

Vertical Inserts and Toolholders for threading, chamfering, grooving and turning

Advantages

- Carbide grade:** BLU-Sub-Micron grade with advanced PVD triple layer coating delivering high heat resistance and smooth cutting operation.
- Carbide shank toolholder provides excellent vibration resistance.
 - Long reach.
 - Through coolant.
 - For threading, grooving, boring and chamfering.
 - Quick indexing.

Typical Applications:

- Long threads or applications requiring over-hang.
- Enables production of threads with large pitch/profile.
- Threading, grooving, boring, profiling and chamfering - It's possible to offer most of the Tiny Tools profiles on the insert.

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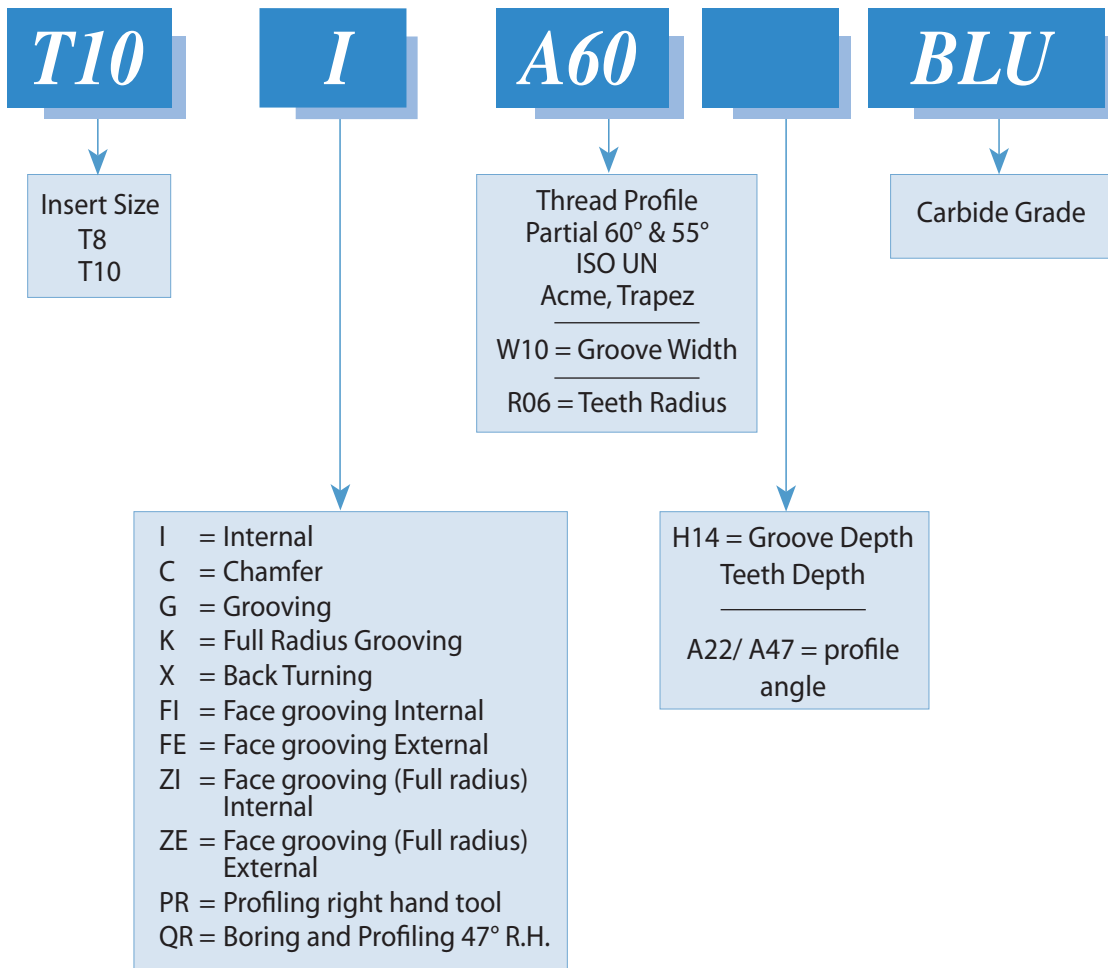
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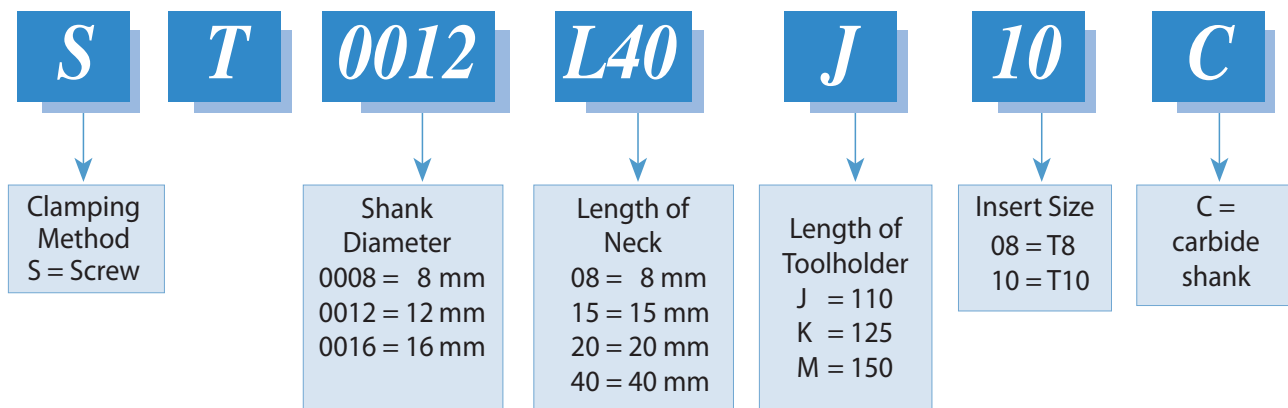
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Product Identification - Ordering Codes

Inserts

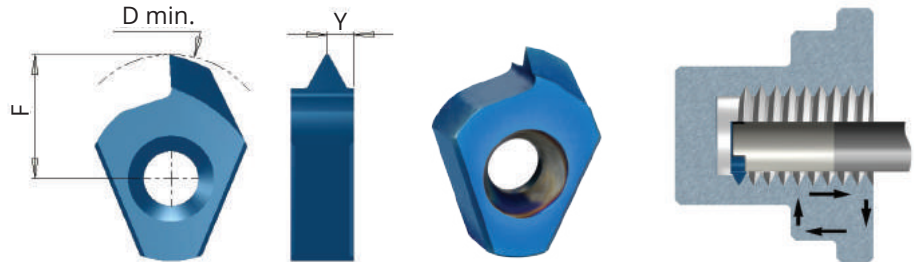


Toolholders



Partial Profile 60°

Same insert for internal and external thread



| Insert Type | Ordering Code | Pitch Range mm | Pitch Range TPI | D min | F | Y |
|-------------|----------------|------------------------------|-----------------|-------|-----|-----|
| T8 | T8 A60 | Int 0.5-0.75 Ex 0.4- 0.75 | 56-32 64-32 | 8.0 | 3.7 | 0.6 |
| | T8 G60 | Int 1.0-1.25 Ex 0.8- 1.0 | 28-20 32-28 | 8.4 | 4.1 | 0.8 |
| T10 | T10 A60 | Int 0.5-0.8 Ex 0.4-0.8 | 56-28 64-32 | 11.6 | 6.4 | 0.6 |
| | T10 G60 | Int 1.0-2.0 Ex 0.8-1.75 | 28-13 32-15 | 12.3 | 7.1 | 1.3 |
| | T10 D60 | Int 2.0-3.0 Ex 1.75-2.5 | 13-8 15-10 | 13.1 | 7.9 | 1.5 |

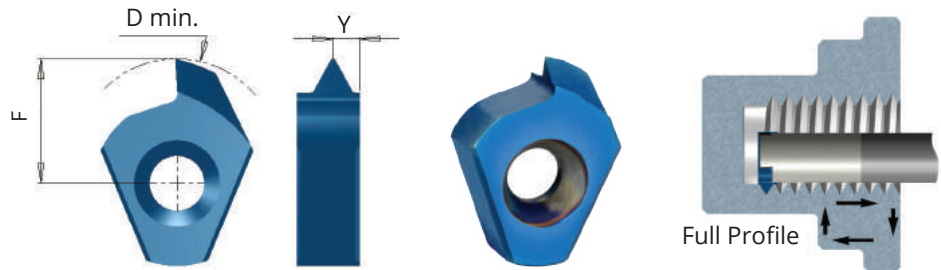
Order example: T8 G60 BLU

Partial Profile 55°

Same insert for internal and external thread

| Insert Type | Ordering Code | Pitch Range mm | Pitch Range TPI | D min | F | Y |
|-------------|----------------|----------------|-----------------|-------|-----|-----|
| T8 | T8 G55 | 1.25-1.5 | 19-18 | 9.1 | 4.8 | 1.0 |
| | T8 U55 | 1.75-2.0 | 16-14 | 8.7 | 4.4 | 1.2 |
| T10 | T10 G55 | 1.25-2.0 | 19-14 | 12.4 | 7.2 | 1.2 |

Full Profile



ISO

Inserts for internal thread

| Insert Type | Ordering Code | Pitch mm | M coarse | M fine | D min | F | Y |
|-------------|----------------|----------|----------|--------|-------|-----|-----|
| T8 | T8 I 0.5 ISO | 0.5 | | M8.5 | 8.0 | 3.6 | 0.5 |
| | T8 I 0.75 ISO | 0.75 | | M9 | 8.1 | 3.8 | 0.6 |
| | T8 I 1.0 ISO | 1.0 | | M9 | 8.0 | 3.7 | 0.7 |
| | T8 I 1.25 ISO | 1.25 | | M10 | 8.2 | 3.9 | 0.8 |
| | T8 I 1.5 ISO | 1.5 | M10 | M12 | 8.4 | 4.1 | 1.0 |
| | T8 I 1.75 ISO | 1.75 | M12 | - | 8.6 | 4.3 | 1.1 |
| | T8 I 2.0 ISO | 2.0 | M14 | M17 | 8.8 | 4.5 | 1.3 |
| T10 | T10 I 0.5 ISO | 0.5 | | M12 | 11.3 | 6.1 | 0.5 |
| | T10 I 0.75 ISO | 0.75 | | M12 | 11.3 | 6.1 | 0.6 |
| | T10 I 1.0 ISO | 1.0 | | M13 | 11.7 | 6.5 | 0.7 |
| | T10 I 1.5 ISO | 1.5 | | M14 | 11.7 | 6.5 | 1.0 |
| | T10 I 2.0 ISO | 2.0 | M16 | M17 | 12.0 | 6.8 | 1.3 |
| | T10 I 2.5 ISO | 2.5 | M18, M20 | - | 12.6 | 7.4 | 1.4 |
| | T10 I 3.0 ISO | 3.0 | M24 | M28 | 12.6 | 7.4 | 1.6 |

Order example: T10 I 0.5 ISO BLU

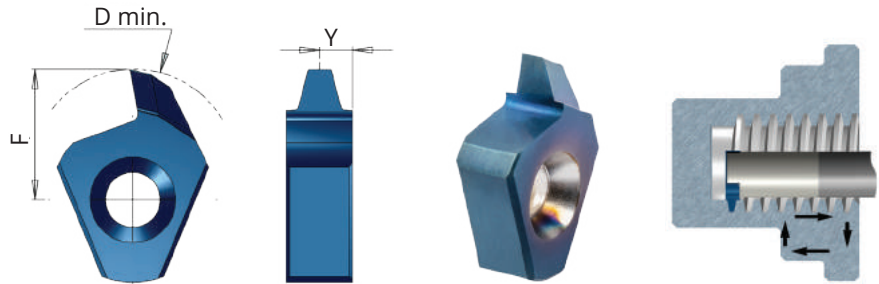
UN

Inserts for internal thread

| Insert Type | Ordering Code | Pitch TPI | Nominal size | UNC | UNF | UNEF | D min | F | Y |
|-------------|---------------|-----------|------------------|------|-----------|-----------|-------|-----|-----|
| T8 | T8 I 32UN | 32 | 7/16, 1/2 | | | 3/8 | 8.3 | 4.0 | 0.6 |
| | T8 I 28UN | 28 | 3/8 | | | 7/16, 1/2 | 8.3 | 4.0 | 0.7 |
| | T8 I 24UN | 24 | | | 3/8 | | 8.3 | 4.0 | 0.7 |
| | T8 I 20UN | 20 | 3/8 | | 7/16, 1/2 | | 8.2 | 3.9 | 0.9 |
| | T8 I 16UN | 16 | 7/16, 1/2 | | | | 8.7 | 4.4 | 1.0 |
| | T8 I 14UN | 14 | | 7/16 | | | 8.8 | 4.5 | 1.2 |
| | T8 I 13UN | 13 | | 1/2 | | | 8.8 | 4.5 | 1.3 |
| T10 | T10 I 20UN | 20 | 9/16, 5/8, 11/16 | | | 3/4 | 12.0 | 6.8 | 0.9 |
| | T10 I 18UN | 18 | | | 9/16, 5/8 | | 12.0 | 6.8 | 1.0 |
| | T10 I 16UN | 16 | 9/16, 5/8, 11/16 | | 3/4 | | 12.0 | 6.8 | 1.1 |
| | T10 I 14UN | 14 | | | 7/8 | | 12.1 | 6.9 | 1.2 |
| | T10 I 12UN | 12 | 5/8, 11/16, 3/4 | 9/16 | | | 12.1 | 6.9 | 1.4 |
| | T10 I 11UN | 11 | | 5/8 | | | 12.5 | 7.3 | 1.5 |
| | T10 I 10UN | 10 | | 3/4 | | | 12.6 | 7.4 | 1.5 |

Acme

Inserts for internal thread

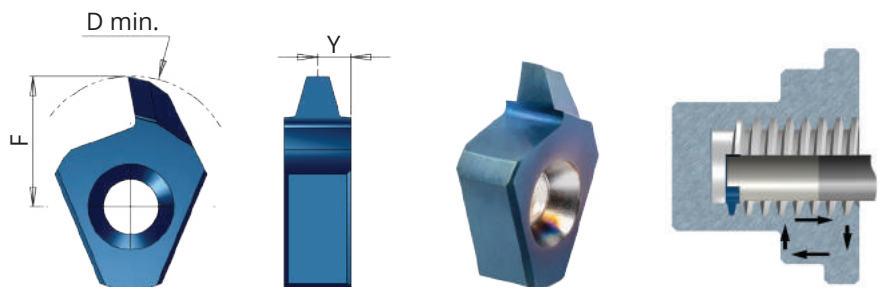


| Insert Type | Ordering Code | Pitch TPI | Thread size | D min | F | Y |
|-------------|---------------------|-----------|-------------|-------|-----|-----|
| T8 | T8 I 10 ACME | 10 | 1/2-10 | 10.1 | 5.5 | 1.3 |
| T10 | T10 I 8 ACME | 8 | 5/8-8 | 12.7 | 7.3 | 1.6 |
| | T10 I 6 ACME | 6 | 3/4-6 | 14.8 | 7.9 | 2.0 |

Order example: T10 I 6 ACME BLU

Trapez - DIN103

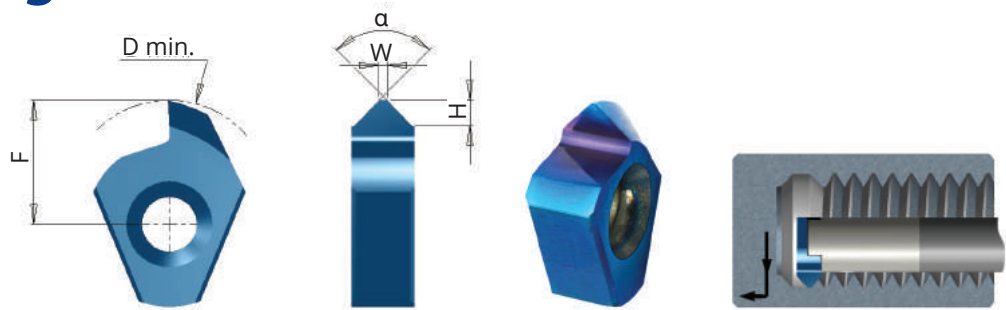
Inserts for internal thread



| Insert Type | Ordering Code | Pitch mm | Thread size | D min | F | Y |
|-------------|-------------------|----------|------------------------|-------|-----|-----|
| T8 | T8 I 2TR | 2 | Tr12x2, Tr14x2 | 10.0 | 4.8 | 1.0 |
| | T8 I 3TR | 3 | Tr14x3 | 11.0 | 5.8 | 1.5 |
| T10 | T10 I 2TR | 2 | Tr16x2, Tr18x2, Tr20x2 | 14.0 | 7.0 | 1.0 |
| | T10 I 3TR | 3 | Tr22x3 | 19.0 | 7.9 | 1.5 |
| | *T10 I 4TR | 4 | Tr16x4, Tr18x4 | 12.0 | 6.7 | 2.0 |

*To use with T10 toolholders version B

Chamfering

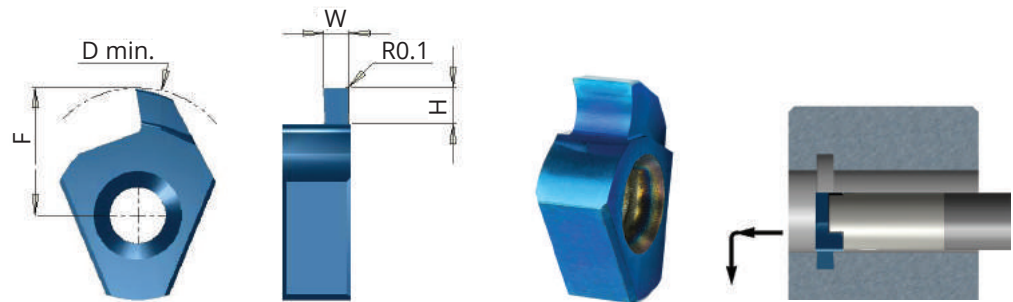


| Insert Type | Ordering Code | W | H max | α | D min | F |
|-------------|----------------|-----|-------|----------|-------|-----|
| T8 | T8 C90 | 0.2 | 1.4 | 90° | 8.8 | 4.5 |
| T10 | T10 C90 | 0.2 | 1.8 | 90° | 12.7 | 7.5 |

Same insert for right and left hand chamfers

Order example: T8 C90 BLU

Grooving



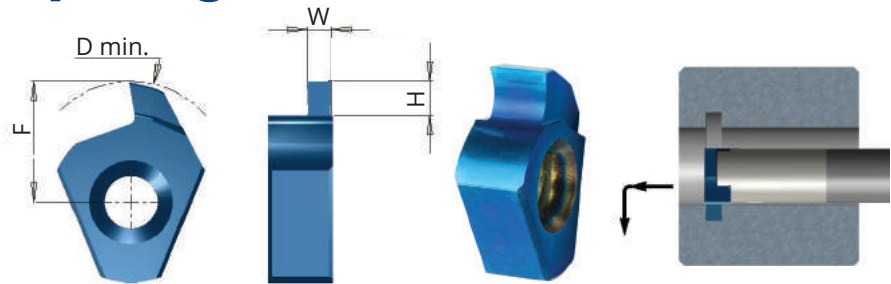
| Insert Type | Ordering Code | W | | R | H max | D min | F |
|-----------------------|-----------------------|------|------|-----|-------|-------|-----|
| | | mm | inch | | | | |
| T8 | T8 G W08 H20 | 0.79 | .031 | 0.1 | 2.0 | 9.4 | 5.1 |
| | T8 G W10 H20 | 1.0 | .039 | 0.1 | 2.0 | 9.4 | 5.1 |
| | T8 G W12 H20 | 1.19 | .047 | 0.1 | 2.0 | 9.4 | 5.1 |
| | T8 G W15 H20 | 1.5 | .059 | 0.1 | 2.0 | 9.4 | 5.1 |
| | T8 G W16 H20 | 1.59 | .063 | 0.1 | 2.0 | 9.4 | 5.1 |
| | T8 G W20 H20 | 2.0 | .079 | 0.1 | 2.0 | 9.4 | 5.1 |
| | T8 G W24 H20 | 2.38 | .094 | 0.1 | 2.0 | 9.4 | 5.1 |
| | T8 G W25 H20 | 2.5 | .098 | 0.1 | 2.0 | 9.4 | 5.1 |
| | T8 G W30 H20 | 3.0 | .118 | 0.1 | 2.0 | 9.4 | 5.1 |
| T10 | T10 G W08 H28 | 0.79 | .031 | 0.1 | 2.8 | 13.4 | 7.9 |
| | T10 G W10 H14 | 1.0 | .039 | 0.1 | 1.4 | 12.3 | 7.1 |
| | T10 G W10 H23 | 1.0 | .039 | 0.1 | 2.3 | 13.1 | 7.9 |
| | T10 G W12 H28 | 1.19 | .047 | 0.1 | 2.8 | 13.4 | 7.9 |
| | T10 G W15 H14 | 1.5 | .059 | 0.1 | 1.4 | 12.3 | 7.1 |
| | T10 G W15 H23 | 1.5 | .059 | 0.1 | 2.3 | 13.1 | 7.9 |
| | *T10 G W15 H40 | 1.5 | .059 | 0.1 | 4.0 | 13.5 | 7.9 |
| | T10 G W16 H28 | 1.59 | .063 | 0.1 | 2.8 | 13.4 | 7.9 |
| | T10 G W20 H14 | 2.0 | .079 | 0.1 | 1.4 | 12.3 | 7.1 |
| | T10 G W20 H23 | 2.0 | .079 | 0.1 | 2.3 | 13.1 | 7.9 |
| | *T10 G W20 H40 | 2.0 | .079 | 0.1 | 4.0 | 13.5 | 7.9 |
| | T10 G W24 H28 | 2.38 | .094 | 0.1 | 2.8 | 13.4 | 7.9 |
| | T10 G W25 H23 | 2.5 | .098 | 0.1 | 2.3 | 13.1 | 7.9 |
| | *T10 G W25 H40 | 2.5 | .098 | 0.1 | 4.0 | 13.5 | 7.9 |
| | T10 G W30 H23 | 3.0 | .118 | 0.1 | 2.3 | 13.1 | 7.9 |
| *T10 G W30 H40 | 3.0 | .118 | 0.1 | 4.0 | 13.5 | 7.9 | |

*To use with T10 toolholders version B

Tolerance: $W \pm 0.02 \text{ mm} / .001''$

Order example: T10 G W08 H28 BLU

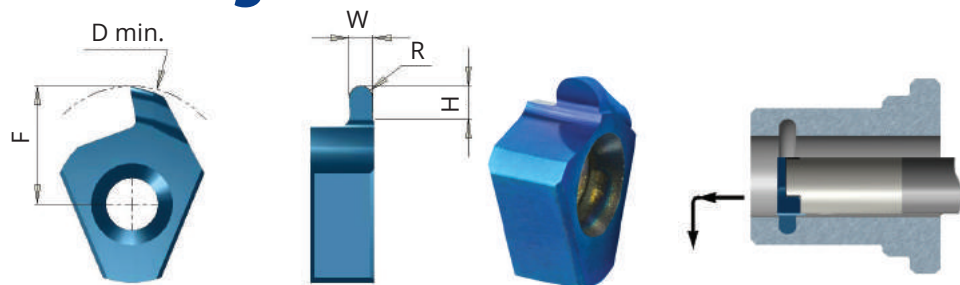
Grooving, Circlip Ring Grooves DIN 471/472



| Insert Type | Ordering Code | Nom` groove width | W +0.03 | R | H max | D min | F |
|-------------|----------------|-------------------|---------|---|-------|-------|-----|
| T8 | TD8 G W07 H12 | 0.7 | 0.73 | 0 | 1.2 | 8.8 | 4.3 |
| | TD8 G W08 H13 | 0.8 | 0.83 | 0 | 1.3 | 8.9 | 4.4 |
| | TD8 G W09 H18 | 0.9 | 0.93 | 0 | 1.8 | 9.4 | 4.9 |
| | TD8 G W12 H18 | 1.1 | 1.20 | 0 | 1.8 | 9.4 | 4.9 |
| | TD8 G W14 H18 | 1.3 | 1.40 | 0 | 1.8 | 9.4 | 4.9 |
| | TD8 G W17 H18 | 1.6 | 1.70 | 0 | 1.8 | 9.4 | 4.9 |
| T10 | TD10 G W07 H12 | 0.7 | 0.73 | 0 | 1.2 | 11.9 | 6.4 |
| | TD10 G W08 H13 | 0.8 | 0.83 | 0 | 1.3 | 12.0 | 6.5 |
| | TD10 G W09 H15 | 0.9 | 0.93 | 0 | 1.5 | 12.2 | 6.7 |
| | TD10 G W12 H28 | 1.1 | 1.20 | 0 | 2.8 | 13.4 | 7.9 |
| | TD10 G W14 H28 | 1.3 | 1.40 | 0 | 2.8 | 13.4 | 7.9 |
| | TD10 G W17 H28 | 1.6 | 1.70 | 0 | 2.8 | 13.4 | 7.9 |

Order example: TD10 G W17 H28 BLU

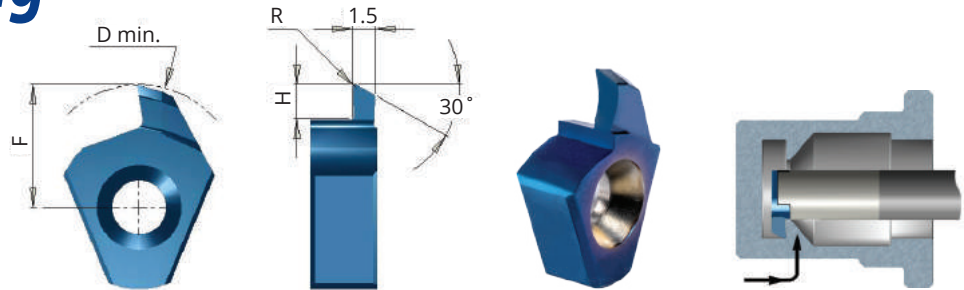
Full Radius Grooving



| Insert Type | Ordering Code | W ± 0.02 | R | H max | D min | F |
|-------------|----------------|----------|-----|-------|-------|-----|
| T8 | T8 K R04 H10 | 0.8 | 0.4 | 1.0 | 8.4 | 4.1 |
| | T8 K R06 H10 | 1.2 | 0.6 | 1.0 | 8.4 | 4.1 |
| | T8 K R09 H10 | 1.8 | 0.9 | 1.0 | 8.4 | 4.1 |
| T10 | T10 K R04 H22 | 0.8 | 0.4 | 2.2 | 13.1 | 7.9 |
| | *T10 K R04 H40 | 0.8 | 0.4 | 4.0 | 13.5 | 7.9 |
| | T10 K R06 H22 | 1.2 | 0.6 | 2.2 | 13.1 | 7.9 |
| | *T10 K R06 H40 | 1.2 | 0.6 | 4.0 | 13.5 | 7.9 |
| | T10 K R09 H22 | 1.8 | 0.9 | 2.2 | 13.1 | 7.9 |
| | *T10 K R09 H40 | 1.8 | 0.9 | 4.0 | 13.5 | 7.9 |
| | T10 K R10 H22 | 2.0 | 1.0 | 2.2 | 13.1 | 7.9 |
| | *T10 K R10 H40 | 2.0 | 1.0 | 4.0 | 13.5 | 7.9 |

*To use with T10 toolholders version B

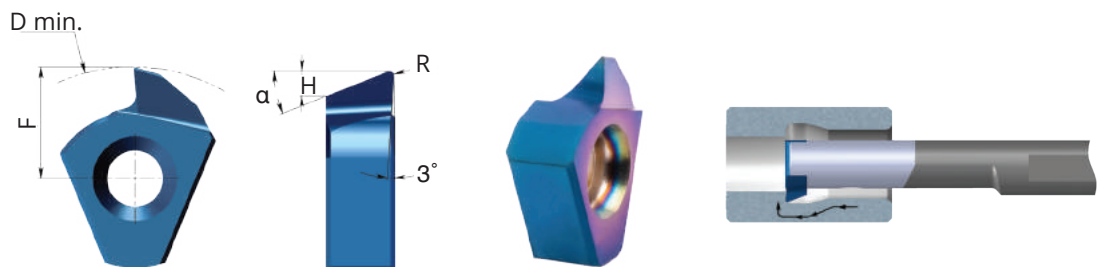
Back Turning



| Insert Type | Ordering Code | R | H max | D min | F |
|-------------|-----------------------|-----|-------|-------|-----|
| T8 | T8 X R02 H20 | 0.2 | 2.0 | 9.4 | 5.1 |
| | T10 X R02 H23 | 0.2 | 2.3 | 13.1 | 7.9 |
| T10 | *T10 X R02 H35 | 0.2 | 3.5 | 13.5 | 7.9 |
| | T10 X R04 H23 | 0.4 | 2.3 | 13.1 | 7.9 |

*To use with T10 toolholders version B

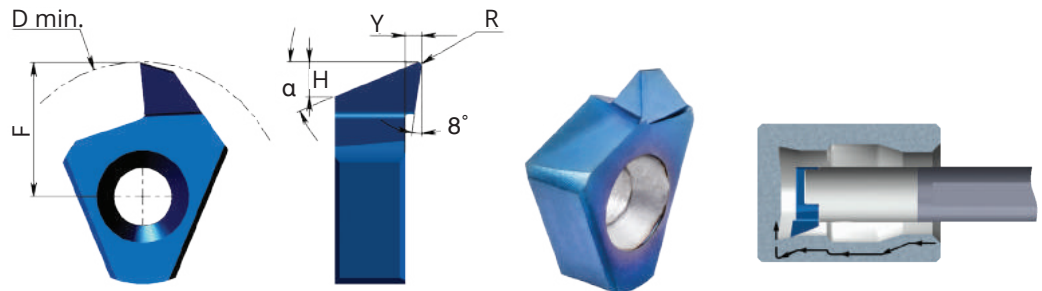
Boring and Profiling



| Insert Type | Ordering Code | α | R | H | D min | F |
|-------------|----------------------|----------|-----|-----|-------|-----|
| T8 | T8 PR R01 A22 | 22° | 0.1 | 1.0 | 9.2 | 5.0 |
| | T8 PR R02 A22 | 22° | 0.2 | 1.0 | 9.2 | 5.0 |
| | T8 QR R01 A47 | 47° | 0.1 | 1.9 | 9.2 | 5.0 |
| | T8 QR R02 A47 | 47° | 0.2 | 1.9 | 9.2 | 5.0 |

Order example: T8 PR R01 A22 BLU

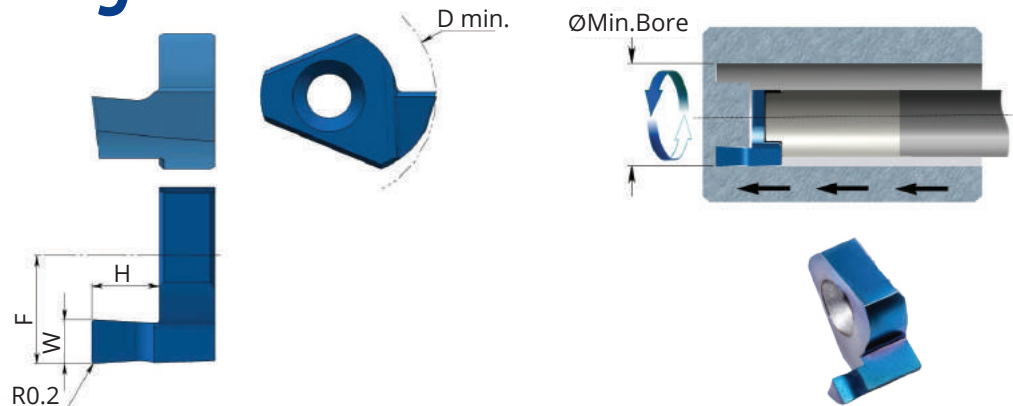
Boring, Profiling and Facing



| Insert Type | Ordering Code | α | β | R | H | Y | D min | F |
|-------------|-----------------------|----------|---------|-----|-----|-----|-------|-----|
| T10 | T10 PR R01 A22 | 22° | 8° | 0.1 | 1.9 | 0.9 | 12.9 | 7.7 |
| | T10 PR R02 A22 | 22° | 8° | 0.2 | 1.9 | 0.9 | 12.9 | 7.7 |
| | T10 QR R01 A47 | 47° | 3° | 0.1 | 2.6 | 0.4 | 12.9 | 7.7 |
| | T10 QR R02 A47 | 47° | 3° | 0.2 | 2.6 | 0.4 | 12.9 | 7.7 |

Order example: T10 PR R01 A22 BLU

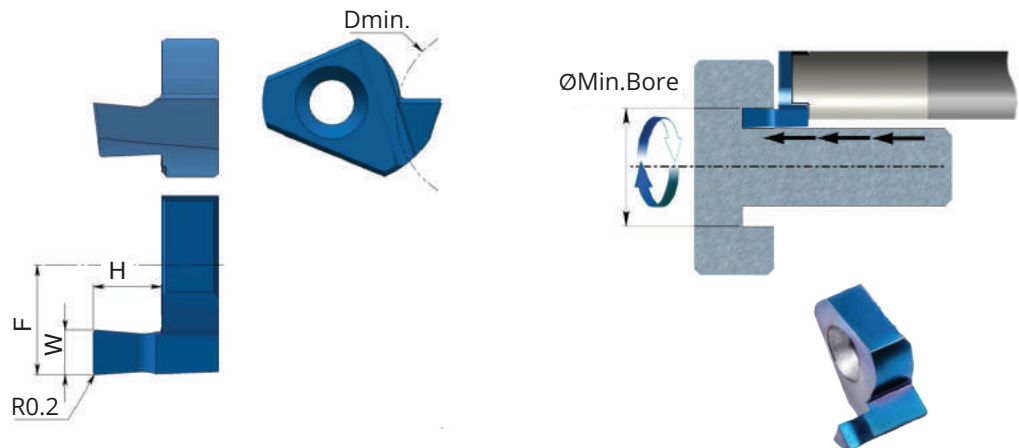
Face grooving Internal



| Insert Type | Ordering Code | W ±0.02 | H max | D min | F |
|-------------|----------------|------------|----------|----------|-----|
| T10 | T10 FI W10 H15 | 1.0 | 1.5 | 14.0 | 8.0 |
| | T10 FI W15 H25 | 1.5 | 2.5 | | |
| | T10 FI W20 H30 | 2.0 | 3.0 | | |
| | T10 FI W20 H50 | 2.0 | 5.0 | | |
| | T10 FI W25 H30 | 2.5 | 3.0 | | |
| | T10 FI W25 H50 | 2.5 | 5.0 | | |
| | T10 FI W30 H30 | 3.0 | 3.0 | | |
| | T10 FI W30 H50 | 3.0 | 5.0 | | |

Order example: T10 FI W30 H50 BLU

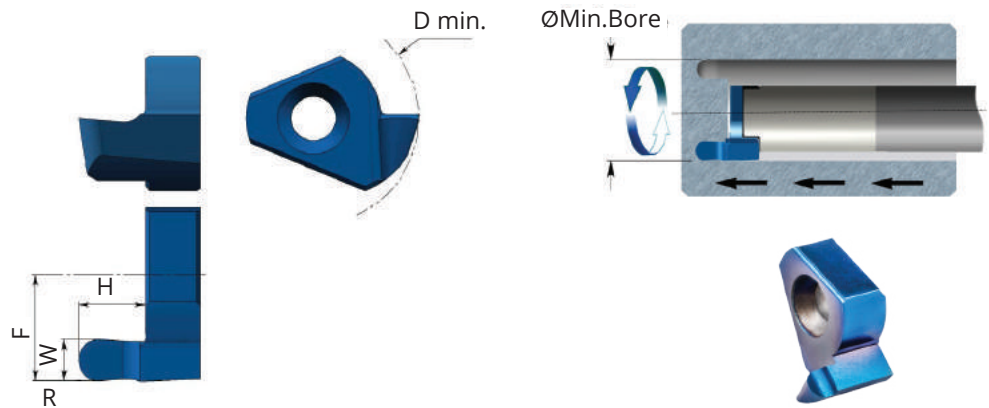
External



| Insert Type | Ordering Code | W ±0.02 | H max | D min | F |
|-------------|----------------|------------|----------|----------|-----|
| T10 | T10 FE W10 H15 | 1.0 | 1.5 | 12.0 | 8.0 |
| | T10 FE W15 H25 | 1.5 | 2.5 | | |
| | T10 FE W20 H30 | 2.0 | 3.0 | | |
| | T10 FE W20 H50 | 2.0 | 5.0 | | |
| | T10 FE W25 H30 | 2.5 | 3.0 | | |
| | T10 FE W25 H50 | 2.5 | 5.0 | | |
| | T10 FE W30 H30 | 3.0 | 3.0 | | |
| | T10 FE W30 H50 | 3.0 | 5.0 | | |

Face grooving, Full radius

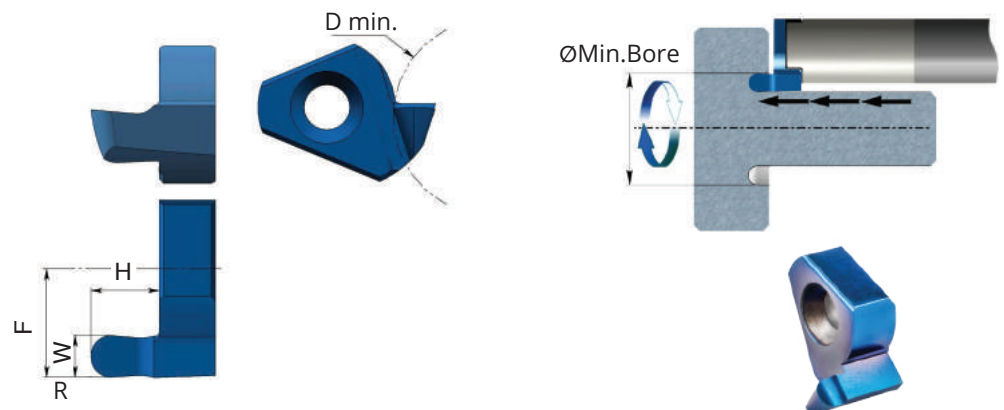
Internal



| Insert Type | Ordering Code | W ±0.02 | R | H max | D min | F |
|-------------|------------------------|------------|------|----------|----------|-----|
| T10 | T10 ZI R05 H15 | 1.0 | 0.5 | 1.5 | 14.0 | 8.0 |
| | T10 ZI R08 H25 | 1.6 | 0.8 | 2.5 | | |
| | T10 ZI R10 H30 | 2.0 | 1.0 | 3.0 | | |
| | T10 ZI R125 H30 | 2.5 | 1.25 | 3.0 | | |
| | T10 ZI R15 H30 | 3.0 | 1.5 | 3.0 | | |

Order example: T10 ZI R05 H15 BLU

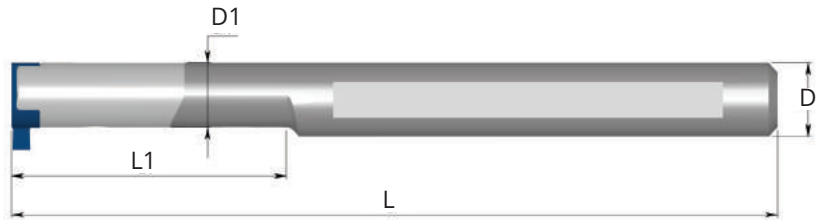
External



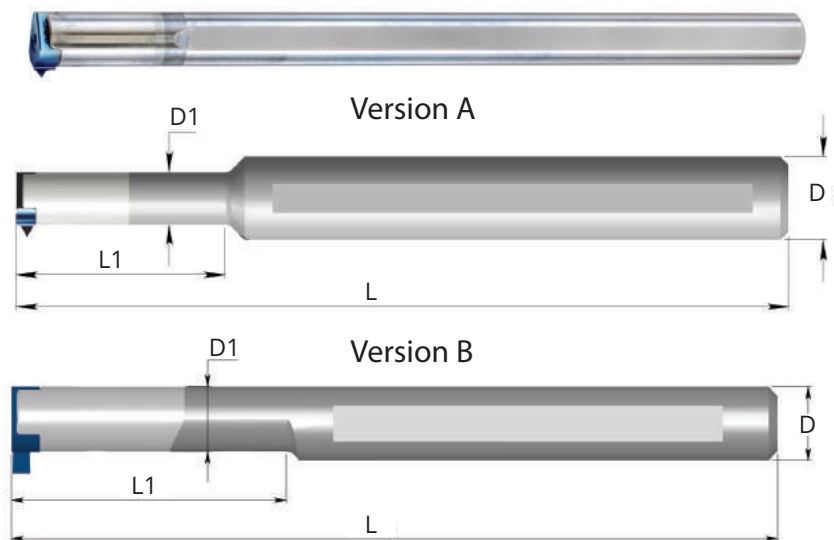
| Insert Type | Ordering Code | W ±0.02 | R | H max | D min | F |
|-------------|------------------------|------------|------|----------|----------|-----|
| T10 | T10 ZE R05 H15 | 1.0 | 0.5 | 1.5 | 12.0 | 8.0 |
| | T10 ZE R08 H25 | 1.6 | 0.8 | 2.5 | | |
| | T10 ZE R10 H30 | 2.0 | 1.0 | 3.0 | | |
| | T10 ZE R125 H30 | 2.5 | 1.25 | 3.0 | | |
| | T10 ZE R15 H30 | 3.0 | 1.5 | 3.0 | | |

Carbide Shank Toolholders

With through coolant



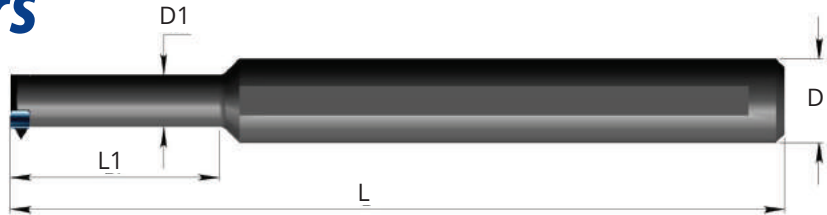
| Insert Type | Ordering Code | D | D1 | L1 | L | Insert Screw | Torx Key |
|-------------|-------------------------|---|----|----|-----|--------------|----------|
| T8 | ST 0008 L20 F08C | 8 | 7 | 20 | 80 | S5 | K5 |
| | ST 0008 L30 G08C | 8 | 7 | 30 | 95 | S5 | K5 |
| | ST 0008 L40 H08C | 8 | 7 | 40 | 105 | S5 | K5 |



| Insert Type | Ordering Code | D | D1 | L1 | L | Insert Screw | Torx Key | Toolholder Version |
|-------------|-------------------------|----|------|----|-----|--------------|----------|--------------------|
| T10 | ST 0010 L29 H10C | 10 | 8.8 | 29 | 100 | S11 | K11 | B |
| | ST 0010 L40 J10C | 10 | 8.8 | 40 | 110 | S11 | K11 | B |
| | ST 0010 M10C | 10 | 10.0 | - | 150 | S11 | K11 | A |
| | ST 0012 L37 J10C | 12 | 8.8 | 37 | 110 | S11 | K11 | B |
| | ST 0012 L40 J10C | 12 | 10.0 | 40 | 110 | S11 | K11 | A |
| | ST 0012 L50 K10C | 12 | 8.8 | 50 | 125 | S11 | K11 | B |
| | ST 0012 L55 K10C | 12 | 10.0 | 55 | 125 | S11 | K11 | A |

Order example: ST 0012 L37 J10C

Steel Toolholders



| Insert Type | Ordering Code | D | D1 | L1 | L | Insert Screw | Torx Key |
|-------------|-----------------|----|----|----|-----|--------------|----------|
| T10 | ST 0012 L25 E10 | 12 | 10 | 25 | 70 | S11 | K11 |
| | ST 0016 L25 G10 | 16 | 10 | 25 | 90 | S11 | K11 |
| | ST 0016 L35 H10 | 16 | 10 | 35 | 100 | S11 | K11 |

Technical Section

Carbide Grades

BLU PVD triple layer coated Sub-Micron grade for Steel, Stainless Steels, Titanium and hard materials.

Cutting Data

| ISO | Materials | Cutting Speed m/min | Recommended feed rate mm/rev |
|----------|--|---------------------|---|
| P | Low and Medium Carbon Steels <0.55%C | 25 - 70 | Grooving: 0.01-0.03 Back turning: 0.03-0.10 Face grooving: 0.01-0.08 Chamfering: 0.02-0.08 |
| | High Carbon Steels ≥0.55%C | 20 - 50 | |
| | Alloy Steels, Treated Steels | 15 - 30 | |
| M | Stainless Steels - Free Cutting | 25 - 70 | |
| | Stainless Steels - Austenitic | 20 - 40 | |
| | Cast Steels | 30 - 70 | |
| K | Cast Iron | 15 - 30 | |
| N | Aluminum ≤12%Si, Copper | 30 - 90 | |
| | Aluminum >12% Si | 20 - 70 | |
| | Synthetics, Duroplastics, Thermoplastics | 20 - 70 | |
| S | Nickel Alloys, Titanium Alloys | 20 - 50 | |
| H | Hardened Steel 45 - 50HRc | 10 - 40 | |

Threading Passes

| | | | | | | | | |
|------------------|-----|------|------|------|------|------|-------|-------|
| Pitch: | mm | 0.5 | 0.7 | 0.8 | 1.0 | 1.25 | 1.5 | 2-5 |
| | TPI | 48 | 36 | 32 | 24 | 20 | 16 | 14-5 |
| Number of Passes | | 6-12 | 7-14 | 7-16 | 8-18 | 8-20 | 10-22 | 20-38 |