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 479
- For user guide, see pages 538-547

[1] Minimum cutting width

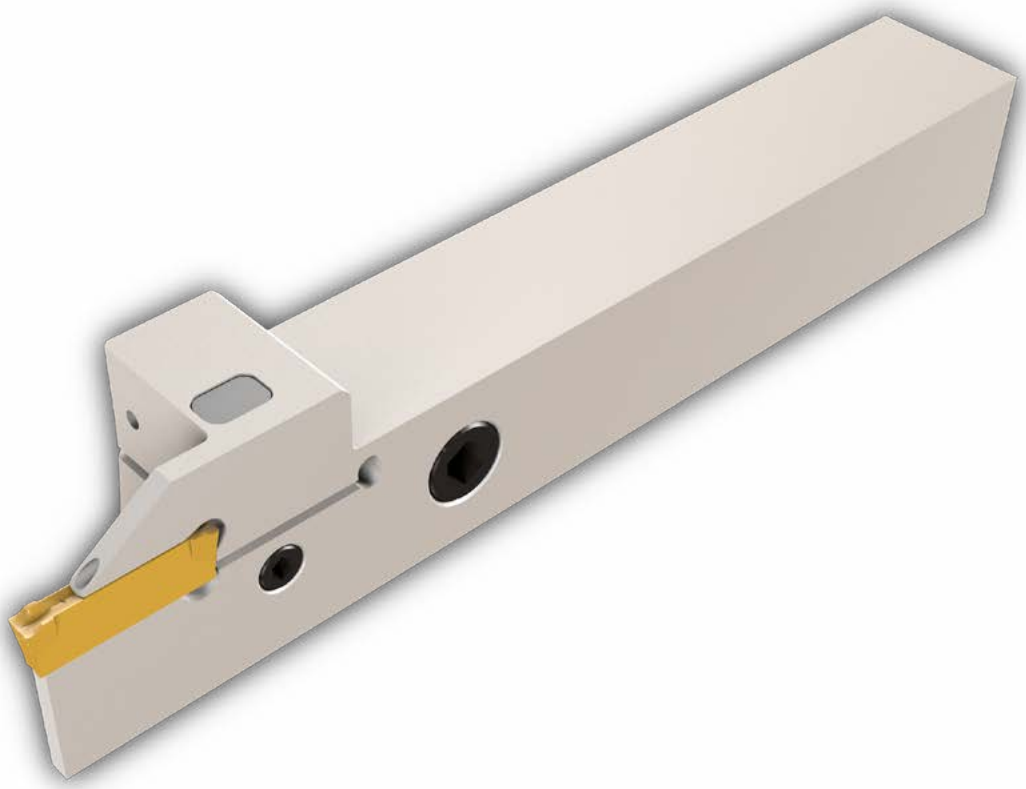
[2] Maximum cutting width

[3] Maximum cutting diameter

**For inserts, see pages:** DGN-LF/LFT (485) • DGN-MF (485) • DGN-P (487) • DGN-UT/UA (487) • DGN-WP (488) • DGN-Z (486) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • DGR-P (488) • DGR-WP (488) • DGR-Z/ZS (486) • DGR/L-C DGRC/LC-C (482) • DGR/L-J/JS (484)

### Spare Parts

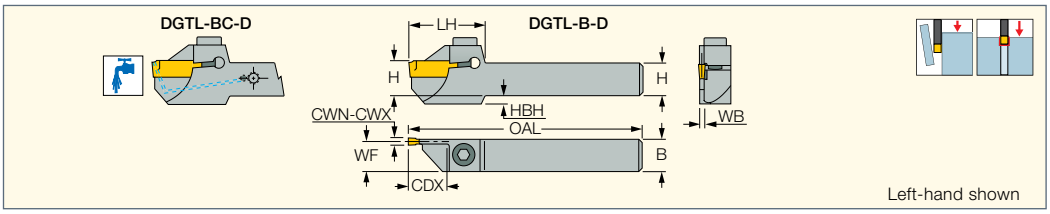
| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| DGTR/L-B-D-JHP-SL-MC | SR M5-24145-RL | SR M8X10 DIN913 | PIN-32121 | SW6-SD | BLD HW2.5 | SR M3X3DIN913 | SR M2.5X2.5 DIN913 |



DO-GRIP JETCUT TWISTED 2-SIDED

## 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 479
- For user guide, see pages 538-547

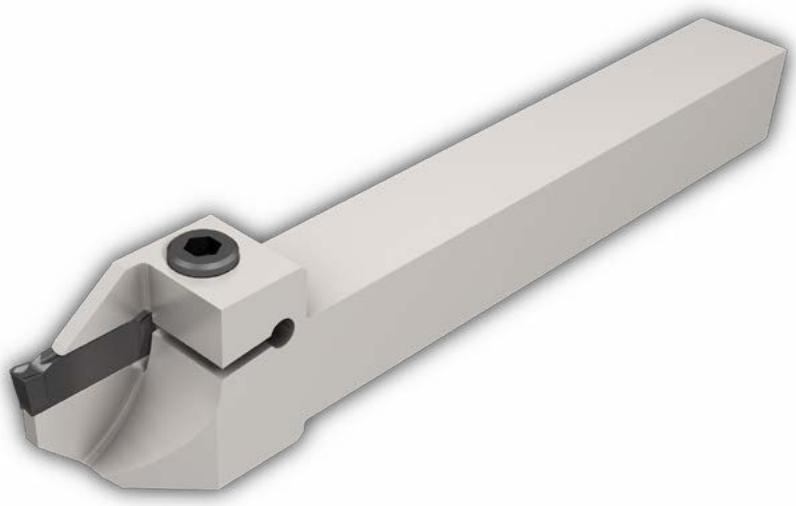
[1] Tools for inserts with coolant holes for high temperature alloys and stainless steel
[2] Insert's Tmax=18 mm, for deeper penetration modify insert into single-ended
[3] Minimum cutting width
[4] Maximum cutting width
[5] The specified limit refers to the tool
[6] 0 - Without coolant supply, 1 - With coolant supply

**For inserts, see pages:** DGN-LF/LFT (485) • DGN-P (487) • DGN-UT/UA (487) • DGN-WP (488) • DGN-Z (486) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • DGR-P (488) • DGR-WP (488) • DGR-Z/ZS (486) • DGR/L-C DGRC/LC-C (482) • DGR/L-J/JS (484)

## 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 | | | | |

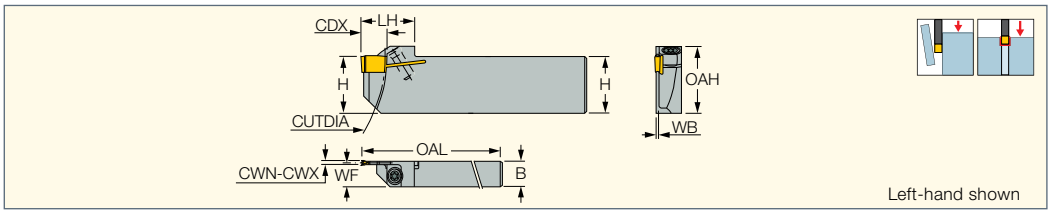
* Optional, should be ordered separately



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 538-547

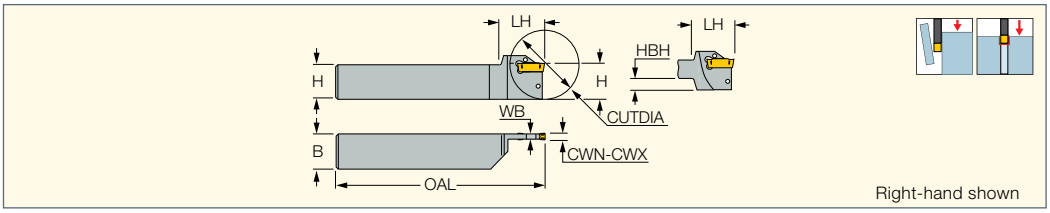
(1) Minimum cutting width
(2) Maximum cutting width
(3) Cutting depth maximum

**For inserts, see pages:** DGN-P (487) • DGN/DGNM-J/JS/JT (483) • DGR-P (488) • DGR/L-J/JS (484)

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 479
- For user guide, see pages 538-547

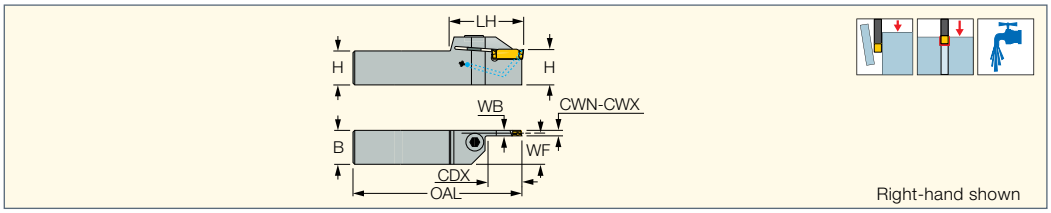
(1) Minimum cutting width
(2) Maximum cutting width
(3) Dmax=43 mm when single-ended insert is used
(4) Dmax=43(1.69") when single-ended insert is used
* Optional, should be ordered separately

**For inserts, see pages:** DGN-LF/LFT (485) • DGN-MF (485) • DGN/DGNC/DGNM-C (481) • DGR/L-C DGRC/LC-C (482) • DGN/DGNM-J/JS/JT (483) • DGR/L-J/JS (484) • DGN-P (487) • DGN-UT/UA (487) • DGN-W (482) • DGN-WP (488) • DGN-Z (486) • DGR-P (488) • DGR-WP (488) • DGR-Z/ZS (486) • GRIP (269) • GRIP (full radius) (270)

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 538-547

(1) Minimum cutting width
(2) Maximum cutting width
(3) Cutting depth maximum

**For inserts, see pages:** DGN-UT/UA (487) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • DGR/L-C DGRC/LC-C (482) • DGR/L-J/JS (484)

### Spare Parts

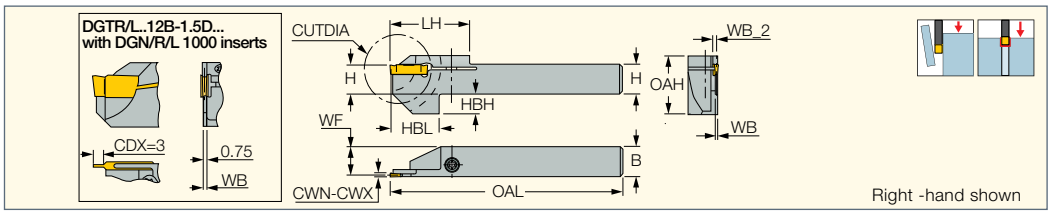
| Designation | | | | | | |
|---|---|---|---|---|---|---|
| DGTR/L-BC-T | SR M6X16 DIN912 | SGCU 341* | CGF 343* | CF 343* | CGM 343* | HW 5.0 |

* 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 538-547

(1) Minimum cutting width

(2) Maximum cutting width

**For inserts, see pages:** DGN-P (487) • DGN/DGNM-J/JS/JT (483) • DGR-P (488) • DGR/L-J/JS (484)

### Spare Parts

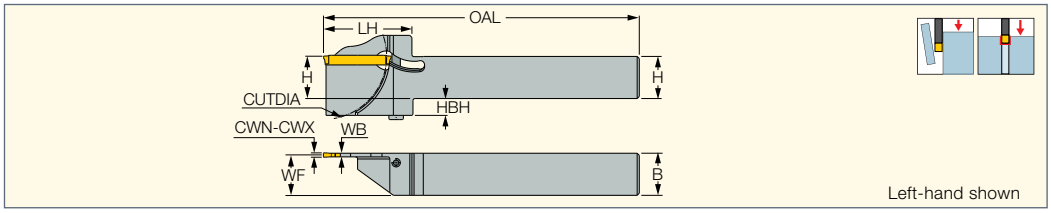
| Designation | | |
|---|---|---|
| DGTR/L-B-D-TR | SR 16-236 P(a) | T-15/5 |

(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 477 • For user guide, see pages 538-547

**For inserts, see pages:** DGN-C-XL (490) • DGN-J-XL (491) • DGR/L-C-XL (491) • DGR/L-J-XL (491)

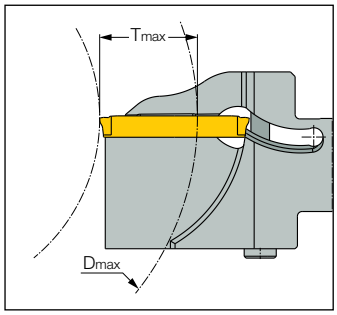
### Depth of Cut as Function of Workpiece Diameter

**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**

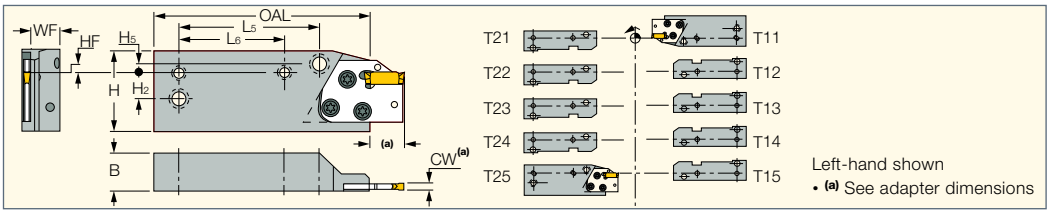
| T max | D max |
|---|---|
| 15 | No limit |
| 16 | 1000 |
| 17 | 400 |
| 18 | 300 |
| 19 | 230 |
| 20 | 180 |
| 21 | 150 |
| 22 | 130 |
| 23 | 115 |
| 24 | 105 |
| 25 | 95 |
| 26 | 90 |
| 27 | 85 |
| 28 | 80 |
| 29 | 75 |
| 30 | 72 |
| 31 | 70 |
| 32.5 | 65 |



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
**For tools, see pages:** DGAD-B-D (479) • DGAD/HGAD (479) • SCLCR-PAD (55) • SDJCR-PAD (59) • SVJCR-PAD (67) • SWAPR-PAD (73) • TGAD (498)

### Spare Parts

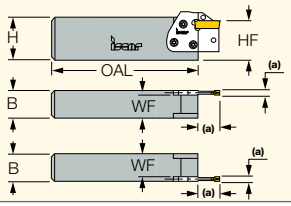
| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| DGHAL DECO 7-10 | SR 14-519-L9.7(a) | HW 4.0 | SR 16-212-L9.5 | T-20/5 | SR 16-212 | SR M5X25DIN912 | |
| DGHAL DECO 13 | SR 14-519-L9.7(a) | HW 5.0 | SR 16-212-L7.5 | T-20/5 | SR 16-212 | SR M6X25 DIN912 | |
| DGHAL DECO 20-26 | SR 14-519-L12.8(a) | 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

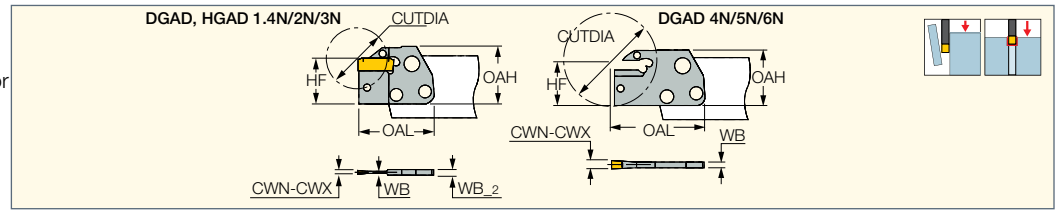
| Designation | H | B | HF | OAL | WF | S1(2) | | | |
|---|---|---|---|---|---|---|---|---|---|
| HMSN 35/3722 (1) | 36.5 | 22.4 | 34.5 | 181.70 | 18.4 | 226 | SR 16-212 | SR 14-519 | T-20/5 |

• DGAD-... HGAD-..., adapters should be ordered separately
(1) For models #42; #52; #60; #61; #62; #602
(2) Comparable Empire block
**For tools, see pages:** DGAD-B-D (479) • DGAD/HGAD (479) • SCLCR-PAD (55) • SDJCR-PAD (59) • SVJCR-PAD (67) • SWAPR-PAD (73)

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 479
- For user guide, see pages 538-547

(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

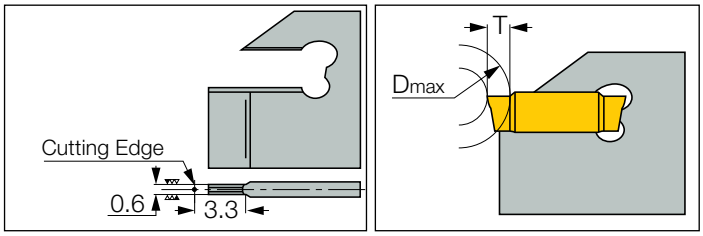
**For inserts, see pages:** DGN-P (487) • DGN-UT/UA (487) • DGN-W (482) • DGN-WP (488) • DGN-Z (486) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • DGR-P (488) • DGR-WP (488) • DGR-Z/ZS (486) • DGR/L-C DGRC/LC-C (482) • DGR/L-J/JS (484) • GRIP (269) • GRIP (full radius) (270) • HGN-C (489) • HGN-J (489) • HGN-UT (490) • HGR/L-C (489) • HGR/L-J/JS (490)

**For holders, see pages:** MAHPR/L-JHP (281) • MAHR/L-JHP (279) • MAHR/L (279) • MAHPR/L (280) • C#-MAHD (624) • C#-MAHPD (625) • C#-MAHDR-45 (623) • C#-MAHDOR (624) • HSK A63WH-MAHUR/L (632) • HSK A63WH-MAHDR-45 (631) • HSK A63WH-MAHDOR (631) • IM-MAHD (633) • IM-MAHPD (633) • C#-MAHD-JHP (624) • C#-MAHPD-JHP (625) • MAHR/L-JHP-MC (280) • HMSN-New Britain (478) • DGHAL-DECO (478)

### 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 |



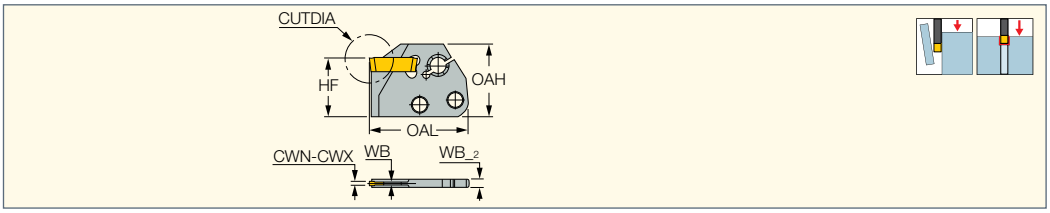

### Standard Holders Modification

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 479
- For user guide, see pages 538-547

(1) Do not use DG.. 1.4 on this tool!
(2) Minimum cutting width
(3) Maximum cutting width

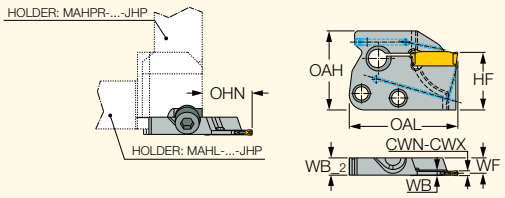
**For inserts, see pages:** DGN-LF/LFT (485) • DGN-P (487) • DGN-UT/UA (487) • DGN-WP (488) • DGN-Z (486) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • DGR-P (488) • DGR-WP (488) • DGR-Z/ZS (486) • DGR/L-C DGRC/LC-C (482) • DGR/L-J/JS (484)

**For holders, see pages:** C#-MAHD-JHP (624) • C#-MAHPD-JHP (625) • MAHR/L-JHP-MC (280) • MAHPR/L-JHP (281) • MAHR/L-JHP (279) • MAHR/L (279) • MAHPR/L (280) • C#-MAHD (624) • C#-MAHPD (625) • C#-MAHDR-45 (623) • C#-MAHDOR (624) • HSK A63WH-MAHUR/L (632) • HSK A63WH-MAHDR-45 (631) • HSK A63WH-MAHDOR (631) • IM-MAHD (633) • IM-MAHPD (633) • HMSN-New Britain (478) • DGHAL-DECO (478)

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 538-547

(1) Minimum cutting width

(2) Maximum cutting width

(3) Minimum overhang

**For inserts, see pages:** DGN-LF/LFT (485) • DGN-MF (485) • DGN-P (487) • DGN-UT/UA (487) • DGN-WP (488) • DGN-Z (486) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • DGR-P (488) • DGR-WP (488) • DGR-Z/ZS (486) • DGR/L-C DGRC/LC-C (482) • DGR/L-J/JS (484)

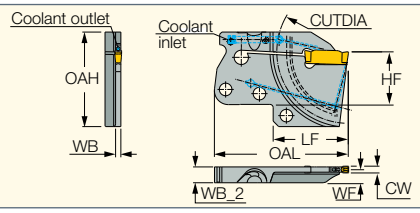
### Flow Rate vs. Pressure

| 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 538-547

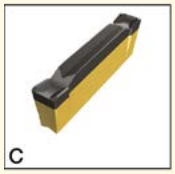
**For inserts, see pages:** DGN-LF/LFT (485) • DGN-MF (485) • DGN-P (487) • DGN-UT/UA (487) • DGN-Z (486) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • DGR-Z/ZS (486) • DGR/L-C DGRC/LC-C (482) • DGR/L-J/JS (484)

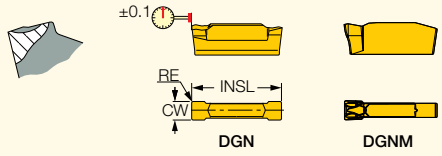
**For holders, see pages:** ABC MAHDR-#-XL-JHP (782) • MAHPR/L-XL-JHP (561) • MAHR/L-MG-XL-JHP (501) • MAHR/L-MG-XL-JHP-MC (501) • TR TNK36 MAHDL-R-XL-JHP (782) • TR45TNL MAHDN-R-XL-JHP (781) • V## MAHD#-#-XL-##-JHP (778)

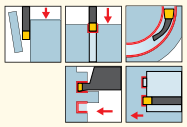
DO-GRIP TWISTED 2-SIDED

## 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 538-547

(1) Inserts with coolant holes, recommended coolant pressure 10 bar minimum

(2) Single-ended insert

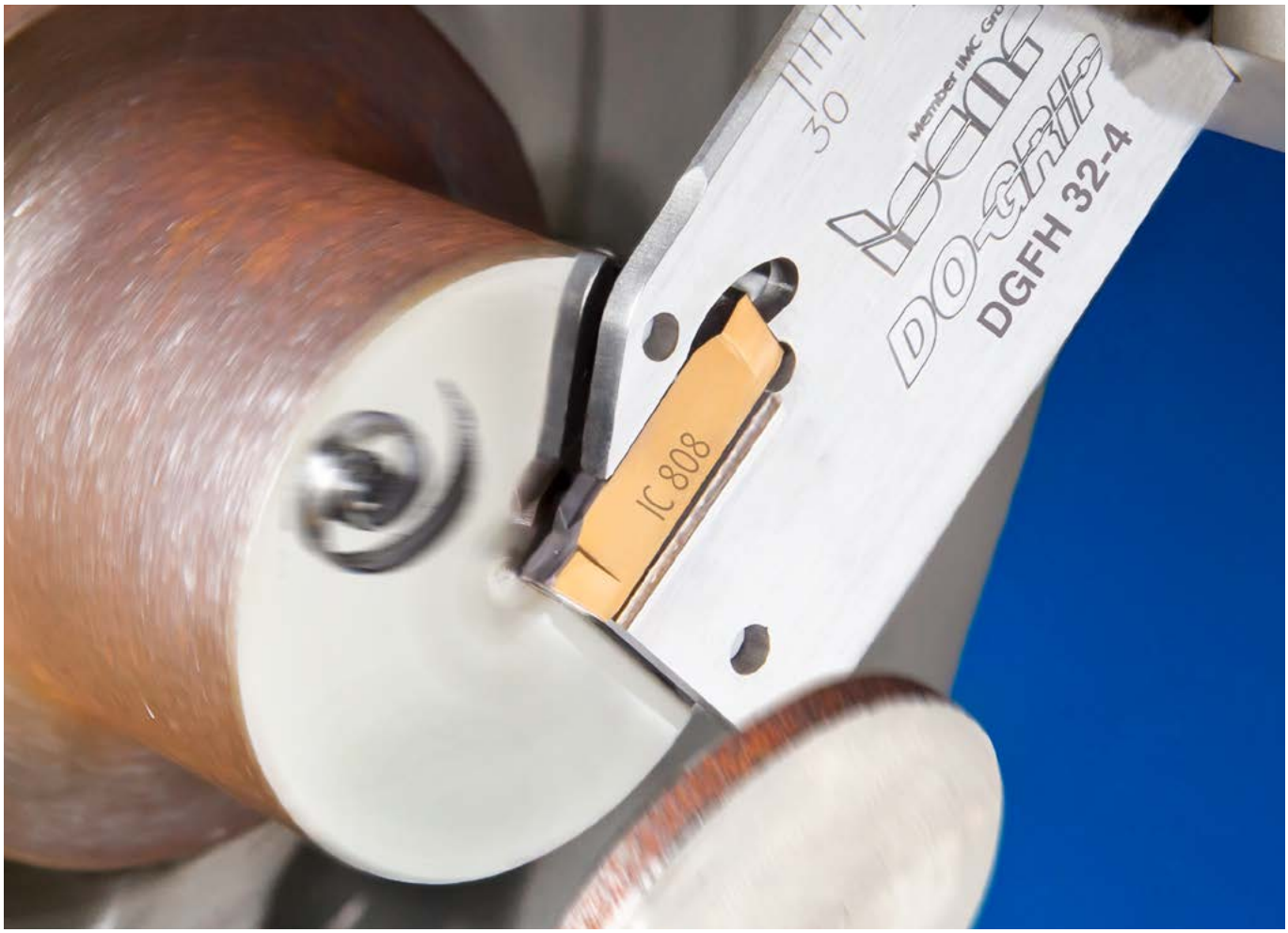
(3) Cutting width tolerance (+/-)

(4) Corner radius tolerance (+/-)

(5) Cutting depth maximum

(6) No depth limit

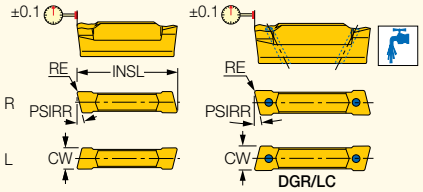
**For tools, see pages:** C#-HELIR/L (265) • C#-HFIR/L-MC (573) • CR HFIR-M (575) • D/HGAD RE/LE-JHP (499) • DGAD-B-D (479) • DGAD/HGAD (479) • DGAQ (515) • DGAQ-JHP (515) • DGFH (268) • DGFH-JHP (269) • DGFHL-26B-TR-D (470) • DGFHR/L (468) • DGFHR/L-B-D..(R/L) (470) • DGFHR/L-BC-JHP (469) • DGFS (469) • DGPAD-JHP (480) • DGPAD-XL-JHP (480) • DGTR/L (476) • DGTR/L-B-D-JHP-SL (473) • DGTR/L-B-D-JHP-SL-MC (474) • DGTR/L-B-D-SH (471) • DGTR/L-B/BC-D (475) • DGTR/L-BC-T (476) • HELIR/L (266) • HFAER/L-4 (565) • HFAER/L-5T, 6T (566) • HFAIR/L-4 (572) • HFAIR/L-DG (573) • HFFR/L-T (564) • HFHR/L-4T (559) • HFHR/L-5T (560) • HFHR/L-6T (561) • HFIR/L-MC (574) • HFPAD-4 (563) • HFPAD-5 (563) • HFPAD-6 (564) • HFPAD-JHP (562) • HGPAD (267) • HGPAD-JHP (267) • IM-HFIR-MC (574) • NQCH-DGTR/L-D-SH-JHP (472)



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 538-547

(1) Inserts with coolant holes, recommended coolant pressure 10 bar minimum

(2) Cutting depth maximum

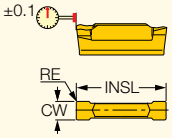
(3) No depth limit

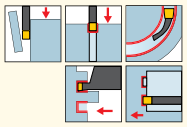
**For tools, see pages:** C#-HELIR/L (265) • D/HGAD RE/LE-JHP (499) • DGAD-B-D (479) • DGAD/HGAD (479) • DGAQ (515) • DGAQ-JHP (515) • DGFH (268) • DGFH-JHP (269) • DGFHL-26B-TR-D (470) • DGFHR/L (468) • DGFHR/L-B-D..(R/L) (470) • DGFHR/L-BC-JHP (469) • DGFS (469) • DGPAD-JHP (480) • DGPAD-XL-JHP (480) • DGTR/L (476) • DGTR/L-B-D-JHP-SL (473) • DGTR/L-B-D-JHP-SL-MC (474) • DGTR/L-B-D-SH (471) • DGTR/L-B/BC-D (475) • DGTR/L-BC-T (476) • HELIR/L (266) • NQCH-DGTR/L-D-SH-JHP (472)

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 538-547

(1) Cutting width tolerance (+/-)

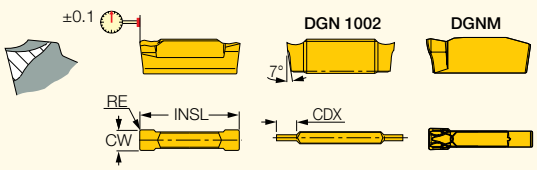
(2) Corner radius tolerance (+/-)

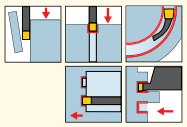
**For tools, see pages:** C#-HELIR/L (265) • C#-HFIR/L-MC (573) • CR HFIR-M (575) • DGAD/HGAD (479) • DGAQ (515) • DGAQ-JHP (515) • DGFH (268) • DGFH-JHP (269) • DGTR/L (476) • HELIR/L (266) • HFAER/L-5T, 6T (566) • HFAIR/L-DG (573) • HFFR/L-T (564) • HFHR/L-5T (560) • HFIR/L-MC (574) • HFPAD-5 (563) • HFPAD-JHP (562) • HGPAD (267) • HGPAD-JHP (267) • IM-HFIR-MC (574) • NQCH-DGTR/L-D-SH-JHP (472)

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 CW | CWTOL(3) | RE | RETOL(4) | CDX(5) | INSL | Tough ↔ Hard IC328 | IC830 | IC928 | IC1030 | IC1028 | IC354 | IC5400 | IC1010 | IC308 | IC808 | IC908 | IC20 | IC807 | IC907 | Recommended Machining Data 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 538-547

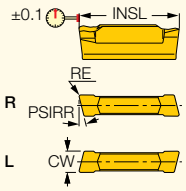
(1) Sharp corners
(2) Single-ended insert
(3) Cutting width tolerance (+/-)
(4) Corner radius tolerance (+/-)
(5) Cutting depth maximum
(6) No depth limit

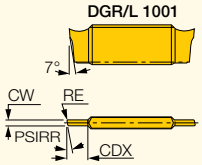
**For tools, see pages:** C#-HELIR/L (265) • C#-HFIR/L-MC (573) • CR HFIR-M (575) • D/HGAD RE/LE-JHP (499) • DGAD-B-D (479) • DGAD/HGAD (479) • DGAQ (515) • DGAQ-JHP (515) • DGFH (268) • DGFH-JHP (269) • DGFHL-26B-TR-D (470) • DGFHR/L (468) • DGFHR/L-B-D..(R/L) (470) • DGFHR/L-BC-JHP (469) • DGFS (469) • DGPAD-JHP (480) • DGPAD-XL-JHP (480) • DGTR/L (476) • DGTR/L-B-D-JHP-SL (473) • DGTR/L-B-D-JHP-SL-MC (474) • DGTR/L-B-D-SH (471) • DGTR/L-B-D-TR (477) • DGTR/L-B-T-SH (476) • DGTR/L-B/BC-D (475) • DGTR/L-BC-T (476) • HELIR/L (266) • HFAER/L-4 (565) • HFAER/L-5T, 6T (566) • HFAIR/L-4 (572) • HFAIR/L-DG (573) • HFFR/L-T (564) • HFHR/L-4T (559) • HFHR/L-5T (560) • HFHR/L-6T (561) • HFIR/L-MC (574) • HFPAD-4 (563) • HFPAD-5 (563) • HFPAD-6 (564) • HFPAD-JHP (562) • HGPAD (267) • HGPAD-JHP (267) • IM-HFIR-MC (574) • NQCH-DGTR/L-D-SH-JHP (472)

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 538-547

(1) Sharp corners

(2) Cutting depth maximum

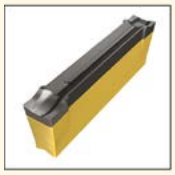
(3) No depth limit.

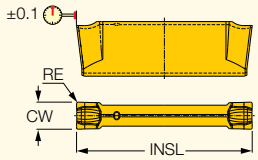
**For tools, see pages:** C#-HELIR/L (265) • D/HGAD RE/LE-JHP (499) • DGAD-B-D (479) • DGAD/HGAD (479) • DGAQ (515) • DGAQ-JHP (515) • DGFH (268) • DGFH-JHP (269) • DGFHL-26B-TR-D (470) • DGFHR/L (468) • DGFHR/L-B-D..(R/L) (470) • DGFHR/L-BC-JHP (469) • DGFS (469) • DGPAD-JHP (480) • DGPAD-XL-JHP (480) • DGTR/L (476) • DGTR/L-B-D-JHP-SL (473) • DGTR/L-B-D-JHP-SL-MC (474) • DGTR/L-B-D-SH (471) • DGTR/L-B-D-TR (477) • DGTR/L-B-T-SH (476) • DGTR/L-B/BC-D (475) • DGTR/L-BC-T (476) • HELIR/L (266) • NQCH-DGTR/L-D-SH-JHP (472)

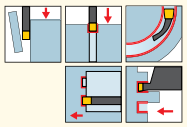
DO-GRIP TWISTED 2-SIDED

## 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 538-547

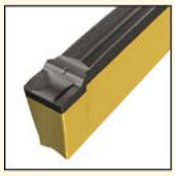
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum

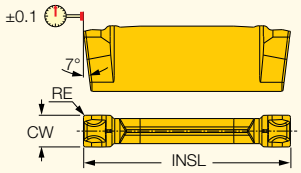
**For tools, see pages:** DGAD-B-D (479) • DGAQ (515) • DGAQ-JHP (515) • DGFH (268) • DGFH-JHP (269) • DGFHL-26B-TR-D (470) • DGFHR/L (468) • DGFHR/L-B-D..(R/L) (470) • DGFHR/L-BC-JHP (469) • DGFS (469) • DGPAD-JHP (480) • DGPAD-XL-JHP (480) • DGTR/L (476) • DGTR/L-B-D-JHP-SL (473) • DGTR/L-B-D-JHP-SL-MC (474) • DGTR/L-B-D-SH (471) • DGTR/L-B/BC-D (475) • NQCH-DGTR/L-D-SH-JHP (472)

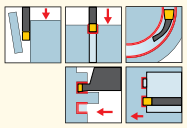
DO-GRIP TWISTED 2-SIDED

## 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 538-547

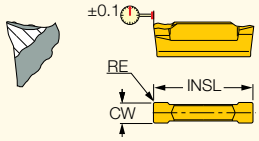
(1) Cutting width tolerance (+/-)
(2) Cutting depth maximum
(3) No depth limit

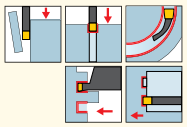
**For tools, see pages:** C#-HELIR/L (265) • C#-HFIR/L-MC (573) • CR HFIR-M (575) • DGAQ (515) • DGAQ-JHP (515) • DGFH (268) • DGFH-JHP (269) • DGFHR/L-B-D..(R/L) (470) • DGFHR/L-BC-JHP (469) • DGPAD-JHP (480) • DGPAD-XL-JHP (480) • DGTR/L (476) • DGTR/L-B-D-JHP-SL (473) • DGTR/L-B-D-JHP-SL-MC (474) • HELIR/L (266) • HFAER/L-4 (565) • HFAIR/L-4 (572) • HFAIR/L-DG (573) • HFFR/L-T (564) • HFHR/L-4T (559) • HFIR/L-MC (574) • HFPAD-4 (563) • HFPAD-JHP (562) • HGPAD (267) • HGPAD-JHP (267) • IM-HFIR-MC (574) • NQCH-DGTR/L-D-SH-JHP (472)

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 538-547

[1] Cutting depth maximum

[2] Cutting width tolerance (+/-)

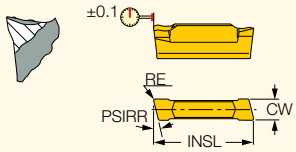
[3] Corner radius tolerance (+/-)

**For tools, see pages:** D/HGAD RE/LE-JHP (499) • DGAD-B-D (479) • DGAD/HGAD (479) • DGAQ (515) • DGAQ-JHP (515) • DGFH (268) • DGFH-JHP (269) • DGFHL-26B-TR-D (470) • DGFHR/L (468) • DGFHR/L-B-D..(R/L) (470) • DGFHR/L-BC-JHP (469) • DGFS (469) • DGPAD-JHP (480) • DGPAD-XL-JHP (480) • DGTR/L (476) • DGTR/L-B-D-JHP-SL (473) • DGTR/L-B-D-JHP-SL-MC (474) • DGTR/L-B-D-SH (471) • DGTR/L-B/BC-D (475) • NQCH-DGTR/L-D-SH-JHP (472)

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 538-547

[1] Sharp corners

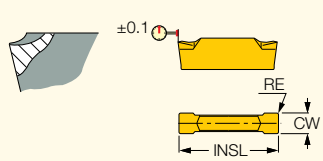
[2] Cutting depth maximum

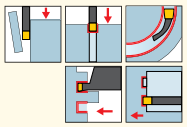
**For tools, see pages:** D/HGAD RE/LE-JHP (499) • DGAD-B-D (479) • DGAD/HGAD (479) • DGAQ (515) • DGAQ-JHP (515) • DGFH (268) • DGFH-JHP (269) • DGFHL-26B-TR-D (470) • DGFHR/L (468) • DGFHR/L-B-D..(R/L) (470) • DGFHR/L-BC-JHP (469) • DGFS (469) • DGPAD-JHP (480) • DGPAD-XL-JHP (480) • DGTR/L (476) • DGTR/L-B-D-JHP-SL (473) • DGTR/L-B-D-JHP-SL-MC (474) • DGTR/L-B-D-SH (471) • DGTR/L-B/BC-D (475) • NQCH-DGTR/L-D-SH-JHP (472)

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 CW | CWTOL(1) | RE | RETOL(2) | CDX(3) | INSL | Tough ↔ Hard IC328 | IC1030 | IC1028 | IC354 | IC350 | IC1010 | IC308 | IC908 | IC20 | Recommended Machining Data 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 538-547

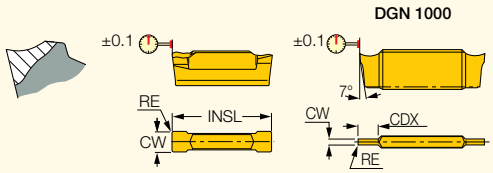
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum
(4) No depth limit

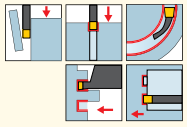
**For tools, see pages:** C#-HELIR/L (265) • D/HGAD RE/LE-JHP (499) • DGAD-B-D (479) • DGAD/HGAD (479) • DGAQ (515) • DGAQ-JHP (515) • DGFH (268) • DGFH-JHP (269) • DGFHL-26B-TR-D (470) • DGFHR/L (468) • DGFHR/L-B-D..(R/L) (470) • DGFHR/L-BC-JHP (469) • DGFS (469) • DGPAD-JHP (480) • DGPAD-XL-JHP (480) • DGTR/L (476) • DGTR/L-B-D-JHP-SL (473) • DGTR/L-B-D-JHP-SL-MC (474) • DGTR/L-B-D-SH (471) • DGTR/L-B/BC-D (475) • DGTR/L-BC-T (476) • HELIR/L (266) • HGPAD (267) • HGPAD-JHP (267) • NQCH-DGTR/L-D-SH-JHP (472)

DO-GRIP TWISTED 2-SIDED

## DGN-P

Double-Sided Inserts for Parting and Grooving Soft Materials, Thin and Miniature Parts

| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | INSL | CDX(3) | IC508 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| 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 538-547

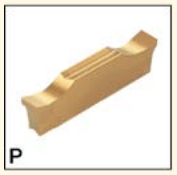
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum

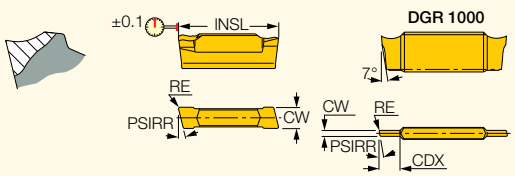
**For tools, see pages:** D/HGAD RE/LE-JHP (499) • DGAD-B-D (479) • DGAD/HGAD (479) • DGAQ (515) • DGAQ-JHP (515) • DGFH (268) • DGFH-JHP (269) • DGFHL-26B-TR-D (470) • DGFHR/L (468) • DGFHR/L-B-D..(R/L) (470) • DGFHR/L-BC-JHP (469) • DGFS (469) • DGPAD-JHP (480) • DGPAD-XL-JHP (480) • DGTR/L (476) • DGTR/L-B-D-JHP-SL (473) • DGTR/L-B-D-JHP-SL-MC (474) • DGTR/L-B-D-SH (471) • DGTR/L-B-D-TR (477) • DGTR/L-B-T-SH (476) • DGTR/L-B/BC-D (475) • NQCH-DGTR/L-D-SH-JHP (472)

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 538-547

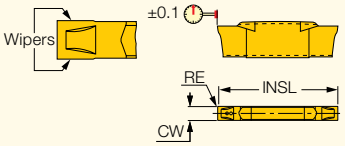
(1) Cutting depth maximum

**For tools, see pages:** D/HGAD RE/LE-JHP (499) • DGAD-B-D (479) • DGAD/HGAD (479) • DGAQ (515) • DGAQ-JHP (515) • DGFH (268) • DGFH-JHP (269) • DGFHR/L (468) • DGFHR/L-B-D..(R/L) (470) • DGFS (469) • DGPAD-JHP (480) • DGTR/L (476) • DGTR/L-B-D-JHP-SL (473) • DGTR/L-B-D-JHP-SL-MC (474) • DGTR/L-B-D-SH (471) • DGTR/L-B-D-TR (477) • DGTR/L-B-T-SH (476) • DGTR/L-B/BC-D (475) • NQCH-DGTR/L-D-SH-JHP (472)

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 538-547

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

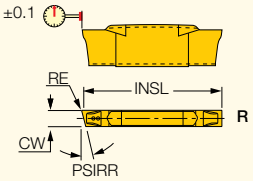
(3) Cutting depth maximum

**For tools, see pages:** D/HGAD RE/LE-JHP (499) • DGAD-B-D (479) • DGAD/HGAD (479) • DGAQ (515) • DGAQ-JHP (515) • DGFH (268) • DGFH-JHP (269) • DGFHL-26B-TR-D (470) • DGFHR/L (468) • DGFHR/L-B-D..(R/L) (470) • DGFS (469) • DGPAD-JHP (480) • DGTR/L (476) • DGTR/L-B-D-JHP-SL (473) • DGTR/L-B-D-JHP-SL-MC (474) • DGTR/L-B-D-SH (471) • DGTR/L-B/BC-D (475) • NQCH-DGTR/L-D-SH-JHP (472)

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 538-547

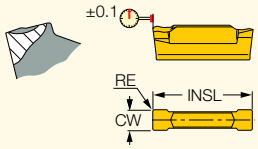
(1) Cutting depth maximum

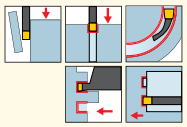
**For tools, see pages:** D/HGAD RE/LE-JHP (499) • DGAD-B-D (479) • DGAD/HGAD (479) • DGAQ (515) • DGAQ-JHP (515) • DGFH (268) • DGFH-JHP (269) • DGFHR/L (468) • DGFHR/L-B-D..(R/L) (470) • DGFS (469) • DGPAD-JHP (480) • DGTR/L (476) • DGTR/L-B-D-JHP-SL (473) • DGTR/L-B-D-JHP-SL-MC (474) • DGTR/L-B-D-SH (471) • DGTR/L-B/BC-D (475) • NQCH-DGTR/L-D-SH-JHP (472)

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 538-547

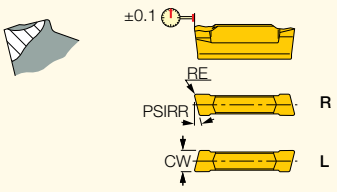
(1) Cutting width tolerance (+/-)

**For tools, see pages:** C#-HELIR/L (265) • D/HGAD RE/LE-JHP (499) • DGAD/HGAD (479) • HELIR/L (266) • HFPAD-3 (562) • HFPAD-JHP (562) • HGAIR/L-3 (568) • HGFH (268) • HGHR/L-3 (558) • HGPAD (267) • HGPAD-JHP (267)

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 |

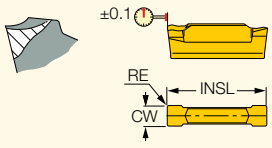
• No depth limit • For cutting speed recommendations and user guide, see pages 538-547

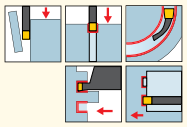
**For tools, see pages:** D/HGAD RE/LE-JHP (499) • DGAD/HGAD (479) • HELIR/L (266) • HGFH (268)

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 538-547

(1) Cutting width tolerance (+/-)

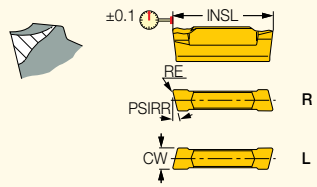
(2) Corner radius tolerance (+/-)

**For tools, see pages:** C#-HELIR/L (265) • D/HGAD RE/LE-JHP (499) • DGAD/HGAD (479) • HELIR/L (266) • HFPAD-3 (562) • HFPAD-JHP (562) • HGAIR/L-3 (568) • HGFH (268) • HGHR/L-3 (558) • HGPAD (267) • HGPAD-JHP (267)

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 538-547

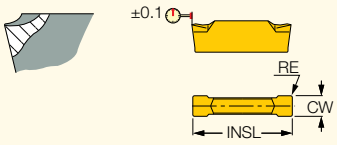
(1) Sharp corners

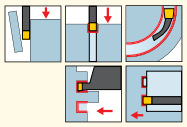
**For tools, see pages:** D/HGAD RE/LE-JHP (499) • DGAD/HGAD (479) • HELIR/L (266) • HGFH (268)

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 538-547

(1) Cutting width tolerance (+/-)

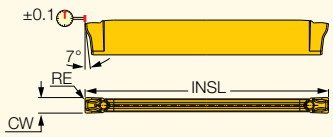
(2) Corner radius tolerance (+/-)

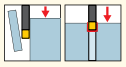
**For tools, see pages:** C#-HELIR/L (265) • D/HGAD RE/LE-JHP (499) • DGAD/HGAD (479) • HELIR/L (266) • HFPAD-3 (562) • HFPAD-JHP (562) • HGAIR/L-3 (568) • HGFH (268) • HGHR/L-3 (558) • HGPAD (267) • HGPAD-JHP (267)

DO-GRIP XL

## 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 538-547

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

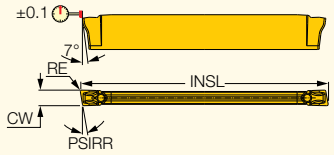
(3) Cutting depth maximum

**For tools, see pages:** DGTR/L-XL (477)

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 538-547

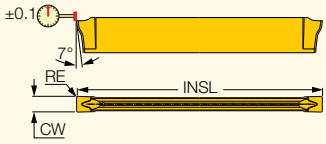
(1) Cutting depth maximum

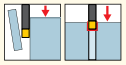
**For tools, see pages:** DGTR/L-XL (477)

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 538-547

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

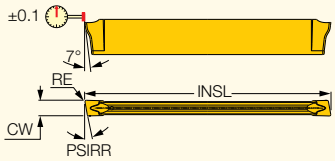
(3) Cutting depth maximum

**For tools, see pages:** DGTR/L-XL (477)

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 538-547

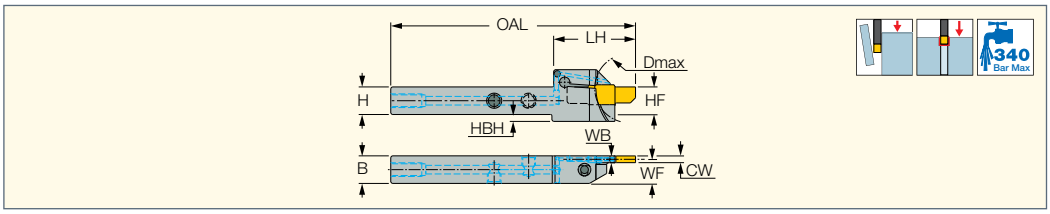
(1) Cutting depth maximum

**For tools, see pages:** DGTR/L-XL (477)

ISCAR PARTING
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 538-547

[1] Minimum cutting width
[2] Maximum cutting width
[3] The specified limit refers to the tool
[4] for grooving

**For inserts, see pages:** BGM N-J (492) • BGM R/L-J (492)
**For holders, see pages:** AVC-D80-VH (98) • C#-ADE (732) • C#-ADES (732) • C#-ASHA (731) • C#-ASHR/L (731) • C#-ASHR/L-45 (732)
• DT30/2 ASH# 16/20-1-35080 (759) • HSK A-WH-ASHR/L-1 (736) • HSK A63WH-ASHN-45 (736) • HSK A63WH-ASHR/L-2 (736) • HSK A63WH-ASHR/L-3 (737)
• HSK A63WH-ASHR/L-45 (736)

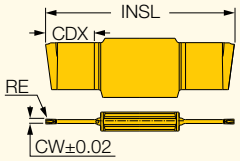
### Spare Parts

| 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 |

ISCAR PARTING

## BGM N-J

Narrow Material Cost Saving Inserts for Grooving and Parting up to 20 mm Bar Diameters




| Designation | Dimensions CW | CWTOL[1] | RE | RETOL[2] | CDX | INSL | IC1008 | Recommended Machining Data 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 538-547

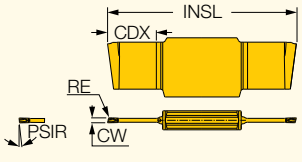
[1] Cutting width tolerance (+/-)
[2] Corner radius tolerance (+/-)

**For tools, see pages:** BGTR/L-B-JHP (492)

ISCAR PARTING

## BGM R/L-J

Narrow Material Cost Saving Inserts for Parting up to 20 mm Bar Diameters




| Designation | Dimensions CW | RE | INSL | CDX | PSIR | IC1008 | Recommended Machining Data 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 538-547

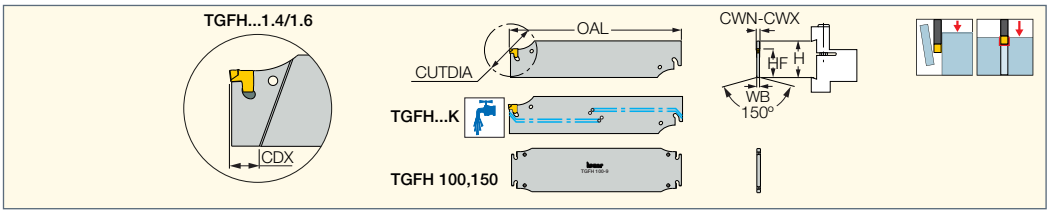
**For tools, see pages:** BGTR/L-B-JHP (492)

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 538-547

[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

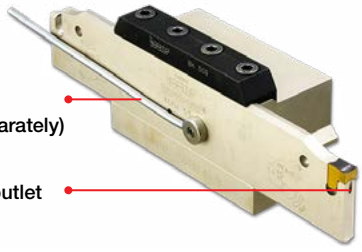
**For inserts, see pages:** TAG N-A (510) • TAG N-C/W/M (506) • TAG N-HF (506) • TAG N-J/JS/JT (508) • TAG N-LF (509) • TAG N-MF (507) • TAG N-UT (510) • TAG R/L-C (507) • TAG R/L-J/JS (509) • TAGB/TAGBA (333)

**For holders, see pages:** C#-TBK-R/L (623) • HSK A-WH-TBK-R/L (632) • SGTBF (618) • SGTBK (617) • SGTBR/L (617) • SGTBU/SGTBN (616) • UBHCR/L (618)

### K TYPE COOLANT

Coolant inlet SGCU-341
(should be ordered separately)

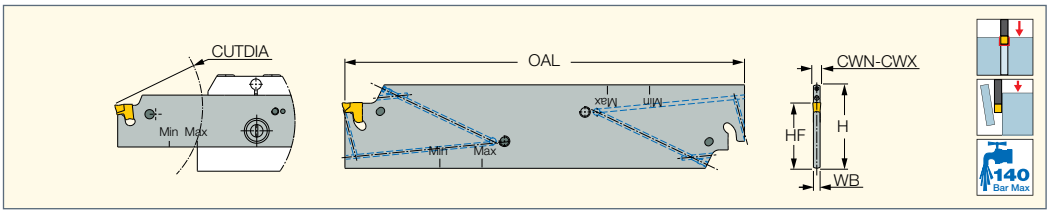
Coolant outlet



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 538-547

(1) Only an upper channel
(2) Minimum cutting width
(3) Maximum cutting width
* Optional, should be ordered separately

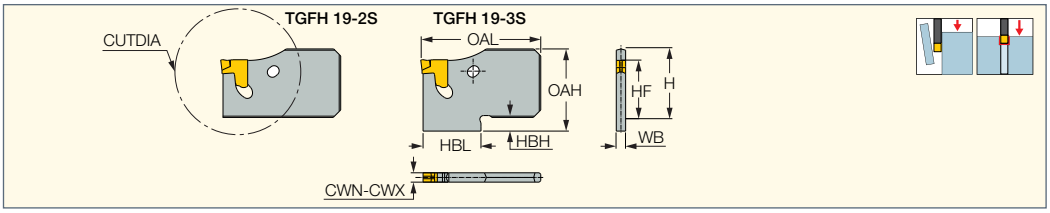
**For inserts, see pages:** TAG N-A (510) • TAG N-C/W/M (506) • TAG N-HF (506) • TAG N-J/JS/JT (508) • TAG N-LF (509) • TAG N-MF (507) • TAG N-UT (510) • TAG R/L-C (507) • TAG R/L-J/JS (509) • TAGB/TAGBA (333)

**For holders, see pages:** TGTBU-JHP (497)

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

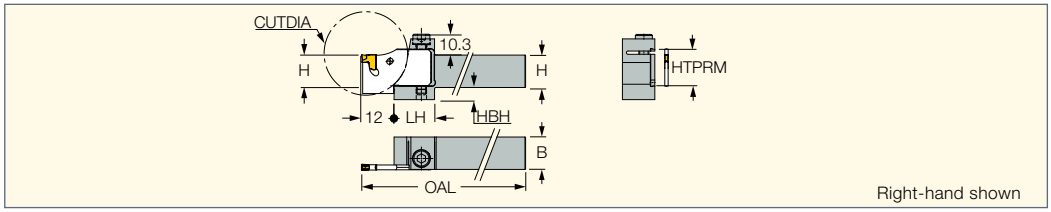
(1) Minimum cutting width
(2) Maximum cutting width
(3) Cutting depth maximum
* Optional, should be ordered separately

**For inserts, see pages:** TAG N-A (510) • TAG N-C/W/M (506) • TAG N-HF (506) • TAG N-J/JS/JT (508) • TAG N-LF (509) • TAG N-MF (507) • TAG N-UT (510) • TAG R/L-C (507) • TAG R/L-J/JS (509)

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

**For tools, see pages:** TGFH-S (494)

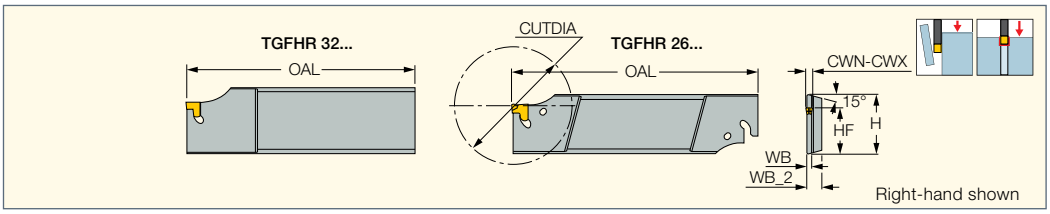
### Spare Parts

| 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 538-547

(1) Minimum cutting width

(2) Maximum cutting width

* Optional, should be ordered separately

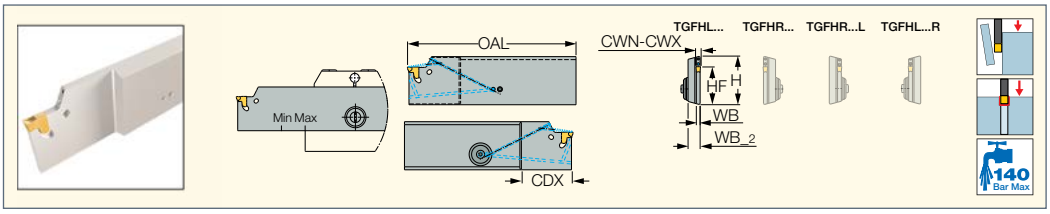
**For inserts, see pages:** TAG N-A (510) • TAG N-C/W/M (506) • TAG N-HF (506) • TAG N-J/JS/JT (508) • TAG N-LF (509) • TAG N-MF (507) • TAG N-UT (510) • TAG R/L-C (507) • TAG R/L-J/JS (509)

**For holders, see pages:** C#-TBK-R/L (623) • HSK A-WH-TBK-R/L (632) • SGTBF (618) • SGTBK (617) • SGTBR/L (617) • SGTBU/SGTBN (616) • UBHCR/L (618)

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 538-547

(1) Minimum cutting width

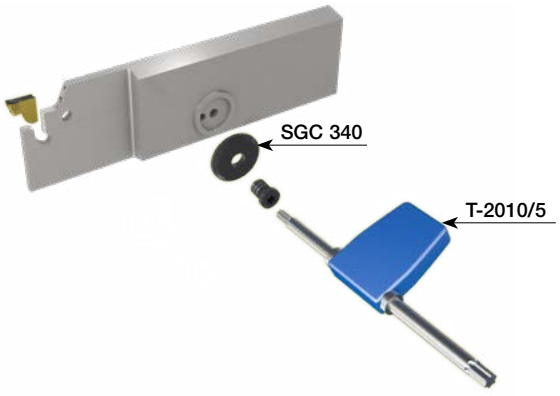
(2) Maximum cutting width

(3) Cutting depth maximum

* Optional, should be ordered separately

**For inserts, see pages:** TAG N-A (510) • TAG N-C/W/M (506) • TAG N-HF (506) • TAG N-J/JS/JT (508) • TAG N-LF (509) • TAG N-MF (507) • TAG N-UT (510) • TAG R/L-C (507) • TAG R/L-J/JS (509)

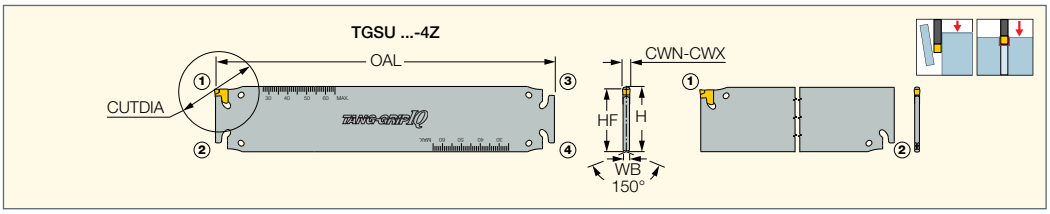
**For holders, see pages:** TGTBU-JHP (497)



TANG-GRIP IQ 350 LINE

## 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 538-547

[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

**For inserts, see pages:** TAG N-A (510) • TAG N-C/W/M (506) • TAG N-HF (506) • TAG N-J/JS/JT (508) • TAG N-LF (509) • TAG N-MF (507) • TAG N-UT (510) • TAG R/L-C (507) • TAG R/L-J/JS (509) • TAGB/TAGBA (333)

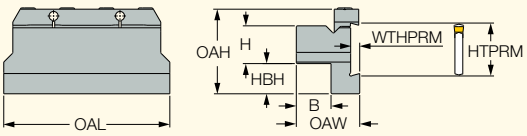
**For holders, see pages:** TGTBU (496)

**TGSU 35-3-IQ-4Z**
**TGSU 35-4-IQ-4Z**


TANG-GRIP IQ 350 LINE

## 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 |

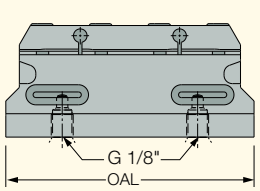
[1] HD - recommended blocks for TGSU...-8, TGSU...-9 blades

**For tools, see pages:** TGSU (496)

JETCUT

## TGTBU-JHP

Tool Blocks for Parting and Grooving Blades for High-Pressure Coolant




140 Bar Max

Choose blade by prism height dimension

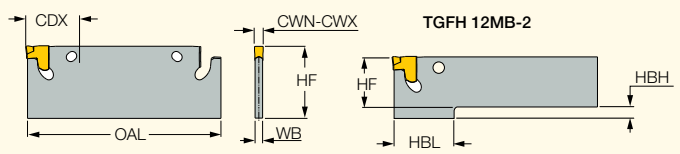
| Designation | H | B | HTPRM | OAW | OAH | HBH | WTHPRM | OAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TGTBU 16-5G-JHP | 16.0 | 16.9 | 26.0 | 35.60 | 29.9 | 13.1 | 4.10 | 86.00 | BKU 86 | SR M6X16 DIN912 | HW 5.0 | OR 14X2.5N N |
| TGTBU 20-5G-JHP | 20.0 | 20.9 | 26.0 | 39.60 | 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 |

**For tools, see pages:** DGFH-JHP (269) • DGFHR/L-BC-JHP (469) • TGFH-JHP (494) • TGFHR/L-JHP (495)

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 538-547

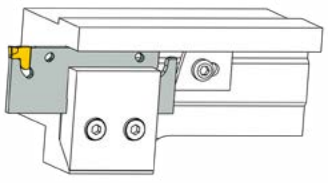
(1) Minimum cutting width

(2) Maximum cutting width

(3) Cutting depth maximum

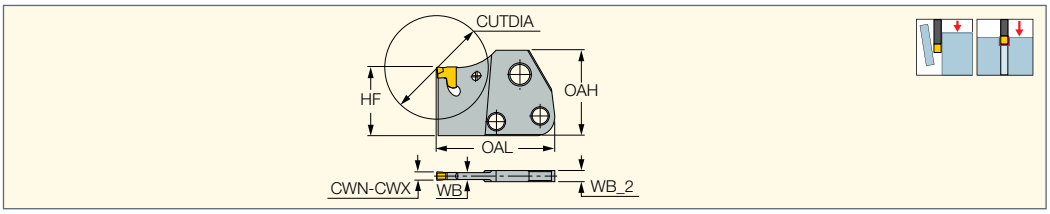
* Optional, should be ordered separately

**For inserts, see pages:** TAG N-A (510) • TAG N-C/W/M (506) • TAG N-HF (506) • TAG N-J/JS/JT (508) • TAG N-LF (509) • TAG N-MF (507) • TAG N-UT (510) • TAG R/L-C (507) • TAG R/L-J/JS (509)



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 538-547

(1) Minimum cutting width

(2) Maximum cutting width

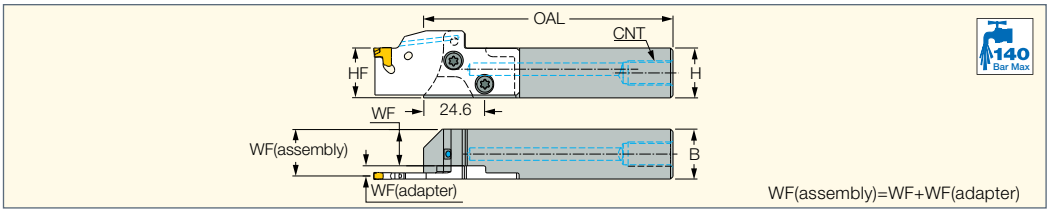
* Optional, should be ordered separately

**For inserts, see pages:** TAG N-A (510) • TAG N-C/W/M (506) • TAG N-HF (506) • TAG N-J/JS/JT (508) • TAG N-LF (509) • TAG N-MF (507) • TAG N-UT (510) • TAG R/L-C (507) • TAG R/L-J/JS (509)

**For holders, see pages:** DGHAL-DECO (478) • MAHPR/L-JHP (281) • MAHR/L-JHP (279) • MAHR/L (279) • MAHPR/L (280) • C#-MAHD (624) • C#-MAHPD (625) • C#-MAHDR-45 (623) • HSK A63WH-MAHUR/L (632) • HSK A63WH-MAHDR-45 (631) • HSK A63WH-MAHDOR (631) • IM-MAHD (633) • C#-MAHD-JHP (624) • C#-MAHPD-JHP (625) • IM-MAHPD (633) • MAHR/L-JHP-MC (280)

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 |

**For tools, see pages:** D/HGAD RE/LE-JHP (499) • PCAD RE/LE-JHP (499) • TGAD RE/LE-JHP (498)

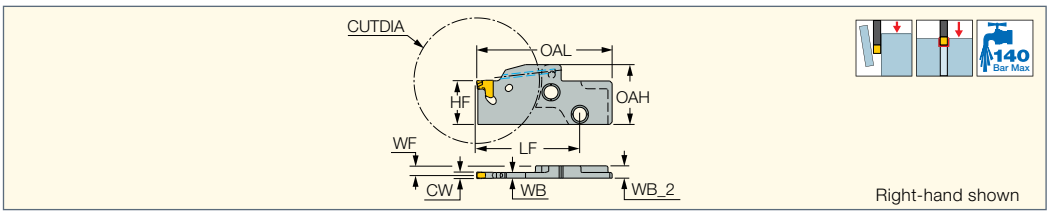
### Spare Parts

| 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 538-547

(1) Minimum cutting width

(2) Maximum cutting width

**For inserts, see pages:** TAG N-A (510) • TAG N-C/W/M (506) • TAG N-HF (506) • TAG N-J/JS/JT (508) • TAG N-LF (509) • TAG N-MF (507) • TAG N-UT (510) • TAG R/L-C (507) • TAG R/L-J/JS (509)

**For holders, see pages:** NMAHR/L-JHP (498)

### Spare Parts

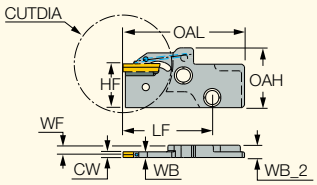
| Designation | |
|---|---|
| TGAD 2R/LE-D54-JHP | ETG 2* |
| TGAD 3R/LE-D54-JHP | ETG 3-4-SH* |

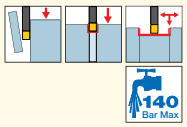
* Optional, should be ordered separately

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 538-547

(1) For parting and external grooving only

(2) Minimum cutting width

(3) Maximum cutting width

* Optional, should be ordered separately

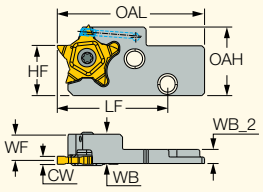
**For inserts, see pages:** DGN-P (487) • DGN-UT/UA (487) • DGN-WP (488) • DGN-Z (486) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • DGR-P (488) • DGR-WP (488) • DGR-Z/ZS (486) • DGR/L-C DGRC/LC-C (482) • DGR/L-J/JS (484) • GRIP (269) • GRIP (full radius) (270) • HGN-C (489) • HGN-J (489) • HGN-UT (490) • HGR/L-C (489) • HGR/L-J/JS (490)

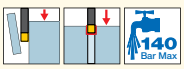
**For holders, see pages:** NMAHR/L-JHP (498)

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 538-547

(1) Minimum cutting width

(2) Maximum cutting width

**For inserts, see pages:** PENTA 24-BSPT (674) • PENTA 24-ISO (657) • PENTA 24-MT (646) • PENTA 24-NPT (670) • PENTA 24-UN (664) • PENTA 24-W (668) • PENTA 24-WT (641) • PENTA 24N-C (320) • PENTA 24N-C (full radius) (321) • PENTA 24N-J (319) • PENTA 24N-J (full radius) (320) • PENTA 24N-PF (full radius) (322) • PENTA 24N-PF/P (321) • PENTA 24N-Z (322) • PENTA 24R-C (531) • PENTA 24R-P (534) • PENTA 24R/L-J (530) • PENTA 24R/L-Z (533)

**For holders, see pages:** NMAHR/L-JHP (498)

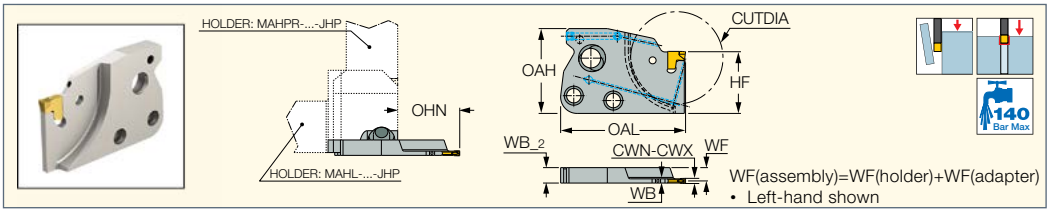
### Spare Parts

| 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 538-547
(1) Minimum cutting width
(2) Maximum cutting width
(3) Minimum overhang
* Optional, should be ordered separately

**For inserts, see pages:** TAG N-A (510) • TAG N-C/W/M (506) • TAG N-HF (506) • TAG N-J/JS/JT (508) • TAG N-LF (509) • TAG N-MF (507) • TAG N-UT (510) • TAG R/L-C (507) • TAG R/L-J/JS (509)
**For holders, see pages:** ABC MAHDR-#-XL-JHP (782) • DT##/2 MAHD#-#-XL-JHP (758) • MAHR/L-JHP-MC (280) • MS##-##-MG-JHP (757) • MS-ES#####-GWS-MG-JHP (759) • TR45 MAHDR-#-XL-JHP (781) • V## MAHD#-#-XL-##-JHP (778) • V## MAHD-XL-JHP (779)

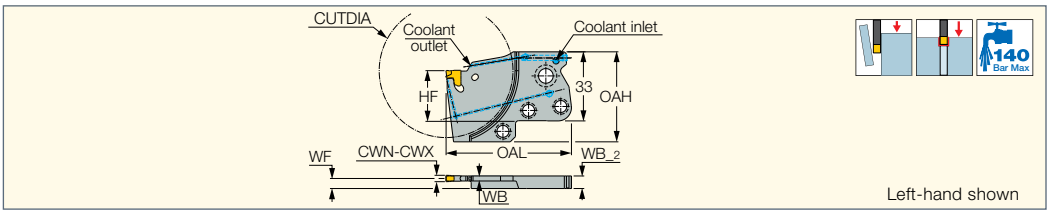
### Flow Rate vs. Pressure

| 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* |

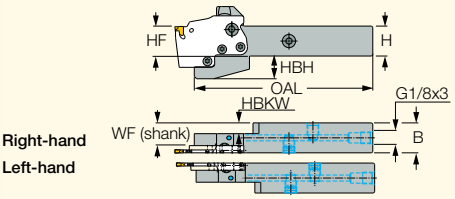
• For user guide and accessories, see pages 538-547
(1) Minimum cutting width
(2) Maximum cutting width
* Optional, should be ordered separately

**For inserts, see pages:** TAG N-A (510) • TAG N-C/W/M (506) • TAG N-HF (506) • TAG N-J/JS/JT (508) • TAG N-LF (509) • TAG N-MF (507) • TAG N-UT (510) • TAG R/L-C (507) • TAG R/L-J/JS (509)
**For holders, see pages:** ABC MAHDR-#-XL-JHP (782) • MAHPR/L-XL-JHP (561) • MAHR/L-MG-XL-JHP (501) • MAHR/L-MG-XL-JHP-MC (501) • TR TNK36 MAHDL-R-XL-JHP (782) • TR45 MAHDR-#-XL-JHP (781) • TR45TNL MAHDN-R-XL-JHP (781) • V## MAHD#-#-XL-##-JHP (778) • V## MAHD-XL-JHP (779)

JETCUT

## MAHR/L-MG-XL-JHP

Holders with High-Pressure Coolant Channels for Interchangeable Adapters




140 Bar Max

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 538-547

**For tools, see pages:** DGPAD-XL-JHP (480) • TAGPAD-XL-JHP (500) • TAGPAD-Y-JHP (519) • TNFPAD-XL-JHP (569)

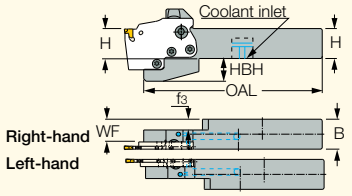
### Spare Parts

| 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



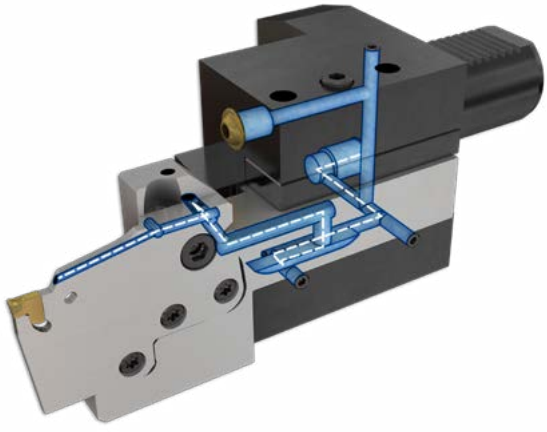

140 Bar Max

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

**For tools, see pages:** DGPAD-XL-JHP (480) • TAGPAD-XL-JHP (500) • TAGPAD-Y-JHP (519) • TNFPAD-XL-JHP (569)



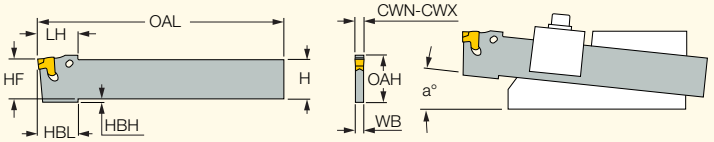
### Spare Parts

| 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 538-547

(1) Minimum cutting width

(2) Maximum cutting width

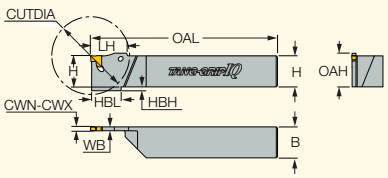
* Optional, should be ordered separately

**For inserts, see pages:** TAG N-A (510) • TAG N-C/W/M (506) • TAG N-HF (506) • TAG N-J/JS/JT (508) • TAG N-LF (509) • TAG N-MF (507) • TAG N-UT (510) • TAG R/L-C (507) • TAG R/L-J/JS (509)

TANG-GRIP IQ 350 LINE

## TGTR/L-IQ

Integral Shank TANG-GRIP Toolholders for Parting and Grooving




Left-hand shown

| 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 538-547

(1) With coolant

(2) Minimum cutting width

(3) Maximum cutting width

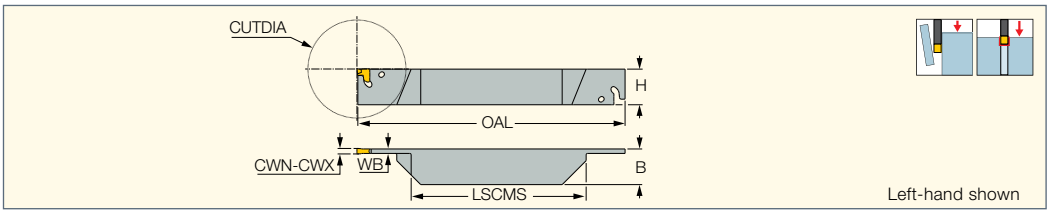
* Optional, should be ordered separately

**For inserts, see pages:** TAG N-A (510) • TAG N-C/W/M (506) • TAG N-HF (506) • TAG N-J/JS/JT (508) • TAG N-LF (509) • TAG N-MF (507) • TAG N-UT (510) • TAG R/L-C (507) • TAG R/L-J/JS (509) • TAGB/TAGBA (333)

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 538-547

(1) Minimum cutting width

(2) Maximum cutting width

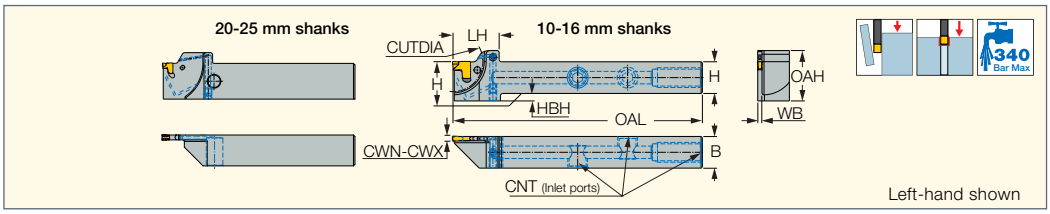
* Optional, should be ordered separately

**For inserts, see pages:** TAG N-A (510) • TAG N-C/W/M (506) • TAG N-HF (506) • TAG N-J/JS/JT (508) • TAG N-LF (509) • TAG N-MF (507) • TAG N-UT (510) • TAG R/L-C (507) • TAG R/L-J/JS (509)

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 538-547

(1) Minimum cutting width

(2) Maximum cutting width

**For inserts, see pages:** TAG N-A (510) • TAG N-C/W/M (506) • TAG N-HF (506) • TAG N-J/JS/JT (508) • TAG N-LF (509) • TAG N-MF (507) • TAG N-UT (510) • TAG R/L-C (507) • TAG R/L-J/JS (509)

### 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

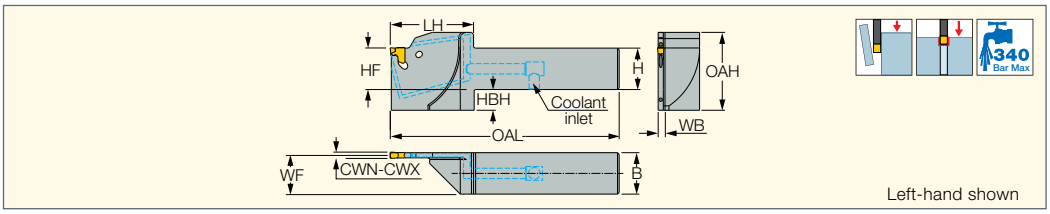
| Designation | | | | | |
|---|---|---|---|---|---|
| TGTR/L 1010-2JHP | ETG 2-SH-T* | | SR 5/16XUNF-TL-S | | HW 5/32" |
| TGTR/L 1212-2JHP | ETG 2-SH-T* | | SR 5/16UNF TL360 | | HW 5/32" |
| TGTR/L 1616-2JHP | ETG 2* | | SR 5/16UNF TL360 | | HW 5/32" |
| TGTR/L 2012-2JHP | ETG 2* | | SR 5/16UNF TL360 | | 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




| 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 538-547

(1) Minimum cutting width

(2) Maximum cutting width

(3) Maximum cutting diameter

**For inserts, see pages:** TAG N-A (510) • TAG N-C/W/M (506) • TAG N-HF (506) • TAG N-J/JS/JT (508) • TAG N-LF (509) • TAG N-MF (507) • TAG N-UT (510) • TAG R/L-C (507) • TAG R/L-J/JS (509)

### Spare Parts

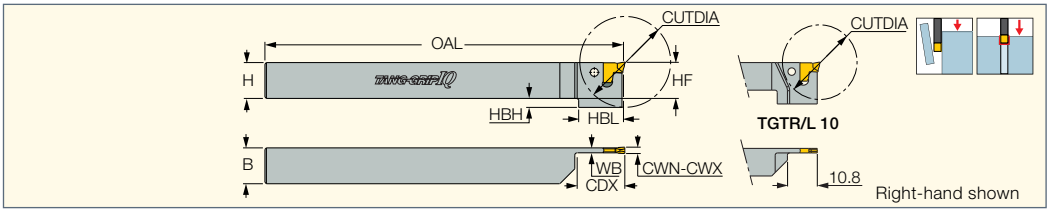
| Designation |  |
|---|---|
| TGTR/L 2020-D42-2-JHP-MC | ETG 2* |
| TGTR/L 2020-D65-3-JHP-MC | ETG 3-4-SH* |
| TGTR/L 2020-D82-3-JHP-MC | ETG 3-4-SH* |
| TGTR/L 2525-D65-3-JHP-MC | ETG 3-4-SH* |
| TGTR/L 2525-D82-3-JHP-MC | ETG 3-4-SH* |

* 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




| 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 538-547

(1) Minimum cutting width

(2) Maximum cutting width

(3) Cutting depth maximum

(4) For parting

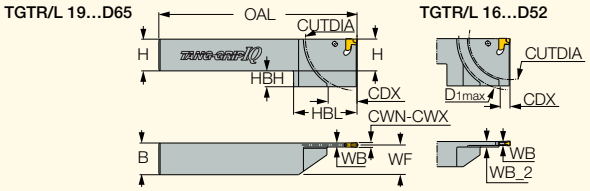
* Optional, should be ordered separately

**For inserts, see pages:** TAG N-A (510) • TAG N-C/W/M (506) • TAG N-J/JS/JT (508) • TAG N-LF (509) • TAG N-MF (507) • TAG N-UT (510) • TAG R/L-C (507) • TAG R/L-J/JS (509)

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 538-547

(1) Minimum cutting width

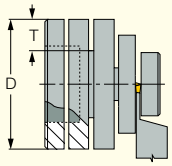
(2) Maximum cutting width

* Optional, should be ordered separately

**For inserts, see pages:** TAG N-A (510) • TAG N-C/W/M (506) • TAG N-HF (506) • TAG N-J/JS/JT (508) • TAG N-LF (509) • TAG N-MF (507) • TAG N-UT (510) • TAG R/L-C (507) • TAG R/L-J/JS (509)

## Depth Capacity DGTR/L-D

Table Determining Depth of Cut as Function of Workpiece Diameter

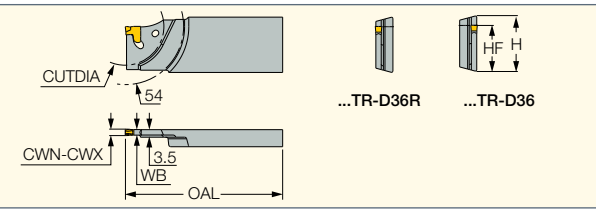



| Designation | Tmax | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| TGTR/L 1616-2-D52-IQ | 20 | 25 | 19 | 16 | 15 | 13 | 11 | 10 | 9 | 8 |
| TGTR/L 2020-2-D65-IQ | 20 | 25 | 30 | 31 | 29 | 26 | 24 | 23 | 22 | 20 |
| TGTR/L 1616-3-D52-IQ | 20 | 25 | 20 | 17 | 15 | 13 | 11 | 10 | 9 | 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 538-547

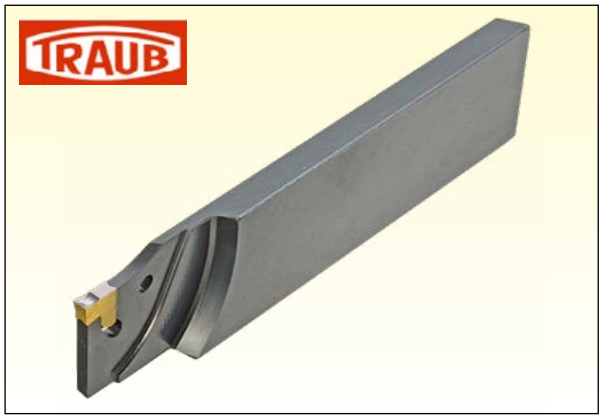
(1) Minimum cutting width

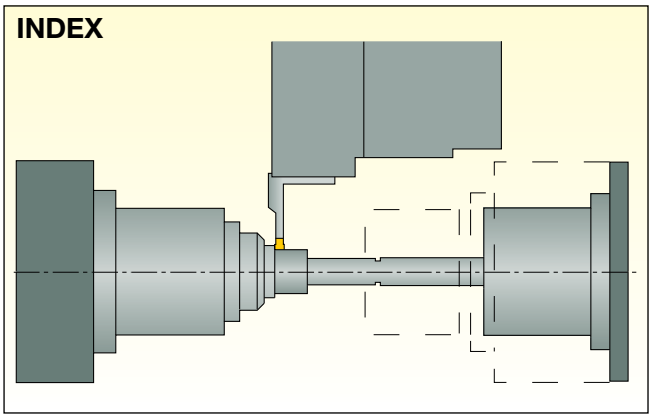
(2) Maximum cutting width

* Optional, should be ordered separately

**For inserts, see pages:** TAG N-A (510) • TAG N-C/W/M (506) • TAG N-HF (506) • TAG N-J/JS/JT (508) • TAG N-LF (509) • TAG N-MF (507) • TAG N-UT (510) • TAG R/L-C (507) • TAG R/L-J/JS (509)

**For holders, see pages:** SGTBR/L (617) • SGTBU/SGTBN (616) • UBHCR/L (618)



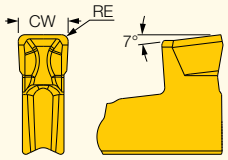



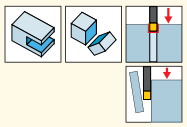
TANG F GRIP HIGH FEED PARTING

TANG GRIP 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 538-547

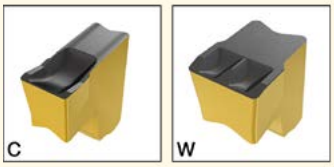
[1] Cutting width tolerance (+/-)

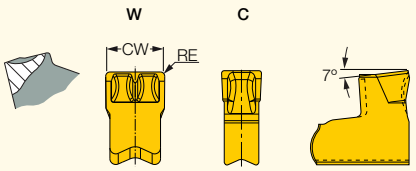
**For tools, see pages:** ADMP D45 (521) • TAGPAD-JHP (500) • TAGPAD-XL-JHP (500) • TAGPAD-Y-JHP (519) • TGAD (498) • TGAD RE/LE-JHP (498) • TGAQ (514) • TGAQ-ECD (JET-CROWN) (516) • TGAQ-JHP (513) • TGFH-JHP (494) • TGFH-MB (497) • TGFH-S (494) • TGFH/R/L (332) • TGFHL-TR (505) • TGFHR/L (495) • TGFHR/L-JHP (495) • TGFS (502) • TGSU (496) • TGTR/L-D (505) • TGTR/L-IQ (502) • TGTR/L-IQ-2Z (503) • TGTR/L-JHP (503) • TGTR/L-JHP-MC (504)

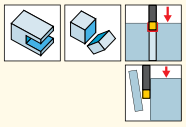
TANG GRIP PARTING LINE

## 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 538-547

[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

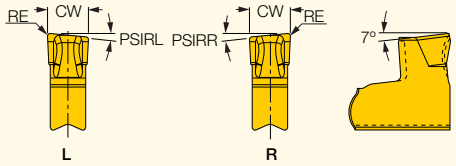
[3] Cutting width tolerance (+/-)

**For tools, see pages:** ADMP D45 (521) • Anti-Vibration Blades (284) • TAGPAD-JHP (500) • TAGPAD-XL-JHP (500) • TAGPAD-Y-JHP (519) • TGAD (498) • TGAD RE/LE-JHP (498) • TGAQ (514) • TGAQ-ECD (JET-CROWN) (516) • TGAQ-JHP (513) • TGBHR/L (330) • TGBHR/L-JHP (331) • TGFH-JHP (494) • TGFH-MB (497) • TGFH-S (494) • TGFH/R/L (332) • TGFHL-TR (505) • TGFHR/L (495) • TGFHR/L-JHP (495) • TGFS (502) • TGSU (496) • TGTR/L-2T..SH-L120 (504) • TGTR/L-D (505) • TGTR/L-IQ (502) • TGTR/L-IQ-2Z (503) • TGTR/L-JHP (503) • TGTR/L-JHP-MC (504)

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 538-547

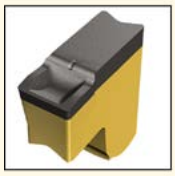
(1) Cutting width tolerance (+/-)

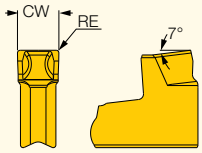
**For tools, see pages:** ADMP D45 (521) • TAGPAD-JHP (500) • TAGPAD-XL-JHP (500) • TAGPAD-Y-JHP (519) • TGAD (498) • TGAD RE/LE-JHP (498) • TGAQ (514) • TGAQ-ECD (JET-CROWN) (516) • TGAQ-JHP (513) • TGBHR/L (330) • TGFH-JHP (494) • TGFH-MB (497) • TGFH-S (494) • TGFH/R/L (332) • TGFHL-TR (505) • TGFHR/L (495) • TGFHR/L-JHP (495) • TGFS (502) • TGSU (496) • TGTR/L-2T..SH-L120 (504) • TGTR/L-D (505) • TGTR/L-IQ (502) • TGTR/L-IQ-2Z (503) • TGTR/L-JHP (503) • TGTR/L-JHP-MC (504)

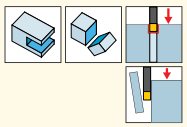
TANG-GRIP PARTING LINE

## 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 538-547

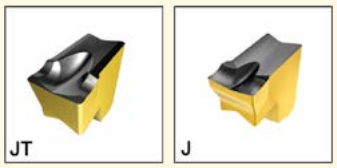
(1) Cutting width tolerance (+/-)

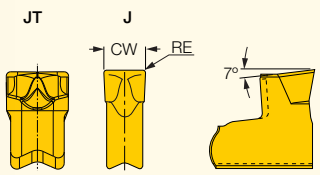
**For tools, see pages:** ADMP D45 (521) • TAGPAD-JHP (500) • TAGPAD-XL-JHP (500) • TAGPAD-Y-JHP (519) • TGAD (498) • TGAD RE/LE-JHP (498) • TGAQ (514) • TGAQ-ECD (JET-CROWN) (516) • TGAQ-JHP (513) • TGFH-JHP (494) • TGFH-MB (497) • TGFH-S (494) • TGFH/R/L (332) • TGFHL-TR (505) • TGFHR/L (495) • TGFHR/L-JHP (495) • TGFS (502) • TGSU (496) • TGTR/L-2T..SH-L120 (504) • TGTR/L-D (505) • TGTR/L-IQ (502) • TGTR/L-IQ-2Z (503) • TGTR/L-JHP (503) • TGTR/L-JHP-MC (504)

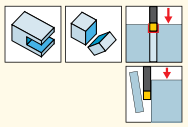
TANG-GRIP PARTING LINE

## 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 538-547

[1] Sharp corners cannot be used on TGSF slitting cutters

[2] Cutting width tolerance (+/-)

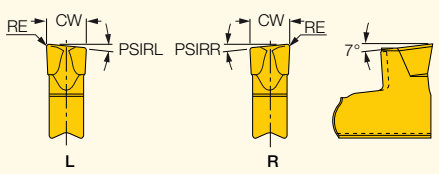
[3] Corner radius tolerance (+/-)

**For tools, see pages:** ADMP D45 (521) • TAGPAD-JHP (500) • TAGPAD-XL-JHP (500) • TAGPAD-Y-JHP (519) • TGAD (498) • TGAD RE/LE-JHP (498) • TGAQ (514) • TGAQ-ECD (JET-CROWN) (516) • TGAQ-JHP (513) • TGBHR/L (330) • TGFH-JHP (494) • TGFH-MB (497) • TGFH-S (494) • TGFH/R/L (332) • TGFHL-TR (505) • TGFHR/L (495) • TGFHR/L-JHP (495) • TGFS (502) • TGSU (496) • TGTR/L-2T..SH-L120 (504) • TGTR/L-D (505) • TGTR/L-IQ (502) • TGTR/L-IQ-2Z (503) • TGTR/L-JHP (503) • TGTR/L-JHP-MC (504)

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 538-547

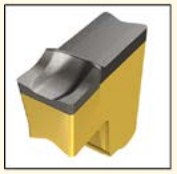
(1) Sharp corners cannot be used on TGSF slitting cutters

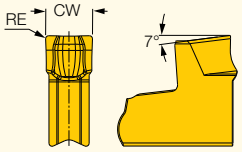
**For tools, see pages:** ADMP D45 (521) • TAGPAD-JHP (500) • TAGPAD-XL-JHP (500) • TAGPAD-Y-JHP (519) • TGAD (498) • TGAD RE/LE-JHP (498) • TGAQ (514) • TGAQ-ECD (JET-CROWN) (516) • TGAQ-JHP (513) • TGBHR/L (330) • TGFH-JHP (494) • TGFH-MB (497) • TGFH-S (494) • TGFH/R/L (332) • TGFHL-TR (505) • TGFHR/L (495) • TGFHR/L-JHP (495) • TGFS (502) • TGSU (496) • TGTR/L-2T..SH-L120 (504) • TGTR/L-D (505) • TGTR/L-IQ (502) • TGTR/L-IQ-2Z (503) • TGTR/L-JHP (503) • TGTR/L-JHP-MC (504)

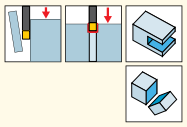
TANG-GRIP PARTING LINE

## 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 538-547

(1) Cutting width tolerance (+/-)

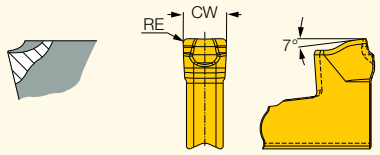
(2) Corner radius tolerance (+/-)

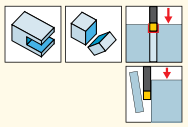
**For tools, see pages:** ADMP D45 (521) • TAGPAD-JHP (500) • TAGPAD-XL-JHP (500) • TGAD (498) • TGAD RE/LE-JHP (498) • TGAQ (514) • TGAQ-ECD (JET-CROWN) (516) • TGAQ-JHP (513) • TGFH-JHP (494) • TGFH-MB (497) • TGFH-S (494) • TGFH/R/L (332) • TGFHL-TR (505) • TGFHR/L (495) • TGFHR/L-JHP (495) • TGFS (502) • TGSU (496) • TGTR/L-2T..SH-L120 (504) • TGTR/L-D (505) • TGTR/L-IQ (502) • TGTR/L-IQ-2Z (503) • TGTR/L-JHP (503) • TGTR/L-JHP-MC (504)

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 538-547

(1) Cutting width tolerance (+/-)

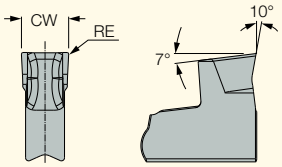
(2) Corner radius tolerance (+/-)

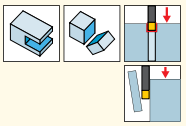
**For tools, see pages:** ADMP D45 (521) • TAGPAD-JHP (500) • TAGPAD-XL-JHP (500) • TAGPAD-Y-JHP (519) • TGAD (498) • TGAD RE/LE-JHP (498) • TGAQ (514) • TGAQ-ECD (JET-CROWN) (516) • TGAQ-JHP (513) • TGBHR/L (330) • TGFH-JHP (494) • TGFH-MB (497) • TGFH-S (494) • TGFH/R/L (332) • TGFHL-TR (505) • TGFHR/L (495) • TGFHR/L-JHP (495) • TGFS (502) • TGSU (496) • TGTR/L-2T..SH-L120 (504) • TGTR/L-D (505) • TGTR/L-IQ (502) • TGTR/L-IQ-2Z (503) • TGTR/L-JHP (503) • TGTR/L-JHP-MC (504)

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 538-547

(1) Cutting width tolerance (+/-)

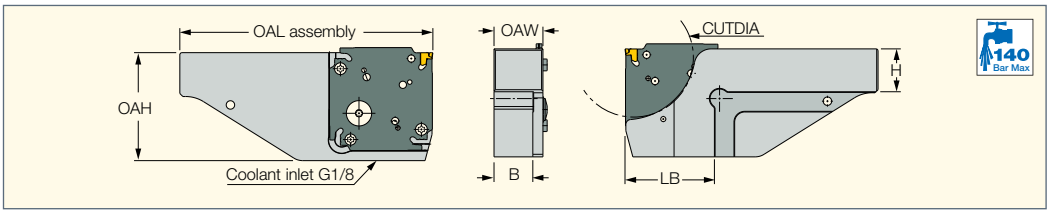
(2) Corner radius tolerance (+/-)

**For tools, see pages:** ADMP D45 (521) • TAGPAD-JHP (500) • TAGPAD-XL-JHP (500) • TAGPAD-Y-JHP (519) • TGAD (498) • TGAD RE/LE-JHP (498) • TGAQ (514) • TGAQ-ECD (JET-CROWN) (516) • TGAQ-JHP (513) • TGFH-JHP (494) • TGFH-MB (497) • TGFH-S (494) • TGFH/R/L (332) • TGFHL-TR (505) • TGFHR/L (495) • TGFHR/L-JHP (495) • TGFS (502) • TGSU (496) • TGTR/L-2T..SH-L120 (504) • TGTR/L-D (505) • TGTR/L-IQ (502) • TGTR/L-IQ-2Z (503) • TGTR/L-JHP (503) • TGTR/L-JHP-MC (504)

LOGIQ F GRIP HIGH FEED GRIP HOLDER

## TGTBQ-JHP

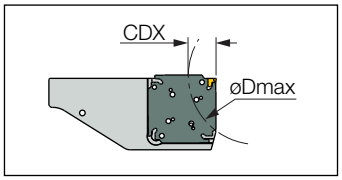
Tool Blocks for Square TANG-F-GRIP and DO-F-GRIP Parting and Grooving Adapters for High-Pressure Coolant




| 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 |

**For tools, see pages:** DGAQ (515) • DGAQ-JHP (515) • TGAQ (514) • TGAQ-JHP (513)

### Table determining depth of cut for grooving as function of workpiece diameter

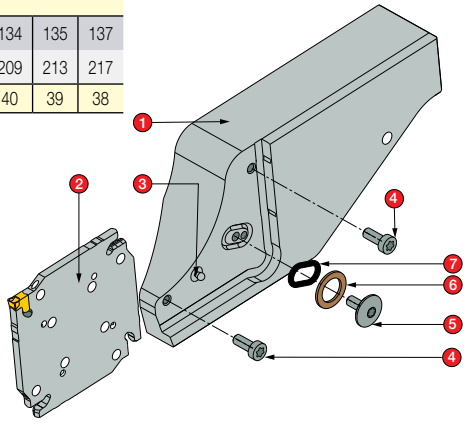



| Designation | øDmax | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TGTBQ...D52-JHP | 53 | 54 | 55 | 56 | 57 | 59 | 61 | 64 | 67 | 71 | 75 | 81 | 88 | 96 | 107 | 122 | 141 | 169 |
| TGTBQ...D82-JHP | 107 | 110 | 114 | 119 | 124 | 130 | 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



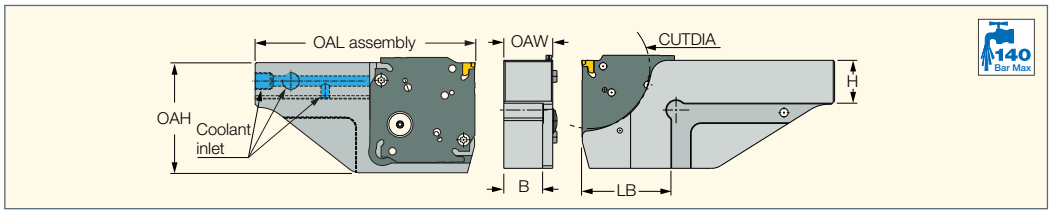

### Spare Parts

| 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 |

LOGIQFGRIP 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 |

**For tools, see pages:** DGAQ (515) • DGAQ-JHP (515) • TGAQ (514) • TGAQ-JHP (513)

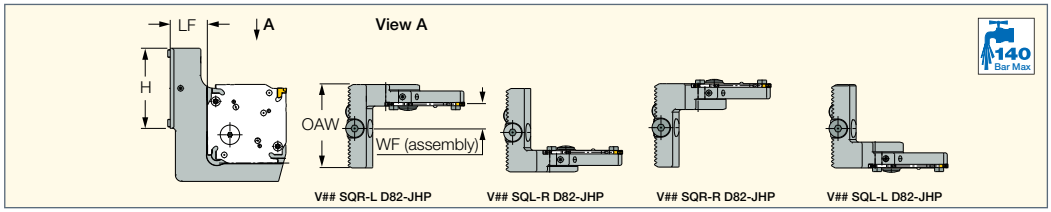
### Spare Parts

| 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 |

LOGIQFGRIP 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



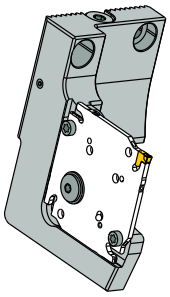

| Designation | H | LF | OAW | WF[1] |
|---|---|---|---|---|
| V60 SQL-L-D82-JHP | 62.0 | 34.70 | 64.50 | 28.95 |
| V60 SQL-R-D82-JHP | 62.0 | 34.70 | 64.50 | 15.35 |
| V60 SQR-L-D82-JHP | 62.0 | 34.70 | 64.50 | 18.85 |
| V60 SQR-R-D82-JHP | 62.0 | 34.70 | 64.50 | 32.45 |
| V85 SQL-L-D82-JHP | 83.0 | 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 |

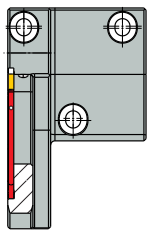
[1] When 3mm width insert is used.

**For tools, see pages:** DGAQ (515) • DGAQ-JHP (515) • TGAQ (514) • TGAQ-JHP (513)

## Identification Key

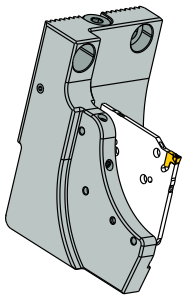
V60 SQL-L-D82-JHP

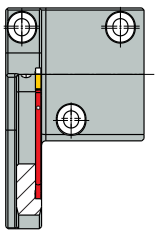




L- Holder (prism) orientation
L- Pocket side

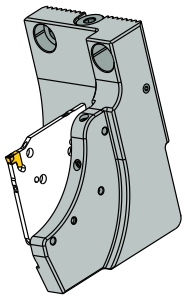
V60 SQL-R-D82-JHP

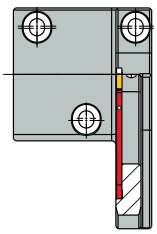




L- Holder (prism) orientation
R- Pocket side

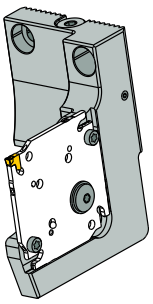
V60 SQR-L-D82-JHP

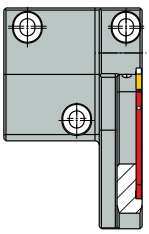




R- Holder (prism) orientation
L- Pocket side

V60 SQR-R-D82-JHP





R- Holder (prism) orientation
R- Pocket side

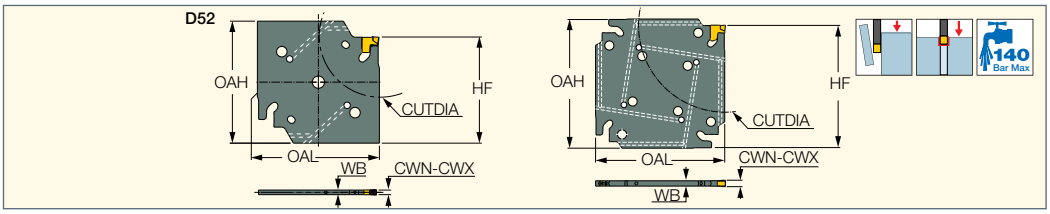
### Spare Parts

| 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 FGRIP HIGH FEED PARTING

## 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

**For inserts, see pages:** TAG N-A (510) • TAG N-C/W/M (506) • TAG N-HF (506) • TAG N-J/JS/JT (508) • TAG N-LF (509) • TAG N-MF (507) • TAG N-UT (510) • TAG R/L-C (507) • TAG R/L-J/JS (509)

**For holders, see pages:** TGTBQ-JHP (511) • TGTBQ-JHP-MC (512) • TGTBY-JHP (517) • V## SQ#-#-D82-JHP (512)

### 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

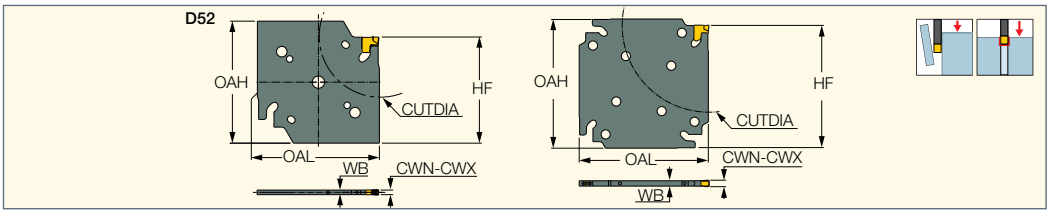
| Designation |  |  |  |
|---|---|---|---|
| TGAQ D52-2-2Z-JHP | SR M4X9-SEAL-JHP | JHP COPPER SEAL 1/8" | ETG 2* |
| TGAQ D52-3-2Z-JHP | SR M4X9-SEAL-JHP | JHP COPPER SEAL 1/8" | ETG 3-4-SH* |
| TGAQ D52-4-2Z-JHP | SR M4X9-SEAL-JHP | JHP COPPER SEAL 1/8" | ETG 3-4-SH* |
| TGAQ D82-2-4Z-JHP | SR M4X9-SEAL-JHP | 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-F-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

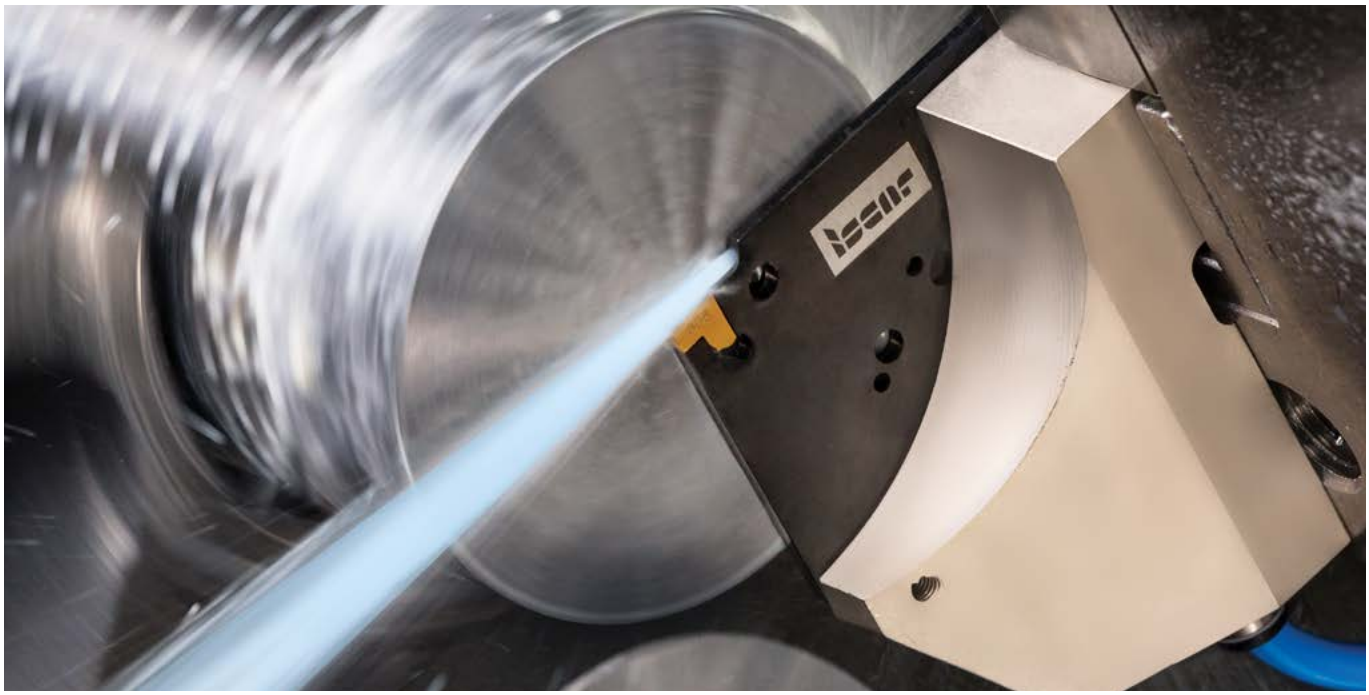
**For inserts, see pages:** TAG N-A (510) • TAG N-C/W/M (506) • TAG N-HF (506) • TAG N-J/JS/JT (508) • TAG N-LF (509) • TAG N-MF (507) • TAG N-UT (510) • TAG R/L-C (507) • TAG R/L-J/JS (509)

**For holders, see pages:** TGTBQ-JHP (511) • TGTBQ-JHP-MC (512) • TGTBY-JHP (517) • V## SQ#-#-D82-JHP (512)

### 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* |

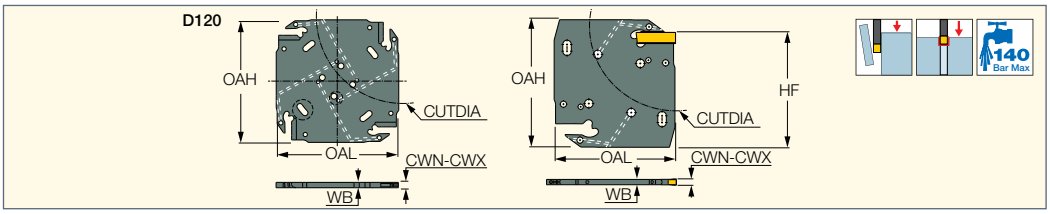
* Optional, should be ordered separately



DOFGRIP TWISTED 2-SIDED

## 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

**For inserts, see pages:** DGN-LF/LFT (485) • DGN-MF (485) • DGN-P (487) • DGN-UT/UA (487) • DGN-W (482) • DGN-WP (488) • DGN-Z (486) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • DGR-P (488) • DGR-WP (488) • DGR-Z/ZS (486) • DGR/L-C DGRC/LC-C (482) • DGR/L-J/JS (484)

**For holders, see pages:** TGTBQ-JHP (511) • TGTBQ-JHP-MC (512) • TGTBY-JHP (517) • V## SQ#-#-D82-JHP (512)

### 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

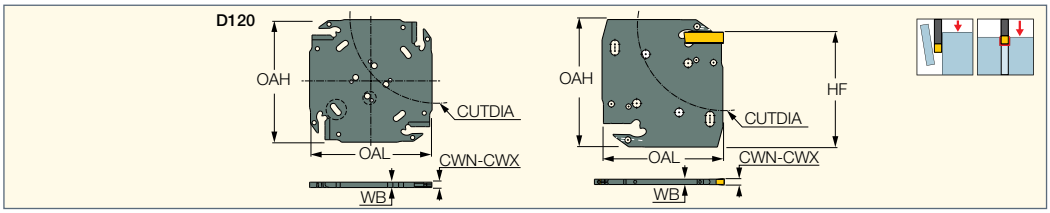
| Designation | | | |
|---|---|---|---|
| DGAQ-JHP | SR M4X9-SEAL-JHP | JHP COPPER SEAL 1/8" | EDG 33A* |

* Optional, should be ordered separately

DOFGRIP TWISTED 2-SIDED

## 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

**For inserts, see pages:** DGN-LF/LFT (485) • DGN-MF (485) • DGN-P (487) • DGN-UT/UA (487) • DGN-W (482) • DGN-WP (488) • DGN-Z (486) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • DGR-P (488) • DGR-WP (488) • DGR-Z/ZS (486) • DGR/L-C DGRC/LC-C (482) • DGR/L-J/JS (484)

**For holders, see pages:** TGTBQ-JHP (511) • TGTBQ-JHP-MC (512) • TGTBY-JHP (517) • V## SQ#-#-D82-JHP (512)

### Spare Parts

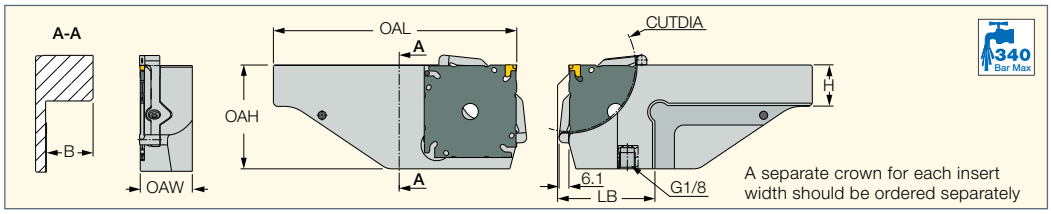
| Designation | | |
|---|---|---|
| DGAQ | SR ISO 14580 M4X10 | EDG 33A* |

* Optional, should be ordered separately

LOGIQ F GRIP HIGH FEED GRIP HOLDER
JETCROWN 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 |

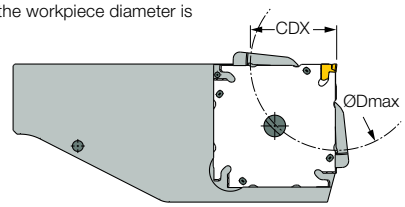
- A separate crown for each insert width should be ordered separately.

**For tools, see pages:** TGAQ-ECD (JET-CROWN) (516)

### 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.





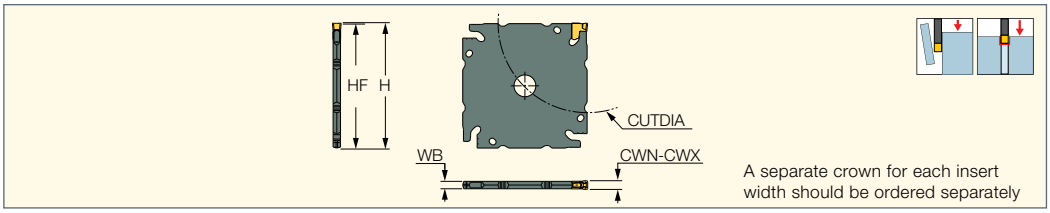
### Spare Parts

| Designation | | | |
|---|---|---|---|
| TGTBQ-ECD-JHP (JET-CROWN) | SR M7-R-L | BLD T20/S7 | SW6-SD |

TANG F GRIP HIGH FEED PARTING
JETCROWN 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

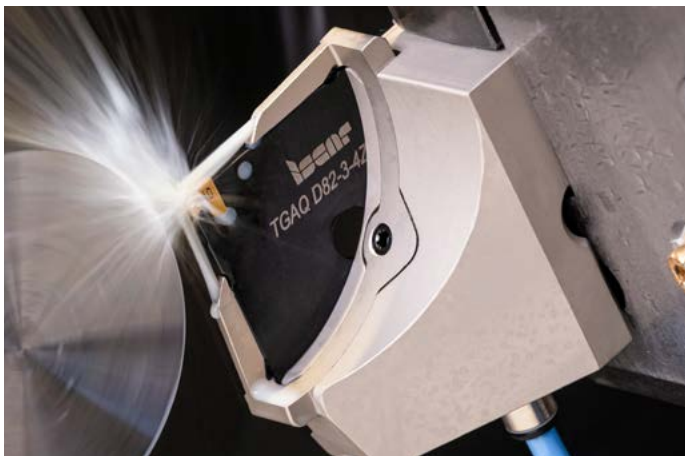
**For inserts, see pages:** TAG N-A (510) • TAG N-C/W/M (506) • TAG N-HF (506) • TAG N-J/JS/JT (508) • TAG N-LF (509) • TAG N-MF (507) • TAG N-UT (510) • TAG R/L-C (507) • TAG R/L-J/JS (509)

**For holders, see pages:** TGTBQ-ECD-JHP (JET-CROWN) (516)

### 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* |

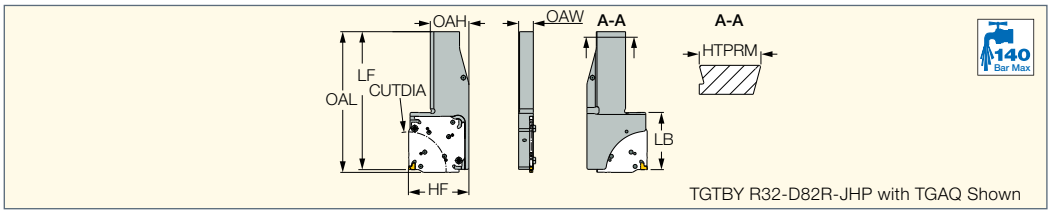
* Optional, should be ordered separately



LOGIQ FGRIP 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 518

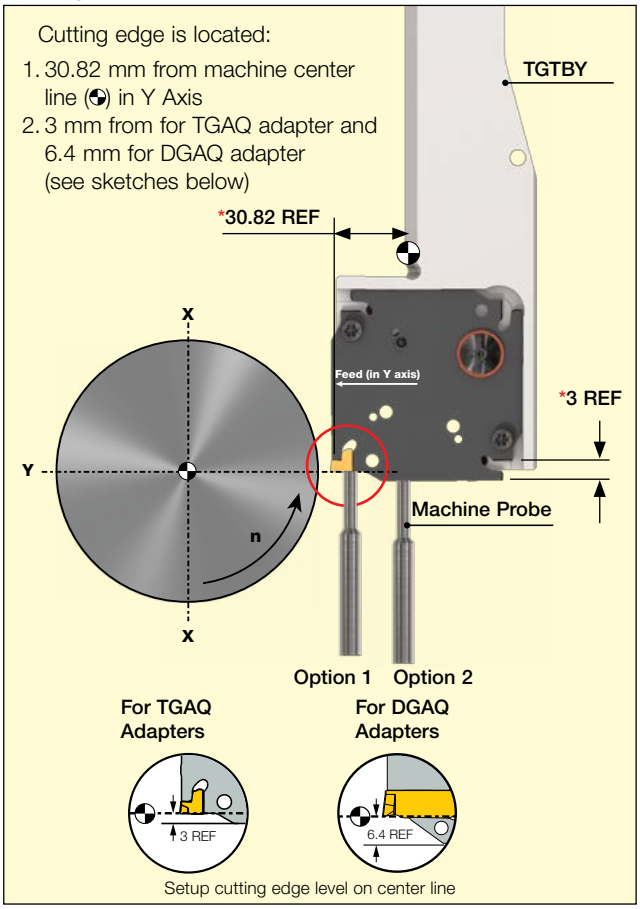
(1) Overall length with TGAQ adapter

(2) Overall length with DGAQ adapter

**For tools, see pages:** DGAQ (515) • DGAQ-JHP (515) • TGAQ (514) • TGAQ-JHP (513)

## 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.

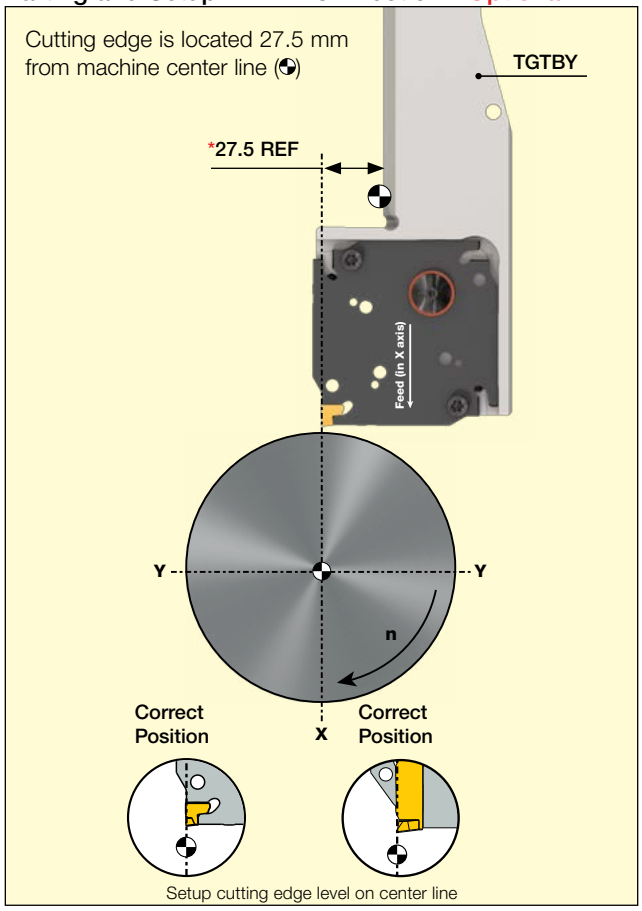
Set the cutting edge on the center line:

Option 1 - Gauge the cutting edge - this is preferable due to better accuracy

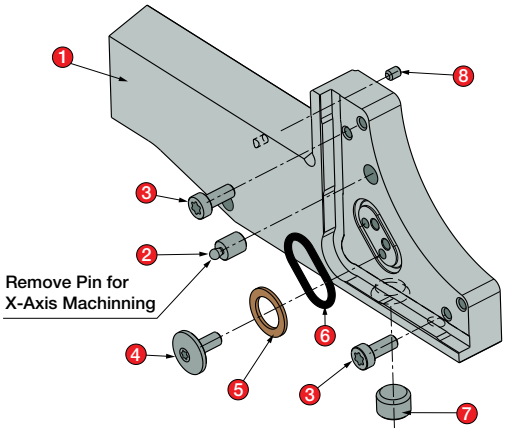
Option 2 - Gauge the blade and compensate 3mm / 6.4mm

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.



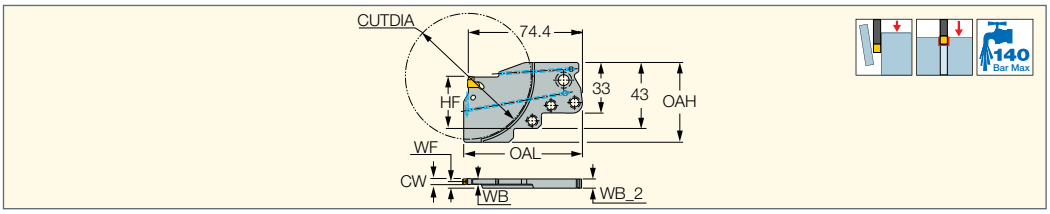

### Spare Parts

| 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 |

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 548
- **The tool types shown are currently unavailable in the USA, Canada, China, Japan and Korea.**

(1) Master insert identification

* Optional, should be ordered separately

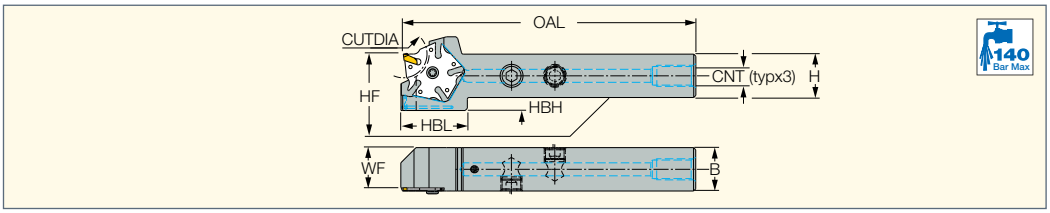
**For inserts, see pages:** TAG N-A (510) • TAG N-C/W/M (506) • TAG N-HF (506) • TAG N-J/JS/JT (508) • TAG N-MF (507) • TAG N-UT (510) • TAG R/L-C (507) • TAG R/L-J/JS (509)

**For holders, see pages:** ABC MAHDR-#-XL-JHP (782) • MAHPR/L-XL-JHP (561) • MAHR/L-MG-XL-JHP (501) • MAHR/L-MG-XL-JHP-MC (501) • TR45 MAHDR-#-XL-JHP (781) • V## MAHD#-#-XL-##-JHP (778) • V## MAHD-XL-JHP (779)

SLIMGRIP
NARROW INSERTS

## THMPR/L D22-JHP

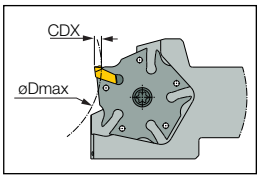
Holders with High-Pressure Coolant Channels for Pentagonal SLIM-GRIP Adapters




| 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 |

**For tools, see pages:** ADMP D22 (519)

| 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

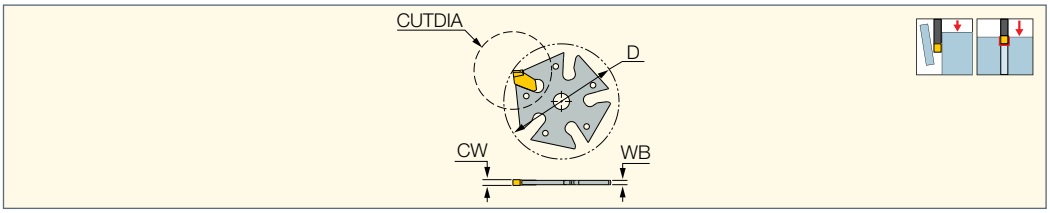
| Designation | | | | |
|---|---|---|---|---|
| THMPR/L 16-D22-JHP | SR 5/16UNF TL360 | HW 5/32" | SR M4-39432 | T-15/5 |
| THMPR/L 20-D22-JHP | PLG G1/8 TL360 | HW 5.0 | SR M4-39432 | T-15/5 |

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 538-547

**For inserts, see pages:** GFT-C (520) • GFT-J (520)

**For holders, see pages:** THMPR/L D22-JHP (519)

### Spare Parts

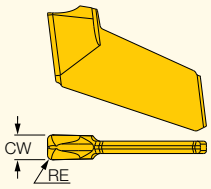
| Designation | |
|---|---|
| ADMP D22 | ESG-SLM* |

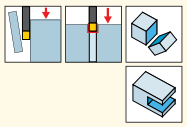
* Optional, should be ordered separately

SLIMGRIP NARROW INSERTS

## GFT-J

Thin Parting, Grooving and Slitting Single-Ended Inserts for Soft Materials



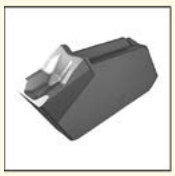
| Designation | Dimensions CW | RE | Tough ↔ Hard IC1028 | IC1008 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|
| GFT 0.6J-0.1 | 0.60 | 0.10 | • | • | 0.03-0.05 |
| GFT 0.8J-0.1 | 0.80 | 0.10 | • | • | 0.03-0.07 |
| GFT 1.0J-0.1 | 1.00 | 0.10 | • | • | 0.03-0.09 |
| GFT 1.2J-0.14 | 1.20 | 0.14 | • | • | 0.03-0.10 |
| GFT 1.6J-0.16 | 1.60 | 0.16 | • | • | 0.03-0.12 |

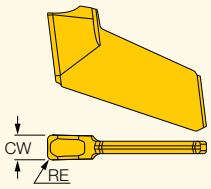
**For tools, see pages:** ADMP D22 (519) • SGAQ (376)

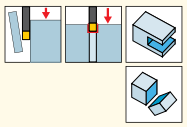
SLIMGRIP NARROW INSERTS

## 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 |

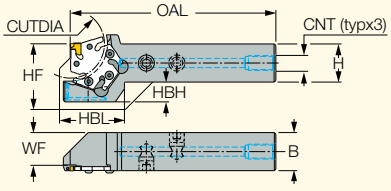
**For tools, see pages:** ADMP D22 (519)

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 |

**For tools, see pages:** ADMP D45 (521)

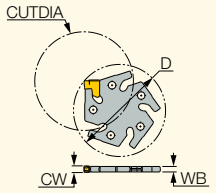
### Spare Parts

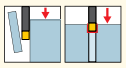
| Designation | | | | |
|---|---|---|---|---|
| THMPR/L D45-JHP | SR M3X8 ISO 14580 BLACK | T-10/5 | PLG G1/8 TL360 | HW 5.0 |

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 538-547

(1) Minimum cutting width

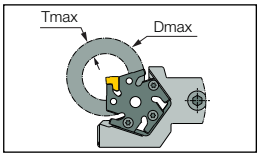
(2) Maximum cutting width

**For inserts, see pages:** TAG N-A (510) • TAG N-C/W/M (506) • TAG N-HF (506) • TAG N-J/JS/JT (508) • TAG N-LF (509) • TAG N-MF (507) • TAG N-UT (510) • TAG R/L-C (507) • TAG R/L-J/JS (509)

**For holders, see pages:** THMPR/L D45-JHP (520)

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

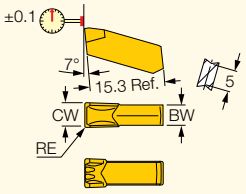
| Designation |  |
|---|---|
| ADMP D45-2.0 | ETG 2* |
| ADMP D45-3.0 | ETG 3-4-SH* |

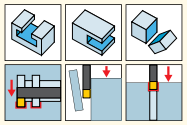
* Optional, should be ordered separately

CUTGRIP

## 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 538-547

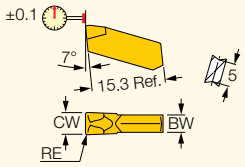
(1) Cutting width tolerance (+/-)

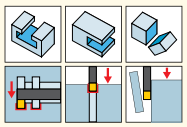
**For tools, see pages:** Anti-Vibration Blades (284) • C#-GHDR/L (274) • CGHN 26-M (356) • CGHN 32-DGM (358) • CGHN 32-M (357) • CGHN-D (283) • CGHN-DG (283) • CGHN-S (282) • CGPAD (281) • CGPAD-JHP (282) • GHDR/L (short pocket) (275) • GHDR/L-JHP (short pocket) (276) • GHDR/L-JHP-MC (short pocket) (277) • GHGR/L (278) • GHMPR/L (273) • GHMR/L (273)

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 538-547

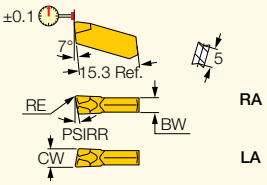
[1] Cutting width tolerance (+/-)

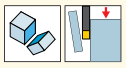
**For tools, see pages:** C#-GHDR/L (274) • CGHN 26-M (356) • CGHN 32-DGM (358) • CGHN 32-M (357) • CGHN-D (283) • CGHN-DG (283) • CGHN-S (282) • CGPAD (281) • CGPAD-JHP (282) • GHDR/L (short pocket) (275) • GHDR/L-JHP (short pocket) (276) • GHDR/L-JHP-MC (short pocket) (277) • GHGR/L (278) • GHMPR/L (273) • GHMR/L (273) • GHSR/L (373) • GHSR/L-JHP-SL (374) • NQCH-GHSR/L-JHP (374)

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 538-547

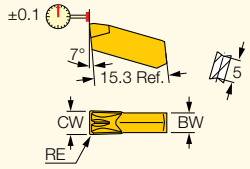
[1] Cutting width tolerance (+/-)

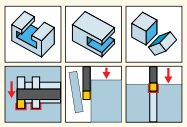
**For tools, see pages:** C#-GHDR/L (274) • CGHN 26-M (356) • CGHN 32-DGM (358) • CGHN 32-M (357) • CGHN-D (283) • CGHN-DG (283) • CGHN-S (282) • CGPAD (281) • CGPAD-JHP (282) • GHDR/L (short pocket) (275) • GHDR/L-JHP (short pocket) (276) • GHDR/L-JHP-MC (short pocket) (277) • GHGR/L (278) • GHMPR/L (273) • GHMR/L (273) • GHSR/L (373) • GHSR/L-JHP-SL (374) • NQCH-GHSR/L-JHP (374)

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 538-547

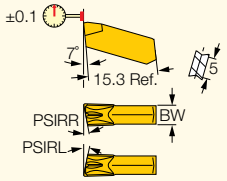
(1) Cutting width tolerance (+/-)

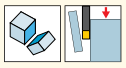
**For tools, see pages:** C#-GHDR/L (274) • CGHN 26-M (356) • CGHN 32-DGM (358) • CGHN 32-M (357) • CGHN-D (283) • CGHN-DG (283) • CGHN-S (282) • CGPAD (281) • CGPAD-JHP (282) • GHDR/L (short pocket) (275) • GHDR/L-JHP (short pocket) (276) • GHDR/L-JHP-MC (short pocket) (277) • GHGR/L (278) • GHMPR/L (273) • GHMR/L (273)

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 538-547

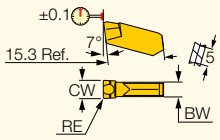
(1) Cutting width tolerance (+/-)

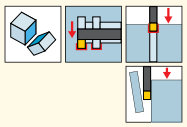
**For tools, see pages:** C#-GHDR/L (274) • CGHN 26-M (356) • CGHN 32-DGM (358) • CGHN 32-M (357) • CGHN-D (283) • CGHN-DG (283) • CGHN-S (282) • CGPAD (281) • CGPAD-JHP (282) • GHDR/L (short pocket) (275) • GHDR/L-JHP (short pocket) (276) • GHDR/L-JHP-MC (short pocket) (277) • GHGR/L (278) • GHMPR/L (273) • GHMR/L (273)

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 538-547

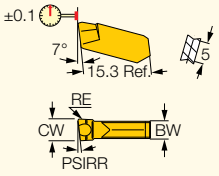
(1) Cutting width tolerance (+/-)

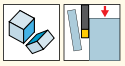
**For tools, see pages:** C#-GHDR/L (274) • CGHN 26-M (356) • CGHN 32-DGM (358) • CGHN 32-M (357) • CGHN-D (283) • CGHN-DG (283) • CGHN-S (282) • CGPAD (281) • CGPAD-JHP (282) • GHDR/L (short pocket) (275) • GHDR/L-JHP (short pocket) (276) • GHDR/L-JHP-MC (short pocket) (277) • GHGR/L (278) • GHMPR/L (273) • GHMR/L (273)

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 538-547

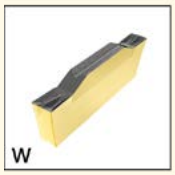
(1) Cutting width tolerance (+/-)

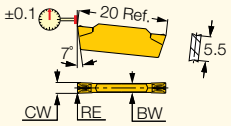
**For tools, see pages:** C#-GHDR/L (274) • CGHN 26-M (356) • CGHN 32-DGM (358) • CGHN 32-M (357) • CGHN-D (283) • CGHN-DG (283) • CGHN-S (282) • CGPAD (281) • CGPAD-JHP (282) • GHDR/L (short pocket) (275) • GHDR/L-JHP (short pocket) (276) • GHDR/L-JHP-MC (short pocket) (277) • GHGR/L (278) • GHMPR/L (273) • GHMR/L (273)

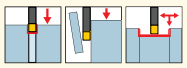
CUTGRIP

## 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 538-547

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

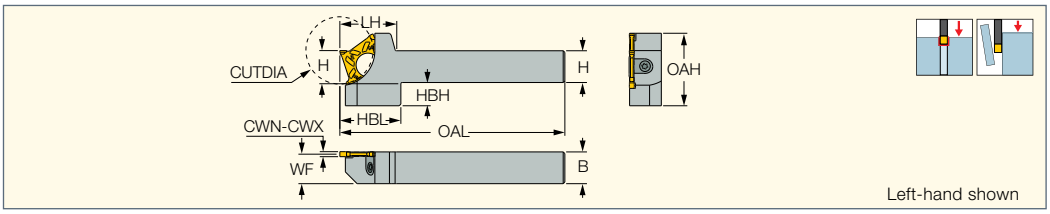
(3) Cutting depth maximum

**For tools, see pages:** PADR/L (306) • PHGR/L (305) • PHSR/L (373)

PENTA IQ GRIP PARTING LINE

## 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

**For inserts, see pages:** PENTA D-N-C (527) • PENTA D-N-J (527) • PENTA D-N-PB (528) • PENTA D-R/L-C (528) • PENTA D-R/L-J (527) • PENTA D-R/L-PB (528)

**Tmax as a Function of Dmax for PENTA D22**

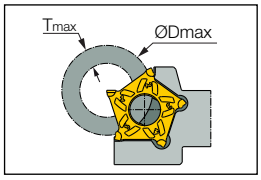
| Tmax | T≤1.2 | T≤2.0 | T≤3.0 | T≤4.0 | T≤5.0 | T≤7.0 | T≤9.0 | T≤11.0 |
|---|---|---|---|---|---|---|---|---|
| Dmax | N.L[1] | 600 | 130 | 60 | 40 | 30 | 25 | 22 |

**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

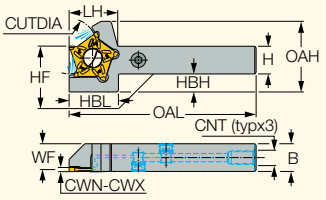
| Designation | | | | |
|---|---|---|---|---|
| PCHR/L 12-D22-2-IQ | SR M6-R-L | LEVER PD22-2 INJ | BLD T15/S7 | SW6-SD |
| PCHR/L 16-D22-2-IQ | SR M6-R-L | LEVER PD22-2 INJ | BLD T15/S7 | SW6-SD |
| PCHR/L 20-D22-2-IQ | SR M6-R-L | LEVER PD22-2 INJ | BLD T15/S7 | SW6-SD |
| PCHR/L 12-D22-3-IQ | SR M6-R-L | 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 |

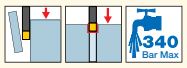
* Optional, should be ordered separately

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

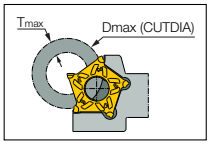
**For inserts, see pages:** PENTA D-N-C (527) • PENTA D-N-J (527) • PENTA D-N-PB (528) • PENTA D-R/L-C (528) • PENTA D-R/L-J (527) • PENTA D-R/L-PB (528)

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

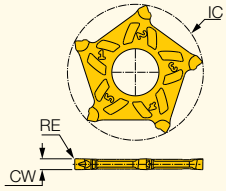
| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| PCHR/L 12-D22-2-JHP | SR M6-R-L | LEVER PD22-2 INJ | BLD T15/S7 | SW6-SD | HW 5/32" | | SR 5/16UNF TL360 |
| PCHR/L 16-D22-2-JHP | SR M6-R-L | LEVER PD22-2 INJ | BLD T15/S7 | SW6-SD | HW 5/32" | | SR 5/16UNF TL360 |
| PCHL 20-D22-2-JHP | | 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 538-547

(1) Cutting width tolerance (+/-)

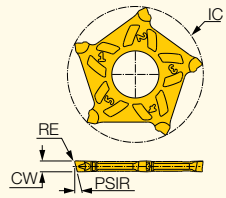
(2) Corner radius tolerance (+/-)

**For tools, see pages:** PCHR/L-D-IQ (525) • PCHR/L-D-JHP (526)

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 |

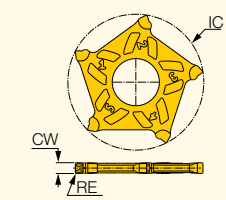
• For cutting speed recommendations and user guide, see pages 538-547

**For tools, see pages:** PCHR/L-D-IQ (525) • PCHR/L-D-JHP (526)

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 538-547

(1) Corner radius tolerance (+/-)

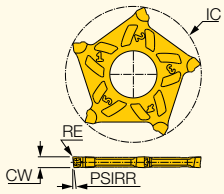
(2) Cutting width tolerance (+/-)

**For tools, see pages:** PCHR/L-D-IQ (525) • PCHR/L-D-JHP (526)

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 |

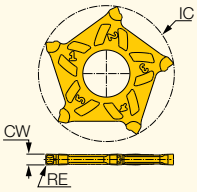
• For cutting speed recommendations and user guide, see pages 538-547

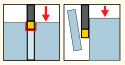
**For tools, see pages:** PCHR/L-D-IQ (525) • PCHR/L-D-JHP (526)

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 538-547

(1) Cutting width tolerance (+/-)

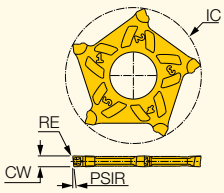
(2) Corner radius tolerance (+/-)

**For tools, see pages:** PCHR/L-D-IQ (525) • PCHR/L-D-JHP (526)

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 538-547

**For tools, see pages:** PCHR/L-D-IQ (525) • PCHR/L-D-JHP (526)

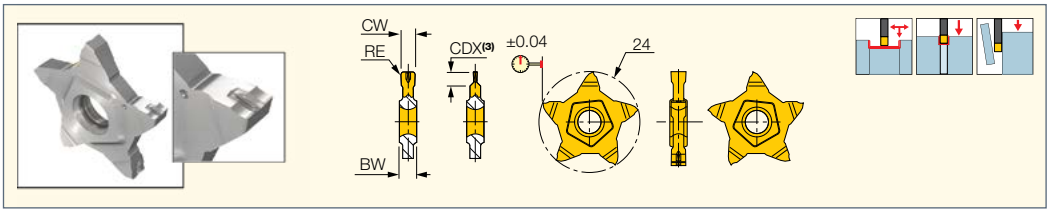
## Identification System for Standard Inserts

| 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 538-547

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

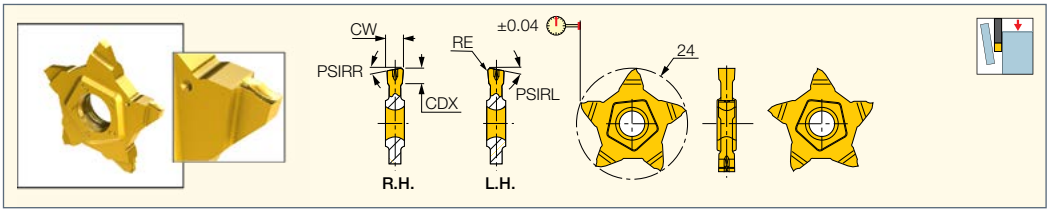
(3) For grooving and parting depth relative to part diameter, see page 532

**For tools, see pages:** PCAD RE/LE-JHP (499) • PCADR/L (316) • PCADR/L-JHP (317) • PCHBR/L (318) • PCHPR/L (316) • PCHR/L-24 (312) • PCHR/L-24-JHP (313) • PCHR/L-24-JHP-MC (313)

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 538-547

(1) Cutting depth maximum

(2) Cutting width tolerance (+/-)

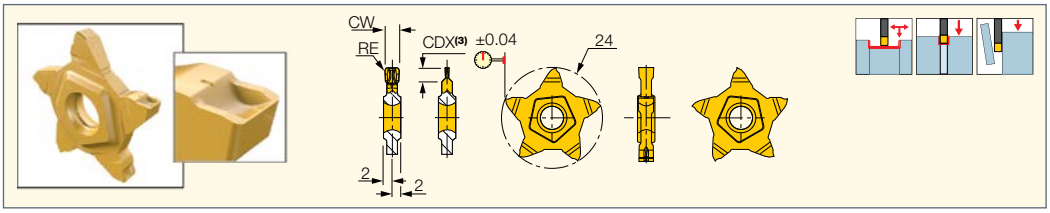
(3) For grooving and parting depths relative to part diameter, see page 533

**For tools, see pages:** PCAD RE/LE-JHP (499) • PCADR/L (316) • PCADR/L-JHP (317) • PCHBR/L (318) • PCHPR/L (316) • PCHR/L-24 (312) • PCHR/L-24-JHP (313) • PCHR/L-24-JHP-MC (313)

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 538-547

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

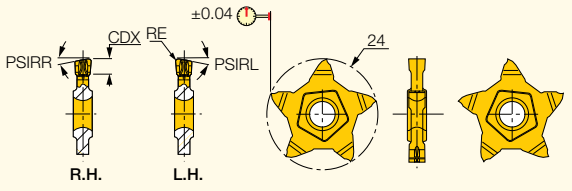
(3) For grooving and parting depths relative to part diameter, see page 532

**For tools, see pages:** PCAD RE/LE-JHP (499) • PCADR/L (316) • PCADR/L-JHP (317) • PCHBR/L (318) • PCHPR/L (316) • PCHR/L-24 (312) • PCHR/L-24-JHP (313) • PCHR/L-24-JHP-MC (313)

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 538-547

(1) Cutting width tolerance (+/-)

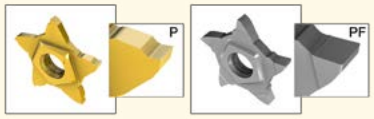
(2) Cutting depth maximum

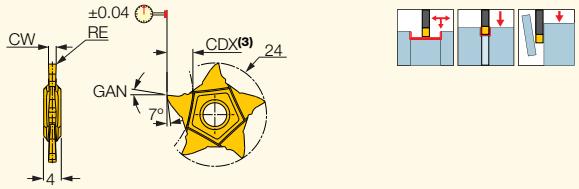
**For tools, see pages:** PCAD RE/LE-JHP (499) • PCADR/L (316) • PCADR/L-JHP (317) • PCHBR/L (318) • PCHPR/L (316) • PCHR/L-24 (312) • PCHR/L-24-JHP (313) • PCHR/L-24-JHP-MC (313)

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 538-547

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

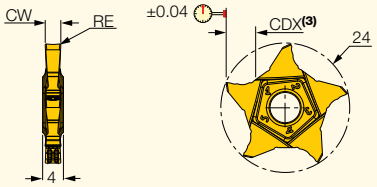
(3) For grooving and parting depths relative to part diameter, see page 532

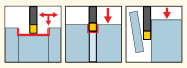
**For tools, see pages:** PCAD RE/LE-JHP (499) • PCADR/L (316) • PCADR/L-JHP (317) • PCHBR/L (318) • PCHPR/L (316) • PCHR/L-24 (312) • PCHR/L-24-JHP (313) • PCHR/L-24-JHP-MC (313)

PENTACUT
PARTING & GROOVING LINE

## PENTA 24N-Z

Inserts with 5 Cutting Edges for Grooving and Parting Tubes, Small and Thin-Walled Parts



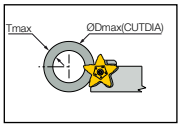
| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | CDX(3) | IC908 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|
| **PENTA 24N150Z010** | 1.50 | 0.10 | 0.02 | 0.020 | 5.00 | ● | 0.05-0.08 |
| **PENTA 24N200Z020** | 2.00 | 0.20 | 0.02 | 0.030 | 6.40 | ● | 0.04-0.12 |
| **PENTA 24N300Z020** | 3.00 | 0.20 | 0.02 | 0.000 | 6.40 | ● | 0.04-0.16 |

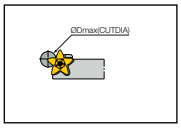
- Cutting edge with high positive rake, suitable for parting tubes, thin walled parts and for small diameters
- Suitable for machining soft materials and bearing steel at low to medium feeds
- For cutting speed recommendations and user guide, see pages 538-547

(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) For grooving and parting depths relative to part diameter, see page 532

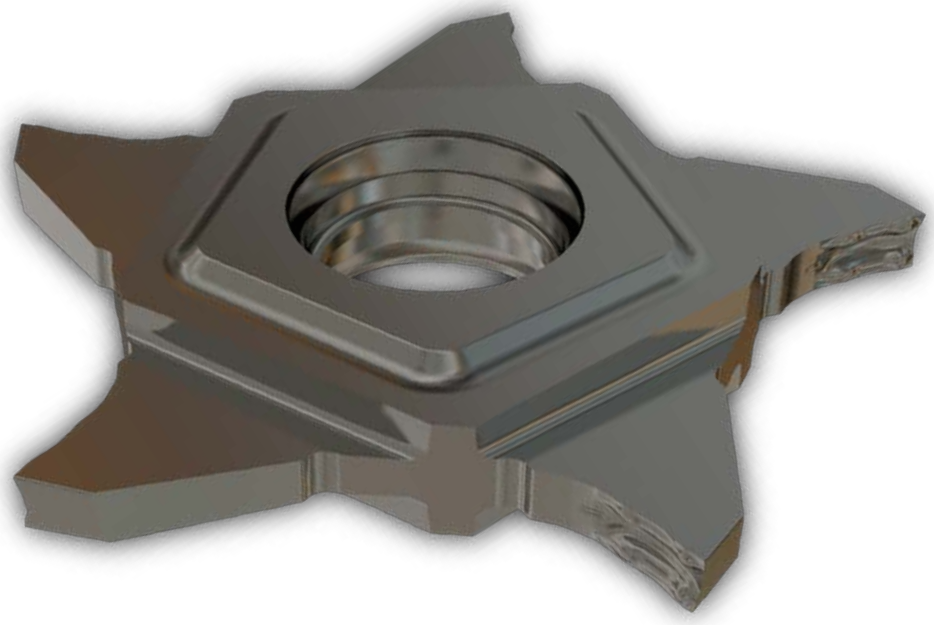
**For tools, see pages:** PCAD RE/LE-JHP (499) • PCADR/L (316) • PCADR/L-JHP (317) • PCHBR/L (318) • PCHPR/L (316) • PCHR/L-24 (312) • PCHR/L-24-JHP (313) • PCHR/L-24-JHP-MC (313)

| 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 |



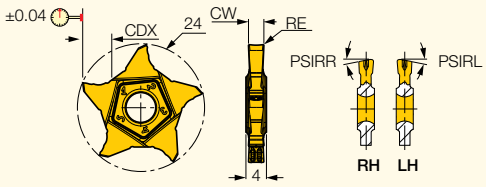

(1) Refers to PENTA 24N050J000 - a precision grooving insert (2) Refers to PENTA 24N050J004 - a parting insert (3) CUTDIA for parting = 2 x CDX
(4) For full radius insert, CDX = 3.0, ØDmax = No limit



PENTACUT
PARTING & GROOVING LINE

## PENTA 24R/L-Z

Inserts with 5 Cutting Edges for Parting Tubes, Small and Thin-Walled Parts



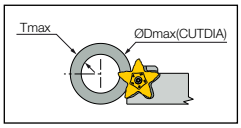

| Designation | Dimensions CW | PSIRL | PSIRR | RE | CUTDIA | CDX(1) | IC1008 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| PENTA 24L150Z06D | 1.50 | 6.0 | - | 0.06 | 10.0 | 5.00 | ● | 0.03-0.09 |
| PENTA 24L150Z15D | 1.50 | 15.0 | - | 0.06 | 10.0 | 5.00 | ● | 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 |

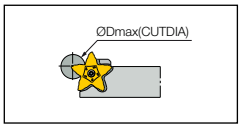
- Cutting edge with high positive rake, suitable for parting tubes, thin walled parts and for small diameters
- Suitable for machining soft materials and bearing steel at low to medium feeds
- For cutting speed recommendations and user guide, see pages 538-547

(1) Cutting depth maximum

**For tools, see pages:** PCAD RE/LE-JHP (499) • PCADR/L (316) • PCADR/L-JHP (317) • PCHBR/L (318) • PCHPR/L (316) • PCHR/L-24 (312) • PCHR/L-24-JHP (313) • PCHR/L-24-JHP-MC (313)

| 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 | - |



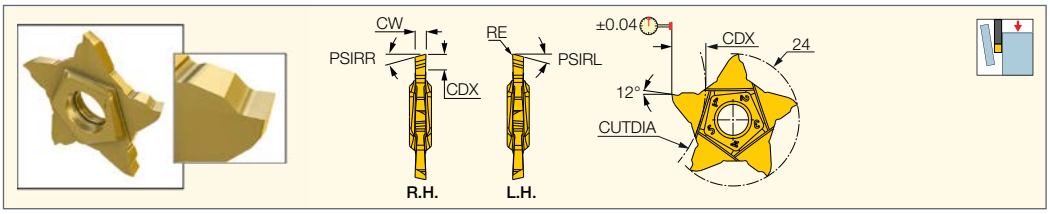

(1) Dmax for parting = 2 x Tmax

(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 538-547

(1) Cutting depth maximum

(2) Cutting width tolerance (+/-)

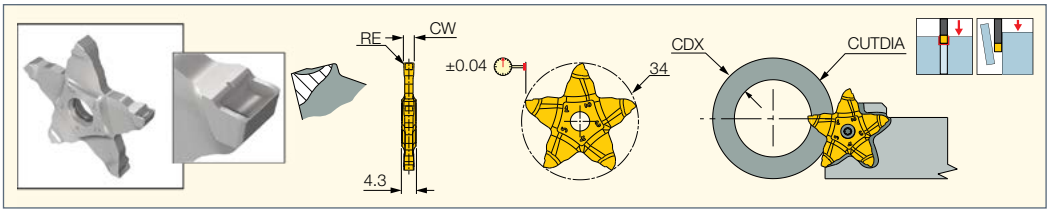
(3) For grooving and parting depths relative to part diameter, see page 533

**For tools, see pages:** PCAD RE/LE-JHP (499) • PCADR/L (316) • PCADR/L-JHP (317) • PCHBR/L (318) • PCHPR/L (316) • PCHR/L-24 (312) • PCHR/L-24-JHP (313) • PCHR/L-24-JHP-MC (313)

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 538-547

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

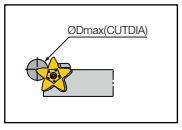
(3) For grooving and parting depths relative to part diameter, see page 534

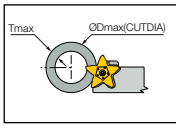
**For tools, see pages:** PCADR/L (316) • PCADR/L 34N-RE (318) • PCADR/L-JHP (317) • PCHBR/L (318) • PCHPR/L (316) • PCHR/L-34 (315) • PCHR/L-34-JHP (315)

| CW±0.02 | ØDmax 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 ≤ 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

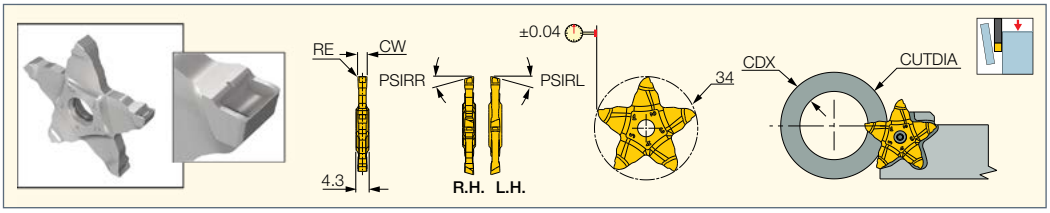


PENTACUT
PARTING & GROOVING LINE

## 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 538-547

(1) For grooving and parting depths relative to part diameter, see page 537

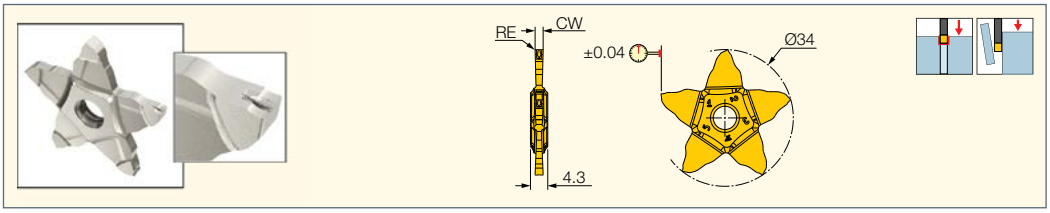
(2) Cutting depth maximum

**For tools, see pages:** PCADR/L (316) • PCADR/L 34N-RE (318) • PCADR/L-JHP (317) • PCHBR/L (318) • PCHPR/L (316) • PCHR/L-34 (315) • PCHR/L-34-JHP (315)

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 538-547

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

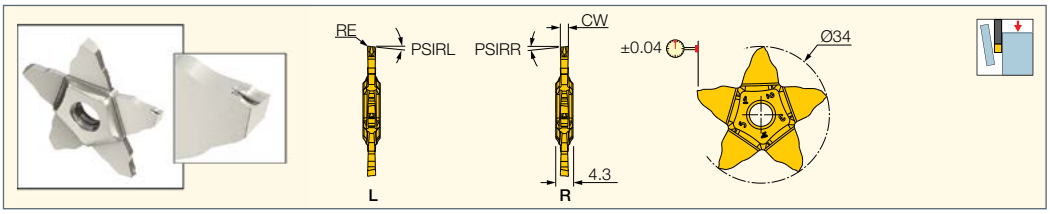
(3) For grooving and parting depths relative to part diameter, see page 534

**For tools, see pages:** PCADR/L (316) • PCADR/L 34N-RE (318) • PCADR/L-JHP (317) • PCHBR/L (318) • PCHPR/L (316) • PCHR/L-34 (315) • PCHR/L-34-JHP (315)

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 538-547

(1) Cutting width tolerance (+/-)

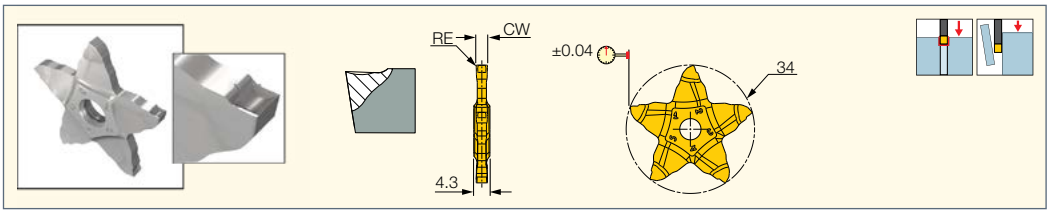
(2) For grooving and parting depths relative to part diameter, see page 537

**For tools, see pages:** PCADR/L (316) • PCADR/L 34N-RE (318) • PCADR/L-JHP (317) • PCHBR/L (318) • PCHPR/L (316) • PCHR/L-34 (315) • PCHR/L-34-JHP (315)

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 538-547

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

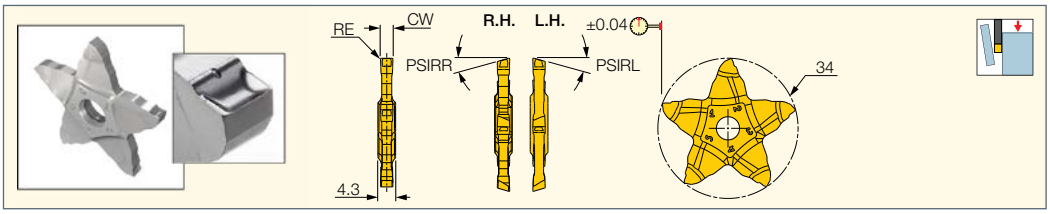
(3) For grooving and parting depths relative to part diameter, see page 534

**For tools, see pages:** PCADR/L (316) • PCADR/L 34N-RE (318) • PCADR/L-JHP (317) • PCHBR/L (318) • PCHPR/L (316) • PCHR/L-34 (315) • PCHR/L-34-JHP (315)

PENTACUT
PARTING & GROOVING LINE

## PENTA 34R/L-PB

Pentagonal Inserts for Parting Bearing Steel and other Ductile Materials



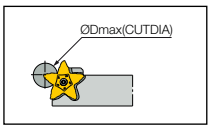

| Designation | Dimensions CW | RE | CUTDIA | PSIRL | PSIRR | IC908 | Recommended Machining Data f groove (mm/rev) |
|---|---|---|---|---|---|---|---|
| **PENTA 34R150PB-6D** | 1.50 | 0.07 | 18.0 | - | 6.0 | ● | 0.03-0.05 |
| **PENTA 34L150PB-6D** | 1.50 | 0.07 | 18.0 | 6.0 | - | ● | 0.03-0.05 |
| **PENTA 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 |

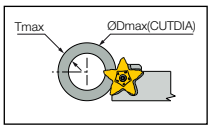
• For cutting speed recommendations and user guide, see pages 538-547

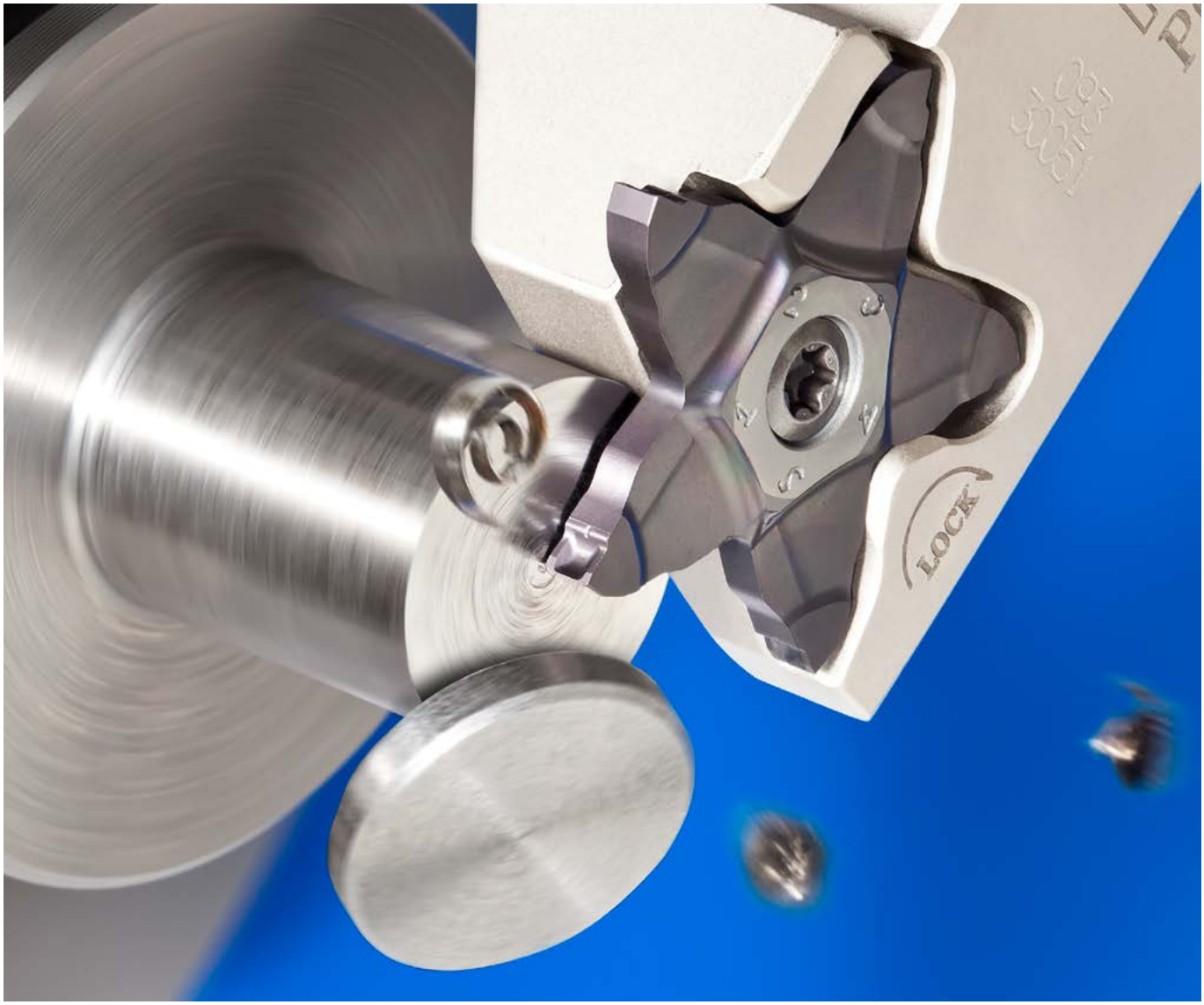
**For tools, see pages:** PCADR/L (316) • PCADR/L 34N-RE (318) • PCADR/L-JHP (317) • PCHBR/L (318) • PCHPR/L (316) • PCHR/L-34 (315) • PCHR/L-34-JHP (315)

| $W^{\pm 0.02}$ | 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

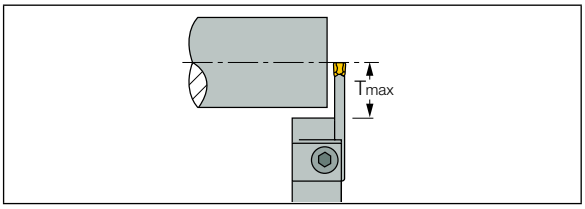
### Width of Cut (W.O.C.) and Depth of Cut (D.O.C.)

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

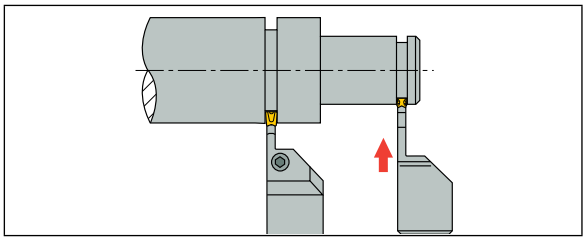
The workpiece material affects all of the above factors.

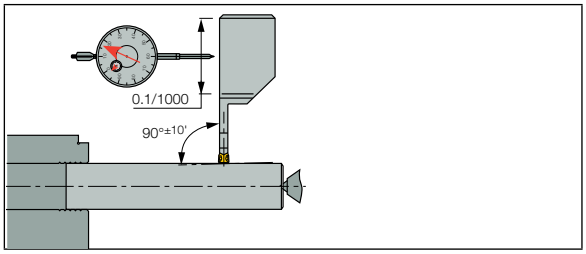
### Machine Power and Setup Rigidity

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.



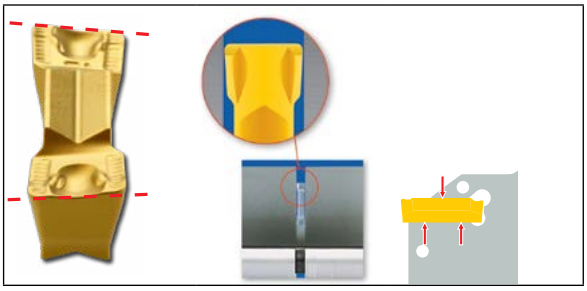


## Insert Positioning

### The Twisted Insert for Cut-Off and Grooving Applications

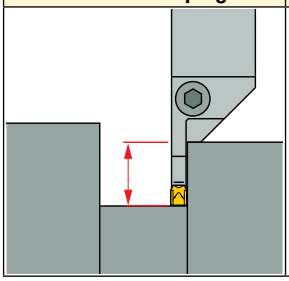
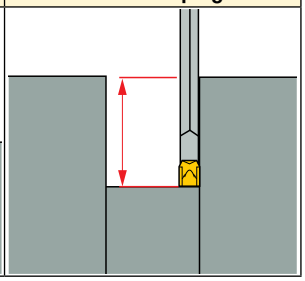
Machining depths longer than insert length is made possible with the double-ended, twisted insert body.

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.

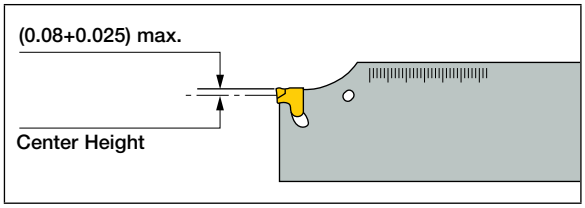
| Screw-Clamping | Self-Clamping |
|---|---|
|  |  |
| Small diameters **(D.O.C.)** with screw-clamped Inserts | Large diameters **(D.O.C.)** with self-clamped Inserts |

**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

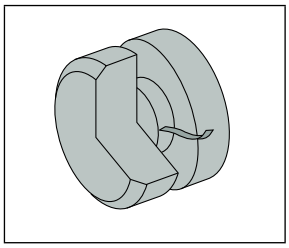


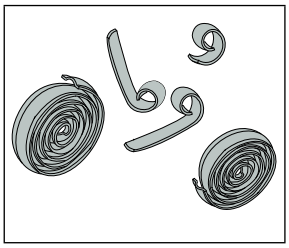

**Usage**

- 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**

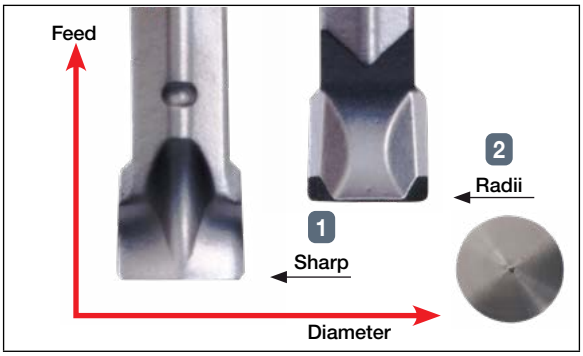
- Narrows the chip
- Eliminates friction with groove walls, prevents chip jam overload
- Permits higher feeds
- Produces unscratched surfaces, eliminating additional facing
- Curls the chips into compact spirals for easy disposal





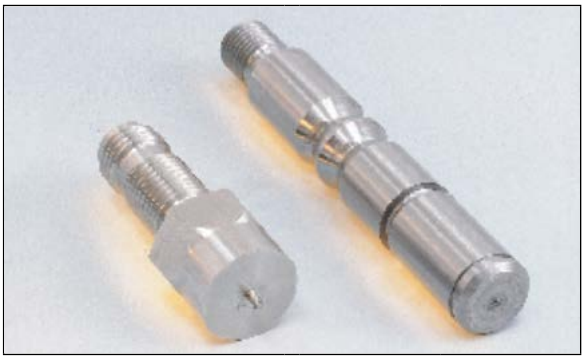
## Selection of Corner Radius

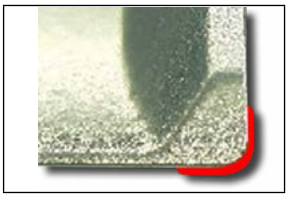
1 A smaller corner radius (r) will reduce the load on the workpiece and produce a smaller size burr
2 At the same time, a large corner radius allows for higher feeds and increased tool life

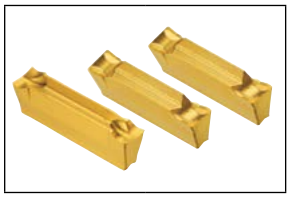



### Standard Corner Radius

- Standard medium corner size
- For general applications and materials



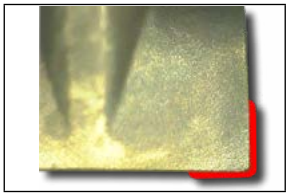


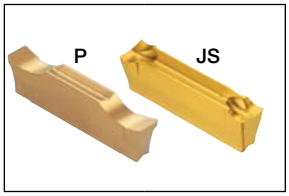


Medium (standard) corner radius

### "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

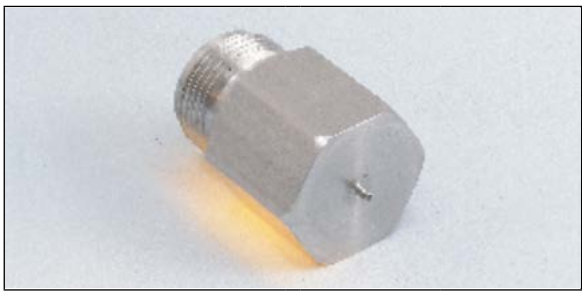


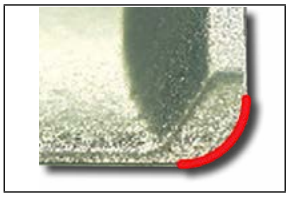



Sharp corner

### "B" Large Corner Radius

- Reinforced corners with stronger cutting edge
- For tough applications and interrupted cuts

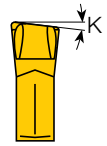
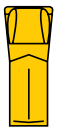
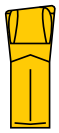


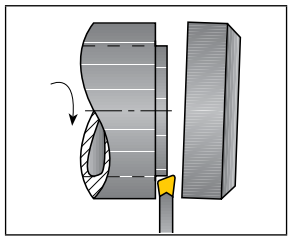


Large corner radius

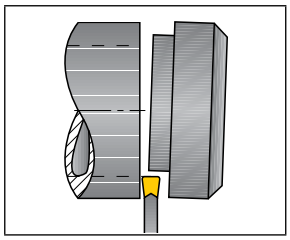
## Lead Angle

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.

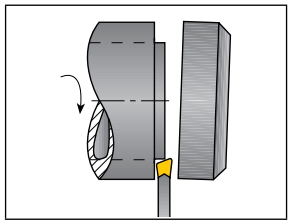
| Left | Neutral | Right |
|---|---|---|
| TAG L/DGL | TAG N/DGN | TAG R/DGR |
|   |  |  |



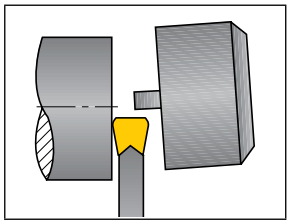
TAGR/GFR/DGR



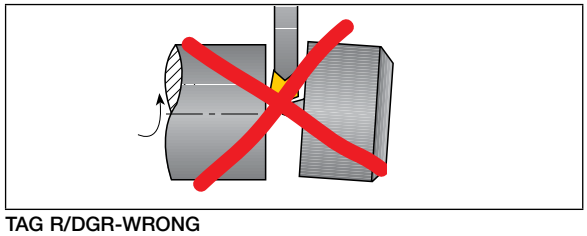
TAGR/GFN/DGN



TAG R/DGR



TAG N/DGN



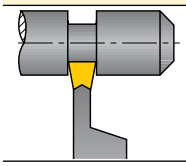
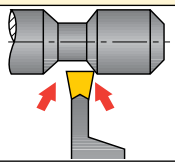
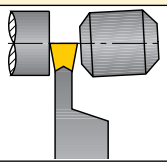
TAG R/DGR-WRONG

## Neutral Insert vs. Lead Angle Type

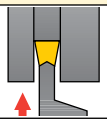
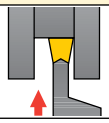
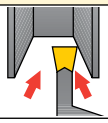
| | | | |
|---|---|---|---|
| | |  |  |
| **Lifetime** |  | ✔ | |
| **Chip Control** |  | ✔ | |
| **Burr Size** |  | | ✔ |
| **Surface Finish** |  | ✔ | |
| **Part Straightness** |  | ✔ | |

## General Rules for Specific Applications

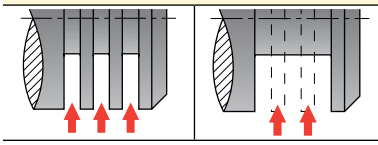
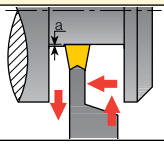
**Chamfer and Cut-Off**

| 1 | 2 | 3 |
|---|---|---|
|  |  |  |
| Break in and/ or groove | Chamfer | Cut-off |

**V-Belt Pulley Grooves**

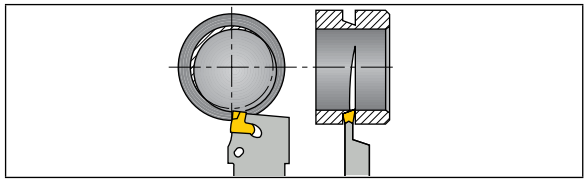
| 1 | 2 | 3 |
|---|---|---|
|  |  |  |
| Break in | Multiple plunge to depth at minor width of groove | Bevel, plunge and turn to minor diameter |

**Neck Recessing**

| 1 | 2 |
|---|---|
|  |  |
| Multiple plunge grooves | Necking On neck turning, DOC (a)=up to size of insert corner radius |

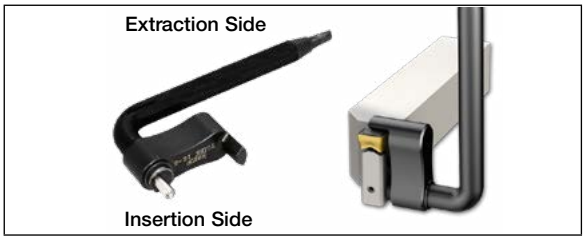
### Cut-Off on Eccentric Tubes

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.

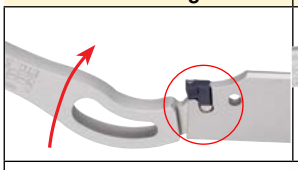
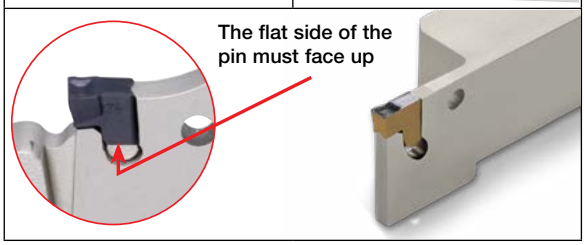


## Clamping / Extraction Instructions

**TANG-GRIP** The tools are equipped with a user-friendly clamping and extraction device.

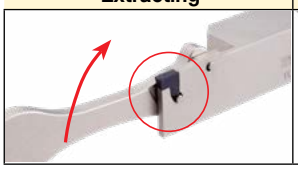



ETG 8-12 Extractor for 8 to 12.7 mm inserts

| Extracting | Clamping |
|---|---|
|  |  |
|  | |



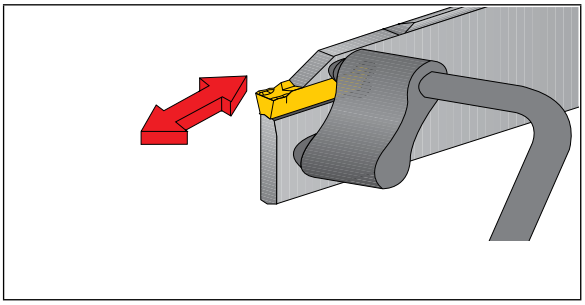
ETG 5-7 (for 5-7 mm tools)
ETG 2 (for 2 mm tools)
ETG 1.4 (for 1.4 mm tools)

| Extracting | Clamping |
|---|---|
|  |  |

ETG 3-4 (for 3 and 4 mm tools)

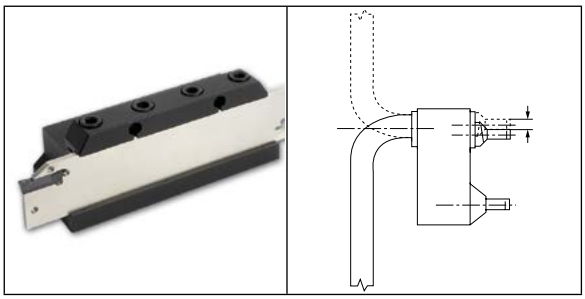
## Clamping / Extraction Instructions

**Extractor for DGN/R/L Double-Ended Inserts**
**Do-Grip Insert Clamping/Extracting**

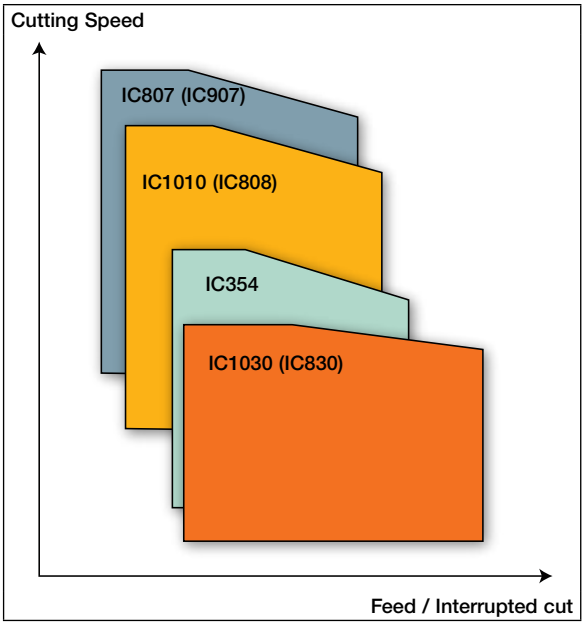


Extracting the insert

**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 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 |
|---|---|---|---|---|---|---|---|---|
| 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 | |

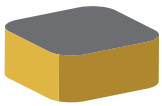
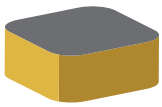
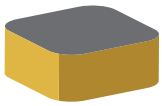
First choice

## 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 |

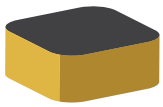
| Material Group No. | IC907/807 | IC30N | IC354 | IC1010/ IC908/808/1008 | IC5400 | IC1030/ IC830/928/1028 | IC328 |
|---|---|---|---|---|---|---|---|
| 1 | 160 - 240 | 130 - 190 | 115 - 170 | 135 - 200 | 110 - 160 | 100 - 150 | 95 - 140 |
| 2 | 150 - 205 | 120 - 160 | 105 - 145 | 125 - 170 | 100 - 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

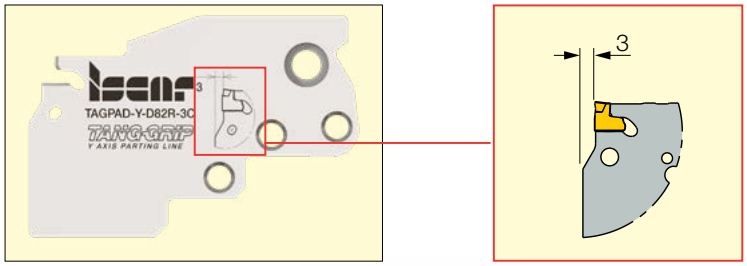
| | Grade | ISO | Grade Description | Coating Layers | Coating Color* |
|---|---|---|---|---|---|
| PVD COATED | IC1008 | P15-P30<br>M20-M30<br>K20-K40<br><br>S15-S30<br>H20-H30 | A tough submicron grain size substrate with PVD coating. Recommended for general use on a wide range of applications and 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 |  |

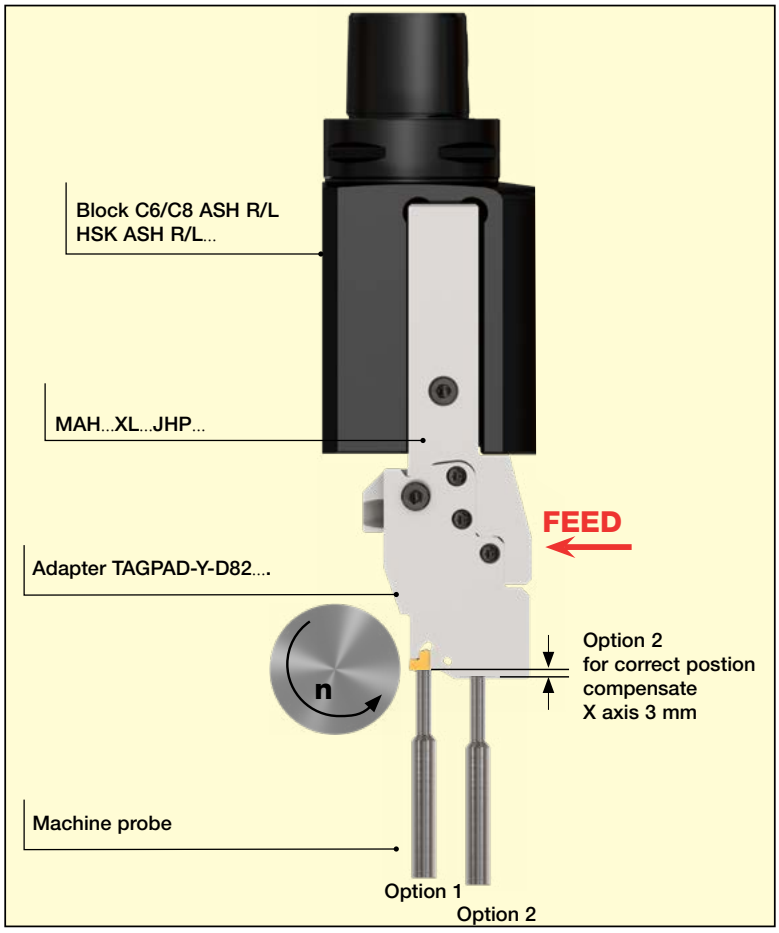
* For coated grades

| | 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

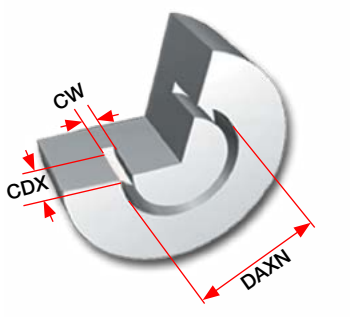
Set the cutting edge on the center line:
Option 1 - Gauge the cutting edge
Option 2 - Gauge the blade and compensate 3mm

# FACE GROOVING AND TURNING

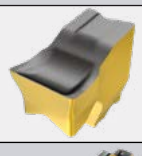
# TABLE OF CONTENTS

## 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 | 541-543 |
| MIFR/MEFL |  | 8 | - | 1.5 | 3.5 | 15 | 545 |
| GFQR |  | 12 | 19 | 1 | 2.5 | 3 | 543 |
| HGPL |  | 12 | ∞ | 3 | 6 | ∞ | 560 |
| GRIP |  | 12 | ∞ | 3 | 6.35 | ∞ | 559-560 |
| DGN |  | 21 | ∞ | 4 | 6 | ∞ | 438-440 |
| HFPR/L |  | 12 | ∞ | 3 | 6 | ∞ | 558 |
| TNF |  | 30 | 700 | 3 | 6 | ∞ | 567 |
| HFPN |  | 27 | 130 | 2 | 2 | 14 | 557 |

### Face Grooving DAXN 24–80 mm

| | | DAXN | DAXX | CWN | CWX | CDX | Page |
|---|---|---|---|---|---|---|---|
| PENTA 34F |  | 22 | ∞ | 2.39 | 4 | 5 | 570-571 |
| GDMY/N |  | 50 | ∞ | 8 | 8 | 27 | 272-273, 564-565 |
| GIF |  | 80 | ∞ | 8 | 10 | 27 | 563 |
| GIFG 8 |  | 50 | ∞ | 8 | 8 | 25 | 563 |
| GIMM 8CC |  | 80 | ∞ | 8 | 8 | ∞ | 565 |
| GDMM CC |  | 50 | ∞ | 7 | 8 | ∞ | 565 |
| GIA-K |  | 80 | ∞ | 8 | 8 | 25 | 282 |
| GFF |  | 25 | 55 | 2.1 | 6 | 35 | 260 |

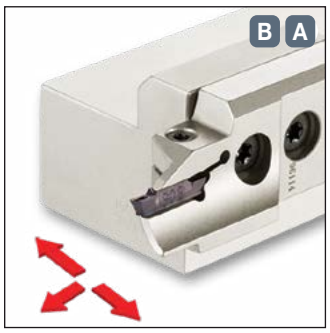
HELIFACE

## Small Diameter
## Face Machining Systems


**Tool: HGHR/L** see page 558
**Insert: GRIP... / HGPL...**

CW = 3-6.35 mm
CDX = 6 mm
DAXN = 12 mm

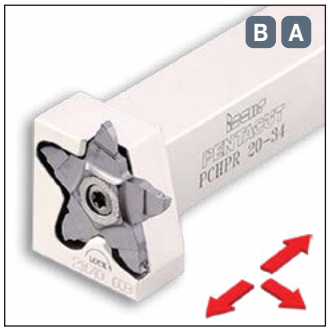
Integral shank toolholder with double-ended inserts.
Used for face grooving and face turning of small parts for 12 mm minimum groove diameter.




**Tool: HGAER/L... (adapter)** see page 565
**Tool: HFAER/L... (adapter)** see pages 565-566
**Insert: HFPR/L...**

CW = 3-6 mm
CDX = 32 mm
DAXN = 12 mm

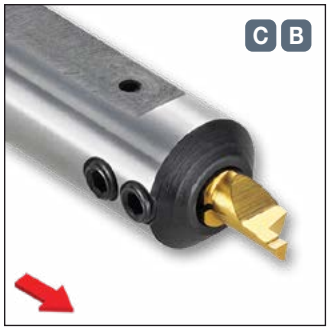
Exchangeable external adapters.
Used with **HELIFACE** and GRIP inserts for deep face machining.




**Tool: PCHPR/L** see page 316
**Insert: PENTA 34F...**

CW = 2.39-4 mm
CDX = 5 mm
DAXN = 22 mm

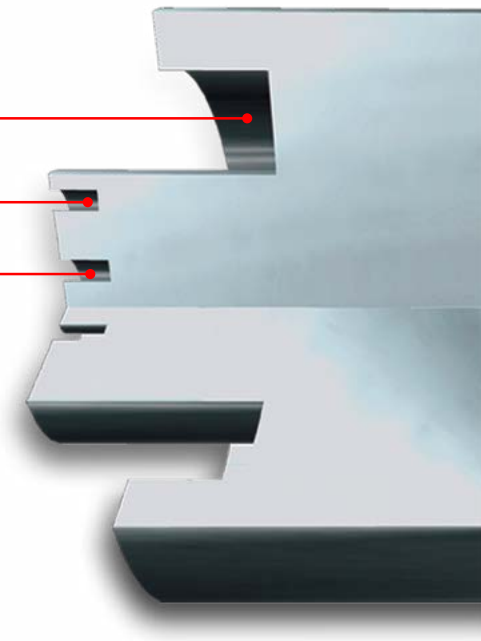
Pentagonal insert for face grooving and recessing up to 5 mm depth of cut at a minimum of 22 mm diameter.

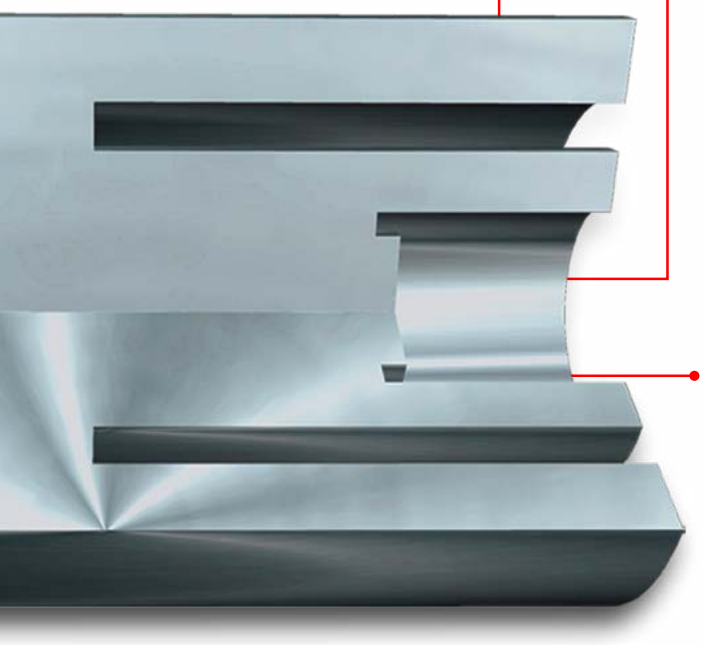


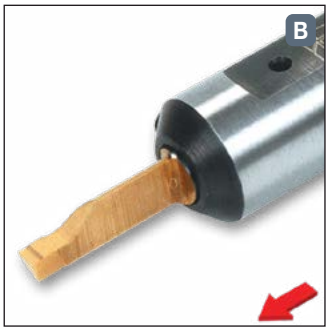

**Tool: PICCO R010** see page 594

CW = 1-5 mm
CDX = 6 mm
DAXN = 6 mm

Small solid carbide bars for machining shallow grooves from 6 mm minimum diameter.







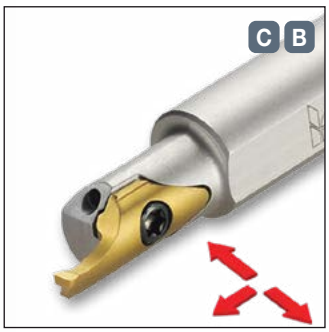

**Tool: PICCO R015** see page 597

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.



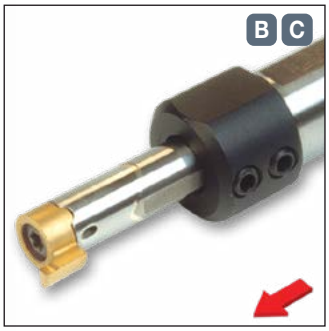

**Tool: MIFHR ...** see page 598
**Insert: MIFR ...**

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 598
**Insert: GFQR...**

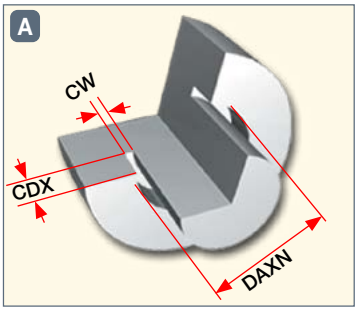
CW = 1-2.5 mm

CDX = 3 mm

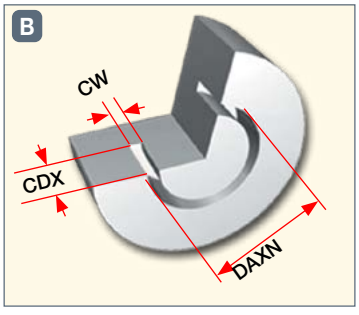
DAXN = 12 mm

A screw-clamped insert on an internal coolant solid carbide bar. Used for machining shallow grooves from 12 mm minimum diameter.

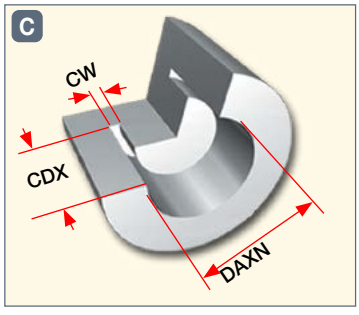
## Main Applications




Grooving Next to a Shaft



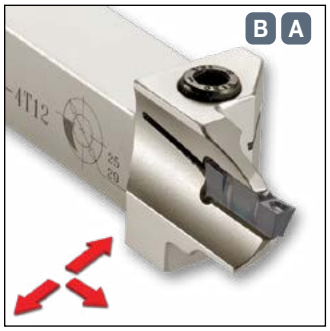

External Grooving




Internal Grooving

HELIFACE

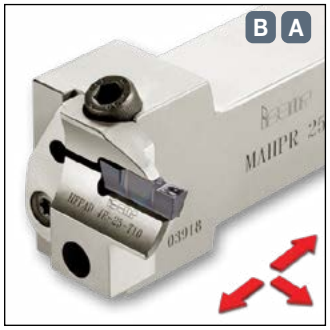
## Medium Diameter
## Face Machining Systems




**Tool: HFHR/L... see pages 558-561**
**Insert: HFPR/L...**

CW = 3-6 mm
CDX = 32 mm
DAXN = 25 mm

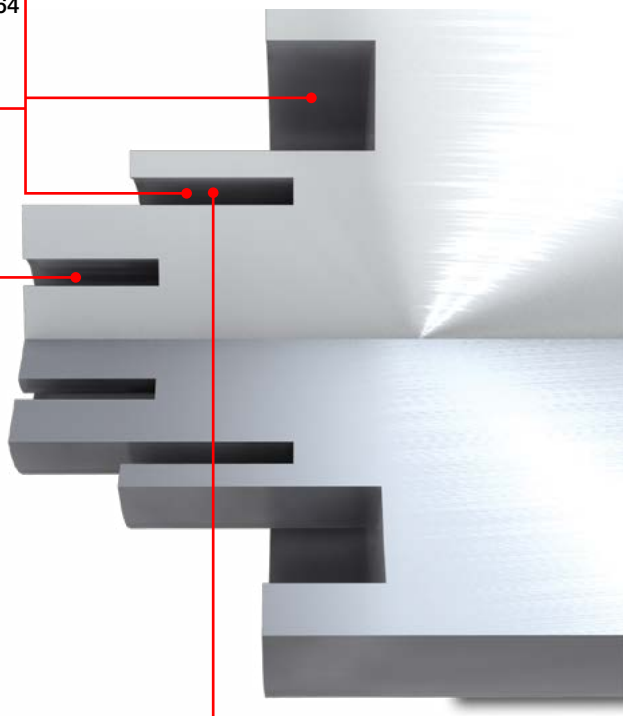
Integral shank toolholders carrying **HELIFACE** and GRIP inserts. For deep face grooving and side face turning.

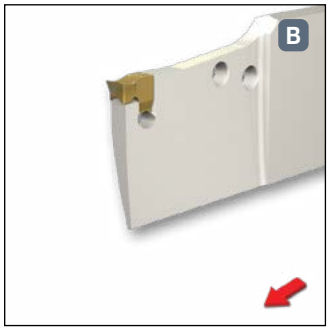



**Tool: HFPAD... (adapter) see pages 562-564**
**Insert: HFPR/L...**

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.

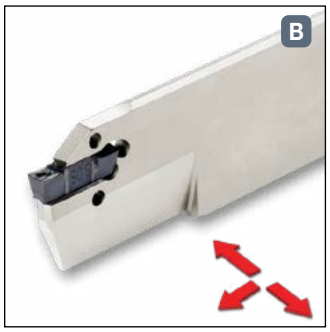





**Tool: TNFFH see page 583**
**Insert: TNF 3-6C...**

CW = 3-6 mm
CDX = 35 mm
DAXN = 30 mm

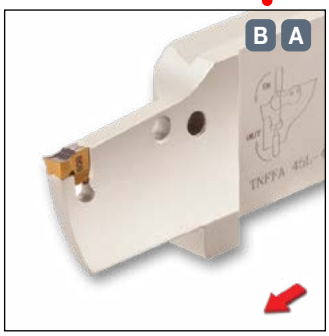
Adapter and blade toolholders carrying TNF 3-6C inserts. For deep face grooving.




**Tool: HFFR/L... see page 564**
**Insert: HFPR/L...**

CW = 4-6 mm
CDX = 38 mm
DAXN = 48 mm

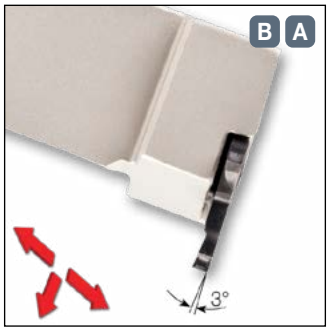
Economical, double-ended blades carrying **HELIFACE** and GRIP inserts. Recommended for deep face grooving and face turning to a maximum depth of 38 mm.




**Tool: TNFFA see page 584**
**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.



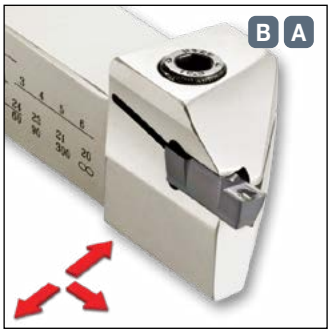

**Tool: PCHPRS/LS see page 590**
**Insert: PENTA 34F-RS/LS...**

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.



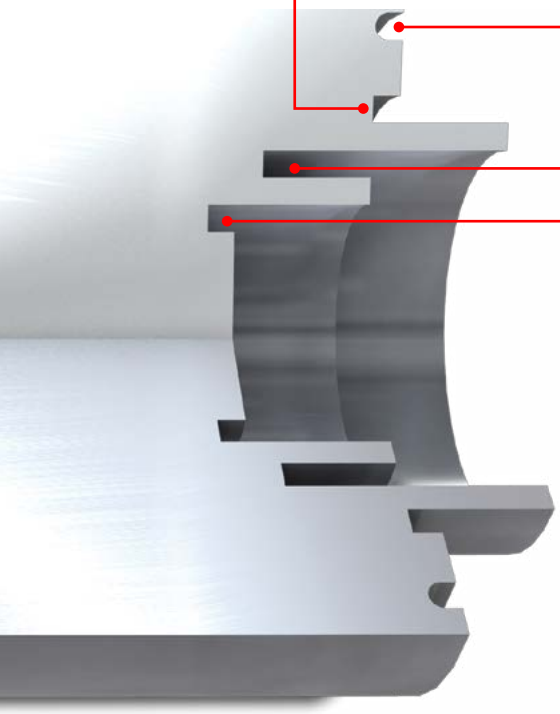

**Tool: HFHR/L..-M see page 566**
**Insert: HFPR/L...**

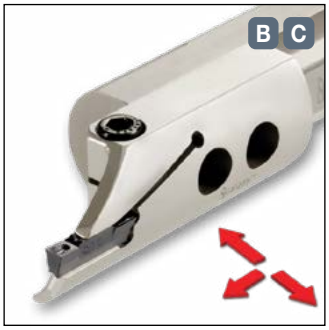
CW = 3-6 mm

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.





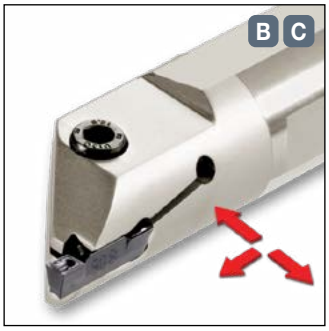

**Tool: HFAIR/L...& HGAIR/L (adapter) see pages 568, 572**
**Insert: HFPR/L...**

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 574**
**Insert: HFPR/L...**

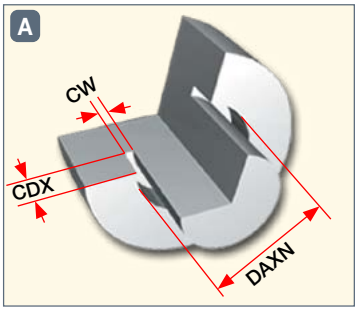
CW = 3-6 mm

CDX = 5 mm

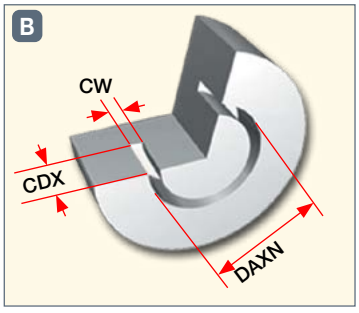
DAXN = 20 mm

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.

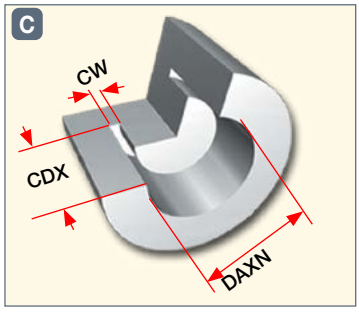
## Main Applications




Grooving Next to a Shaft

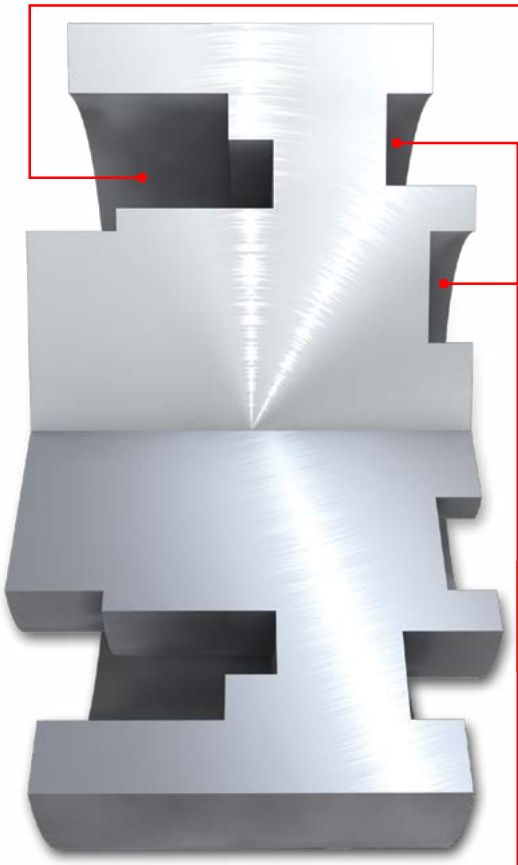


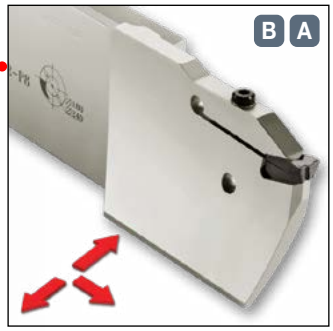

External Grooving




Internal Grooving

## Large Diameter
## Face Machining Systems

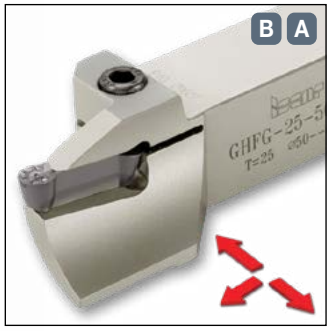





**Tool: CGFG 51-..R/L-P8**
**see page 580**
**Insert: GIMY 8...**

CW = 8 mm
CDX = 120 mm
DAXN = 180 mm

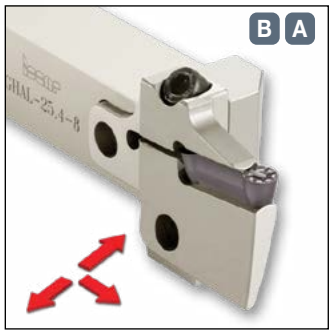
Blades carrying 8 mm single-ended **CUT-GRIP** inserts. Can machine up to 120 mm depth next to a shaft. Used for large diameters.




**Tool: GHFG ..R/L-8** **see page 579**
**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.

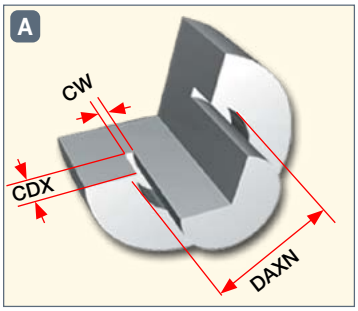



**Tool: GAFG ..R/L-8 (adapter)** **see page 580**
**Insert: GDMM 8CC**

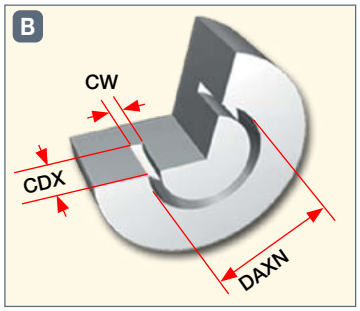
CW = 8 mm
CDX = 25 mm
DAXN = 80 mm

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.

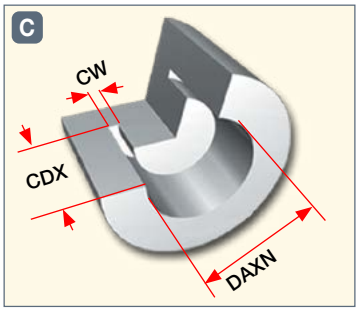
### Main Applications



Grooving Next to a Shaft



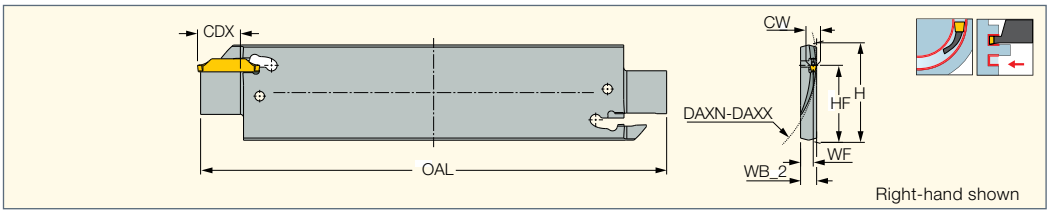
External Grooving



Internal Grooving

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

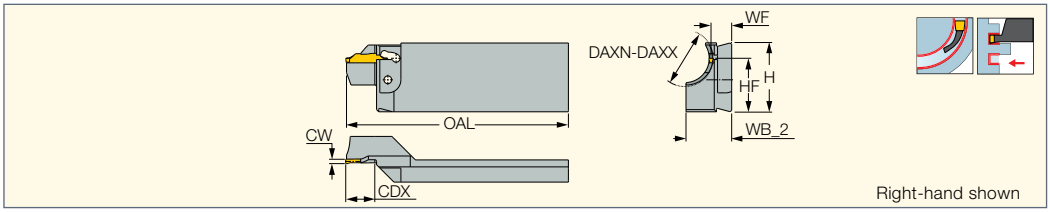
(2) Maximum penetration diameter * Optional, should be ordered separately

**For inserts, see pages:** HFPN (575)

**For holders, see pages:** C#-TBK-R/L (623) • HSK A-WH-TBK-R/L (632) • SGTBF (618) • SGTBK (617) • SGTBU/SGTBN (616) • UBHCR/L (618)

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 604-613

(1) Minimum penetration diameter

(2) Maximum penetration diameter

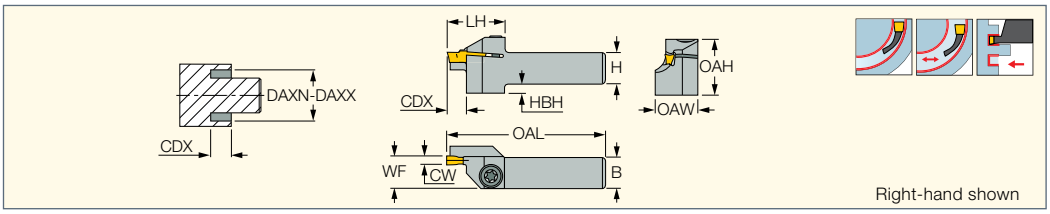
* Optional, should be ordered separately

**For inserts, see pages:** HFPN (575)

**For holders, see pages:** SGTBU/SGTBN (616) • UBHCR/L (618)

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 604-613

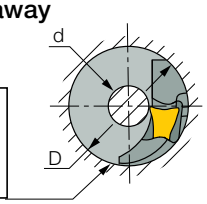
(1) Minimum penetration diameter

(2) Maximum penetration diameter

**For inserts, see pages:** GRIP (269) • GRIP (full radius) (270) • HGN-C (489) • HGN-J (489) • HGN-UT (490) • HGPL (578)

### 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.

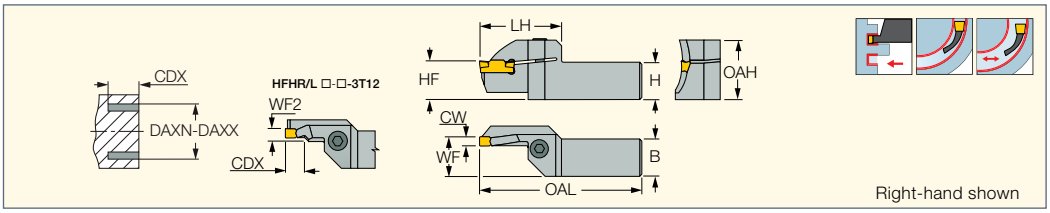



**HGHR/L...-12-3T6**

| 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 604-613

(1) For deep face grooving only.

(2) Minimum penetration diameter

(3) Maximum penetration diameter

**For inserts, see pages:** HFPR/L (576) • HFPR/L (full radius) (576)

### 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 |

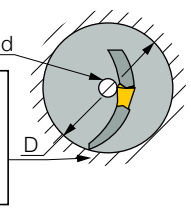
**HFHR/L-:-25-4T12**

| D | d |
|---|---|
| 25 | 1 |
| ≥26 | 0 |

**HFHR/L-:-29-4T12**

| D | d |
|---|---|
| 29 | 1 |
| ≥46 | 0 |

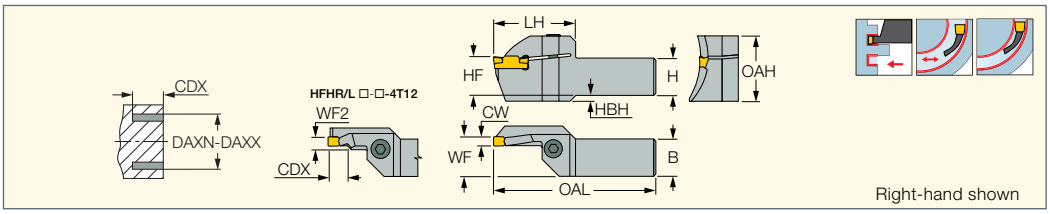
Limitation of widening toward center (d) depends on the major diameter (D) as per chart.



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 604-613

(1) Minimum penetration diameter

(2) Maximum penetration diameter

**For inserts, see pages:** DGN-MF (485) • HFPR/L (576) • HFPR/L (full radius) (576) • GRIP (269) • GRIP (full radius) (270) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • HGPL (578)

### Penetration Range

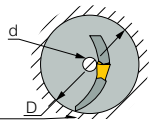
**HFHR/L-:-25-4T12**

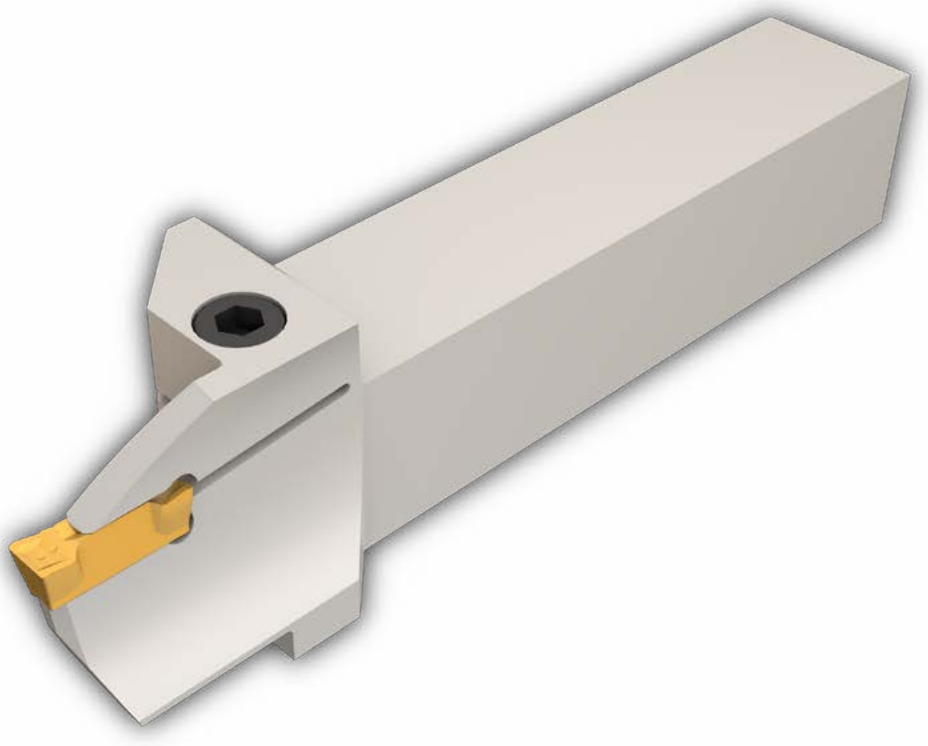
| D | d |
|---|---|
| 25 | 1 |
| ≥26 | 0 |

**HFHR/L-:-29-4T12**

| D | d |
|---|---|
| 29 | 1 |
| ≥46 | 0 |

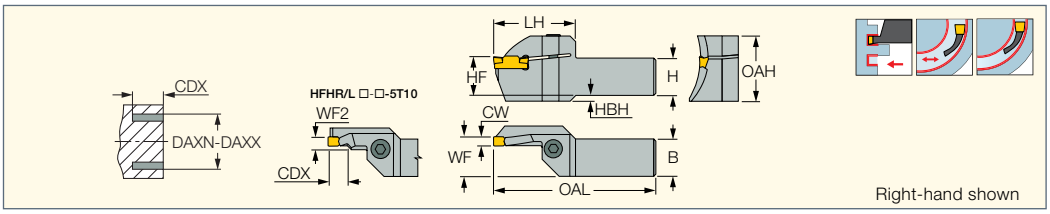
Limitation of widening toward center (d) depends on the major diameter (D) as per chart



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 604-613

(1) Minimum penetration diameter

(2) Maximum penetration diameter

**For inserts, see pages:** HFPR/L (576) • HFPR/L (full radius) (576) • GRIP (269) • GRIP (full radius) (270) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • DGN-W (482) • HGPL (578)

### 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 |

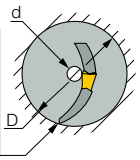
**HFHR/L-□-25-5T10**

| 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 |

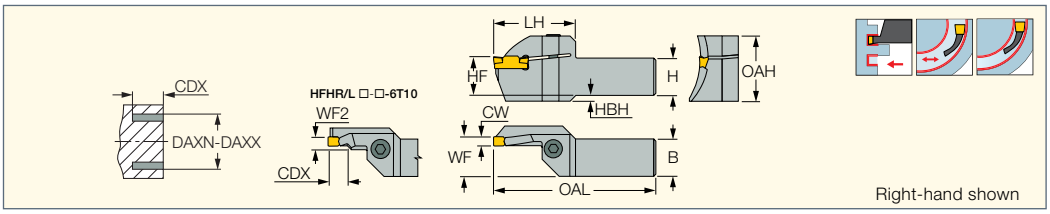
Limitation of widening toward center (d) depends on the major diameter (D) as per chart




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 604-613

(1) Minimum penetration diameter

(2) Maximum penetration diameter

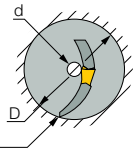
**For inserts, see pages:** HFPR/L (576) • HFPR/L (full radius) (576) • GRIP (269) • GRIP (full radius) (270) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • HGPL (578)

**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

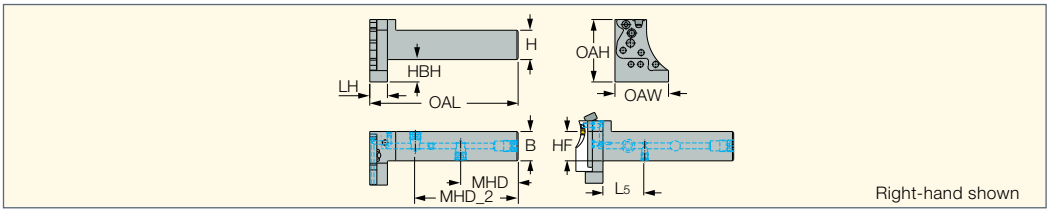



MODULAR-GRIP

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 |

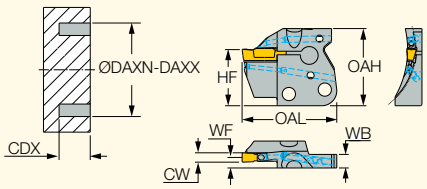
**For tools, see pages:** DGPAD-XL-JHP (480) • HFPAD-JHP (562) • TAGPAD-XL-JHP (500) • TAGPAD-Y-JHP (519) • TNFPAD-XL-JHP (569)

### 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 604-613

(1) Minimum axial grooving diameter

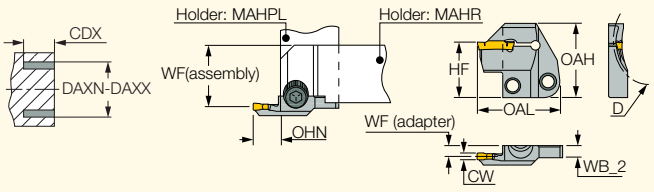
(2) Maximum axial grooving diameter

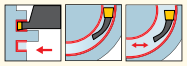
**For inserts, see pages:** DGN-MF (485) • DGN-W (482) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • GRIP (269) • GRIP (full radius) (270) • HFPR/L (576) • HFPR/L (full radius) (576) • HGN-C (489) • HGN-J (489) • HGN-UT (490) • HGPL (578)

**For holders, see pages:** C#-MAHD-JHP (624) • C#-MAHPD-JHP (625) • MAHPR/L-JHP (281) • MAHPR/L-XL-JHP (561) • MAHR/L-JHP (279) • MAHR/L-JHP-MC (280)

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 604-613

(1) Minimum penetration diameter

(2) Maximum penetration diameter

(3) Minimum overhang

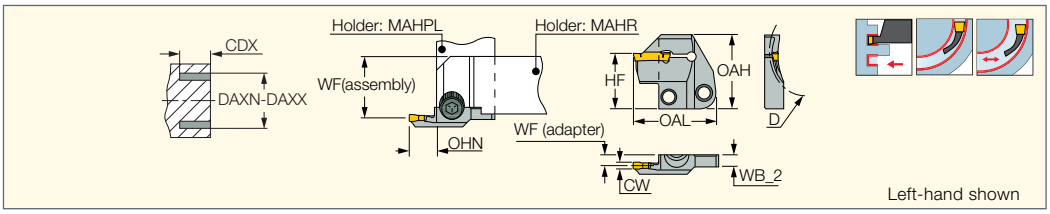
(4) WF(adapter)

**For inserts, see pages:** GRIP (269) • GRIP (full radius) (270) • HGN-C (489) • HGN-J (489) • HGN-UT (490) • HGPL (578)

**For holders, see pages:** C#-MAHD-JHP (624) • C#-MAHPD-JHP (625) • IH-HFPAD (571) • MAHR/L-JHP-MC (280) • MAHPR/L-JHP (281) • MAHR/L-JHP (279) • MAHR/L (279) • MAHPR/L (280) • C#-MAHD (624) • C#-MAHPD (625) • C#-MAHDR-45 (623) • C#-MAHDOR (624) • HSK A63WH-MAHUR/L (632) • HSK A63WH-MAHDR-45 (631) • HSK A63WH-MAHDOR (631) • IM-MAHD (633) • IM-MAHPD (633)

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 604-613

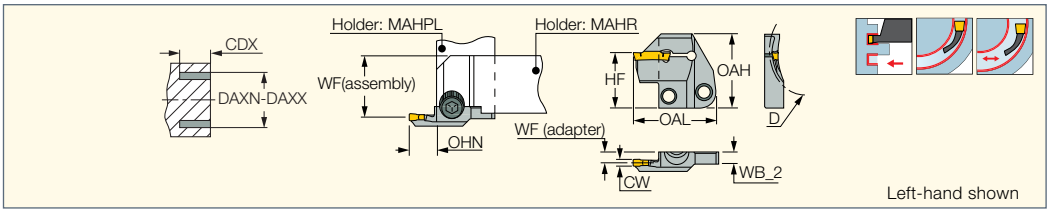
(1) Minimum penetration diameter
(2) Maximum penetration diameter
(3) Minimum overhang
(4) WF(adapter)

**For inserts, see pages:** DGN-MF (485) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • GRIP (269) • GRIP (full radius) (270) • HFPR/L (576) • HFPR/L (full radius) (576) • HGPL (578)

**For holders, see pages:** C#-MAHD-JHP (624) • C#-MAHPD-JHP (625) • IH-HFPAD (571) • MAHR/L-JHP-MC (280) • MAHPR/L-JHP (281) • MAHR/L-JHP (279) • MAHR/L (279) • MAHPR/L (280) • C#-MAHD (624) • C#-MAHPD (625) • C#-MAHDR-45 (623) • C#-MAHDOR (624) • HSK A63WH-MAHUR/L (632) • HSK A63WH-MAHDR-45 (631) • HSK A63WH-MAHDOR (631) • IM-MAHD (633) • IM-MAHPD (633)

MODULAR GRIP

## HFPAD-5
Adapters for Face Machining



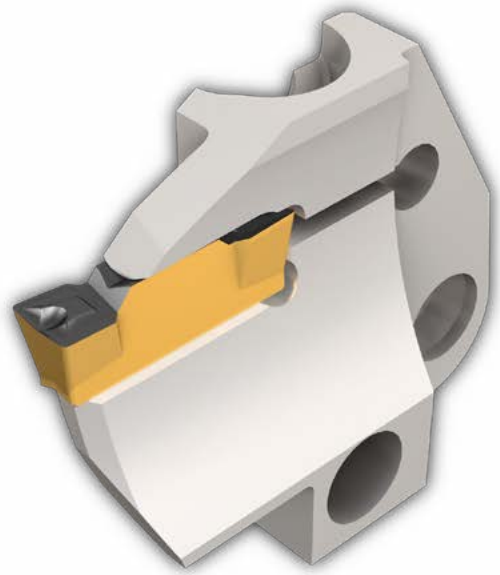

| Designation | DAXN(1) | DAXX(2) | CW | CDX | OHN(3) | WF(4) | WB_2 | OAL | HF | OAH |
|---|---|---|---|---|---|---|---|---|---|---|
| HFPAD 5R/L-40-T14 | 40.0 | 50.0 | 5.00 | 14.00 | 16.0 | 4.50 | 6.3 | 40.50 | 24.0 | 32.0 |
| HFPAD 5R/L-50-T14 | 50.0 | 75.0 | 5.00 | 14.00 | 16.0 | 4.50 | 6.3 | 40.50 | 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 604-613

(1) Minimum penetration diameter
(2) Maximum penetration diameter
(3) Minimum overhang
(4) WF(adapter)

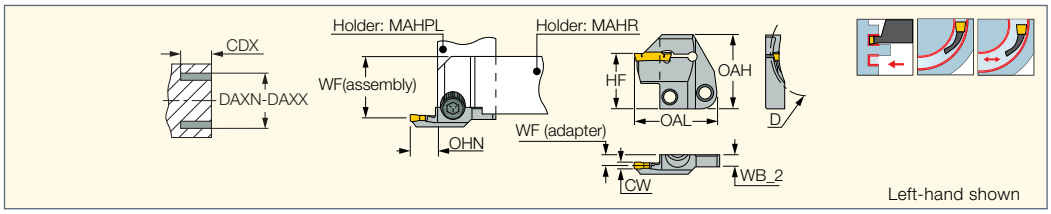
**For inserts, see pages:** HFPR/L (576) • HFPR/L (full radius) (576) • GRIP (269) • GRIP (full radius) (270) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • DGN-W (482) • HGPL (578)

**For holders, see pages:** C#-MAHD-JHP (624) • C#-MAHPD-JHP (625) • IH-HFPAD (571) • MAHR/L-JHP-MC (280) • MAHPR/L-JHP (281) • MAHR/L-JHP (279) • MAHR/L (279) • MAHPR/L (280) • C#-MAHD (624) • C#-MAHDOR (624) • C#-MAHPD (625) • C#-MAHDR-45 (623) • HSK A63WH-MAHUR/L (632) • HSK A63WH-MAHDR-45 (631) • HSK A63WH-MAHDOR (631) • IM-MAHD (633) • IM-MAHPD (633)



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 604-613

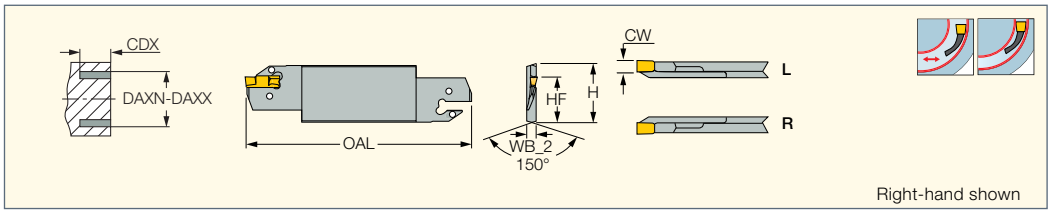
(1) Minimum penetration diameter
(2) Maximum penetration diameter
(3) Minimum overhang
(4) WF(adapter)

**For inserts, see pages:** HFPR/L (576) • HFPR/L (full radius) (576) • GRIP (269) • GRIP (full radius) (270) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • HGPL (578)

**For holders, see pages:** C#-MAHD-JHP (624) • C#-MAHPD-JHP (625) • IH-HFPAD (571) • MAHR/L-JHP-MC (280) • MAHPR/L-JHP (281) • MAHR/L-JHP (279) • MAHR/L (279) • MAHPR/L (280) • C#-MAHD (624) • C#-MAHPD (625) • C#-MAHDR-45 (623) • C#-MAHDOR (624) • HSK A63WH-MAHUR/L (632) • HSK A63WH-MAHDR-45 (631) • HSK A63WH-MAHDOR (631) • IM-MAHD (633) • IM-MAHPD (633)

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 604-613

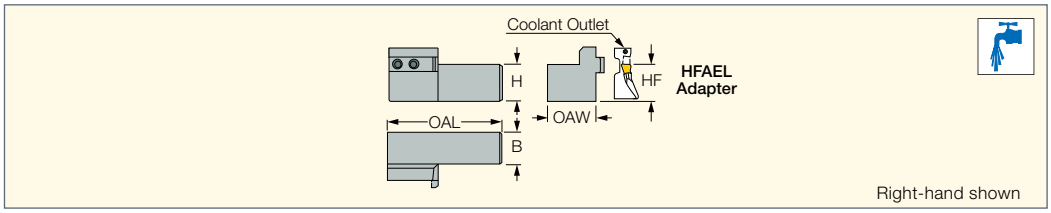
(1) HGPL 4...Y with LH blade
(2) Minimum penetration diameter
(3) Maximum penetration diameter
* Optional, should be ordered separately

**For inserts, see pages:** DGN-MF (485) • HFPR/L (576) • HFPR/L (full radius) (576) • GRIP (269) • GRIP (full radius) (270) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • DGN-W (482) • HGPL (578)

**For holders, see pages:** SGTBF (618) • SGTBU/SGTBN (616) • UBHCR/L (618)

HELIFACE

## HAR/L
Face Machining Adapter Holders



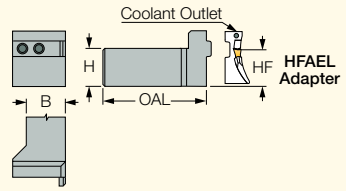

| Designation | OAL | B | H | HF | OAW | | |
|---|---|---|---|---|---|---|---|
| HAR/L 25C | 110.00 | 25.0 | 25.0 | 25.0 | 39.00 | SR 14-519 | T-20/3 |
| HAR/L 32C | 130.00 | 32.0 | 32.0 | 32.0 | 46.00 | SR 14-519 | T-20/3 |

- Holders for adapters HFAER/L & HGAER/L, HFAIR/L & HGAIR/L

**For tools, see pages:** HFAER/L-4 (565) • HFAER/L-5T, 6T (566) • HFAIR/L-4 (572) • HFAIR/L-DG (573) • HGAER/L-3 (565) • HGAIR/L-3 (568)

HELIFACE

## HAPR/L
Face Machining Perpendicular Holders for Adapters




Left-hand shown

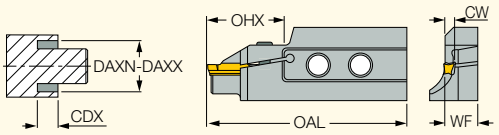
| Designation | OAL | H | HF | B | | |
|---|---|---|---|---|---|---|
| HAPR/L 25C | 124.00 | 25.0 | 25.0 | 25.0 | SR 14-519 | T-20/3 |
| HAPR/L 32C | 139.00 | 32.0 | 32.0 | 32.0 | SR 14-519 | T-20/3 |

- Holders for adapters HFAER/L & HGAER/L, HFAIR/L & HGAIR/L.

**For tools, see pages:** HFAER/L-4 (565) • HFAER/L-5T, 6T (566) • HFAIR/L-4 (572) • HFAIR/L-DG (573) • HGAER/L-3 (565) • HGAIR/L-3 (568)

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 604-613

(1) Minimum penetration diameter
(2) Maximum penetration diameter
(3) Maximum overhang

**For inserts, see pages:** GRIP (269) • GRIP (full radius) (270) • HGPL (578)

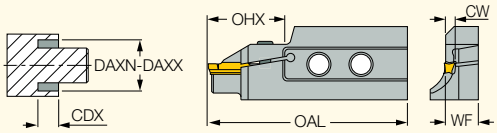
**For holders, see pages:** C#-HAD (627) • C#-HAPR/L (627) • HAPR/L (565) • HAR/L (564) • IM-HAD (634) • IM-HAPR/L (634)

### 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 604-613

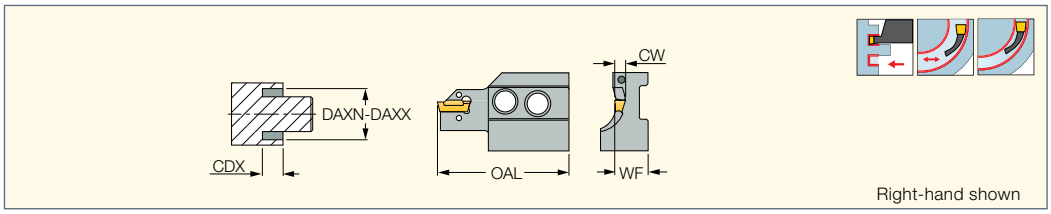
(1) Minimum penetration diameter
(2) Maximum penetration diameter
(3) Maximum overhang

**For inserts, see pages:** DGN-MF (485) • HFPR/L (576) • HFPR/L (full radius) (576) • GRIP (269) • GRIP (full radius) (270) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • HGPL (578)

**For holders, see pages:** C#-HAD (627) • C#-HAPR/L (627) • HAPR/L (565) • HAR/L (564) • IM-HAD (634) • IM-HAPR/L (634)

HELIFACE

## HFAER/L-5T, 6T
Adapters for External Facing Along Shafts




| 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 604-613

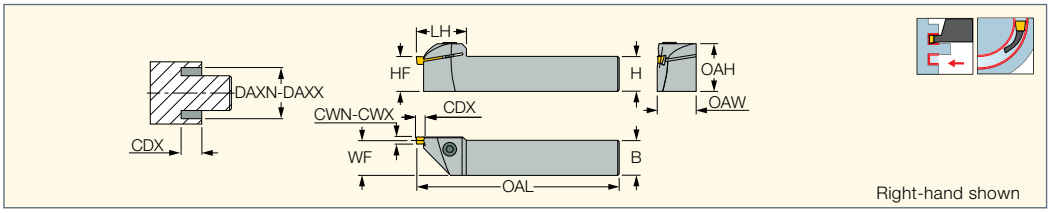
(1) Minimum penetration diameter
(2) Maximum penetration diameter * Optional, should be ordered separately

**For inserts, see pages:** HFPR/L (576) • HFPR/L (full radius) (576) • GRIP (269) • GRIP (full radius) (270) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • DGN-W (482) • HGPL (578)

**For holders, see pages:** C#-HAD (627) • C#-HAPR/L (627) • HAPR/L (565) • HAR/L (564) • IM-HAD (634) • IM-HAPR/L (634)

HELIFACE

## HFHR/L-M
Toolholders for Shallow Face Grooving




| 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 |

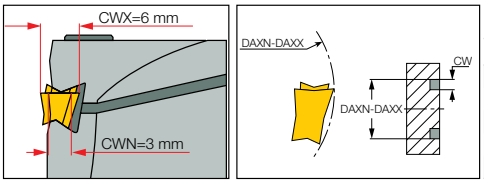
- DGN & GRIP 4.. - 6.. inserts can be used only with right-hand tools, HGPL 4.. - 6.. inserts with left-hand tools
- After initial groove, no limitation to widening groove outward or toward center
- For user guide, see pages 604-613

(1) Minimum cutting width
(2) Maximum cutting width
(3) Minimum penetration diameter
(4) Maximum penetration diameter

**For inserts, see pages:** HFPR/L (576) • HFPR/L (full radius) (576)

## 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.

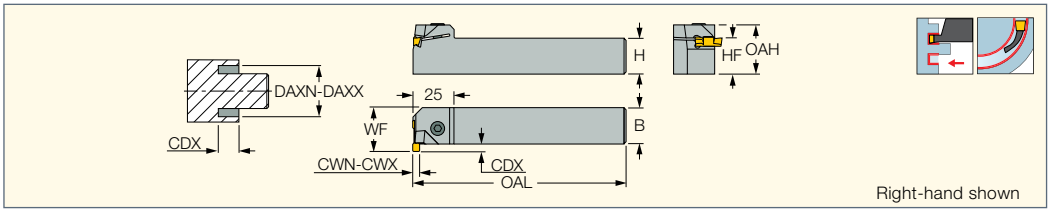



Insert initial face grooving range

| 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




| 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 604-613

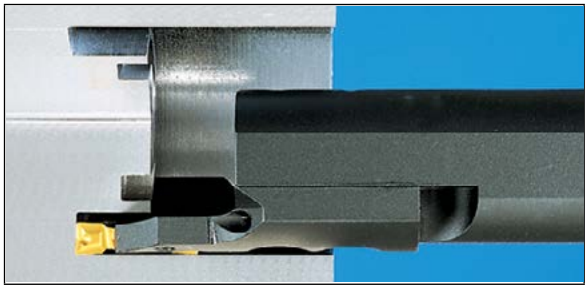
(1) Minimum cutting width
(2) Maximum cutting width
(3) Minimum penetration diameter
(4) Maximum penetration diameter

**For inserts, see pages:** HFPR/L (576) • HFPR/L (full radius) (576)

# Boring Bars for Adapters

## HGAIR/L & HFAIR/L Adapters and HAI Holders

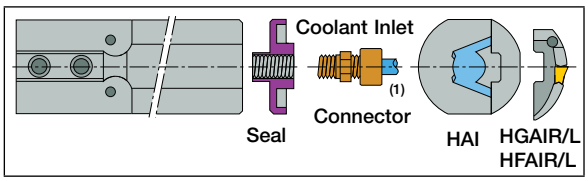
Adapter clamped on HAI round shank holders can machine deep internal boring and grooving applications. The tool can bore down to the bottom, and is supplied with internal coolant for better performance.

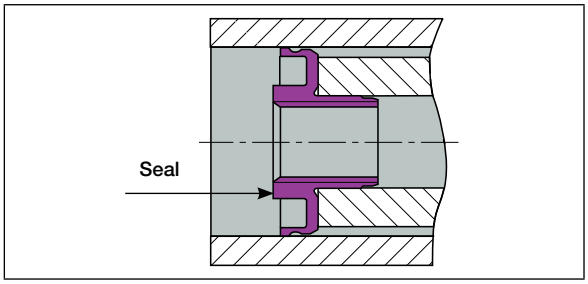


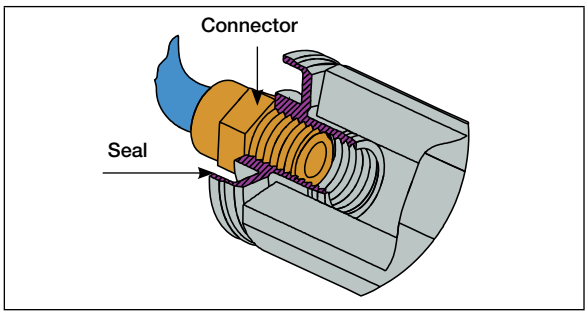
| HFAIR/L & HGAIR/L | HAI Holders |
|---|---|
|  |  |
| Exchangeable adapters, see pages 568, 572 | for adapters, see page 572 |

| HFAIR/L HGAIR/L | - ☐ | C | - ☐ | T - ☐ |
|---|---|---|---|---|
| **HELIFACE** Internal adapters right or left | Min. initial groove diameter | Internal coolant | Insert width | Max. depth of groove |

## Coolant System

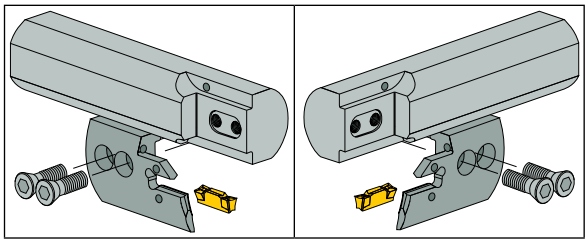



(1) Connector for coolant inlet BSP 1/8 thread. For PL-20, use M6 thread. Connector not supplied with tools.

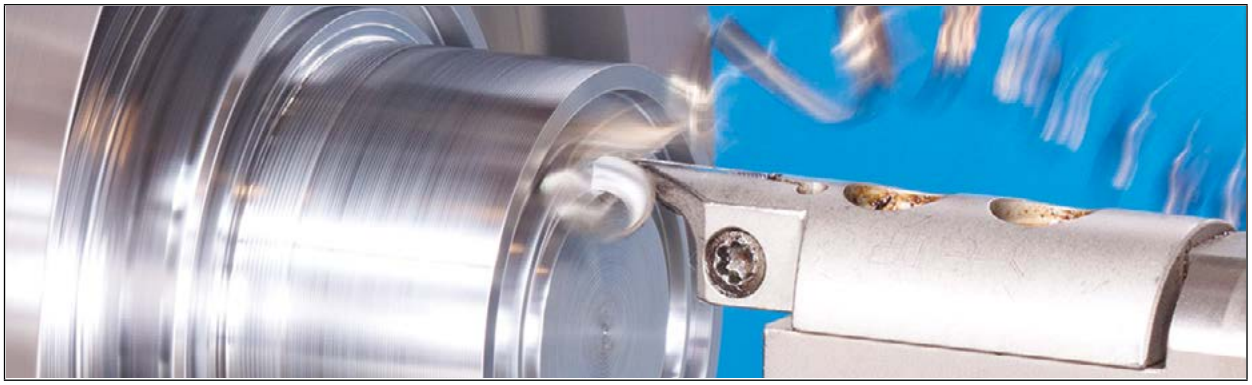
## HAI Holder System Assembly



**HFAIL & HGAIL**
**Left-hand Adapters**

**HFAIR & HGAIR**
**Right-hand Adapters**

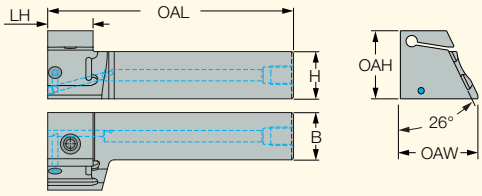
The same HAI boring bar can be used with right- and left-hand adapters in a wide range of face machining applications. The two screws and the central guiding slot on the adapter correspond to the key and holes on the holder ensuring strong, safe, and accurate clamping.



NEOFACE FACE GROOVING

## BHSR/L-JHP

Holders for Double-Sided Face Grooving Blades with Inclined Clamping Position and JHP Cooling Hole



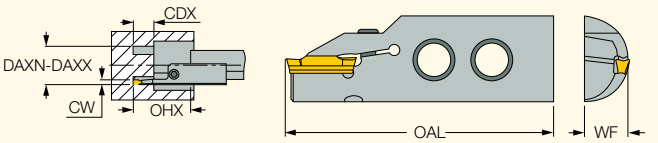

Left-hand shown

| 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 604-613

(1) Minimum penetration diameter

(2) Maximum penetration diameter

(3) Maximum overhang

**For inserts, see pages:** GRIP (269) • GRIP (full radius) (270) • HGN-C (489) • HGN-J (489) • HGN-UT (490) • HGPL (578)

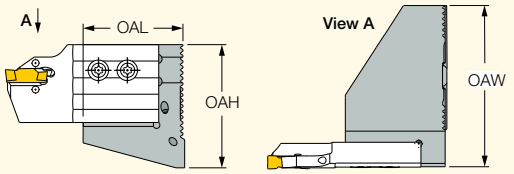
**For holders, see pages:** C#-HAD (627) • C#-HAPR/L (627) • HAI-C (572) • HAPR/L (565) • HAR/L (564) • IH-HFAIR (569) • IM-HAD (634) • IM-HAPR/L (634)

HELIFACE

TANG-GRIP FACE MACHINING LINE

## IH-HFAIR

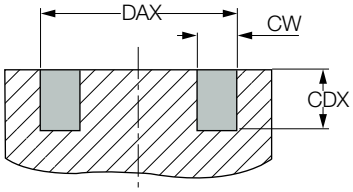
Intermediate Serrated Cartridge for Standard HELI-FACE HFAIR Adapters.

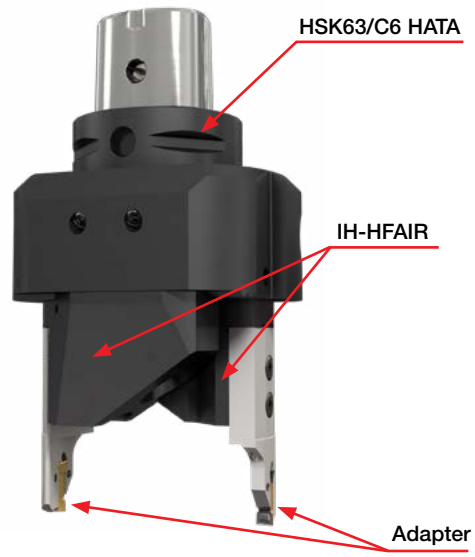



| Designation | OAH | OAW | OAL |
|---|---|---|---|
| IH-HFAIR | 55.40 | 72.50 | 44.90 |

**For tools, see pages:** HFAIR/L-DG (573) • HGAIR/L-3 (568)

## HSK63 HATA+IH-HFAIR
## C6 HATA+IH-HFAIR




### Spare Parts

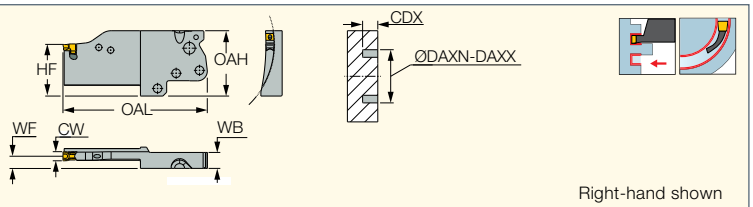
| Designation | | | | |
|---|---|---|---|---|
| IH-HFAIR | SR 14-519 | T-20/3 | O-RING 19X2 NBR | SR M6X20-XT |

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 604-613

(1) Minimum axial grooving diameter

(2) Maximum axial grooving diameter

**For inserts, see pages:** TNF GN-IQ (585) • TNF-M-IQ (585) • TNF-P-IQ (585)

**For holders, see pages:** ABC MAHDR-#-XL-JHP (782) • IH-TNFPAD (570) • MAHPR/L-XL-JHP (561) • MAHR/L-MG-XL-JHP (501) • MAHR/L-MG-XL-JHP-MC (501) • V## MAHD#-#-XL-##-JHP (778) • V## MAHD-XL-JHP (779)

### Spare Parts

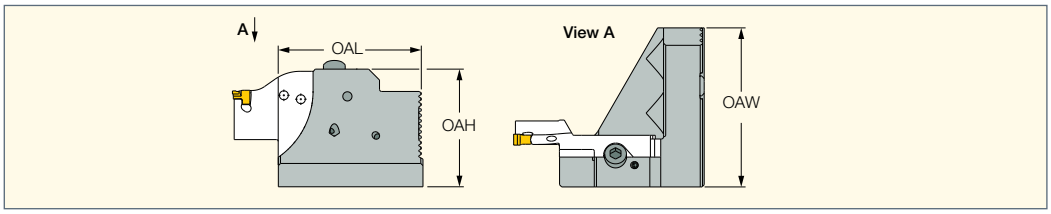
| Designation | |
|---|---|
| TNFPAD-XL-JHP | ETF 3-6 |

HELIFACE

TANG-GRIP FACE MACHINING LINE

## IH-TNFPAD

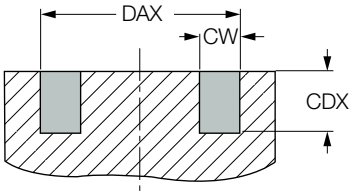
Intermediate Serrated Cartridge for standard TANG-FACE TNFPAD-XL R Adapters

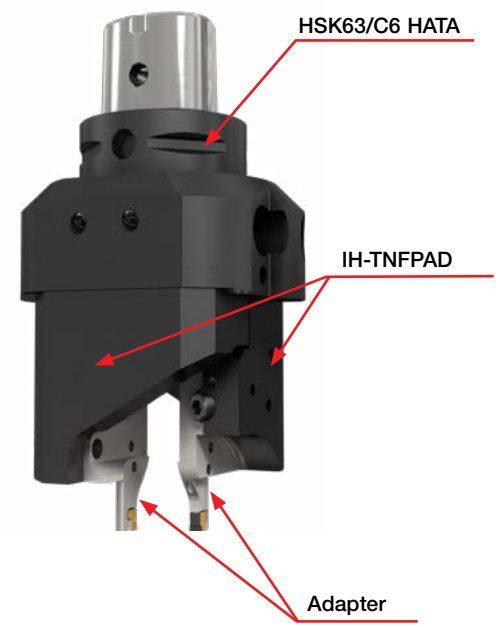



| Designation | OAH | OAW | OAL |
|---|---|---|---|
| IH-TNFPAD | 54.00 | 73.00 | 65.70 |

**For tools, see pages:** TNFPAD-XL-JHP (569)

### 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

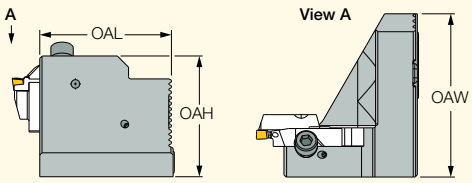
| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| IH-TNFPAD | SR M6X14-XT DIN 912 | BLD T20/M7 | SW6-SD | SR M5-04451 | SR M6X20-XT | O-RING 19X2 NBR | OR 5X1N |

HELIFACE

TANG-GRIP FACE MACHINING LINE

## IH-HFPAD

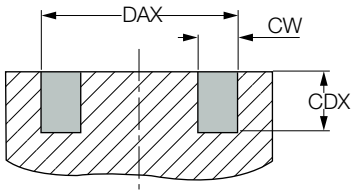
Intermediate Serrated Cartridge
For standard HFPAD R Adapters

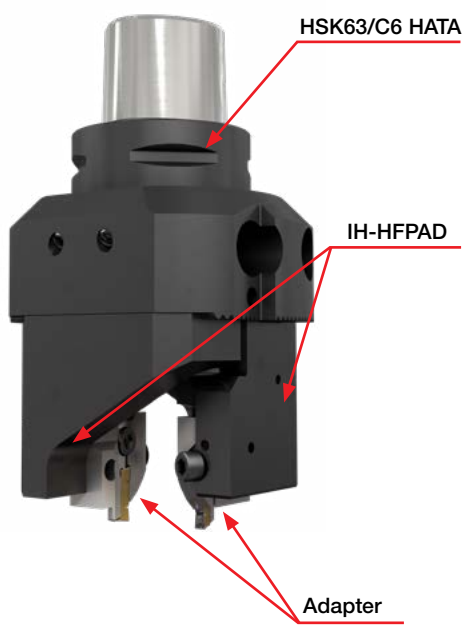



| Designation | OAH | OAW | OAL |
|---|---|---|---|
| IH-HFPAD | 54.00 | 73.00 | 58.90 |

**For tools, see pages:** HFPAD-3 (562) • HFPAD-4 (563) • HFPAD-5 (563) • HFPAD-6 (564)

### 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 |

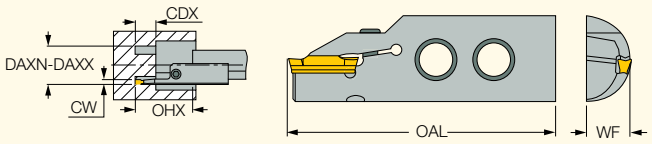
## Spare Parts

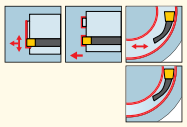
| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| IH-HFPAD | SR M6X20-XT | SR M5-04451 | SR M6X12DIN6912 | HW 5.0 | T-20/5 | O-RING 19X2 NBR | OR 5X1N | BLD T20/M7 | SW6-SD |

HELIFACE

## HFAIR/L-4

Adapters for Internal Face Grooving and Turning



Right-hand shown

| 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 604-613

(1) Minimum penetration diameter

(2) Maximum penetration diameter

(3) Maximum overhang

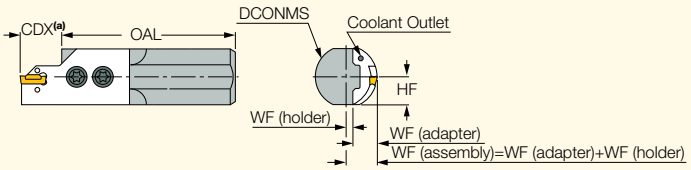
**For inserts, see pages:** DGN-MF (485) • HFPR/L (576) • HFPR/L (full radius) (576) • GRIP (269) • GRIP (full radius) (270) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • HGPL (578)

**For holders, see pages:** C#-HAD (627) • C#-HAPR/L (627) • HAI-C (572) • HAPR/L (565) • HAR/L (564) • IM-HAD (634) • IM-HAPR/L (634)

HELIFACE

## 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

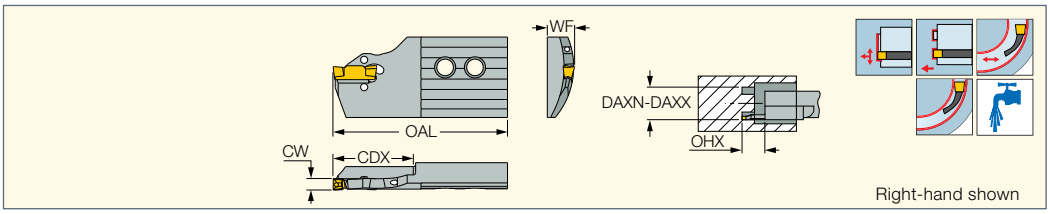
(2) 0 - Without coolant supply, 1 - With coolant supply

**For tools, see pages:** HFAIR/L-4 (572) • HFAIR/L-DG (573) • HGAIR/L-3 (568)

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

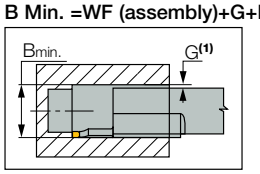
**For inserts, see pages:** DGN-MF (485) • HFPR/L (576) • HFPR/L (full radius) (576) • GRIP (269) • GRIP (full radius) (270) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • DGN-W (482) • HGPL (578)

**For holders, see pages:** C#-HAD (627) • C#-HAPR/L (627) • HAI-C (572) • HAPR/L (565) • HAR/L (564) • IH-HFAIR (569) • IM-HAD (634) • IM-HAPR/L (634)

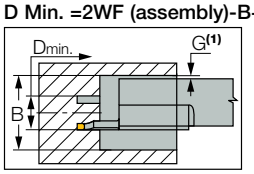
**Adapters can be used for internal machining along bore. Adapters can be mounted on standard HAI boring bars for internal machining, and on HAR/L, HAPR/L holders for external machining.**

### Boring, Face Grooving and Face Recessing Capacity

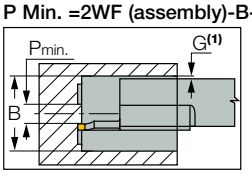
**Boring**
**B Min. =WF (assembly)+G+DCONMS/2**




**Face Grooving**
**D Min. =2WF (assembly)-B+2G+DCONMS**




**Face Recessing**
**P Min. =2WF (assembly)-B-2CW+2G+DCONMS**



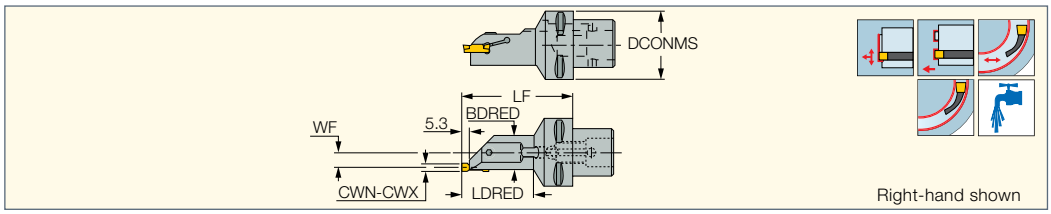

(1) The minimum recommended value for clearance (G) is 0.5 mm

* 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 604-613

(1) Minimum cutting width

(2) Maximum cutting width

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

**For inserts, see pages:** DGN-MF (485) • HFPR/L (576) • HFPR/L (full radius) (576) • GRIP (269) • GRIP (full radius) (270) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • DGN-W (482) • HGPL (578)

**For holders, see pages:** HSK-C# (735)

## ISO 26622-1 XMZ

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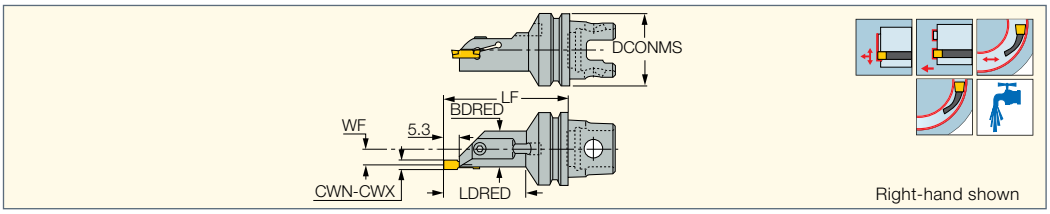
### IM-HFIR-MC

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 604-613

(1) Minimum cutting width

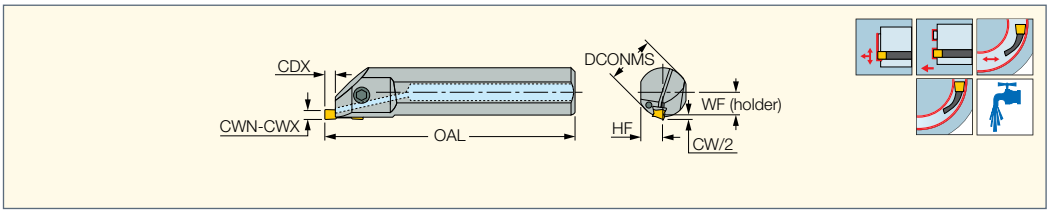
(2) Maximum cutting width

**For inserts, see pages:** DGN-MF (485) • HFPR/L (576) • HFPR/L (full radius) (576) • GRIP (269) • GRIP (full radius) (270) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • DGN-W (482)

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 604-613

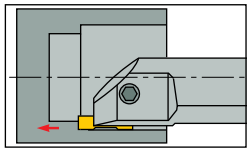
(1) Minimum cutting width

(2) Maximum cutting width

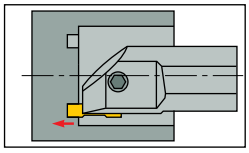
**For inserts, see pages:** DGN-MF (485) • DGN-W (482) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • GRIP (269) • GRIP (full radius) (270) • HFPR/L (576) • HFPR/L (full radius) (576) • HGPL (578)

**For holders, see pages:** DT30/2 ##L70WN (758) • DT30/2 ADR-##-20-55 (758)

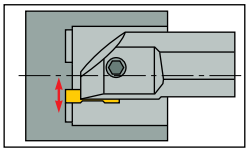
Boring



Internal Face Grooving

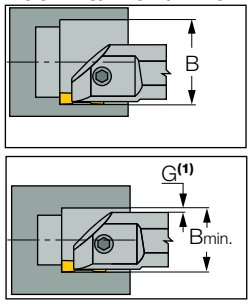


Internal Face Recessing

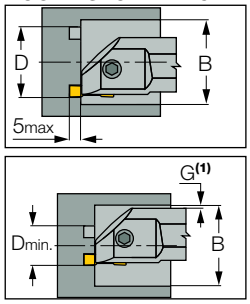


### Boring, Face Grooving & Face Recessing Capacity

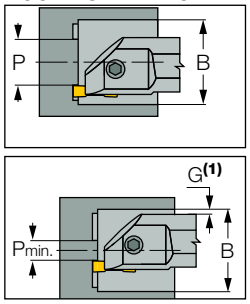
**Boring**
**B Min. =WF(holder)+ DCONMS/2+CW/2+2G**




**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

### 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.

Insert Initial Face Grooving Range

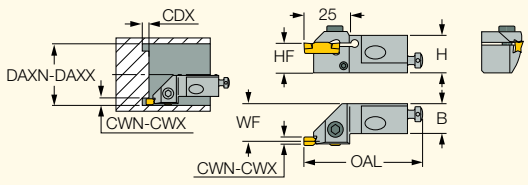
| | D | |
|---|---|---|
| CW | Min. | Max. |
| 4 | 23 | 90 |
| 5 | 21 | 300 |
| 6 | 20 | ∞ |

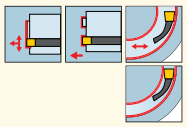
HELIFACE

## 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

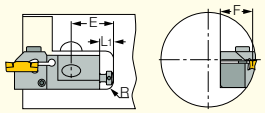
(1) Minimum cutting width

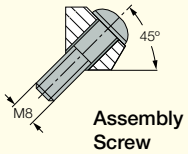
(2) Maximum cutting width

**For inserts, see pages:** DGN-MF (485) • HFPR/L (576) • HFPR/L (full radius) (576) • GRIP (269) • GRIP (full radius) (270) • DGN/DGNC/DGNM-C (481) • DGN/DGNM-J/JS/JT (483) • DGN-W (482)

## 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

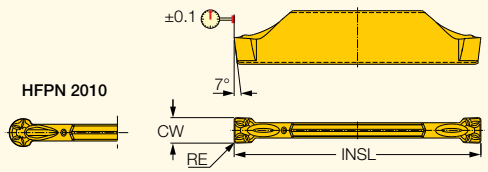
### Spare Parts

| 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 604-613

(1) Cutting width tolerance (+/-)

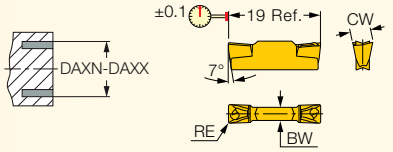
(2) Corner radius tolerance (+/-)

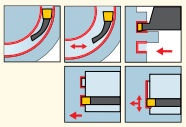
**For tools, see pages:** HFFA (557) • HFFH (557)

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 604-613

(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.

**For tools, see pages:** C#-HFIR/L-MC (573) • CR HFIR-M (575) • HFAER/L-4 (565) • HFAER/L-5T, 6T (566) • HFAIR/L-4 (572) • HFAIR/L-DG (573) • HFFR/L-T (564) • HFHPR/L-M (566) • HFHR/L-3T (558) • HFHR/L-4T (559) • HFHR/L-5T (560) • HFHR/L-6T (561) • HFHR/L-M (566) • HFIR/L-MC (574) • HFPAD-4 (563) • HFPAD-5 (563) • HFPAD-6 (564) • HFPAD-JHP (562) • IM-HFIR-MC (574)

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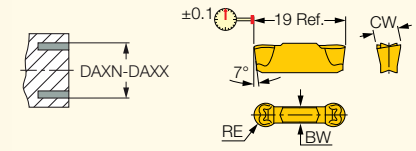
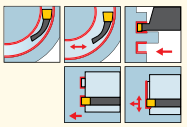
## HFPR/L (full radius)

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 604-613

(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.

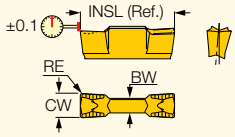
(4) Maximum axial grooving diameter-applies to type M tools only. For other tools, apply the diameter limitations that are recorded on each tool.

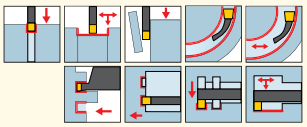
**For tools, see pages:** C#-HFIR/L-MC (573) • CR HFIR-M (575) • HFAER/L-4 (565) • HFAER/L-5T, 6T (566) • HFAIR/L-4 (572) • HFAIR/L-DG (573) • HFFR/L-T (564) • HFHPR/L-M (566) • HFHR/L-3T (558) • HFHR/L-4T (559) • HFHR/L-5T (560) • HFHR/L-6T (561) • HFHR/L-M (566) • HFIR/L-MC (574) • HFPAD-4 (563) • HFPAD-5 (563) • HFPAD-6 (564) • HFPAD-JHP (562) • IM-HFIR-MC (574)

HELI-GRIP

## GRIP

Utility Double-Ended Inserts for External, Internal and Face Machining

No depth penetration limit

| Designation | Dimensions | | | | | | Tough ↔ Hard | | | | | | | | | | Recommended Machining Data | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CW | RE | CWTOL[1] | RETOL[2] | INSL | BW | IC830 | IC8250 | IC08 | IC808 | IC908 | IC418 | IC5010 | IC806 | IC807 | IC804 | $a_p$ (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 604-613

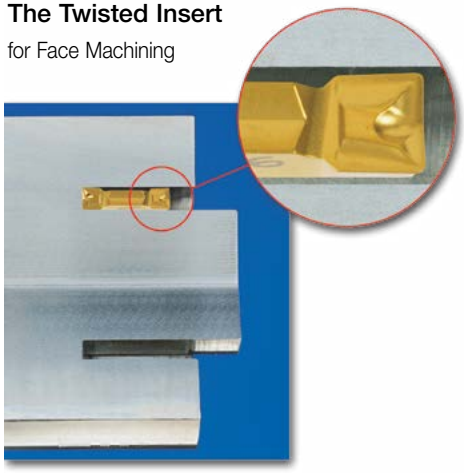
(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

**For tools, see pages:** C#-HELIR/L (265) • C#-HFIR/L-MC (573) • CR HFIR-M (575) • D/HGAD RE/LE-JHP (499) • DGAD/HGAD (479) • DGFH (268) • DGFH-JHP (269) • DGFS (469) • DGTR/L (476) • HELIIR/L (355) • HELIR/L (266) • HFAER/L-4 (565) • HFAER/L-5T, 6T (566) • HFAIR/L-4 (572) • HFAIR/L-DG (573) • HFFR/L-T (564) • HFHR/L-4T (559) • HFHR/L-5T (560) • HFIR/L-MC (574) • HFPAD-3 (562) • HFPAD-4 (563) • HFPAD-5 (563) • HFPAD-6 (564) • HFPAD-JHP (562) • HGAER/L-3 (565) • HGAIR/L-3 (568) • HGFH (268) • HGHR/L-3 (558) • HGPAD (267) • HGPAD-JHP (267) • IM-HFIR-MC (574)

### The Twisted Insert

for Face Machining

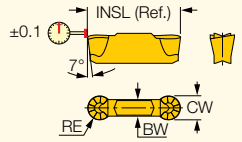


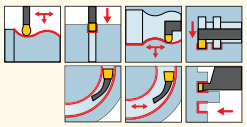
The double-ended, twisted insert body makes it possible to machine deeper than the insert's length.
A unique chipformer for controlled chip flow in axial and radial directions.
The rear angle is slanted in relation to the frontal edge so it does not come into contact with the machined groove surface 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 604-613

(1) Cutting width tolerance (+/-)

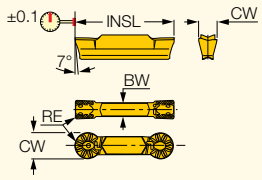
(2) Corner radius tolerance (+/-)

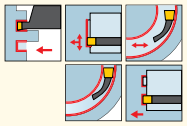
**For tools, see pages:** C#-HELIR/L (265) • C#-HFIR/L-MC (573) • CR HFIR-M (575) • D/HGAD RE/LE-JHP (499) • DGAD/HGAD (479) • DGFH (268) • DGFH-JHP (269) • DGFS (469) • DGTR/L (476) • HELIIR/L (355) • HELIR/L (266) • HFAER/L-4 (565) • HFAER/L-5T, 6T (566) • HFAIR/L-4 (572) • HFAIR/L-DG (573) • HFFR/L-T (564) • HFHR/L-4T (559) • HFHR/L-5T (560) • HFHR/L-6T (561) • HFIR/L-MC (574) • HFPAD-3 (562) • HFPAD-4 (563) • HFPAD-5 (563) • HFPAD-6 (564) • HFPAD-JHP (562) • HGAER/L-3 (565) • HGAIR/L-3 (568) • HGFH (268) • HGHR/L-3 (558) • HGPAD (267) • HGPAD-JHP (267) • IM-HFIR-MC (574)

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 604-613

(1) Cutting width tolerance (+/-)

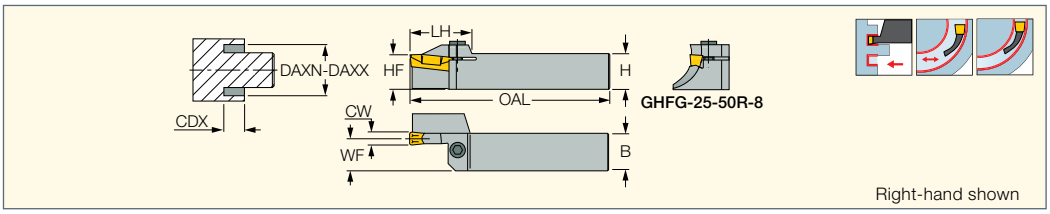
(2) Corner radius tolerance (+/-)

**For tools, see pages:** C#-HFIR/L-MC (573) • HFAER/L-4 (565) • HFAER/L-5T, 6T (566) • HFAIR/L-4 (572) • HFAIR/L-DG (573) • HFFR/L-T (564) • HFHR/L-4T (559) • HFHR/L-5T (560) • HFHR/L-6T (561) • HFIR/L-MC (574) • HFPAD-3 (562) • HFPAD-4 (563) • HFPAD-5 (563) • HFPAD-6 (564) • HFPAD-JHP (562) • HGAER/L-3 (565) • HGAIR/L-3 (568) • HGHR/L-3 (558)

CUTGRIP

## 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 604-613

(1) Minimum penetration diameter

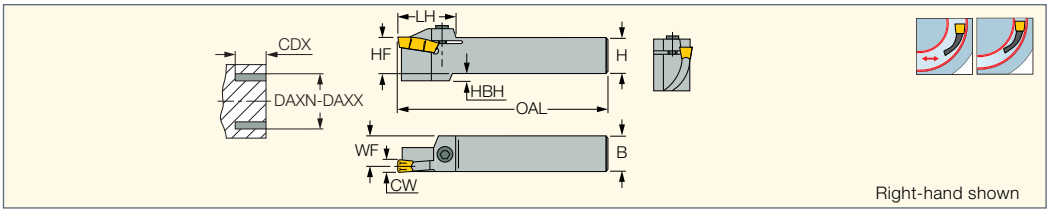
(2) Maximum penetration diameter

**For inserts, see pages:** GDMF (288) • GDMM-CC (583) • GDMN (289) • GDMU (290) • GDMY (289) • GDMY (full radius) (291) • GDMY-F (291) • GIA-K (long pocket) (299) • GIF (long pocket) (298) • GIF-E (W=8,10 full radius) (294) • GIF-E (W=8,10) (292) • GIFG-E (W=8) (581)

CUTGRIP

## 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 604-613

(1) Minimum penetration diameter

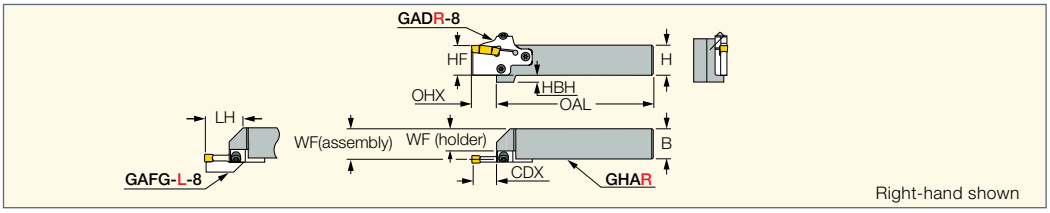
(2) Maximum penetration diameter

**For inserts, see pages:** GDMF (288) • GDMM-CC (583) • GDMN (289) • GDMU (290) • GDMY (289) • GDMY (full radius) (291) • GDMY-F (291) • GIA-K (long pocket) (299) • GIF (long pocket) (298) • GIF-E (W=8,10 full radius) (294) • GIF-E (W=8,10) (292) • GIFG-E (W=8) (581) • GIPA/GIDA 8 (full radius) (302)

| 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 |

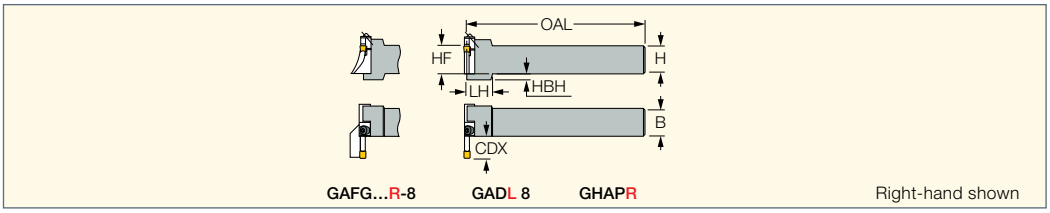
- Adapters GADR/L-8 for turning and grooving, GAFG-R/L-8 for face-grooving (to be ordered separately)

[1] WF(holder)
[2] Maximum overhang
[3] Adapter for Turning & Grooving
[4] See specific adapter dimensions
[5] Adapter for Face Grooving

**For tools, see pages:** GADR/L-8 (286) • GAFG-R/L-8 (580) • PCADR/L 34N-RE (318)

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 |

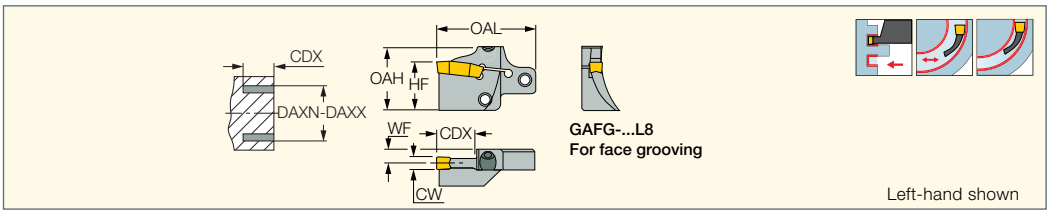
- Adapters GADR/L-8 for turning and grooving, GAFG-R/L-8 for face-grooving (to be ordered separately)

[1] Adapter for Turning & Grooving
[2] See specific adapter dimensions
[3] Adapter for Face Grooving

**For tools, see pages:** GADR/L-8 (286) • GAFG-R/L-8 (580) • PCADR/L 34N-RE (318)

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 604-613

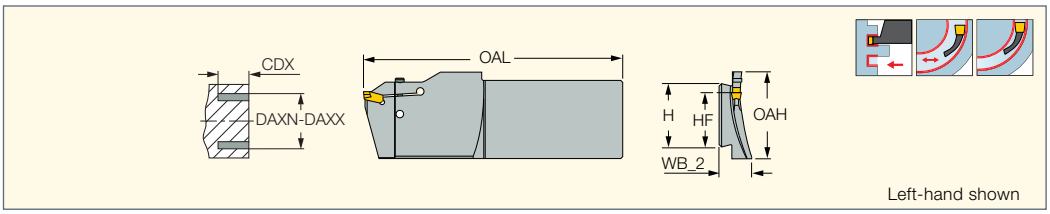
[1] Minimum penetration diameter
[2] Maximum penetration diameter
[3] For GIFG-8 & GDMY-8 CDX=25 mm for DAX range

**For inserts, see pages:** GDMA (300) • GDMF (288) • GDMM-CC (583) • GDMN (289) • GDMU (290) • GDMY (289) • GDMY (full radius) (291) • GDMY-F (291) • GIA-K (long pocket) (299) • GIF (long pocket) (298) • GIF-E (W=8,10 full radius) (294) • GIF-E (W=8,10) (292) • GIFG-E (W=8) (581) • GIPA/GIDA 8 (full radius) (302)

**For holders, see pages:** C#-GHAD-8 (625) • C#-GHAPR/L-8 (626) • GHAPR/L-8 (286) • GHAR/L-8 (285) • IM-GHAD-8 (634)

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 604-613

[1] Minimum penetration diameter
[2] Maximum penetration diameter

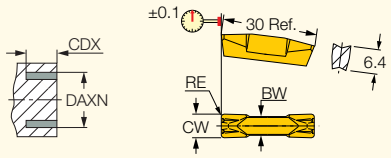
**For inserts, see pages:** GIMF (288) • GIMM 8CC (583) • GIMY (288) • GIMY (full radius) (290) • GIMY-F (291) • GIPY (300)

**For holders, see pages:** SGTBK (617) • SGTBU/SGTBN (616)

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 604-613

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Minimum axial grooving diameter

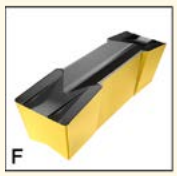
(4) Cutting depth maximum

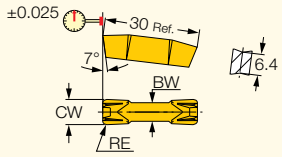
**For tools, see pages:** GAFG-R/L-8 (580) • GHFG-R/L-8 (579) • GHFGR/L-8 (579)

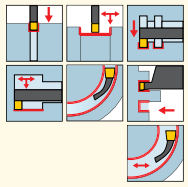
CUTGRIP

## 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 604-613

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

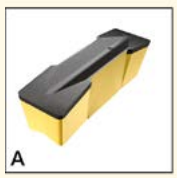
(3) Cutting depth maximum

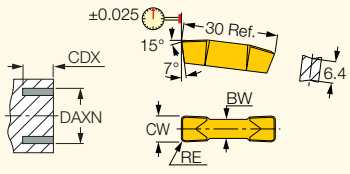
**For tools, see pages:** C#-GHDR/L (274) • CGHN-8-10D (287) • GADR/L-8 (286) • GADR/L-JHP (287) • GAFG-R/L-8 (580) • GHDR/L (long pocket) (285) • GHDR/L-JHP (long pocket) (285) • GHFG-R/L-8 (579) • GHFGR/L-8 (579) • GHIR/L (W=7.0-8.3) (355)

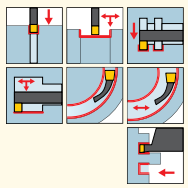
CUTGRIP

## 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 604-613

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Cutting depth maximum

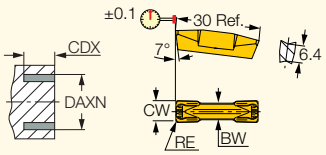
(4) Minimum axial grooving diameter

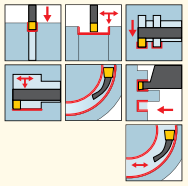
**For tools, see pages:** C#-GHDR/L (274) • CGHN-8-10D (287) • GADR/L-8 (286) • GADR/L-JHP (287) • GAFG-R/L-8 (580) • GHDR/L (long pocket) (285) • GHDR/L-JHP (long pocket) (285) • GHFG-R/L-8 (579) • GHFGR/L-8 (579) • GHIR/L (W=7.0-8.3) (355)

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 604-613

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Minimum axial grooving diameter

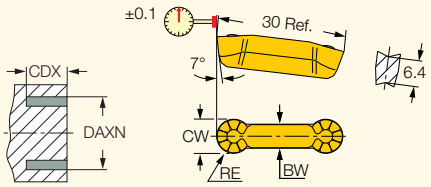
(4) Cutting depth maximum

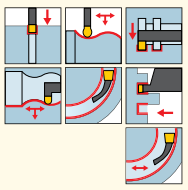
**For tools, see pages:** C#-GHDR/L (274) • CGHN-8-10D (287) • GADR/L-8 (286) • GADR/L-JHP (287) • GAFG-R/L-8 (580) • GHDR/L (long pocket) (285) • GHDR/L-JHP (long pocket) (285) • GHFG-R/L-8 (579) • GHFGR/L-8 (579) • GHIR/L (W=7.0-8.3) (355)

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 604-613

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

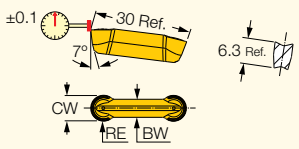
(3) Minimum axial grooving diameter

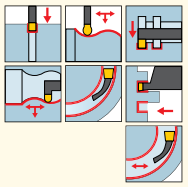
**For tools, see pages:** C#-GHDR/L (274) • CGHN-8-10D (287) • GADR/L-8 (286) • GADR/L-JHP (287) • GAFG-R/L-8 (580) • GHDKR/L (446) • GHDR/L (long pocket) (285) • GHDR/L-JHP (long pocket) (285) • GHFG-R/L-8 (579) • GHFGR/L-8 (579) • GHIR/L (W=7.0-8.3) (355)

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 604-613

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

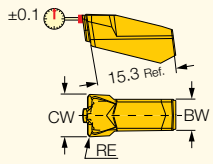
(3) Cutting depth maximum

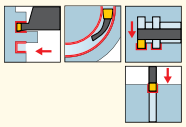
**For tools, see pages:** C#-GHDR/L (274) • CGHN-8-10D (287) • GADR/L-8 (286) • GADR/L-JHP (287) • GAFG-R/L-8 (580) • GHDR/L (long pocket) (285) • GHDR/L-JHP (long pocket) (285) • GHFG-R/L-8 (579) • GHFGR/L-8 (579) • GHIR/L (W=7.0-8.3) (355)

CUTGRIP

## 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 604-613

(1) Cutting width tolerance (+/-)

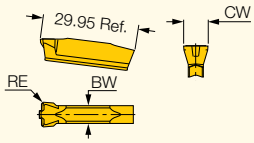
(2) Corner radius tolerance (+/-)

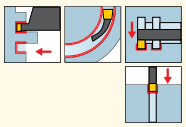
**For tools, see pages:** Anti-Vibration Blades (284) • CGFG 51-P8 (580) • CGHN-P8 (283) • CGHR/L-P8DG (284) • CGPAD (281) • GHDR/L (short pocket) (275) • GHDR/L-JHP (short pocket) (276) • GHDR/L-JHP-MC (short pocket) (277) • GHGR/L (278)

CUTGRIP

## 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 604-613

(1) Cutting width tolerance (+/-)

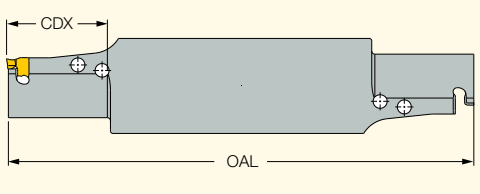
(2) Corner radius tolerance (+/-)

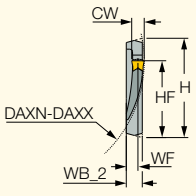
**For tools, see pages:** C#-GHDR/L (274) • GADR/L-8 (286) • GADR/L-JHP (287) • GAFG-R/L-8 (580) • GHDR/L (long pocket) (285) • GHDR/L-JHP (long pocket) (285) • GHFG-R/L-8 (579) • GHFGR/L-8 (579) • GHIR/L (W=7.0-8.3) (355)

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

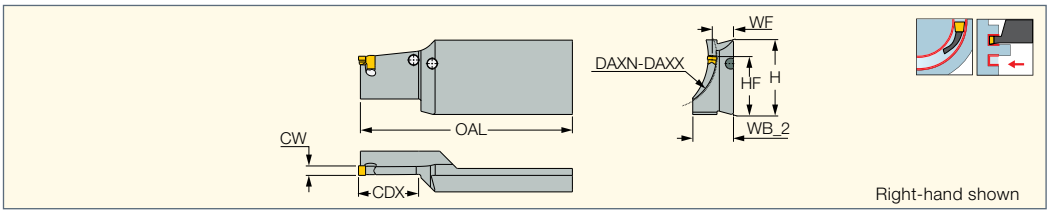
**For inserts, see pages:** TNF GN-IQ (585) • TNF-M-IQ (585) • TNF-P-IQ (585)

**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 604-613

(1) Minimum penetration diameter

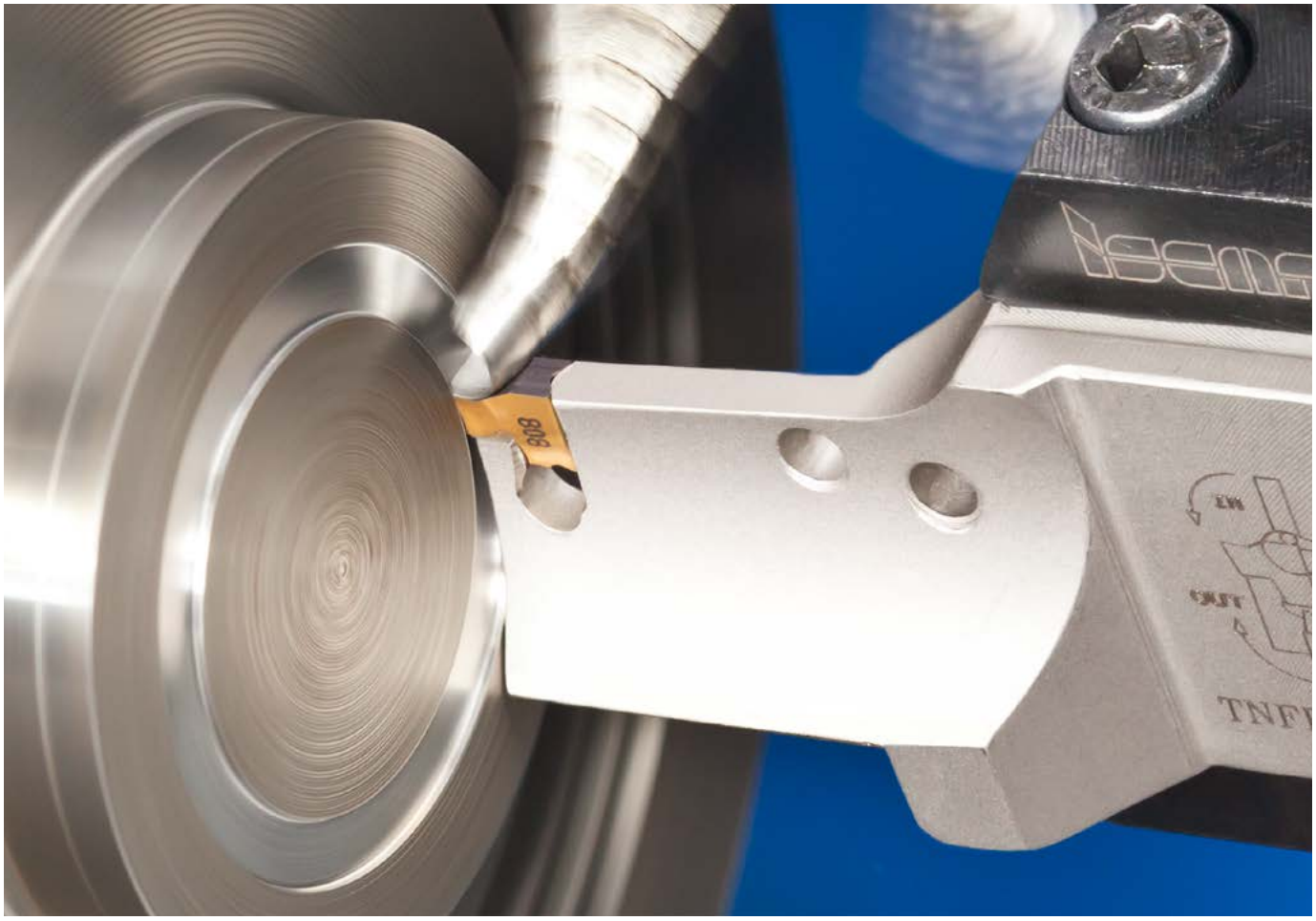
(2) Maximum penetration diameter

**For inserts, see pages:** TNF GN-IQ (585) • TNF-M-IQ (585) • TNF-P-IQ (585)

### Spare Parts

| Designation |  |
|---|---|
| TNFFA-IQ | ETF 3-6* |

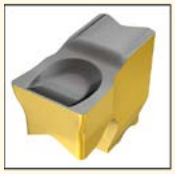
* Optional, should be ordered separately

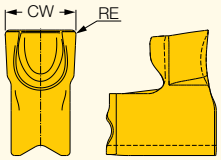


TANG-GRIP FACE MACHINING LINE

## 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 604-613

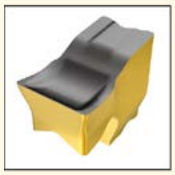
(1) Cutting width tolerance (+/-)

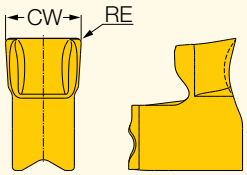
**For tools, see pages:** TNFFA-IQ (584) • TNFFH-IQ (583) • TNFPAD-XL-JHP (569)

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 604-613

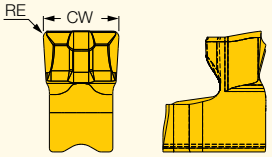
(1) Cutting width tolerance (+/-)

**For tools, see pages:** TNFFA-IQ (584) • TNFFH-IQ (583) • TNFPAD-XL-JHP (569)

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 604-613

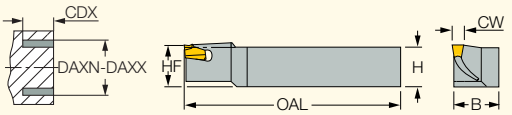
(1) Cutting width tolerance (+/-)

**For tools, see pages:** TNFFA-IQ (584) • TNFFH-IQ (583) • TNFPAD-XL-JHP (569)

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

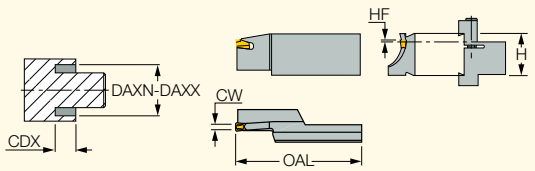
(2) Maximum penetration diameter

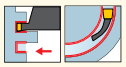
**For inserts, see pages:** GFF-N (589) • GFF-R/L (589)

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 |

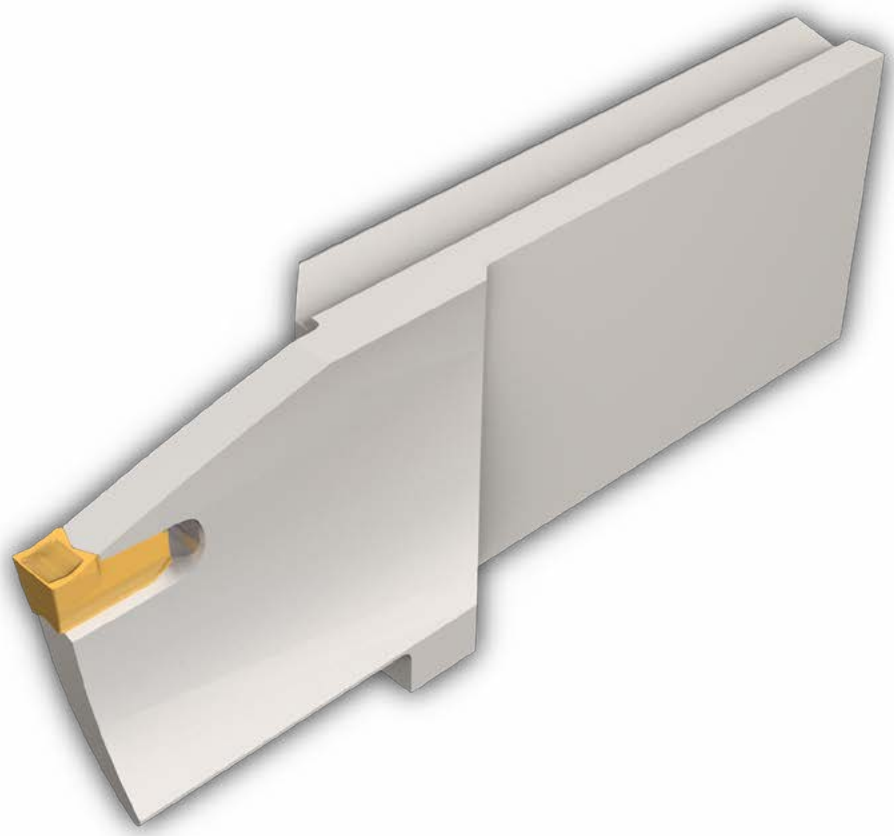
• Important: Apply R.H. insert on R.H. tool and L.H. insert on L.H. tool. Neutral insert only as indicated • H dimension links blades and blocks

[1] Minimum penetration diameter

[2] Maximum penetration diameter

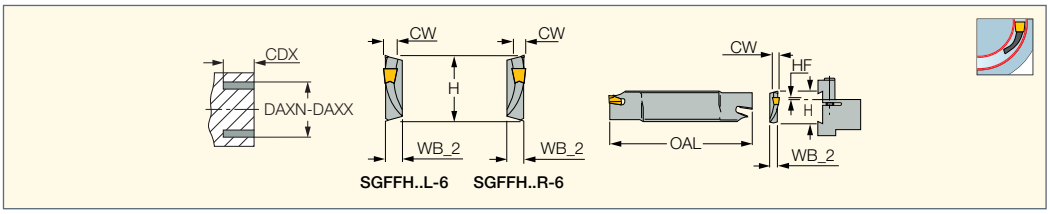
**For inserts, see pages:** GFF-N (589) • GFF-R/L (589)

**For holders, see pages:** SGTBF (618) • SGTBU/SGTBN (616) • UBHCR/L (618)



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

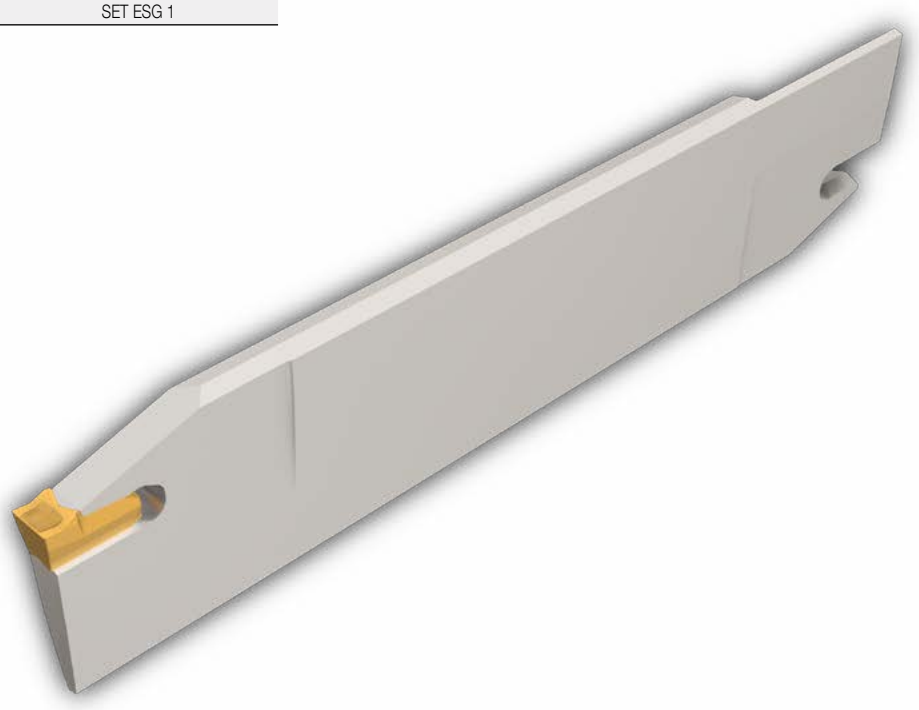
(2) Maximum penetration diameter

**For inserts, see pages:** GFF-N (589)

**For holders, see pages:** SGTBF (618) • SGTBK (617) • SGTBU/SGTBN (616) • UBHCR/L (618)

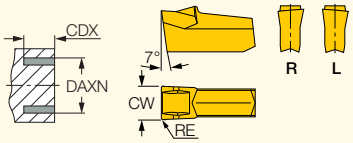
### Spare Parts

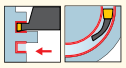
| Designation | |
|---|---|
| SGFFH 35-L-2 | SET ESG 0.5 |
| SGFFH 35-R-2 | ESG 0.5 |
| SGFFH 45-L-2 | SET ESG 0.5 |
| SGFFH 45-R-2 | ESG 0.5 |
| SGFFH 60-R-2 | ESG 0.5 |
| SGFFH 80-R/L-2 | ESG 0.5 |
| SGFFH 100-R/L-2 | ESG 0.5 |
| SGFFH 75-R/L-3 | SET ESG 1 |
| SGFFH 90-R/L-3 | SET ESG 1 |
| SGFFH 120-R/L-3 | 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 |



SELF-GRIP

## GFF-R/L
Face Grooving Inserts



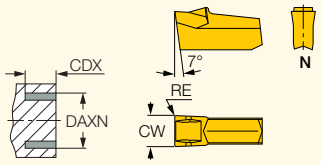
| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | DAXN(3) | DAXX(4) | Tough ↔ Hard IC354 | IC20 | Recommended Machining Data f face-groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| GFF 2R | 2.10 | 0.20 | 0.10 | 0.050 | 25.0 | 36.0 | ● | ● | 0.03-0.13 |
| GFF 3L | 3.00 | 0.30 | 0.10 | 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 |

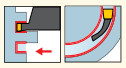
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Minimum axial grooving diameter
(4) Maximum axial grooving diameter

**For tools, see pages:** SGFFA (587) • SGFFR/L (586)

SELF-GRIP

## GFF-N
Face Grooving Inserts



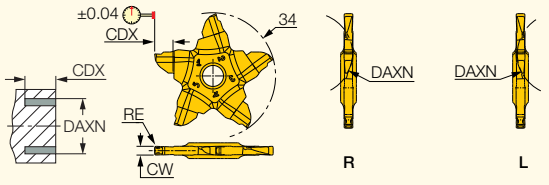
| Designation | Dimensions CW | RE | CWTOL(1) | RETOL(2) | DAXN(3) | Tough ↔ Hard IC354 | IC20 | Recommended Machining Data f face-groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|
| GFF 2N | 2.10 | 0.20 | 0.10 | 0.050 | 35.0 | ● | ● | 0.03-0.13 |
| GFF 3N | 3.00 | 0.30 | 0.10 | 0.050 | 54.0 | ● | ● | 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

**For tools, see pages:** SGFFA (587) • SGFFH (588) • SGFFR/L (586)

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 |

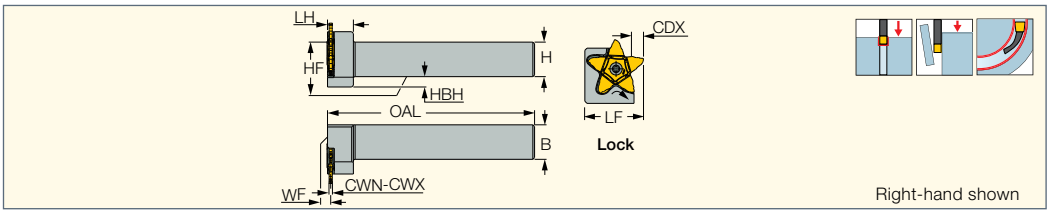
• For cutting speed recommendations, see pages 604-613
(1) Corner radius tolerance (+/-)
(2) Minimum axial grooving diameter

**For tools, see pages:** PCADR/L (316) • PCADR/L 34N-RE (318) • PCADR/L-JHP (317) • PCHBR/L (318) • PCHPR/L (316) • PCHR/L-34 (315) • PCHR/L-34-JHP (315)

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

**For inserts, see pages:** PENTA 24-BSPT (674) • PENTA 24-ISO (657) • PENTA 24-MT (646) • PENTA 24-NPT (670) • PENTA 24-UN (664) • PENTA 24-W (668) • PENTA 24-WT (641) • PENTA 24N-C (320) • PENTA 24N-C (full radius) (321) • PENTA 24N-J (319) • PENTA 24N-J (full radius) (320) • PENTA 24N-PF (full radius) (322) • PENTA 24N-PF/P (321) • PENTA 24N-Z (322) • PENTA 24R-C (531) • PENTA 24R-P (534) • PENTA 24R/L-J (530) • PENTA 24R/L-Z (533) • PENTA 34F-R/L (589) • PENTA 34N-C (324) • PENTA 34N-J (325) • PENTA 34N-PB (324) • PENTA 34R/L-C (535) • PENTA 34R/L-J (536) • PENTA 34R/L-PB (537)

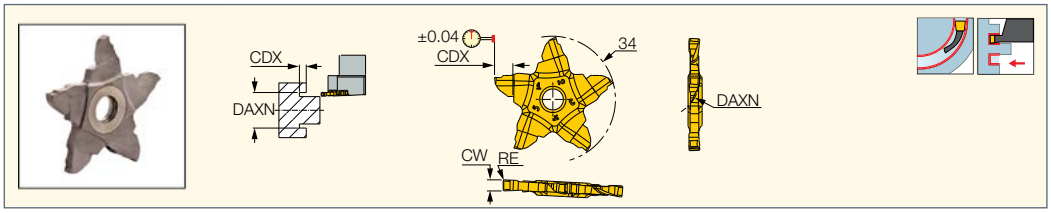
### Spare Parts

| 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 |

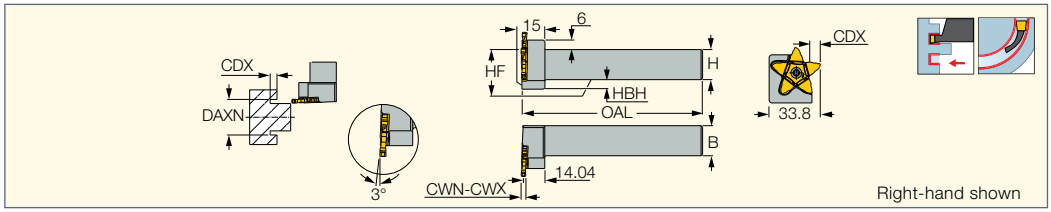
• For cutting speed recommendations, see pages 604-613
(1) Minimum axial grooving diameter

**For tools, see pages:** PCHPRS/LS (590)

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

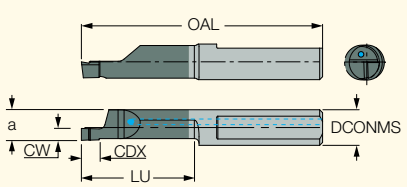
**For inserts, see pages:** PENTA 34F-RS/LS (590)

# FACE TOOLS FOR MINIATURE PARTS

JETCUT PICCOCUT

## PICCO-010/610-N
## (Face Grooving)

Inserts with Internal Coolant Channel for Face Grooving



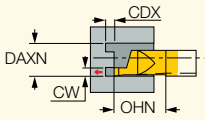

| Designation | Dimensions DAXN[1] | CW | CDX | DCONMS | a | LU | OAL | IC908 | Recommended Machining Data f face-groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| PICCO R 010.1006-10N | 6.0 | 1.00 | 1.50 | 6.05 | 5.20 | 9.0 | 32.00 | • | 0.01-0.04 |
| PICCO R 010.1506-10N | 6.0 | 1.50 | 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 |

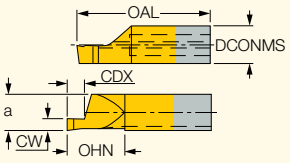
- Only right-hand inserts are available as standard
- All inserts are with sharp corners
- Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only
- For detailed cutting data, see page 604

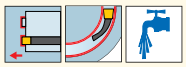
[1] Minimum axial grooving diameter

**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

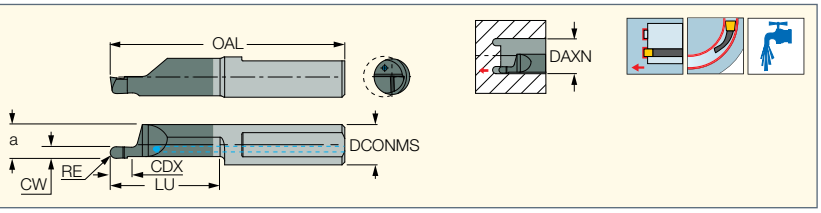
(1) Minimum axial grooving diameter

(2) Minimum overhang

JETCUT PICCOCUT

## PICCO-010-N (Full Radius for Face Grooving)

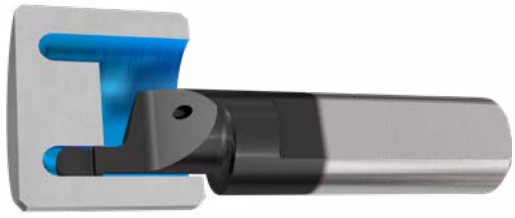
Inserts with Internal Coolant Channel for Round Profile Face Grooving




| 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

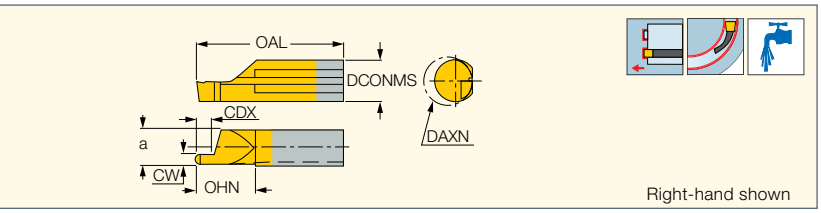
(1) Minimum axial grooving diameter



PICCOCUT

## PICCO-010 (Round Face Groove)

Inserts for Round Profile Face Grooving




| 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

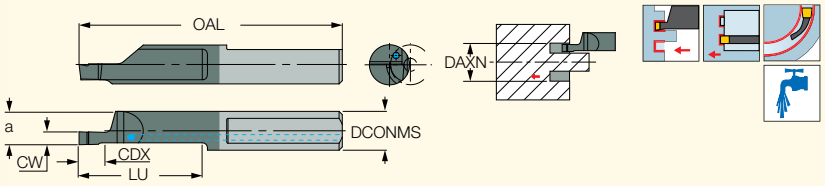
(1) Minimum axial grooving diameter

(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 |

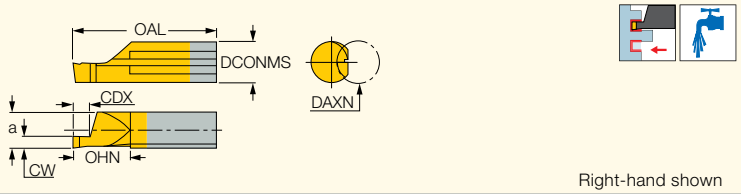
- Only right-hand inserts are available as standard, left-hand inserts on request
- All carbide inserts are with sharp corners
- Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only
- For detailed cutting data, see page 604

(1) Minimum axial grooving diameter

PICCOCUT

## PICCO-620 (Groove Along Shaft)

Inserts for Grooving Along a Shaft Dmin 6 mm




Right-hand shown

| 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

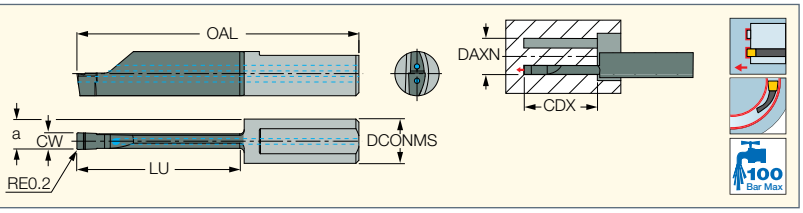
(1) Minimum axial grooving diameter

(2) Minimum overhang

PICCOCUT JETCUT

## PICCO-016/020-N (Face Grooving)

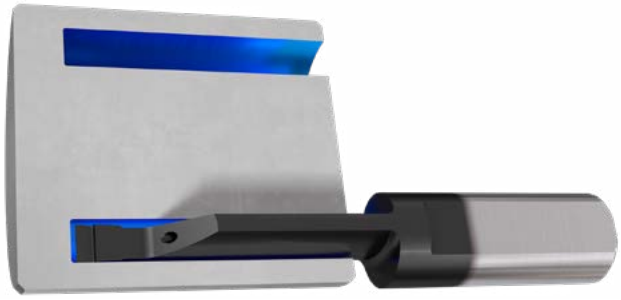
Inserts with Internal Coolant Channel for Deep Face Grooving




| 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

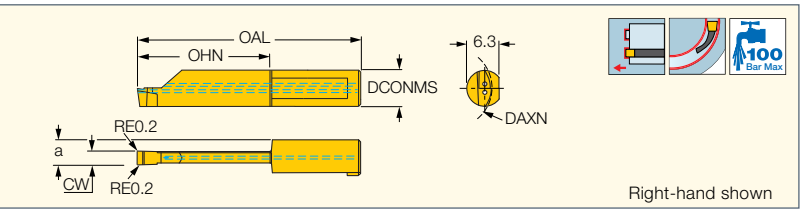
(1) Minimum axial grooving diameter



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 |

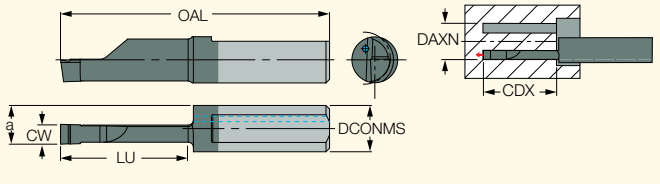
- All inserts have two coolant holes which may be used with coolant pressure up to 100 bars
- For detailed cutting data, see page 604

(1) Minimum axial grooving diameter

(2) Minimum overhang

JETCUT PICCOCUT

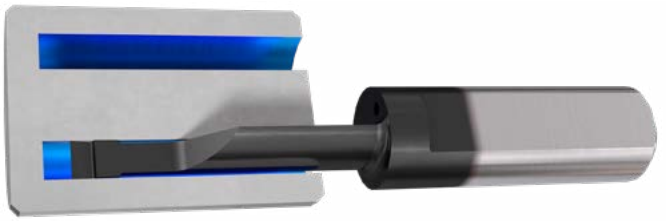
## PICCO-015-N
## (Face Grooving)
Inserts with Internal Coolant Channel for Deep Face Grooving




| 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 |

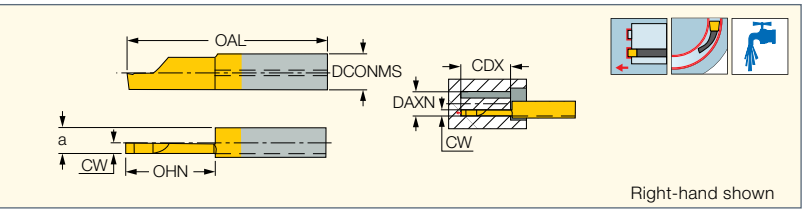
- Only right-hand inserts are available as standard, left-hand inserts on request
- All inserts are with sharp corners
- Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only
- For detailed cutting data, see page 604

(1) Minimum axial grooving diameter



PICCOCUT

## PICCO-015 (Face Grooving)
Inserts for Deep Face Grooving



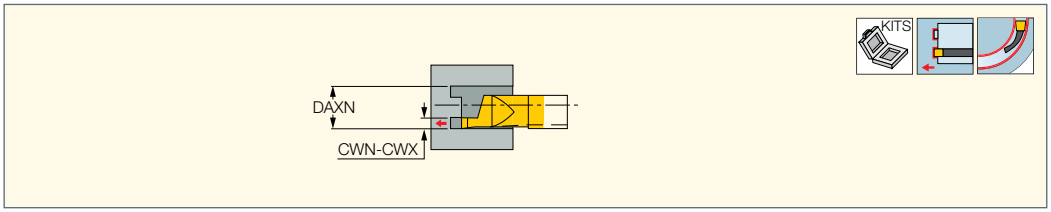

| Designation | Dimensions DAXN(1) | CW | OHN(2) | DCONMS | a | OAL | CDX | IC228 | Recommended Machining Data f face-groove (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|
| PICCO R 015.2515-20 | 8.0 | 2.50 | 20.00 | 7.00 | 5.90 | 35.00 | 20.00 | ● | 0.01-0.04 |
| PICCO R/L 015.3015-20 | 8.0 | 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



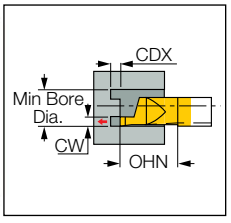

| Designation | DAXN(1) | CWN(2) | CWX(3) |
|---|---|---|---|
| KIT PICCO SET-4R | 8.0 | 1.00 | 3.00 |

(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 |

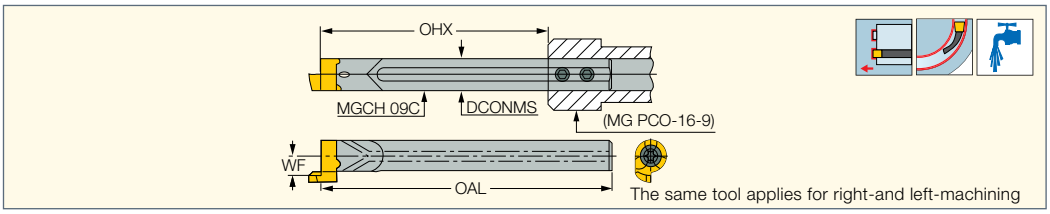
**Available grade:** IC228



CHAMGROOVE

## 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 |

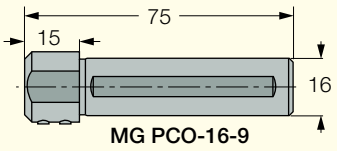
(1) Maximum overhang

**For inserts, see pages:** GFQR (598)

**For holders, see pages:** PICCO/MG PCO (Holder) (399)

## MG PCO

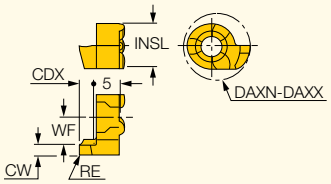
Holder Bar for Adjustable Shank




CHAMGROOVE

## GFQR

Face Grooving Inserts




| Designation | Dimensions | | | | | | | IC528 | Recommended Machining Data |
|---|---|---|---|---|---|---|---|---|---|
| | CW | RE | CWTOL(1) | RETOL(2) | CDX | DAXN(3) | DAXX(4) | | 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 (+/-)

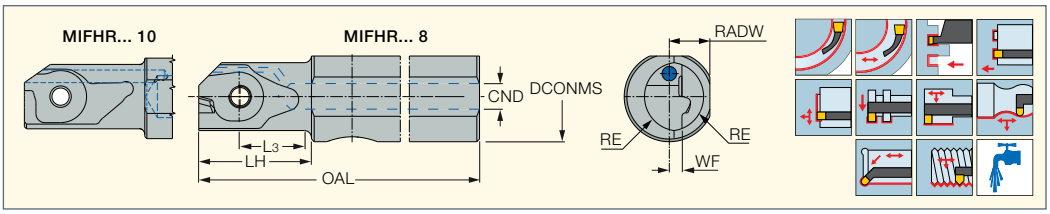
(3) Minimum penetration diameter

(4) Maximum penetration diameter

MINI CUT 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

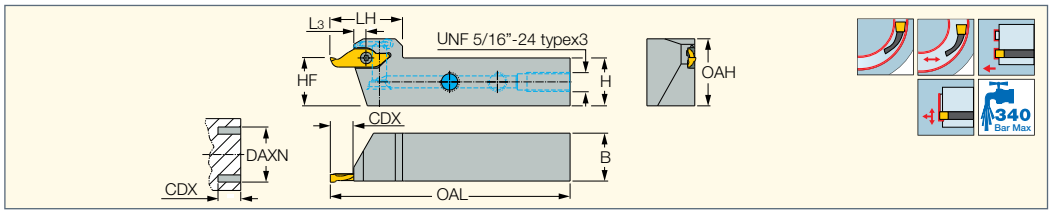
**For inserts, see pages:** MEFL (600) • MIFR (600) • MIGR 8 (413) • MITR 8-MT (650) • MIUR 8 (413)

**For holders, see pages:** PICCO/MG PCO (Holder) (399)

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 604-613

(1) Minimum axial grooving diameter

**For inserts, see pages:** MEFL (600) • MIFR (600)

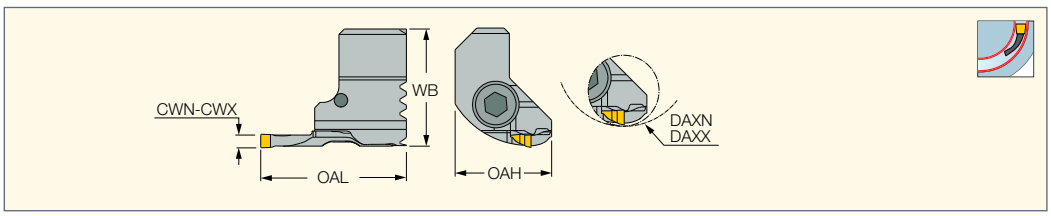
### Flow Rate vs. Pressure

| 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 |

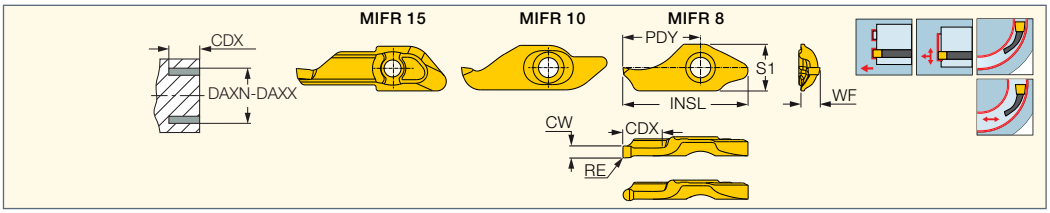
(1) Minimum axial grooving diameter
(2) Maximum axial grooving diameter
(3) Minimum cutting width
(4) Maximum cutting width

**For inserts, see pages:** MIFR (600)

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 600

(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Minimum axial grooving diameter
(4) Maximum axial grooving diameter

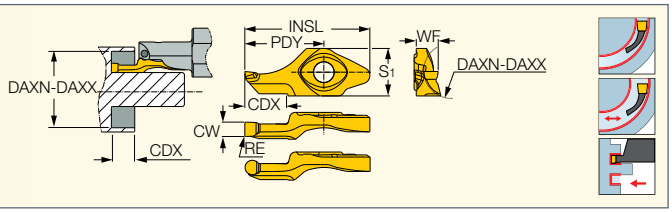
**For tools, see pages:** IHSR-MIFR (599) • MFHR-JHP (599) • MIFHR (413)




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

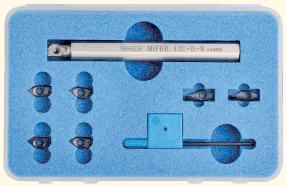
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Minimum axial grooving diameter
(4) Maximum axial grooving diameter

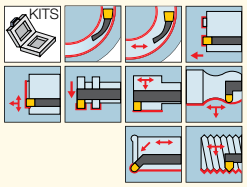
**For tools, see pages:** MFHR-JHP (599) • MIFHR (413)

MINCUT MINI FACE LINE

## MINCUT KIT

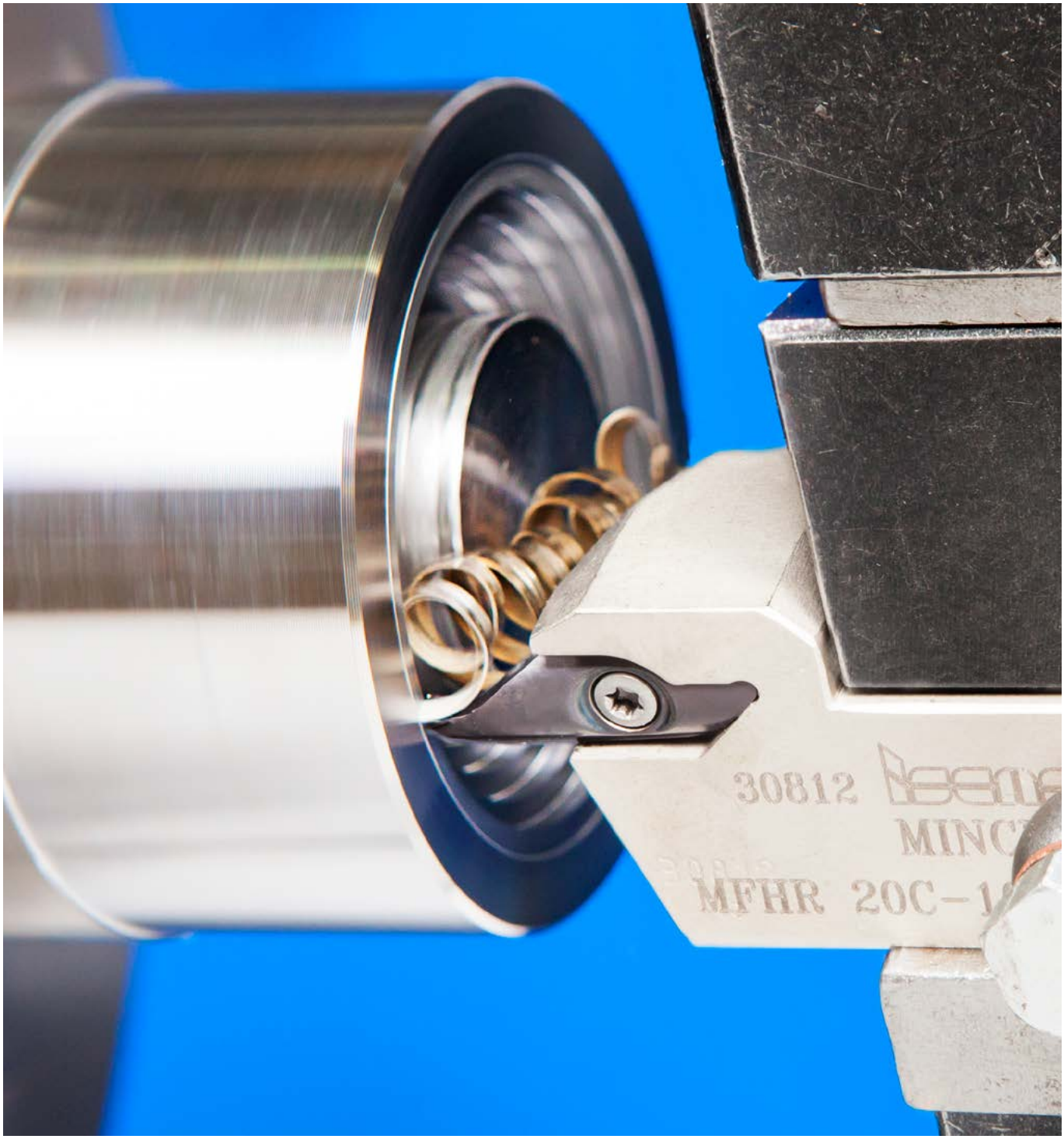
Contains One Toolholder and a Set of 6 Different Inserts for Internal Face Grooving and Turning Applications






| 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 |



## 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 | | | | | | |

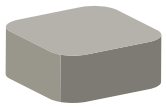
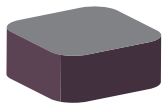
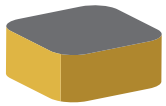
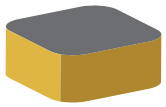
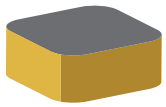
| | IC806 | IC908 | IC808 | IC830 | IC20 | |
|---|---|---|---|---|---|---|
| 31 | 45 - 70 | 35 - 55 | 35 - 60 | 25 - 40 | 25 - 40 | |
| 32 | 30 - 50 | 25 - 40 | 25 - 40 | 20 - 30 | 15 - 30 | |
| 33 | 30 - 50 | 25 - 40 | 25 - 40 | 20 - 30 | 15 - 30 | |
| 34 | 25 - 45 | 20 - 35 | 20 - 35 | 15 - 25 | 15 - 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 | | | | |

## Machining Data for Face Machining

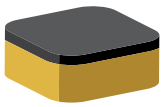
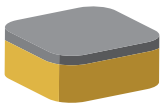
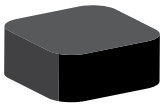
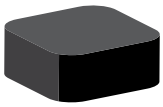
| ISO | Material | | Condition | Tensile Strength [N/mm²] | Hardness HB | Material No. | Cutting Speed (m/min) | GFQR IC528 Feed (mm/rev) | PICCO IC228 Feed (mm/rev) | MIFR/ MEFL 8 IC908 Feed (mm/rev) | MIFR 10 IC908 Feed (mm/rev) | MIFR 15 IC908 Feed (mm/rev) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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

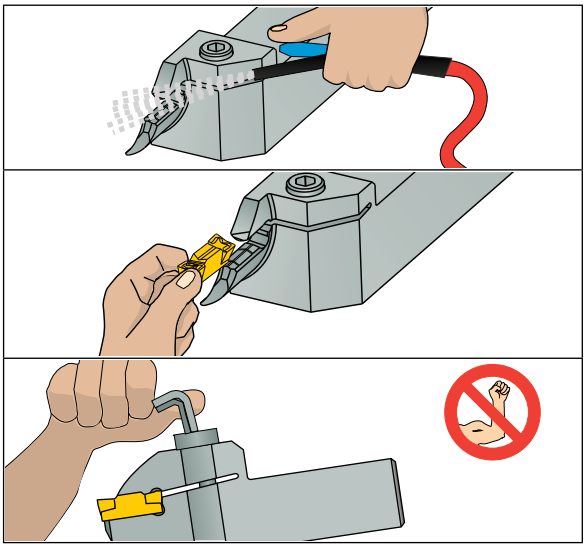
Clamping an insert correctly into the holder is necessary for stable machining.

- 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.

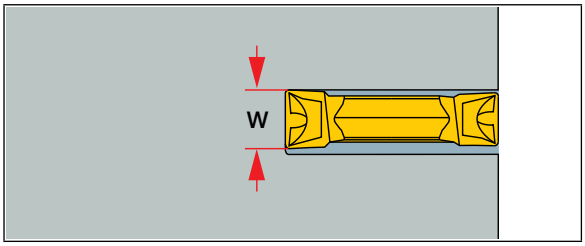


| HELI-FACE HFPR/L & HGPL Type | HELI-GRIP GRIP...Y Type |
|---|---|
|  |  |
| For general use in turning & grooving on all types of materials. Use for deep grooving in low-to-medium feeds 0.04-0.15 mm/rev. Min grooving dia. 12 mm. | The "all in one" insert for parting, external grooving and turning, internal grooving and turning, face grooving and turning. |

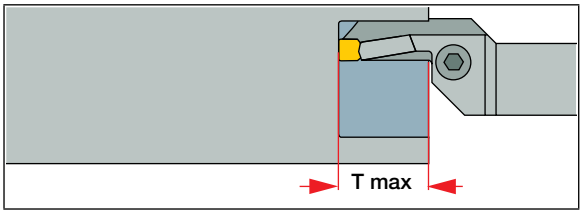
| DO-GRIP DGN...C Type | DO-GRIP DGN...J Type |
|---|---|
|  |  |
| For grooving operations only. Strong cutting edge for hard materials and tough applications in feeds 0.1-0.2 mm/rev. | For grooving operations only. Positive rake, for soft materials in low-to-medium feeds 0.05-0.15 mm/rev. |

## Face Machining Guide

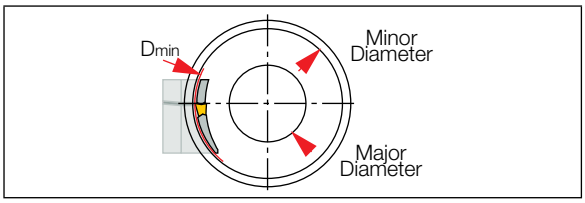
Tool Selection - Follow these recommendations to choose the right tool for high peformance.




Choose the widest possible insert and tool, according to the cutting width and geometry to be machined.



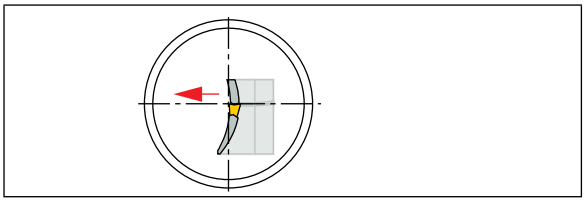

Choose the shortest tool blade overhang, according to the maximum depth required.



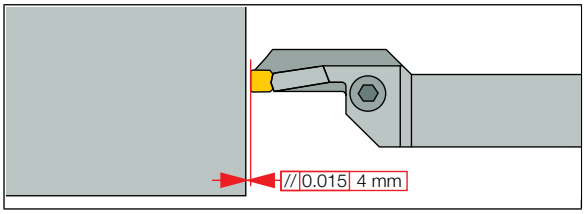

Choose the tool range with the largest diameter, depending on the initial grooving diameter required in the application.

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.

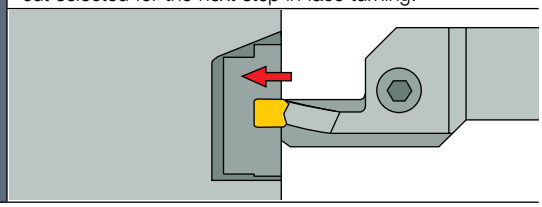



Check parallelism of the cutting edge and machined surface. Correct position can guarantee good surface quality when face turning in both directions.

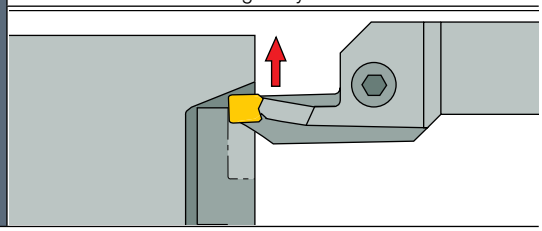
## Face Machining Guide

Recommended machining sequence in roughing operation using multifunction HELI-FACE tools.

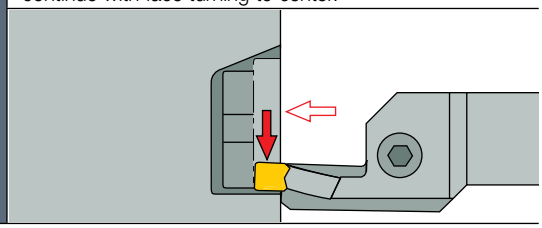
1 Groove at the initial diameter up to the depth of cut selected for the next step in face turning.



2 Continue with face turning away from the center.



3 After rapid positioning back into initial groove, continue with face turning to center.

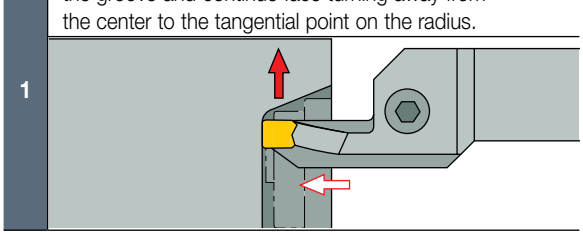


Note: When face grooving, reduce the speed by 40% in relation to that used in face turning.

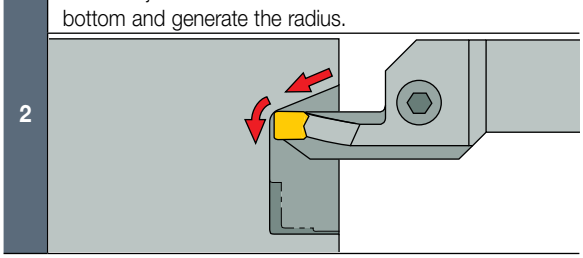
## Optimizing the Machining Sequence

Recommended machining sequence using multifunction tools.

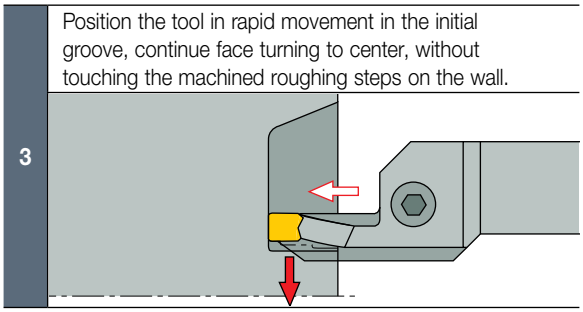
1 Groove at the initial diameter to the final depth of the groove and continue face turning away from the center to the tangential point on the radius.



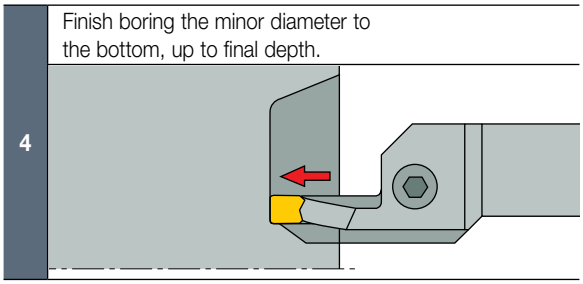
2 Finish major diameter toward the bottom and generate the radius.



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.



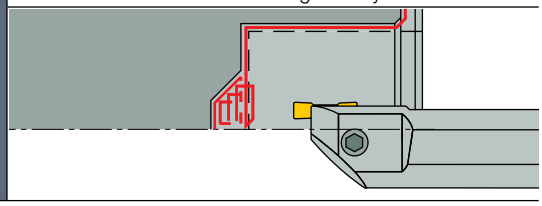
4 Finish boring the minor diameter to the bottom, up to final depth.



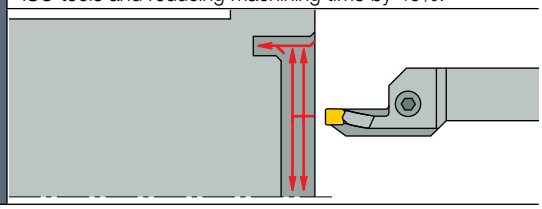
Note: When face grooving, reduce the speed by 40% in relation to that used in face turning.

## The Multifunction Advantage

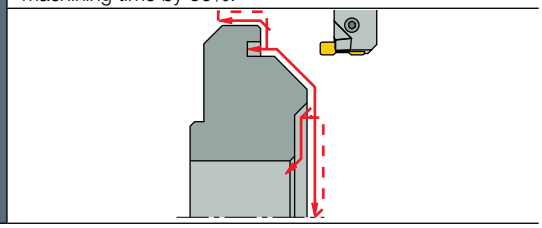
1 The **HELI-FACE** internal boring bar HFIR/L MC typewith internal coolant can replace the three different ISO tools and shorten machining time by 20%.



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%.

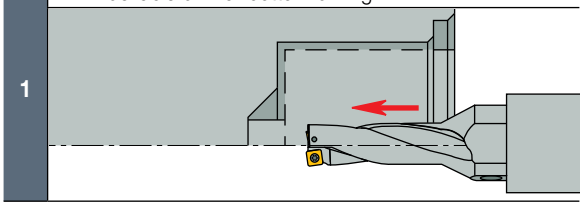


Note: When face grooving, reduce the speed by 40% in relation to that used in face turning.

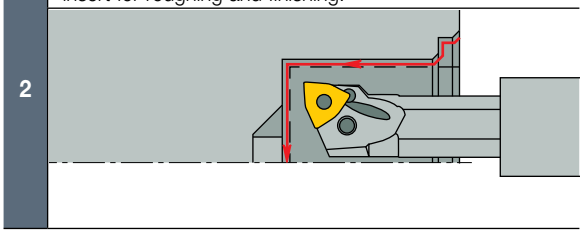
## The Multifunction Advantage

This workpiece was machined using three different conventional tools.

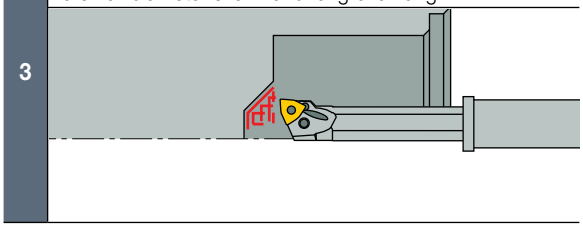
1 An indexable drill for bottom drilling.



2 A standard internal boring bar with a trigon insert for roughing and finishing.

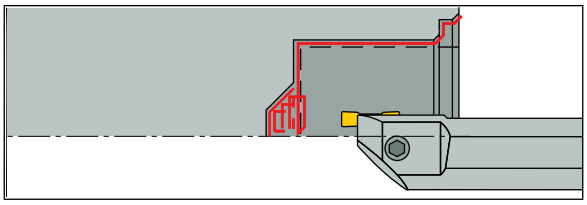


3 A standard internal boring bar with a trigon insert for bottom machining. This operation requires a small diameter shank and long overhang.



## The HELI-FACE Solution

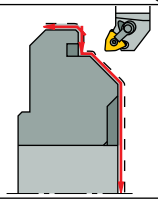
The **HELI-FACE** internal boring bar HFIR/L MC type with internal coolant can replace the three different ISO tools and shorten machining time by 20%.



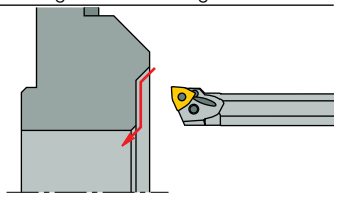
## The Multifunction Advantage

This part was machined using three different conventional tools.

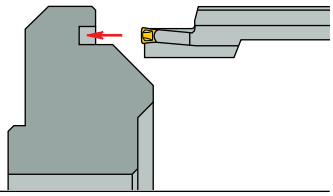
1 A standad ISO tool for external turning.



2 A boring bar for face turning and chamfering.

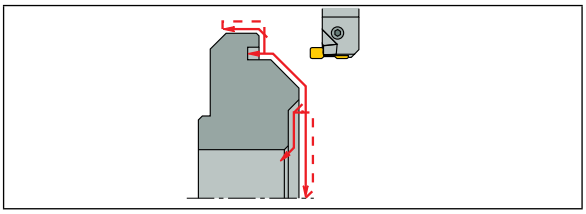


3 A face grooving tool for grooving, recessing and chamfering.



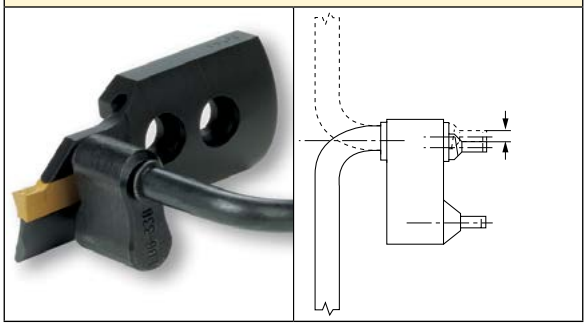
## The HELI-FACE Solution

A single integral **HELI-FACE** tool HFHPL-M replaces three ISO tools and reduces machining time by 50%.



## Insert Replacement

**EDG 33B**



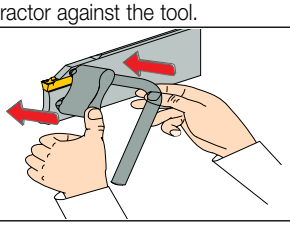
**Eccentric Extractor**

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.

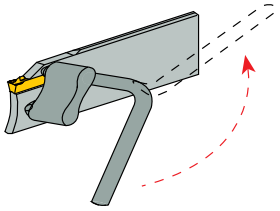
## Indexing

Place the EDG extractor in the holes

1 Hold the extractor against the tool.

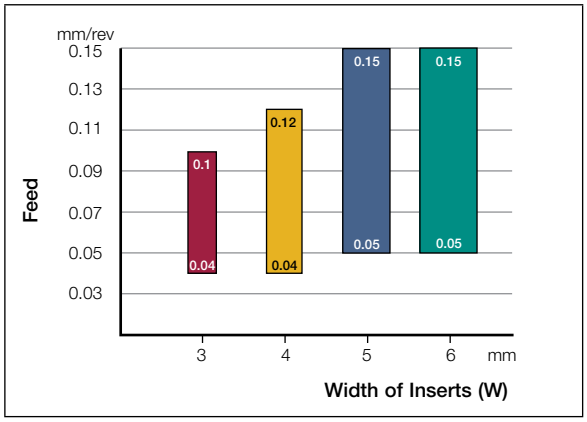


2 Rotate the eccentric handle to lift the upper jaw.

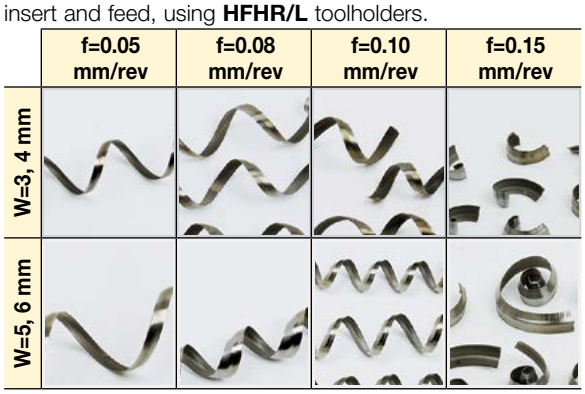


## Machining Conditions in Face Grooving

Recommended feed range for grooving with **HFPR/L** inserts in various widths.

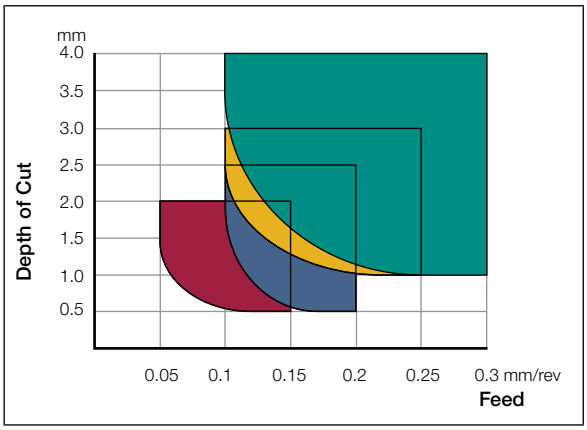



Chip shapes for grooving, according to width of insert and feed, using **HFHR/L** toolholders.

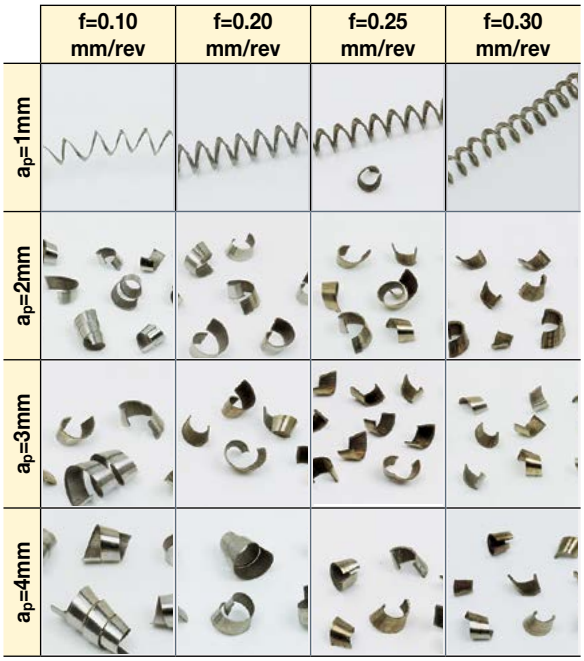



Note: In face grooving, narrowed and deformed chips are preferred. Curled and long chips can flow out more easily from deep grooves.

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.



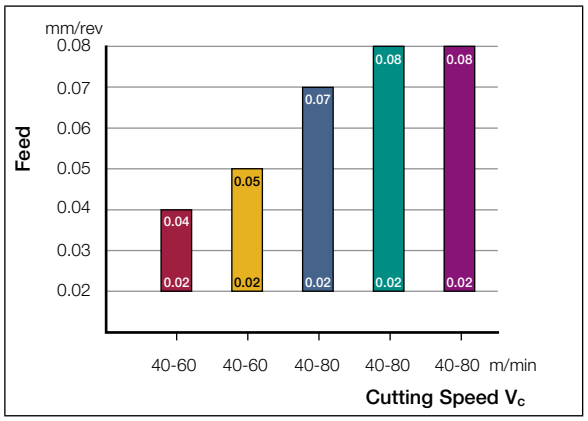

Note: In roughing, increase feed at small depth of cut and reduce feed at large depth of cut.

- 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

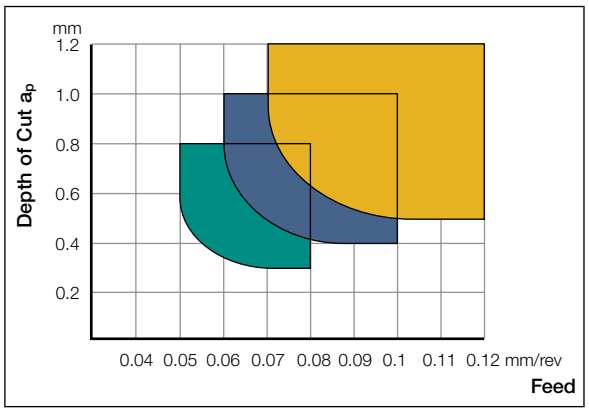
### Using Adapters for 3 mm Inserts

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.

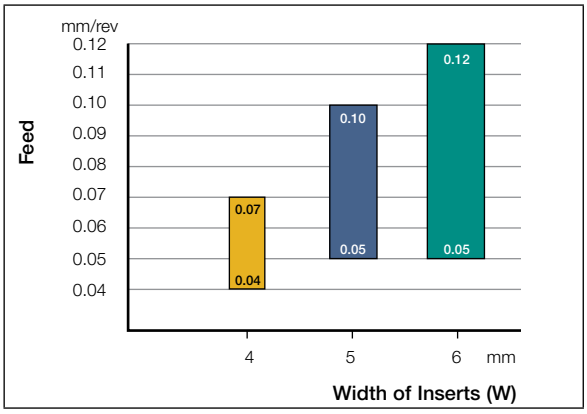



- **HGAIR/L 21-3T9**
  **HGAER/L 21-3T9**
  **HGAIR/L 25-3T9**
- **HGAIR/L 14-3T7**
  **HGAER/L 14-3T7**
  **HGAIR/L 17-3T8**
  **HGAER/L 17-3T8**
- **HGAIR/L 12-3T6**
  **HGAER/L 12-3T6**

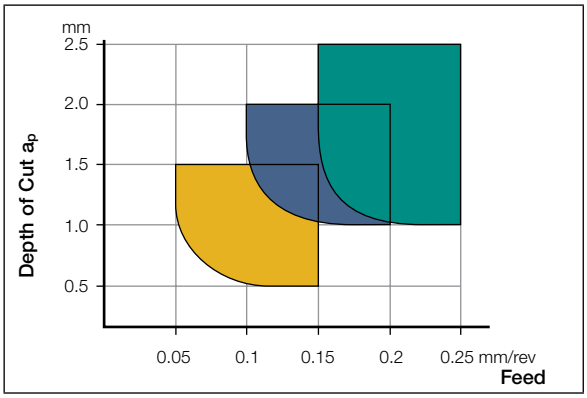
Note: In roughing, increase feed at small depth of cut, and reduce feed at large depth of cut.

### 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.



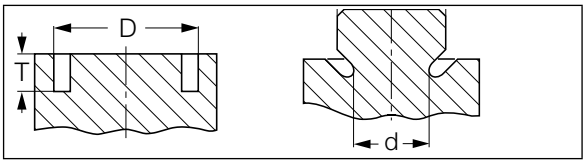

- **HFAIR/L- ...4**
  **HFAER/L- ...4**
- **HFAIR/L- ...5**
  **HFAER/L- ...5**
- **HFAIR/L- ...6**
  **HFAER/L- ...6**

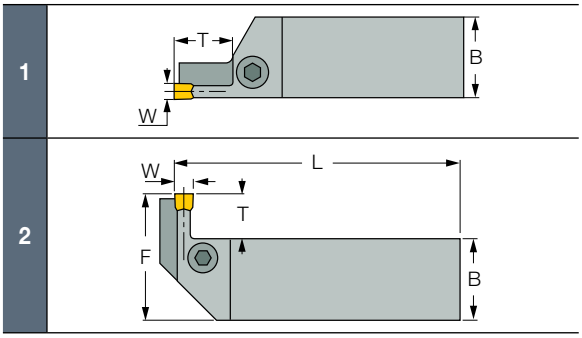
Note: In roughing, reduce feed when depth of cut is increased, ad increase feed at small depth of cut.

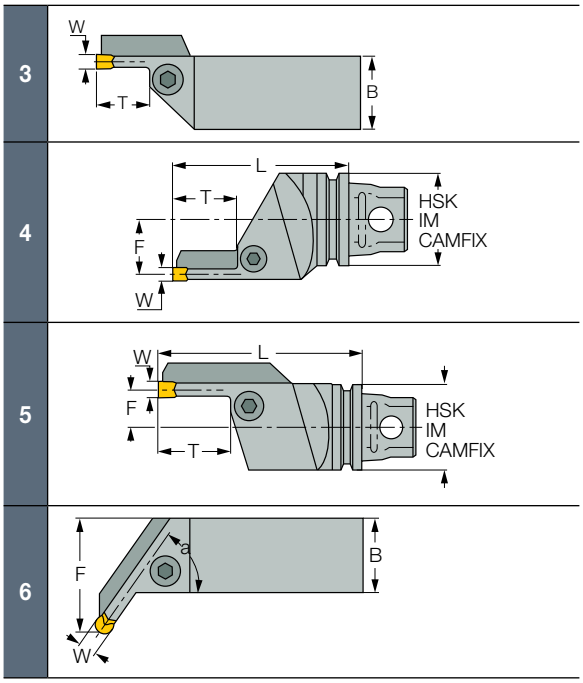
## Specially Tailored

### 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 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 |
|---|---|---|---|---|---|---|---|---|
| FACING | Harder | IC808 | IC808 | IC808 | IC5010 | | | IC808 |
| | | IC8250 | IC8250 | IC8250 | | IC20 | IC20 | |
| | | IC830 | IC830 | | | IC08 | | IC908 |
| | Tougher | | | | IC428 | | IC808 | |

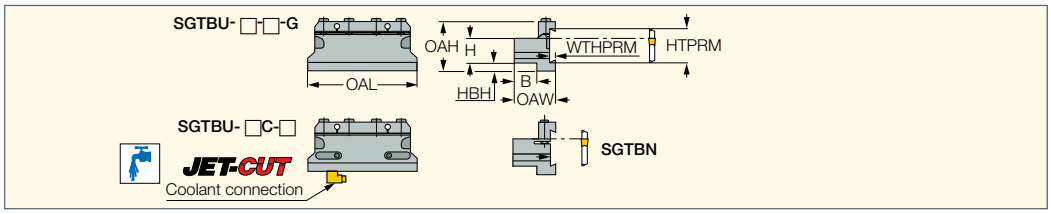
■ First choice

# 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 |

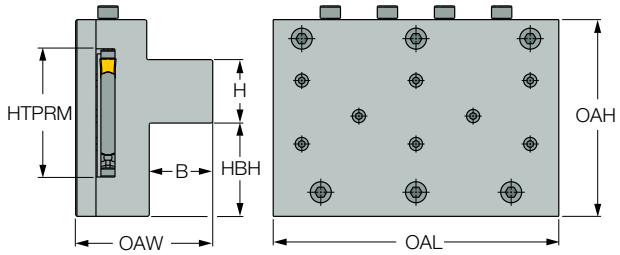
- Choose blade by HTPRM and WTHPRM dimensions

(1) Elbow-style connector unit supplied with each JET-CUT tool block

(2) See more detailed information below

**For tools, see pages:** Anti-Vibration Blades (284) • CGFG 51-P8 (580) • CGHN-8-10D (287) • CGHN-D (283) • CGHN-DG (283) • CGHN-P8 (283) • CGHR/L-12-14D (333) • CGHR/L-P8DG (284) • DGFH (268) • DGFHR/L (468) • DGFHR/L-B-D..(R/L) (470) • HFFA (557) • HFFH (557) • HFFR/L-T (564) • HGFH (268) • PCHBR/L (318) • SGFFA (587) • SGFFH (588) • TGFH/R/L (332) • TGFHL-TR (505) • TGFHR/L (495) • TGHN-D (271) • TNFFA-IQ (584) • TNFFH-IQ (583)

## SGTBU 100/150-9-12




### Spare Parts

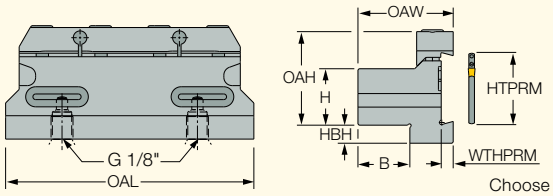
| Designation | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| SGTBN 16-2 | | SR M5X20DIN912 | | HW 4.0 | | | | | | |
| SGTBU 16-5G | BKU 86 | SR M6X16 DIN912 | | HW 5.0 | | | | | | |
| SGTBU 20-5G | BKU 86 | SR M6X16 DIN912 | | HW 5.0 | | | | | | |
| SGTBU 20-6G | BKU 100 | SR M6X16 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

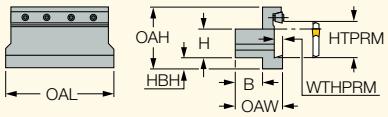
| Designation | H | B | HTPRM | OAW | OAH | HBH | WTHPRM | OAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TGTBU 16-5G-JHP | 16.0 | 16.9 | 26.0 | 35.60 | 29.9 | 13.1 | 4.10 | 86.00 | BKU 86 | SR M6X16 DIN912 | HW 5.0 | OR 14X2.5N N |
| TGTBU 20-5G-JHP | 20.0 | 20.9 | 26.0 | 39.60 | 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 |

**For tools, see pages:** DGFH-JHP (269) • DGFHR/L-BC-JHP (469) • TGFH-JHP (494) • TGFHR/L-JHP (495)

# 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 |

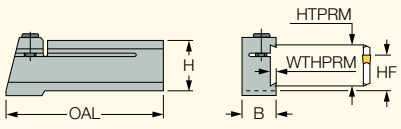
• Choose blade by HTPRM dimension

**For tools, see pages:** Anti-Vibration Blades (284) • CGFG 51-P8 (580) • CGHN-8-10D (287) • CGHN-P8 (283) • CGHR/L-12-14D (333) • CGHR/L-P8DG (284) • DGFH (268) • HFFH (557) • PCHBR/L (318) • SGFFH (588) • TGFH/R/L (332) • TGFHR/L (495) • TNFFH-IQ (583)

# 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 |

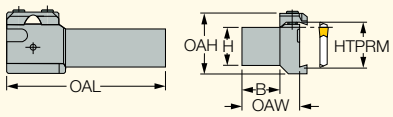
• Choose blade by HTPRM dimension

**For tools, see pages:** DGFH (268) • DGFHR/L (468) • DGFHR/L-B-D..(R/L) (470) • HGFH (268) • PCHBR/L (318) • TGFH/R/L (332) • TGFHL-TR (505) • TGFHR/L (495)

## 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 |

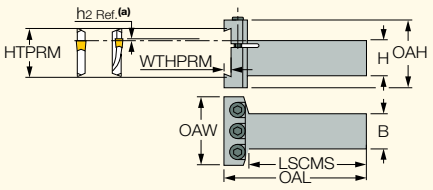
- Choose blade by HTPRM dimension

**For tools, see pages:** CGHN-D (283) • CGHN-DG (283) • CGHN-S (282) • CGHR/L-P8DG (284) • DGFH (268) • DGFHR/L (468) • DGFHR/L-B-D..(R/L) (470) • HFFA (557) • HFFH (557) • HFFR/L-T (564) • HGFH (268) • SGFFA (587) • SGFFH (588) • TGFH/R/L (332) • TGFHL-TR (505) • TGFHR/L (495) • TGHN-D (271) • TGHN-S (271) • TNFFA-IQ (584) • TNFFH-IQ (583)

## TOOL BLOCKS

### SGTBF

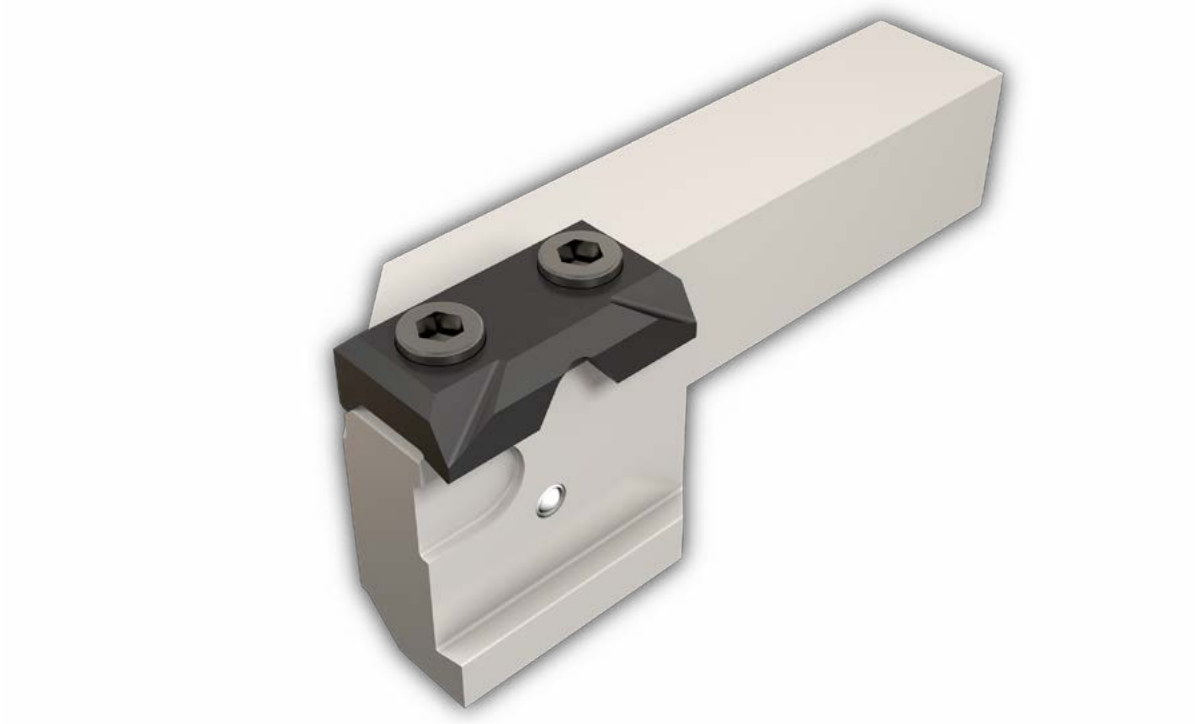
Perpendicular Blocks for Parting and Grooving Blades




| 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

**For tools, see pages:** DGFH (268) • DGFHR/L (468) • DGFHR/L-B-D..(R/L) (470) • HFFH (557) • HFFR/L-T (564) • HGFH (268) • SGFFA (587) • SGFFH (588) • TGFH/R/L (332) • TGFHR/L (495) • TNFFA-IQ (584) • TNFFH-IQ (583)

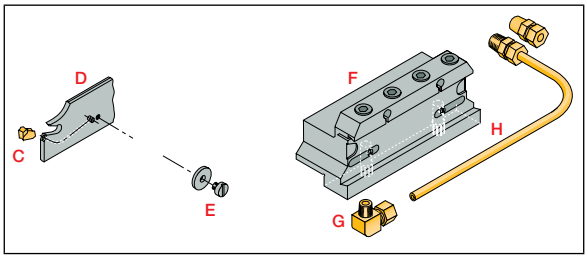


## JETCUT Assembly

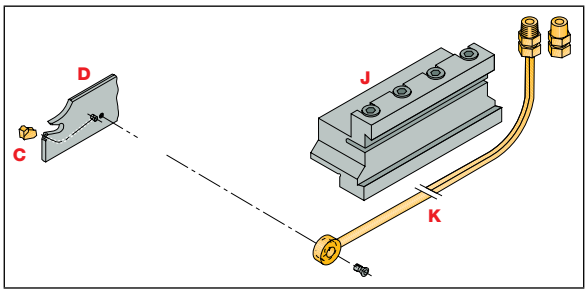
SELF-GRIP

**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-☐**

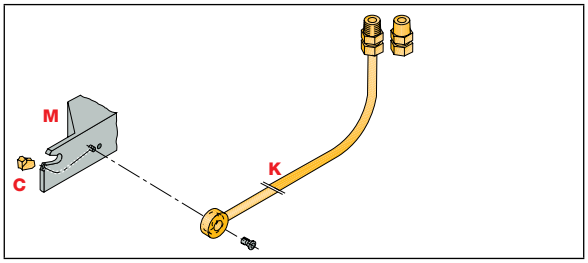
**Option 1:**
Coolant supplied through the tool block.




**Option 2:**
Coolant supplied directly to the blade.




**Option 3:**
Coolant supplied directly to the integral shank tool.



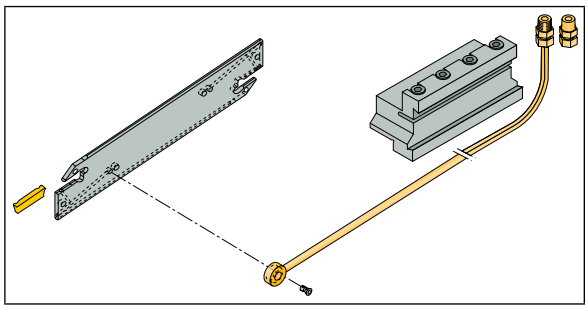

DO-GRIP 500 STRAIGHT LINE

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

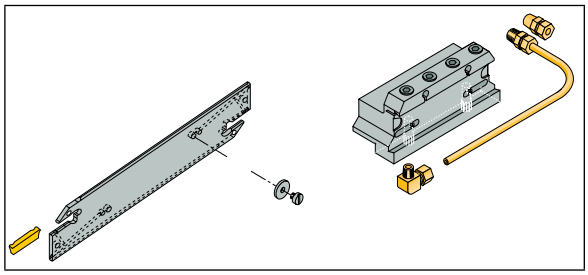
**Option 1:**
Coolant supplied directly to the blade.



**SGCU 341 Coolant connection unit**

Connectors:
**CGM 343** (G1/8 external thread)
**CGF 343** (G1/8 internal thread)
**CF 343** (NPT1/8 internal thread)

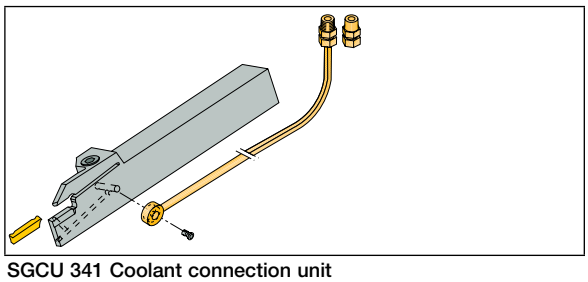
**Option 2:**
Coolant supplied through the tool block.



**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

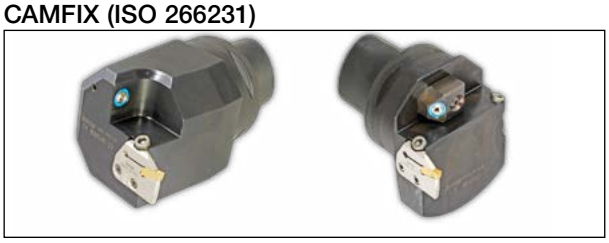
# TABLE OF CONTENTS



**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)**

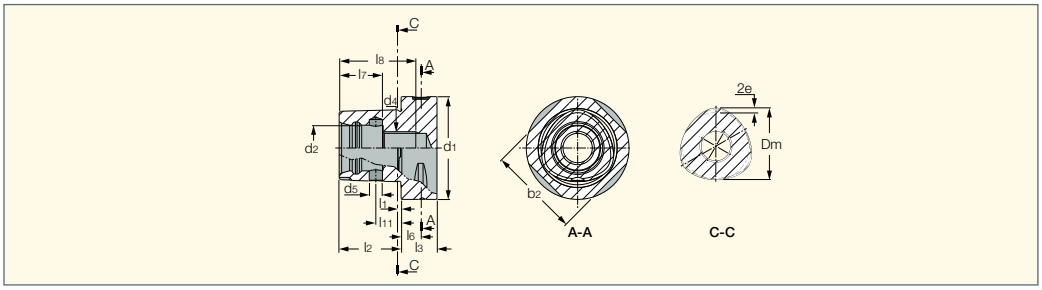


Quick Change tools are expensive compared to standard shank tools. **ISCAR** offers economical solutions by using adapters, blades or regular tools and boring bars on the Quick Change adaptations.

**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

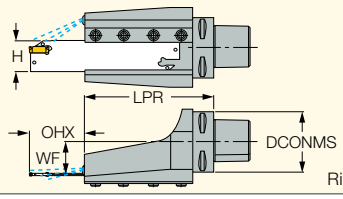
### Features

- 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 |

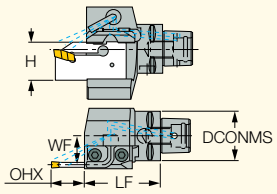
(1) Coolant pressure (Bar)
(2) 1 - Hole for data chip, 0 - Without hole for data chip

**For tools, see pages:** CGHN-DG (283) • CGHR/L-P8DG (284) • DGFH (268) • DGFHR/L (468) • DGFHR/L-B-D..(R/L) (470) • HFFH (557) • HGFH (268) • PCHBR/L (318) • TGFH/R/L (332) • TGFHR/L (495) • TNFFH-IQ (583)

## 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 |

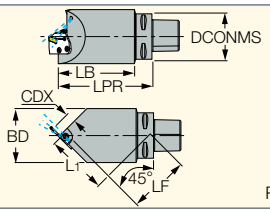
(1) 1 - Hole for data chip, 0 - Without hole for data chip

**For tools, see pages:** CGHN-S (282) • TGHN-S (271)

## 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

**For tools, see pages:** CGPAD (281) • DGAD-B-D (479) • DGAD/HGAD (479) • HFPAD-3 (562) • HFPAD-4 (563) • HFPAD-5 (563) • HFPAD-6 (564) • HGPAD (267) • PCADR/L (316) • SCLCR-PAD (55) • SDJCR-PAD (59) • SVJCR-PAD (67) • SWAPR-PAD (73) • TGAD (498) • TGPAD (270)


DO-GRIP


PENTACUT


CUT-GRIP


HELI-GRIP

### Spare Parts

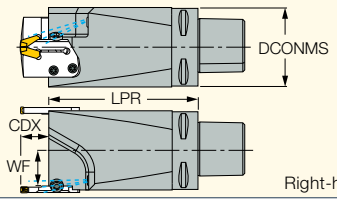
| Designation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| C6 MAHDR-45 | SR M5-04451 | T-20/5 | SR 14-519(a) | SR M6X20DIN7984 | HW 4.0 | SR M6X6DIN551 14H/22H(c) | SR M5X4 DIN913 | EZ 83 |
| C8 MAHDR-45 | SR M5-04451 | T-20/5 | SR 14-519(a) | SR M6X20-XT(b) | HW 5.0 | SR M6X6DIN551 14H/22H(c) | 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 |

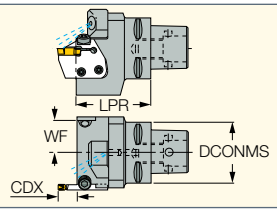
[1] 1 - Hole for data chip, 0 - Without hole for data chip
[a] For DGAD, HGAD and PCADR/L adapters; supplied in the attached plastic bag
[b] For CGPAD, HGPAD, TGPAD and HFPAD adapters; supplied with the tools
[c] Used to prevent chips from entering the upper locking screw hole

**For tools, see pages:** DGAD-B-D (479) • DGAD/HGAD (479) • HFPAD-3 (562) • HFPAD-4 (563) • HFPAD-5 (563) • HFPAD-6 (564) • HGPAD (267) • SCLCR-PAD (55) • SDJCR-PAD (59) • SVJCR-PAD (67) • SWAPR-PAD (73)

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

**For tools, see pages:** CGPAD (281) • DGAD-B-D (479) • DGAD/HGAD (479) • HFPAD-3 (562) • HFPAD-4 (563) • HFPAD-5 (563) • HFPAD-6 (564) • HGPAD (267) • PCADR/L (316) • SCLCR-PAD (55) • SDJCR-PAD (59) • SVJCR-PAD (67) • SWAPR-PAD (73) • TGAD (498) • TGPAD (270)

### Spare Parts

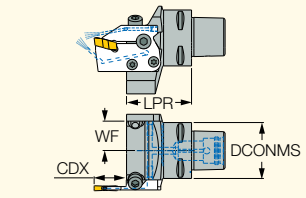
| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| C#-MAHD | SR M5-04451 | T-20/5 | SR 14-519[a] | SR M6X20-XT[b] | HW 5.0 | SR M6X6DIN551 14H/22H[c] | EZ 125 | EZA 125 | SR 76-1022 |

[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

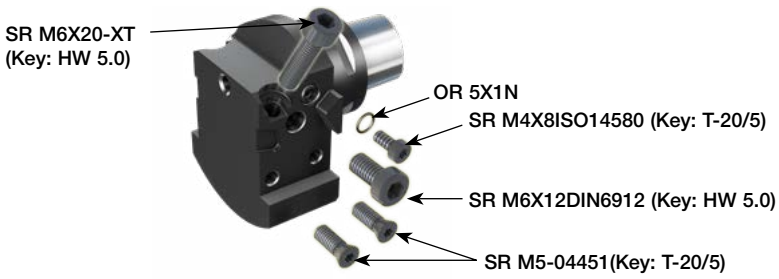



Right-hand shown
• CDX = See specific adapter dimensions
• WF=WF(shank)+WF(adapter)

| 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, 622
[1] 1 - Hole for data chip, 0 - Without hole for data chip

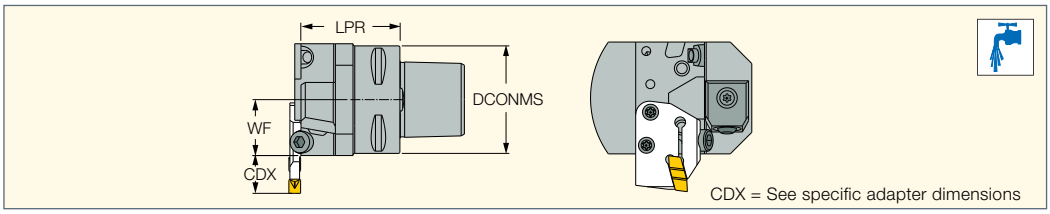
**For tools, see pages:** CGPAD (281) • CGPAD-JHP (282) • DGAD-B-D (479) • DGAD/HGAD (479) • DGPAD-JHP (480) • HFPAD-3 (562) • HFPAD-4 (563) • HFPAD-5 (563) • HFPAD-6 (564) • HFPAD-JHP (562) • HGPAD (267) • HGPAD-JHP (267) • PCADR/L (316) • PCADR/L-JHP (317) • PCADRS/LS-JHP (317) • SCLCR-PAD (55) • SDJCR-PAD (59) • SVJCR-PAD (67) • SWAPR-PAD (73) • TAGPAD-JHP (500) • TGAD (498) • TGPAD (270) • TGPAD-JHP (271)



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

**For tools, see pages:** CGPAD (281) • DGAD-B-D (479) • DGAD/HGAD (479) • HFPAD-3 (562) • HFPAD-4 (563) • HFPAD-5 (563) • HFPAD-6 (564) • HGPAD (267) • PCADR/L (316) • SCLCR-PAD (55) • SDJCR-PAD (59) • SVJCR-PAD (67) • SWAPR-PAD (73) • TGAD (498) • TGPAD (270)

### Spare Parts

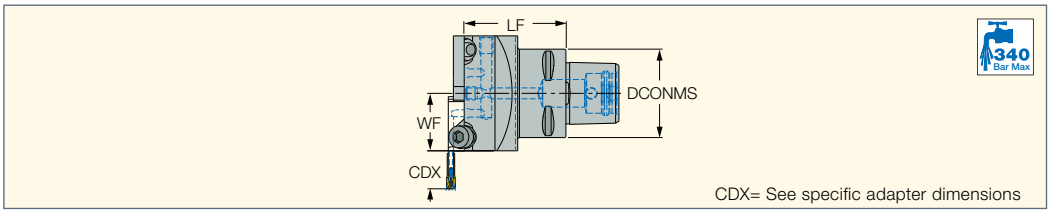
| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| C#-MAHPD | SR M5-04451 | T-20/5 | SR 14-519(a) | SR M6X20-XT(b) | HW 5.0 | SR M6X6DIN551 14H/22H(c) | EZ 125 | SR 76-1022 | EZA-21414 |

(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 |

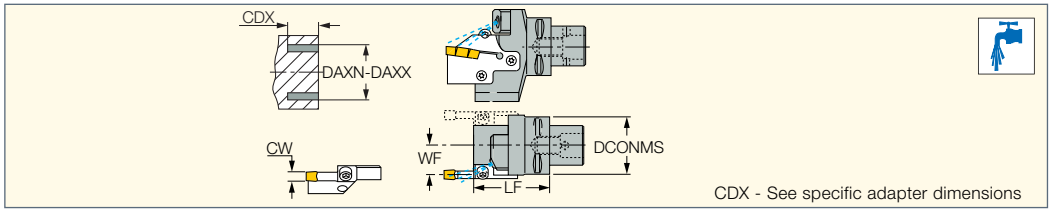
• For user guide and accessories, see pages 78, 622
(1) 1 - Hole for data chip, 0 - Without hole for data chip

**For tools, see pages:** CGPAD (281) • CGPAD-JHP (282) • DGAD-B-D (479) • DGAD/HGAD (479) • DGPAD-JHP (480) • HFPAD-3 (562) • HFPAD-4 (563) • HFPAD-5 (563) • HFPAD-6 (564) • HFPAD-JHP (562) • HGPAD (267) • HGPAD-JHP (267) • PCADR/L (316) • PCADR/L-JHP (317) • PCADRS/LS-JHP (317) • SCLCR-PAD (55) • SDJCR-PAD (59) • SVJCR-PAD (67) • SWAPR-PAD (73) • TAGPAD-JHP (500) • TGAD (498) • TGPAD (270) • TGPAD-JHP (271)

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 622
(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

**For tools, see pages:** GADR/L-8 (286) • GAFG-R/L-8 (580) • PCADR/L 34N-RE (318)

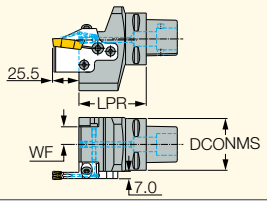
### Spare Parts

| 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

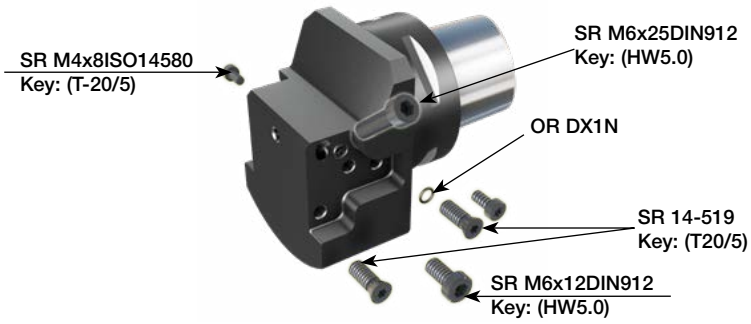



| Designation | DCONMS | LPR | WF | CDI(1) |
|---|---|---|---|---|
| C5 GHAD-8-JHP | 50.00 | 65.00 | 17.00 | 1 |
| C6 GHAD-8-JHP | 63.00 | 65.00 | 23.50 | 1 |
| C8 GHAD-8-JHP | 80.00 | 74.00 | 38.50 | 1 |

- For user guide and accessories see pages 78, 622

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

**For tools, see pages:** GADR/L-JHP (287)



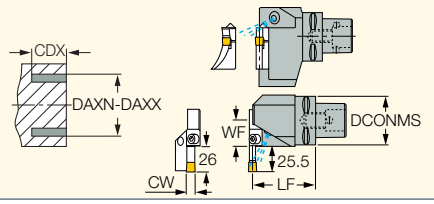

### Spare Parts

| 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 622

(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

**For tools, see pages:** GADR/L-8 (286) • GAFG-R/L-8 (580) • PCADR/L 34N-RE (318)

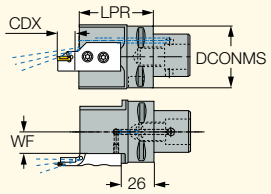
### Spare Parts

| 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 |

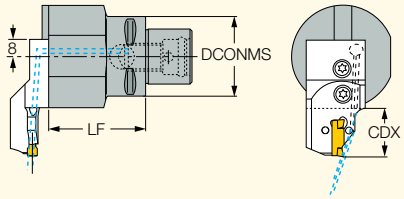
(1) 1 - Hole for data chip, 0 - Without hole for data chip

**For tools, see pages:** HFAER/L-4 (565) • HFAER/L-5T, 6T (566) • HFAIR/L-4 (572) • HFAIR/L-DG (573) • HGAER/L-3 (565) • HGAIR/L-3 (568)

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

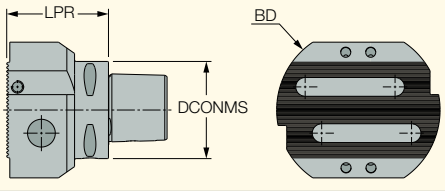
**For tools, see pages:** HFAER/L-4 (565) • HFAER/L-5T, 6T (566) • HFAIR/L-4 (572) • HFAIR/L-DG (573) • HGAER/L-3 (565) • HGAIR/L-3 (568)

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

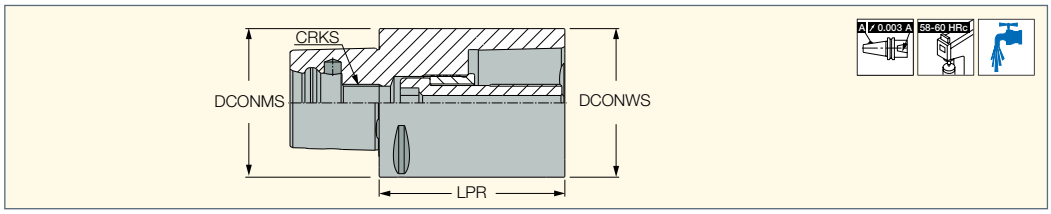
### Spare Parts

| 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

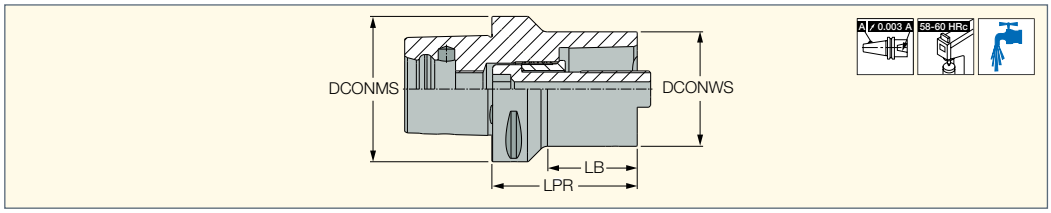
| Designation | | | | | | |
|---|---|---|---|---|---|---|
| C3 EX C3X060 | SR M12X50 C3 | HW 7.0* | MT RING M18X15XC3 | COOLING TUBE C3* | WRENCH COOL TUBE C3* | WRENCH C3 DRW NUT* |
| C3 EX C3X080 | SR M12X50 C3 | HW 7.0* | MT RING M18X15XC3 | COOLING TUBE C3* | WRENCH COOL TUBE C3* | WRENCH C3 DRW 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* |

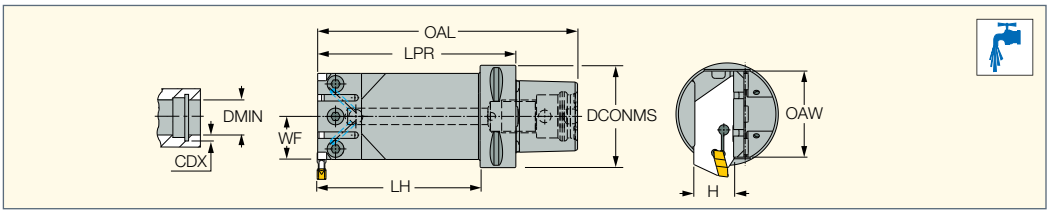
* Optional, should be ordered separately

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

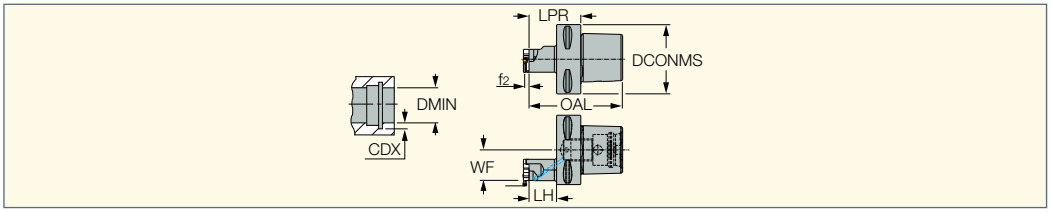
**For tools, see pages:** CGHN 26-M (356) • TGHN 26-M (354)

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

**For tools, see pages:** GAIR/L (346) • GEAIR/L (340)

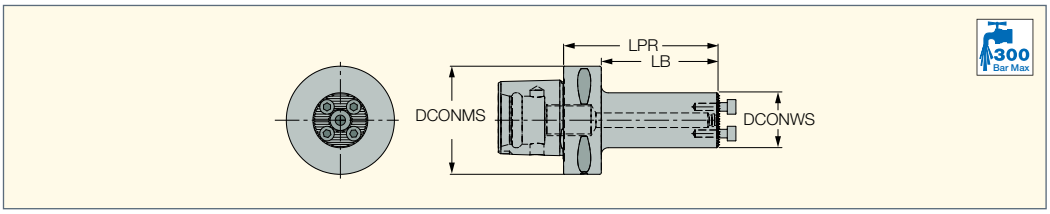
### Spare Parts

| 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

**For tools, see pages:** AVC-D-SIR/L (707) • AVC-DDUNR/L (97) • AVC-DVUNR/L (97) • AVC-GAIR/L (347) • AVC-GEAIR/L (346) • AVC-PCLNR/L (96) • AVC-PCLXR/L (96) • AVC-SCLCR/L (95) • AVC-SDJCN-Y (76) • AVC-SDUCR/L (95) • AVC-SRDCN-Y (77) • AVC-SVLCR/L (96) • AVC-SVUCR/L (95)

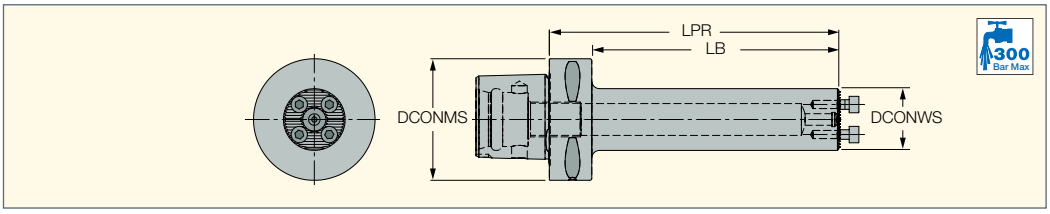
### Spare Parts

| 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

**For tools, see pages:** AVC-D-SIR/L (707) • AVC-DDUNR/L (97) • AVC-DVUNR/L (97) • AVC-GAIR/L (347) • AVC-GEAIR/L (346) • AVC-PCLNR/L (96) • AVC-PCLXR/L (96) • AVC-SCLCR/L (95) • AVC-SDJCN-Y (76) • AVC-SDUCR/L (95) • AVC-SRDCN-Y (77) • AVC-SVLCR/L (96) • AVC-SVUCR/L (95)

### Spare Parts

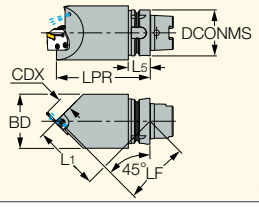
| Designation | | |
|---|---|---|
| C6-SH-D16-5D-E-JHP | HW 2.5 | SR M3X10DIN912 |
| C6-SH-D20-5D-E-JHP | HW 2.5 | SR M3.5XL10-D5.5 |

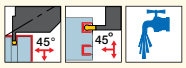
MODULAR-GRIP

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

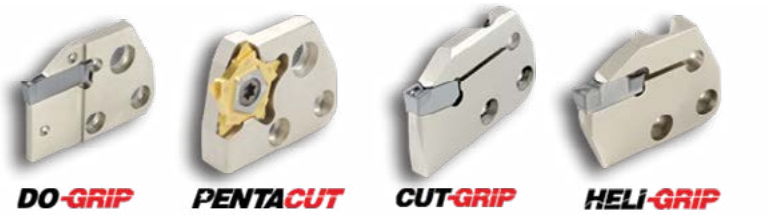
| Designation | DCONMS | LPR | L1 | L5 | LF | BD | CP[1] | CDI[2] |
|---|---|---|---|---|---|---|---|---|
| HSK A63WH MAHDR 45 | 63.00 | 130.00 | 91.9 | 30.00 | 89.0 | 75.00 | 100 | 1 |

• 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

**For tools, see pages:** CGPAD (281) • DGAD-B-D (479) • DGAD/HGAD (479) • HFPAD-3 (562) • HFPAD-4 (563) • HFPAD-5 (563) • HFPAD-6 (564) • HGPAD (267) • PCADR/L (316) • SCLCR-PAD (55) • SDJCR-PAD (59) • SVJCR-PAD (67) • SWAPR-PAD (73) • TGAD (498) • TGPAD (270)




### 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

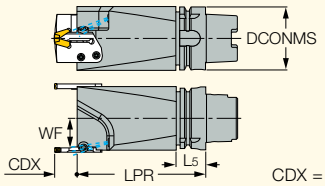
[b] Used to prevent chips from entering the upper locking screw hole when it is not used for the adaptation; supplied in the attached plastic bag

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

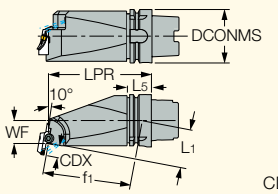
**For tools, see pages:** CGPAD (281) • DGAD-B-D (479) • DGAD/HGAD (479) • HFPAD-3 (562) • HFPAD-4 (563) • HFPAD-5 (563) • HFPAD-6 (564) • HGPAD (267) • PCADR/L (316) • SCLCR-PAD (55) • SDJCR-PAD (59) • SVJCR-PAD (67) • SWAPR-PAD (73) • TGAD (498) • TGPAD (270)

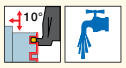
MODULAR GRIP

## 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

**For tools, see pages:** CGPAD (265) • DGAD-B-D (436) • DGAD/HGAD (436) • HFPAD-3 (549) • HFPAD-4 (549) • HFPAD-5 (550) • HFPAD-6 (550) • HGPAD (251) • PCADR/L (300) • SCLCR-PAD (50) • SDJCR-PAD (54) • SVJCR-PAD (60) • SWAPR-PAD (66) • TGAD (455) • TGPAD (256) • TTADR/L-JHP (651)

### 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

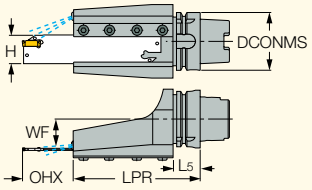
(b) For CGPAD, HGPAD, TGPAD and HFPAD adapters; supplied with the tools

(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

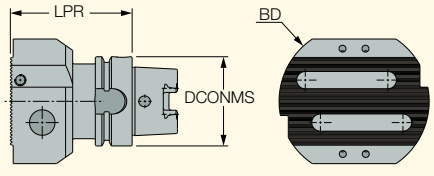
**For tools, see pages:** CGHN-DG (283) • CGHR/L-P8DG (284) • DGFH (268) • DGFHR/L (468) • DGFHR/L-B-D..(R/L) (470) • HFFH (557) • HGFH (268) • PCHBR/L (318) • TGFH/R/L (332) • TGFHR/L (495) • TNFFH-IQ (583)

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

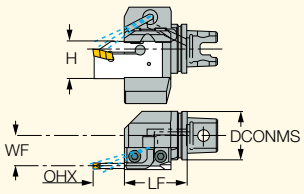
| Designation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| HSK63 HATA | SR M6X6 DIN913 | SR M8X25 DIN913 | HW 4.0 | SR M6X6 DIN913 TL360 | HW 3.0 | BH NUT BHR MB80 | SR M12X35DIN912 | HW 10.0 | SR M8X45 DIN 913 |

## 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

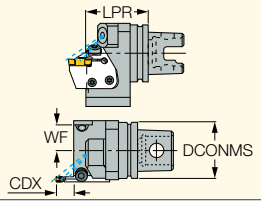
**For tools, see pages:** CGHN-S (282) • TGHN-S (271)

## 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

**For tools, see pages:** CGPAD (281) • DGAD-B-D (479) • DGAD/HGAD (479) • HFPAD-3 (562) • HFPAD-4 (563) • HFPAD-5 (563) • HFPAD-6 (564) • HGPAD (267) • PCADR/L (316) • SCLCR-PAD (55) • SDJCR-PAD (59) • SVJCR-PAD (67) • SWAPR-PAD (73) • TGAD (498) • TGPAD (270)

### 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 |

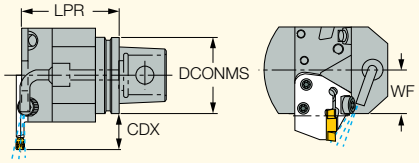
(a) For DGAD, HGAD and PCADR/L adapters; supplied in the attached plastic bag
(b) For CGPAD, HGPAD, TGPAD and HFPAD adapters; supplied with the tools
(c) Used to prevent chips from entering the upper locking screw hole when it is not used for the adaptation; supplied in the attached plastic bag

## 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

**For tools, see pages:** CGPAD (281) • DGAD-B-D (479) • DGAD/HGAD (479) • HFPAD-3 (562) • HFPAD-4 (563) • HFPAD-5 (563) • HFPAD-6 (564) • HGPAD (267) • PCADR/L (316) • SCLCR-PAD (55) • SDJCR-PAD (59) • SVJCR-PAD (67) • SWAPR-PAD (73) • TGAD (498) • TGPAD (270)

### 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 |

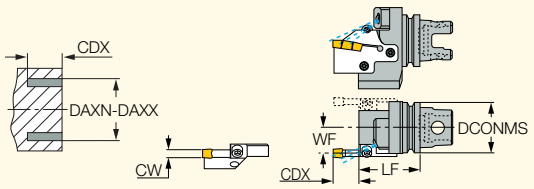
(a) For DGAD, HGAD and PCADR/L adapters; supplied in the attached plastic bag
(b) For CGPAD, HGPAD, TGPAD and HFPAD adapters; supplied with the tools
(c) Used to prevent chips from entering the upper locking screw hole when it is not used for the adaptation; supplied in the attached plastic bag

## 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

**For tools, see pages:** GADR/L-8 (269) • GAFG-R/L-8 (562) • PCADR/L 34N-RE (301)

### Spare Parts

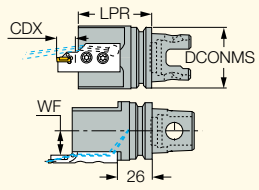
| Designation | | | | | | | |
|---|---|---|---|---|---|---|---|
| IM-GHAD-8 | SR 14-519 | T-20/5 | SR M6X25 DIN912 | HW 5.0 | SR 76-1022 | EZA 125 | EZ 125 |

## 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

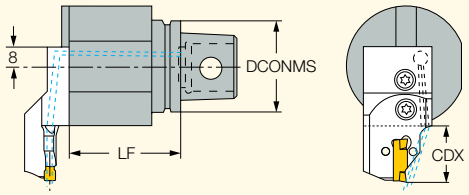
**For tools, see pages:** HFAER/L-4 (551) • HFAER/L-5T, 6T (552) • HFAIR/L-4 (554) • HFAIR/L-DG (555) • HGAER/L-3 (551) • HGAIR/L-3 (554)

## 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

**For tools, see pages:** HFAER/L-4 (551) • HFAER/L-5T, 6T (552) • HFAIR/L-4 (554) • HFAIR/L-DG (555) • HGAER/L-3 (551) • HGAIR/L-3 (554)