# Turning tools

Walter offers a complete range of tools for turning, grooving and thread machining.
All tools are available with standard ISO square shanks and boring bars, and also with Walter Capto™ interface C3-C8 in accordance with ISO 26623 for maximum flexibility, stability and accuracy.

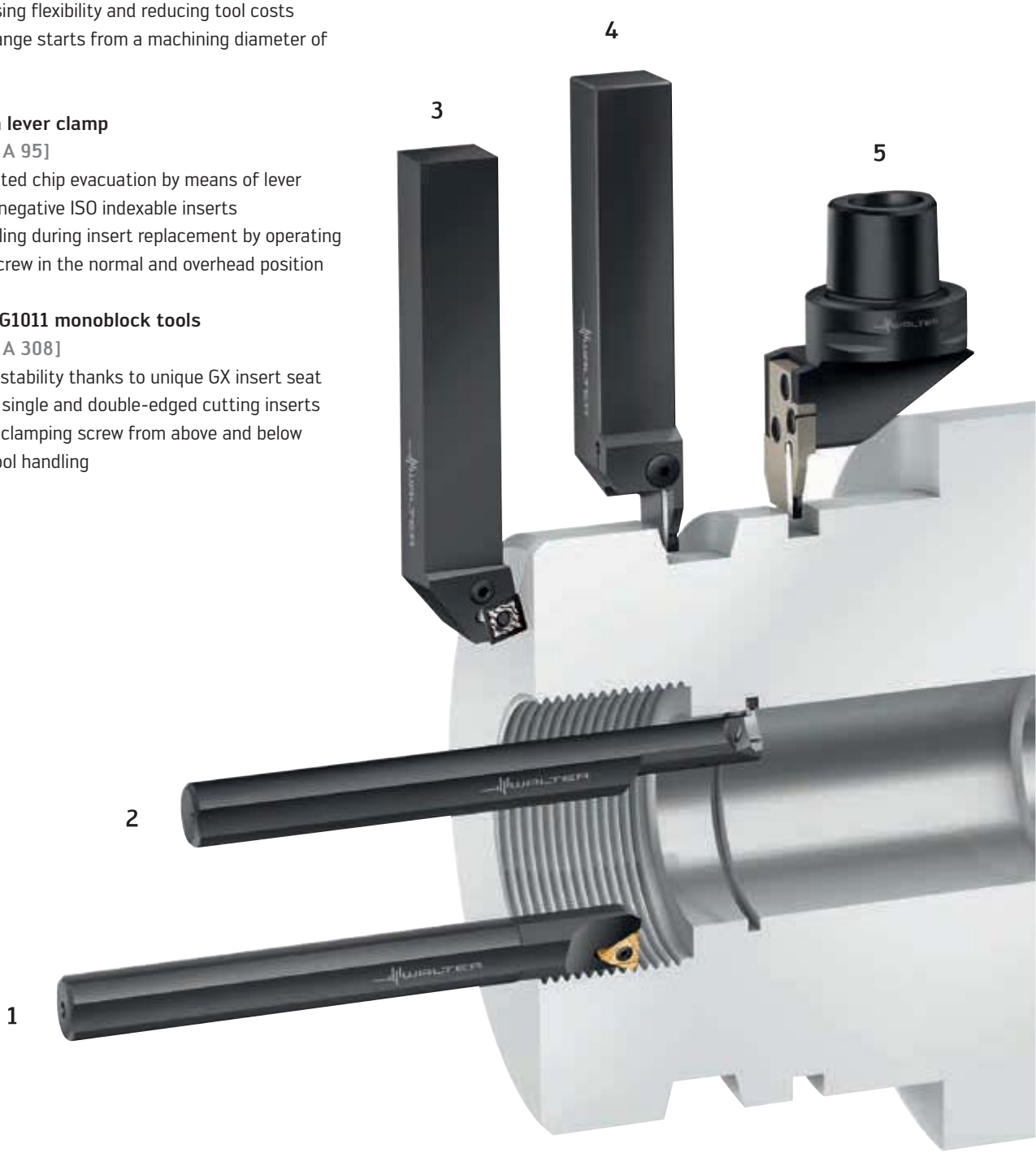
**1 Walter NTS thread turning – Internal machining**
[from page A 453]
- Standard ISO boring bars and Walter Capto™ boring bars
- Three-edged indexable inserts for all of the most popular threads such as ISO metric, Whitworth, American UN, etc.

**2 Walter Cut – Internal machining**
[from page A 325]
- Modular system for double-edged GX indexable inserts for increasing flexibility and reducing tool costs
- The tool range starts from a machining diameter of 16 mm

**3 Walter Turn lever clamp**
[from page A 95]
- Unobstructed chip evacuation by means of lever clamp for negative ISO indexable inserts
- Easy handling during insert replacement by operating just one screw in the normal and overhead position

**4 Walter Cut G1011 monoblock tools**
[from page A 308]
- Maximum stability thanks to unique GX insert seat design for single and double-edged cutting inserts
- Access to clamping screw from above and below for easy tool handling

**5 Walter Cut modular system**
[from page A 368]
- Maximum flexibility with more than 900 possible combinations
- Reduction in inventory costs and faster set-up times

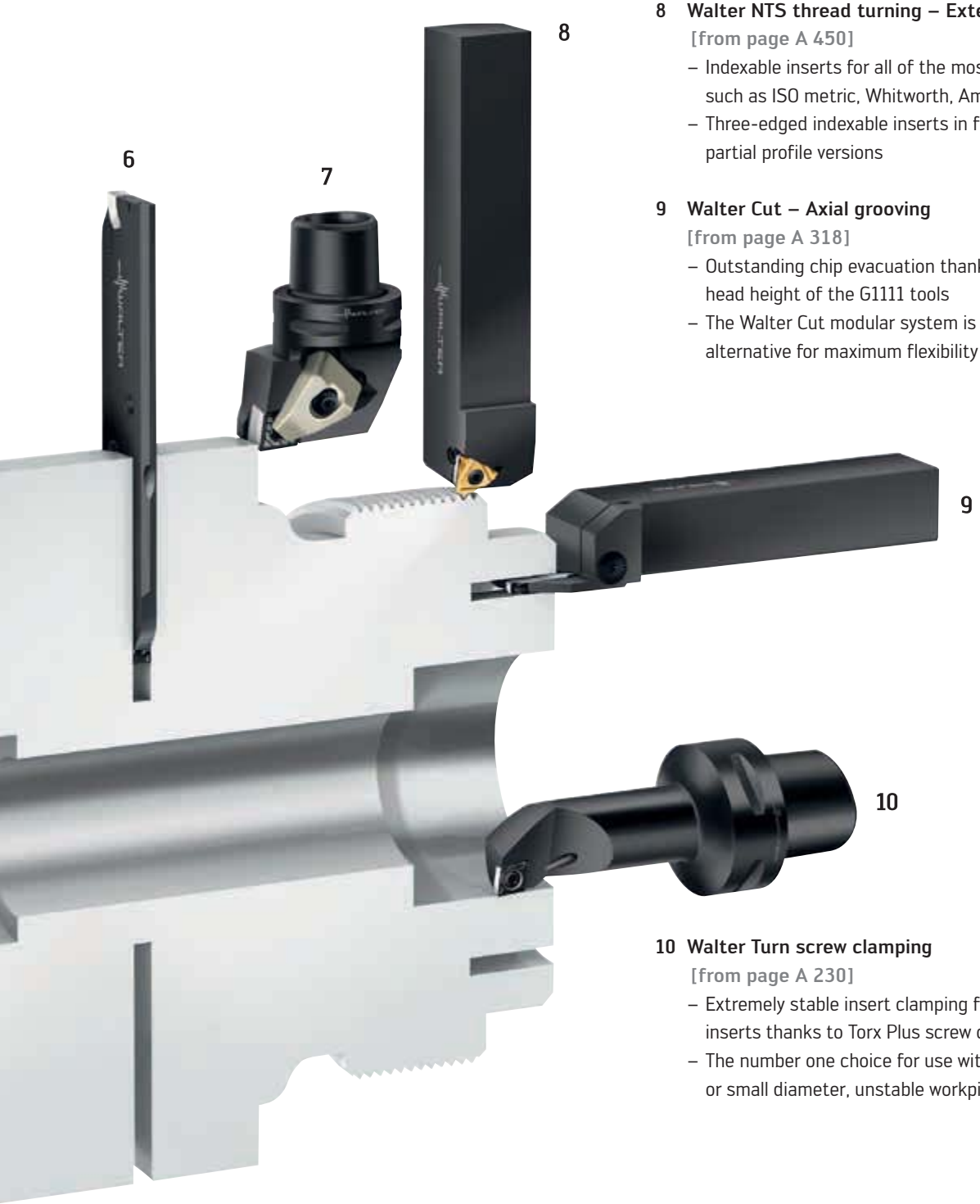


**6 Walter Cut G2042 deep parting blade**
[from page A 330]
- Stable self-clamping system for SX cutting inserts using integral top clamp and optimised insert seat
- Cost-effective, single-edged parting off solution for a cutting depth of up to 80 mm

**7 Walter Turn rigid clamping**
[from page A 93]
- Extremely stable insert clamping for negative ISO indexable inserts
- Walter precision cooling on the rake face and flank face increases tool life by 30-150%

**8 Walter NTS thread turning – External machining**
[from page A 450]
- Indexable inserts for all of the most popular threads such as ISO metric, Whitworth, American UN, etc.
- Three-edged indexable inserts in full profile and partial profile versions

**9 Walter Cut – Axial grooving**
[from page A 318]
- Outstanding chip evacuation thanks to the low tool head height of the G1111 tools
- The Walter Cut modular system is available as an alternative for maximum flexibility




**10 Walter Turn screw clamping**
[from page A 230]
- Extremely stable insert clamping for positive ISO indexable inserts thanks to Torx Plus screw clamping
- The number one choice for use with low cutting pressures or small diameter, unstable workpieces

| | | Page |
|---|---|---|
| **Indexable inserts** | Product range overview – ISO indexable inserts | A 7 |
| | Designation key – ISO indexable inserts | A 8 |
| | Walter Select – ISO turning | A 12 |
| | ISO indexable inserts – Negative basic shape | A 20 |
| | ISO indexable inserts – Positive basic shape 5°/7°/11° | A 37 |
| | Product range overview – CBN/PCD/ceramic | A 60 |
| | Designation key – CBN/PCD/ceramic | A 61 |
| | ISO indexable inserts – CBN/PCD/ceramic | A 64 |
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| | Product range overview | A 80 |
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| | Walter Capto™ turning toolholders – Positive basic shape | A 168 |
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| | | Page |
|---|---|---|
| **Walter Turn turning tools – Internal machining** | Product description | A 189 |
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| | Cutting tool material application charts | A 244 |
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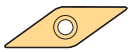
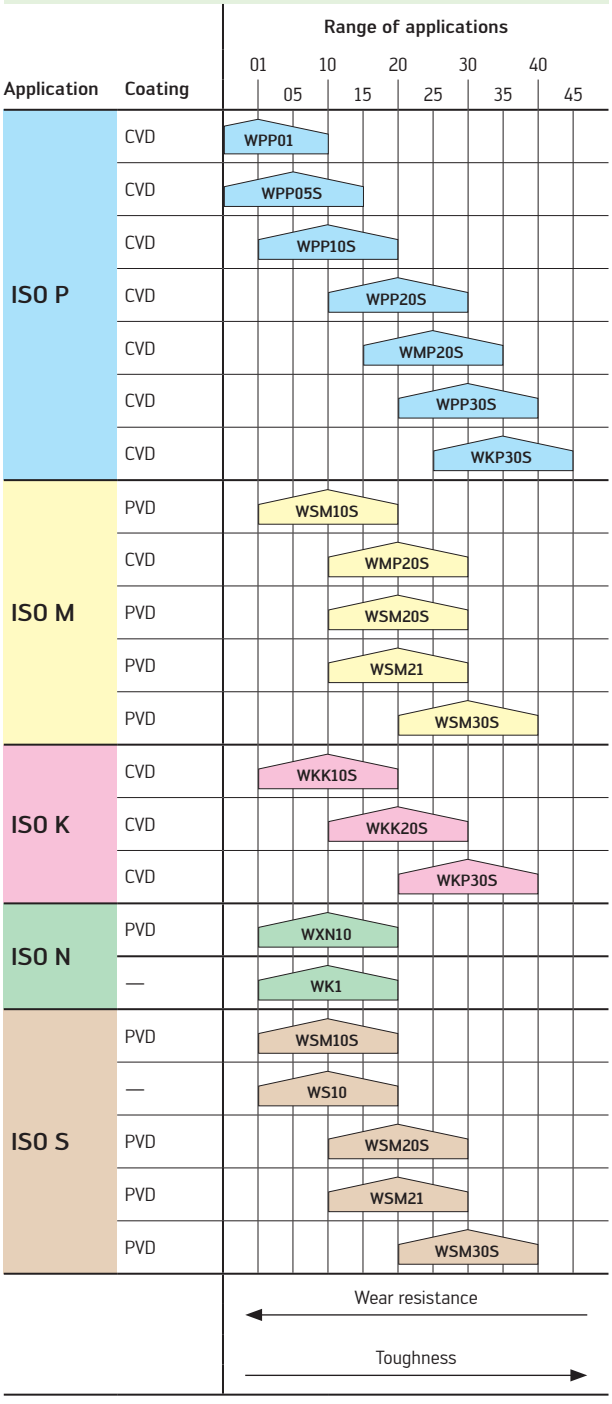
| | Coolant nozzles and adaptors | A 267 |

# Product range overview of indexable inserts and cutting tool materials: ISO turning – Carbides

## Indexable inserts

| Insert shape | | Description | Page |
|---|---|---|---|
| Wiper | **C** | Negative basic shape | A 20 |
| | | Positive basic shape 7° | A 37 |
| | | Positive basic shape 11° | A 41 |
| Wiper | **D** | Negative basic shape | A 24 |
| | | Positive basic shape 7° | A 42 |
| | | Positive basic shape 11° | A 45 |
| | **R** | Positive basic shape 7° | A 46 |
| | **S** | Negative basic shape | A 27 |
| | | Positive basic shape 7° | A 48 |
| | | Positive basic shape 11° | A 50 |
| | **T** | Negative basic shape | A 30 |
| | | Positive basic shape 7° | A 51 |
| | | Positive basic shape 11° | A 54 |
|  | **V** | Negative basic shape | A 33 |
| | | Positive basic shape 5°/7° | A 55 |
| Wiper | **W** | Negative basic shape | A 34 |
| | | Positive basic shape 7° | A 58 |

## Cutting tool materials: Carbide

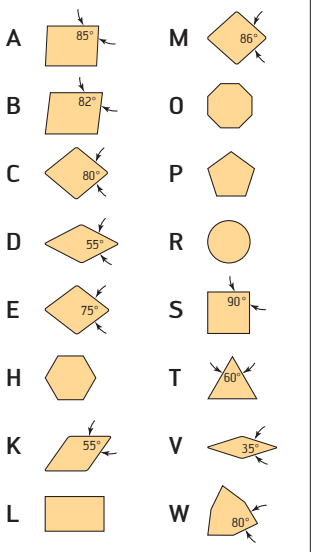


# Designation key in accordance with ISO 1832 for indexable inserts for turning

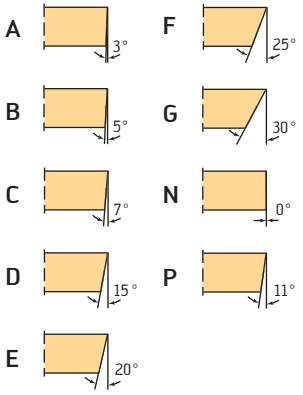
**Example 1:**

| C | N | M | G | 12 | 04 | 08 | – | M | P | 5 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | | 12 | 13 | 14 |

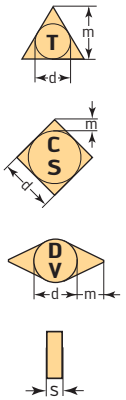
## 1 Insert shape




## 2 Clearance angle




## 3 Tolerances




**Permissible deviation in mm for**

| | d | m | s |
|---|---|---|---|
| A | ± 0,025 | ± 0,005 | ± 0,025 |
| C | ± 0,025 | ± 0,013 | ± 0,025 |
| E | ± 0,025 | ± 0,025 | ± 0,025 |
| F | ± 0,013 | ± 0,005 | ± 0,025 |
| G | ± 0,025 | ± 0,025 | ± 0,130 |
| H | ± 0,013 | ± 0,013 | ± 0,025 |
| J[1] | ± 0,05–0,15[2] | ± 0,005 | ± 0,025 |
| K[1] | ± 0,05–0,15[2] | ± 0,013 | ± 0,025 |
| L[1] | ± 0,05–0,15[2] | ± 0,025 | ± 0,025 |
| M | ± 0,05–0,15[2] | ± 0,08–0,20[2] | ± 0,130 |
| N | ± 0,05–0,15[2] | ± 0,08–0,20[2] | ± 0,025 |
| U | ± 0,08–0,25[2] | ± 0,13–0,38[2] | ± 0,130 |

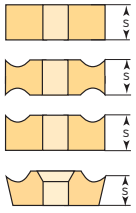
[1] Inserts with ground planar cutting edges
[2] Depending on the insert size (see ISO standard 1832)

## 5 Cutting edge length l [mm]

| Inner circle diameter d | | C | | D | | R | S | | T | | V | | W | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| mm | Inches | Size | l | Size | l | Size | Size | l | Size | l | Size | l | Size | l |
| 3,97 | 5/32 | | | | | | | | **06** | 6,9 | | | | |
| 5 | 0,197 | | | | | **05** | | | | | | | **03** | 3,8 |
| 5,56 | 7/32 | | | | | | | | **09** | 9 | | | | |
| 6 | 0,236 | | | | | **06** | | | | | | | | |
| 6,35 | 2/8 | **06** | 6,4 | **07** | 7,7 | **06**[1] | | | **11** | 11 | **11** | 11 | **04** | 4,3 |
| 8 | 0,315 | | | | | **08** | | | | | | | **05** | 5,2 |
| 9,525 | 3/8 | **09** | 9,6 | **11** | 11,6 | **09**[1] | **09** | 9,5 | **16** | 16,5 | **16** | 16,5 | **06** | 6,5 |
| 10 | 0,394 | | | | | **10** | | | | | | | | |
| 12 | 0,472 | | | | | **12** | | | | | | | | |
| 12,7 | 4/8 | **12** | 12,9 | **15** | 15,5 | **12**[1] | **12** | 12,7 | **22** | 22 | **22** | 22,1 | **08** | 8,7 |
| 15,875 | 5/8 | **16** | 16,1 | | | | **15** | 15,8 | **27** | 27 | | | **10** | 10,8 |
| 16 | 0,63 | | | | | **16** | | | | | | | | |
| 17,46 | 11/16 | | | | | | | | | | | | **12** | 11,6 |
| 19,05 | 6/8 | **19** | 19,3 | | | **19**[1] | **19** | 19,0 | | | | | | |
| 20 | 0,787 | | | | | **20** | | | | | | | | |
| 25 | 0,984 | | | | | **25** | | | | | | | | |
| 25,4 | 8/8 | **25** | 25,8 | | | **25**[1] | **25** | 25,4 | | | | | | |
| 32 | 1,26 | | | | | **32** | | | | | | | | |

[1] Inch version (00)

## 6 Insert thickness s [mm]



| | |
|---|---|
| **01** | s = 1,59 |
| **T1** | s = 1,98 |
| **02** | s = 2,38 |
| **T2** | s = 2,78 |
| **03** | s = 3,18 |
| **T3** | s = 3,97 |
| **04** | s = 4,76 |
| **05** | s = 5,56 |
| **06** | s = 6,35 |
| **07** | s = 7,94 |
| **09** | s = 9,52 |

## Example 2:

| T | N | M | A | 16 | 04 | 08 | T | 020 | 20 |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 10 | 11 |

### 4 – Machining and fastening features

| | | | |
|---|---|---|---|
| A | H β = 70–90° | R | X Drawing or precise description of the indexable insert is required |
| B β = 70–90° | J β = 70–90° | T β = 40–60° | |
| C β = 70–90° | M | U β = 40–60° | |
| F | N | W β = 40–60° | |
| G | Q β = 40–60° | | |

### 7 – Corner radius (r) [mm]

| | |
|---|---|
| 01 | r = 0,1 |
| 02 | r = 0,2 |
| 04 | r = 0,4 |
| 08 | r = 0,8 |
| 12 | r = 1,2 |
| 16 | r = 1,6 |
| 24 | r = 2,4 |
| R | |

**M0** Metric version (diameter in [mm])

**00** Inch version (diameter with inch units in [mm])

### 8 – Edge formation

F

E

T

S

### 9 – Cutting direction

R

L

N

### 10 – Chamfer width

**010** = 0,10 mm

**020** = 0,20 mm

**025** = 0,25 mm

**070** = 0,70 mm

**150** = 1,50 mm

**200** = 2,00 mm

### 11 – Chamfer angle

**15** = 15°

**20** = 20°

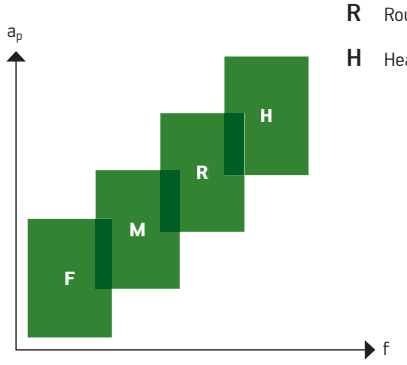
# Geometry designation key for indexable inserts for turning

Geometry index

| C | N | M | G | 12 | 04 | 08 | – | M | P | 5 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | | 12 | 13 | 14 |

## New geometry index (valid from 09/2011)

### 12 – Chip breaking area




- F Finishing operation
- M Medium machining
- R Roughing operation
- H Heavy cutting

### 13 – Material

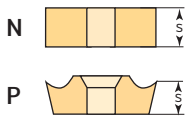
- P Steel
- M Stainless steel
- K Cast iron
- N NF metals
- S Materials with difficult cutting properties
- H Hard materials
- U Universal
- W Wiper

### 14 – Feed/depth of cut within the chip breaking area

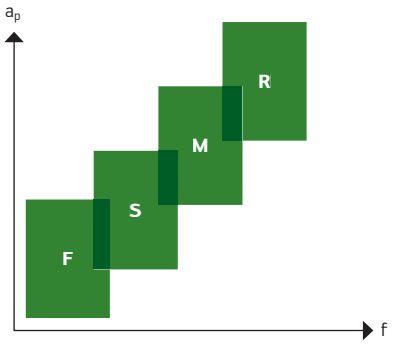
High
9
8
7
6
5
4
3
2
1
Low

## Old geometry index

### 12 – Basic shape




### 13 – Chip breaking area




- F Finishing operation
- S Semi-finishing
- M Medium machining
- R Roughing operation

### 14 – Cutting edge type

- 1 Fine
- 4 Average
- 9 Robust
- S ISO S high-temperature alloy materials
- T ISO S titanium materials

# Designation key for carbide cutting tool materials – Turning

**Example:**

| W | M | P | 20 | S |
|---|---|---|---|---|
| Walter | 1 | 2 | 3 | 4 |

**1**

**1. Primary application or coating type**

| | |
|---|---|
| P | Steel |
| M | Stainless steel |
| K | Cast iron |
| N | NF metals |
| S | Materials with difficult cutting properties |
| H | Hard materials |
| A | CVD aluminium oxide coating |
| X | PVD coating |

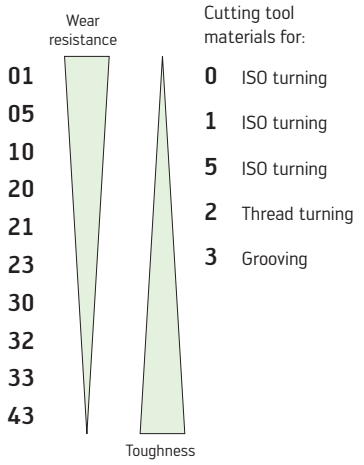
**2**

**2. Primary application**

| | |
|---|---|
| P | Steel |
| M | Stainless steel |
| K | Cast iron |
| N | NF metals |
| S | Materials with difficult cutting properties |
| H | Hard materials |

**3**

**ISO range of applications**




| | | | |
|---|---|---|---|
| 01 | | 0 | ISO turning |
| 05 | | 1 | ISO turning |
| 10 | | 5 | ISO turning |
| 20 | | 2 | Thread turning |
| 21 | | 3 | Grooving |
| 23 | | | |
| 30 | | | |
| 32 | | | |
| 33 | | | |
| 43 | | | |

Cutting tool materials for:

**4**

**Generation**

| | |
|---|---|
| S | Tiger·tec® Silver |

# Walter Select for indexable inserts for turning

Step by step to the right indexable insert

## STEP 1

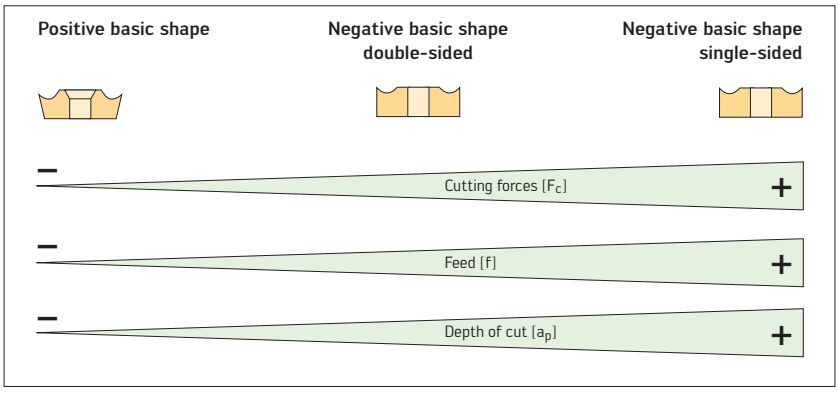
Determine the **material** to be machined from page A 468 onwards.

Note the **machining group** that corresponds to your material, e.g.: P10.

| Code letters | Machining groups | Groups of the materials to be machined | |
|---|---|---|---|
| **P** | **P1–P15** | **Steel** | All types of steel and steel casting, with the exception of steel with an austenitic structure |
| **M** | **M1–M3** | **Stainless steel** | Austenitic stainless steel, austenitic-ferritic steel and steel casting |
| **K** | **K1–K7** | **Cast iron** | Grey cast iron, cast iron with spheroidal graphite, malleable cast iron, cast iron with vermicular graphite |
| **N** | **N1–N10** | **NF metals** | Aluminium and other non-ferrous metals, non-ferrous materials |
| **S** | **S1–S10** | **Materials with difficult cutting properties** | Heat-resistant special alloys based on iron, nickel and cobalt, titanium and titanium alloys |
| **H** | **H1–H4** | **Hard materials** | Hardened steel, hardened cast iron materials, chilled cast iron |
| **O** | **O1–O6** | **Other** | Plastics, glass and carbon fibre reinforced plastics, graphite |

## STEP 2

Determine the **basic shape** of the indexable insert:




## STEP 3

Select the **machining conditions:**

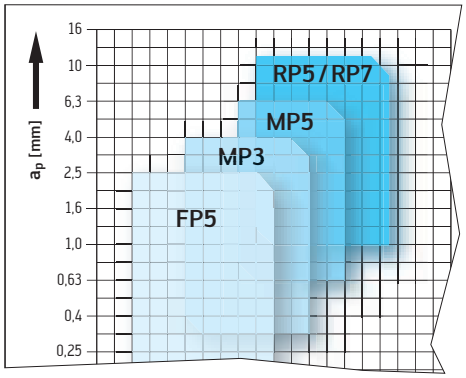
| Type of cutting action | Machine stability, clamping system and workpiece | | |
|---|---|---|---|
| | very good | good | moderate |
| Smooth cut, premachined surface | ☺ | ☺ | 😐 |
| Cast or forged skin, variable depths of cut | ☺ | 😐 | ☹ |
| Interrupted cuts | 😐 | ☹ | ☹ |

## STEP 4

Determine the **indexable insert geometry** via the depth of cut ($a_p$) and the feed (f).

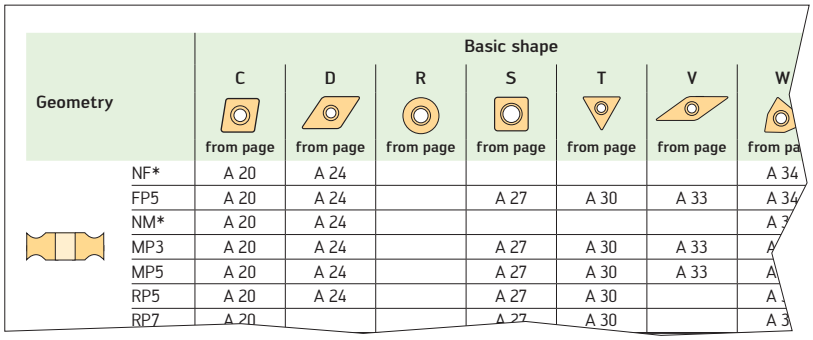
Geometries for

| | | |
|---|---|---|
| P | Steel | See page A 14 |
| M | Stainless steel | See page A 15 |
| K | Cast iron | See page A 16 |
| N | NF metals | See page A 17 |
| S | High-temperature alloys | See page A 18 |
| H | Hard materials | See page A 19 |




## STEP 5

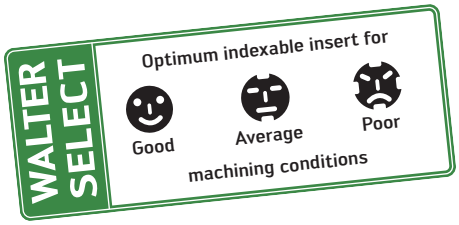
Overview of catalogue page on which you will find the selected **geometry** in the relevant **basic shape**.

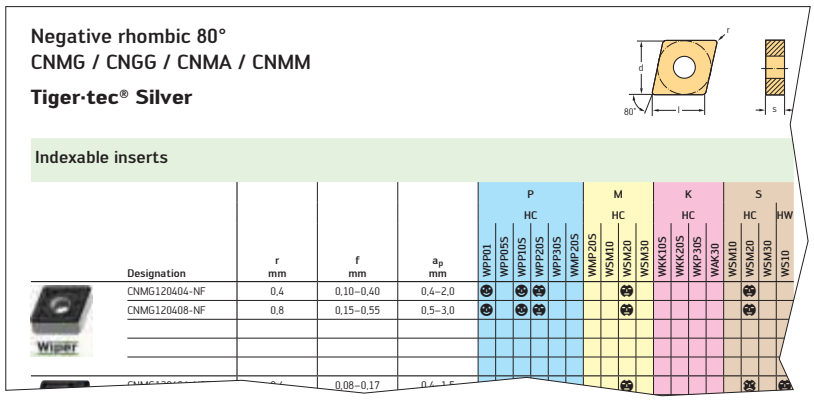


| Geometry | | Basic shape C from page | D from page | R from page | S from page | T from page | V from page | W from page |
|---|---|---|---|---|---|---|---|---|
| | NF* | A 20 | A 24 | | | | | A 34 |
| | FP5 | A 20 | A 24 | | A 27 | A 30 | A 33 | A 34 |
| | NM* | A 20 | A 24 | | | | | A 3 |
| | MP3 | A 20 | A 24 | | A 27 | A 30 | A 33 | A |
| | MP5 | A 20 | A 24 | | A 27 | A 30 | A 33 | A |
| | RP5 | A 20 | A 24 | | A 27 | A 30 | | A |
| | RP7 | A 20 | | | A 27 | A 30 | | A 3 |

## STEP 6

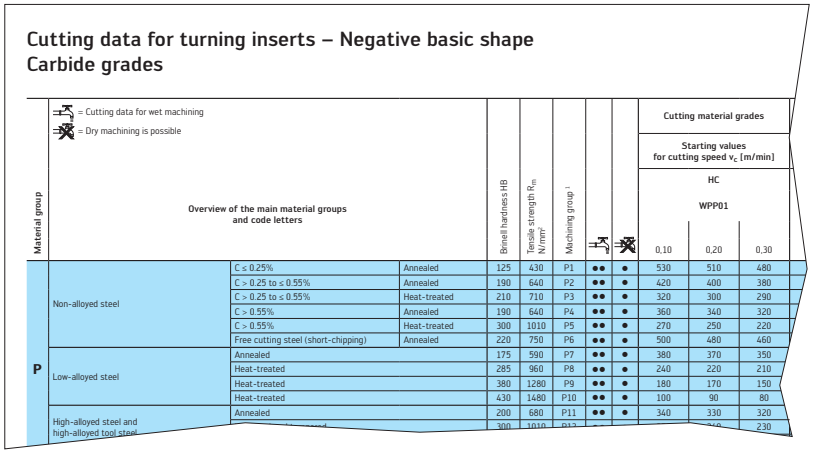
You will find the cutting tool material recommendation, the feed value (f) and the depth of cut ($a_p$) on the specified catalogue page.




## STEP 7

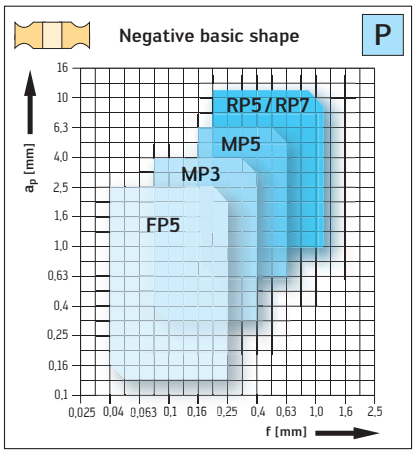
Select the **cutting data** in the technical information from page A 234 onwards for your selected indexable insert.

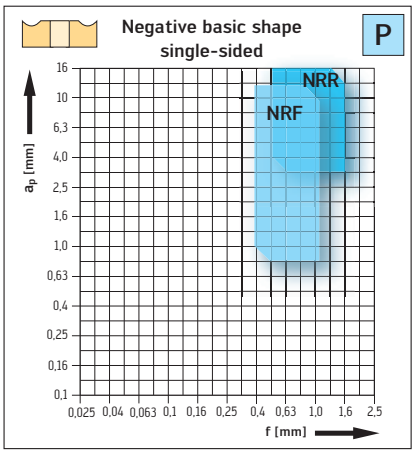


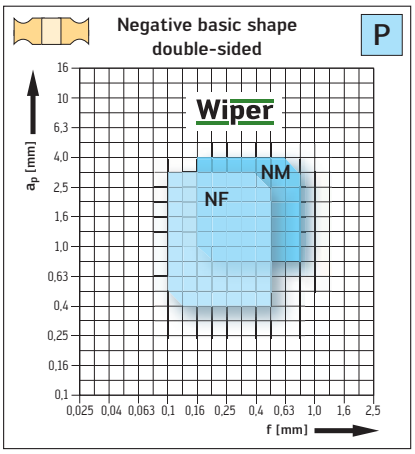
# Walter Select – ISO P steel machining

## STEP 4

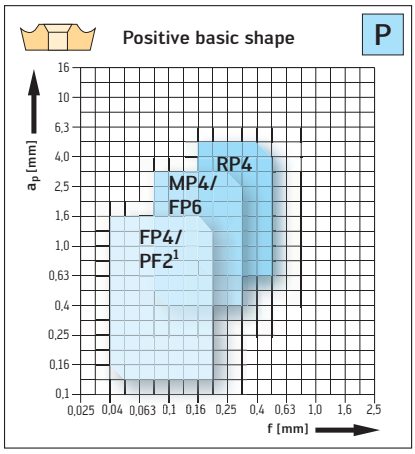
Determine the **indexable insert geometry** via the depth of cut ($a_p$) and the feed (f).

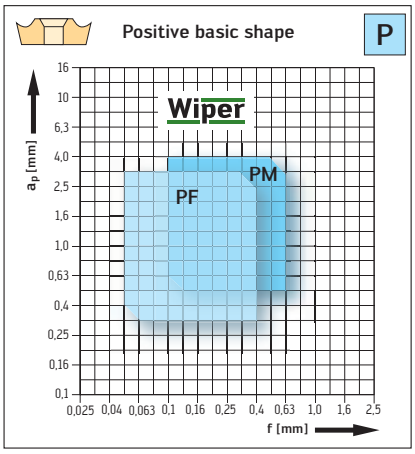



RP5: For universal machining
RP7: For interrupted cuts, cast skin/forged skin




MP4: For universal machining, copy turning
FP6: For semi-finishing operations
[1] Circumference fully ground

**Wiper**

For more technical information, see page A 255 onwards.

## STEP 5

Overview of catalogue page on which you will find the selected **geometry** in the relevant **basic shape**.

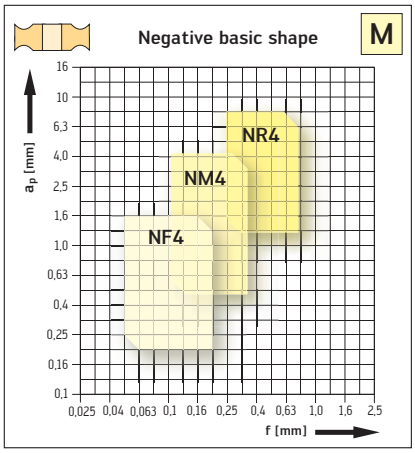
| Geometry | | Basic shape C from page | D from page | R from page | S from page | T from page | V from page | W from page |
|---|---|---|---|---|---|---|---|---|
| | NF* | A 20 | A 24 | | | | | A 34 |
| | FP5 | A 20 | A 24 | | A 27 | A 30 | A 33 | A 34 |
| | NM* | A 20 | A 24 | | | | | A 34 |
| | MP3 | A 20 | A 24 | | A 27 | A 30 | A 33 | A 34 |
| | MP5 | A 20 | A 24 | | A 27 | A 30 | A 33 | A 34 |
| | RP5 | A 20 | A 24 | | A 27 | A 30 | | A 34 |
| | RP7 | A 20 | | | A 27 | A 30 | | A 34 |
| | NRF | A 20 | A 24 | | A 27 | A 30 | | A 34 |
| | NRR | A 20 | | | A 27 | A 30 | | |
| | PF* | A 37 | A 42 | | | | | A 58 |
| | PF2 | A 37 | A 42 | | A 48 | A 51 | A 55 | A 58 |
| | FP4 | A 37 | A 42 | A 46 | A 48 | A 51 | A 55 | A 58 |
| | FP6 | A 37 | A 42 | | A 48 | A 51 | A 55 | A 58 |
| | PM* | A 37 | A 42 | | | | | |
| | MP4 | A 37 | A 42 | | A 48 | A 51 | A 55 | A 58 |
| | RP4 | A 37 | A 42 | A 46 | A 48 | A 51 | A 55 | A 58 |
| | HU6 | | | A 46 | | | | |

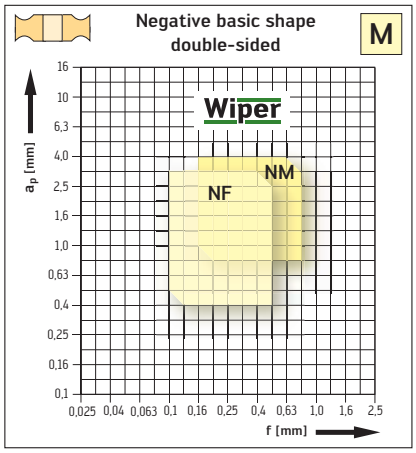
* Wiper

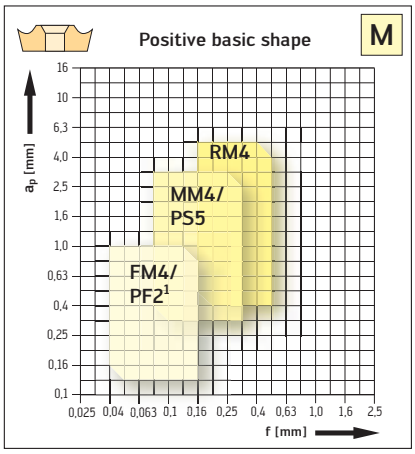
# Walter Select – ISO M stainless steel

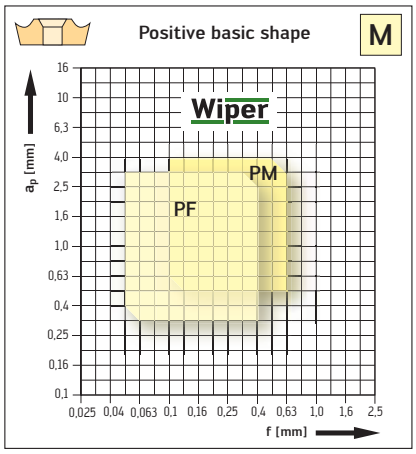
## STEP 4

Determine the **indexable insert geometry** via the depth of cut ($a_p$) and the feed (f).




MM4: For universal machining, copy turning
PS5: For semi-finishing operations
[1] Circumference fully ground

**Wiper**

For more technical information, see page A 255 onwards.

## STEP 5

Overview of catalogue page on which you will find the selected **geometry** in the relevant **basic shape**.

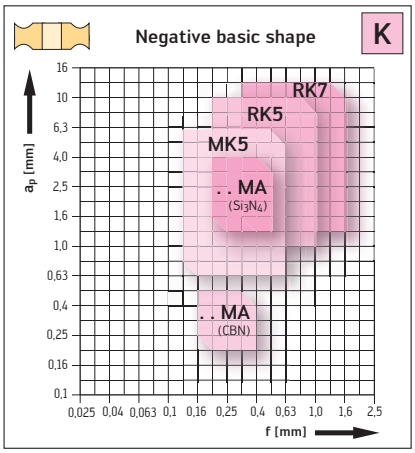
| Geometry | | Basic shape C from page | D from page | R from page | S from page | T from page | V from page | W from page |
|---|---|---|---|---|---|---|---|---|
| | NF* | A 20 | A 24 | | | | | A 34 |
| | NF4 | A 20 | A 24 | | A 27 | A 30 | | A 34 |
| | NM* | A 20 | | | | | | A 34 |
| | NM4 | A 20 | A 24 | | A 27 | A 30 | A 33 | A 34 |
| | NR4 | A 20 | A 24 | | A 27 | A 30 | | A 34 |
| | PF* | A 37 | A 42 | | | | | A 58 |
| | PF2 | A 37 | A 42 | | A 48 | A 51 | A 55 | A 58 |
| | FM4 | A 37 | A 42 | A 46 | A 48 | A 51 | A 55 | A 58 |
| | PF5 | A 37 | | A 46 | | | A 55 | |
| | PS5 | A 37 | A 42 | | A 48 | A 51 | A 55 | |
| | PM* | A 37 | A 42 | | | | | |
| | MM4 | A 37 | A 42 | | A 48 | A 51 | A 55 | A 58 |
| | RM4 | A 37 | A 42 | A 46 | A 48 | A 51 | A 55 | A 58 |

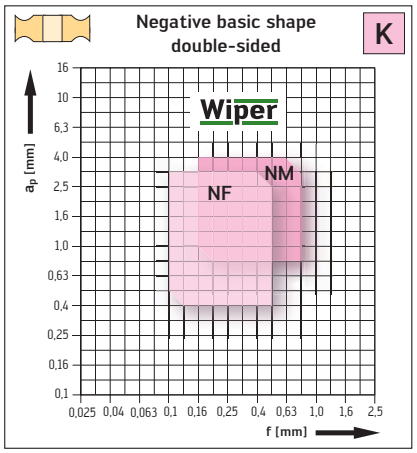
* Wiper

# Walter Select – ISO K cast iron machining

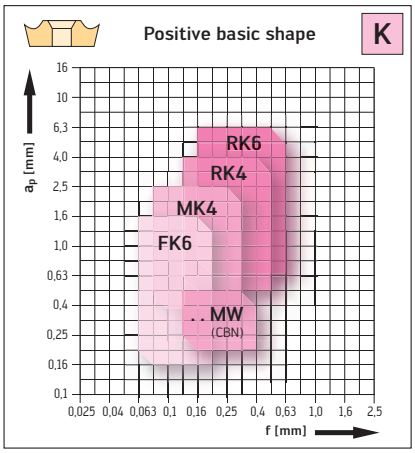
## STEP 4

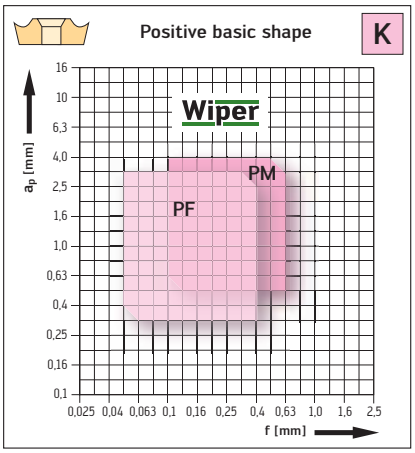
Determine the **indexable insert geometry** via the depth of cut ($a_p$) and the feed (f).




RK5: For universal machining
RK7: For interrupted cuts, extreme cast skin




**Wiper**

For more technical information, see page A 255 onwards.

## STEP 5

Overview of catalogue page on which you will find the selected **geometry** in the relevant **basic shape**.

| Geometry | | Basic shape C from page | D from page | R from page | S from page | T from page | V from page | W from page |
|---|---|---|---|---|---|---|---|---|
| | NF* | A 20 | A 24 | | | | | A 34 |
| | NM* | A 20 | A 24 | | | | | A 34 |
| | MK5 | A 20 | A 24 | | A 27 | A 30 | A 33 | A 34 |
| | RK5 | A 20 | A 24 | | A 27 | A 30 | A 33 | A 34 |
| | RK7 | A 20 | A 24 | | A 27 | A 30 | | A 34 |
| | . . MA (CBN) | A 64 | A 64 | | A 65 | | | |
| | . . MA ($Si_3N_4$) | A 73 | A 73 | | A 74 | | | |
| | PF* | A 37 | A 42 | | | | | A 58 |
| | FK6 | A 37 | A 42 | | A 48 | A 51 | A 55 | A 58 |
| | PM* | A 37 | A 42 | | | | | |
| | MK4 | A 37 | A 42 | | A 48 | A 51 | A 55 | A 58 |
| | RK4 | A 37 | A 42 | A 46 | A 48 | A 51 | A 55 | A 58 |
| | RK6 | A 37 | A 42 | | A 48 | A 51 | A 55 | |
| | HU6 | | | A 46 | | | | |
| | . . MW (CBN) | A 66 | A 67 | | | A 67 | A 68 | A 68 |

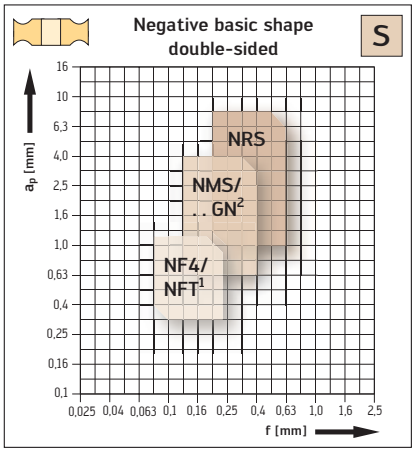
* Wiper

# Walter Select – ISO S high-temperature and titanium alloys

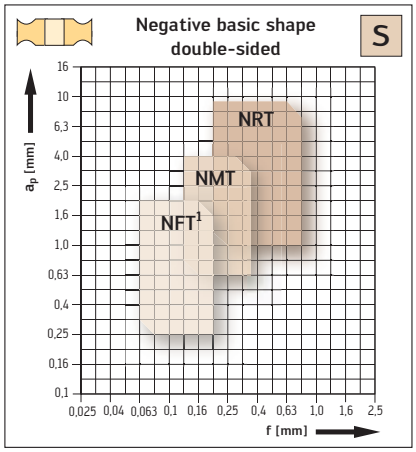
## STEP 4

Determine the **indexable insert geometry** via the depth of cut ($a_p$) and the feed (f).

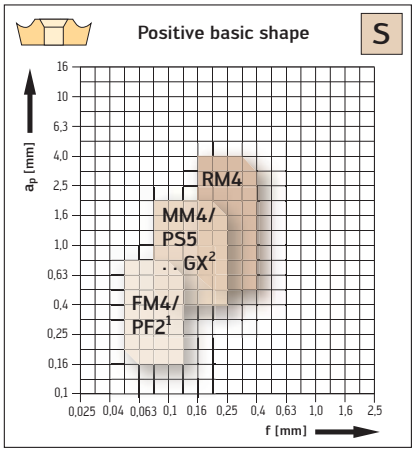
**Ni, Co and Fe-based alloys**




**Titanium-based alloys**




**Ni, Co, Fe and titanium-based alloys**




MM4: For universal machining, copy turning
PS5: For semi-finishing operations

[1] Circumference fully ground
[2] Ceramic

## STEP 5

Overview of catalogue page on which you will find the selected **geometry** in the relevant **basic shape**.

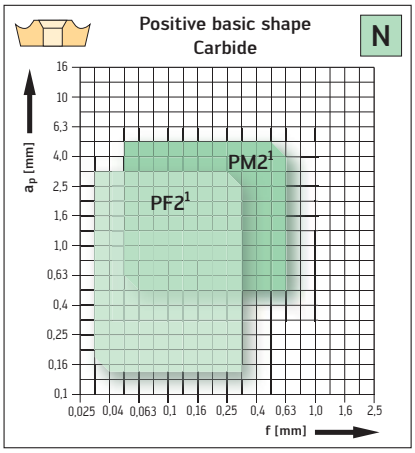
| Geometry | | Basic shape | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | C | D | R | S | T | V | W |
| | | from page | from page | from page | from page | from page | from page | from page |
| | NFT | A 20 | A 24 | | | | A 33 | |
| | NF4 | A 20 | A 24 | | A 27 | A 30 | | A 34 |
| | NMT | A 20 | A 24 | | | A 30 | | A 34 |
| | NMS | A 20 | A 24 | | | A 30 | A 33 | A 34 |
| | NRT | A 20 | | | A 27 | | | |
| | NRS | A 20 | A 24 | | A 27 | A 30 | | A 34 |
| | . . GN[2] | A 73 | A 73 | A 74 | A 74 | | | |
| | PF2 | A 37 | A 42 | | A 48 | A 51 | A 55 | A 58 |
| | FM4 | A 37 | A 42 | A 46 | A 48 | A 51 | A 55 | A 58 |
| | PF5 | A 37 | | A 46 | | | A 55 | |
| | PS5 | A 37 | A 42 | | A 48 | A 51 | A 55 | |
| | MM4 | A 37 | A 42 | | A 48 | A 51 | A 55 | A 58 |
| | RM4 | A 37 | A 42 | A 46 | A 48 | A 51 | A 55 | A 58 |
| | . . GX[2] | | | A 74 | | | | |

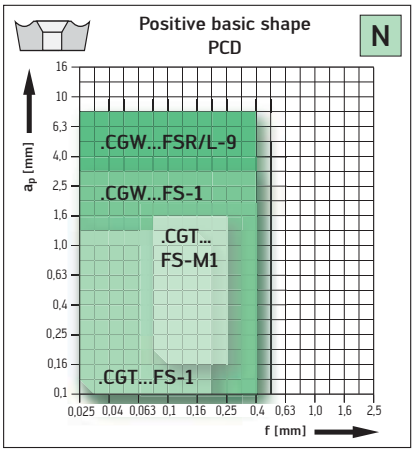
[2] Ceramic

# Walter Select – ISO N NF metals

## STEP 4

Determine the **indexable insert geometry** via the depth of cut ($a_p$) and the feed (f).




[1] Circumference fully ground

## STEP 5

Overview of catalogue page on which you will find the selected **geometry** in the relevant **basic shape**.

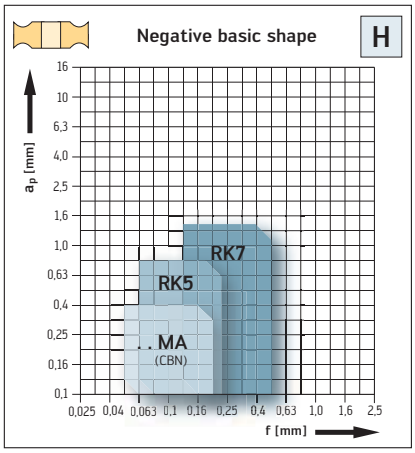
| Geometry | | Basic shape | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | C | D | R | S | T | V | W |
| | | from page | from page | from page | from page | from page | from page | from page |
| | PF2 | A 37 | A 42 | | A 48 | A 51 | A 55 | A 58 |
| | PM2 | A 37 | A 42 | A 46 | A 48 | A 51 | A 55 | A 58 |
| | . CGT . . . FS-M1[1] | A 69 | A 70 | | | | | |
| | . CGT . . . FS-1[1] | A 69 | A 70 | | | | A 72 | |
| | . CGW . . . FS-1[1] | A 69 | A 70 | | | A 71 | A 72 | |
| | . CGW . . . FSR/L-9[1] | A 69 | | | A 71 | A 71 | | |

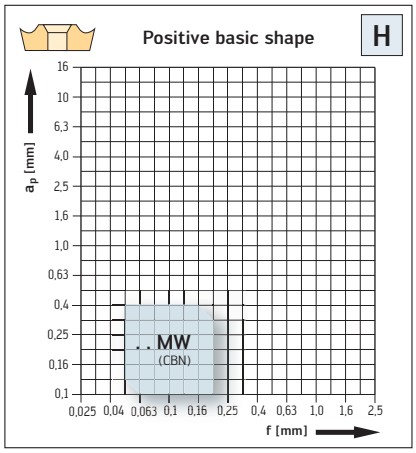
[1] PCD

# Walter Select – ISO H hard machining

## STEP 4

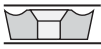
Determine the **indexable insert geometry** via the depth of cut ($a_p$) and the feed (f).



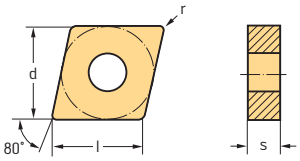

## STEP 5

Overview of catalogue page on which you will find the selected **geometry** in the relevant **basic shape**.

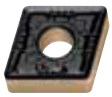
| Geometry | | Basic shape C from page | D from page | R from page | S from page | T from page | V from page | W from page |
|---|---|---|---|---|---|---|---|---|
| | RK5[1] | A 20 | A 24 | | A 27 | A 30 | A 33 | A 34 |
| | RK7[1] | A 20 | A 24 | | A 27 | A 30 | A 33 | A 34 |
| | . . MA[2] | A 64 | A 64 | | A 65 | A 65 | | |
|  | . . MW[2] | A 66 | A 67 | | | A 67 | A 68 | |

[1] Use grade WKK10S
[2] CBN

# Negative rhombic 80°
# CNMG / CNGG / CNMA / CNMM
## Tiger·tec® Silver




## Indexable inserts

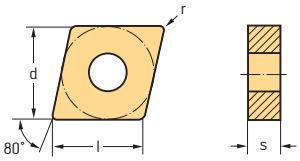
| | Designation | r mm | f mm | $a_p$ mm | P HC WPP01 | P HC WPP05S | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10 | M HC WSM20 | M HC WSM30 | K HC WKK10S | K HC WKK20S | K HC WKP30S | K HC WAK30 | S HC WSM10 | S HC WSM20 | S HC WSM30 | HW WS10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CNMG120404-NF | 0,4 | 0,10–0,40 | 0,4–2,0 | ● | | ● | ● | | | | | ● | | | | | | ● | | |
| | CNMG120408-NF | 0,8 | 0,15–0,55 | 0,5–3,0 | ● | | ● | ● | | | | | ● | | | | | | ● | | |
| | CNMG120404-NFT | 0,4 | 0,08–0,17 | 0,4–1,5 | | | | | | | | | ● | | | | | | ✖ | | ● |
| | CNMG120408-NFT | 0,8 | 0,10–0,20 | 0,5–2,0 | | | | | | | | | ● | | | | | | ✖ | | ● |
| | CNGG120404-NFT | 0,4 | 0,06–0,15 | 0,3–1,5 | | | | | | | | | | | | | | | | | ● |
| | CNGG120408-NFT | 0,8 | 0,08–0,18 | 0,4–2,0 | | | | | | | | | | | | | | | | | ● |
| | CNMG120404-NF4 | 0,4 | 0,05–0,12 | 0,2–1,0 | | | | | | ● | ● | ● | ● | | | | | | ● | ● | |
| | CNMG120408-NF4 | 0,8 | 0,07–0,16 | 0,4–1,5 | | | | | | ● | ● | ● | ● | | | | | | ● | ● | |
| | CNMG120412-NF4 | 1,2 | 0,10–0,20 | 0,5–1,6 | | | | | | | | ● | ● | | | | | | ● | ● | |
| | CNMG090304-FP5 | 0,4 | 0,04–0,20 | 0,1–1,5 | | | ● | ● | | | | | | | | | | | | | |
| | CNMG090308-FP5 | 0,8 | 0,08–0,25 | 0,2–2,0 | | | ● | ● | | | | | | | | | | | | | |
| | CNMG120404-FP5 | 0,4 | 0,04–0,20 | 0,1–1,5 | | | ● | ● | | | | | | | | | | | | | |
| | CNMG120408-FP5 | 0,8 | 0,08–0,25 | 0,2–2,0 | | | ● | ● | | | | | | | | | | | | | |
| | CNMG120412-FP5 | 1,2 | 0,10–0,25 | 0,5–2,5 | | | ● | ● | | | | | | | | | | | | | |
| | CNMG120408-NM | 0,8 | 0,20–0,55 | 0,8–3,0 | | | ● | ● | | | | | ● | | ● | ● | | | ● | | |
| | CNMG120412-NM | 1,2 | 0,25–0,70 | 1,5–4,0 | | | ● | ● | | | | | ● | | ● | ● | | | ● | | |
| | CNMG120408-NMT | 0,8 | 0,12–0,30 | 0,8–4,0 | | | | | | | | | ● | | | | | | ● | | ● |
| | CNMG120412-NMT | 1,2 | 0,15–0,32 | 1,0–4,0 | | | | | | | | | ● | | | | | | ● | | ● |
|  | CNMG120404-NMS | 0,4 | 0,10–0,24 | 0,6–2,5 | | | | | | | | ● | ● | ✖ | | | | | ● | ● | ✖ | |
| | CNMG120408-NMS | 0,8 | 0,13–0,32 | 0,8–3,5 | | | | | | | | ● | ● | ✖ | | | | | ● | ● | ✖ | |
| | CNMG120412-NMS | 1,2 | 0,16–0,36 | 1,0–3,5 | | | | | | | | ● | ● | ✖ | | | | | ● | ● | ✖ | |
| | CNMG090304-MP3 | 0,4 | 0,06–0,20 | 0,3–2,2 | | | ● | ● | | | | | | | | | | | | | |
| | CNMG090308-MP3 | 0,8 | 0,10–0,28 | 0,6–3,0 | | | ● | ● | | | | | | | | | | | | | |
| | CNMG120404-MP3 | 0,4 | 0,08–0,22 | 0,3–2,5 | | | ● | ● | ✖ | | | | | | | | | | | | |
| | CNMG120408-MP3 | 0,8 | 0,12–0,32 | 0,6–3,2 | | ● | ● | ● | ✖ | | | | | | | | | | | | |
| | CNMG120412-MP3 | 1,2 | 0,16–0,40 | 0,8–3,5 | | ● | ● | ● | ✖ | | | | | | | | | | | | |

See the ISO 1832 designation key for dimensions

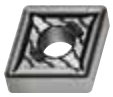
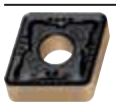
HC = Coated carbide
HW = Uncoated carbide

A 234 A 244 A 256 A 80 A 190

# Negative rhombic 80°
# CNMG / CNGG / CNMA / CNMM
## Tiger·tec® Silver

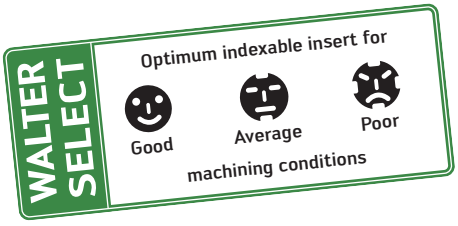



## Indexable inserts

| | Designation | r mm | f mm | $a_p$ mm | P HC WPP01 | P HC WPP05S | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10 | M HC WSM20 | M HC WSM30 | K HC WKK10S | K HC WKK20S | K HC WKP30S | K HC WAK30 | S HC WSM10 | S HC WSM20 | S HC WSM30 | HW WS10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CNMG120404-MP5 | 0,4 | 0,16–0,25 | 0,5–4,0 | | ☺ | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | CNMG120408-MP5 | 0,8 | 0,18–0,40 | 0,6–5,0 | | ☺ | ☺ | 😐 | ☹ | | | | | | ☺ | | | | | | | |
| | CNMG120412-MP5 | 1,2 | 0,20–0,45 | 1,0–5,0 | | ☺ | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | CNMG120416-MP5 | 1,6 | 0,25–0,50 | 1,2–5,0 | | | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | CNMG160608-MP5 | 0,8 | 0,25–0,50 | 0,8–7,0 | | ☺ | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | CNMG160612-MP5 | 1,2 | 0,30–0,50 | 1,0–7,0 | | ☺ | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | CNMG160616-MP5 | 1,6 | 0,35–0,55 | 1,2–7,0 | | | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | CNMG120404-NM4 | 0,4 | 0,10–0,20 | 0,5–3,0 | | | | | | 😐 | 😐 | ☺ | 😐 | ☹ | | | | | ☺ | 😐 | ☹ | |
| | CNMG120408-NM4 | 0,8 | 0,15–0,32 | 0,8–3,0 | | | | | | 😐 | 😐 | ☺ | 😐 | ☹ | | | | | ☺ | 😐 | ☹ | |
| | CNMG120412-NM4 | 1,2 | 0,15–0,35 | 0,8–3,5 | | | | | | 😐 | 😐 | ☺ | 😐 | ☹ | | | | | ☺ | 😐 | ☹ | |
| | CNMG120416-NM4 | 1,6 | 0,15–0,40 | 1,0–4,0 | | | | | | | | | 😐 | ☹ | | | | | | 😐 | ☹ | |
| | CNMG160608-NM4 | 0,8 | 0,15–0,35 | 0,8–4,5 | | | | | | 😐 | 😐 | ☺ | 😐 | ☹ | | | | | ☺ | 😐 | ☹ | |
| | CNMG160612-NM4 | 1,2 | 0,18–0,40 | 0,8–4,5 | | | | | | 😐 | 😐 | ☺ | 😐 | ☹ | | | | | ☺ | 😐 | ☹ | |
| | CNMG160616-NM4 | 1,6 | 0,20–0,45 | 1,0–4,5 | | | | | | | | | 😐 | ☹ | | | | | | 😐 | ☹ | |
|  | CNMG090308-MK5 | 0,8 | 0,10–0,20 | 0,2–3,0 | | | | | | | | | | | ☺ | 😐 | | | | | | |
| | CNMG120404-MK5 | 0,4 | 0,16–0,25 | 0,6–5,0 | | | | | | | | | | | ☺ | 😐 | | | | | | |
| | CNMG120408-MK5 | 0,8 | 0,25–0,50 | 0,8–5,0 | | | | | | | | | | | ☺ | 😐 | | | | | | |
| | CNMG120412-MK5 | 1,2 | 0,30–0,50 | 1,2–5,0 | | | | | | | | | | | ☺ | 😐 | | | | | | |
| | CNMG120416-MK5 | 1,6 | 0,35–0,50 | 1,5–5,0 | | | | | | | | | | | ☺ | 😐 | | | | | | |
| | CNMG160608-MK5 | 0,8 | 0,25–0,50 | 0,8–7,0 | | | | | | | | | | | ☺ | 😐 | | | | | | |
| | CNMG160612-MK5 | 1,2 | 0,30–0,60 | 1,2–7,0 | | | | | | | | | | | ☺ | 😐 | | | | | | |
| | CNMG160616-MK5 | 1,6 | 0,35–0,60 | 1,5–7,0 | | | | | | | | | | | ☺ | 😐 | | | | | | |
| | CNMG190612-MK5 | 1,2 | 0,30–0,65 | 1,2–8,0 | | | | | | | | | | | ☺ | 😐 | | | | | | |
| | CNMG190616-MK5 | 1,6 | 0,35–0,80 | 1,5–8,0 | | | | | | | | | | | ☺ | 😐 | | | | | | |
| | CNMG120408-NRT | 0,8 | 0,18–0,35 | 1,0–6,0 | | | | | | | | | 😐 | | | | | | | 😐 | | 😐 |
| | CNMG120412-NRT | 1,2 | 0,20–0,40 | 1,2–6,0 | | | | | | | | | 😐 | | | | | | | 😐 | | 😐 |
| | CNMG160612-NRT | 1,2 | 0,28–0,55 | 1,5–7,5 | | | | | | | | | 😐 | | | | | | | 😐 | | 😐 |
| | CNMG190616-NRT | 1,6 | 0,35–0,70 | 2,0–9,0 | | | | | | | | | 😐 | | | | | | | 😐 | | 😐 |
|  | CNMG120408-NRS | 0,8 | 0,16–0,35 | 1,0–4,0 | | | | | | | | ☺ | 😐 | ☹ | | | | | ☺ | 😐 | ☹ | |
| | CNMG120412-NRS | 1,2 | 0,18–0,40 | 1,2–4,0 | | | | | | | | ☺ | 😐 | ☹ | | | | | ☺ | 😐 | ☹ | |
| | CNMG160612-NRS | 1,2 | 0,21–0,45 | 1,2–6,5 | | | | | | | | ☺ | 😐 | ☹ | | | | | ☺ | 😐 | ☹ | |
| | CNMG160616-NRS | 1,6 | 0,23–0,50 | 1,5–6,5 | | | | | | | | ☺ | 😐 | | | | | | ☺ | 😐 | | |
| | CNMG190608-NRS | 0,8 | 0,20–0,45 | 1,0–8,0 | | | | | | | | ☺ | 😐 | | | | | | ☺ | 😐 | | |
| | CNMG190612-NRS | 1,2 | 0,23–0,50 | 1,2–8,5 | | | | | | | | ☺ | 😐 | | | | | | ☺ | 😐 | | |

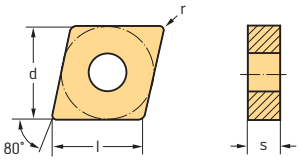
See the ISO 1832 designation key for dimensions

HC = Coated carbide
HW = Uncoated carbide




A 234 A 244 A 256 A 80 A 190

# Negative rhombic 80°
# CNMG / CNGG / CNMA / CNMM
## Tiger·tec® Silver




## Indexable inserts

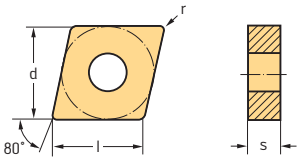
| | Designation | r mm | f mm | $a_p$ mm | P HC WPP01 | P HC WPP05S | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10 | M HC WSM20 | M HC WSM30 | K HC WKK10S | K HC WKK20S | K HC WKP30S | K HC WAK30 | S HC WSM10 | S HC WSM20 | S HC WSM30 | HW WS10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CNMG120408-NR4 | 0,8 | 0,22–0,40 | 1,2–5,0 | | | | | | ● | ● | ● | ● | ● | | | | | ● | ● | ● | |
| | CNMG120412-NR4 | 1,2 | 0,25–0,50 | 1,5–5,0 | | | | | | ● | ● | ● | ● | ● | | | | | ● | ● | ● | |
| | CNMG120416-NR4 | 1,6 | 0,30–0,55 | 2,0–5,0 | | | | | | | | | ● | ● | | | | | | ● | ● | |
| | CNMG160608-NR4 | 0,8 | 0,22–0,45 | 1,2–7,0 | | | | | | | | ● | ● | ● | | | | | ● | ● | ● | |
| | CNMG160612-NR4 | 1,2 | 0,25–0,60 | 1,5–7,0 | | | | | | ● | ● | ● | ● | ● | | | | | ● | ● | ● | |
| | CNMG160616-NR4 | 1,6 | 0,30–0,65 | 2,0–7,0 | | | | | | | | | ● | ● | | | | | | ● | ● | |
| | CNMG190612-NR4 | 1,2 | 0,25–0,60 | 1,5–8,0 | | | | | | ● | ● | ● | ● | ● | | | | | ● | ● | ● | |
| | CNMG190616-NR4 | 1,6 | 0,30–0,80 | 2,0–8,0 | | | | | | | | ● | ● | ● | | | | | ● | ● | ● | |
| | CNMG120408-RP5 | 0,8 | 0,20–0,40 | 0,8–6,0 | | ● | ● | ● | ● | | | | | | ● | ● | | | | | | |
| | CNMG120412-RP5 | 1,2 | 0,25–0,60 | 1,0–6,0 | | ● | ● | ● | ● | | | | | | ● | ● | | | | | | |
| | CNMG120416-RP5 | 1,6 | 0,35–0,70 | 1,6–6,0 | | ● | ● | ● | ● | | | | | | | | | | | | | |
| | CNMG160608-RP5 | 0,8 | 0,20–0,45 | 1,0–8,0 | | | ● | ● | ● | | | | | | | | | | | | | |
| | CNMG160612-RP5 | 1,2 | 0,25–0,60 | 1,2–8,0 | | ● | ● | ● | ● | | | | | | | ● | | | | | | |
| | CNMG160616-RP5 | 1,6 | 0,35–0,70 | 1,6–8,0 | | ● | ● | ● | ● | | | | | | | ● | | | | | | |
| | CNMG160624-RP5 | 2,4 | 0,40–0,90 | 2,0–8,0 | | | ● | ● | ● | | | | | | | | | | | | | |
| | CNMG190608-RP5 | 0,8 | 0,20–0,50 | 1,0–10,0 | | | ● | ● | ● | | | | | | | | | | | | | |
| | CNMG190612-RP5 | 1,2 | 0,25–0,65 | 1,2–10,0 | | ● | ● | ● | ● | | | | | | | | | | | | | |
| | CNMG190616-RP5 | 1,6 | 0,35–0,80 | 1,6–10,0 | | ● | ● | ● | ● | | | | | | | | | | | | | |
| | CNMG190624-RP5 | 2,4 | 0,45–1,00 | 2,0–10,0 | | | ● | ● | ● | | | | | | | | | | | | | |
| | CNMG250924-RP5 | 2,4 | 0,45–1,20 | 2,0–12,0 | | | ● | ● | ● | | | | | | | | | | | | | |
| | CNMG120408-RP7 | 0,8 | 0,25–0,50 | 0,8–5,0 | | | ● | ● | ● | | | | | | | | ● | | | | | |
| | CNMG120412-RP7 | 1,2 | 0,30–0,50 | 1,2–5,0 | | | ● | ● | ● | | | | | | | | ● | | | | | |
| | CNMG120416-RP7 | 1,6 | 0,35–0,50 | 1,5–5,0 | | | ● | ● | ● | | | | | | | | | | | | | |
| | CNMG160608-RP7 | 0,8 | 0,30–0,50 | 0,8–6,0 | | | ● | ● | ● | | | | | | | | | | | | | |
| | CNMG160612-RP7 | 1,2 | 0,35–0,60 | 1,2–6,0 | | | ● | ● | ● | | | | | | | | ● | | | | | |
| | CNMG160616-RP7 | 1,6 | 0,40–0,60 | 1,5–6,0 | | | ● | ● | ● | | | | | | | | ● | | | | | |
| | CNMG190612-RP7 | 1,2 | 0,35–0,60 | 1,2–7,0 | | | ● | ● | ● | | | | | | | | ● | | | | | |
| | CNMG190616-RP7 | 1,6 | 0,40–0,60 | 1,5–7,0 | | | ● | ● | ● | | | | | | | | ● | | | | | |
| | CNMG250924-RP7 | 2,4 | 0,45–1,00 | 3,0–9,0 | | | | ● | | | | | | | | | ● | | | | | |
| | CNMA120404-RK5 | 0,4 | 0,16–0,25 | 0,6–5,0 | | | | | | | | | | | ● | ● | | | | | | |
| | CNMA120408-RK5 | 0,8 | 0,25–0,50 | 0,8–5,0 | | | | | | | | | | | ● | ● | | | | | | |
| | CNMA120412-RK5 | 1,2 | 0,30–0,50 | 1,2–5,0 | | | | | | | | | | | ● | ● | | | | | | |
| | CNMA120416-RK5 | 1,6 | 0,35–0,70 | 1,5–5,0 | | | | | | | | | | | ● | ● | | | | | | |
| | CNMA160612-RK5 | 1,2 | 0,35–0,70 | 1,2–7,0 | | | | | | | | | | | ● | ● | | | | | | |
| | CNMA160616-RK5 | 1,6 | 0,35–0,80 | 1,5–7,0 | | | | | | | | | | | ● | ● | | | | | | |
| | CNMA190612-RK5 | 1,2 | 0,30–0,65 | 1,2–8,0 | | | | | | | | | | | ● | ● | | | | | | |
| | CNMA190616-RK5 | 1,6 | 0,35–0,80 | 1,5–8,0 | | | | | | | | | | | ● | ● | | | | | | |
| | CNMA190624-RK5 | 2,4 | 0,40–0,90 | 2,5–8,0 | | | | | | | | | | | | ● | | | | | | |

See the ISO 1832 designation key for dimensions

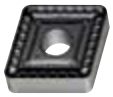
HC = Coated carbide
HW = Uncoated carbide

A 234 A 244 A 256 A 80 A 190

# Negative rhombic 80°
# CNMG / CNGG / CNMA / CNMM
## Tiger·tec® Silver

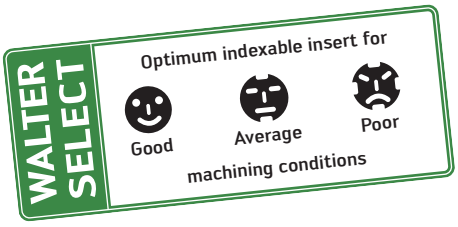



## Indexable inserts

| | Designation | r mm | f mm | $a_p$ mm | P HC WPP01 | P HC WPP05S | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10 | M HC WSM20 | M HC WSM30 | K HC WKK10S | K HC WKK20S | K HC WKP30S | K HC WAK30 | S HC WSM10 | S HC WSM20 | S HC WSM30 | HW WS10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CNMA120408-RK7 | 0,8 | 0,25–0,50 | 0,8–5,0 | | | | | | | | | | | ☺ | 😐 | | | | | | |
| | CNMA120412-RK7 | 1,2 | 0,30–0,50 | 1,2–5,0 | | | | | | | | | | | ☺ | 😐 | | | | | | |
| | CNMA120416-RK7 | 1,6 | 0,35–0,70 | 1,5–5,0 | | | | | | | | | | | ☺ | 😐 | | | | | | |
| | CNMA160612-RK7 | 1,2 | 0,35–0,70 | 1,2–7,0 | | | | | | | | | | | ☺ | 😐 | | | | | | |
| | CNMA160616-RK7 | 1,6 | 0,35–0,80 | 1,5–7,0 | | | | | | | | | | | ☺ | 😐 | | | | | | |
| | CNMA190612-RK7 | 1,2 | 0,30–0,65 | 1,2–8,0 | | | | | | | | | | | ☺ | 😐 | | | | | | |
| | CNMA190616-RK7 | 1,6 | 0,35–0,80 | 1,5–8,0 | | | | | | | | | | | ☺ | 😐 | | | | | | |
| | CNMM120408-NRF | 0,8 | 0,30–0,50 | 0,8–7,0 | | | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | CNMM120412-NRF | 1,2 | 0,35–0,70 | 1,2–7,0 | | ☺ | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | CNMM120416-NRF | 1,6 | 0,40–0,80 | 1,6–7,0 | | | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | CNMM160612-NRF | 1,2 | 0,35–0,70 | 1,2–9,0 | | ☺ | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | CNMM160616-NRF | 1,6 | 0,40–0,90 | 1,6–9,0 | | ☺ | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | CNMM160624-NRF | 2,4 | 0,45–1,00 | 2,4–9,0 | | | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | CNMM190612-NRF | 1,2 | 0,35–0,70 | 1,2–10,0 | | | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | CNMM190616-NRF | 1,6 | 0,40–0,90 | 1,6–10,0 | | | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | CNMM190624-NRF | 2,4 | 0,45–1,10 | 2,4–10,0 | | | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | CNMM250924-NRF | 2,4 | 0,45–1,20 | 2,4–12,0 | | | | 😐 | ☹ | | | | | | | | | | | | | |
|  | CNMM120412-NRR | 1,2 | 0,40–0,80 | 1,5–8,0 | | | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | CNMM160612-NRR | 1,2 | 0,50–0,90 | 2,0–10,0 | | | ☺ | 😐 | ☹ | | | | | | | | | ☹ | | | | |
| | CNMM160616-NRR | 1,6 | 0,50–1,10 | 2,0–10,0 | | | ☺ | 😐 | ☹ | | | | | | | | | ☹ | | | | |
| | CNMM160624-NRR | 2,4 | 0,50–1,30 | 2,0–10,0 | | | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | CNMM190612-NRR | 1,2 | 0,50–0,90 | 2,0–13,0 | | | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | CNMM190616-NRR | 1,6 | 0,50–1,10 | 2,0–13,0 | | | ☺ | 😐 | ☹ | | | | | | | | | ☹ | | | | |
| | CNMM190624-NRR | 2,4 | 0,60–1,60 | 3,0–13,0 | | | ☺ | 😐 | ☹ | | | | | | | | | ☹ | | | | |
| | CNMM250924-NRR | 2,4 | 0,60–1,60 | 3,0–17,0 | | | ☺ | 😐 | ☹ | | | | | | | | | | | | | |

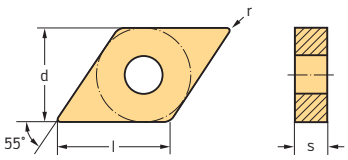
See the ISO 1832 designation key for dimensions

HC = Coated carbide
HW = Uncoated carbide




A 234 A 244 A 256 A 80 A 190

# Negative rhombic 55°
# DNMG / DNGG / DNMA / DNMM
## Tiger·tec® Silver




## Indexable inserts

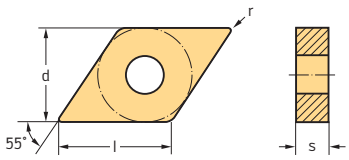
| | Designation | r mm | f mm | $a_p$ mm | P HC WPP01 | P HC WPP05S | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10 | M HC WSM20 | M HC WSM30 | K HC WKK10S | K HC WKK20S | K HC WKP30S | S HC WSM10 | S HC WSM20 | S HC WSM30 | HW WS10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DNMG110408-NF | 0,8 | 0,15–0,50 | 0,5–2,0 | ● | | ● | | | | | | ● | | | | | | ● | | |
| | DNMG150408-NF | 0,8 | 0,15–0,50 | 0,5–3,0 | ● | | ● | | | | | | ● | | | | | | ● | | |
| | DNMG150608-NF | 0,8 | 0,15–0,50 | 0,5–3,0 | ● | | ● | | | | | | ● | | | | | | ● | | |
| | DNMG150404-NFT | 0,4 | 0,06–0,16 | 0,4–1,5 | | | | | | | | | ● | | | | | | ● | | ● |
| | DNMG150408-NFT | 0,8 | 0,08–0,19 | 0,5–2,0 | | | | | | | | | ● | | | | | | ● | | ● |
| | DNMG150604-NFT | 0,4 | 0,06–0,16 | 0,4–1,5 | | | | | | | | | ● | | | | | | ● | | ● |
| | DNMG150608-NFT | 0,8 | 0,08–0,19 | 0,5–2,0 | | | | | | | | | ● | | | | | | ● | | ● |
| | DNGG150404-NFT | 0,4 | 0,05–0,14 | 0,2–1,5 | | | | | | | | | | | | | | | | | ● |
| | DNGG150408-NFT | 0,8 | 0,07–0,17 | 0,3–2,0 | | | | | | | | | | | | | | | | | ● |
| | DNGG150604-NFT | 0,4 | 0,05–0,14 | 0,2–1,5 | | | | | | | | | | | | | | | | | ● |
| | DNGG150608-NFT | 0,8 | 0,07–0,17 | 0,3–2,0 | | | | | | | | | | | | | | | | | ● |
| | DNMG110404-NF4 | 0,4 | 0,05–0,12 | 0,2–1,0 | | | | | | ● | ● | ● | ● | | | | | ● | ● | | |
| | DNMG110408-NF4 | 0,8 | 0,07–0,16 | 0,4–1,5 | | | | | | ● | ● | ● | ● | | | | | ● | ● | | |
| | DNMG150404-NF4 | 0,4 | 0,05–0,12 | 0,2–1,0 | | | | | | ● | ● | ● | ● | | | | | ● | ● | | |
| | DNMG150408-NF4 | 0,8 | 0,07–0,16 | 0,4–1,5 | | | | | | ● | ● | ● | ● | | | | | ● | ● | | |
| | DNMG150604-NF4 | 0,4 | 0,05–0,12 | 0,2–1,0 | | | | | | ● | ● | ● | ● | | | | | ● | ● | | |
| | DNMG150608-NF4 | 0,8 | 0,07–0,16 | 0,4–1,5 | | | | | | ● | ● | ● | ● | | | | | ● | ● | | |
| | DNMG150612-NF4 | 1,2 | 0,10–0,20 | 0,5–1,6 | | | | | | | | ● | ● | | | | | ● | ● | | |
| | DNMG110402-FP5 | 0,2 | 0,04–0,12 | 0,1–0,5 | | | ● | ● | | | | | | | | | | | | | |
| | DNMG110404-FP5 | 0,4 | 0,04–0,20 | 0,1–1,5 | | | ● | ● | | | | | | | | | | | | | |
| | DNMG110408-FP5 | 0,8 | 0,08–0,25 | 0,2–2,0 | | | ● | ● | | | | | | | | | | | | | |
| | DNMG110412-FP5 | 1,2 | 0,10–0,25 | 0,5–2,5 | | | ● | ● | | | | | | | | | | | | | |
| | DNMG150404-FP5 | 0,4 | 0,05–0,20 | 0,1–1,5 | | | ● | ● | | | | | | | | | | | | | |
| | DNMG150408-FP5 | 0,8 | 0,08–0,25 | 0,2–2,0 | | | ● | ● | | | | | | | | | | | | | |
| | DNMG150412-FP5 | 1,2 | 0,10–0,25 | 0,5–2,5 | | | ● | ● | | | | | | | | | | | | | |
| | DNMG150604-FP5 | 0,4 | 0,05–0,20 | 0,1–1,5 | | | ● | ● | | | | | | | | | | | | | |
| | DNMG150608-FP5 | 0,8 | 0,08–0,25 | 0,2–2,0 | | | ● | ● | | | | | | | | | | | | | |
| | DNMG150612-FP5 | 1,2 | 0,10–0,25 | 0,5–2,5 | | | ● | ● | | | | | | | | | | | | | |
| | DNMG110408-NM | 0,8 | 0,15–0,50 | 0,8–3,0 | | | ● | ● | | | | | | | ● | | | | | | |
| | DNMG110412-NM | 1,2 | 0,20–0,60 | 1,5–4,0 | | | ● | | | | | | | | ● | ● | | | | | |
| | DNMG150408-NM | 0,8 | 0,15–0,50 | 0,8–3,0 | | | ● | | | | | | | | ● | | | | | | |
| | DNMG150608-NM | 0,8 | 0,15–0,50 | 0,8–3,0 | | ● | ● | ● | | | | | | | ● | ● | | | | | |
| | DNMG150612-NM | 1,2 | 0,20–0,60 | 1,5–4,0 | | ● | ● | | | | | | | | ● | ● | | | | | |
| | DNMG110404-NMT | 0,4 | 0,08–0,22 | 0,4–2,5 | | | | | | | | | ● | | | | | | ● | | ● |
| | DNMG110408-NMT | 0,8 | 0,12–0,28 | 0,6–3,2 | | | | | | | | ● | ● | | | | | ● | ● | | ● |
| | DNMG150408-NMT | 0,8 | 0,12–0,28 | 0,6–4,0 | | | | | | | | | ● | | | | | | ● | | ● |
| | DNMG150608-NMT | 0,8 | 0,12–0,28 | 0,6–4,0 | | | | | | | | ● | ● | | | | | ● | ● | | ● |
| | DNMG150612-NMT | 1,2 | 0,15–0,30 | 0,8–4,0 | | | | | | | | | ● | | | | | | ● | | ● |

See the ISO 1832 designation key for dimensions

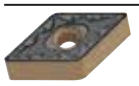
HC = Coated carbide
HW = Uncoated carbide

A 234 A 244 A 256 A 80 A 190

# Negative rhombic 55°
# DNMG / DNGG / DNMA / DNMM
## Tiger·tec® Silver

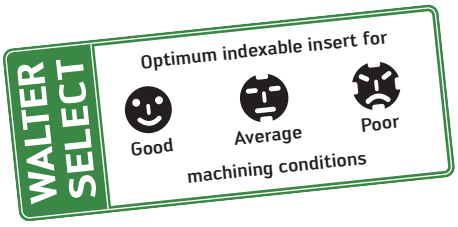



## Indexable inserts

| | Designation | r mm | f mm | $a_p$ mm | P HC WPP01 | P HC WPP05S | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10 | M HC WSM20 | M HC WSM30 | K HC WKK10S | K HC WKK20S | K HC WKP30S | S HC WSM10 | S HC WSM20 | S HC WSM30 | HW WS10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DNMG150404-NMS | 0,4 | 0,09–0,22 | 0,6–2,5 | | | | | | | | ☺ | 😐 | | | | | ☺ | 😐 | | |
| | DNMG150408-NMS | 0,8 | 0,11–0,30 | 0,8–3,5 | | | | | | | | ☺ | 😐 | ☹ | | | | ☺ | 😐 | ☹ | |
| | DNMG150604-NMS | 0,4 | 0,09–0,22 | 0,6–2,5 | | | | | | | | ☺ | 😐 | | | | | ☺ | 😐 | | |
| | DNMG150608-NMS | 0,8 | 0,11–0,30 | 0,8–3,5 | | | | | | | | ☺ | 😐 | ☹ | | | | ☺ | 😐 | ☹ | |
| | DNMG110404-MP3 | 0,4 | 0,08–0,22 | 0,3–2,2 | | | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | DNMG110408-MP3 | 0,8 | 0,12–0,32 | 0,6–3,0 | | ☺ | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | DNMG110412-MP3 | 1,2 | 0,16–0,40 | 0,8–3,2 | | ☺ | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | DNMG150404-MP3 | 0,4 | 0,08–0,22 | 0,3–2,5 | | | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | DNMG150408-MP3 | 0,8 | 0,12–0,32 | 0,6–3,2 | | ☺ | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | DNMG150412-MP3 | 1,2 | 0,16–0,40 | 0,8–3,5 | | ☺ | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | DNMG150604-MP3 | 0,4 | 0,08–0,22 | 0,3–2,5 | | | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | DNMG150608-MP3 | 0,8 | 0,12–0,32 | 0,6–3,2 | | ☺ | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | DNMG150612-MP3 | 1,2 | 0,16–0,40 | 0,8–3,5 | | ☺ | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | DNMG110404-MP5 | 0,4 | 0,16–0,25 | 0,5–4,0 | | | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | DNMG110408-MP5 | 0,8 | 0,18–0,35 | 0,6–4,0 | | | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | DNMG110412-MP5 | 1,2 | 0,20–0,40 | 1,0–4,0 | | | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | DNMG150404-MP5 | 0,4 | 0,16–0,25 | 0,5–4,0 | | | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | DNMG150408-MP5 | 0,8 | 0,18–0,35 | 0,6–5,0 | | ☺ | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | DNMG150412-MP5 | 1,2 | 0,20–0,40 | 1,0–5,0 | | ☺ | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | DNMG150416-MP5 | 1,6 | 0,25–0,45 | 1,2–5,0 | | | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | DNMG150604-MP5 | 0,4 | 0,16–0,25 | 0,5–4,0 | | | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | DNMG150608-MP5 | 0,8 | 0,18–0,35 | 0,6–5,0 | | ☺ | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | DNMG150612-MP5 | 1,2 | 0,20–0,40 | 1,0–5,0 | | ☺ | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | DNMG150616-MP5 | 1,6 | 0,25–0,45 | 1,2–5,0 | | | ☺ | 😐 | ☹ | | | | | | | | | | | | |
|  | DNMG110404-NM4 | 0,4 | 0,10–0,18 | 0,5–2,0 | | | | | | 😐 | 😐 | ☺ | 😐 | ☹ | | | | ☺ | 😐 | ☹ | |
| | DNMG110408-NM4 | 0,8 | 0,15–0,25 | 0,8–3,0 | | | | | | 😐 | 😐 | ☺ | 😐 | ☹ | | | | ☺ | 😐 | ☹ | |
| | DNMG150404-NM4 | 0,4 | 0,10–0,18 | 0,5–2,5 | | | | | | 😐 | 😐 | ☺ | 😐 | ☹ | | | | ☺ | 😐 | ☹ | |
| | DNMG150408-NM4 | 0,8 | 0,15–0,25 | 0,8–3,0 | | | | | | 😐 | 😐 | ☺ | 😐 | ☹ | | | | ☺ | 😐 | ☹ | |
| | DNMG150412-NM4 | 1,2 | 0,18–0,30 | 0,8–3,0 | | | | | | | | ☺ | 😐 | ☹ | | | | ☺ | 😐 | ☹ | |
| | DNMG150604-NM4 | 0,4 | 0,10–0,18 | 0,5–2,5 | | | | | | 😐 | 😐 | ☺ | 😐 | ☹ | | | | ☺ | 😐 | ☹ | |
| | DNMG150608-NM4 | 0,8 | 0,15–0,25 | 0,8–3,0 | | | | | | 😐 | 😐 | ☺ | 😐 | ☹ | | | | ☺ | 😐 | ☹ | |
| | DNMG150612-NM4 | 1,2 | 0,18–0,30 | 0,8–3,0 | | | | | | 😐 | 😐 | ☺ | 😐 | ☹ | | | | ☺ | 😐 | ☹ | |

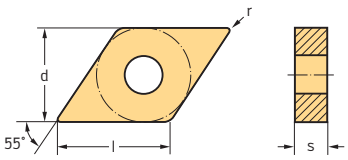
See the ISO 1832 designation key for dimensions

HC = Coated carbide
HW = Uncoated carbide




A 234 A 244 A 256 A 80 A 190

# Negative rhombic 55°
# DNMG / DNGG / DNMA / DNMM
## Tiger·tec® Silver




## Indexable inserts

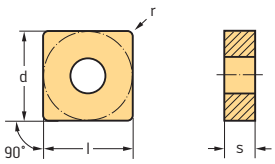
| | Designation | r mm | f mm | $a_p$ mm | P HC WPP01 | P HC WPP05S | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10 | M HC WSM20 | M HC WSM30 | K HC WKK10S | K HC WKK20S | K HC WKP30S | S HC WSM10 | S HC WSM20 | S HC WSM30 | HW WS10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DNMG110404-MK5 | 0,4 | 0,15–0,25 | 0,6–4,0 | | | | | | | | | | | ☻ | 😐 | | | | | |
| | DNMG110408-MK5 | 0,8 | 0,15–0,40 | 0,6–4,0 | | | | | | | | | | | ☻ | 😐 | | | | | |
| | DNMG110412-MK5 | 1,2 | 0,20–0,50 | 1,0–4,0 | | | | | | | | | | | ☻ | 😐 | | | | | |
| | DNMG150408-MK5 | 0,8 | 0,20–0,45 | 0,8–5,0 | | | | | | | | | | | ☻ | 😐 | | | | | |
| | DNMG150412-MK5 | 1,2 | 0,25–0,45 | 1,2–5,0 | | | | | | | | | | | ☻ | 😐 | | | | | |
| | DNMG150608-MK5 | 0,8 | 0,25–0,45 | 0,8–5,0 | | | | | | | | | | | ☻ | 😐 | | | | | |
| | DNMG150612-MK5 | 1,2 | 0,30–0,45 | 1,2–5,0 | | | | | | | | | | | ☻ | 😐 | | | | | |
| | DNMG150616-MK5 | 1,6 | 0,35–0,45 | 1,6–5,0 | | | | | | | | | | | ☻ | 😐 | | | | | |
| | DNMG150408-NRS | 0,8 | 0,13–0,32 | 1,0–4,0 | | | | | | | | ☻ | 😐 | | | | | ☻ | 😐 | | |
| | DNMG150608-NRS | 0,8 | 0,13–0,32 | 1,0–4,0 | | | | | | | | ☻ | 😐 | | | | | ☻ | 😐 | | |
| | DNMG150612-NRS | 1,2 | 0,15–0,35 | 1,2–4,0 | | | | | | | | ☻ | 😐 | | | | | ☻ | 😐 | | |
| | DNMG110408-NR4 | 0,8 | 0,22–0,40 | 1,2–3,0 | | | | | | | | | 😐 | 😵 | | | | | 😐 | 😵 | |
| | DNMG110412-NR4 | 1,2 | 0,25–0,50 | 1,5–3,5 | | | | | | | | | 😐 | 😵 | | | | | 😐 | 😵 | |
| | DNMG150408-NR4 | 0,8 | 0,22–0,40 | 1,2–4,0 | | | | | | 😐 | 😐 | | 😐 | 😵 | | | | | 😐 | 😵 | |
| | DNMG150608-NR4 | 0,8 | 0,22–0,40 | 1,2–4,0 | | | | | | 😐 | 😐 | ☻ | 😐 | 😵 | | | | ☻ | 😐 | 😵 | |
| | DNMG150612-NR4 | 1,2 | 0,25–0,50 | 1,5–4,0 | | | | | | 😐 | 😐 | | 😐 | 😵 | | | | | 😐 | 😵 | |
| | DNMG110408-RP5 | 0,8 | 0,18–0,35 | 0,8–4,0 | | ☻ | ☻ | 😐 | 😵 | | | | | | | | | | | | |
| | DNMG110412-RP5 | 1,2 | 0,20–0,40 | 1,0–4,0 | | ☻ | ☻ | 😐 | 😵 | | | | | | | | | | | | |
| | DNMG150408-RP5 | 0,8 | 0,15–0,35 | 0,8–5,0 | | ☻ | ☻ | 😐 | 😵 | | | | | | | | | | | | |
| | DNMG150412-RP5 | 1,2 | 0,20–0,40 | 1,0–5,0 | | | ☻ | 😐 | 😵 | | | | | | | | | | | | |
| | DNMG150416-RP5 | 1,6 | 0,25–0,50 | 1,6–5,0 | | | ☻ | 😐 | 😵 | | | | | | | | | | | | |
| | DNMG150608-RP5 | 0,8 | 0,15–0,35 | 0,8–5,0 | | ☻ | ☻ | 😐 | 😵 | | | | | | | 😐 | | | | | |
| | DNMG150612-RP5 | 1,2 | 0,20–0,55 | 1,0–5,0 | | ☻ | ☻ | 😐 | 😵 | | | | | | | 😐 | | | | | |
| | DNMG150616-RP5 | 1,6 | 0,25–0,65 | 1,6–5,0 | | ☻ | ☻ | 😐 | 😵 | | | | | | | | | | | | |
| | DNMA110404-RK5 | 0,4 | 0,16–0,25 | 0,6–4,0 | | | | | | | | | | | ☻ | 😐 | | | | | |
| | DNMA110408-RK5 | 0,8 | 0,18–0,40 | 0,6–4,0 | | | | | | | | | | | ☻ | 😐 | | | | | |
| | DNMA150408-RK5 | 0,8 | 0,15–0,50 | 0,8–4,0 | | | | | | | | | | | ☻ | 😐 | | | | | |
| | DNMA150412-RK5 | 1,2 | 0,20–0,60 | 1,5–4,0 | | | | | | | | | | | ☻ | 😐 | | | | | |
| | DNMA150608-RK5 | 0,8 | 0,20–0,45 | 0,8–5,0 | | | | | | | | | | | ☻ | 😐 | | | | | |
| | DNMA150612-RK5 | 1,2 | 0,25–0,45 | 1,2–5,0 | | | | | | | | | | | ☻ | 😐 | | | | | |
| | DNMA150608-RK7 | 0,8 | 0,20–0,45 | 0,8–5,0 | | | | | | | | | | | ☻ | 😐 | | | | | |
| | DNMA150612-RK7 | 1,2 | 0,25–0,45 | 1,2–5,0 | | | | | | | | | | | ☻ | 😐 | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | DNMM150608-NRF | 0,8 | 0,25–0,45 | 0,8–5,0 | | | ☻ | 😐 | 😵 | | | | | | | | | | | | |
| | DNMM150612-NRF | 1,2 | 0,30–0,50 | 1,2–5,0 | | ☻ | ☻ | 😐 | 😵 | | | | | | | | | | | | |
| | DNMM150616-NRF | 1,6 | 0,35–0,60 | 1,6–5,0 | | ☻ | ☻ | 😐 | 😵 | | | | | | | | | | | | |

See the ISO 1832 designation key for dimensions

HC = Coated carbide
HW = Uncoated carbide

A 234 A 244 A 256 A 80 A 190

# Negative square
# SNMG / SNMA / SNMM
## Tiger·tec® Silver




## Indexable inserts

| | Designation | r mm | f mm | $a_p$ mm | P HC WPP05S | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10 | M HC WSM20 | M HC WSM30 | K HC WKK10S | K HC WKK20S | K HC WKP30S | K HC WAK30 | S HC WSM10 | S HC WSM20 | S HC WSM30 | HW WS10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SNMG120404-NF4 | 0,4 | 0,05–0,12 | 0,2–1,0 | | | | | | | ☺ | 😐 | | | | | | ☺ | 😐 | | |
| | SNMG120408-NF4 | 0,8 | 0,07–0,16 | 0,4–1,5 | | | | | | | ☺ | 😐 | | | | | | ☺ | 😐 | | |
| | SNMG120412-NF4 | 1,2 | 0,10–0,20 | 0,5–1,6 | | | | | | | ☺ | 😐 | | | | | | ☺ | 😐 | | |
| | SNMG090308-FP5 | 0,8 | 0,06–0,20 | 0,2–1,5 | | ☺ | 😐 | | | | | | | | | | | | | | |
| | SNMG120404-FP5 | 0,4 | 0,04–0,22 | 0,1–1,8 | | ☺ | 😐 | | | | | | | | | | | | | | |
| | SNMG120408-FP5 | 0,8 | 0,08–0,25 | 0,2–2,0 | | ☺ | 😐 | | | | | | | | | | | | | | |
| | SNMG120412-FP5 | 1,2 | 0,10–0,25 | 0,5–2,5 | | ☺ | 😐 | | | | | | | | | | | | | | |
| | SNMG090308-MP3 | 0,8 | 0,10–0,32 | 0,6–3,0 | | ☺ | 😐 | | | | | | | | | | | | | | |
| | SNMG120404-MP3 | 0,4 | 0,08–0,25 | 0,3–2,5 | | ☺ | 😐 | | | | | | | | | | | | | | |
| | SNMG120408-MP3 | 0,8 | 0,12–0,35 | 0,6–3,2 | | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | SNMG120412-MP3 | 1,2 | 0,16–0,40 | 0,8–3,5 | | ☺ | 😐 | | | | | | | | | | | | | | |
| | SNMG090308-MP5 | 0,8 | 0,10–0,32 | 0,6–3,0 | | | 😐 | ☹ | | | | | | | | | | | | | |
| | SNMG120408-MP5 | 0,8 | 0,18–0,40 | 0,6–5,0 | ☺ | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | SNMG120412-MP5 | 1,2 | 0,20–0,45 | 1,0–5,0 | ☺ | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | SNMG120416-MP5 | 1,6 | 0,25–0,50 | 1,2–5,0 | ☺ | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | SNMG150608-MP5 | 0,8 | 0,25–0,50 | 0,8–8,0 | | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | SNMG150612-MP5 | 1,2 | 0,30–0,50 | 1,0–8,0 | | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | SNMG150616-MP5 | 1,6 | 0,35–0,55 | 1,2–8,0 | | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | SNMG120404-NM4 | 0,4 | 0,10–0,18 | 0,5–2,0 | | | | | | | | 😐 | ☹ | | | | | | 😐 | ☹ | |
| | SNMG120408-NM4 | 0,8 | 0,15–0,25 | 0,8–3,0 | | | | | 😐 | 😐 | ☺ | 😐 | ☹ | | | | | ☺ | 😐 | ☹ | |
| | SNMG120412-NM4 | 1,2 | 0,18–0,30 | 0,8–3,5 | | | | | 😐 | 😐 | ☺ | 😐 | ☹ | | | | | ☺ | 😐 | ☹ | |
| | SNMG090308-MK5 | 0,8 | 0,10–0,20 | 0,2–3,0 | | | | | | | | | | ☺ | 😐 | | | | | | |
| | SNMG120408-MK5 | 0,8 | 0,25–0,50 | 0,8–5,0 | | | | | | | | | | ☺ | 😐 | | | | | | |
| | SNMG120412-MK5 | 1,2 | 0,30–0,50 | 1,2–5,0 | | | | | | | | | | ☺ | 😐 | | | | | | |
| | SNMG120416-MK5 | 1,6 | 0,35–0,50 | 1,5–5,0 | | | | | | | | | | ☺ | 😐 | | | | | | |
| | SNMG150612-MK5 | 1,2 | 0,30–0,60 | 1,2–7,0 | | | | | | | | | | ☺ | 😐 | | | | | | |
| | SNMG150616-MK5 | 1,6 | 0,35–0,60 | 1,5–7,0 | | | | | | | | | | ☺ | 😐 | | | | | | |
| | SNMG190612-MK5 | 1,2 | 0,30–0,65 | 1,2–8,0 | | | | | | | | | | ☺ | 😐 | | | | | | |
| | SNMG190616-MK5 | 1,6 | 0,35–0,80 | 1,5–8,0 | | | | | | | | | | ☺ | 😐 | | | | | | |
| | SNMG120412-NRT | 1,2 | 0,25–0,50 | 0,8–6,0 | | | | | | | | 😐 | | | | | | | 😐 | | 😐 |
| | SNMG150612-NRT | 1,2 | 0,30–0,60 | 1,0–7,5 | | | | | | | | 😐 | | | | | | | 😐 | | 😐 |
| | SNMG190616-NRT | 1,6 | 0,40–0,80 | 1,5–9,0 | | | | | | | | 😐 | | | | | | | 😐 | | 😐 |

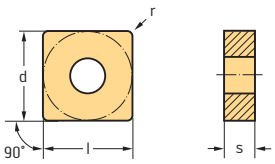
See the ISO 1832 designation key for dimensions

HC = Coated carbide
HW = Uncoated carbide

WALTER SELECT
Optimum indexable insert for
☺ Good
😐 Average
☹ Poor
machining conditions

A 234 A 244 A 256 A 80 A 190

# Negative square
# SNMG / SNMA / SNMM
## Tiger·tec® Silver




## Indexable inserts

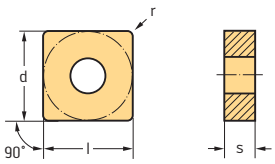
| | Designation | r mm | f mm | $a_p$ mm | P HC WPP05S | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10 | M HC WSM20 | M HC WSM30 | K HC WKK10S | K HC WKK20S | K HC WKP30S | K HC WAK30 | S HC WSM10 | S HC WSM20 | S HC WSM30 | HW WS10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SNMG120408-NRS | 0,8 | 0,20–0,40 | 0,8–5,0 | | | | | | | ● | ● | ● | | | | | ● | ● | ● | |
| | SNMG120412-NRS | 1,2 | 0,22–0,45 | 1,0–5,0 | | | | | | | ● | ● | ● | | | | | ● | ● | ● | |
| | SNMG150616-NRS | 1,6 | 0,24–0,55 | 1,2–7,0 | | | | | | | ● | ● | | | | | | ● | ● | | |
| | SNMG190612-NRS | 1,2 | 0,24–0,55 | 1,0–9,0 | | | | | | | ● | ● | | | | | | ● | ● | | |
| | SNMG190616-NRS | 1,6 | 0,27–0,60 | 1,2–9,0 | | | | | | | ● | ● | | | | | | ● | ● | | |
| | SNMG120408-NR4 | 0,8 | 0,22–0,40 | 1,2–4,0 | | | | | ● | ● | | ● | ● | | | | | | ● | ● | |
| | SNMG120412-NR4 | 1,2 | 0,25–0,50 | 1,5–5,0 | | | | | ● | ● | | ● | ● | | | | | | ● | ● | |
| | SNMG120416-NR4 | 1,6 | 0,30–0,55 | 2,0–5,0 | | | | | | | | ● | ● | | | | | | ● | ● | |
| | SNMG150608-NR4 | 0,8 | 0,22–0,45 | 1,2–7,0 | | | | | | | | ● | ● | | | | | | ● | ● | |
| | SNMG150612-NR4 | 1,2 | 0,25–0,60 | 1,5–7,0 | | | | | ● | ● | | ● | ● | | | | | | ● | ● | |
| | SNMG150616-NR4 | 1,6 | 0,30–0,65 | 2,0–7,0 | | | | | | | | ● | ● | | | | | | ● | ● | |
| | SNMG190612-NR4 | 1,2 | 0,25–0,60 | 1,5–8,0 | | | | | ● | ● | | ● | ● | | | | | | ● | ● | |
| | SNMG190616-NR4 | 1,6 | 0,30–0,80 | 2,0–8,0 | | | | | | | | ● | ● | | | | | | ● | ● | |
| | SNMG120408-RP5 | 0,8 | 0,20–0,50 | 0,8–6,0 | | ● | ● | ● | | | | | | | | | | | | | |
| | SNMG120412-RP5 | 1,2 | 0,25–0,65 | 1,0–6,0 | ● | ● | ● | ● | | | | | | | | | | | | | |
| | SNMG120416-RP5 | 1,6 | 0,35–0,75 | 1,6–6,0 | ● | ● | ● | ● | | | | | | | | | | | | | |
| | SNMG150612-RP5 | 1,2 | 0,25–0,70 | 1,2–8,0 | ● | ● | ● | ● | | | | | | | | | | | | | |
| | SNMG150616-RP5 | 1,6 | 0,35–0,80 | 1,6–8,0 | ● | ● | ● | ● | | | | | | | | | | | | | |
| | SNMG190612-RP5 | 1,2 | 0,30–0,70 | 1,2–10,0 | | ● | ● | ● | | | | | | | | | | | | | |
| | SNMG190616-RP5 | 1,6 | 0,35–0,80 | 1,6–10,0 | | ● | ● | ● | | | | | | | | | | | | | |
| | SNMG190624-RP5 | 2,4 | 0,44–1,20 | 2,0–10,0 | | ● | ● | ● | | | | | | | | | | | | | |
| | SNMG250924-RP5 | 2,4 | 0,55–1,20 | 2,5–12,0 | | ● | ● | ● | | | | | | | | | | | | | |
| | SNMG120408-RP7 | 0,8 | 0,25–0,50 | 0,8–5,0 | | ● | ● | ● | | | | | | | | | | | | | |
| | SNMG120412-RP7 | 1,2 | 0,30–0,50 | 1,2–5,0 | | ● | ● | ● | | | | | | | | | | | | | |
| | SNMG120416-RP7 | 1,6 | 0,35–0,60 | 1,5–5,0 | | ● | ● | ● | | | | | | | | | | | | | |
| | SNMG150608-RP7 | 0,8 | 0,30–0,50 | 0,8–6,0 | | | ● | ● | | | | | | | | | | | | | |
| | SNMG150612-RP7 | 1,2 | 0,35–0,60 | 1,2–6,0 | | ● | ● | ● | | | | | | | | ● | | | | | |
| | SNMG150616-RP7 | 1,6 | 0,40–0,70 | 1,5–6,0 | | ● | ● | ● | | | | | | | | ● | | | | | |
| | SNMG190612-RP7 | 1,2 | 0,35–0,60 | 1,2–7,0 | | ● | ● | ● | | | | | | | | | | | | | |
| | SNMG190616-RP7 | 1,6 | 0,40–0,70 | 1,5–7,0 | | ● | ● | ● | | | | | | | | ● | | | | | |
| | SNMG190624-RP7 | 2,4 | 0,40–0,80 | 2,5–7,0 | | | ● | ● | | | | | | | | | | | | | |
| | SNMG250924-RP7 | 2,4 | 0,55–1,00 | 3,0–10,0 | | | ● | | | | | | | | | ● | | | | | |
| | SNMA090308-RK5 | 0,8 | 0,20–0,45 | 0,6–4,0 | | | | | | | | | | | ● | | | | | | |
| | SNMA120408-RK5 | 0,8 | 0,25–0,50 | 0,8–5,0 | | | | | | | | | | ● | ● | | | | | | |
| | SNMA120412-RK5 | 1,2 | 0,30–0,60 | 1,2–5,0 | | | | | | | | | | ● | ● | | | | | | |
| | SNMA120416-RK5 | 1,6 | 0,35–0,70 | 1,5–5,0 | | | | | | | | | | ● | ● | | | | | | |
| | SNMA150612-RK5 | 1,2 | 0,30–0,65 | 1,2–7,0 | | | | | | | | | | ● | ● | | | | | | |
| | SNMA150616-RK5 | 1,6 | 0,35–0,80 | 1,5–7,0 | | | | | | | | | | ● | ● | | | | | | |
| | SNMA190612-RK5 | 1,2 | 0,30–0,65 | 1,2–8,0 | | | | | | | | | | ● | ● | | | | | | |
| | SNMA190616-RK5 | 1,6 | 0,35–0,80 | 1,5–8,0 | | | | | | | | | | ● | ● | | | | | | |
| | SNMA190624-RK5 | 2,4 | 0,40–0,90 | 2,5–8,0 | | | | | | | | | | | ● | | | | | | |

See the ISO 1832 designation key for dimensions

HC = Coated carbide
HW = Uncoated carbide

A 234 A 244 A 256 A 80 A 190

# Negative square
# SNMG / SNMA / SNMM
## Tiger·tec® Silver

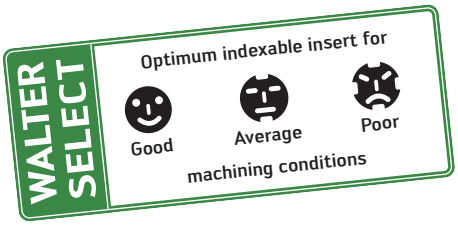



## Indexable inserts

| | Designation | r mm | f mm | $a_p$ mm | P HC WPP05S | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10 | M HC WSM20 | M HC WSM30 | K HC WKK10S | K HC WKK20S | K HC WKP30S | K HC WAK30 | S HC WSM10 | S HC WSM20 | S HC WSM30 | HW WS10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SNMA120408-RK7 | 0,8 | 0,25–0,50 | 0,8–5,0 | | | | | | | | | | ☺ | 😐 | | | | | | |
| | SNMA120412-RK7 | 1,2 | 0,30–0,60 | 1,2–5,0 | | | | | | | | | | ☺ | 😐 | | | | | | |
| | SNMA120416-RK7 | 1,6 | 0,35–0,70 | 1,5–5,0 | | | | | | | | | | ☺ | 😐 | | | | | | |
| | SNMA150616-RK7 | 1,6 | 0,35–0,80 | 1,5–7,0 | | | | | | | | | | ☺ | 😐 | | | | | | |
| | SNMA190616-RK7 | 1,6 | 0,35–0,80 | 1,5–8,0 | | | | | | | | | | ☺ | 😐 | | | | | | |
| | SNMM120408-NRF | 0,8 | 0,30–0,50 | 0,8–7,0 | | | 😐 | ☹ | | | | | | | | | | | | | |
| | SNMM120412-NRF | 1,2 | 0,35–0,70 | 1,2–7,0 | | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | SNMM120416-NRF | 1,6 | 0,40–0,90 | 1,6–7,0 | | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | SNMM150612-NRF | 1,2 | 0,35–0,75 | 1,2–9,0 | | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | SNMM150616-NRF | 1,6 | 0,40–0,90 | 1,6–9,0 | | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | SNMM150624-NRF | 2,4 | 0,45–1,10 | 2,0–9,0 | | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | SNMM190612-NRF | 1,2 | 0,35–0,75 | 1,2–10,0 | | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | SNMM190616-NRF | 1,6 | 0,40–1,00 | 1,6–10,0 | | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | SNMM190624-NRF | 2,4 | 0,45–1,20 | 2,0–10,0 | | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | SNMM250716-NRF | 1,6 | 0,45–1,00 | 1,6–12,0 | | | 😐 | ☹ | | | | | | | | | | | | | |
| | SNMM250724-NRF | 2,4 | 0,55–1,20 | 2,5–12,0 | | | 😐 | ☹ | | | | | | | | | | | | | |
| | SNMM250916-NRF | 1,6 | 0,45–1,00 | 1,6–12,0 | | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | SNMM250924-NRF | 2,4 | 0,55–1,20 | 2,5–12,0 | | | 😐 | ☹ | | | | | | | | | | | | | |
| | SNMM150612-NRR | 1,2 | 0,50–0,80 | 1,5–10,0 | | | 😐 | ☹ | | | | | | | | | | | | | |
| | SNMM150616-NRR | 1,6 | 0,45–1,00 | 2,0–12,0 | | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | SNMM150624-NRR | 2,4 | 0,50–1,40 | 2,5–12,0 | | | 😐 | ☹ | | | | | | | | | | | | | |
| | SNMM190612-NRR | 1,2 | 0,50–1,00 | 2,0–13,0 | | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | SNMM190616-NRR | 1,6 | 0,50–1,10 | 2,5–13,0 | | ☺ | 😐 | ☹ | | | | | | | | | ☹ | | | | |
| | SNMM190624-NRR | 2,4 | 0,60–1,60 | 3,0–13,0 | | ☺ | 😐 | ☹ | | | | | | | | | ☹ | | | | |
| | SNMM250716-NRR | 1,6 | 0,50–1,10 | 2,5–17,0 | | ☺ | 😐 | ☹ | | | | | | | | | ☹ | | | | |
| | SNMM250724-NRR | 2,4 | 0,60–1,60 | 3,0–17,0 | | ☺ | 😐 | ☹ | | | | | | | | | ☹ | | | | |
| | SNMM250732-NRR | 3,2 | 0,60–1,80 | 4,0–17,0 | | | 😐 | ☹ | | | | | | | | | | | | | |
| | SNMM250916-NRR | 1,6 | 0,50–1,10 | 2,5–17,0 | | ☺ | 😐 | ☹ | | | | | | | | | | | | | |
| | SNMM250924-NRR | 2,4 | 0,60–1,60 | 3,0–17,0 | | ☺ | 😐 | ☹ | | | | | | | | | ☹ | | | | |
| | SNMM250932-NRR | 3,2 | 0,60–1,80 | 4,0–17,0 | | | 😐 | ☹ | | | | | | | | | | | | | |

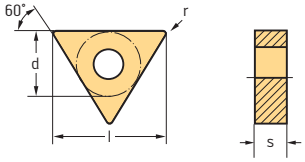
See the ISO 1832 designation key for dimensions

HC = Coated carbide
HW = Uncoated carbide




A 234 A 244 A 256 A 80 A 190

# Negative triangular 60°
# TNMG / TNMA / TNMM
## Tiger·tec® Silver




## Indexable inserts

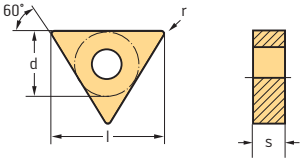
| | Designation | r mm | f mm | $a_p$ mm | P HC WPP05S | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10 | M HC WSM20 | M HC WSM30 | K HC WKK10S | K HC WKK20S | K HC WKP30S | S HC WSM10 | S HC WSM20 | S HC WSM30 | HW WS10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TNMG160404-NF4 | 0,4 | 0,05–0,12 | 0,2–1,0 | | | | | ● | ● | ● | ● | | | | | ● | ● | | |
| | TNMG160408-NF4 | 0,8 | 0,07–0,16 | 0,4–1,5 | | | | | ● | ● | ● | ● | | | | | ● | ● | | |
| | TNMG160412-NF4 | 1,2 | 0,10–0,20 | 0,5–1,6 | | | | | | | ● | ● | | | | | ● | ● | | |
| | TNMG110304-FP5 | 0,4 | 0,04–0,15 | 0,1–1,2 | | ● | ● | | | | | | | | | | | | | |
| | TNMG110308-FP5 | 0,8 | 0,08–0,20 | 0,2–1,5 | | ● | ● | | | | | | | | | | | | | |
| | TNMG160404-FP5 | 0,4 | 0,04–0,20 | 0,1–1,5 | | ● | ● | | | | | | | | | | | | | |
| | TNMG160408-FP5 | 0,8 | 0,08–0,25 | 0,2–2,0 | | ● | ● | | | | | | | | | | | | | |
| | TNMG160412-FP5 | 1,2 | 0,10–0,25 | 0,5–2,5 | | ● | ● | | | | | | | | | | | | | |
| | TNMG160404-NMT | 0,4 | 0,08–0,20 | 0,6–3,0 | | | | | | | | ● | | | | | | ● | | ● |
| | TNMG160408-NMT | 0,8 | 0,12–0,30 | 1,0–4,0 | | | | | | | | ● | | | | | | ● | | ● |
| | TNMG160404-NMS | 0,4 | 0,09–0,22 | 0,6–2,5 | | | | | | | ● | ● | ● | | | | ● | ● | ● | |
| | TNMG160408-NMS | 0,8 | 0,11–0,30 | 0,8–3,5 | | | | | | | ● | ● | ● | | | | ● | ● | ● | |
| | TNMG110304-MP3 | 0,4 | 0,06–0,18 | 0,3–2,0 | | ● | ● | | | | | | | | | | | | | |
| | TNMG110308-MP3 | 0,8 | 0,10–0,25 | 0,6–2,2 | | ● | ● | | | | | | | | | | | | | |
| | TNMG160304-MP3 | 0,4 | 0,08–0,22 | 0,3–2,2 | | | ● | | | | | | | | | | | | | |
| | TNMG160308-MP3 | 0,8 | 0,12–0,32 | 0,6–3,0 | | | ● | | | | | | | | | | | | | |
| | TNMG160404-MP3 | 0,4 | 0,08–0,22 | 0,3–2,2 | | ● | ● | ● | | | | | | | | | | | | |
| | TNMG160408-MP3 | 0,8 | 0,12–0,32 | 0,6–3,0 | ● | ● | ● | ● | | | | | | | | | | | | |
| | TNMG160412-MP3 | 1,2 | 0,16–0,40 | 0,8–3,2 | ● | ● | ● | ● | | | | | | | | | | | | |
| | TNMG220408-MP3 | 0,8 | 0,12–0,32 | 0,6–3,2 | ● | ● | ● | ● | | | | | | | | | | | | |
| | TNMG220412-MP3 | 1,2 | 0,16–0,40 | 0,8–3,5 | ● | ● | ● | ● | | | | | | | | | | | | |
| | TNMG160308-MP5 | 0,8 | 0,18–0,35 | 0,6–4,0 | | | ● | ● | | | | | | ● | | | | | | |
| | TNMG160404-MP5 | 0,4 | 0,16–0,25 | 0,5–4,0 | | ● | ● | ● | | | | | | | | | | | | |
| | TNMG160408-MP5 | 0,8 | 0,18–0,35 | 0,6–4,0 | ● | ● | ● | ● | | | | | | | | | | | | |
| | TNMG160412-MP5 | 1,2 | 0,20–0,40 | 1,0–4,0 | ● | ● | ● | ● | | | | | | | | | | | | |
| | TNMG220404-MP5 | 0,4 | 0,16–0,25 | 0,7–4,0 | | ● | ● | | | | | | | | | | | | | |
| | TNMG220408-MP5 | 0,8 | 0,18–0,35 | 0,8–5,0 | | ● | ● | ● | | | | | | | | | | | | |
| | TNMG220412-MP5 | 1,2 | 0,20–0,40 | 1,0–5,0 | | ● | ● | ● | | | | | | | | | | | | |
| | TNMG220416-MP5 | 1,6 | 0,25–0,45 | 1,2–5,0 | | ● | ● | | | | | | | | | | | | | |
| | TNMG270608-MP5 | 0,8 | 0,25–0,45 | 0,8–7,0 | | ● | ● | ● | | | | | | | | | | | | |
| | TNMG270612-MP5 | 1,2 | 0,30–0,50 | 1,0–7,0 | | ● | ● | ● | | | | | | | | | | | | |
| | TNMG270616-MP5 | 1,6 | 0,35–0,55 | 1,2–7,0 | | ● | ● | ● | | | | | | | | | | | | |
| | TNMG160404-NM4 | 0,4 | 0,10–0,18 | 0,5–2,0 | | | | | ● | ● | ● | ● | ● | | | | ● | ● | ● | |
| | TNMG160408-NM4 | 0,8 | 0,15–0,25 | 0,8–3,0 | | | | | ● | ● | ● | ● | ● | | | | ● | ● | ● | |
| | TNMG160412-NM4 | 1,2 | 0,18–0,30 | 0,8–3,5 | | | | | ● | ● | ● | ● | ● | | | | ● | ● | ● | |
| | TNMG160416-NM4 | 1,6 | 0,20–0,35 | 1,0–4,0 | | | | | | | | ● | ● | | | | | ● | ● | |

See the ISO 1832 designation key for dimensions

HC = Coated carbide
HW = Uncoated carbide

A 234 A 244 A 256 A 80 A 190

# Negative triangular 60°
# TNMG / TNMA / TNMM
## Tiger·tec® Silver




## Indexable inserts

| | Designation | r mm | f mm | $a_p$ mm | P HC WPP05S | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10 | M HC WSM20 | M HC WSM30 | K HC WKK10S | K HC WKK20S | K HC WKP30S | S HC WSM10 | S HC WSM20 | S HC WSM30 | HW WS10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TNMG110308-MK5 | 0,8 | 0,20–0,40 | 0,8–3,5 | | | | | | | | | | ☺ | 😐 | | | | | |
| | TNMG160404-MK5 | 0,4 | 0,16–0,25 | 0,6–4,0 | | | | | | | | | | ☺ | 😐 | | | | | |
| | TNMG160408-MK5 | 0,8 | 0,25–0,45 | 0,8–5,0 | | | | | | | | | | ☺ | 😐 | | | | | |
| | TNMG160412-MK5 | 1,2 | 0,30–0,45 | 1,2–5,0 | | | | | | | | | | ☺ | 😐 | | | | | |
| | TNMG160416-MK5 | 1,6 | 0,35–0,45 | 1,5–5,0 | | | | | | | | | | ☺ | 😐 | | | | | |
| | TNMG220408-MK5 | 0,8 | 0,25–0,45 | 1,0–6,0 | | | | | | | | | | ☺ | 😐 | | | | | |
| | TNMG220412-MK5 | 1,2 | 0,30–0,45 | 1,4–6,0 | | | | | | | | | | ☺ | 😐 | | | | | |
| | TNMG220416-MK5 | 1,6 | 0,35–0,45 | 1,6–6,0 | | | | | | | | | | ☺ | 😐 | | | | | |
| | TNMG270612-MK5 | 1,2 | 0,35–0,65 | 1,2–8,0 | | | | | | | | | | ☺ | 😐 | | | | | |
| | TNMG270616-MK5 | 1,6 | 0,45–0,90 | 3,0–9,0 | | | | | | | | | | ☺ | 😐 | | | | | |
| | TNMG160412-NRS | 1,2 | 0,25–0,50 | 1,5–4,5 | | | | | | | 😐 | 😐 | | | | | ☺ | 😐 | | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | TNMG160408-NR4 | 0,8 | 0,22–0,40 | 1,2–4,0 | | | | | 😐 | 😐 | | 😐 | ☹ | | | | | 😐 | ☹ | |
| | TNMG160412-NR4 | 1,2 | 0,25–0,50 | 1,5–4,5 | | | | | 😐 | 😐 | | 😐 | ☹ | | | | | 😐 | ☹ | |
| | TNMG220408-NR4 | 0,8 | 0,22–0,40 | 1,2–5,0 | | | | | 😐 | 😐 | | 😐 | ☹ | | | | | 😐 | ☹ | |
| | TNMG220412-NR4 | 1,2 | 0,25–0,55 | 1,5–6,0 | | | | | 😐 | 😐 | | 😐 | ☹ | | | | | 😐 | ☹ | |
| | TNMG270612-NR4 | 1,2 | 0,35–0,65 | 1,2–8,0 | | | | | | | | 😐 | ☹ | | | | | 😐 | ☹ | |
| | TNMG160408-RP5 | 0,8 | 0,20–0,40 | 0,8–5,0 | ☺ | ☺ | 😐 | ☹ | | | | | | ☺ | 😐 | | | | | |
| | TNMG160412-RP5 | 1,2 | 0,25–0,55 | 1,0–5,0 | ☺ | ☺ | 😐 | ☹ | | | | | | ☺ | 😐 | | | | | |
| | TNMG220408-RP5 | 0,8 | 0,20–0,45 | 0,8–7,0 | | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | TNMG220412-RP5 | 1,2 | 0,25–0,60 | 1,0–7,0 | ☺ | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | TNMG220416-RP5 | 1,6 | 0,35–0,70 | 1,6–7,0 | ☺ | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | TNMG270612-RP5 | 1,2 | 0,35–0,70 | 1,6–10,0 | | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | TNMG270616-RP5 | 1,6 | 0,35–0,80 | 2,0–10,0 | | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | TNMG330924-RP5 | 2,4 | 0,45–1,20 | 2,5–13,0 | | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | TNMG270616-RP7 | 1,6 | 0,45–0,90 | 3,0–9,0 | | | 😐 | | | | | | | | | | | | | |
| | TNMG270624-RP7 | 2,4 | 0,55–1,00 | 3,0–9,0 | | | 😐 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |

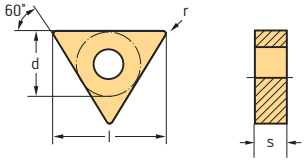
See the ISO 1832 designation key for dimensions

HC = Coated carbide
HW = Uncoated carbide

WALTER SELECT
Optimum indexable insert for
Good ☺ Average 😐 Poor ☹
machining conditions

A 234 A 244 A 256 A 80 A 190

# Negative triangular 60°
# TNMG / TNMA / TNMM
## Tiger·tec® Silver




## Indexable inserts

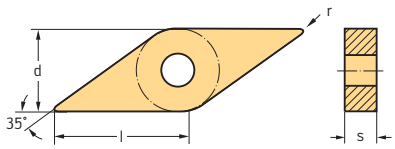
| | Designation | r mm | f mm | $a_p$ mm | P HC WPP05S | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10 | M HC WSM20 | M HC WSM30 | K HC WKK10S | K HC WKK20S | K HC WKP30S | S HC WSM10 | S HC WSM20 | S HC WSM30 | HW WS10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TNMA110308-RK5 | 0,8 | 0,15–0,35 | 1,0–4,0 | | | | | | | | | | | ☹ | | | | | |
| | TNMA160404-RK5 | 0,4 | 0,16–0,25 | 0,6–5,0 | | | | | | | | | | ☺ | ☹ | | | | | |
| | TNMA160408-RK5 | 0,8 | 0,25–0,45 | 0,8–5,0 | | | | | | | | | | ☺ | ☹ | | | | | |
| | TNMA160412-RK5 | 1,2 | 0,30–0,50 | 1,2–5,0 | | | | | | | | | | ☺ | ☹ | | | | | |
| | TNMA160416-RK5 | 1,6 | 0,25–0,60 | 1,5–5,0 | | | | | | | | | | ☺ | ☹ | | | | | |
| | TNMA220408-RK5 | 0,8 | 0,25–0,45 | 1,0–6,0 | | | | | | | | | | ☺ | ☹ | | | | | |
| | TNMA220412-RK5 | 1,2 | 0,30–0,55 | 1,4–6,0 | | | | | | | | | | ☺ | ☹ | | | | | |
| | TNMA220416-RK5 | 1,6 | 0,35–0,60 | 1,6–6,0 | | | | | | | | | | | ☹ | | | | | |
| | TNMA270616-RK5 | 1,6 | 0,40–0,65 | 1,8–7,0 | | | | | | | | | | | ☹ | | | | | |
| | TNMA160408-RK7 | 0,8 | 0,25–0,45 | 0,8–5,0 | | | | | | | | | | ☺ | ☹ | | | | | |
| | TNMA160412-RK7 | 1,2 | 0,30–0,50 | 1,2–5,0 | | | | | | | | | | ☺ | ☹ | | | | | |
| | TNMA220408-RK7 | 0,8 | 0,25–0,45 | 1,0–6,0 | | | | | | | | | | ☺ | ☹ | | | | | |
| | TNMA220412-RK7 | 1,2 | 0,30–0,55 | 1,4–6,0 | | | | | | | | | | ☺ | ☹ | | | | | |
| | TNMM160408-NRF | 0,8 | 0,30–0,45 | 0,8–6,0 | | ☺ | ☹ | ☹ | | | | | | | | | | | | |
| | TNMM160412-NRF | 1,2 | 0,35–0,50 | 1,2–6,0 | | ☺ | ☹ | ☹ | | | | | | | | | | | | |
| | TNMM220408-NRF | 0,8 | 0,30–0,50 | 0,8–7,0 | | ☺ | ☹ | ☹ | | | | | | | | | | | | |
| | TNMM220412-NRF | 1,2 | 0,35–0,60 | 1,2–7,0 | | ☺ | ☹ | ☹ | | | | | | | | | | | | |
| | TNMM220416-NRF | 1,6 | 0,40–0,80 | 1,6–7,0 | | ☺ | ☹ | ☹ | | | | | | | | | | | | |
| | TNMM270612-NRF | 1,2 | 0,35–0,65 | 1,2–8,0 | | | ☹ | ☹ | | | | | | | | | | | | |
| | TNMM270616-NRF | 1,6 | 0,40–0,85 | 1,6–8,0 | | | ☹ | ☹ | | | | | | | | | | | | |
| | TNMM270616-NRR | 1,6 | 0,50–1,10 | 2,0–13,0 | | | ☹ | ☹ | | | | | | | | | | | | |
| | TNMM270624-NRR | 2,4 | 0,60–1,60 | 3,0–13,0 | | | ☹ | ☹ | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |

See the ISO 1832 designation key for dimensions

HC = Coated carbide
HW = Uncoated carbide

A 234 A 244 A 256 A 80 A 190

# Negative rhombic 35°
# VNMG / VNGG / VNMA
## Tiger·tec® Silver

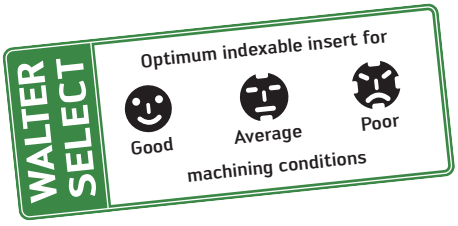



## Indexable inserts

| | Designation | r mm | f mm | $a_p$ mm | P HC WPP05S | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10 | M HC WSM20 | M HC WSM30 | K HC WKK10S | K HC WKK20S | K HC WKP30S | S HC WSM10 | S HC WSM20 | S HC WSM30 | HW WS10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | VNMG160404-NFT | 0,4 | 0,05–0,15 | 0,2–1,5 | | | | | | | | 😐 | | | | | | 😐 | | 😐 |
| | VNMG160408-NFT | 0,8 | 0,07–0,18 | 0,3–2,0 | | | | | | | | 😐 | | | | | | 😐 | | 😐 |
| | VNGG160404-NFT | 0,4 | 0,04–0,13 | 0,1–1,5 | | | | | | | | | | | | | | | | 😐 |
| | VNGG160408-NFT | 0,8 | 0,06–0,16 | 0,2–2,0 | | | | | | | | | | | | | | | | 😐 |
| | VNGG160412-NFT | 1,2 | 0,06–0,16 | 0,2–2,0 | | | | | | | | | | | | | | | | 😐 |
| | VNMG160404-FP5 | 0,4 | 0,04–0,22 | 0,1–1,5 | | 😊 | 😐 | | | | | | | | | | | | | |
| | VNMG160408-FP5 | 0,8 | 0,08–0,25 | 0,2–2,0 | | 😊 | 😐 | | | | | | | | | | | | | |
| | VNMG160404-NMS | 0,4 | 0,08–0,16 | 0,5–1,5 | | | | | | | 😊 | 😐 | | | | | 😊 | 😐 | | |
| | VNMG160408-NMS | 0,8 | 0,10–0,22 | 0,8–2,2 | | | | | | | 😊 | 😐 | | | | | 😊 | 😐 | | |
| | VNMG160404-MP3 | 0,4 | 0,08–0,22 | 0,3–2,2 | | 😊 | 😐 | 😟 | | | | | | | | | | | | |
| | VNMG160408-MP3 | 0,8 | 0,12–0,32 | 0,6–3,0 | | 😊 | 😐 | 😟 | | | | | | | | | | | | |
| | VNMG160412-MP3 | 1,2 | 0,16–0,35 | 0,8–3,2 | | 😊 | 😐 | 😟 | | | | | | | | | | | | |
| | VNMG160404-MP5 | 0,4 | 0,10–0,18 | 0,5–2,0 | | 😊 | 😐 | 😟 | | | | | | | | | | | | |
| | VNMG160408-MP5 | 0,8 | 0,18–0,35 | 0,6–4,0 | | 😊 | 😐 | 😟 | | | | | | | | | | | | |
| | VNMG160412-MP5 | 1,2 | 0,20–0,40 | 0,8–4,0 | | 😊 | 😐 | 😟 | | | | | | | | | | | | |
| | VNMG220408-MP5 | 0,8 | 0,18–0,35 | 0,6–4,0 | | 😊 | 😐 | | | | | | | | | | | | | |
| | VNMG160404-NM4 | 0,4 | 0,10–0,18 | 0,5–2,0 | | | | | 😐 | 😐 | 😊 | 😐 | 😟 | | | | 😊 | 😐 | 😟 | |
| | VNMG160408-NM4 | 0,8 | 0,15–0,25 | 0,8–3,0 | | | | | 😐 | 😐 | 😊 | 😐 | 😟 | | | | 😊 | 😐 | 😟 | |
| | VNMG160404-MK5 | 0,4 | 0,16–0,25 | 0,6–4,0 | | | | | | | | | | 😊 | 😐 | | | | | |
| | VNMG160408-MK5 | 0,8 | 0,18–0,35 | 0,8–4,0 | | | | | | | | | | 😊 | 😐 | | | | | |
| | VNMG160412-MK5 | 1,2 | 0,20–0,35 | 1,0–4,0 | | | | | | | | | | 😊 | 😐 | | | | | |
| | VNMA160404-RK5 | 0,4 | 0,16–0,25 | 0,6–4,0 | | | | | | | | | | 😊 | 😐 | | | | | |
| | VNMA160408-RK5 | 0,8 | 0,18–0,35 | 0,8–4,0 | | | | | | | | | | 😊 | 😐 | | | | | |
| | VNMA160412-RK5 | 1,2 | 0,20–0,40 | 1,0–4,0 | | | | | | | | | | 😊 | 😐 | | | | | |

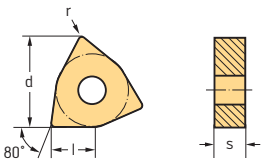
See the ISO 1832 designation key for dimensions

HC = Coated carbide
HW = Uncoated carbide




A 234 A 244 A 256 A 80 A 190

# Negative Trigon 80°
# WNMG / WNMA / WNMM
## Tiger·tec® Silver




## Indexable inserts

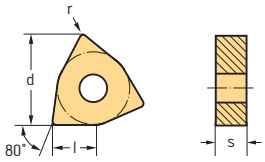
| | Designation | r mm | f mm | $a_p$ mm | P HC WPP01 | P HC WPP05S | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10 | M HC WSM20 | M HC WSM30 | K HC WKK10S | K HC WKK20S | K HC WKP30S | S HC WSM10 | S HC WSM20 | S HC WSM30 | HW WS10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | WNMG060404-NF | 0,4 | 0,10–0,40 | 0,4–2,0 | ● | | ● | | | | | | ● | | | | | | ● | | |
| | WNMG060408-NF | 0,8 | 0,15–0,50 | 0,5–3,0 | ● | | ● | | | | | | ● | | | | | | ● | | |
| | WNMG080404-NF | 0,4 | 0,20–0,40 | 0,4–2,0 | ● | | ● | | | | | | ● | | | | | | ● | | |
| | WNMG080408-NF | 0,8 | 0,25–0,55 | 0,5–3,0 | ● | | ● | | | | | | ● | | | | | | ● | | |
| | WNMG080412-NF | 1,2 | 0,25–0,70 | 0,8–3,0 | | | ● | | | | | | ● | | | | | | ● | | |
| | WNMG060404-NF4 | 0,4 | 0,05–0,12 | 0,2–1,0 | | | | | | | | ● | ● | | | | | ● | ● | | |
| | WNMG060408-NF4 | 0,8 | 0,07–0,16 | 0,4–1,5 | | | | | | | | ● | ● | | | | | ● | ● | | |
| | WNMG080404-NF4 | 0,4 | 0,05–0,12 | 0,2–1,0 | | | | | | ● | ● | ● | ● | | | | | ● | ● | | |
| | WNMG080408-NF4 | 0,8 | 0,07–0,16 | 0,4–1,5 | | | | | | ● | ● | ● | ● | | | | | ● | ● | | |
| | WNMG080412-NF4 | 1,2 | 0,10–0,20 | 0,5–1,6 | | | | | | | | ● | ● | | | | | ● | ● | | |
| | WNMG060404-FP5 | 0,4 | 0,04–0,20 | 0,1–1,5 | | | ● | ● | | | | | | | | | | | | | |
| | WNMG060408-FP5 | 0,8 | 0,08–0,25 | 0,2–2,0 | | | ● | ● | | | | | | | | | | | | | |
| | WNMG080404-FP5 | 0,4 | 0,05–0,20 | 0,1–1,5 | | | ● | ● | | | | | | | | | | | | | |
| | WNMG080408-FP5 | 0,8 | 0,08–0,25 | 0,2–2,0 | | | ● | ● | | | | | | | | | | | | | |
| | WNMG080412-FP5 | 1,2 | 0,10–0,25 | 0,5–2,5 | | | ● | ● | | | | | | | | | | | | | |
| | WNMG060408-NM | 0,8 | 0,20–0,55 | 0,8–3,0 | | | ● | | | | | | | | ● | | | | | | |
| | WNMG060412-NM | 1,2 | 0,25–0,55 | 1,5–4,0 | | | ● | | | | | | | | ● | | | | | | |
| | WNMG080408-NM | 0,8 | 0,20–0,55 | 0,8–3,0 | | | ● | ● | | | | | ● | | ● | ● | | | ● | | |
| | WNMG080412-NM | 1,2 | 0,25–0,70 | 1,5–4,0 | | | ● | ● | | | | | ● | | ● | ● | | | ● | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | WNMG080408-NMT | 0,8 | 0,12–0,30 | 0,8–4,0 | | | | | | | | | ● | | | | | | ● | | ● |
| | WNMG080412-NMT | 1,2 | 0,15–0,32 | 1,0–4,0 | | | | | | | | | ● | | | | | | ● | | ● |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | WNMG060408-NMS | 0,8 | 0,10–0,30 | 0,8–3,0 | | | | | | | | ● | ● | | | | | ● | ● | | |
| | WNMG080404-NMS | 0,4 | 0,10–0,24 | 0,6–2,5 | | | | | | | | ● | ● | ✖ | | | | ● | ● | ✖ | |
| | WNMG080408-NMS | 0,8 | 0,13–0,32 | 0,8–3,5 | | | | | | | | ● | ● | ✖ | | | | ● | ● | ✖ | |
| | | | | | | | | | | | | | | | | | | | | | |
| | WNMG060404-MP3 | 0,4 | 0,08–0,22 | 0,3–2,2 | | | ● | ● | ✖ | | | | | | | | | | | | |
| | WNMG060408-MP3 | 0,8 | 0,12–0,32 | 0,6–3,0 | | | ● | ● | ✖ | | | | | | | | | | | | |
| | WNMG060412-MP3 | 1,2 | 0,16–0,35 | 0,8–3,2 | | | ● | ● | ✖ | | | | | | | | | | | | |
| | WNMG080404-MP3 | 0,4 | 0,08–0,22 | 0,3–2,5 | | | ● | ● | ✖ | | | | | | | | | | | | |
| | WNMG080408-MP3 | 0,8 | 0,12–0,32 | 0,6–3,2 | | ● | ● | ● | ✖ | | | | | | | | | | | | |
| | WNMG080412-MP3 | 1,2 | 0,16–0,40 | 0,8–3,5 | | ● | ● | ● | ✖ | | | | | | | | | | | | |
| | WNMG080416-MP3 | 1,6 | 0,20–0,50 | 0,9–4,0 | | | ● | ● | | | | | | | | | | | | | |

See the ISO 1832 designation key for dimensions

HC = Coated carbide
HW = Uncoated carbide

A 234 A 244 A 256 A 80 A 190

# Negative Trigon 80°
# WNMG / WNMA / WNMM
## Tiger·tec® Silver

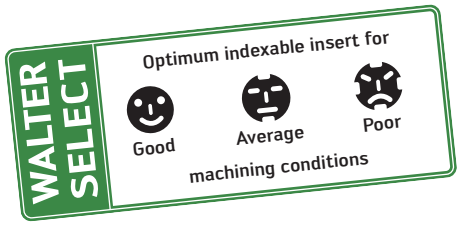



## Indexable inserts

| | Designation | r mm | f mm | $a_p$ mm | P HC WPP01 | P HC WPP05S | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10 | M HC WSM20 | M HC WSM30 | K HC WKK10S | K HC WKK20S | K HC WKP30S | S HC WSM10 | S HC WSM20 | S HC WSM30 | HW WS10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | WNMG060404-MP5 | 0,4 | 0,16–0,25 | 0,5–4,0 | | | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | WNMG060408-MP5 | 0,8 | 0,18–0,35 | 0,6–4,0 | | ☺ | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | WNMG060412-MP5 | 1,2 | 0,20–0,40 | 1,0–4,0 | | ☺ | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | WNMG080404-MP5 | 0,4 | 0,16–0,25 | 0,5–4,0 | | | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | WNMG080408-MP5 | 0,8 | 0,18–0,40 | 0,6–5,0 | | ☺ | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | WNMG080412-MP5 | 1,2 | 0,20–0,45 | 1,0–5,0 | | ☺ | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | WNMG080416-MP5 | 1,6 | 0,25–0,50 | 1,2–5,0 | | | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | WNMG100608-MP5 | 0,8 | 0,25–0,40 | 0,8–7,0 | | | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | WNMG100612-MP5 | 1,2 | 0,30–0,50 | 1,0–7,0 | | | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | WNMG100616-MP5 | 1,6 | 0,35–0,55 | 1,2–7,0 | | | ☺ | 😐 | ☹ | | | | | | | | | | | | |
| | WNMG060404-NM4 | 0,4 | 0,10–0,18 | 0,5–2,0 | | | | | | 😐 | 😐 | ☺ | 😐 | ☹ | | | | ☺ | 😐 | ☹ | |
| | WNMG060408-NM4 | 0,8 | 0,15–0,25 | 0,8–2,5 | | | | | | 😐 | 😐 | ☺ | 😐 | ☹ | | | | ☺ | 😐 | ☹ | |
| | WNMG060412-NM4 | 1,2 | 0,18–0,30 | 0,8–3,0 | | | | | | | | | 😐 | ☹ | | | | | 😐 | ☹ | |
| | WNMG080404-NM4 | 0,4 | 0,10–0,20 | 0,5–3,0 | | | | | | 😐 | 😐 | ☺ | 😐 | ☹ | | | | ☺ | 😐 | ☹ | |
| | WNMG080408-NM4 | 0,8 | 0,15–0,32 | 0,8–3,0 | | | | | | 😐 | 😐 | ☺ | 😐 | ☹ | | | | ☺ | 😐 | ☹ | |
| | WNMG080412-NM4 | 1,2 | 0,15–0,35 | 0,8–3,5 | | | | | | 😐 | 😐 | ☺ | 😐 | ☹ | | | | ☺ | 😐 | ☹ | |
| | WNMG080416-NM4 | 1,6 | 0,15–0,40 | 1,0–4,0 | | | | | | | | | 😐 | ☹ | | | | | 😐 | ☹ | |
| | WNMG100608-NM4 | 0,8 | 0,18–0,40 | 0,8–4,5 | | | | | | | | | 😐 | ☹ | | | | | 😐 | ☹ | |
| | WNMG100612-NM4 | 1,2 | 0,20–0,45 | 0,8–4,5 | | | | | | | | | 😐 | ☹ | | | | | 😐 | ☹ | |
| | WNMG060404-MK5 | 0,4 | 0,16–0,25 | 0,6–4,0 | | | | | | | | | | | ☺ | 😐 | | | | | |
| | WNMG060408-MK5 | 0,8 | 0,20–0,40 | 0,8–4,0 | | | | | | | | | | | ☺ | 😐 | | | | | |
| | WNMG060412-MK5 | 1,2 | 0,16–0,45 | 0,6–4,0 | | | | | | | | | | | ☺ | 😐 | | | | | |
| | WNMG080404-MK5 | 0,4 | 0,16–0,25 | 0,6–5,0 | | | | | | | | | | | ☺ | 😐 | | | | | |
| | WNMG080408-MK5 | 0,8 | 0,20–0,45 | 1,2–5,0 | | | | | | | | | | | ☺ | 😐 | | | | | |
| | WNMG080412-MK5 | 1,2 | 0,22–0,50 | 1,5–5,0 | | | | | | | | | | | ☺ | 😐 | | | | | |
| | WNMG080416-MK5 | 1,6 | 0,25–0,55 | 2,0–5,0 | | | | | | | | | | | ☺ | 😐 | | | | | |
| | WNMG100608-MK5 | 0,8 | 0,25–0,50 | 0,8–7,0 | | | | | | | | | | | ☺ | 😐 | | | | | |
| | WNMG100612-MK5 | 1,2 | 0,30–0,60 | 1,2–7,0 | | | | | | | | | | | ☺ | 😐 | | | | | |
| | WNMG100616-MK5 | 1,6 | 0,35–0,60 | 1,5–7,0 | | | | | | | | | | | ☺ | 😐 | | | | | |
| | WNMG080408-NRS | 0,8 | 0,16–0,35 | 1,0–4,0 | | | | | | | | ☺ | 😐 | | | | | ☺ | 😐 | | |
| | WNMG080412-NRS | 1,2 | 0,18–0,40 | 1,2–4,0 | | | | | | | | ☺ | 😐 | | | | | ☺ | 😐 | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | WNMG060408-NR4 | 0,8 | 0,22–0,40 | 1,2–3,5 | | | | | | | | | 😐 | ☹ | | | | | 😐 | ☹ | |
| | WNMG080408-NR4 | 0,8 | 0,22–0,40 | 1,2–4,5 | | | | | | 😐 | 😐 | ☺ | 😐 | ☹ | | | | ☺ | 😐 | ☹ | |
| | WNMG080412-NR4 | 1,2 | 0,25–0,50 | 1,5–4,5 | | | | | | 😐 | 😐 | ☺ | 😐 | ☹ | | | | ☺ | 😐 | ☹ | |
| | WNMG100612-NR4 | 1,2 | 0,25–0,60 | 1,5–6,0 | | | | | | | | | 😐 | ☹ | | | | | 😐 | ☹ | |

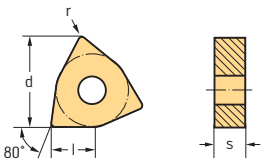
See the ISO 1832 designation key for dimensions

HC = Coated carbide
HW = Uncoated carbide




A 234 A 244 A 256 A 80 A 190

# Negative Trigon 80°
# WNMG / WNMA / WNMM
## Tiger·tec® Silver




## Indexable inserts

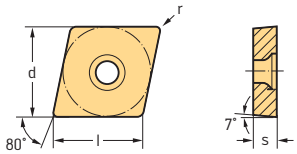
| | Designation | r mm | f mm | $a_p$ mm | P HC WPP01 | P HC WPP05S | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10 | M HC WSM20 | M HC WSM30 | K HC WKK10S | K HC WKK20S | K HC WKP30S | S HC WSM10 | S HC WSM20 | S HC WSM30 | HW WS10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | WNMG060408-RP5 | 0,8 | 0,20–0,40 | 0,8–4,0 | | | ● | ● | ● | | | | | | | | | | | | |
| | WNMG060412-RP5 | 1,2 | 0,25–0,50 | 1,0–4,0 | | | ● | ● | ● | | | | | | | | | | | | |
| | WNMG080408-RP5 | 0,8 | 0,20–0,40 | 0,8–6,0 | | ● | ● | ● | ● | | | | | | ● | ● | | | | | |
| | WNMG080412-RP5 | 1,2 | 0,25–0,60 | 1,0–6,0 | | ● | ● | ● | ● | | | | | | ● | ● | | | | | |
| | WNMG080416-RP5 | 1,6 | 0,35–0,70 | 1,6–6,0 | | ● | ● | ● | ● | | | | | | | | | | | | |
| | WNMG100612-RP5 | 1,2 | 0,25–0,60 | 1,2–8,0 | | ● | ● | ● | ● | | | | | | | | | | | | |
| | WNMG100616-RP5 | 1,6 | 0,35–0,70 | 1,6–8,0 | | ● | ● | ● | ● | | | | | | | | | | | | |
| | WNMG080408-RP7 | 0,8 | 0,16–0,45 | 1,0–5,0 | | | ● | ● | ● | | | | | | | | | | | | |
| | WNMG080412-RP7 | 1,2 | 0,20–0,45 | 1,5–5,0 | | | ● | ● | ● | | | | | | | | | | | | |
| | WNMG100608-RP7 | 0,8 | 0,30–0,50 | 0,8–6,0 | | | | ● | ● | | | | | | | | | | | | |
| | WNMG100612-RP7 | 1,2 | 0,35–0,60 | 1,2–6,0 | | | ● | ● | ● | | | | | | | | | | | | |
| | WNMG100616-RP7 | 1,6 | 0,40–0,60 | 1,5–6,0 | | | | ● | ● | | | | | | | | | | | | |
| | WNMA060404-RK5 | 0,4 | 0,16–0,25 | 0,6–4,0 | | | | | | | | | | | ● | ● | | | | | |
| | WNMA060408-RK5 | 0,8 | 0,20–0,40 | 0,8–4,0 | | | | | | | | | | | ● | ● | | | | | |
| | WNMA060412-RK5 | 1,2 | 0,22–0,50 | 1,2–4,0 | | | | | | | | | | | ● | ● | | | | | |
| | WNMA080404-RK5 | 0,4 | 0,16–0,25 | 0,6–5,0 | | | | | | | | | | | ● | ● | | | | | |
| | WNMA080408-RK5 | 0,8 | 0,20–0,45 | 1,2–5,0 | | | | | | | | | | | ● | ● | | | | | |
| | WNMA080412-RK5 | 1,2 | 0,22–0,50 | 1,5–5,0 | | | | | | | | | | | ● | ● | | | | | |
| | WNMA100612-RK5 | 1,2 | 0,25–0,60 | 1,5–6,0 | | | | | | | | | | | ● | ● | | | | | |
| | WNMA100616-RK5 | 1,6 | 0,30–0,65 | 1,5–6,0 | | | | | | | | | | | ● | ● | | | | | |
| | WNMA060408-RK7 | 0,8 | 0,20–0,40 | 0,8–4,0 | | | | | | | | | | | ● | ● | | | | | |
| | WNMA080408-RK7 | 0,8 | 0,20–0,45 | 1,2–5,0 | | | | | | | | | | | ● | ● | | | | | |
| | WNMA080412-RK7 | 1,2 | 0,22–0,50 | 1,5–5,0 | | | | | | | | | | | ● | ● | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | WNMM080412-NRF | 1,2 | 0,35–0,60 | 1,2–6,0 | | | ● | ● | ● | | | | | | | | | | | | |
| | WNMM100612-NRF | 1,2 | 0,35–0,70 | 1,2–8,0 | | | ● | ● | ● | | | | | | | | | | | | |
| | WNMM100616-NRF | 1,6 | 0,40–0,90 | 1,6–8,0 | | | ● | ● | ● | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |

See the ISO 1832 designation key for dimensions

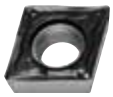
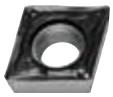
HC = Coated carbide
HW = Uncoated carbide

A 234 A 244 A 256 A 80 A 190

# Positive rhombic 80°
# CCMT / CCGT / CCMW
## Tiger·tec® Silver




## Indexable inserts

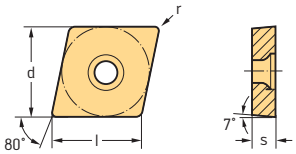
| | Designation | l mm | r mm | f mm | $a_p$ mm | P HC WPP01 | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10S | M HC WSM20S | M HC WSM30S | M HC WSM10 | M HC WSM20 | M HC WSM30 | K HC WKK10S | K HC WKK20S | N HC WXN10 | N HW WK1 | S HC WSM10S | S HC WSM20S | S HC WSM30S | S HC WSM10 | S HC WSM20 | S HC WSM30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CCMT060204-PF | 6,45 | 0,4 | 0,05–0,30 | 0,3–2,0 | ● | ● | ● | | | | | | | | ● | ● | | | | | | | | | ● | ● |
| | CCMT060208-PF | 6,45 | 0,8 | 0,09–0,35 | 0,3–2,0 | | ● | ● | | | | | | | | ● | | | | | | | | | | ● | |
| | CCMT09T304-PF | 9,67 | 0,4 | 0,07–0,30 | 0,3–3,0 | ● | ● | ● | | | | | | | | ● | ● | | | | | | | | | ● | ● |
| | CCMT09T308-PF | 9,67 | 0,8 | 0,12–0,45 | 0,3–3,0 | ● | ● | ● | | | | | | | | ● | ● | | | | | | | | | ● | ● |
| | CCGT060201-PF2 | 6,45 | 0,1 | 0,02–0,06 | 0,1–1,5 | | | | | | | | | | | ● | | | | ● | | | | | | ● | |
| | CCGT060202-PF2 | 6,45 | 0,2 | 0,05–0,12 | 0,2–2,0 | | | | | | | | | | | ● | | | | ● | ● | | | | | ● | |
| | CCGT060204-PF2 | 6,45 | 0,4 | 0,08–0,25 | 0,2–2,5 | | | | | | | | | | | ● | | | | ● | ● | | | | | ● | |
| | CCGT09T301-PF2 | 9,67 | 0,1 | 0,02–0,06 | 0,1–1,5 | | | | | | | | | | | ● | | | | ● | | | | | | ● | |
| | CCGT09T302-PF2 | 9,67 | 0,2 | 0,05–0,12 | 0,2–2,0 | | | | | | | | | | | ● | | | | ● | ● | | | | | ● | |
| | CCGT09T304-PF2 | 9,67 | 0,4 | 0,08–0,25 | 0,2–2,5 | | | | | | | | | | ● | ● | | | | ● | ● | | | | ● | ● | |
| | CCGT09T308-PF2 | 9,67 | 0,8 | 0,10–0,30 | 0,3–3,0 | | | | | | | | | | ● | ● | | | | ● | ● | | | | ● | ● | |
| | CCGT120404-PF2 | 12,90 | 0,4 | 0,08–0,25 | 0,2–3,0 | | | | | | | | | | | ● | | | | ● | ● | | | | | ● | |
| | CCGT120408-PF2 | 12,90 | 0,8 | 0,10–0,30 | 0,3–3,5 | | | | | | | | | | | ● | | | | ● | ● | | | | | ● | |
|  | CCMT060202-FM4 | 6,45 | 0,2 | 0,04–0,12 | 0,1–1,0 | | | | | ● | ● | ● | ● | ● | | | | | | | | ● | ● | ● | | | |
| | CCMT060204-FM4 | 6,45 | 0,4 | 0,05–0,16 | 0,1–1,5 | | | | | ● | ● | ● | ● | ● | | | | | | | | ● | ● | ● | | | |
| | CCMT060208-FM4 | 6,45 | 0,8 | 0,08–0,20 | 0,1–1,5 | | | | | ● | ● | | ● | ● | | | | | | | | | ● | ● | | | |
| | CCMT09T302-FM4 | 9,67 | 0,2 | 0,04–0,12 | 0,1–1,0 | | | | | ● | ● | ● | ● | ● | | | | | | | | ● | ● | ● | | | |
| | CCMT09T304-FM4 | 9,67 | 0,4 | 0,05–0,16 | 0,1–1,5 | | | | | ● | ● | ● | ● | ● | | | | | | | | ● | ● | ● | | | |
| | CCMT09T308-FM4 | 9,67 | 0,8 | 0,08–0,20 | 0,1–1,5 | | | | | ● | ● | ● | ● | ● | | | | | | | | ● | ● | ● | | | |
| | CCMT120404-FM4 | 12,90 | 0,4 | 0,05–0,16 | 0,1–1,5 | | | | | | | ● | ● | ● | | | | | | | | ● | ● | ● | | | |
| | CCMT120408-FM4 | 12,90 | 0,8 | 0,08–0,20 | 0,1–1,5 | | | | | | | ● | ● | ● | | | | | | | | ● | ● | ● | | | |
|  | CCMT060202-FP4 | 6,45 | 0,2 | 0,04–0,12 | 0,1–1,0 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | CCMT060204-FP4 | 6,45 | 0,4 | 0,05–0,16 | 0,1–1,5 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | CCMT060208-FP4 | 6,45 | 0,8 | 0,08–0,20 | 0,1–1,5 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | CCMT09T302-FP4 | 9,67 | 0,2 | 0,04–0,12 | 0,1–1,0 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | CCMT09T304-FP4 | 9,67 | 0,4 | 0,05–0,16 | 0,1–1,5 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | CCMT09T308-FP4 | 9,67 | 0,8 | 0,08–0,20 | 0,1–1,5 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | CCMT120404-FP4 | 12,90 | 0,4 | 0,05–0,16 | 0,1–1,5 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | CCMT120408-FP4 | 12,90 | 0,8 | 0,08–0,20 | 0,1–1,5 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | CCMT060202-PF4 | 6,45 | 0,2 | 0,04–0,12 | 0,1–1,0 | ● | | | | | | | | | | | | | | | | | | | | | |
| | CCMT060204-PF4 | 6,45 | 0,4 | 0,05–0,16 | 0,1–1,5 | ● | | | | | | | | | | | | | | | | | | | | | |
| | CCMT060208-PF4 | 6,45 | 0,8 | 0,08–0,20 | 0,1–1,5 | ● | | | | | | | | | | | | | | | | | | | | | |
| | CCMT09T302-PF4 | 9,67 | 0,2 | 0,04–0,12 | 0,1–1,0 | ● | | | | | | | | | | | | | | | | | | | | | |
| | CCMT09T304-PF4 | 9,67 | 0,4 | 0,05–0,16 | 0,1–1,5 | ● | | | | | | | | | | | | | | | | | | | | | |
| | CCMT09T308-PF4 | 9,67 | 0,8 | 0,08–0,20 | 0,1–1,5 | ● | | | | | | | | | | | | | | | | | | | | | |
| | CCMT120404-PF4 | 12,90 | 0,4 | 0,05–0,16 | 0,1–1,5 | ● | | | | | | | | | | | | | | | | | | | | | |
| | CCMT120408-PF4 | 12,90 | 0,8 | 0,08–0,20 | 0,1–1,5 | ● | | | | | | | | | | | | | | | | | | | | | |

See the ISO 1832 designation key for dimensions

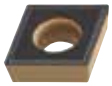
HC = Coated carbide
HW = Uncoated carbide

A 238 A 244 A 256 A 80 A 190

# Positive rhombic 80°
# CCMT / CCGT / CCMW
## Tiger·tec® Silver

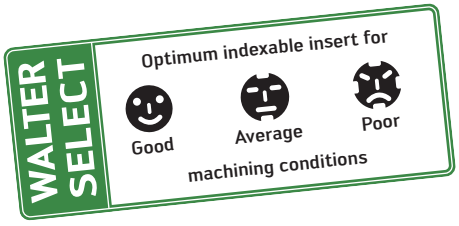



## Indexable inserts

| | Designation | l mm | r mm | f mm | $a_p$ mm | P HC WPP01 | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10S | M HC WSM20S | M HC WSM30S | M HC WSM10 | M HC WSM20 | M HC WSM30 | K HC WKK10S | K HC WKK20S | N HC WXN10 | N HW WK1 | S HC WSM10S | S HC WSM20S | S HC WSM30S | S HC WSM10 | S HC WSM20 | S HC WSM30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CCGT060202-PF5 | 6,45 | 0,2 | 0,04–0,10 | 0,1–0,6 | | | | | | | | | | | | ☹ | | | | | | | | | |
| | CCGT060204-PF5 | 6,45 | 0,4 | 0,06–0,12 | 0,2–0,6 | | | | | | | | | | | | ☹ | | | | | | | | | |
| | CCGT09T302-PF5 | 9,67 | 0,2 | 0,04–0,10 | 0,1–1,0 | | | | | | | | | | | | ☹ | | | | | | | | | |
| | CCGT09T304-PF5 | 9,67 | 0,4 | 0,06–0,12 | 0,2–1,0 | | | | | | | | | | | | ☹ | | | | | | | | | |
|  | CCMT060204-PS5 | 6,45 | 0,4 | 0,06–0,18 | 0,3–2,0 | | | | | | | | | | | 😐 | ☹ | | | | | | | | 😐 | ☹ |
| | CCMT060208-PS5 | 6,45 | 0,8 | 0,10–0,20 | 0,5–2,0 | | | | | | | | | | | 😐 | ☹ | | | | | | | | 😐 | ☹ |
| | CCMT09T304-PS5 | 9,67 | 0,4 | 0,08–0,20 | 0,3–2,0 | | | | | | | | | | | 😐 | ☹ | | | | | | | | 😐 | ☹ |
| | CCMT09T308-PS5 | 9,67 | 0,8 | 0,12–0,32 | 0,5–2,0 | | | | | | | | | | | 😐 | ☹ | | | | | | | | 😐 | ☹ |
| | CCMT120404-PS5 | 12,90 | 0,4 | 0,10–0,25 | 0,3–2,5 | | | | | | | | | | | 😐 | ☹ | | | | | | | | 😐 | ☹ |
| | CCMT120408-PS5 | 12,90 | 0,8 | 0,12–0,32 | 0,5–2,5 | | | | | | | | | | | 😐 | ☹ | | | | | | | | 😐 | ☹ |
| | CCMT060204-FP6 | 6,45 | 0,4 | 0,06–0,18 | 0,3–2,0 | | 😊 | 😐 | | | | | | | | | | | | | | | | | | |
| | CCMT060208-FP6 | 6,45 | 0,8 | 0,10–0,20 | 0,5–2,0 | | | 😐 | | | | | | | | | | | | | | | | | | |
| | CCMT09T304-FP6 | 9,67 | 0,4 | 0,08–0,20 | 0,3–2,0 | | 😊 | 😐 | | | | | | | | | | | | | | | | | | |
| | CCMT09T308-FP6 | 9,67 | 0,8 | 0,12–0,32 | 0,5–2,0 | | 😊 | 😐 | | | | | | | | | | | | | | | | | | |
| | CCMT120404-FP6 | 12,90 | 0,4 | 0,10–0,25 | 0,3–2,5 | | | 😐 | | | | | | | | | | | | | | | | | | |
| | CCMT120408-FP6 | 12,90 | 0,8 | 0,12–0,32 | 0,5–2,5 | | | 😐 | | | | | | | | | | | | | | | | | | |
| | CCMT060204-FK6 | 6,45 | 0,4 | 0,06–0,18 | 0,3–2,0 | | | | | | | | | | | | | 😊 | 😐 | | | | | | | |
| | CCMT060208-FK6 | 6,45 | 0,8 | 0,10–0,20 | 0,5–2,0 | | | | | | | | | | | | | 😊 | 😐 | | | | | | | |
| | CCMT09T304-FK6 | 9,67 | 0,4 | 0,08–0,20 | 0,3–2,0 | | | | | | | | | | | | | 😊 | 😐 | | | | | | | |
| | CCMT09T308-FK6 | 9,67 | 0,8 | 0,10–0,25 | 0,5–2,0 | | | | | | | | | | | | | 😊 | 😐 | | | | | | | |
| | CCMT120404-FK6 | 12,90 | 0,4 | 0,10–0,25 | 0,3–2,5 | | | | | | | | | | | | | 😊 | 😐 | | | | | | | |
| | CCMT120408-FK6 | 12,90 | 0,8 | 0,12–0,32 | 0,5–2,5 | | | | | | | | | | | | | 😊 | 😐 | | | | | | | |
| Wiper | CCMT09T304-PM | 9,67 | 0,4 | 0,12–0,40 | 0,5–4,0 | | 😊 | 😐 | | | | | | | | | | 😊 | 😐 | | | | | | | |
| | CCMT09T308-PM | 9,67 | 0,8 | 0,15–0,50 | 0,7–4,0 | | 😊 | 😐 | | | | | | | | | | 😊 | 😐 | | | | | | | |
| | CCMT09T312-PM | 9,67 | 1,2 | 0,17–0,50 | 0,7–4,0 | | | 😐 | | | | | | | | | | 😊 | 😐 | | | | | | | |
| | CCMT120408-PM | 12,90 | 0,8 | 0,15–0,50 | 0,7–4,0 | | | 😐 | | | | | | | | | | 😊 | 😐 | | | | | | | |
| | CCGT060201-PM2 | 6,45 | 0,1 | 0,02–0,06 | 0,5–1,5 | | | | | | | | | | | | | | | 😊 | 😊 | | | | | |
| | CCGT060202-PM2 | 6,45 | 0,2 | 0,05–0,12 | 0,5–2,0 | | | | | | | | | | | | | | | 😊 | 😊 | | | | | |
| | CCGT060204-PM2 | 6,45 | 0,4 | 0,08–0,25 | 0,6–3,0 | | | | | | | | | | | | | | | 😊 | 😊 | | | | | |
| | CCGT09T301-PM2 | 9,67 | 0,1 | 0,02–0,06 | 0,5–1,5 | | | | | | | | | | | | | | | 😊 | 😊 | | | | | |
| | CCGT09T302-PM2 | 9,67 | 0,2 | 0,05–0,12 | 0,5–2,0 | | | | | | | | | | | | | | | 😊 | 😊 | | | | | |
| | CCGT09T304-PM2 | 9,67 | 0,4 | 0,08–0,25 | 0,6–4,0 | | | | | | | | | | | | | | | 😊 | 😊 | | | | | |
| | CCGT09T308-PM2 | 9,67 | 0,8 | 0,10–0,35 | 0,8–4,0 | | | | | | | | | | | | | | | 😊 | 😊 | | | | | |
| | CCGT120402-PM2 | 12,90 | 0,2 | 0,05–0,12 | 0,5–2,0 | | | | | | | | | | | | | | | 😊 | 😊 | | | | | |
| | CCGT120404-PM2 | 12,90 | 0,4 | 0,08–0,25 | 0,6–5,0 | | | | | | | | | | | | | | | 😊 | 😊 | | | | | |
| | CCGT120408-PM2 | 12,90 | 0,8 | 0,10–0,35 | 0,8–5,0 | | | | | | | | | | | | | | | 😊 | 😊 | | | | | |

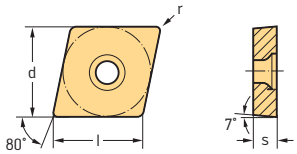
See the ISO 1832 designation key for dimensions

HC = Coated carbide
HW = Uncoated carbide




A 238 A 244 A 256 A 80 A 190

# Positive rhombic 80°
# CCMT / CCGT / CCMW
## Tiger·tec® Silver




## Indexable inserts

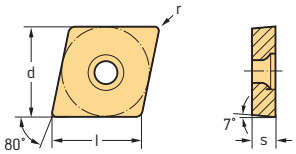
| | Designation | l mm | r mm | f mm | $a_p$ mm | P HC WPP01 | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10S | M HC WSM20S | M HC WSM30S | M HC WSM10 | M HC WSM20 | M HC WSM30 | K HC WKK10S | K HC WKK20S | N HC WXN10 | N HW WK1 | S HC WSM10S | S HC WSM20S | S HC WSM30S | S HC WSM10 | S HC WSM20 | S HC WSM30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CCMT060204-MM4 | 6,45 | 0,4 | 0,08–0,20 | 0,4–2,0 | | | | | ● | ● | ● | ● | | | | | | | | | ● | | | | |
| | CCMT060208-MM4 | 6,45 | 0,8 | 0,12–0,25 | 0,5–2,0 | | | | | ● | ● | | ● | | | | | | | | | | ● | | | | |
| | CCMT09T304-MM4 | 9,67 | 0,4 | 0,08–0,25 | 0,4–3,0 | | | | | ● | ● | ● | ● | | | | | | | | | ● | ● | | | | |
| | CCMT09T308-MM4 | 9,67 | 0,8 | 0,12–0,32 | 0,5–3,0 | | | | | ● | ● | ● | ● | | | | | | | | | ● | ● | | | | |
| | CCMT120404-MM4 | 12,90 | 0,4 | 0,12–0,25 | 0,4–3,5 | | | | | | | | ● | | | | | | | | | | ● | | | | |
| | CCMT120408-MM4 | 12,90 | 0,8 | 0,12–0,32 | 0,5–3,5 | | | | | | | ● | ● | | | | | | | | | ● | ● | | | | |
| | CCGT060204-MM4 | 6,45 | 0,4 | 0,08–0,20 | 0,4–2,0 | | | | | | | | ● | | | | | | | | | | ● | | | | |
| | CCGT060208-MM4 | 6,45 | 0,8 | 0,12–0,25 | 0,5–2,0 | | | | | | | | ● | | | | | | | | | | ● | | | | |
| | CCGT09T304-MM4 | 9,67 | 0,4 | 0,08–0,25 | 0,4–3,0 | | | | | | | | ● | | | | | | | | | | ● | | | | |
| | CCGT09T308-MM4 | 9,67 | 0,8 | 0,12–0,32 | 0,5–3,0 | | | | | | | | ● | | | | | | | | | | ● | | | | |
| | CCGT120408-MM4 | 12,90 | 0,8 | 0,12–0,32 | 0,5–3,5 | | | | | | | | ● | | | | | | | | | | ● | | | | |
| | CCMT060204-MP4 | 6,45 | 0,4 | 0,08–0,20 | 0,4–2,0 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | CCMT060208-MP4 | 6,45 | 0,8 | 0,12–0,25 | 0,5–2,0 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | CCMT09T304-MP4 | 9,67 | 0,4 | 0,08–0,25 | 0,4–3,0 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | CCMT09T308-MP4 | 9,67 | 0,8 | 0,12–0,32 | 0,5–3,0 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | CCMT120404-MP4 | 12,90 | 0,4 | 0,12–0,25 | 0,4–3,5 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | CCMT120408-MP4 | 12,90 | 0,8 | 0,12–0,32 | 0,5–3,5 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | CCGT060204-MP4 | 6,45 | 0,4 | 0,08–0,20 | 0,4–2,0 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | CCGT060208-MP4 | 6,45 | 0,8 | 0,12–0,25 | 0,5–2,0 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | CCGT09T304-MP4 | 9,67 | 0,4 | 0,08–0,25 | 0,4–3,0 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | CCGT09T308-MP4 | 9,67 | 0,8 | 0,12–0,32 | 0,5–3,0 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | CCGT120408-MP4 | 12,90 | 0,8 | 0,12–0,32 | 0,5–3,5 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | CCMT060204-MK4 | 6,45 | 0,4 | 0,08–0,20 | 0,4–2,0 | | | | | | | | | | | | | ● | ● | | | | | | | | |
| | CCMT060208-MK4 | 6,45 | 0,8 | 0,12–0,25 | 0,5–2,0 | | | | | | | | | | | | | ● | ● | | | | | | | | |
| | CCMT09T304-MK4 | 9,67 | 0,4 | 0,08–0,25 | 0,4–3,0 | | | | | | | | | | | | | ● | ● | | | | | | | | |
| | CCMT09T308-MK4 | 9,67 | 0,8 | 0,12–0,32 | 0,5–3,0 | | | | | | | | | | | | | ● | ● | | | | | | | | |
| | CCMT120404-MK4 | 12,90 | 0,4 | 0,12–0,25 | 0,4–3,5 | | | | | | | | | | | | | ● | ● | | | | | | | | |
| | CCMT120408-MK4 | 12,90 | 0,8 | 0,12–0,32 | 0,5–3,5 | | | | | | | | | | | | | ● | ● | | | | | | | | |
| | CCGT060204-MK4 | 6,45 | 0,4 | 0,08–0,20 | 0,4–2,0 | | | | | | | | | | | | | | ● | | | | | | | | |
| | CCGT060208-MK4 | 6,45 | 0,8 | 0,12–0,25 | 0,5–2,0 | | | | | | | | | | | | | | ● | | | | | | | | |
| | CCGT09T304-MK4 | 9,67 | 0,4 | 0,08–0,25 | 0,4–3,0 | | | | | | | | | | | | | | ● | | | | | | | | |
| | CCGT09T308-MK4 | 9,67 | 0,8 | 0,12–0,32 | 0,5–3,0 | | | | | | | | | | | | | | ● | | | | | | | | |
| | CCGT120408-MK4 | 12,90 | 0,8 | 0,12–0,32 | 0,5–3,5 | | | | | | | | | | | | | | ● | | | | | | | | |
| | CCMT060204-RM4 | 6,45 | 0,4 | 0,12–0,25 | 0,4–2,5 | | | | | ● | ● | ● | ● | ● | | | | | | | | ● | ● | ● | | | |
| | CCMT060208-RM4 | 6,45 | 0,8 | 0,16–0,30 | 0,6–2,5 | | | | | ● | ● | ● | ● | ● | | | | | | | | ● | ● | ● | | | |
| | CCMT09T304-RM4 | 9,67 | 0,4 | 0,12–0,25 | 0,4–3,0 | | | | | ● | ● | ● | ● | ● | | | | | | | | ● | ● | ● | | | |
| | CCMT09T308-RM4 | 9,67 | 0,8 | 0,16–0,35 | 0,6–4,0 | | | | | ● | ● | ● | ● | ● | | | | | | | | ● | ● | ● | | | |
| | CCMT120404-RM4 | 12,90 | 0,4 | 0,12–0,25 | 0,4–3,0 | | | | | ● | ● | ● | ● | ● | | | | | | | | ● | ● | ● | | | |
| | CCMT120408-RM4 | 12,90 | 0,8 | 0,16–0,40 | 0,6–5,0 | | | | | ● | ● | ● | ● | ● | | | | | | | | ● | ● | ● | | | |
| | CCMT120412-RM4 | 12,90 | 1,2 | 0,20–0,50 | 0,8–5,0 | | | | | ● | ● | | ● | ● | | | | | | | | | ● | ● | | | |

See the ISO 1832 designation key for dimensions

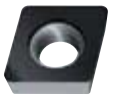
HC = Coated carbide
HW = Uncoated carbide

A 238 A 244 A 256 A 80 A 190

# Positive rhombic 80°
# CCMT / CCGT / CCMW
## Tiger·tec® Silver




## Indexable inserts

| | Designation | l mm | r mm | f mm | $a_p$ mm | P HC WPP01 | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10S | M HC WSM20S | M HC WSM30S | M HC WSM10 | M HC WSM20 | M HC WSM30 | K HC WKK10S | K HC WKK20S | N HC WXN10 | N HW WK1 | S HC WSM10S | S HC WSM20S | S HC WSM30S | S HC WSM10 | S HC WSM20 | S HC WSM30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CCMT060204-RP4 | 6,45 | 0,4 | 0,12–0,25 | 0,4–2,5 | | ☺ | 😐 | ☹ | | | | | | | | | | | | | | | | | | |
| | CCMT060208-RP4 | 6,45 | 0,8 | 0,16–0,30 | 0,6–2,5 | | ☺ | 😐 | ☹ | | | | | | | | | | | | | | | | | | |
| | CCMT09T304-RP4 | 9,67 | 0,4 | 0,12–0,25 | 0,4–3,0 | | ☺ | 😐 | ☹ | | | | | | | | | | | | | | | | | | |
| | CCMT09T308-RP4 | 9,67 | 0,8 | 0,16–0,35 | 0,6–4,0 | | ☺ | 😐 | ☹ | | | | | | | | | | | | | | | | | | |
| | CCMT120404-RP4 | 12,90 | 0,4 | 0,12–0,30 | 0,4–4,0 | | ☺ | 😐 | ☹ | | | | | | | | | | | | | | | | | | |
| | CCMT120408-RP4 | 12,90 | 0,8 | 0,16–0,40 | 0,6–5,0 | | ☺ | 😐 | ☹ | | | | | | | | | | | | | | | | | | |
| | CCMT120412-RP4 | 12,90 | 1,2 | 0,20–0,50 | 0,8–5,0 | | ☺ | 😐 | ☹ | | | | | | | | | | | | | | | | | | |
| | CCMT060204-RK4 | 6,45 | 0,4 | 0,12–0,25 | 0,4–2,5 | | | | | | | | | | | | | ☺ | 😐 | | | | | | | | |
| | CCMT060208-RK4 | 6,45 | 0,8 | 0,16–0,30 | 0,6–2,5 | | | | | | | | | | | | | ☺ | 😐 | | | | | | | | |
| | CCMT09T304-RK4 | 9,67 | 0,4 | 0,12–0,25 | 0,4–3,0 | | | | | | | | | | | | | ☺ | 😐 | | | | | | | | |
| | CCMT09T308-RK4 | 9,67 | 0,8 | 0,16–0,35 | 0,6–4,0 | | | | | | | | | | | | | ☺ | 😐 | | | | | | | | |
| | CCMT120404-RK4 | 12,90 | 0,4 | 0,12–0,30 | 0,4–4,0 | | | | | | | | | | | | | ☺ | 😐 | | | | | | | | |
| | CCMT120408-RK4 | 12,90 | 0,8 | 0,16–0,40 | 0,6–5,0 | | | | | | | | | | | | | ☺ | 😐 | | | | | | | | |
| | CCMT120412-RK4 | 12,90 | 1,2 | 0,20–0,50 | 0,8–5,0 | | | | | | | | | | | | | ☺ | 😐 | | | | | | | | |
|  | CCMW060202-RK6 | 6,45 | 0,2 | 0,08–0,12 | 0,2–2,5 | | | | | | | | | | | | | ☺ | 😐 | | | | | | | | |
| | CCMW060204-RK6 | 6,45 | 0,4 | 0,12–0,25 | 0,4–2,5 | | | | | | | | | | | | | ☺ | 😐 | | | | | | | | |
| | CCMW060208-RK6 | 6,45 | 0,8 | 0,16–0,30 | 0,5–2,5 | | | | | | | | | | | | | ☺ | 😐 | | | | | | | | |
| | CCMW09T304-RK6 | 9,67 | 0,4 | 0,12–0,25 | 0,4–3,0 | | | | | | | | | | | | | ☺ | 😐 | | | | | | | | |
| | CCMW09T308-RK6 | 9,67 | 0,8 | 0,16–0,35 | 0,5–4,0 | | | | | | | | | | | | | ☺ | 😐 | | | | | | | | |
| | CCMW120404-RK6 | 12,90 | 0,4 | 0,12–0,30 | 0,4–4,0 | | | | | | | | | | | | | ☺ | 😐 | | | | | | | | |
| | CCMW120408-RK6 | 12,90 | 0,8 | 0,16–0,40 | 0,6–5,0 | | | | | | | | | | | | | | 😐 | | | | | | | | |
| | CCMW120412-RK6 | 12,90 | 1,2 | 0,20–0,50 | 0,8–5,0 | | | | | | | | | | | | | | 😐 | | | | | | | | |

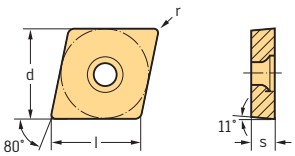
See the ISO 1832 designation key for dimensions

HC = Coated carbide
HW = Uncoated carbide

WALTER SELECT
Optimum indexable insert for
Good
Average
Poor
machining conditions

A 238 A 244 A 256 A 80 A 190

# Positive rhombic 80°
# CPMT / CPGT
## Tiger·tec® Silver




## Indexable inserts

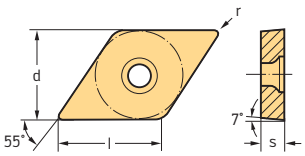
| | Designation | l mm | r mm | f mm | $a_p$ mm | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10S | M HC WSM20S | M HC WSM30S | K HC WKK10S | K HC WKK20S | S HC WSM10S | S HC WSM20S | S HC WSM30S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CPMT060204-MM4 | 6,45 | 0,4 | 0,08–0,20 | 0,4–2,0 | | | | | | | ● | | | | | ● | |
| | CPMT060208-MM4 | 6,45 | 0,8 | 0,12–0,25 | 0,5–2,0 | | | | | | | ● | | | | | ● | |
| | CPMT09T304-MM4 | 9,67 | 0,4 | 0,08–0,25 | 0,4–3,0 | | | | | | | ● | | | | | ● | |
| | CPMT09T308-MM4 | 9,67 | 0,8 | 0,12–0,32 | 0,5–3,0 | | | | | | | ● | | | | | ● | |
| | CPGT050204-MM4 | 5,56 | 0,4 | 0,08–0,20 | 0,4–1,5 | | | | | | | ● | | | | | ● | |
| | CPGT060204-MM4 | 6,45 | 0,4 | 0,08–0,20 | 0,4–2,0 | | | | | | | ● | | | | | ● | |
| | CPGT060208-MM4 | 6,45 | 0,8 | 0,12–0,25 | 0,5–2,0 | | | | | | | ● | | | | | ● | |
| | CPGT09T304-MM4 | 9,67 | 0,4 | 0,08–0,25 | 0,4–3,0 | | | | | | | ● | | | | | ● | |
| | CPGT09T308-MM4 | 9,67 | 0,8 | 0,12–0,32 | 0,5–3,0 | | | | | | | ● | | | | | ● | |
| | CPMT060204-MP4 | 6,45 | 0,4 | 0,08–0,20 | 0,4–2,0 | | ● | | | | | | | | | | | |
| | CPMT060208-MP4 | 6,45 | 0,8 | 0,12–0,25 | 0,5–2,0 | | ● | | | | | | | | | | | |
| | CPMT09T304-MP4 | 9,67 | 0,4 | 0,08–0,25 | 0,4–3,0 | | ● | | | | | | | | | | | |
| | CPMT09T308-MP4 | 9,67 | 0,8 | 0,12–0,32 | 0,5–3,0 | | ● | | | | | | | | | | | |
| | CPGT050204-MP4 | 5,56 | 0,4 | 0,08–0,20 | 0,4–1,5 | | ● | | | | | | | | | | | |
| | CPGT060204-MP4 | 6,45 | 0,4 | 0,08–0,20 | 0,4–2,0 | ● | ● | | | | | | | | | | | |
| | CPGT060208-MP4 | 6,45 | 0,8 | 0,12–0,25 | 0,5–2,0 | ● | ● | | | | | | | | | | | |
| | CPGT09T304-MP4 | 9,67 | 0,4 | 0,08–0,25 | 0,4–3,0 | ● | ● | | | | | | | | | | | |
| | CPGT09T308-MP4 | 9,67 | 0,8 | 0,12–0,32 | 0,5–3,0 | ● | ● | | | | | | | | | | | |
| | CPMT060204-MK4 | 6,45 | 0,4 | 0,08–0,20 | 0,4–2,0 | | | | | | | | | | ● | | | |
| | CPMT060208-MK4 | 6,45 | 0,8 | 0,12–0,25 | 0,5–2,0 | | | | | | | | | | ● | | | |
| | CPMT09T304-MK4 | 9,67 | 0,4 | 0,08–0,25 | 0,4–3,0 | | | | | | | | | | ● | | | |
| | CPMT09T308-MK4 | 9,67 | 0,8 | 0,12–0,32 | 0,5–3,0 | | | | | | | | | | ● | | | |
| | CPGT050204-MK4 | 5,56 | 0,4 | 0,08–0,20 | 0,4–1,5 | | | | | | | | | | ● | | | |
| | CPGT060204-MK4 | 6,45 | 0,4 | 0,08–0,20 | 0,4–2,0 | | | | | | | | | | ● | | | |
| | CPGT060208-MK4 | 6,45 | 0,8 | 0,12–0,25 | 0,5–2,0 | | | | | | | | | | ● | | | |
| | CPGT09T304-MK4 | 9,67 | 0,4 | 0,08–0,25 | 0,4–3,0 | | | | | | | | | | ● | | | |
| | CPGT09T308-MK4 | 9,67 | 0,8 | 0,12–0,32 | 0,5–3,0 | | | | | | | | | | ● | | | |

See the ISO 1832 designation key for dimensions

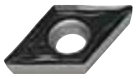
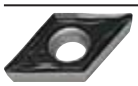
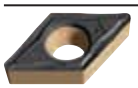
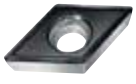
HC = Coated carbide

A 238 A 244 A 256 A 80 A 190

# Positive rhombic 55°
# DCMT / DCGT / DCMW
## Tiger·tec® Silver

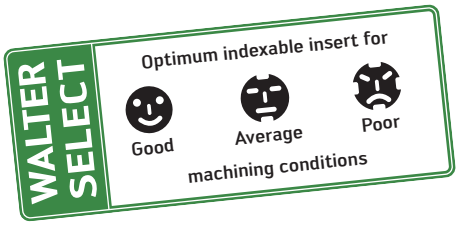



## Indexable inserts

| | Designation | l mm | r mm | f mm | $a_p$ mm | P HC WPP01 | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10S | M HC WSM20S | M HC WSM30S | M HC WSM10 | M HC WSM20 | M HC WSM30 | K HC WKK10S | K HC WKK20S | N HC WXN10 | N HW WK1 | S HC WSM10S | S HC WSM20S | S HC WSM30S | S HC WSM10 | S HC WSM20 | S HC WSM30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DCMT070204-PF | 7,75 | 0,4 | 0,05–0,25 | 0,3–2,0 | ☺ | ☺ | 😐 | | | | | | | | 😐 | ☹ | | | | | | | | | 😐 | ☹ |
| | DCMT11T304-PF | 11,63 | 0,4 | 0,07–0,30 | 0,3–3,0 | ☺ | ☺ | 😐 | | | | | | | | 😐 | ☹ | | | | | | | | | 😐 | ☹ |
| | DCMT11T308-PF | 11,63 | 0,8 | 0,12–0,40 | 0,3–3,0 | ☺ | ☺ | 😐 | | | | | | | | 😐 | ☹ | | | | | | | | | 😐 | ☹ |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | DCGT070201-PF2 | 7,75 | 0,1 | 0,02–0,06 | 0,1–1,5 | | | | | | | | | | | 😐 | | | | ☺ | | | | | | 😐 | |
| | DCGT070202-PF2 | 7,75 | 0,2 | 0,05–0,12 | 0,2–2,0 | | | | | | | | | | | 😐 | | | | ☺ | ☺ | | | | | 😐 | |
| | DCGT070204-PF2 | 7,75 | 0,4 | 0,08–0,25 | 0,2–2,5 | | | | | | | | | | | 😐 | | | | ☺ | ☺ | | | | | 😐 | |
| | DCGT11T301-PF2 | 11,63 | 0,1 | 0,02–0,06 | 0,1–1,5 | | | | | | | | | | | 😐 | | | | ☺ | | | | | | 😐 | |
| | DCGT11T302-PF2 | 11,63 | 0,2 | 0,05–0,12 | 0,2–2,0 | | | | | | | | | | | 😐 | | | | ☺ | ☺ | | | | | 😐 | |
| | DCGT11T304-PF2 | 11,63 | 0,4 | 0,08–0,25 | 0,2–2,5 | | | | | | | | | | ☺ | 😐 | | | | ☺ | ☺ | | | | ☺ | 😐 | |
| | DCGT11T308-PF2 | 11,63 | 0,8 | 0,10–0,30 | 0,3–3,0 | | | | | | | | | | ☺ | 😐 | | | | ☺ | ☺ | | | | ☺ | 😐 | |
|  | DCMT070202-FM4 | 7,75 | 0,2 | 0,04–0,12 | 0,1–1,0 | | | | | | | ☺ | 😐 | ☹ | | | | | | | | ☺ | 😐 | ☹ | | | |
| | DCMT070204-FM4 | 7,75 | 0,4 | 0,05–0,16 | 0,1–1,5 | | | | | 😐 | 😐 | ☺ | 😐 | ☹ | | | | | | | | ☺ | 😐 | ☹ | | | |
| | DCMT070208-FM4 | 7,75 | 0,8 | 0,08–0,20 | 0,1–1,5 | | | | | | | ☺ | 😐 | | | | | | | | | ☺ | 😐 | | | | |
| | DCMT11T302-FM4 | 11,63 | 0,2 | 0,04–0,12 | 0,1–1,0 | | | | | 😐 | 😐 | ☺ | 😐 | ☹ | | | | | | | | ☺ | 😐 | ☹ | | | |
| | DCMT11T304-FM4 | 11,63 | 0,4 | 0,05–0,16 | 0,1–1,5 | | | | | 😐 | 😐 | ☺ | 😐 | ☹ | | | | | | | | ☺ | 😐 | ☹ | | | |
| | DCMT11T308-FM4 | 11,63 | 0,8 | 0,08–0,20 | 0,1–1,5 | | | | | 😐 | 😐 | ☺ | 😐 | ☹ | | | | | | | | ☺ | 😐 | ☹ | | | |
|  | DCMT070202-FP4 | 7,75 | 0,2 | 0,04–0,12 | 0,1–1,0 | | ☺ | 😐 | | | | | | | | | | | | | | | | | | | |
| | DCMT070204-FP4 | 7,75 | 0,4 | 0,05–0,16 | 0,1–1,5 | | ☺ | 😐 | | | | | | | | | | | | | | | | | | | |
| | DCMT070208-FP4 | 7,75 | 0,8 | 0,08–0,20 | 0,1–1,5 | | ☺ | 😐 | | | | | | | | | | | | | | | | | | | |
| | DCMT11T302-FP4 | 11,63 | 0,2 | 0,04–0,12 | 0,1–1,0 | | ☺ | 😐 | | | | | | | | | | | | | | | | | | | |
| | DCMT11T304-FP4 | 11,63 | 0,4 | 0,05–0,16 | 0,1–1,5 | | ☺ | 😐 | | | | | | | | | | | | | | | | | | | |
| | DCMT11T308-FP4 | 11,63 | 0,8 | 0,08–0,20 | 0,1–1,5 | | ☺ | 😐 | | | | | | | | | | | | | | | | | | | |
|  | DCMT070202-PF4 | 7,75 | 0,2 | 0,04–0,12 | 0,1–1,0 | ☺ | | | | | | | | | | | | | | | | | | | | | |
| | DCMT070204-PF4 | 7,75 | 0,4 | 0,05–0,16 | 0,1–1,5 | ☺ | | | | | | | | | | | | | | | | | | | | | |
| | DCMT11T302-PF4 | 11,63 | 0,2 | 0,04–0,12 | 0,1–1,0 | ☺ | | | | | | | | | | | | | | | | | | | | | |
| | DCMT11T304-PF4 | 11,63 | 0,4 | 0,05–0,16 | 0,1–1,5 | ☺ | | | | | | | | | | | | | | | | | | | | | |
| | DCMT11T308-PF4 | 11,63 | 0,8 | 0,08–0,20 | 0,1–1,5 | ☺ | | | | | | | | | | | | | | | | | | | | | |
| | DCMT070204-PS5 | 7,75 | 0,4 | 0,06–0,18 | 0,3–2,0 | | | | | | | | | | | 😐 | ☹ | | | | | | | | | 😐 | ☹ |
| | DCMT070208-PS5 | 7,75 | 0,8 | 0,08–0,25 | 0,5–2,0 | | | | | | | | | | | | ☹ | | | | | | | | | | ☹ |
| | DCMT11T304-PS5 | 11,63 | 0,4 | 0,08–0,20 | 0,3–2,0 | | | | | | | | | | | 😐 | ☹ | | | | | | | | | 😐 | ☹ |
| | DCMT11T308-PS5 | 11,63 | 0,8 | 0,10–0,25 | 0,5–2,0 | | | | | | | | | | | 😐 | ☹ | | | | | | | | | 😐 | ☹ |
| | DCMT070204-FP6 | 7,75 | 0,4 | 0,06–0,18 | 0,3–2,0 | | ☺ | 😐 | | | | | | | | | | | | | | | | | | | |
| | DCMT11T304-FP6 | 11,63 | 0,4 | 0,08–0,20 | 0,3–2,0 | | ☺ | 😐 | | | | | | | | | | | | | | | | | | | |
| | DCMT11T308-FP6 | 11,63 | 0,8 | 0,10–0,25 | 0,5–2,0 | | ☺ | 😐 | | | | | | | | | | | | | | | | | | | |
|  | DCMT070204-FK6 | 7,75 | 0,4 | 0,06–0,18 | 0,3–2,0 | | | | | | | | | | | | | ☺ | 😐 | | | | | | | | |
| | DCMT11T304-FK6 | 11,63 | 0,4 | 0,08–0,20 | 0,3–2,0 | | | | | | | | | | | | | ☺ | 😐 | | | | | | | | |
| | DCMT11T308-FK6 | 11,63 | 0,8 | 0,10–0,25 | 0,5–2,0 | | | | | | | | | | | | | ☺ | 😐 | | | | | | | | |

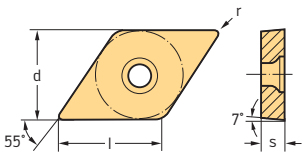
See the ISO 1832 designation key for dimensions

HC = Coated carbide
HW = Uncoated carbide

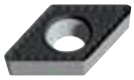
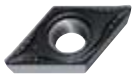



A 238 A 244 A 256 A 80 A 190

# Positive rhombic 55°
# DCMT / DCGT / DCMW
## Tiger·tec® Silver




## Indexable inserts

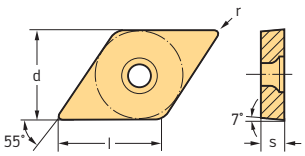
| | Designation | l mm | r mm | f mm | $a_p$ mm | P HC WPP01 | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10S | M HC WSM20S | M HC WSM30S | M HC WSM10 | M HC WSM20 | M HC WSM30 | K HC WKK10S | K HC WKK20S | N HC WXN10 | N HW WK1 | S HC WSM10S | S HC WSM20S | S HC WSM30S | S HC WSM10 | S HC WSM20 | S HC WSM30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | DCMT11T304-PM | 11,63 | 0,4 | 0,12–0,40 | 0,5–4,0 | | ● | ● | | | | | ○ | | | ● | | ● | ● | | | | | | | ● | |
| | DCMT11T308-PM | 11,63 | 0,8 | 0,15–0,50 | 0,5–4,0 | | ● | ● | | | | | ○ | | | ● | | ● | ● | | | | | | | ● | |
| Wiper | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | DCGT070201-PM2 | 7,75 | 0,1 | 0,02–0,06 | 0,5–1,5 | | | | | | | | | | | | | | | ● | ● | | | | | | |
| | DCGT070202-PM2 | 7,75 | 0,2 | 0,05–0,12 | 0,5–2,0 | | | | | | | | | | | | | | | ● | ● | | | | | | |
| | DCGT070204-PM2 | 7,75 | 0,4 | 0,08–0,25 | 0,6–2,5 | | | | | | | | | | | | | | | ● | ● | | | | | | |
| | DCGT11T301-PM2 | 11,63 | 0,1 | 0,02–0,06 | 0,5–1,5 | | | | | | | | | | | | | | | ● | ● | | | | | | |
| | DCGT11T302-PM2 | 11,63 | 0,2 | 0,05–0,12 | 0,5–2,0 | | | | | | | | | | | | | | | ● | ● | | | | | | |
| | DCGT11T304-PM2 | 11,63 | 0,4 | 0,08–0,25 | 0,6–3,0 | | | | | | | | | | | | | | | ● | ● | | | | | | |
| | DCGT11T308-PM2 | 11,63 | 0,8 | 0,10–0,30 | 0,8–3,5 | | | | | | | | | | | | | | | ● | ● | | | | | | |
|  | DCMT070204-MM4 | 7,75 | 0,4 | 0,08–0,20 | 0,4–2,0 | | | | | ○ | ○ | ○ | ○ | | | | | | | | | ● | ○ | | | | |
| | DCMT070208-MM4 | 7,75 | 0,8 | 0,12–0,25 | 0,5–2,0 | | | | | ○ | ○ | ○ | ○ | | | | | | | | | ● | ○ | | | | |
| | DCMT11T304-MM4 | 11,63 | 0,4 | 0,08–0,25 | 0,4–3,0 | | | | | ○ | ○ | ○ | ○ | | | | | | | | | ● | ○ | | | | |
| | DCMT11T308-MM4 | 11,63 | 0,8 | 0,12–0,32 | 0,5–3,0 | | | | | ○ | ○ | ○ | ○ | | | | | | | | | ● | ○ | | | | |
| | DCMT11T312-MM4 | 11,63 | 1,2 | 0,15–0,35 | 0,5–3,0 | | | | | | | | ○ | | | | | | | | | | ○ | | | | |
| | DCGT070204-MM4 | 7,75 | 0,4 | 0,08–0,20 | 0,4–2,0 | | | | | | | | ○ | | | | | | | | | | ○ | | | | |
| | DCGT11T304-MM4 | 11,63 | 0,4 | 0,08–0,25 | 0,4–3,0 | | | | | | | | ○ | | | | | | | | | | ○ | | | | |
| | DCGT11T308-MM4 | 11,63 | 0,8 | 0,12–0,32 | 0,5–3,0 | | | | | | | | ○ | | | | | | | | | | ○ | | | | |
| | DCMT070204-MP4 | 7,75 | 0,4 | 0,08–0,20 | 0,4–2,0 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | DCMT070208-MP4 | 7,75 | 0,8 | 0,12–0,25 | 0,5–2,0 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | DCMT11T304-MP4 | 11,63 | 0,4 | 0,08–0,25 | 0,4–3,0 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | DCMT11T308-MP4 | 11,63 | 0,8 | 0,12–0,32 | 0,5–3,0 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | DCMT11T312-MP4 | 11,63 | 1,2 | 0,15–0,35 | 0,5–3,0 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | DCGT070204-MP4 | 7,75 | 0,4 | 0,08–0,20 | 0,4–2,0 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | DCGT11T304-MP4 | 11,63 | 0,4 | 0,08–0,25 | 0,4–3,0 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | DCGT11T308-MP4 | 11,63 | 0,8 | 0,12–0,32 | 0,5–3,0 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | DCMT070204-MK4 | 7,75 | 0,4 | 0,08–0,20 | 0,4–2,0 | | | | | | | | | | | | | ● | ○ | | | | | | | | |
| | DCMT070208-MK4 | 7,75 | 0,8 | 0,12–0,25 | 0,5–2,0 | | | | | | | | | | | | | | ○ | | | | | | | | |
| | DCMT11T304-MK4 | 11,63 | 0,4 | 0,08–0,25 | 0,4–3,0 | | | | | | | | | | | | | ● | ○ | | | | | | | | |
| | DCMT11T308-MK4 | 11,63 | 0,8 | 0,12–0,32 | 0,5–3,0 | | | | | | | | | | | | | ● | ○ | | | | | | | | |
| | DCMT11T312-MK4 | 11,63 | 1,2 | 0,15–0,35 | 0,5–3,0 | | | | | | | | | | | | | ● | ○ | | | | | | | | |
| | DCMT070204-RM4 | 7,75 | 0,4 | 0,12–0,20 | 0,4–2,0 | | | | | ○ | ○ | ○ | ○ | ✕ | | | | | | | | ● | ○ | ✕ | | | |
| | DCMT070208-RM4 | 7,75 | 0,8 | 0,16–0,30 | 0,6–2,0 | | | | | | | ○ | ○ | ✕ | | | | | | | | ● | ○ | ✕ | | | |
| | DCMT11T304-RM4 | 11,63 | 0,4 | 0,12–0,25 | 0,4–3,0 | | | | | ○ | ○ | ○ | ○ | ✕ | | | | | | | | ● | ○ | ✕ | | | |
| | DCMT11T308-RM4 | 11,63 | 0,8 | 0,16–0,35 | 0,6–4,0 | | | | | ○ | ○ | ○ | ○ | ✕ | | | | | | | | ● | ○ | ✕ | | | |
| | DCMT11T312-RM4 | 11,63 | 1,2 | 0,20–0,40 | 0,8–4,0 | | | | | | | | ○ | ✕ | | | | | | | | | ○ | ✕ | | | |

See the ISO 1832 designation key for dimensions

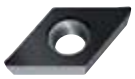
HC = Coated carbide
HW = Uncoated carbide

A 238 A 244 A 256 A 80 A 190

# Positive rhombic 55°
# DCMT / DCGT / DCMW
## Tiger·tec® Silver

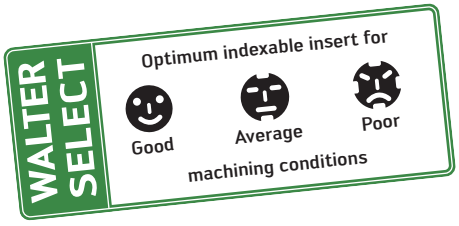



## Indexable inserts

| | Designation | l mm | r mm | f mm | $a_p$ mm | P HC WPP01 | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10S | M HC WSM20S | M HC WSM30S | M HC WSM10 | M HC WSM20 | M HC WSM30 | K HC WKK10S | K HC WKK20S | N HC WXN10 | N HW WK1 | S HC WSM10S | S HC WSM20S | S HC WSM30S | S HC WSM10 | S HC WSM20 | S HC WSM30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DCMT070204-RP4 | 7,75 | 0,4 | 0,12–0,20 | 0,4–2,0 | | ☺ | 😐 | ☹ | | | | | | | | | | | | | | | | | | |
| | DCMT070208-RP4 | 7,75 | 0,8 | 0,16–0,30 | 0,6–2,0 | | ☺ | 😐 | ☹ | | | | | | | | | | | | | | | | | | |
| | DCMT11T304-RP4 | 11,63 | 0,4 | 0,12–0,25 | 0,4–3,0 | | ☺ | 😐 | ☹ | | | | | | | | | | | | | | | | | | |
| | DCMT11T308-RP4 | 11,63 | 0,8 | 0,16–0,35 | 0,6–4,0 | | ☺ | 😐 | ☹ | | | | | | | | | | | | | | | | | | |
| | DCMT11T312-RP4 | 11,63 | 1,2 | 0,20–0,40 | 0,8–4,0 | | ☺ | 😐 | ☹ | | | | | | | | | | | | | | | | | | |
| | DCMT070204-RK4 | 7,75 | 0,4 | 0,12–0,20 | 0,4–2,0 | | | | | | | | | | | | | ☺ | 😐 | | | | | | | | |
| | DCMT070208-RK4 | 7,75 | 0,8 | 0,16–0,30 | 0,6–2,0 | | | | | | | | | | | | | ☺ | 😐 | | | | | | | | |
| | DCMT11T304-RK4 | 11,63 | 0,4 | 0,12–0,25 | 0,4–3,0 | | | | | | | | | | | | | ☺ | 😐 | | | | | | | | |
| | DCMT11T308-RK4 | 11,63 | 0,8 | 0,16–0,35 | 0,6–4,0 | | | | | | | | | | | | | ☺ | 😐 | | | | | | | | |
| | DCMT11T312-RK4 | 11,63 | 1,2 | 0,20–0,40 | 0,8–4,0 | | | | | | | | | | | | | ☺ | 😐 | | | | | | | | |
|  | DCMW11T304-RK6 | 11,63 | 0,4 | 0,12–0,25 | 0,4–3,0 | | | | | | | | | | | | | ☺ | 😐 | | | | | | | | |
| | DCMW11T308-RK6 | 11,63 | 0,8 | 0,16–0,35 | 0,5–4,0 | | | | | | | | | | | | | ☺ | 😐 | | | | | | | | |

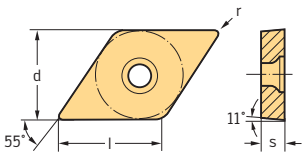
See the ISO 1832 designation key for dimensions

HC = Coated carbide
HW = Uncoated carbide

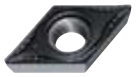



A 238 A 244 A 256 A 80 A 190

# Positive rhombic 55°
# DPMT / DPGT
## Tiger·tec® Silver




## Indexable inserts

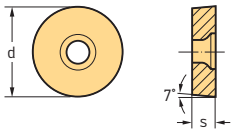
| | Designation | l mm | r mm | f mm | $a_p$ mm | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10S | M HC WSM20S | M HC WSM30S | K HC WKK10S | K HC WKK20S | S HC WSM10S | S HC WSM20S | S HC WSM30S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | DPMT070204-MM4 | 7,75 | 0,4 | 0,08–0,20 | 0,4–2,0 | | | | | | | ● | | | | | ● | |
| | DPMT11T304-MM4 | 11,63 | 0,4 | 0,08–0,25 | 0,4–3,0 | | | | | | | ● | | | | | ● | |
| | DPMT11T308-MM4 | 11,63 | 0,8 | 0,12–0,32 | 0,5–3,0 | | | | | | | ● | | | | | ● | |
| | DPGT070204-MM4 | 7,75 | 0,4 | 0,08–0,20 | 0,4–2,0 | | | | | | | ● | | | | | ● | |
| | DPGT11T304-MM4 | 11,63 | 0,4 | 0,08–0,25 | 0,4–3,0 | | | | | | | ● | | | | | ● | |
| | DPGT11T308-MM4 | 11,63 | 0,8 | 0,12–0,32 | 0,5–3,0 | | | | | | | ● | | | | | ● | |
| | DPMT070204-MP4 | 7,75 | 0,4 | 0,08–0,20 | 0,4–2,0 | | ● | | | | | | | | | | | |
| | DPMT11T304-MP4 | 11,63 | 0,4 | 0,08–0,25 | 0,4–3,0 | | ● | | | | | | | | | | | |
| | DPMT11T308-MP4 | 11,63 | 0,8 | 0,12–0,32 | 0,5–3,0 | | ● | | | | | | | | | | | |
| | DPGT070204-MP4 | 7,75 | 0,4 | 0,08–0,20 | 0,4–2,0 | ● | ● | | | | | | | | | | | |
| | DPGT11T304-MP4 | 11,63 | 0,4 | 0,08–0,25 | 0,4–3,0 | ● | ● | | | | | | | | | | | |
| | DPGT11T308-MP4 | 11,63 | 0,8 | 0,12–0,32 | 0,5–3,0 | ● | ● | | | | | | | | | | | |
| | DPMT070204-MK4 | 7,75 | 0,4 | 0,08–0,20 | 0,4–2,0 | | | | | | | | | | ● | | | |
| | DPMT11T304-MK4 | 11,63 | 0,4 | 0,08–0,25 | 0,4–3,0 | | | | | | | | | | ● | | | |
| | DPMT11T308-MK4 | 11,63 | 0,8 | 0,12–0,32 | 0,5–3,0 | | | | | | | | | | ● | | | |

See the ISO 1832 designation key for dimensions

HC = Coated carbide

A 238 A 244 A 256 A 80 A 190

# Positive round
# RCMT / RCGT / RCMX
## Tiger·tec® Silver

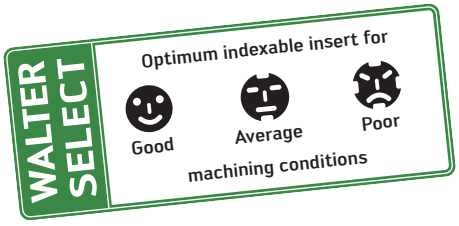



## Indexable inserts

| | Designation | d mm | f mm | $a_p$ mm | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10S | M HC WSM20S | M HC WSM30S | M HC WSM30 | K HC WKK10S | K HC WKK20S | N HC WXN10 | N HW WK1 | S HC WSM10S | S HC WSM20S | S HC WSM30S | S HC WSM30 | S HW WS10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | RCMT0602M0-FM4 | 6 | 0,07–0,30 | 0,6–2,5 | | | | | | ☺ | 😐 | | | | | | | ☺ | 😐 | | | |
| | RCMT0803M0-FM4 | 8 | 0,08–0,30 | 0,8–3,0 | | | | | | ☺ | 😐 | ☹ | | | | | | ☺ | 😐 | ☹ | | |
| | RCMT10T3M0-FM4 | 10 | 0,10–0,35 | 1,0–4,0 | | | | | | ☺ | 😐 | ☹ | | | | | | ☺ | 😐 | ☹ | | |
| | RCMT1204M0-FM4 | 12 | 0,12–0,40 | 1,2–5,0 | | | | | | ☺ | 😐 | ☹ | | | | | | ☺ | 😐 | ☹ | | |
| | RCMT0602M0-FP4 | 6 | 0,07–0,30 | 0,6–2,5 | ☺ | 😐 | | | | | | | | | | | | | | | | |
| | RCMT0803M0-FP4 | 8 | 0,08–0,30 | 0,8–3,0 | | 😐 | | | | | | | | | | | | | | | | |
| | RCMT10T3M0-FP4 | 10 | 0,10–0,35 | 1,0–4,0 | | 😐 | | | | | | | | | | | | | | | | |
| | RCMT1204M0-FP4 | 12 | 0,12–0,40 | 1,2–5,0 | ☺ | 😐 | | | | | | | | | | | | | | | | |
| | RCGT0502M0-PF5 | 5 | 0,07–0,25 | 0,6–2,5 | | | | | | | | | | | | | | | | | | 😐 |
| | RCGT0602M0-PF5 | 6 | 0,07–0,25 | 0,6–2,5 | | | | | | | | | ☹ | | | | | | | | 😐 | 😐 |
| | RCGT0803M0-PF5 | 8 | 0,08–0,30 | 0,8–3,0 | | | | | | | | | ☹ | | | | | | | | 😐 | 😐 |
| | RCGT10T3M0-PF5 | 10 | 0,10–0,35 | 1,0–4,0 | | | | | | | | | ☹ | | | | | | | | 😐 | 😐 |
| | RCGT1204M0-PF5 | 12 | 0,12–0,40 | 1,2–5,0 | | | | | | | | | | | | | | | | | | 😐 |
| | RCGT0602M0-PM2 | 6 | 0,10–0,55 | 0,6–2,5 | | | | | | | | | | | | ☺ | ☺ | | | | | |
| | RCGT060300-PM2 | 6,35 | 0,10–0,55 | 0,6–2,5 | | | | | | | | | | | | ☺ | | | | | | |
| | RCGT0803M0-PM2 | 8 | 0,12–0,60 | 0,7–3,0 | | | | | | | | | | | | ☺ | ☺ | | | | | |
| | RCGT09T300-PM2 | 9,525 | 0,12–0,60 | 0,7–3,0 | | | | | | | | | | | | ☺ | | | | | | |
| | RCGT10T3M0-PM2 | 10 | 0,15–0,70 | 0,8–4,0 | | | | | | | | | | | | ☺ | ☺ | | | | | |
| | RCGT1204M0-PM2 | 12 | 0,18–0,80 | 1,0–5,0 | | | | | | | | | | | | ☺ | ☺ | | | | | |
| | RCGT120400-PM2 | 12,7 | 0,18–0,80 | 1,0–5,0 | | | | | | | | | | | | ☺ | | | | | | |
| | RCMT0602M0-RM4 | 6 | 0,08–0,50 | 0,6–2,5 | | | | | | | 😐 | ☹ | | | | | | | 😐 | ☹ | | |
| | RCMT060300-RM4 | 6,35 | 0,08–0,50 | 0,6–2,5 | | | | | | | 😐 | | | | | | | | 😐 | | | |
| | RCMT0803M0-RM4 | 8 | 0,10–0,60 | 0,8–3,0 | | | | 😐 | 😐 | | 😐 | ☹ | | | | | | | 😐 | ☹ | | |
| | RCMT09T300-RM4 | 9,525 | 0,10–0,60 | 0,8–3,0 | | | | | | | 😐 | | | | | | | | 😐 | | | |
| | RCMT10T3M0-RM4 | 10 | 0,12–0,80 | 1,0–4,0 | | | | 😐 | 😐 | | 😐 | ☹ | | | | | | | 😐 | ☹ | | |
| | RCMT1204M0-RM4 | 12 | 0,12–1,00 | 1,2–5,0 | | | | 😐 | 😐 | | 😐 | ☹ | | | | | | | 😐 | ☹ | | |
| | RCMT120400-RM4 | 12,7 | 0,12–1,00 | 1,2–5,0 | | | | | | | 😐 | | | | | | | | 😐 | | | |
| | RCMT1606M0-RM4 | 16 | 0,15–1,20 | 1,6–7,0 | | | | | | | 😐 | ☹ | | | | | | | 😐 | ☹ | | |
| | RCMT0602M0-RP4 | 6 | 0,08–0,50 | 0,6–2,5 | ☺ | 😐 | ☹ | | | | | | | | | | | | | | | |
| | RCMT060300-RP4 | 6,35 | 0,08–0,50 | 0,6–2,5 | | 😐 | ☹ | | | | | | | | | | | | | | | |
| | RCMT0803M0-RP4 | 8 | 0,10–0,60 | 0,8–3,0 | ☺ | 😐 | ☹ | | | | | | | | | | | | | | | |
| | RCMT09T300-RP4 | 9,525 | 0,10–0,60 | 0,8–3,0 | | 😐 | ☹ | | | | | | | | | | | | | | | |
| | RCMT10T3M0-RP4 | 10 | 0,12–0,80 | 1,0–4,0 | ☺ | 😐 | ☹ | | | | | | | | | | | | | | | |
| | RCMT1204M0-RP4 | 12 | 0,12–1,00 | 1,2–5,0 | ☺ | 😐 | ☹ | | | | | | | | | | | | | | | |
| | RCMT120400-RP4 | 12,7 | 0,12–1,00 | 1,2–5,0 | | 😐 | ☹ | | | | | | | | | | | | | | | |
| | RCMT1605M0-RP4 | 16 | 0,15–1,20 | 1,6–7,0 | ☺ | 😐 | ☹ | | | | | | | | | | | | | | | |
| | RCMT1606M0-RP4 | 16 | 0,15–1,20 | 1,6–7,0 | ☺ | 😐 | ☹ | | | | | | | | | | | | | | | |

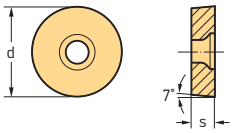
See the ISO 1832 designation key for dimensions

HC = Coated carbide
HW = Uncoated carbide




A 238 A 244 A 256 A 80 A 190

# Positive round
# RCMT / RCGT / RCMX
## Tiger·tec® Silver




## Indexable inserts

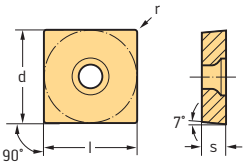
| | Designation | d mm | f mm | $a_p$ mm | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10S | M HC WSM20S | M HC WSM30S | M HC WSM30 | K HC WKK10S | K HC WKK20S | N HC WXN10 | N HW WK1 | S HC WSM10S | S HC WSM20S | S HC WSM30S | S HC WSM30 | S HW WS10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | RCMT0602M0-RK4 | 6 | 0,08–0,50 | 0,6–2,5 | | | | | | | | | | | ☻ | | | | | | | |
| | RCMT0803M0-RK4 | 8 | 0,10–0,60 | 0,8–3,0 | | | | | | | | | | | ☻ | | | | | | | |
| | RCMT10T3M0-RK4 | 10 | 0,12–0,80 | 1,0–4,0 | | | | | | | | | | ☻ | ☻ | | | | | | | |
| | RCMT1204M0-RK4 | 12 | 0,12–1,00 | 1,2–5,0 | | | | | | | | | | ☻ | ☻ | | | | | | | |
| | RCMT1605M0-RK4 | 16 | 0,15–1,20 | 1,6–7,0 | | | | | | | | | | | ☻ | | | | | | | |
| | RCMT1606M0-RK4 | 16 | 0,15–1,20 | 1,6–7,0 | | | | | | | | | | ☻ | ☻ | | | | | | | |
| | RCMT10T3M0-HU6 | 10 | 0,12–0,80 | 1,0–4,0 | ☻ | ☻ | ☻ | | | | | | | | | | | | | | | |
| | RCMT1204M0-HU6 | 12 | 0,12–1,20 | 1,2–5,0 | ☻ | ☻ | ☻ | | | | | | | | | | | | | | | |
| | RCMT1606M0-HU6 | 16 | 0,15–1,20 | 1,6–7,0 | ☻ | ☻ | ☻ | | | | | | | | ☻ | | | | | | | |
| | RCMX2006M0-HU6 | 20 | 0,25–1,40 | 2,0–9,0 | ☻ | ☻ | ☻ | | | | | | | | ☻ | | | | | | | |
| | RCMX2507M0-HU6 | 25 | 0,30–1,60 | 2,5–11,0 | ☻ | ☻ | ☻ | | | | | | | | ☻ | | | | | | | |
| | RCMX3209M0-HU6 | 32 | 0,30–1,70 | 3,2–15,0 | ☻ | ☻ | ☻ | | | | | | | | ☻ | | | | | | | |

See the ISO 1832 designation key for dimensions

HC = Coated carbide
HW = Uncoated carbide

A 238 A 244 A 256 A 80 A 190

# Positive square
# SCGT / SCMT / SCMW
## Tiger·tec® Silver

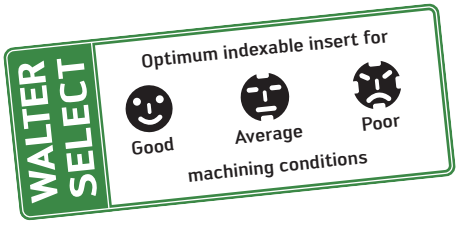



## Indexable inserts

| | Designation | l mm | r mm | f mm | $a_p$ mm | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10S | M HC WSM20S | M HC WSM30S | M HC WSM20 | M HC WSM30 | K HC WKK10S | K HC WKK20S | N HC WXN10 | N HW WK1 | S HC WSM10S | S HC WSM20S | S HC WSM30S | S HC WSM20 | S HC WSM30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SCGT09T304-PF2 | 9,53 | 0,4 | 0,08–0,25 | 0,2–2,5 | | | | | | | | | ● | | | | ● | | | | | ● | |
| | SCGT09T308-PF2 | 9,53 | 0,8 | 0,10–0,30 | 0,3–3,0 | | | | | | | | | ● | | | | ● | | | | | ● | |
| | SCGT120408-PF2 | 12,7 | 0,8 | 0,10–0,30 | 0,3–3,5 | | | | | | | | | ● | | | | ● | | | | | ● | |
| | SCMT09T304-FM4 | 9,53 | 0,4 | 0,05–0,15 | 0,1–1,5 | | | | ● | ● | | ● | ✖ | | | | | | | | ● | ✖ | | |
| | SCMT09T308-FM4 | 9,53 | 0,8 | 0,05–0,18 | 0,1–1,8 | | | | ● | ● | | ● | ✖ | | | | | | | | ● | ✖ | | |
| | SCMT120408-FM4 | 12,7 | 0,8 | 0,05–0,18 | 0,1–1,8 | | | | | | | ● | ✖ | | | | | | | | ● | ✖ | | |
| | SCMT09T304-FP4 | 9,53 | 0,4 | 0,05–0,15 | 0,1–1,5 | ☺ | ● | | | | | | | | | | | | | | | | | |
| | SCMT09T308-FP4 | 9,53 | 0,8 | 0,05–0,18 | 0,1–1,8 | ☺ | ● | | | | | | | | | | | | | | | | | |
| | SCMT120404-FP4 | 12,7 | 0,4 | 0,05–0,15 | 0,1–1,5 | ☺ | ● | | | | | | | | | | | | | | | | | |
| | SCMT120408-FP4 | 12,7 | 0,8 | 0,05–0,18 | 0,1–1,8 | ☺ | ● | | | | | | | | | | | | | | | | | |
| | SCMT120412-FP4 | 12,7 | 1,2 | 0,12–0,32 | 0,3–1,8 | ☺ | ● | | | | | | | | | | | | | | | | | |
| | SCMT09T304-PS5 | 9,53 | 0,4 | 0,08–0,20 | 0,3–2,0 | | | | | | | | | ● | ✖ | | | | | | | | ● | ✖ |
| | SCMT09T308-PS5 | 9,53 | 0,8 | 0,10–0,25 | 0,5–2,0 | | | | | | | | | ● | ✖ | | | | | | | | ● | ✖ |
| | SCMT120408-PS5 | 12,7 | 0,8 | 0,12–0,32 | 0,5–2,5 | | | | | | | | | ● | ✖ | | | | | | | | ● | ✖ |
| | SCMT09T304-FP6 | 9,53 | 0,4 | 0,08–0,20 | 0,3–2,0 | | ● | | | | | | | | | | | | | | | | | |
| | SCMT09T308-FP6 | 9,53 | 0,8 | 0,10–0,25 | 0,5–2,0 | | ● | | | | | | | | | | | | | | | | | |
| | SCMT120408-FP6 | 12,7 | 0,8 | 0,12–0,32 | 0,5–2,5 | | ● | | | | | | | | | | | | | | | | | |
| | SCMT09T304-FK6 | 9,53 | 0,4 | 0,08–0,20 | 0,3–2,0 | | | | | | | | | | | ☺ | ● | | | | | | | |
| | SCMT09T308-FK6 | 9,53 | 0,8 | 0,10–0,25 | 0,5–2,0 | | | | | | | | | | | ☺ | ● | | | | | | | |
| | SCMT120408-FK6 | 12,7 | 0,8 | 0,12–0,32 | 0,5–2,5 | | | | | | | | | | | ☺ | ● | | | | | | | |
| | SCGT09T304-PM2 | 9,53 | 0,4 | 0,08–0,25 | 0,6–4,0 | | | | | | | | | | | | | ☺ | ☺ | | | | | |
| | SCGT09T308-PM2 | 9,53 | 0,8 | 0,10–0,35 | 0,7–4,0 | | | | | | | | | | | | | ☺ | ☺ | | | | | |
| | SCGT120408-PM2 | 12,7 | 0,8 | 0,10–0,40 | 0,8–6,0 | | | | | | | | | | | | | ☺ | ☺ | | | | | |
| | SCMT09T304-MM4 | 9,53 | 0,4 | 0,08–0,25 | 0,4–3,0 | | | | ● | ● | ☺ | ● | | | | | | | | ☺ | ● | | | |
| | SCMT09T308-MM4 | 9,53 | 0,8 | 0,12–0,32 | 0,5–3,0 | | | | ● | ● | ☺ | ● | | | | | | | | ☺ | ● | | | |
| | SCMT120408-MM4 | 12,7 | 0,8 | 0,12–0,32 | 0,5–3,5 | | | | | | | ● | | | | | | | | | ● | | | |
| | SCGT09T304-MM4 | 9,53 | 0,4 | 0,08–0,25 | 0,4–3,0 | | | | | | | ● | | | | | | | | | ● | | | |
| | SCGT09T308-MM4 | 9,53 | 0,8 | 0,12–0,32 | 0,5–3,0 | | | | | | | ● | | | | | | | | | ● | | | |
| | SCGT120408-MM4 | 12,7 | 0,8 | 0,12–0,32 | 0,5–3,5 | | | | | | | ● | | | | | | | | | ● | | | |

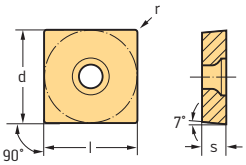
See the ISO 1832 designation key for dimensions

HC = Coated carbide
HW = Uncoated carbide




A 238 A 244 A 256 A 80 A 190

# Positive square
# SCGT / SCMT / SCMW
## Tiger·tec® Silver




## Indexable inserts

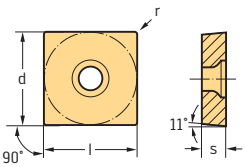
| | Designation | l mm | r mm | f mm | $a_p$ mm | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10S | M HC WSM20S | M HC WSM30S | M HC WSM20 | M HC WSM30 | K HC WKK10S | K HC WKK20S | N HC WXN10 | N HW WK1 | S HC WSM10S | S HC WSM20S | S HC WSM30S | S HC WSM20 | S HC WSM30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SCMT09T304-MP4 | 9,53 | 0,4 | 0,08–0,25 | 0,4–3,0 | ● | ● | | | | | | | | | | | | | | | | | |
| | SCMT09T308-MP4 | 9,53 | 0,8 | 0,12–0,32 | 0,5–3,0 | ● | ● | | | | | | | | | | | | | | | | | |
| | SCMT120408-MP4 | 12,7 | 0,8 | 0,12–0,32 | 0,5–3,5 | ● | ● | | | | | | | | | | | | | | | | | |
| | SCGT09T304-MP4 | 9,53 | 0,4 | 0,08–0,25 | 0,4–3,0 | ● | ● | | | | | | | | | | | | | | | | | |
| | SCGT09T308-MP4 | 9,53 | 0,8 | 0,12–0,32 | 0,5–3,0 | ● | ● | | | | | | | | | | | | | | | | | |
| | SCGT120408-MP4 | 12,7 | 0,8 | 0,12–0,32 | 0,5–3,5 | ● | ● | | | | | | | | | | | | | | | | | |
| | SCMT09T304-MK4 | 9,53 | 0,4 | 0,08–0,25 | 0,4–3,0 | | | | | | | | | | | ● | ● | | | | | | | |
| | SCMT09T308-MK4 | 9,53 | 0,8 | 0,12–0,32 | 0,5–3,0 | | | | | | | | | | | ● | ● | | | | | | | |
| | SCMT120408-MK4 | 12,7 | 0,8 | 0,12–0,32 | 0,5–3,5 | | | | | | | | | | | ● | ● | | | | | | | |
| | SCGT09T304-MK4 | 9,53 | 0,4 | 0,08–0,25 | 0,4–3,0 | | | | | | | | | | | | ● | | | | | | | |
| | SCGT09T308-MK4 | 9,53 | 0,8 | 0,12–0,32 | 0,5–3,0 | | | | | | | | | | | | ● | | | | | | | |
| | SCGT120408-MK4 | 12,7 | 0,8 | 0,12–0,32 | 0,5–3,5 | | | | | | | | | | | | ● | | | | | | | |
| | SCMT09T304-RM4 | 9,53 | 0,4 | 0,12–0,25 | 0,4–3,0 | | | | ● | ● | | ● | ● | | | | | | | | ● | ● | | |
| | SCMT09T308-RM4 | 9,53 | 0,8 | 0,16–0,35 | 0,6–4,0 | | | | ● | ● | ● | ● | ● | | | | | | | ● | ● | ● | | |
| | SCMT120404-RM4 | 12,7 | 0,4 | 0,12–0,25 | 0,4–3,0 | | | | | | | ● | ● | | | | | | | | ● | ● | | |
| | SCMT120408-RM4 | 12,7 | 0,8 | 0,16–0,40 | 0,6–5,0 | | | | ● | ● | ● | ● | ● | | | | | | | ● | ● | ● | | |
| | SCMT120412-RM4 | 12,7 | 1,2 | 0,20–0,50 | 0,8–5,0 | | | | ● | ● | | ● | ● | | | | | | | | ● | ● | | |
| | SCMT09T304-RP4 | 9,53 | 0,4 | 0,12–0,25 | 0,4–3,0 | ● | ● | ● | | | | | | | | | | | | | | | | |
| | SCMT09T308-RP4 | 9,53 | 0,8 | 0,16–0,35 | 0,6–4,0 | ● | ● | ● | | | | | | | | | | | | | | | | |
| | SCMT09T312-RP4 | 9,53 | 1,2 | 0,20–0,45 | 0,8–5,0 | ● | | | | | | | | | | | | | | | | | | |
| | SCMT120404-RP4 | 12,7 | 0,4 | 0,12–0,25 | 0,4–3,0 | ● | ● | ● | | | | | | | | | | | | | | | | |
| | SCMT120408-RP4 | 12,7 | 0,8 | 0,16–0,40 | 0,6–5,0 | ● | ● | ● | | | | | | | | | | | | | | | | |
| | SCMT120412-RP4 | 12,7 | 1,2 | 0,20–0,50 | 0,8–5,0 | ● | ● | ● | | | | | | | | | | | | | | | | |
| | SCMT09T304-RK4 | 9,53 | 0,4 | 0,12–0,25 | 0,4–3,0 | | | | | | | | | | | ● | ● | | | | | | | |
| | SCMT09T308-RK4 | 9,53 | 0,8 | 0,16–0,35 | 0,6–4,0 | | | | | | | | | | | ● | ● | | | | | | | |
| | SCMT120404-RK4 | 12,7 | 0,4 | 0,12–0,25 | 0,4–3,0 | | | | | | | | | | | ● | ● | | | | | | | |
| | SCMT120408-RK4 | 12,7 | 0,8 | 0,16–0,40 | 0,6–5,0 | | | | | | | | | | | ● | ● | | | | | | | |
| | SCMT120412-RK4 | 12,7 | 1,2 | 0,20–0,50 | 0,8–5,0 | | | | | | | | | | | ● | ● | | | | | | | |
| | SCMW09T304-RK6 | 9,53 | 0,4 | 0,12–0,25 | 0,4–3,0 | | | | | | | | | | | ● | ● | | | | | | | |
| | SCMW09T308-RK6 | 9,53 | 0,8 | 0,16–0,35 | 0,6–4,0 | | | | | | | | | | | ● | ● | | | | | | | |
| | SCMW120404-RK6 | 12,7 | 0,4 | 0,12–0,25 | 0,4–4,0 | | | | | | | | | | | | ● | | | | | | | |
| | SCMW120408-RK6 | 12,7 | 0,8 | 0,16–0,40 | 0,6–5,0 | | | | | | | | | | | | ● | | | | | | | |
| | SCMW120412-RK6 | 12,7 | 1,2 | 0,20–0,50 | 0,8–5,0 | | | | | | | | | | | | ● | | | | | | | |

See the ISO 1832 designation key for dimensions

HC = Coated carbide
HW = Uncoated carbide

A 238 A 244 A 256 A 80 A 190

# Positive square
# SPMT / SPGT
## Tiger·tec® Silver




## Indexable inserts

| | Designation | l mm | r mm | f mm | $a_p$ mm | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10S | M HC WSM20S | M HC WSM30S | K HC WKK10S | K HC WKK20S | S HC WSM10S | S HC WSM20S | S HC WSM30S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SPMT09T304-MM4 | 9,53 | 0,4 | 0,08–0,25 | 0,4–3,0 | | | | | | | ☹ | | | | | ☹ | |
| | SPMT09T308-MM4 | 9,53 | 0,8 | 0,12–0,32 | 0,5–3,0 | | | | | | | ☹ | | | | | ☹ | |
| | SPGT09T304-MM4 | 9,53 | 0,4 | 0,08–0,25 | 0,4–3,0 | | | | | | | ☹ | | | | | ☹ | |
| | SPGT09T308-MM4 | 9,53 | 0,8 | 0,12–0,32 | 0,5–3,0 | | | | | | | ☹ | | | | | ☹ | |
| | SPMT09T304-MP4 | 9,53 | 0,4 | 0,08–0,25 | 0,4–3,0 | | ☹ | | | | | | | | | | | |
| | SPMT09T308-MP4 | 9,53 | 0,8 | 0,12–0,32 | 0,5–3,0 | | ☹ | | | | | | | | | | | |
| | SPGT09T304-MP4 | 9,53 | 0,4 | 0,08–0,25 | 0,4–3,0 | ☺ | ☹ | | | | | | | | | | | |
| | SPGT09T308-MP4 | 9,53 | 0,8 | 0,12–0,32 | 0,5–3,0 | ☺ | ☹ | | | | | | | | | | | |
| | SPMT09T304-MK4 | 9,53 | 0,4 | 0,08–0,25 | 0,4–3,0 | | | | | | | | | | ☹ | | | |
| | SPMT09T308-MK4 | 9,53 | 0,8 | 0,12–0,32 | 0,5–3,0 | | | | | | | | | | ☹ | | | |
| | SPGT09T304-MK4 | 9,53 | 0,4 | 0,08–0,25 | 0,4–3,0 | | | | | | | | | | ☹ | | | |
| | SPGT09T308-MK4 | 9,53 | 0,8 | 0,12–0,32 | 0,5–3,0 | | | | | | | | | | ☹ | | | |

See the ISO 1832 designation key for dimensions

HC = Coated carbide

WALTER SELECT

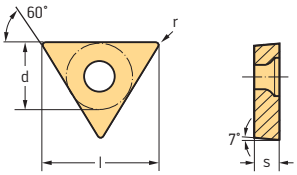
Optimum indexable insert for

Good ☺ Average 😐 Poor ☹

machining conditions

A 238 A 244 A 256 A 80 A 190

# Positive triangular 60°
# TCGT / TCMT / TCMW
## Tiger·tec® Silver




## Indexable inserts

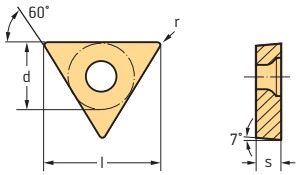
| | Designation | l mm | r mm | f mm | $a_p$ mm | P HC WPP01 | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10S | M HC WSM20S | M HC WSM30S | M HC WSM20 | M HC WSM21 | M HC WSM30 | K HC WKK10S | K HC WKK20S | N HC WXN10 | N HW WK1 | S HC WSM10S | S HC WSM20S | S HC WSM30S | S HC WSM20 | S HC WSM30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TCGT06T101-PF2 | 6,62 | 0,1 | 0,02–0,06 | 0,1–1,5 | | | | | | | | | | | ⊠ | | | | ☺ | | | | | | |
| | TCGT06T102-PF2 | 6,62 | 0,2 | 0,05–0,12 | 0,2–2,0 | | | | | | | | | | | ⊠ | | | | ☺ | | | | | | |
| | TCGT06T104-PF2 | 6,62 | 0,4 | 0,08–0,25 | 0,2–2,5 | | | | | | | | | | | ⊠ | | | | ☺ | ☺ | | | | | |
| | TCGT090201-PF2 | 9,37 | 0,1 | 0,02–0,06 | 0,1–1,5 | | | | | | | | | | | | | | | ☺ | | | | | | |
| | TCGT090202-PF2 | 9,37 | 0,2 | 0,05–0,12 | 0,2–2,0 | | | | | | | | | | ☹ | | | | | ☺ | | | | | ☹ | |
| | TCGT090204-PF2 | 9,37 | 0,4 | 0,08–0,25 | 0,2–2,5 | | | | | | | | | | ☹ | | | | | ☺ | ☺ | | | | ☹ | |
| | TCGT110201-PF2 | 10,74 | 0,1 | 0,02–0,06 | 0,1–1,5 | | | | | | | | | | | | | | | ☺ | | | | | | |
| | TCGT110202-PF2 | 10,74 | 0,2 | 0,05–0,12 | 0,2–2,0 | | | | | | | | | | ☹ | | | | | ☺ | | | | | ☹ | |
| | TCGT110204-PF2 | 10,74 | 0,4 | 0,08–0,25 | 0,2–2,5 | | | | | | | | | | ☹ | | | | | ☺ | ☺ | | | | ☹ | |
| | TCGT16T301-PF2 | 16,50 | 0,1 | 0,02–0,06 | 0,1–1,5 | | | | | | | | | | | | | | | ☺ | | | | | | |
| | TCGT16T302-PF2 | 16,50 | 0,2 | 0,05–0,12 | 0,2–2,0 | | | | | | | | | | ☹ | | | | | ☺ | | | | | ☹ | |
| | TCGT16T304-PF2 | 16,50 | 0,4 | 0,08–0,25 | 0,2–2,5 | | | | | | | | | | ☹ | | | | | ☺ | ☺ | | | | ☹ | |
| | TCGT16T308-PF2 | 16,50 | 0,8 | 0,10–0,30 | 0,3–3,0 | | | | | | | | | | ☹ | | | | | ☺ | ☺ | | | | ☹ | |
| | TCMT06T102-FM4 | 6,62 | 0,2 | 0,02–0,10 | 0,1–1,0 | | | | | | | | | | | ⊠ | | | | | | | | | | |
| | TCMT06T104-FM4 | 6,62 | 0,4 | 0,04–0,17 | 0,1–1,0 | | | | | | | | | | | ⊠ | | | | | | | | | | |
| | TCMT090202-FM4 | 9,37 | 0,2 | 0,04–0,12 | 0,1–1,0 | | | | | | | ☺ | ☹ | ⊠ | | | | | | | | ☺ | ☹ | ⊠ | | |
| | TCMT090204-FM4 | 9,37 | 0,4 | 0,05–0,16 | 0,1–1,5 | | | | | | | ☺ | ☹ | ⊠ | | | | | | | | ☺ | ☹ | ⊠ | | |
| | TCMT090208-FM4 | 9,37 | 0,8 | 0,08–0,20 | 0,1–1,5 | | | | | | | ☺ | ☹ | | | | | | | | | ☺ | ☹ | | | |
| | TCMT110202-FM4 | 10,74 | 0,2 | 0,04–0,12 | 0,1–1,0 | | | | | | | ☺ | ☹ | ⊠ | | | | | | | | ☺ | ☹ | ⊠ | | |
| | TCMT110204-FM4 | 10,74 | 0,4 | 0,05–0,16 | 0,1–1,5 | | | | | ☹ | ☹ | ☺ | ☹ | ⊠ | | | | | | | | ☺ | ☹ | ⊠ | | |
| | TCMT110208-FM4 | 10,74 | 0,8 | 0,08–0,20 | 0,1–1,5 | | | | | | | ☺ | ☹ | ⊠ | | | | | | | | ☺ | ☹ | ⊠ | | |
| | TCMT16T302-FM4 | 16,50 | 0,2 | 0,04–0,12 | 0,1–1,0 | | | | | | | ☺ | ☹ | | | | | | | | | ☺ | ☹ | | | |
| | TCMT16T304-FM4 | 16,50 | 0,4 | 0,05–0,16 | 0,1–1,5 | | | | | ☹ | ☹ | ☺ | ☹ | ⊠ | | | | | | | | ☺ | ☹ | ⊠ | | |
| | TCMT16T308-FM4 | 16,50 | 0,8 | 0,08–0,20 | 0,1–1,5 | | | | | ☹ | ☹ | ☺ | ☹ | ⊠ | | | | | | | | ☺ | ☹ | ⊠ | | |
| | TCMT06T102-FP4 | 6,62 | 0,2 | 0,02–0,10 | 0,1–1,0 | | | ☹ | | | | | | | | | | | | | | | | | | |
| | TCMT06T104-FP4 | 6,62 | 0,4 | 0,04–0,17 | 0,1–1,0 | | | ☹ | | | | | | | | | | | | | | | | | | |
| | TCMT090202-FP4 | 9,37 | 0,2 | 0,04–0,12 | 0,1–1,0 | | | ☹ | | | | | | | | | | | | | | | | | | |
| | TCMT090204-FP4 | 9,37 | 0,4 | 0,05–0,16 | 0,1–1,5 | | ☺ | ☹ | | | | | | | | | | | | | | | | | | |
| | TCMT090208-FP4 | 9,37 | 0,8 | 0,08–0,20 | 0,1–1,5 | | | ☹ | | | | | | | | | | | | | | | | | | |
| | TCMT110202-FP4 | 10,74 | 0,2 | 0,04–0,12 | 0,1–1,0 | | ☺ | ☹ | | | | | | | | | | | | | | | | | | |
| | TCMT110204-FP4 | 10,74 | 0,4 | 0,05–0,16 | 0,1–1,5 | | ☺ | ☹ | | | | | | | | | | | | | | | | | | |
| | TCMT110208-FP4 | 10,74 | 0,8 | 0,08–0,20 | 0,1–1,5 | | ☺ | ☹ | | | | | | | | | | | | | | | | | | |
| | TCMT16T302-FP4 | 16,50 | 0,2 | 0,04–0,12 | 0,1–1,0 | | | ☹ | | | | | | | | | | | | | | | | | | |
| | TCMT16T304-FP4 | 16,50 | 0,4 | 0,05–0,16 | 0,1–1,5 | | ☺ | ☹ | | | | | | | | | | | | | | | | | | |
| | TCMT16T308-FP4 | 16,50 | 0,8 | 0,08–0,20 | 0,1–1,5 | | ☺ | ☹ | | | | | | | | | | | | | | | | | | |
| | TCMT16T304-PF4 | 16,50 | 0,4 | 0,05–0,16 | 0,1–1,5 | ☺ | | | | | | | | | | | | | | | | | | | | |
| | TCMT16T308-PF4 | 16,50 | 0,8 | 0,08–0,20 | 0,1–1,5 | ☺ | | | | | | | | | | | | | | | | | | | | |

See the ISO 1832 designation key for dimensions

HC = Coated carbide
HW = Uncoated carbide

A 238 A 244 A 256 A 80 A 190

# Positive triangular 60°
# TCGT / TCMT / TCMW
## Tiger·tec® Silver




## Indexable inserts

| | Designation | l mm | r mm | f mm | $a_p$ mm | P HC WPP01 | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10S | M HC WSM20S | M HC WSM30S | M HC WSM20 | M HC WSM21 | M HC WSM30 | K HC WKK10S | K HC WKK20S | N HC WXN10 | N HW WK1 | S HC WSM10S | S HC WSM20S | S HC WSM30S | S HC WSM20 | S HC WSM30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TCMT110204-PS5 | 10,74 | 0,4 | 0,06–0,18 | 0,3–2,0 | | | | | | | | | | ☺ | | ☹ | | | | | | | | ☺ | ☹ |
| | TCMT110208-PS5 | 10,74 | 0,8 | 0,10–0,20 | 0,5–2,0 | | | | | | | | | | ☺ | | ☹ | | | | | | | | ☺ | ☹ |
| | TCMT16T304-PS5 | 16,50 | 0,4 | 0,08–0,20 | 0,3–2,0 | | | | | | | | | | ☺ | | ☹ | | | | | | | | ☺ | ☹ |
| | TCMT16T308-PS5 | 16,50 | 0,8 | 0,10–0,25 | 0,5–2,0 | | | | | | | | | | ☺ | | ☹ | | | | | | | | ☺ | ☹ |
| | TCMT110204-FP6 | 10,74 | 0,4 | 0,06–0,18 | 0,3–2,0 | | | ☺ | | | | | | | | | | | | | | | | | | |
| | TCMT110208-FP6 | 10,74 | 0,8 | 0,10–0,20 | 0,5–2,0 | | | ☺ | | | | | | | | | | | | | | | | | | |
| | TCMT16T304-FP6 | 16,50 | 0,4 | 0,08–0,20 | 0,3–2,0 | | | ☺ | | | | | | | | | | | | | | | | | | |
| | TCMT16T308-FP6 | 16,50 | 0,8 | 0,10–0,25 | 0,5–2,0 | | | ☺ | | | | | | | | | | | | | | | | | | |
| | TCMT110204-FK6 | 10,74 | 0,4 | 0,06–0,18 | 0,3–2,0 | | | | | | | | | | | | | ☺ | ☺ | | | | | | | |
| | TCMT110208-FK6 | 10,74 | 0,8 | 0,10–0,20 | 0,5–2,0 | | | | | | | | | | | | | ☺ | ☺ | | | | | | | |
| | TCMT16T304-FK6 | 16,50 | 0,4 | 0,08–0,20 | 0,3–2,0 | | | | | | | | | | | | | ☺ | ☺ | | | | | | | |
| | TCMT16T308-FK6 | 16,50 | 0,8 | 0,10–0,25 | 0,5–2,0 | | | | | | | | | | | | | ☺ | ☺ | | | | | | | |
| | TCGT110201-PM2 | 10,74 | 0,1 | 0,02–0,06 | 0,5–1,5 | | | | | | | | | | | | | | | ☺ | ☺ | | | | | |
| | TCGT110202-PM2 | 10,74 | 0,2 | 0,05–0,12 | 0,6–2,0 | | | | | | | | | | | | | | | ☺ | ☺ | | | | | |
| | TCGT110204-PM2 | 10,74 | 0,4 | 0,08–0,25 | 0,6–3,0 | | | | | | | | | | | | | | | ☺ | ☺ | | | | | |
| | TCGT16T302-PM2 | 16,50 | 0,2 | 0,05–0,12 | 0,5–2,0 | | | | | | | | | | | | | | | ☺ | ☺ | | | | | |
| | TCGT16T304-PM2 | 16,50 | 0,4 | 0,08–0,25 | 0,6–4,0 | | | | | | | | | | | | | | | ☺ | ☺ | | | | | |
| | TCGT16T308-PM2 | 16,50 | 0,8 | 0,10–0,35 | 0,8–4,0 | | | | | | | | | | | | | | | ☺ | ☺ | | | | | |
| | TCMT090204-MM4 | 9,37 | 0,4 | 0,08–0,20 | 0,4–2,0 | | | | | | | ☺ | ☺ | | | | | | | | | ☺ | ☺ | | | |
| | TCMT090208-MM4 | 9,37 | 0,8 | 0,12–0,25 | 0,5–2,0 | | | | | | | ☺ | ☺ | | | | | | | | | ☺ | ☺ | | | |
| | TCMT110204-MM4 | 10,74 | 0,4 | 0,08–0,20 | 0,4–2,0 | | | | | | | ☺ | ☺ | | | | | | | | | ☺ | ☺ | | | |
| | TCMT110208-MM4 | 10,74 | 0,8 | 0,12–0,30 | 0,5–2,0 | | | | | | | ☺ | ☺ | | | | | | | | | ☺ | ☺ | | | |
| | TCMT16T304-MM4 | 16,50 | 0,4 | 0,08–0,25 | 0,4–3,0 | | | | | ☹ | ☹ | ☺ | ☹ | | | | | | | | | ☺ | ☹ | | | |
| | TCMT16T308-MM4 | 16,50 | 0,8 | 0,12–0,32 | 0,5–3,0 | | | | | ☹ | ☹ | ☺ | ☹ | | | | | | | | | ☺ | ☹ | | | |
| | TCGT090204-MM4 | 9,37 | 0,4 | 0,08–0,20 | 0,4–2,0 | | | | | | | | ☹ | | | | | | | | | | ☹ | | | |
| | TCGT110204-MM4 | 10,74 | 0,4 | 0,08–0,20 | 0,4–2,0 | | | | | | | | ☹ | | | | | | | | | | ☹ | | | |
| | TCGT110208-MM4 | 10,74 | 0,8 | 0,12–0,30 | 0,5–2,0 | | | | | | | | ☹ | | | | | | | | | | ☹ | | | |
| | TCGT16T304-MM4 | 16,50 | 0,4 | 0,08–0,25 | 0,4–3,0 | | | | | | | | ☹ | | | | | | | | | | ☹ | | | |
| | TCGT16T308-MM4 | 16,50 | 0,8 | 0,12–0,32 | 0,5–3,0 | | | | | | | | ☹ | | | | | | | | | | ☹ | | | |
| | TCMT090204-MP4 | 9,37 | 0,4 | 0,08–0,20 | 0,4–2,0 | | ☺ | ☹ | | | | | | | | | | | | | | | | | | |
| | TCMT090208-MP4 | 9,37 | 0,8 | 0,12–0,25 | 0,5–2,0 | | ☺ | ☹ | | | | | | | | | | | | | | | | | | |
| | TCMT110204-MP4 | 10,74 | 0,4 | 0,08–0,20 | 0,4–2,0 | | ☺ | ☹ | | | | | | | | | | | | | | | | | | |
| | TCMT110208-MP4 | 10,74 | 0,8 | 0,12–0,30 | 0,5–2,0 | | ☺ | ☹ | | | | | | | | | | | | | | | | | | |
| | TCMT16T304-MP4 | 16,50 | 0,4 | 0,08–0,25 | 0,4–3,0 | | ☺ | ☹ | | | | | | | | | | | | | | | | | | |
| | TCMT16T308-MP4 | 16,50 | 0,8 | 0,12–0,32 | 0,5–3,0 | | ☺ | ☹ | | | | | | | | | | | | | | | | | | |

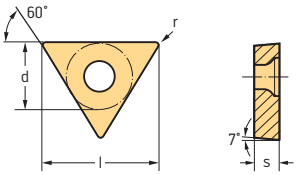
See the ISO 1832 designation key for dimensions

HC = Coated carbide
HW = Uncoated carbide

WALTER SELECT
Optimum indexable insert for
Good
Average
Poor
machining conditions

A 238 A 244 A 256 A 80 A 190

# Positive triangular 60°
# TCGT / TCMT / TCMW
## Tiger·tec® Silver




## Indexable inserts

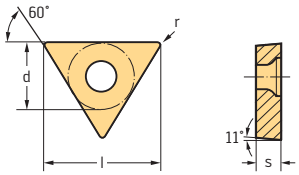
| | Designation | l mm | r mm | f mm | $a_p$ mm | P | | | | | M | | | | | | | K | | N | | S | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | HC | | | | | HC | | | | | | HC | | HC | HW | HC | | | | | |
| | | | | | | WPP01 | WPP10S | WPP20S | WPP30S | WMP20S | WMP20S | WSM10S | WSM20S | WSM30S | WSM20 | WSM21 | WSM30 | WKK10S | WKK20S | WXN10 | WK1 | WSM10S | WSM20S | WSM30S | WSM20 | WSM30 |
| | TCGT090204-MP4 | 9,37 | 0,4 | 0,08–0,20 | 0,4–2,0 | | ● | ● | | | | | | | | | | | | | | | | | | |
| | TCGT110204-MP4 | 10,74 | 0,4 | 0,08–0,20 | 0,4–2,0 | | ● | ● | | | | | | | | | | | | | | | | | | |
| | TCGT110208-MP4 | 10,74 | 0,8 | 0,12–0,30 | 0,5–2,0 | | ● | ● | | | | | | | | | | | | | | | | | | |
| | TCGT16T304-MP4 | 16,50 | 0,4 | 0,08–0,25 | 0,4–3,0 | | ● | ● | | | | | | | | | | | | | | | | | | |
| | TCGT16T308-MP4 | 16,50 | 0,8 | 0,12–0,32 | 0,5–3,0 | | ● | ● | | | | | | | | | | | | | | | | | | |
| | TCMT090204-MK4 | 9,37 | 0,4 | 0,08–0,20 | 0,4–2,0 | | | | | | | | | | | | | ● | ● | | | | | | | | |
| | TCMT090208-MK4 | 9,37 | 0,8 | 0,12–0,25 | 0,5–2,0 | | | | | | | | | | | | | ● | ● | | | | | | | | |
| | TCMT110204-MK4 | 10,74 | 0,4 | 0,08–0,20 | 0,4–2,0 | | | | | | | | | | | | | ● | ● | | | | | | | | |
| | TCMT110208-MK4 | 10,74 | 0,8 | 0,12–0,30 | 0,5–2,0 | | | | | | | | | | | | | ● | ● | | | | | | | | |
| | TCMT16T304-MK4 | 16,50 | 0,4 | 0,08–0,25 | 0,4–3,0 | | | | | | | | | | | | | ● | ● | | | | | | | | |
| | TCMT16T308-MK4 | 16,50 | 0,8 | 0,12–0,32 | 0,5–3,0 | | | | | | | | | | | | | ● | ● | | | | | | | | |
| | TCGT090204-MK4 | 9,37 | 0,4 | 0,08–0,20 | 0,4–2,0 | | | | | | | | | | | | | | ● | | | | | | | | |
| | TCGT110204-MK4 | 10,74 | 0,4 | 0,08–0,20 | 0,4–2,0 | | | | | | | | | | | | | | ● | | | | | | | | |
| | TCGT110208-MK4 | 10,74 | 0,8 | 0,12–0,30 | 0,5–2,0 | | | | | | | | | | | | | | ● | | | | | | | | |
| | TCGT16T304-MK4 | 16,50 | 0,4 | 0,08–0,25 | 0,4–3,0 | | | | | | | | | | | | | | ● | | | | | | | | |
| | TCGT16T308-MK4 | 16,50 | 0,8 | 0,12–0,32 | 0,5–3,0 | | | | | | | | | | | | | | ● | | | | | | | | |
| | TCMT090204-RM4 | 9,37 | 0,4 | 0,12–0,25 | 0,4–3,0 | | | | | | | | ● | ● | | | | | | | | | ● | ● | | |
| | TCMT090208-RM4 | 9,37 | 0,8 | 0,16–0,30 | 0,6–3,0 | | | | | | | | ● | ● | | | | | | | | | ● | ● | | |
| | TCMT110204-RM4 | 10,74 | 0,4 | 0,12–0,25 | 0,4–3,0 | | | | | ● | ● | ● | ● | ● | | | | | | | | ● | ● | ● | | |
| | TCMT110208-RM4 | 10,74 | 0,8 | 0,16–0,30 | 0,6–3,0 | | | | | ● | ● | | ● | ● | | | | | | | | | ● | ● | | |
| | TCMT16T304-RM4 | 16,50 | 0,4 | 0,12–0,25 | 0,4–3,0 | | | | | ● | ● | ● | ● | ● | | | | | | | | ● | ● | ● | | |
| | TCMT16T308-RM4 | 16,50 | 0,8 | 0,16–0,35 | 0,6–4,0 | | | | | ● | ● | ● | ● | ● | | | | | | | | ● | ● | ● | | |
| | TCMT16T312-RM4 | 16,50 | 1,2 | 0,20–0,40 | 0,8–4,0 | | | | | ● | ● | | ● | ● | | | | | | | | | ● | ● | | |
| | TCMT090204-RP4 | 9,37 | 0,4 | 0,12–0,25 | 0,4–3,0 | | ● | ● | ● | | | | | | | | | | | | | | | | | |
| | TCMT090208-RP4 | 9,37 | 0,8 | 0,16–0,30 | 0,6–3,0 | | ● | ● | ● | | | | | | | | | | | | | | | | | |
| | TCMT110204-RP4 | 10,74 | 0,4 | 0,12–0,25 | 0,4–3,0 | | ● | ● | ● | | | | | | | | | | | | | | | | | |
| | TCMT110208-RP4 | 10,74 | 0,8 | 0,16–0,30 | 0,6–3,0 | | ● | ● | ● | | | | | | | | | | | | | | | | | |
| | TCMT16T304-RP4 | 16,50 | 0,4 | 0,12–0,25 | 0,4–3,0 | | ● | ● | ● | | | | | | | | | | | | | | | | | |
| | TCMT16T308-RP4 | 16,50 | 0,8 | 0,16–0,35 | 0,6–4,0 | | ● | ● | ● | | | | | | | | | | | | | | | | | |
| | TCMT16T312-RP4 | 16,50 | 1,2 | 0,20–0,40 | 0,8–4,0 | | ● | ● | ● | | | | | | | | | | | | | | | | | |
| | TCMT090204-RK4 | 9,37 | 0,4 | 0,12–0,25 | 0,4–3,0 | | | | | | | | | | | | | ● | ● | | | | | | | | |
| | TCMT090208-RK4 | 9,37 | 0,8 | 0,16–0,30 | 0,6–3,0 | | | | | | | | | | | | | ● | ● | | | | | | | | |
| | TCMT110204-RK4 | 10,74 | 0,4 | 0,12–0,25 | 0,4–3,0 | | | | | | | | | | | | | ● | ● | | | | | | | | |
| | TCMT110208-RK4 | 10,74 | 0,8 | 0,16–0,30 | 0,6–3,0 | | | | | | | | | | | | | ● | ● | | | | | | | | |
| | TCMT16T304-RK4 | 16,50 | 0,4 | 0,12–0,25 | 0,4–3,0 | | | | | | | | | | | | | ● | ● | | | | | | | | |
| | TCMT16T308-RK4 | 16,50 | 0,8 | 0,16–0,35 | 0,6–4,0 | | | | | | | | | | | | | ● | ● | | | | | | | | |
| | TCMT16T312-RK4 | 16,50 | 1,2 | 0,20–0,40 | 0,8–4,0 | | | | | | | | | | | | | ● | ● | | | | | | | | |
| | TCMW110202-RK6 | 10,74 | 0,2 | 0,08–0,12 | 0,2–3,0 | | | | | | | | | | | | | ● | ● | | | | | | | | |
| | TCMW110204-RK6 | 10,74 | 0,4 | 0,12–0,25 | 0,4–3,0 | | | | | | | | | | | | | ● | ● | | | | | | | | |
| | TCMW110208-RK6 | 10,74 | 0,8 | 0,16–0,30 | 0,6–3,0 | | | | | | | | | | | | | ● | ● | | | | | | | | |
| | TCMW16T304-RK6 | 16,50 | 0,4 | 0,12–0,25 | 0,4–3,0 | | | | | | | | | | | | | ● | ● | | | | | | | | |
| | TCMW16T308-RK6 | 16,50 | 0,8 | 0,16–0,35 | 0,6–4,0 | | | | | | | | | | | | | ● | ● | | | | | | | | |

See the ISO 1832 designation key for dimensions

HC = Coated carbide
HW = Uncoated carbide

A 238 A 244 A 256 A 80 A 190

# Positive triangular 60°
# TPMT / TPGT
## Tiger·tec® Silver

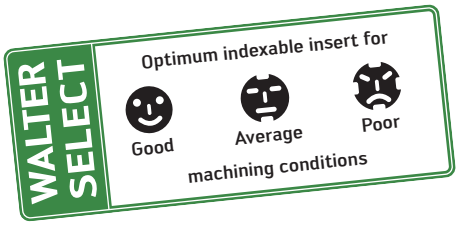



## Indexable inserts

| | Designation | l mm | r mm | f mm | $a_p$ mm | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10S | M HC WSM20S | M HC WSM30S | K HC WKK10S | K HC WKK20S | S HC WSM10S | S HC WSM20S | S HC WSM30S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TPMT090204-MM4 | 9,90 | 0,4 | 0,08–0,20 | 0,4–2,0 | | | | | | | ☺ | | | | | ☺ | |
| | TPMT110204-MM4 | 11,00 | 0,4 | 0,08–0,20 | 0,4–2,0 | | | | | | | ☺ | | | | | ☺ | |
| | TPMT110208-MM4 | 11,00 | 0,8 | 0,12–0,30 | 0,5–2,0 | | | | | | | ☺ | | | | | ☺ | |
| | TPMT16T304-MM4 | 16,50 | 0,4 | 0,08–0,25 | 0,4–3,0 | | | | | | | ☺ | | | | | ☺ | |
| | TPMT16T308-MM4 | 16,50 | 0,8 | 0,12–0,32 | 0,5–3,0 | | | | | | | ☺ | | | | | ☺ | |
| | TPGT110204-MM4 | 11,00 | 0,4 | 0,08–0,20 | 0,4–2,0 | | | | | | | ☺ | | | | | ☺ | |
| | TPGT110208-MM4 | 11,00 | 0,8 | 0,12–0,30 | 0,5–2,0 | | | | | | | ☺ | | | | | ☺ | |
| | TPGT16T304-MM4 | 16,50 | 0,4 | 0,08–0,25 | 0,4–3,0 | | | | | | | ☺ | | | | | ☺ | |
| | TPGT16T308-MM4 | 16,50 | 0,8 | 0,12–0,32 | 0,5–3,0 | | | | | | | ☺ | | | | | ☺ | |
| | TPMT090204-MP4 | 9,90 | 0,4 | 0,08–0,20 | 0,4–2,0 | | ☺ | | | | | | | | | | | |
| | TPMT110204-MP4 | 11,00 | 0,4 | 0,08–0,20 | 0,4–2,0 | | ☺ | | | | | | | | | | | |
| | TPMT110208-MP4 | 11,00 | 0,8 | 0,12–0,30 | 0,5–2,0 | | ☺ | | | | | | | | | | | |
| | TPMT16T304-MP4 | 16,50 | 0,4 | 0,08–0,25 | 0,4–3,0 | | ☺ | | | | | | | | | | | |
| | TPMT16T308-MP4 | 16,50 | 0,8 | 0,12–0,32 | 0,5–3,0 | | ☺ | | | | | | | | | | | |
| | TPGT090204-MP4 | 9,90 | 0,4 | 0,08–0,20 | 0,4–2,0 | ☺ | ☺ | | | | | | | | | | | |
| | TPGT110204-MP4 | 11,00 | 0,4 | 0,08–0,20 | 0,4–2,0 | ☺ | ☺ | | | | | | | | | | | |
| | TPGT110208-MP4 | 11,00 | 0,8 | 0,12–0,30 | 0,5–2,0 | ☺ | ☺ | | | | | | | | | | | |
| | TPGT16T304-MP4 | 16,50 | 0,4 | 0,08–0,25 | 0,4–3,0 | ☺ | ☺ | | | | | | | | | | | |
| | TPGT16T308-MP4 | 16,50 | 0,8 | 0,12–0,32 | 0,5–3,0 | ☺ | ☺ | | | | | | | | | | | |
| | TPMT090204-MK4 | 9,90 | 0,4 | 0,08–0,20 | 0,4–2,0 | | | | | | | | | | ☺ | | | |
| | TPMT110204-MK4 | 11,00 | 0,4 | 0,08–0,20 | 0,4–2,0 | | | | | | | | | | ☺ | | | |
| | TPMT110208-MK4 | 11,00 | 0,8 | 0,12–0,30 | 0,5–2,0 | | | | | | | | | | ☺ | | | |
| | TPMT16T304-MK4 | 16,50 | 0,4 | 0,08–0,25 | 0,4–3,0 | | | | | | | | | | ☺ | | | |
| | TPMT16T308-MK4 | 16,50 | 0,8 | 0,12–0,32 | 0,5–3,0 | | | | | | | | | | ☺ | | | |
| | TPGT090204-MK4 | 9,90 | 0,4 | 0,08–0,20 | 0,4–2,0 | | | | | | | | | | ☺ | | | |
| | TPGT110204-MK4 | 11,00 | 0,4 | 0,08–0,20 | 0,4–2,0 | | | | | | | | | | ☺ | | | |
| | TPGT110208-MK4 | 11,00 | 0,8 | 0,12–0,30 | 0,5–2,0 | | | | | | | | | | ☺ | | | |
| | TPGT16T304-MK4 | 16,50 | 0,4 | 0,08–0,25 | 0,4–3,0 | | | | | | | | | | ☺ | | | |
| | TPGT16T308-MK4 | 16,50 | 0,8 | 0,12–0,32 | 0,5–3,0 | | | | | | | | | | ☺ | | | |
| | TPMR110308 | 11,00 | 0,8 | 0,16–0,30 | 0,6–3,0 | | | | | | | | | | ☺ | | | |
| | TPMR160304 | 16,50 | 0,4 | 0,12–0,25 | 0,4–3,0 | | ☺ | | | | | | | | | | | |
| | TPMR160308 | 16,50 | 0,8 | 0,16–0,30 | 0,6–4,0 | | ☺ | | | | | | | | | | | |

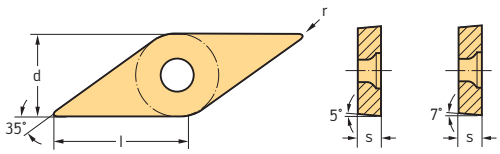
See the ISO 1832 designation key for dimensions

HC = Coated carbide




A 238 A 244 A 256 A 80 A 190

# Positive rhombic 35°
## VCGT / VCMT / VBGT / VBMT / VCMW
## Tiger·tec® Silver




## Indexable inserts

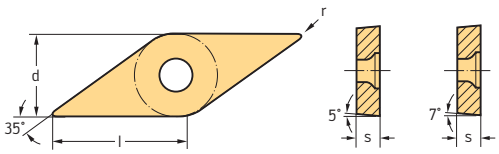
| | Designation | l mm | r mm | f mm | $a_p$ mm | P HC WPP01 | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10S | M HC WSM20S | M HC WSM30S | M HC WSM10 | M HC WSM20 | M HC WSM30 | K HC WKK10S | K HC WKK20S | N HC WXN10 | N HW WK1 | S HC WSM10S | S HC WSM20S | S HC WSM30S | S HC WSM10 | S HC WSM20 | S HC WSM30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | VCGT110301-PF2 | 11,07 | 0,1 | 0,02–0,06 | 0,1–1,5 | | | | | | | | | | | ● | | | | ● | | | | | | ● | |
| | VCGT110302-PF2 | 11,07 | 0,2 | 0,05–0,12 | 0,2–2,0 | | | | | | | | | | | ● | | | | ● | ● | | | | | ● | |
| | VCGT110304-PF2 | 11,07 | 0,4 | 0,08–0,25 | 0,2–2,5 | | | | | | | | | | ● | ● | | | | ● | ● | | | | ● | ● | |
| | VCGT160402-PF2 | 16,61 | 0,2 | 0,05–0,12 | 0,2–2,0 | | | | | | | | | | | ● | | | | ● | ● | | | | | ● | |
| | VCGT160404-PF2 | 16,61 | 0,4 | 0,08–0,25 | 0,2–2,5 | | | | | | | | | | ● | ● | | | | ● | ● | | | | ● | ● | |
| | VCGT160408-PF2 | 16,61 | 0,8 | 0,10–0,30 | 0,3–3,0 | | | | | | | | | | ● | ● | | | | ● | ● | | | | ● | ● | |
| | VCMT110302-FM4 | 11,07 | 0,2 | 0,04–0,12 | 0,1–1,0 | | | | | ● | ● | ● | ● | ● | | | | | | | | ● | ● | ● | | | |
| | VCMT110304-FM4 | 11,07 | 0,4 | 0,05–0,16 | 0,1–1,5 | | | | | ● | ● | ● | ● | ● | | | | | | | | ● | ● | ● | | | |
| | VCMT160402-FM4 | 16,61 | 0,2 | 0,04–0,12 | 0,1–1,0 | | | | | ● | ● | ● | ● | ● | | | | | | | | ● | ● | ● | | | |
| | VCMT160404-FM4 | 16,61 | 0,4 | 0,05–0,16 | 0,1–1,5 | | | | | ● | ● | ● | ● | ● | | | | | | | | ● | ● | ● | | | |
| | VCMT160408-FM4 | 16,61 | 0,8 | 0,08–0,20 | 0,1–1,5 | | | | | ● | ● | ● | ● | ● | | | | | | | | ● | ● | ● | | | |
| | VCMT110302-FP4 | 11,07 | 0,2 | 0,04–0,12 | 0,1–1,0 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | VCMT110304-FP4 | 11,07 | 0,4 | 0,05–0,16 | 0,1–1,5 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | VCMT160402-FP4 | 16,61 | 0,2 | 0,04–0,12 | 0,1–1,0 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | VCMT160404-FP4 | 16,61 | 0,4 | 0,05–0,16 | 0,1–1,5 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | VCMT160408-FP4 | 16,61 | 0,8 | 0,08–0,20 | 0,1–1,5 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | VCMT110302-PF4 | 11,07 | 0,2 | 0,04–0,12 | 0,1–1,0 | ● | | | | | | | | | | | | | | | | | | | | | |
| | VCMT110304-PF4 | 11,07 | 0,4 | 0,05–0,16 | 0,1–1,5 | ● | | | | | | | | | | | | | | | | | | | | | |
| | VCMT160402-PF4 | 16,61 | 0,2 | 0,04–0,12 | 0,1–1,0 | ● | | | | | | | | | | | | | | | | | | | | | |
| | VCMT160404-PF4 | 16,61 | 0,4 | 0,05–0,16 | 0,1–1,5 | ● | | | | | | | | | | | | | | | | | | | | | |
| | VCMT160408-PF4 | 16,61 | 0,8 | 0,08–0,20 | 0,1–1,5 | ● | | | | | | | | | | | | | | | | | | | | | |
| | VBGT110302-PF5 | 11,07 | 0,2 | 0,04–0,10 | 0,1–0,6 | | | | | | | | | | | | ● | | | | | | | | | | ● |
| | VBGT110304-PF5 | 11,07 | 0,4 | 0,06–0,12 | 0,2–0,6 | | | | | | | | | | | | ● | | | | | | | | | | ● |
| | VBMT110304-PS5 | 11,07 | 0,4 | 0,06–0,18 | 0,3–2,0 | | | | | | | | | | ● | ● | ● | | | | | | | | ● | ● | ● |
| | VBMT110308-PS5 | 11,07 | 0,8 | 0,10–0,20 | 0,5–2,0 | | | | | | | | | | ● | ● | ● | | | | | | | | ● | ● | ● |
| | VBMT160404-PS5 | 16,61 | 0,4 | 0,08–0,20 | 0,3–2,0 | | | | | | | | | | ● | ● | ● | | | | | | | | ● | ● | ● |
| | VBMT160408-PS5 | 16,61 | 0,8 | 0,10–0,25 | 0,5–2,0 | | | | | | | | | | ● | ● | ● | | | | | | | | ● | ● | ● |
| | VBMT160412-PS5 | 16,61 | 1,2 | 0,12–0,30 | 0,6–2,0 | | | | | | | | | | ● | ● | ● | | | | | | | | ● | ● | ● |
| | VBMT110304-FP6 | 11,07 | 0,4 | 0,06–0,18 | 0,3–2,0 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | VBMT110308-FP6 | 11,07 | 0,8 | 0,10–0,20 | 0,5–2,0 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | VBMT160404-FP6 | 16,61 | 0,4 | 0,08–0,20 | 0,3–2,0 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | VBMT160406-FP6 | 16,61 | 0,6 | 0,10–0,25 | 0,4–2,0 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | VBMT160408-FP6 | 16,61 | 0,8 | 0,10–0,25 | 0,5–2,0 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | VBMT160412-FP6 | 16,61 | 1,2 | 0,12–0,30 | 0,6–2,0 | | ● | ● | | | | | | | | | | | | | | | | | | | |
| | VBMT110304-FK6 | 11,07 | 0,4 | 0,06–0,18 | 0,3–2,0 | | | | | | | | | | | | | ● | ● | | | | | | | | |
| | VBMT110308-FK6 | 11,07 | 0,8 | 0,10–0,20 | 0,5–2,0 | | | | | | | | | | | | | ● | ● | | | | | | | | |
| | VBMT160404-FK6 | 16,61 | 0,4 | 0,08–0,20 | 0,3–2,0 | | | | | | | | | | | | | ● | ● | | | | | | | | |
| | VBMT160406-FK6 | 16,61 | 0,6 | 0,10–0,25 | 0,4–2,0 | | | | | | | | | | | | | ● | ● | | | | | | | | |
| | VBMT160408-FK6 | 16,61 | 0,8 | 0,10–0,25 | 0,5–2,0 | | | | | | | | | | | | | ● | ● | | | | | | | | |
| | VBMT160412-FK6 | 16,61 | 1,2 | 0,12–0,30 | 0,6–2,0 | | | | | | | | | | | | | | ● | | | | | | | | |

See the ISO 1832 designation key for dimensions

HC = Coated carbide
HW = Uncoated carbide

A 238 A 244 A 256 A 80 A 190

# Positive rhombic 35°
# VCGT / VCMT / VBGT / VBMT / VCMW
## Tiger·tec® Silver

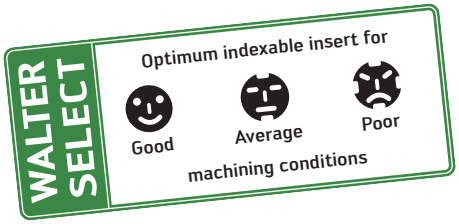



## Indexable inserts

| | Designation | l mm | r mm | f mm | $a_p$ mm | P HC WPP01 | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10S | M HC WSM20S | M HC WSM30S | M HC WSM10 | M HC WSM20 | M HC WSM30 | K HC WKK10S | K HC WKK20S | N HC WXN10 | N HW WK1 | S HC WSM10S | S HC WSM20S | S HC WSM30S | S HC WSM10 | S HC WSM20 | S HC WSM30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | VCGT110301-PM2 | 11,07 | 0,1 | 0,02–0,06 | 0,5–1,5 | | | | | | | | | | | | | | | ☺ | ☺ | | | | | | |
| | VCGT110302-PM2 | 11,07 | 0,2 | 0,05–0,12 | 0,5–2,0 | | | | | | | | | | | | | | | ☺ | ☺ | | | | | | |
| | VCGT110304-PM2 | 11,07 | 0,4 | 0,08–0,25 | 0,6–2,5 | | | | | | | | | | | | | | | ☺ | ☺ | | | | | | |
| | VCGT110308-PM2 | 11,07 | 0,8 | 0,10–0,35 | 0,8–3,0 | | | | | | | | | | | | | | | ☺ | ☺ | | | | | | |
| | VCGT130301-PM2 | 13,1 | 0,1 | 0,02–0,06 | 0,5–1,5 | | | | | | | | | | | | | | | ☺ | ☺ | | | | | | |
| | VCGT130302-PM2 | 13,1 | 0,2 | 0,05–0,12 | 0,5–2,0 | | | | | | | | | | | | | | | ☺ | ☺ | | | | | | |
| | VCGT130304-PM2 | 13,1 | 0,4 | 0,08–0,25 | 0,6–3,0 | | | | | | | | | | | | | | | ☺ | ☺ | | | | | | |
| | VCGT160404-PM2 | 16,61 | 0,4 | 0,08–0,25 | 0,6–3,5 | | | | | | | | | | | | | | | ☺ | ☺ | | | | | | |
| | VCGT160408-PM2 | 16,61 | 0,8 | 0,10–0,35 | 0,8–3,5 | | | | | | | | | | | | | | | ☺ | ☺ | | | | | | |
| | VCGT160412-PM2 | 16,61 | 1,2 | 0,10–0,45 | 1,0–3,5 | | | | | | | | | | | | | | | ☺ | ☺ | | | | | | |
| | VBMT110304-MM4 | 11,07 | 0,4 | 0,08–0,20 | 0,4–1,5 | | | | | 😐 | 😐 | | 😐 | | | | | | | | | | 😐 | | | | |
| | VBMT110308-MM4 | 11,07 | 0,8 | 0,12–0,25 | 0,5–1,5 | | | | | | | | 😐 | | | | | | | | | | 😐 | | | | |
| | VBMT160404-MM4 | 16,61 | 0,4 | 0,08–0,20 | 0,4–2,0 | | | | | 😐 | 😐 | ☺ | 😐 | | | | | | | | | ☺ | 😐 | | | | |
| | VBMT160408-MM4 | 16,61 | 0,8 | 0,12–0,30 | 0,5–2,0 | | | | | 😐 | 😐 | ☺ | 😐 | | | | | | | | | ☺ | 😐 | | | | |
| | VBMT160412-MM4 | 16,61 | 1,2 | 0,12–0,32 | 0,5–2,0 | | | | | | | ☺ | 😐 | | | | | | | | | ☺ | 😐 | | | | |
| | VBMT110304-MP4 | 11,07 | 0,4 | 0,08–0,20 | 0,4–1,5 | | ☺ | 😐 | | | | | | | | | | | | | | | | | | | |
| | VBMT110308-MP4 | 11,07 | 0,8 | 0,12–0,25 | 0,5–1,5 | | ☺ | 😐 | | | | | | | | | | | | | | | | | | | |
| | VBMT160404-MP4 | 16,61 | 0,4 | 0,08–0,20 | 0,4–2,0 | | ☺ | 😐 | | | | | | | | | | | | | | | | | | | |
| | VBMT160406-MP4 | 16,61 | 0,6 | 0,12–0,25 | 0,5–2,0 | | ☺ | 😐 | | | | | | | | | | | | | | | | | | | |
| | VBMT160408-MP4 | 16,61 | 0,8 | 0,12–0,30 | 0,5–2,0 | | ☺ | 😐 | | | | | | | | | | | | | | | | | | | |
| | VBMT160412-MP4 | 16,61 | 1,2 | 0,12–0,32 | 0,5–2,0 | | ☺ | 😐 | | | | | | | | | | | | | | | | | | | |
| | VBMT110304-MK4 | 11,07 | 0,4 | 0,08–0,20 | 0,4–1,5 | | | | | | | | | | | | | ☺ | 😐 | | | | | | | | |
| | VBMT110308-MK4 | 11,07 | 0,8 | 0,12–0,25 | 0,5–1,5 | | | | | | | | | | | | | ☺ | 😐 | | | | | | | | |
| | VBMT160404-MK4 | 16,61 | 0,4 | 0,08–0,20 | 0,4–2,0 | | | | | | | | | | | | | ☺ | 😐 | | | | | | | | |
| | VBMT160408-MK4 | 16,61 | 0,8 | 0,12–0,30 | 0,5–2,0 | | | | | | | | | | | | | ☺ | 😐 | | | | | | | | |
| | VBMT160412-MK4 | 16,61 | 1,2 | 0,12–0,32 | 0,5–2,0 | | | | | | | | | | | | | | 😐 | | | | | | | | |
| | VCMT110304-RM4 | 11,07 | 0,4 | 0,12–0,20 | 0,4–2,5 | | | | | 😐 | 😐 | ☺ | 😐 | 😣 | | | | | | | | ☺ | 😐 | 😣 | | | |
| | VCMT110308-RM4 | 11,07 | 0,8 | 0,16–0,25 | 0,6–3,0 | | | | | | | | 😐 | 😣 | | | | | | | | | 😐 | 😣 | | | |
| | VCMT160404-RM4 | 16,61 | 0,4 | 0,12–0,25 | 0,4–2,5 | | | | | 😐 | 😐 | ☺ | 😐 | 😣 | | | | | | | | ☺ | 😐 | 😣 | | | |
| | VCMT160408-RM4 | 16,61 | 0,8 | 0,16–0,30 | 0,6–3,0 | | | | | 😐 | 😐 | ☺ | 😐 | 😣 | | | | | | | | ☺ | 😐 | 😣 | | | |
| | VCMT160412-RM4 | 16,61 | 1,2 | 0,20–0,35 | 0,8–4,0 | | | | | | | | 😐 | 😣 | | | | | | | | | 😐 | 😣 | | | |
| | VCMT110304-RP4 | 11,07 | 0,4 | 0,12–0,20 | 0,4–2,5 | | ☺ | 😐 | 😣 | | | | | | | | | | | | | | | | | | |
| | VCMT110308-RP4 | 11,07 | 0,8 | 0,16–0,25 | 0,6–3,0 | | ☺ | 😐 | 😣 | | | | | | | | | | | | | | | | | | |
| | VCMT160404-RP4 | 16,61 | 0,4 | 0,12–0,25 | 0,4–2,5 | | ☺ | 😐 | 😣 | | | | | | | | | | | | | | | | | | |
| | VCMT160406-RP4 | 16,61 | 0,6 | 0,15–0,25 | 0,6–3,0 | | ☺ | 😐 | 😣 | | | | | | | | | | | | | | | | | | |
| | VCMT160408-RP4 | 16,61 | 0,8 | 0,16–0,30 | 0,6–3,0 | | ☺ | 😐 | 😣 | | | | | | | | | | | | | | | | | | |
| | VCMT160412-RP4 | 16,61 | 1,2 | 0,20–0,35 | 0,8–3,0 | | ☺ | 😐 | 😣 | | | | | | | | | | | | | | | | | | |

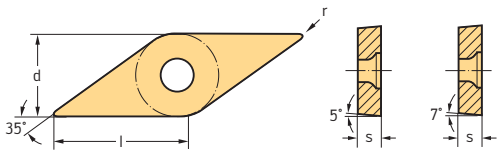
See the ISO 1832 designation key for dimensions

HC = Coated carbide
HW = Uncoated carbide




A 238 A 244 A 256 A 80 A 190

# Positive rhombic 35°
# VCGT / VCMT / VBGT / VBMT / VCMW
## Tiger·tec® Silver




## Indexable inserts

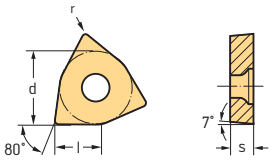
| | Designation | l mm | r mm | f mm | $a_p$ mm | P HC WPP01 | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10S | M HC WSM20S | M HC WSM30S | M HC WSM10 | M HC WSM20 | M HC WSM30 | K HC WKK10S | K HC WKK20S | N HC WXN10 | N HW WK1 | S HC WSM10S | S HC WSM20S | S HC WSM30S | S HC WSM10 | S HC WSM20 | S HC WSM30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | VCMT110304-RK4 | 11,07 | 0,4 | 0,12–0,20 | 0,4–2,5 | | | | | | | | | | | | | ☻ | ☻ | | | | | | | | |
| | VCMT110308-RK4 | 11,07 | 0,8 | 0,16–0,25 | 0,6–3,0 | | | | | | | | | | | | | ☻ | ☻ | | | | | | | | |
| | VCMT160404-RK4 | 16,61 | 0,4 | 0,12–0,25 | 0,4–2,5 | | | | | | | | | | | | | ☻ | ☻ | | | | | | | | |
| | VCMT160408-RK4 | 16,61 | 0,8 | 0,16–0,30 | 0,6–3,0 | | | | | | | | | | | | | ☻ | ☻ | | | | | | | | |
| | VCMT160412-RK4 | 16,61 | 1,2 | 0,20–0,35 | 0,8–3,0 | | | | | | | | | | | | | ☻ | ☻ | | | | | | | | |
| | VCMW160404-RK6 | 16,61 | 0,4 | 0,12–0,25 | 0,4–2,5 | | | | | | | | | | | | | ☻ | ☻ | | | | | | | | |
| | VCMW160408-RK6 | 16,61 | 0,8 | 0,16–0,30 | 0,6–3,0 | | | | | | | | | | | | | ☻ | ☻ | | | | | | | | |
| | VCMW160412-RK6 | 16,61 | 1,2 | 0,20–0,35 | 0,8–3,0 | | | | | | | | | | | | | ☻ | ☻ | | | | | | | | |

See the ISO 1832 designation key for dimensions

HC = Coated carbide
HW = Uncoated carbide

A 238 A 244 A 256 A 80 A 190

# Positive Trigon 80°
# WCMT / WCGT
## Tiger·tec® Silver




## Indexable inserts

| | Designation | l mm | r mm | f mm | $a_p$ mm | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10S | M HC WSM20S | M HC WSM30S | M HC WSM20 | M HC WSM21 | K HC WKK10S | K HC WKK20S | N HC WXN10 | N HW WK1 | S HC WSM10S | S HC WSM20S | S HC WSM30S | S HC WSM20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | WCMT040204-PF | 4,34 | 0,4 | 0,05–0,30 | 0,3–1,5 | | ● | | | | | | | ● | | | | | | | | | |
| | WCMT06T304-PF | 6,52 | 0,4 | 0,07–0,30 | 0,3–2,0 | ● | | | | | | | | ● | | | | | | | | | ● |
| | WCMT06T308-PF | 6,52 | 0,8 | 0,07–0,35 | 0,3–2,0 | | ● | | | | | | | ● | | | | | | | | | ● |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | WCGT030202-PF2 | 3,91 | 0,2 | 0,05–0,12 | 0,2–2,0 | | | | | | | | | | ● | | | ● | | | | | |
| | WCGT030204-PF2 | 3,91 | 0,4 | 0,08–0,25 | 0,2–2,5 | | | | | | | | | | ● | | | ● | | | | | |
| | WCGT040202-PF2 | 4,34 | 0,2 | 0,05–0,12 | 0,2–2,0 | | | | | | | | | | ● | | | ● | | | | | |
| | WCGT040204-PF2 | 4,34 | 0,4 | 0,08–0,25 | 0,2–2,5 | | | | | | | | | | ● | | | ● | | | | | |
| | WCGT06T301-PF2 | 6,52 | 0,1 | 0,02–0,06 | 0,1–1,5 | | | | | | | | | | | | | ● | | | | | |
| | WCGT06T302-PF2 | 6,52 | 0,2 | 0,05–0,12 | 0,2–2,0 | | | | | | | | | | | | | ● | | | | | |
| | WCGT06T304-PF2 | 6,52 | 0,4 | 0,08–0,25 | 0,2–2,5 | | | | | | | | | | | | | ● | | | | | |
| | WCGT06T308-PF2 | 6,52 | 0,8 | 0,10–0,30 | 0,3–3,0 | | | | | | | | | | | | | ● | | | | | |
| | WCMT040202-FM4 | 4,34 | 0,2 | 0,04–0,12 | 0,1–1,0 | | | | | | | ● | ● | | | | | | | ● | ● | | |
| | WCMT040204-FM4 | 4,34 | 0,4 | 0,05–0,16 | 0,1–1,5 | | | | | | | ● | ● | | | | | | | ● | ● | | |
| | WCMT06T304-FM4 | 6,52 | 0,4 | 0,05–0,16 | 0,1–1,5 | | | | | | | ● | ● | | | | | | | ● | ● | | |
| | WCMT06T308-FM4 | 6,52 | 0,8 | 0,08–0,20 | 0,1–1,5 | | | | | | | ● | ● | | | | | | | ● | ● | | |
| | WCMT040202-FP4 | 4,34 | 0,2 | 0,04–0,12 | 0,1–1,0 | ● | ● | | | | | | | | | | | | | | | | |
| | WCMT040204-FP4 | 4,34 | 0,4 | 0,05–0,16 | 0,1–1,5 | ● | ● | | | | | | | | | | | | | | | | |
| | WCMT040208-FP4 | 4,34 | 0,8 | 0,08–0,20 | 0,1–1,5 | ● | ● | | | | | | | | | | | | | | | | |
| | WCMT06T302-FP4 | 6,52 | 0,2 | 0,04–0,12 | 0,1–1,0 | ● | ● | | | | | | | | | | | | | | | | |
| | WCMT06T304-FP4 | 6,52 | 0,4 | 0,05–0,16 | 0,1–1,5 | ● | ● | | | | | | | | | | | | | | | | |
| | WCMT06T308-FP4 | 6,52 | 0,8 | 0,08–0,20 | 0,1–1,5 | | ● | | | | | | | | | | | | | | | | |
| | WCMT080404-FP4 | 8,69 | 0,4 | 0,05–0,16 | 0,1–1,5 | | ● | | | | | | | | | | | | | | | | |
| | WCMT080408-FP4 | 8,69 | 0,8 | 0,08–0,20 | 0,1–1,5 | | ● | | | | | | | | | | | | | | | | |
| | WCMT040204-FP6 | 4,34 | 0,4 | 0,06–0,18 | 0,3–2,0 | | ● | | | | | | | | | | | | | | | | |
| | WCMT040208-FP6 | 4,34 | 0,8 | 0,10–0,20 | 0,5–2,0 | | ● | | | | | | | | | | | | | | | | |
| | WCMT06T308-FP6 | 6,52 | 0,8 | 0,10–0,25 | 0,5–2,0 | | ● | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | WCMT040204-FK6 | 4,34 | 0,4 | 0,06–0,18 | 0,3–2,0 | | | | | | | | | | | | ● | | | | | | |
| | WCMT06T308-FK6 | 6,52 | 0,8 | 0,10–0,25 | 0,5–2,0 | | | | | | | | | | | | ● | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |

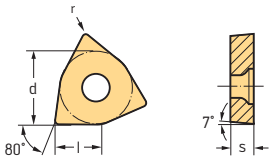
See the ISO 1832 designation key for dimensions

HC = Coated carbide
HW = Uncoated carbide

WALTER SELECT
Optimum indexable insert for
Good
Average
Poor
machining conditions

A 238 A 244 Ra/Rz A 256 A 80 A 190

# Positive Trigon 80°
# WCMT / WCGT
## Tiger·tec® Silver




## Indexable inserts

| | Designation | l mm | r mm | f mm | $a_p$ mm | P HC WPP10S | P HC WPP20S | P HC WPP30S | P HC WMP20S | M HC WMP20S | M HC WSM10S | M HC WSM20S | M HC WSM30S | M HC WSM20 | M HC WSM21 | K HC WKK10S | K HC WKK20S | N HC WXN10 | N HW WK1 | S HC WSM10S | S HC WSM20S | S HC WSM30S | S HC WSM20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | WCGT030202-PM2 | 3,91 | 0,2 | 0,05–0,12 | 0,5–1,5 | | | | | | | | | | | | | ● | ● | | | | |
| | WCGT030204-PM2 | 3,91 | 0,4 | 0,08–0,20 | 0,6–1,5 | | | | | | | | | | | | | ● | ● | | | | |
| | WCGT040202-PM2 | 4,34 | 0,2 | 0,05–0,12 | 0,5–2,0 | | | | | | | | | | | | | ● | ● | | | | |
| | WCGT040204-PM2 | 4,34 | 0,4 | 0,08–0,25 | 0,6–2,5 | | | | | | | | | | | | | ● | ● | | | | |
| | WCGT06T302-PM2 | 6,52 | 0,2 | 0,05–0,12 | 0,6–2,0 | | | | | | | | | | | | | ● | ● | | | | |
| | WCGT06T304-PM2 | 6,52 | 0,4 | 0,08–0,25 | 0,6–3,0 | | | | | | | | | | | | | ● | ● | | | | |
| | WCGT080404-PM2 | 8,69 | 0,4 | 0,08–0,25 | 0,6–4,0 | | | | | | | | | | | | | ● | ● | | | | |
| | WCGT080408-PM2 | 8,69 | 0,8 | 0,10–0,35 | 0,8–4,0 | | | | | | | | | | | | | ● | ● | | | | |
| | WCMT06T304-MM4 | 6,52 | 0,4 | 0,08–0,25 | 0,4–2,5 | | | | | | | ◐ | | | | | | | | | ◐ | | |
| | WCMT06T308-MM4 | 6,52 | 0,8 | 0,12–0,32 | 0,5–2,5 | | | | | | | ◐ | | | | | | | | | ◐ | | |
| | WCMT06T304-MP4 | 6,52 | 0,4 | 0,08–0,25 | 0,4–2,5 | | ◐ | | | | | | | | | | | | | | | | |
| | WCMT06T308-MP4 | 6,52 | 0,8 | 0,12–0,32 | 0,5–2,5 | | ◐ | | | | | | | | | | | | | | | | |
| | WCMT06T304-MK4 | 6,52 | 0,4 | 0,08–0,25 | 0,4–2,5 | | | | | | | | | | | | ◐ | | | | | | |
| | WCMT06T308-MK4 | 6,52 | 0,8 | 0,12–0,32 | 0,5–2,5 | | | | | | | | | | | | ◐ | | | | | | |
| | WCMT030202-RM4 | 3,91 | 0,2 | 0,08–0,12 | 0,2–1,5 | | | | | | | ◐ | | | | | | | | | ◐ | | |
| | WCMT040202-RM4 | 4,34 | 0,2 | 0,08–0,12 | 0,4–2,0 | | | | | | | ◐ | ◒ | | | | | | | | ◐ | ◒ | |
| | WCMT040204-RM4 | 4,34 | 0,4 | 0,12–0,25 | 0,4–2,5 | | | | | | | ◐ | ◒ | | | | | | | | ◐ | ◒ | |
| | WCMT06T304-RM4 | 6,52 | 0,4 | 0,12–0,25 | 0,4–3,0 | | | | | | | ◐ | ◒ | | | | | | | | ◐ | ◒ | |
| | WCMT06T308-RM4 | 6,52 | 0,8 | 0,16–0,35 | 0,6–3,0 | | | | | | | ◐ | ◒ | | | | | | | | ◐ | ◒ | |
| | WCMT080408-RM4 | 8,69 | 0,8 | 0,16–0,40 | 0,6–4,0 | | | | | | | ◐ | ◒ | | | | | | | | ◐ | ◒ | |
| | WCMT080412-RM4 | 8,69 | 1,2 | 0,20–0,45 | 0,8–4,0 | | | | | | | ◐ | ◒ | | | | | | | | ◐ | ◒ | |
| | WCMT030202-RP4 | 3,91 | 0,2 | 0,08–0,12 | 0,2–1,5 | ● | ◐ | ◒ | | | | | | | | | | | | | | | |
| | WCMT040204-RP4 | 4,34 | 0,4 | 0,12–0,25 | 0,4–2,5 | ● | ◐ | ◒ | | | | | | | | | | | | | | | |
| | WCMT06T304-RP4 | 6,52 | 0,4 | 0,12–0,25 | 0,4–3,0 | ● | ◐ | ◒ | | | | | | | | | | | | | | | |
| | WCMT06T308-RP4 | 6,52 | 0,8 | 0,16–0,35 | 0,6–3,0 | ● | ◐ | ◒ | | | | | | | | | | | | | | | |
| | WCMT080404-RP4 | 8,69 | 0,4 | 0,12–0,25 | 0,4–3,0 | ● | ◐ | ◒ | | | | | | | | | | | | | | | |
| | WCMT080408-RP4 | 8,69 | 0,8 | 0,16–0,40 | 0,6–4,0 | ● | ◐ | ◒ | | | | | | | | | | | | | | | |
| | WCMT080412-RP4 | 8,69 | 1,2 | 0,20–0,45 | 0,8–4,0 | ● | ◐ | ◒ | | | | | | | | | | | | | | | |
| | WCMT030202-RK4 | 3,91 | 0,2 | 0,08–0,12 | 0,2–1,5 | | | | | | | | | | | | ◐ | | | | | | |
| | WCMT040204-RK4 | 4,34 | 0,4 | 0,12–0,25 | 0,4–2,5 | | | | | | | | | | | | ◐ | | | | | | |
| | WCMT06T304-RK4 | 6,52 | 0,4 | 0,12–0,25 | 0,4–3,0 | | | | | | | | | | | ● | ◐ | | | | | | |
| | WCMT06T308-RK4 | 6,52 | 0,8 | 0,16–0,35 | 0,6–3,0 | | | | | | | | | | | ● | ◐ | | | | | | |
| | WCMT080404-RK4 | 8,69 | 0,4 | 0,12–0,25 | 0,4–3,0 | | | | | | | | | | | | ◐ | | | | | | |
| | WCMT080408-RK4 | 8,69 | 0,8 | 0,16–0,40 | 0,6–4,0 | | | | | | | | | | | | ◐ | | | | | | |
| | WCMT080412-RK4 | 8,69 | 1,2 | 0,20–0,45 | 0,8–4,0 | | | | | | | | | | | | ◐ | | | | | | |

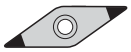
See the ISO 1832 designation key for dimensions

HC = Coated carbide
HW = Uncoated carbide

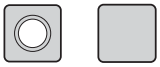
A 238 | A 244 | A 256 | A 80 | A 190

# Product range overview of indexable inserts and cutting tool materials: ISO turning – CBN/PCD/ceramic

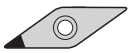
## CBN indexable inserts

| Insert shape | | Description | Page |
|---|---|---|---|
| | C | Negative basic shape | A 64 |
| | | Positive basic shape 7°/11° | A 66 |
| | D | Negative basic shape | A 64 |
| | | Positive basic shape 7° | A 67 |
| | S | Negative basic shape | A 65 |
| | T | Negative basic shape | A 65 |
| | | Positive basic shape 7° | A 67 |
|  | V | Positive basic shape 5° | A 68 |
| | W | Positive basic shape 7° | A 68 |

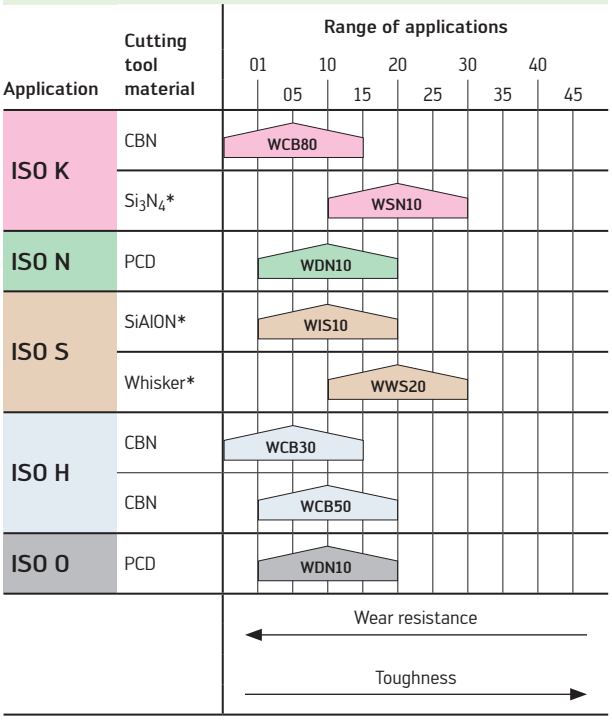
## Ceramic indexable inserts

| Insert shape | | Description | Page |
|---|---|---|---|
| | C | Negative basic shape | A 73 |
| | D | Negative basic shape | A 73 |
| | R | Negative basic shape | A 74 |
| | | Positive basic shape 7°/11° | A 76 |
|  | S | Negative basic shape | A 74 |
| | T | Negative basic shape | A 75 |

## PCD indexable inserts

| Insert shape | | Description | Page |
|---|---|---|---|
| | C | Positive basic shape 7° | A 69 |
| | D | Positive basic shape 7° | A 70 |
| | S | Positive basic shape 7° | A 71 |
| | T | Positive basic shape 7° | A 71 |
|  | V | Positive basic shape 7° | A 72 |

## Cutting tool materials: CBN, PCD, ceramic




* Ceramic

# Designation key for CBN/PCD/ceramic cutting tool materials – Turning

**Example:**

| W | D | N | 10 |
|---|---|---|---|
| Walter | 1 | 2 | 3 |

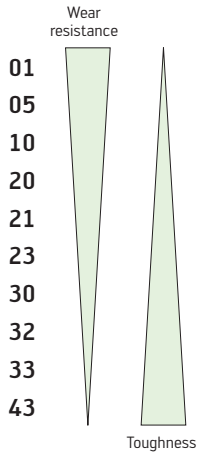
**1 – Cutting tool material**

| | |
|---|---|
| D | Diamond |
| I | SiAlON ceramic |
| W | Whisker-reinforced ceramic |
| CB* | CBN |
| SN* | $Si_3N_4$ ceramic |

**2 – Primary application**

| | |
|---|---|
| P | Steel |
| M | Stainless steel |
| K | Cast iron |
| N | NF metals |
| S | Materials with difficult cutting properties |
| H | Hard materials |

**3 – ISO range of applications**




Cutting tool materials for:

| | |
|---|---|
| 0 | ISO turning |
| 1 | ISO turning |
| 5 | ISO turning |
| 2 | Thread turning |
| 3 | Grooving |

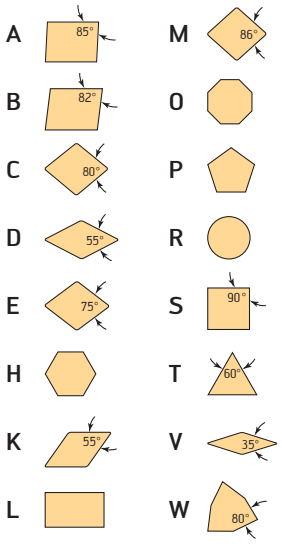
* Old designation key

# Designation key in accordance with ISO 1832 for indexable inserts for turning

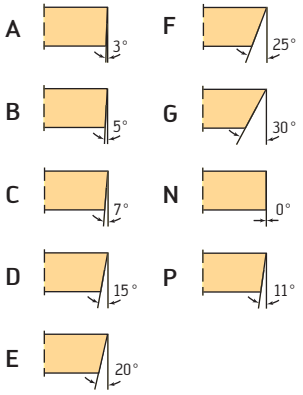
**Example: Ceramic indexable inserts**

| R | N | G | N | 12 | 07 | 00 | T | 010 | 20 |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 11 | 12 |

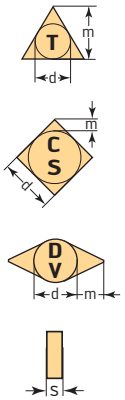
## 1 Insert shape




## 2 Clearance angle




## 3 Tolerances

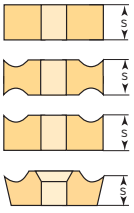



**Permissible deviation in mm for**

| | d | m | s |
|---|---|---|---|
| A | ± 0,025 | ± 0,005 | ± 0,025 |
| C | ± 0,025 | ± 0,013 | ± 0,025 |
| E | ± 0,025 | ± 0,025 | ± 0,025 |
| F | ± 0,013 | ± 0,005 | ± 0,025 |
| G | ± 0,025 | ± 0,025 | ± 0,130 |
| H | ± 0,013 | ± 0,013 | ± 0,025 |
| J[1] | ± 0,05–0,15[2] | ± 0,005 | ± 0,025 |
| K[1] | ± 0,05–0,15[2] | ± 0,013 | ± 0,025 |
| L[1] | ± 0,05–0,15[2] | ± 0,025 | ± 0,025 |
| M | ± 0,05–0,15[2] | ± 0,08–0,20[2] | ± 0,130 |
| N | ± 0,05–0,15[2] | ± 0,08–0,20[2] | ± 0,025 |
| U | ± 0,08–0,25[2] | ± 0,13–0,38[2] | ± 0,130 |

[1] Inserts with ground planar cutting edges
[2] Depending on the insert size (see ISO standard 1832)

## 6 Insert thickness s [mm]




| | |
|---|---|
| 01 | s = 1,59 |
| T1 | s = 1,98 |
| 02 | s = 2,38 |
| T2 | s = 2,78 |
| 03 | s = 3,18 |
| T3 | s = 3,97 |
| 04 | s = 4,76 |
| 05 | s = 5,56 |
| 06 | s = 6,35 |
| 07 | s = 7,94 |
| 09 | s = 9,52 |

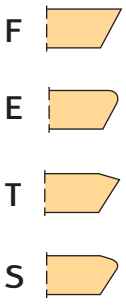
## 7 Corner radius r [mm]

| | |
|---|---|
| 01 | r = 0,1 |
| 02 | r = 0,2 |
| 04 | r = 0,4 |
| 08 | r = 0,8 |
| 12 | r = 1,2 |
| 16 | r = 1,6 |
| 24 | r = 2,4 |

R

| | |
|---|---|
| M0 | Metric version (diameter in [mm]) |
| 00 | Inch version (diameter with inch units in [mm]) |

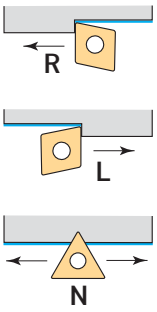
## 8 Edge formation




## 9 Cutting edge preparation

S Sharp

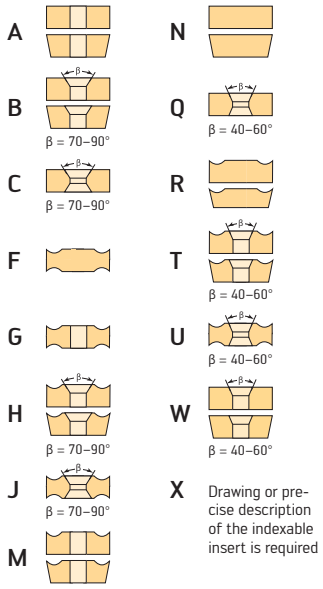
## 10 Cutting direction



## Example: PCD indexable insert

| C | C | G | W | 09 | T3 | 04 | F | S | L | – | ... | ... | 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | 13 | 14 | 15 |

### 4 Machining and fastening features




### 5 Cutting edge length l [mm]

| Inner circle diameter d | | C | | D | | R | S | | T | | V | | W | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| mm | Inches | Size | l | Size | l | Size | Size | l | Size | l | Size | l | Size | l |
| 3,97 | 5/32 | | | | | | | | **06** | 6,9 | | | | |
| 5 | 0,197 | | | | | **05** | | | | | | | **03** | 3,8 |
| 5,56 | 7/32 | | | | | | | | **09** | 9 | | | | |
| 6 | 0,236 | | | | | **06** | | | | | | | | |
| 6,35 | 2/8 | **06** | 6,4 | **07** | 7,7 | **06**[1] | | | **11** | 11 | **11** | 11 | **04** | 4,3 |
| 8 | 0,315 | | | | | **08** | | | | | | | **05** | 5,2 |
| 9,525 | 3/8 | **09** | 9,6 | **11** | 11,6 | **09**[1] | **09** | 9,5 | **16** | 16,5 | **16** | 16,5 | **06** | 6,5 |
| 10 | 0,394 | | | | | **10** | | | | | | | | |
| 12 | 0,472 | | | | | **12** | | | | | | | | |
| 12,7 | 4/8 | **12** | 12,9 | **15** | 15,5 | **12**[1] | **12** | 12,7 | **22** | 22 | | | **08** | 8,7 |
| 15,875 | 5/8 | **16** | 16,1 | | | | **15** | 15,8 | **27** | 27 | | | **10** | 10,8 |
| 16 | 0,63 | | | | | **16** | | | | | | | | |
| 17,46 | 11/16 | | | | | | | | | | | | **12** | 11,6 |
| 19,05 | 6/8 | **19** | 19,3 | | | **19**[1] | **19** | 19,0 | | | | | | |
| 20 | 0,787 | | | | | **20** | | | | | | | | |
| 25 | 0,984 | | | | | **25** | | | | | | | | |
| 25,4 | 8/8 | **25** | 25,8 | | | **25**[1] | **25** | 25,4 | | | | | | |
| 32 | 1,26 | | | | | **32** | | | | | | | | |

[1] Inch version (00)

### 11 Chamfer width

**010** = 0,10 mm
**020** = 0,20 mm
**025** = 0,25 mm
**070** = 0,70 mm
**150** = 1,50 mm
**200** = 2,00 mm

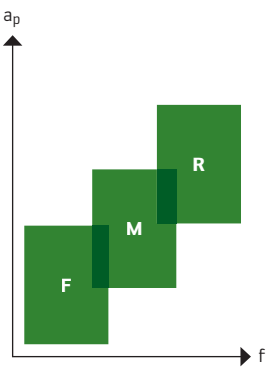
### 12 Chamfer angle

**15** = 15°
**20** = 20°

### 13 Wiper cutting edge

W **Wiper**

### 14 Chip breaking area

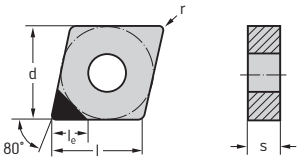



**F** Finishing operation
**M** Medium machining
**R** Roughing operation

### 15 Number of cutting edges/ version

**1** single
**2** double
**3** triple
**4** quadruple
⋮
**9** strip
**0** full-face
solid

# CBN – Negative rhombic 80°
# CNMA



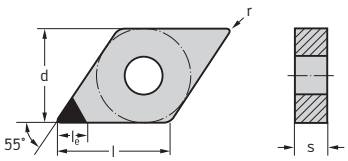

## Indexable inserts

| | Designation | Number of cutting edges | $l_e$ mm | r mm | f mm | $a_p$ mm | K BH WCB80 | K CN WSN10 | N DP WDN10 | S CN WIS10 | S CR WWS20 | H BL WCB30 | H BH WCB50 | O DP WDN10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CNMA120408 | 1 | 2,3 | 0,8 | 0,05–0,25 | 0,1–0,5 | | | | | | ☻ | ☻ | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | CNMA120404-2 | 2 | 2,4 | 0,4 | 0,05–0,20 | 0,1–0,3 | | | | | | ☻ | ☻ | |
| | CNMA120408-2 | 2 | 2,3 | 0,8 | 0,05–0,25 | 0,1–0,5 | | | | | | ☻ | ☻ | |
| | CNMA120412-2 | 2 | 2,2 | 1,2 | 0,05–0,30 | 0,1–0,5 | | | | | | ☻ | ☻ | |

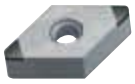
See the ISO 1832 designation key for dimensions

BH = CBN with high CBN content
CN = Silicon nitride $Si_3N_4$
DP = Polycrystalline diamond
CR = Reinforced ceramic
BL = CBN with low CBN content

# CBN – Negative rhombic 55°
# DNMA




## Indexable inserts

| | Designation | Number of cutting edges | $l_e$ mm | r mm | f mm | $a_p$ mm | K BH WCB80 | K CN WSN10 | N DP WDN10 | S CN WIS10 | S CR WWS20 | H BL WCB30 | H BH WCB50 | O DP WDN10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | DNMA150604-2 | 2 | 2,5 | 0,4 | 0,05–0,20 | 0,1–0,3 | | | | | | ☻ | ☻ | |
| | DNMA150608-2 | 2 | 2 | 0,8 | 0,05–0,25 | 0,1–0,5 | | | | | | ☻ | ☻ | |
| | DNMA150612-2 | 2 | 2 | 1,2 | 0,05–0,30 | 0,1–0,5 | | | | | | ☻ | ☻ | |

See the ISO 1832 designation key for dimensions

BH = CBN with high CBN content
CN = Silicon nitride $Si_3N_4$
DP = Polycrystalline diamond
CR = Reinforced ceramic
BL = CBN with low CBN content

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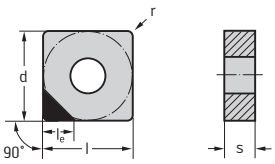
# CBN – Negative square
# SNMA



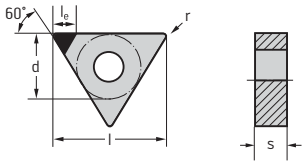

## Indexable inserts

| | Designation | Number of cutting edges | $l_e$ mm | r mm | f mm | $a_p$ mm | K BH WCB80 | K CN WSN10 | N DP WDN10 | S CN WIS10 | S CR WWS20 | H BL WCB30 | H BH WCB50 | O DP WDN10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SNMA120412 | 1 | 2,2 | 1,2 | 0,05–0,30 | 0,1–0,5 | | | | | | | ☹ | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

See the ISO 1832 designation key for dimensions

BH = CBN with high CBN content
CN = Silicon nitride $Si_3N_4$
DP = Polycrystalline diamond
CR = Reinforced ceramic
BL = CBN with low CBN content

# CBN – Negative triangular 60°
# TNMA




## Indexable inserts

| | Designation | Number of cutting edges | $l_e$ mm | r mm | f mm | $a_p$ mm | K BH WCB80 | K CN WSN10 | N DP WDN10 | S CN WIS10 | S CR WWS20 | H BL WCB30 | H BH WCB50 | O DP WDN10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TNMA160404-3 | 3 | 2,2 | 0,4 | 0,05–0,20 | 0,1–0,3 | | | | | | ☺ | ☹ | |
| | TNMA160408-3 | 3 | 2 | 0,8 | 0,05–0,25 | 0,1–0,5 | | | | | | ☺ | ☹ | |
| | | | | | | | | | | | | | | |
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See the ISO 1832 designation key for dimensions

BH = CBN with high CBN content
CN = Silicon nitride $Si_3N_4$
DP = Polycrystalline diamond
CR = Reinforced ceramic
BL = CBN with low CBN content

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Average
Poor
machining conditions

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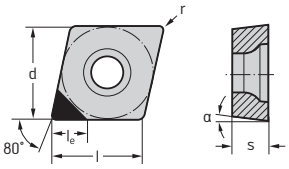
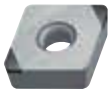
# CBN – Positive rhombic 80°
# CCMW



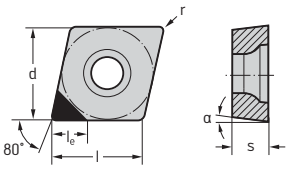

## Indexable inserts

| | Designation | Number of cutting edges | $l_e$ mm | r mm | α | f mm | $a_p$ mm | K BH WCB80 | K CN WSN10 | N DP WDN10 | S CN WIS10 | S CR WWS20 | H BL WCB30 | H BH WCB50 | O DP WDN10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CCMW060204 | 1 | 2,5 | 0,4 | 7° | 0,05–0,20 | 0,1–0,3 | | | | | | ☻ | ☻ | |
| | CCMW060208 | 1 | 2,4 | 0,8 | 7° | 0,05–0,25 | 0,1–0,5 | | | | | | ☻ | ☻ | |
| | CCMW09T308 | 1 | 2,3 | 0,8 | 7° | 0,05–0,25 | 0,1–0,5 | | | | | | | ☻ | |
| | | | | | | | | | | | | | | | |
|  | CCMW060204-2 | 2 | 2,5 | 0,4 | 7° | 0,05–0,20 | 0,1–0,3 | | | | | | ☻ | ☻ | |
| | CCMW060208-2 | 2 | 2,4 | 0,8 | 7° | 0,05–0,25 | 0,1–0,5 | | | | | | ☻ | ☻ | |
| | CCMW09T304-2 | 2 | 2,4 | 0,4 | 7° | 0,05–0,20 | 0,1–0,3 | | | | | | ☻ | ☻ | |
| | CCMW09T308-2 | 2 | 2,3 | 0,8 | 7° | 0,05–0,25 | 0,1–0,5 | | | | | | ☻ | ☻ | |

See the ISO 1832 designation key for dimensions

BH = CBN with high CBN content
CN = Silicon nitride $Si_3N_4$
DP = Polycrystalline diamond
CR = Reinforced ceramic
BL = CBN with low CBN content

# CBN – Positive rhombic 80°
# CPGW




## Indexable inserts

| | Designation | Number of cutting edges | $l_e$ mm | r mm | α | f mm | $a_p$ mm | K BH WCB80 | K CN WSN10 | N DP WDN10 | S CN WIS10 | S CR WWS20 | H BL WCB30 | H BH WCB50 | O DP WDN10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CPGW050202 | 1 | 2,4 | 0,2 | 11° | 0,05–0,15 | 0,1–0,3 | | | | | | | ☻ | |
| | CPGW050204 | 1 | 2,4 | 0,4 | 11° | 0,05–0,20 | 0,1–0,3 | | | | | | | ☻ | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

See the ISO 1832 designation key for dimensions

BH = CBN with high CBN content
CN = Silicon nitride $Si_3N_4$
DP = Polycrystalline diamond
CR = Reinforced ceramic
BL = CBN with low CBN content

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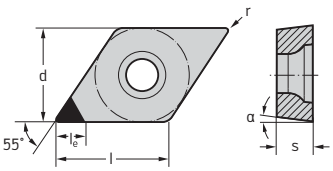
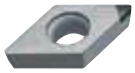
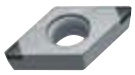
# CBN – Positive rhombic 55°
# DCMW




## Indexable inserts

| | Designation | Number of cutting edges | $l_e$ mm | r mm | α | f mm | $a_p$ mm | K BH WCB80 | K CN WSN10 | N DP WDN10 | S CN WIS10 | S CR WWS20 | H BL WCB30 | H BH WCB50 | O DP WDN10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | DCMW11T302 | 1 | 2,6 | 0,2 | 7° | 0,05–0,15 | 0,1–0,3 | | | | | | ☺ | 😐 | |
| | DCMW11T304 | 1 | 2,4 | 0,4 | 7° | 0,05–0,20 | 0,1–0,3 | | | | | | ☺ | 😐 | |
|  | DCMW11T304-2 | 2 | 2,4 | 0,4 | 7° | 0,05–0,20 | 0,1–0,3 | | | | | | ☺ | 😐 | |
| | DCMW11T308-2 | 2 | 2,1 | 0,8 | 7° | 0,05–0,25 | 0,1–0,5 | | | | | | ☺ | 😐 | |

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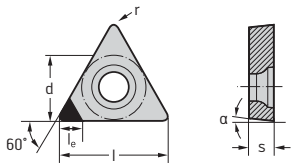
BH = CBN with high CBN content
CN = Silicon nitride $Si_3N_4$
DP = Polycrystalline diamond
CR = Reinforced ceramic
BL = CBN with low CBN content

# CBN – Positive triangular 60°
# TCMW




## Indexable inserts

| | Designation | Number of cutting edges | $l_e$ mm | r mm | α | f mm | $a_p$ mm | K BH WCB80 | K CN WSN10 | N DP WDN10 | S CN WIS10 | S CR WWS20 | H BL WCB30 | H BH WCB50 | O DP WDN10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TCMW110204 | 1 | 2,4 | 0,4 | 7° | 0,05–0,20 | 0,1–0,3 | | | | | | ☺ | 😐 | |
| | TCMW110208 | 1 | 2,2 | 0,8 | 7° | 0,05–0,25 | 0,1–0,5 | | | | | | ☺ | 😐 | |

See the ISO 1832 designation key for dimensions

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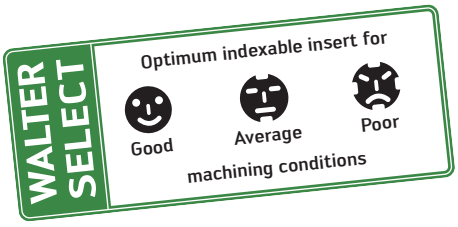
DP = Polycrystalline diamond
CR = Reinforced ceramic
BL = CBN with low CBN content

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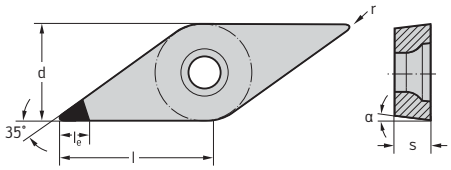
# CBN – Positive rhombic 35°
# VBMW




## Indexable inserts

| | Designation | Number of cutting edges | $l_e$ mm | r mm | α | f mm | $a_p$ mm | K BH WCB80 | K CN WSN10 | N DP WDN10 | S CN WIS10 | S CR WWS20 | H BL WCB30 | H BH WCB50 | O DP WDN10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | VBMW160402 | 1 | 3,8 | 0,2 | 5° | 0,05–0,15 | 0,1–0,3 | | | | | | ☻ | ☻ | |
| | VBMW160404 | 1 | 3,3 | 0,4 | 5° | 0,05–0,20 | 0,1–0,3 | | | | | | ☻ | ☻ | |
| | VBMW160408 | 1 | 2,5 | 0,8 | 5° | 0,05–0,25 | 0,1–0,5 | | | | | | ☻ | ☻ | |
| | VBMW160404-2 | 2 | 3,3 | 0,4 | 5° | 0,05–0,20 | 0,1–0,3 | | | | | | ☻ | ☻ | |
| | VBMW160408-2 | 2 | 2,5 | 0,8 | 5° | 0,05–0,25 | 0,1–0,5 | | | | | | ☻ | ☻ | |

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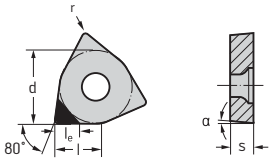
# CBN – Positive Trigon 80°
# WCMW




## Indexable inserts

| | Designation | Number of cutting edges | $l_e$ mm | r mm | α | f mm | $a_p$ mm | K BH WCB80 | K CN WSN10 | N DP WDN10 | S CN WIS10 | S CR WWS20 | H BL WCB30 | H BH WCB50 | O DP WDN10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | WCMW020102 | 1 | 1,4 | 0,2 | 7° | 0,05–0,15 | 0,1–1,1 | ☻ | | | | | | ☻ | |
| | WCMW020104 | 1 | 1,4 | 0,4 | 7° | 0,05–0,20 | 0,1–1,1 | ☻ | | | | | | ☻ | |
| | WCMW030204 | 1 | 2,4 | 0,4 | 7° | 0,05–0,20 | 0,1–2,1 | ☻ | | | | | | ☻ | |
| | WCMW030202 | 1 | 2,4 | 0,2 | 7° | 0,05–0,15 | 0,1–2,1 | ☻ | | | | | | ☻ | |
| | WCMW040204 | 1 | 2,4 | 0,4 | 7° | 0,05–0,20 | 0,1–2,1 | ☻ | | | | | | ☻ | |
| | WCMW040202 | 1 | 2,4 | 0,2 | 7° | 0,05–0,15 | 0,1–2,1 | ☻ | | | | | | ☻ | |
| | WCMW050304 | 1 | 2,4 | 0,4 | 7° | 0,05–0,20 | 0,1–2,1 | ☻ | | | | | | ☻ | |

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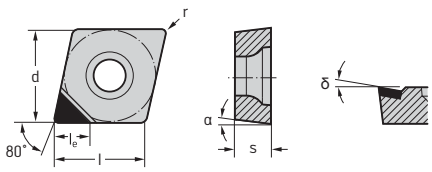
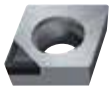
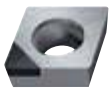
# PCD – Positive rhombic 80°
# CCGT / CCGW




## Indexable inserts

| | Designation | Number of cutting edges | $l_e$ mm | r mm | α | δ | f mm | $a_p$ mm | K BH WCB80 | K CN WSN10 | N DP WDN10 | S CN WIS10 | S CR WWS20 | H BL WCB30 | H BH WCB50 | O DP WDN10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | CCGT060204FS-M1 | 1 | 3,5 | 0,4 | 7° | | 0,08–0,20 | 0,1–2,0 | | | ☺ | | | | | ☺ |
| | CCGT09T304FS-M1 | 1 | 4 | 0,4 | 7° | | 0,08–0,20 | 0,1–2,0 | | | ☺ | | | | | ☺ |
| | CCGT060202FS-1 | 1 | 3,5 | 0,2 | 7° | 7° | 0,03–0,12 | 0,1–3,0 | | | ☺ | | | | | ☺ |
| | CCGT060204FS-1 | 1 | 3,5 | 0,4 | 7° | 7° | 0,03–0,25 | 0,1–3,0 | | | ☺ | | | | | ☺ |
| | CCGT060208FS-1 | 1 | 3,5 | 0,8 | 7° | 7° | 0,03–0,38 | 0,1–3,0 | | | ☺ | | | | | ☺ |
| | CCGT09T304FS-1 | 1 | 4 | 0,4 | 7° | 10° | 0,03–0,25 | 0,1–3,5 | | | ☺ | | | | | ☺ |
| | CCGT09T308FS-1 | 1 | 4 | 0,8 | 7° | 10° | 0,03–0,38 | 0,1–3,5 | | | ☺ | | | | | ☺ |
|  | CCGW060202FS-1 | 1 | 3,6 | 0,2 | 7° | 0° | 0,03–0,12 | 0,1–3,0 | | | ☺ | | | | | ☺ |
| | CCGW060204FS-1 | 1 | 3,5 | 0,4 | 7° | 0° | 0,03–0,25 | 0,1–3,0 | | | ☺ | | | | | ☺ |
| | CCGW060208FS-1 | 1 | 3,5 | 0,8 | 7° | 0° | 0,03–0,38 | 0,1–3,0 | | | ☺ | | | | | ☺ |
| | CCGW09T302FS-1 | 1 | 4,1 | 0,2 | 7° | 0° | 0,03–0,12 | 0,1–3,5 | | | ☺ | | | | | ☺ |
| | CCGW09T304FS-1 | 1 | 4,1 | 0,4 | 7° | 0° | 0,03–0,25 | 0,1–3,5 | | | ☺ | | | | | ☺ |
| | CCGW09T308FS-1 | 1 | 4 | 0,8 | 7° | 0° | 0,03–0,38 | 0,1–3,5 | | | ☺ | | | | | ☺ |
| | CCGW120404FS-1 | 1 | 4,1 | 0,4 | 7° | 0° | 0,03–0,25 | 0,1–3,5 | | | ☺ | | | | | ☺ |
| | CCGW120408FS-1 | 1 | 4 | 0,8 | 7° | 0° | 0,03–0,38 | 0,1–3,5 | | | ☺ | | | | | ☺ |
| | CCGW060204FSL-9 | 1 | 6,4 | 0,4 | 7° | 0° | 0,03–0,25 | 0,1–6,4 | | | ☺ | | | | | ☺ |
| | CCGW09T304FSL-9 | 1 | 9,7 | 0,4 | 7° | 0° | 0,03–0,25 | 0,1–9,7 | | | ☺ | | | | | ☺ |
| | CCGW09T308FSL-9 | 1 | 9,7 | 0,8 | 7° | 0° | 0,03–0,38 | 0,1–9,7 | | | ☺ | | | | | ☺ |
| | CCGW060204FSR-9 | 1 | 6,4 | 0,4 | 7° | 0° | 0,03–0,25 | 0,1–6,4 | | | ☺ | | | | | ☺ |
| | CCGW09T304FSR-9 | 1 | 9,7 | 0,4 | 7° | 0° | 0,03–0,25 | 0,1–9,7 | | | ☺ | | | | | ☺ |
| | CCGW09T308FSR-9 | 1 | 9,7 | 0,8 | 7° | 0° | 0,03–0,38 | 0,1–9,7 | | | ☺ | | | | | ☺ |

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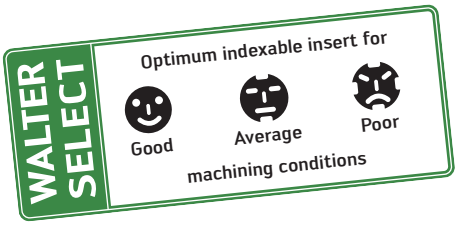
DP = Polycrystalline diamond
CR = Reinforced ceramic
BL = CBN with low CBN content

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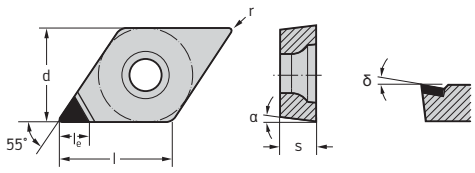
# PCD – Positive rhombic 55°
# DCGT / DCGW




## Indexable inserts

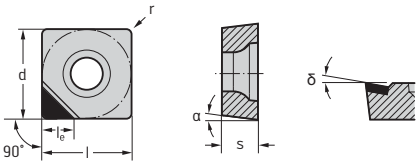
| | Designation | Number of cutting edges | $l_e$ mm | r mm | α | δ | f mm | $a_p$ mm | K BH WCB80 | K CN WSN10 | N DP WDN10 | S CN WIS10 | S CR WWS20 | H BL WCB30 | H BH WCB50 | O DP WDN10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DCGT070204FS-M1 | 1 | 3,5 | 0,4 | 7° | | 0,08–0,20 | 0,1–2,0 | | | ☺ | | | | | ☺ |
| | DCGT11T304FS-M1 | 1 | 4 | 0,4 | 7° | | 0,08–0,20 | 0,1–2,0 | | | ☺ | | | | | ☺ |
| | DCGT070202FS-1 | 1 | 3,7 | 0,2 | 7° | 7° | 0,03–0,12 | 0,1–3,0 | | | ☺ | | | | | ☺ |
| | DCGT070204FS-1 | 1 | 3,5 | 0,4 | 7° | 7° | 0,03–0,25 | 0,1–3,0 | | | ☺ | | | | | ☺ |
| | DCGT070208FS-1 | 1 | 3,5 | 0,8 | 7° | 7° | 0,03–0,38 | 0,1–3,0 | | | ☺ | | | | | ☺ |
| | DCGT11T302FS-1 | 1 | 4,2 | 0,2 | 7° | 10° | 0,03–0,12 | 0,1–3,5 | | | ☺ | | | | | ☺ |
| | DCGT11T304FS-1 | 1 | 4 | 0,4 | 7° | 10° | 0,03–0,25 | 0,1–3,0 | | | ☺ | | | | | ☺ |
| | DCGT11T308FS-1 | 1 | 4 | 0,8 | 7° | 10° | 0,03–0,38 | 0,1–3,5 | | | ☺ | | | | | ☺ |
| | DCGW070202FS-1 | 1 | 3,7 | 0,2 | 7° | 0° | 0,03–0,12 | 0,1–3,0 | | | ☺ | | | | | ☺ |
| | DCGW070204FS-1 | 1 | 3,5 | 0,4 | 7° | 0° | 0,03–0,25 | 0,1–3,0 | | | ☺ | | | | | ☺ |
| | DCGW070208FS-1 | 1 | 3,5 | 0,8 | 7° | 0° | 0,03–0,38 | 0,1–3,0 | | | ☺ | | | | | ☺ |
| | DCGW11T302FS-1 | 1 | 4,2 | 0,2 | 7° | 0° | 0,03–0,12 | 0,1–3,5 | | | ☺ | | | | | ☺ |
| | DCGW11T304FS-1 | 1 | 4 | 0,4 | 7° | 0° | 0,03–0,25 | 0,1–3,5 | | | ☺ | | | | | ☺ |
| | DCGW11T308FS-1 | 1 | 4 | 0,8 | 7° | 0° | 0,03–0,38 | 0,1–3,5 | | | ☺ | | | | | ☺ |

See the ISO 1832 designation key for dimensions

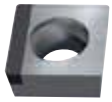
BH = CBN with high CBN content
CN = Silicon nitride $Si_3N_4$
DP = Polycrystalline diamond
CR = Reinforced ceramic
BL = CBN with low CBN content

A 242 A 246 A 256 A 80 A 190

# PCD – Positive square
# SCGW



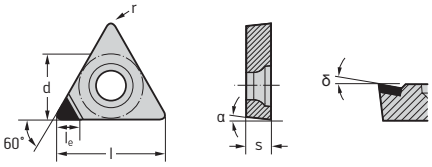

## Indexable inserts

| | Designation | Number of cutting edges | $l_e$ mm | r mm | α | δ | f mm | $a_p$ mm | K BH WCB80 | K CN WSN10 | N DP WDN10 | S CN WIS10 | S CR WWS20 | H BL WCB30 | H BH WCB50 | O DP WDN10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | SCGW09T304FS-9 | 1 | 9,5 | 0,4 | 7° | 0° | 0,03–0,25 | 0,1–9,5 | | | ☺ | | | | | ☺ |

See the ISO 1832 designation key for dimensions

BH = CBN with high CBN content
CN = Silicon nitride $Si_3N_4$
DP = Polycrystalline diamond
CR = Reinforced ceramic
BL = CBN with low CBN content

# PCD – Positive triangular 60°
# TCGW

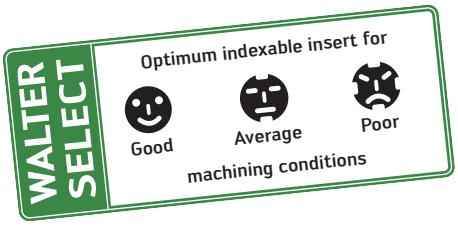



## Indexable inserts

| | Designation | Number of cutting edges | $l_e$ mm | r mm | α | δ | f mm | $a_p$ mm | K BH WCB80 | K CN WSN10 | N DP WDN10 | S CN WIS10 | S CR WWS20 | H BL WCB30 | H BH WCB50 | O DP WDN10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TCGW090202FS-1 | 1 | 3,9 | 0,2 | 7° | 0° | 0,03–0,12 | 0,1–3,0 | | | ☺ | | | | | ☺ |
| | TCGW090204FS-1 | 1 | 3,8 | 0,4 | 7° | 0° | 0,03–0,25 | 0,1–3,0 | | | ☺ | | | | | ☺ |
| | TCGW110202FS-1 | 1 | 4,4 | 0,2 | 7° | 0° | 0,03–0,12 | 0,1–3,0 | | | ☺ | | | | | ☺ |
| | TCGW110204FS-1 | 1 | 4,3 | 0,4 | 7° | 0° | 0,03–0,25 | 0,1–3,0 | | | ☺ | | | | | ☺ |
| | TCGW110208FS-1 | 1 | 4 | 0,8 | 7° | 0° | 0,03–0,38 | 0,1–3,0 | | | ☺ | | | | | ☺ |
| | TCGW16T304FS-1 | 1 | 4,3 | 0,4 | 7° | 0° | 0,03–0,25 | 0,1–3,5 | | | ☺ | | | | | ☺ |
| | TCGW16T308FS-1 | 1 | 4 | 0,8 | 7° | 0° | 0,03–0,38 | 0,1–3,5 | | | ☺ | | | | | ☺ |
| | TCGW090204FS-9 | 1 | 9 | 0,4 | 7° | 0° | 0,03–0,25 | 0,1–9,0 | | | ☺ | | | | | ☺ |
| | TCGW110204FS-9 | 1 | 10,4 | 0,4 | 7° | 0° | 0,03–0,25 | 0,1–10,4 | | | ☺ | | | | | ☺ |
| | TCGW16T308FS-9 | 1 | 15,3 | 0,8 | 7° | 0° | 0,03–0,38 | 0,1–15,3 | | | ☺ | | | | | ☺ |

See the ISO 1832 designation key for dimensions

BH = CBN with high CBN content
CN = Silicon nitride $Si_3N_4$
DP = Polycrystalline diamond
CR = Reinforced ceramic
BL = CBN with low CBN content

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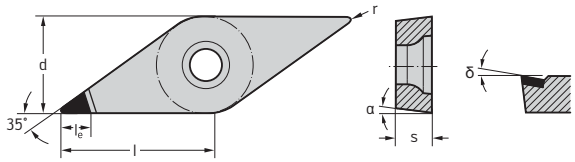
# PCD – Positive rhombic 35°
# VCGT / VCGW




## Indexable inserts

| | Designation | Number of cutting edges | $l_e$ mm | r mm | α | δ | f mm | $a_p$ mm | K BH WCB80 | K CN WSN10 | N DP WDN10 | S CN WIS10 | S CR WWS20 | H BL WCB30 | H BH WCB50 | O DP WDN10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | VCGT110302FS-1 | 1 | 4,1 | 0,2 | 7° | 10° | 0,03–0,12 | 0,1–3,0 | | | ☺ | | | | | ☺ |
| | VCGT110304FS-1 | 1 | 3,7 | 0,4 | 7° | 10° | 0,03–0,25 | 0,1–3,0 | | | ☺ | | | | | ☺ |
| | VCGT160404FS-1 | 1 | 4,5 | 0,4 | 7° | 10° | 0,03–0,25 | 0,1–4,0 | | | ☺ | | | | | ☺ |
| | VCGT160408FS-1 | 1 | 4,5 | 0,8 | 7° | 10° | 0,03–0,38 | 0,1–4,0 | | | ☺ | | | | | ☺ |
| | VCGW110302FS-1 | 1 | 4,1 | 0,2 | 7° | 0° | 0,03–0,12 | 0,1–3,0 | | | ☺ | | | | | ☺ |
| | VCGW110304FS-1 | 1 | 3,7 | 0,4 | 7° | 0° | 0,03–0,25 | 0,1–3,0 | | | ☺ | | | | | ☺ |
| | VCGW110308FS-1 | 1 | 3,7 | 0,8 | 7° | 0° | 0,03–0,38 | 0,1–3,0 | | | ☺ | | | | | ☺ |
| | VCGW160404FS-1 | 1 | 4,5 | 0,4 | 7° | 0° | 0,03–0,25 | 0,1–4,0 | | | ☺ | | | | | ☺ |
| | VCGW160408FS-1 | 1 | 4,5 | 0,8 | 7° | 0° | 0,03–0,38 | 0,1–4,0 | | | ☺ | | | | | ☺ |

See the ISO 1832 designation key for dimensions

BH = CBN with high CBN content
CN = Silicon nitride $Si_3N_4$
DP = Polycrystalline diamond
CR = Reinforced ceramic
BL = CBN with low CBN content

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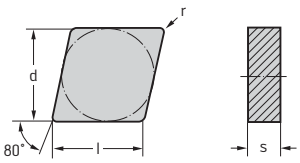
# Ceramic – Negative rhombic 80°
# CNGN / CNMA



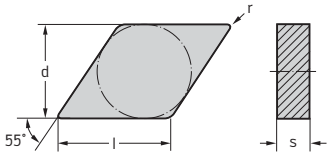

## Indexable inserts

| | Designation | r mm | f mm | $a_p$ mm | K BH WCB80 | K CN WSN10 | N DP WDN10 | S CN WIS10 | S CR WWS20 | H BL WCB30 | H BH WCB50 | O DP WDN10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CNGN120408T01020 | 0,8 | 0,10–0,22 | 0,1–3,6 | | | | | ☹ | | | |
| | CNGN120412T01020 | 1,2 | 0,10–0,32 | 0,1–3,6 | | | | | ☹ | | | |
| | CNGN120708T01020 | 0,8 | 0,10–0,22 | 0,1–3,6 | | | | ☺ | ☹ | | | |
| | CNGN120712T01020 | 1,2 | 0,10–0,32 | 0,1–3,6 | | | | ☺ | ☹ | | | |
| | CNGN120716T01020 | 1,6 | 0,10–0,42 | 0,1–3,6 | | | | ☺ | ☹ | | | |
| | CNMA120408T02020 | 0,8 | 0,10–0,36 | 0,1–6,0 | | ☺ | | | | | | |
| | CNMA120412T02020 | 1,2 | 0,10–0,54 | 0,1–6,0 | | ☺ | | | | | | |
| | CNMA120416T02020 | 1,6 | 0,10–0,60 | 0,1–6,0 | | ☺ | | | | | | |

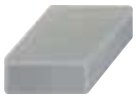
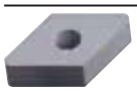
See the ISO 1832 designation key for dimensions

BH = CBN with high CBN content
CN = Silicon nitride $Si_3N_4$
DP = Polycrystalline diamond
CR = Reinforced ceramic
BL = CBN with low CBN content

# Ceramic – Negative rhombic 55°
# DNGN / DNMA

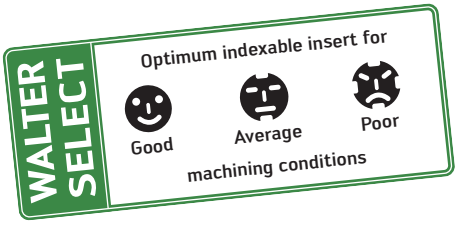



## Indexable inserts

| | Designation | r mm | f mm | $a_p$ mm | K BH WCB80 | K CN WSN10 | N DP WDN10 | S CN WIS10 | S CR WWS20 | H BL WCB30 | H BH WCB50 | O DP WDN10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | DNGN150708T01020 | 0,8 | 0,10–0,20 | 0,1–2,5 | | | | | ☹ | | | |
| | DNGN150712T01020 | 1,2 | 0,10–0,32 | 0,1–2,5 | | | | | ☹ | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
|  | DNMA150608T02020 | 0,8 | 0,10–0,36 | 0,1–7,5 | | ☺ | | | | | | |
| | DNMA150612T02020 | 1,2 | 0,10–0,54 | 0,1–7,5 | | ☺ | | | | | | |
| | | | | | | | | | | | | |

See the ISO 1832 designation key for dimensions

BH = CBN with high CBN content
CN = Silicon nitride $Si_3N_4$
DP = Polycrystalline diamond
CR = Reinforced ceramic
BL = CBN with low CBN content

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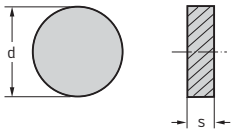
# Ceramic – Negative round
# RNGN



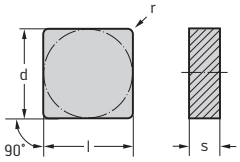

## Indexable inserts

| | Designation | d mm | f mm | $a_p$ mm | K BH WCB80 | K CN WSN10 | N DP WDN10 | S CN WIS10 | S CR WWS20 | H BL WCB30 | H BH WCB50 | O DP WDN10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | RNGN120700E | 12,7 | 0,10–0,32 | 0,1–3,6 | | | | ☻ | ☻ | | | |
| | RNGN250700E | 25,4 | 0,10–0,50 | 0,2–7,5 | | | | | ☻ | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | RNGN120700T01020 | 12,7 | 0,20–0,32 | 0,2–3,6 | | | | ☻ | ☻ | | | |
| | RNGN150700T01020 | 15,875 | 0,10–0,40 | 0,2–4,5 | | | | | ☻ | | | |
| | RNGN190700T01020 | 19,05 | 0,10–0,45 | 0,2–5,7 | | | | | ☻ | | | |
| | | | | | | | | | | | | |

See the ISO 1832 designation key for dimensions

BH = CBN with high CBN content
CN = Silicon nitride $Si_3N_4$
DP = Polycrystalline diamond
CR = Reinforced ceramic
BL = CBN with low CBN content

# Ceramic – Negative square
# SNGN / SNMA




## Indexable inserts

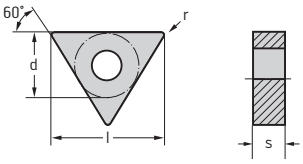
| | Designation | r mm | f mm | $a_p$ mm | K BH WCB80 | K CN WSN10 | N DP WDN10 | S CN WIS10 | S CR WWS20 | H BL WCB30 | H BH WCB50 | O DP WDN10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SNGN120712E | 1,2 | 0,10–0,32 | 0,1–3,6 | | | | ☻ | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | SNGN120708T01020 | 0,8 | 0,10–0,22 | 0,1–3,6 | | | | | ☻ | | | |
| | SNGN120712T01020 | 1,2 | 0,10–0,32 | 0,1–3,6 | | | | ☻ | ☻ | | | |
| | SNGN120716T01020 | 1,6 | 0,10–0,42 | 0,1–3,6 | | | | | ☻ | | | |
| | | | | | | | | | | | | |
| | SNMA120408T02020 | 0,8 | 0,10–0,36 | 0,1–6,0 | | ☻ | | | | | | |
| | SNMA120412T02020 | 1,2 | 0,10–0,54 | 0,1–6,0 | | ☻ | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

See the ISO 1832 designation key for dimensions

BH = CBN with high CBN content
CN = Silicon nitride $Si_3N_4$
DP = Polycrystalline diamond
CR = Reinforced ceramic
BL = CBN with low CBN content

A 242 A 246 Ra/Rz A 256 A 80 A 190

# Ceramic – Negative triangular 60°
# TNMA

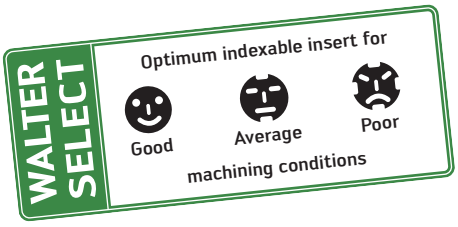



## Indexable inserts

| | Designation | r mm | f mm | $a_p$ mm | K BH WCB80 | K CN WSN10 | N DP WDN10 | S CN WIS10 | S CR WWS20 | H BL WCB30 | H BH WCB50 | O DP WDN10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TNMA160408T02020 | 0,8 | 0,05–0,36 | 0,1–8,0 | | ☻ | | | | | | |
| | TNMA160412T02020 | 1,2 | 0,10–0,54 | 0,1–8,0 | | ☻ | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

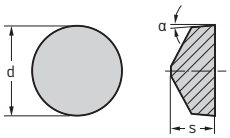
See the ISO 1832 designation key for dimensions

BH = CBN with high CBN content
CN = Silicon nitride $Si_3N_4$
DP = Polycrystalline diamond
CR = Reinforced ceramic
BL = CBN with low CBN content




A 242 A 246 A 256 A 80 A 190

# Ceramic – Positive round
# RCGX



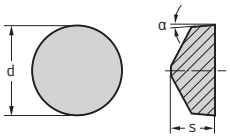

## Indexable inserts

| | Designation | d mm | α | f mm | $a_p$ mm | K BH WCB80 | K CN WSN10 | N DP WDN10 | S CN WIS10 | S CR WWS20 | H BL WCB30 | H BH WCB50 | O DP WDN10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | RCGX090700E | 9,53 | 7° | 0,10–0,25 | 0,1–2,4 | | | | ☻ | | | | |
| | RCGX120700E | 12,7 | 7° | 0,10–0,32 | 0,1–3,6 | | | | ☻ | ☻ | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | RCGX060600T01020 | 6,35 | 7° | 0,10–0,20 | 0,2–1,8 | | | | ☻ | ☻ | | | |
| | RCGX090700T01020 | 9,53 | 7° | 0,10–0,25 | 0,2–2,4 | | | | ☻ | ☻ | | | |
| | RCGX120700T01020 | 12,7 | 7° | 0,10–0,32 | 0,2–3,6 | | | | ☻ | ☻ | | | |
| | | | | | | | | | | | | | |

See the ISO 1832 designation key for dimensions

BH = CBN with high CBN content
CN = Silicon nitride $Si_3N_4$
DP = Polycrystalline diamond
CR = Reinforced ceramic
BL = CBN with low CBN content

# Ceramic – Positive round
# RPGX




## Indexable inserts

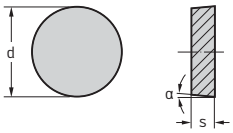
| | Designation | d mm | α | f mm | $a_p$ mm | K BH WCB80 | K CN WSN10 | N DP WDN10 | S CN WIS10 | S CR WWS20 | H BL WCB30 | H BH WCB50 | O DP WDN10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | RPGX090700E | 9,53 | 11° | 0,10–0,20 | 0,1–2,4 | | | | ☻ | | | | |
| | RPGX120700E | 12,7 | 11° | 0,10–0,30 | 0,1–3,6 | | | | ☻ | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | RPGX090700T01020 | 9,53 | 11° | 0,10–0,20 | 0,2–2,4 | | | | ☻ | | | | |
| | RPGX120700T01020 | 12,7 | 11° | 0,10–0,30 | 0,2–3,6 | | | | ☻ | ☻ | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

See the ISO 1832 designation key for dimensions

BH = CBN with high CBN content
CN = Silicon nitride $Si_3N_4$
DP = Polycrystalline diamond
CR = Reinforced ceramic
BL = CBN with low CBN content

A 242 A 246 A 256 A 80 A 190

# Ceramic – Positive round
# RPGN




## Indexable inserts

| | Designation | d mm | α | f mm | $a_p$ mm | K BH WCB80 | K CN WSN10 | N DP WDN10 | S CN WIS10 | S CR WWS20 | H BL WCB30 | H BH WCB50 | O DP WDN10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | RPGN090300T01020 | 9,53 | 11° | 0,10–0,25 | 0,2–2,4 | | | | ☺ | | | | |
| | RPGN120400T01020 | 12,7 | 11° | 0,10–0,32 | 0,2–3,6 | | | | ☺ | | | | |
| | | | | | | | | | | | | | |
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See the ISO 1832 designation key for dimension

BH = CBN with high CBN content
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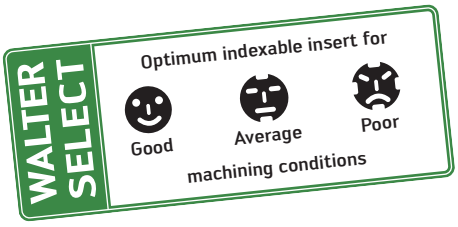


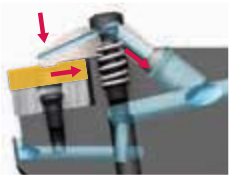

A 242 A 246 A 256 A 80 A 190

# Walter Turn/Walter Capto™ product description – External machining

## External turning toolholders for indexable inserts with a negative basic shape

**Walter Turn rigid clamping (D)**
- The number one choice for machining short-chipping materials such as cast iron
- Functionality is maintained even in "dirty environments", e.g. grey cast iron machining
- The number one choice for interrupted cuts thanks to stable insert clamping
- The indexable insert and shim can be replaced using the same wrench
- Reinforced clamps with carbide shoe available for longer clamp tool life

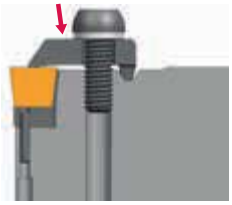
**Walter Turn rigid clamping with precision cooling (D. . . -P)**
- Coolant supplied directly through the clamp and along the flank face
- Optimum cooling increases tool life by 30-150%
- The number one choice for machining stainless materials (ISO M) and high-temperature alloys (ISO S)
- Universal coolant connection: Direct coolant transfer between shank tool and tool adaptor (A2120-P/A2121-P) or via coolant hose set with G1/8" thread (K601)
- Can be used from 10 bar up to a maximum coolant pressure of 150 bar
- Improved chip breaking, especially at pressures above 40 bar



**Walter Turn lever clamp (P)**
- Universal system enabling easy replacement of indexable inserts
- The number one choice for single-sided negative indexable inserts, e.g. SNMM for heavy roughing
- Unobstructed chip evacuation and can be used as an alternative to rigid clamping

**Walter Turn wedge-type clamping (M)**
- For indexable inserts with a negative T basic shape
- Profiling is possible up to an angle of 22° with TNMG indexable inserts
- Frequently used when shaft machining with undercuts

**Walter Turn rigid clamping for negative ceramic indexable inserts (C)**
- Special system for ceramic indexable inserts without centre hole
- Rigid clamping with carbide shoe for a long service life
- The number one choice for machining high-temperature alloys and cast iron workpieces with ceramic inserts



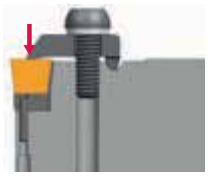
## External turning toolholders for indexable inserts with a positive basic shape

**Walter Turn screw clamping (S)**
- For indexable inserts with a positive basic shape with 5° and 7° clearance angle
- The number one choice for low cutting pressures/small diameter shafts
- Fewer assembly parts are required
- Torx Plus screw clamping for transmitting higher tightening torques
- The indexable insert and shim can be replaced using the same wrench

**Walter Turn positive lever clamp (P)**
- For indexable inserts with a positive V/R basic shape with 5° and 7° clearance angle
- High dimensional accuracy is achieved on the component via the high pre-tension applied by the lever with V indexable inserts
- Secure insert locking ensures round inserts are unable to twist during machining

## External turning toolholders for indexable inserts with a positive basic shape

**Walter Turn rigid clamping for positive ceramic indexable inserts (C)**
– Special system for positive ceramic indexable inserts with 7° and 11° clearance angle (RC . X/RP . X)
– Very stable, prism-shaped contact surface designed to prevent twisting
– Rigid clamping for maximum clamping force and low-vibration machining of high-temperature alloys and cast iron workpieces



## Tool adaptors for shank tools

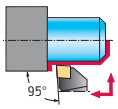
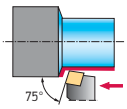
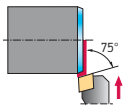
**A2120-P VDI axial adaptor for shank tools with precision cooling**
– VDI 30/40/50 interface for star turrets
– Direct coolant transfer from the adaptor to the square shank at up to 80 bar
– For universal use in normal position or in an overhead position thanks to teeth on both sides of VDI shank
– Maximum clamping force due to robust wedge-type clamping
– External cooling, can be switched on as an option
– For shank sizes of 20 × 20 mm and 25 × 25 mm

**A2121-P VDI radial adaptor for shank tools with precision cooling**
– VDI 30/40/50 interface for disc turrets
– Direct coolant transfer from the adaptor to the square shank at up to 80 bar
– For universal use in normal position or in an overhead position thanks to teeth both sides of the VDI shank
– Maximum clamping force due to robust wedge-type clamping
– External cooling, can be switched on as an option
– For shank sizes of 20 × 20 mm and 25 × 25 mm

**C . . . - ASH Walter Capto™ axial adaptor for shank tools**
– Walter Capto™ C5-C8 interface
– For use on turn/mill centres or machines with star turrets
– Can be used up to a coolant pressure of 80 bar
– Various versions for 1, 2 or 3 shank tools
– Optimum power transmission via precision-ground polygon interface
– For shank sizes of 20 × 20 mm/25 × 25 mm/32 × 32 mm

**C . . . - ASHA Walter Capto™ radial adaptor for shank tools**
– Walter Capto™ C5-C8 interface
– Coolant nozzle can be switched on to the left/right via a screw
– Neutral version
– For use on turn/mill centres or machines with disc turrets
– Can be used up to a coolant pressure of 80 bar
– Optimum power transmission via precision-ground polygon interface
– For shank sizes of 20 × 20 mm/25 × 25 mm/32 × 32 mm

# Walter Turn turning tools product range overview – External machining
# Square-shank turning toolholders – Negative basic shape

| Machining |  | | |  | |  |
|---|---|---|---|---|---|---|
| **Type** | | | | | | |
| **Designation** | **DCLN** | **DCLN...-P** | **PCLN** | **DCBN** | **PCBN** | **DCKN** |
| Approach angle κ | 95° | 95° | 95° | 75° | 75° | 75° |
| Clamping system | Clamp | Clamp | Lever | Clamp | Lever | Clamp |
| Coolant supply | external | Precision cooling | external | external | external | external |
| Shank size h [mm] | 16–32 | 20–25 | 16–50 | 25–32 | 25–32 | 25–32 |
| Insert size l [mm] | 9–19 | 12 | 9–25 | 12–19 | 12–19 | 12–16 |
| Page | A 93 | A 94 | A 95 | A 96 | A 97 | A 98 |
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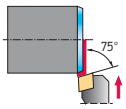
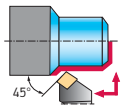
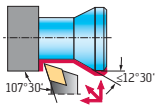
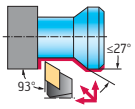
| Machining |  |  |  |  | | |
|---|---|---|---|---|---|---|
| **Type** | | | | | | |
| **Designation** | **PCKN** | **PCSN** | **DDHN** | **DDJN** | **DDJN...-P** | **PDJN** |
| Approach angle κ | 75° | 45° | 107,5° | 93° | 93° | 93° |
| Clamping system | Lever | Lever | Clamp | Clamp | Clamp | Lever |
| Coolant supply | external | external | external | external | Precision cooling | external |
| Shank size h [mm] | 25 | 25 | 20–25 | 20–32 | 20–25 | 16–32 |
| Insert size l [mm] | 12 | 12 | 15 | 11–15 | 11–15 | 11–15 |
| Page | A 99 | A 100 | A 101 | A 102 | A 103 | A 104 |
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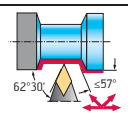
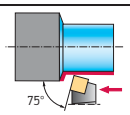
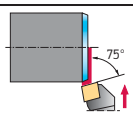
| Machining |  |  | |  | | |
|---|---|---|---|---|---|---|
| **Type** | | | | | | |
| **Designation** | **DDNN** | **DSBN** | **DSBN...-P** | **PSBN** | **DSKN** | **PSKN** |
| Approach angle κ | 62,5° | 75° | 75° | 75° | 75° | 75° |
| Clamping system | Clamp | Clamp | Clamp | Lever | Clamp | Lever |
| Coolant supply | external | external | Precision cooling | external | external | external |
| Shank size h [mm] | 20–32 | 25–40 | 25 | 20–50 | 25–32 | 20–32 |
| Insert size l [mm] | 11–15 | 12–19 | 12 | 12–25 | 12–15 | 12–19 |
| Page | A 105 | A 106 | A 107 | A 108 | A 109 | A 110 |
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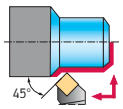
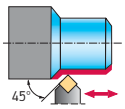
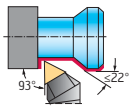
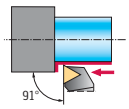
# Walter Turn turning tools product range overview – External machining
## Square-shank turning toolholders – Negative basic shape

| Machining |  | |  | |  |  |
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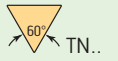
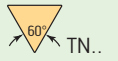
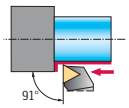
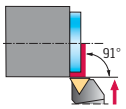
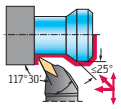
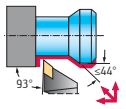
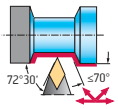
| **Type** | | | | |  |  |
| **Designation** | **DSSN** | **PSSN** | **DSDN** | **PSDN** | **MTJN** | **DTGN** |
| Approach angle κ | 45° | 45° | 45° | 45° | 93° | 91° |
| Clamping system | Clamp | Lever | Clamp | Lever | Wedge | Clamp |
| Coolant supply | external | external | external | external | external | external |
| Shank size h [mm] | 16–32 | 16–32 | 16–32 | 12–40 | 20–32 | 20–32 |
| Insert size l [mm] | 9–19 | 9–19 | 9–19 | 9–25 | 16–22 | 16–22 |
| Page | A 111 | A 112 | A 113 | A 114 | A 115 | A 116 |
| | | | | | | |

| Machining |  | |  |  |  |  |
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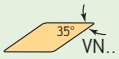
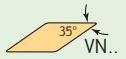
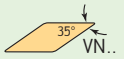
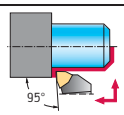
| **Type** | | | |  |  |  |
| **Designation** | **DTGN...-P** | **PTGN** | **PTFN** | **DVPN** | **DVJN** | **DVVN** |
| Approach angle κ | 91° | 91° | 91° | 117,5° | 93° | 72,5° |
| Clamping system | Clamp | Lever | Lever | Clamp | Clamp | Clamp |
| Coolant supply | Precision cooling | external | external | external | external | external |
| Shank size h [mm] | 20–25 | 12–40 | 12–32 | 25–32 | 20–32 | 20–32 |
| Insert size l [mm] | 16 | 11–27 | 11–16 | 16 | 16 | 16 |
| Page | A 117 | A 118 | A 119 | A 120 | A 121 | A 122 |
| | | | | | | |

| Machining |  | | |
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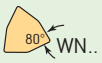
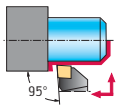
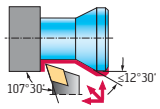
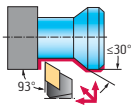
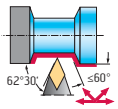
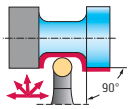
| **Type** |  | | |
| **Designation** | **DWLN** | **DWLN...-P** | **PWLN** |
| Approach angle κ | 95° | 95° | 95° |
| Clamping system | Clamp | Clamp | Lever |
| Coolant supply | external | Precision cooling | external |
| Shank size h [mm] | 16–32 | 20–25 | 16–32 |
| Insert size l [mm] | 6–10 | 8 | 6–10 |
| Page | A 123 | A 124 | A 125 |
| | | | |

# Walter Turn turning tools product range overview – External machining
## Square-shank turning toolholders – Positive basic shape

| Machining |  |  |  |  |  | |
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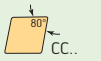
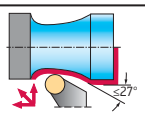
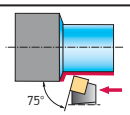
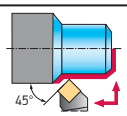
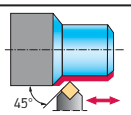
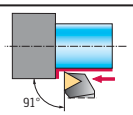
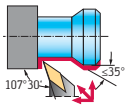
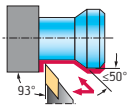
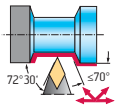
| **Type** |  | | | | | |
| **Designation** | **SCLC** | **SDHC** | **SDJC** | **SDNC** | **SRDC** | **PRDC** |
| Approach angle κ | 95° | 107,5° | 93° | 62,5° | 0° | 0° |
| Clamping system | Screw | Screw | Screw | Screw | Screw | Lever |
| Coolant supply | external | external | external | external | external | external |
| Shank size h [mm] | 10–25 | 12–25 | 10–25 | 10–25 | 12–32 | 20–50 |
| Insert size l [mm] | 6–12 | 7–11 | 7–11 | 7–11 | 6–16 | 10–32 |
| Page | A 126 | A 127 | A 128 | A 129 | A 130 | A 131 |
| | | | | | | |

| Machining |  | |  |  |  |  |
|---|---|---|---|---|---|---|
| **Type** | | | | | | |
| **Designation** | **SRSC** | **PRGC** | **SSBC** | **SSDC** | **SSDCN** | **STGC** |
| Approach angle κ | 0° | 0° | 75° | 45° | 45° | 91° |
| Clamping system | Screw | Lever | Screw | Screw | Screw | Screw |
| Coolant supply | external | external | external | external | external | external |
| Shank size h [mm] | 20–32 | 20–40 | 12–25 | 16–25 | 12–25 | 12–25 |
| Insert size l [mm] | 6–16 | 10–25 | 9–12 | 9–12 | 9–12 | 11–16 |
| Page | A 132 | A 133 | A 134 | A 135 | A 136 | A 137 |
| | | | | | | |

| Machining |  | |  | |  | |
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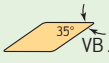
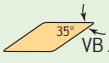
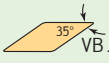
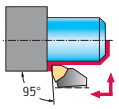
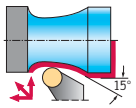
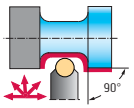
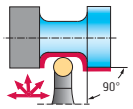
| **Type** |  | |  | |  | |
| **Designation** | **SVHB** | **PVHB** | **SVJB** | **PVJB** | **SVVB** | **PVVB** |
| Approach angle κ | 107,5° | 107,5° | 93° | 93° | 72,5° | 72,5° |
| Clamping system | Screw | Lever | Screw | Lever | Screw | Lever |
| Coolant supply | external | external | external | external | external | external |
| Shank size h [mm] | 16–32 | 16–32 | 12–32 | 16–32 | 12–32 | 16–32 |
| Insert size l [mm] | 11–16 | 11–16 | 11–16 | 11–16 | 11–16 | 11–16 |
| Page | A 138 | A 139 | A 140 | A 141 | A 142 | A 143 |
| | | | | | | |

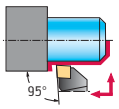
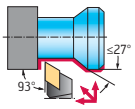
## Walter Turn turning tools product range overview – External machining
## Square-shank turning toolholders – Positive basic shape

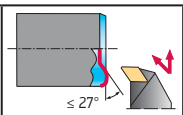
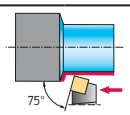
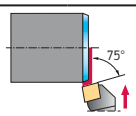
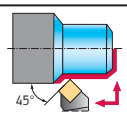
| Machining |  |
|---|---|
| **Type** | |
| **Designation** | **SWLC** |
| Approach angle κ | 95° |
| Clamping system | Screw |
| Coolant supply | external |
| Shank size h [mm] | 12–25 |
| Insert size l [mm] | 4–8 |
| Page | A 144 |
| | |

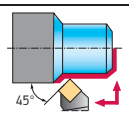
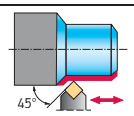
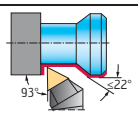
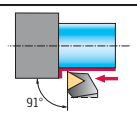
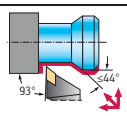
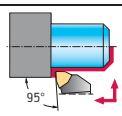
## Walter Turn turning tools product range overview – External machining
## Square-shank turning toolholders – Ceramic indexable inserts

| Machining |  |  |  |
|---|---|---|---|
| **Type** | | | |
| **Designation** | **CRSN** | **CRDN** | **CRDC** |
| Approach angle κ | 0° | 0° | 0° |
| Clamping system | Clamp | Clamp | Clamp |
| Coolant supply | external | external | external |
| Shank size h [mm] | 25–32 | 25–32 | 32 |
| Insert size l [mm] | 12–19 | 12 | 9–12 |
| Page | A 145 | A 146 | A 147 |
| | | | |

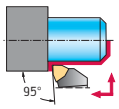
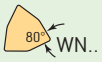
# Walter Turn turning tools product range overview – External machining
# Walter Capto™ turning toolholders – Negative basic shape

| Machining |  | | |  | | |
|---|---|---|---|---|---|---|
| **Type** | | | | | | |
| **Designation** | **C...-DCLN** | **C...-DCLN...-P** | **C...-PCLN** | **C...-DDJN** | **C...-DDJN...-P** | **C...-PDJN** |
| Lead angle κ | 95° | 95° | 95° | 93° | 93° | 93° |
| Clamping system | Clamp | Clamp | Lever | Clamp | Clamp | Lever |
| Coolant supply | internal | Precision cooling | internal | internal | Precision cooling | internal |
| Walter Capto™ size | C4–C8 | C4–C6 | C3–C8 | C4–C8 | C4–C6 | C3–C6 |
| Insert size l [mm] | 12–19 | 12 | 12–25 | 11–15 | 11–15 | 11–15 |
| Page | A 148 | A 149 | A 150 | A 151 | A 152 | A 153 |
| | | | | | | |

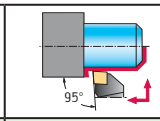
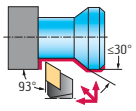
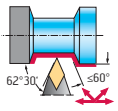
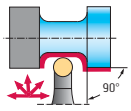
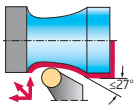
| Machining |  |  | |  | |  |
|---|---|---|---|---|---|---|
| **Type** | | | | | | |
| **Designation** | **C...-DDUN** | **C...-DSRN** | **C...-PSRN** | **C...-DSKN** | **C...-PSKN** | **C...-DSSN** |
| Lead angle κ | 93° | 75° | 75° | 75° | 75° | 45° |
| Clamping system | Clamp | Clamp | Lever | Clamp | Lever | Clamp |
| Coolant supply | internal | internal | internal | internal | internal | internal |
| Walter Capto™ size | C4–C8 | C4–C8 | C3–C8 | C4–C8 | C4–C8 | C4–C6 |
| Insert size l [mm] | 15 | 12–25 | 12–25 | 12–19 | 12–19 | 12–19 |
| Page | A 154 | A 155 | A 156 | A 157 | A 158 | A 159 |
| | | | | | | |

| Machining |  |  |  |  |  |  |
|---|---|---|---|---|---|---|
| **Type** | | | | | | |
| **Designation** | **C...-PSSN** | **C...-DSDN** | **C...-MTJN** | **C...-DTGN...-P** | **C...-DVJN** | **C...-DWLN** |
| Lead angle κ | 45° | 45° | 93° | 91° | 93° | 95° |
| Clamping system | Lever | Clamp | Wedge | Clamp | Clamp | Clamp |
| Coolant supply | internal | internal | internal | Precision cooling | internal | internal |
| Walter Capto™ size | C4–C6 | C4–C8 | C3–C6 | C4 | C4–C8 | C4–C6 |
| Insert size l [mm] | 12–19 | 12–25 | 16–22 | 16 | 16 | 6–10 |
| Page | A 160 | A 161 | A 162 | A 163 | A 164 | A 165 |
| | | | | | | |

# Walter Turn turning tools product range overview – External machining
# Walter Capto™ turning toolholders – Negative basic shape

| Machining |   | |
|---|---|---|
| **Type** |   | |
| **Designation** | **C...-DWLN...-P** | **C...-PWLN** |
| Lead angle κ | 95° | 95° |
| Clamping system | Clamp | Lever |
| Coolant supply | Precision cooling | internal |
| Walter Capto™ size | C4–C6 | C3–C6 |
| Insert size l [mm] | 8 | 6–10 |
| Page | A 166 | A 167 |
| | | |

# Walter Turn turning tools product range overview – External machining
# Walter Capto™ turning toolholders – Positive basic shape

| Machining |  |  |  |  | |  |
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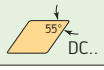
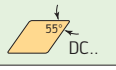
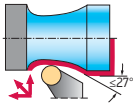
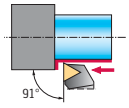
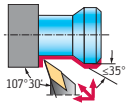
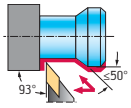
| **Type** | |  |  | | | |
| **Designation** | **C...-SCLC** | **C...-SDJC** | **C...-SDNC** | **C...-SRDC** | **C...-PRDC** | **C...-SRSC** |
| Lead angle κ | 95° | 93° | 62,5° | 0° | 0° | 0° |
| Clamping system | Screw | Screw | Screw | Screw | Lever | Screw |
| Coolant supply | internal | internal | internal | internal | internal | internal |
| Walter Capto™ size | C3–C6 | C3–C6 | C3–C5 | C3–C6 | C5–C6 | C3–C6 |
| Insert size l [mm] | 9–12 | 7–11 | 11 | 6–16 | 16–25 | 6–16 |
| Page | A 168 | A 169 | A 170 | A 171 | A 172 | A 173 |
| | | | | | | |

| Machining |  |  |  | |  | |
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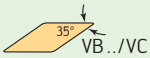
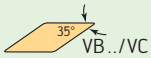
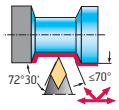
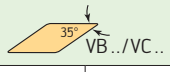
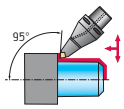
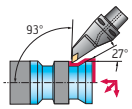
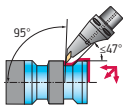
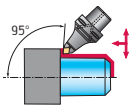
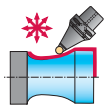
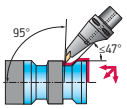
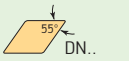
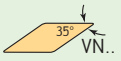
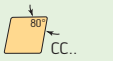
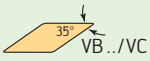
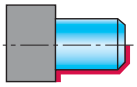
| **Type** | | |  | |  | |
| **Designation** | **C...-PRSC** | **C...-STGC** | **C...-SVHB** | **C...-PVHB** | **C...-SVJB** | **C...-PVJB** |
| Lead angle κ | 0° | 91° | 107,5° | 107,5° | 93° | 93° |
| Clamping system | Lever | Screw | Screw | Lever | Screw | Lever |
| Coolant supply | internal | internal | internal | internal | internal | internal |
| Walter Capto™ size | C5–C8 | C3–C6 | C3–C6 | C4–C6 | C3–C6 | C4–C6 |
| Insert size l [mm] | 16–25 | 11–16 | 11–16 | 16 | 11–16 | 16 |
| Page | A 174 | A 175 | A 176 | A 177 | A 178 | A 179 |
| | | | | | | |

| Machining |  | |
|---|---|---|
| **Type** |  | |
| **Designation** | **C...-SVVB** | **C...-PVVB** |
| Lead angle κ | 72,5° | 72,5° |
| Clamping system | Screw | Lever |
| Coolant supply | internal | internal |
| Walter Capto™ size | C3–C6 | C4–C6 |
| Insert size l [mm] | 11–16 | 16 |
| Page | A 180 | A 181 |
| | | |

# Walter Turn turning tools product range overview – External machining
# Walter Capto™ turning toolholders – Turning and milling centres

| Machining |  |  |  |  |  |  |
|---|---|---|---|---|---|---|
| **Type** | |  |  |  | |  |
| **Designation** | **C...-DCMN** | **C...-DDMN** | **C...-DVMN** | **C...-SCMC** | **C...-SRDC** | **C...-SVMB** |
| Lead angle κ | 95° | 93° | 95° | 95° | 0° | 95° |
| Clamping system | Clamp | Clamp | Clamp | Screw | Screw | Screw |
| Coolant supply | internal | internal | internal | internal | internal | internal |
| Walter Capto™ size | C5–C8 | C5–C8 | C8 | C6 | C6 | C5–C6 |
| Insert size l [mm] | 12–16 | 15 | 16 | 12 | 10–16 | 16 |
| Page | A 182 | A 183 | A 184 | A 185 | A 186 | A 187 |
| | | | | | | |

# Turning system overview – Walter Turn external machining



| VDI adaptors for square shanks with precision cooling | | Walter Capto™ adaptors for square shanks | | Walter Capto™ turning tools | Walter Capto™ 45° turning tools for turn/ mill centres |
|---|---|---|---|---|---|
| A2120-VDI-P<br>Page D 16 | A2121-VDI-P<br>Page D 17 | C...-ASHR/L<br>C...-ASHR/L3<br>Page D 11 | C...-ASHA<br>Page D 12 | C ...<br>Page A 84 | C ...<br>Page A 87 |

**Shank tools**

**e.g. DLCN...-P**
Page A 80

**e.g. DLCN**
Page A 80

= Precision cooling

# ISO designation key for turning toolholders – External machining

**Example: Walter Turn**

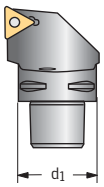
| P | W | L | N | R | 25 | 25 | M | 08 | ... |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

## 0

**Coupling size $d_1$ [mm]**

C = Walter Capto™ ISO 26623

- **C3** $d_1 = 32$
- **C4** $d_1 = 40$
- **C5** $d_1 = 50$
- **C6** $d_1 = 63$
- **C8** $d_1 = 80$




## 1

**Insert mounting type**

- **C** Top clamping
- **D** Top and hole clamping
- **M** Top and hole clamping
- **P** Hole clamping
- **S** Screw clamping

## 2

**Indexable insert basic shape**

- **C**

- **D**

- **R**
- **S**

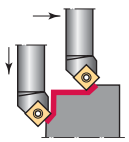
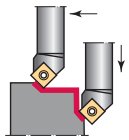
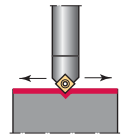
- **T**

- **V**

- **W**


## 5

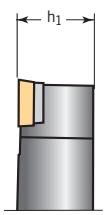
**Turning toolholder design**

- **R** 
- **L** 
- **N** 

## 6

**Turning toolholder height $h_1$ [mm]**

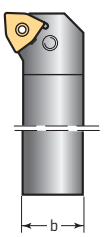
Height of the peripheral cutting edge $h_1$ in mm. Figures after the decimal point are ignored. Single-digit numbers are preceded by a "0", e.g $h_1$ = 8 mm = 08.

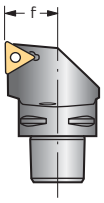



## 7

**Toolholder width b or f dimension [mm]**

Shank width b in mm. Figures after the decimal point are ignored. Single-digit numbers are preceded by a "0", e.g b = 8 mm = 08. For CA cartridges.

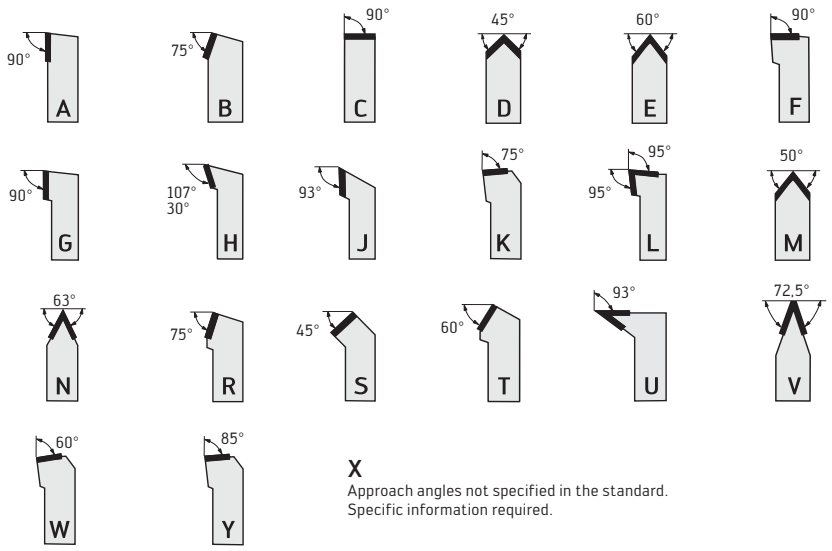


Example: Walter Capto™

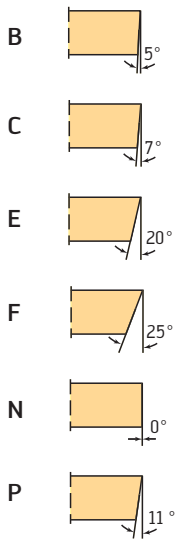
| C5 | – | P | W | L | N | R | – | 22 | 110 | – | 08 | ... |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | 1 | 2 | 3 | 4 | 5 | | 7 | 8 | | 9 | 10 |

## 3 Approach angle



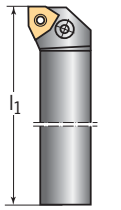

**X**
Approach angles not specified in the standard.
Specific information required.

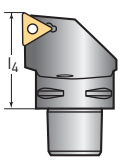
## 4 Indexable insert clearance angle




## 8 Turning toolholder length $l_1/l_4$ [mm]

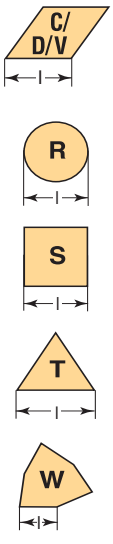
32 = A
40 = B
50 = C
60 = D
70 = E
80 = F
100 = H
110 = J
125 = K
140 = L
150 = M
160 = N
170 = P
180 = Q
200 = R
250 = S
300 = T
350 = U
400 = V
450 = W




Special = X
500 = Y

## 9 Length of cutting edge l [mm]



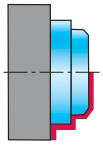
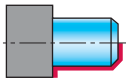
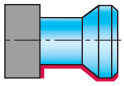
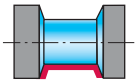

## 10 Manufacturer option

If necessary, an additional symbol comprising a maximum of three letters or figures can be added to the standard code.

This symbol must be separated from the standard designation with a hyphen.

**–W** = Wedge-type clamping
**–P** = Precision cooling

# Walter Select – External machining

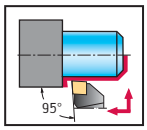
| Workpiece characteristics | short, stable  | | | | long, unstable | |
|---|---|---|---|---|---|---|
| Basic shape | **Negative basic shape** | | | | **Positive basic shape** | |
| Holder clamping system Walter Turn/Walter Capto™ | **Rigid clamping** | **Rigid clamping with precision cooling (-P)** | **Lever clamp** | **Wedge-type clamping** | **Screw clamping** | **Lever clamp** |
| **Product range overview** | Page A 80 | Page A 80 | Page A 80 | Page A 81 | Page A 82 | Page A 82 |
| **Step 1: Selecting the contour to be machined** | | | | | | |
|  Longitudinal turning/facing | ●● | ●● | ●● | ● | ●● | ●● |
|  Profile turning | ●● | ●● | ●● | ●● | ●● | ●● |
| Facing | ●● | ●● | ●● | — | ●● | ●● |
|  Necking | ●● | ●● | ● | — | ● | ●● |
| Interrupted cuts | ●● | ●● | ● | ● | ●● | ● |
| **Step 2: Selecting the material to be machined** | | | | | | |
| **P** Steel | ●● | ● | ●● | ●● | ●● | ●● |
| **M** Stainless steel | ● | ●● | ●● | ●● | ●● | ●● |
| **K** Cast iron | ●● | ● | ● | ● | ●● | ● |
| **N** NF metals | — | — | ● | — | ●● | ●● |
| **S** Materials with difficult cutting properties | ●● | ●● | ●● | ● | ●● | ●● |
| **H** Hard materials | ●● | ● | ● | ● | ● | ● |
| **O** Other | — | — | ● | — | ● | ● |

WALTER SELECT

●● Primary application

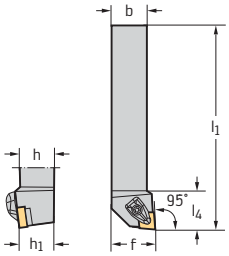
● Other application

# Shank tool – Rigid clamping
# DCLN
## Walter Turn




CN . .  CN . .

## Tool




| Designation | | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| DCLNR/L1616H09 | 9 | 16 | 16 | 20 | 100 | 24,8 | -6° | -6° | CN .. 0903 .. |
| DCLNR/L2020K09 | 9 | 20 | 20 | 25 | 125 | 24,8 | -6° | -6° | |
| DCLNR/L2525M09 | 9 | 25 | 25 | 32 | 150 | 24,8 | -6° | -6° | |
| DCLNR/L1616H12 | 12 | 16 | 16 | 20 | 100 | 32,2 | -6° | -6° | CN .. 1204 .. |
| DCLNR/L2020K12 | 12 | 20 | 20 | 25 | 125 | 32 | -6° | -6° | |
| DCLNR/L2525M12 | 12 | 25 | 25 | 32 | 150 | 32 | -6° | -6° | |
| DCLNR/L3225P12 | 12 | 32 | 25 | 32 | 170 | 32 | -6° | -6° | |
| DCLNR/L2525M16 | 16 | 25 | 25 | 32 | 150 | 39 | -6° | -6° | CN .. 1606 .. |
| DCLNR/L3225P16 | 16 | 32 | 25 | 32 | 170 | 39 | -6° | -6° | |
| DCLNR/L3232P16 | 16 | 32 | 32 | 40 | 170 | 39 | -6° | -6° | |
| DCLNR/L3232P19 | 19 | 32 | 32 | 40 | 170 | 43,2 | -6° | -6° | CN .. 1906 .. |

Measured with master insert: CN .. 090308 / CN .. 120408 / CN .. 160612 / CN .. 190612
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: DCLNR1616H09/ordering example, left-hand tool: DCLNL1616H09
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type h = h1 [mm] | CN .. 0903 .. 16–25 | CN .. 1204 .. 16 | CN .. 1204 .. 20–32 | CN .. 1606 .. 25–32 | CN .. 1906 .. 32 |
|---|---|---|---|---|---|
| Shim | AP414-CN09 | AP354-CN12 | AP301-CN12 | AP302-CN16 | AP303-CN19 |
| Screw for shim<br>Tightening torque | FS1462<br>(Torx 9IP)<br>1,5 Nm | FS1461<br>(Torx 15IP)<br>2,5 Nm | FS1461<br>(Torx 15IP)<br>2,5 Nm | FS1463<br>(Torx 20IP)<br>5,0 Nm | FS1463<br>(Torx 20IP)<br>5,0 Nm |
| Clamp | PK240 | PK241 | PK241 | PK242 | PK243 |
| Clamp screw<br>Tightening torque | FS1472<br>(Torx 9IP)<br>1,7 Nm | FS1473<br>(Torx 15IP)<br>3,9 Nm | FS1473<br>(Torx 15IP)<br>3,9 Nm | FS1474<br>(Torx 20IP)<br>6,4 Nm | FS1474<br>(Torx 20IP)<br>6,4 Nm |
| Pressure spring | FS1469 | FS1470 | FS1470 | FS1471 | FS1471 |
| Pin | RS116 | RS117 | RS117 | RS117 | RS117 |
| Torx key | FS1466<br>(Torx 9IP) | FS1465<br>(Torx 15IP /<br>SW 3,5) | FS1465<br>(Torx 15IP /<br>SW 3,5) | FS1464<br>(Torx 20IP) | FS1464<br>(Torx 20IP) |

## Accessories

| Type | CN .. 0903 .. | CN .. 1204 .. | CN .. 1606 .. | CN .. 1906 .. |
|---|---|---|---|---|
| Clamp set<br>(standard assembly parts) | PK240 SET | PK241 SET | PK242 SET | PK243 SET |
| Carbide clamp set<br>Insert with hole | | PK245 SET | PK246 SET | |
| Carbide clamp set<br>Insert without hole | | PK254 SET | | |
| Shim for CN .. 1207 .. | | AP411-CN1207 | | |

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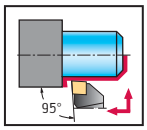
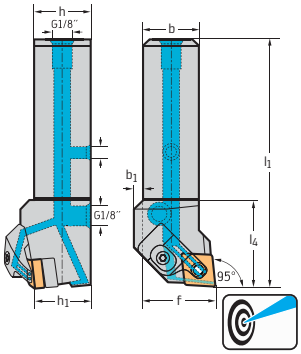
# Shank tool – Rigid clamping
# DCLN...-P
## Walter Turn

– Precision cooling




CN . .

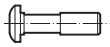
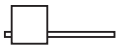
## Tool




| Designation | | h = h1 mm | b mm | b1 mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|---|
| DCLNR/L2020X12-P | 12 | 20 | 20 | 10 | 25 | 115 | 38,5 | -6° | -6° | CN .. 1204 .. |
| DCLNR/L2525X12-P | 12 | 25 | 25 | 4 | 32 | 130 | 38,5 | -6° | -6° | |

Measured with master insert: CN .. 120408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
For the connection set for coolant supply with G1/8" thread, see "Assembly parts and accessories"
The maximum recommended coolant pressure is 150 bar (2175 psi)
Ordering example, right-hand tool: DCLNR2020X12-P/ordering example, left-hand tool: DCLNL2020X12-P
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | CN .. 1204 .. |
|---|---|---|
| | Shim | AP301-CN12 |
| | Screw for shim<br>Tightening torque | FS1461 (Torx 15IP)<br>2,5 Nm |
| | Left clamp | PK261L |
| | Right clamp | PK261R |
|  | Clamp screw<br>Tightening torque | FS1473 (Torx 15IP)<br>3,9 Nm |
| | Pressure spring | FS2188 |
| | G 1/8" threaded pin | FS2258 (SW 5) |
| | M6 threaded pin | FS2288 (SW 3) |
|  | Torx key | FS1465 (Torx 15IP / SW 3,5) |

## Accessories

| | Type | CN .. 1204 .. |
|---|---|---|
| | Left-hand clamp set<br>(standard assembly parts) | PK261L SET |
| | Right-hand clamp set<br>(standard assembly parts) | PK261R SET |

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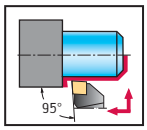
# Shank tool – Lever clamp
# PCLN
## Walter Turn

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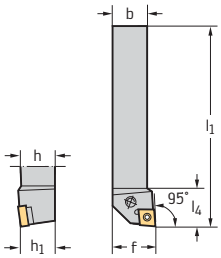
## Tool




| Designation | | h = $h_1$ mm | b mm | f mm | $l_1$ mm | $l_4$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| PCLNR/L1616H09 | 9 | 16 | 16 | 20 | 100 | 24,2 | -6° | -6° | CN .. 0903 .. |
| PCLNR/L2020K09 | 9 | 20 | 20 | 25 | 125 | 24,2 | -6° | -6° | |
| PCLNR/L2525M09 | 9 | 25 | 25 | 32 | 150 | 24,2 | -6° | -6° | |
| PCLNR/L1616H12 | 12 | 16 | 16 | 20 | 100 | 27,2 | -6° | -6° | CN .. 1204 .. |
| PCLNR/L2020K12 | 12 | 20 | 20 | 25 | 125 | 27,2 | -6° | -6° | |
| PCLNR/L2525M12 | 12 | 25 | 25 | 32 | 150 | 27,2 | -6° | -6° | |
| PCLNR/L3225P12 | 12 | 32 | 25 | 32 | 170 | 27,2 | -6° | -6° | |
| PCLNR/L2525M16 | 16 | 25 | 25 | 32 | 150 | 33,9 | -6° | -6° | CN .. 1606 .. |
| PCLNR/L3225P16 | 16 | 32 | 25 | 32 | 170 | 33,9 | -6° | -6° | |
| PCLNR/L3232P16 | 16 | 32 | 32 | 40 | 170 | 33,9 | -6° | -6° | |
| PCLNR/L3232P19 | 19 | 32 | 32 | 40 | 170 | 37,9 | -6° | -6° | CN .. 1906 .. |
| PCLNR/L4040S19 | 19 | 40 | 40 | 50 | 250 | 37,9 | -6° | -6° | |
| PCLNR/L4040S25 | 25 | 40 | 40 | 50 | 250 | 50 | -6° | -6° | CN .. 2509 .. |
| PCLNR/L5050T25 | 25 | 50 | 50 | 60 | 300 | 50 | -6° | -6° | |

Measured with master insert: CN .. 090308 / CN .. 120408 / CN .. 160612 / CN .. 190612 / CN .. 250924
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: PCLNR1616H09/ordering example, left-hand tool: PCLNL1616H09
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type h = $h_1$ [mm] | CN .. 0903 .. 16–25 | CN .. 1204 .. 16 | CN .. 1204 .. 20–32 | CN .. 1606 .. 25–32 | CN .. 1906 .. 32–40 | CN .. 2509 .. 40–50 |
|---|---|---|---|---|---|---|
| Shim for radius | AP408-CN0908 r ≤ 0,8 mm | AP134-CN1216 r ≤ 1,6 mm | AP134-CN1216 r ≤ 1,6 mm | AP135-CN1624 r ≤ 2,4 mm | AP136-CN1924 r ≤ 2,4 mm | AP192-CN2524 r ≤ 2,4 mm |
| Lever | KN101 | KN121 | KN102 | KN104 | KN106 | KN107 |
| Clamping screw Tightening torque | FS351 (SW 2,5) 2,0 Nm | FS2129 (SW 3) 5,0 Nm | FS352 (SW 3) 5,0 Nm | FS354 (SW 3) 5,0 Nm | FS356 (SW 4) 10,0 Nm | FS357 (SW 5) 14,0 Nm |
| Shim pin | RS120 | RS102 | RS102 | RS103 | RS104 | RS105 |
| Tapered assembly pin | MD101 | MD101 | MD101 | MD102 | MD102 | MD103 |
| Allen key | ISO2936-2,5 (SW 2,5) | ISO2936-3 (SW 3) | ISO2936-3 (SW 3) | ISO2936-3 (SW 3) | ISO2936-4 (SW 4) | ISO2936-5 (SW 5) |

## Accessories

| Type | CN .. 1204 .. | CN .. 1606 .. | CN .. 1906 .. |
|---|---|---|---|
| Shim for radius | AP134-CN1208 r ≤ 0,8 mm | AP135-CN1616 r ≤ 1,6 mm | AP136-CN1912 r ≤ 1,2 mm |

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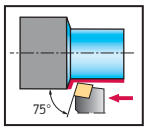
# Shank tool – Rigid clamping
# DCBN
## Walter Turn

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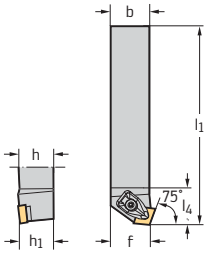
## Tool




| Designation | | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| DCBNR/L2525M12 | 12 | 25 | 25 | 22 | 150 | 34,6 | -6° | -6° | CN .. 1204 .. |
| DCBNR/L3225P12 | 12 | 32 | 25 | 22 | 170 | 34,6 | -6° | -6° | |
| DCBNR/L2525M16 | 16 | 25 | 25 | 22 | 150 | 41,5 | -6° | -6° | CN .. 1606 .. |
| DCBNR/L3232P16 | 16 | 32 | 32 | 27 | 170 | 41,6 | -6° | -6° | |
| DCBNR/L3232P19 | 19 | 32 | 32 | 27 | 170 | 46,1 | -6° | -6° | CN .. 1906 .. |
| | | | | | | | | | |
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Measured with master insert: CN .. 120408 / CN .. 160612 / CN .. 190612
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: DCBNR2525M12/ordering example, left-hand tool: DCBNL2525M12
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | CN .. 1204 .. | CN .. 1606 .. | CN .. 1906 .. |
|---|---|---|---|---|
| | Shim | AP301-CN12 | AP302-CN16 | AP303-CN19 |
| | Screw for shim<br>Tightening torque | FS1461 (Torx 15IP)<br>2,5 Nm | FS1463 (Torx 20IP)<br>5,0 Nm | FS1463 (Torx 20IP)<br>5,0 Nm |
| | Clamp | PK241 | PK242 | PK243 |
| | Clamp screw<br>Tightening torque | FS1473 (Torx 15IP)<br>3,9 Nm | FS1474 (Torx 20IP)<br>6,4 Nm | FS1474 (Torx 20IP)<br>6,4 Nm |
| | Pressure spring | FS1470 | FS1471 | FS1471 |
| | Pin | RS117 | RS117 | RS117 |
| | Torx key | FS1465 (Torx 15IP / SW 3,5) | FS1464 (Torx 20IP) | FS1464 (Torx 20IP) |

## Accessories

| | Type | CN .. 1204 .. | CN .. 1606 .. | CN .. 1906 .. |
|---|---|---|---|---|
| | Clamp set<br>(standard assembly parts) | PK241 SET | PK242 SET | PK243 SET |
| | Carbide clamp set<br>Insert with hole | PK245 SET | PK246 SET | |
| | Carbide clamp set<br>Insert without hole | PK254 SET | | |
| | Shim for CN .. 1207 .. | AP411-CN1207 | | |

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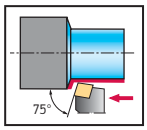
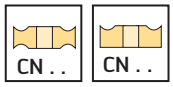
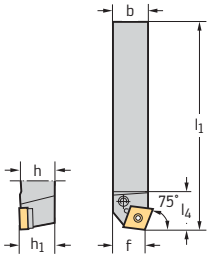
# Shank tool – Lever clamp
# PCBN
## Walter Turn




## Tool




| Designation | | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| PCBNR/L2525M12 | 12 | 25 | 25 | 22 | 150 | 26,9 | -6° | -6° | CN .. 1204 .. |
| PCBNR/L2525M16 | 16 | 25 | 25 | 22 | 150 | 33,6 | -6° | -6° | CN .. 1606 .. |
| PCBNR/L3232P16 | 16 | 32 | 32 | 27 | 170 | 33,6 | -6° | -6° | |
| PCBNR/L3232P19 | 19 | 32 | 32 | 27 | 170 | 37,5 | -6° | -6° | CN .. 1906 .. |
| | | | | | | | | | |
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Measured with master insert: CN .. 120408 / CN .. 160612 / CN .. 190612
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: PCBNR2525M12/ordering example, left-hand tool: PCBNL2525M12
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | CN .. 1204 .. | CN .. 1606 .. | CN .. 1906 .. |
|---|---|---|---|---|
| | Shim for radius | AP134-CN1216 r ≤ 1,6 mm | AP135-CN1624 r ≤ 2,4 mm | AP136-CN1924 r ≤ 2,4 mm |
| | Lever | KN102 | KN104 | KN106 |
| | Clamping screw Tightening torque | FS352 (SW 3) 5,0 Nm | FS354 (SW 3) 5,0 Nm | FS356 (SW 4) 10,0 Nm |
| | Shim pin | RS102 | RS103 | RS104 |
| | Tapered assembly pin | MD101 | MD102 | MD102 |
| | Allen key | ISO2936-3 (SW 3) | ISO2936-3 (SW 3) | ISO2936-4 (SW 4) |

## Accessories

| | Type | CN .. 1204 .. | CN .. 1606 .. | CN .. 1906 .. |
|---|---|---|---|---|
| | Shim for radius | AP134-CN1208 r ≤ 0,8 mm | AP135-CN1616 r ≤ 1,6 mm | AP136-CN1912 r ≤ 1,2 mm |

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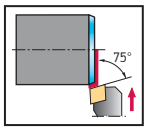
# Shank tool – Rigid clamping
# DCKN
# Walter Turn

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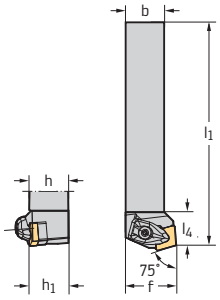
## Tool




| Designation | | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| DCKNR/L2525M12 | 12 | 25 | 25 | 32 | 150 | 21,1 | -6° | -6° | CN .. 1204 .. |
| DCKNR/L3225P12 | 12 | 32 | 25 | 32 | 170 | 21,1 | -6° | -6° | |
| DCKNR/L3232P16 | 16 | 32 | 32 | 40 | 170 | 26 | -6° | -6° | CN .. 1606 .. |
| | | | | | | | | | |
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| | | | | | | | | | |

Measured with master insert: CN .. 120408 / CN .. 160612
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: DCKNR2525M12/ordering example, left-hand tool: DCKNL2525M12
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type | CN .. 1204 .. | CN .. 1606 .. |
|---|---|---|
| Shim | AP301-CN12 | AP302-CN16 |
| Screw for shim<br>Tightening torque | FS1461 (Torx 15IP)<br>2,5 Nm | FS1463 (Torx 20IP)<br>5,0 Nm |
| Clamp | PK241 | PK242 |
| Clamp screw<br>Tightening torque | FS1473 (Torx 15IP)<br>3,9 Nm | FS1474 (Torx 20IP)<br>6,4 Nm |
| Pressure spring | FS1470 | FS1471 |
| Pin | RS117 | RS117 |
| Torx key | FS1465 (Torx 15IP / SW 3,5) | FS1464 (Torx 20IP) |

## Accessories

| Type | CN .. 1204 .. | CN .. 1606 .. |
|---|---|---|
| Clamp set<br>(standard assembly parts) | PK241 SET | PK242 SET |
| Carbide clamp set<br>Insert with hole | PK245 SET | PK246 SET |
| Carbide clamp set<br>Insert without hole | PK254 SET | |
| Shim for CN .. 1207 .. | AP411-CN1207 | |

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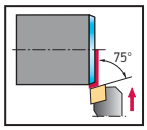
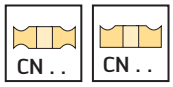
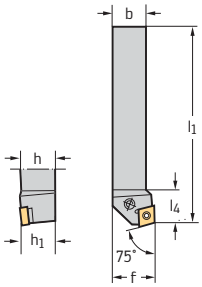
# Shank tool – Lever clamp
# PCKN
## Walter Turn




## Tool




| Designation | | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| PCKNR/L2525M12 | 12 | 25 | 25 | 32 | 150 | 22,9 | -6° | -6° | CN .. 1204 .. |

Measured with master insert: CN .. 120408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: PCKNR2525M12/ordering example, left-hand tool: PCKNL2525M12
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | CN .. 1204 .. |
|---|---|---|
| | Shim for radius | AP134-CN1216 r ≤ 1,6 mm |
| | Lever | KN102 |
| | Clamping screw Tightening torque | FS352 (SW 3) 5,0 Nm |
| | Shim pin | RS102 |
| | Tapered assembly pin | MD101 |
| | Allen key | ISO2936-3 (SW 3) |

## Accessories

| | Type | CN .. 1204 .. |
|---|---|---|
| | Shim for radius | AP134-CN1208 r ≤ 0,8 mm |

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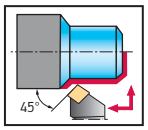
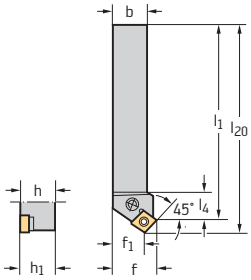
# Shank tool – Lever clamp
# PCSN
## Walter Turn



## Tool




| Designation | | h = h1 mm | b mm | f mm | f1 mm | l1 mm | l4 mm | l20 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PCSNR/L2525M12 | 12 | 25 | 25 | 32 | 23,9 | 150 | 19,7 | 160 | -8° | -8° | CN .. 1204 .. |

Measured with master insert: CN .. 120408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: PCSNR2525M12/ordering example, left-hand tool: PCSNL2525M12
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | CN .. 1204 .. |
|---|---|---|
| | Shim<br>for radius | AP134-CN1216<br>r ≤ 1,6 mm |
| | Lever | KN102 |
| | Clamping screw<br>Tightening torque | FS352 (SW 3)<br>5,0 Nm |
| | Shim pin | RS102 |
| | Tapered assembly pin | MD101 |
| | Allen key | ISO2936-3 (SW 3) |

## Accessories

| | Type | CN .. 1204 .. |
|---|---|---|
| | Shim<br>for radius | AP134-CN1208<br>r ≤ 0,8 mm |

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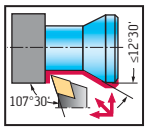
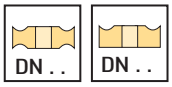
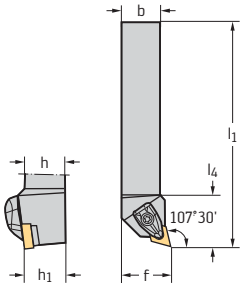
# Shank tool – Rigid clamping
# DDHN
# Walter Turn




## Tool




| Designation | | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| DDHNR/L2020K15 | 15 | 20 | 20 | 25 | 125 | 36,1 | -6° | -7° | DN .. 1506 .. |
| DDHNR/L2525M15 | 15 | 25 | 25 | 32 | 150 | 36,1 | -6° | -7° | |

Measured with master insert: DN .. 150608
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: DDHNR2020K15/ordering example, left-hand tool: DDHNL2020K15
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type | DN .. 1506 .. |
|---|---|
| Shim | AP304-DN15 |
| Screw for shim<br>Tightening torque | FS1461 (Torx 15IP)<br>2,5 Nm |
| Clamp | PK241 |
| Clamp screw<br>Tightening torque | FS1473 (Torx 15IP)<br>3,9 Nm |
| Pressure spring | FS1470 |
| Pin | RS117 |
| Torx key | FS1465 (Torx 15IP / SW 3,5) |

## Accessories

| Type | DN .. 1506 .. |
|---|---|
| Clamp set<br>(standard assembly parts) | PK241 SET |
| Carbide clamp set<br>Insert with hole | PK245 SET |
| Carbide clamp set<br>Insert without hole | PK254 SET |
| Shim for DN .. 1504 .. | AP304-DN1504 |
| Shim for DN .. 1507 .. | AP412-DN1507 |

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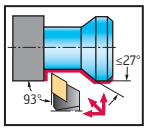
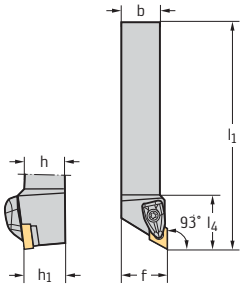
# Shank tool – Rigid clamping
# DDJN
## Walter Turn




DN . .  DN . .

## Tool




| Designation | | h = $h_1$ mm | b mm | f mm | $l_1$ mm | $l_4$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| DDJNR/L2020K11 | 11 | 20 | 20 | 25 | 125 | 30,2 | -6° | -7° | DN .. 1104 .. |
| DDJNR/L2525M11 | 11 | 25 | 25 | 32 | 150 | 30,2 | -6° | -7° | |
| DDJNR/L3225P11 | 11 | 32 | 25 | 32 | 170 | 30,2 | -6° | -7° | |
| DDJNR/L2020K15 | 15 | 20 | 20 | 25 | 125 | 39,4 | -6° | -7° | DN .. 1506 .. |
| DDJNR/L2525M15 | 15 | 25 | 25 | 32 | 150 | 39,4 | -6° | -7° | |
| DDJNR/L3225P15 | 15 | 32 | 25 | 32 | 170 | 39,4 | -6° | -7° | |
| DDJNR/L3232P15 | 15 | 32 | 32 | 40 | 170 | 39,4 | -6° | -7° | |
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Measured with master insert: DN .. 110408 / DN .. 150608
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: DDJNR2020K11/ordering example, left-hand tool: DDJNL2020K11
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type | DN .. 1104 .. | DN .. 1506 .. |
|---|---|---|
| Shim | AP305-DN11 | AP304-DN15 |
| Screw for shim<br>Tightening torque | FS1462 (Torx 9IP)<br>1,5 Nm | FS1461 (Torx 15IP)<br>2,5 Nm |
| Clamp | PK240 | PK241 |
| Clamp screw<br>Tightening torque | FS1472 (Torx 9IP)<br>1,7 Nm | FS1473 (Torx 15IP)<br>3,9 Nm |
| Pressure spring | FS1469 | FS1470 |
| Pin | RS116 | RS117 |
| Torx key | FS1466 (Torx 9IP) | FS1465 (Torx 15IP / SW 3,5) |

## Accessories

| Type | DN .. 1104 .. | DN .. 1506 .. |
|---|---|---|
| Clamp set<br>(standard assembly parts) | PK240 SET | PK241 SET |
| Carbide clamp set<br>Insert with hole | | PK245 SET |
| Carbide clamp set<br>Insert without hole | | PK254 SET |
| Shim for DN .. 1504 .. | | AP304-DN1504 |
| Shim for DN .. 1507 .. | | AP412-DN1507 |

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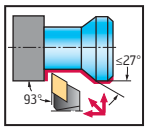
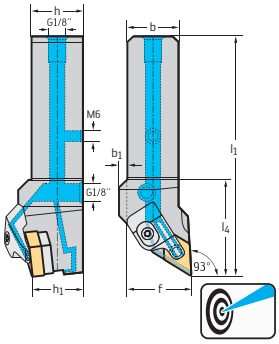
# Shank tool – Rigid clamping
# DDJN...-P
# Walter Turn

– Precision cooling




DN . .

## Tool




| Designation | | h = h1 mm | b mm | b1 mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|---|
| DDJNR/L2020X11-P | 11 | 20 | 20 | 6 | 25 | 125 | 48,5 | -6° | -7° | DN .. 1104 .. |
| DDJNR/L2020X15-P | 15 | 20 | 20 | 7 | 25 | 125 | 48,5 | -6° | -7° | DN .. 1506 .. |
| DDJNR/L2525X15-P | 15 | 25 | 25 | 3 | 32 | 140 | 48,5 | -6° | -7° | |
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Measured with master insert: DN .. 110408 / DN .. 150608
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
For the connection set for coolant supply with G1/8" thread, see "Assembly parts and accessories"
The maximum recommended coolant pressure is 150 bar (2175 psi)
Ordering example, right-hand tool: DDJNR2020X11-P/ordering example, left-hand tool: DDJNL2020X11-P
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type | DN .. 1104 .. | DN .. 1506 .. |
|---|---|---|
| Shim | AP305-DN11 | AP304-DN15 |
| Screw for shim<br>Tightening torque | FS1462 (Torx 9IP)<br>1,5 Nm | FS1461 (Torx 15IP)<br>2,5 Nm |
| Left clamp | PK261L | PK261L |
| Right clamp | PK261R | PK261R |
| Clamp screw<br>Tightening torque | FS1473 (Torx 15IP)<br>3,9 Nm | FS1473 (Torx 15IP)<br>3,9 Nm |
| Pressure spring | FS2188 | FS2188 |
| G 1/8" screw | FS2258 (SW 5) | FS2258 (SW 5) |
| M6 threaded pin | FS2288 (SW 3) | FS2288 (SW 3) |
| Torx key | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) |

## Accessories

| Type | DN .. 1104 .. | DN .. 1506 .. |
|---|---|---|
| Left-hand clamp set<br>(standard assembly parts) | PK261L SET | PK261L SET |
| Right-hand clamp set<br>(standard assembly parts) | PK261R SET | PK261R SET |
| Shim for DN .. 1504 .. | | AP304-DN1504 |

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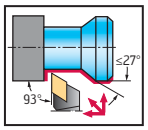
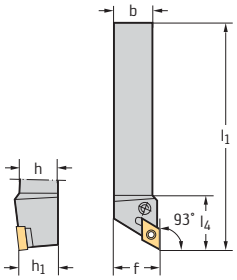
# Shank tool – Lever clamp
# PDJN
## Walter Turn




DN . .  DN . .

## Tool




| Designation | | h = $h_1$ mm | b mm | f mm | $l_1$ mm | $l_4$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| PDJNR/L1616H11 | 11 | 16 | 16 | 20 | 100 | 29,7 | -6° | -7° | DN .. 1104 .. |
| PDJNR/L2020K11 | 11 | 20 | 20 | 25 | 125 | 29,7 | -6° | -7° | |
| PDJNR/L2525M11 | 11 | 25 | 25 | 32 | 150 | 29,7 | -6° | -7° | |
| PDJNR/L3225P11 | 11 | 32 | 25 | 32 | 170 | 29,7 | -6° | -7° | |
| PDJNR/L2020K15 | 15 | 20 | 20 | 25 | 125 | 36,2 | -6° | -7° | DN .. 1506 .. |
| PDJNR/L2525M15 | 15 | 25 | 25 | 32 | 150 | 36,2 | -6° | -7° | |
| PDJNR/L3225P15 | 15 | 32 | 25 | 32 | 170 | 36,2 | -6° | -7° | |
| PDJNR/L3232P15 | 15 | 32 | 32 | 40 | 170 | 36,2 | -6° | -7° | |
| | | | | | | | | | |
| | | | | | | | | | |

Measured with master insert: DN .. 110408 / DN .. 150608
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: PDJNR1616H11/ordering example, left-hand tool: PDJNL1616H11
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type | DN .. 1104 .. | DN .. 1506 .. |
|---|---|---|
| Shim for radius | AP171-DN1112 r ≤ 1,2 mm | AP145-DN1516 r ≤ 1,6 mm |
| Lever | KN119 | KN103 |
| Clamping screw Tightening torque | FS351 (SW 2,5) 2,0 Nm | FS355 (SW 3) 5,0 Nm |
| Shim pin | RS101 | RS102 |
| Tapered assembly pin | MD101 | MD101 |
| Allen key | ISO2936-2,5 (SW 2,5) | ISO2936-3 (SW 3) |

## Accessories

| Type | DN .. 1104 .. | DN .. 1506 .. |
|---|---|---|
| Shim for radius | AP171-DN1108 r ≤ 0,8 mm | AP145-DN1508 r ≤ 0,8 mm |
| Shim for DN .. 1504 .. for radius | | AP357-DN1508 r ≤ 0,8 mm |
| Shim for DN .. 1504 .. for radius | | AP357-DN1516 r ≤ 1,6 mm |

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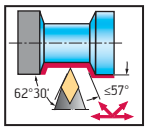
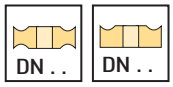
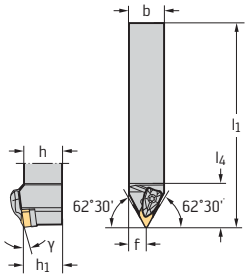
# Shank tool – Rigid clamping
# DDNN
## Walter Turn




## Tool




| Designation | | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| DDNNN2020K11 | 11 | 20 | 20 | 10 | 125 | 31,2 | -5° | -9° | DN .. 1104 .. |
| DDNNN2525M11 | 11 | 25 | 25 | 13 | 150 | 31,2 | -5° | -9° | |
| DDNNN2525M15 | 15 | 25 | 25 | 13 | 150 | 40,8 | -5° | -9° | DN .. 1506 .. |
| DDNNN3225P15 | 15 | 32 | 25 | 13 | 170 | 40,8 | -5° | -9° | |
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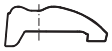
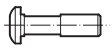
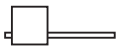
Measured with master insert: DN .. 110408 / DN .. 150608
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | DN .. 1104 .. | DN .. 1506 .. |
|---|---|---|---|
| | Shim | AP305-DN11 | AP304-DN15 |
| | Screw for shim<br>Tightening torque | FS1462 (Torx 9IP)<br>1,5 Nm | FS1461 (Torx 15IP)<br>2,5 Nm |
|  | Clamp | PK240 | PK241 |
|  | Clamp screw<br>Tightening torque | FS1472 (Torx 9IP)<br>1,7 Nm | FS1473 (Torx 15IP)<br>3,9 Nm |
| | Pressure spring | FS1469 | FS1470 |
|  | Pin | RS116 | RS117 |
|  | Torx key | FS1466 (Torx 9IP) | FS1465 (Torx 15IP / SW 3,5) |

## Accessories

| | Type | DN .. 1104 .. | DN .. 1506 .. |
|---|---|---|---|
| | Clamp set<br>(standard assembly parts) | PK240 SET | PK241 SET |
| | Carbide clamp set<br>Insert with hole | | PK245 SET |
| | Carbide clamp set<br>Insert without hole | | PK254 SET |
| | Shim for DN .. 1504 .. | | AP304-DN1504 |
| | Shim for DN .. 1507 .. | | AP412-DN1507 |

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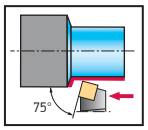
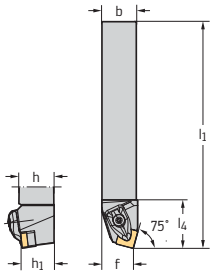
# Shank tool – Rigid clamping
# DSBN
## Walter Turn




SN . .  SN . .

## Tool




| Designation | | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| DSBNR/L2525M12 | 12 | 25 | 25 | 22 | 150 | 34,3 | -6° | -6° | SN .. 1204 .. |
| DSBNR/L3225P12 | 12 | 32 | 25 | 22 | 170 | 34,3 | -6° | -6° | |
| DSBNR/L3232P15 | 15 | 32 | 32 | 27 | 170 | 41,5 | -6° | -6° | SN .. 1506 .. |
| DSBNR/L3232P19 | 19 | 32 | 32 | 27 | 170 | 46,4 | -6° | -6° | SN .. 1906 .. |
| DSBNR/L4040S19 | 19 | 40 | 40 | 35 | 250 | 46,5 | -6° | -6° | |

Measured with master insert: SN .. 120408 / SN .. 150612 / SN .. 190612
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: DSBNR2525M12/ordering example, left-hand tool: DSBNL2525M12
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type | SN .. 1204 .. | SN .. 1506 .. | SN .. 1906 .. |
|---|---|---|---|
| Shim | AP308-SN12 | AP309-SN15 | AP310-SN19 |
| Screw for shim<br>Tightening torque | FS1461 (Torx 15IP)<br>2,5 Nm | FS1463 (Torx 20IP)<br>5,0 Nm | FS1463 (Torx 20IP)<br>5,0 Nm |
| Clamp | PK241 | PK242 | PK243 |
| Clamp screw<br>Tightening torque | FS1473 (Torx 15IP)<br>3,9 Nm | FS1474 (Torx 20IP)<br>6,4 Nm | FS1474 (Torx 20IP)<br>6,4 Nm |
| Pressure spring | FS1470 | FS1471 | FS1471 |
| Pin | RS117 | RS117 | RS117 |
| Torx key | FS1465 (Torx 15IP / SW 3,5) | FS1464 (Torx 20IP) | FS1464 (Torx 20IP) |

## Accessories

| Type | SN .. 1204 .. | SN .. 1506 .. | SN .. 1906 .. |
|---|---|---|---|
| Clamp set<br>(standard assembly parts) | PK241 SET | PK242 SET | PK243 SET |
| Carbide clamp set<br>Insert with hole | PK245 SET | PK246 SET | |
| Carbide clamp set<br>Insert without hole | PK254 SET | | |
| Shim for SN .. 1207 .. | AP413-SN1207 | | |

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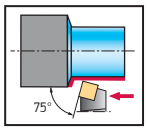
# Shank tool – Rigid clamping
# DSBN...-P
# Walter Turn

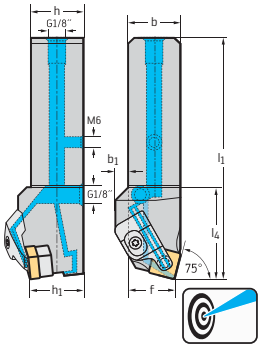
– Precision cooling




SN . .

## Tool

| Designation | | h = $h_1$ mm | b mm | $b_1$ mm | f mm | $l_1$ mm | $l_4$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|---|
| DSBNR/L2525X12-P | 12 | 25 | 25 | 7 | 22 | 135 | 43,5 | -6° | -6° | SN .. 1204 .. |




Measured with master insert: SN .. 120408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
For the connection set for coolant supply with G1/8" thread, see "Assembly parts and accessories"
The maximum recommended coolant pressure is 150 bar (2175 psi)
Ordering example, right-hand tool: DSBNR2525X12-P/ordering example, left-hand tool: DSBNL2525X12-P
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type | SN .. 1204 .. |
|---|---|
| Shim | AP308-SN12 |
| Screw for shim<br>Tightening torque | FS1461 (Torx 15IP)<br>2,5 Nm |
| Left clamp | PK261L |
| Right clamp | PK261R |
| Clamp screw<br>Tightening torque | FS1473 (Torx 15IP)<br>3,9 Nm |
| Pressure spring | FS2188 |
| G 1/8" screw | FS2258 (SW 5) |
| M6 threaded pin | FS2288 (SW 3) |
| Torx key | FS1465 (Torx 15IP / SW 3,5) |

## Accessories

| Type | SN .. 1204 .. |
|---|---|
| Left-hand clamp set<br>(standard assembly parts) | PK261L SET |
| Right-hand clamp set<br>(standard assembly parts) | PK261R SET |

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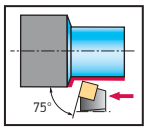
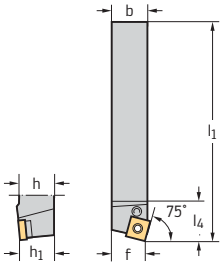
# Shank tool – Lever clamp
# PSBN
## Walter Turn




SN . .  SN . .

## Tool




| Designation | ◎ | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| PSBNR/L2020K12 | 12 | 20 | 20 | 17 | 125 | 27,5 | -6° | -6° | SN .. 1204 .. |
| PSBNR/L2525M12 | 12 | 25 | 25 | 22 | 150 | 27,5 | -6° | -6° | |
| PSBNR/L3225P12 | 12 | 32 | 25 | 22 | 170 | 27,5 | -6° | -6° | |
| PSBNR/L2525M15 | 15 | 25 | 25 | 22 | 150 | 32 | -6° | -6° | SN .. 1506 .. |
| PSBNR/L3232P15 | 15 | 32 | 32 | 27 | 170 | 32 | -6° | -6° | |
| PSBNR/L3232P19 | 19 | 32 | 32 | 27 | 170 | 39,2 | -6° | -6° | SN .. 1906 .. |
| PSBNR/L4040S19 | 19 | 40 | 40 | 35 | 250 | 41,5 | -6° | -6° | |
| PSBNR/L4040S25 | 25 | 40 | 40 | 35 | 250 | 47,5 | -6° | -6° | SN .. 2507 .. |
| PSBNR/L5050T25 | 25 | 50 | 50 | 43 | 300 | 47,5 | -6° | -6° | |

Measured with master insert: SN .. 120408 / SN .. 150612 / SN .. 190612 / SN .. 250724
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: PSBNR2020K12/ordering example, left-hand tool: PSBNL2020K12
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

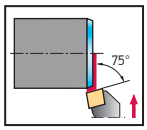
| Type | SN .. 1204 .. | SN .. 1506 .. | SN .. 1906 .. | SN .. 2507 .. |
|---|---|---|---|---|
| Shim for radius | AP141-SN1216 r ≤ 1,6 mm | AP142-SN1524 r ≤ 2,4 mm | AP143-SN1924 r ≤ 2,4 mm | AP144-SN2524 r ≤ 2,4 mm |
| Lever | KN102 | KN104 | KN106 | KN107 |
| Clamping screw Tightening torque | FS352 (SW 3) 5,0 Nm | FS354 (SW 3) 5,0 Nm | FS356 (SW 4) 10,0 Nm | FS357 (SW 5) 14,0 Nm |
| Shim pin | RS102 | RS103 | RS104 | RS105 |
| Tapered assembly pin | MD101 | MD102 | MD102 | MD103 |
| Allen key | ISO2936-3 (SW 3) | ISO2936-3 (SW 3) | ISO2936-4 (SW 4) | ISO2936-5 (SW 5) |

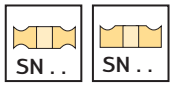
## Accessories

| Type | SN .. 1204 .. | SN .. 1506 .. | SN .. 1906 .. | SN .. 2507 .. |
|---|---|---|---|---|
| Shim for radius | AP141-SN1208 r ≤ 0,8 mm | AP142-SN1516 r ≤ 1,6 mm | AP143-SN1912 r ≤ 1,2 mm | |
| Shim for SN .. 2509 .. for radius | | | | AP191-SN250924 r ≤ 2,4 mm |

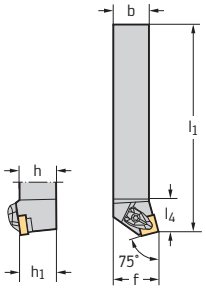
A 27  D 1  A 93  A 93

# Shank tool – Rigid clamping
# DSKN
## Walter Turn




## Tool




| Designation | ◎ | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| DSKNR/L2525M12 | 12 | 25 | 25 | 32 | 150 | 23,6 | -6° | -6° | SN .. 1204 .. |
| DSKNR/L3232P15 | 15 | 32 | 32 | 40 | 170 | 28,9 | -6° | -6° | SN .. 1506 .. |

Measured with master insert: SN .. 120408 / SN .. 150612
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: DSKNR2525M12/ordering example, left-hand tool: DSKNL2525M12
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

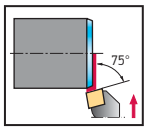
| | Type | SN .. 1204 .. | SN .. 1506 .. |
|---|---|---|---|
| | Shim | AP308-SN12 | AP309-SN15 |
| | Screw for shim<br>Tightening torque | FS1461 (Torx 15IP)<br>2,5 Nm | FS1463 (Torx 20IP)<br>5,0 Nm |
| | Clamp | PK241 | PK242 |
| | Clamp screw<br>Tightening torque | FS1473 (Torx 15IP)<br>3,9 Nm | FS1474 (Torx 20IP)<br>6,4 Nm |
| | Pressure spring | FS1470 | FS1471 |
| | Pin | RS117 | RS117 |
| | Torx key | FS1465 (Torx 15IP / SW 3,5) | FS1464 (Torx 20IP) |

## Accessories

| | Type | SN .. 1204 .. | SN .. 1506 .. |
|---|---|---|---|
| | Clamp set<br>(standard assembly parts) | PK241 SET | PK242 SET |
| | Carbide clamp set<br>Insert with hole | PK245 SET | PK246 SET |
| | Carbide clamp set<br>Insert without hole | PK254 SET | |
| | Shim for SN .. 1207 .. | AP413-SN1207 | |

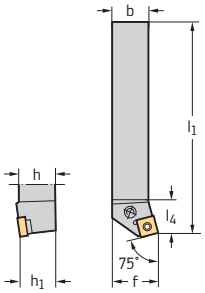
A 27 D 1 A 93 A 93 A 93

# Shank tool – Lever clamp
# PSKN
## Walter Turn




SN . .  SN . .

## Tool




| Designation | | h = $h_1$ mm | b mm | f mm | $l_1$ mm | $l_4$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| PSKNR/L2020K12 | 12 | 20 | 20 | 25 | 125 | 23 | -6° | -6° | SN .. 1204 .. |
| PSKNR/L2525M12 | 12 | 25 | 25 | 32 | 150 | 23 | -6° | -6° | |
| PSKNR/L3232P19 | 19 | 32 | 32 | 40 | 170 | 32,4 | -6° | -6° | SN .. 1906 .. |
| | | | | | | | | | |
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| | | | | | | | | | |
| | | | | | | | | | |

Measured with master insert: SN .. 120408 / SN .. 190612
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: PSKNR2020K12/ordering example, left-hand tool: PSKNL2020K12
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

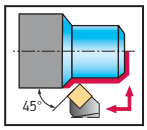
| Type | SN .. 1204 .. | SN .. 1906 .. |
|---|---|---|
| Shim for radius | AP141-SN1216 r ≤ 1,6 mm | AP143-SN1924 r ≤ 2,4 mm |
| Lever | KN102 | KN106 |
| Clamping screw Tightening torque | FS352 (SW 3) 5,0 Nm | FS356 (SW 4) 10,0 Nm |
| Shim pin | RS102 | RS104 |
| Tapered assembly pin | MD101 | MD102 |
| Allen key | ISO2936-3 (SW 3) | ISO2936-4 (SW 4) |

## Accessories

| Type | SN .. 1204 .. | SN .. 1906 .. |
|---|---|---|
| Shim for radius | AP141-SN1208 r ≤ 0,8 mm | AP143-SN1912 r ≤ 1,2 mm |

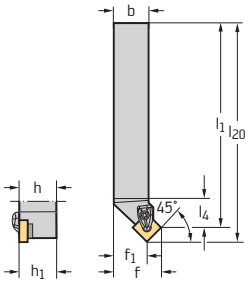
A 27  D 1  A 93  A 93

# Shank tool – Rigid clamping
# DSSN
## Walter Turn




SN . .  SN . .

## Tool




| Designation | | h = h1 mm | b mm | f mm | f1 mm | l1 mm | l4 mm | l20 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DSSNR/L1616H09 | 9 | 16 | 16 | 20,3 | 13,92 | 100 | 21,3 | 106,1 | -8° | 0° | SN .. 0903 .. |
| DSSNR/L2020K12 | 12 | 20 | 20 | 25 | 16,68 | 125 | 27,5 | 133,3 | -8° | 0° | |
| DSSNR/L2525M12 | 12 | 25 | 25 | 32 | 23,68 | 150 | 27,5 | 158,3 | -8° | 0° | SN .. 1204 .. |
| DSSNR/L3225P12 | 12 | 32 | 25 | 32 | 23,68 | 170 | 27,5 | 178,3 | -8° | 0° | |
| DSSNR/L2525M15 | 15 | 25 | 25 | 32 | 21,76 | 150 | 32 | 160,2 | -8° | 0° | |
| DSSNR/L3225P15 | 15 | 32 | 25 | 32 | 21,76 | 170 | 32 | 180,2 | -8° | 0° | SN .. 1506 .. |
| DSSNR/L3232P15 | 15 | 32 | 32 | 40 | 29,76 | 170 | 32 | 180,2 | -8° | 0° | |
| DSSNR/L3232P19 | 19 | 32 | 32 | 40 | 27,52 | 170 | 37 | 182,5 | -8° | 0° | SN .. 1906 .. |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

Measured with master insert: SN .. 090308 / SN .. 120408 / SN .. 150612 / SN .. 190612
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: DSSNR1616H09/ordering example, left-hand tool: DSSNL1616H09
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type | SN .. 0903 .. | SN .. 1204 .. | SN .. 1506 .. | SN .. 1906 .. |
|---|---|---|---|---|
| Shim | AP415-SN09 | AP308-SN12 | AP309-SN15 | AP310-SN19 |
| Screw for shim<br>Tightening torque | FS1462 (Torx 9IP)<br>1,5 Nm | FS1461 (Torx 15IP)<br>2,5 Nm | FS1463 (Torx 20IP)<br>5,0 Nm | FS1463 (Torx 20IP)<br>5,0 Nm |
| Clamp | PK240 | PK241 | PK242 | PK243 |
| Clamp screw<br>Tightening torque | FS1472 (Torx 9IP)<br>1,7 Nm | FS1473 (Torx 15IP)<br>3,9 Nm | FS1474 (Torx 20IP)<br>6,4 Nm | FS1474 (Torx 20IP)<br>6,4 Nm |
| Pressure spring | FS1469 | FS1470 | FS1471 | FS1471 |
| Pin | RS116 | RS117 | RS117 | RS117 |
| Torx key | FS1466 (Torx 9IP) | FS1465 (Torx 15IP / SW 3,5) | FS1464 (Torx 20IP) | FS1464 (Torx 20IP) |

## Accessories

| Type | SN .. 0903 .. | SN .. 1204 .. | SN .. 1506 .. | SN .. 1906 .. |
|---|---|---|---|---|
| Clamp set<br>(standard assembly parts) | PK240 SET | PK241 SET | PK242 SET | PK243 SET |
| Carbide clamp set<br>Insert with hole | | PK245 SET | PK246 SET | |
| Carbide clamp set<br>Insert without hole | | PK254 SET | | |
| Shim for SN .. 1207 .. | | AP413-SN1207 | | |

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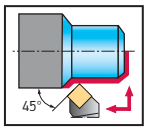
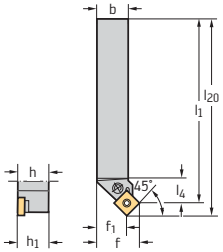
# Shank tool – Lever clamp
# PSSN
## Walter Turn




SN . .  SN . .

## Tool

| Designation | | h = $h_1$ mm | b mm | f mm | $f_1$ mm | $l_1$ mm | $l_4$ mm | $l_{20}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PSSNR/L1616H09 | 9 | 16 | 16 | 20,4 | 13,92 | 100 | 19 | 106,1 | -8° | 0° | SN .. 0903 .. |
| PSSNR/L2020K12 | 12 | 20 | 20 | 25 | 16,68 | 125 | 20,2 | 133,3 | -8° | 0° | |
| PSSNR/L2525M12 | 12 | 25 | 25 | 32 | 23,68 | 150 | 20,2 | 158,3 | -8° | 0° | SN .. 1204 .. |
| PSSNR/L3225P12 | 12 | 32 | 25 | 32 | 23,68 | 170 | 20,2 | 178,3 | -8° | 0° | |
| PSSNR/L2525M15 | 15 | 25 | 25 | 32 | 21,76 | 150 | 25,3 | 160,2 | -8° | 0° | |
| PSSNR/L3232P15 | 15 | 32 | 32 | 40 | 29,76 | 170 | 25,3 | 180,2 | -8° | 0° | SN .. 1506 .. |
| PSSNR/L3232P19 | 19 | 32 | 32 | 40 | 27,52 | 170 | 28 | 182,5 | -8° | 0° | SN .. 1906 .. |




Measured with master insert: SN .. 090308 / SN .. 120408 / SN .. 150612 / SN .. 190612
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: PSSNR1616H09/ordering example, left-hand tool: PSSNL1616H09
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type | SN .. 0903 .. | SN .. 1204 .. | SN .. 1506 .. | SN .. 1906 .. |
|---|---|---|---|---|
| Shim for radius | AP409-SN0908 r ≤ 0,8 mm | AP141-SN1216 r ≤ 1,6 mm | AP142-SN1524 r ≤ 2,4 mm | AP143-SN1924 r ≤ 2,4 mm |
| Lever | KN101 | KN102 | KN104 | KN106 |
| Clamping screw Tightening torque | FS351 (SW 2,5) 2,0 Nm | FS352 (SW 3) 5,0 Nm | FS354 (SW 3) 5,0 Nm | FS356 (SW 4) 10,0 Nm |
| Shim pin | RS120 | RS102 | RS103 | RS104 |
| Tapered assembly pin | MD101 | MD101 | MD102 | MD102 |
| Allen key | ISO2936-2,5 (SW 2,5) | ISO2936-3 (SW 3) | ISO2936-3 (SW 3) | ISO2936-4 (SW 4) |

## Accessories

| Type | SN .. 1204 .. | SN .. 1506 .. | SN .. 1906 .. |
|---|---|---|---|
| Shim for radius | AP141-SN1208 r ≤ 0,8 mm | AP142-SN1516 r ≤ 1,6 mm | AP143-SN1912 r ≤ 1,2 mm |

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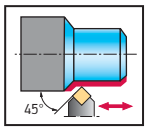
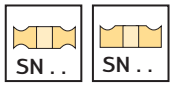
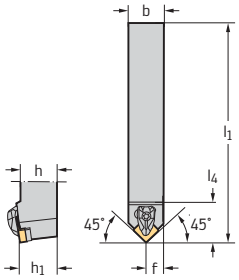
# Shank tool – Rigid clamping
# DSDN
## Walter Turn




## Tool




| Designation | | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| DSDNN1616H09 | 9 | 16 | 16 | 8 | 100 | 28,1 | -6° | -6° | SN .. 0903 .. |
| DSDNN2020K12 | 12 | 20 | 20 | 10 | 125 | 36,5 | -6° | -6° | SN .. 1204 .. |
| DSDNN2525M12 | 12 | 25 | 25 | 13 | 150 | 36,5 | -6° | -6° | |
| DSDNN3225P12 | 12 | 32 | 25 | 13 | 170 | 36,5 | -6° | -6° | |
| DSDNN2525M15 | 15 | 25 | 25 | 13 | 150 | 44,8 | -6° | -6° | SN .. 1506 .. |
| DSDNN3225P19 | 19 | 32 | 25 | 13 | 170 | 49,5 | -6° | -6° | SN .. 1906 .. |
| | | | | | | | | | |
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| | | | | | | | | | |
| | | | | | | | | | |

Measured with master insert: SN .. 090308 / SN .. 120408 / SN .. 150612 / SN .. 190612
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type | SN .. 0903 .. | SN .. 1204 .. | SN .. 1506 .. | SN .. 1906 .. |
|---|---|---|---|---|
| Shim | AP415-SN09 | AP308-SN12 | AP309-SN15 | AP310-SN19 |
| Screw for shim<br>Tightening torque | FS1462 (Torx 9IP)<br>1,5 Nm | FS1461 (Torx 15IP)<br>2,5 Nm | FS1463 (Torx 20IP)<br>5,0 Nm | FS1463 (Torx 20IP)<br>5,0 Nm |
| Clamp | PK240 | PK241 | PK242 | PK243 |
| Clamp screw<br>Tightening torque | FS1472 (Torx 9IP)<br>1,7 Nm | FS1473 (Torx 15IP)<br>3,9 Nm | FS1474 (Torx 20IP)<br>6,4 Nm | FS1474 (Torx 20IP)<br>6,4 Nm |
| Pressure spring | FS1469 | FS1470 | FS1471 | FS1471 |
| Pin | RS116 | RS117 | RS117 | RS117 |
| Torx key | FS1466 (Torx 9IP) | FS1465 (Torx 15IP / SW 3,5) | FS1464 (Torx 20IP) | FS1464 (Torx 20IP) |

## Accessories

| Type | SN .. 0903 .. | SN .. 1204 .. | SN .. 1506 .. | SN .. 1906 .. |
|---|---|---|---|---|
| Clamp set<br>(standard assembly parts) | PK240 SET | PK241 SET | PK242 SET | PK243 SET |
| Carbide clamp set<br>Insert with hole | | PK245 SET | PK246 SET | |
| Carbide clamp set<br>Insert without hole | | PK254 SET | | |
| Shim for SN .. 1207 .. | | AP413-SN1207 | | |

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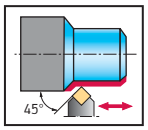
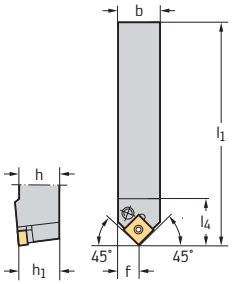
# Shank tool – Lever clamp
# PSDN
## Walter Turn




SN . .  SN . .

## Tool




| Designation | ◎ | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| PSDNN1212F09 | 9 | 12 | 12 | 6 | 80 | 20 | -6° | -6° | SN .. 0903 .. |
| PSDNN1616H09 | 9 | 16 | 16 | 8 | 100 | 21 | -6° | -6° | |
| PSDNN2020K12 | 12 | 20 | 20 | 10 | 125 | 27,6 | -6° | -6° | SN .. 1204 .. |
| PSDNN2525M12 | 12 | 25 | 25 | 13 | 150 | 27,6 | -6° | -6° | |
| PSDNN3225P12 | 12 | 32 | 25 | 13 | 170 | 27,6 | -6° | -6° | |
| PSDNN3225P15 | 15 | 32 | 25 | 13 | 170 | 36 | -6° | -6° | SN .. 1506 .. |
| PSDNN3232P19 | 19 | 32 | 32 | 16 | 170 | 40,4 | -6° | -6° | SN .. 1906 .. |
| PSDNN4040S25 | 25 | 40 | 40 | 21 | 250 | 48,8 | -6° | -6° | SN .. 2507 .. |
| | | | | | | | | | |
| | | | | | | | | | |

Measured with master insert: SN .. 090308 / SN .. 120408 / SN .. 150612 / SN .. 190612 / SN .. 250724
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type h = h1 [mm] | SN .. 0903 .. 12 | SN .. 0903 .. 16 | SN .. 1204 .. 20–32 | SN .. 1506 .. 32 | SN .. 1906 .. 32 | SN .. 2507 .. 40 |
|---|---|---|---|---|---|---|
| Shim for radius | | AP409-SN0908 r ≤ 0,8 mm | AP141-SN1216 r ≤ 1,6 mm | AP142-SN1524 r ≤ 2,4 mm | AP143-SN1924 r ≤ 2,4 mm | AP144-SN2524 r ≤ 2,4 mm |
| Lever | KN126 | KN101 | KN102 | KN104 | KN106 | KN107 |
| Clamping screw Tightening torque | FS2182 (SW 2) 2,0 Nm | FS351 (SW 2,5) 2,0 Nm | FS352 (SW 3) 5,0 Nm | FS354 (SW 3) 5,0 Nm | FS356 (SW 4) 10,0 Nm | FS357 (SW 5) 14,0 Nm |
| Shim pin | | RS120 | RS102 | RS103 | RS104 | RS105 |
| Tapered assembly pin | | MD101 | MD101 | MD102 | MD102 | MD103 |
| Allen key | ISO2936-2 (SW 2) | ISO2936-2,5 (SW 2,5) | ISO2936-3 (SW 3) | ISO2936-3 (SW 3) | ISO2936-4 (SW 4) | ISO2936-5 (SW 5) |

## Accessories

| Type | SN .. 1204 .. | SN .. 1506 .. | SN .. 1906 .. | SN .. 2507 .. |
|---|---|---|---|---|
| Shim for radius | AP141-SN1208 r ≤ 0,8 mm | AP142-SN1516 r ≤ 1,6 mm | AP143-SN1912 r ≤ 1,2 mm | AP191-SN250924 r ≤ 2,4 mm |

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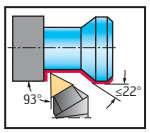
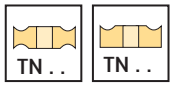
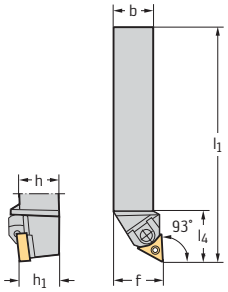
# Shank tool – Wedge-type clamping
# MTJN
## Walter Turn




## Tool




| Designation | | h = $h_1$ mm | b mm | f mm | $l_1$ mm | $l_4$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| MTJNR/L2020K16 | 16 | 20 | 20 | 25 | 125 | 30,8 | -6° | -6° | TN .. 1604 .. |
| MTJNR/L2525M16 | 16 | 25 | 25 | 32 | 150 | 30,8 | -6° | -6° | |
| MTJNR/L3225P16 | 16 | 32 | 25 | 32 | 170 | 30,8 | -6° | -6° | |
| MTJNR/L2525M22 | 22 | 25 | 25 | 32 | 150 | 34,8 | -6° | -6° | TN .. 2204 .. |
| MTJNR/L3225P22 | 22 | 32 | 25 | 32 | 170 | 34,8 | -6° | -6° | |
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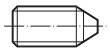
Measured with master insert: TN .. 160408 / TN .. 220408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: MTJNR2020K16/ordering example, left-hand tool: MTJNL2020K16
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | TN .. 1604 .. | TN .. 2204 .. |
|---|---|---|---|
| | Clamping wedge set | FK303 (SW 2,5) | FK304 (SW 3) |
| | Shim for radius | AP147 r ≤ 1,6 mm | AP148 r ≤ 1,6 mm |
| | Pin | RS106 | RS107 |
|  | Clamping screw Tightening torque | FS358 (SW 3) 5,0 Nm | FS358 (SW 3) 5,0 Nm |
| | Allen key | ISO2936-2,5 (SW 2,5) | ISO2936-3 (SW 3) |

## Accessories

| | Type | TN .. 2204 .. |
|---|---|---|
| | Shim for radius | AP149 r ≤ 0,8 mm |

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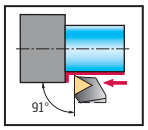
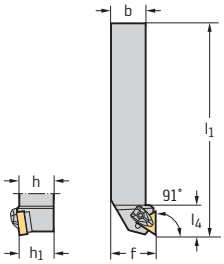
# Shank tool – Rigid clamping
# DTGN
## Walter Turn




TN . .  TN . .

## Tool




| Designation | | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| DTGNR/L2020K16 | 16 | 20 | 20 | 25 | 125 | 25,4 | -6° | -6° | TN .. 1604 .. |
| DTGNR/L2525M16 | 16 | 25 | 25 | 32 | 150 | 24,6 | -6° | -6° | |
| DTGNR/L3225P16 | 16 | 32 | 25 | 32 | 170 | 25,3 | -6° | -6° | |
| DTGNR/L2525M22 | 22 | 25 | 25 | 32 | 150 | 32,1 | -6° | -6° | TN .. 2204 .. |
| DTGNR/L3225P22 | 22 | 32 | 25 | 32 | 170 | 33,1 | -6° | -6° | |
| | | | | | | | | | |
| | | | | | | | | | |
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| | | | | | | | | | |

Measured with master insert: TN .. 160408 / TN .. 220408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: DTGNR2020K16/ordering example, left-hand tool: DTGNL2020K16
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type | TN .. 1604 .. | TN .. 2204 .. |
|---|---|---|
| Shim | AP321-TN16 | AP322-TN22 |
| Screw for shim<br>Tightening torque | FS1462 (Torx 9IP)<br>1,5 Nm | FS1461 (Torx 15IP)<br>2,5 Nm |
| Clamp | PK240 | PK241 |
| Clamp screw<br>Tightening torque | FS1472 (Torx 9IP)<br>1,7 Nm | FS1473 (Torx 15IP)<br>3,9 Nm |
| Pressure spring | FS1469 | FS1470 |
| Pin | RS116 | RS117 |
| Torx key | FS1466 (Torx 9IP) | FS1465 (Torx 15IP / SW 3,5) |

## Accessories

| Type | TN .. 1604 .. | TN .. 2204 .. |
|---|---|---|
| Clamp set<br>(standard assembly parts) | PK240 SET | PK241 SET |
| Carbide clamp set<br>Insert with hole | | PK245 SET |
| Carbide clamp set<br>Insert without hole | | PK254 SET |

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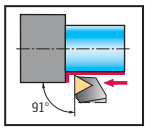
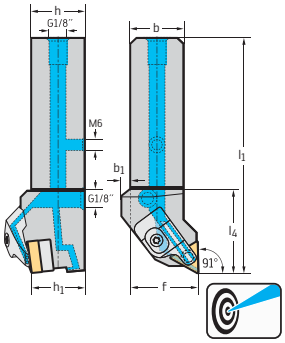
# Shank tool – Rigid clamping
# DTGN...-P
# Walter Turn

– Precision cooling




TN . .

## Tool




| Designation | | h = h1 mm | b mm | b1 mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|---|
| DTGNR/L2020X16-P | 16 | 20 | 20 | 5 | 25 | 115 | 38,5 | -6° | -6° | TN .. 1604 .. |
| DTGNR/L2525X16-P | 16 | 25 | 25 | | 32 | 130 | 38,5 | -6° | -6° | |

Measured with master insert: TN .. 160408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
For the connection set for coolant supply with G1/8" thread, see "Assembly parts and accessories"
The maximum recommended coolant pressure is 150 bar (2175 psi)
Ordering example, right-hand tool: DTGNR2020X16-P/ordering example, left-hand tool: DTGNL2020X16-P
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type | TN .. 1604 .. |
|---|---|
| Shim | AP321-TN16 |
| Screw for shim<br>Tightening torque | FS1462 (Torx 9IP)<br>1,5 Nm |
| Left clamp | PK261L |
| Right clamp | PK261R |
| Clamp screw<br>Tightening torque | FS1473 (Torx 15IP)<br>3,9 Nm |
| Pressure spring | FS2188 |
| G 1/8" screw | FS2258 (SW 5) |
| M6 threaded pin | FS2288 (SW 3) |
| Torx key | FS1465 (Torx 15IP / SW 3,5) |

## Accessories

| Type | TN .. 1604 .. |
|---|---|
| Left-hand clamp set<br>(standard assembly parts) | PK261L SET |
| Right-hand clamp set<br>(standard assembly parts) | PK261R SET |

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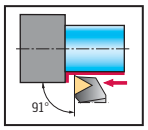
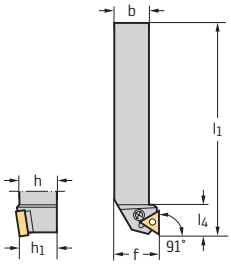
# Shank tool – Lever clamp
# PTGN
## Walter Turn




TN . .  TN . .

## Tool




| Designation | | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| PTGNR/L1212F11 | 11 | 12 | 12 | 16 | 80 | 15,6 | -6° | -6° | TN .. 1103 .. |
| PTGNR/L1616H11 | 11 | 16 | 16 | 20 | 100 | 18 | -6° | -6° | |
| PTGNR/L1616H16 | 16 | 16 | 16 | 20 | 100 | 20,2 | -6° | -6° | TN .. 1604 .. |
| PTGNR/L2020K16 | 16 | 20 | 20 | 25 | 125 | 20,2 | -6° | -6° | |
| PTGNR/L2525M16 | 16 | 25 | 25 | 32 | 150 | 22,2 | -6° | -6° | |
| PTGNR/L3225P16 | 16 | 32 | 25 | 32 | 170 | 22,2 | -6° | -6° | |
| PTGNR/L3232P22 | 22 | 32 | 32 | 40 | 170 | 28,7 | -6° | -6° | TN .. 2204 .. |
| PTGNR/L4040S27 | 27 | 40 | 40 | 50 | 250 | 34 | -6° | -6° | TN .. 2706 .. |

Measured with master insert: TN .. 110304 / TN .. 160408 / TN .. 220408 / TN .. 270612
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: PTGNR1212F11/ordering example, left-hand tool: PTGNL1212F11
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type | TN .. 1103 .. | TN .. 1604 .. | TN .. 2204 .. | TN .. 2706 .. |
|---|---|---|---|---|
| Shim for radius | | AP137-TN1616 r ≤ 1,6 mm | AP138-TN2216 r ≤ 1,6 mm | AP193-TN2716 r ≤ 1,6 mm |
| Lever | KN127 | KN101 | KN102 | KN125 |
| Clamping screw Tightening torque | FS2182 (SW 2) 2,0 Nm | FS351 (SW 2,5) 2,0 Nm | FS352 (SW 3) 5,0 Nm | FS2156 (SW 3) 5,0 Nm |
| Shim pin | | RS101 | RS102 | RS103 |
| Tapered assembly pin | | MD101 | MD101 | MD102 |
| Allen key | ISO2936-2 (SW 2) | ISO2936-2,5 (SW 2,5) | ISO2936-3 (SW 3) | ISO2936-3 (SW 3) |

## Accessories

| Type | TN .. 1604 .. | TN .. 2204 .. |
|---|---|---|
| Shim for radius | AP137-TN1608 r ≤ 0,8 mm | AP138-TN2208 r ≤ 0,8 mm |

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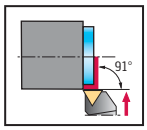
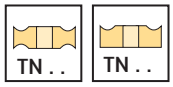
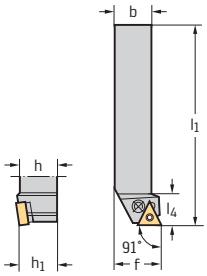
# Shank tool – Lever clamp
# PTFN
## Walter Turn




## Tool




| Designation | | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| PTFNR/L1212F11 | 11 | 12 | 12 | 16 | 80 | 15 | -6° | -6° | TN .. 1103 .. |
| PTFNR/L1616H16 | 16 | 16 | 16 | 20 | 100 | 19,7 | -6° | -6° | TN .. 1604 .. |
| PTFNR/L2020K16 | 16 | 20 | 20 | 25 | 125 | 20,2 | -6° | -6° | |
| PTFNR/L2525M16 | 16 | 25 | 25 | 32 | 150 | 20,2 | -6° | -6° | |
| PTFNR/L3225P16 | 16 | 32 | 25 | 32 | 170 | 20 | -6° | -6° | |
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Measured with master insert: TN .. 110304 / TN .. 160408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: PTFNR1212F11/ordering example, left-hand tool: PTFNL1212F11
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type | TN .. 1103 .. | TN .. 1604 .. |
|---|---|---|
| Shim for radius | | AP137-TN1616 r ≤ 1,6 mm |
| Lever | KN127 | KN101 |
| Clamping screw Tightening torque | FS2182 (SW 2) 2,0 Nm | FS351 (SW 2,5) 2,0 Nm |
| Shim pin | | RS101 |
| Tapered assembly pin | | MD101 |
| Allen key | ISO2936-2 (SW 2) | ISO2936-2,5 (SW 2,5) |

## Accessories

| Type | TN .. 1604 .. |
|---|---|
| Shim for radius | AP137-TN1608 r ≤ 0,8 mm |

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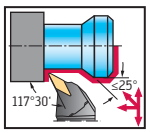
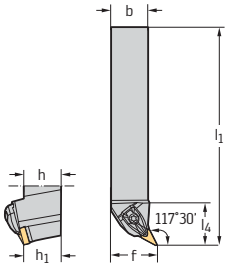
# Shank tool – Rigid clamping
# DVPN
## Walter Turn



## Tool




| Designation | | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| DVPNR/L2525M16 | 16 | 25 | 25 | 32 | 150 | 39,2 | -4° | -13° | VN .. 1604 .. |
| DVPNR/L3225P16 | 16 | 32 | 25 | 32 | 170 | 39,2 | -4° | -13° | |
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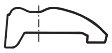
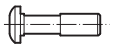
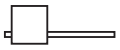
Measured with master insert: VN .. 160408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: DVPNR2525M16/ordering example, left-hand tool: DVPNL2525M16
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | VN .. 1604 .. |
|---|---|---|
| | Shim | AP312-VN16 |
| | Screw for shim<br>Tightening torque | FS1467 (Torx 15IP)<br>3,0 Nm |
|  | Clamp | PK244 |
|  | Clamp screw<br>Tightening torque | FS1473 (Torx 15IP)<br>1,7 Nm |
| | Pressure spring | FS1470 |
|  | Pin | RS117 |
|  | Torx key | FS1465 (Torx 15IP / SW 3,5) |

## Accessories

| | Type | VN .. 1604 .. |
|---|---|---|
| | Clamp set<br>(standard assembly parts) | PK244 SET |

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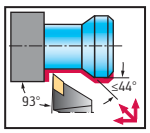
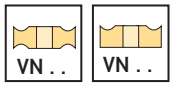
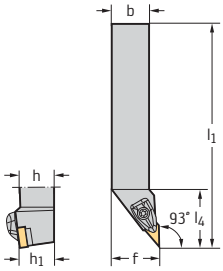
# Shank tool – Rigid clamping
# DVJN
## Walter Turn




## Tool




| Designation | | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| DVJNR/L2020K16 | 16 | 20 | 20 | 25 | 125 | 46,6 | -4° | -13° | |
| DVJNR/L2525M16 | 16 | 25 | 25 | 32 | 150 | 46,6 | -4° | -13° | VN .. 1604 .. |
| DVJNR/L3225P16 | 16 | 32 | 25 | 32 | 170 | 46,6 | -4° | -13° | |
| | | | | | | | | | |
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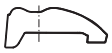
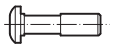
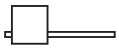
Measured with master insert: VN .. 160408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: DVJNR2020K16/ordering example, left-hand tool: DVJNL2020K16
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | VN .. 1604 .. |
|---|---|---|
| | Shim | AP312-VN16 |
| | Screw for shim<br>Tightening torque | FS1467 (Torx 15IP)<br>3,0 Nm |
|  | Clamp | PK244 |
|  | Clamp screw<br>Tightening torque | FS1473 (Torx 15IP)<br>1,7 Nm |
| | Pressure spring | FS1470 |
|  | Pin | RS117 |
|  | Torx key | FS1465 (Torx 15IP / SW 3,5) |

## Accessories

| | Type | VN .. 1604 .. |
|---|---|---|
| | Clamp set<br>(standard assembly parts) | PK244 SET |

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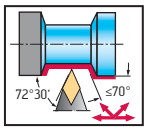
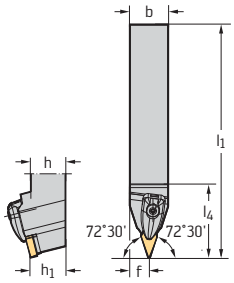
# Shank tool – Rigid clamping
# DVVN
# Walter Turn



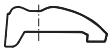
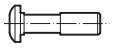
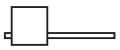
## Tool




| Designation | | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| DVVNN2020K16 | 16 | 20 | 20 | 11 | 125 | 47,8 | -4° | -13° | VN .. 1604 .. |
| DVVNN2525M16 | 16 | 25 | 25 | 13 | 150 | 47,8 | -4° | -13° | |
| DVVNN3225P16 | 16 | 32 | 25 | 13 | 170 | 47,8 | -4° | -13° | |

Measured with master insert: VN .. 160408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | VN .. 1604 .. |
|---|---|---|
| | Shim | AP312-VN16 |
| | Screw for shim<br>Tightening torque | FS1467 (Torx 15IP)<br>3,0 Nm |
|  | Clamp | PK244 |
|  | Clamp screw<br>Tightening torque | FS1473 (Torx 15IP)<br>1,7 Nm |
| | Pressure spring | FS1470 |
|  | Pin | RS117 |
|  | Torx key | FS1465 (Torx 15IP / SW 3,5) |

## Accessories

| | Type | VN .. 1604 .. |
|---|---|---|
| | Clamp set<br>(standard assembly parts) | PK244 SET |

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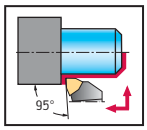
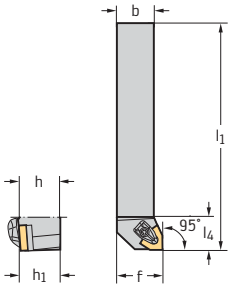
# Shank tool – Rigid clamping
# DWLN
# Walter Turn




WN . .  WN . .

## Tool




| Designation | | h = $h_1$ mm | b mm | f mm | $l_1$ mm | $l_4$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| DWLNR/L1616H06 | 6 | 16 | 16 | 20 | 100 | 26,4 | -6° | -6° | WN .. 0604 .. |
| DWLNR/L2020K06 | 6 | 20 | 20 | 25 | 125 | 27,1 | -6° | -6° | |
| DWLNR/L2525M06 | 6 | 25 | 25 | 32 | 150 | 27,1 | -6° | -6° | |
| DWLNR/L3225P06 | 6 | 32 | 25 | 32 | 170 | 27,1 | -6° | -6° | |
| DWLNR/L2020K08 | 8 | 20 | 20 | 25 | 125 | 34,3 | -6° | -6° | WN .. 0804 .. |
| DWLNR/L2525M08 | 8 | 25 | 25 | 32 | 150 | 35 | -6° | -6° | |
| DWLNR/L3225P08 | 8 | 32 | 25 | 32 | 170 | 35 | -6° | -6° | |
| DWLNR/L2525M10 | 10 | 25 | 25 | 32 | 150 | 40,3 | -6° | -6° | WN .. 1006 .. |
| DWLNR/L3225P10 | 10 | 32 | 25 | 32 | 170 | 40,3 | -6° | -6° | |
| DWLNR/L3232P10 | 10 | 32 | 32 | 40 | 170 | 41,8 | -6° | -6° | |

Measured with master insert: WN .. 060408 / WN .. 080408 / WN .. 100612
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: DWLNR1616H06/ordering example, left-hand tool: DWLNL1616H06
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type | WN .. 0604 .. | WN .. 0804 .. | WN .. 1006 .. |
|---|---|---|---|
| Shim | AP306-WN06 | AP307-WN08 | AP311-WN10 |
| Screw for shim<br>Tightening torque | FS1462 (Torx 9IP)<br>1,5 Nm | FS1461 (Torx 15IP)<br>2,5 Nm | FS1463 (Torx 20IP)<br>5,0 Nm |
| Clamp | PK240 | PK241 | PK242 |
| Clamp screw<br>Tightening torque | FS1472 (Torx 9IP)<br>1,7 Nm | FS1473 (Torx 15IP)<br>3,9 Nm | FS1474 (Torx 20IP)<br>6,4 Nm |
| Pressure spring | FS1469 | FS1470 | FS1471 |
| Pin | RS116 | RS117 | RS117 |
| Torx key | FS1466 (Torx 9IP) | FS1465 (Torx 15IP / SW 3,5) | FS1464 (Torx 20IP) |

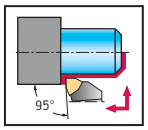
## Accessories

| Type | WN .. 0604 .. | WN .. 0804 .. | WN .. 1006 .. |
|---|---|---|---|
| Clamp set<br>(standard assembly parts) | PK240 SET | PK241 SET | PK242 SET |
| Carbide clamp set<br>Insert with hole | | PK245 SET | PK246 SET |
| Carbide clamp set<br>Insert without hole | | PK254 SET | |

A 34  D 1  A 93  A 93  A 93

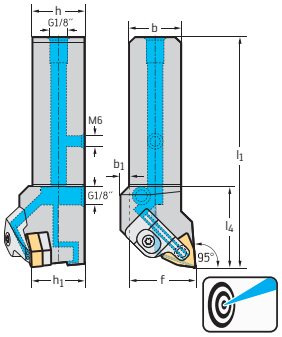
# Shank tool – Rigid clamping
# DWLN...-P
# Walter Turn

– Precision cooling




WN . .

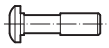
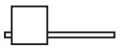
## Tool




| Designation | | h = h1 mm | b mm | b1 mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|---|
| DWLNR/L2020X08-P | 8 | 20 | 20 | 10 | 25 | 115 | 38,5 | -6° | -6° | WN .. 0804 .. |
| DWLNR/L2525X08-P | 8 | 25 | 25 | 0 | 32 | 130 | 38,5 | -6° | -6° | |

Measured with master insert: WN .. 080408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
For the connection set for coolant supply with G1/8" thread, see "Assembly parts and accessories"
The maximum recommended coolant pressure is 150 bar (2175 psi)
Ordering example, right-hand tool: DWLNR2020X08-P/ordering example, left-hand tool: DWLNL2020X08-P
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | WN .. 0804 .. |
|---|---|---|
| | Shim | AP307-WN08 |
| | Screw for shim<br>Tightening torque | FS1461 (Torx 15IP)<br>2,5 Nm |
| | Left clamp | PK266L |
| | Right clamp | PK266R |
|  | Clamp screw<br>Tightening torque | FS1473 (Torx 15IP)<br>3,9 Nm |
| | Pressure spring | FS2188 |
| | G 1/8" screw | FS2258 (SW 5) |
| | M6 threaded pin | FS2288 (SW 3) |
|  | Torx key | FS1465 (Torx 15IP / SW 3,5) |

## Accessories

| | Type | WN .. 0804 .. |
|---|---|---|
| | Left-hand clamp set<br>(standard assembly parts) | PK266L SET |
| | Right-hand clamp set<br>(standard assembly parts) | PK266R SET |

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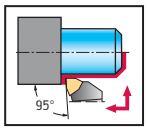
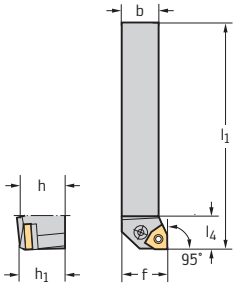
# Shank tool – Lever clamp
# PWLN
## Walter Turn



## Tool




| Designation | | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| PWLNR/L1616H06 | 6 | 16 | 16 | 20 | 100 | 18,5 | -6° | -6° | |
| PWLNR/L2020K06 | 6 | 20 | 20 | 25 | 125 | 18,5 | -6° | -6° | WN .. 0604 .. |
| PWLNR/L2525M06 | 6 | 25 | 25 | 32 | 150 | 18,5 | -6° | -6° | |
| PWLNR/L2020K08 | 8 | 20 | 20 | 25 | 125 | 22 | -6° | -6° | |
| PWLNR/L2525M08 | 8 | 25 | 25 | 32 | 150 | 22 | -6° | -6° | WN .. 0804 .. |
| PWLNR/L3225P08 | 8 | 32 | 25 | 32 | 170 | 22 | -6° | -6° | |
| PWLNR/L2525M10 | 10 | 25 | 25 | 32 | 150 | 22 | -6° | -6° | |
| PWLNR/L3225P10 | 10 | 32 | 25 | 32 | 170 | 22 | -6° | -6° | WN .. 1006 .. |
| | | | | | | | | | |
| | | | | | | | | | |

Measured with master insert: WN .. 060408 / WN .. 080408 / WN .. 100612
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: PWLNR1616H06/ordering example, left-hand tool: PWLNL1616H06
Bodies and assembly parts are included in the scope of delivery.

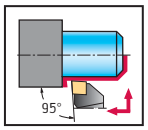
## Assembly parts

| | Type | WN .. 0604 .. | WN .. 0804 .. | WN .. 1006 .. |
|---|---|---|---|---|
| | Shim for radius | AP172-WN0612 r ≤ 1,2 mm | AP170-WN0816 r ≤ 1,6 mm | AP174-WN1016 r ≤ 1,6 mm |
| | Lever | KN101 | KN102 | KN104 |
| | Clamping screw Tightening torque | FS351 (SW 2,5) 2,0 Nm | FS352 (SW 3) 5,0 Nm | FS354 (SW 3) 5,0 Nm |
| | Shim pin | RS101 | RS102 | RS103 |
| | Tapered assembly pin | MD101 | MD101 | MD102 |
| | Allen key | ISO2936-2,5 (SW 2,5) | ISO2936-3 (SW 3) | ISO2936-3 (SW 3) |

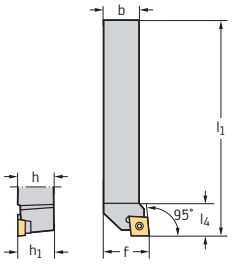
## Accessories

| | Type | WN .. 0804 .. |
|---|---|---|
| | Shim for radius | AP170-WN0808 r ≤ 0,8 mm |

# Shank tool – Screw clamping
# SCLC
## Walter Turn



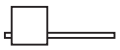
## Tool




| Designation | | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| SCLCR/L1010E06 | 6 | 10 | 10 | 12 | 70 | 11 | 0° | 0° | CC .. 0602 .. |
| SCLCR/L1212F06 | 6 | 12 | 12 | 16 | 80 | 10 | 0° | 0° | |
| SCLCR/L1616H06 | 6 | 16 | 16 | 20 | 100 | 12 | 0° | 0° | |
| SCLCR/L2020K06 | 6 | 20 | 20 | 25 | 125 | 12 | 0° | 0° | |
| SCLCR/L1212F09 | 9 | 12 | 12 | 16 | 80 | 15,6 | 0° | 0° | CC .. 09T3 .. |
| SCLCR/L1616H09 | 9 | 16 | 16 | 20 | 100 | 16,8 | 0° | 0° | |
| SCLCR/L2020K09 | 9 | 20 | 20 | 25 | 125 | 17,8 | 0° | 0° | |
| SCLCR/L2525M09 | 9 | 25 | 25 | 32 | 150 | 17 | 0° | 0° | |
| SCLCR/L2020K12 | 12 | 20 | 20 | 25 | 125 | 21,7 | 0° | 0° | CC .. 1204 .. |
| SCLCR/L2525M12 | 12 | 25 | 25 | 32 | 150 | 23,7 | 0° | 0° | |

Measured with master insert: CC .. 060204 / CC .. 09T308 / CC .. 120408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: SCLCR1010E06/ordering example, left-hand tool: SCLCL1010E06
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type<br>h = h1 [mm] | CC .. 0602 ..<br>10–20 | CC .. 09T3 ..<br>12 | CC .. 09T3 ..<br>16–25 | CC .. 1204 ..<br>20–25 |
|---|---|---|---|---|---|
| | Clamping screw for indexable insert<br>Tightening torque | FS2061 (Torx 7IP)<br>0,9 Nm | FS2063 (Torx 15IP)<br>3,0 Nm | FS2060 (Torx 15IP)<br>3,0 Nm | FS2065 (Torx 15IP)<br>3,0 Nm |
| | Shim<br>for radius | | | AP313-CC0908<br>r ≤ 0,8 mm | AP314-CC1212<br>r ≤ 1,2 mm |
| | Screw for shim | | | FS2068 (SW 3,5) | FS2069 (SW 4) |
|  | Torx key | FS1490 (Torx 7IP) | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) | FS1496 (Torx 15IP / SW 4) |

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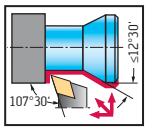
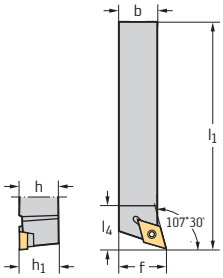
# Shank tool – Screw clamping
# SDHC
## Walter Turn



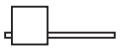
## Tool




| Designation | | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| SDHCR/L1212F07 | 7 | 12 | 12 | 16 | 80 | 14,3 | 0° | 0° | DC .. 0702 .. |
| SDHCR/L1616H11 | 11 | 12 | 12 | 20 | 100 | 17,9 | 0° | 0° | |
| SDHCR/L2020K11 | 11 | 20 | 20 | 25 | 125 | 17,9 | 0° | 0° | DC .. 11T3 .. |
| SDHCR/L2525M11 | 11 | 25 | 25 | 32 | 150 | 20 | 0° | 0° | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Measured with master insert: DC .. 070204 / DC .. 11T308
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: SDHCR1212F07/ordering example, left-hand tool: SDHCL1212F07
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | DC .. 0702 .. | DC .. 11T3 .. |
|---|---|---|---|
| | Clamping screw for indexable insert<br>Tightening torque | FS2061 (Torx 7IP)<br>0,9 Nm | FS2060 (Torx 15IP)<br>3,0 Nm |
| | Shim<br>for radius | | AP315-DC1108<br>r ≤ 0,8 mm |
| | Screw for shim | | FS2068 (SW 3,5) |
|  | Torx key | FS1490 (Torx 7IP) | FS1465 (Torx 15IP / SW 3,5) |

## Accessories

| | Type | DC .. 11T3 .. |
|---|---|---|
| | Shim<br>for radius | AP329-DC1112<br>r ≤ 1,2 mm |

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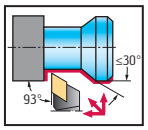
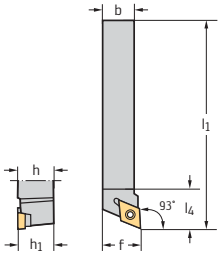
# Shank tool – Screw clamping
# SDJC
## Walter Turn



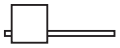
## Tool




| Designation | | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| SDJCR/L1010E07 | 7 | 10 | 10 | 12 | 70 | 15,7 | 0° | 0° | DC .. 0702 .. |
| SDJCR/L1212F07 | 7 | 12 | 12 | 16 | 80 | 15,5 | 0° | 0° | |
| SDJCR/L1616H11 | 11 | 16 | 16 | 20 | 100 | 20,3 | 0° | 0° | DC .. 11T3 .. |
| SDJCR/L2020K11 | 11 | 20 | 20 | 25 | 125 | 21,9 | 0° | 0° | |
| SDJCR/L2525M11 | 11 | 25 | 25 | 32 | 150 | 24,4 | 0° | 0° | |

Measured with master insert: DC .. 070204 / DC .. 11T308
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: SDJCR1010E07/ordering example, left-hand tool: SDJCL1010E07
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | DC .. 0702 .. | DC .. 11T3 .. |
|---|---|---|---|
| | Clamping screw for indexable insert<br>Tightening torque | FS2061 (Torx 7IP)<br>0,9 Nm | FS2060 (Torx 15IP)<br>3,0 Nm |
| | Shim<br>for radius | | AP315-DC1108<br>r ≤ 0,8 mm |
| | Screw for shim | | FS2068 (SW 3,5) |
|  | Torx key | FS1490 (Torx 7IP) | FS1465 (Torx 15IP / SW 3,5) |

## Accessories

| | Type | DC .. 11T3 .. |
|---|---|---|
| | Shim<br>for radius | AP329-DC1112<br>r ≤ 1,2 mm |

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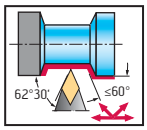
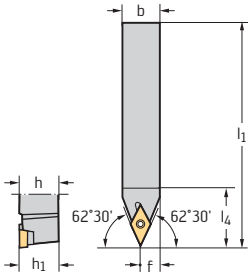
# Shank tool – Screw clamping
# SDNC
## Walter Turn



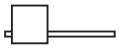
## Tool




| Designation | | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| SDNCN1010E07 | 7 | 10 | 10 | 5 | 70 | 14,5 | 0° | 0° | DC .. 0702 .. |
| SDNCN1212F07 | 7 | 12 | 12 | 6 | 80 | 14,5 | 0° | 0° | |
| SDNCN1616H11 | 11 | 16 | 16 | 9 | 100 | 21,9 | 0° | 0° | DC .. 11T3 .. |
| SDNCN2020K11 | 11 | 20 | 20 | 11 | 125 | 21,9 | 0° | 0° | |
| SDNCN2525M11 | 11 | 25 | 25 | 13 | 150 | 22,2 | 0° | 0° | |

Measured with master insert: DC .. 070204 / DC .. 11T308
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | DC .. 0702 .. | DC .. 11T3 .. |
|---|---|---|---|
| | Clamping screw for indexable insert<br>Tightening torque | FS2061 (Torx 7IP)<br>0,9 Nm | FS2060 (Torx 15IP)<br>3,0 Nm |
| | Shim<br>for radius | | AP315-DC1108<br>r ≤ 0,8 mm |
| | Screw for shim | | FS2068 (SW 3,5) |
|  | Torx key | FS1490 (Torx 7IP) | FS1465 (Torx 15IP / SW 3,5) |

## Accessories

| | Type | DC .. 11T3 .. |
|---|---|---|
| | Shim<br>for radius | AP329-DC1112<br>r ≤ 1,2 mm |

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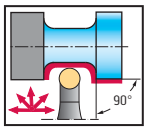
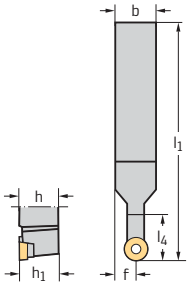
# Shank tool – Screw clamping
# SRDC
## Walter Turn



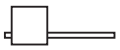
## Tool




| Designation | | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| SRDCN1212F06 | 6 | 12 | 12 | 6 | 80 | 12 | 0° | 0° | |
| SRDCN2020K06 | 6 | 20 | 20 | 10 | 125 | 24 | 0° | 0° | RC . T0602M0 .. |
| SRDCN2525M06 | 6 | 25 | 25 | 12,5 | 150 | 25 | 0° | 0° | |
| SRDCN1616H08 | 8 | 16 | 16 | 8 | 100 | 16 | 0° | 0° | |
| SRDCN2020K08 | 8 | 20 | 20 | 10 | 125 | 24 | 0° | 0° | RC . T0803M0 .. |
| SRDCN2525M08 | 8 | 25 | 25 | 12,5 | 150 | 25 | 0° | 0° | |
| SRDCN2020K10 | 10 | 20 | 20 | 10 | 125 | 25 | 0° | 0° | |
| SRDCN2525M10 | 10 | 25 | 25 | 12,5 | 150 | 25 | 0° | 0° | RC . T10T3M0 .. |
| SRDCN2020K12 | 12 | 20 | 20 | 10 | 125 | 25 | 0° | 0° | |
| SRDCN2525M12 | 12 | 25 | 25 | 12,5 | 150 | 28 | 0° | 0° | RC . T1204M0 .. |
| SRDCN3225P12 | 12 | 32 | 25 | 12,5 | 170 | 28 | 0° | 0° | |
| SRDCN3225P16 | 16 | 32 | 25 | 12,5 | 170 | 35 | 0° | 0° | RC . T1606M0 .. |

Measured with master insert: RC . T0602M0 / RC . T0803M0 / RC . T10T3M0 / RC . T1204M0 / RC . T1606M0
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | RC . T0602M0 .. | RC . T0803M0 .. | RC . T10T3M0 .. | RC . T1204M0 .. | RC . T1606M0 .. |
|---|---|---|---|---|---|---|
| | Clamping screw for indexable insert<br>Tightening torque | FS2061<br>(Torx 7IP)<br>0,9 Nm | FS1462<br>(Torx 9IP)<br>1,5 Nm | FS2063<br>(Torx 15IP)<br>3,0 Nm | FS2060<br>(Torx 15IP)<br>3,0 Nm | FS2090<br>(Torx 20IP)<br>6,4 Nm |
| | Shim | | | AP324-RC10T3 | AP325-RC1204 | AP326-RC1606 |
| | Screw for shim | | | FS2068 (SW 3,5) | FS2068 (SW 3,5) | FS2091 (SW 5) |
|  | Torx key | FS1490<br>(Torx 7IP) | FS1466<br>(Torx 9IP) | FS1465<br>(Torx 15IP /<br>SW 3,5) | FS1465<br>(Torx 15IP /<br>SW 3,5) | FS1464<br>(Torx 20IP) |

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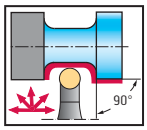
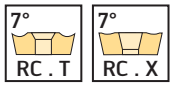
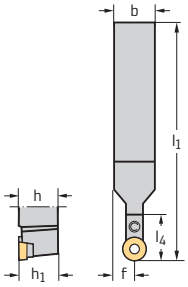
# Shank tool – Lever clamp
# PRDC
## Walter Turn




## Tool




| Designation | | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| PRDCN2020K10 | 10 | 20 | 20 | 10 | 125 | 25 | 0° | 0° | RC .. 10T3M0 .. |
| PRDCN2525M10 | 10 | 25 | 25 | 12,5 | 150 | 25 | 0° | 0° | |
| PRDCN2525M12 | 12 | 25 | 25 | 12,5 | 150 | 28 | 0° | 0° | RC .. 1204M0 .. |
| PRDCN3225P12 | 12 | 32 | 25 | 12,5 | 170 | 28 | 0° | 0° | |
| PRDCN3225P16 | 16 | 32 | 25 | 12,5 | 170 | 35 | 0° | 0° | RC .. 1605M0 .. |
| PRDCN3232P20 | 20 | 32 | 32 | 16 | 170 | 40 | 0° | 0° | RC .. 2006M0 .. |
| PRDCN4040S25 | 25 | 40 | 40 | 20 | 250 | 50 | 0° | 0° | RC .. 2507M0 .. |
| PRDCN5050U32 | 32 | 50 | 50 | 25 | 350 | 55 | 0° | 0° | RC .. 3209M0 .. |
| | | | | | | | | | |
| | | | | | | | | | |

Measured with master insert: RC .. 10T3M0 / RC .. 1204M0 / RC .. 1605M0 / RC .. 2006M0 / RC .. 2507M0 / RC .. 3209M0
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | RC .. 10T3M0 .. | RC .. 1204M0 .. | RC .. 1605M0 .. | RC .. 2006M0 .. | RC .. 2507M0 .. | RC .. 3209M0 .. |
|---|---|---|---|---|---|---|---|
| | Shim | AP407-RC10T3 | AP402-RC1204 | AP403-RC1605 | AP404-RC2006 | AP405-RC2507 | AP406-RC3209 |
| | Lever | KN122 | KN123 | KN111 | KN112 | KN113 | KN124 |
| | Clamping screw<br>Tightening torque | FS2155 (SW 2)<br>0,6 Nm | FS351 (SW 2,5)<br>2,0 Nm | FS344 (SW 2,5)<br>2,5 Nm | FS2156 (SW 3)<br>5,0 Nm | FS2145 (SW 4)<br>10,0 Nm | FS357 (SW 5)<br>14,0 Nm |
| | Shim pin | RS101 | RS120 | RS118 | RS103 | RS104 | RS105 |
| | Tapered assembly pin | MD101 | MD101 | MD101 | MD102 | MD102 | MD103 |
| | Allen key | ISO2936-2 (SW 2) | ISO2936-2,5 (SW 2,5) | ISO2936-2,5 (SW 2,5) | ISO2936-3 (SW 3) | ISO2936-4 (SW 4) | ISO2936-5 (SW 5) |

## Accessories

| | Type | RC .. 10T3M0 .. | RC .. 1605M0 .. |
|---|---|---|---|
| | Shim for RC .. 1003 .. | AP401-RC1003 | |
| | Shim for RC .. 1606 .. | | AP403-RC1606 |

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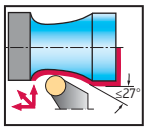
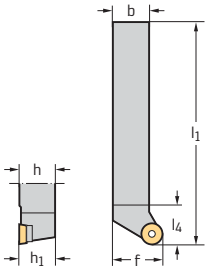
# Shank tool – Screw clamping
# SRSC
## Walter Turn



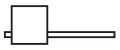
## Tool




| Designation | | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| SRSCR/L2020K06 | 6 | 20 | 20 | 25 | 125 | 20 | 0° | 0° | RC . T0602M0 .. |
| SRSCR/L2525M06 | 6 | 25 | 25 | 32 | 150 | 20 | 0° | 0° | |
| SRSCR/L2020K08 | 8 | 20 | 20 | 25 | 125 | 20 | 0° | 0° | RC . T0803M0 .. |
| SRSCR/L2525M08 | 8 | 25 | 25 | 32 | 150 | 20 | 0° | 0° | |
| SRSCR/L2020K10 | 10 | 20 | 20 | 25 | 125 | 20 | 0° | 0° | RC . T10T3M0 .. |
| SRSCR/L2525M10 | 10 | 25 | 25 | 32 | 150 | 28 | 0° | 0° | |
| SRSCR/L2020K12 | 12 | 20 | 20 | 25 | 125 | 22 | 0° | 0° | RC . T1204M0 .. |
| SRSCR/L2525M12 | 12 | 25 | 25 | 32 | 150 | 28 | 0° | 0° | |
| SRSCR/L3225P12 | 12 | 32 | 25 | 32 | 170 | 32 | 0° | 0° | |
| SRSCR/L3225P16 | 16 | 32 | 25 | 32 | 170 | 32 | 0° | 0° | RC . T1606M0 .. |

Measured with master insert: RC . T0602M0 / RC . T0803M0 / RC . T10T3M0 / RC . T1204M0 / RC . T1606M0
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: SRSCR2020K06/ordering example, left-hand tool: SRSCL2020K06
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | RC . T0602M0 .. | RC . T0803M0 .. | RC . T10T3M0 .. | RC . T1204M0 .. | RC . T1606M0 .. |
|---|---|---|---|---|---|---|
| | Clamping screw for indexable insert<br>Tightening torque | FS2061<br>(Torx 7IP)<br>0,9 Nm | FS1462<br>(Torx 9IP)<br>1,5 Nm | FS2063<br>(Torx 15IP)<br>3,0 Nm | FS2060<br>(Torx 15IP)<br>3,0 Nm | FS2090<br>(Torx 20IP)<br>6,4 Nm |
| | Shim | | | AP324-RC10T3 | AP325-RC1204 | AP326-RC1606 |
| | Screw for shim | | | FS2068 (SW 3,5) | FS2068 (SW 3,5) | FS2091 (SW 5) |
|  | Torx key | FS1490<br>(Torx 7IP) | FS1466<br>(Torx 9IP) | FS1465<br>(Torx 15IP /<br>SW 3,5) | FS1465<br>(Torx 15IP /<br>SW 3,5) | FS1464<br>(Torx 20IP) |

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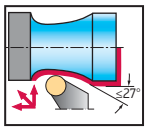
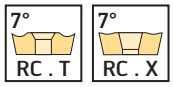
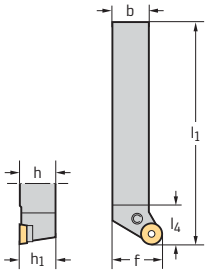
# Shank tool – Lever clamp
# PRGC
## Walter Turn






## Tool




| Designation | | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| PRGCL2020K10 | 10 | 20 | 20 | 25 | 125 | 20,8 | 0° | 0° | RC .. 10T3M0 .. |
| PRGCR/L2525M10 | 10 | 25 | 25 | 32 | 150 | 27,2 | 0° | 0° | |
| PRGCR/L2525M12 | 12 | 25 | 25 | 32 | 150 | 27,2 | 0° | 0° | RC .. 1204M0 .. |
| PRGCR/L3225P12 | 12 | 32 | 25 | 32 | 170 | 32 | 0° | 0° | |
| PRGCR/L3225P16 | 16 | 32 | 25 | 32 | 170 | 33,2 | 0° | 0° | RC .. 1605M0 .. |
| PRGCR/L3232P20 | 20 | 32 | 32 | 40 | 170 | 38 | 0° | 0° | RC .. 2006M0 .. |
| PRGCR/L4040S25 | 25 | 40 | 40 | 50 | 250 | 50,5 | 0° | 0° | RC .. 2507M0 .. |
| | | | | | | | | | |
| | | | | | | | | | |

Measured with master insert: RC .. 10T3M0 / RC .. 1204M0 / RC .. 1605M0 / RC .. 2006M0 / RC .. 2507M0
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: PRGCR2525M10/ordering example, left-hand tool: PRGCL2525M10
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type | RC .. 10T3M0 .. | RC .. 1204M0 .. | RC .. 1605M0 .. | RC .. 2006M0 .. | RC .. 2507M0 .. |
|---|---|---|---|---|---|
| Shim | AP407-RC10T3 | AP402-RC1204 | AP403-RC1605 | AP404-RC2006 | AP405-RC2507 |
| Lever | KN122 | KN123 | KN111 | KN112 | KN113 |
| Clamping screw<br>Tightening torque | FS2155 (SW 2)<br>0,6 Nm | FS351 (SW 2,5)<br>2,0 Nm | FS344 (SW 2,5)<br>2,5 Nm | FS2156 (SW 3)<br>5,0 Nm | FS2145 (SW 4)<br>10,0 Nm |
| Shim pin | RS101 | RS120 | RS118 | RS103 | RS104 |
| Tapered assembly pin | MD101 | MD101 | MD101 | MD102 | MD102 |
| Allen key | ISO2936-2<br>(SW 2) | ISO2936-2,5<br>(SW 2,5) | ISO2936-2,5<br>(SW 2,5) | ISO2936-3<br>(SW 3) | ISO2936-4<br>(SW 4) |

## Accessories

| Type | RC .. 10T3M0 .. | RC .. 1605M0 .. |
|---|---|---|
| Shim for RC .. 1003 .. | AP401-RC1003 | |
| Shim for RC .. 1606 .. | | AP403-RC1606 |

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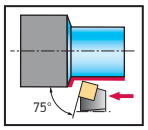
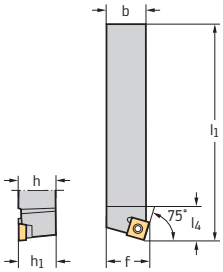
# Shank tool – Screw clamping
# SSBC
## Walter Turn



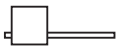
## Tool




| Designation | | h = $h_1$ mm | b mm | f mm | $l_1$ mm | $l_4$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| SSRCR/L1212F09 | 9 | 12 | 12 | 14 | 80 | 15,5 | 0° | 0° | SC .. 09T3 .. |
| SSBCR/L1616H09 | 9 | 16 | 16 | 13 | 100 | 15,3 | 0° | 0° | |
| SSBCR/L2020K12 | 12 | 20 | 20 | 17 | 125 | 20,1 | 0° | 0° | SC .. 1204 .. |
| SSBCR/L2525M12 | 12 | 25 | 25 | 22 | 150 | 20,1 | 0° | 0° | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Measured with master insert: SC .. 09T308 / SC .. 120408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: SSRCR1212F09/ordering example, left-hand tool: SSRCL1212F09
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type<br>h = $h_1$ [mm] | SC .. 09T3 ..<br>12 | SC .. 09T3 ..<br>16 | SC .. 1204 ..<br>20–25 |
|---|---|---|---|---|
| | Clamping screw for indexable insert<br>Tightening torque | FS2063 (Torx 15IP)<br>3,0 Nm | FS2060 (Torx 15IP)<br>3,0 Nm | FS2065 (Torx 15IP)<br>3,0 Nm |
| | Shim | | AP328-SC0908 | AP319-SC1212 |
| | Screw for shim | | FS2068 (SW 3,5) | FS2069 (SW 4) |
|  | Torx key | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) | FS1496 (Torx 15IP / SW 4) |

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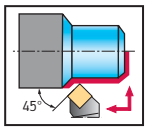
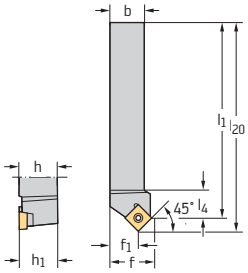
# Shank tool – Screw clamping
# SSDC
## Walter Turn



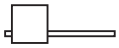
## Tool




| Designation | | h = h1 mm | b mm | f mm | f1 mm | l1 mm | l4 mm | l20 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SSDCR/L1616H09 | 9 | 16 | 16 | 17 | 10,92 | 93,9 | 9,1 | 100,0 | 0° | 0° | SC .. 09T3 .. |
| SSDCR/L2020K09 | 9 | 20 | 20 | 22 | 15,92 | 118,9 | 12 | 125,0 | 0° | 0° | |
| SSDCR/L2020K12 | 12 | 20 | 20 | 22 | 13,68 | 116,7 | 13,7 | 125,0 | 0° | 0° | SC .. 1204 .. |
| SSDCR/L2525M12 | 12 | 25 | 25 | 27 | 18,68 | 141,7 | 13,7 | 150,0 | 0° | 0° | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

Measured with master insert: SC .. 09T308 / SC .. 120408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: SSDCR1616H09/ordering example, left-hand tool: SSDCL1616H09
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | SC .. 09T3 .. | SC .. 1204 .. |
|---|---|---|---|
| | Clamping screw for indexable insert<br>Tightening torque | FS2060 (Torx 15IP)<br>3,0 Nm | FS2065 (Torx 15IP)<br>3,0 Nm |
| | Shim | AP328-SC0908 | AP319-SC1212 |
| | Screw for shim | FS2068 (SW 3,5) | FS2069 (SW 4) |
|  | Torx key | FS1465 (Torx 15IP / SW 3,5) | FS1496 (Torx 15IP / SW 4) |

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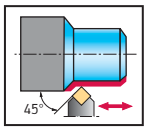
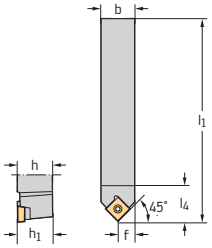
# Shank tool – Screw clamping
# SSDCN
## Walter Turn



## Tool




| Designation | | h = $h_1$ mm | b mm | f mm | $l_1$ mm | $l_4$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| SSDCN1212F09 | 9 | 12 | 12 | 6 | 80 | 15,1 | 0° | 0° | SC .. 09T3 .. |
| SSDCN1616H09 | 9 | 16 | 16 | 8 | 100 | 15,1 | 0° | 0° | |
| SSDCN2020K12 | 12 | 20 | 20 | 10 | 125 | 22 | 0° | 0° | SC .. 1204 .. |
| SSDCN2525M12 | 12 | 25 | 25 | 13 | 150 | 22 | 0° | 0° | |
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Measured with master insert: SC .. 09T308 / SC .. 120408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type<br>h = $h_1$ [mm] | SC .. 09T3 ..<br>12 | SC .. 09T3 ..<br>16 | SC .. 1204 ..<br>20–25 |
|---|---|---|---|
| Clamping screw for indexable insert<br>Tightening torque | FS2063 (Torx 15IP)<br>3,0 Nm | FS2060 (Torx 15IP)<br>3,0 Nm | FS2065 (Torx 15IP)<br>3,0 Nm |
| Shim | | AP328-SC0908 | AP319-SC1212 |
| Screw for shim | | FS2068 (SW 3,5) | FS2069 (SW 4) |
| Torx key | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) | FS1496 (Torx 15IP / SW 4) |

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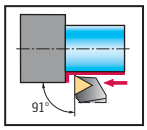
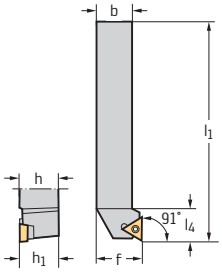
# Shank tool – Screw clamping
# STGC
## Walter Turn



## Tool




| Designation | | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| STGCR/L1212F11 | 11 | 12 | 12 | 16 | 80 | 14,1 | 0° | 0° | TC .. 1102 .. |
| STGCR/L1616H16 | 16 | 16 | 16 | 20 | 100 | 20,1 | 0° | 0° | |
| STGCR/L2020K16 | 16 | 20 | 20 | 25 | 125 | 20,4 | 0° | 0° | TC .. 16T3 .. |
| STGCR/L2525M16 | 16 | 25 | 25 | 32 | 150 | 20,9 | 0° | 0° | |
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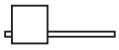
Measured with master insert: TC .. 110204 / TC .. 16T308
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: STGCR1212F11/ordering example, left-hand tool: STGCL1212F11
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | TC .. 1102 .. | TC .. 16T3 .. |
|---|---|---|---|
| | Clamping screw for indexable insert<br>Tightening torque | FS2061 (Torx 7IP)<br>0,9 Nm | FS2060 (Torx 15IP)<br>3,0 Nm |
| | Shim<br>for radius | | AP317-TC1612<br>r ≤ 1,2 mm |
| | Screw for shim | | FS2068 (SW 3,5) |
|  | Torx key | FS1490 (Torx 7IP) | FS1465 (Torx 15IP / SW 3,5) |

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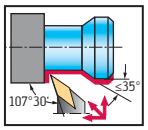
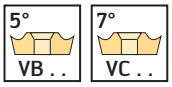
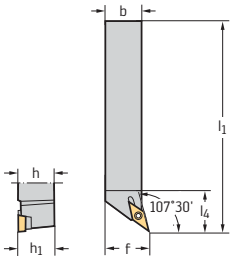
# Shank tool – Screw clamping
# SVHB
## Walter Turn




## Tool




| Designation | | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| SVHBR/L1616H11 | 11 | 16 | 16 | 20 | 100 | 18 | 0° | 0° | VB .. 1103 .. VC .. 1103 .. |
| SVHBR/L2020K11 | 11 | 20 | 20 | 25 | 125 | 19 | 0° | 0° | |
| SVHBR/L2525M11 | 11 | 25 | 25 | 32 | 150 | 27 | 0° | 0° | |
| SVHBR/L2020K16 | 16 | 20 | 20 | 25 | 125 | 27,6 | 0° | 0° | VB .. 1604 .. VC .. 1604 .. |
| SVHBR/L2525M16 | 16 | 25 | 25 | 32 | 150 | 27,6 | 0° | 0° | |
| SVHBR/L3225P16 | 16 | 32 | 25 | 32 | 170 | 27,6 | 0° | 0° | |
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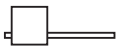
Measured with master insert: VB .. 110304 / VB .. 160408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: SVHBR1616H11/ordering example, left-hand tool: SVHBL1616H11
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | VB .. 1103 .. VC .. 1103 .. | VB .. 1604 .. VC .. 1604 .. |
|---|---|---|---|
| | Clamping screw for indexable insert<br>Tightening torque | FS2061 (Torx 7IP)<br>0,9 Nm | FS2060 (Torx 15IP)<br>3,0 Nm |
| | Shim<br>for radius | | AP316-VB1608<br>r ≤ 0,8 mm |
| | Screw for shim | | FS2068 (SW 3,5) |
|  | Torx key | FS1490 (Torx 7IP) | FS1465 (Torx 15IP / SW 3,5) |

## Accessories

| | Type | VB .. 1604 .. VC .. 1604 .. |
|---|---|---|
| | Shim<br>for radius | AP330-VB1612<br>r ≤ 1,2 mm |

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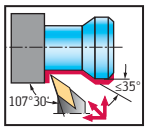
# Shank tool – Lever clamp
# PVHB
## Walter Turn




5° VB . .

7° VC . .

## Tool

| Designation | | h = $h_1$ mm | b mm | f mm | $l_1$ mm | $l_4$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| PVHBR/L1616H11 | 11 | 16 | 16 | 20 | 100 | 25 | 0° | 0° | VB .. 1103 .. VC .. 1103 .. |
| PVHBR/L2020K11 | 11 | 20 | 20 | 25 | 125 | 25 | 0° | 0° | |
| PVHBR/L2525M11 | 11 | 25 | 25 | 32 | 150 | 32 | 0° | 0° | |
| PVHBR/L2020K16 | 16 | 20 | 20 | 25 | 125 | 28 | 0° | 0° | VB .. 1604 .. VC .. 1604 .. |
| PVHBR/L2525M16 | 16 | 25 | 25 | 32 | 150 | 28 | 0° | 0° | |
| PVHBR/L3225P16 | 16 | 32 | 25 | 32 | 170 | 28 | 0° | 0° | |
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Measured with master insert: VB .. 110304 / VB .. 160408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: PVHBR1616H11/ordering example, left-hand tool: PVHBL1616H11
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type | VB .. 1103 .. VC .. 1103 .. | VB .. 1604 .. VC .. 1604 .. |
|---|---|---|
| Shim for radius | | AP153 r ≤ 0,8 mm |
| Shim pin | | RS101 |
| Lever | KN118 | KN110 |
| Clamping screw Tightening torque | FS347 (SW 2) 0,6 Nm | FS351 (SW 2,5) 2,0 Nm |
| Tapered assembly pin | | MD101 |
| Allen key | ISO2936-2 (SW 2) | ISO2936-2,5 (SW 2,5) |

## Accessories

| Type | VB .. 1604 .. VC .. 1604 .. |
|---|---|
| Shim for radius | AP154 r ≤ 1,2 mm |

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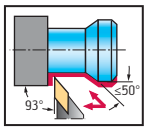
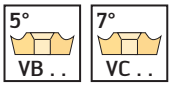
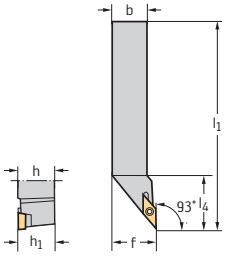
# Shank tool – Screw clamping
# SVJB
## Walter Turn




## Tool




| Designation | | h = $h_1$ mm | b mm | f mm | $l_1$ mm | $l_4$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| SVJBR/L1212F11 | 11 | 12 | 12 | 16 | 80 | 20,6 | 0° | 0° | VB .. 1103 .. VC .. 1103 .. |
| SVJBR/L1616H11 | 11 | 16 | 16 | 20 | 100 | 21,2 | 0° | 0° | |
| SVJBR/L2020K11 | 11 | 20 | 20 | 25 | 125 | 21,2 | 0° | 0° | |
| SVJBR/L2525M11 | 11 | 25 | 25 | 32 | 150 | 21,2 | 0° | 0° | |
| SVJBR/L1616H16 | 16 | 16 | 16 | 20 | 100 | 27 | 0° | 0° | VB .. 1604 .. VC .. 1604 .. |
| SVJBR/L2020K16 | 16 | 20 | 20 | 25 | 125 | 31,1 | 0° | 0° | |
| SVJBR/L2525M16 | 16 | 25 | 25 | 32 | 150 | 31,5 | 0° | 0° | |
| SVJBR/L3225P16 | 16 | 32 | 25 | 32 | 170 | 31,5 | 0° | 0° | |

Measured with master insert: VB .. 110304 / VB .. 160408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: SVJBR1212F11/ordering example, left-hand tool: SVJBL1212F11
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type $h = h_1$ [mm] | VB .. 1103 .. VC .. 1103 .. 12–25 | VB .. 1604 .. VC .. 1604 .. 16 | VB .. 1604 .. VC .. 1604 .. 20–32 |
|---|---|---|---|
| Clamping screw for indexable insert Tightening torque | FS2061 (Torx 7IP) 0,9 Nm | FS2063 (Torx 15IP) 3,0 Nm | FS2060 (Torx 15IP) 3,0 Nm |
| Shim for radius | | | AP316-VB1608 r ≤ 0,8 mm |
| Screw for shim | | | FS2068 (SW 3,5) |
| Torx key | FS1490 (Torx 7IP) | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) |

## Accessories

| Type | VB .. 1604 .. VC .. 1604 .. |
|---|---|
| Shim for radius | AP330-VB1612 r ≤ 1,2 mm |

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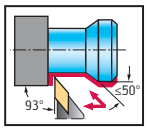
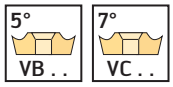
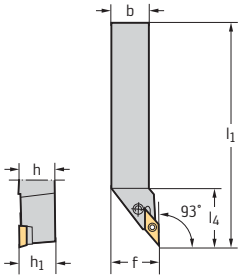
# Shank tool – Lever clamp
# PVJB
## Walter Turn




## Tool




| Designation | | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| PVJBR/L1616H11 | 11 | 16 | 16 | 20 | 100 | 25 | 0° | 0° | VB .. 1103 .. VC .. 1103 .. |
| PVJBR/L2020K11 | 11 | 20 | 20 | 25 | 125 | 25 | 0° | 0° | |
| PVJBR/L2525M11 | 11 | 25 | 25 | 32 | 150 | 32 | 0° | 0° | |
| PVJBR/L1616H16 | 16 | 16 | 16 | 20 | 100 | 32 | 0° | 0° | VB .. 1604 .. VC .. 1604 .. |
| PVJBR/L2020K16 | 16 | 20 | 20 | 25 | 125 | 34 | 0° | 0° | |
| PVJBR/L2525M16 | 16 | 25 | 25 | 32 | 150 | 38 | 0° | 0° | |
| PVJBR/L3225P16 | 16 | 32 | 25 | 32 | 170 | 38 | 0° | 0° | |
| | | | | | | | | | |
| | | | | | | | | | |

Measured with master insert: VB .. 110304 / VB .. 160408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: PVJBR1616H11/ordering example, left-hand tool: PVJBL1616H11
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type h = h1 [mm] | VB .. 1103 .. VC .. 1103 .. 16–25 | VB .. 1604 .. VC .. 1604 .. 16 | VB .. 1604 .. VC .. 1604 .. 20–32 |
|---|---|---|---|
| Shim for radius | | AP153 r ≤ 0,8 mm | AP153 r ≤ 0,8 mm |
| Shim pin | | RS101 | RS101 |
| Lever | KN118 | KN110 | KN110 |
| Clamping screw Tightening torque | FS347 (SW 2) 0,6 Nm | FS332 (SW 2,5) 2,5 Nm | FS351 (SW 2,5) 2,0 Nm |
| Tapered assembly pin | | MD101 | MD101 |
| Allen key | ISO2936-2 (SW 2) | ISO2936-2,5 (SW 2,5) | ISO2936-2,5 (SW 2,5) |

## Accessories

| Type | VB .. 1604 .. VC .. 1604 .. |
|---|---|
| Shim for radius | AP154 r ≤ 1,2 mm |

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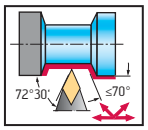
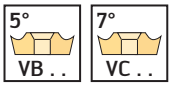
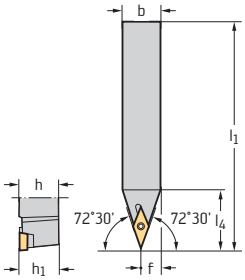
# Shank tool – Screw clamping
# SVVB
## Walter Turn




## Tool




| Designation | | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| SVVBN1212F11 | 11 | 12 | 12 | 6 | 80 | 21,1 | 0° | 0° | VB .. 1103 .. VC .. 1103 .. |
| SVVBN1616H11 | 11 | 16 | 16 | 8 | 100 | 21,1 | 0° | 0° | |
| SVVBN2020K11 | 11 | 20 | 20 | 10 | 125 | 21,1 | 0° | 0° | |
| SVVBN2525M11 | 11 | 25 | 25 | 13 | 150 | 21,1 | 0° | 0° | |
| SVVBN2020K16 | 16 | 20 | 20 | 11 | 125 | 31,5 | 0° | 0° | VB .. 1604 .. VC .. 1604 .. |
| SVVBN2525M16 | 16 | 25 | 25 | 13 | 150 | 31,5 | 0° | 0° | |
| SVVBN3225P16 | 16 | 32 | 25 | 13 | 170 | 31,5 | 0° | 0° | |
| | | | | | | | | | |
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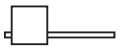
Measured with master insert: VB .. 110304 / VB .. 160408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | VB .. 1103 .. VC .. 1103 .. | VB .. 1604 .. VC .. 1604 .. |
|---|---|---|---|
| | Clamping screw for indexable insert Tightening torque | FS2061 (Torx 7IP) 0,9 Nm | FS2060 (Torx 15IP) 3,0 Nm |
| | Shim for radius | | AP316-VB1608 r ≤ 0,8 mm |
| | Screw for shim | | FS2068 (SW 3,5) |
|  | Torx key | FS1490 (Torx 7IP) | FS1465 (Torx 15IP / SW 3,5) |

## Accessories

| | Type | VB .. 1604 .. VC .. 1604 .. |
|---|---|---|
| | Shim for radius | AP330-VB1612 r ≤ 1,2 mm |

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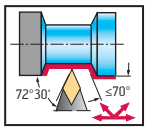
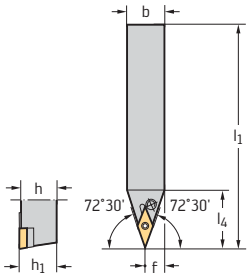
# Shank tool – Lever clamp
# PVVB
## Walter Turn




5° VB . .

7° VC . .

## Tool




| Designation | | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| PVVBN1616H11 | 11 | 16 | 16 | 8 | 100 | 25 | 0° | 0° | VB .. 1103 .. VC .. 1103 .. |
| PVVBN2020K11 | 11 | 20 | 20 | 10 | 125 | 25 | 0° | 0° | |
| PVVBN2525M11 | 11 | 25 | 25 | 13 | 150 | 25 | 0° | 0° | |
| PVVBN2020K16 | 16 | 20 | 20 | 10 | 125 | 34 | 0° | 0° | VB .. 1604 .. VC .. 1604 .. |
| PVVBN2525M16 | 16 | 25 | 25 | 13 | 150 | 34 | 0° | 0° | |
| PVVBN3225P16 | 16 | 32 | 25 | 13 | 170 | 34 | 0° | 0° | |
| | | | | | | | | | |
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| | | | | | | | | | |

Measured with master insert: VB .. 110304 / VB .. 160408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | VB .. 1103 .. VC .. 1103 .. | VB .. 1604 .. VC .. 1604 .. |
|---|---|---|---|
| | Shim for radius | | AP153 r ≤ 0,8 mm |
| | Lever | KN118 | KN110 |
| | Clamping screw Tightening torque | FS347 (SW 2) 0,6 Nm | FS351 (SW 2,5) 2,0 Nm |
| | Shim pin | | RS101 |
| | Tapered assembly pin | | MD101 |
| | Allen key | ISO2936-2 (SW 2) | ISO2936-2,5 (SW 2,5) |

## Accessories

| | Type | VB .. 1604 .. VC .. 1604 .. |
|---|---|---|
| | Shim for radius | AP154 r ≤ 1,2 mm |

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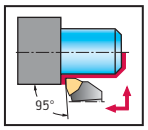
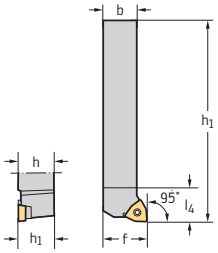
# Shank tool – Screw clamping
# SWLC
## Walter Turn



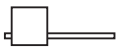
## Tool




| Designation | | h = $h_1$ mm | b mm | f mm | $l_1$ mm | $l_4$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| SWLCR/L1212F04 | 4 | 12 | 12 | 16 | 80 | 11 | 0° | 0° | WC .. 0402 .. |
| SWLCR/L1616H04 | 4 | 16 | 16 | 20 | 100 | 11 | 0° | 0° | |
| SWLCR/L1616H06 | 6 | 16 | 16 | 20 | 100 | 15 | 0° | 0° | WC .. 06T3 .. |
| SWLCR/L2020K06 | 6 | 20 | 20 | 25 | 125 | 15 | 0° | 0° | |
| SWLCR/L2525M06 | 6 | 25 | 25 | 32 | 150 | 17 | 0° | 0° | |
| SWLCR/L2020K08 | 8 | 20 | 20 | 25 | 125 | 20 | 0° | 0° | WC .. 0804 .. |
| SWLCR/L2525M08 | 8 | 25 | 25 | 32 | 150 | 21 | 0° | 0° | |
| | | | | | | | | | |
| | | | | | | | | | |

Measured with master insert: WC .. 040204 / WC .. 06T308 / WC .. 080408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: SWLCR1212F04/ordering example, left-hand tool: SWLCL1212F04
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | WC .. 0402 .. | WC .. 06T3 .. | WC .. 0804 .. |
|---|---|---|---|---|
| | Clamping screw for indexable insert<br>Tightening torque | FS2067 (Torx 7IP)<br>0,9 Nm | FS2063 (Torx 15IP)<br>3,0 Nm | FS2065 (Torx 15IP)<br>3,0 Nm |
| | Shim | | AP318-WC0608 | AP320-WC0812 |
| | Screw for shim | | FS2068 (SW 3,5) | FS2069 (SW 4) |
|  | Torx key | FS1490 (Torx 7IP) | FS1465 (Torx 15IP / SW 3,5) | FS1496 (Torx 15IP / SW 4) |

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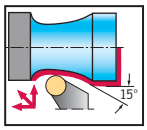
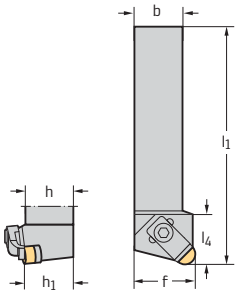
# Shank tool – Rigid clamping
# CRSN
## Walter Turn

– For ceramic indexable inserts
– Rigid clamping with carbide shoe



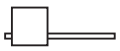
## Tool




| Designation | | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| CRSNR/L2525M12-ID | 12 | 25 | 25 | 32 | 150 | 28 | -6° | -6° | RN .. 1207 .. |
| CRSNR/L3225P12-ID | 12 | 32 | 25 | 32 | 170 | 28 | -6° | -6° | |
| CRSNR/L3232P15-ID | 15 | 32 | 32 | 40 | 170 | 30 | -6° | -6° | RN .. 1507 .. |
| CRSNR/L3232P19-ID | 19 | 32 | 32 | 40 | 170 | 32 | -6° | -6° | RN .. 1907 .. |

Measured with master insert: RN .. 120700 / RN .. 150700 / RN .. 190700
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: CRSNR2525M12-ID/ordering example, left-hand tool: CRSNL2525M12-ID
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | RN .. 1207 .. | RN .. 1507 .. | RN .. 1907 .. |
|---|---|---|---|---|
| | Shim | AP418-RN1207 | AP419-RN1507 | AP420-RN1907 |
| | Screw for shim<br>Tightening torque | FS2241 (Torx 20)<br>5,0 Nm | FS2242 (SW 2)<br>2,0 Nm | FS2243 (SW 2,5)<br>3,0 Nm |
| | Clamp with screw | PK258 SET (SW 4) | PK258 SET (SW 4) | PK258 SET (SW 4) |
| | Carbide clamping plate | FK380 | FK380 | FK380 |
| | Allen key for clamp | ISO2936-4 (SW 4) | ISO2936-4 (SW 4) | ISO2936-4 (SW 4) |
|  | Allen key for shim | FS256 (Torx 20) | ISO2936-2 (SW 2) | ISO2936-2,5 (SW 2,5) |

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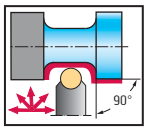
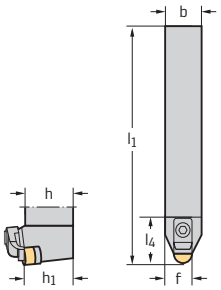
# Shank tool – Rigid clamping
# CRDN
## Walter Turn

– For ceramic indexable inserts
– Rigid clamping with carbide shoe



## Tool




| Designation | | h = h1 mm | b mm | f mm | l1 mm | l4 mm | γ | λs | Type |
|---|---|---|---|---|---|---|---|---|---|
| CRDNN2525M12-ID | 12 | 25 | 25 | 19 | 150 | 32 | -8° | 0° | RN .. 1207 .. |
| CRDNN3225P12-ID | 12 | 32 | 25 | 19 | 170 | 32 | -8° | 0° | |
| | | | | | | | | | |
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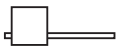
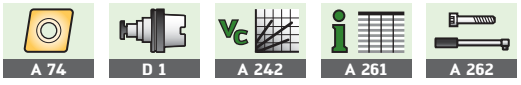
Measured with master insert: RN .. 120700
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Bodies and assembly parts are included in the scope of delivery.

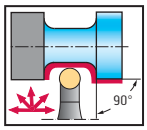
## Assembly parts

| | Type | RN .. 1207 .. |
|---|---|---|
| | Shim | AP418-RN1207 |
| | Screw for shim<br>Tightening torque | FS2241 (Torx 20)<br>5,0 Nm |
| | Clamp with screw | PK258 SET (SW 4) |
| | Carbide clamping plate | FK380 |
| | Allen key for clamp | ISO2936-4 (SW 4) |
|  | Allen key for shim | FS256 (Torx 20) |

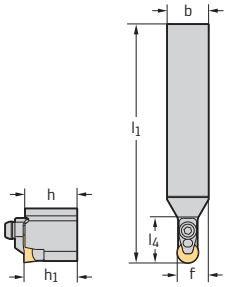


# Shank tool – Rigid clamping
# CRDC
# Walter Turn

– For ceramic indexable inserts
– Rigid clamping with carbide shoe



## Tool




| Designation | | h = $h_1$ mm | b mm | f mm | $l_1$ mm | $l_4$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| CRDCN3225P09-A | 9 | 32 | 25 | 17 | 170 | 31 | 0° | 0° | RC . X0907 ..<br>RP . X0907 .. |
| CRDCN3225P12-A | 12 | 32 | 25 | 19 | 170 | 40 | 0° | 0° | RC . X1207 ..<br>RP . X1207 .. |
| | | | | | | | | | |
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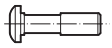
Measured with master insert: RC . X090700 / RC . X120700
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | RC . X0907 ..<br>RP . X0907 .. | RC . X1207 ..<br>RP . X1207 .. |
|---|---|---|---|
| | Shim | AP416-RC0907 | AP417-RC1207 |
| | Clamping sleeve | RS121 | RS122 |
| | Clamp with screw | PK257 SET (SW 4) | PK257 SET (SW 4) |
|  | Clamp screw<br>Tightening torque | FS2240 (SW 4)<br>8,0 Nm | FS2240 (SW 4)<br>8,0 Nm |
| | Allen key for clamp | ISO2936-4 (SW 4) | ISO2936-4 (SW 4) |

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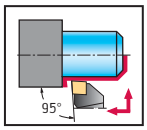
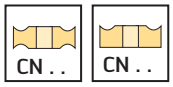
# Turning toolholders – Rigid clamping
# C...-DCLN
# Walter Turn

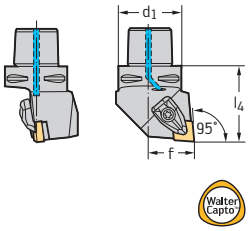
– Walter Capto™




## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | $D_{min}$ mm | $D_{min2}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| C4-DCLNR/L-27050-12 | 12 | C4 | 27 | 50 | 110 | 140 | -6° | -6° | CN .. 1204 .. |
| C5-DCLNR/L-35060-12 | 12 | C5 | 35 | 60 | 110 | 165 | -6° | -6° | |
| C6-DCLNR/L-45065-12 | 12 | C6 | 45 | 65 | 110 | 190 | -6° | -6° | |
| C8-DCLNR/L-55080-12 | 12 | C8 | 55 | 80 | 110 | 250 | -6° | -6° | |
| C4-DCLNR/L-27055-16 | 16 | C4 | 27 | 55 | 125 | 145 | -6° | -6° | CN .. 1606 .. |
| C5-DCLNR/L-35060-16 | 16 | C5 | 35 | 60 | 125 | 165 | -6° | -6° | |
| C6-DCLNR/L-45065-16 | 16 | C6 | 45 | 65 | 125 | 190 | -6° | -6° | |
| C5-DCLNR/L-35060-19 | 19 | C5 | 35 | 60 | 80 | 165 | -6° | -6° | CN .. 1906 .. |
| C6-DCLNR/L-45065-19 | 19 | C6 | 45 | 65 | 81 | 190 | -6° | -6° | |
| C8-DCLNR/L-55080-19 | 19 | C8 | 55 | 80 | 100 | 250 | -6° | -6° | |

Measured with master insert: CN .. 120408 / CN .. 160612 / CN .. 190612
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
For information on $D_{min}$ and $D_{min2}$, see "Technical information – ISO turning"
Ordering example, right-hand tool: C4-DCLNR-27050-12/ordering example, left-hand tool: C4-DCLNL-27050-12
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type | CN .. 1204 .. | CN .. 1606 .. | CN .. 1906 .. |
|---|---|---|---|
| Shim | AP301-CN12 | AP302-CN16 | AP303-CN19 |
| Screw for shim<br>Tightening torque | FS1461 (Torx 15IP)<br>2,5 Nm | FS1463 (Torx 20IP)<br>5,0 Nm | FS1463 (Torx 20IP)<br>5,0 Nm |
| Clamp | PK241 | PK242 | PK243 |
| Clamp screw<br>Tightening torque | FS1473 (Torx 15IP)<br>3,9 Nm | FS1474 (Torx 20IP)<br>6,4 Nm | FS1474 (Torx 20IP)<br>6,4 Nm |
| Pressure spring | FS1470 | FS1471 | FS1471 |
| Pin | RS117 | RS117 | RS117 |
| Cooling lubricant nozzle | FS1475 | FS1475 | FS1475 |
| Torx key | FS1465 (Torx 15IP / SW 3,5) | FS1464 (Torx 20IP) | FS1464 (Torx 20IP) |

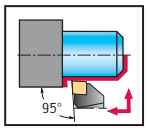
## Accessories

| Type | CN .. 1204 .. | CN .. 1606 .. | CN .. 1906 .. |
|---|---|---|---|
| Clamp set<br>(standard assembly parts) | PK241 SET | PK242 SET | PK243 SET |
| Carbide clamp set<br>Insert with hole | PK245 SET | PK246 SET | |
| Carbide clamp set<br>Insert without hole | PK254 SET | | |
| Shim for CN .. 1207 .. | AP411-CN1207 | | |

A 20 D 1 A 234 A 261 A 262

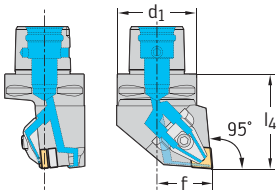
# Turning toolholders – Rigid clamping
# C...-DCLN...-P
# Walter Turn

– Precision cooling
– Walter Capto™



## Tool

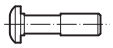
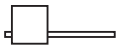
Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|
| C4-DCLNR/L-27050-12-P | 12 | C4 | 27 | 50 | -6° | -6° | CN .. 1204 .. |
| C5-DCLNR/L-35060-12-P | 12 | C5 | 35 | 60 | -6° | -6° | |
| C6-DCLNR/L-45065-12-P | 12 | C6 | 45 | 65 | -6° | -6° | |

Measured with master insert: CN .. 120408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
The maximum recommended coolant pressure is 150 bar (2175 psi)
Ordering example, right-hand tool: C4-DCLNR-27050-12-P/ordering example, left-hand tool: C4-DCLNL-27050-12-P
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | CN .. 1204 .. |
|---|---|---|
| | Shim | AP301-CN12 |
| | Screw for shim<br>Tightening torque | FS1461 (Torx 15IP)<br>2,5 Nm |
| | Clamp | PK255 |
|  | Clamp screw<br>Tightening torque | FS1473 (Torx 15IP)<br>3,9 Nm |
| | Pressure spring | FS2188 |
|  | Torx key | FS1465 (Torx 15IP / SW 3,5) |

## Accessories

| | Type | CN .. 1204 .. |
|---|---|---|
| | Clamp set<br>(standard assembly parts) | PK255 SET |

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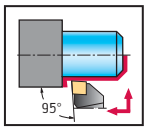
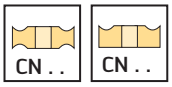
# Turning toolholders – Lever clamp
# C...-PCLN
# Walter Turn

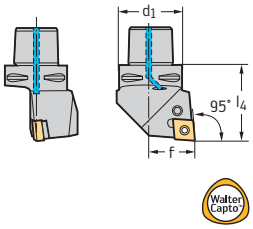
– Walter Capto™




## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | $D_{min}$ mm | $D_{min2}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| C3-PCLNR/L-22040-12 | 12 | C3 | 22 | 40 | 60 | 116 | -6° | -6° | CN .. 1204 .. |
| C4-PCLNR/L-27050-12 | 12 | C4 | 27 | 50 | 60 | 140 | -6° | -6° | |
| C5-PCLNR/L-35060-12 | 12 | C5 | 35 | 60 | 65 | 165 | -6° | -6° | |
| C6-PCLNR/L-45065-12 | 12 | C6 | 45 | 65 | 81 | 190 | -6° | -6° | |
| C8-PCLNR/L-55080-12 | 12 | C8 | 55 | 80 | 100 | 250 | -6° | -6° | |
| C4-PCLNR/L-27050-16 | 16 | C4 | 27 | 50 | 80 | 140 | -6° | -6° | CN .. 1606 .. |
| C5-PCLNR/L-35060-16 | 16 | C5 | 35 | 60 | 80 | 165 | -6° | -6° | |
| C6-PCLNR/L-45065-16 | 16 | C6 | 45 | 65 | 81 | 190 | -6° | -6° | |
| C8-PCLNR/L-55080-16 | 16 | C8 | 55 | 80 | 100 | 250 | -6° | -6° | |
| C5-PCLNR/L-35060-19 | 19 | C5 | 35 | 60 | 80 | 165 | -6° | -6° | CN .. 1906 .. |
| C6-PCLNR/L-45065-19 | 19 | C6 | 45 | 65 | 81 | 190 | -6° | -6° | |
| C8-PCLNR/L-55080-19 | 19 | C8 | 55 | 80 | 100 | 250 | -6° | -6° | |
| C8-PCLNR/L-55080-25 | 25 | C8 | 55 | 80 | 150 | 250 | -6° | -6° | CN .. 2509 .. |

Measured with master insert: CN .. 120408 / CN .. 160612 / CN .. 190612 / CN .. 250924
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
For information on $D_{min}$ and $D_{min2}$, see "Technical information – ISO turning"
Ordering example, right-hand tool: C3-PCLNR-22040-12/ordering example, left-hand tool: C3-PCLNL-22040-12
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type / $d_1$ | CN .. 1204 .. C3/C4 | CN .. 1204 .. C5/C6 | CN .. 1204 .. C8 | CN .. 1606 .. C4 | CN .. 1606 .. C5/C6 | CN .. 1606 .. C8 | CN .. 1906 .. C5/C6 | CN .. 1906 .. C8 | CN .. 2509 .. C8 |
|---|---|---|---|---|---|---|---|---|---|
| Shim for radius | AP134-CN1216 r ≤ 1,6 mm | AP134-CN1216 r ≤ 1,6 mm | AP134-CN1216 r ≤ 1,6 mm | AP135-CN1624 r ≤ 2,4 mm | AP135-CN1624 r ≤ 2,4 mm | AP135-CN1624 r ≤ 2,4 mm | AP136-CN1924 r ≤ 2,4 mm | AP136-CN1924 r ≤ 2,4 mm | AP192-CN2524 r ≤ 2,4 mm |
| Lever | KN102 | KN102 | KN102 | KN104 | KN104 | KN104 | KN106 | KN106 | KN107 |
| Clamping screw Tightening torque | FS352 (SW 3) 5,0 Nm | FS352 (SW 3) 5,0 Nm | FS352 (SW 3) 5,0 Nm | FS354 (SW 3) 5,0 Nm | FS354 (SW 3) 5,0 Nm | FS354 (SW 3) 5,0 Nm | FS356 (SW 4) 10,0 Nm | FS356 (SW 4) 10,0 Nm | FS357 (SW 5) 14,0 Nm |
| Shim pin | RS102 | RS102 | RS102 | RS103 | RS103 | RS103 | RS104 | RS104 | RS105 |
| Tapered assembly pin | MD101 | MD101 | MD101 | MD102 | MD102 | MD102 | MD102 | MD102 | MD103 |
| Cooling lubricant nozzle | FS1477 | FS1476 | FS1479 | FS1477 | FS1476 | FS1479 | FS1476 | FS1479 | FS1479 |
| Allen key | ISO2936-3 (SW 3) | ISO2936-3 (SW 3) | ISO2936-3 (SW 3) | ISO2936-3 (SW 3) | ISO2936-3 (SW 3) | ISO2936-3 (SW 3) | ISO2936-4 (SW 4) | ISO2936-4 (SW 4) | ISO2936-5 (SW 5) |

## Accessories

| Type | CN .. 1204 .. | CN .. 1606 .. | CN .. 1906 .. |
|---|---|---|---|
| Shim for radius | AP134-CN1208 r ≤ 0,8 mm | AP135-CN1616 r ≤ 1,6 mm | AP136-CN1912 r ≤ 1,2 mm |

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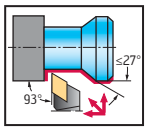
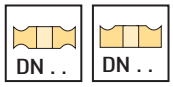
# Turning toolholders – Rigid clamping
# C...-DDJN
# Walter Turn

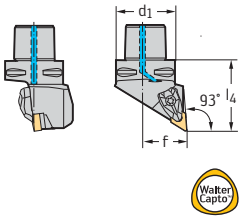
– Walter Capto™




## Tool

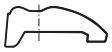
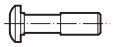
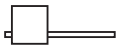
Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | $D_{min}$ mm | $D_{min2}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| C4-DDJNR/L-27050-11 | 11 | C4 | 27 | 50 | 60 | 140 | -6° | -7° | DN .. 1104 .. |
| C5-DDJNR/L-35060-11 | 11 | C5 | 35 | 60 | 65 | 165 | -6° | -7° | |
| C6-DDJNR/L-45065-11 | 11 | C6 | 45 | 65 | 81 | 190 | -6° | -7° | |
| C4-DDJNR/L-27055-15 | 15 | C4 | 27 | 55 | 110 | 145 | -6° | -7° | DN .. 1506 .. |
| C5-DDJNR/L-35060-15 | 15 | C5 | 35 | 60 | 110 | 165 | -6° | -7° | |
| C6-DDJNR/L-45065-15 | 15 | C6 | 45 | 65 | 110 | 190 | -6° | -7° | |
| C8-DDJNR/L-55080-15 | 15 | C8 | 55 | 80 | 110 | 250 | -6° | -7° | |
| | | | | | | | | | |
| | | | | | | | | | |

Measured with master insert: DN .. 110408 / DN .. 150608
Ordering example, right-hand tool: C4-DDJNR-27050-11/ordering example, left-hand tool: C4-DDJNL-27050-11
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type $d_1$ | DN .. 1104 .. C4 | DN .. 1104 .. C5/C6 | DN .. 1506 .. C4 | DN .. 1506 .. C5 | DN .. 1506 .. C6 | DN .. 1506 .. C8 |
|---|---|---|---|---|---|---|---|
| | Shim | AP305-DN11 | AP305-DN11 | AP304-DN15 | AP304-DN15 | AP304-DN15 | AP304-DN15 |
| | Screw for shim<br>Tightening torque | FS1462 (Torx 9IP)<br>1,5 Nm | FS1462 (Torx 9IP)<br>1,5 Nm | FS1461 (Torx 15IP)<br>2,5 Nm | FS1461 (Torx 15IP)<br>2,5 Nm | FS1461 (Torx 15IP)<br>2,5 Nm | FS1461 (Torx 15IP)<br>2,5 Nm |
|  | Clamp | PK240 | PK240 | PK241 | PK241 | PK241 | PK241 |
|  | Clamp screw<br>Tightening torque | FS1472 (Torx 9IP)<br>1,7 Nm | FS1472 (Torx 9IP)<br>1,7 Nm | FS1473 (Torx 15IP)<br>3,9 Nm | FS1473 (Torx 15IP)<br>3,9 Nm | FS1473 (Torx 15IP)<br>3,9 Nm | FS1473 (Torx 15IP)<br>3,9 Nm |
| | Pressure spring | FS1469 | FS1469 | FS1470 | FS1470 | FS1470 | FS1470 |
|  | Pin | RS116 | RS116 | RS117 | RS117 | RS117 | RS117 |
| | Cooling lubricant nozzle | FS1477 | FS1476 | FS1477 | FS1475 | FS1476 | FS1479 |
|  | Torx key | FS1466 (Torx 9IP) | FS1466 (Torx 9IP) | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) |

## Accessories

| | Type | DN .. 1104 .. | DN .. 1506 .. |
|---|---|---|---|
| | Clamp set<br>(standard assembly parts) | PK240 SET | PK241 SET |
| | Carbide clamp set<br>Insert with hole | | PK245 SET |
| | Carbide clamp set<br>Insert without hole | | PK254 SET |
| | Shim for DN .. 1504 .. | | AP304-DN1504 |
| | Shim for DN .. 1507 .. | | AP412-DN1507 |

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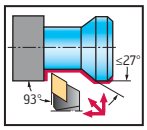
# Turning toolholders – Rigid clamping
# C...-DDJN...-P
## Walter Turn

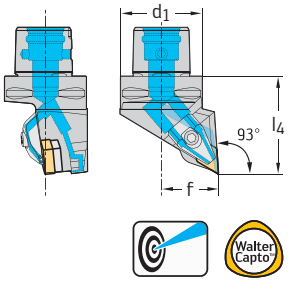
– Precision cooling
– Walter Capto™




DN . .

## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|
| C4-DDJNR/L-27055-11-P | 11 | C4 | 27 | 55 | -6° | -7° | DN .. 1104 .. |
| C5-DDJNR/L-35060-15-P | 15 | C5 | 35 | 60 | -6° | -7° | DN .. 1506 .. |
| C6-DDJNR/L-45065-15-P | 15 | C6 | 45 | 65 | -6° | -7° | |

Measured with master insert: DN .. 110408 / DN .. 150608
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
The maximum recommended coolant pressure is 150 bar (2175 psi)
Ordering example, right-hand tool: C4-DDJNR-27055-11-P/ordering example, left-hand tool: C4-DDJNL-27055-11-P
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | DN .. 1104 .. | DN .. 1506 .. |
|---|---|---|---|
| | Shim | AP305-DN11 | AP304-DN15 |
| | Screw for shim<br>Tightening torque | FS1462 (Torx 9IP)<br>1,5 Nm | FS1461 (Torx 15IP)<br>2,5 Nm |
| | Clamp | PK255 | PK256 |
| | Clamp screw<br>Tightening torque | FS1473 (Torx 15IP)<br>3,9 Nm | FS1473 (Torx 15IP)<br>3,9 Nm |
| | Pressure spring | FS2188 | FS2188 |
| | Torx key | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) |

## Accessories

| | Type | DN .. 1104 .. | DN .. 1506 .. |
|---|---|---|---|
| | Clamp set<br>(standard assembly parts) | PK255 SET | PK256 SET |

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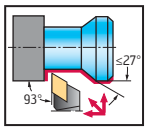
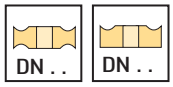
# Turning toolholders – Lever clamp
# C...-PDJN
# Walter Turn

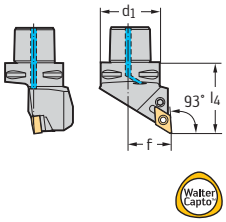
– Walter Capto™




## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | $D_{min}$ mm | $D_{min2}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| C3-PDJNR/L-22045-11 | 11 | C3 | 22 | 45 | 80 | 116 | -6° | -7° | DN .. 1104 .. |
| C4-PDJNR/L-27050-11 | 11 | C4 | 27 | 50 | 80 | 140 | -6° | -7° | |
| C5-PDJNR/L-35060-11 | 11 | C5 | 35 | 60 | 80 | 165 | -6° | -7° | |
| C4-PDJNR/L-27050-15 | 15 | C4 | 27 | 50 | 80 | 140 | -6° | -7° | DN .. 1506 .. |
| C5-PDJNR/L-35060-15 | 15 | C5 | 35 | 60 | 80 | 165 | -6° | -7° | |
| C6-PDJNR/L-45065-15 | 15 | C6 | 45 | 65 | 80 | 190 | -6° | -7° | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Measured with master insert: DN .. 110408 / DN .. 150608
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
For information on $D_{min}$ and $D_{min2}$, see "Technical information – ISO turning"
Ordering example, right-hand tool: C3-PDJNR-22045-11/ordering example, left-hand tool: C3-PDJNL-22045-11
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type $d_1$ | DN .. 1104 .. C3/C4 | DN .. 1104 .. C5 | DN .. 1506 .. C4 | DN .. 1506 .. C5/C6 |
|---|---|---|---|---|---|
| | Shim for radius | AP171-DN1112 r ≤ 1,2 mm | AP171-DN1112 r ≤ 1,2 mm | AP145-DN1516 r ≤ 1,6 mm | AP145-DN1516 r ≤ 1,6 mm |
| | Lever | KN119 | KN119 | KN103 | KN103 |
| | Clamping screw Tightening torque | FS351 (SW 2,5) 2,0 Nm | FS351 (SW 2,5) 2,0 Nm | FS355 (SW 3) 5,0 Nm | FS355 (SW 3) 5,0 Nm |
| | Shim pin | RS101 | RS101 | RS102 | RS102 |
| | Tapered assembly pin | MD101 | MD101 | MD101 | MD101 |
| | Cooling lubricant nozzle | FS1477 | FS1476 | FS1477 | FS1476 |
| | Allen key | ISO2936-2,5 (SW 2,5) | ISO2936-2,5 (SW 2,5) | ISO2936-3 (SW 3) | ISO2936-3 (SW 3) |

## Accessories

| | Type | DN .. 1104 .. | DN .. 1506 .. |
|---|---|---|---|
| | Shim for radius | AP171-DN1108 r ≤ 0,8 mm | AP145-DN1508 r ≤ 0,8 mm |
| | Shim for DN .. 1504 .. for radius | | AP357-DN1508 r ≤ 0,8 mm |
| | Shim for DN .. 1504 .. for radius | | AP357-DN1516 r ≤ 1,6 mm |

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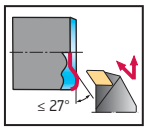
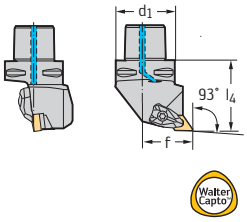
# Turning toolholders – Rigid clamping
# C...-DDUN
# Walter Turn

– Walter Capto™



## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | $D_{min}$ mm | $D_{min2}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| C4-DDUNR/L-27050-15 | 15 | C4 | 27 | 50 | 110 | 140 | -6° | -7° | DN .. 1506 .. |
| C5-DDUNR/L-35060-15 | 15 | C5 | 35 | 60 | 110 | 165 | -6° | -7° | |
| C6-DDUNR/L-45065-15 | 15 | C6 | 45 | 65 | 110 | 190 | -6° | -7° | |
| C8-DDUNR/L-55080-15 | 15 | C8 | 55 | 80 | 110 | 250 | -6° | -7° | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Measured with master insert: DN .. 150608
For information on $D_{min}$ and $D_{min2}$, see "Technical information – ISO turning"
Ordering example, right-hand tool: C4-DDUNR-27050-15/ordering example, left-hand tool: C4-DDUNL-27050-15
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type $d_1$ | DN .. 1506 .. C4 | DN .. 1506 .. C5/C6 | DN .. 1506 .. C8 |
|---|---|---|---|
| Shim | AP304-DN15 | AP304-DN15 | AP304-DN15 |
| Screw for shim<br>Tightening torque | FS1461 (Torx 15IP)<br>2,5 Nm | FS1461 (Torx 15IP)<br>2,5 Nm | FS1461 (Torx 15IP)<br>2,5 Nm |
| Clamp | PK241 | PK241 | PK241 |
| Clamp screw<br>Tightening torque | FS1473 (Torx 15IP)<br>3,9 Nm | FS1473 (Torx 15IP)<br>3,9 Nm | FS1473 (Torx 15IP)<br>3,9 Nm |
| Pressure spring | FS1471 | FS1471 | FS1471 |
| Pin | RS117 | RS117 | RS117 |
| Cooling lubricant nozzle | FS1477 | FS1476 | FS1479 |
| Torx key | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) |

## Accessories

| Type | DN .. 1506 .. |
|---|---|
| Clamp set<br>(standard assembly parts) | PK241 SET |
| Carbide clamp set<br>Insert with hole | PK245 SET |
| Carbide clamp set<br>Insert without hole | PK254 SET |
| Shim for DN .. 1504 .. | AP304-DN1504 |
| Shim for DN .. 1507 .. | AP412-DN1507 |

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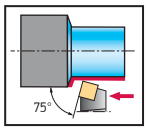
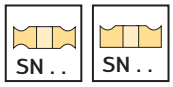
# Turning toolholders – Rigid clamping
# C...-DSRN
# Walter Turn

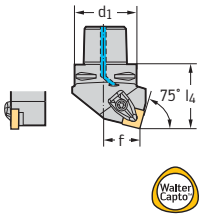
– Walter Capto™




## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | $D_{min2}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|
| C4-DSRNR/L-22050-12 | 12 | C4 | 22 | 50 | 140 | -6° | -6° | SN .. 1204 .. |
| C5-DSRNR/L-27060-12 | 12 | C5 | 27 | 60 | 165 | -6° | -6° | |
| C6-DSRNR/L-35065-12 | 12 | C6 | 35 | 65 | 190 | -6° | -6° | |
| C5-DSRNR/L-27060-15 | 15 | C5 | 27 | 60 | 165 | -6° | -6° | SN .. 1506 .. |
| C6-DSRNR/L-35065-15 | 15 | C6 | 35 | 65 | 190 | -6° | -6° | |
| C6-DSRNR/L-35065-19 | 19 | C6 | 35 | 65 | 190 | -6° | -6° | SN .. 1906 .. |
| C8-DSRNR/L-45080-19 | 19 | C8 | 45 | 80 | 250 | -6° | -6° | |
| C8-DSRNR/L-45080-25 | 25 | C8 | 45 | 80 | 250 | -6° | -6° | SN .. 2507 .. |

Measured with master insert: SN .. 120408 / SN .. 150612 / SN .. 190612 / SN .. 250724
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
For information on $D_{min2}$, see "Technical information – ISO turning"
Ordering example, right-hand tool: C4-DSRNR-22050-12/ordering example, left-hand tool: C4-DSRNL-22050-12
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type | SN .. 1204 .. | SN .. 1506 .. | SN .. 1906 .. | SN .. 2507 .. |
|---|---|---|---|---|
| Shim | AP308-SN12 | AP309-SN15 | AP310-SN19 | AP351-SN25 |
| Screw for shim<br>Tightening torque | FS1461 (Torx 15IP)<br>2,5 Nm | FS1463 (Torx 20IP)<br>5,0 Nm | FS1463 (Torx 20IP)<br>5,0 Nm | FS1589 (Torx 25IP)<br>9,5 Nm |
| Clamp | PK241 | PK242 | PK243 | PK301 |
| Clamp screw<br>Tightening torque | FS1473 (Torx 15IP)<br>3,9 Nm | FS1474 (Torx 20IP)<br>6,4 Nm | FS1474 (Torx 20IP)<br>6,4 Nm | FS1591 (Torx 25IP)<br>9,5 Nm |
| Pressure spring | FS1470 | FS1471 | FS1471 | FS1471 |
| Pin | RS117 | RS117 | RS117 | RS117 |
| Cooling lubricant nozzle | FS1475 | FS1475 | FS1475 | FS1475 |
| Torx key | FS1465 (Torx 15IP / SW 3,5) | FS1464 (Torx 20IP) | FS1464 (Torx 20IP) | FS1592 (Torx 25IP) |

## Accessories

| Type | SN .. 1204 .. | SN .. 1506 .. | SN .. 1906 .. | SN .. 2507 .. |
|---|---|---|---|---|
| Clamp set<br>(standard assembly parts) | PK241 SET | PK242 SET | PK243 SET | PK301 SET |
| Carbide clamp set<br>Insert with hole | PK245 SET | PK246 SET | | |
| Carbide clamp set<br>Insert without hole | PK254 SET | | | |
| Shim for SN .. 1207 .. | AP413-SN1207 | | | |
| Shim for SN .. 2509 .. | | | | AP351-SN2509 |

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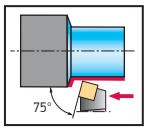
# Turning toolholders – Lever clamp
# C...-PSRN
# Walter Turn

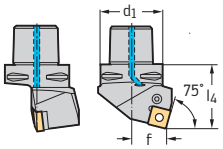
– Walter Capto™




SN . .  SN . .

## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|
| C3-PSRNR/L-17040-12 | 12 | C3 | 17 | 40 | -6° | -6° | SN .. 1204 .. |
| C4-PSRNR/L-22050-12 | 12 | C4 | 22 | 50 | -6° | -6° | |
| C5-PSRNR/L-27060-12 | 12 | C5 | 27 | 60 | -6° | -6° | |
| C6-PSRNR/L-35065-12 | 12 | C6 | 35 | 65 | -6° | -6° | |
| C5-PSRNR/L-27060-15 | 15 | C5 | 27 | 60 | -6° | -6° | SN .. 1506 .. |
| C6-PSRNR/L-35065-15 | 15 | C6 | 35 | 65 | -6° | -6° | |
| C5-PSRNR/L-27060-19 | 19 | C5 | 27 | 60 | -6° | -6° | SN .. 1906 .. |
| C6-PSRNR/L-35065-19 | 19 | C6 | 35 | 65 | -6° | -6° | |
| C8-PSRNR/L-45080-19 | 19 | C8 | 45 | 80 | -6° | -6° | |
| C8-PSRNR/L-45080-25 | 25 | C8 | 45 | 80 | -6° | -6° | SN .. 2507 .. |

Measured with master insert: SN .. 120408 / SN .. 150612 / SN .. 190612 / SN .. 250724
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: C3-PSRNR-17040-12/ordering example, left-hand tool: C3-PSRNL-17040-12
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type $d_1$ | SN .. 1204 .. C3/C4 | SN .. 1204 .. C5/C6 | SN .. 1506 .. C5/C6 | SN .. 1906 .. C5/C6 | SN .. 1906 .. C8 | SN .. 2507 .. C8 |
|---|---|---|---|---|---|---|
| Shim for radius | AP141-SN1216 r ≤ 1,6 mm | AP141-SN1216 r ≤ 1,6 mm | AP142-SN1524 r ≤ 2,4 mm | AP143-SN1924 r ≤ 2,4 mm | AP143-SN1924 r ≤ 2,4 mm | AP144-SN2524 r ≤ 2,4 mm |
| Lever | KN102 | KN102 | KN104 | KN106 | KN106 | KN107 |
| Clamping screw Tightening torque | FS352 (SW 3) 5,0 Nm | FS352 (SW 3) 5,0 Nm | FS354 (SW 3) 5,0 Nm | FS356 (SW 4) 10,0 Nm | FS356 (SW 4) 10,0 Nm | FS357 (SW 5) 14,0 Nm |
| Shim pin | RS102 | RS102 | RS103 | RS104 | RS104 | RS105 |
| Tapered assembly pin | MD101 | MD101 | MD102 | MD102 | MD102 | MD103 |
| Allen key | ISO2936-3 (SW 3) | ISO2936-3 (SW 3) | ISO2936-3 (SW 3) | ISO2936-4 (SW 4) | ISO2936-4 (SW 4) | ISO2936-5 (SW 5) |
| Cooling lubricant nozzle | FS1477 | FS1476 | FS1476 | FS1476 | FS1479 | FS1479 |

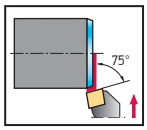
## Accessories

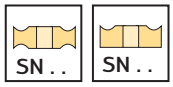
| Type | SN .. 1204 .. | SN .. 1506 .. | SN .. 1906 .. | SN .. 2507 .. |
|---|---|---|---|---|
| Shim for radius | AP141-SN1208 r ≤ 0,8 mm | AP142-SN1516 r ≤ 1,6 mm | AP143-SN1912 r ≤ 1,2 mm | |
| Shim for SN .. 2509 .. for radius | | | | AP191-SN250924 r ≤ 2,4 mm |

A 27  D 1  A 234  A 261

# Turning toolholders – Rigid clamping
# C...-DSKN
# Walter Turn

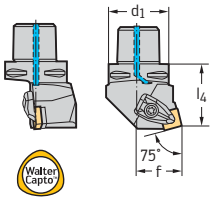
– Walter Capto™




## Tool

| Designation | | $d_1$ | f mm | $l_4$ mm | $D_{min}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|
| Walter Capto™ in accordance with ISO 26623 | | | | | | | | |
| C4-DSKNR/L-27050-12 | 12 | C4 | 27 | 50 | 110 | -6° | -6° | SN .. 1204 .. |
| C5-DSKNR/L-35060-12 | 12 | C5 | 35 | 60 | 110 | -6° | -6° | |
| C6-DSKNR/L-45065-12 | 12 | C6 | 45 | 65 | 110 | -6° | -6° | |
| C5-DSKNR/L-35060-15 | 15 | C5 | 35 | 60 | 125 | -6° | -6° | SN .. 1506 .. |
| C6-DSKNR/L-45065-15 | 15 | C6 | 45 | 65 | 125 | -6° | -6° | |
| C6-DSKNR/L-45065-19 | 19 | C6 | 45 | 65 | 125 | -6° | -6° | SN .. 1906 .. |
| C8-DSKNR/L-55080-19 | 19 | C8 | 55 | 80 | 125 | -6° | -6° | |




Measured with master insert: SN .. 120408 / SN .. 150612 / SN .. 190612
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
For information on $D_{min2}$, see "Technical information – ISO turning"
Ordering example, right-hand tool: C4-DSKNR-27050-12/ordering example, left-hand tool: C4-DSKNL-27050-12
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type $d_1$ | SN .. 1204 .. C4 | SN .. 1204 .. C5/C6 | SN .. 1506 .. C5/C6 | SN .. 1906 .. C6 | SN .. 1906 .. C8 |
|---|---|---|---|---|---|
| Shim | AP308-SN12 | AP308-SN12 | AP309-SN15 | AP310-SN19 | AP310-SN19 |
| Screw for shim<br>Tightening torque | FS1461<br>(Torx 15IP)<br>2,5 Nm | FS1461<br>(Torx 15IP)<br>2,5 Nm | FS1463<br>(Torx 20IP)<br>5,0 Nm | FS1463<br>(Torx 20IP)<br>5,0 Nm | FS1463<br>(Torx 20IP)<br>5,0 Nm |
| Clamp | PK241 | PK241 | PK242 | PK243 | PK243 |
| Clamp screw<br>Tightening torque | FS1473<br>(Torx 15IP)<br>3,9 Nm | FS1473<br>(Torx 15IP)<br>3,9 Nm | FS1474<br>(Torx 20IP)<br>6,4 Nm | FS1474<br>(Torx 20IP)<br>6,4 Nm | FS1474<br>(Torx 20IP)<br>6,4 Nm |
| Pressure spring | FS1470 | FS1470 | FS1471 | FS1471 | FS1471 |
| Pin | RS117 | RS117 | RS117 | RS117 | RS117 |
| Cooling lubricant nozzle | FS1477 | FS1476 | FS1476 | FS1476 | FS1479 |
| Torx key | FS1465<br>(Torx 15IP /<br>SW 3,5) | FS1465<br>(Torx 15IP /<br>SW 3,5) | FS1464<br>(Torx 20IP) | FS1464<br>(Torx 20IP) | FS1464<br>(Torx 20IP) |

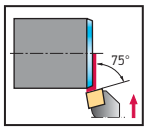
## Accessories

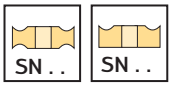
| Type | SN .. 1204 .. | SN .. 1506 .. | SN .. 1906 .. |
|---|---|---|---|
| Clamp set<br>(standard assembly parts) | PK241 SET | PK242 SET | PK243 SET |
| Carbide clamp set<br>Insert with hole | PK245 SET | PK246 SET | |
| Carbide clamp set<br>Insert without hole | PK254 SET | | |
| Shim for SN .. 1207 .. | AP413-SN1207 | | |

A 27 D 1 A 234 A 261 A 262

# Turning toolholders – Lever clamp
# C...-PSKN
# Walter Turn

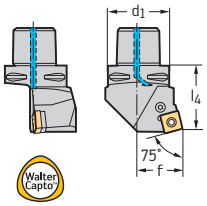
– Walter Capto™




## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | $D_{min}$ mm | $D_{min2}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| C4-PSKNR/L-27050-12 | 12 | C4 | 27 | 50 | 60 | 140 | -6° | -6° | SN .. 1204 .. |
| C5-PSKNR/L-35060-12 | 12 | C5 | 35 | 60 | 65 | 165 | -6° | -6° | |
| C5-PSKNR/L-35060-15 | 15 | C5 | 35 | 60 | 80 | 165 | -6° | -6° | SN .. 1506 .. |
| C6-PSKNR/L-45065-15 | 15 | C6 | 45 | 65 | 81 | 190 | -6° | -6° | |
| C6-PSKNR/L-45065-19 | 19 | C6 | 45 | 65 | 81 | 190 | -6° | -6° | SN .. 1906 .. |
| C8-PSKNR/L-55080-19 | 19 | C8 | 55 | 80 | 100 | 250 | -6° | -6° | |
| | | | | | | | | | |
| | | | | | | | | | |

Measured with master insert: SN .. 120408 / SN .. 150612 / SN .. 190612
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
For information on $D_{min}$ and $D_{min2}$, see "Technical information – ISO turning"
Ordering example, right-hand tool: C4-PSKNR-27050-12/ordering example, left-hand tool: C4-PSKNL-27050-12
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type $d_1$ | SN .. 1204 .. C4 | SN .. 1204 .. C5 | SN .. 1506 .. C5/C6 | SN .. 1906 .. C6 | SN .. 1906 .. C8 |
|---|---|---|---|---|---|
| Shim for radius | AP141-SN1216 r ≤ 1,6 mm | AP141-SN1216 r ≤ 1,6 mm | AP142-SN1524 r ≤ 2,4 mm | AP143-SN1924 r ≤ 2,4 mm | AP143-SN1924 r ≤ 2,4 mm |
| Lever | KN102 | KN102 | KN104 | KN106 | KN106 |
| Clamping screw Tightening torque | FS352 (SW 3) 5,0 Nm | FS352 (SW 3) 5,0 Nm | FS354 (SW 3) 5,0 Nm | FS356 (SW 4) 10,0 Nm | FS356 (SW 4) 10,0 Nm |
| Shim pin | RS102 | RS102 | RS103 | RS104 | RS104 |
| Tapered assembly pin | MD101 | MD101 | MD102 | MD102 | MD102 |
| Cooling lubricant nozzle | FS1477 | FS1476 | FS1476 | FS1476 | FS1479 |
| Allen key | ISO2936-3 (SW 3) | ISO2936-3 (SW 3) | ISO2936-3 (SW 3) | ISO2936-4 (SW 4) | ISO2936-4 (SW 4) |

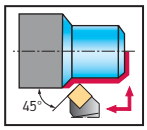
## Accessories

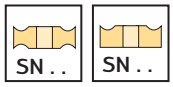
| Type | SN .. 1204 .. | SN .. 1506 .. | SN .. 1906 .. |
|---|---|---|---|
| Shim for radius | AP141-SN1208 r ≤ 0,8 mm | AP142-SN1516 r ≤ 1,6 mm | AP143-SN1912 r ≤ 1,2 mm |

A 27 D 1 A 234 A 261

# Turning toolholders – Rigid clamping
# C...-DSSN
# Walter Turn

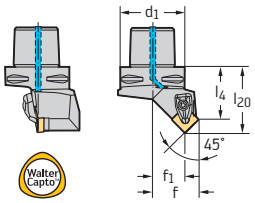
– Walter Capto™




## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $f_1$ mm | $l_4$ mm | $l_{20}$ mm | $D_{min}$ mm | $D_{min2}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C4-DSSNR/L-27042-12 | 12 | C4 | 27 | 18,7 | 42 | 50,3 | 110 | 140 | -8° | 0° | |
| C5-DSSNR/L-35052-12 | 12 | C5 | 35 | 26,7 | 52 | 60,3 | 110 | 165 | -8° | 0° | SN .. 1204 .. |
| C6-DSSNR/L-45056-12 | 12 | C6 | 45 | 36,7 | 56 | 64,3 | 110 | 190 | -8° | 0° | |
| C4-DSSNR/L-27045-15 | 15 | C4 | 27 | 16,8 | 45 | 55,2 | 125 | 145 | -8° | 0° | |
| C5-DSSNR/L-35050-15 | 15 | C5 | 35 | 24,8 | 50 | 60,2 | 125 | 165 | -8° | 0° | SN .. 1506 .. |
| C6-DSSNR/L-45054-15 | 15 | C6 | 45 | 34,8 | 54 | 60,2 | 125 | 190 | -8° | 0° | |
| C6-DSSNR/L-45052-19 | 19 | C6 | 45 | 32,5 | 52 | 64,5 | 125 | 190 | -8° | 0° | SN .. 1906 .. |

Measured with master insert: SN .. 120408 / SN .. 150612 / SN .. 190612
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
For information on $D_{min}$ and $D_{min2}$, see "Technical information – ISO turning"
Ordering example, right-hand tool: C4-DSSNR-27042-12/ordering example, left-hand tool: C4-DSSNL-27042-12
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type $d_1$ | SN .. 1204 .. C4 | SN .. 1204 .. C5 | SN .. 1204 .. C6 | SN .. 1506 .. C4 | SN .. 1506 .. C5 | SN .. 1506 .. C6 | SN .. 1906 .. C6 |
|---|---|---|---|---|---|---|---|
| Shim | AP308-SN12 | AP308-SN12 | AP308-SN12 | AP309-SN15 | AP309-SN15 | AP309-SN15 | AP310-SN19 |
| Screw for shim<br>Tightening torque | FS1461 (Torx 15IP)<br>2,5 Nm | FS1461 (Torx 15IP)<br>2,5 Nm | FS1461 (Torx 15IP)<br>2,5 Nm | FS1463 (Torx 20IP)<br>5,0 Nm | FS1463 (Torx 20IP)<br>5,0 Nm | FS1463 (Torx 20IP)<br>5,0 Nm | FS1463 (Torx 20IP)<br>5,0 Nm |
| Clamp | PK241 | PK241 | PK241 | PK242 | PK242 | PK242 | PK243 |
| Clamp screw<br>Tightening torque | FS1473 (Torx 15IP)<br>3,9 Nm | FS1473 (Torx 15IP)<br>3,9 Nm | FS1473 (Torx 15IP)<br>3,9 Nm | FS1474 (Torx 20IP)<br>6,4 Nm | FS1474 (Torx 20IP)<br>6,4 Nm | FS1474 (Torx 20IP)<br>6,4 Nm | FS1474 (Torx 20IP)<br>6,4 Nm |
| Pressure spring | FS1470 | FS1470 | FS1470 | FS1471 | FS1471 | FS1471 | FS1471 |
| Pin | RS117 | RS117 | RS117 | RS117 | RS117 | RS117 | RS117 |
| Cooling lubricant nozzle | FS1477 | FS1476 | FS1475 | FS1477 | FS1476 | FS1475 | FS1476 |
| Torx key | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) | FS1464 (Torx 20IP) | FS1464 (Torx 20IP) | FS1464 (Torx 20IP) | FS1464 (Torx 20IP) |

## Accessories

| Type | SN .. 1204 .. | SN .. 1506 .. | SN .. 1906 .. |
|---|---|---|---|
| Clamp set (standard assembly parts) | PK241 SET | PK242 SET | PK243 SET |
| Carbide clamp set Insert with hole | PK245 SET | PK246 SET | |
| Carbide clamp set Insert without hole | PK254 SET | | |
| Shim for SN .. 1207 .. | AP413-SN1207 | | |

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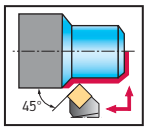
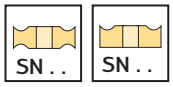
# Turning toolholders – Lever clamp
# C...-PSSN
## Walter Turn

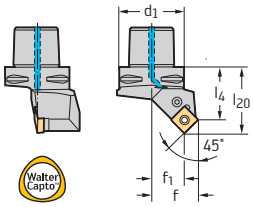
– Walter Capto™




## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $f_1$ mm | $l_4$ mm | $l_{20}$ mm | $D_{min}$ mm | $D_{min2}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C4-PSSNR/L-27042-12 | 12 | C4 | 27 | 18,7 | 42 | 50,3 | 60 | 132 | -8° | 0° | |
| C5-PSSNR/L-35052-12 | 12 | C5 | 35 | 26,7 | 52 | 60,3 | 65 | 157 | -8° | 0° | SN .. 1204 .. |
| C6-PSSNR/L-45056-12 | 12 | C6 | 45 | 36,7 | 56 | 64,3 | 81 | 181 | -8° | 0° | |
| C6-PSSNR/L-45054-15 | 15 | C6 | 45 | 34,8 | 54 | 64,2 | 100 | 179 | -8° | 0° | SN .. 1506 .. |
| C6-PSSNR/L-45052-19 | 19 | C6 | 45 | 32,5 | 52 | 64,5 | 100 | 177 | -8° | 0° | SN .. 1906 .. |

Measured with master insert: SN .. 120408 / SN .. 150612 / SN .. 190612
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
For information on $D_{min}$ and $D_{min2}$, see "Technical information – ISO turning"
Ordering example, right-hand tool: C4-PSSNR-27042-12/ordering example, left-hand tool: C4-PSSNL-27042-12
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type $d_1$ | SN .. 1204 .. C4 | SN .. 1204 .. C5/C6 | SN .. 1506 .. C6 | SN .. 1906 .. C6 |
|---|---|---|---|---|
| Shim for radius | AP141-SN1216 r ≤ 1,6 mm | AP141-SN1216 r ≤ 1,6 mm | AP142-SN1524 r ≤ 2,4 mm | AP143-SN1924 r ≤ 2,4 mm |
| Lever | KN102 | KN102 | KN104 | KN106 |
| Clamping screw Tightening torque | FS352 (SW 3) 5,0 Nm | FS352 (SW 3) 5,0 Nm | FS354 (SW 3) 5,0 Nm | FS356 (SW 4) 10,0 Nm |
| Shim pin | RS102 | RS102 | RS103 | RS104 |
| Tapered assembly pin | MD101 | MD101 | MD102 | MD102 |
| Cooling lubricant nozzle | FS1477 | FS1476 | FS1476 | FS1476 |
| Allen key | ISO2936-3 (SW 3) | ISO2936-3 (SW 3) | ISO2936-3 (SW 3) | ISO2936-4 (SW 4) |

## Accessories

| Type | SN .. 1204 .. | SN .. 1506 .. | SN .. 1906 .. |
|---|---|---|---|
| Shim for radius | AP141-SN1208 r ≤ 0,8 mm | AP142-SN1516 r ≤ 1,6 mm | AP143-SN1912 r ≤ 1,2 mm |

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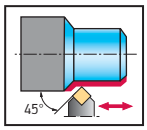
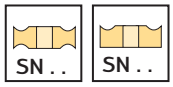
# Turning toolholders – Rigid clamping
# C...-DSDN
## Walter Turn

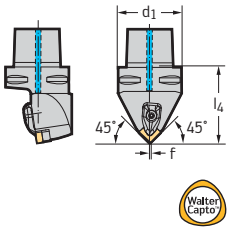
– Walter Capto™




## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | $D_{min2}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|
| C4-DSDNN-00050-12 | 12 | C4 | 0,3 | 50 | 140 | -6° | -6° | SN .. 1204 .. |
| C5-DSDNN-00060-12 | 12 | C5 | 0,3 | 60 | 165 | -6° | -6° | |
| C6-DSDNN-00065-12 | 12 | C6 | 0,3 | 65 | 190 | -6° | -6° | |
| C6-DSDNN-00070-19 | 19 | C6 | 0,5 | 70 | 195 | -6° | -6° | SN .. 1906 .. |
| C8-DSDNN-00080-25 | 25 | C8 | 1 | 80 | 250 | -6° | -6° | SN .. 2507 .. |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Measured with master insert: SN .. 120408 / SN .. 190612 / SN .. 250724
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
For information on $D_{min2}$, see "Technical information – ISO turning"
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type $d_1$ | SN .. 1204 .. C4 | SN .. 1204 .. C5/C6 | SN .. 1906 .. C6 | SN .. 2507 .. C8 |
|---|---|---|---|---|---|
| | Shim | AP308-SN12 | AP308-SN12 | AP310-SN19 | AP351-SN25 |
| | Screw for shim<br>Tightening torque | FS1461 (Torx 15IP)<br>2,5 Nm | FS1461 (Torx 15IP)<br>2,5 Nm | FS1463 (Torx 20IP)<br>5,0 Nm | FS1589 (Torx 25IP)<br>9,5 Nm |
| | Clamp | PK241 | PK241 | PK243 | PK301 |
| | Clamp screw<br>Tightening torque | FS1473 (Torx 15IP)<br>3,9 Nm | FS1473 (Torx 15IP)<br>3,9 Nm | FS1474 (Torx 20IP)<br>6,4 Nm | FS1591 (Torx 25IP)<br>9,5 Nm |
| | Pressure spring | FS1470 | FS1470 | FS1471 | FS1471 |
| | Pin | RS117 | RS117 | RS117 | RS117 |
| | Cooling lubricant nozzle | FS1477 | FS1475 | FS1475 | FS1475 |
| | Torx key | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) | FS1464 (Torx 20IP) | FS1592 (Torx 25IP) |

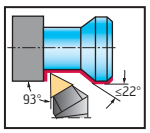
## Accessories

| | Type | SN .. 1204 .. | SN .. 1906 .. | SN .. 2507 .. |
|---|---|---|---|---|
| | Clamp set<br>(standard assembly parts) | PK241 SET | PK243 SET | PK301 SET |
| | Carbide clamp set<br>Insert with hole | PK245 SET | | |
| | Carbide clamp set<br>Insert without hole | PK254 SET | | |
| | Shim for SN .. 1207 .. | AP413-SN1207 | | |
| | Shim for SN .. 2509 .. | | | AP351-SN2509 |

A 27 D 1 A 234 A 261 A 262

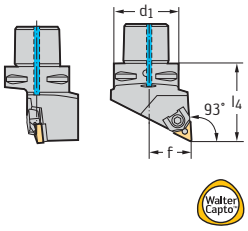
# Turning toolholders – Wedge-type clamping
# C...-MTJN
# Walter Turn

– Walter Capto™



## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|
| C3-MTJNR/L-22040-16 | 16 | C3 | 22 | 40 | -6° | -6° | TN .. 1604 .. |
| C4-MTJNR/L-27050-16 | 16 | C4 | 27 | 50 | -6° | -6° | |
| C5-MTJNR/L-35060-16 | 16 | C5 | 35 | 60 | -6° | -6° | |
| C4-MTJNR/L-27050-22 | 22 | C4 | 27 | 50 | -6° | -6° | TN .. 2204 .. |
| C5-MTJNR/L-35060-22 | 22 | C5 | 35 | 60 | -6° | -6° | |
| C6-MTJNR/L-45065-22 | 22 | C6 | 45 | 65 | -6° | -6° | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Measured with master insert: TN .. 160408 / TN .. 220408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: C3-MTJNR-22040-16/ordering example, left-hand tool: C3-MTJNL-22040-16
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type<br>$d_1$ | TN .. 1604 ..<br>C3 | TN .. 1604 ..<br>C4 | TN .. 1604 ..<br>C5 | TN .. 2204 ..<br>C4 | TN .. 2204 ..<br>C5/C6 |
|---|---|---|---|---|---|
| Shim<br>for radius | AP147<br>r ≤ 1,6 mm | AP147<br>r ≤ 1,6 mm | AP147<br>r ≤ 1,6 mm | AP148<br>r ≤ 1,6 mm | AP148<br>r ≤ 1,6 mm |
| Clamping wedge set | FK303 (SW 2,5) | FK303 (SW 2,5) | FK303 (SW 2,5) | FK304 (SW 3) | FK304 (SW 3) |
| Pin | RS106 | RS106 | RS106 | RS107 | RS107 |
| Allen key | ISO2936-2,5<br>(SW 2,5) | ISO2936-2,5<br>(SW 2,5) | ISO2936-2,5<br>(SW 2,5) | ISO2936-3<br>(SW 3) | ISO2936-3<br>(SW 3) |
| Clamping screw<br>Tightening torque | FS358 (SW 3)<br>5,0 Nm | FS358 (SW 3)<br>5,0 Nm | FS358 (SW 3)<br>5,0 Nm | FS358 (SW 3)<br>5,0 Nm | FS358 (SW 3)<br>5,0 Nm |
| Cooling lubricant nozzle | FS1230 | FS1018 | FS1019 | FS1018 | FS1019 |

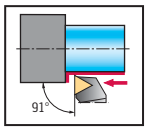
## Accessories

| Type | TN .. 2204 .. |
|---|---|
| Shim<br>for radius | AP149<br>r ≤ 0,8 mm |

A 30 D 1 A 234 A 261

# Turning toolholders – Rigid clamping
# C...-DTGN...-P
## Walter Turn

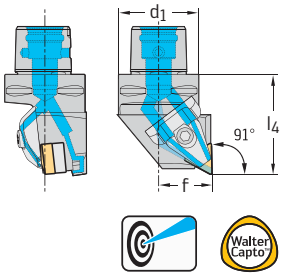
– Precision cooling
– Walter Capto™



## Tool

| Designation | | $d_1$ | f mm | $l_4$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|
| C4-DTGNR/L-27050-16-P | 16 | C4 | 27 | 50 | -6° | -6° | TN .. 1604 .. |

Walter Capto™ in accordance with ISO 26623




Measured with master insert: TN .. 160408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
The maximum recommended coolant pressure is 150 bar (2175 psi)
Ordering example, right-hand tool: C4-DTGNR-27050-16-P/ordering example, left-hand tool: C4-DTGNL-27050-16-P
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type | TN .. 1604 .. |
|---|---|
| Shim | AP321-TN16 |
| Screw for shim<br>Tightening torque | FS1462 (Torx 9IP)<br>1,5 Nm |
| Clamp | PK255 |
| Clamp screw<br>Tightening torque | FS1473 (Torx 15IP)<br>3,9 Nm |
| Pressure spring | FS2188 |
| Torx key | FS1465 (Torx 15IP / SW 3,5) |

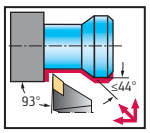
## Accessories

| Type | TN .. 1604 .. |
|---|---|
| Clamp set<br>(standard assembly parts) | PK255 SET |

A 30 D 1 A 234 A 261 A 262

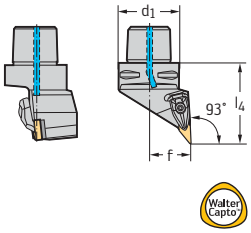
# Turning toolholders – Rigid clamping
# C...-DVJN
# Walter Turn

– Walter Capto™



## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | $D_{min}$ mm | $D_{min2}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| C4-DVJNR/L-27062-16 | 16 | C4 | 27 | 62 | 60 | 152 | -4° | -13° | VN .. 1604 .. |
| C5-DVJNR/L-35065-16 | 16 | C5 | 35 | 65 | 65 | 170 | -4° | -13° | |
| C6-DVJNR/L-45065-16 | 16 | C6 | 45 | 65 | 81 | 190 | -4° | -13° | |
| C8-DVJNR/L-55080-16 | 16 | C8 | 55 | 80 | 100 | 250 | -4° | -13° | |
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Measured with master insert: VN .. 160408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
For information on $D_{min}$ and $D_{min2}$, see "Technical information – ISO turning"
Ordering example, right-hand tool: C4-DVJNR-27062-16/ordering example, left-hand tool: C4-DVJNL-27062-16
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type<br>$d_1$ | VN .. 1604 ..<br>C4 | VN .. 1604 ..<br>C5/C6 | VN .. 1604 ..<br>C8 |
|---|---|---|---|---|
| | Shim | AP312-VN16 | AP312-VN16 | AP312-VN16 |
| | Screw for shim<br>Tightening torque | FS1467 (Torx 15IP)<br>3,0 Nm | FS1467 (Torx 15IP)<br>3,0 Nm | FS1467 (Torx 15IP)<br>3,0 Nm |
| | Clamp | PK244 | PK244 | PK244 |
| | Clamp screw<br>Tightening torque | FS1473 (Torx 15IP)<br>1,7 Nm | FS1473 (Torx 15IP)<br>1,7 Nm | FS1473 (Torx 15IP)<br>1,7 Nm |
| | Pressure spring | FS1470 | FS1470 | FS1470 |
| | Pin | RS117 | RS117 | RS117 |
| | Cooling lubricant nozzle | FS1477 | FS1476 | FS1479 |
| | Torx key | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) |

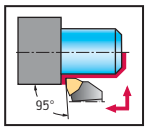
## Accessories

| | Type | VN .. 1604 .. |
|---|---|---|
| | Clamp set<br>(standard assembly parts) | PK244 SET |

A 33 D 1 A 234 A 261 A 262

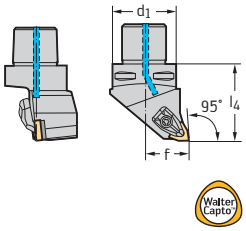
# Turning toolholders – Rigid clamping
# C...-DWLN
# Walter Turn

– Walter Capto™



## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | $D_{min}$ mm | $D_{min2}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| C4-DWLNR/L-27050-06 | 6 | C4 | 27 | 50 | 60 | 140 | -6° | -6° | WN .. 0604 .. |
| C5-DWLNR/L-35060-06 | 6 | C5 | 35 | 60 | 65 | 165 | -6° | -6° | |
| C6-DWLNR/L-45065-06 | 6 | C6 | 45 | 65 | 81 | 190 | -6° | -6° | |
| C4-DWLNR/L-27050-08 | 8 | C4 | 27 | 50 | 110 | 140 | -6° | -6° | WN .. 0804 .. |
| C5-DWLNR/L-35060-08 | 8 | C5 | 35 | 60 | 110 | 165 | -6° | -6° | |
| C6-DWLNR/L-45065-08 | 8 | C6 | 45 | 65 | 110 | 190 | -6° | -6° | |
| C5-DWLNR/L-35060-10 | 10 | C5 | 35 | 60 | 115 | 170 | -6° | -6° | WN .. 1006 .. |
| C6-DWLNR/L-45065-10 | 10 | C6 | 45 | 65 | 115 | 195 | -6° | -6° | |

Measured with master insert: WN .. 060408 / WN .. 080408 / WN .. 100612
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
For information on $D_{min}$ and $D_{min2}$, see "Technical information – ISO turning"
Ordering example, right-hand tool: C4-DWLNR-27050-06/ordering example, left-hand tool: C4-DWLNL-27050-06
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type<br>$d_1$ | WN .. 0604 ..<br>C4 | WN .. 0604 ..<br>C5/C6 | WN .. 0804 ..<br>C4 | WN .. 0804 ..<br>C5/C6 | WN .. 1006 ..<br>C5/C6 |
|---|---|---|---|---|---|
| Shim | AP306-WN06 | AP306-WN06 | AP307-WN08 | AP307-WN08 | AP311-WN10 |
| Screw for shim<br>Tightening torque | FS1462<br>(Torx 9IP)<br>1,5 Nm | FS1462<br>(Torx 9IP)<br>1,5 Nm | FS1461<br>(Torx 15IP)<br>2,5 Nm | FS1461<br>(Torx 15IP)<br>2,5 Nm | FS1463<br>(Torx 20IP)<br>5,0 Nm |
| Clamp | PK240 | PK240 | PK241 | PK241 | PK242 |
| Clamp screw<br>Tightening torque | FS1472<br>(Torx 9IP)<br>1,7 Nm | FS1472<br>(Torx 9IP)<br>1,7 Nm | FS1473<br>(Torx 15IP)<br>3,9 Nm | FS1473<br>(Torx 15IP)<br>3,9 Nm | FS1474<br>(Torx 20IP)<br>6,4 Nm |
| Pressure spring | FS1469 | FS1469 | FS1470 | FS1470 | FS1471 |
| Pin | RS116 | RS116 | RS117 | RS117 | RS117 |
| Cooling lubricant nozzle | FS1477 | FS1475 | FS1477 | FS1475 | FS1475 |
| Torx key | FS1466<br>(Torx 9IP) | FS1466<br>(Torx 9IP) | FS1465<br>(Torx 15IP /<br>SW 3,5) | FS1465<br>(Torx 15IP /<br>SW 3,5) | FS1464<br>(Torx 20IP) |

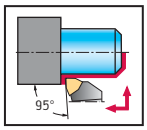
## Accessories

| Type | WN .. 0604 .. | WN .. 0804 .. | WN .. 1006 .. |
|---|---|---|---|
| Clamp set<br>(standard assembly parts) | PK240 SET | PK241 SET | PK242 SET |
| Carbide clamp set<br>Insert with hole | | PK245 SET | PK246 SET |
| Carbide clamp set<br>Insert without hole | | PK254 SET | |

A 34 D 1 A 234 A 261 A 262

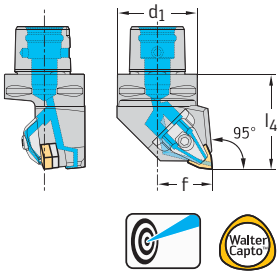
# Turning toolholders – Rigid clamping
# C...-DWLN...-P
## Walter Turn

– Precision cooling
– Walter Capto™



## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|
| C4-DWLNR/L-27050-08-P | 8 | C4 | 27 | 50 | -6° | -6° | WN .. 0804 .. |
| C5-DWLNR/L-35060-08-P | 8 | C5 | 35 | 60 | -6° | -6° | |
| C6-DWLNR/L-45065-08-P | 8 | C6 | 45 | 65 | -6° | -6° | |
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Measured with master insert: WN .. 080408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
The maximum recommended coolant pressure is 150 bar (2175 psi)
Ordering example, right-hand tool: C4-DWLNR-27050-08-P/ordering example, left-hand tool: C4-DWLNL-27050-08-P
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | WN .. 0804 .. |
|---|---|---|
| | Shim | AP307-WN08 |
| | Screw for shim<br>Tightening torque | FS1461 (Torx 15IP)<br>2,5 Nm |
| | Clamp | PK255 |
| | Clamp screw<br>Tightening torque | FS1473 (Torx 15IP)<br>3,9 Nm |
| | Pressure spring | FS2188 |
| | Torx key | FS1465 (Torx 15IP / SW 3,5) |

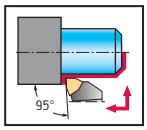
## Accessories

| | Type | WN .. 0804 .. |
|---|---|---|
| | Clamp set<br>(standard assembly parts) | PK255 SET |

A 34 D 1 A 234 A 261 A 262

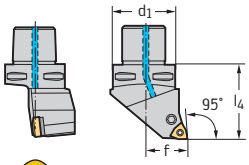
# Turning toolholders – Lever clamp
# C...-PWLN
# Walter Turn

– Walter Capto™



## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | $D_{min}$ mm | $D_{min2}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| C3-PWLNR/L-22040-06 | 6 | C3 | 22 | 40 | 60 | 116 | -6° | -6° | WN .. 0604 .. |
| C4-PWLNR/L-27050-06 | 6 | C4 | 27 | 50 | 60 | 140 | -6° | -6° | |
| C4-PWLNR/L-27050-08 | 8 | C4 | 27 | 50 | 60 | 140 | -6° | -6° | WN .. 0804 .. |
| C5-PWLNR/L-35060-08 | 8 | C5 | 35 | 60 | 65 | 165 | -6° | -6° | |
| C6-PWLNR/L-45065-08 | 8 | C6 | 45 | 65 | 81 | 190 | -6° | -6° | |
| C5-PWLNR/L-35060-10 | 10 | C5 | 35 | 60 | 80 | 165 | -6° | -6° | WN .. 1006 .. |
| C6-PWLNR/L-45065-10 | 10 | C6 | 45 | 65 | 81 | 190 | -6° | -6° | |
| | | | | | | | | | |
| | | | | | | | | | |

Measured with master insert: WN .. 060408 / WN .. 080408 / WN .. 100612
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
For information on $D_{min}$ and $D_{min2}$, see "Technical information – ISO turning"
Ordering example, right-hand tool: C3-PWLNR-22040-06/ordering example, left-hand tool: C3-PWLNL-22040-06
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type $d_1$ | WN .. 0604 .. C3/C4 | WN .. 0804 .. C4 | WN .. 0804 .. C5/C6 | WN .. 1006 .. C5/C6 |
|---|---|---|---|---|
| Shim for radius | AP172-WN0612 r ≤ 1,2 mm | AP170-WN0816 r ≤ 1,6 mm | AP170-WN0816 r ≤ 1,6 mm | AP174-WN1016 r ≤ 1,6 mm |
| Lever | KN101 | KN102 | KN102 | KN104 |
| Clamping screw Tightening torque | FS351 (SW 2,5) 2,0 Nm | FS352 (SW 3) 5,0 Nm | FS352 (SW 3) 5,0 Nm | FS354 (SW 3) 5,0 Nm |
| Shim pin | RS101 | RS102 | RS102 | RS103 |
| Tapered assembly pin | MD101 | MD101 | MD101 | MD102 |
| Cooling lubricant nozzle | FS1477 | FS1477 | FS1476 | FS1476 |
| Allen key | ISO2936-2,5 (SW 2,5) | ISO2936-3 (SW 3) | ISO2936-3 (SW 3) | ISO2936-3 (SW 3) |

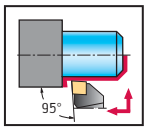
## Accessories

| Type | WN .. 0804 .. |
|---|---|
| Shim for radius | AP170-WN0808 r ≤ 0,8 mm |

A 34 D 1 A 234 A 261

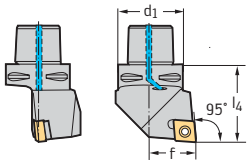
# Turning toolholders – Screw clamping
# C...-SCLC
## Walter Turn

– Walter Capto™



## Tool

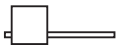
Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | $D_{min}$ mm | $D_{min2}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| C3-SCLCR/L-22040-09 | 9 | C3 | 22 | 40 | 130 | 116 | 0° | 0° | CC .. 09T3 .. |
| C4-SCLCR/L-27050-09 | 9 | C4 | 27 | 50 | 130 | 140 | 0° | 0° | |
| C5-SCLCR/L-35060-09 | 9 | C5 | 35 | 60 | 130 | 165 | 0° | 0° | |
| C6-SCLCR/L-45065-09 | 9 | C6 | 45 | 65 | 130 | 190 | 0° | 0° | |
| C4-SCLCR/L-27050-12 | 12 | C4 | 27 | 50 | 125 | 140 | 0° | 0° | CC .. 1204 .. |
| C5-SCLCR/L-35060-12 | 12 | C5 | 35 | 60 | 125 | 165 | 0° | 0° | |
| C6-SCLCR/L-45065-12 | 12 | C6 | 45 | 65 | 125 | 190 | 0° | 0° | |
| | | | | | | | | | |
| | | | | | | | | | |

Measured with master insert: CC .. 09T308 / CC .. 120408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
For information on $D_{min}$ and $D_{min2}$, see "Technical information – ISO turning"
Ordering example, right-hand tool: C3-SCLCR-22040-09/ordering example, left-hand tool: C3-SCLCL-22040-09
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type<br>$d_1$ | CC .. 09T3 ..<br>C3/C4 | CC .. 09T3 ..<br>C5/C6 | CC .. 1204 ..<br>C4 | CC .. 1204 ..<br>C5/C6 |
|---|---|---|---|---|---|
| | Clamping screw for indexable insert<br>Tightening torque | FS2060 (Torx 15IP)<br>3,0 Nm | FS2060 (Torx 15IP)<br>3,0 Nm | FS2065 (Torx 15IP)<br>3,0 Nm | FS2065 (Torx 15IP)<br>3,0 Nm |
| | Shim<br>for radius | AP313-CC0908<br>r ≤ 0,8 mm | AP313-CC0908<br>r ≤ 0,8 mm | AP314-CC1212<br>r ≤ 1,2 mm | AP314-CC1212<br>r ≤ 1,2 mm |
| | Screw for shim | FS2068 (SW 3,5) | FS2068 (SW 3,5) | FS2069 (SW 4) | FS2069 (SW 4) |
|  | Torx key | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) | FS1496 (Torx 15IP / SW 4) | FS1496 (Torx 15IP / SW 4) |
| | Cooling lubricant nozzle | FS1477 | FS1476 | FS1477 | FS1476 |

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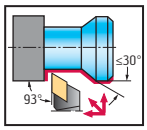
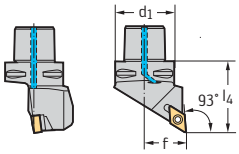
# Turning toolholders – Screw clamping
# C...-SDJC
# Walter Turn

– Walter Capto™



## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | $D_{min}$ mm | $D_{min2}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| C3-SDJCR/L-22040-07 | 7 | C3 | 22 | 40 | 70 | 116 | 0° | 0° | DC .. 0702 .. |
| C4-SDJCR/L-27050-07 | 7 | C4 | 27 | 50 | 70 | 140 | 0° | 0° | |
| C3-SDJCR/L-22040-11 | 11 | C3 | 22 | 40 | 140 | 116 | 0° | 0° | DC .. 11T3 .. |
| C4-SDJCR/L-27050-11 | 11 | C4 | 27 | 50 | 140 | 140 | 0° | 0° | |
| C5-SDJCR/L-35060-11 | 11 | C5 | 35 | 60 | 140 | 190 | 0° | 0° | |
| C6-SDJCR/L-45065-11 | 11 | C6 | 45 | 65 | 140 | 165 | 0° | 0° | |
| | | | | | | | | | |
| | | | | | | | | | |

Measured with master insert: DC .. 070204 / DC .. 11T308
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
For information on $D_{min}$ and $D_{min2}$, see "Technical information – ISO turning"
Ordering example, right-hand tool: C3-SDJCR-22040-07/ordering example, left-hand tool: C3-SDJCL-22040-07
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type $d_1$ | DC .. 0702 .. C3/C4 | DC .. 11T3 .. C3/C4 | DC .. 11T3 .. C5/C6 |
|---|---|---|---|
| Clamping screw for indexable insert<br>Tightening torque | FS2061 (Torx 7IP)<br>0,9 Nm | FS2060 (Torx 15IP)<br>3,0 Nm | FS2060 (Torx 15IP)<br>3,0 Nm |
| Shim for radius | | AP315-DC1108<br>r ≤ 0,8 mm | AP315-DC1108<br>r ≤ 0,8 mm |
| Screw for shim | | FS2068 (SW 3,5) | FS2068 (SW 3,5) |
| Torx key | FS1490 (Torx 7IP) | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) |
| Cooling lubricant nozzle | FS1477 | FS1477 | FS1476 |

## Accessories

| Type | DC .. 11T3 .. |
|---|---|
| Shim for radius | AP329-DC1112<br>r ≤ 1,2 mm |

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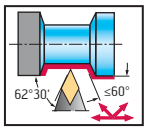
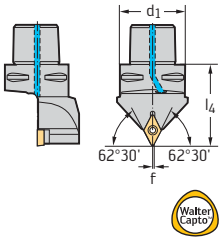
# Turning toolholders – Screw clamping
# C...-SDNC
# Walter Turn

– Walter Capto™



## Tool

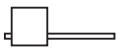
Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | $D_{min}$ mm | $D_{min2}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| C3-SDNCN-00040-11 | 11 | C3 | 0,5 | 40 | | 116 | 0° | 0° | DC .. 11T3 .. |
| C4-SDNCN-00050-11 | 11 | C4 | 0,5 | 50 | | 140 | 0° | 0° | |
| C5-SDNCN-00060-11 | 11 | C5 | 0,5 | 60 | | 165 | 0° | 0° | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Measured with master insert: DC .. 11T308
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
For information on $D_{min}$ and $D_{min2}$, see "Technical information – ISO turning"
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type<br>$d_1$ | DC .. 11T3 ..<br>C3/C4 | DC .. 11T3 ..<br>C5 |
|---|---|---|---|
| | Clamping screw for indexable insert<br>Tightening torque | FS2060 (Torx 15IP)<br>3,0 Nm | FS2060 (Torx 15IP)<br>3,0 Nm |
| | Shim<br>for radius | AP315-DC1108<br>r ≤ 0,8 mm | AP315-DC1108<br>r ≤ 0,8 mm |
| | Screw for shim | FS2068 (SW 3,5) | FS2068 (SW 3,5) |
|  | Torx key | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) |
| | Cooling lubricant nozzle | FS1477 | FS1476 |

## Accessories

| | Type | DC .. 11T3 .. |
|---|---|---|
| | Shim<br>for radius | AP329-DC1112<br>r ≤ 1,2 mm |

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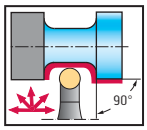
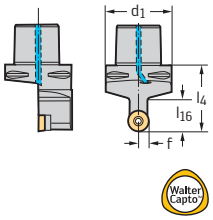
# Turning toolholders – Screw clamping
# C...-SRDC
## Walter Turn

– Walter Capto™



## Tool

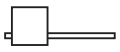
Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | $l_{16}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|
| C3-SRDCN-00040-06 | 6 | C3 | 3 | 40 | 12 | 0° | 0° | RC . T0602M0 .. |
| C4-SRDCN-00050-06 | 6 | C4 | 3 | 50 | 12 | 0° | 0° | |
| C5-SRDCN-00060-06 | 6 | C5 | 3 | 60 | 12 | 0° | 0° | |
| C3-SRDCN-00040-08 | 8 | C3 | 4 | 40 | 16 | 0° | 0° | RC . T0803M0 .. |
| C4-SRDCN-00050-08 | 8 | C4 | 4 | 50 | 16 | 0° | 0° | |
| C5-SRDCN-00060-08 | 8 | C5 | 4 | 60 | 16 | 0° | 0° | |
| C3-SRDCN-00040-10 | 10 | C3 | 5 | 40 | 20 | 0° | 0° | RC . T10T3M0 .. |
| C4-SRDCN-00050-10 | 10 | C4 | 5 | 50 | 25 | 0° | 0° | |
| C5-SRDCN-00060-10 | 10 | C5 | 5 | 60 | 25 | 0° | 0° | |
| C6-SRDCN-00065-10 | 10 | C6 | 5 | 65 | 25 | 0° | 0° | |
| C4-SRDCN-00050-12 | 12 | C4 | 6 | 50 | 28 | 0° | 0° | RC . T1204M0 .. |
| C5-SRDCN-00060-12 | 12 | C5 | 6 | 60 | 28 | 0° | 0° | |
| C6-SRDCN-00065-12 | 12 | C6 | 6 | 65 | 28 | 0° | 0° | |
| C5-SRDCN-00060-16 | 16 | C5 | 8 | 60 | 35 | 0° | 0° | RC . T1606M0 .. |
| C6-SRDCN-00065-16 | 16 | C6 | 8 | 65 | 35 | 0° | 0° | |

Measured with master insert: RC . T0602M0 / RC . T0803M0 / RC . T10T3M0 / RC . T1204M0 / RC . T1606M0
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type<br>$d_1$ | RC . T0602M0 .. C3/C4 | RC . T0602M0 .. C5 | RC . T0803M0 .. C3/C4 | RC . T0803M0 .. C5 | RC . T10T3M0 .. C3/C4 | RC . T10T3M0 .. C5/C6 | RC . T1204M0 .. C4 | RC . T1204M0 .. C5/C6 | RC . T1606M0 .. C5/C6 |
|---|---|---|---|---|---|---|---|---|---|---|
| | Clamping screw for indexable insert<br>Tightening torque | FS2061 (Torx 7IP)<br>0,9 Nm | FS2061 (Torx 7IP)<br>0,9 Nm | FS1462 (Torx 9IP)<br>1,5 Nm | FS1462 (Torx 9IP)<br>1,5 Nm | FS2063 (Torx 15IP)<br>3,0 Nm | FS2063 (Torx 15IP)<br>3,0 Nm | FS2060 (Torx 15IP)<br>3,0 Nm | FS2060 (Torx 15IP)<br>3,0 Nm | FS2090 (Torx 20IP)<br>6,4 Nm |
| | Shim | | | | | AP324-RC10T3 | AP324-RC10T3 | AP325-RC1204 | AP325-RC1204 | AP326-RC1606 |
| | Screw for shim | | | | | FS2068 (SW 3,5) | FS2068 (SW 3,5) | FS2068 (SW 3,5) | FS2068 (SW 3,5) | FS2091 (SW 5) |
|  | Torx key | FS1490 (Torx 7IP) | FS1490 (Torx 7IP) | FS1466 (Torx 9IP) | FS1466 (Torx 9IP) | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) | FS1464 (Torx 20IP) |
| | Cooling lubricant nozzle | FS1477 | FS1476 | FS1477 | FS1476 | FS1477 | FS1476 | FS1477 | FS1476 | FS1476 |

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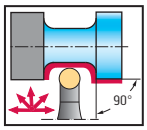
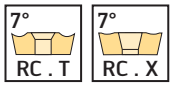
# Turning toolholders – Lever clamp
# C...-PRDC
## Walter Turn

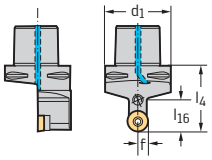
– Walter Capto™




## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | $l_{16}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|
| C5-PRDCN-00060-16 | 16 | C5 | 8 | 60 | 35 | 0° | 0° | RC .. 1605M0 .. |
| C6-PRDCN-00065-16 | 16 | C6 | 8 | 65 | 35 | 0° | 0° | |
| C5-PRDCN-00060-20 | 20 | C5 | 10 | 60 | 40 | 0° | 0° | RC .. 2006M0 .. |
| C6-PRDCN-00065-20 | 20 | C6 | 10 | 65 | 40 | 0° | 0° | |
| C6-PRDCN-00065-25 | 25 | C6 | 12,5 | 65 | 40 | 0° | 0° | RC .. 2507M0 .. |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Measured with master insert: RC .. 1605M0 / RC .. 2006M0 / RC .. 2507M0
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | RC .. 1605M0 .. | RC .. 2006M0 .. | RC .. 2507M0 .. |
|---|---|---|---|---|
| | Shim | AP157 | AP158 | AP405-RC2507 |
| | Lever | KN111 | KN112 | KN113 |
| | Shim pin | RS108 | RS103 | RS104 |
| | Clamping screw<br>Tightening torque | FS344 (SW 2,5)<br>2,5 Nm | FS354 (SW 3)<br>5,0 Nm | FS2145 (SW 4)<br>10,0 Nm |
| | Tapered assembly pin | MD102 | MD102 | MD102 |
| | Torx key | FS1155 (SW 2,5) | ISO2936-3 (SW 3) | ISO2936-4 (SW 4) |
| | Cooling lubricant nozzle | FS1019 | FS1019 | FS1476 |

## Accessories

| | Type | RC .. 1605M0 .. |
|---|---|---|
| | Shim for RC .. 1606 .. | AP403 |

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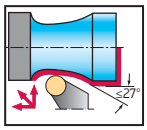
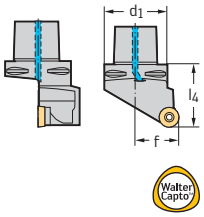
# Turning toolholders – Screw clamping
# C...-SRSC
# Walter Turn

– Walter Capto™



## Tool

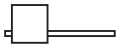
Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | $D_{min}$ mm | $D_{min2}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| C3-SRSCR/L-22040-06 | 6 | C3 | 22 | 40 | 160 | 116 | 0° | 0° | |
| C4-SRSCR/L-27050-06 | 6 | C4 | 27 | 50 | 160 | 140 | 0° | 0° | RC . T0602M0 .. |
| C5-SRSCR/L-35060-06 | 6 | C5 | 35 | 60 | 160 | 165 | 0° | 0° | |
| C3-SRSCR/L-22040-08 | 8 | C3 | 22 | 40 | 110 | 116 | 0° | 0° | |
| C4-SRSCR/L-27050-08 | 8 | C4 | 27 | 50 | 110 | 140 | 0° | 0° | RC . T0803M0 .. |
| C5-SRSCR/L-35060-08 | 8 | C5 | 35 | 60 | 110 | 165 | 0° | 0° | |
| C3-SRSCR/L-22040-10 | 10 | C3 | 22 | 40 | 150 | 116 | 0° | 0° | |
| C4-SRSCR/L-27050-10 | 10 | C4 | 27 | 50 | 150 | 140 | 0° | 0° | RC . T10T3M0 .. |
| C5-SRSCR/L-35060-10 | 10 | C5 | 35 | 60 | 150 | 165 | 0° | 0° | |
| C6-SRSCR/L-45065-10 | 10 | C6 | 45 | 65 | 150 | 190 | 0° | 0° | |
| C4-SRSCR/L-27050-12 | 12 | C4 | 27 | 50 | 150 | 140 | 0° | 0° | |
| C5-SRSCR/L-35060-12 | 12 | C5 | 35 | 60 | 150 | 165 | 0° | 0° | RC . T1204M0 .. |
| C6-SRSCR/L-45065-12 | 12 | C6 | 45 | 65 | 175 | 190 | 0° | 0° | |
| C5-SRSCR/L-35060-16 | 16 | C5 | 35 | 60 | 175 | 165 | 0° | 0° | RC . T1606M0 .. |
| C6-SRSCR/L-45065-16 | 16 | C6 | 45 | 65 | 175 | 190 | 0° | 0° | |

Measured with master insert: RC . T0602M0 / RC . T0803M0 / RC . T10T3M0 / RC . T1204M0 / RC . T1606M0
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
For information on $D_{min}$ and $D_{min2}$, see "Technical information – ISO turning"
Ordering example, right-hand tool: C3-SRSCR-22040-06/ordering example, left-hand tool: C3-SRSCL-22040-06
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type $d_1$ | RC . T0602M0 .. C3/C4 | RC . T0602M0 .. C5 | RC . T0803M0 .. C3/C4 | RC . T0803M0 .. C5 | RC . T10T3M0 .. C3/C4 | RC . T10T3M0 .. C5/C6 | RC . T1204M0 .. C4 | RC . T1204M0 .. C5/C6 | RC . T1606M0 .. C5/C6 |
|---|---|---|---|---|---|---|---|---|---|---|
| | Clamping screw for indexable insert Tightening torque | FS2061 (Torx 7IP) 0,9 Nm | FS2061 (Torx 7IP) 0,9 Nm | FS1462 (Torx 9IP) 1,5 Nm | FS1462 (Torx 9IP) 1,5 Nm | FS2063 (Torx 15IP) 3,0 Nm | FS2063 (Torx 15IP) 3,0 Nm | FS2060 (Torx 15IP) 3,0 Nm | FS2060 (Torx 15IP) 3,0 Nm | FS2090 (Torx 20IP) 6,4 Nm |
| | Shim | | | | | AP324-RC10T3 | AP324-RC10T3 | AP325-RC1204 | AP325-RC1204 | AP326-RC1606 |
| | Screw for shim | | | | | FS2068 (SW 3,5) | FS2068 (SW 3,5) | FS2068 (SW 3,5) | FS2068 (SW 3,5) | FS2091 (SW 5) |
|  | Torx key | FS1490 (Torx 7IP) | FS1490 (Torx 7IP) | FS1466 (Torx 9IP) | FS1466 (Torx 9IP) | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) | FS1464 (Torx 20IP) |
| | Cooling lubricant nozzle | FS1477 | FS1476 | FS1477 | FS1476 | FS1477 | FS1476 | FS1477 | FS1476 | FS1476 |

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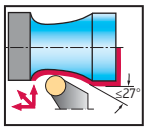
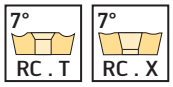
# Turning toolholders – Lever clamp
# C...-PRSC
# Walter Turn

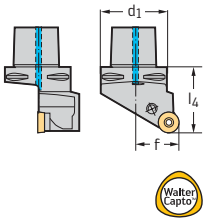
– Walter Capto™




## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | $D_{min}$ mm | $D_{min2}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| C5-PRSCR/L-35060-16 | 16 | C5 | 35 | 60 | | | 0° | 0° | RC .. 1605M0 .. |
| C6-PRSCR/L-45065-16 | 16 | C6 | 45 | 65 | | | 0° | 0° | |
| C5-PRSCR/L-35060-20 | 20 | C5 | 35 | 60 | | | 0° | 0° | RC .. 2006M0 .. |
| C6-PRSCR/L-45065-20 | 20 | C6 | 45 | 65 | | | 0° | 0° | |
| C8-PRSCR/L-55080-20 | 20 | C8 | 55 | 80 | 150 | 250 | 0° | 0° | |
| C6-PRSCR/L-45065-25 | 25 | C6 | 45 | 65 | 200 | 190 | 0° | 0° | RC .. 2507M0 .. |
| C8-PRSCR/L-55080-25 | 25 | C8 | 55 | 80 | 200 | 250 | 0° | 0° | |
| | | | | | | | | | |
| | | | | | | | | | |

Measured with master insert: RC .. 1605M0 / RC .. 2006M0 / RC .. 2507M0
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
For information on $D_{min}$ and $D_{min2}$, see "Technical information – ISO turning"
Ordering example, right-hand tool: C5-PRSCR-35060-16/ordering example, left-hand tool: C5-PRSCL-35060-16
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type $d_1$ | RC .. 1605M0 .. C5/C6 | RC .. 2006M0 .. C5/C6 | RC .. 2006M0 .. C8 | RC .. 2507M0 .. C6 | RC .. 2507M0 .. C8 |
|---|---|---|---|---|---|
| Shim | AP157 | AP158 | AP404-RC2006 | AP405-RC2507 | AP405-RC2507 |
| Lever | KN111 | KN112 | KN112 | KN113 | KN113 |
| Clamping screw<br>Tightening torque | FS344 (SW 2,5)<br>2,5 Nm | FS2156 (SW 3)<br>5,0 Nm | FS2156 (SW 3)<br>5,0 Nm | FS2145 (SW 4)<br>10,0 Nm | FS2145 (SW 4)<br>10,0 Nm |
| Shim pin | RS108 | RS103 | RS103 | RS104 | RS104 |
| Tapered assembly pin | MD102 | MD102 | MD103 | MD102 | MD102 |
| Cooling lubricant nozzle | FS1019 | FS1019 | FS1479 | FS1476 | FS1479 |
| Allen key | ISO2936-2,5 (SW 2,5) | ISO2936-3 (SW 3) | ISO2936-3 (SW 3) | ISO2936-4 (SW 4) | ISO2936-4 (SW 4) |

## Accessories

| Type | RC .. 1605M0 .. |
|---|---|
| Shim for RC .. 1606 .. | AP403 |

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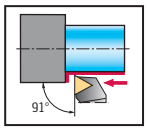
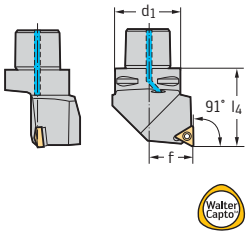
# Turning toolholders – Screw clamping
# C...-STGC
## Walter Turn

– Walter Capto™



## Tool

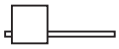
Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | $D_{min}$ mm | $D_{min2}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| C3-STGCR/L-22040-11 | 11 | C3 | 22 | 40 | 90 | 116 | 0° | 0° | TC .. 1102 .. |
| C4-STGCR/L-27050-11 | 11 | C4 | 27 | 50 | 90 | 140 | 0° | 0° | |
| C3-STGCR/L-22040-16 | 16 | C3 | 22 | 40 | 90 | 116 | 0° | 0° | TC .. 16T3 .. |
| C4-STGCR/L-27050-16 | 16 | C4 | 27 | 50 | 140 | 140 | 0° | 0° | |
| C5-STGCR/L-35060-16 | 16 | C5 | 35 | 60 | 140 | 165 | 0° | 0° | |
| C6-STGCR/L-45065-16 | 16 | C6 | 45 | 65 | 140 | 190 | 0° | 0° | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Measured with master insert: TC .. 110204 / TC .. 16T308
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
For information on $D_{min}$ and $D_{min2}$, see "Technical information – ISO turning"
Ordering example, right-hand tool: C3-STGCR-22040-11/ordering example, left-hand tool: C3-STGCL-22040-11
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type<br>$d_1$ | TC .. 1102 ..<br>C3/C4 | TC .. 16T3 ..<br>C3/C4 | TC .. 16T3 ..<br>C5/C6 |
|---|---|---|---|---|
| | Clamping screw for indexable insert<br>Tightening torque | FS2061 (Torx 7IP)<br>0,9 Nm | FS2060 (Torx 15IP)<br>3,0 Nm | FS2060 (Torx 15IP)<br>3,0 Nm |
| | Shim<br>for radius | | AP317-TC1612<br>r ≤ 1,2 mm | AP317-TC1612<br>r ≤ 1,2 mm |
| | Screw for shim | | FS2068 (SW 3,5) | FS2068 (SW 3,5) |
|  | Torx key | FS1490 (Torx 7IP) | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) |
| | Cooling lubricant nozzle | FS1477 | FS1477 | FS1476 |

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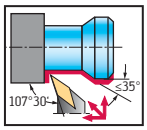
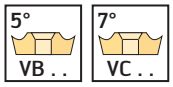
# Turning toolholders – Screw clamping
# C...-SVHB
# Walter Turn

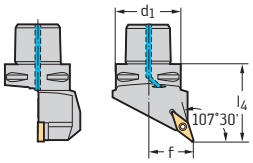
– Walter Capto™




## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | $D_{min}$ mm | $D_{min2}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| C3-SVHBR/L-22040-11 | 11 | C3 | 22 | 40 | 55 | 114 | 0° | 0° | VB .. 1103 .. VC .. 1103 .. |
| C4-SVHBR/L-27050-11 | 11 | C4 | 27 | 50 | 55 | 140 | 0° | 0° | |
| C4-SVHBR/L-27050-16 | 16 | C4 | 27 | 50 | 95 | 140 | 0° | 0° | VB .. 1604 .. VC .. 1604 .. |
| C5-SVHBR/L-35060-16 | 16 | C5 | 35 | 60 | 95 | 165 | 0° | 0° | |
| C6-SVHBR/L-45065-16 | 16 | C6 | 45 | 65 | 95 | 190 | 0° | 0° | |
| | | | | | | | | | |
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| | | | | | | | | | |
| | | | | | | | | | |

Measured with master insert: VB .. 110304 / VB .. 160408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
For information on $D_{min}$ and $D_{min2}$, see "Technical information – ISO turning"
Ordering example, right-hand tool: C3-SVHBR-22040-11/ordering example, left-hand tool: C3-SVHBL-22040-11
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type $d_1$ | VB .. 1103 .. VC .. 1103 .. C3/C4 | VB .. 1604 .. VC .. 1604 .. C4 | VB .. 1604 .. VC .. 1604 .. C5/C6 |
|---|---|---|---|
| Clamping screw for indexable insert<br>Tightening torque | FS2061 (Torx 7IP)<br>0,9 Nm | FS2060 (Torx 15IP)<br>3,0 Nm | FS2060 (Torx 15IP)<br>3,0 Nm |
| Torx key | FS1490 (Torx 7IP) | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) |
| Shim for radius | | AP316-VB1608<br>r ≤ 0,8 mm | AP316-VB1608<br>r ≤ 0,8 mm |
| Cooling lubricant nozzle | FS1477 | FS1477 | FS1476 |
| Screw for shim | | FS2068 (SW 3,5) | FS2068 (SW 3,5) |

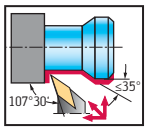
## Accessories

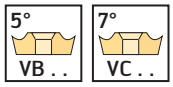
| Type | VB .. 1604 .. VC .. 1604 .. |
|---|---|
| Shim for radius | AP330-VB1612<br>r ≤ 1,2 mm |

A 55 D 1 A 238 A 261

# Turning toolholders – Lever clamp
# C...-PVHB
## Walter Turn

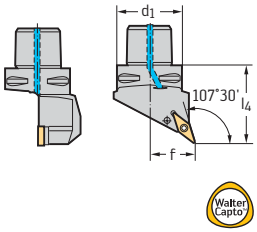
– Walter Capto™




## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|
| C4-PVHBR/L-27050-16 | 16 | C4 | 27 | 50 | 0° | 0° | VB .. 1604 .. VC .. 1604 .. |
| C5-PVHBR/L-35060-16 | 16 | C5 | 35 | 60 | 0° | 0° | |
| C6-PVHBR/L-45065-16 | 16 | C6 | 45 | 65 | 0° | 0° | |
| | | | | | | | |
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Measured with master insert: VB .. 160408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: C4-PVHBR-27050-16/ordering example, left-hand tool: C4-PVHBL-27050-16
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type $d_1$ | VB .. 1604 .. VC .. 1604 .. C4 | VB .. 1604 .. VC .. 1604 .. C5/C6 |
|---|---|---|---|
| | Shim for radius | AP153 r ≤ 0,8 mm | AP153 r ≤ 0,8 mm |
| | Shim pin | RS101 | RS101 |
| | Lever | KN110 | KN110 |
| | Clamping screw Tightening torque | FS351 (SW 2,5) 2,0 Nm | FS351 (SW 2,5) 2,0 Nm |
| | Tapered assembly pin | MD101 | MD101 |
| | Cooling lubricant nozzle | FS1018 | FS1019 |
| | Allen key | ISO2936-2,5 (SW 2,5) | ISO2936-2,5 (SW 2,5) |

## Accessories

| | Type | VB .. 1604 .. VC .. 1604 .. |
|---|---|---|
| | Shim for radius | AP154 r ≤ 1,2 mm |

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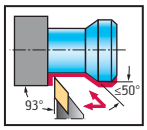
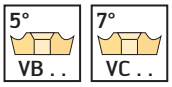
# Turning toolholders – Screw clamping
# C...-SVJB
## Walter Turn

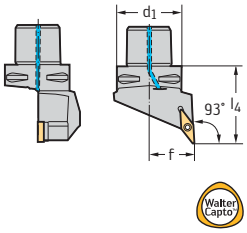
– Walter Capto™




## Tool

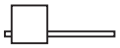
Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | $D_{min}$ mm | $D_{min2}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| C3-SVJBR/L-22040-11 | 11 | C3 | 22 | 40 | 55 | 116 | 0° | 0° | VB .. 1103 .. VC .. 1103 .. |
| C4-SVJBR/L-27050-11 | 11 | C4 | 27 | 50 | 55 | 150 | 0° | 0° | |
| C4-SVJBR/L-27050-16 | 16 | C4 | 27 | 50 | 155 | 140 | 0° | 0° | VB .. 1604 .. VC .. 1604 .. |
| C5-SVJBR/L-35060-16 | 16 | C5 | 35 | 60 | 155 | 165 | 0° | 0° | |
| C6-SVJBR/L-45065-16 | 16 | C6 | 45 | 65 | 155 | 190 | 0° | 0° | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Measured with master insert: VB .. 110304 / VB .. 160408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
For information on $D_{min}$ and $D_{min2}$, see "Technical information – ISO turning"
Ordering example, right-hand tool: C3-SVJBR-22040-11/ordering example, left-hand tool: C3-SVJBL-22040-11
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type $d_1$ | VB .. 1103 .. VC .. 1103 .. C3/C4 | VB .. 1604 .. VC .. 1604 .. C4 | VB .. 1604 .. VC .. 1604 .. C5/C6 |
|---|---|---|---|
| Clamping screw for indexable insert<br>Tightening torque | FS2061 (Torx 7IP)<br>0,9 Nm | FS2060 (Torx 15IP)<br>3,0 Nm | FS2060 (Torx 15IP)<br>3,0 Nm |
|  Torx key | FS1490 (Torx 7IP) | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) |
| Shim for radius | | AP316-VB1608<br>r ≤ 0,8 mm | AP316-VB1608<br>r ≤ 0,8 mm |
| Cooling lubricant nozzle | FS1477 | FS1477 | FS1476 |
| Screw for shim | | FS2068 (SW 3,5) | FS2068 (SW 3,5) |

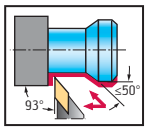
## Accessories

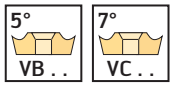
| Type | VB .. 1604 .. VC .. 1604 .. |
|---|---|
| Shim for radius | AP330-VB1612<br>r ≤ 1,2 mm |

A 55 D 1 A 238 A 261

# Turning toolholders – Lever clamp
# C...-PVJB
## Walter Turn

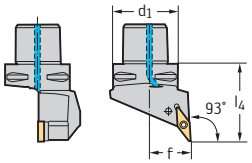
– Walter Capto™




## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|
| C4-PVJBR/L-27050-16 | 16 | C4 | 27 | 50 | 0° | 0° | VB .. 1604 .. VC .. 1604 .. |
| C5-PVJBR/L-35060-16 | 16 | C5 | 35 | 60 | 0° | 0° | |
| C6-PVJBR/L-45065-16 | 16 | C6 | 45 | 65 | 0° | 0° | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Measured with master insert: VB .. 160408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: C4-PVJBR-27050-16/ordering example, left-hand tool: C4-PVJBL-27050-16
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type $d_1$ | VB .. 1604 .. VC .. 1604 .. C4 | VB .. 1604 .. VC .. 1604 .. C5/C6 |
|---|---|---|---|
| | Shim for radius | AP153 r ≤ 0,8 mm | AP153 r ≤ 0,8 mm |
| | Shim pin | RS101 | RS101 |
| | Lever | KN110 | KN110 |
| | Clamping screw Tightening torque | FS351 (SW 2,5) 2,0 Nm | FS351 (SW 2,5) 2,0 Nm |
| | Tapered assembly pin | MD101 | MD101 |
| | Cooling lubricant nozzle | FS1018 | FS1019 |
| | Allen key | ISO2936-2,5 (SW 2,5) | ISO2936-2,5 (SW 2,5) |

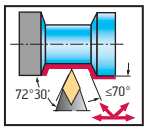
## Accessories

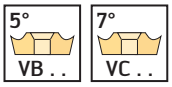
| | Type | VB .. 1604 .. VC .. 1604 .. |
|---|---|---|
| | Shim for radius | AP154 r ≤ 1,2 mm |

A 55 D 1 A 238 A 261

# Turning toolholders – Screw clamping
# C...-SVVB
## Walter Turn

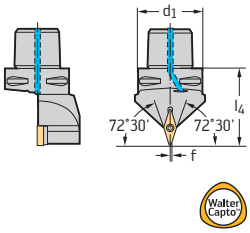
– Walter Capto™




## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | $D_{min2}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|
| C3-SVVBN-00040-11 | 11 | C3 | 0,3 | 40 | 116 | 0° | 0° | VB .. 1103 .. VC .. 1103 .. |
| C4-SVVBN-00050-11 | 11 | C4 | 0,3 | 50 | 140 | 0° | 0° | |
| C4-SVVBN-00050-16 | 16 | C4 | 0,6 | 50 | 140 | 0° | 0° | VB .. 1604 .. VC .. 1604 .. |
| C5-SVVBN-00060-16 | 16 | C5 | 0,6 | 60 | 165 | 0° | 0° | |
| C6-SVVBN-00065-16 | 16 | C6 | 0,6 | 65 | 190 | 0° | 0° | |

Measured with master insert: VB .. 110304 / VB .. 160408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
For information on $D_{min2}$, see "Technical information – ISO turning"
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type $d_1$ | VB .. 1103 .. VC .. 1103 .. C3/C4 | VB .. 1604 .. VC .. 1604 .. C4 | VB .. 1604 .. VC .. 1604 .. C5/C6 |
|---|---|---|---|
| Clamping screw for indexable insert<br>Tightening torque | FS2061 (Torx 7IP)<br>0,9 Nm | FS2060 (Torx 15IP)<br>3,0 Nm | FS2060 (Torx 15IP)<br>3,0 Nm |
| Shim for radius | | AP316-VB1608 r ≤ 0,8 mm | AP316-VB1608 r ≤ 0,8 mm |
| Screw for shim | | FS2068 (SW 3,5) | FS2068 (SW 3,5) |
| Torx key | FS1490 (Torx 7IP) | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) |
| Cooling lubricant nozzle | FS1477 | FS1477 | FS1476 |

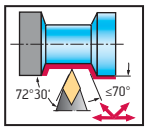
## Accessories

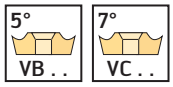
| Type | VB .. 1604 .. VC .. 1604 .. |
|---|---|
| Shim for radius | AP330-VB1612 r ≤ 1,2 mm |

A 55 D 1 A 238 A 261

# Turning toolholders – Lever clamp
# C...-PVVB
# Walter Turn

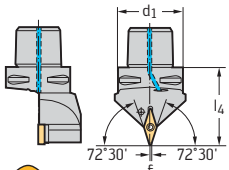
– Walter Capto™




## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|
| C4-PVVBN-00050-16 | 16 | C4 | 0,6 | 50 | 0° | 0° | VB .. 1604 .. VC .. 1604 .. |
| C5-PVVBN-00060-16 | 16 | C5 | 0,6 | 60 | 0° | 0° | |
| C6-PVVBN-00065-16 | 16 | C6 | 0,6 | 65 | 0° | 0° | |
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Measured with master insert: VB .. 160408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type $d_1$ | VB .. 1604 .. VC .. 1604 .. C4 | VB .. 1604 .. VC .. 1604 .. C5/C6 |
|---|---|---|
| Shim for radius | AP153 r ≤ 0,8 mm | AP153 r ≤ 0,8 mm |
| Shim pin | RS101 | RS101 |
| Lever | KN110 | KN110 |
| Clamping screw Tightening torque | FS351 (SW 2,5) 2,0 Nm | FS351 (SW 2,5) 2,0 Nm |
| Tapered assembly pin | MD101 | MD101 |
| Allen key | ISO2936-2,5 (SW 2,5) | ISO2936-2,5 (SW 2,5) |
| Cooling lubricant nozzle | FS1018 | FS1019 |

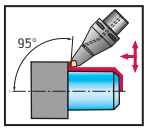
## Accessories

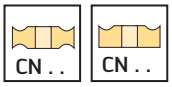
| Type | VB .. 1604 .. VC .. 1604 .. |
|---|---|
| Shim for radius | AP154 r ≤ 1,2 mm |

A 55 D 1 A 238 A 261

# 45° turning toolholders – Rigid clamping
# C...-DCMN
# Walter Turn

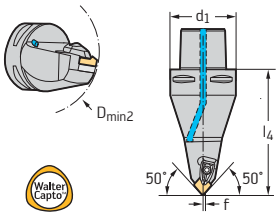
– Walter Capto™
– Toolholders for turning and milling centres




## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | $D_{min2}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|
| C5-DCMNN-00105-12 | 12 | C5 | 0 | 105 | 110 | -6° | -6° | CN .. 1204 .. |
| C6-DCMNN-00090-12 | 12 | C6 | 0 | 90 | 110 | -6° | -6° | |
| C6-DCMNN-00115-12 | 12 | C6 | 0 | 115 | 110 | -6° | -6° | |
| C6-DCMNN-00090-16 | 16 | C6 | 0 | 90 | 110 | -6° | -6° | CN .. 1606 .. |
| C8-DCMNN-00150-16 | 16 | C8 | 0 | 150 | 115 | -6° | -6° | |
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Measured with master insert: CN .. 120408 / CN .. 160612
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
For information on $D_{min2}$, see "Technical information – ISO turning"
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type<br>$d_1$ | CN .. 1204 ..<br>C5 | CN .. 1204 ..<br>C6 | CN .. 1606 ..<br>C6/C8 |
|---|---|---|---|
| Shim | AP301-CN12 | AP301-CN12 | AP302-CN16 |
| Screw for shim<br>Tightening torque | FS1461 (Torx 15IP)<br>2,5 Nm | FS1461 (Torx 15IP)<br>2,5 Nm | FS1463 (Torx 20IP)<br>5,0 Nm |
| Clamp | PK241 | PK241 | PK242 |
| Clamp screw<br>Tightening torque | FS1473 (Torx 15IP)<br>3,9 Nm | FS1473 (Torx 15IP)<br>3,9 Nm | FS1474 (Torx 20IP)<br>6,4 Nm |
| Pressure spring | FS1470 | FS1470 | FS1471 |
| Pin | RS117 | RS117 | RS117 |
| Cooling lubricant nozzle | FS1476 | FS1479 | FS1479 |
| Torx key | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) | FS1464 (Torx 20IP) |

## Accessories

| Type | CN .. 1204 .. | CN .. 1606 .. |
|---|---|---|
| Clamp set<br>(standard assembly parts) | PK241 SET | PK242 SET |
| Carbide clamp set<br>Insert with hole | PK245 SET | PK246 SET |
| Carbide clamp set<br>Insert without hole | PK254 SET | |
| Shim for CN .. 1207 .. | AP411-CN1207 | |

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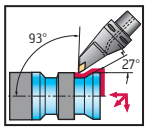
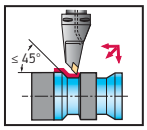
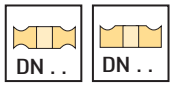
# 45° turning toolholders – Rigid clamping
# C...-DDMN

## Walter Turn

– Walter Capto™
– Toolholders for turning and milling centres

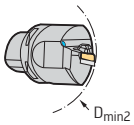


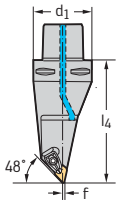




## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | $D_{min2}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|
| C5-DDMNL-00115-15 | 15 | C5 | 0 | 115 | 110 | -5° | -6° | DN .. 1506 .. |
| C6-DDMNL-00130-15 | 15 | C6 | 0 | 130 | 110 | -5° | -6° | |
| C6-DDMNL-33120-15 | 15 | C6 | 33 | 120 | 130 | -5° | -6° | |
| C8-DDMNL-00160-15 | 15 | C8 | 0 | 160 | 120 | -5° | -6° | |
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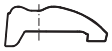
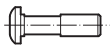
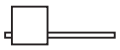
Measured with master insert: DN .. 150608
For information on $D_{min2}$, see "Technical information – ISO turning"
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type<br>$d_1$ | DN .. 1506 ..<br>C5 | DN .. 1506 ..<br>C6/C8 |
|---|---|---|---|
| | Shim | AP304-DN15 | AP304-DN15 |
| | Screw for shim<br>Tightening torque | FS1461 (Torx 15IP)<br>2,5 Nm | FS1461 (Torx 15IP)<br>2,5 Nm |
|  | Clamp | PK241 | PK241 |
|  | Clamp screw<br>Tightening torque | FS1473 (Torx 15IP)<br>3,9 Nm | FS1473 (Torx 15IP)<br>3,9 Nm |
| | Pressure spring | FS1470 | FS1470 |
|  | Pin | RS117 | RS117 |
| | Cooling lubricant nozzle | FS1476 | FS1479 |
|  | Torx key | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) |

## Accessories

| | Type | DN .. 1506 .. |
|---|---|---|
| | Clamp set<br>(standard assembly parts) | PK241 SET |
| | Carbide clamp set<br>Insert with hole | PK245 SET |
| | Carbide clamp set<br>Insert without hole | PK254 SET |
| | Shim for DN .. 1504 .. | AP304-DN1504 |
| | Shim for DN .. 1507 .. | AP412-DN1507 |

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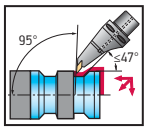
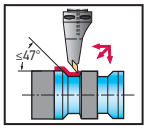
# 45° turning toolholders – Rigid clamping
# C...-DVMN
## Walter Turn

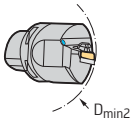
– Walter Capto™
– Toolholders for turning and milling centres

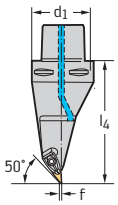


## Tool

| Designation | | $d_1$ | f mm | $l_4$ mm | $D_{min2}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|
| Walter Capto™ in accordance with ISO 26623 | | | | | | | | |
| C8-DVMNL-00160-16 | 16 | C8 | 0 | 160 | 110 | -4° | -14° | VN .. 1604 .. |




Measured with master insert: VN .. 160408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
For information on $D_{min2}$, see "Technical information – ISO turning"
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type | VN .. 1604 .. |
|---|---|
| Shim | AP312-VN16 |
| Screw for shim<br>Tightening torque | FS1467 (Torx 15IP)<br>3,0 Nm |
| Clamp | PK244 |
| Clamp screw<br>Tightening torque | FS1473 (Torx 15IP)<br>3,9 Nm |
| Pressure spring | FS1470 |
| Pin | RS117 |
| Cooling lubricant nozzle | FS1479 |
| Torx key | FS1465 (Torx 15IP / SW 3,5) |

## Accessories

| Type | VN .. 1604 .. |
|---|---|
| Clamp set<br>(standard assembly parts) | PK244 SET |

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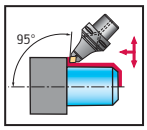
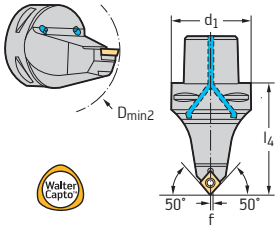
# 45° turning toolholders – Screw clamping
# C...-SCMC
## Walter Turn

– Walter Capto™
– Toolholders for turning and milling centres



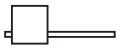
## Tool

| | Designation | | $d_1$ | f mm | $l_4$ mm | $D_{min2}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| Walter Capto™ in accordance with ISO 26623 | C6-SCMCN-00090-12 | 12 | C6 | 0 | 90 | 100 | 0° | 0° | CC .. 1204 .. |




Measured with master insert: CC .. 120408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
For information on $D_{min2}$, see "Technical information – ISO turning"
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

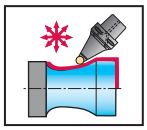
| | Type | CC .. 1204 .. |
|---|---|---|
| | Clamping screw for indexable insert<br>Tightening torque | FS2065 (Torx 15IP)<br>3,0 Nm |
| | Shim | AP319-SC1212 |
| | Screw for shim | FS2069 (SW 4) |
|  | Torx key | FS1496 (Torx 15IP / SW 4) |

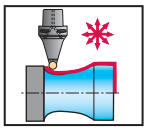
A 37 D 1 A 182 A 182

# 45° turning toolholders – Screw clamping
# C...-SRDC

## Walter Turn

– Walter Capto™
– Toolholders for turning and milling centres

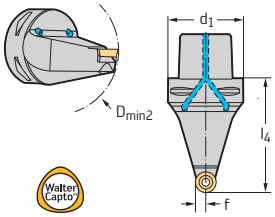




7°
RC . T

## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | $D_{min2}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|
| C6-SRDCN-00100-10 | 10 | C6 | 5 | 100 | 110 | 0° | 0° | RC . T10T3M0 .. |
| C6-SRDCN-00100-16 | 16 | C6 | 8 | 100 | 110 | 0° | 0° | RC . T1606M0 .. |
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Measured with master insert: RC . T10T3M0 / RC . T1606M0
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
For information on $D_{min2}$, see "Technical information – ISO turning"
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | RC . T10T3M0 .. | RC . T1606M0 .. |
|---|---|---|---|
| | Clamping screw for indexable insert<br>Tightening torque | FS2063 (Torx 15IP)<br>3,0 Nm | FS2090 (Torx 20IP)<br>6,4 Nm |
| | Shim | AP324-RC10T3 | AP326-RC1606 |
| | Screw for shim | FS2068 (SW 3,5) | FS2091 (SW 5) |
| | Torx key | FS1465 (Torx 15IP / SW 3,5) | FS1464 (Torx 20IP) |

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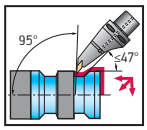
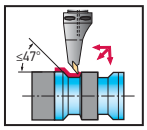
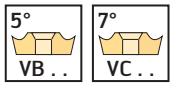
# 45° turning toolholders – Screw clamping
# C...-SVMB
## Walter Turn

– Walter Capto™
– Toolholders for turning and milling centres

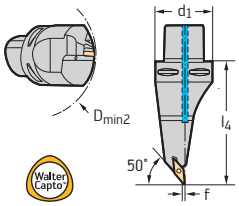



## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | f mm | $l_4$ mm | $D_{min2}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|
| C5-SVMBL-00115-16 | 16 | C5 | 0 | 115 | 110 | 0° | 0° | VB .. 1604 .. VC .. 1604 .. |
| C6-SVMBL-00130-16 | 16 | C6 | 0 | 130 | 110 | 0° | 0° | |
| C6-SVMBL-33120-16 | 16 | C6 | 33 | 120 | 110 | 0° | 0° | |
| | | | | | | | | |
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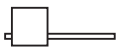
Measured with master insert: VB .. 160408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
For information on $D_{min2}$, see "Technical information – ISO turning"
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | VB .. 1604 .. VC .. 1604 .. |
|---|---|---|
| | Clamping screw for indexable insert Tightening torque | FS2060 (Torx 15IP) 3,0 Nm |
| | Shim for radius | AP316-VB1608 r ≤ 0,8 mm |
| | Screw for shim | FS2068 (SW 3,5) |
| | Cooling lubricant nozzle | FS1476 |
|  | Torx key | FS1465 (Torx 15IP / SW 3,5) |

## Accessories

| | Type | VB .. 1604 .. VC .. 1604 .. |
|---|---|---|
| | Shim for radius | AP330-VB1612 r ≤ 1,2 mm |

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WALTER

# Walter Turn/Walter Capto™ product description – Internal machining

## Boring bars for indexable inserts with a negative basic shape

**Walter Turn rigid clamping (D)**
- The number one choice for machining short-chipping materials such as cast iron
- Functionality is maintained even in "dirty environments", e.g. grey cast iron machining
- The number one choice for interrupted cuts thanks to stable insert clamping
- The indexable insert or shim can be replaced using the same wrench
- Reinforced clamps with carbide shoe available for longer clamp tool life
- Internal coolant supply on all tools

**Walter Turn lever clamp (P)**
- Universal system enabling easy replacement of indexable inserts
- Number one choice for single-sided negative indexable inserts, e.g. CNMM
- Number one choice when machining small hole diameters with negative indexable inserts
- Unobstructed chip evacuation due to centre hole locking and therefore an alternative to rigid clamping
- Internal coolant supply on all tools

## Boring bars for indexable inserts with a positive basic shape

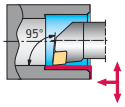
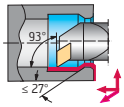
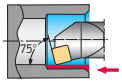
**Walter Turn screw clamping (S)**
- For indexable inserts with a positive basic shape with 5° and 7° clearance angle
- Machining of small hole diameters
- For use with low cutting pressures/long projection lengths
- Few assembly parts
- Torx Plus screw clamping for transmitting higher tightening torques
- The indexable insert or shim can be replaced using the same wrench
- Unobstructed chip evacuation due to centre hole locking
- Internal coolant supply on all tools
- Versions with steel or solid carbide shank

**Walter Turn positive lever clamp (P)**
- For indexable inserts with a positive V basic shape with 5° and 7° clearance angle
- High dimensional accuracy on the component thanks to high pre-tension applied by the lever clamp
- For use with low cutting pressures/long projection lengths
- Unobstructed chip evacuation due to centre hole locking

## Retaining sleeves for boring bars with fully rounded shank

**Walter Turn AK600 boring bar adaptor**
- Easy handling due to automatic centre height location via spring-loaded ball to groove
- Fully rounded shank boring bars are completely enclosed for maximum stability
- Clamping of steel and solid carbide boring bars without clamping flat (-R)

# Walter Turn turning tools product range overview – Internal machining
## Boring bars – Negative basic shape

| Machining |  | |  | |  | |
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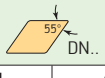
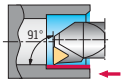
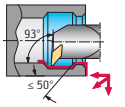
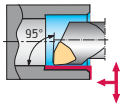
| **Type** | CN.. | |  DN.. | | SN.. | |
| **Designation** | **A...-DCLN** | **A...-PCLN** | **A...-DDUN** | **A...-PDUN** | **A...-DSKN** | **A...-PSKN** |
| Approach angle κ | 95° | 95° | 93° | 93° | 75° | 75° |
| Clamping system | Clamp | Lever | Clamp | Lever | Clamp | Lever |
| Coolant supply | internal | internal | internal | internal | internal | internal |
| Boring bar diameter $d_1$ [mm] | 25–50 | 16–40 | 25–50 | 25–40 | 25–40 | 25–40 |
| Insert size l [mm] | 12–16 | 9–16 | 11–15 | 11–15 | 12–15 | 12 |
| Page | A 199 | A 200 | A 201 | A 202 | A 203 | A 204 |
| | | | | | | |

| Machining |  | |  | |  | |
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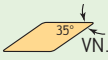
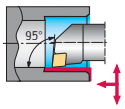
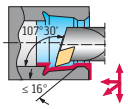
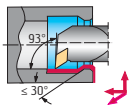
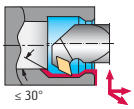
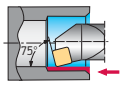
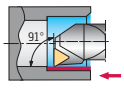
| **Type** | TN.. | |  VN.. | | WN.. | |
| **Designation** | **A...-DTFN** | **A...-PTFN** | **A...-DVUN** | **A...-DWLN** | **A...-PWLN** | |
| Approach angle κ | 91° | 91° | 93° | 95° | 95° | |
| Clamping system | Clamp | Lever | Clamp | Clamp | Lever | |
| Coolant supply | internal | internal | internal | internal | internal | |
| Boring bar diameter $d_1$ [mm] | 25–50 | 16–40 | 40 | 25–50 | 20–32 | |
| Insert size l [mm] | 16–22 | 11–22 | 16 | 6–10 | 6–8 | |
| Page | A 205 | A 206 | A 207 | A 208 | A 209 | |
| | | | | | | |

# Walter Turn turning tools product range overview – Internal machining
# Boring bars – Positive basic shape

| Machining |  |  |  |  |  |  |
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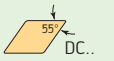
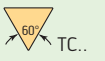
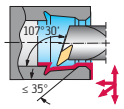
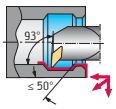
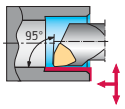
| **Type** | |  | | | |  |
| **Designation** | **A...-SCLC / E...-SCLC** | **A...-SDQC** | **A...-SDUC / E...-SDUC** | **A...-SDUC...-X** | **A...-SSKC** | **A...-STFC / E...-STFC** |
| Approach angle κ | 95° | 107,5° | 93° | 93° | 75° | 91° |
| Clamping system | Screw | Screw | Screw | Screw | Screw | Screw |
| Coolant supply | internal | internal | internal | internal | internal | internal |
| Boring bar diameter $d_1$ [mm] | 8–32 | 12–25 | 10–32 | 16–32 | 16–32 | 6–32 |
| Insert size l [mm] | 6–12 | 7–11 | 7–11 | 7–11 | 9–12 | 6–16 |
| Page | A 210 | A 211 | A 212 | A 213 | A 214 | A 215 |
| | | | | | | |

| Machining |  |  |  | |
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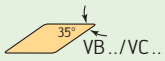
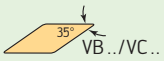
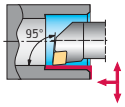
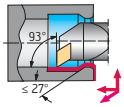
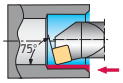
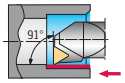
| **Type** |  |  | | |
| **Designation** | **A...-SVQB** | **A...-PVQB** | **A...-SVUB** | **A...-PVUB** | **A...-SWLC** | **AK600** |
| Approach angle κ | 107,5° | 107,5° | 93° | 93° | 95° | |
| Clamping system | Screw | Lever | Screw | Lever | Screw | |
| Coolant supply | internal | internal | internal | internal | internal | |
| Boring bar diameter $d_1$ [mm] | 16–40 | 20–40 | 16–40 | 20–40 | 10–32 | 6–25 |
| Insert size l [mm] | 11–16 | 11–16 | 11–16 | 11–16 | 4–8 | |
| Page | A 216 | A 217 | A 218 | A 219 | A 220 | A 221 |
| | | | | | | |

# Walter Turn turning tools product range overview – Internal machining
# Walter Capto™ boring bars – Negative basic shape

| Machining |  | |  | |  |  |
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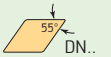
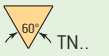
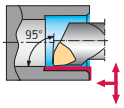
| **Type** | | |  | | |  |
| **Designation** | **C...-DCLN** | **C...-PCLN** | **C...-DDUN** | **C...-PDUN** | **C...-PSKN** | **C...-PTFN** |
| Lead angle κ | 95° | 95° | 93° | 93° | 75° | 91° |
| Clamping system | Clamp | Lever | Clamp | Lever | Lever | Lever |
| Coolant supply | internal | internal | internal | internal | internal | internal |
| Walter Capto™ size | C4–C6 | C3–C6 | C4–C6 | C3–C6 | C4–C6 | C4–C6 |
| Insert size l [mm] | 12–16 | 12–16 | 11–15 | 11–15 | 12–15 | 16–22 |
| Page | A 222 | A 223 | A 224 | A 225 | A 226 | A 227 |
| | | | | | | |

| Machining |  | |
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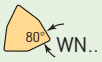
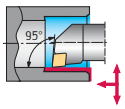
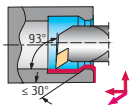
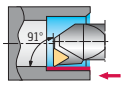
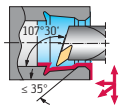
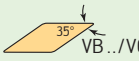
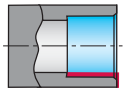
| **Type** |  | |
| **Designation** | **C...-DWLN** | **C...-PWLN** |
| Lead angle κ | 95° | 95° |
| Clamping system | Clamp | Lever |
| Coolant supply | internal | internal |
| Walter Capto™ size | C4–C6 | C3–C6 |
| Insert size l [mm] | 6–10 | 6–8 |
| Page | A 228 | A 229 |
| | | |

# Walter Turn turning tools product range overview – Internal machining
# Walter Capto™ boring bars – Positive basic shape

| Machining |  |  |  |  |
|---|---|---|---|---|
| **Type** | | | |  |
| **Designation** | **C...-SCLC** | **C...-SDUC** | **C...-STFC** | **C...-SVQB** |
| Lead angle κ | 95° | 93° | 91° | 107,5° |
| Clamping system | Screw | Screw | Screw | Screw |
| Coolant supply | internal | internal | internal | internal |
| Walter Capto™ size | C3–C5 | C3–C5 | C3–C5 | C3–C6 |
| Insert size l [mm] | 9–12 | 7–11 | 11–16 | 11–16 |
| Page | A 230 | A 231 | A 232 | A 233 |
| | | | | |

# Turning system overview – Walter Turn internal machining



| Retaining sleeves for boring bars with full cylindrical shank | Walter Capto™ adaptors for boring bars with flats | | Walter Capto™ boring bars |
|---|---|---|---|
| AK600 . . . | C … -131 | C … -391.20<br>C … -391.27 | C … |
| Page A 221 | Page D 65 | Page D 66 | Page A 192 |
| | | | |

| Boring bar with full cylindrical shank (-R) | Boring bar with flats |
|---|---|
| | |
| e.g. E…-SCLC…-R | e.g. A…-DCLN |
| Page A 191 | Page A 190 |

# ISO designation key for turning toolholders – Internal machining

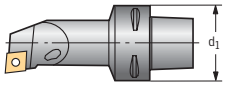
**Example: Walter Turn**

| A | 20 | S | – | S | C | L | C | R | 09 | – | R |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | | 4 | 5 | 6 | 7 | 8 | 9 | | 10 |

## 0 – Coupling size $d_1$ [mm]

C = Walter Capto™ ISO 26623

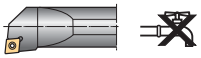
- **C3** $d_1$ = 32
- **C4** $d_1$ = 40
- **C5** $d_1$ = 50
- **C6** $d_1$ = 63
- **C8** $d_1$ = 80



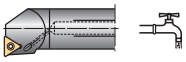

## 1 – Shank design

- **A** Solid steel design with internal coolant supply

- **S** Solid steel design without internal coolant supply



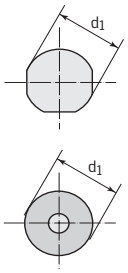
- **E** Carbide shank with steel head and internal coolant supply



- **C** Carbide shank with steel head, without internal coolant supply

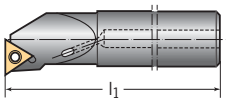
## 2 – Boring bar diameter $d_1$ [mm]

Shank diameter in mm. Figures after the decimal point are ignored. Single-digit numbers are preceded by a "0".




## 3 – Turning toolholder length $l_1$ [mm]

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

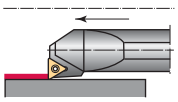



## 7 – Indexable insert clearance angle

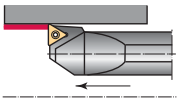
- **B** 5°
- **C** 7°
- **E** 20°
- **F** 25°
- **N** 0°
- **P** 11°

## 8 – Turning toolholder design

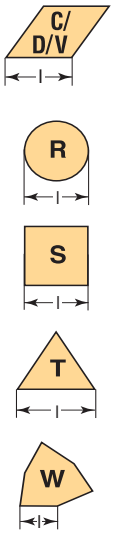
**R** = Right



**L** = Left



## 9 – Length of cutting edge l [mm]




## 10 – Manufacturer option

If necessary, an additional symbol comprising a maximum of three letters or figures can be added to the standard code.

This symbol must be separated from the standard designation with a hyphen.

The following versions:

- **–R** Boring bars with fully rounded shank
- **–X** Back copy boring bars
- **–W** Wedge-type clamping

Walter Capto™

## Example: Walter Capto™

| C4 | – | S | C | L | C | R | – | 27 | 080 | – | 12 | ... |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | 4 | 5 | 6 | 7 | 8 | | 11 | 12 | | 9 | 10 |

### 4 – Insert mounting type

| | |
|---|---|
| C | Top clamping |
| D | Top and hole clamping |
| M | Top and hole clamping |
| P | Hole clamping |
| S | Screw clamping |

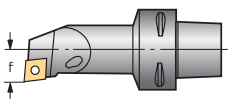
### 5 – Indexable insert basic shape

| | |
|---|---|
| C | 80° |
| D | 55° |
| R | |
| S | 90° |
| T | 60° |
| V | 35° |
| W | 80° |

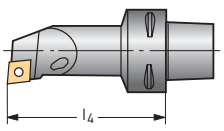
### 6 – Lead angle

| | | | |
|---|---|---|---|
| 90° | F | 45° | S |
| 75° | K | 93° | U |
| 95° / 95° | L | 60° | W |
| 107° / 30° | Q | 85° | Y |

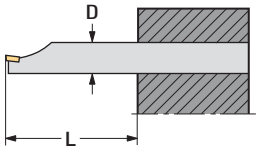
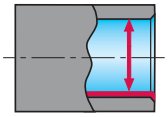
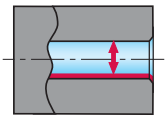
### 11 – f dimension [mm]

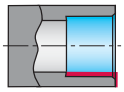
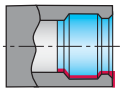
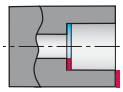



### 12 – Tool length $l_4$ [mm]



# Walter Select – Internal machining

| Workpiece characteristics | from diameters of 20 mm | | from diameters of 8.5 mm | |
|---|---|---|---|---|
|  | Steel boring bar:<br>$L/D_{max}$ = 3/1 |  | Steel boring bar:<br>$L/D_{max}$ = 5/1<br><br>Solid carbide boring bar:<br>$L/D_{max}$ = 8/1 |  |

| Basic shape | Negative basic shape | | Positive basic shape | |
|---|---|---|---|---|
| Holder clamping system<br>Walter Turn/Walter Capto™ | **Rigid clamping** | **Lever clamp** | **Screw clamping** | **Lever clamp** |
| | | | | |
| **Product range overview** | Page A 190 | Page A 190 | Page A 191 | Page A 191 |
| **Step 1:**<br>**Selecting the contour to be machined** | | | | |
|  Longitudinal turning/facing | ●● | ●● | ●● | ● |
|  Profile turning | ●● | ●● | ●● | ●● |
|  Facing | ● | ●● | ●● | ●● |
| Interrupted cuts | ●● | ● | ●● | ● |
| **Step 2:**<br>**Selecting the material to be machined** | | | | |
| **P** Steel | ●● | ●● | ●● | ●● |
| **M** Stainless steel | ● | ●● | ●● | ●● |
| **K** Cast iron | ●● | ● | ●● | ● |
| **N** NF metals | — | ● | — | ●● |
| **S** Materials with difficult cutting properties | ●● | ●● | ●● | ●● |
| **H** Hard materials | ●● | ● | ● | ● |
| **O** Other | ● | ● | ● | ● |

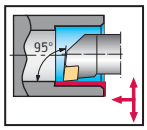
WALTER SELECT

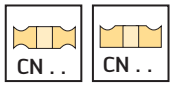
●● Primary application

● Other application

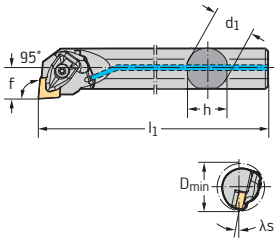
# Boring bar – Rigid clamping
# A...-DCLN
## Walter Turn

– A = Steel version with internal coolant supply




## Tool




| Designation | | $D_{min}$ mm | $d_1$ mm | f mm | h mm | $l_1$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| A25T-DCLNR/L12 | 12 | 32 | 25 | 17 | 23 | 300 | -6° | -12° | CN .. 1204 .. |
| A32T-DCLNR/L12 | 12 | 40 | 32 | 22 | 30 | 300 | -6° | -10° | |
| A40T-DCLNR/L12 | 12 | 50 | 40 | 27 | 37 | 300 | -6° | -15° | |
| A40T-DCLNR/L16 | 16 | 50 | 40 | 27 | 37 | 300 | -6° | -16° | CN .. 1606 .. |
| A50U-DCLNR/L16 | 16 | 63 | 50 | 35 | 47 | 350 | -6° | -13° | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Measured with master insert: CN .. 120408 / CN .. 160612
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: A25T-DCLNR12/ordering example, left-hand tool: A25T-DCLNL12
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type<br>$D_{min}$ [mm] | CN .. 1204 ..<br>32–40 | CN .. 1204 ..<br>50 | CN .. 1606 ..<br>50–63 |
|---|---|---|---|---|
| | Shim | AP354-CN12 | AP301-CN12 | AP302-CN16 |
| | Screw for shim<br>Tightening torque | FS1461 (Torx 15IP)<br>2,5 Nm | FS1461 (Torx 15IP)<br>2,5 Nm | FS1463 (Torx 20IP)<br>5,0 Nm |
| | Clamp | PK241 | PK241 | PK242 |
| | Clamp screw<br>Tightening torque | FS1473 (Torx 15IP)<br>3,9 Nm | FS1473 (Torx 15IP)<br>3,9 Nm | FS1474 (Torx 20IP)<br>6,4 Nm |
| | Pressure spring | FS1470 | FS1470 | FS1471 |
| | Pin | RS117 | RS117 | RS117 |
| | Torx key | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) | FS1464 (Torx 20IP) |

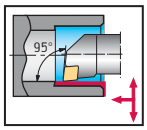
## Accessories

| | Type | CN .. 1204 .. | CN .. 1606 .. |
|---|---|---|---|
| | Clamp set<br>(standard assembly parts) | PK241 SET | PK242 SET |
| | Carbide clamp set<br>Insert with hole | PK245 SET | PK246 SET |
| | Carbide clamp set<br>Insert without hole | PK254 SET | |

A 20 D 1 A 234 A 261 A 262

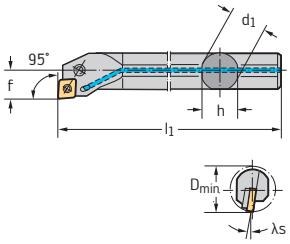
# Boring bar – Lever clamp
# A...-PCLN
# Walter Turn

– A = Steel version with internal coolant supply




CN . .  CN . .

## Tool




| Designation | | $D_{min}$ mm | $d_1$ mm | f mm | h mm | $l_1$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| A16R-PCLNR/L09 | 9 | 20 | 16 | 11 | 15 | 200 | -6° | -13° | CN .. 0903 .. |
| A20S-PCLNR/L09 | 9 | 25 | 20 | 13 | 18 | 250 | -6° | -11° | |
| A25T-PCLNR/L09 | 9 | 32 | 25 | 17 | 23 | 300 | -6° | -10° | |
| A25T-PCLNR/L12 | 12 | 32 | 25 | 17 | 23 | 300 | -6° | -10° | CN .. 1204 .. |
| A32T-PCLNR/L12 | 12 | 40 | 32 | 22 | 30 | 300 | -6° | -11° | |
| A40T-PCLNR/L12 | 12 | 50 | 40 | 27 | 37 | 300 | -6° | -10° | |
| A32T-PCLNR/L16 | 16 | 55 | 32 | 22 | 30 | 300 | -6° | -10° | CN .. 1606 .. |
| A40T-PCLNR/L16 | 16 | 58 | 40 | 27 | 37 | 300 | -6° | -10° | |

Measured with master insert: CN .. 090308 / CN .. 120408 / CN .. 160612
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: A16R-PCLNR09/ordering example, left-hand tool: A16R-PCLNL09
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type<br>$D_{min}$ [mm] | CN .. 0903 ..<br>20–32 | CN .. 1204 ..<br>32 | CN .. 1204 ..<br>40 | CN .. 1204 ..<br>50 | CN .. 1606 ..<br>55–58 |
|---|---|---|---|---|---|---|
| | Shim<br>for radius | | | AP134-CN1216<br>r ≤ 1,6 mm | AP134-CN1216<br>r ≤ 1,6 mm | AP135-CN1624<br>r ≤ 2,4 mm |
| | Lever | KN126 | KN128 | KN121 | KN102 | KN104 |
| | Clamping screw<br>Tightening torque | FS2182 (SW 2)<br>2,0 Nm | FS332 (SW 2,5)<br>2,5 Nm | FS2129 (SW 3)<br>5,0 Nm | FS352 (SW 3)<br>5,0 Nm | FS354 (SW 3)<br>5,0 Nm |
| | Shim pin | | | RS102 | RS102 | RS103 |
| | Tapered assembly pin | | | MD101 | MD101 | MD102 |
| | Allen key | ISO2936-2<br>(SW 2) | ISO2936-2,5<br>(SW 2,5) | ISO2936-3<br>(SW 3) | ISO2936-3<br>(SW 3) | ISO2936-3<br>(SW 3) |

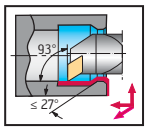
## Accessories

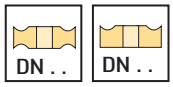
| | Type | CN .. 1204 .. | CN .. 1606 .. |
|---|---|---|---|
| | Shim<br>for radiused insert | AP134-CN1208<br>r ≤ 0,8 mm | AP135-CN1616<br>r ≤ 1,6 mm |

A 20  D 1  A 234  A 261

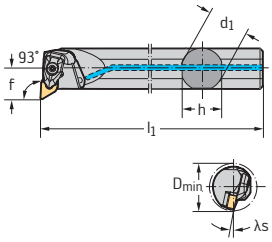
# Boring bar – Rigid clamping
# A...-DDUN
# Walter Turn

– A = Steel version with internal coolant supply




## Tool




| Designation | | $D_{min}$ mm | $d_1$ mm | f mm | h mm | $l_1$ mm | γ | $λ_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| A25T-DDUNR/L11 | 11 | 32 | 25 | 17 | 23 | 300 | -6° | -12° | DN .. 1104 .. |
| A32T-DDUNR/L11 | 11 | 40 | 32 | 22 | 30 | 300 | -6° | -10° | |
| A32T-DDUNR/L15 | 15 | 40 | 32 | 22 | 30 | 300 | -6° | -14° | DN .. 1506 .. |
| A40T-DDUNR/L15 | 15 | 50 | 40 | 27 | 37 | 300 | -6° | -11° | |
| A50U-DDUNR/L15 | 15 | 63 | 50 | 35 | 47 | 350 | -6° | -8° | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Measured with master insert: DN .. 110408 / DN .. 150608
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $λ_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: A25T-DDUNR11/ordering example, left-hand tool: A25T-DDUNL11
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type | DN .. 1104 .. | DN .. 1506 .. |
|---|---|---|
| Shim | AP305-DN11 | AP304-DN15 |
| Screw for shim<br>Tightening torque | FS1462 (Torx 9IP)<br>1,5 Nm | FS1461 (Torx 15IP)<br>2,5 Nm |
| Clamp | PK240 | PK241 |
| Clamp screw<br>Tightening torque | FS1472 (Torx 9IP)<br>1,7 Nm | FS1473 (Torx 15IP)<br>3,9 Nm |
| Pressure spring | FS1469 | FS1470 |
| Pin | RS116 | RS117 |
| Torx key | FS1466 (Torx 9IP) | FS1465 (Torx 15IP / SW 3,5) |

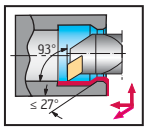
## Accessories

| Type | DN .. 1104 .. | DN .. 1506 .. |
|---|---|---|
| Clamp set<br>(standard assembly parts) | PK240 SET | PK241 SET |
| Carbide clamp set<br>Insert with hole | | PK245 SET |
| Carbide clamp set<br>Insert without hole | | PK254 SET |
| Shim for DN .. 1504 .. | | AP304-DN1504 |

A 24 D 1 A 234 A 261 A 262

# Boring bar – Lever clamp
# A...-PDUN
# Walter Turn

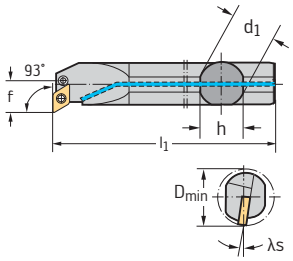
– A = Steel version with internal coolant supply




DN . .

DN . .

## Tool




| Designation | | $D_{min}$ mm | $d_1$ mm | f mm | h mm | $l_1$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| A25T-PDUNR/L11 | 11 | 32 | 25 | 17 | 23 | 300 | -6° | -11° | DN .. 1104 .. |
| A32T-PDUNR/L11 | 11 | 40 | 32 | 22 | 30 | 300 | -6° | -10° | |
| A40T-PDUNR/L11 | 11 | 50 | 40 | 27 | 37 | 300 | -6° | -11° | |
| A32T-PDUNR/L15 | 15 | 40 | 32 | 22 | 30 | 300 | -6° | -12° | DN .. 1506 .. |
| A40T-PDUNR/L15 | 15 | 50 | 40 | 27 | 37 | 300 | -6° | -11° | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Measured with master insert: DN .. 110408 / DN .. 150608
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: A25T-PDUNR11/ordering example, left-hand tool: A25T-PDUNL11
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type<br>$D_{min}$ [mm] | DN .. 1104 ..<br>32 | DN .. 1104 ..<br>40–50 | DN .. 1506 ..<br>40–50 |
|---|---|---|---|
| Shim<br>for radius | | AP171-DN1112<br>r ≤ 1,2 mm | AP145-DN1516<br>r ≤ 1,6 mm |
| Lever | KN120 | KN119 | KN103 |
| Clamping screw<br>Tightening torque | FS905 (SW 2)<br>2,0 Nm | FS351 (SW 2,5)<br>2,0 Nm | FS355 (SW 3)<br>5,0 Nm |
| Shim pin | | RS101 | RS102 |
| Tapered assembly pin | | MD101 | MD101 |
| Allen key | ISO2936-2 (SW 2) | ISO2936-2,5 (SW 2,5) | ISO2936-3 (SW 3) |

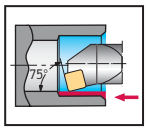
## Accessories

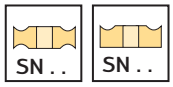
| Type | DN .. 1104 .. | DN .. 1506 .. |
|---|---|---|
| Shim<br>for radius | AP171-DN1108<br>r ≤ 0,8 mm | AP145-DN1508<br>r ≤ 0,8 mm |
| Shim for DN .. 1504 ..<br>for radius | | AP357-DN1508<br>r ≤ 0,8 mm |
| Shim for DN .. 1504 ..<br>for radius | | AP357-DN1516<br>r ≤ 1,6 mm |

A 24 D 1 A 234 A 261

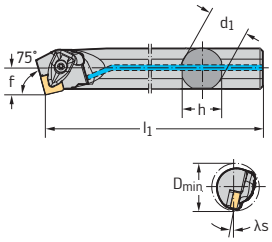
# Boring bar – Rigid clamping
# A...-DSKN
## Walter Turn

– A = Steel version with internal coolant supply




## Tool




| Designation | | $D_{min}$ mm | $d_1$ mm | f mm | h mm | $l_1$ mm | γ | $λ_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| A25T-DSKNR/L12 | 12 | 32 | 25 | 17 | 23 | 300 | -6° | -11° | |
| A32T-DSKNR/L12 | 12 | 40 | 32 | 22 | 30 | 300 | -6° | -9° | SN .. 1204 .. |
| A40T-DSKNR/L12 | 12 | 50 | 40 | 27 | 37 | 300 | -6° | -13° | |
| A40T-DSKNR/L15 | 15 | 50 | 40 | 27 | 37 | 300 | -6° | -14° | SN .. 1506 .. |
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Measured with master insert: SN .. 120408 / SN .. 150612
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $λ_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: A25T-DSKNR12/ordering example, left-hand tool: A25T-DSKNL12
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type $D_{min}$ [mm] | SN .. 1204 .. 32–40 | SN .. 1204 .. 50 | SN .. 1506 .. 50 |
|---|---|---|---|
| Shim | AP355-SN12 | AP308-SN12 | AP309-SN15 |
| Screw for shim<br>Tightening torque | FS1461 (Torx 15IP)<br>2,5 Nm | FS1461 (Torx 15IP)<br>2,5 Nm | FS1463 (Torx 20IP)<br>5,0 Nm |
| Clamp | PK241 | PK241 | PK242 |
| Clamp screw<br>Tightening torque | FS1473 (Torx 15IP)<br>3,9 Nm | FS1473 (Torx 15IP)<br>3,9 Nm | FS1474 (Torx 20IP)<br>6,4 Nm |
| Pressure spring | FS1470 | FS1470 | FS1471 |
| Pin | RS117 | RS117 | RS117 |
| Torx key | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) | FS1464 (Torx 20IP) |

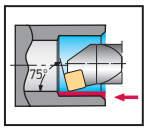
## Accessories

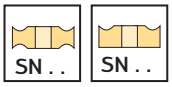
| Type | SN .. 1204 .. | SN .. 1506 .. |
|---|---|---|
| Clamp set<br>(standard assembly parts) | PK241 SET | PK242 SET |
| Carbide clamp set<br>Insert with hole | PK245 SET | PK246 SET |
| Carbide clamp set<br>Insert without hole | PK254 SET | |

A 27 D 1 A 234 A 261 A 262

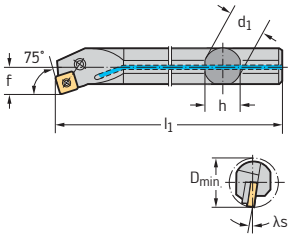
# Boring bar – Lever clamp
# A...-PSKN
# Walter Turn

– A = Steel version with internal coolant supply




## Tool




| Designation | | $D_{min}$ mm | $d_1$ mm | f mm | h mm | $l_1$ mm | γ | $λ_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| A25T-PSKNR/L12 | 12 | 32 | 25 | 17 | 23 | 300 | -6° | -11° | SN .. 1204 .. |
| A32T-PSKNR/L12 | 12 | 40 | 32 | 22 | 30 | 300 | -6° | -10° | |
| A40T-PSKNR/L12 | 12 | 50 | 40 | 27 | 37 | 300 | -6° | -10° | |
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Measured with master insert: SN .. 120408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $λ_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: A25T-PSKNR12/ordering example, left-hand tool: A25T-PSKNL12
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type $D_{min}$ [mm] | SN .. 1204 .. 32 | SN .. 1204 .. 40 | SN .. 1204 .. 50 |
|---|---|---|---|
| Shim for radius | | AP141-SN1216 r ≤ 1,6 mm | AP141-SN1216 r ≤ 1,6 mm |
| Lever | KN128 | KN121 | KN102 |
| Clamping screw Tightening torque | FS332 (SW 2,5) 2,5 Nm | FS2129 (SW 3) 5,0 Nm | FS352 (SW 3) 5,0 Nm |
| Shim pin | | RS102 | RS102 |
| Tapered assembly pin | | MD101 | MD101 |
| Allen key | ISO2936-2,5 (SW 2,5) | ISO2936-3 (SW 3) | ISO2936-3 (SW 3) |

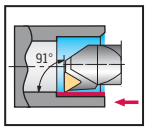
## Accessories

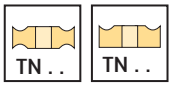
| Type | SN .. 1204 .. |
|---|---|
| Shim for radiused insert | AP141-SN1208 r ≤ 0,8 mm |

A 27 D 1 A 234 A 261

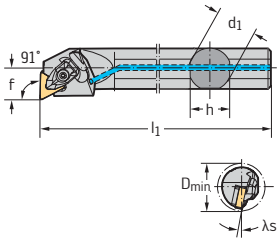
# Boring bar – Rigid clamping
# A...-DTFN
# Walter Turn

– A = Steel version with internal coolant supply



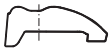
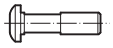
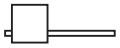

## Tool




| Designation | | $D_{min}$ mm | $d_1$ mm | f mm | h mm | $l_1$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| A25T-DTFNR/L16 | 16 | 32 | 25 | 17 | 23 | 300 | -6° | -12° | TN .. 1604 .. |
| A32T-DTFNR/L16 | 16 | 40 | 32 | 22 | 30 | 300 | -6° | -10° | |
| A40T-DTFNR/L16 | 16 | 50 | 40 | 27 | 37 | 300 | -6° | -8° | |
| A40T-DTFNR/L22 | 22 | 50 | 40 | 27 | 37 | 300 | -6° | -13° | TN .. 2204 .. |
| A50U-DTFNR/L22 | 22 | 63 | 50 | 35 | 47 | 350 | -6° | -10° | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Measured with master insert: TN .. 160408 / TN .. 220408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: A25T-DTFNR16/ordering example, left-hand tool: A25T-DTFNL16
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | TN .. 1604 .. | TN .. 2204 .. |
|---|---|---|---|
| | Shim | AP356-TN16 | AP322-TN22 |
| | Screw for shim<br>Tightening torque | FS1462 (Torx 9IP)<br>1,5 Nm | FS1461 (Torx 15IP)<br>2,5 Nm |
|  | Clamp | PK240 | PK241 |
|  | Clamp screw<br>Tightening torque | FS1472 (Torx 9IP)<br>1,7 Nm | FS1473 (Torx 15IP)<br>3,9 Nm |
| | Pressure spring | FS1469 | FS1470 |
|  | Pin | RS116 | RS117 |
|  | Torx key | FS1466 (Torx 9IP) | FS1465 (Torx 15IP / SW 3,5) |

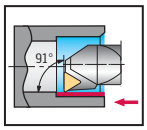
## Accessories

| | Type | TN .. 1604 .. | TN .. 2204 .. |
|---|---|---|---|
| | Clamp set<br>(standard assembly parts) | PK240 SET | PK241 SET |
| | Carbide clamp set<br>Insert with hole | | PK245 SET |
| | Carbide clamp set<br>Insert without hole | | PK254 SET |

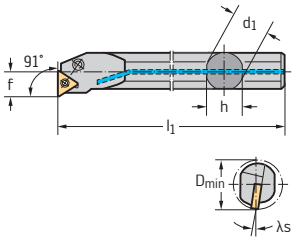
A 30 D 1 A 234 A 261 A 262

# Boring bar – Lever clamp
# A...-PTFN
# Walter Turn

– A = Steel version with internal coolant supply



## Tool




| Designation | | $D_{min}$ mm | $d_1$ mm | f mm | h mm | $l_1$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| A16R-PTFNR/L11 | 11 | 20 | 16 | 11 | 15 | 200 | -6° | -14° | TN .. 1103 .. |
| A20S-PTFNR/L11 | 11 | 25 | 20 | 13 | 18 | 250 | -6° | -12° | |
| A25T-PTFNR/L11 | 11 | 32 | 25 | 17 | 23 | 300 | -6° | -10° | |
| A25T-PTFNR/L16 | 16 | 32 | 25 | 17 | 23 | 300 | -6° | -13° | TN .. 1604 .. |
| A32T-PTFNR/L16 | 16 | 50 | 32 | 22 | 30 | 300 | -6° | -12° | |
| A40T-PTFNR/L22 | 22 | 50 | 40 | 27 | 37 | 300 | -6° | -11° | TN .. 2204 .. |
| | | | | | | | | | |
| | | | | | | | | | |

Measured with master insert: TN .. 110304 / TN .. 160408 / TN .. 220408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: A16R-PTFNR11/ordering example, left-hand tool: A16R-PTFNL11
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type | TN .. 1103 .. | TN .. 1604 .. | TN .. 2204 .. |
|---|---|---|---|
| Shim for radius | | AP137-TN1616 r ≤ 1,6 mm | AP138-TN2216 r ≤ 1,6 mm |
| Lever | KN127 | KN101 | KN102 |
| Clamping screw Tightening torque | FS2182 (SW 2) 2,0 Nm | FS351 (SW 2,5) 2,0 Nm | FS352 (SW 3) 5,0 Nm |
| Shim pin | | RS101 | RS102 |
| Tapered assembly pin | | MD101 | MD101 |
| Allen key | ISO2936-2 (SW 2) | ISO2936-2,5 (SW 2,5) | ISO2936-3 (SW 3) |

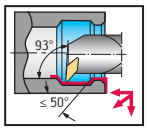
## Accessories

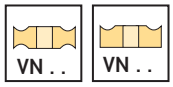
| Type | TN .. 1604 .. | TN .. 2204 .. |
|---|---|---|
| Shim for radiused insert | AP137-TN1608 r ≤ 0,8 mm | AP138-TN2208 r ≤ 0,8 mm |

A 30 D 1 A 234 A 261

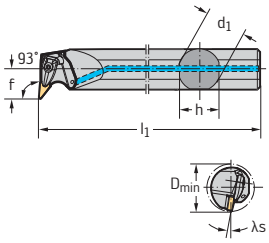
# Boring bar – Rigid clamping
# A...-DVUN
# Walter Turn

– A = Steel version with internal coolant supply



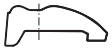
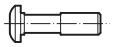
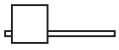

## Tool




| Designation | | $D_{min}$ mm | $d_1$ mm | f mm | h mm | $l_1$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| A40T-DVUNR/L16 | 16 | 50 | 40 | 27 | 37 | 300 | -6° | -9° | VN .. 1604 .. |

Measured with master insert: VN .. 160408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: A40T-DVUNR16/ordering example, left-hand tool: A40T-DVUNL16
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | VN .. 1604 .. |
|---|---|---|
| | Shim | AP312-VN16 |
| | Screw for shim<br>Tightening torque | FS1467 (Torx 15IP)<br>3,0 Nm |
|  | Clamp | PK244 |
|  | Clamp screw<br>Tightening torque | FS1473 (Torx 15IP)<br>3,9 Nm |
| | Pressure spring | FS1470 |
|  | Pin | RS117 |
|  | Torx key | FS1465 (Torx 15IP / SW 3,5) |

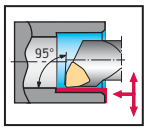
## Accessories

| | Type | VN .. 1604 .. |
|---|---|---|
| | Clamp set<br>(standard assembly parts) | PK244 SET |

A 33 D 1 A 234 A 261 A 262

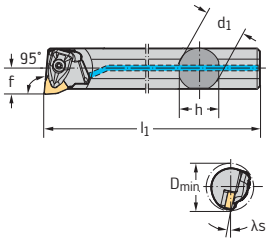
# Boring bar – Rigid clamping
# A...-DWLN
# Walter Turn

– A = Steel version with internal coolant supply




WN . .  WN . .

## Tool




| Designation | | $D_{min}$ mm | $d_1$ mm | f mm | h mm | $l_1$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| A25T-DWLNR/L06 | 6 | 32 | 25 | 17 | 23 | 300 | -6° | -14° | WN .. 0604 .. |
| A32T-DWLNR/L06 | 6 | 40 | 32 | 22 | 30 | 300 | -6° | -11° | |
| A25T-DWLNR/L08 | 8 | 32 | 25 | 17 | 23 | 300 | -6° | -12° | WN .. 0804 .. |
| A32T-DWLNR/L08 | 8 | 40 | 32 | 22 | 30 | 300 | -6° | -10° | |
| A40T-DWLNR/L08 | 8 | 50 | 40 | 27 | 37 | 300 | -6° | -13° | |
| A50U-DWLNR/L08 | 8 | 63 | 50 | 35 | 47 | 350 | -6° | -11° | |
| A40T-DWLNR/L10 | 10 | 50 | 40 | 27 | 37 | 300 | -6° | -16° | WN .. 1006 .. |

Measured with master insert: WN .. 060408 / WN .. 080408 / WN .. 100612
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: A25T-DWLNR06/ordering example, left-hand tool: A25T-DWLNL06
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type $D_{min}$ [mm] | WN .. 0604 .. 32–40 | WN .. 0804 .. 32–40 | WN .. 0804 .. 50–63 | WN .. 1006 .. 50 |
|---|---|---|---|---|
| Shim | AP306-WN06 | AP331-WN08 | AP307-WN08 | AP311-WN10 |
| Screw for shim<br>Tightening torque | FS1462 (Torx 9IP)<br>1,5 Nm | FS1461 (Torx 15IP)<br>2,5 Nm | FS1461 (Torx 15IP)<br>2,5 Nm | FS1463 (Torx 20IP)<br>5,0 Nm |
| Clamp | PK240 | PK241 | PK241 | PK242 |
| Clamp screw<br>Tightening torque | FS1472 (Torx 9IP)<br>1,7 Nm | FS1473 (Torx 15IP)<br>3,9 Nm | FS1473 (Torx 15IP)<br>3,9 Nm | FS1474 (Torx 20IP)<br>6,4 Nm |
| Pressure spring | FS1469 | FS1470 | FS1470 | FS1471 |
| Pin | RS116 | RS117 | RS117 | RS117 |
| Torx key | FS1466 (Torx 9IP) | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) | FS1464 (Torx 20IP) |

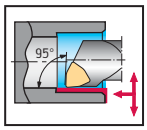
## Accessories

| Type | WN .. 0604 .. | WN .. 0804 .. | WN .. 1006 .. |
|---|---|---|---|
| Clamp set<br>(standard assembly parts) | PK240 SET | PK241 SET | PK242 SET |
| Carbide clamp set<br>Insert with hole | | PK245 SET | PK246 SET |
| Carbide clamp set<br>Insert without hole | | PK254 SET | |

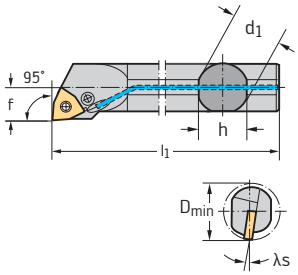
A 34  D 1  A 234  A 261  A 262

# Boring bar – Lever clamp
# A...-PWLN
# Walter Turn

– A = Steel version with internal coolant supply



## Tool




| Designation | | $D_{min}$ mm | $d_1$ mm | f mm | h mm | $l_1$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| A20S-PWLNR/L06 | 6 | 25 | 20 | 13 | 18 | 250 | -6° | -15° | WN .. 0604 .. |
| A25T-PWLNR/L06 | 6 | 32 | 25 | 17 | 23 | 300 | -6° | -12° | |
| A32T-PWLNR/L06 | 6 | 40 | 32 | 22 | 30 | 300 | -6° | -12° | |
| A25T-PWLNR/L08 | 8 | 32 | 25 | 17 | 23 | 300 | -6° | -10° | WN .. 0804 .. |
| A32T-PWLNR/L08 | 8 | 40 | 32 | 22 | 30 | 300 | -6° | -10° | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Measured with master insert: WN .. 060408 / WN .. 080408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: A20S-PWLNR06/ordering example, left-hand tool: A20S-PWLNL06
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type<br>$D_{min}$ [mm] | WN .. 0604 ..<br>25–32 | WN .. 0604 ..<br>40 | WN .. 0804 ..<br>32 | WN .. 0804 ..<br>40 |
|---|---|---|---|---|
| Shim<br>for radius | | AP172-WN0612<br>r ≤ 1,2 mm | | AP170-WN0816<br>r ≤ 1,6 mm |
| Lever | KN108 | KN101 | KN128 | KN102 |
| Clamping screw<br>Tightening torque | FS331 (SW 2)<br>2,0 Nm | FS351 (SW 2,5)<br>2,0 Nm | FS332 (SW 2,5)<br>2,5 Nm | FS352 (SW 3)<br>5,0 Nm |
| Shim pin | | RS101 | | RS102 |
| Tapered assembly pin | | MD101 | | MD101 |
| Allen key | ISO2936-2 (SW 2) | ISO2936-2,5 (SW 2,5) | ISO2936-2,5 (SW 2,5) | ISO2936-3 (SW 3) |

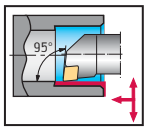
## Accessories

| Type | WN .. 0804 .. |
|---|---|
| Shim<br>for radius | AP170-WN0808<br>r ≤ 0,8 mm |

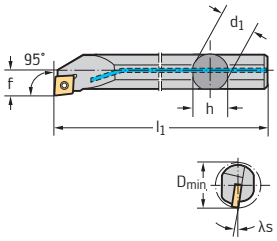
A 34 D 1 A 234 A 261

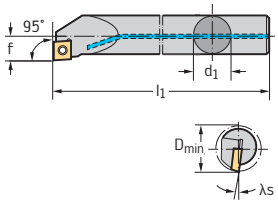
# Boring bar – Screw clamping
# A...-SCLC / E...-SCLC
## Walter Turn

– A = Steel version with internal coolant supply
– E = Solid carbide version with internal coolant supply



## Tool

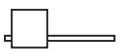


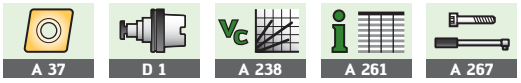




| Designation | | $D_{min}$ mm | $d_1$ mm | f mm | h mm | $l_1$ mm | γ | $λ_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| A08H-SCLCR/L06 | 6 | 10 | 8 | 5 | 7 | 100 | 0° | -13,8° | CC .. 0602 .. |
| A10K-SCLCR/L06 | 6 | 12 | 10 | 6 | 9 | 125 | 0° | -10,9° | |
| A12M-SCLCR/L06 | 6 | 16 | 12 | 9 | 11 | 150 | 0° | -7,3° | |
| A16R-SCLCR/L09 | 9 | 20 | 16 | 11 | 15 | 200 | 0° | -8,4° | CC .. 09T3 .. |
| A20S-SCLCR/L09 | 9 | 25 | 20 | 13 | 18 | 250 | 0° | -5,7° | |
| A25T-SCLCR/L09 | 9 | 32 | 25 | 17 | 23 | 300 | 0° | -3,4° | |
| A25T-SCLCR/L12 | 12 | 32 | 25 | 17 | 23 | 300 | 0° | -4,6° | CC .. 1204 .. |
| A32T-SCLCR/L12 | 12 | 40 | 32 | 22 | 30 | 300 | 0° | -9,8° | |
| A08H-SCLCR/L06-R | 6 | 10 | 8 | 5 | | 100 | 0° | -13,8° | CC .. 0602 .. |
| E08K-SCLCR/L06-R | 6 | 10 | 8 | 5 | | 125 | 0° | -13,8° | |
| A10K-SCLCR/L06-R | 6 | 12 | 10 | 6 | | 125 | 0° | -10,9° | |
| E10M-SCLCR/L06-R | 6 | 12 | 10 | 6 | | 150 | 0° | -10,9° | |
| A12M-SCLCR/L06-R | 6 | 16 | 12 | 9 | | 150 | 0° | -7,3° | |
| E12Q-SCLCR/L06-R | 6 | 16 | 12 | 9 | | 180 | 0° | -7,3° | |
| A16R-SCLCR/L09-R | 9 | 20 | 16 | 11 | | 200 | 0° | -8,4° | CC .. 09T3 .. |
| E16R-SCLCR/L09-R | 9 | 20 | 16 | 11 | | 200 | 0° | -8,4° | |
| A20S-SCLCR/L09-R | 9 | 25 | 20 | 13 | | 250 | 0° | -5,7° | |
| E20S-SCLCR/L09-R | 9 | 25 | 20 | 13 | | 220 | 0° | -6° | |
| E25T-SCLCR/L09-R | 9 | 32 | 25 | 17 | | 270 | 0° | -3° | |

Measured with master insert: CC .. 060204 / CC .. 09T308 / CC .. 120408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $λ_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: A08H-SCLCR06/ordering example, left-hand tool: A08H-SCLCL06
Bodies and assembly parts are included in the scope of delivery.

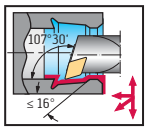
## Assembly parts

| Type $D_{min}$ [mm] | CC .. 0602 .. 10–16 | CC .. 09T3 .. 20–25 | CC .. 09T3 .. 32 | CC .. 1204 .. 32 | CC .. 1204 .. 40 |
|---|---|---|---|---|---|
| Clamping screw for indexable insert Tightening torque | FS2066 (Torx 7IP) 0,9 Nm | FS2062 (Torx 15IP) 3,0 Nm | FS2063 (Torx 15IP) 3,0 Nm | FS2064 (Torx 15IP) 3,0 Nm | FS2065 (Torx 15IP) 3,0 Nm |
| Shim for radius | | | | | AP314-CC1212 r ≤ 1,2 mm |
| Screw for shim | | | | | FS2069 (SW 4) |
|  Torx key | FS1490 (Torx 7IP) | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) | FS1496 (Torx 15IP / SW 4) | FS1496 (Torx 15IP / SW 4) |

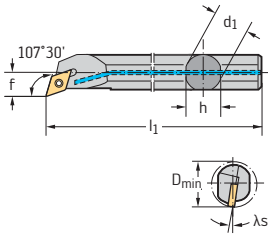


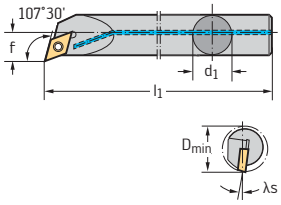
# Boring bar – Screw clamping
# A...-SDQC
## Walter Turn

– A = Steel version with internal coolant supply



## Tool




| Designation | | $D_{min}$ mm | $d_1$ mm | f mm | h mm | $l_1$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| A12M-SDQCR/L07 | 7 | 16 | 12 | 9 | 11 | 150 | 0° | -7,1° | DC .. 0702 .. |
| A16R-SDQCR/L07 | 7 | 20 | 16 | 11 | 15 | 200 | 0° | -4,9° | |
| A20S-SDQCR/L11 | 11 | 25 | 20 | 13 | 18 | 250 | 0° | -5,9° | DC .. 11T3 .. |
| A25T-SDQCR/L11 | 11 | 32 | 25 | 17 | 23 | 300 | 0° | -3,5° | |
| A12M-SDQCR/L07-R | 7 | 16 | 12 | 9 | | 150 | 0° | -7,1° | DC .. 0702 .. |
| A16R-SDQCR/L07-R | 7 | 20 | 16 | 11 | | 200 | 0° | -4,9° | |
| A20S-SDQCR/L11-R | 11 | 25 | 20 | 13 | | 250 | 0° | -5,9° | DC .. 11T3 .. |

Measured with master insert: DC .. 070204 / DC .. 11T308
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: A12M-SDQCR07/ordering example, left-hand tool: A12M-SDQCL07
Bodies and assembly parts are included in the scope of delivery.

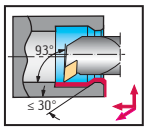
## Assembly parts

| Type<br>$D_{min}$ [mm] | DC .. 0702 ..<br>16–20 | DC .. 11T3 ..<br>25 | DC .. 11T3 ..<br>32 |
|---|---|---|---|
| Clamping screw for indexable insert<br>Tightening torque | FS2061 (Torx 7IP)<br>0,9 Nm | FS2062 (Torx 15IP)<br>3,0 Nm | FS2063 (Torx 15IP)<br>3,0 Nm |
| Torx key | FS1490 (Torx 7IP) | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) |

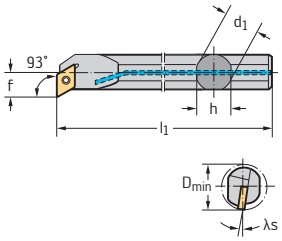
A 42 D 1 A 234 A 261 A 267

# Boring bar – Screw clamping
# A...-SDUC / E...-SDUC
## Walter Turn

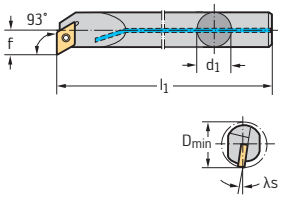
– A = Steel version with internal coolant supply
– E = Solid carbide version with internal coolant supply



## Tool




| Designation | | $D_{min}$ mm | $d_1$ mm | f mm | h mm | $l_1$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| A10K-SDUCR/L07 | 7 | 13 | 10 | 7 | 9 | 125 | 0° | -9,0° | DC .. 0702 .. |
| A12M-SDUCR/L07 | 7 | 16 | 12 | 9 | 11 | 150 | 0° | -6,5° | |
| A16R-SDUCR/L07 | 7 | 20 | 16 | 11 | 15 | 200 | 0° | -4,3° | |
| A20S-SDUCR/L11 | 11 | 25 | 20 | 13 | 18 | 250 | 0° | -5,7° | DC .. 11T3 .. |
| A25T-SDUCR/L11 | 11 | 32 | 25 | 17 | 23 | 300 | 0° | -3,4° | |
| A32T-SDUCR/L11 | 11 | 40 | 32 | 22 | 30 | 300 | 0° | -3° | |
| | | | | | | | | | |
| | | | | | | | | | |




| Designation | | $D_{min}$ mm | $d_1$ mm | f mm | h mm | $l_1$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| A10K-SDUCR/L07-R | 7 | 15 | 10 | 7 | | 125 | 0° | -7° | DC .. 0702 .. |
| E10M-SDUCR/L07-R | 7 | 15 | 10 | 9 | | 150 | 0° | -7,2° | |
| A12M-SDUCR/L07-R | 7 | 18 | 12 | 9 | | 150 | 0° | -5° | |
| E12Q-SDUCR/L07-R | 7 | 18 | 12 | 11 | | 180 | 0° | -5,3° | |
| A16R-SDUCR/L07-R | 7 | 20 | 16 | 11 | | 200 | 0° | -4,3° | |
| E16R-SDUCR/L07-R | 7 | 22 | 16 | 13 | | 200 | 0° | -3,6° | |
| A20S-SDUCR/L11-R | 11 | 25 | 20 | 13 | | 250 | 0° | -5,7° | DC .. 11T3 .. |
| E20S-SDUCR/L11-R | 11 | 25 | 20 | 13 | | 220 | 0° | -6° | |
| E25T-SDUCR/L11-R | 11 | 32 | 25 | 17 | | 270 | 0° | -3° | |

Measured with master insert: DC .. 070204 / DC .. 11T308
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: A10K-SDUCR07/ordering example, left-hand tool: A10K-SDUCL07
Bodies and assembly parts are included in the scope of delivery.

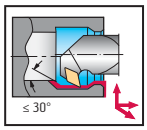
## Assembly parts

| Type<br>$D_{min}$ [mm] | DC .. 0702 ..<br>13–22 | DC .. 11T3 ..<br>25 | DC .. 11T3 ..<br>32 |
|---|---|---|---|
| Clamping screw for indexable insert<br>Tightening torque | FS2061 (Torx 7IP)<br>0,9 Nm | FS2062 (Torx 15IP)<br>3,0 Nm | FS2063 (Torx 15IP)<br>3,0 Nm |
| Torx key | FS1490 (Torx 7IP) | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) |

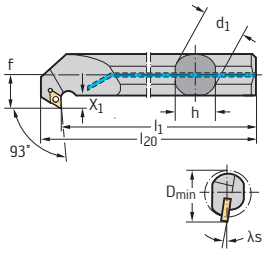
A 42 D 1 A 238 A 261 A 267

# Boring bar – Screw clamping
# A...-SDUC...-X
## Walter Turn

– A = Steel version with internal coolant supply
– Reverse copy boring bar



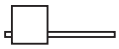
## Tool




| Designation | | $D_{min}$ mm | $d_1$ mm | f mm | h mm | $l_1$ mm | $l_{20}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|---|
| A16R-SDUCR/L07-X | 7 | 22 | 16 | 13 | 15 | 200 | 212,2 | 0° | -4° | |
| A20S-SDUCR/L07-X | 7 | 27 | 20 | 15 | 18 | 250 | 262,2 | 0° | -2° | DC .. 0702 .. |
| A25T-SDUCR/L07-X | 7 | 33 | 25 | 18 | 23 | 300 | 312,2 | 0° | -1° | |
| A32T-SDUCR/L11-X | 11 | 40 | 32 | 22 | 30 | 300 | 316,7 | 0° | -8° | DC .. 11T3 .. |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

Measured with master insert: DC .. 070204 / DC .. 11T308
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: A16R-SDUCR07-X/ordering example, left-hand tool: A16R-SDUCL07-X
Bodies and assembly parts are included in the scope of delivery.

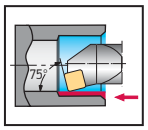
## Assembly parts

| | Type | DC .. 0702 .. | DC .. 11T3 .. |
|---|---|---|---|
| | Clamping screw for indexable insert<br>Tightening torque | FS2061 (Torx 7IP)<br>0,9 Nm | FS2060 (Torx 15IP)<br>3,0 Nm |
| | Shim<br>for radius | | AP315-DC1108<br>r ≤ 0,8 mm |
| | Screw for shim | | FS2068 (SW 3,5) |
|  | Torx key | FS1490 (Torx 7IP) | FS1465 (Torx 15IP / SW 3,5) |

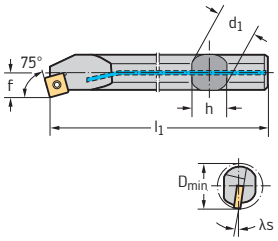
A 42 D 1 A 238 A 261 A 267

# Boring bar – Screw clamping
# A...-SSKC
## Walter Turn

– A = Steel version with internal coolant supply



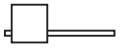
## Tool




| Designation | | $D_{min}$ mm | $d_1$ mm | f mm | h mm | $l_1$ mm | γ | $λ_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| A16R-SSKCR/L09 | 9 | 20 | 16 | 11 | 15 | 200 | 0° | -8,9° | SC .. 09T3 .. |
| A20S-SSKCR/L09 | 9 | 25 | 20 | 13 | 18 | 250 | 0° | -6,0° | |
| A25T-SSKCR/L12 | 12 | 32 | 25 | 17 | 23 | 300 | 0° | -4,7° | SC .. 1204 .. |
| A32T-SSKCR/L12 | 12 | 40 | 32 | 22 | 30 | 300 | 0° | -9,2° | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

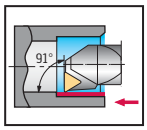
Measured with master insert: SC .. 09T308/SC .. 120408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $λ_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: A16R-SSKCR09/ordering example, left-hand tool: A16R-SSKCL09
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

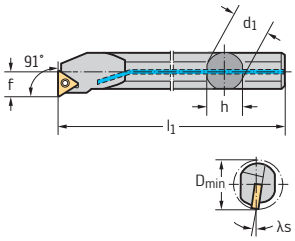
| | Type<br>$D_{min}$ [mm] | SC .. 09T3 ..<br>20–25 | SC .. 1204 ..<br>32 | SC .. 1204 ..<br>40 |
|---|---|---|---|---|
| | Clamping screw for indexable insert<br>Tightening torque | FS2062 (Torx 15IP)<br>3,0 Nm | FS2064 (Torx 15IP)<br>3,0 Nm | FS2065 (Torx 15IP)<br>3,0 Nm |
| | Shim | | | AP319-SC1212 |
| | Screw for shim | | | FS2069 (SW 4) |
|  | Torx key | FS1465 (Torx 15IP / SW 3,5) | FS1496 (Torx 15IP / SW 4) | FS1496 (Torx 15IP / SW 4) |

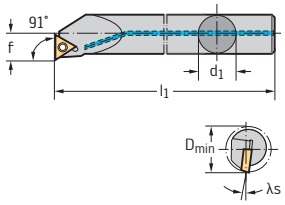
# Boring bar – Screw clamping
# A...-STFC / E...-STFC
## Walter Turn

– A = Steel version with internal coolant supply
– E = Solid carbide version with internal coolant supply



## Tool

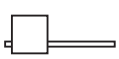


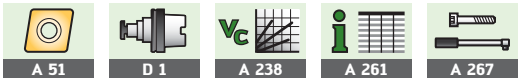




| Designation | | $D_{min}$ mm | $d_1$ mm | f mm | h mm | $l_1$ mm | γ | $λ_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| A06F-STFCR/L06 | 6 | 8,5 | 6 | 4,5 | 5 | 80 | 0° | -12,2° | TC .. 06T1 .. |
| A08H-STFCR/L06 | 6 | 11 | 8 | 5,9 | 7 | 100 | 0° | -10,2° | |
| A10K-STFCR/L09 | 9 | 13 | 10 | 7 | 9 | 125 | 0° | -9,2° | TC .. 0902 .. |
| A12M-STFCR/L11 | 11 | 16 | 12 | 9 | 11 | 150 | 0° | -6,7° | TC .. 1102 .. |
| A16R-STFCR/L11 | 11 | 20 | 16 | 11 | 15 | 200 | 0° | -4,5° | |
| A20S-STFCR/L11 | 11 | 25 | 20 | 13 | 18 | 250 | 0° | -2,8° | |
| A25T-STFCR/L16 | 16 | 32 | 25 | 17 | 23 | 300 | 0° | -3,4° | TC .. 16T3 .. |
| A32T-STFCR/L16 | 16 | 40 | 32 | 22 | 30 | 300 | 0° | -7,9° | |
| A06F-STFCR/L06-R | 6 | 8,5 | 6 | 4,5 | | 80 | 0° | -12,2° | TC .. 06T1 .. |
| E06H-STFCR/L06-R | 6 | 8,5 | 6 | 4,5 | | 100 | 0° | -12,2° | |
| A08H-STFCR/L06-R | 6 | 11 | 8 | 5,9 | | 100 | 0° | -10,2° | |
| E08K-STFCR/L06-R | 6 | 11 | 8 | 5,9 | | 125 | 0° | -10,2° | |
| A10K-STFCR/L09-R | 9 | 13 | 10 | 7 | | 125 | 0° | -9,2° | TC .. 0902 .. |
| E10M-STFCR/L09-R | 9 | 13 | 10 | 7 | | 150 | 0° | -9,2° | |
| E12Q-STFCR/L09-R | 9 | 16 | 12 | 9 | | 180 | 0° | -6,7° | |
| A12M-STFCR/L11-R | 11 | 16 | 12 | 9 | | 150 | 0° | -6,5° | TC .. 1102 .. |
| A16R-STFCR/L11-R | 11 | 20 | 16 | 11 | | 200 | 0° | -4,5° | |
| E16R-STFCR/L11-R | 11 | 20 | 16 | 11 | | 200 | 0° | -4° | |
| E20S-STFCR/L11-R | 11 | 25 | 20 | 13 | | 220 | 0° | -3° | |
| E25T-STFCR/L16-R | 16 | 32 | 25 | 17 | | 270 | 0° | -3° | TC .. 16T3 .. |

Measured with master insert: TC .. 06T102 / TC .. 090204 / TC .. 110204 / TC .. 16T308
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $λ_s$ – see “Technical information – ISO turning”
Ordering example, right-hand tool: A06F-STFCR06/ordering example, left-hand tool: A06F-STFCL06
Bodies and assembly parts are included in the scope of delivery.

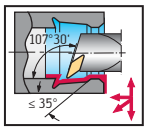
## Assembly parts

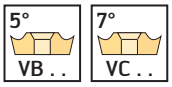
| Type<br>$D_{min}$ [mm] | TC .. 06T1 ..<br>8,5 | TC .. 06T1 ..<br>11 | TC .. 0902 ..<br>13–16 | TC .. 1102 ..<br>16 | TC .. 1102 ..<br>20–25 | TC .. 16T3 ..<br>32 | TC .. 16T3 ..<br>40 |
|---|---|---|---|---|---|---|---|
| Clamping screw for indexable insert<br>Tightening torque | FS2147<br>(Torx 6IP)<br>0,5 Nm | FS2148<br>(Torx 6IP)<br>0,5 Nm | FS2149<br>(Torx 7IP)<br>0,9 Nm | FS2067<br>(Torx 7IP)<br>0,9 Nm | FS2061<br>(Torx 7IP)<br>0,9 Nm | FS2063<br>(Torx 15IP)<br>3,0 Nm | FS2060<br>(Torx 15IP)<br>3,0 Nm |
| Shim for radius | | | | | | | AP317-TC1612<br>r ≤ 1,2 mm |
| Screw for shim | | | | | | | FS2068<br>(SW 3,5) |
|  Torx key | FS2146<br>(Torx 6IP) | FS2146<br>(Torx 6IP) | FS1490<br>(Torx 7IP) | FS1490<br>(Torx 7IP) | FS1490<br>(Torx 7IP) | FS1465<br>(Torx 15IP /<br>SW 3,5) | FS1465<br>(Torx 15IP /<br>SW 3,5) |



# Boring bar – Screw clamping
# A...-SVQB
## Walter Turn

– A = Steel version with internal coolant supply




## Tool

| Designation | | $D_{min}$ mm | $d_1$ mm | f mm | h mm | $l_1$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| A16R-SVQBR/L11 | 11 | 22 | 16 | 13 | 15 | 200 | 0° | -6,9° | VB .. 1103 .. VC .. 1103 .. |
| A20S-SVQBR/L11 | 11 | 27 | 20 | 15 | 18 | 250 | 0° | -5° | |
| A25T-SVQBR/L11 | 11 | 33 | 25 | 18 | 23 | 300 | 0° | -3,5° | |
| A32T-SVQBR/L16 | 16 | 40 | 32 | 22 | 30 | 300 | 0° | -10,9° | VB .. 1604 .. VC .. 1604 .. |
| A40T-SVQBR/L16 | 16 | 50 | 40 | 27 | 37 | 300 | 0° | -7,9° | |
| A16R-SVQBR/L11-R | 11 | 22 | 16 | 13 | | 200 | 0° | -6,9° | VB .. 1103 .. VC .. 1103 .. |
| A20S-SVQBR/L11-R | 11 | 27 | 20 | 15 | | 250 | 0° | -5,0° | |

Measured with master insert: VB .. 110304 / VB .. 160408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: A16R-SVQBR11/ordering example, left-hand tool: A16R-SVQBL11
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type | VB .. 1103 .. VC .. 1103 .. | VB .. 1604 .. VC .. 1604 .. |
|---|---|---|
| Clamping screw for indexable insert Tightening torque | FS2172 (Torx 7IP) 0,9 Nm | FS2060 (Torx 15IP) 3,0 Nm |
| Shim for radius | | AP316-VB1608 r ≤ 0,8 mm |
| Screw for shim | | FS2068 (SW 3,5) |
| Torx key | FS1490 (Torx 7IP) | FS1465 (Torx 15IP / SW 3,5) |

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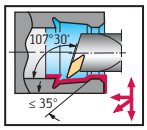
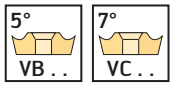
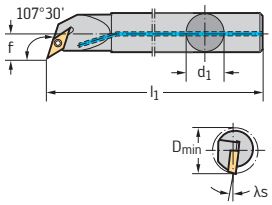
# Boring bar – Lever clamp
# A...-PVQB
## Walter Turn

– A = Steel version with internal coolant supply




## Tool




| Designation | | $D_{min}$ mm | $d_1$ mm | f mm | $l_1$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|
| A20Q-PVQBR/L11 | 11 | 25 | 20 | 13 | 180 | 0° | -6° | VB .. 1103 .. VC .. 1103 .. |
| A25R-PVQBR/L11 | 11 | 32 | 25 | 17 | 200 | 0° | -6° | |
| A32S-PVQBR/L16 | 16 | 40 | 32 | 22 | 250 | 0° | -8° | VB .. 1604 .. VC .. 1604 .. |
| A40T-PVQBR/L16 | 16 | 50 | 40 | 27 | 300 | 0° | -8° | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Measured with master insert: VB .. 110304 / VB .. 160408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: A20Q-PVQBR11/ordering example, left-hand tool: A20Q-PVQBL11
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type<br>$D_{min}$ [mm] | VB .. 1103 ..<br>VC .. 1103 ..<br>25–32 | VB .. 1604 ..<br>VC .. 1604 ..<br>40 | VB .. 1604 ..<br>VC .. 1604 ..<br>50 |
|---|---|---|---|---|
| | Shim<br>for radius | | | AP153<br>r ≤ 0,8 mm |
| | Lever | KN118 | KN114 | KN110 |
| | Clamping screw<br>Tightening torque | FS347 (SW 2)<br>0,6 Nm | FS332 (SW 2,5)<br>2,5 Nm | FS351 (SW 2,5)<br>2,0 Nm |
| | Shim pin | | | RS101 |
| | Tapered assembly pin | | | MD101 |
| | Allen key | ISO2936-2 (SW 2) | ISO2936-2,5 (SW 2,5) | ISO2936-2,5 (SW 2,5) |

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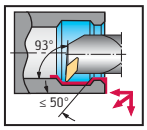
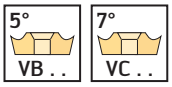
# Boring bar – Screw clamping
# A...-SVUB
# Walter Turn

– A = Steel version with internal coolant supply




## Tool

| Designation | | $D_{min}$ mm | $d_1$ mm | f mm | h mm | $l_1$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|
| A16R-SVUBR/L11 | 11 | 22 | 16 | 13 | 15 | 200 | 0° | -6,5° | VB .. 1103 .. VC .. 1103 .. |
| A20S-SVUBR/L11 | 11 | 27 | 20 | 15 | 18 | 250 | 0° | -4,7° | |
| A25T-SVUBR/L11 | 11 | 33 | 25 | 18 | 23 | 300 | 0° | -3,3° | |
| A32T-SVUBR/L16 | 16 | 40 | 32 | 22 | 30 | 300 | 0° | -9,8° | VB .. 1604 .. VC .. 1604 .. |
| A40T-SVUBR/L16 | 16 | 50 | 40 | 27 | 37 | 300 | 0° | -6,9° | |
| A16R-SVUBR/L11-R | 11 | 22 | 16 | 13 | | 200 | 0° | -6,5° | VB .. 1103 .. VC .. 1103 .. |
| A20S-SVUBR/L11-R | 11 | 27 | 20 | 15 | | 250 | 0° | -4,6° | |

Measured with master insert: VB .. 110304 / VB .. 160408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: A16R-SVUBR11/ordering example, left-hand tool: A16R-SVUBL11
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type | VB .. 1103 .. VC .. 1103 .. | VB .. 1604 .. VC .. 1604 .. |
|---|---|---|
| Clamping screw for indexable insert Tightening torque | FS2172 (Torx 7IP) 0,9 Nm | FS2060 (Torx 15IP) 3,0 Nm |
| Shim for radius | | AP316-VB1608 r ≤ 0,8 mm |
| Screw for shim | | FS2068 (SW 3,5) |
| Torx key | FS1490 (Torx 7IP) | FS1465 (Torx 15IP / SW 3,5) |

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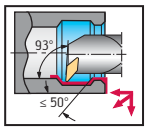
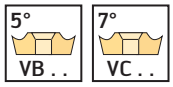
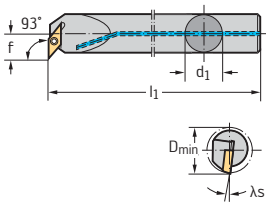
# Boring bar – Lever clamp
# A...-PVUB
# Walter Turn

– A = Steel version with internal coolant supply




## Tool




| Designation | | $D_{min}$ mm | $d_1$ mm | f mm | $l_1$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|
| A20Q-PVUBR/L11 | 11 | 25 | 20 | 13 | 180 | 0° | -6° | VB .. 1103 .. VC .. 1103 .. |
| A25R-PVUBR/L11 | 11 | 32 | 25 | 17 | 200 | 0° | -6° | |
| A32S-PVUBR/L16 | 16 | 40 | 32 | 22 | 250 | 0° | -8° | VB .. 1604 .. VC .. 1604 .. |
| A40T-PVUBR/L16 | 16 | 50 | 40 | 27 | 300 | 0° | -8° | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Measured with master insert: VB .. 110304 / VB .. 160408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: A20Q-PVUBR11/ordering example, left-hand tool: A20Q-PVUBL11
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type<br>$D_{min}$ [mm] | VB .. 1103 ..<br>VC .. 1103 ..<br>25–32 | VB .. 1604 ..<br>VC .. 1604 ..<br>40 | VB .. 1604 ..<br>VC .. 1604 ..<br>50 |
|---|---|---|---|---|
| | Shim<br>for radius | | | AP153<br>r ≤ 0,8 mm |
| | Lever | KN118 | KN114 | KN110 |
| | Clamping screw<br>Tightening torque | FS347 (SW 2)<br>0,6 Nm | FS332 (SW 2,5)<br>2,5 Nm | FS351 (SW 2,5)<br>2,0 Nm |
| | Shim pin | | | RS101 |
| | Tapered assembly pin | | | MD101 |
| | Allen key | ISO2936-2 (SW 2) | ISO2936-2,5 (SW 2,5) | ISO2936-2,5 (SW 2,5) |

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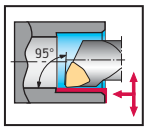
# Boring bar – Screw clamping
# A...-SWLC
# Walter Turn

– A = Steel version with internal coolant supply



## Tool

| Designation | $D_{min}$ mm | $d_1$ mm | f mm | h mm | $l_1$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|
| A10K-SWLCR/L04 | 4 | 12 | 10 | 7 | 9 | 125 | 0° | -10° | WC .. 0402 .. |
| A12M-SWLCR/L04 | 4 | 16 | 12 | 9 | 11 | 150 | 0° | -7° | |
| A16R-SWLCR/L04 | 4 | 20 | 16 | 11 | 15 | 200 | 0° | -5° | |
| A20S-SWLCR/L06 | 6 | 25 | 20 | 13 | 18 | 250 | 0° | -6° | WC .. 06T3 .. |
| A25T-SWLCR/L06 | 6 | 32 | 25 | 17 | 23 | 300 | 0° | -3,5° | |
| A32T-SWLCR/L06 | 6 | 40 | 32 | 22 | 30 | 300 | 0° | -5,5° | |
| A25T-SWLCR/L08 | 8 | 32 | 25 | 17 | 23 | 300 | 0° | -4° | WC .. 0804 .. |
| A32T-SWLCR/L08 | 8 | 40 | 32 | 22 | 30 | 300 | 0° | -9° | |
| A10K-SWLCR/L04-R | 4 | 13 | 10 | 7 | | 125 | 0° | -10° | WC .. 0402 .. |
| A12M-SWLCR/L04-R | 4 | 16 | 12 | 9 | | 150 | 0° | -7° | |
| A16R-SWLCR/L04-R | 4 | 20 | 16 | 11 | | 200 | 0° | -5° | |
| A20S-SWLCR/L06-R | 6 | 25 | 20 | 13 | | 250 | 0° | -6° | WC .. 06T3 .. |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Measured with master insert: WC .. 040204 / WC .. 06T308 / WC .. 080408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: A10K-SWLCR04/ordering example, left-hand tool: A10K-SWLCL04
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type<br>$D_{min}$ [mm] | WC .. 0402 ..<br>12–20 | WC .. 06T3 ..<br>25–32 | WC .. 06T3 ..<br>40 | WC .. 0804 ..<br>32 | WC .. 0804 ..<br>40 |
|---|---|---|---|---|---|
| Clamping screw for indexable insert<br>Tightening torque | FS2067<br>(Torx 7IP)<br>0,9 Nm | FS2062<br>(Torx 15IP)<br>3,0 Nm | FS2063<br>(Torx 15IP)<br>3,0 Nm | FS2064<br>(Torx 15IP)<br>3,0 Nm | FS2065<br>(Torx 15IP)<br>3,0 Nm |
| Shim | | | AP318-WC0608 | | AP320-WC0812 |
| Screw for shim | | | FS2068 (SW 3,5) | | FS2069 (SW 4) |
| Torx key | FS1490<br>(Torx 7IP) | FS1465<br>(Torx 15IP /<br>SW 3,5) | FS1465<br>(Torx 15IP /<br>SW 3,5) | FS1496<br>(Torx 15IP /<br>SW 4) | FS1496<br>(Torx 15IP /<br>SW 4) |

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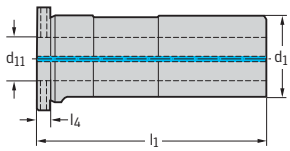
# Boring bar adaptor
# AK600

## Walter Turn

– With Weldon shank in accordance with DIN 9766
– Self-centring for cylindrical round shank

| Tool | Designation | $d_1$ mm | $d_{11}$ mm | $l_1$ mm | $l_4$ mm | kg |
|---|---|---|---|---|---|---|
| Parallel shank with surface in accordance with ISO 9766 | AK600.25.061.06 | 25 | 6 | 61 | 5 | 0,2 |
| | AK600.25.061.08 | 25 | 8 | 61 | 5 | 0,2 |
| | AK600.25.061.10 | 25 | 10 | 61 | 5 | 0,2 |
| | AK600.25.061.12 | 25 | 12 | 61 | 5 | 0,1 |
| | AK600.25.061.16 | 25 | 16 | 61 | 5 | 0,2 |
| | AK600.32.085.06 | 32 | 6 | 85 | 5 | 0,6 |
| | AK600.32.085.08 | 32 | 8 | 85 | 5 | 0,5 |
| | AK600.32.085.10 | 32 | 10 | 85 | 5 | 0,5 |
| | AK600.32.085.12 | 32 | 12 | 85 | 5 | 0,5 |
| | AK600.32.085.16 | 32 | 16 | 85 | 5 | 0,4 |
| | AK600.32.085.20 | 32 | 20 | 85 | 5 | 0,3 |
| | AK600.40.105.06 | 40 | 6 | 105 | 5 | 1,0 |
| | AK600.40.105.08 | 40 | 8 | 105 | 5 | 1,0 |
| | AK600.40.105.10 | 40 | 10 | 105 | 5 | 0,9 |
| | AK600.40.105.12 | 40 | 12 | 105 | 5 | 0,9 |
| | AK600.40.105.16 | 40 | 16 | 105 | 5 | 0,9 |
| | AK600.40.105.20 | 40 | 20 | 105 | 5 | 0,8 |
| | AK600.40.105.25 | 40 | 25 | 105 | 5 | 0,7 |

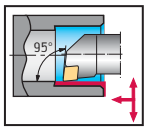



Note: Groove for self-centring is present on all Walter Turn boring bars with fully rounded shank (-R) dia. 6-25 mm.

D 1 A 267 A 191

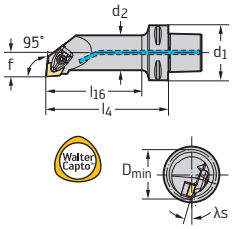
# Boring bar – Rigid clamping
# C...-DCLN
# Walter Turn

– Walter Capto™



## Tool

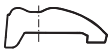
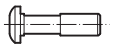
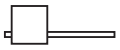
Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | $D_{min}$ mm | $d_2$ mm | f mm | $l_4$ mm | $l_{16}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|---|
| C4-DCLNR/L-17090-12 | 12 | C4 | 32 | 25 | 17 | 90 | 68 | -6° | -12° | |
| C5-DCLNR/L-17090-12 | 12 | C5 | 32 | 25 | 17 | 90 | 66 | -6° | -12° | CN .. 1204 .. |
| C6-DCLNR/L-17100-12 | 12 | C6 | 32 | 25 | 17 | 100 | 72 | -6° | -12° | |
| C6-DCLNR/L-27140-16 | 16 | C6 | 50 | 40 | 27 | 140 | 114 | -6° | -16° | CN .. 1606 .. |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

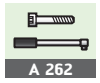
Measured with master insert: CN .. 120408 / CN .. 160612
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: C4-DCLNR-17090-12/ordering example, left-hand tool: C4-DCLNL-17090-12
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | CN .. 1204 .. | CN .. 1606 .. |
|---|---|---|---|
| | Shim | AP354-CN12 | AP302-CN16 |
| | Screw for shim<br>Tightening torque | FS1461 (Torx 15IP)<br>2,5 Nm | FS1463 (Torx 20IP)<br>5,0 Nm |
|  | Clamp | PK241 | PK242 |
|  | Clamp screw<br>Tightening torque | FS1473 (Torx 15IP)<br>3,9 Nm | FS1474 (Torx 20IP)<br>6,4 Nm |
| | Pressure spring | FS1470 | FS1471 |
|  | Pin | RS117 | RS117 |
|  | Torx key | FS1465 (Torx 15IP / SW 3,5) | FS1464 (Torx 20IP) |

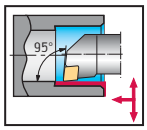
## Accessories

| | Type | CN .. 1204 .. | CN .. 1606 .. |
|---|---|---|---|
| | Clamp set<br>(standard assembly parts) | PK241 SET | PK242 SET |
| | Carbide clamp set<br>Insert with hole | PK245 SET | PK246 SET |
| | Carbide clamp set<br>Insert without hole | PK254 SET | |



# Boring bar – Lever clamp
# C...-PCLN
# Walter Turn

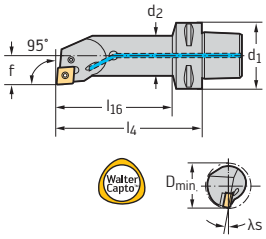
– Walter Capto™




CN . .  CN . .

## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | $D_{min}$ mm | $d_2$ mm | f mm | $l_4$ mm | $l_{16}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|---|
| C3-PCLNR/L-17090-12 | 12 | C3 | 32 | 25 | 17 | 90 | 75 | -6° | -11° | CN .. 1204 .. |
| C3-PCLNR/L-22096-12 | 12 | C3 | 40 | 32 | 22 | 96 | 82 | -6° | -11° | |
| C4-PCLNR/L-17090-12 | 12 | C4 | 32 | 25 | 17 | 90 | 69 | -6° | -11° | |
| C4-PCLNR/L-22110-12 | 12 | C4 | 40 | 32 | 22 | 110 | 89 | -6° | -11° | |
| C4-PCLNR/L-27080-12 | 12 | C4 | 50 | 40 | 27 | 80 | 60 | -6° | -10° | |
| C4-PCLNR/L-27120-12 | 12 | C4 | 50 | 40 | 27 | 120 | 100 | -6° | -11° | |
| C5-PCLNR/L-17090-12 | 12 | C5 | 32 | 25 | 17 | 90 | 67 | -6° | -11° | |
| C5-PCLNR/L-22110-12 | 12 | C5 | 40 | 32 | 22 | 110 | 88 | -6° | -11° | |
| C5-PCLNR/L-27140-12 | 12 | C5 | 50 | 40 | 27 | 140 | 119 | -6° | -10° | |
| C5-PCLNR/L-35100-12 | 12 | C5 | 63 | 50 | 35 | 100 | 81 | -6° | -7° | |
| C6-PCLNR/L-17100-12 | 12 | C6 | 32 | 25 | 17 | 100 | 74 | -6° | -11° | |
| C6-PCLNR/L-22110-12 | 12 | C6 | 40 | 32 | 22 | 110 | 84 | -6° | -11° | |
| C5-PCLNR/L-35150-16 | 16 | C5 | 63 | 50 | 35 | 150 | 131 | -6° | -11° | CN .. 1606 .. |
| C6-PCLNR/L-27140-16 | 16 | C6 | 50 | 40 | 27 | 140 | 115 | -6° | -11° | |
| C6-PCLNR/L-35175-16 | 16 | C6 | 63 | 50 | 35 | 175 | 152 | -6° | -11° | |

Measured with master insert: CN .. 120408 / CN .. 160612
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: C3-PCLNR-17090-12/ordering example, left-hand tool: C3-PCLNL-17090-12
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type<br>$D_{min}$ [mm] | CN .. 1204 ..<br>32 | CN .. 1204 ..<br>40–63 | CN .. 1606 ..<br>50–63 |
|---|---|---|---|
| Shim<br>for radius | | AP134-CN1216<br>r ≤ 1,6 mm | AP135-CN1624<br>r ≤ 2,4 mm |
| Lever | KN109 | KN102 | KN104 |
| Clamping screw<br>Tightening torque | FS332 (SW 2,5)<br>2,5 Nm | FS352 (SW 3)<br>5,0 Nm | FS354 (SW 3)<br>5,0 Nm |
| Shim pin | | RS102 | RS103 |
| Tapered assembly pin | | MD101 | MD102 |
| Allen key | ISO2936-2,5 (SW 2,5) | ISO2936-3 (SW 3) | ISO2936-3 (SW 3) |

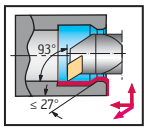
## Accessories

| Type | CN .. 1204 .. | CN .. 1606 .. |
|---|---|---|
| Shim<br>for radius | AP134-CN1208<br>r ≤ 0,8 mm | AP135-CN1616<br>r ≤ 1,6 mm |

A 20  D 1  A 234  A 261

# Boring bar – Rigid clamping
# C...-DDUN
# Walter Turn

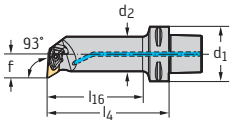
– Walter Capto™

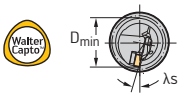



DN . .

## Tool

Walter Capto™ in accordance with ISO 26623

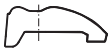
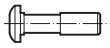
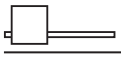



| Designation | | $d_1$ | $D_{min}$ mm | $d_2$ mm | f mm | $l_4$ mm | $l_{16}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|---|
| C4-DDUNR/L-17090-11 | 11 | C4 | 32 | 25 | 17 | 90 | 68 | -6° | -12° | DN .. 1104 .. |
| C5-DDUNR/L-17090-11 | 11 | C5 | 32 | 25 | 17 | 90 | 66 | -6° | -12° | |
| C4-DDUNR/L-27080-15 | 15 | C4 | 50 | 40 | 27 | 80 | 59 | -6° | -11° | DN .. 1506 .. |
| C5-DDUNR/L-27140-15 | 15 | C5 | 50 | 40 | 27 | 140 | 118 | -6° | -11° | |
| C6-DDUNR/L-27140-15 | 15 | C6 | 50 | 40 | 27 | 140 | 114 | -6° | -11° | |

Measured with master insert: DN .. 110408 / DN .. 150608
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: C4-DDUNR-17090-11/ordering example, left-hand tool: C4-DDUNL-17090-11
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | DN .. 1104 .. | DN .. 1506 .. |
|---|---|---|---|
| | Shim | AP305-DN11 | AP304-DN15 |
| | Screw for shim<br>Tightening torque | FS1462 (Torx 9IP)<br>1,5 Nm | FS1461 (Torx 15IP)<br>2,5 Nm |
|  | Clamp | PK240 | PK241 |
|  | Clamp screw<br>Tightening torque | FS1472 (Torx 9IP)<br>1,7 Nm | FS1473 (Torx 15IP)<br>3,9 Nm |
| | Pressure spring | FS1469 | FS1470 |
|  | Pin | RS116 | RS117 |
|  | Torx key | FS1466 (Torx 9IP) | FS1465 (Torx 15IP / SW 3,5) |

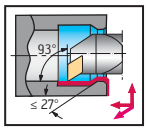
## Accessories

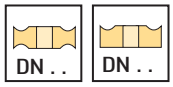
| | Type | DN .. 1104 .. | DN .. 1506 .. |
|---|---|---|---|
| | Clamp set<br>(standard assembly parts) | PK240 SET | PK241 SET |
| | Carbide clamp set<br>Insert with hole | | PK245 SET |
| | Carbide clamp set<br>Insert without hole | | PK254 SET |
| | Shim for DN .. 1504 .. | | AP304-DN1504 |

A 24 D 1 A 234 A 261 A 262

# Boring bar – Lever clamp
# C...-PDUN
# Walter Turn

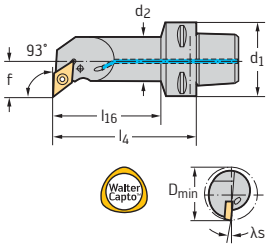
– Walter Capto™




## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | $D_{min}$ mm | $d_2$ mm | f mm | $l_4$ mm | $l_{16}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|---|
| C3-PDUNR/L-17090-11 | 11 | C3 | 32 | 25 | 17 | 90 | 75 | -6° | -11° | DN .. 1104 .. |
| C3-PDUNR/L-22064-11 | 11 | C3 | 40 | 32 | 22 | 64 | 49 | -6° | -10° | |
| C3-PDUNR/L-22096-11 | 11 | C3 | 40 | 32 | 22 | 96 | 81 | -6° | -10° | |
| C4-PDUNR/L-17090-11 | 11 | C4 | 32 | 25 | 17 | 90 | 69 | -6° | -11° | |
| C4-PDUNR/L-22110-11 | 11 | C4 | 40 | 32 | 22 | 110 | 89 | -6° | -10° | |
| C5-PDUNR/L-17090-11 | 11 | C5 | 32 | 25 | 17 | 90 | 67 | -6° | -11° | |
| C5-PDUNR/L-22110-11 | 11 | C5 | 40 | 32 | 22 | 110 | 88 | -6° | -10° | |
| C6-PDUNR/L-17100-11 | 11 | C6 | 32 | 25 | 17 | 100 | 74 | -6° | -11° | |
| C4-PDUNR/L-27080-15 | 15 | C4 | 50 | 40 | 27 | 80 | 60 | -6° | -11° | DN .. 1506 .. |
| C4-PDUNR/L-27120-15 | 15 | C4 | 50 | 40 | 27 | 120 | 100 | -6° | -11° | |
| C5-PDUNR/L-27140-15 | 15 | C5 | 50 | 40 | 27 | 140 | 119 | -6° | -11° | |
| C5-PDUNR/L-35100-15 | 15 | C5 | 63 | 50 | 35 | 100 | 81 | -6° | -10° | |
| C5-PDUNR/L-35150-15 | 15 | C5 | 63 | 50 | 35 | 150 | 131 | -6° | -10° | |
| C6-PDUNR/L-27140-15 | 15 | C6 | 50 | 40 | 27 | 140 | 115 | -6° | -11° | |
| C6-PDUNR/L-35175-15 | 15 | C6 | 63 | 50 | 35 | 175 | 152 | -6° | -10° | |

Measured with master insert: DN .. 110408 / DN .. 150608
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: C3-PDUNR-17090-11/ordering example, left-hand tool: C3-PDUNL-17090-11
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type<br>$D_{min}$ [mm] | DN .. 1104 ..<br>32 | DN .. 1104 ..<br>40 | DN .. 1506 ..<br>50–63 |
|---|---|---|---|---|
| | Shim<br>for radius | | AP171-DN1112<br>r ≤ 1,2 mm | AP145-DN1516<br>r ≤ 1,6 mm |
| | Lever | KN120 | KN119 | KN103 |
| | Clamping screw<br>Tightening torque | FS905 (SW 2)<br>2,0 Nm | FS351 (SW 2,5)<br>2,0 Nm | FS355 (SW 3)<br>5,0 Nm |
| | Shim pin | | RS101 | RS102 |
| | Tapered assembly pin | | MD101 | MD101 |
| | Allen key | ISO2936-2 (SW 2) | ISO2936-2,5 (SW 2,5) | ISO2936-3 (SW 3) |

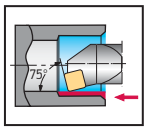
## Accessories

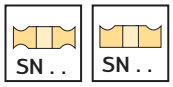
| | Type | DN .. 1104 .. | DN .. 1506 .. |
|---|---|---|---|
| | Shim<br>for radius | AP171-DN1108<br>r ≤ 0,8 mm | AP145-DN1508<br>r ≤ 0,8 mm |
| | Shim for DN .. 1504 ..<br>for radius | | AP357-DN1508<br>r ≤ 0,8 mm |
| | Shim for DN .. 1504 ..<br>for radius | | AP357-DN1516<br>r ≤ 1,6 mm |

A 24 D 1 A 234 A 261

# Boring bar – Lever clamp
# C...-PSKN
## Walter Turn

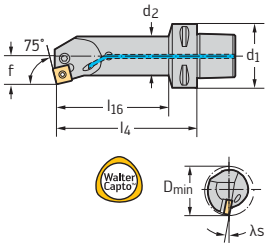
– Walter Capto™




## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | $D_{min}$ mm | $d_2$ mm | f mm | $l_4$ mm | $l_{16}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|---|
| C4-PSKNR/L-17090-12 | 12 | C4 | 32 | 25 | 17 | 90 | 69 | -6° | -11° | |
| C5-PSKNR/L-17090-12 | 12 | C5 | 32 | 25 | 17 | 90 | 67 | -6° | -11° | SN .. 1204 .. |
| C5-PSKNR/L-27140-12 | 12 | C5 | 50 | 40 | 27 | 140 | 119 | -6° | -10° | |
| C6-PSKNR/L-35175-15 | 15 | C6 | 63 | 50 | 35 | 175 | 152 | -6° | -9° | SN .. 1506 .. |

Measured with master insert: SN .. 120408 / SN .. 150608
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: C4-PSKNR-17090-12/ordering example, left-hand tool: C4-PSKNL-17090-12
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type<br>$D_{min}$ [mm] | SN .. 1204 ..<br>32 | SN .. 1204 ..<br>50 | SN .. 1506 ..<br>63 |
|---|---|---|---|
| Shim<br>for radius | | AP141-SN1216<br>r ≤ 1,6 mm | AP142-SN1524<br>r ≤ 2,4 mm |
| Lever | KN109 | KN102 | KN104 |
| Clamping screw<br>Tightening torque | FS332 (SW 2,5)<br>2,5 Nm | FS352 (SW 3)<br>5,0 Nm | FS354 (SW 3)<br>5,0 Nm |
| Shim pin | | RS102 | RS103 |
| Tapered assembly pin | | MD101 | MD102 |
| Allen key | ISO2936-2,5 (SW 2,5) | ISO2936-3 (SW 3) | ISO2936-3 (SW 3) |

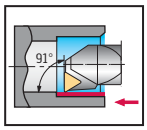
## Accessories

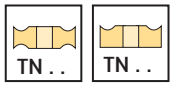
| Type | SN .. 1204 .. | SN .. 1506 .. |
|---|---|---|
| Shim<br>for radius | AP141-SN1208<br>r ≤ 0,8 mm | AP142-SN1516<br>r ≤ 1,6 mm |

A 27 D 1 A 234 A 261

# Boring bar – Lever clamp
# C...-PTFN
## Walter Turn

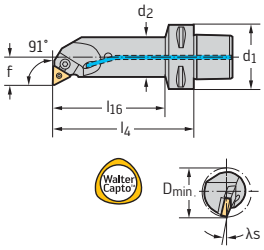
– Walter Capto™




## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | $D_{min}$ mm | $d_2$ mm | f mm | $l_4$ mm | $l_{16}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|---|
| C4-PTFNR/L-17090-16W | 16 | C4 | 32 | 25 | 17 | 90 | 69 | -6° | -13° | |
| C4-PTFNR/L-22110-16W | 16 | C4 | 40 | 32 | 22 | 110 | 89 | -6° | -12° | |
| C4-PTFNR/L-27120-16W | 16 | C4 | 50 | 40 | 27 | 120 | 100 | -6° | -11° | |
| C5-PTFNR/L-17090-16W | 16 | C5 | 32 | 25 | 17 | 90 | 67 | -6° | -13° | TN .. 1604 .. |
| C5-PTFNR/L-22110-16W | 16 | C5 | 40 | 32 | 22 | 110 | 88 | -6° | -12° | |
| C5-PTFNR/L-27140-16W | 16 | C5 | 50 | 40 | 27 | 140 | 119 | -6° | -11° | |
| C6-PTFNR/L-22110-16W | 16 | C6 | 40 | 32 | 22 | 110 | 84 | -6° | -12° | |
| C5-PTFNR/L-35150-22W | 22 | C5 | 63 | 50 | 35 | 150 | 131 | -6° | -11° | |
| C6-PTFNR/L-27140-22W | 22 | C6 | 50 | 40 | 27 | 140 | 115 | -6° | -11° | TN .. 2204 .. |
| C6-PTFNR/L-35175-22W | 22 | C6 | 63 | 50 | 35 | 175 | 152 | -6° | -10° | |

Measured with master insert: TN .. 160408 / TN .. 220408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: C4-PTFNR-17090-16W/ordering example, left-hand tool: C4-PTFNL-17090-16W
Bodies and assembly parts are included in the scope of delivery.

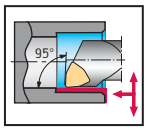
## Assembly parts

| Type<br>$D_{min}$ [mm] | TN .. 1604 ..<br>32 | TN .. 1604 ..<br>40–50 | TN .. 2204 ..<br>50–63 |
|---|---|---|---|
| Shim for radius | | AP147<br>r ≤ 1,6 mm | AP148<br>r ≤ 1,6 mm |
| Wedge set | FK307 (SW 3) | FK308 (SW 3) | FK309 (SW 4) |
| Pin | RS113 | RS114 | RS115 |
| Screw | FS1156 (Torx 9IP) | FS1156 (Torx 9IP) | FS1158 (Torx 15IP) |
| Allen key | ISO2936-3 (SW 3) | ISO2936-3 (SW 3) | ISO2936-4 (SW 4) |

A 30 D 1 A 234 A 261

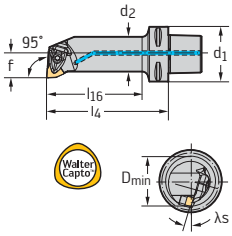
# Boring bar – Rigid clamping
# C...-DWLN
# Walter Turn

– Walter Capto™



## Tool

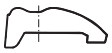
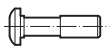
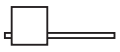
Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | $D_{min}$ mm | $d_2$ mm | f mm | $l_4$ mm | $l_{16}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|---|
| C4-DWLNR/L-13075-06 | 6 | C4 | 27 | 20 | 13 | 75 | 52 | -6° | -17° | WN .. 0604 .. |
| C4-DWLNR/L-17090-08 | 8 | C4 | 33 | 25 | 17 | 90 | 68 | -6° | -12° | WN .. 0804 .. |
| C5-DWLNR/L-17090-08 | 8 | C5 | 33 | 25 | 17 | 90 | 66 | -6° | -12° | |
| C6-DWLNR/L-27140-10 | 10 | C6 | 50 | 40 | 27 | 140 | 114 | -6° | -16° | WN .. 1006 .. |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

Measured with master insert: WN .. 060408 / WN .. 080408 / WN .. 100612
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: C4-DWLNR-13075-06/ordering example, left-hand tool: C4-DWLNL-13075-06
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | WN .. 0604 .. | WN .. 0804 .. | WN .. 1006 .. |
|---|---|---|---|---|
| | Shim | AP306-WN06 | AP331-WN08 | AP311-WN10 |
| | Screw for shim<br>Tightening torque | FS1462 (Torx 9IP)<br>1,5 Nm | FS1461 (Torx 15IP)<br>2,5 Nm | FS1463 (Torx 20IP)<br>5,0 Nm |
|  | Clamp | PK240 | PK241 | PK242 |
|  | Clamp screw<br>Tightening torque | FS1472 (Torx 9IP)<br>1,7 Nm | FS1473 (Torx 15IP)<br>3,9 Nm | FS1474 (Torx 20IP)<br>6,4 Nm |
| | Pressure spring | FS1469 | FS1470 | FS1471 |
|  | Pin | RS116 | RS117 | RS117 |
|  | Torx key | FS1466 (Torx 9IP) | FS1465 (Torx 15IP / SW 3,5) | FS1464 (Torx 20IP) |

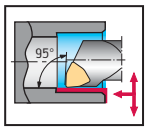
## Accessories

| | Type | WN .. 0604 .. | WN .. 0804 .. | WN .. 1006 .. |
|---|---|---|---|---|
| | Clamp set<br>(standard assembly parts) | PK240 SET | PK241 SET | PK242 SET |
| | Carbide clamp set<br>Insert with hole | | PK245 SET | PK246 SET |
| | Carbide clamp set<br>Insert without hole | | PK254 SET | |

A 34 D 1 A 234 A 261 A 262

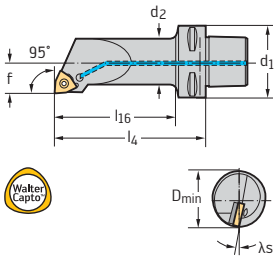
# Boring bar – Lever clamp
# C...-PWLN
# Walter Turn

– Walter Capto™



## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | $D_{min}$ mm | $d_2$ mm | f mm | $l_4$ mm | $l_{16}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|---|
| C3-PWLNR/L-13075-06 | 6 | C3 | 25 | 20 | 13 | 75 | 58 | -6° | -15° | WN .. 0604 .. |
| C4-PWLNR/L-13075-06 | 6 | C4 | 25 | 20 | 13 | 75 | 52 | -6° | -15° | |
| C4-PWLNR/L-17090-06 | 6 | C4 | 32 | 25 | 17 | 90 | 68 | -6° | -10° | |
| C5-PWLNR/L-22110-06 | 6 | C5 | 40 | 32 | 22 | 110 | 88 | -6° | -12° | |
| C3-PWLNR/L-17090-08 | 8 | C3 | 32 | 25 | 17 | 90 | 74 | -6° | -10° | WN .. 0804 .. |
| C4-PWLNR/L-17090-08 | 8 | C4 | 32 | 25 | 17 | 90 | 67 | -6° | -10° | |
| C4-PWLNR/L-22110-08 | 8 | C4 | 40 | 32 | 22 | 110 | 89 | -6° | -10° | |
| C4-PWLNR/L-27120-08 | 8 | C4 | 50 | 40 | 27 | 120 | 100 | -6° | -10° | |
| C5-PWLNR/L-17090-08 | 8 | C5 | 32 | 25 | 17 | 90 | 67 | -6° | -10° | |
| C5-PWLNR/L-22110-08 | 8 | C5 | 40 | 32 | 22 | 110 | 88 | -6° | -14° | |
| C5-PWLNR/L-27140-08 | 8 | C5 | 50 | 40 | 27 | 140 | 119 | -6° | -10° | |
| C6-PWLNR/L-27140-08 | 8 | C6 | 50 | 40 | 27 | 140 | 115 | -6° | -10° | |
| C6-PWLNR/L-35175-08 | 8 | C6 | 63 | 50 | 35 | 175 | 152 | -6° | -10° | |

Measured with master insert: WN .. 060408 / WN .. 080408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: C3-PWLNR-13075-06/ordering example, left-hand tool: C3-PWLNL-13075-06
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type $D_{min}$ [mm] | WN .. 0604 .. 25–32 | WN .. 0604 .. 40 | WN .. 0804 .. 32 | WN .. 0804 .. 40 | WN .. 0804 .. 50–63 |
|---|---|---|---|---|---|
| Shim for radius | | AP172-WN0612 r ≤ 1,2 mm | | AP170-WN0816 r ≤ 1,6 mm | AP170-WN0816 r ≤ 1,6 mm |
| Lever | KN108 | KN101 | KN109 | KN121 | KN102 |
| Clamping screw Tightening torque | FS331 (SW 2) 2,0 Nm | FS351 (SW 2,5) 2,0 Nm | FS332 (SW 2,5) 2,5 Nm | FS2129 (SW 3) 5,0 Nm | FS352 (SW 3) 5,0 Nm |
| Shim pin | | RS101 | | RS102 | RS102 |
| Tapered assembly pin | | MD101 | | MD101 | MD101 |
| Allen key | ISO2936-2 (SW 2) | ISO2936-2,5 (SW 2,5) | ISO2936-2,5 (SW 2,5) | ISO2936-3 (SW 3) | ISO2936-3 (SW 3) |

## Accessories

| Type | WN .. 0804 .. |
|---|---|
| Shim for radius | AP170-WN0808 r ≤ 0,8 mm |

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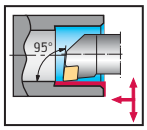
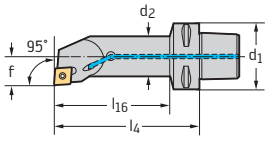
# Boring bar – Screw clamping
# C...-SCLC
# Walter Turn

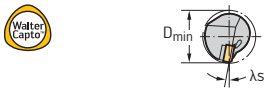
– Walter Capto™



## Tool

Walter Capto™ in accordance with ISO 26623

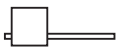



| Designation | | $d_1$ | $D_{min}$ mm | $d_2$ mm | f mm | $l_4$ mm | $l_{16}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|---|
| C3-SCLCR/L-11065-09 | 9 | C3 | 20 | 16 | 11 | 65 | 48 | 0° | -8° | CC .. 09T3 .. |
| C3-SCLCR/L-13075-09 | 9 | C3 | 25 | 20 | 13 | 75 | 58 | 0° | -6° | |
| C3-SCLCR/L-17090-09 | 9 | C3 | 32 | 25 | 17 | 90 | 74 | 0° | -3° | |
| C4-SCLCR/L-11070-09 | 9 | C4 | 20 | 16 | 11 | 70 | 47 | 0° | -8° | |
| C4-SCLCR/L-13080-09 | 9 | C4 | 25 | 20 | 13 | 80 | 57 | 0° | -6° | |
| C4-SCLCR/L-17090-09 | 9 | C4 | 32 | 25 | 17 | 90 | 68 | 0° | -3° | |
| C4-SCLCR/L-27080-09 | 9 | C4 | 50 | 40 | 27 | 80 | 60 | 0° | -6° | |
| C5-SCLCR/L-11070-09 | 9 | C5 | 20 | 16 | 11 | 70 | 46 | 0° | -8° | |
| C5-SCLCR/L-13080-09 | 9 | C5 | 25 | 20 | 13 | 80 | 56 | 0° | -6° | |
| C5-SCLCR/L-17090-09 | 9 | C5 | 32 | 25 | 17 | 90 | 67 | 0° | -3° | |
| C5-SCLCR/L-35100-09 | 9 | C5 | 63 | 50 | 35 | 100 | 80 | 0° | -5° | |
| C4-SCLCR/L-17090-12 | 12 | C4 | 32 | 25 | 17 | 90 | 68 | 0° | -5° | CC .. 1204 .. |
| C4-SCLCR/L-22110-12 | 12 | C4 | 40 | 32 | 22 | 110 | 89 | 0° | -10° | |
| C4-SCLCR/L-27080-12 | 12 | C4 | 50 | 40 | 27 | 80 | 60 | 0° | -7° | |
| C5-SCLCR/L-17090-12 | 12 | C5 | 32 | 25 | 17 | 90 | 67 | 0° | -5° | |
| C5-SCLCR/L-22110-12 | 12 | C5 | 40 | 32 | 22 | 110 | 88 | 0° | -10° | |
| C5-SCLCR/L-27140-12 | 12 | C5 | 50 | 40 | 27 | 140 | 119 | 0° | -7° | |

Measured with master insert: CC .. 09T308 / CC .. 120408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: C3-SCLCR-11065-09/ordering example, left-hand tool: C3-SCLCL-11065-09
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type<br>$D_{min}$ [mm] | CC .. 09T3 ..<br>20–25 | CC .. 09T3 ..<br>32 | CC .. 09T3 ..<br>50–63 | CC .. 1204 ..<br>32 | CC .. 1204 ..<br>40–50 |
|---|---|---|---|---|---|
| Clamping screw for indexable insert<br>Tightening torque | FS2062<br>(Torx 15IP)<br>3,0 Nm | FS2063<br>(Torx 15IP)<br>3,0 Nm | FS2060<br>(Torx 15IP)<br>3,0 Nm | FS2064<br>(Torx 15IP)<br>3,0 Nm | FS2065<br>(Torx 15IP)<br>3,0 Nm |
| Shim<br>for radius | | | AP313-CC0908<br>r ≤ 0,8 mm | | AP314-CC1212<br>r ≤ 1,2 mm |
| Screw for shim | | | FS2068 (SW 3,5) | | FS2069 (SW 4) |
|  Torx key | FS1465<br>(Torx 15IP /<br>SW 3,5) | FS1465<br>(Torx 15IP /<br>SW 3,5) | FS1465<br>(Torx 15IP /<br>SW 3,5) | FS1496<br>(Torx 15IP /<br>SW 4) | FS1496<br>(Torx 15IP /<br>SW 4) |

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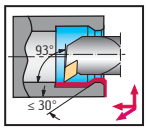
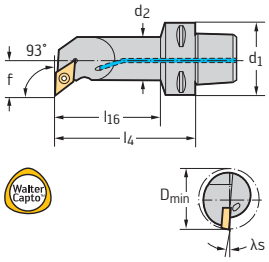
# Boring bar – Screw clamping
# C...-SDUC
## Walter Turn

– Walter Capto™



## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ | $D_{min}$ mm | $d_2$ mm | f mm | $l_4$ mm | $l_{16}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|---|
| C3-SDUCR/L-11065-07 | 7 | C3 | 20 | 16 | 11 | 65 | 48 | 0° | -4° | |
| C4-SDUCR/L-11070-07 | 7 | C4 | 20 | 16 | 11 | 70 | 47 | 0° | -4° | DC .. 0702 .. |
| C5-SDUCR/L-11070-07 | 7 | C5 | 20 | 16 | 11 | 70 | 46 | 0° | -4° | |
| C3-SDUCR/L-13075-11 | 11 | C3 | 25 | 20 | 13 | 75 | 58 | 0° | -6° | |
| C3-SDUCR/L-17090-11 | 11 | C3 | 32 | 25 | 17 | 90 | 73 | 0° | -3° | |
| C4-SDUCR/L-13080-11 | 11 | C4 | 25 | 20 | 13 | 80 | 57 | 0° | -6° | |
| C4-SDUCR/L-17090-11 | 11 | C4 | 32 | 25 | 17 | 90 | 68 | 0° | -3° | |
| C4-SDUCR/L-22110-11 | 11 | C4 | 40 | 32 | 22 | 110 | 89 | 0° | -8° | DC .. 11T3 .. |
| C4-SDUCR/L-27080-11 | 11 | C4 | 50 | 40 | 27 | 80 | 60 | 0° | -5° | |
| C5-SDUCR/L-13080-11 | 11 | C5 | 25 | 20 | 13 | 80 | 56 | 0° | -6° | |
| C5-SDUCR/L-17090-11 | 11 | C5 | 32 | 25 | 17 | 90 | 67 | 0° | -3° | |
| C5-SDUCR/L-22110-11 | 11 | C5 | 40 | 32 | 22 | 110 | 88 | 0° | -8° | |

Measured with master insert: DC .. 070204 / DC .. 11T308
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: C3-SDUCR-11065-07/ordering example, left-hand tool: C3-SDUCL-11065-07
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type<br>$D_{min}$ [mm] | DC .. 0702 ..<br>20 | DC .. 11T3 ..<br>25 | DC .. 11T3 ..<br>32 | DC .. 11T3 ..<br>40–50 |
|---|---|---|---|---|
| Clamping screw for indexable insert<br>Tightening torque | FS2061 (Torx 7IP)<br>0,9 Nm | FS2062 (Torx 15IP)<br>3,0 Nm | FS2063 (Torx 15IP)<br>3,0 Nm | FS2060 (Torx 15IP)<br>3,0 Nm |
| Shim<br>for radius | | | | AP315-DC1108<br>r ≤ 0,8 mm |
| Screw for shim | | | | FS2068 (SW 3,5) |
| Torx key | FS1490 (Torx 7IP) | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) |

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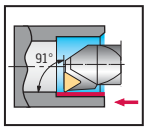
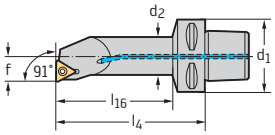
# Boring bar – Screw clamping
# C...-STFC
# Walter Turn

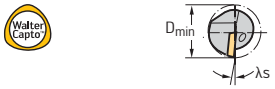
– Walter Capto™



## Tool

Walter Capto™ in accordance with ISO 26623

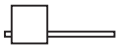



| Designation | | $d_1$ | $D_{min}$ mm | $d_2$ mm | f mm | $l_4$ mm | $l_{16}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|---|
| C3-STFCR/L-11065-11 | 11 | C3 | 20 | 16 | 11 | 65 | 48 | 0° | -12° | TC .. 1102 .. |
| C4-STFCR/L-11070-11 | 11 | C4 | 20 | 16 | 11 | 70 | 47 | 0° | -12° | |
| C4-STFCR/L-13080-11 | 11 | C4 | 25 | 20 | 13 | 80 | 57 | 0° | -10° | |
| C5-STFCR/L-11070-11 | 11 | C5 | 20 | 16 | 11 | 70 | 46 | 0° | -12° | |
| C5-STFCR/L-13080-11 | 11 | C5 | 25 | 20 | 13 | 80 | 56 | 0° | -3° | |
| C4-STFCR/L-17090-16 | 16 | C4 | 32 | 25 | 17 | 90 | 68 | 0° | -3° | TC .. 16T3 .. |
| C4-STFCR/L-22110-16 | 16 | C4 | 40 | 32 | 22 | 110 | 89 | 0° | -8° | |
| C5-STFCR/L-17090-16 | 16 | C5 | 32 | 25 | 17 | 90 | 67 | 0° | -3° | |
| C5-STFCR/L-22110-16 | 16 | C5 | 40 | 32 | 22 | 110 | 88 | 0° | -8° | |

Measured with master insert: TC .. 110204 / TC .. 16T308
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: C3-STFCR-11065-11/ordering example, left-hand tool: C3-STFCL-11065-11
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type<br>$D_{min}$ [mm] | TC .. 1102 ..<br>20–25 | TC .. 16T3 ..<br>32 | TC .. 16T3 ..<br>40 |
|---|---|---|---|---|
| | Clamping screw for indexable insert<br>Tightening torque | FS2061 (Torx 7IP)<br>0,9 Nm | FS2063 (Torx 15IP)<br>3,0 Nm | FS2060 (Torx 15IP)<br>3,0 Nm |
| | Shim<br>for radius | | | AP317-TC1612<br>r ≤ 1,2 mm |
| | Screw for shim | | | FS2068 (SW 3,5) |
|  | Torx key | FS1490 (Torx 7IP) | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) |

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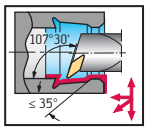
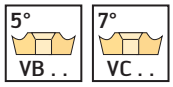
# Boring bar – Screw clamping
# C...-SVQB
## Walter Turn

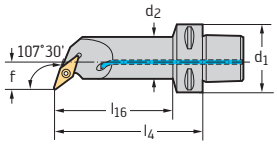
– Walter Capto™




## Tool

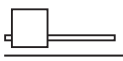
Walter Capto™ in accordance with ISO 26623



| Designation | | $d_1$ | $D_{min}$ mm | $d_2$ mm | f mm | $l_4$ mm | $l_{16}$ mm | γ | $\lambda_s$ | Type |
|---|---|---|---|---|---|---|---|---|---|---|
| C3-SVQBR/L-13070-11 | 11 | C3 | 22 | 16 | 13 | 70 | 53 | 0° | -7° | |
| C3-SVQBR/L-15080-11 | 11 | C3 | 27 | 20 | 15 | 80 | 63 | 0° | -5° | |
| C4-SVQBR/L-13070-11 | 11 | C4 | 25 | 20 | 13 | 70 | 47 | 0° | -6° | VB .. 1103 .. VC .. 1103 .. |
| C4-SVQBR/L-15080-11 | 11 | C4 | 27 | 20 | 15 | 80 | 57 | 0° | -5° | |
| C5-SVQBR/L-15080-11 | 11 | C5 | 27 | 20 | 15 | 80 | 56 | 0° | -5° | |
| C3-SVQBR/L-18090-16 | 16 | C3 | 33 | 25 | 18 | 90 | 74 | 0° | -7° | |
| C3-SVQBR/L-22096-16 | 16 | C3 | 40 | 32 | 22 | 96 | 81 | 0° | -11° | |
| C4-SVQBR/L-18090-16 | 16 | C4 | 33 | 25 | 18 | 90 | 68 | 0° | -7° | |
| C4-SVQBR/L-22110-16 | 16 | C4 | 40 | 32 | 22 | 110 | 89 | 0° | -11° | |
| C4-SVQBR/L-27080-16 | 16 | C4 | 50 | 40 | 27 | 80 | 60 | 0° | -8° | |
| C4-SVQBR/L-27120-16 | 16 | C4 | 50 | 40 | 27 | 120 | 100 | 0° | -8° | |
| C5-SVQBR/L-18090-16 | 16 | C5 | 33 | 25 | 18 | 90 | 67 | 0° | -7° | VB .. 1604 .. VC .. 1604 .. |
| C5-SVQBR/L-22110-16 | 16 | C5 | 40 | 32 | 22 | 110 | 88 | 0° | -11° | |
| C5-SVQBR/L-27140-16 | 16 | C5 | 50 | 40 | 27 | 140 | 119 | 0° | -8° | |
| C5-SVQBR/L-35100-16 | 16 | C5 | 63 | 50 | 35 | 100 | 80 | 0° | -5° | |
| C5-SVQBR/L-35150-16 | 16 | C5 | 63 | 50 | 35 | 150 | 130 | 0° | -5° | |
| C6-SVQBR/L-22120-16 | 16 | C6 | 40 | 32 | 22 | 120 | 94 | 0° | -11° | |
| C6-SVQBR/L-27145-16 | 16 | C6 | 50 | 40 | 27 | 145 | 120 | 0° | -8° | |
| C6-SVQBR/L-35175-16 | 16 | C6 | 63 | 50 | 35 | 175 | 151 | 0° | -5° | |

Measured with master insert: VB .. 110304 / VB .. 160408
For information regarding the rake angle γ (for indexable inserts without chip groove) and regarding the inclination angle $\lambda_s$ – see "Technical information – ISO turning"
Ordering example, right-hand tool: C3-SVQBR-13070-11/ordering example, left-hand tool: C3-SVQBL-13070-11
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type<br>$D_{min}$ [mm] | VB .. 1103 ..<br>VC .. 1103 ..<br>22–27 | VB .. 1604 ..<br>VC .. 1604 ..<br>33 | VB .. 1604 ..<br>VC .. 1604 ..<br>40–63 |
|---|---|---|---|---|
| | Clamping screw for indexable insert<br>Tightening torque | FS2172 (Torx 7IP)<br>0,9 Nm | FS2063 (Torx 15IP)<br>3,0 Nm | FS2060 (Torx 15IP)<br>3,0 Nm |
| | Shim<br>for radius | | AP316-VB1608<br>r ≤ 0,8 mm | AP316-VB1608<br>r ≤ 0,8 mm |
| | Screw for shim | | FS2068 (SW 3,5) | FS2068 (SW 3,5) |
|  | Torx key | FS1490 (Torx 7IP) | FS1465 (Torx 15IP / SW 3,5) | FS1465 (Torx 15IP / SW 3,5) |

## Accessories

| | Type | VB .. 1604 ..<br>VC .. 1604 .. |
|---|---|---|
| | Shim<br>for radius | AP330-VB1612<br>r ≤ 1,2 mm |

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# Cutting data for turning inserts – Negative basic shape
# Carbide grades

= Cutting data for wet machining
= Dry machining is possible

| Material group | Overview of the main material groups and code letters | | | Brinell hardness HB | Tensile strength $R_m$ N/mm² | Machining group [1] | | | Cutting material grades: Starting values for cutting speed $v_c$ [m/min] HC WPP01 0,10 | 0,20 | 0,30 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | Non-alloyed steel | C ≤ 0.25% | Annealed | 125 | 430 | P1 | ●● | ● | 530 | 510 | 480 |
| | | C > 0.25 to ≤ 0.55% | Annealed | 190 | 640 | P2 | ●● | ● | 420 | 400 | 380 |
| | | C > 0.25 to ≤ 0.55% | Heat-treated | 210 | 710 | P3 | ●● | ● | 320 | 300 | 290 |
| | | C > 0.55% | Annealed | 190 | 640 | P4 | ●● | ● | 360 | 340 | 320 |
| | | C > 0.55% | Heat-treated | 300 | 1010 | P5 | ●● | ● | 270 | 250 | 220 |
| | | Free cutting steel (short-chipping) | Annealed | 220 | 750 | P6 | ●● | ● | 500 | 480 | 460 |
| | Low-alloyed steel | Annealed | | 175 | 590 | P7 | ●● | ● | 380 | 370 | 350 |
| | | Heat-treated | | 285 | 960 | P8 | ●● | ● | 240 | 220 | 210 |
| | | Heat-treated | | 380 | 1280 | P9 | ●● | ● | 180 | 170 | 150 |
| | | Heat-treated | | 430 | 1480 | P10 | ●● | ● | 100 | 90 | 80 |
| | High-alloyed steel and high-alloyed tool steel | Annealed | | 200 | 680 | P11 | ●● | ● | 340 | 330 | 320 |
| | | Hardened and tempered | | 300 | 1010 | P12 | ●● | ● | 250 | 240 | 230 |
| | | Hardened and tempered | | 380 | 1280 | P13 | ●● | ● | 90 | 80 | 70 |
| | Stainless steel | Ferritic/martensitic, annealed | | 200 | 680 | P14 | ●● | ● | | | |
| | | Martensitic, heat-treated | | 330 | 1110 | P15 | ●● | ● | | | |
| M | Stainless steel | Austenitic, quench hardened | | 200 | 680 | M1 | ●● | ● | | | |
| | | Austenitic, precipitation hardened (PH) | | 300 | 1010 | M2 | ●● | ● | | | |
| | | Austenitic/ferritic, duplex | | 230 | 780 | M3 | ●● | ● | | | |
| K | Malleable cast iron | Ferritic | | 200 | 400 | K1 | ●● | ● | 300 | 270 | 250 |
| | | Pearlitic | | 260 | 700 | K2 | ●● | ● | 260 | 230 | 210 |
| | Grey cast iron | Low tensile strength | | 180 | 200 | K3 | ●● | ● | 550 | 490 | 440 |
| | | High tensile strength/austenitic | | 245 | 350 | K4 | ●● | ● | 300 | 270 | 250 |
| | Cast iron with spheroidal graphite | Ferritic | | 155 | 400 | K5 | ●● | ● | 320 | 290 | 260 |
| | | Pearlitic | | 265 | 700 | K6 | ●● | ● | 230 | 210 | 190 |
| | GGV (CGI) | | | 230 | 400 | K7 | ●● | ● | | | |
| N | Wrought aluminium alloys | Not hardenable | | 30 | – | N1 | | | | | |
| | | Hardenable, hardened | | 100 | 340 | N2 | | | | | |
| | Cast aluminium alloys | ≤ 12% Si, not hardenable | | 75 | 260 | N3 | | | | | |
| | | ≤ 12% Si, hardenable, hardened | | 90 | 310 | N4 | | | | | |
| | | > 12% Si, not hardenable | | 130 | 450 | N5 | | | | | |
| | Magnesium-based alloys | | | 70 | 250 | N6 | | | | | |
| | Copper and copper alloys (bronze/brass) | Non-alloyed, electrolytic copper | | 100 | 340 | N7 | | | | | |
| | | Brass, bronze, red brass | | 90 | 310 | N8 | | | | | |
| | | Cu-alloys, short-chipping | | 110 | 380 | N9 | | | | | |
| | | High-tensile, Ampco | | 300 | 1010 | N10 | | | | | |
| S | Heat-resistant alloys | Fe-based | Annealed | 200 | 680 | S1 | ●● | ● | | | |
| | | | Hardened | 280 | 940 | S2 | ●● | ● | | | |
| | | Ni or Co base | Annealed | 250 | 840 | S3 | ●● | ● | | | |
| | | | Hardened | 350 | 1180 | S4 | ●● | ● | | | |
| | | | Cast | 320 | 1080 | S5 | ●● | ● | | | |
| | Titanium alloys | Pure titanium | | 200 | 680 | S6 | ●● | ● | | | |
| | | α and β alloys, hardened | | 375 | 1260 | S7 | ●● | ● | | | |
| | | β alloys | | 410 | 1400 | S8 | ●● | ● | | | |
| | Tungsten alloys | | | 300 | 1010 | S9 | | | | | |
| | Molybdenum alloys | | | 300 | 1010 | S10 | | | | | |
| H | Hardened steel | Hardened and tempered | | 50 HRC | | H1 | ● | ●● | | | |
| | | Hardened and tempered | | 55 HRC | | H2 | ● | ●● | | | |
| | | Hardened and tempered | | 60 HRC | | H3 | ● | ●● | | | |
| | Hardened cast iron | Hardened and tempered | | 55 HRC | | H4 | ● | ●● | | | |
| O | Thermoplastics | Without abrasive fillers | | | | O1 | | | | | |
| | Thermosetting plastics | Without abrasive fillers | | | | O2 | | | | | |
| | Plastic, glass fibre reinforced | GFRP | | | | O3 | | | | | |
| | Plastic, carbon fibre reinforced | CFRP | | | | O4 | | | | | |
| | Plastic, aramid fibre reinforced | AFRP | | | | O5 | | | | | |
| | Graphite (technical) | | | 80 Shore | | O6 | | | | | |

●● Recommended application (the specified cutting data is regarded as starting values for the recommended application)
● Possible application

**Note:**
If dry machining is possible, the tool life is reduced by 20-30% on average.

[1] The classification of the machining groups can be found from page A 468 onwards.

The specified cutting data are average standard values.
For special applications, adjustment is recommended.

| | Cutting material grades | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Starting values for cutting speed $v_c$ [m/min] | | | | | | | | | | | | | | |
| | HC | | | | | | | | | | | | | | |
| | WPP05S | | | WPP10S | | | WPP20S | | | WPP30S | | | WMP20S | | |
| | f [mm/rev] | | | f [mm/rev] | | | f [mm/rev] | | | f [mm/rev] | | | f [mm/rev] | | |
| | 0,10 | 0,40 | 0,60 | 0,10 | 0,40 | 0,60 | 0,10 | 0,40 | 0,60 | 0,10 | 0,40 | 0,60 | 0,10 | 0,30 | 0,50 |
| | 540 | 420 | 310 | 530 | 400 | 310 | 450 | 330 | 270 | 380 | 260 | 220 | 290 | 200 | 170 |
| | 430 | 310 | 250 | 420 | 300 | 240 | 350 | 250 | 190 | 300 | 200 | 160 | 230 | 150 | 120 |
| | 330 | 250 | 220 | 320 | 250 | 210 | 260 | 210 | 170 | 220 | 180 | 130 | 170 | 140 | 110 |
| | 370 | 260 | 210 | 350 | 250 | 200 | 300 | 210 | 160 | 250 | 160 | 130 | 190 | 120 | 100 |
| | 270 | 210 | 200 | 270 | 200 | 190 | 220 | 160 | 150 | 180 | 120 | 100 | 140 | 100 | 80 |
| | 510 | 360 | 290 | 490 | 350 | 280 | 410 | 290 | 220 | 350 | 230 | 180 | 270 | 180 | 140 |
| | 400 | 280 | 250 | 380 | 280 | 240 | 320 | 240 | 190 | 260 | 190 | 170 | 200 | 140 | 130 |
| | 240 | 190 | 170 | 230 | 180 | 160 | 190 | 140 | 120 | 150 | 100 | 80 | 130 | 80 | 60 |
| | 180 | 120 | 100 | 170 | 120 | 100 | 140 | 100 | 80 | 100 | 70 | 50 | 80 | 60 | 40 |
| | 90 | 80 | | 80 | 60 | | | | | | | | | | |
| | 360 | 220 | 170 | 340 | 240 | 160 | 290 | 200 | 120 | 220 | 160 | 90 | 170 | 120 | 80 |
| | 260 | 140 | 110 | 240 | 140 | 120 | 190 | 120 | 90 | 120 | 90 | 70 | 100 | 70 | 60 |
| | 80 | 70 | | 70 | 60 | | | | | | | | | | |
| | | | | 280 | 220 | 200 | 230 | 190 | 150 | 180 | 150 | 110 | 210 | 180 | 150 |
| | | | | 200 | 140 | 120 | 160 | 110 | 80 | 120 | 80 | 70 | 140 | 110 | 100 |
| | | | | | | | | | | 260 | 210 | 130 | 250 | 190 | 120 |
| | | | | | | | | | | 160 | 140 | | 150 | 130 | |
| | | | | | | | | | | 170 | 150 | 110 | 160 | 140 | 100 |
| | | | | 320 | 210 | 160 | 280 | 220 | 160 | | | | | | |
| | | | | 270 | 170 | 120 | 240 | 180 | 110 | | | | | | |
| | | | | 580 | 340 | 240 | 510 | 260 | 190 | | | | | | |
| | | | | 320 | 220 | 150 | 240 | 180 | 110 | | | | | | |
| | | | | 340 | 240 | 180 | 260 | 190 | 140 | | | | | | |
| | | | | 240 | 180 | 150 | 190 | 140 | 110 | | | | | | |
| | 320 | 200 | | 290 | 190 | 160 | | | | | | | | | |
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| | | | | | | | | | | | | | 90 | 60 | |
| | | | | | | | | | | | | | 70 | 50 | |
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| | | | | | | | | | | | | | 60 | 40 | |
| | | | | | | | | | | | | | 50 | 30 | |
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| | | | | | | | | | | | | | 70 | 45 | 40 |
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HC = Coated carbide

# Cutting data for turning inserts – Negative basic shape
# Carbide grades

| Material group | Overview of the main material groups and code letters | | | Brinell hardness HB | Tensile strength $R_m$ N/mm² | Machining group [1] | = Cutting data for wet machining | = Dry machining is possible | Cutting material grades<br>Starting values for cutting speed $v_c$ [m/min]<br>HC<br>WSM10 / WSM10S<br>f [mm/rev] 0,10 | 0,30 | 0,50 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | Non-alloyed steel | C ≤ 0.25% | Annealed | 125 | 430 | P1 | ●● | ● | 270 | 250 | |
| | | C > 0.25... ≤ 0.55% | Annealed | 190 | 640 | P2 | ●● | ● | 210 | 190 | |
| | | C > 0.25... ≤ 0.55% | Heat-treated | 210 | 710 | P3 | ●● | ● | 180 | 160 | |
| | | C > 0.55% | Annealed | 190 | 640 | P4 | ●● | ● | 180 | 160 | |
| | | C > 0.55% | Heat-treated | 300 | 1010 | P5 | ●● | ● | | | |
| | | Free cutting steel (short-chipping) | Annealed | 220 | 750 | P6 | ●● | ● | 240 | 220 | |
| | Low-alloyed steel | Annealed | | 175 | 590 | P7 | ●● | ● | 170 | 150 | |
| | | Heat-treated | | 285 | 960 | P8 | ●● | ● | | | |
| | | Heat-treated | | 380 | 1280 | P9 | ●● | ● | | | |
| | | Heat-treated | | 430 | 1480 | P10 | ●● | ● | | | |
| | High-alloyed steel and high-alloyed tool steel | Annealed | | 200 | 680 | P11 | ●● | ● | 170 | 150 | |
| | | Hardened and tempered | | 300 | 1010 | P12 | ●● | ● | | | |
| | | Hardened and tempered | | 380 | 1280 | P13 | ●● | ● | | | |
| | Stainless steel | Ferritic/martensitic, annealed | | 200 | 680 | P14 | ●● | ● | 200 | 180 | 150 |
| | | Martensitic, heat-treated | | 330 | 1110 | P15 | ●● | ● | 170 | 120 | 110 |
| M | Stainless steel | Austenitic, quench hardened | | 200 | 680 | M1 | ●● | ● | 260 | 210 | 130 |
| | | Austenitic, precipitation hardened (PH) | | 300 | 1010 | M2 | ●● | ● | 160 | 140 | |
| | | Austenitic/ferritic, duplex | | 230 | 780 | M3 | ●● | ● | 170 | 150 | 110 |
| K | Malleable cast iron | Ferritic | | 200 | 400 | K1 | ●● | ● | | | |
| | | Pearlitic | | 260 | 700 | K2 | ●● | ● | | | |
| | Grey cast iron | Low tensile strength | | 180 | 200 | K3 | ●● | ● | | | |
| | | High tensile strength/austenitic | | 245 | 350 | K4 | ●● | ● | | | |
| | Cast iron with spheroidal graphite | Ferritic | | 155 | 400 | K5 | ●● | ● | | | |
| | | Pearlitic | | 265 | 700 | K6 | ●● | ● | | | |
| | GGV (CGI) | | | 230 | 400 | K7 | ●● | ● | | | |
| N | Wrought aluminium alloys | Not hardenable | | 30 | – | N1 | | | | | |
| | | Hardenable, hardened | | 100 | 340 | N2 | | | | | |
| | Cast aluminium alloys | ≤ 12% Si, not hardenable | | 75 | 260 | N3 | | | | | |
| | | ≤ 12% Si, hardenable, hardened | | 90 | 310 | N4 | | | | | |
| | | > 12% Si, not hardenable | | 130 | 450 | N5 | | | | | |
| | Magnesium-based alloys | | | 70 | 250 | N6 | | | | | |
| | Copper and copper alloys (bronze/brass) | Non-alloyed, electrolytic copper | | 100 | 340 | N7 | | | | | |
| | | Brass, bronze, red brass | | 90 | 310 | N8 | | | | | |
| | | Cu-alloys, short-chipping | | 110 | 380 | N9 | | | | | |
| | | High-tensile, Ampco | | 300 | 1010 | N10 | | | | | |
| S | Heat-resistant alloys | Fe-based | Annealed | 200 | 680 | S1 | ●● | ● | 100 | 65 | |
| | | | Hardened | 280 | 940 | S2 | ●● | ● | 80 | 55 | |
| | | Ni or Co base | Annealed | 250 | 840 | S3 | ●● | ● | 80 | 55 | |
| | | | Hardened | 350 | 1180 | S4 | ●● | ● | 70 | 45 | |
| | | | Cast | 320 | 1080 | S5 | ●● | ● | 60 | 35 | |
| | Titanium alloys | Pure titanium | | 200 | 680 | S6 | ●● | ● | | | |
| | | α and β alloys, hardened | | 375 | 1260 | S7 | ●● | ● | | | |
| | | β alloys | | 410 | 1400 | S8 | ●● | ● | | | |
| | Tungsten alloys | | | 300 | 1010 | S9 | | | | | |
| | Molybdenum alloys | | | 300 | 1010 | S10 | | | | | |
| H | Hardened steel | Hardened and tempered | | 50 HRC | – | H1 | ● | ●● | | | |
| | | Hardened and tempered | | 55 HRC | – | H2 | ● | ●● | | | |
| | | Hardened and tempered | | 60 HRC | – | H3 | ● | ●● | | | |
| | Hardened cast iron | Hardened and tempered | | 55 HRC | – | H4 | ● | ●● | | | |
| O | Thermoplastics | Without abrasive fillers | | | | O1 | | | | | |
| | Thermosetting plastics | Without abrasive fillers | | | | O2 | | | | | |
| | Plastic, glass fibre reinforced | GFRP | | | | O3 | | | | | |
| | Plastic, carbon fibre reinforced | CFRP | | | | O4 | | | | | |
| | Plastic, aramid fibre reinforced | AFRP | | | | O5 | | | | | |
| | Graphite (technical) | | | 80 Shore | | O6 | | | | | |

●● Recommended application (the specified cutting data is regarded as starting values for the recommended application)
● Possible application

**Note:**
If dry machining is possible, the tool life is reduced by 20-30% on average.

[1] The classification of the machining groups can be found from page A 468 onwards.

The specified cutting data are average standard values.
For special applications, adjustment is recommended.

| Cutting material grades | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Starting values for cutting speed $v_c$ [m/min] | | | | | | | | | | | | | | | | | | | | | | |
| HC | | | | | | | | | | | | | | | | | | | | HW | | |
| WSM20 / WSM20S | | | WSM30 / WSM30S | | | WKK10S | | | WKK20S | | | WKP30S | | | WAK30 | | | WS10 | | | | |
| f [mm/rev] | | | f [mm/rev] | | | f [mm/rev] | | | f [mm/rev] | | | f [mm/rev] | | | f [mm/rev] | | | f [mm/rev] | | | | |
| 0,10 | 0,30 | 0,50 | 0,10 | 0,30 | 0,50 | 0,10 | 0,40 | 0,60 | 0,10 | 0,40 | 0,60 | 0,10 | 0,40 | 0,60 | 0,10 | 0,40 | 0,60 | 0,10 | 0,30 | 0,50 | | |
| 230 | 220 | | 220 | 200 | | | | | 530 | 400 | 310 | 290 | 200 | 170 | 290 | 200 | 170 | | | | | |
| 180 | 160 | | 160 | 150 | | | | | 420 | 300 | 250 | 230 | 150 | 120 | 230 | 150 | 120 | | | | | |
| 150 | 130 | | 130 | 110 | | | | | 320 | 250 | 210 | 170 | 140 | 110 | 170 | 140 | 110 | | | | | |
| 140 | 130 | | 130 | 120 | | | | | 360 | 250 | 210 | 190 | 120 | 100 | 190 | 120 | 100 | | | | | |
| | | | | | | | | | 270 | 200 | 190 | 140 | 100 | 80 | 140 | 100 | 80 | | | | | |
| 200 | 180 | | 180 | 160 | | | | | | | | | | | | | | | | | | |
| 140 | 120 | | 120 | 100 | | | | | 260 | 200 | 180 | 200 | 140 | 130 | | | | | | | | |
| | | | | | | | | | 230 | 180 | 160 | 130 | 80 | 60 | 130 | 80 | 60 | | | | | |
| | | | | | | | | | 150 | 120 | 100 | 80 | 60 | 40 | 80 | 60 | 40 | | | | | |
| | | | | | | | | | 70 | 60 | | | | | | | | | | | | |
| 130 | 110 | | 110 | 90 | | | | | 270 | 220 | 170 | 170 | 120 | 80 | 170 | 120 | 80 | | | | | |
| | | | | | | | | | 170 | 140 | 130 | 100 | 70 | 60 | 100 | 70 | 60 | | | | | |
| | | | | | | | | | 80 | 70 | | | | | | | | | | | | |
| 190 | 170 | 140 | 170 | 150 | 120 | | | | | | | | | | | | | | | | | |
| 140 | 110 | 100 | 110 | 100 | 80 | | | | | | | | | | | | | | | | | |
| 240 | 170 | 110 | 200 | 140 | 90 | | | | | | | 200 | 140 | 90 | | | | | | | | |
| 140 | 120 | | 110 | 90 | | | | | | | | 110 | 90 | | | | | | | | | |
| 150 | 130 | 90 | 130 | 110 | 70 | | | | | | | 130 | 110 | 70 | | | | | | | | |
| | | | | | | 370 | 260 | 180 | 300 | 200 | 150 | 240 | 160 | 130 | 240 | 160 | 130 | | | | | |
| | | | | | | 330 | 220 | 140 | 260 | 160 | 110 | 200 | 120 | 90 | 200 | 120 | 90 | | | | | |
| | | | | | | 620 | 410 | 300 | 550 | 320 | 230 | 490 | 250 | 180 | 490 | 250 | 180 | | | | | |
| | | | | | | 390 | 260 | 180 | 300 | 210 | 140 | 230 | 170 | 110 | 230 | 170 | 110 | | | | | |
| | | | | | | 410 | 300 | 230 | 320 | 230 | 170 | 250 | 180 | 130 | 250 | 180 | 130 | | | | | |
| | | | | | | 300 | 230 | 180 | 230 | 170 | 140 | 180 | 130 | 110 | 180 | 130 | 110 | | | | | |
| | | | | | | 320 | 200 | | | | | | | | | | | | | | | |
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| 90 | 60 | | 80 | 50 | | | | | | | | | | | | | | 90 | | | | |
| 70 | 50 | | 60 | 40 | | | | | | | | | | | | | | 70 | | | | |
| 70 | 50 | | 60 | 30 | | | | | | | | | | | | | | 70 | | | | |
| 60 | 40 | | 50 | 30 | | | | | | | | | | | | | | 60 | | | | |
| 50 | 30 | | 40 | 20 | | | | | | | | | | | | | | 50 | | | | |
| | | | | | | | | | | | | | | | | | | 200 | 180 | 140 | | |
| 70 | 45 | 40 | | | | | | | | | | | | | | | | 90 | 55 | 45 | | |
| 40 | 30 | 25 | | | | | | | | | | | | | | | | 55 | 35 | 30 | | |
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| | 220 | | | | | | | | | | | | | | | | | | | | | |
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HC = Coated carbide
HW = Uncoated carbide

# Cutting data for turning inserts – Positive basic shape
# Carbide grades

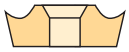
= Cutting data for wet machining
= Dry machining is possible

| Material group | Overview of the main material groups and code letters | | | Brinell hardness HB | Tensile strength $R_m$ N/mm² | Machining group [1] | | | Cutting material grades<br>Starting values for cutting speed $v_c$ [m/min]<br>HC<br>WPP01<br>f [mm/rev] | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 0,10 | 0,20 | 0,30 |
| P | Non-alloyed steel | C ≤ 0.25% | Annealed | 125 | 430 | P1 | ●● | ● | 490 | 460 | 430 |
| | | C > 0.25 to ≤ 0.55% | Annealed | 190 | 640 | P2 | ●● | ● | 400 | 370 | 350 |
| | | C > 0.25 to ≤ 0.55% | Heat-treated | 210 | 710 | P3 | ●● | ● | 290 | 260 | 250 |
| | | C > 0.55% | Annealed | 190 | 640 | P4 | ●● | ● | 350 | 330 | 320 |
| | | C > 0.55% | Heat-treated | 300 | 1010 | P5 | ●● | ● | 240 | 210 | 190 |
| | | Free cutting steel (short-chipping) | Annealed | 220 | 750 | P6 | ●● | ● | 460 | 430 | 420 |
| | Low-alloyed steel | Annealed | | 175 | 590 | P7 | ●● | ● | 360 | 330 | 320 |
| | | Heat-treated | | 285 | 960 | P8 | ●● | ● | 210 | 180 | 170 |
| | | Heat-treated | | 380 | 1280 | P9 | ●● | ● | 130 | 120 | 100 |
| | | Heat-treated | | 430 | 1480 | P10 | ●● | ● | 90 | 80 | 60 |
| | High-alloyed steel and high-alloyed tool steel | Annealed | | 200 | 680 | P11 | ●● | ● | 340 | 310 | 300 |
| | | Hardened and tempered | | 300 | 1010 | P12 | ●● | ● | 230 | 200 | 180 |
| | | Hardened and tempered | | 380 | 1280 | P13 | ●● | ● | 80 | 70 | 60 |
| | Stainless steel | Ferritic/martensitic, annealed | | 200 | 680 | P14 | ●● | ● | | | |
| | | Martensitic, heat-treated | | 330 | 1110 | P15 | ●● | ● | | | |
| M | Stainless steel | Austenitic, quench hardened | | 200 | 680 | M1 | ●● | ● | | | |
| | | Austenitic, precipitation hardened (PH) | | 300 | 1010 | M2 | ●● | ● | | | |
| | | Austenitic/ferritic, duplex | | 230 | 780 | M3 | ●● | ● | | | |
| K | Malleable cast iron | Ferritic | | 200 | 400 | K1 | ●● | ● | 270 | 240 | 220 |
| | | Pearlitic | | 260 | 700 | K2 | ●● | ● | 230 | 200 | 180 |
| | Grey cast iron | Low tensile strength | | 180 | 200 | K3 | ●● | ● | 520 | 490 | 470 |
| | | High tensile strength/austenitic | | 245 | 350 | K4 | ●● | ● | 270 | 240 | 220 |
| | Cast iron with spheroidal graphite | Ferritic | | 155 | 400 | K5 | ●● | ● | 290 | 260 | 240 |
| | | Pearlitic | | 265 | 700 | K6 | ●● | ● | 200 | 170 | 150 |
| | GGV (CGI) | | | 230 | 400 | K7 | ●● | ● | | | |
| N | Wrought aluminium alloys | Not hardenable | | 30 | – | N1 | ●● | ● | | | |
| | | Hardenable, hardened | | 100 | 340 | N2 | ●● | ● | | | |
| | Cast aluminium alloys | ≤ 12% Si, not hardenable | | 75 | 260 | N3 | ●● | ● | | | |
| | | ≤ 12% Si, hardenable, hardened | | 90 | 310 | N4 | ●● | ● | | | |
| | | > 12% Si, not hardenable | | 130 | 450 | N5 | | | | | |
| | Magnesium-based alloys | | | 70 | 250 | N6 | | | | | |
| | Copper and copper alloys (bronze/brass) | Non-alloyed, electrolytic copper | | 100 | 340 | N7 | ●● | ● | | | |
| | | Brass, bronze, red brass | | 90 | 310 | N8 | ●● | ● | | | |
| | | Cu-alloys, short-chipping | | 110 | 380 | N9 | ●● | ● | | | |
| | | High-tensile, Ampco | | 300 | 1010 | N10 | | | | | |
| S | Heat-resistant alloys | Fe-based | Annealed | 200 | 680 | S1 | ●● | ● | | | |
| | | | Hardened | 280 | 940 | S2 | ●● | ● | | | |
| | | Ni or Co base | Annealed | 250 | 840 | S3 | ●● | ● | | | |
| | | | Hardened | 350 | 1180 | S4 | ●● | ● | | | |
| | | | Cast | 320 | 1080 | S5 | ●● | ● | | | |
| | Titanium alloys | Pure titanium | | 200 | 680 | S6 | ●● | ● | | | |
| | | α and β alloys, hardened | | 375 | 1260 | S7 | ●● | ● | | | |
| | | β alloys | | 410 | 1400 | S8 | ●● | ● | | | |
| | Tungsten alloys | | | 300 | 1010 | S9 | | | | | |
| | Molybdenum alloys | | | 300 | 1010 | S10 | | | | | |
| H | Hardened steel | Hardened and tempered | | 50 HRC | – | H1 | ● | ●● | | | |
| | | Hardened and tempered | | 55 HRC | – | H2 | ● | ●● | | | |
| | | Hardened and tempered | | 60 HRC | – | H3 | ● | ●● | | | |
| | Hardened cast iron | Hardened and tempered | | 55 HRC | – | H4 | ● | ●● | | | |
| O | Thermoplastics | Without abrasive fillers | | | | O1 | | | | | |
| | Thermosetting plastics | Without abrasive fillers | | | | O2 | | | | | |
| | Plastic, glass fibre reinforced | GFRP | | | | O3 | | | | | |
| | Plastic, carbon fibre reinforced | CFRP | | | | O4 | | | | | |
| | Plastic, aramid fibre reinforced | AFRP | | | | O5 | | | | | |
| | Graphite (technical) | | | 80 Shore | | O6 | | | | | |

●● Recommended application (the specified cutting data is regarded as starting values for the recommended application)
● Possible application

**Note:**
If dry machining is possible, the tool life is reduced by 20-30% on average.

[1] The classification of the machining groups can be found from page A 468 onwards.



The specified cutting data are average standard values.
For special applications, adjustment is recommended.

| | Cutting material grades | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Starting values for cutting speed $v_c$ [m/min] | | | | | | | | | | | | | | | | | | | | |
| | HC | | | | | | | | | | | | | | | | | | | | |
| | WPP10S | | | WPP20S | | | WPP30S | | | WMP20S | | | WSM10S | | | WSM20S | | | WSM30S | | |
| | f [mm/rev] | | | f [mm/rev] | | | f [mm/rev] | | | f [mm/rev] | | | f [mm/rev] | | | f [mm/rev] | | | f [mm/rev] | | |
| | 0,10 | 0,20 | 0,40 | 0,10 | 0,20 | 0,40 | 0,10 | 0,20 | 0,40 | 0,10 | 0,20 | 0,40 | 0,10 | 0,20 | 0,40 | 0,10 | 0,20 | 0,40 | 0,10 | 0,20 | 0,40 |
| | 490 | 430 | 370 | 410 | 370 | 310 | 390 | 360 | 260 | 300 | 200 | 170 | 250 | 240 | | 230 | 210 | | 200 | 190 | |
| | 390 | 350 | 280 | 330 | 300 | 230 | 310 | 280 | 210 | 240 | 160 | 130 | 200 | 180 | | 170 | 150 | | 150 | 140 | |
| | 290 | 260 | 240 | 230 | 210 | 190 | 190 | 160 | 150 | 170 | 140 | 110 | 160 | 150 | | 130 | 120 | | 120 | 100 | |
| | 350 | 320 | 310 | 290 | 270 | 250 | 240 | 210 | 200 | 210 | 130 | 100 | 170 | 150 | | 140 | 120 | | 120 | 110 | |
| | 230 | 200 | 190 | 190 | 160 | 150 | 150 | 120 | 100 | 140 | 100 | 80 | | | | | | | | | |
| | 450 | 420 | 410 | 380 | 350 | 330 | 320 | 280 | 260 | 240 | 220 | 200 | 220 | 200 | | 180 | 160 | | 160 | 140 | |
| | 360 | 330 | 320 | 310 | 280 | 260 | 230 | 210 | 190 | 210 | 150 | 130 | 160 | 130 | | 120 | 100 | | 110 | 80 | |
| | 200 | 170 | 160 | 160 | 140 | 120 | 120 | 100 | 70 | 130 | 80 | 60 | | | | | | | | | |
| | 120 | 100 | 90 | 100 | 80 | 60 | 80 | 50 | 40 | 80 | 50 | 40 | | | | | | | | | |
| | 80 | 60 | | 60 | 50 | | | | | | | | | | | | | | | | |
| | 340 | 310 | 300 | 280 | 250 | 230 | 210 | 190 | 170 | 190 | 130 | 80 | 160 | 140 | | 130 | 100 | | 100 | 80 | |
| | 210 | 190 | 170 | 170 | 140 | 120 | 140 | 110 | 80 | 100 | 70 | 60 | | | | | | | | | |
| | 70 | 60 | | 60 | 50 | | | | | | | | | | | | | | | | |
| | 300 | 270 | 260 | 210 | 190 | 170 | 160 | 140 | 120 | 220 | 190 | 160 | | | | | | | | | |
| | 120 | 100 | 90 | 100 | 90 | 70 | 90 | 60 | 50 | 120 | 100 | 90 | | | | | | | | | |
| | | | | | | | 220 | 200 | 130 | 210 | 190 | 120 | 220 | 200 | 130 | 200 | 180 | 110 | 180 | 140 | 90 |
| | | | | | | | 160 | 140 | | 150 | 130 | | 160 | 140 | | 140 | 120 | | 110 | 90 | |
| | | | | | | | 170 | 150 | 110 | 160 | 140 | 100 | 170 | 150 | 110 | 150 | 130 | 80 | 130 | 110 | 70 |
| | 280 | 250 | 230 | 250 | 220 | 200 | | | | | | | | | | | | | | | |
| | 240 | 210 | 190 | 210 | 180 | 160 | | | | | | | | | | | | | | | |
| | 530 | 490 | 450 | 480 | 450 | 430 | | | | | | | | | | | | | | | |
| | 280 | 250 | 230 | 210 | 180 | 160 | | | | | | | | | | | | | | | |
| | 300 | 270 | 250 | 230 | 200 | 180 | | | | | | | | | | | | | | | |
| | 210 | 180 | 160 | 160 | 130 | 110 | | | | | | | | | | | | | | | |
| | 280 | 230 | 210 | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | 90 | 70 | | 100 | 70 | | 90 | 70 | | 70 | 50 | |
| | | | | | | | | | | 70 | 60 | | 80 | 60 | | 70 | 60 | | 50 | 40 | |
| | | | | | | | | | | 70 | 60 | | 80 | 60 | | 70 | 60 | | 50 | 30 | |
| | | | | | | | | | | 60 | 50 | | 70 | 50 | | 60 | 50 | | 40 | 30 | |
| | | | | | | | | | | 50 | 40 | | 60 | 40 | | 50 | 40 | | 30 | 20 | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 70 | 50 | 40 | | | | 70 | 50 | 40 | | | |
| | | | | | | | | | | 40 | 30 | 25 | | | | 40 | 30 | 25 | | | |
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HC = Coated carbide

# Cutting data for turning inserts – Positive basic shape
# Carbide grades

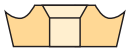
= Cutting data for wet machining
= Dry machining is possible

| Material group | Overview of the main material groups and code letters | | | Brinell hardness HB | Tensile strength $R_m$ N/mm² | Machining group [1] | | | Cutting material grades<br>Starting values for cutting speed $v_c$ [m/min]<br>HC<br>WSM10<br>f [mm/rev] | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 0,10 | 0,20 | 0,40 |
| P | Non-alloyed steel | C ≤ 0.25% | Annealed | 125 | 430 | P1 | ●● | ● | 250 | 240 | |
| | | C > 0.25 to ≤ 0.55% | Annealed | 190 | 640 | P2 | ●● | ● | 200 | 180 | |
| | | C > 0.25 to ≤ 0.55% | Heat-treated | 210 | 710 | P3 | ●● | ● | 160 | 150 | |
| | | C > 0.55% | Annealed | 190 | 640 | P4 | ●● | ● | 170 | 150 | |
| | | C > 0.55% | Heat-treated | 300 | 1010 | P5 | ●● | ● | | | |
| | | Free cutting steel (short-chipping) | Annealed | 220 | 750 | P6 | ●● | ● | 220 | 200 | |
| | Low-alloyed steel | Annealed | | 175 | 590 | P7 | ●● | ● | 160 | 130 | |
| | | Heat-treated | | 285 | 960 | P8 | ●● | ● | | | |
| | | Heat-treated | | 380 | 1280 | P9 | ●● | ● | | | |
| | | Heat-treated | | 430 | 1480 | P10 | ●● | ● | | | |
| | High-alloyed steel and high-alloyed tool steel | Annealed | | 200 | 680 | P11 | ●● | ● | 160 | 140 | |
| | | Hardened and tempered | | 300 | 1010 | P12 | ●● | ● | | | |
| | | Hardened and tempered | | 380 | 1280 | P13 | ●● | ● | | | |
| | Stainless steel | Ferritic/martensitic, annealed | | 200 | 680 | P14 | ●● | ● | | | |
| | | Martensitic, heat-treated | | 330 | 1110 | P15 | ●● | ● | | | |
| M | Stainless steel | Austenitic, quench hardened | | 200 | 680 | M1 | ●● | ● | 220 | 200 | 130 |
| | | Austenitic, precipitation hardened (PH) | | 300 | 1010 | M2 | ●● | ● | 160 | 140 | |
| | | Austenitic/ferritic, duplex | | 230 | 780 | M3 | ●● | ● | 170 | 150 | 110 |
| K | Malleable cast iron | Ferritic | | 200 | 400 | K1 | ●● | ● | | | |
| | | Pearlitic | | 260 | 700 | K2 | ●● | ● | | | |
| | Grey cast iron | Low tensile strength | | 180 | 200 | K3 | ●● | ● | | | |
| | | High tensile strength/austenitic | | 245 | 350 | K4 | ●● | ● | | | |
| | Cast iron with spheroidal graphite | Ferritic | | 155 | 400 | K5 | ●● | ● | | | |
| | | Pearlitic | | 265 | 700 | K6 | ●● | ● | | | |
| | GGV (CGI) | | | 230 | 400 | K7 | ●● | ● | | | |
| N | Wrought aluminium alloys | Not hardenable | | 30 | – | N1 | ●● | ● | | | |
| | | Hardenable, hardened | | 100 | 340 | N2 | ●● | ● | | | |
| | Cast aluminium alloys | ≤ 12% Si, not hardenable | | 75 | 260 | N3 | ●● | ● | | | |
| | | ≤ 12% Si, hardenable, hardened | | 90 | 310 | N4 | ●● | ● | | | |
| | | > 12% Si, not hardenable | | 130 | 450 | N5 | | | | | |
| | Magnesium-based alloys | | | 70 | 250 | N6 | | | | | |
| | Copper and copper alloys (bronze/brass) | Non-alloyed, electrolytic copper | | 100 | 340 | N7 | ●● | ● | | | |
| | | Brass, bronze, red brass | | 90 | 310 | N8 | ●● | ● | | | |
| | | Cu-alloys, short-chipping | | 110 | 380 | N9 | ●● | ● | | | |
| | | High-tensile, Ampco | | 300 | 1010 | N10 | | | | | |
| S | Heat-resistant alloys | Fe-based | Annealed | 200 | 680 | S1 | ●● | ● | 100 | 70 | |
| | | | Hardened | 280 | 940 | S2 | ●● | ● | 80 | 60 | |
| | | Ni or Co base | Annealed | 250 | 840 | S3 | ●● | ● | 80 | 60 | |
| | | | Hardened | 350 | 1180 | S4 | ●● | ● | 70 | 50 | |
| | | | Cast | 320 | 1080 | S5 | ●● | ● | 60 | 40 | |
| | Titanium alloys | Pure titanium | | 200 | 680 | S6 | ●● | ● | | | |
| | | α and β alloys, hardened | | 375 | 1260 | S7 | ●● | ● | | | |
| | | β alloys | | 410 | 1400 | S8 | ●● | ● | | | |
| | Tungsten alloys | | | 300 | 1010 | S9 | | | | | |
| | Molybdenum alloys | | | 300 | 1010 | S10 | | | | | |
| H | Hardened steel | Hardened and tempered | | 50 HRC | – | H1 | ● | ●● | | | |
| | | Hardened and tempered | | 55 HRC | – | H2 | ● | ●● | | | |
| | | Hardened and tempered | | 60 HRC | – | H3 | ● | ●● | | | |
| | Hardened cast iron | Hardened and tempered | | 55 HRC | – | H4 | ● | ●● | | | |
| O | Thermoplastics | Without abrasive fillers | | | | O1 | | | | | |
| | Thermosetting plastics | Without abrasive fillers | | | | O2 | | | | | |
| | Plastic, glass fibre reinforced | GFRP | | | | O3 | | | | | |
| | Plastic, carbon fibre reinforced | CFRP | | | | O4 | | | | | |
| | Plastic, aramid fibre reinforced | AFRP | | | | O5 | | | | | |
| | Graphite (technical) | | | 80 Shore | | O6 | | | | | |

●● Recommended application (the specified cutting data is regarded as starting values for the recommended application)
● Possible application

**Note:**
If dry machining is possible, the tool life is reduced by 20-30% on average.

[1] The classification of the machining groups can be found from page A 468 onwards.



The specified cutting data are average standard values.
For special applications, adjustment is recommended.

| | Cutting material grades | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Starting values for cutting speed $v_c$ [m/min] | | | | | | | | | | | | | | | | | | | | | | | | |
| | HC | | | | | | | | | | | | | | | | | | HW | | | | | | |
| | WSM20 | | | WSM21 | | | WSM30 | | | WKK10S | | | WKK20S | | | WXN10 | | | WK1 | | | WS10 | | |
| | f [mm/rev] | | | f [mm/rev] | | | f [mm/rev] | | | f [mm/rev] | | | f [mm/rev] | | | f [mm/rev] | | | f [mm/rev] | | | f [mm/rev] | | |
| | 0,10 | 0,20 | 0,40 | 0,10 | 0,20 | 0,40 | 0,10 | 0,20 | 0,40 | 0,10 | 0,20 | 0,40 | 0,10 | 0,20 | 0,40 | 0,10 | 0,20 | 0,40 | 0,10 | 0,20 | 0,40 | 0,10 | 0,20 | 0,40 |
| | 230 | 210 | | 200 | 190 | | 200 | 190 | | | | | 490 | 430 | 370 | | | | | | | | | |
| | 170 | 150 | | 150 | 140 | | 150 | 140 | | | | | 400 | 350 | 280 | | | | | | | | | |
| | 130 | 120 | | 120 | 100 | | 120 | 100 | | | | | 270 | 240 | 210 | | | | | | | | | |
| | 140 | 120 | | 120 | 110 | | 120 | 110 | | | | | 330 | 300 | 240 | | | | | | | | | |
| | | | | | | | | | | | | | 250 | 220 | 190 | | | | | | | | | |
| | 180 | 160 | | 160 | 140 | | 160 | 140 | | | | | 360 | 330 | 280 | | | | | | | | | |
| | 120 | 100 | | | | | 110 | 80 | | | | | 240 | 200 | 150 | | | | | | | | | |
| | | | | | | | | | | | | | 210 | 190 | 160 | | | | | | | | | |
| | | | | | | | | | | | | | 140 | 130 | 90 | | | | | | | | | |
| | | | | | | | | | | | | | 80 | 60 | | | | | | | | | | |
| | 130 | 100 | | | | | 100 | 80 | | | | | 240 | 200 | 140 | | | | | | | | | |
| | | | | | | | | | | | | | 150 | 130 | 60 | | | | | | | | | |
| | | | | | | | | | | | | | 70 | 60 | | | | | | | | | | |
| | | | | | | | | | | | | | 270 | 240 | 220 | | | | | | | | | |
| | | | | | | | | | | | | | 160 | 140 | 120 | | | | | | | | | |
| | 200 | 180 | 110 | 180 | 140 | 90 | 180 | 140 | 90 | | | | | | | 220 | 200 | | | | | | | | |
| | 140 | 120 | | 110 | 90 | | 110 | 90 | | | | | | | | 100 | 80 | | | | | | | | |
| | 150 | 130 | 80 | 130 | 110 | 70 | 130 | 110 | 70 | | | | | | | 170 | 130 | | | | | | | | |
| | | | | | | | | | | 310 | 280 | 210 | 240 | 220 | 170 | | | | | | | | | | |
| | | | | | | | | | | 290 | 260 | 190 | 220 | 200 | 150 | | | | | | | | | | |
| | | | | | | | | | | 560 | 500 | 370 | 500 | 450 | 290 | | | | | | | | | | |
| | | | | | | | | | | 350 | 320 | 240 | 270 | 240 | 190 | | | | | | | | | | |
| | | | | | | | | | | 370 | 330 | 270 | 290 | 260 | 210 | | | | | | | | | | |
| | | | | | | | | | | 270 | 240 | 210 | 210 | 190 | 160 | | | | | | | | | | |
| | | | | | | | | | | 310 | 260 | 210 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | 3000 | 2400 | 1800 | 2400 | 1800 | 1300 | | | | |
| | | | | | | | | | | | | | | | | 900 | 720 | 360 | 750 | 600 | 300 | | | | |
| | | | | | | | | | | | | | | | | 960 | 540 | 360 | 800 | 450 | 300 | | | | |
| | | | | | | | | | | | | | | | | 600 | 360 | 240 | 500 | 300 | 200 | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | 720 | 480 | 320 | 600 | 400 | 270 | | | | |
| | | | | | | | | | | | | | | | | 480 | 360 | 300 | 400 | 300 | 250 | | | | |
| | | | | | | | | | | | | | | | | 340 | 240 | 160 | 280 | 200 | 130 | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 90 | 70 | | 70 | 50 | | 70 | 50 | | | | | | | | 110 | 90 | | | | | 90 | | | |
| | 70 | 60 | | 50 | 40 | | 50 | 40 | | | | | | | | 80 | 70 | | | | | 70 | | | |
| | 70 | 60 | | 50 | 30 | | 50 | 30 | | | | | | | | 60 | 50 | | | | | 70 | | | |
| | 60 | 50 | | 40 | 30 | | 40 | 30 | | | | | | | | 60 | 25 | | | | | 60 | | | |
| | 50 | 40 | | 30 | 20 | | 30 | 20 | | | | | | | | 50 | 25 | | | | | 50 | | | |
| | | | | | | | | | | | | | | | | 220 | 200 | 160 | | | | 200 | 180 | 140 | |
| | 70 | 50 | 40 | | | | | | | | | | | | | 100 | 70 | 60 | | | | 90 | 60 | 45 | |
| | 40 | 30 | 25 | | | | | | | | | | | | | | | | | | | 55 | 35 | 30 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | 50 | | | | | | | | | | | | | | | |
| | | | | | | | | | | 40 | | | | | | | | | | | | | | | |
| | | | | | | | | | | 30 | | | | | | | | | | | | | | | |
| | | | | | | | | | | 40 | | | | | | | | | | | | | | | |

HC = Coated carbide
HW = Uncoated carbide

# Cutting data for turning inserts – Negative and positive basic shape CBN/PCD/ceramic

= Cutting data for wet machining
= Dry machining is possible

| Material group | Overview of the main material groups and code letters | | | Brinell hardness HB | Tensile strength $R_m$ N/mm² | Machining group [1] | Cutting material grades – Starting values for cutting speed $v_c$ [m/min] – CBN – BL WCB30 – f [mm/rev] | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 0,05 | 0,15 | 0,20 |
| P | Non-alloyed steel | C ≤ 0.25% | Annealed | 125 | 430 | P1 | | | | | |
| | | C > 0.25 to ≤ 0.55% | Annealed | 190 | 640 | P2 | | | | | |
| | | C > 0.25 to ≤ 0.55% | Heat-treated | 210 | 710 | P3 | | | | | |
| | | C > 0.55% | Annealed | 190 | 640 | P4 | | | | | |
| | | C > 0.55% | Heat-treated | 300 | 1010 | P5 | | | | | |
| | | Free cutting steel (short-chipping) | Annealed | 220 | 750 | P6 | | | | | |
| | Low-alloyed steel | Annealed | | 175 | 590 | P7 | | | | | |
| | | Heat-treated | | 285 | 960 | P8 | | | | | |
| | | Heat-treated | | 380 | 1280 | P9 | | | | | |
| | | Heat-treated | | 430 | 1480 | P10 | | | | | |
| | High-alloyed steel and high-alloyed tool steel | Annealed | | 200 | 680 | P11 | | | | | |
| | | Hardened and tempered | | 300 | 1010 | P12 | | | | | |
| | | Hardened and tempered | | 380 | 1280 | P13 | | | | | |
| | Stainless steel | Ferritic/martensitic, annealed | | 200 | 680 | P14 | | | | | |
| | | Martensitic, heat-treated | | 330 | 1110 | P15 | | | | | |
| M | Stainless steel | Austenitic, quench hardened | | 200 | 680 | M1 | | | | | |
| | | Austenitic, precipitation hardened (PH) | | 300 | 1010 | M2 | | | | | |
| | | Austenitic/ferritic, duplex | | 230 | 780 | M3 | | | | | |
| K | Malleable cast iron | Ferritic | | 200 | 400 | K1 | ●● | ● | | | |
| | | Pearlitic | | 260 | 700 | K2 | ●● | ● | | | |
| | Grey cast iron | Low tensile strength | | 180 | 200 | K3 | ●● | ● | | | |
| | | High tensile strength/austenitic | | 245 | 350 | K4 | ●● | ● | | | |
| | Cast iron with spheroidal graphite | Ferritic | | 155 | 400 | K5 | ●● | ● | | | |
| | | Pearlitic | | 265 | 700 | K6 | ●● | ● | | | |
| | GGV (CGI) | | | 230 | 400 | K7 | | | | | |
| N | Wrought aluminium alloys | Not hardenable | | 30 | – | N1 | | | | | |
| | | Hardenable, hardened | | 100 | 340 | N2 | | | | | |
| | Cast aluminium alloys | ≤ 12% Si, not hardenable | | 75 | 260 | N3 | | | | | |
| | | ≤ 12% Si, hardenable, hardened | | 90 | 310 | N4 | | | | | |
| | | > 12% Si, not hardenable | | 130 | 450 | N5 | | | | | |
| | Magnesium-based alloys | | | 70 | 250 | N6 | | | | | |
| | Copper and copper alloys (bronze/brass) | Non-alloyed, electrolytic copper | | 100 | 340 | N7 | | | | | |
| | | Brass, bronze, red brass | | 90 | 310 | N8 | | | | | |
| | | Cu-alloys, short-chipping | | 110 | 380 | N9 | | | | | |
| | | High-tensile, Ampco | | 300 | 1010 | N10 | | | | | |
| S | Heat-resistant alloys | Fe-based | Annealed | 200 | 680 | S1 | | | | | |
| | | | Hardened | 280 | 940 | S2 | | | | | |
| | | Ni or Co base | Annealed | 250 | 840 | S3 | ●● | ● | | | |
| | | | Hardened | 350 | 1180 | S4 | ●● | ● | | | |
| | | | Cast | 320 | 1080 | S5 | ●● | ● | | | |
| | Titanium alloys | Pure titanium | | 200 | 680 | S6 | | | | | |
| | | α and β alloys, hardened | | 375 | 1260 | S7 | | | | | |
| | | β alloys | | 410 | 1400 | S8 | | | | | |
| | Tungsten alloys | | | 300 | 1010 | S9 | | | | | |
| | Molybdenum alloys | | | 300 | 1010 | S10 | | | | | |
| H | Hardened steel | Hardened and tempered | | 50 HRC | – | H1 | ● | ●● | 220 | 180 | 160 |
| | | Hardened and tempered | | 55 HRC | – | H2 | ● | ●● | 200 | 160 | 110 |
| | | Hardened and tempered | | 60 HRC | – | H3 | ● | ●● | 170 | 150 | 90 |
| | Hardened cast iron | Hardened and tempered | | 55 HRC | – | H4 | ● | ●● | 220 | 170 | 120 |
| O | Thermoplastics | Without abrasive fillers | | | | O1 | | | | | |
| | Thermosetting plastics | Without abrasive fillers | | | | O2 | | | | | |
| | Plastic, glass fibre reinforced | GFRP | | | | O3 | | | | | |
| | Plastic, carbon fibre reinforced | CFRP | | | | O4 | | | | | |
| | Plastic, aramid fibre reinforced | AFRP | | | | O5 | | | | | |
| | Graphite (technical) | | | 80 Shore | | O6 | | | | | |

●● Recommended application (the specified cutting data is regarded as starting values for the recommended application)
● Possible application

[1] The classification of the machining groups can be found from page A 468 onwards.

The specified cutting data are average standard values.
For special applications, adjustment is recommended.

| | Cutting material grades | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Starting values for cutting speed $v_c$ [m/min] | | | | | | | | | | | | | | | | | | | | | |
| | CBN | | | | | | PCD | | | | | Ceramic | | | | | | | | | | |
| | BH WCB50 | | | BH WCB80 | | | | | DP WDN10 | | | | | CN WSN10 | | | CN WIS10 | | | CR WWS20 | | |
| | f [mm/rev] | | | f [mm/rev] | | | | | f [mm/rev] | | | | | f [mm/rev] | | | f [mm/rev] | | | f [mm/rev] | | |
| | 0,05 | 0,15 | 0,20 | 0,05 | 0,15 | 0,20 | | | 0,10 | 0,20 | 0,40 | | | 0,20 | 0,40 | 0,60 | 0,10 | 0,20 | 0,30 | 0,10 | 0,20 | 0,30 |
| | | | | | | | | | | | | | | | | | | | | | | |
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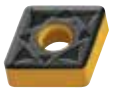
| | | | | | | | | | | | | | | | | | | | | | | |
| | 350 | 300 | 250 | 1500 | 1300 | 1000 | | | | | | | ●● | 750 | 600 | 500 | | | | | | |
| | 350 | 300 | 250 | 1300 | 1100 | 900 | | | | | | | ●● | 650 | 500 | 400 | | | | | | |
| | 350 | 300 | 200 | 1400 | 1200 | 800 | | | | | | | ●● | 850 | 600 | 500 | | | | | | |
| | 150 | 120 | 90 | 600 | 500 | 400 | | | | | | | ●● | 650 | 500 | 400 | | | | | | |
| | | | | 400 | 300 | 200 | | | | | | | ●● | 550 | 450 | 350 | | | | | | |
| | | | | 300 | 200 | | | | | | | | ●● | 550 | 450 | 350 | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | ●● | | 3000 | 2800 | 2200 | | | | | | | | | | | |
| | | | | | | | ●● | | 2000 | 1800 | 1400 | | | | | | | | | | | |
| | | | | | | | ●● | | 2200 | 2000 | 1600 | | | | | | | | | | | |
| | | | | | | | ●● | | 1800 | 1600 | 1200 | | | | | | | | | | | |
| | | | | | | | ●● | | 500 | 450 | 300 | | | | | | | | | | | |
| | | | | | | | ●● | | 1800 | 1600 | 1200 | | | | | | | | | | | |
| | | | | | | | ●● | | 1000 | 900 | 700 | | | | | | | | | | | |
| | | | | | | | ●● | | 700 | 650 | 500 | | | | | | | | | | | |
| | | | | | | | ●● | | 650 | 550 | 400 | | | | | | | | | | | |
| | | | | | | | ●● | | 400 | 300 | 150 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| | 140 | | | | | | | | | | | ● | ●● | | | | 410 | 340 | 280 | 390 | 320 | 240 |
| | 140 | | | | | | | | | | | ● | ●● | | | | 320 | 250 | 190 | 320 | 250 | 190 |
| | 140 | | | | | | | | | | | ● | ●● | | | | 250 | 220 | 180 | 250 | 220 | 180 |
| | | | | | | | ●● | | 300 | 220 | 200 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | ●● | ● | 30 | 25 | 15 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| | 200 | 170 | 130 | | | | | | | | | ● | ●● | | | | | | | 170 | 150 | 120 |
| | 180 | 150 | 100 | | | | | | | | | ● | ●● | | | | | | | 150 | 120 | 100 |
| | 150 | 130 | 80 | | | | | | | | | ● | ●● | | | | | | | 130 | 110 | 90 |
| | 190 | 160 | 110 | | | | | | | | | ● | ●● | | | | | | | 150 | 120 | 100 |
| | | | | | | | | ●● | 1500 | 1200 | 800 | | | | | | | | | | | |
| | | | | | | | | ●● | 1500 | 1200 | 800 | | | | | | | | | | | |
| | | | | | | | | ●● | 1000 | 900 | 700 | | | | | | | | | | | |
| | | | | | | | | ●● | 800 | 700 | 500 | | | | | | | | | | | |
| | | | | | | | | ●● | 800 | 700 | 500 | | | | | | | | | | | |
| | | | | | | | | ●● | 400 | 300 | 150 | | | | | | | | | | | |

BH = CBN with high CBN content
BL = CBN with low CBN content
CN = Silicon nitride $Si_3N_4$
CR = Reinforced ceramic
DP = Polycrystalline diamond

# Cutting tool material application charts – Turning

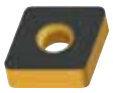
## Carbide

| Walter grade designation | Standard designation | Material groups P Steel | M Stainless steel | K Cast iron | N NF metals | S Materials with difficult cutting properties | H Hard materials | O Other | Range of applications 01 05 10 15 20 25 30 35 40 45 | Coating process | Coating composition | Indexable inserts example |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WPP01 | HC – P 01 | ●● | | | | | | | | CVD | TiCN + $Al_2O_3$ (+ TiN) |  |
| | HC – K 10 | | | ● | | | | | | | | |
| WPP05S | HC – P 05 | ●● | | | | | | | | CVD | TiCN + $Al_2O_3$ (+ TiCN) | |
| WPP10S | HC – P 10 | ●● | | | | | | | | CVD | TiCN + $Al_2O_3$ (+ TiCN) | |
| | HC – K 20 | | | ● | | | | | | | | |
| WPP20S | HC – P 20 | ●● | | | | | | | | CVD | TiCN + $Al_2O_3$ (+ TiCN) | |
| | HC – K 30 | | | ● | | | | | | | | |
| WPP30S | HC – P 30 | ●● | | | | | | | | CVD | TiCN + $Al_2O_3$ (+ TiCN) | |
| WMP20S | HC – M 20 | | ●● | | | | | | | CVD | TiCN + $Al_2O_3$ (+ TiCN) | |
| | HC – P 25 | ●● | | | | | | | | | | |
| | HC – S 20 | | | | | ● | | | | | | |
| WSM10S | HC – M 10 | | ●● | | | | | | | PVD | TiAlN + $Al_2O_3$ (Al) | |
| | HC – S 10 | | | | | ●● | | | | | | |
| | HC – P 10 | ● | | | | | | | | | | |
| WSM20S | HC – M 20 | | ●● | | | | | | | PVD | TiAlN + $Al_2O_3$ (Al) | |
| | HC – S 20 | | | | | ●● | | | | | | |
| | HC – P 20 | ● | | | | | | | | | | |
| WSM30S | HC – M 30 | | ●● | | | | | | | PVD | TiAlN + $Al_2O_3$ (Al) | |
| | HC – S 30 | | | | | ●● | | | | | | |
| | HC – P 30 | ● | | | | | | | | | | |
| WSM10 | HC – M 10 | | ●● | | | | | | | PVD | TiAlN + $Al_2O_3$ (ZrCN) | |
| | HC – S 10 | | | | | ●● | | | | | | |
| | HC – P 10 | ● | | | | | | | | | | |
| WSM20 | HC – M 20 | | ●● | | | | | | | PVD | TiAlN + $Al_2O_3$ (ZrCN) | |
| | HC – S 20 | | | | | ●● | | | | | | |
| | HC – P 20 | ● | | | | | | | | | | |
| WSM30 | HC – M 30 | | ●● | | | | | | | PVD | TiAlN + $Al_2O_3$ (ZrCN) | |
| | HC – S 30 | | | | | ●● | | | | | | |
| | HC – P 30 | ● | | | | | | | | | | |
| WSM21 | HC – M 20 | | ●● | | | | | | | PVD | TiAlN | |
| | HC – S 20 | | | | | ●● | | | | | | |
| | HC – P 20 | ●● | | | | | | | | | | |
| WS10 | HW – S 10 | | | | | ●● | | | | – | – | |

HC = Coated carbide
HW = Uncoated carbide

●● Primary application
● Additional application

## Carbide

| Walter grade designation | Standard designation | Material groups P Steel | M Stainless steel | K Cast iron | N NF metals | S Materials with difficult cutting properties | H Hard materials | O Other | Range of applications 01 05 10 15 20 25 30 35 40 45 | Coating process | Coating composition | Indexable inserts example |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WKK10S** | HC – K 10 | | | ●● | | | | | | CVD | TiCN + $Al_2O_3$ (+ TiCN) | |
| | HC – H 30 | | | | | | ● | | | | | |
| **WKK20S** | HC – K 20 | | | ●● | | | | | | CVD | TiCN + $Al_2O_3$ (+ TiCN) | |
| | HC – P 10 | ● | | | | | | | | | | |
| **WKP30S** | HC – K 30 | | | ●● | | | | | | CVD | TiCN + $Al_2O_3$ (+ TiCN) | |
| | HC – P 35 | ●● | | | | | | | | | | |
| | HC – M 30 | | ● | | | | | | | | | |
| **WAK30** | HC – K 30 | | | ●● | | | | | | CVD | TiCN + $Al_2O_3$ (+ TiCN) |  |
| | HC – P 40 | ● | | | | | | | | | | |
| **WXN10** | HC – N 10 | | | | ●● | | | | | PVD | TiCN[plus] | |
| | HC – P 01 | ● | | | | | | | | | | |
| | HC – M 01 | | ● | | | | | | | | | |
| **WK1** | HW – N 10 | | | | ●● | | | | | – | – | |
| | HW – S 10 | | | | | ● | | | | | | |

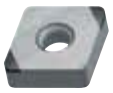
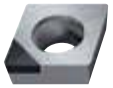
HC = Coated carbide
HW = Uncoated carbide

●● Primary application
● Additional application

# Cutting tool material application charts – Turning

(continued)

## CBN/PCD/ceramic

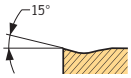
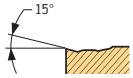
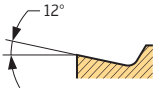
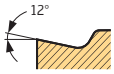
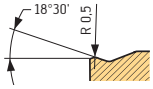
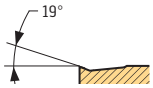
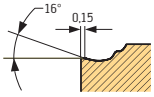
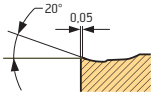
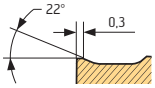
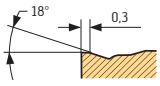
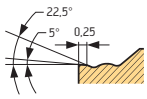
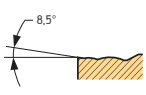
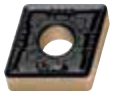
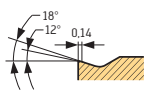
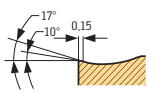
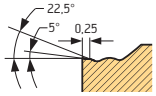
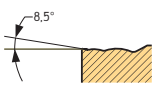
| Walter grade designation | Standard designation | Material groups P Steel | M Stainless steel | K Cast iron | N NF metals | S Materials with difficult cutting properties | H Hard materials | O Other | Range of applications 01 05 10 15 20 25 30 35 40 45 | Coating method | Cutting tool material | Indexable inserts example |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WCB30** | BL – H 05 | | | | | | ●● | | | – | CBN |  |
| **WCB50** | BH – H 10 | | | | | | ●● | | | – | CBN | |
| | BH – K 10 | | | ● | | | | | | | | |
| **WCB80** | BH – K 05 | | | ●● | | | | | | – | CBN | |
| **WDN10** | DP – N 20 | | | | ●● | | | | | – | PCD |  |
| | DP – O 20 | | | | | | | ●● | | | | |
| **WSN10** | CN – K 20 | | | ●● | | | | | | – | $Si_3N_4$ ceramic | |
| **WIS10** | CN – S 10 | | | | | ●● | | | | – | SiAlON ceramic | |
| **WWS20** | CR – S 20 | | | | | ●● | | | | – | Whisker ceramic | |
| | CR – H 20 | | | | | | ● | | | | | |

BH = CBN with high CBN content
BL = CBN with low CBN content
CN = Silicon nitride $Si_3N_4$
CR = Reinforced ceramic
DP = Polycrystalline diamond

●● Primary application
● Additional application

# Geometry overview of turning inserts – Negative basic shape

## Finishing operation

| Geometry | Remarks/field of applications | Material groups P Steel | M Stainless steel | K Cast iron | N NF metals | S Materials with difficult cutting properties | H Hard materials | O Other | Cut Main cutting edge | Cut Corner radius | $a_p$ [mm] | f [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **NF**<br>– Finishing with Wiper technology<br>– High surface quality<br>– High feeds | •• | •• | •• | | • | | |  |  | 0,4–3,0 | 0,10–0,55 |
| | **NFT**<br>– Finishing titanium materials<br>– Sharp cutting edges with circumference fully ground, first choice<br>– 100° corner with NRT roughing geometry implemented with CNMG basic shape | | • | | • | •• | | |  |  | 0,1–2,0 | 0,05–0,20 |
| | **NF4**<br>– Finishing stainless materials<br>– Finishing alloys with difficult cutting properties<br>– Finishing long-chipping steel materials<br>– Curved cutting edge for cutting pressure reduction | • | •• | | | •• | | |  |  | 0,2–1,6 | 0,05–0,20 |
| | **FP5**<br>– Finishing steel materials<br>– Can also be used in semi-finishing as an alternative to MP3<br>– Curved cutting edge for low cutting forces | •• | | | | | | |  |  | 0,1–2,5 | 0,04–0,25 |
| **Medium machining** | | | | | | | | | | | | |
| | **NM**<br>– Medium machining with Wiper technology<br>– High surface quality<br>– High feeds | •• | • | •• | | • | | |  |  | 0,8–4,0 | 0,15–0,70 |
| | **NMT**<br>– Medium machining of titanium materials<br>– Low cutting forces<br>– Machining long-chipping steel materials<br>– Machining forged parts with low material removal | •• | | | | •• | | |  |  | 0,6–4,0 | 0,12–0,32 |
|  | **NMS**<br>– Medium machining especially for high-temperature alloys (Ni, Co and Fe-based alloys)<br>– Sharp cutting edge design<br>– Alternative to NM4 stainless geometry | | • | | | •• | | |  |  | 0,5–4,0 | 0,10–0,40 |
| | **MP3**<br>– Medium machining of long-chipping steel materials<br>– Low cutting forces due to curved cutting edge<br>– Machining forged parts with low material removal | •• | | | | | | |  |  | 0,3–4,0 | 0,06–0,40 |

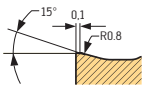
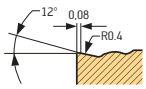
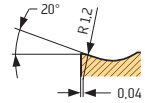
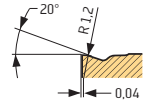
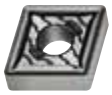
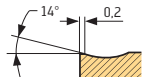
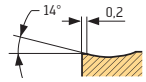
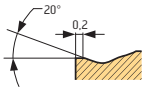
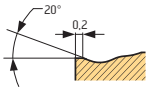
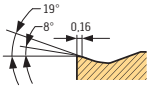
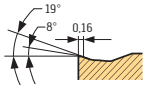
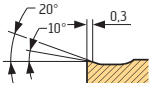
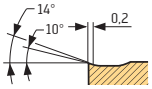
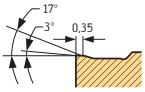
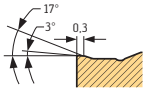
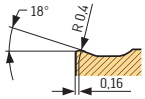
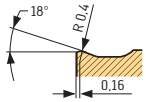
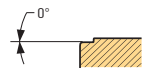
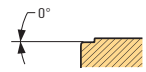
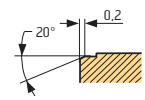
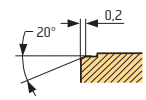
•• Primary application
• Additional application

Note: Sectional views show CNMG120408 . .

# Geometry overview of turning inserts – Negative basic shape

(continued)

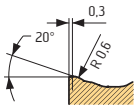
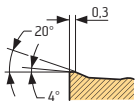
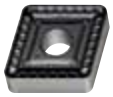
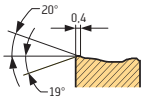
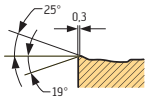
## Medium machining (continued)

| Geometry | Remarks/field of applications | Material groups P Steel | M Stainless steel | K Cast iron | N NF metals | S Materials with difficult cutting properties | H Hard materials | O Other | Cut Main cutting edge | Cut Corner radius | $a_p$ [mm] | f [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **MP5**<br>– Universal geometry for steel materials<br>– Reinforced chip breaker blades<br>– Extremely wide range of applications | •• | | | | | | |  |  | 0,5–8,0 | 0,16–0,55 |
| | **NM4 Stainless**<br>– Universal geometry for stainless materials and for high-temperature alloys<br>– Machining long-chipping steels | • | •• | | | •• | | |  |  | 0,5–4,5 | 0,10–0,40 |
|  | **MK5**<br>– Universal geometry for cast iron workpieces<br>– Machining steel materials with higher strength | • | | •• | | | | |  |  | 0,6–8,0 | 0,15–0,90 |
| **Roughing operations – Double-sided indexable inserts** | | | | | | | | | | | | |
| | **NRT**<br>– Roughing titanium materials<br>– Stable cutting edge with protective chamfer | | | | | •• | | |  |  | 0,8–9,0 | 0,18–0,80 |
| | **NRS**<br>– Roughing operations especially for high-temperature alloys (Ni, Co and Fe-based alloys)<br>– Sharp cutting edge design<br>– Alternative to NR4 geometry | | • | | | •• | | |  |  | 1,0–6,0 | 0,15–0,70 |
| | **NR4**<br>– Roughing operations in stainless materials and high-temperature alloys | | •• | | | •• | | |  |  | 1,2–8,5 | 0,22–0,80 |
| | **RP5**<br>– Roughing steel materials<br>– Stable, positive cutting edge<br>– Open chip groove for a low cutting temperature | •• | | • | | | | |  |  | 0,8–12,0 | 0,2–1,20 |
| | **RP7**<br>– Interrupted cuts<br>– Cast skins/forged skins<br>– Stable cutting edge | •• | | •• | | | | |  |  | 0,8–8,0 | 0,16–0,70 |
| | **RK5**<br>– Universal geometry for cast iron workpieces<br>– First choice for grey cast iron | | | •• | | | • | |  |  | 0,6–8,0 | 0,16–0,80 |
| | **RK7**<br>– Cast iron machining with hard crust<br>– Interrupted cuts<br>– Hard machining of steel materials | | | •• | | | •• | |  |  | 0,8–8,0 | 0,25–0,80 |

•• Primary application
• Additional application

Note: Sectional views show CNMG120408 . .

## Roughing operations – Single-sided indexable inserts

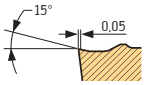
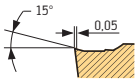
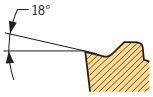
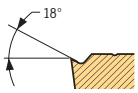
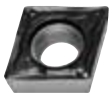
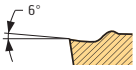
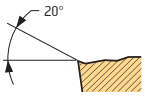
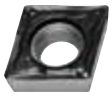
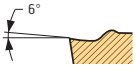
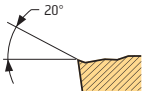
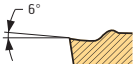
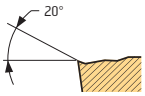
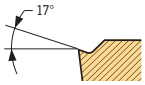
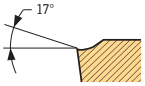
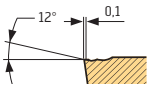
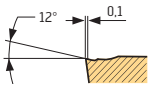
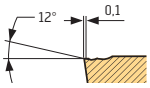
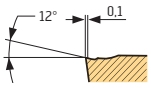
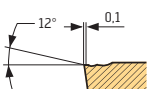
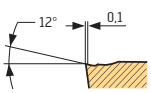
| Geometry<br>Remarks/field of applications | Material groups<br>P<br>Steel | M<br>Stainless steel | K<br>Cast iron | N<br>NF metals | S<br>Materials with difficult cutting properties | H<br>Hard materials | O<br>Other | Cut<br>Main cutting edge | Cut<br>Corner radius | $a_p$ [mm] | f [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **NRF**<br>– Universal single-sided roughing insert<br>– Forged parts with uneven material removal<br>– Low power consumption<br>– Easy-cutting geometry | ●● | ● | ● | | | | |  |  | 0,8–12,0 | 0,25–1,20 |
|  **NRR**<br>– Heavy roughing<br>– Machining of cast skins/forged parts<br>– Interrupted cuts<br>– Maximum depths of cut and feeds | ●● | | ● | | | | |  |  | 2,0–17,0 | 0,50–1,80 |

●● Primary application
● Additional application

Note: Sectional views show SNMM190616 . .

# Geometry overview of turning inserts – Positive basic shape

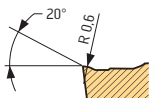
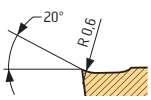
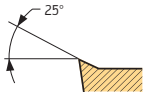
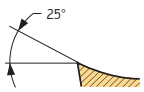
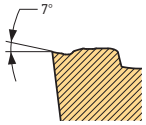
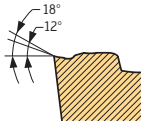
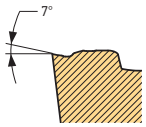
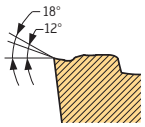
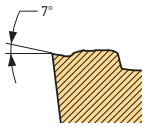
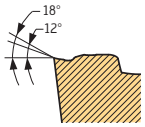
## Finishing operation

| Geometry | Remarks/field of applications | Material groups P Steel | M Stainless steel | K Cast iron | N NF metals | S Materials with difficult cutting properties | H Hard materials | O Other | Cut Main cutting edge | Cut Corner radius | $a_p$ [mm] | f [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **PF**<br>– Finishing with Wiper technology<br>– High surface quality<br>– High feeds | ●● | ●● | ●● | | ● | | |  |  | 0,3–3,0 | 0,12–0,60 |
| | **PF2**<br>– Finishing insert with circumference fully ground<br>– Long, small diameter shafts with a tendency to vibrate<br>– Low cutting forces | ●● | ●● | ● | ●● | ●● | | |  |  | 0,12–4,5 | 0,02–0,45 |
|  | **FM4**<br>– Finishing insert<br>– Excellent chip control<br>– Can also be used for precision boring | ● | ●● | | | ●● | | |  |  | 0,1–2,5 | 0,04–0,20 |
|  | **FP4**<br>– Finishing insert<br>– Excellent chip control<br>– Can also be used for precision boring | ●● | ● | ● | | ● | | |  |  | 0,1–2,5 | 0,04–0,20 |
| | **PF4**<br>– Finishing insert<br>– Excellent chip control<br>– Can also be used for precision boring | ●● | ●● | | | ●● | | |  |  | 0,1–2,5 | 0,04–0,20 |
| | **PF5**<br>– Finishing insert with circumference fully ground<br>– Can also be used for precision boring<br>– Extremely narrow chip breaker groove | ●● | ●● | | | ● | | |  |  | 0,1–4,0 | 0,04–0,35 |
| | **PS5**<br>– Universal insert for operations from finishing to medium machining<br>– Can also be used for counterboring | ● | ●● | ● | | ● | | |  |  | 0,3–2,5 | 0,08–0,32 |
| | **FP6**<br>– Universal insert for operations from finishing to medium machining<br>– Can also be used for counterboring | ●● | ● | ● | | ● | | |  |  | 0,3–2,5 | 0,08–0,32 |
| | **FK6**<br>– Universal insert for operations from finishing to medium machining<br>– Can also be used for counterboring | ● | ● | ●● | | ● | | |  |  | 0,3–2,5 | 0,08–0,32 |

●● Primary application
● Additional application

Note: Sectional views show CCMT09T308 . . or CCGT09T308 . .

## Medium machining

| Geometry | Remarks/field of applications | Material groups P Steel | M Stainless steel | K Cast iron | N NF metals | S Materials with difficult cutting properties | H Hard materials | O Other | Cut Main cutting edge | Cut Corner radius | $a_p$ [mm] | f [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wiper | **PM**<br>– Finishing with Wiper technology<br>– High surface quality<br>– High feeds | ●● | ● | ●● | | ● | | |   |   | 0,5–4,0 | 0,12–0,60 |
| | **PM2**<br>– Universal insert for non-ferrous materials<br>– Sharp cutting edge with circumference fully ground<br>– Polished rake face<br>– Precision finishing on steel and stainless materials | ● | ● | | ●● | ● | | |   |   | 0,5–6,0 | 0,02–0,80 |
| | **MM4**<br>– Machining long-chipping materials<br>– Can be used universally in a wide range of applications<br>– Circumference precision-ground<br>– Circumference precision-sintered<br>– Straight cutting edge for C, S and T basic shapes, for use as a chamfer insert in boring tools | ● | ●● | ● | | ●● | | |   |   | 0,4–3,0 | 0,08–0,32 |
| | **MP4**<br>– Machining long-chipping materials<br>– Can be used universally in a wide range of applications<br>– Circumference precision-ground<br>– Circumference precision-sintered<br>– Straight cutting edge for C, S and T basic shapes, for use as a chamfer insert in boring tools | ●● | ● | ● | | ● | | |   |   | 0,4–3,5 | 0,08–0,32 |
| | **MK4**<br>– Machining unstable components, internal machining<br>– Additional version with circumference fully ground available for maximum precision<br>– Straight cutting edge for C, S and T basic shapes, for use as a chamfer insert in boring tools | ● | ● | ●● | | ● | | |   |   | 0,4–3,5 | 0,08–0,32 |

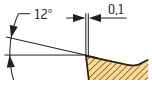
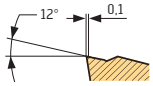
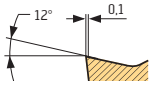
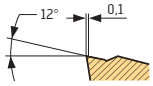
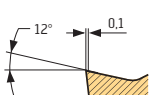
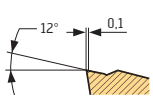
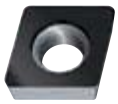
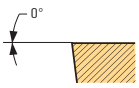
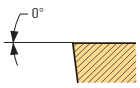
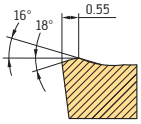
●● Primary application
● Additional application

Note: Sectional views show CCMT09T308 . . or CCGT09T308 . .

# Geometry overview of turning inserts – Positive basic shape

(continued)

## Roughing operation

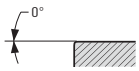
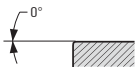
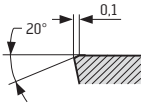
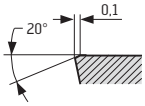
| Geometry | Remarks/field of applications | Material groups P Steel | M Stainless steel | K Cast iron | N NF metals | S Materials with difficult cutting properties | H Hard materials | O Other | Cut Main cutting edge | Cut Corner radius | $a_p$ [mm] | f [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **RM4**<br>– Universal geometry for roughing operations to medium machining<br>– Extremely large chip breaking area<br>– Maximum machining volume and tool life | • | •• | • | | •• | | |  |  | 0,6–5,0 | 0,12–0,50 |
| | **RP4**<br>– Universal geometry for roughing operations to medium machining<br>– Extremely large chip breaking area<br>– Maximum machining volume and tool life | •• | • | • | | • | | |  |  | 0,6–5,0 | 0,12–0,50 |
| | **RK4**<br>– First choice for grey cast iron and ductile cast iron<br>– Universal geometry for roughing operations to medium machining<br>– Extremely large chip breaking area | • | • | •• | | • | | |  |  | 0,6–5,0 | 0,12–0,50 |
|  | **RK6**<br>– Cast iron machining with hard crust<br>– Interrupted cuts<br>– Stable cutting edge design | | | •• | | | | • |  |  | 0,2–0,6 | 0,12–0,50 |
| **Heavy cutting** | | | | | | | | | | | | |
| | **HU6**<br>– Heavy roughing<br>– Excellent chip breaking<br>– Machining forged parts<br>– For use in train wheel machining | •• | | •• | | | | |  | | 1,0–15,0 | 0,12–1,7 |

•• Primary application
• Additional application

Note: Sectional views show CCMT09T308 . . , CCGT09T308 . . , CCMW09T308 . . or RCMX2006 . . .

# Geometry overview of turning inserts – Negative basic shape CBN/PCD/ceramic

## Ceramic

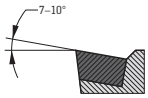
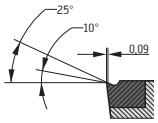
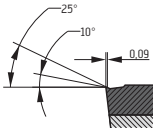
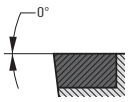
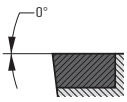
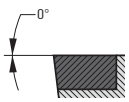
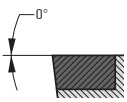
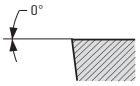
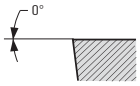
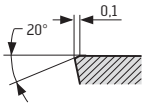
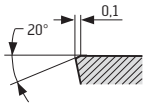
| Geometry | Remarks/field of applications | Material groups P Steel | M Stainless steel | K Cast iron | N NF metals | S Materials with difficult cutting properties | H Hard materials | O Other | Cut Main cutting edge | Cut Corner radius | $a_p$ [mm] | f [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | . . . E<br>– Ceramic indexable insert with circumference fully ground<br>– Rounded cutting edge for minimum cutting forces<br>– Machining high-temperature alloys | | | | | •• | | |  |  | 0,1–7,5 | 0,1–0,5 |
| | . . . T01020<br>– Ceramic indexable insert with circumference fully ground<br>– Chamfered cutting edge for maximum stability for medium machining to roughing operations<br>– Machining high-temperature alloys | | | | | •• | • | |  |  | 0,1–5,0 | 0,1–0,45 |

•• Primary application
• Additional application

Note: Sectional views show RNGN120700 . . .

# Geometry overview of turning inserts – Positive basic shape CBN/PCD/ceramic

## PCD/ceramic cutting tool materials

| Geometry | Remarks/field of applications | Material groups P Steel | M Stainless steel | K Cast iron | N NF metals | S Materials with difficult cutting properties | H Hard materials | O Other | Cut Main cutting edge | Cut Corner radius | $a_p$ [mm] | f [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **. CGT . . . FS-1**<br>– PCD finishing insert with circumference fully ground in G tolerance<br>– Extremely low cutting forces due to 7°-10° rake angle<br>– Extremely high surface quality | | | | ●● | ● | | ●● | — |  | 0,05–1,5 | 0,03–0,38 |
| | **. CGT . . . FS-M1**<br>– PCD indexable insert with circumference fully ground in G tolerance<br>– Excellent chip control thanks to laser-generated chip-breaker geometry<br>– Finishing to medium machining | | | | ●● | ● | | ●● |  |  | 0,1–3,0 | 0,08–0,2 |
| | **. CGW . . . FS-1**<br>– PCD indexable insert with circumference fully ground in G tolerance<br>– Universal PCD indexable insert with 0° rake angle<br>– Maximum repeat accuracy | | | | ●● | ● | | ●● |  |  | 0,05–3,5 | 0,03–0,38 |
| | **. CGW . . . FSL/R-9**<br>– PCD indexable insert with circumference fully ground in G tolerance<br>– Cutting edge with guide pad<br>– Maximum depth of cut and shoulder machining | | | | ●● | ● | | ●● |  |  | 0,05–9,0 | 0,03–0,38 |
| | **. . . E**<br>– Ceramic indexable insert with circumference fully ground<br>– Rounded cutting edge for minimum cutting forces<br>– Machining high-temperature alloys | | | | | ●● | | |  |  | 0,1–3,6 | 0,1–0,32 |
| | **. . . T01020**<br>– Ceramic indexable insert with circumference fully ground<br>– Chamfered cutting edge for maximum stability for medium machining to roughing operations<br>– Machining high-temperature alloys | | | | | ●● | ● | |  |  | 0,1–3,6 | 0,1–0,32 |

●● Primary application
● Additional application

Note: Sectional views show CCGT09T304 . .,
CCGW09T304 . . or RCGX090700 . . .

# Application information for Wiper indexable inserts

## 1. Achievable surface quality with Wiper indexable inserts

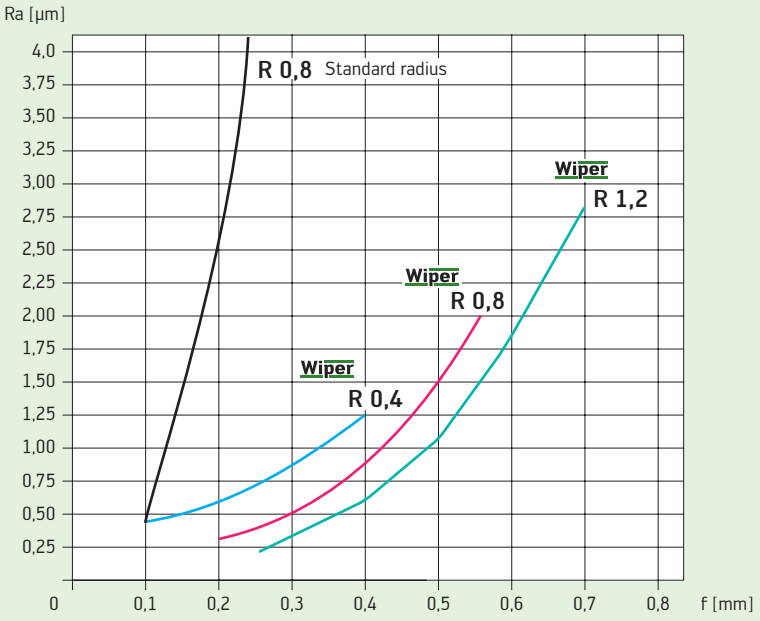
**Wiper**

**A single geometry for two applications.**

– Same surface quality with double the feed rate

– Double the surface quality with the same feed rate

A table containing the achievable surface qualities with the standard radius can be found on the next page.

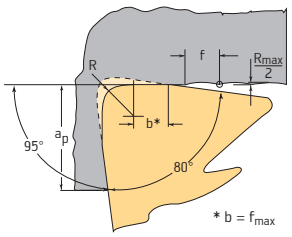



## 2. Edge formation: Comparison between Wiper indexable inserts and standard indexable inserts

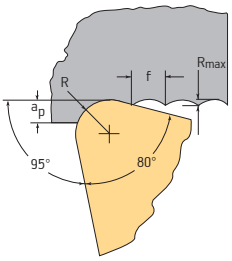
The specified maximum feeds may not be exceeded with Wiper geometries:

| R | $f_{max}$ [mm] |
|---|---|
| 0,4 | ≤ 0,4 |
| 0,8 | ≤ 0,55 |
| 1,2 | ≤ 0,7 |

**Wiper geometry: NF/NM and PF/PM**



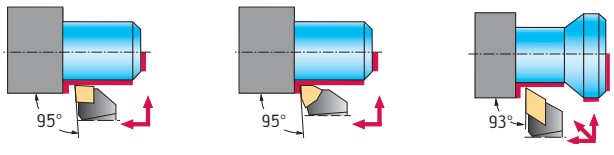

**Standard geometry with corner radius**




## 3. Usage recommendations

Use turning toolholders with a lead angle of κ = 95° for CNMG/CCMT and WNMG/WCMT Wiper indexable inserts, and a lead angle of κ = 93° for DNMG/DCMT Wiper indexable inserts, for example:

CNMG120408–NM → DCLNR2525M12
WNMG080408–NM → DWLNR2525M08
DNMG150608–NM → DDJNR2525M15




= Wiper effect

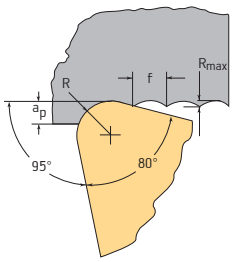
The Wiper effect is achieved during longitudinal turning and facing.
The Wiper effect is not achieved with inclined surfaces and radii.
Please note that radius compensation is required in the area of radii and inclined surfaces; otherwise contour distortion will occur.

# Application information: Surface quality

## Achievable surface quality with standard radius

Select the largest possible corner radius permitted by the workpiece contour, system rigidity and chip control.
The larger the corner radius, the better the surface quality that can be achieved.

| | | Theoretical Ra/Rz values depending on the feed and corner radius | | | | | | Feed ranges depending on the corner radius and type of machining | |
|---|---|---|---|---|---|---|---|---|---|
| Corner radius | Round indexable insert diameter | Ra/Rz in µm | | | | | | Medium machining to roughing operations | Finishing operations to medium machining |
| | | 0,4/1,6 | 1,6/6,3 | 3,2/12,5 | 6,3/25 | 8/32 | 32/100 | | |
| mm | mm | Feed f in mm | | | | | | Feed f in mm | |
| 0,2 | | 0,05 | 0,08 | 0,13 | | | | | 0,04–0,15 |
| 0,4 | | 0,07 | 0,11 | 0,17 | 0,22 | | | | 0,07–0,22 |
| 0,8 | | 0,10 | 0,15 | 0,24 | 0,30 | 0,38 | | 0,25–0,60 | 0,10–0,30 |
| 1,2 | | | 0,19 | 0,29 | 0,37 | 0,47 | | 0,35–0,85 | 0,20–0,40 |
| 1,6 | | | | 0,34 | 0,43 | 0,54 | 1,08 | 0,40–1,00 | |
| 2,4 | | | | 0,42 | 0,53 | 0,66 | 1,32 | 0,50–1,20 | |
| | 6 | 0,20 | 0,31 | 0,49 | 0,62 | | | | 0,20–0,60 |
| | 8 | 0,23 | 0,36 | 0,56 | 0,72 | | | | 0,23–0,70 |
| | 10 | 0,25 | 0,40 | 0,63 | 0,80 | 1,00 | | | 0,25–0,80 |
| | 12 | | 0,44 | 0,69 | 0,88 | 1,10 | | 0,40–0,80 | |
| | 16 | | 0,51 | 0,80 | 1,01 | 1,26 | 2,54 | 0,50–1,00 | |
| | 20 | | | 0,89 | 1,13 | 1,42 | 2,94 | 0,60–1,25 | |
| | 25 | | | | 1,26 | 1,58 | 3,33 | 0,70–1,50 | |




$$R_{max} = \frac{f^2}{8 \times r} \times 1000 \quad [\mu m]$$

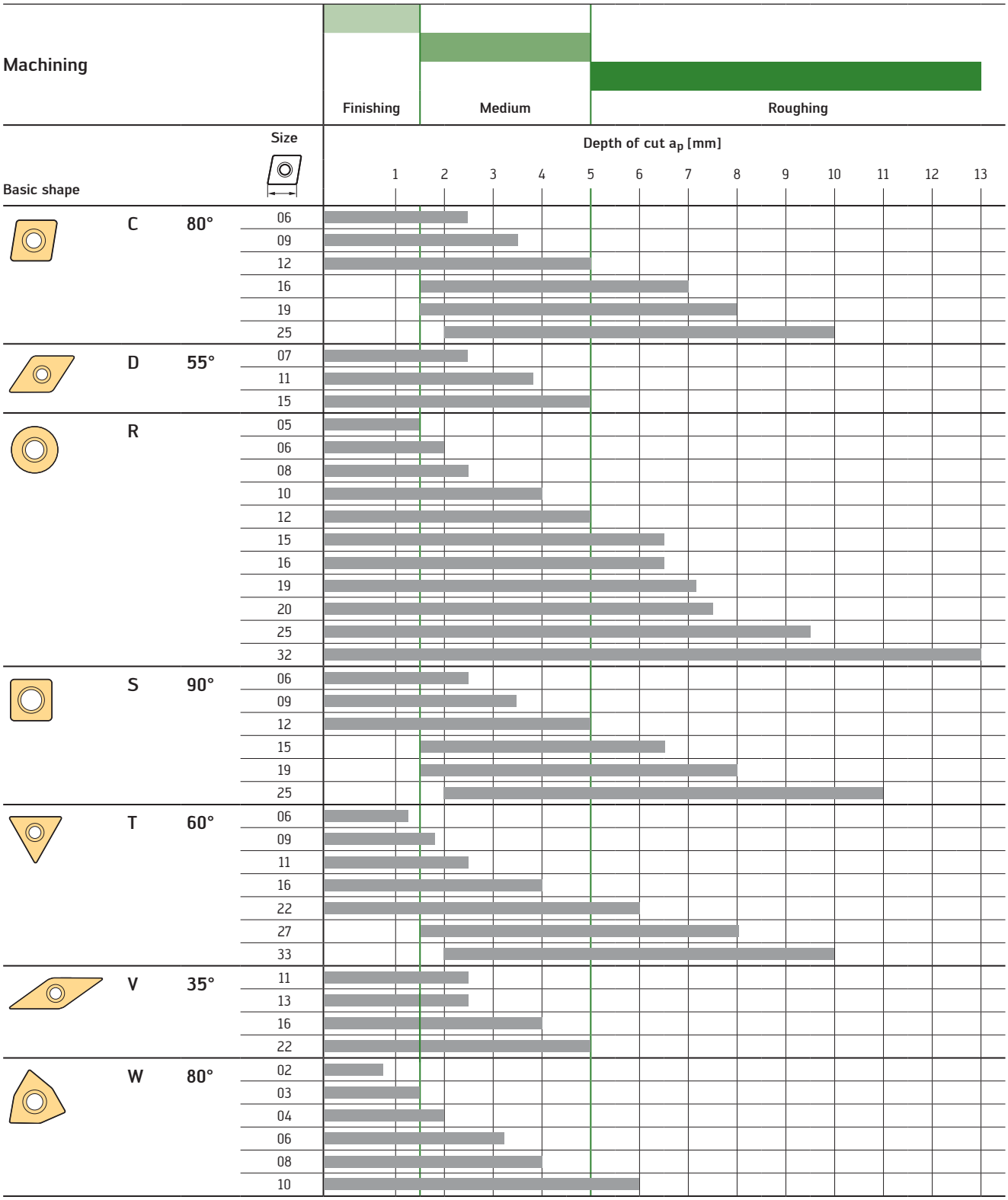
| | | |
|---|---|---|
| $R_{max}$ | Roughness profile depth | [µm] |
| f | Feed per revolution | [mm] |
| r | Corner radius of the indexable insert | [mm] |

# Application information:
# The indexable insert size is selected depending on the depth of cut $a_p$

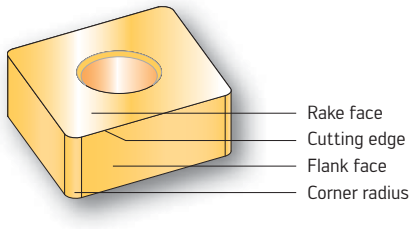
**Finishing**
Applications with low depths of cut and feeds
f = 0.1-0.3 mm

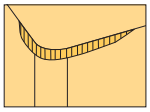
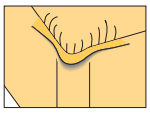
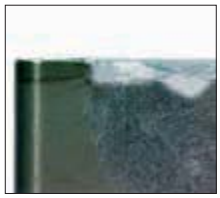
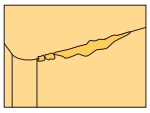
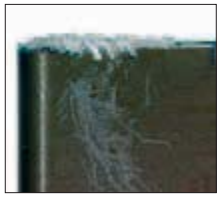
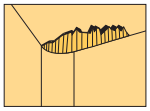
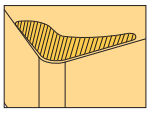
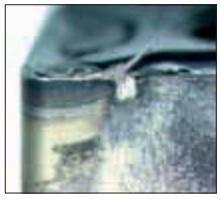
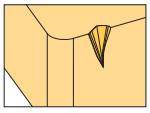
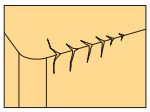
**Medium**
Applications with average depths of cut and feeds
f = 0.2-0.5 mm

**Roughing**
Applications with high machining volume and feed rates
f = 0.4-1.5 mm

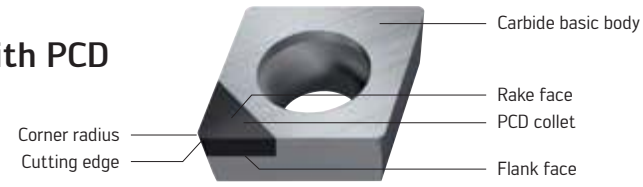


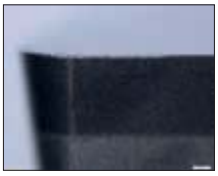
# Application information: Wear patterns from turning




| Wear patterns | | | Characteristics | Measures |
|---|---|---|---|---|
| **Flank face wear** | |  | Abrasion on the flank face of the indexable insert | – Use a more wear-resistant grade<br>– Increase the feed<br>– Reduce the cutting speed<br>– Optimise the cooling |
| **Plastic deformation** | |  | Deformation of the cutting edge due to thermal overload and high cutting forces | – Use a more wear-resistant grade<br>– Reduce the feed<br>– Reduce the depth of cut<br>– Optimise the cooling<br>– Reduce the cutting speed |
| **Fractures** |  |  | Fractures along the cutting edge | – Use a tougher carbide grade<br>– Use a more stable tool and reduce the projection length<br>– Use a more stable geometry<br>– Reduce the cutting speed |
| **Build-up on the cutting edge** |  |  | Adhesion of material along the cutting edge on the rake face | – Increase the cutting speed<br>– Use a sharper geometry with a larger rake angle<br>– Optimise the cooling<br>– Use an indexable insert with a treated surface (Tiger·tec® Silver) |
| **Crater wear** | |  | Crater-shaped cavities on the rake face of the indexable insert | – Reduce the cutting speed<br>– Use a geometry with a larger rake angle<br>– Use a grade that is more wear-resistant with a high $Al_2O_3$ content<br>– Optimise the cooling<br>– Use a more open geometry |
| **Notch or oxidation wear** |  |  | Notching around the depth of cut on the indexable insert | – Vary the depth of cut<br>– Use a tougher grade (PVD-coated)<br>– Reduce the cutting speed<br>– Use a more open geometry<br>– Optimise the cooling<br>– Use a tool with a leading cutting edge ($\kappa = 45°/75°$)<br>– With notch wear, select a smaller corner radius |
| **Hairline cracks** | |  | Multiple cracks running vertical to the cutting edge, caused by thermal shock | – Possibly work the interrupted cut without coolant<br>– Reduce the cutting speed<br>– Reduce the feed<br>– Use a tougher grade<br>– Use a more stable geometry |

# Application information: Wear patterns in turning applications with PCD




| Wear patterns with PCD | | Cause | Measures |
|---|---|---|---|
| **Abrasion** |  | – Due to hard inclusions (e.g. silicon grains) or alloying elements, small parts of the cutting edge are gradually worn away (abrasion) | – Use a coarser PCD grain size<br>– Reduce the cutting speed<br>– Reduce the feed<br>– Implement a more stable cutting edge<br>– Optimise the coolant/increase the pressure<br>– Increase the clearance angle |
| **Build-up on the cutting edge** | | – The material to be machined adheres to the tool cutting edge (adhesion)<br>– When it is stripped away, small particles are torn from the cutting edge | – Check for wear<br>– Increase the cutting speed $v_c$<br>– Use a finer PCD grain size<br>– Use an insert with a sharper wedge angle/chip breaker<br>– Optimise the coolant/increase the pressure<br>– Check the lubricant concentration |
| **Fractures** | | – When machining very hard materials or performing interrupted cuts<br>– Flaking, cracks or fractures can occur along the cutting edge | – Grade with a higher breakage resistance<br>– Review the machining strategy<br>– Adjust the cutting edge preparation (more stable cutting edge)<br>– Reduce the clearance angle<br>– Check for chip impacts |
| **Apparent chip** | | – When machining extremely tough and freshly cast aluminium without cooling lubricant or with only minimum quantity lubrication<br>– Insufficient lateral clearance angle or projection | – Optimise the cooling or use a coolant with a higher concentration of lubricant<br>– Use chip breaker geometry<br>– Increase the minor clearance angle<br>– Increase the projection of the PCD insert or the PCD blank beyond the basic body |
| **Layer flaking** | | – Often occurs when machining sintered materials and irregular surfaces<br>– Potentially excessively sharp cutting edge design<br>– Vibrating, unstable components | – Select a more stable edge design<br>– Select a coarser PCD grain size<br>– Reduce the cutting speed<br>– Reduce the clearance angle |
| **Overload fracture** | | – Sudden overloading of the cutting edge | – Analyse the machining strategy<br>– It may even be necessary to select a negative chamfer |

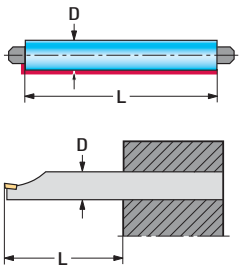
**Important:**
Avoid machining temperatures of above 730 °C at all times.

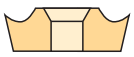
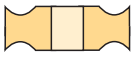
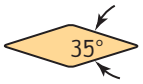
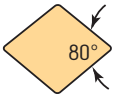
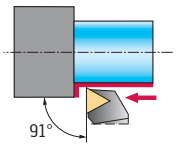
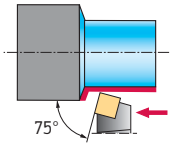
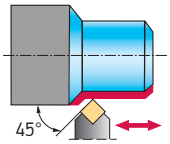
**Consequences of excessive machining temperatures:**
– The solder joint loses adhesion
– The PCD grain reaches reaction temperature → microstructure transforms into graphite

# Application information: Vibration tendency

Vibration occurs when machining long, small diameter components or during internal machining using boring bars with a long projection length. This is particularly the case if L/D > 4.

When selecting a tool, the following parameters must be taken into account in order to reduce the risk of vibration:



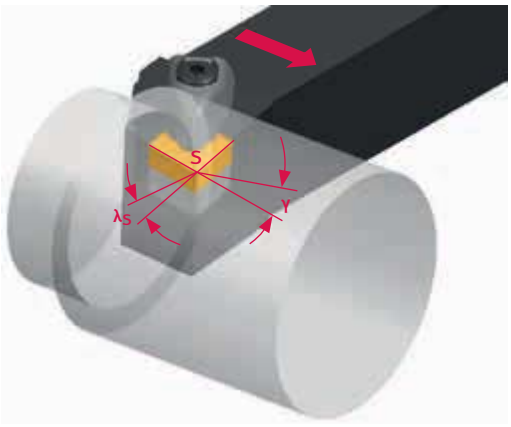

| | – Vibration tendency + | | |
|---|---|---|---|
| 1. Basic insert shape |  Positive |  Negative, double-sided | Negative, single-sided |
| 2. Insert shape |  35° |  80° | |
| 3. Approach angle |  91° |  75° |  45° |
| 4. Corner radius | r = 0,2 mm | r = 0,4 mm | r = 0,8–1,2 mm |
| 5. Effective rake angle | | | |
| 6. Coating | Uncoated | PVD | CVD |

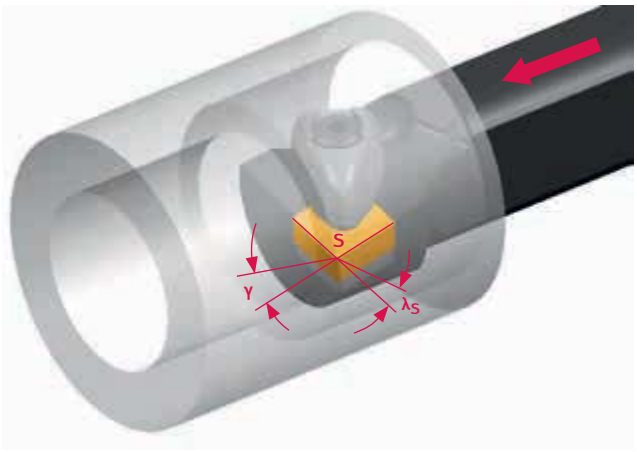
Following selection of the tool/indexable insert, there are other factors that play an important role in reducing vibration:

1. Clamp tools and boring bars at the shortest length possible
2. Select a depth of cut 0.1 mm greater than the corner radius of the indexable insert
3. If vibration occurs, reduce the cutting speed by 50-70% in comparison to the specified catalogue values
4. Check the clamping pressure at the tail stock spindle during external machining

# Application information:
# Walter Turn turning tools – Effective rake angle

The effective rake angle of a tooling system is determined by the indexable insert geometry and the inclination of the indexable insert in the tool holder.



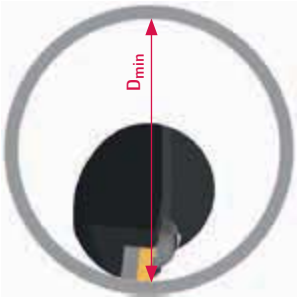



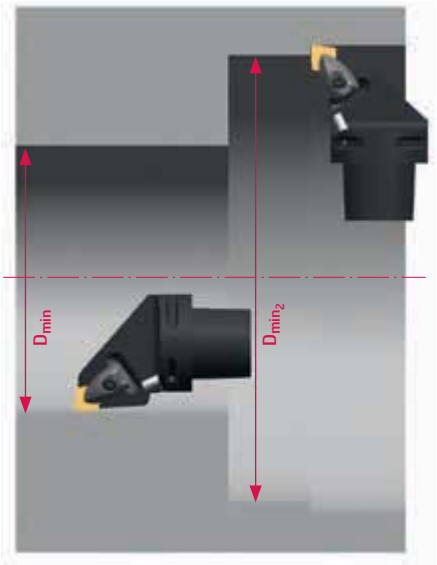

$\lambda_S$ (inclination angle) The angle is tilted around the peripheral cutting edge (S) parallel to the main cutting edge.

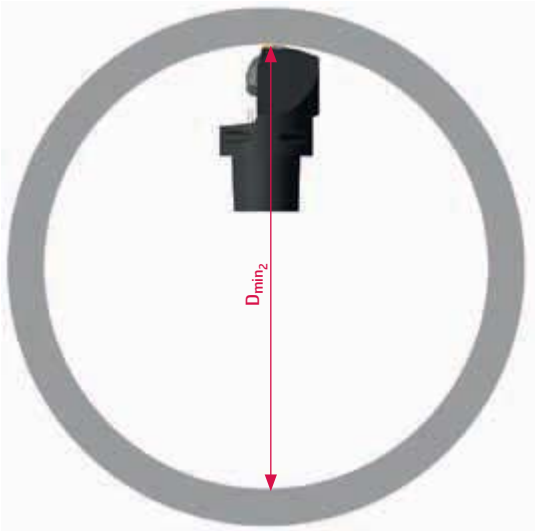
γ (rake angle) This is the angle at right angles to the main cutting edge, measured with a smooth indexable insert without chip breaker groove.
In order to obtain the effective rake angle of the tooling system, the rake angle of the indexable insert must also be taken into consideration.

# Walter Capto™ – Boring operations with turning toolholders for external machining

Walter Capto™ tools for external machining can also be used for internal machining of large diameters.
This often takes place on turn/mill centres or vertical turret lathes.



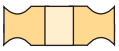



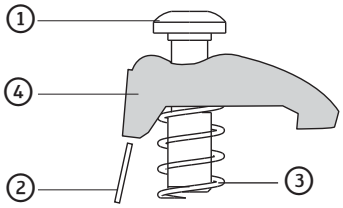



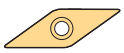

$D_{min}$ = Minimum internal machining diameter. Toolholder parallel to the axis of rotation.
$D_{min_2}$ = Minimum internal machining diameter. Toolholder angled at 90° in relation to the axis of rotation.

# Assembly parts and accessories for Walter Turn rigid clamping

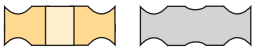
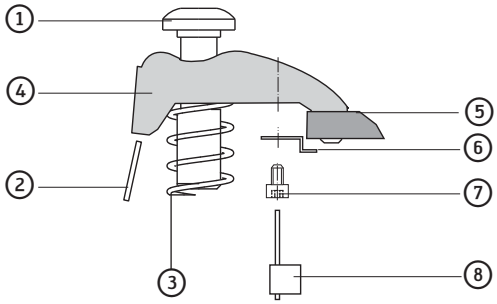
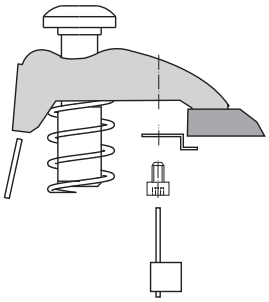
## Standard clamps

| Application |  for indexable inserts with drilled hole |
|---|---|

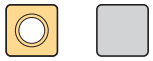
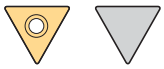
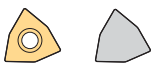



| Set | PK240 set | PK244 set | PK241 set | PK242 set | PK243 set | PK301 set |
|---|---|---|---|---|---|---|
| 1 Clamp screw | FS1472 (Torx 9IP) | FS1473 (Torx 15IP) | FS1473 (Torx 15IP) | FS1474 (Torx 20IP) | FS1474 (Torx 20IP) | FS1589 (Torx 25IP) |
| 2 Pin (fitted in the toolholder) | RS116 | RS117 | RS117 | RS117 | RS117 | RS117 |
| 3 Pressure spring | FS1469 | FS1470 | FS1470 | FS1471 | FS1471 | FS1590 |
| 4 Clamp | PK240 | PK244 | PK241 | PK242 | PK243 | PK301 |
| **Type** | **Size** | | | | | |
| | CN . . 09 . . | | CN . . 12 . . | CN . . 16 . . | CN . . 19 . . | |
| | DN . . 11 . . | | DN . . 15 . . | DN . . 15 . . | | |
| | SN . . 09 . . | | SN . . 12 . . | SN . . 15 . . | SN . . 19 . . | SN . . 25 . . |
| | TN . . 16 . . | | TN . . 22 . . | | | |
|  | | VN . . 16 . . | | | | |
| | WN . . 06 . . | | WN . . 08 . . | WN . . 10. . | | |

## Reinforced clamps with carbide shoe

| Application |  for indexable inserts with hole* or dimple | for indexable inserts without hole |
|---|---|---|
| |  |  |

| Set | PK245 set | PK246 set | PK254 set |
|---|---|---|---|
| ① Clamp screw | FS1473 (Torx 15IP) | FS1474 (Torx 20IP) | FS1473 (Torx 15IP) |
| ② Pin (fitted in the toolholder) | RS117 | RS117 | RS117 |
| ③ Pressure spring | FS1470 | FS1471 | FS1470 |
| ④ Clamp | PK245 | PK246 | PK254 |
| ⑤ Carbide clamping plate | FK371 | FK372 | FK 371 |
| ⑥ Clip for clamping plate | FK373 | FK373 | FK 373 |
| ⑦ Screw for clamping plate | FS1492 | FS1492 | FS1492 |
| ⑧ Key for clip screw | FS1490 (Torx 7IP) | FS1490 (Torx 7IP) | FS1490 (Torx 7IP) |
| Shim for basic shape CN . . 1207 . . | | | AP411–CN1207 |
| Shim for basic shape DN . . 1507 . . | | | AP412–DN1507 |
| Shim for basic shape SN . . 1207 . . | | | AP413–SN1207 |

| Type | Size | | |
|---|---|---|---|
| | CN . . 12 . . | CN . . 16 . . | CN . . 12 . . |
| | DN . . 15 . . | | DN . . 15 . . |
|  | SN . . 12 . . | SN . . 15 . . | SN . . 12 . . |
|  | TN . . 22 . . | | TN . . 22 . . |
|  | WN . . 08 . . | WN . . 10. . | WN . . 08 . . |

Walter Turn clamp holders are fitted as standard with the PK241 set. By using the PK254 set, they can be used to clamp the following ceramic inserts without hole: CN . . 12 . . / DN . . 15 . . /SN . . 12 . . → For this, separate shims must be ordered (see table).

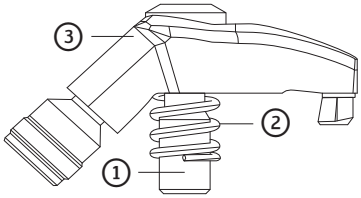
* Alternatively in the event of erosion on the standard clamp

# Assembly parts and accessories for Walter Turn rigid clamping with precision cooling

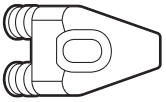
## Standard clamps for tools with precision cooling

**Application**

for indexable inserts with hole

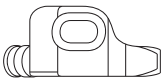



**Version**

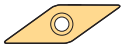


Walter Capto™

Right



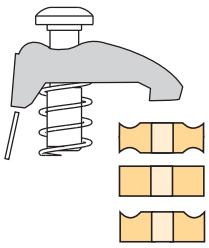
Left

| Set | PK255 set | PK256 set | PK261R/L set | PK266R/L set |
|---|---|---|---|---|
| ① Clamp screw | FS1473 (Torx 15IP) | FS1473 (Torx 15IP) | FS1473 (Torx 15IP) | FS1473 (Torx 15IP) |
| ② Pressure spring | FS2188 | FS2188 | FS2188 | FS2188 |
| ③ Clamp | PK255 | PK256 | PK261R/L | PK266R/L |
| **Type** | **Size** | | | |
| | CN . . 12 . . | | CN . . 12 . . | |
| | DN . . 11 . . | DN . . 15 . . | DN . . 11 . .<br>DN . . 15 . . | |
| | SN . . 12 . . | | SN . . 12 . . | |
| | TN . . 16 . .<br>TC . . 16T3 . . | | TN . . 16 . .<br>TC . . 16T3 . . | |
|  | VB . . 1604 . . | | VB . . 1604 . . | |
| | WN . . 08 . . | | | WN . . 08 . . |

# Shims for Walter Turn clamp holders – External and internal machining

## Standard clamps

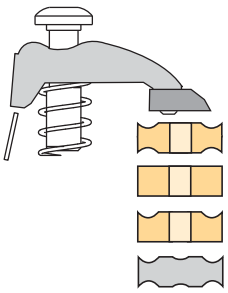
**for indexable inserts with hole**
**PK240 set/PK244 set**
**PK241 set/PK242 set**
**PK243 set/PK301 set**



## Reinforced clamps with carbide shoe

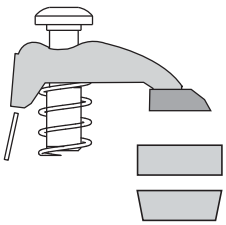
**for indexable inserts with hole* or dimple**

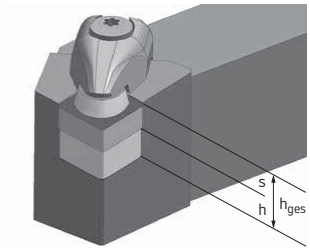
**PK245 set**
**PK246 set**



**for indexable inserts without hole**

**PK254 set**



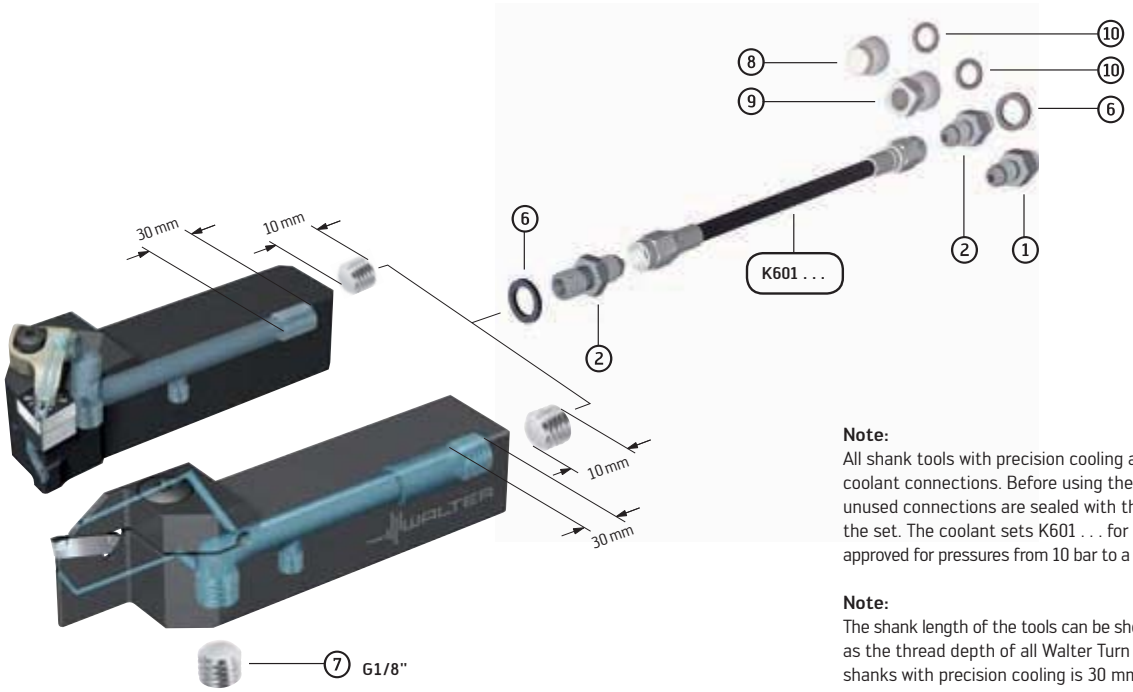



s = Insert thickness

| Indexable insert | | | Shim | | | | | |
|---|---|---|---|---|---|---|---|---|
| Insert seat | for insert | Insert thickness s mm | Type | Designation | Status | Height h mm | Clearance angle | Centre height $h_{ges}$ mm |
| CN . . 09 . . | CN . . 0903 . . | 3,18 | | AP414–CN09 | Assembly part | 3,18 | 7° | 6,36 |
| CN . . 12 . . | CN . . 1204 . . | 4,76 | | AP301–CN12 | Assembly part | 6,35 | 0° | 11,11 |
| | CN . . 1204 . . | 4,76 | | AP354–CN12 | Assembly part | 3,175 | 12° | 7,935 |
| | CN . . 1207 . . | 7,94 | | AP411–CN1207 | Accessories | 3,175 | 0° | 11,11 |
| CN . . 16 . . | CN . . 1606 . . | 6,35 | | AP302–CN16 | Assembly part | 6,35 | 0° | 12,7 |
| CN . . 19 . . | CN . . 1906 . . | 6,35 | | AP303–CN19 | Assembly part | 4,76 | 8° | 11,11 |
| DN . . 11 . . | DN . . 1104 . . | 4,76 | | AP305–DN11 | Assembly part | 3,18 | 8° | 7,94 |
| DN . . 15 . . | DN . . 1504 . . | 4,76 | | AP304–DN1504 | Accessories | 6,35 | 0° | 11,11 |
| | DN . . 1506 . . | 6,35 | | AP304–DN15 | Assembly part | 4,76 | 0° | 11,11 |
| | DN . . 1507 . . | 7,94 | | AP412–DN1507 | Accessories | 3,17 | 0° | 11,11 |
| RC/P . . 09 . . | RC/P . . 0907 . . | 7,74 | h | AP416–RC0907 | Assembly part | 4 | 0° | 11,74 |
| RC/P . . 12 . . | RC/P . . 1207 . . | 7,74 | h | AP417–RC1207 | Assembly part | 4 | 0° | 11,74 |
| RN . . 12 . . | RN . . 1207 . . | 7,94 | | AP418–RN1207 | Assembly part | 4,76 | 0° | 12,7 |
| RN . . 15 . . | RN . . 1507 . . | 7,94 | | AP419–RN1507 | Assembly part | 4 | 0° | 11,94 |
| RN . . 19 . . | RN . . 1907 . . | 7,94 | | AP420–RN1907 | Assembly part | 6 | 0° | 13,94 |
| SN . . 09 . . | SN . . 0903 . . | 3,18 | | AP415–SN09 | Assembly part | 3,175 | 7° | 6,355 |
| SN . . 12 . . | SN . . 1204 . . | 4,76 | | AP308–SN12 | Assembly part | 6,35 | 0° | 11,11 |
| | SN . . 1204 . . | 4,76 | | AP355–SN12 | Assembly part | 3,175 | 12° | 7,935 |
| | SN . . 1207 . . | 7,94 | | AP413–SN1207 | Accessories | 3,17 | 0° | 11,11 |
| SN . . 15 . . | SN . . 1506 . . | 6,35 | | AP309–SN15 | Assembly part | 6,35 | 0° | 12,7 |
| SN . . 19 . . | SN . . 1906 . . | 6,35 | | AP310–SN19 | Assembly part | 6,35 | 0° | 12,7 |
| TN . . 16 . . | TN . . 1604 . . | 4,76 | | AP321–TN16 | Assembly part | 6,35 | 0° | 11,11 |
| | TN . . 1604 . . | 4,76 | | AP356–TN16 | Assembly part | 3,175 | 12° | 7,935 |
| TN . . 22 . . | TN . . 2204 . . | 4,76 | | AP322–TN22 | Assembly part | 6,35 | 0° | 11,11 |
| VN . . 16 . . | VN . . 1604 . . | 4,76 | | AP312–VN16 | Assembly part | 3,175 | 7° | 7,935 |
| | | | | | | | | |
| WN . . 06 . . | WN . . 0604 . . | 4,76 | | AP306–WN06 | Assembly part | 3,175 | 7° | 7,935 |
| WN . . 08 . . | WN . . 0804 . . | 4,76 | | AP331–WN08 | Assembly part | 3,175 | 10° | 7,935 |
| | WN . . 0804 . . | 4,76 | | AP307–WN08 | Assembly part | 4,76 | 0° | 9,52 |
| WN . . 10 . . | WN . . 1006 . . | 6,35 | | AP311–WN10 | Assembly part | 6,35 | 0° | 12,7 |

# Assembly parts and accessories
# Coolant hose set for shank tools with precision cooling (-P)

## Shank tools -P




**Note:**
All shank tools with precision cooling are equipped with three coolant connections. Before using the tools, ensure that the unused connections are sealed with the screws provided in the set. The coolant sets K601 . . . for shank tool holders are approved for pressures from 10 bar to a maximum of 275 bar.

**Note:**
The shank length of the tools can be shortened by up to 20 mm, as the thread depth of all Walter Turn and Walter Cut square shanks with precision cooling is 30 mm.

## Walter coolant hose set -P

| | | | | Length | | | |
|---|---|---|---|---|---|---|---|
| | | | | 150 mm | K601.01.150 SET | K601.02.150 SET | K601.03.150 SET |
| | | | | 250 mm | K601.01.250 SET | K601.02.250 SET | K601.03.250 SET |
| Individual components | | | Designation | 300 mm | K601.01.300 SET | K601.02.300 SET | K601.03.300 SET |
| | | | | | Set contents | | |
| ① | | M10 connection element | FS2252 | | 1 × | — | — |
| ② | | G1/8" double connection element | FS2253 | | 2 × | 1 × | — |
| ③ | | G1/8" angle connection | FS2254 | | — | 1 × | 2 × |
| ④ | | M10 angle connection | FS2255 | | — | 1 × | 1 × |
| ⑤ | | G1/4"-G1/8" reducer | FS2256 | | — | 1 × | 1 × |
| ⑥ | | Copper gasket | FS2257 | | 2 × | 3 × | 4 × |
| ⑦ | | G1/8" screw | FS2258 | | 1 × | 1 × | 1 × |
| ⑧ | | Brass blanking plug | FS2259 | | 1 × | 1 × | 1 × |
| ⑨ | | G1/8" brass nozzle | FS2260 | | 1 × | 1 × | 1 × |
| ⑩ | | O-ring | FS2261 | | 2 × | 2 × | 2 × |

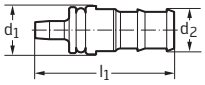
# Assembly parts and accessories
# Coolant nozzles and coolant adaptors

## Coolant nozzles – Walter Capto™

| | | Walter Capto™ size | | |
|---|---|---|---|---|
| | | C3 + C4 | C5 + C6 | C6 + C 8 |
| | Standard brass coolant nozzle up to 80 bar | FS1477 | FS1476 | FS1479 |
| | Plug-in inserts for changing the nozzles | FS1477HEX (SW5) | FS1476HEX (SW5) | FS1479HEX (SW5) |
| | Key for plug-in insert | FS2158 (SW5) | FS2158 (SW5) | FS2158 (SW5) |

**Please note:**
A different coolant nozzle is installed in certain Walter Capto™ tools (C3-C8) from the one specified in the table above.
This detailed information can be found on the relevant tool page.

## K600 coolant adaptor for Walter Turn boring bars with rigid, lever or screw clamping

| | Designation | $d_1$ mm | $l_1$ mm | $d_2$ mm |
|---|---|---|---|---|
|  | K600.06.25.054 | 6 | 25 | 5,4 |
| | K600.08.28.066 | 8 | 28 | 6,6 |
| | K600.10.28.086 | 10 | 28 | 8,6 |
| | K600.12.38.086 | 12 | 38 | 8,6 |
| | K600.16.40.137 | 16 | 40 | 13,7 |
| | K600.20.40.137 | 20 | 40 | 13,7 |
| | K600.25.44.137 | 25 | 44 | 13,7 |
| | K600.32.44.137 | 32 | 44 | 13,7 |
| | K600.40.46.137 | 40 | 46 | 13,7 |
| | K600.50.46.137 | 50 | 46 | 13,7 |

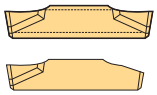
Note: $d_1$ corresponds to the shank diameter of the boring bar

**Please note:**
Coolant adaptors can be cut off approx. 3 mm after the O-ring if necessary. This enables shorter clamping when using the boring bar and coolant adaptor in a Walter Capto™ or VDI boring bar adaptor. This prevents coolant escaping via the clamping surface and also provides a higher pressure for the internal coolant supply.

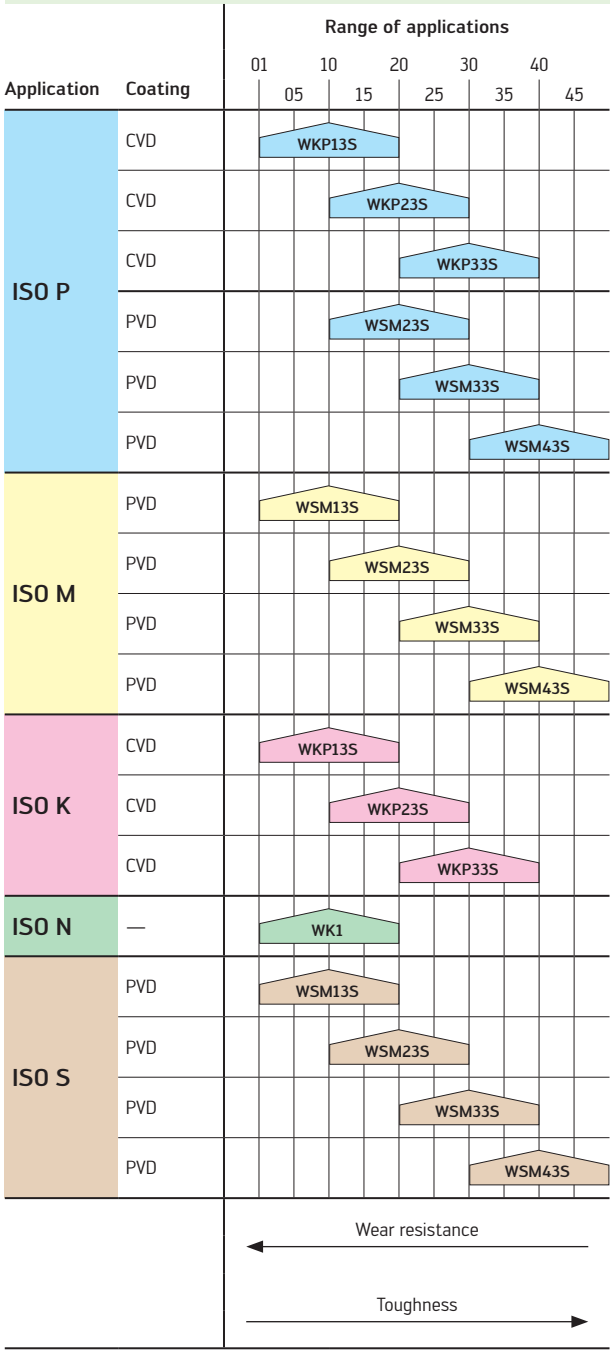
| | | Page |
|---|---|---|
| **Cutting inserts** | Product range overview | A 271 |
| | Designation key | A 272 |
| | Walter Select – Cutting inserts | A 275 |
| | Double-edged cutting inserts – GX | A 278 |
| | Single-edged cutting inserts – SX | A 286 |
| **Walter Cut grooving tools** | Product description | A 290 |
| | Product range overview | A 294 |
| | System overview | A 298 |
| | Designation key | A 300 |
| | Walter Select – Grooving tools | A 304 |
| | Shank tools/parting blades/boring bars | A 308 |
| | Walter Capto™ groove turning holders | A 368 |
| **Technical information – Grooving** | Cutting data | A 394 |
| | Cutting tool material application charts | A 396 |
| | Geometry overview – Cutting inserts | A 397 |
| | Application information | A 400 |
| **Assembly parts and accessories** | Coolant hose set for groove turning holders with precision cooling | A 420 |

# Product range overview of cutting inserts and cutting tool materials: Grooving

## Cutting inserts

| Insert shape | Description | Page |
|---|---|---|
| **Parting off/grooving** | | |
|  **GX** | Walter Cut GX grooving inserts, double-edged/ single-edged | A 278 |
| **SX** | Walter Cut SX grooving inserts, single-edged | A 286 |
| **Recessing** | | |
| **GX** | Walter Cut GX grooving inserts, double-edged | A 282 |
| **Circlip grooves** | | |
| **GX-S** | Walter Cut GX grooving inserts, double-edged | A 281 |
| **Semi-finished parts/blanks** | | |
| **GX** | Walter Cut GX grooving inserts, double-edged | A 285 |
| **SX** | Walter Cut SX grooving inserts, single-edged | A 288 |

## Cutting tool materials: Carbide



# Designation key for Walter Cut cutting inserts

A2

**Example:**

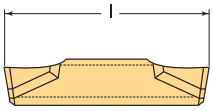
| GX | 24 | – | 2 | E | 300 | N | 03 | – | U | F | 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | | 3 | 4 | 5 | 6 | 7 | | 8 | 9 | 10 |

## 1 Insert type

GX

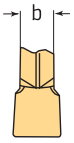
SX

## 2 Insert length l [mm]




| | |
|---|---|
| 09 | l = 9 |
| 16 | l = 16 |
| 24 | l = 24 |
| 30 | l = 30 |

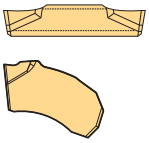
## 3 Width category




0
1
2
3
4
5

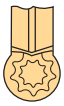
## 4 Basic shape

E



F

R



S

## 8 Application

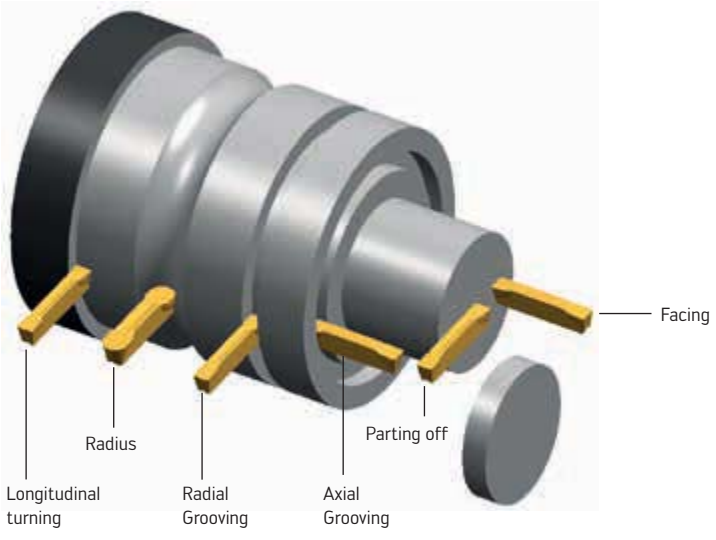
**C** **"Cut off"**
- Parting off
- Radial grooving

**G** **"Grooving"**
- Radial grooving
- Axial grooving
- Parting off

**R** **Full radius**
- Radial grooving
- Axial grooving
- Longitudinal turning
- Facing

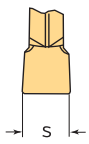
**S** **"Slitting"**
- Slitting
- Slot milling

**U** **Universal**
- Longitudinal turning
- Radial grooving
- Axial grooving
- Facing
- Parting off



## 5

**Insert width s [mm]**




For example:

| | |
|---|---|
| **200** | s = 2,0 |
| **220** | s = 2,2 |
| **250** | s = 2,5 |
| **300** | s = 3,0 |
| **310** | s = 3,1 |

etc.

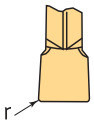
## 6

**Version**

| | | | |
|---|---|---|---|
| **Grooving:** | **R** | | Right |
| | **L** | | Left |
| | **N** | | Neutral |
| **Parting off:** | **R** | | Right |
| | **L** | | Left |

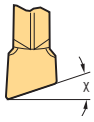
## 7

**Corner radius r [mm]/ approach angle χ [°]**




| | |
|---|---|
| **02** | r = 0,2 |
| **03** | r = 0,3 |
| **04** | r = 0,4 |
| **05** | r = 0,5 |

etc.

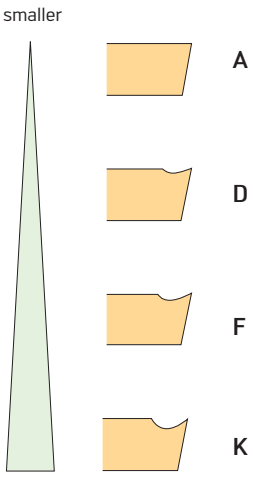



| | |
|---|---|
| **6** | χ = 6° |
| **7** | χ = 7° |
| **15** | χ = 15° |

etc.

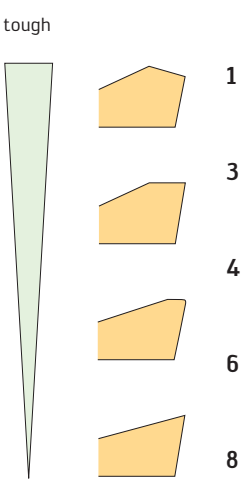
## 9

**Rake angle**




## 10

**Cutting edge**



# Designation key for carbide cutting tool materials – Grooving



**Example:**

| W | S | M | 33 | S |
|---|---|---|---|---|
| Walter | 1 | 2 | 3 | 4 |

### 1

**1. Primary application or coating type**

| | |
|---|---|
| P | Steel |
| M | Stainless steel |
| K | Cast iron |
| N | NF metals |
| S | Materials with difficult cutting properties |
| H | Hard materials |
| A | CVD aluminium oxide coating |
| X | PVD coating |

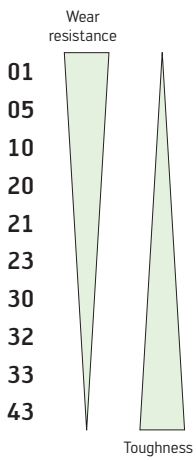
### 2

**2. Primary application**

| | |
|---|---|
| P | Steel |
| M | Stainless steel |
| K | Cast iron |
| N | NF metals |
| S | Materials with difficult cutting properties |
| H | Hard materials |

### 3

**ISO range of applications**




Cutting tool materials for:

| | |
|---|---|
| 0 | ISO turning |
| 1 | ISO turning |
| 5 | ISO turning |
| 2 | Thread turning |
| 3 | Grooving |

### 4

**Generation**

| | |
|---|---|
| S | Tiger·tec® Silver |

# Walter Select for grooving cutting inserts

Step by step to the right cutting insert



## STEP 1

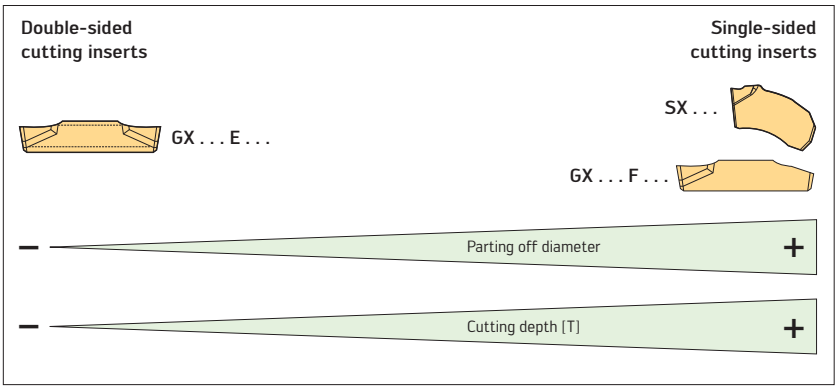
Determine the **material** to be machined from page A 468 onwards.

Note the **machining group** that corresponds to your material, e.g.: P10.

| Code letters | Machining groups | Groups of the materials to be machined | |
|---|---|---|---|
| **P** | **P1–P15** | **Steel** | All types of steel and steel casting, with the exception of steel with an austenitic structure |
| **M** | **M1–M3** | **Stainless steel** | Austenitic stainless steel, austenitic-ferritic steel and steel casting |
| **K** | **K1–K7** | **Cast iron** | Grey cast iron, cast iron with spheroidal graphite, malleable cast iron, cast iron with vermicular graphite |
| **N** | **N1–N10** | **NF metals** | Aluminium and other non-ferrous metals, non-ferrous materials |
| **S** | **S1–S10** | **Materials with difficult cutting properties** | Heat-resistant special alloys based on iron, nickel and cobalt, titanium and titanium alloys |
| **H** | **H1–H4** | **Hard materials** | Hardened steel, hardened cast iron materials, chilled cast iron |
| **O** | **O1–O6** | **Other** | Plastics, glass and carbon fibre reinforced plastics, graphite |

## STEP 2

Determine the **basic shape** of the cutting insert:




## STEP 3

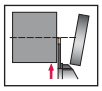
Select the **machining conditions:**

| Type of cutting action | Machine stability, clamping system and workpiece | | |
|---|---|---|---|
| | very good | good | moderate |
| Smooth cut, premachined surface | ☺ | ☺ | 😐 |
| Cast or forged skin, variable depths of cut | ☺ | 😐 | ☹ |
| Interrupted cuts | 😐 | ☹ | ☹ |

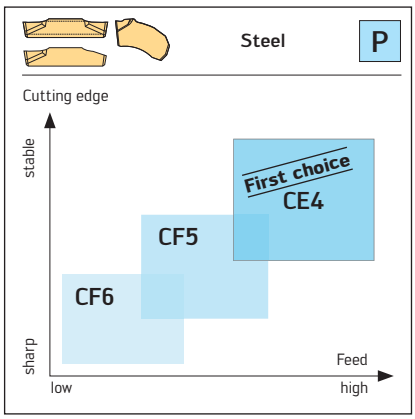
A2

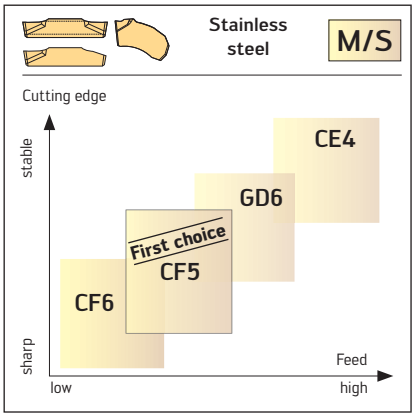
## STEP 4

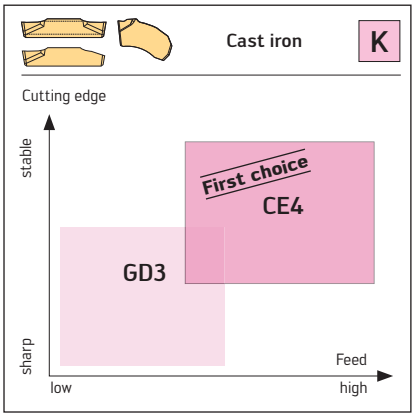
Determine the **indexable insert geometry** via the cutting edge stability and feed.

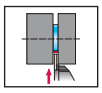


### GX and SX cutting inserts for parting off from page A 278 onwards

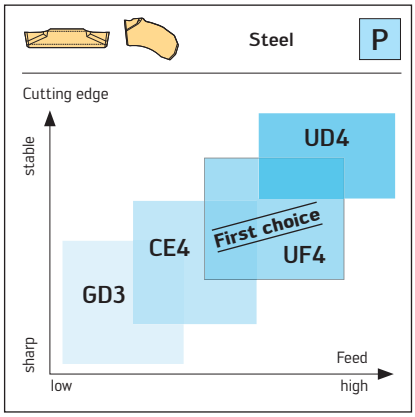


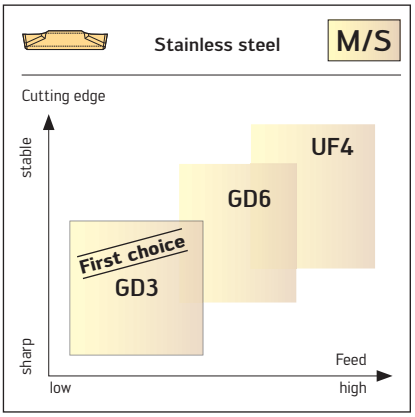



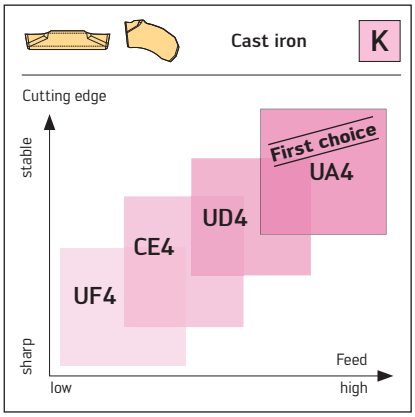



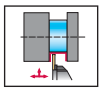



### GX and SX cutting inserts for grooving from page A 278 onwards

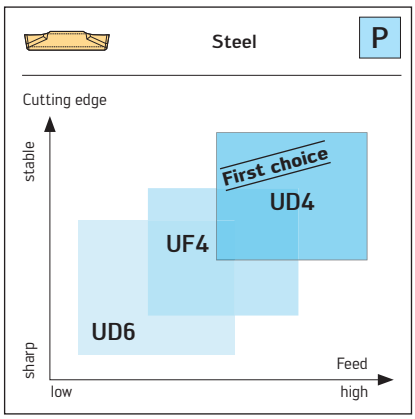


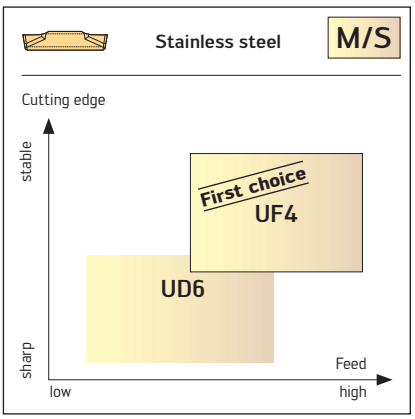



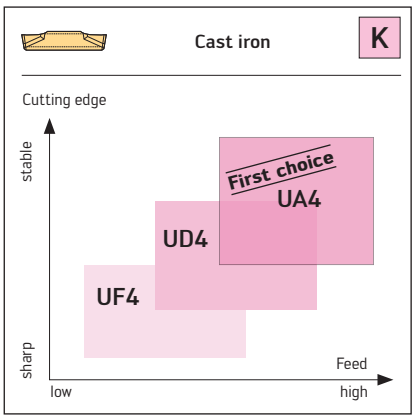



### GX cutting inserts for recessing from page A 282 onwards

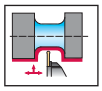


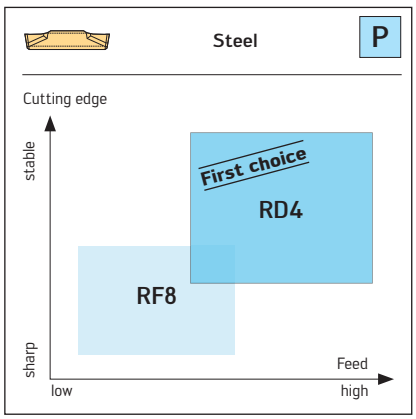



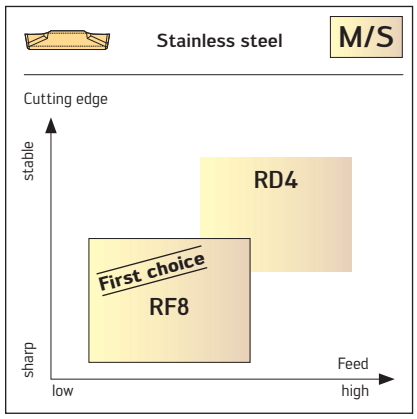
## STEP 4 – Continued

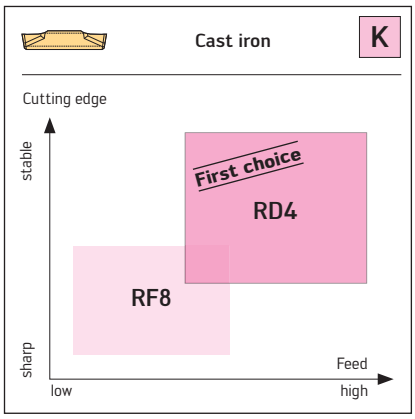
Determine the **indexable insert geometry** via the cutting edge stability and feed.

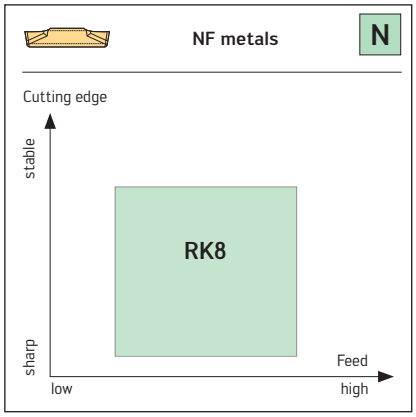


**GX full radius cutting inserts for copy turning from page A 284 onwards**



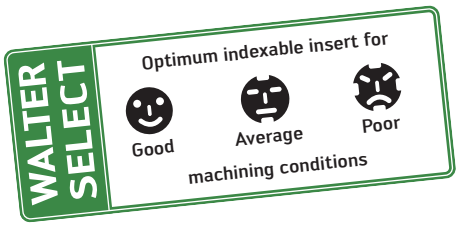



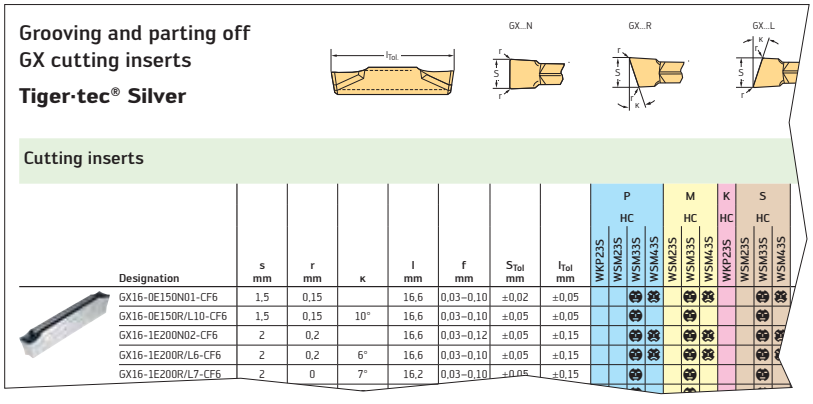




## STEP 5

You will find the cutting tool material recommendation and the feed value (f) on the specified catalogue page.



**Grooving and parting off**
**GX cutting inserts**
**Tiger·tec® Silver**

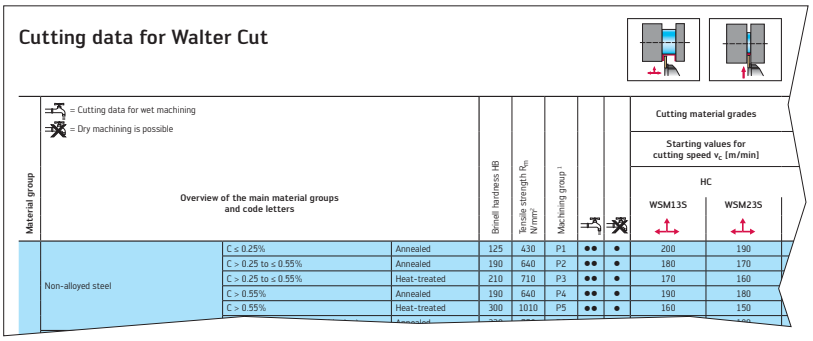
GX...N GX...R GX...L

**Cutting inserts**

| Designation | s mm | r mm | κ | l mm | f mm | $S_{Tol}$ mm | $l_{Tol}$ mm | P HC WKP23S | P HC WSM23S | P HC WSM33S | P HC WSM43S | M HC WSM23S | M HC WSM33S | M HC WSM43S | K HC WKP23S | S HC WSM23S | S HC WSM33S | S HC WSM43S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GX16-0E150N01-CF6 | 1,5 | 0,15 | | 16,6 | 0,03–0,10 | ±0,02 | ±0,05 | | | ●● | ●● | | ●● | ●● | | | ●● | ●● |
| GX16-0E150R/L10-CF6 | 1,5 | 0,15 | 10° | 16,6 | 0,03–0,10 | ±0,05 | ±0,05 | | | ●● | | | ●● | | | | ●● | |
| GX16-1E200N02-CF6 | 2 | 0,2 | | 16,6 | 0,03–0,12 | ±0,05 | ±0,15 | | | ●● | ●● | | ●● | ●● | | | ●● | ●● |
| GX16-1E200R/L6-CF6 | 2 | 0,2 | 6° | 16,6 | 0,03–0,10 | ±0,05 | ±0,15 | | | ●● | ●● | | ●● | ●● | | | ●● | ●● |
| GX16-1E200R/L7-CF6 | 2 | 0 | 7° | 16,2 | 0,03–0,10 | ±0,05 | ±0,15 | | | ●● | | | ●● | | | | ●● | |

## STEP 6

Choose the **cutting data** for your selected cutting insert in the technical information from page A 394 onwards.

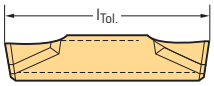


**Cutting data for Walter Cut**

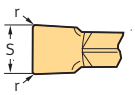
= Cutting data for wet machining
= Dry machining is possible

| Material group | Overview of the main material groups and code letters | | Brinell hardness HB | Tensile strength $R_m$ N/mm² | Machining group | Cutting material grades HC WSM13S | Cutting material grades HC WSM23S |
|---|---|---|---|---|---|---|---|
| | | | | | | Starting values for cutting speed $v_c$ [m/min] | |
| Non-alloyed steel | C ≤ 0.25% | Annealed | 125 | 430 | P1 | 200 | 190 |
| | C > 0.25 to ≤ 0.55% | Annealed | 190 | 640 | P2 | 180 | 170 |
| | C > 0.25 to ≤ 0.55% | Heat-treated | 210 | 710 | P3 | 170 | 160 |
| | C > 0.55% | Annealed | 190 | 640 | P4 | 190 | 180 |
| | C > 0.55% | Heat-treated | 300 | 1010 | P5 | 160 | 150 |

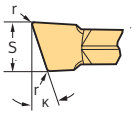
# Grooving and parting off
# GX cutting inserts
## Tiger·tec® Silver



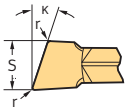

GX...N




GX...R




GX...L




A2

## Cutting inserts

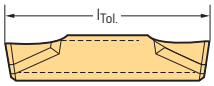
| | Designation | s mm | r mm | κ | l mm | f mm | $S_{Tol}$ mm | $l_{Tol}$ mm | P HC WKP23S | P HC WSM23S | P HC WSM33S | P HC WSM43S | M HC WSM23S | M HC WSM33S | M HC WSM43S | K HC WKP23S | S HC WSM23S | S HC WSM33S | S HC WSM43S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GX16-0E150N01-CF6 | 1,5 | 0,15 | | 16,6 | 0,03–0,10 | ±0,02 | ±0,05 | | | ● | ● | | ● | ● | | | ● | ● |
| | GX16-0E150R/L10-CF6 | 1,5 | 0,15 | 10° | 16,6 | 0,03–0,10 | ±0,05 | ±0,05 | | | ● | | | ● | | | | ● | |
| | GX16-1E200N02-CF6 | 2 | 0,2 | | 16,6 | 0,03–0,12 | ±0,05 | ±0,15 | | | ● | ● | | ● | ● | | | ● | ● |
| | GX16-1E200R/L6-CF6 | 2 | 0,2 | 6° | 16,6 | 0,03–0,10 | ±0,05 | ±0,15 | | | ● | ● | | ● | ● | | | ● | ● |
| | GX16-1E200R/L7-CF6 | 2 | 0 | 7° | 16,2 | 0,03–0,10 | ±0,05 | ±0,15 | | | ● | | | ● | | | | ● | |
| | GX16-1E200R/L15-CF6 | 2 | 0 | 15° | 16,2 | 0,03–0,10 | ±0,05 | ±0,15 | | | ● | | | ● | | | | ● | |
| | GX16-1E250N02-CF6 | 2,5 | 0,2 | | 16,6 | 0,03–0,15 | ±0,05 | ±0,15 | | | ● | ● | | ● | ● | | | ● | ● |
| | GX16-1E250R/L6-CF6 | 2,5 | 0,2 | 6° | 16,6 | 0,03–0,12 | ±0,05 | ±0,15 | | | ● | ● | | ● | ● | | | ● | ● |
| | GX16-2E300N02-CF6 | 3 | 0,2 | | 16,6 | 0,04–0,20 | ±0,05 | ±0,15 | | | ● | ● | | ● | ● | | | ● | ● |
| | GX16-2E300R/L6-CF6 | 3 | 0,2 | 6° | 16,6 | 0,04–0,16 | ±0,05 | ±0,15 | | | ● | ● | | ● | ● | | | ● | ● |
| | GX16-2E300R/L7-CF6 | 3 | 0 | 7° | 16,2 | 0,04–0,13 | ±0,05 | ±0,15 | | | ● | | | ● | | | | ● | |
| | GX16-2E300R/L15-CF6 | 3 | 0 | 15° | 16,2 | 0,04–0,13 | ±0,05 | ±0,15 | | | ● | | | ● | | | | ● | |
| | GX24-1E200N02-CF6 | 2 | 0,2 | | 24 | 0,03–0,12 | ±0,05 | ±0,15 | | | ● | ● | | ● | ● | | | ● | ● |
| | GX24-2E300N02-CF6 | 3 | 0,2 | | 24,6 | 0,04–0,20 | ±0,05 | ±0,15 | | | ● | ● | | ● | ● | | | ● | ● |
| | GX24-2E300R/L6-CF6 | 3 | 0,2 | 6° | 24,6 | 0,04–0,16 | ±0,05 | ±0,15 | | | ● | ● | | ● | ● | | | ● | ● |
| | GX24-2F300N02-CF6 | 3 | 0,2 | | 24 | 0,04–0,20 | ±0,05 | ±0,15 | | | ● | ● | | ● | ● | | | ● | ● |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | GX16-1E200N00-CF5 | 2 | 0 | | 16,6 | 0,03–0,10 | ±0,02 | ±0,05 | | | ● | ● | | ● | ● | | | ● | ● |
| | GX16-1E200N02-CF5 | 2 | 0,2 | | 16,6 | 0,04–0,12 | ±0,05 | ±0,15 | | ☻ | ● | ● | ☻ | ● | ● | | ☻ | ● | ● |
| | GX16-1E200R/L6-CF5 | 2 | 0,2 | 6° | 16,6 | 0,03–0,10 | ±0,05 | ±0,15 | | | ● | ● | | ● | ● | | | ● | ● |
| | GX16-1E200R/L7-CF5 | 2 | 0 | 7° | 16,4 | 0,03–0,10 | ±0,05 | ±0,15 | | | ● | | | ● | | | | ● | |
| | GX16-1E200R/L15-CF5 | 2 | 0 | 15° | 16,4 | 0,03–0,10 | ±0,05 | ±0,15 | | | ● | | | ● | | | | ● | |
| | GX16-1E250N02-CF5 | 2,5 | 0,2 | | 16,6 | 0,05–0,15 | ±0,05 | ±0,15 | | | ● | ● | | ● | ● | | | ● | ● |
| | GX16-1E250R/L6-CF5 | 2,5 | 0,2 | 6° | 16,6 | 0,03–0,12 | ±0,05 | ±0,15 | | | ● | ● | | ● | ● | | | ● | ● |
| | GX16-2E300N02-CF5 | 3 | 0,2 | | 16,6 | 0,08–0,20 | ±0,05 | ±0,15 | | ☻ | ● | ● | ☻ | ● | ● | | ☻ | ● | ● |
| | GX16-2E300R/L6-CF5 | 3 | 0,2 | 6° | 16,6 | 0,04–0,16 | ±0,05 | ±0,15 | | | ● | ● | | ● | ● | | | ● | ● |
| | GX16-2E300R/L7-CF5 | 3 | 0 | 7° | 16,6 | 0,04–0,13 | ±0,05 | ±0,15 | | | ● | | | ● | | | | ● | |
| | GX16-2E300R/L15-CF5 | 3 | 0 | 15° | 16,6 | 0,04–0,13 | ±0,05 | ±0,15 | | | ● | | | ● | | | | ● | |
| | GX24-1E200N02-CF5 | 2 | 0,2 | | 24 | 0,04–0,12 | ±0,05 | ±0,15 | | ☻ | ● | ● | ☻ | ● | ● | | ☻ | ● | ● |
| | GX24-1E250N02-CF5 | 2,5 | 0,2 | | 24 | 0,05–0,15 | ±0,05 | ±0,15 | | | ● | ● | | ● | ● | | | ● | ● |
| | GX24-2E300N00-CF5 | 3 | 0 | | 24,6 | 0,04–0,16 | ±0,02 | ±0,05 | | | ● | ● | | ● | ● | | | ● | ● |
| | GX24-2E300N02-CF5 | 3 | 0,2 | | 24 | 0,08–0,20 | ±0,05 | ±0,15 | | ☻ | ● | ● | ☻ | ● | ● | | ☻ | ● | ● |
| | GX24-2E300R/L6-CF5 | 3 | 0,2 | 6° | 24,6 | 0,04–0,16 | ±0,05 | ±0,15 | | | ● | ● | | ● | ● | | | ● | ● |
| | GX24-3E400N02-CF5 | 4 | 0,2 | | 24 | 0,10–0,22 | ±0,05 | ±0,15 | | ☻ | ● | ● | ☻ | ● | ● | | ☻ | ● | ● |
| | GX24-3E400R/L6-CF5 | 4 | 0,2 | 6° | 24,6 | 0,10–0,18 | ±0,05 | ±0,15 | | | ● | ● | | ● | ● | | | ● | ● |
| | GX24-3E500N03-CF5 | 5 | 0,3 | | 24 | 0,10–0,25 | ±0,05 | ±0,15 | | | ● | ● | | ● | ● | | | ● | ● |
| | GX24-2F300N02-CF5 | 3 | 0,2 | | 23,7 | 0,08–0,20 | ±0,05 | ±0,15 | | | ● | ● | | ● | ● | | | ● | ● |
| | GX24-3F400N02-CF5 | 4 | 0,2 | | 23,7 | 0,10–0,22 | ±0,05 | ±0,15 | | | ● | ● | | ● | ● | | | ● | ● |
| | GX24-3F500N03-CF5 | 5 | 0,3 | | 23,7 | 0,10–0,25 | ±0,05 | ±0,15 | | | ● | ● | | ● | ● | | | ● | ● |
| | | | | | | | | | | | | | | | | | | | |

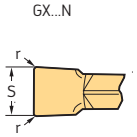
$l_{Tol}$ = Repeat accuracy when changing indexable inserts
Radius tolerance $r_{Tol}$ = ±0.05 mm
Parting off with diameters up to 32 mm is possible with GX16 inserts (l = 16.6 mm)

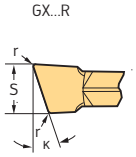
HC = Coated carbide

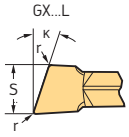
A 394 A 396 A 294 A 296

# Grooving and parting off
# GX cutting inserts
## Tiger·tec® Silver



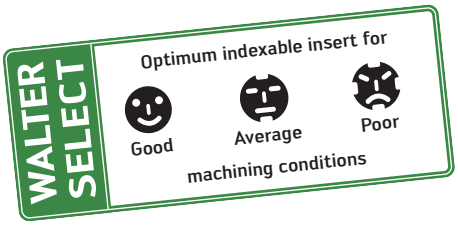



## Cutting inserts

| | Designation | s mm | r mm | κ | l mm | f mm | $S_{Tol}$ mm | $l_{Tol}$ mm | P HC WKP23S | P HC WSM23S | P HC WSM33S | P HC WSM43S | M HC WSM23S | M HC WSM33S | M HC WSM43S | K HC WKP23S | S HC WSM23S | S HC WSM33S | S HC WSM43S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GX16-1E200N02-CE4 | 2 | 0,2 | | 16,6 | 0,06–0,15 | ±0,05 | ±0,15 | | ☺ | 😐 | ☹ | ☺ | 😐 | ☹ | | ☺ | 😐 | ☹ |
| | GX16-1E200R/L6-CE4 | 2 | 0,2 | 6° | 16,6 | 0,04–0,10 | ±0,05 | ±0,15 | | | 😐 | ☹ | | 😐 | ☹ | | | 😐 | ☹ |
| | GX16-1E250N02-CE4 | 2,5 | 0,2 | | 16,6 | 0,07–0,18 | ±0,05 | ±0,15 | | | 😐 | ☹ | | 😐 | ☹ | | | 😐 | ☹ |
| | GX16-1E250R/L6-CE4 | 2,5 | 0,2 | 6° | 16,6 | 0,05–0,12 | ±0,05 | ±0,15 | | | 😐 | ☹ | | 😐 | ☹ | | | 😐 | ☹ |
| | GX16-2E300N02-CE4 | 3 | 0,2 | | 16,6 | 0,09–0,30 | ±0,05 | ±0,15 | | ☺ | 😐 | ☹ | ☺ | 😐 | ☹ | | ☺ | 😐 | ☹ |
| | GX16-2E300R/L6-CE4 | 3 | 0,2 | 6° | 16,6 | 0,09–0,24 | ±0,05 | ±0,15 | | | 😐 | ☹ | | 😐 | ☹ | | | 😐 | ☹ |
| | GX24-1E200N02-CE4 | 2 | 0,2 | | 24 | 0,06–0,15 | ±0,05 | ±0,15 | ☺ | ☺ | 😐 | ☹ | ☺ | 😐 | ☹ | 😐 | ☺ | 😐 | ☹ |
| | GX24-1E250N02-CE4 | 2,5 | 0,2 | | 24 | 0,07–0,18 | ±0,05 | ±0,15 | ☺ | | 😐 | ☹ | | 😐 | ☹ | 😐 | | 😐 | ☹ |
| | GX24-2E300N02-CE4 | 3 | 0,2 | | 24 | 0,09–0,30 | ±0,05 | ±0,15 | ☺ | ☺ | 😐 | ☹ | ☺ | 😐 | ☹ | 😐 | ☺ | 😐 | ☹ |
| | GX24-2E300R/L6-CE4 | 3 | 0,2 | 6° | 24,6 | 0,09–0,24 | ±0,05 | ±0,15 | ☺ | | 😐 | ☹ | | 😐 | ☹ | 😐 | | 😐 | ☹ |
| | GX24-3E400N03-CE4 | 4 | 0,3 | | 24 | 0,10–0,32 | ±0,05 | ±0,15 | ☺ | ☺ | 😐 | ☹ | ☺ | 😐 | ☹ | 😐 | ☺ | 😐 | ☹ |
| | GX24-3E400R/L6-CE4 | 4 | 0,2 | 6° | 24,6 | 0,10–0,26 | ±0,05 | ±0,15 | | | 😐 | ☹ | | 😐 | ☹ | | | 😐 | ☹ |
| | GX24-3E500N03-CE4 | 5 | 0,3 | | 24 | 0,12–0,35 | ±0,05 | ±0,15 | ☺ | | 😐 | ☹ | | 😐 | ☹ | 😐 | | 😐 | ☹ |
| | GX24-4E600N03-CE4 | 6 | 0,3 | | 24 | 0,12–0,40 | ±0,05 | ±0,15 | ☺ | | 😐 | ☹ | | 😐 | ☹ | 😐 | | 😐 | ☹ |
| | GX24-2F300N02-CE4 | 3 | 0,2 | | 24 | 0,09–0,30 | ±0,05 | ±0,15 | | | 😐 | ☹ | | 😐 | ☹ | | | 😐 | ☹ |
| | GX24-3F400N03-CE4 | 4 | 0,3 | | 24 | 0,10–0,32 | ±0,05 | ±0,15 | | | 😐 | ☹ | | 😐 | ☹ | | | 😐 | ☹ |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | GX09-1E200N02-GD3 | 2 | 0,2 | | 9 | 0,04–0,12 | ±0,02 | ±0,02 | ☺ | | 😐 | ☹ | | 😐 | ☹ | 😐 | | 😐 | ☹ |
| | GX09-1E250N02-GD3 | 2,5 | 0,2 | | 9 | 0,04–0,14 | ±0,02 | ±0,02 | ☺ | | 😐 | ☹ | | 😐 | ☹ | 😐 | | 😐 | ☹ |
| | GX09-2E300N03-GD3 | 3 | 0,3 | | 9 | 0,06–0,18 | ±0,02 | ±0,02 | ☺ | | 😐 | ☹ | | 😐 | ☹ | 😐 | | 😐 | ☹ |
| | GX09-2E350N03-GD3 | 3,5 | 0,3 | | 9 | 0,06–0,18 | ±0,02 | ±0,02 | ☺ | | 😐 | ☹ | | 😐 | ☹ | 😐 | | 😐 | ☹ |
| | GX16-1E200N02-GD3 | 2 | 0,2 | | 16 | 0,04–0,12 | ±0,02 | ±0,02 | ☺ | | 😐 | ☹ | | 😐 | ☹ | 😐 | | 😐 | ☹ |
| | GX16-1E250N02-GD3 | 2,5 | 0,2 | | 16 | 0,04–0,14 | ±0,02 | ±0,02 | ☺ | | 😐 | ☹ | | 😐 | ☹ | 😐 | | 😐 | ☹ |
| | GX16-2E300N03-GD3 | 3 | 0,3 | | 16 | 0,06–0,18 | ±0,02 | ±0,02 | ☺ | | 😐 | ☹ | | 😐 | ☹ | 😐 | | 😐 | ☹ |
| | GX16-3E400N04-GD3 | 4 | 0,4 | | 16 | 0,10–0,20 | ±0,02 | ±0,02 | ☺ | | 😐 | ☹ | | 😐 | ☹ | 😐 | | 😐 | ☹ |
| | GX16-3E500N04-GD3 | 5 | 0,4 | | 16 | 0,12–0,25 | ±0,02 | ±0,02 | ☺ | | 😐 | ☹ | | 😐 | ☹ | 😐 | | 😐 | ☹ |
| | GX16-4E600N05-GD3 | 6 | 0,5 | | 16 | 0,14–0,28 | ±0,02 | ±0,02 | | | 😐 | ☹ | | 😐 | ☹ | | | 😐 | ☹ |
| | GX24-2E300N03-GD3 | 3 | 0,3 | | 24 | 0,06–0,18 | ±0,05 | ±0,15 | ☺ | | 😐 | ☹ | | 😐 | ☹ | 😐 | | 😐 | ☹ |
| | GX24-3E400N04-GD3 | 4 | 0,4 | | 24 | 0,10–0,20 | ±0,05 | ±0,15 | ☺ | | 😐 | ☹ | | 😐 | ☹ | 😐 | | 😐 | ☹ |
| | GX24-3E500N04-GD3 | 5 | 0,4 | | 24 | 0,12–0,25 | ±0,05 | ±0,15 | ☺ | | 😐 | ☹ | | 😐 | ☹ | 😐 | | 😐 | ☹ |
| | GX24-4E600N05-GD3 | 6 | 0,5 | | 24 | 0,14–0,28 | ±0,05 | ±0,15 | ☺ | | 😐 | ☹ | | 😐 | ☹ | 😐 | | 😐 | ☹ |

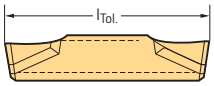
$l_{Tol}$ = Repeat accuracy when changing indexable inserts
Radius tolerance $r_{Tol}$ = ±0.05 mm
Parting off with diameters up to 32 mm is possible with GX16 inserts (l = 16.6 mm)

HC = Coated carbide

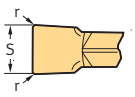



A 394 A 396 A 294 A 296

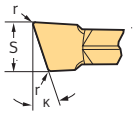
# Grooving and parting off
# GX cutting inserts
## Tiger·tec® Silver



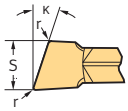

GX...N




GX...R




GX...L




A2

## Cutting inserts

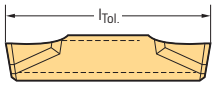
| | Designation | s mm | r mm | κ | l mm | f mm | $S_{Tol}$ mm | $l_{Tol}$ mm | P HC WKP23S | P HC WSM23S | P HC WSM33S | P HC WSM43S | M HC WSM23S | M HC WSM33S | M HC WSM43S | K HC WKP23S | S HC WSM23S | S HC WSM33S | S HC WSM43S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GX16-1E200N02-GD6 | 2 | 0,2 | | 16 | 0,04–0,12 | ±0,05 | ±0,15 | | ● | ● | | ● | ● | | | ● | ● | |
| | GX16-1E250N02-GD6 | 2,5 | 0,2 | | 16 | 0,06–0,17 | ±0,05 | ±0,15 | | ● | ● | | ● | ● | | | ● | ● | |
| | GX16-2E300N03-GD6 | 3 | 0,3 | | 16 | 0,08–0,18 | ±0,05 | ±0,15 | | ● | ● | | ● | ● | | | ● | ● | |
| | GX16-3E400N04-GD6 | 4 | 0,4 | | 16 | 0,10–0,22 | ±0,05 | ±0,15 | | ● | ● | | ● | ● | | | ● | ● | |
| | GX16-3E500N04-GD6 | 5 | 0,4 | | 16 | 0,12–0,24 | ±0,05 | ±0,15 | | ● | ● | | ● | ● | | | ● | ● | |
| | GX16-4E600N05-GD6 | 6 | 0,5 | | 16 | 0,14–0,30 | ±0,05 | ±0,15 | | ● | ● | | ● | ● | | | ● | ● | |
| | GX24-2E300N03-GD6 | 3 | 0,3 | | 24 | 0,08–0,18 | ±0,05 | ±0,15 | | ● | ● | | ● | ● | | | ● | ● | |
| | GX24-3E400N04-GD6 | 4 | 0,4 | | 24 | 0,10–0,22 | ±0,05 | ±0,15 | | ● | ● | | ● | ● | | | ● | ● | |
| | GX24-3E500N04-GD6 | 5 | 0,4 | | 24 | 0,12–0,24 | ±0,05 | ±0,15 | | ● | ● | | ● | ● | | | ● | ● | |
| | GX24-4E600N05-GD6 | 6 | 0,5 | | 24 | 0,14–0,30 | ±0,05 | ±0,15 | | ● | ● | | ● | ● | | | ● | ● | |

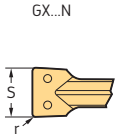
$l_{Tol}$ = Repeat accuracy when changing indexable inserts
Radius tolerance $r_{Tol}$ = ±0.05 mm
Parting off with diameters up to 32 mm is possible with GX16 inserts (l = 16.6 mm)

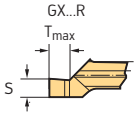
HC = Coated carbide

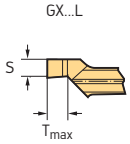
A 394 A 396 A 294 A 296

# Grooving of circlip grooves
# GX cutting inserts



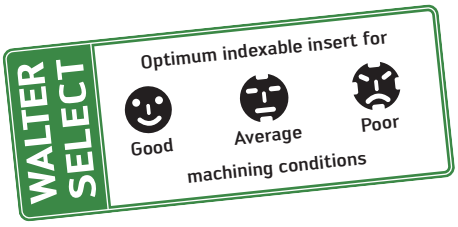



## Cutting inserts

| | Designation | s mm | r mm | $T_{max}$ mm | l mm | f mm | $S_{Tol}$ mm | $l_{Tol}$ mm | P HC WKP23S | P HC WSM33S | P HC WSM43S | P HC WTA33 | M HC WSM33S | M HC WSM43S | K HC WKP23S | K HC WTA33 | S HC WSM33S | S HC WSM43S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GX09-1S1.00R/L | 1 | 0 | 1,14 | 9 | 0,05–0,10 | ±0,02 | ±0,02 | | | | ☹ | | | | ☹ | | |
| | GX09-1S1.20R/L | 1,2 | 0 | 1,34 | 9 | 0,05–0,10 | ±0,02 | ±0,02 | | | | ☹ | | | | ☹ | | |
| | GX09-1S1.40R/L | 1,4 | 0 | 1,53 | 9 | 0,05–0,10 | ±0,02 | ±0,02 | | | | ☹ | | | | ☹ | | |
| | GX09-1S1.70R/L | 1,7 | 0 | 1,82 | 9 | 0,05–0,10 | ±0,02 | ±0,02 | | | | ☹ | | | | ☹ | | |
| | GX09-1S1.95N | 1,95 | 0,1 | | 9 | 0,05–0,10 | ±0,02 | ±0,02 | | | | ☹ | | | | ☹ | | |
| | GX09-1S2.25N | 2,25 | 0,1 | | 9 | 0,05–0,12 | ±0,02 | ±0,02 | | | | ☹ | | | | ☹ | | |
| | GX09-2S2.75N | 2,75 | 0,1 | | 9 | 0,05–0,12 | ±0,02 | ±0,02 | | | | ☹ | | | | ☹ | | |
| | GX09-2S3.25N | 3,25 | 0,1 | | 9 | 0,05–0,12 | ±0,02 | ±0,02 | | | | ☹ | | | | ☹ | | |
| | GX16-2S0.60R/L | 0,6 | 0 | 0,75 | 16 | 0,05–0,10 | ±0,02 | ±0,02 | | | | ☹ | | | | ☹ | | |
| | GX16-2S0.80R/L | 0,8 | 0 | 0,94 | 16 | 0,05–0,10 | ±0,02 | ±0,02 | | | | ☹ | | | | ☹ | | |
| | GX16-2S1.00R/L | 1 | 0 | 1,14 | 16 | 0,05–0,10 | ±0,02 | ±0,02 | | | | ☹ | | | | ☹ | | |
| | GX16-2S1.20R/L | 1,2 | 0 | 1,34 | 16 | 0,05–0,10 | ±0,02 | ±0,02 | | | | ☹ | | | | ☹ | | |
| | GX16-2S1.40R/L | 1,4 | 0 | 1,53 | 16 | 0,05–0,10 | ±0,02 | ±0,02 | | | | ☹ | | | | ☹ | | |
| | GX16-2S1.70R/L | 1,7 | 0 | 1,82 | 16 | 0,05–0,10 | ±0,02 | ±0,02 | | | | ☹ | | | | ☹ | | |
| | GX16-2S1.95R/L | 1,95 | 0 | 2,07 | 16 | 0,05–0,10 | ±0,02 | ±0,02 | | | | ☹ | | | | ☹ | | |
| | GX16-2S2.25R/L | 2,25 | 0 | 2,36 | 16 | 0,05–0,12 | ±0,02 | ±0,02 | | | | ☹ | | | | ☹ | | |
| | GX16-2S2.75N | 2,75 | 0,1 | | 16 | 0,05–0,12 | ±0,02 | ±0,02 | | | | ☹ | | | | ☹ | | |
| | GX16-2S3.25N | 3,25 | 0,1 | | 16 | 0,07–0,14 | ±0,02 | ±0,02 | | | | ☹ | | | | ☹ | | |
| | GX16-3S4.25N | 4,25 | 0,2 | | 16 | 0,07–0,20 | ±0,02 | ±0,02 | | | | ☹ | | | | ☹ | | |
| | GX16-4S5.25N | 5,25 | 0,2 | | 16 | 0,08–0,20 | ±0,02 | ±0,02 | | | | ☹ | | | | ☹ | | |

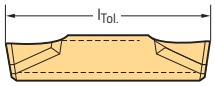
$l_{Tol}$ = Repeat accuracy when changing indexable inserts
Radius tolerance $r_{Tol}$ = ±0.05 mm

HC = Coated carbide

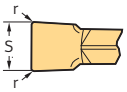



A 394 A 396 A 294 A 296

# Grooving and recessing
# GX cutting inserts
## Tiger·tec® Silver




GX...N




A2

## Cutting inserts

| | Designation | s mm | r mm | l mm | f mm | $a_p$ mm | $S_{Tol}$ mm | $l_{Tol}$ mm | P HC WKP13S | P HC WKP23S | P HC WKP33S | P HC WSM23S | P HC WSM33S | P HC WSM43S | M HC WSM23S | M HC WSM33S | M HC WSM43S | K HC WKP13S | K HC WKP23S | K HC WKP33S | S HC WSM23S | S HC WSM33S | S HC WSM43S | H HC WKP13S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GX09-1E200N02-UF4 | 2 | 0,2 | 9 | 0,10–0,15 | 0,3–1,0 | ±0,05 | ±0,15 | | | | | ● | ● | | ● | ● | | | | | ● | ● | |
| | GX09-2E300N03-UF4 | 3 | 0,3 | 9 | 0,10–0,20 | 0,4–1,5 | ±0,05 | ±0,15 | | | | | ● | ● | | ● | ● | | | | | ● | ● | |
| | GX16-1E200N02-UF4 | 2 | 0,2 | 16 | 0,10–0,15 | 0,3–1,2 | ±0,05 | ±0,15 | | ● | | ● | ● | ● | ● | ● | ● | | ● | | ● | ● | ● | |
| | GX16-1E239N02-UF4 | 2,39 | 0,2 | 16 | 0,10–0,15 | 0,3–1,3 | ±0,05 | ±0,15 | | | | | ● | ● | | ● | ● | | | | | ● | ● | |
| | GX16-1E250N02-UF4 | 2,5 | 0,2 | 16 | 0,10–0,18 | 0,3–1,3 | ±0,05 | ±0,15 | | ● | | ● | ● | ● | ● | ● | ● | | ● | | ● | ● | ● | |
| | GX16-2E300N03-UF4 | 3 | 0,3 | 16 | 0,10–0,20 | 0,4–2,0 | ±0,05 | ±0,15 | | ● | | ● | ● | ● | ● | ● | ● | | ● | | ● | ● | ● | |
| | GX16-3E400N04-UF4 | 4 | 0,4 | 16 | 0,10–0,30 | 0,5–2,8 | ±0,05 | ±0,15 | | ● | | | ● | ● | | ● | ● | | ● | | | ● | ● | |
| | GX16-3E500N04-UF4 | 5 | 0,4 | 16 | 0,12–0,35 | 0,5–3,0 | ±0,05 | ±0,15 | | ● | | | ● | ● | | ● | ● | | ● | | | ● | ● | |
| | GX16-4E600N05-UF4 | 6 | 0,5 | 16 | 0,14–0,40 | 0,6–3,5 | ±0,05 | ±0,15 | | ● | | | ● | ● | | ● | ● | | ● | | | ● | ● | |
| | GX24-2E300N03-UF4 | 3 | 0,3 | 24 | 0,10–0,20 | 0,4–2,0 | ±0,05 | ±0,15 | | ● | | ● | ● | ● | ● | ● | ● | | ● | | ● | ● | ● | |
| | GX24-2E318N03-UF4 | 3,18 | 0,3 | 24 | 0,10–0,20 | 0,4–2,0 | ±0,05 | ±0,15 | | | | | ● | ● | | ● | ● | | | | | ● | ● | |
| | GX24-3E400N04-UF4 | 4 | 0,4 | 24 | 0,10–0,30 | 0,5–2,8 | ±0,05 | ±0,15 | | ● | | ● | ● | ● | ● | ● | ● | | ● | | ● | ● | ● | |
| | GX24-3E400N08-UF4 | 4 | 0,8 | 24 | 0,10–0,30 | 0,9–2,8 | ±0,05 | ±0,15 | | ● | | | ● | | | ● | | | ● | | | ● | | |
| | GX24-3E475N04-UF4 | 4,75 | 0,4 | 24 | 0,12–0,35 | 0,5–3,0 | ±0,05 | ±0,15 | | ● | | | ● | ● | | ● | ● | | ● | | | ● | ● | |
| | GX24-3E500N04-UF4 | 5 | 0,4 | 24 | 0,12–0,35 | 0,5–3,0 | ±0,05 | ±0,15 | | ● | | ● | ● | ● | ● | ● | ● | | ● | | ● | ● | ● | |
| | GX24-3E500N08-UF4 | 5 | 0,8 | 24 | 0,12–0,35 | 0,9–3,0 | ±0,05 | ±0,15 | | ● | | | ● | | | ● | | | ● | | | ● | | |
| | GX24-4E600N05-UF4 | 6 | 0,5 | 24 | 0,14–0,40 | 0,6–3,5 | ±0,05 | ±0,15 | | ● | | ● | ● | ● | ● | ● | ● | | ● | | ● | ● | ● | |
| | GX24-4E600N08-UF4 | 6 | 0,8 | 24 | 0,14–0,40 | 0,9–3,5 | ±0,05 | ±0,15 | | ● | | | ● | | | ● | | | ● | | | ● | | |
| | GX24-4E635N05-UF4 | 6,35 | 0,5 | 24 | 0,14–0,40 | 0,6–3,5 | ±0,05 | ±0,15 | | ● | | | ● | ● | | ● | ● | | ● | | | ● | ● | |
| | GX30-5E800N08-UF4 | 8 | 0,8 | 30 | 0,18–0,55 | 0,9–4,0 | ±0,05 | ±0,15 | | ● | | ● | ● | | ● | ● | | | ● | | ● | ● | | |
| | GX30-5E800N12-UF4 | 8 | 1,2 | 30 | 0,18–0,55 | 1,3–4,0 | ±0,05 | ±0,15 | | ● | | ● | ● | | ● | ● | | | ● | | ● | ● | | |
| | GX16-1E200N02-UD6 | 2 | 0,2 | 16 | 0,06–0,15 | 0,3–1,2 | ±0,05 | ±0,15 | | | | ● | ● | | ● | ● | | | | | ● | ● | | |
| | GX16-1E250N02-UD6 | 2,5 | 0,2 | 16 | 0,06–0,18 | 0,3–1,3 | ±0,05 | ±0,15 | | | | ● | ● | | ● | ● | | | | | ● | ● | | |
| | GX16-2E300N03-UD6 | 3 | 0,3 | 16 | 0,10–0,20 | 0,4–2,0 | ±0,05 | ±0,15 | | | | ● | ● | | ● | ● | | | | | ● | ● | | |
| | GX16-3E400N04-UD6 | 4 | 0,4 | 16 | 0,12–0,25 | 0,5–2,8 | ±0,05 | ±0,15 | | | | ● | ● | | ● | ● | | | | | ● | ● | | |
| | GX16-3E500N04-UD6 | 5 | 0,4 | 16 | 0,12–0,30 | 0,5–3,0 | ±0,05 | ±0,15 | | | | ● | ● | | ● | ● | | | | | ● | ● | | |
| | GX16-4E600N05-UD6 | 6 | 0,5 | 16 | 0,14–0,35 | 0,6–3,5 | ±0,05 | ±0,15 | | | | ● | ● | | ● | ● | | | | | ● | ● | | |
| | GX24-2E300N03-UD6 | 3 | 0,3 | 24 | 0,10–0,20 | 0,4–2,0 | ±0,05 | ±0,15 | | | | ● | ● | | ● | ● | | | | | ● | ● | | |
| | GX24-3E400N04-UD6 | 4 | 0,4 | 24 | 0,12–0,25 | 0,5–2,8 | ±0,05 | ±0,15 | | | | ● | ● | | ● | ● | | | | | ● | ● | | |
| | GX24-3E500N04-UD6 | 5 | 0,4 | 24 | 0,12–0,30 | 0,5–3,0 | ±0,05 | ±0,15 | | | | ● | ● | | ● | ● | | | | | ● | ● | | |
| | GX24-4E600N05-UD6 | 6 | 0,5 | 24 | 0,14–0,35 | 0,6–3,5 | ±0,05 | ±0,15 | | | | ● | ● | | ● | ● | | | | | ● | ● | | |

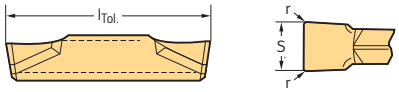
$l_{Tol}$ = Repeat accuracy when changing indexable inserts
Radius tolerance $r_{Tol}$ = ±0.05 mm

HC = Coated carbide

A 394 A 396 A 294 A 296

# Grooving and recessing
# GX cutting inserts
## Tiger·tec® Silver

GX...N






## Cutting inserts

| | Designation | s mm | r mm | l mm | f mm | $a_p$ mm | $S_{Tol}$ mm | $l_{Tol}$ mm | P WKP13S | P HC WKP23S | P HC WKP33S | P HC WSM23S | P HC WSM33S | P HC WSM43S | M WSM23S | M HC WSM33S | M HC WSM43S | K WKP13S | K HC WKP23S | K HC WKP33S | S WSM23S | S HC WSM33S | S HC WSM43S | H HC WKP13S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GX16-1E200N02-UD4 | 2 | 0,2 | 16 | 0,10–0,15 | 0,3–1,2 | ±0,05 | ±0,15 | | ☺ | | | ☺ | | | ☺ | | | ☺ | | | ☺ | | |
| | GX16-2E300N03-UD4 | 3 | 0,3 | 16 | 0,10–0,20 | 0,4–2,0 | ±0,05 | ±0,15 | | ☺ | | | ☺ | | | ☺ | | | ☺ | | | ☺ | | |
| | GX16-3E400N04-UD4 | 4 | 0,4 | 16 | 0,10–0,30 | 0,5–2,8 | ±0,05 | ±0,15 | | ☺ | | | ☺ | | | ☺ | | | ☺ | | | ☺ | | |
| | GX16-3E500N04-UD4 | 5 | 0,4 | 16 | 0,12–0,35 | 0,5–3,0 | ±0,05 | ±0,15 | | ☺ | | | ☺ | | | ☺ | | | ☺ | | | ☺ | | |
| | GX24-2E300N03-UD4 | 3 | 0,3 | 24 | 0,10–0,20 | 0,4–2,0 | ±0,05 | ±0,15 | ☺ | ☺ | 😐 | | ☺ | | | ☺ | | ☺ | ☺ | 😣 | | ☺ | | |
| | GX24-2E318N03-UD4 | 3,18 | 0,3 | 24 | 0,10–0,20 | 0,4–2,0 | ±0,05 | ±0,15 | | ☺ | | | | | | | | | ☺ | | | | | |
| | GX24-3E400N04-UD4 | 4 | 0,4 | 24 | 0,10–0,30 | 0,5–2,8 | ±0,05 | ±0,15 | ☺ | ☺ | 😐 | | ☺ | | | ☺ | | ☺ | ☺ | 😣 | | ☺ | | |
| | GX24-3E400N08-UD4 | 4 | 0,8 | 24 | 0,10–0,30 | 0,9–2,8 | ±0,05 | ±0,15 | ☺ | ☺ | 😐 | | ☺ | | | ☺ | | ☺ | ☺ | 😣 | | ☺ | | |
| | GX24-3E500N04-UD4 | 5 | 0,4 | 24 | 0,12–0,35 | 0,5–3,0 | ±0,05 | ±0,15 | ☺ | ☺ | 😐 | | ☺ | | | ☺ | | ☺ | ☺ | 😣 | | ☺ | | |
| | GX24-3E500N08-UD4 | 5 | 0,8 | 24 | 0,12–0,35 | 0,9–3,0 | ±0,05 | ±0,15 | ☺ | ☺ | 😐 | | ☺ | | | ☺ | | ☺ | ☺ | 😣 | | ☺ | | |
| | GX24-4E600N05-UD4 | 6 | 0,5 | 24 | 0,14–0,40 | 0,6–3,5 | ±0,05 | ±0,15 | ☺ | ☺ | 😐 | | ☺ | | | ☺ | | ☺ | ☺ | 😣 | | ☺ | | |
| | GX24-4E600N08-UD4 | 6 | 0,8 | 24 | 0,14–0,40 | 0,9–3,5 | ±0,05 | ±0,15 | ☺ | ☺ | 😐 | | ☺ | | | ☺ | | ☺ | ☺ | 😣 | | ☺ | | |
| | GX30-5E800N08-UD4 | 8 | 0,8 | 30 | 0,14–0,40 | 0,9–4,0 | ±0,05 | ±0,15 | ☺ | ☺ | 😐 | | ☺ | | | ☺ | | ☺ | ☺ | 😣 | | ☺ | | |
| | GX30-5E800N12-UD4 | 8 | 1,2 | 30 | 0,14–0,40 | 1,3–4,0 | ±0,05 | ±0,15 | ☺ | ☺ | 😐 | | ☺ | | | ☺ | | ☺ | ☺ | 😣 | | ☺ | | |
| | GX16-1E200N02-UA4 | 2 | 0,2 | 16 | 0,08–0,15 | 0,3–1,2 | ±0,05 | ±0,15 | ☺ | | | | | | | | | ☺ | | | | | | |
| | GX16-2E300N03-UA4 | 3 | 0,3 | 16 | 0,10–0,22 | 0,4–2,0 | ±0,05 | ±0,15 | ☺ | | 😐 | | | | | | | ☺ | | 😣 | | | | |
| | GX16-3E400N04-UA4 | 4 | 0,4 | 16 | 0,10–0,35 | 0,5–2,8 | ±0,05 | ±0,15 | ☺ | | 😐 | | | | | | | ☺ | | 😣 | | | | |
| | GX16-3E500N04-UA4 | 5 | 0,4 | 16 | 0,12–0,35 | 0,5–3,0 | ±0,05 | ±0,15 | ☺ | | 😐 | | | | | | | ☺ | | 😣 | | | | |
| | GX16-4E600N05-UA4 | 6 | 0,5 | 16 | 0,14–0,40 | 0,6–3,5 | ±0,05 | ±0,15 | ☺ | | 😐 | | | | | | | ☺ | | 😣 | | | | |
| | GX24-2E300N03-UA4 | 3 | 0,3 | 24 | 0,10–0,22 | 0,4–2,0 | ±0,05 | ±0,15 | ☺ | | 😐 | | | | | | | ☺ | | 😣 | | | | |
| | GX24-3E400N04-UA4 | 4 | 0,4 | 24 | 0,10–0,35 | 0,5–2,8 | ±0,05 | ±0,15 | ☺ | | 😐 | | | | | | | ☺ | | 😣 | | | | |
| | GX24-3E500N04-UA4 | 5 | 0,4 | 24 | 0,12–0,35 | 0,5–3,0 | ±0,05 | ±0,15 | ☺ | | 😐 | | | | | | | ☺ | | 😣 | | | | |
| | GX24-4E600N05-UA4 | 6 | 0,5 | 24 | 0,14–0,40 | 0,6–3,5 | ±0,05 | ±0,15 | ☺ | | 😐 | | | | | | | ☺ | | 😣 | | | | |

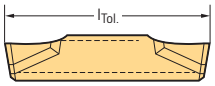
$l_{Tol}$ = Repeat accuracy when changing indexable inserts
Radius tolerance $r_{Tol}$ = ±0.05 mm

HC = Coated carbide

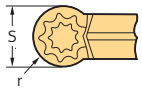
WALTER SELECT
Optimum indexable insert for
Good ☺ Average 😐 Poor ☹
machining conditions

A 394 A 396 A 294 A 296

# Grooving and copy turning
# GX cutting inserts
## Tiger·tec® Silver




GX...N




A2

## Cutting inserts

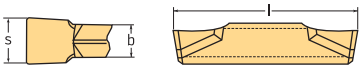
| | Designation | s mm | r mm | l mm | f mm | $a_p$ mm | $S_{Tol}$ mm | $l_{Tol}$ mm | P HC WKP23S | P HC WSM13S | P HC WSM23S | P HC WSM33S | P HC WSM43S | M HC WSM13S | M HC WSM23S | M HC WSM33S | M HC WSM43S | K HC WKP23S | N HW WK1 | S HC WSM13S | S HC WSM23S | S HC WSM33S | S HC WSM43S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GX24-4R300N-RK8 | 6 | 3 | 25,4 | 0,10–0,60 | 0,1–4,0 | ±0,02 | ±0,05 | | | | | | | | | | | ● | | | | |
| | GX24-5R400N-RK8 | 8 | 4 | 25,4 | 0,10–0,80 | 0,1–5,0 | ±0,02 | ±0,05 | | | | | | | | | | | ● | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | GX16-1E200N10-RF8 | 2 | 1 | 16 | 0,08–0,25 | 0,1–1,0 | ±0,02 | ±0,02 | | ● | ● | | | ● | ● | | | | | ● | ● | | |
| | GX16-2E300N15-RF8 | 3 | 1,5 | 16 | 0,10–0,30 | 0,1–1,5 | ±0,02 | ±0,02 | | ● | ● | | | ● | ● | | | | | ● | ● | | |
| | GX24-2E300N15-RF8 | 3 | 1,5 | 24 | 0,10–0,30 | 0,1–1,5 | ±0,02 | ±0,02 | | ● | ● | | | ● | ● | | | | | ● | ● | | |
| | GX24-2E318N16-RF8 | 3,18 | 1,59 | 24 | 0,10–0,30 | 0,1–1,5 | ±0,02 | ±0,02 | | | ● | | | | ● | | | | | | ● | | |
| | GX24-3E400N20-RF8 | 4 | 2 | 24 | 0,12–0,45 | 0,1–2,0 | ±0,02 | ±0,02 | | ● | ● | | | ● | ● | | | | | ● | ● | | |
| | GX24-3E475N24-RF8 | 4,75 | 2,38 | 24 | 0,15–0,50 | 0,1–2,3 | ±0,02 | ±0,02 | | | ● | | | | ● | | | | | | ● | | |
| | GX24-3E500N25-RF8 | 5 | 2,5 | 24 | 0,15–0,50 | 0,1–2,5 | ±0,02 | ±0,02 | | ● | ● | | | ● | ● | | | | | ● | ● | | |
| | GX24-4E600N30-RF8 | 6 | 3 | 24 | 0,15–0,55 | 0,1–3,0 | ±0,02 | ±0,02 | | ● | ● | | | ● | ● | | | | | ● | ● | | |
| | GX24-4E635N32-RF8 | 6,35 | 3,18 | 24 | 0,15–0,55 | 0,1–3,0 | ±0,02 | ±0,02 | | | ● | | | | ● | | | | | | ● | | |
| | GX30-5E800N40-RF8 | 8 | 4 | 30 | 0,18–0,60 | 0,2–4,0 | ±0,02 | ±0,02 | | ● | ● | | | ● | ● | | | | | ● | ● | | |
| | GX16-1E200N10-RD4 | 2 | 1 | 16 | 0,08–0,25 | 0,2–1,0 | ±0,05 | ±0,15 | ● | | ● | ● | | | ● | ● | | ● | | | ● | ● | |
| | GX16-1E239N12-RD4 | 2,39 | 1,2 | 16 | 0,08–0,25 | 0,2–1,0 | ±0,05 | ±0,15 | | | | ● | | | | ● | | | | | | ● | |
| | GX16-2E300N15-RD4 | 3 | 1,5 | 16 | 0,10–0,35 | 0,5–1,5 | ±0,05 | ±0,15 | | | ● | ● | | | ● | ● | | | | | ● | ● | |
| | GX24-2E300N15-RD4 | 3 | 1,5 | 24 | 0,10–0,35 | 0,5–1,5 | ±0,05 | ±0,15 | ● | | | ● | | | | ● | | ● | | | | ● | |
| | GX24-2E318N16-RD4 | 3,18 | 1,59 | 24 | 0,10–0,35 | 0,5–1,5 | ±0,05 | ±0,15 | ● | | | ● | | | | ● | | ● | | | | ● | |
| | GX24-3E400N20-RD4 | 4 | 2 | 24 | 0,15–0,50 | 0,5–2,0 | ±0,05 | ±0,15 | ● | | | ● | | | | ● | | ● | | | | ● | |
| | GX24-3E475N24-RD4 | 4,75 | 2,38 | 24 | 0,17–0,60 | 0,5–2,3 | ±0,05 | ±0,15 | ● | | | ● | | | | ● | | ● | | | | ● | |
| | GX24-3E500N25-RD4 | 5 | 2,5 | 24 | 0,17–0,60 | 0,5–2,5 | ±0,05 | ±0,15 | ● | | | ● | | | | ● | | ● | | | | ● | |
| | GX24-4E600N30-RD4 | 6 | 3 | 24 | 0,17–0,70 | 0,5–3,0 | ±0,05 | ±0,15 | ● | | | ● | | | | ● | | ● | | | | ● | |
| | GX24-4E635N32-RD4 | 6,35 | 3,18 | 24 | 0,17–0,70 | 0,5–3,0 | ±0,05 | ±0,15 | ● | | | ● | | | | ● | | ● | | | | ● | |
| | GX30-5E800N40-RD4 | 8 | 4 | 30 | 0,20–0,80 | 0,6–4,0 | ±0,05 | ±0,15 | ● | | | ● | | | | ● | | ● | | | | ● | |

$l_{Tol}$ = Repeat accuracy when changing indexable inserts
Radius tolerance $r_{Tol}$ = ±0.05 mm

HC = Coated carbide
HW = Uncoated carbide

A 394 A 396 A 294 A 296

# Semi-finished blanks for special profiles
# GX cutting inserts





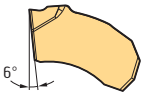

## Blanks for special profiles

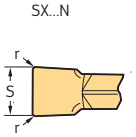
| | Designation | s mm | b mm | l mm | P HC WKP23S | P HC WSM33S | P HC WSM43S | P HF WMG40 | M HC WSM33S | M HC WSM43S | M HF WMG40 | K HC WKP23S | S HC WSM33S | S HC WSM43S | S HF WMG40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GX16-1E3.30N | 3,3 | 1,4 | 16,6 | | | | ● | | | ● | | | | ● |
| | GX16-2E4.30N | 4,3 | 2,1 | 16,6 | | | | ● | | | ● | | | | ● |
| | GX16-3E6.30N | 6,3 | 3,05 | 16,6 | | | | ● | | | ● | | | | ● |
| | GX16-4E8.30N | 8,3 | 4,3 | 16,6 | | | | ● | | | ● | | | | ● |
| | GX24-2E4.80N | 4,8 | 2,1 | 24,6 | | | | ● | | | ● | | | | ● |
| | GX24-3E6.30N | 6,3 | 3,05 | 24,6 | | | | ● | | | ● | | | | ● |
| | GX24-4E8.30N | 8,3 | 4,3 | 24,6 | | | | ● | | | ● | | | | ● |
| | GX24-5E10.30N | 10,3 | 6,2 | 24,6 | | | | ● | | | ● | | | | ● |

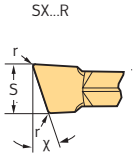
Grade WMG40 has the ISO ranges of applications P30, M30 and S30

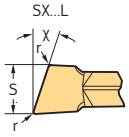
HC = Coated carbide
HF = Uncoated fine-grained carbide

# Grooving and parting off
# SX cutting inserts
## Tiger·tec® Silver




A2

## Cutting inserts

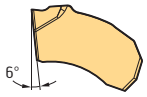
| | Designation | s mm | r mm | κ | f mm | $S_{Tol}$ mm | $l_{Tol}$ mm | P HC WKP23S | P HC WSM23S | P HC WSM33S | P HC WSM43S | M HC WSM23S | M HC WSM33S | M HC WSM43S | K HC WKP23S | S HC WSM23S | S HC WSM33S | S HC WSM43S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SX-1E150N01-CF6 | 1,5 | 0,15 | | 0,03–0,10 | ±0,05 | ±0,1 | | | ☺ | ☹ | | ☺ | ☹ | | | ☺ | ☹ |
| | SX-2E200N02-CF6 | 2 | 0,2 | | 0,03–0,12 | ±0,05 | ±0,1 | | | ☺ | ☹ | | ☺ | ☹ | | | ☺ | ☹ |
| | SX-3E300N02-CF6 | 3 | 0,2 | | 0,04–0,20 | ±0,05 | ±0,1 | | | ☺ | ☹ | | ☺ | ☹ | | | ☺ | ☹ |
| | SX-1E150N01-CF5 | 1,5 | 0,15 | | 0,03–0,10 | ±0,05 | ±0,1 | | | ☺ | ☹ | | ☺ | ☹ | | | ☺ | ☹ |
| | SX-1E150R/L6-CF5 | 1,5 | 0,15 | 6° | 0,03–0,08 | ±0,05 | ±0,1 | | | ☺ | ☹ | | ☺ | ☹ | | | ☺ | ☹ |
| | SX-1E150R/L7-CF5 | 1,5 | 0 | 7° | 0,03–0,08 | ±0,05 | ±0,1 | | | ☺ | ☹ | | ☺ | ☹ | | | ☺ | ☹ |
| | SX-1E150R/L15-CF5 | 1,5 | 0 | 15° | 0,03–0,08 | ±0,05 | ±0,1 | | | ☺ | | | ☺ | | | | ☺ | |
| | SX-2E200N02-CF5 | 2 | 0,2 | | 0,04–0,12 | ±0,05 | ±0,1 | | | ☺ | ☹ | | ☺ | ☹ | | | ☺ | ☹ |
| | SX-2E200R/L6-CF5 | 2 | 0,2 | 6° | 0,04–0,10 | ±0,05 | ±0,1 | | | ☺ | ☹ | | ☺ | ☹ | | | ☺ | ☹ |
| | SX-2E200R/L7-CF5 | 2 | 0 | 7° | 0,04–0,10 | ±0,05 | ±0,1 | | | ☺ | ☹ | | ☺ | ☹ | | | ☺ | ☹ |
| | SX-2E200R/L15-CF5 | 2 | 0 | 15° | 0,03–0,08 | ±0,05 | ±0,1 | | | ☺ | | | ☺ | | | | ☺ | |
| | SX-3E300N02-CF5 | 3 | 0,2 | | 0,08–0,20 | ±0,05 | ±0,1 | | | ☺ | ☹ | | ☺ | ☹ | | | ☺ | ☹ |
| | SX-3E300R/L6-CF5 | 3 | 0,2 | 6° | 0,08–0,17 | ±0,05 | ±0,1 | | | ☺ | ☹ | | ☺ | ☹ | | | ☺ | ☹ |
| | SX-3E300R/L7-CF5 | 3 | 0 | 7° | 0,08–0,17 | ±0,05 | ±0,1 | | | ☺ | ☹ | | ☺ | ☹ | | | ☺ | ☹ |
| | SX-3E300R/L15-CF5 | 3 | 0 | 15° | 0,05–0,15 | ±0,05 | ±0,1 | | | ☺ | | | ☺ | | | | ☺ | |
| | SX-3E310N03-CF5 | 3,1 | 0,3 | | 0,08–0,20 | ±0,05 | ±0,1 | | | ☺ | ☹ | | ☺ | ☹ | | | ☺ | ☹ |
| | SX-4E400N02-CF5 | 4 | 0,2 | | 0,10–0,22 | ±0,05 | ±0,1 | | | ☺ | ☹ | | ☺ | ☹ | | | ☺ | ☹ |
| | SX-4E400R/L6-CF5 | 4 | 0,2 | 6° | 0,10–0,20 | ±0,05 | ±0,1 | | | ☺ | ☹ | | ☺ | ☹ | | | ☺ | ☹ |
| | SX-5E500N04-CF5 | 5 | 0,4 | | 0,10–0,25 | ±0,05 | ±0,1 | | | ☺ | ☹ | | ☺ | ☹ | | | ☺ | ☹ |
| | SX-5E500R/L6-CF5 | 5 | 0,4 | 6° | 0,10–0,20 | ±0,05 | ±0,1 | | | ☺ | ☹ | | ☺ | ☹ | | | ☺ | ☹ |
| | SX-6E600N04-CF5 | 6 | 0,4 | | 0,10–0,30 | ±0,05 | ±0,1 | | | ☺ | ☹ | | ☺ | ☹ | | | ☺ | ☹ |
| | SX-1E150N01-CE4 | 1,5 | 0,15 | | 0,03–0,12 | ±0,05 | ±0,1 | | | ☺ | ☹ | | ☺ | ☹ | | | ☺ | ☹ |
| | SX-1E150R/L6-CE4 | 1,5 | 0,15 | 6° | 0,03–0,08 | ±0,05 | ±0,1 | | | ☺ | ☹ | | ☺ | ☹ | | | ☺ | ☹ |
| | SX-2E200N02-CE4 | 2 | 0,2 | | 0,06–0,15 | ±0,05 | ±0,1 | ☻ | ☻ | ☺ | ☹ | ☻ | ☺ | ☹ | ☺ | ☻ | ☺ | ☹ |
| | SX-2E200R/L6-CE4 | 2 | 0,2 | 6° | 0,06–0,10 | ±0,05 | ±0,1 | | | ☺ | ☹ | | ☺ | ☹ | | | ☺ | ☹ |
| | SX-2E260N03-CE4 | 2,6 | 0,3 | | 0,06–0,18 | ±0,05 | ±0,1 | | ☻ | ☺ | ☹ | ☻ | ☺ | ☹ | | ☻ | ☺ | ☹ |
| | SX-3E300N02-CE4 | 3 | 0,2 | | 0,09–0,30 | ±0,05 | ±0,1 | ☻ | ☻ | ☺ | ☹ | ☻ | ☺ | ☹ | ☺ | ☻ | ☺ | ☹ |
| | SX-3E300R/L6-CE4 | 3 | 0,2 | 6° | 0,09–0,20 | ±0,05 | ±0,1 | ☻ | | ☺ | ☹ | | ☺ | ☹ | ☺ | | ☺ | ☹ |
| | SX-3E310N03-CE4 | 3,1 | 0,3 | | 0,09–0,30 | ±0,05 | ±0,1 | ☻ | | ☺ | ☹ | | ☺ | ☹ | ☺ | | ☺ | ☹ |
| | SX-4E400N02-CE4 | 4 | 0,2 | | 0,10–0,32 | ±0,05 | ±0,1 | ☻ | ☻ | ☺ | ☹ | ☻ | ☺ | ☹ | ☺ | ☻ | ☺ | ☹ |
| | SX-4E400R/L6-CE4 | 4 | 0,2 | 6° | 0,10–0,22 | ±0,05 | ±0,1 | ☻ | | ☺ | ☹ | | ☺ | ☹ | ☺ | | ☺ | ☹ |
| | SX-4E410N03-CE4 | 4,1 | 0,3 | | 0,10–0,32 | ±0,05 | ±0,1 | ☻ | | ☺ | ☹ | | ☺ | ☹ | ☺ | | ☺ | ☹ |
| | SX-4E480N03-CE4 | 4,8 | 0,3 | | 0,12–0,35 | ±0,05 | ±0,1 | | | ☺ | ☹ | | ☺ | ☹ | | | ☺ | ☹ |
| | SX-5E500N04-CE4 | 5 | 0,4 | | 0,12–0,35 | ±0,05 | ±0,1 | ☻ | ☻ | ☺ | ☹ | ☻ | ☺ | ☹ | ☺ | ☻ | ☺ | ☹ |
| | SX-5E500R/L6-CE4 | 5 | 0,4 | 6° | 0,12–0,25 | ±0,05 | ±0,1 | | | ☺ | ☹ | | ☺ | ☹ | | | ☺ | ☹ |
| | SX-6E600N04-CE4 | 6 | 0,4 | | 0,12–0,40 | ±0,05 | ±0,1 | ☻ | | ☺ | ☹ | | ☺ | ☹ | ☺ | | ☺ | ☹ |
| | SX-6E600R/L6-CE4 | 6 | 0,4 | 6° | 0,12–0,30 | ±0,05 | ±0,1 | | | ☺ | ☹ | | ☺ | ☹ | | | ☺ | ☹ |
| | SX-8E800N08-CE4 | 8 | 0,8 | | 0,20–0,55 | ±0,05 | ±0,1 | ☻ | | ☺ | ☹ | | ☺ | ☹ | ☺ | | ☺ | ☹ |
| | SX-10E1000N08-CE4 | 10 | 0,8 | | 0,25–0,60 | ±0,05 | ±0,1 | ☻ | | ☺ | ☹ | | ☺ | ☹ | ☺ | | ☺ | ☹ |

$l_{Tol}$ = Repeat accuracy when changing indexable inserts
Radius tolerance $r_{Tol}$ = ±0.05 mm

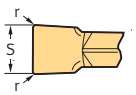
HC = Coated carbide

A 394 A 396 A 294

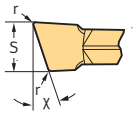
# Slitting
## SX cutting inserts
## Tiger·tec® Silver



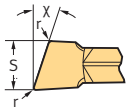

SX...N




SX...R




SX...L

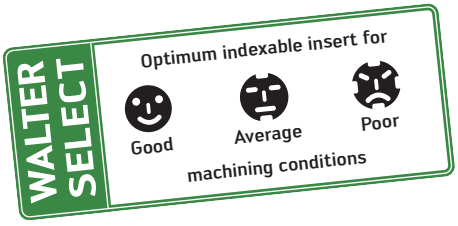



## Cutting inserts

| | Designation | s mm | r mm | κ | f mm | $S_{Tol}$ mm | $l_{Tol}$ mm | P HC WKP23S | P HC WSM33S | P HC WSM43S | M HC WSM33S | M HC WSM43S | K HC WKP23S | S HC WSM33S | S HC WSM43S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SX-1E150N01-SF5 | 1,5 | 0,15 | | 0,03–0,10 | ±0,05 | ±0,1 | | ☺ | ☹ | ☺ | ☹ | | ☺ | ☹ |
| | SX-2E200N02-SF5 | 2 | 0,2 | | 0,06–0,15 | ±0,05 | ±0,1 | | ☺ | ☹ | ☺ | ☹ | | ☺ | ☹ |
| | SX-3E300N02-SF5 | 3 | 0,2 | | 0,08–0,20 | ±0,05 | ±0,1 | | ☺ | ☹ | ☺ | ☹ | | ☺ | ☹ |
| | SX-4E400N02-SF5 | 4 | 0,2 | | 0,10–0,22 | ±0,05 | ±0,1 | | ☺ | ☹ | ☺ | ☹ | | ☺ | ☹ |
| | SX-5E500N04-SF5 | 5 | 0,4 | | 0,10–0,25 | ±0,05 | ±0,1 | | ☺ | ☹ | ☺ | ☹ | | ☺ | ☹ |

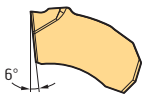
$l_{Tol}$ = Repeat accuracy when changing indexable inserts
Radius tolerance $r_{Tol}$ = ±0.05 mm

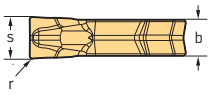
HC = Coated carbide




A 394 A 396 A 294

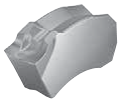
# Semi-finished parts for special profiles
# SX cutting inserts






## Blanks for special profiles

| | Designation | s mm | b mm | P | | | | | | M | | | | K | | S | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | HC | | | HF | | | HC | | | HF | HC | | HC | | | HF |
| | | | | WKP23S | WSM33S | WSM43S | WMG40 | WSM33S | WSM43S | WMG40 | WKP23S | WSM33S | WSM43S | WMG40 |
|  | SX-2E320N00-SF5 | 3,2 | 2,2 | | | | ● | | | ● | | | | ● |
| | SX-3E420N00-SF5 | 4,2 | 2,6 | | | | ● | | | ● | | | | ● |
| | SX-4E520N00-SF5 | 5,2 | 3,6 | | | | ● | | | ● | | | | ● |
| | SX-5E620N00-SF5 | 6,2 | 4,5 | | | | ● | | | ● | | | | ● |
| | SX-6E820N00-SF5 | 8,2 | 5,5 | | | | ● | | | ● | | | | ● |

Grade WMG40 has the ISO ranges of applications P30, M30 and S30

HC = Coated carbide
HF = Uncoated fine-grained carbide

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# Walter Cut product description



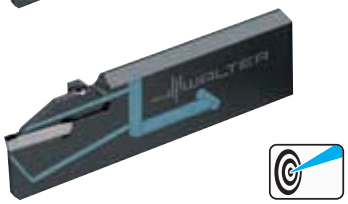
## Tool families for grooving – GX

**G1011 monoblock tool**
– For GX cutting inserts
– For grooving, parting off and longitudinal turning
– For all types of lathe
– Access to the screw from above and below; extremely easy tool handling – even in overhead use
– Excellent chip evacuation thanks to low clamp profile
– Grooving up to a maximum cutting depth of 32 mm
– Insert widths from 2-8 mm
– Shank sizes: 10 × 10 mm, 12 × 12 mm, 16 × 16 mm, 20 × 20 mm, 25 × 25 mm and 32 × 32 mm

**G1011-P monoblock tool with precision cooling**
– Precision cooling on the rake face and flank face
– Can be used from 10 bar up to a maximum coolant pressure of 150 bar
– Longer tool life and higher productivity thanks to optimum cooling directly in the cutting zone starting from a coolant pressure as low as 10 bar
– Shank sizes: 12 × 12 mm, 16 × 16 mm, 20 × 20 mm, 25 × 25 mm and 32 × 25 mm

**XLDE monoblock tool for parting off**
– Simple tool handling thanks to angular access to clamping screw
– Quick insert replacement time thanks to insert replacement in the machine
– For parting off diameters of up to 32 mm
– Insert widths 1.5-3 mm
– Shank sizes: 10 × 10 mm, 12 × 12 mm, 16 × 16 mm and 20 × 20 mm for use on long centre lathes and multi-spindle machines

**G1042 deep parting blade**
– Stable four-point clamping
– Simple tool handling
– Defined clamping force
– One tooling system for single and double-edged cutting inserts
– Cost-effective, double-edged parting off solution with cutting depth of up to 23 mm
– Single-edged parting off solution with cutting depth of up to 60 mm
– Insert widths 2-6 mm
– Blade heights of 26 and 32 mm



**G1041 parting blade, reinforced design**
– Maximum process reliability thanks to stable tool design
– Maximum cost efficiency thanks to double-sided cutting inserts for parting off operations
– Optimum cutting insert retention thanks to Torx Plus screw clamping and insert seat design
– Little tool deflection due to reinforced tool body
– Longer tool life due to reduction in micro vibration
– Insert widths 1.5-4 mm
– Grooving to a cutting depth of 33 mm and parting off up to a diameter of 65 mm
– Available in right-hand, left-hand and contra versions
– Blade heights of 26 and 32 mm

**G1041-P parting blade, reinforced design with precision cooling**
– Precision cooling on the rake face and flank face
– Can be used from 10 bar up to a maximum coolant pressure of 80 bar
– Longer tool life and higher productivity thanks to optimum cooling directly in the cutting zone starting from a coolant pressure as low as 10 bar

## Tool families for grooving – GX

**Walter Cut Modular**
– Two different grooving systems can be used
– For GX and SX cutting inserts
– Maximum grooving flexibility
– Low inventory requirements
– Short set-up times
– Insert widths of 0.6-8 mm
– Grooving to a cutting depth of 45 mm and parting off up to a diameter of 90 mm
– In Walter Capto™ C3, C4, C5 and C6
– Shank sizes: 12 × 12 mm, 16 × 16 mm, 20 × 20 mm, 25 × 25 mm and 32 × 32 mm

**G1111 monoblock tool for axial grooving**
– For GX24 cutting inserts
– For grooving and recessing
– Excellent chip evacuation thanks to low clamp profile
– Access to the screw from above and below; extremely easy tool handling – even in overhead use
– Insert widths 3-6 mm
– Grooving to a cutting depth of up to 25 mm
– Shank size 25 × 25 mm

**G15 . . monoblock tool for shallow cutting depths**
– For GX cutting inserts
– For grooving, recessing and relief turning
– Excellent chip evacuation thanks to low clamp profile
– Access to the screw from above and below; extremely easy tool handling – even in overhead use
– Grooving to a cutting depth of up to 6 mm
– Insert widths of 2-6 mm with a single tool
– Shank sizes: 12 × 12 mm, 16 × 16 mm, 20 × 20 mm and 25 × 25 mm

**G1511-P monoblock tool for shallow cutting depths with precision cooling**
– Precision cooling on the rake face
– Can be used from 10 bar up to a maximum coolant pressure of 150 bar
– Longer tool life and higher productivity thanks to optimum cooling directly in the cutting zone starting from a coolant pressure as low as 10 bar
– Shank sizes: 16 × 16 mm, 20 × 20 mm and 25 × 25 mm

# Walter Cut product description

(continued)

## Tool families for grooving – SX

**G2012 monoblock tool**
– For SX cutting inserts
– For grooving and parting off
– For all types of lathe
– Stable self-clamping system using top clamp
– Shank sizes: 16 × 16 mm, 20 × 20 mm and 25 × 25 mm

**G2012-P monoblock tool with precision cooling**
– Precision cooling on the rake face and flank face
– Can be used from 10 bar up to a maximum coolant pressure of 150 bar
– Longer tool life and higher productivity thanks to optimum cooling directly in the cutting zone starting from a coolant pressure as low as 10 bar
– Insert widths 2-10 mm
– Grooving to a cutting depth of 45 mm and parting off up to a diameter of 90 mm
– Shank sizes: 12 × 12 mm, 16 × 16 mm, 20 × 20 mm, 25 × 25 mm and 32 × 25 mm

**G2042-N deep parting blade**
– For SX cutting inserts
– Two insert seats on one tool
– Stable self-clamping system using top clamp
– Simple tool handling
– Insert widths 2-6 mm
– Cost-effective, single-edged parting off solution for a cutting depth of up to 80 mm/a parting-off diameter of up to 160 mm
– Blade heights: 26 mm, 32 mm and 46 mm

**G2042-N-P deep parting blades with precision cooling**
– Precision cooling on the rake face and flank face
– Coolant transfer with no external protrusion
– Can be used from 10 bar up to a maximum coolant pressure of 80 bar
– Longer tool life and higher productivity thanks to optimum cooling directly in the cutting zone starting from a coolant pressure as low as 10 bar
– Insert widths 3-10 mm
– Cost-effective, single-edged parting off solution for a cutting depth of up to 100 mm/a parting-off diameter of up to 200 mm
– Blade heights: 26 mm, 32 mm and 52 mm

**G2042-R/L parting blade, reinforced design**
– For SX cutting inserts
– Maximum process reliability thanks to stable tool design
– Little tool deflection due to reinforced tool body
– Longer tool life due to reduction in micro vibration
– Insert widths 2-4 mm
– Available in right-hand/left-hand and contra version
– Blade heights of 26 mm and 32 mm

**G2042-R/L-P parting blade, reinforced design with precision cooling**
– Precision cooling on the rake face and flank face
– Can be used from 10 bar up to a maximum coolant pressure of 80 bar
– Longer tool life and higher productivity thanks to optimum cooling directly in the cutting zone starting from a coolant pressure as low as 10 bar

## Tool adaptors for parting blades

**SBN clamping block**
– One-piece clamp
– Left-hand/right-hand variant in one block
– Blade heights: 26 mm, 32 mm and 46 mm
– Shank dimensions: 20 × 20 mm, 25 × 20 mm, 32 × 29 mm and 40 × 37 mm

**G2661-P clamping block for parting blades with precision cooling**
– Easy clamping block handling thanks to inclined clamping screw and split clamp
– Left-hand/right-hand variant in one block
– Clamping blocks with direct coolant transfer for precision-cooled parting blades
– No vibration thanks to stable toolholder design with rigid clamping
– Can be used from 10 bar up to a maximum coolant pressure of 80 bar
– Blade heights: 26 mm, 32 mm and 52 mm
– Shank dimensions: 20 × 20 mm, 25 × 25 mm, 32 × 25 mm and 40 × 32 mm

**A2110-P VDI axial adaptor for parting blades with precision cooling**
– VDI25/30/40 for star turrets
– For grooving and parting off with internal cooling
– Transfer of the coolant directly through the VDI interface into the precision-cooled parting blade
– Flexibility: One toolholder for standard and overhead installation positions
– Short chips, meaning no downtime for removing accumulated chips
– O-ring seal for reliable coolant transfer in the 10-80 bar range with no loss of pressure
– Precise centre position thanks to easily adjustable centre height in a range of ±0.5 mm
– Blade heights of 26 mm and 32 mm

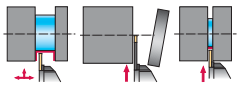
**A2111-P VDI radial adaptor for parting blades with precision cooling**
– VDI30/40 for disc turrets
– For grooving and parting off with internal cooling
– Transfer of the coolant directly through the VDI interface into the precision-cooled parting blade
– O-ring seal for reliable coolant transfer in the 10-80 bar range with no loss of pressure
– No vibration thanks to stable toolholder design, adjustable to every machining position
– Flexibility: One toolholder for standard and overhead installation positions
– Precise centre position thanks to easily adjustable centre height in a range of ±0.5 mm
– Blade heights of 26 mm and 32 mm

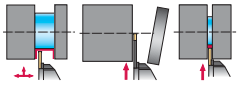
**A2110-P BMT/Doosan axial adaptors for parting blades with precision cooling**
– BMT45/55/65 and Doosan interface for bolt-on turrets
– For grooving and parting off with internal cooling
– Transfer of the coolant directly through the adaptor into the precision-cooled parting blade
– Flexibility: One toolholder for standard and overhead installation positions
– O-ring seal for reliable coolant transfer in the 10-80 bar range with no loss of pressure
– Precise centre position thanks to easily adjustable centre height in the ±0.5 mm range
– Blade heights of 26 mm and 32 mm
– Additional machine-specific interfaces are available on request

# Walter Cut grooving tools product range overview
# Shank tools/parting blades/boring bars

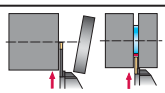


## Shank tools for grooving, parting off and recessing

| Machining |  | | | | | |
|---|---|---|---|---|---|---|
| **Type** | | | | | | |
| **Designation** | **G1011** | **G1011...-P** | **G1511** | **G1511...-P** | **G1521** | **G1551** |
| Insert width s [mm] | 2–8 | 2–8 | 2–6 | 2–6 | 2–6 | 2–6 |
| Cutting depth $T_{max}$ [mm] | 8–32 | 12–32 | 4–6 | 4–6 | 4–6 | 6 |
| Coolant supply | external | Precision cooling | external | Precision cooling | external | external |
| Shank size h [mm] | 12–32 | 16–32 | 12–25 | 16–25 | 16–25 | 20–25 |
| | | | | | | |
| Page | A 308 | A 310 | A 314 | A 316 | A 315 | A 317 |

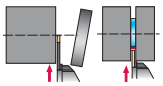
| Machining |  | | | |
|---|---|---|---|---|
| **Type** | | | | |
| **Designation** | **NCAE/NCBE** | **NCLE** | **NCCE** | **NCNE** |
| Insert width s [mm] | 2–8 | 2–8 | 0,6–2,3 | 0,6–2,3 |
| Cutting depth $T_{max}$ [mm] | 7–21 | 12–21 | 2–3 | 3 |
| Coolant supply | external | external | external | external |
| Shank size h [mm] | 16–32 | 20–32 | 12–32 | 20–32 |
| | | | | |
| Page | A 338 | A 340 | A 342 | A 344 |

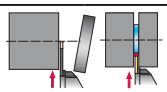
## Shank tools for grooving and parting off

| Machining |  | | | | | |
|---|---|---|---|---|---|---|
| **Type** | | | | | | |
| **Designation** | **XLDE** | **XLDE...C** | **G2012** | **G2012...-P** | **G2612** | **G2622** |
| Insert width s [mm] | 1,5–3 | 1,5–3 | 1,5 | 2–10 | 2–8 | 2–8 |
| Cutting depth $T_{max}$ [mm] | 5–16 | 5–16 | 15 | 16–45 | 20–45 | 20–45 |
| Coolant supply | external | external | external | Precision cooling | external | external |
| Shank size h [mm] | 10–20 | 10–20 | 12–20 | 12–32 | 20–32 | 20–32 |
| | | | | | | |
| Page | A 312 | A 313 | A 326 | A 328 | A 348 | A 350 |

# Walter Cut grooving tools product range overview
# Shank tools/parting blades/boring bars

## Parting blades for grooving and parting off

| Machining |  | | | | | |
|---|---|---|---|---|---|---|
| **Type** | | | | | | |
| **Designation** | **G1041** | **G1041...C** | **G1041...C-P** | **XLCFN** | **G1042** | **G1332** |
| Insert width s [mm] | 1,5–4 | 1,5–4 | 2–4 | 3–6 | 2–6 | 1,5–3 |
| Cutting depth $T_{max}$ [mm] | 16–32 | 16–32 | 16–32 | 21 | 25–60 | 15 |
| Coolant supply | external | external | Precision cooling | external | external | external |
| Shank size h4 [mm] | 26–32 | 26–32 | 26–32 | 32 | 26–32 | |
| | | | | | | |
| Page | A 321 | A 322 | A 323 | A 324 | A 320 | A 347 |

| Machining |  | | | | | |
|---|---|---|---|---|---|---|
| **Type** | | | | | | |
| **Designation** | **G2042...R/L** | **G2042...R/L...-P** | **G2042...R/L...C** | **G2042...R/L...C-P** | **G2042...N** | **G2042...N...-P** |
| Insert width s [mm] | 1,5–4 | 2–3 | 2–4 | 2–4 | 2–6 | 3–10 |
| Cutting depth $T_{max}$ [mm] | 20–33 | 26–33 | 26–33 | 26–33 | 30–80 | 38–100 |
| Coolant supply | external | Precision cooling | external | Precision cooling | external | Precision cooling |
| Shank size h4 [mm] | 26–32 | 26–32 | 26–32 | 26–32 | 26–46 | 26–52 |
| | | | | | | |
| Page | A 332 | A 334 | A 333 | A 335 | A 330 | A 331 |

## Clamping blocks

| **Type** | | |
|---|---|---|
| **Designation** | **SBN** | **G2661...-P** |
| Blade height h4 [mm] | 26–32 | 26–52 |
| Coolant supply | external | Precision cooling |
| Shank size h [mm] | 20–32 | 16–40 |
| | | |
| Page | A 336 | A 337 |

**For more adaptors with VDI, BMT, etc. interfaces, see the Adaptors catalogue.**

# Walter Cut grooving tools product range overview
# Shank tools/parting blades/boring bars



## Shank tools for axial grooving

| Machining | | | | | | |
|---|---|---|---|---|---|---|
| **Type** | | | | | | |
| **Designation** | **G1111** | **NCEE** | **NCHE** | **NCFE** | **NCFE...C** | **NCOE** |
| Insert width s [mm] | 3–6 | 3–6 | 3–6 | 4–6 | 4–6 | 4–6 |
| Cutting depth $T_{max}$ [mm] | 12–25 | 14–15 | 14–15 | 21–25 | 21–25 | 21–25 |
| Coolant supply | external | external | external | external | external | external |
| Shank size h [mm] | 25 | 20–32 | 20–32 | 25 | 25 | 25 |
| | | | | | | |
| Page | A 318 | A 352 | A 354 | A 356 | A 358 | A 360 |

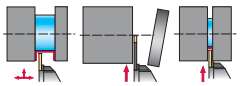
| Machining | |
|---|---|
| **Type** | |
| **Designation** | **NCOE...C** |
| Insert width s [mm] | 4–6 |
| Cutting depth $T_{max}$ [mm] | 21–25 |
| Coolant supply | external |
| Shank size h [mm] | 25 |
| | |
| Page | A 362 |

## Boring bars for internal grooving

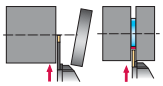
| Machining | | | |
|---|---|---|---|
| **Type** | | | |
| **Designation** | **I12** | **NCAI** | **NCCI** |
| Insert width s [mm] | 2–2,5 | 2–6 | 0,6–2,3 |
| Cutting depth $T_{max}$ [mm] | 3 | 4–19 | 2–5 |
| Coolant supply | internal | internal | internal |
| Shank size $d_1$ [mm] | 16 | 20–50 | 20–50 |
| | | | |
| Page | A 325 | A 364 | A 366 |

# Walter Cut grooving tools product range overview
# Walter Capto™ groove turning holders

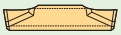
## Grooving, parting off and recessing

| Machining |  | | | |
|---|---|---|---|---|
| **Type** | | | | |
| **Designation** | **C...-NCAE/ C...-NCBE** | **C...-NCLE** | **C...-NCCE** | **C...-NCNE** |
| Insert width s [mm] | 2–8 | 2–8 | 0,6–2,3 | 0,6–2,3 |
| Cutting depth $T_{max}$ [mm] | 7–21 | 12–21 | 2–3 | 3 |
| Coolant supply | internal | internal | internal | internal |
| Walter Capto™ size | C3–C6 | C3–C6 | C3–C6 | C3–C6 |
| | | | | |
| Page | A 368 | A 372 | A 374 | A 376 |

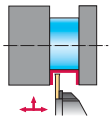
## Grooving and parting off

| Machining |  | |
|---|---|---|
| **Type** | | |
| **Designation** | **C...-G2612** | **C...-G2622** |
| Insert width s [mm] | 2–8 | 2–8 |
| Cutting depth $T_{max}$ [mm] | 20–45 | 20–45 |
| Coolant supply | internal | internal |
| Walter Capto™ size | C3–C6 | C3–C6 |
| | | |
| Page | A 378 | A 380 |

## Axial grooving

| Machining | | | | | | |
|---|---|---|---|---|---|---|
| **Type** |  | | | | | |
| **Designation** | **C...-NCEE** | **C...-NCHE** | **C...-NCFE** | **C...-NCFE...C** | **C...-NCOE** | **C...-NCOE...C** |
| Insert width s [mm] | 3–6 | 3–6 | 4–6 | 4–6 | 4–6 | 4–6 |
| Cutting depth $T_{max}$ [mm] | 14–15 | 14–15 | 21–25 | 21–25 | 21–25 | 21–25 |
| Coolant supply | internal | internal | internal | internal | internal | internal |
| Walter Capto™ size | C3–C6 | C4–C6 | C4–C5 | C4–C5 | C4–C5 | C4–C5 |
| | | | | | | |
| Page | A 382 | A 384 | A 386 | A 388 | A 390 | A 392 |

# Grooving system overview – Walter Cut external machining



A2

**VDI adaptors for square shanks with precision cooling**

**Walter Capto™ adaptors for square shanks**

**Walter Capto™ adaptors for grooving modules**

**A2120-VDI-P**
Page D 16

**A2121-VDI-P**
Page D 17

**C...-ASHR/L**
**C...-ASHR/L3**
Page D 11

**C...-ASHA**
Page D 12

**C ....MSS...00**
Page A 368

**C ....MSS...90**
Page A 372

**One-piece shank tools**

**Shank tools for grooving modules**

**e.g. G1011...-P**
from page A 294

**e.g. G2012**
from page A 294

**MSS...00**
from page A 338

**MSS...90**
from page A 340

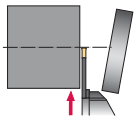
**Grooving modules**

**SX:**
**G2632**
from page A 348

**GX:**
**MSS-E...GX**
from page A 338

= Precision cooling

# Grooving system overview – Walter Cut parting blades



VDI adaptors for parting blades with precision cooling

BMT or Doosan adaptors for parting blades with precision cooling

Clamping blocks for parting blades

A2

**A2110...-P**
Page D 18

**A2111...-P**
Page D 19

**A2110-BT...-P**
Page D 20

**A2110-DO...-P**
Page D 21

**SBN**
Page A 336

**G2661...-P**
Page A 337

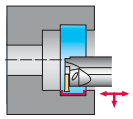
Neutral parting blades

Reinforced parting blades

**e.g. G1042**
Page A 295

**e.g. G2042...N...-P**
Page A 295

**e.g. G2042...R/L...-P**
Page A 295



# Grooving system overview – Walter Cut internal machining

Adaptors for boring bars

**C ... -131**
Page D 65

**C ... -391.20 / C ... -391.27**
Page D 66

One-piece boring bars

Boring bars with grooving module

**e.g. I12**
Page A 296

**e.g. NCAI**
Page A 296

GX grooving modules

**MSS-I...GX**
from page A 364

# Designation key for Walter Cut grooving tools

A2

**Example:**

| G | 1 | 1 | 11 | – | 2020 | R | – | 3 | T33 | – | 090 | GX24 | – | C | – | P |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | | 5 | 6 | | 7 | 8 | | 9 | 10 | | 11 | | 12 |

## 1 – Tool group

| | |
|---|---|
| G | Grooving |

## 2 – Generation

| | |
|---|---|
| 1 | GX |
| 2 | SX |

## 3 – Tool type

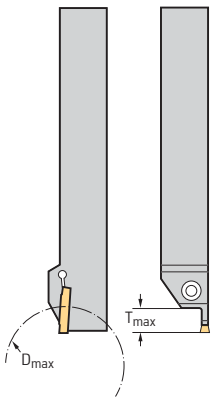
| | |
|---|---|
| 0 | Radial grooving tool |
| 1 | Axial grooving tool |
| 5 | Universal – Shallow Depth |
| 6 | Modular external radial grooving |

## 4 – Tool type

| | |
|---|---|
| 11 | Angled at 0°, straight clamping screw |
| 12 | Angled at 0°, self-clamping system |
| 21 | Angled at 90°, straight clamping screw |
| 22 | Angled at 90°, self-clamping system |
| 32 | Grooving module, self-clamping system |
| 41 | Parting blade, clamping screw |
| 42 | Parting blade, self-clamping system |
| 51 | Angled at 45°, straight clamping screw |
| 61 | Clamping block/split |

## 8 – Cutting depth/parting off diameter

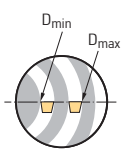
| | |
|---|---|
| T06 | 6 mm |
| T12 | 12 mm |
| T21 | 21 mm |
| T32 | 32 mm |
| T33 | 33 mm |
| T35 | 35 mm |
| D16 | Ø 16 mm |
| D32 | Ø 32 mm |




## 9 – Minimum axial grooving diameter/ blade height

### Minimum axial grooving diameter

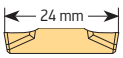
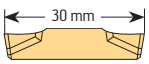
| | |
|---|---|
| 034 | Ø 34 mm |
| 042 | Ø 42 mm |
| 054 | Ø 54 mm |
| 067 | Ø 67 mm |
| 090 | Ø 90 mm |
| 130 | Ø 130 mm |
| 220 | Ø 220 mm |




### Blade height

| | |
|---|---|
| 26 | 26 mm |
| 32 | 32 mm |
| 52 | 52 mm |

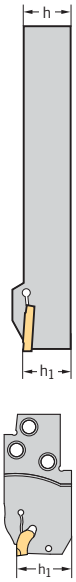
## 10 – Indexable insert type

| | |
|---|---|
| GX09 | |
| GX16 | |
| GX24 |   |
| GX30 |   |
| SX | |

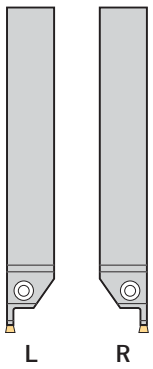
## 5 Shank size

| Square shank | |
|---|---|
| 1010 | 10 × 10 mm |
| 1212 | 12 × 12 mm |
| 1616 | 16 × 16 mm |
| 2020 | 20 × 20 mm |
| 2525 | 25 × 25 mm |
| 3225 | 32 × 25 mm |
| 3232 | 32 × 32 mm |
| 4032 | 40 × 32 mm |

| Module size $h_1$ | |
|---|---|
| E12 | 12 mm |
| E16 | 16 mm |
| E20 | 20 mm |
| E25 | 25 mm |
| E32 | 32 mm |



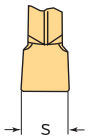

## 6 Toolholder design




| | |
|---|---|
| R | Right |
| L | Left |
| N | Neutral |

## 7 Cutting edge width

| | |
|---|---|
| 1,5 | 1,5 mm |
| 2 | 2 mm |
| 3 | 3 mm |
| 4 | 4 mm |
| 5 | 5 mm |
| 6 | 6 mm |
| 8 | 8 mm |
| 10 | 10 mm |




## 11 Version

| | |
|---|---|
| – C | Contra |

## 12 Cooling

| | |
|---|---|
| – P | Precision cooling |

# Designation key for Walter Cut – Modular grooving tools (used up to 09/2012)



**Example for axial grooving 0°:**

| NC | E | E | 25 | - | 2525 | R | - | GX | 24 | - | 3 | - | 2 | - | C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | | 5 | 6 | | 7 | 8 | | 9 | | 10 | | 11 |

| 1 |
|---|
| **Tool range** |
| **NC** Walter Cut |

| 2 | |
|---|---|
| **Machining method** | |
| **A** 0° radial grooving and turning GX | **H** 90° axial grooving and facing GX |
| **B** 0° radial grooving and turning GX | **L** 90° radial grooving and turning GX |
| **C** 0° circlip and O-ring grooves GX | **N** 90° circlip and O-ring grooves GX |
| **E** 0° axial grooving and facing GX | **O** 90° deep axial grooving and facing GX |
| **F** 0° deep axial grooving and facing GX | |

| 3 |
|---|
| **Machining** |
| **E** External machining |
| **I** Internal machining |

| 6 |
|---|
| **Toolholder design** |
| **R** Right |
| **L** Left |
| **N** Neutral |

| 7 |
|---|
| **Grooving system** |
| **GX** Grooving, double-edged |

| 8 |
|---|
| **Insert length GX [mm]** |
| **09** |
| **16** |
| **24** |

| 9 |
|---|
| **Width category GX** |
| 1 |
| 2 |
| 3 |
| 4 |
| 5 |

| 4 |
|---|
| **Module size** |
| 12 |
| 16 |
| 20 |
| 25 |
| 32 |
| 40 |

| 5 | | | | |
|---|---|---|---|---|
| **Shank dimensions [mm]/Walter Capto™** | | | | |
| **External toolholder** | | **Walter Capto™** | **Boring bar** | |
| **Height** | **Width** | **External** | **$d_1$** | **d / l** |
| 12 | 12 | C3 00 = C3 | 20 | 1/1,5 = 15 |
| 16 | 16 | C4 00 = C4 | 25 | 1/2,5 = 25 |
| 20 | 20 | C5 00 = C5 | 32 | |
| 25 | 25 | C6 00 = C6 | 40 | |
| 32 | 25 | | | |

| 10 | |
|---|---|
| **Axial diameter range [mm]** | |
| **1** | 50–70 |
| **2** | 70–100 |
| **3** | 100–150 |
| **4** | 150–300 |
| **5** | 300–900 |

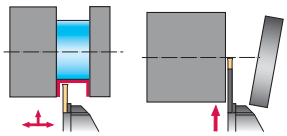
| 11 | |
|---|---|
| **Version** | |
| **C** | Contra |

# Walter Select – Groove turning holder for parting off/grooving/recessing

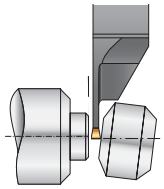


## External machining – Radial

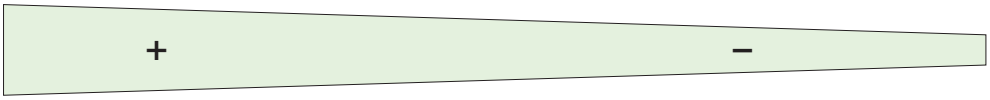
**Application**



**Access restrictions in the machine**



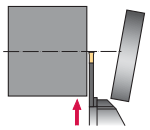
**Stability of the tool**

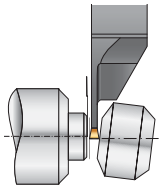



**Tools**

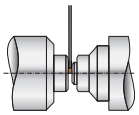
| Designation | | G1011<br>G1011…-P | G1511<br>G1511…-P | G1521 | G1551 | C…-NCAE<br>C…-NCBE | NCAE<br>NCBE |
|---|---|---|---|---|---|---|---|
| Page | | A 308 | A 314 | A 315 | A 317 | A 368 | A 338 |
| max. parting off diameter $D_{max}$ [mm] | max. cutting depth $T_{max}$ [mm] | | | | | | |
| Ø 8 | 4 | ●● | ●● | ●● | ●● | ●● | ●● |
| Ø 10 | 5 | ●● | ●● | ●● | ●● | ●● | ●● |
| Ø 12 | 6 | ●● | ●● | ●● | ●● | ●● | ●● |
| Ø 16 | 8 | ●● | | | | ●● | ●● |
| Ø 24 | 12 | ●● | | | | ●● | ●● |
| Ø 32 | 16 | ●● | | | | ●● | ●● |
| Ø 42 | 21 | ●● | | | | ●● | ●● |
| Ø 52 | 26 | ●● | | | | | |
| Ø 65 | 33 | ●● | | | | | |
| Ø 80 | 40 | | | | | | |
| Ø 90 | 45 | | | | | | |
| Ø 120 | 60 | | | | | | |
| Ø 200 | 100 | | | | | | |
| Insert width s [mm] | | 2,0–8,0 | 2,0–6,0 | | | 0,6–6,0 | 0,6–8,0 |
| Shank height h [mm] | | 12–32 | 12–25 | 16–25 | 20–25 | – | 20–25 |
| Blade height $h_4$ [mm] | | – | – | – | – | – | – |
| Walter Capto™ size $d_1$ | | – | – | – | – | C3–C6 | – |
| Cutting insert type | | | | GX . . . E<br>GX . . . F | | | |

* -P = Precision cooling (first choice)

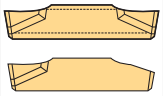
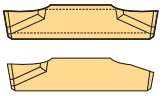




– Deep grooves
– Long tool/counter spindle projection



+ −

| | XLDE | G2012<br>G2012...-P | C...-G2612<br>C...-G2622 | G2612<br>G2622 | G1041...R/L<br>G1041...R/L...-P | G1042...N | G2042...R/L<br>G2042...R/L...-P | G2042...N<br>G2042...N...-P |
|---|---|---|---|---|---|---|---|---|
| | A 312 | A 326 | A 378 | A 348 | A 321 | A 320 | A 332 | A 330 |
| | | | | | | | | |
| | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● |
| | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● |
| | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● |
| | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● |
| | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● |
| | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● |
| | | ●● | ●● | ●● | ● | ● | ●● | ●● |
| | | ●● | ●● | ●● | ● | ● | ●● | ●● |
| | | ●● | ●● | ●● | ● | ● | ●● | ●● |
| | | ●● | ●● | ●● | | ● | | ●● |
| | | ●● | ●● | ●● | | ● | | ●● |
| | | | | | | ● | | ●● |
| | | | | | | | | ●● |
| | 1,5–3,0 | 1,5–10,0 | 2,0–8,0 | 1,5–8,0 | 1,5–4,0 | 3,0–6,0 | 2,0–4,0 | 2,0–10,0 |
| | 10–20 | 12–32 | – | 20–25 | – | – | – | – |
| | – | – | – | – | 26–32 | 26–32 | 26–32 | 26–52 |
| | – | – | C3–C6 | – | – | – | – | – |
| |  | SX . . . | | |  GX . . . E<br>GX . . . F | | SX . . . | |

WALTER SELECT

●● Primary application

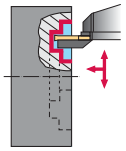
● Other application

# Walter Select – Groove turning holder for axial grooving/recessing

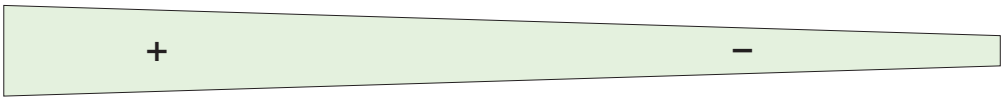


## External machining – Axial

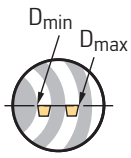
### Application



### Stability of the tool




### Tools



| Designation | G1111 | G1511<br>G1511...-P | G1521 | C...-NCEE<br>C...-NCFE | NCEE<br>NCFE |
|---|---|---|---|---|---|
| Page | A 318 | A 314 | A 315 | A 386 | A 356 |
| max. cutting depth $T_{max}$ [mm] | | | | | |
| 6 | ●● | ●● | ●● | ●● | ●● |
| 12 | ●● | | | ●● | ●● |
| 15 | ●● | | | ●● | ●● |
| 21 | ●● | | | ●● | ●● |
| 25 | ● | | | | |
| Insert width s [mm] | 3,0–6,0 | 2,0–6,0 | | 3,0–6,0 | |
| Smallest $D_{min}$ [mm] | 34 | 43 | 43 | 50 | 50 |
| Shank height h [mm] | 25 | 12–25 | 16–25 | – | 20–32 |
| Walter Capto™ size $d_1$ | – | – | – | C3–C6 | – |
| Cutting insert type | | | GX . . . E<br> GX . . . F | | |

* -P = Precision cooling (first choice)

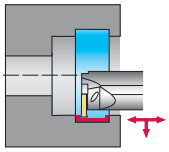
For detailed information regarding the $D_{min}$ and $D_{max}$, see page A 318/A 410

# Walter Select – Internal grooving and recessing

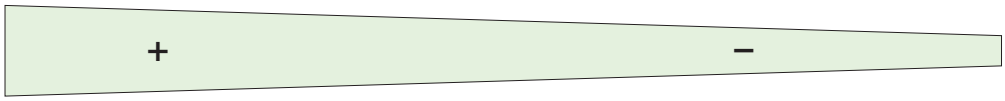


## Internal machining – Radial

**Application**



**Stability of the tool**




**Tools**

| | | | 1,5 × D | 2,5 × D |
|---|---|---|---|---|
| | | | | |
| **Designation** | | **I12** | **NCAI** | **NCCI** |
| Page | | A 325 | A 364 | A 366 |
| $D_{min}$ [mm] | max. cutting depth $T_{max}$ [mm] | | | |
| Ø 16 | 3 | ●● | | |
| Ø 20 | 4 | | ●● | ●● |
| Ø 25 | 5 | | ●● | ●● |
| Ø 32 | 6 | | ●● | ●● |
| Ø 40 | 9 | | ●● | ●● |
| Ø 50 | 10 | | ●● | ●● |
| Ø 60 | 19 | | ●● | ●● |
| Insert width s [mm] | | 2,0–2,5 | 2,0–6,0 | 2,0–6,0 |
| Shank diameter $d_1$ [mm] | | 16 | 20–40 | 20–50 |
| Cutting insert type | | | GX . . . E | |

WALTER SELECT

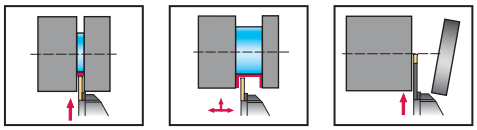
●● Primary application

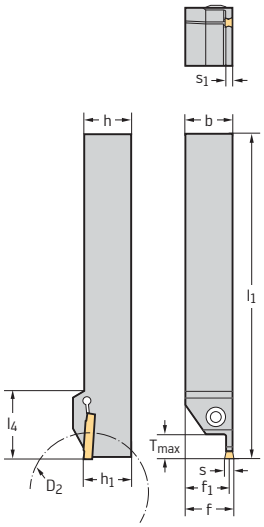
● Other application

# Shank tool – Radial grooving
# G1011
## Walter Cut

– Screw clamping

A2



| Tool | Designation | s mm | $T_{max}$ mm | $D_2$ mm | h = $h_1$ mm | b mm | $f_1$ mm | $l_1$ mm | $l_4$ mm | $s_1$ mm | Type |
|---|---|---|---|---|---|---|---|---|---|---|---|
|  | G1011.1212R/L-2T8GX16 | 2 | 8 | | 12 | 12 | 11,2 | 122 | 31,5 | 1,6 | GX16-1E2 .. |
| | G1011.1212R/L-2T12GX16 | | 12 | | 12 | 12 | 11,2 | 122 | 31,5 | 1,6 | |
| | G1011.1616R/L-2T8GX16 | | 8 | | 16 | 16 | 15,2 | 132 | 35,5 | 1,6 | |
| | G1011.1616R/L-2T15GX16 | | 15 | | 16 | 16 | 15,2 | 136 | 35,5 | 1,6 | |
| | G1011.2020R/L-2T8GX16 | | 8 | | 20 | 20 | 19,2 | 142 | 31,5 | 1,6 | |
| | G1011.2020R/L-2T15GX16 | | 15 | | 20 | 20 | 19,2 | 146 | 35,5 | 1,6 | |
| | G1011.2525R/L-2T8GX16 | | 8 | | 25 | 25 | 24,2 | 142 | 31,5 | 1,6 | |
| | G1011.2525R/L-2T15GX16 | | 15 | | 25 | 25 | 24,2 | 146 | 35,5 | 1,6 | |
| | G1011.1616R/L-2T21GX24 | | 21 | | 16 | 16 | 15,3 | 150 | 40 | 1,6 | GX24-1E2 .. |
| | G1011.2020R/L-2T21GX24 | | 21 | | 20 | 20 | 19,2 | 150 | 40 | 1,6 | |
| | G1011.1616R/L-3T12GX24 | 3 | 12 | | 16 | 16 | 14,8 | 135 | 35 | 2,4 | GX24-2E3 .. GX24-2F3 .. |
| | G1011.1616R/L-3T21GX24 | | 21 | 80 | 16 | 16 | 14,8 | 150 | 40 | 2,4 | |
| | G1011.2012R/L-3T21GX24 | | 21 | 80 | 20 | 12 | 10,8 | 150 | 40 | 2,4 | |
| | G1011.2020R/L-3T12GX24 | | 12 | | 20 | 20 | 18,8 | 145 | 35 | 2,4 | |
| | G1011.2020R/L-3T21GX24 | | 21 | 80 | 20 | 20 | 18,8 | 150 | 40 | 2,4 | |
| | G1011.2525R/L-3T12GX24 | | 12 | | 25 | 25 | 23,8 | 145 | 35 | 2,4 | |
| | G1011.2525R/L-3T21GX24 | | 21 | 80 | 25 | 25 | 23,8 | 150 | 40 | 2,4 | |
| | G1011.1616R/L-4T12GX24 | 4 | 12 | | 16 | 16 | 14,3 | 135 | 35 | 3,4 | GX24-3E4 .. GX24-3F4 .. |
| | G1011.1616R/L-4T21GX24 | | 21 | 80 | 16 | 16 | 14,3 | 150 | 40 | 3,4 | |
| | G1011.2012R/L-4T21GX24 | | 21 | 80 | 20 | 12 | 10,3 | 150 | 40 | 3,4 | |
| | G1011.2020R/L-4T12GX24 | | 12 | | 20 | 20 | 18,3 | 145 | 35 | 3,4 | |
| | G1011.2020R/L-4T21GX24 | | 21 | 80 | 20 | 20 | 18,3 | 150 | 40 | 3,4 | |
| | G1011.2525R/L-4T12GX24 | | 12 | | 25 | 25 | 23,3 | 145 | 35 | 3,4 | |
| | G1011.2525R/L-4T21GX24 | | 21 | 80 | 25 | 25 | 23,3 | 150 | 40 | 3,4 | |
| | G1011.2525R/L-4T32GX24 | | 32 | | 25 | 25 | 23,3 | 165 | 55 | 3,4 | |
| | G1011.2020R/L-5T12GX24 | 5 | 12 | | 20 | 20 | 17,9 | 145 | 35 | 4,2 | GX24-3E5 .. GX24-3F5 .. |
| | G1011.2020R/L-5T21GX24 | | 21 | 80 | 20 | 20 | 17,9 | 150 | 40 | 4,2 | |
| | G1011.2525R/L-5T12GX24 | | 12 | | 25 | 25 | 22,9 | 145 | 35 | 4,2 | |
| | G1011.2525R/L-5T21GX24 | | 21 | 80 | 25 | 25 | 22,9 | 150 | 40 | 4,2 | |
| | G1011.2525R/L-5T32GX24 | | 32 | 120 | 25 | 25 | 22,9 | 165 | 55 | 4,2 | |
| | G1011.2020R/L-6T12GX24 | 6 | 12 | | 20 | 20 | 17,4 | 145 | 35 | 5,2 | GX24-4E6 .. |
| | G1011.2020R/L-6T21GX24 | | 21 | 80 | 20 | 20 | 17,4 | 150 | 40 | 5,2 | |
| | G1011.2525R/L-6T12GX24 | | 12 | | 25 | 25 | 22,4 | 145 | 35 | 5,2 | |
| | G1011.2525R/L-6T21GX24 | | 21 | 80 | 25 | 25 | 22,4 | 150 | 40 | 5,2 | |
| | G1011.2525R/L-6T32GX24 | | 32 | 120 | 25 | 25 | 22,4 | 165 | 55 | 5,2 | |
| | G1011.2525R/L-8T28GX30 | 8 | 28 | 120 | 25 | 25 | 22 | 165 | 55 | 6,1 | GX30-5E8 .. |
| | G1011.3232R/L-8T28GX30 | | 28 | 120 | 32 | 32 | 29 | 165 | 55 | 6,1 | |

For information on $T_{max}$ with diameters larger than $D_2$, see "Technical information – Grooving"
$f = f_1 + s/2$
Ordering example, right-hand tool: G1011.1212R-2T8GX16/ordering example, left-hand tool: G1011.1212L-2T8GX16
Bodies and assembly parts are included in the scope of delivery.

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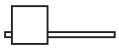
## Assembly parts

| | $h = h_1$ [mm] | 12-32 |
|---|---|---|
| | Clamping screw for grooving insert<br>Tightening torque | FS2118 (Torx 20IP)<br>5,0 Nm |
|  | Torx key | FS1464 (Torx 20IP) |



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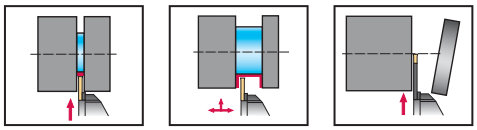
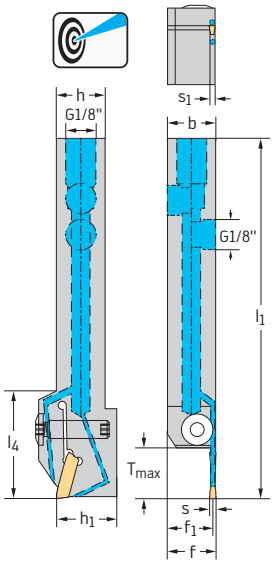
# Shank tool – Radial grooving
# G1011...-P

## Walter Cut

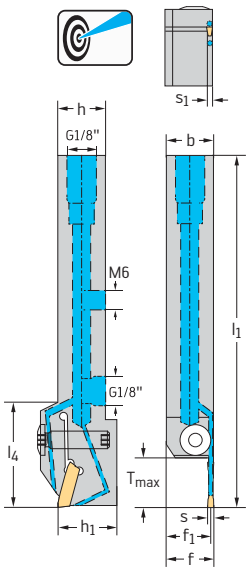
– Screw clamping
– Precision cooling



## Tool




| Designation | s mm | $T_{max}$ mm | $h = h_1$ mm | b mm | $f_1$ mm | $l_1$ mm | $l_4$ mm | $s_1$ mm | Type |
|---|---|---|---|---|---|---|---|---|---|
| G1011.1616R/L-2T15GX16-P | 2 | 15 | 16 | 16 | 15,2 | 120 | 35,5 | 1,6 | GX16-1E2 .. |
| G1011.1616R/L-2T21GX24-P | | 21 | 16 | 16 | 15,3 | 120 | 40 | 1,6 | GX24-1E2 .. |
| G1011.1616R/L-3T21GX24-P | 3 | 21 | 16 | 16 | 14,8 | 120 | 40 | 2,4 | GX24-2E3 .. GX24-2F3 .. |




| Designation | s mm | $T_{max}$ mm | $h = h_1$ mm | b mm | $f_1$ mm | $l_1$ mm | $l_4$ mm | $s_1$ mm | Type |
|---|---|---|---|---|---|---|---|---|---|
| G1011.2020R/L-2T15GX16-P | 2 | 15 | 20 | 20 | 19,2 | 120 | 35,5 | 1,6 | GX16-1E2 .. |
| G1011.2020R/L-2T21GX24-P | | 21 | 20 | 20 | 19,2 | 125 | 40 | 1,6 | GX24-1E2 .. |
| G1011.2020R/L-3T21GX24-P | 3 | 21 | 20 | 20 | 18,8 | 125 | 40 | 2,4 | GX24-2E3 .. GX24-2F3 .. |
| G1011.2525R/L-3T21GX24-P | | 21 | 25 | 25 | 23,8 | 130 | 40 | 2,4 | |
| G1011.2020R/L-4T12GX24-P | 4 | 12 | 20 | 20 | 18,3 | 120 | 35 | 3,4 | GX24-3E4 .. GX24-3F4 .. |
| G1011.2020R/L-4T21GX24-P | | 21 | 20 | 20 | 18,3 | 125 | 40 | 3,4 | |
| G1011.2525R/L-4T12GX24-P | | 12 | 25 | 25 | 23,3 | 125 | 35 | 3,4 | |
| G1011.2525R/L-4T21GX24-P | | 21 | 25 | 25 | 23,3 | 130 | 40 | 3,4 | |
| G1011.2525R/L-4T32GX24-P | | 32 | 25 | 25 | 23,3 | 145 | 55 | 3,4 | |
| G1011.2020R/L-5T12GX24-P | 5 | 12 | 20 | 20 | 17,9 | 120 | 35 | 4,2 | GX24-3E5 .. GX24-3F5 .. |
| G1011.2020R/L-5T21GX24-P | | 21 | 20 | 20 | 17,9 | 125 | 40 | 4,2 | |
| G1011.2525R/L-5T12GX24-P | | 12 | 25 | 25 | 22,9 | 125 | 35 | 4,2 | |
| G1011.2525R/L-5T21GX24-P | | 21 | 25 | 25 | 22,9 | 130 | 40 | 4,2 | |
| G1011.2525R/L-5T32GX24-P | | 32 | 25 | 25 | 22,9 | 145 | 55 | 4,2 | |
| G1011.2525R/L-6T12GX24-P | 6 | 12 | 25 | 25 | 22,4 | 125 | 35 | 5,2 | GX24-4E6 .. |
| G1011.2525R/L-6T21GX24-P | | 21 | 25 | 25 | 22,4 | 130 | 40 | 5,2 | |
| G1011.2525R/L-6T32GX24-P | | 32 | 25 | 25 | 22,4 | 145 | 55 | 5,2 | |
| G1011.2525R/L-8T28GX30-P | 8 | 28 | 25 | 25 | 22 | 145 | 55 | 6,1 | GX30-5E8 .. |
| G1011.3225R/L-8T28GX30-P | | 28 | 32 | 25 | 22 | 145 | 55 | 6,1 | |

$f = f_1 + s/2$
For the connection set for coolant supply with G1/8" thread, see "Assembly parts and accessories"
The maximum recommended coolant pressure is 150 bar (2175 psi)
Ordering example, right-hand tool: G1011.1616R-2T15GX16-P/ordering example, left-hand tool: G1011.1616L-2T15GX16-P
Bodies and assembly parts are included in the scope of delivery.

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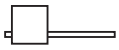
## Assembly parts

| | $h = h_1$ [mm] | 16 | 20-32 |
|---|---|---|---|
| | Clamping screw for grooving insert<br>Tightening torque | FS2118 (Torx 20IP)<br>5,0 Nm | FS2118 (Torx 20IP)<br>5,0 Nm |
| | G 1/8" screw | FS2258 (SW 5) | FS2258 (SW 5) |
| | M6 screw | | FS2288 (SW 3) |
|  | Torx key | FS1464 (Torx 20IP) | FS1464 (Torx 20IP) |



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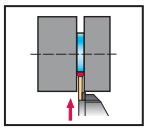
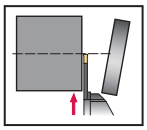
# Shank tool – Radial
# XLDE

## Walter Cut

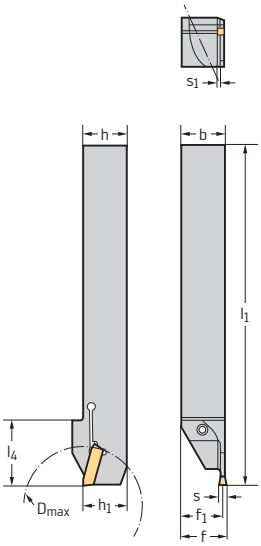
– Screw clamping
– Angular access to clamping screw







## Tool




| Designation | s mm | $D_{max}$ mm | $h = h_1$ mm | b mm | $f_1$ mm | $l_1$ mm | $l_4$ mm | $s_1$ mm | Type |
|---|---|---|---|---|---|---|---|---|---|
| XLDER/L1010K-GX16-0 | 1,5 | 20 | 10 | 10 | 9,4 | 125 | 19 | 1,2 | GX16-0E1 .. |
| XLDER/L1212K-GX16-0 | | 24 | 12 | 12 | 11,4 | 125 | 19 | 1,2 | |
| XLDER/L1616K-GX16-0 | | 32 | 16 | 16 | 15,4 | 125 | 24 | 1,2 | |
| XLDER/L1010K-GX16-1 | 2–2,5 | 20 | 10 | 10 | 9,2 | 125 | 19 | 1,6 | GX16-1E2 .. |
| XLDER/L1212K-GX16-1 | | 24 | 12 | 12 | 11,2 | 125 | 19 | 1,6 | |
| XLDER/L1616K-GX16-1 | | 32 | 16 | 16 | 15,2 | 125 | 24 | 1,6 | |
| XLDER/L2020K-GX16-1 | | 32 | 20 | 20 | 19,2 | 125 | 24 | 1,6 | |
| XLDER/L1212K-GX16-2 | 3 | 24 | 12 | 12 | 10,8 | 125 | 19 | 2,4 | GX16-2E3 .. |
| XLDER/L1616K-GX16-2 | | 32 | 16 | 16 | 14,8 | 125 | 24 | 2,4 | |
| XLDER/L2020K-GX16-2 | | 32 | 20 | 20 | 18,8 | 125 | 24 | 2,4 | |

$f = f_1 + s/2$
Ordering example, right-hand tool: XLDER1010K-GX16-0/ordering example, left-hand tool: XLDEL1010K-GX16-0
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | $h = h_1$ [mm] | 10-20 |
|---|---|---|
| | Clamping screw for grooving insert<br>Tightening torque | FS2164 (Torx 15IP)<br>3,5 Nm |
| | Screwdriver for grooving insert | FS1485 (Torx 15IP) |

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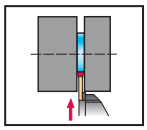
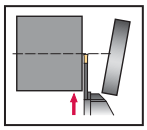
# Shank tool – Radial/contra
# XLDE...C

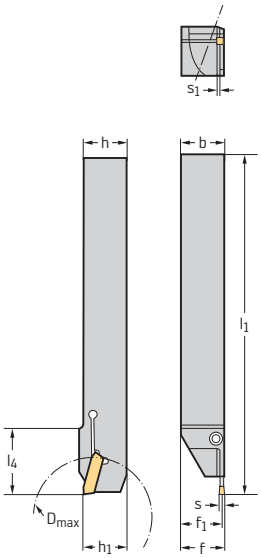
## Walter Cut

– Screw clamping
– Angular access to clamping screw





## Tool




| Designation | s mm | $D_{max}$ mm | $h = h_1$ mm | b mm | $f_1$ mm | $l_1$ mm | $l_4$ mm | $s_1$ mm | Type |
|---|---|---|---|---|---|---|---|---|---|
| XLDER/L1010K-GX16-0C | 1,5 | 20 | 10 | 10 | 9,4 | 125 | 19 | 1,2 | GX16-0E1 .. |
| XLDER/L1212K-GX16-0C | | 24 | 12 | 12 | 11,4 | 125 | 19 | 1,2 | |
| XLDER/L1616K-GX16-0C | | 32 | 16 | 16 | 15,4 | 125 | 24 | 1,2 | |
| XLDER/L1010K-GX16-1C | 2–2,5 | 20 | 10 | 10 | 9,2 | 125 | 19 | 1,6 | GX16-1E2 .. |
| XLDER/L1212K-GX16-1C | | 24 | 12 | 12 | 11,2 | 125 | 19 | 1,6 | |
| XLDER/L1616K-GX16-1C | | 32 | 16 | 16 | 15,2 | 125 | 24 | 1,6 | |
| XLDER/L1212K-GX16-2C | 3 | 24 | 12 | 12 | 10,8 | 125 | 19 | 2,4 | GX16-2E3 .. |
| XLDER/L1616K-GX16-2C | | 32 | 16 | 16 | 14,8 | 125 | 24 | 2,4 | |

$f = f_1 + s/2$
Ordering example, right-hand tool: XLDER1010K-GX16-0C/ordering example, left-hand tool: XLDEL1010K-GX16-0C
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | $h = h_1$ [mm] | 10-16 |
|---|---|---|
| | Clamping screw for grooving insert<br>Tightening torque | FS2164 (Torx 15IP)<br>3,5 Nm |
| | Screwdriver for grooving insert | FS1485 (Torx 15IP) |

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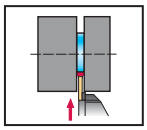
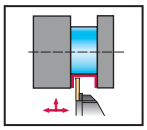
# Shank tool – Universal
# G1511

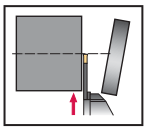
## Walter Cut

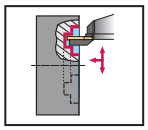
– Screw clamping

A2

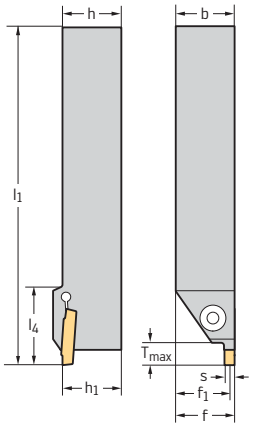








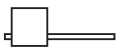
## Tool




| Designation | s mm | $T_{max}$ mm | $h = h_1$ mm | b mm | $f_1$ mm | $l_1$ mm | $l_4$ mm | Type |
|---|---|---|---|---|---|---|---|---|
| G1511.1212R/L-T4GX16 | 2–6 | 4 | 12 | 12 | 9,9 | 132 | 31,5 | GX16- .. |
| G1511.1616R/L-T4GX16 | | 4 | 16 | 16 | 13,9 | 142 | 31,5 | |
| G1511.2020R/L-T4GX16 | | 4 | 20 | 20 | 17,9 | 142 | 31,5 | |
| G1511.2525R/L-T4GX16 | | 4 | 25 | 25 | 22,9 | 142 | 31,5 | |
| G1511.1616R/L-T6GX24 | | 6 | 16 | 16 | 13,9 | 144 | 33,5 | GX24- .. |
| G1511.2020R/L-T6GX24 | | 6 | 20 | 20 | 17,9 | 144 | 33,5 | |
| G1511.2525R/L-T6GX24 | | 6 | 25 | 25 | 22,9 | 144 | 33,5 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

$f = f_1 + s/2$
For information on the smallest possible axial groove [$D_{min}$], see "Technical information"
Ordering example, right-hand tool: G1511.1212R-T4GX16/ordering example, left-hand tool: G1511.1212L-T4GX16
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | $h = h_1$ [mm] | 12-25 |
|---|---|---|
| | Clamping screw for grooving insert<br>Tightening torque | FS2118 (Torx 20IP)<br>5,0 Nm |
|  | Torx key | FS1464 (Torx 20IP) |

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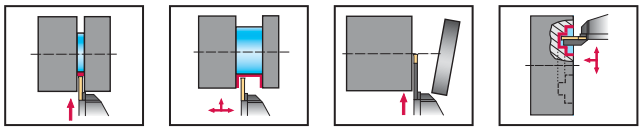
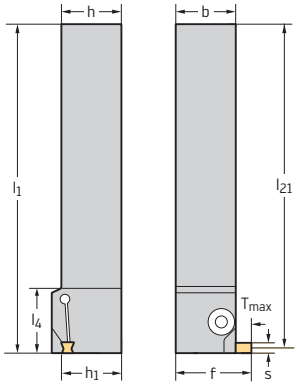
# Shank tool – 90° Universal
# G1521

## Walter Cut

– Screw clamping



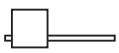
## Tool




| Designation | s mm | $T_{max}$ mm | $h = h_1$ mm | b mm | f mm | $l_4$ mm | $l_{21}$ mm | Type |
|---|---|---|---|---|---|---|---|---|
| G1521.1616R/L-T4GX16 | 2–6 | 4 | 16 | 16 | 20,5 | 27 | 134,8 | GX16- .. |
| G1521.2020R/L-T4GX16 | | 4 | 20 | 20 | 24,5 | 27 | 134,8 | |
| G1521.2525R/L-T4GX16 | | 4 | 25 | 25 | 29,5 | 27 | 134,8 | |
| G1521.2020R/L-T6GX24 | | 6 | 20 | 20 | 26,5 | 27 | 134,8 | GX24- .. |
| G1521.2525R/L-T6GX24 | | 6 | 25 | 25 | 31,5 | 27 | 134,8 | |

$l_1 = l_{21} + s/2$
For information on the smallest possible axial groove [$D_{min}$], see "Technical information"
Ordering example, right-hand tool: G1521.1616R-T4GX16/ordering example, left-hand tool: G1521.1616L-T4GX16
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

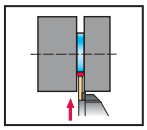
| | $h = h_1$ [mm] | 16-25 |
|---|---|---|
| | Clamping screw for grooving insert<br>Tightening torque | FS2118 (Torx 20IP)<br>5,0 Nm |
|  | Torx key | FS1464 (Torx 20IP) |

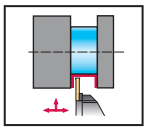
A 278 D 1 A 394 A 308

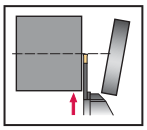
# Shank tool – Universal
# G1511...-P

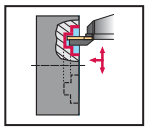
## Walter Cut

– Screw clamping
– Precision cooling

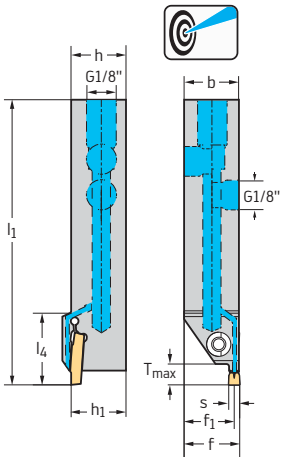




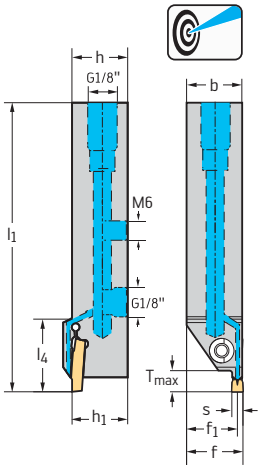




## Tool




| Designation | s mm | $T_{max}$ mm | $h = h_1$ mm | b mm | $f_1$ mm | $l_1$ mm | $l_4$ mm | Type |
|---|---|---|---|---|---|---|---|---|
| G1511.1616R/L-T4GX16-P | 2–6 | 4 | 16 | 16 | 13,9 | 120 | 31,5 | GX16- .. |
| G1511.1616R/L-T6GX24-P | | 6 | 16 | 16 | 13,9 | 120 | 33 | GX24- .. |




| Designation | s mm | $T_{max}$ mm | $h = h_1$ mm | b mm | $f_1$ mm | $l_1$ mm | $l_4$ mm | Type |
|---|---|---|---|---|---|---|---|---|
| G1511.2020R/L-T4GX16-P | 2–6 | 4 | 20 | 20 | 17,9 | 120 | 31,1 | GX16- .. |
| G1511.2525R/L-T4GX16-P | | 4 | 25 | 25 | 22,9 | 130 | 31,2 | |
| G1511.2020R/L-T6GX24-P | | 6 | 20 | 20 | 17,9 | 120 | 33,5 | GX24- .. |
| G1511.2525R/L-T6GX24-P | | 6 | 25 | 25 | 22,9 | 130 | 32,9 | |

$f = f_1 + s/2$
For information on the smallest possible axial groove [$D_{min}$], see "Technical information"
Ordering example, right-hand tool: G1511.1616R-T4GX16-P/ordering example, left-hand tool: G1511.1616L-T4GX16-P
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

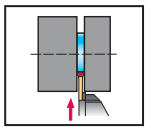
| $h = h_1$ [mm] | 16 | 20-25 |
|---|---|---|
| Clamping screw for grooving insert<br>Tightening torque | FS2118 (Torx 20IP)<br>5,0 Nm | FS2118 (Torx 20IP)<br>5,0 Nm |
| G 1/8" screw | FS2258 (SW 5) | FS2258 (SW 5) |
| M6 screw | | FS2288 (SW 3) |
| Torx key | FS1464 (Torx 20IP) | FS1464 (Torx 20IP) |

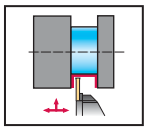
A 278 D 1 A 394 A 308 A 420

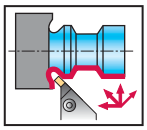
# Shank tool – 45° Universal
# G1551

## Walter Cut

– Screw clamping

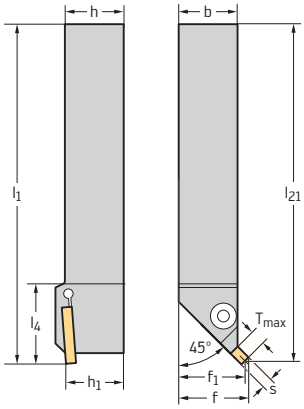






A 2

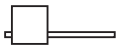
## Tool




| Designation | s mm | $T_{max}$ mm | $h = h_1$ mm | b mm | $f_1$ mm | $l_{21}$ mm | $l_4$ mm | Type |
|---|---|---|---|---|---|---|---|---|
| G1551.2020R/L-T4GX16 | 2–6 | 4 | 20 | 20 | 21,7 | 141,6 | 31,6 | GX16- .. |
| G1551.2525R/L-T4GX16 | | 4 | 25 | 25 | 26,7 | 141,6 | 31,6 | |
| G1551.2020R/L-T6GX24 | | 6 | 20 | 20 | 23,2 | 143,1 | 33,1 | GX24- .. |
| G1551.2525R/L-T6GX24 | | 6 | 25 | 25 | 28,2 | 143,1 | 33,1 | |

$f = f_1 + 0.707 \times s/2$
$l_1 = l_{21} + 0.707 \times s/2$
Ordering example, right-hand tool: G1551.2020R-T4GX16/ordering example, left-hand tool: G1551.2020L-T4GX16
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | $h = h_1$ [mm] | 20-25 |
|---|---|---|
| | Clamping screw for grooving insert<br>Tightening torque | FS2118 (Torx 20IP)<br>5,0 Nm |
|  | Torx key | FS1464 (Torx 20IP) |

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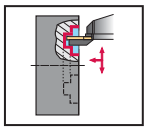
# Shank tool – Axial grooving
# G1111
## Walter Cut

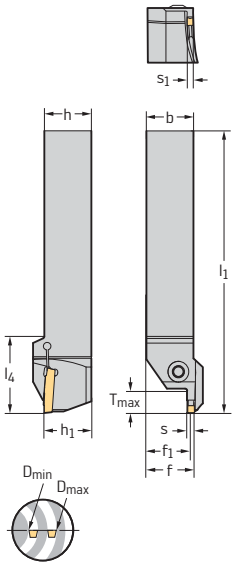
– Screw clamping





GX..E.. GX..F..

## Tool




| Designation | s mm | $T_{max}$ mm | $D_{min}$ mm | $D_{max}$ mm | $h = h_1$ mm | b mm | $f_1$ mm | $l_1$ mm | $l_4$ mm | $s_1$ mm | Type |
|---|---|---|---|---|---|---|---|---|---|---|---|
| G1111.2525R/L-3T12-034GX24 | 3 | 12 | 34 | 44 | 25 | 25 | 24,7 | 150 | 40 | 2,4 | GX24-2E3 .. GX24-2F3 .. |
| G1111.2525R/L-3T12-042GX24 | | 12 | 42 | 60 | 25 | 25 | 24,7 | 150 | 40 | 2,4 | |
| G1111.2525R/L-3T12-054GX24 | | 12 | 54 | 75 | 25 | 25 | 24,6 | 150 | 40 | 2,4 | |
| G1111.2525R/L-3T12-067GX24 | | 12 | 67 | 100 | 25 | 25 | 24,6 | 150 | 40 | 2,4 | |
| G1111.2525R/L-3T12-090GX24 | | 12 | 90 | 160 | 25 | 25 | 24,6 | 150 | 40 | 2,4 | |
| G1111.2525R/L-3T12-130GX24 | | 12 | 130 | 300 | 25 | 25 | 24,6 | 150 | 40 | 2,4 | |
| G1111.2525R/L-3T19-054GX24 | | 19 | 54 | 75 | 25 | 25 | 24,7 | 152 | 42 | 2,4 | |
| G1111.2525R/L-3T22-067GX24 | | 22 | 67 | 100 | 25 | 25 | 24,7 | 154 | 44 | 2,3 | |
| G1111.2525R/L-3T22-090GX24 | | 22 | 90 | 160 | 25 | 25 | 24,6 | 154 | 44 | 2,3 | |
| G1111.2525R/L-3T22-130GX24 | | 22 | 130 | 300 | 25 | 25 | 24,6 | 154 | 44 | 2,3 | |
| G1111.2525R/L-4T12-040GX24 | 4 | 12 | 40 | 60 | 25 | 25 | 24,1 | 150 | 40 | 3,3 | GX24-3E4 .. GX24-3F4 .. |
| G1111.2525R/L-4T12-052GX24 | | 12 | 52 | 72 | 25 | 25 | 24,1 | 150 | 40 | 3,3 | |
| G1111.2525R/L-4T12-064GX24 | | 12 | 64 | 100 | 25 | 25 | 24,1 | 150 | 40 | 3,3 | |
| G1111.2525R/L-4T12-092GX24 | | 12 | 92 | 140 | 25 | 25 | 24,1 | 150 | 40 | 3,3 | |
| G1111.2525R/L-4T12-132GX24 | | 12 | 132 | 230 | 25 | 25 | 24,1 | 150 | 40 | 3,3 | |
| G1111.2525R/L-4T12-220GX24 | | 12 | 220 | 500 | 25 | 25 | 24,1 | 150 | 40 | 3,3 | |
| G1111.2525R/L-4T20-040GX24 | | 20 | 40 | 60 | 25 | 25 | 24,3 | 152 | 42 | 3,3 | |
| G1111.2525R/L-4T20-052GX24 | | 20 | 52 | 72 | 25 | 25 | 24,2 | 152 | 42 | 3,3 | |
| G1111.2525R/L-4T25-064GX24 | | 25 | 64 | 100 | 25 | 25 | 24,1 | 156 | 46 | 3,3 | |
| G1111.2525R/L-4T25-092GX24 | | 25 | 92 | 140 | 25 | 25 | 24,1 | 156 | 46 | 3,3 | |
| G1111.2525R/L-4T25-132GX24 | | 25 | 132 | 230 | 25 | 25 | 24,1 | 156 | 46 | 3,3 | |
| G1111.2525R/L-4T25-220GX24 | | 25 | 220 | 500 | 25 | 25 | 24,1 | 156 | 46 | 3,3 | |
| G1111.2525R/L-5T12-040GX24 | 5 | 12 | 40 | 70 | 25 | 25 | 23,7 | 150 | 40 | 4,2 | GX24-3E5 .. GX24-3F5 .. |
| G1111.2525R/L-5T12-060GX24 | | 12 | 60 | 95 | 25 | 25 | 23,7 | 150 | 40 | 4,2 | |
| G1111.2525R/L-5T12-085GX24 | | 12 | 85 | 130 | 25 | 25 | 23,7 | 150 | 40 | 4,2 | |
| G1111.2525R/L-5T12-120GX24 | | 12 | 120 | 180 | 25 | 25 | 23,7 | 150 | 40 | 4,2 | |
| G1111.2525R/L-5T12-175GX24 | | 12 | 175 | 500 | 25 | 25 | 23,6 | 150 | 40 | 4,1 | |
| G1111.2525R/L-5T20-040GX24 | | 20 | 40 | 70 | 25 | 25 | 23,8 | 152 | 42 | 4,2 | |
| G1111.2525R/L-5T20-060GX24 | | 20 | 60 | 95 | 25 | 25 | 23,7 | 152 | 42 | 4,2 | |
| G1111.2525R/L-5T25-085GX24 | | 25 | 85 | 130 | 25 | 25 | 23,7 | 156 | 46 | 4,2 | |
| G1111.2525R/L-5T25-120GX24 | | 25 | 120 | 180 | 25 | 25 | 23,7 | 156 | 46 | 4,2 | |
| G1111.2525R/L-5T25-175GX24 | | 25 | 175 | 500 | 25 | 25 | 23,7 | 156 | 46 | 4,2 | |
| G1111.2525R/L-6T12-040GX24 | 6 | 12 | 40 | 70 | 25 | 25 | 23,2 | 150 | 40 | 5 | GX24-4E6 .. |
| G1111.2525R/L-6T12-058GX24 | | 12 | 58 | 100 | 25 | 25 | 23,2 | 150 | 40 | 5 | |
| G1111.2525R/L-6T12-088GX24 | | 12 | 88 | 180 | 25 | 25 | 23,2 | 150 | 40 | 5 | |
| G1111.2525R/L-6T12-168GX24 | | 12 | 168 | 400 | 25 | 25 | 23,2 | 150 | 40 | 5 | |
| G1111.2525R/L-6T20-040GX24 | | 20 | 40 | 70 | 25 | 25 | 23,3 | 152 | 42 | 5 | |
| G1111.2525R/L-6T25-058GX24 | | 25 | 58 | 100 | 25 | 25 | 23,2 | 156 | 46 | 5 | |
| G1111.2525R/L-6T25-088GX24 | | 25 | 88 | 180 | 25 | 25 | 23,2 | 156 | 46 | 5 | |
| G1111.2525R/L-6T25-168GX24 | | 25 | 168 | 400 | 25 | 25 | 23,2 | 156 | 46 | 5 | |

$f = f_1 + s/2$

Ordering example, right-hand tool: G1111.2525R-3T12-034GX24/ordering example, left-hand tool: G1111.2525L-3T12-034GX24

Bodies and assembly parts are included in the scope of delivery.

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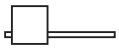
## Assembly parts

| | $h = h_1$ [mm] | 25 |
|---|---|---|
| | Clamping screw for grooving insert<br>Tightening torque | FS2118 (Torx 20IP)<br>5,0 Nm |
|  | Torx key | FS1464 (Torx 20IP) |



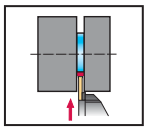
A 278 D 1 A 394 A 308

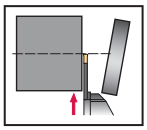
# Deep parting blade G1042

## Walter Cut

– Self-clamping system

A2

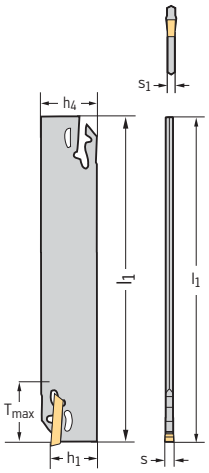




GX..E..

GX..F..

## Tool




| Designation | s mm | $T_{max}$ mm | $h_4$ mm | $l_1$ mm | $h_1$ mm | $s_1$ mm | Type |
|---|---|---|---|---|---|---|---|
| G1042.26N-2T25GX16 | 2 | 25 | 26 | 108 | 21,1 | 1,5 | GX16-1E2 .. |
| G1042.32N-2T25GX16 | | 25 | 32 | 149 | 24,8 | 1,5 | |
| G1042.26N-2T40GX24 | | 40 | 26 | 108 | 21,1 | 1,5 | GX24-1E2 .. |
| G1042.32N-2T50GX24 | | 50 | 32 | 149 | 24,8 | 1,5 | |
| G1042.26N-3T40GX24 | 3 | 40 | 26 | 108 | 21 | 2,3 | GX24-2E3 .. |
| G1042.32N-3T50GX24 | | 50 | 32 | 149 | 24,7 | 2,3 | GX24-2F3 .. |
| G1042.26N-4T40GX24 | 4 | 40 | 26 | 108 | 20,9 | 3,2 | GX24-3E4 .. |
| G1042.32N-4T50GX24 | | 50 | 32 | 149 | 24,6 | 3,2 | GX24-3F4 .. |
| G1042.32N-5T60GX24 | 5 | 60 | 32 | 149 | 24,5 | 3,9 | GX24-3E5 .. GX24-3F5 .. |
| G1042.32N-6T60GX24 | 6 | 60 | 32 | 149 | 24,4 | 4,7 | GX24-4E6 .. |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## Accessories

| $h_4$ [mm] | 26-32 |
|---|---|
| Mounting wrench for grooving insert | FS1494 |

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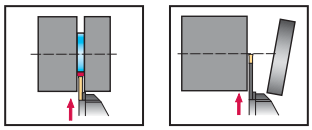
# Reinforced parting blade G1041

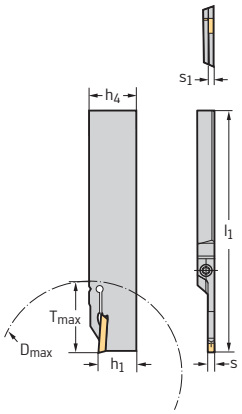
## Walter Cut

– Screw clamping



A 2

## Tool




| Designation | s mm | $T_{max}$ mm | $D_{max}$ mm | $h_4$ mm | $l_1$ mm | $h_1$ mm | $s_1$ mm | Type |
|---|---|---|---|---|---|---|---|---|
| G1041.26R/L-1.5T16GX16 | 1,5 | 16 | 32 | 26 | 110 | 21 | 1,3 | GX16-0E1 .. |
| G1041.26R/L-2T16GX16 | 2 | 16 | 32 | 26 | 110 | 21 | 1,5 | GX16-1E2 .. |
| G1041.32R/L-2T23GX16 | | 23 | 46 | 32 | 110 | 24,6 | 1,5 | |
| G1041.26R/L-2T23GX24 | | 23 | 46 | 26 | 110 | 21 | 1,5 | GX24-1E2 .. |
| G1041.32R/L-2T23GX24 | | 23 | 46 | 32 | 110 | 24,6 | 1,5 | |
| G1041.32R/L-2T32GX24 | | 32 | 65 | 32 | 110 | 24,6 | 1,5 | |
| G1041.26R/L-3T16GX16 | 3 | 16 | 32 | 26 | 110 | 21 | 2,2 | GX16-2E3 .. |
| G1041.26R/L-3T23GX24 | | 23 | 46 | 26 | 110 | 21 | 2,2 | GX24-2E3 .. GX24-2F3 .. |
| G1041.32R/L-3T23GX24 | | 23 | 46 | 32 | 110 | 24,6 | 2,2 | |
| G1041.32R/L-3T32GX24 | | 32 | 65 | 32 | 110 | 24,6 | 2,2 | |
| G1041.32R/L-4T32GX24 | 4 | 32 | 65 | 32 | 110 | 24,6 | 3,1 | GX24-3E4 .. GX24-3F4 .. |
| | | | | | | | | |
| | | | | | | | | |

Ordering example, right-hand tool: G1041.26R-1.5T16GX16/ordering example, left-hand tool: G1041.26L-1.5T16GX16
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | $h_4$ [mm] | 26-32 |
|---|---|---|
| | Clamping screw for grooving insert | FS2164 (Torx 15IP) |
| | Tightening torque | 3,5 Nm |

## Accessories

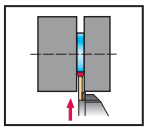
| | $h_4$ [mm] | 26-32 |
|---|---|---|
| | Screwdriver for grooving insert | FS1485 (Torx 15IP) |

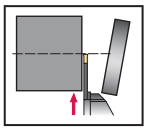
A 278 D 1 A 394 A 308

# Reinforced parting blade – Contra G1041...C

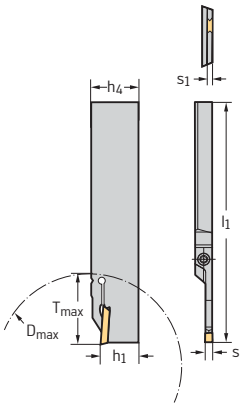
## Walter Cut

– Screw clamping





## Tool




| Designation | s mm | $T_{max}$ mm | $D_{max}$ mm | $h_4$ mm | $l_1$ mm | $h_1$ mm | $s_1$ mm | Type |
|---|---|---|---|---|---|---|---|---|
| G1041.26R/L-1.5T16GX16C | 1,5 | 16 | 32 | 26 | 110 | 21 | 1,3 | GX16-0E1 .. |
| G1041.26R/L-2T16GX16C | 2 | 16 | 32 | 26 | 110 | 21 | 1,5 | GX16-1E2 .. |
| G1041.32R/L-2T23GX16C | | 23 | 46 | 32 | 110 | 24,6 | 1,5 | |
| G1041.26R/L-2T23GX24C | | 23 | 46 | 26 | 110 | 21 | 1,5 | GX24-1E2 .. |
| G1041.32R/L-2T23GX24C | | 23 | 46 | 32 | 110 | 24,6 | 1,5 | |
| G1041.32R/L-2T32GX24C | | 32 | 65 | 32 | 110 | 24,6 | 1,5 | |
| G1041.26R/L-3T16GX16C | 3 | 16 | 32 | 26 | 110 | 21 | 2,2 | GX16-2E3 .. |
| G1041.26R/L-3T23GX24C | | 23 | 46 | 26 | 110 | 21 | 2,2 | GX24-2E3 .. GX24-2F3 .. |
| G1041.32R/L-3T23GX24C | | 23 | 46 | 32 | 110 | 24,6 | 2,2 | |
| G1041.32R/L-3T32GX24C | | 32 | 65 | 32 | 110 | 24,6 | 2,2 | |
| G1041.32R/L-4T32GX24C | 4 | 32 | 65 | 32 | 110 | 24,6 | 3,1 | GX24-3E4 .. GX24-3F4 .. |
| | | | | | | | | |
| | | | | | | | | |

Ordering example, right-hand tool: G1041.26R-1.5T16GX16C/ordering example, left-hand tool: G1041.26L-1.5T16GX16C
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | $h_4$ [mm] | 26-32 |
|---|---|---|
| | Clamping screw for grooving insert | FS2164 (Torx 15IP) |
| | Tightening torque | 3,5 Nm |

## Accessories

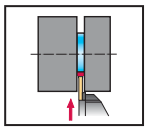
| | $h_4$ [mm] | 26-32 |
|---|---|---|
| | Screwdriver for grooving insert | FS1485 (Torx 15IP) |

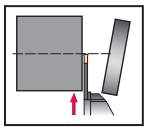
A 278 D 1 A 394 A 308

# Reinforced parting blade – Contra G1041...C-P

## Walter Cut

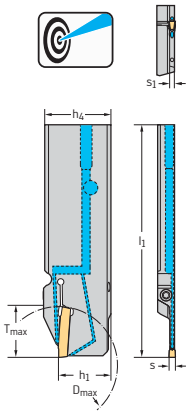
– Screw clamping
– Precision cooling





A 2

## Tool




| Designation | s mm | $T_{max}$ mm | $D_{max}$ mm | $h_4$ mm | $l_1$ mm | $h_1$ mm | $s_1$ mm | Type |
|---|---|---|---|---|---|---|---|---|
| G1041.26R/L-2T16GX16C-P | 2 | 16 | 32 | 26 | 110 | 21 | 1,5 | GX16-1E2 .. |
| G1041.32R/L-2T23GX24C-P | | 23 | 46 | 32 | 110 | 24,6 | 1,5 | GX24-1E2 .. |
| G1041.32R/L-3T23GX24C-P | 3 | 23 | 46 | 32 | 110 | 24,6 | 2,2 | GX24-2E3 .. |
| G1041.32R/L-3T32GX24C-P | | 32 | 65 | 32 | 110 | 24,6 | 2,2 | GX24-2F3 .. |
| G1041.32R/L-4T32GX24C-P | 4 | 32 | 65 | 32 | 110 | 24,6 | 3,1 | GX24-3E4 .. GX24-3F4 .. |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Ordering example, right-hand tool: G1041.26R-2T16GX16C-P/ordering example, left-hand tool: G1041.26L-2T16GX16C-P
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | $h_4$ [mm] | 26-32 |
|---|---|---|
| | Clamping screw for grooving insert | FS2164 (Torx 15IP) |
| | Tightening torque | 3,5 Nm |

## Accessories

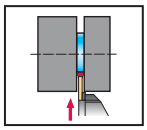
| | $h_4$ [mm] | 26-32 |
|---|---|---|
| | Screwdriver for grooving insert | FS1485 (Torx 15IP) |

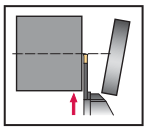
A 278 D 1 A 394 A 308 A 308

# Deep parting blade
# XLCFN
## Walter Cut

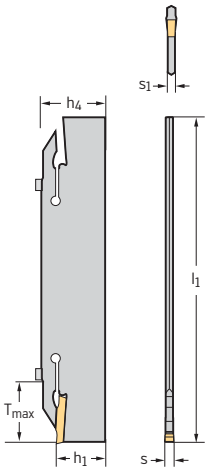
– Screw clamping

A2





## Tool




| Designation | s mm | $T_{max}$ mm | $h_4$ mm | $l_1$ mm | $h_1$ mm | $s_1$ mm | Type |
|---|---|---|---|---|---|---|---|
| XLCFN3203-GX24-2S | 3 | 21 | 32 | 179 | 24,2 | 2,1 | GX24-2E3 .. GX24-2F3 .. |
| XLCFN3204-GX24-3S | 4 | 21 | 32 | 179 | 24,2 | 3,0 | GX24-3E4 .. GX24-3F4 .. |
| XLCFN3206-GX24-4S | 6 | 21 | 32 | 179 | 24,2 | 4,2 | GX24-4E6 .. |

Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | $h_4$ [mm] | 32 |
|---|---|---|
| | Clamping screw for grooving insert<br>Tightening torque | FS1342 (Torx 15)<br>2,0 Nm |

## Accessories

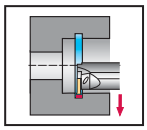
| | $h_4$ [mm] | 32 |
|---|---|---|
| | Handle key for grooving insert | FS1047 (Torx 15) |

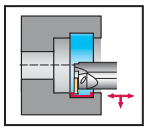
A 278 D 1 A 394 A 308

# Boring bar – Internal grooving
# I12

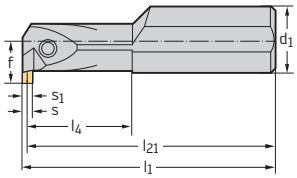
## Walter Cut

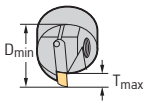
– Screw clamping





## Tool




| Designation | s mm | $T_{max}$ mm | $D_{min}$ mm | $d_1$ mm | f mm | $l_4$ mm | $l_{21}$ mm | $s_1$ mm | Type |
|---|---|---|---|---|---|---|---|---|---|
| I12R/L90-2,5D-GX09 | 2–2,5 | 3 | 16 | 16 | 11 | 30 | 149,3 | 1,3 | GX09-1E2 .. |

$l_1 = l_{21} + s/2$
Ordering example, right-hand tool: I12R90-2.5D-GX09/ordering example, left-hand tool: I12L90-2.5D-GX09
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | s [mm] | 2–2,5 |
|---|---|---|
| | Clamping screw for grooving insert<br>Tightening torque | FS2139 (Torx 20IP)<br>5,0 Nm |
| | Screwdriver for grooving insert | FS1486 (Torx 20IP) |

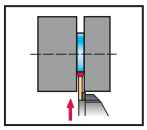
A 278 D 1 A 394 A 308

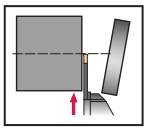
# Shank tool – Radial grooving
# G2012

## Walter Cut

– Self-clamping system

A2

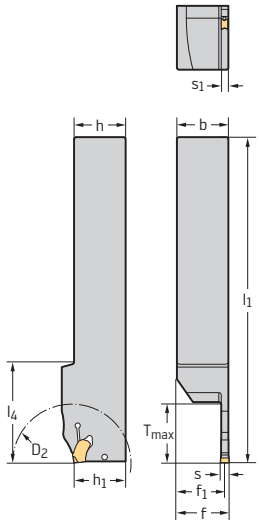




SX

## Tool

| Designation | s mm | $T_{max}$ mm | $D_2$ mm | $h = h_1$ mm | b mm | $f_1$ mm | $l_1$ mm | $l_4$ mm | $s_1$ mm | Type |
|---|---|---|---|---|---|---|---|---|---|---|
| G2012.1212R/L-1.5T15SX | 1,5 | 15 | 38 | 12 | 12 | 11,4 | 120 | 25 | 1,2 | SX-1E1 .. |
| G2012.1616R/L-1.5T15SX | | 15 | 38 | 16 | 16 | 15,4 | 120 | 25 | 1,2 | |
| G2012.2020R/L-1.5T15SX | | 15 | 38 | 20 | 20 | 19,4 | 120 | 25 | 1,2 | |




$f = f_1 + s/2$

Ordering example, right-hand tool: G2012.1212R-1.5T15SX/ordering example, left-hand tool: G2012.1212L-1.5T15SX

## Accessories

| | $h = h_1$ [mm] | 12-20 |
|---|---|---|
| | Mounting wrench for grooving insert | FS2249 |

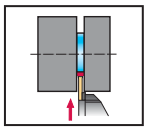
A 286 D 1 A 394 A 308 A 308

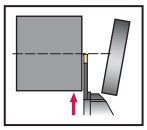
# Shank tool – Radial grooving
# G2012...-P

## Walter Cut

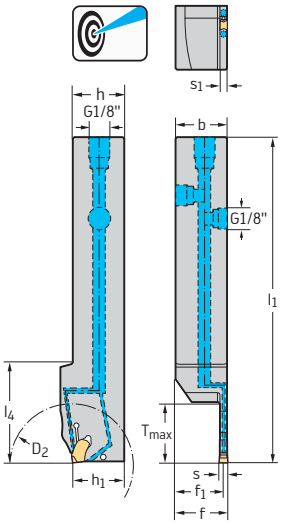
– Self-clamping system
– Precision cooling

A2

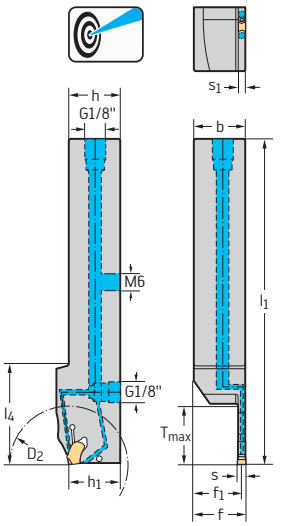




## Tool




| Designation | s mm | $T_{max}$ mm | $D_2$ mm | $h = h_1$ mm | b mm | $f_1$ mm | $l_1$ mm | $l_4$ mm | $s_1$ mm | Type |
|---|---|---|---|---|---|---|---|---|---|---|
| G2012.1212R/L-2T16SX-P | 2 | 16 | 38 | 12 | 12 | 11,2 | 120 | 25 | 1,6 | SX-2E2 .. |
| G2012.1616R/L-2T16SX-P | | 16 | 38 | 16 | 16 | 15,2 | 120 | 25 | 1,6 | |
| G2012.1212R/L-3T16SX-P | 3 | 16 | 38 | 12 | 12 | 10,8 | 120 | 25 | 2,5 | SX-3E3 .. |
| G2012.1616R/L-3T16SX-P | | 16 | 38 | 16 | 16 | 14,8 | 120 | 25 | 2,5 | |
| G2012.1616R/L-3T26SX-P | | 26 | 68 | 16 | 16 | 14,8 | 120 | 25 | 2,5 | |




| Designation | s mm | $T_{max}$ mm | $D_2$ mm | $h = h_1$ mm | b mm | $f_1$ mm | $l_1$ mm | $l_4$ mm | $s_1$ mm | Type |
|---|---|---|---|---|---|---|---|---|---|---|
| G2012.2020R/L-2T20SX-P | 2 | 20 | 68 | 20 | 20 | 19,2 | 125 | 36 | 1,6 | SX-2E2 .. |
| G2012.2020R/L-3T22SX-P | 3 | 22 | 68 | 20 | 20 | 18,8 | 125 | 38 | 2,5 | SX-3E3 .. |
| G2012.2020R/L-3T33SX-P | | 33 | 68 | 20 | 20 | 18,8 | 125 | 38 | 2,5 | |
| G2012.2525R/L-3T33SX-P | | 33 | 68 | 25 | 25 | 23,8 | 130 | 45 | 2,5 | |
| G2012.2020R/L-4T33SX-P | 4 | 33 | | 20 | 20 | 18,3 | 130 | 48 | 3,4 | SX-4E4 .. |
| G2012.2525R/L-4T33SX-P | | 33 | | 25 | 25 | 23,3 | 130 | 48 | 3,4 | |
| G2012.2020R/L-5T33SX-P | 5 | 33 | | 20 | 20 | 17,9 | 130 | 48 | 4,3 | SX-5E5 .. |
| G2012.2525R/L-5T40SX-P | | 40 | | 25 | 25 | 22,9 | 145 | 52 | 4,3 | |
| G2012.2525R/L-6T40SX-P | 6 | 40 | | 25 | 25 | 22,4 | 145 | 52 | 5,3 | SX-6E6 .. |
| G2012.2525R/L-8T40SX-P | 8 | 40 | | 25 | 25 | 21,6 | 145 | 55 | 6,8 | SX-8E8 .. |
| G2012.3225R/L-8T45SX-P | | 45 | | 32 | 25 | 21,6 | 145 | 60 | 6,8 | |
| G2012.2525R/L-10T40SX-P | 10 | 40 | | 25 | 25 | 20,6 | 145 | 55 | 8,8 | SX-10E10 .. |
| G2012.3225R/L-10T45SX-P | | 45 | | 32 | 25 | 20,6 | 145 | 60 | 8,8 | |

$f = f_1 + s/2$
The maximum recommended coolant pressure is 150 bar (2175 psi)
For information on $T_{max}$ with diameters larger than $D_2$, see "Technical information – Grooving"
Ordering example, right-hand tool: G2012.1212R-2T16SX-P/ordering example, left-hand tool: G2012.1212L-2T16SX-P
Bodies and assembly parts are included in the scope of delivery.

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## Assembly parts

| | $h = h_1$ [mm] | 12-16 | 20-32 |
|---|---|---|---|
| | G 1/8" screw | FS2258 (SW 5) | FS2258 (SW 5) |
| | M6 screw | | FS2288 (SW 3) |

## Accessories

| | $h = h_1$ [mm]<br>s [mm] | 12-16<br>2–3 | 20<br>2–5 | 25<br>3–6 | 25-32<br>8–10 |
|---|---|---|---|---|---|
| | Mounting wrench for grooving insert | FS2249 | FS1494 | FS1494 | FS2274 |

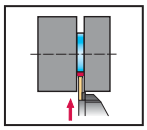
A2

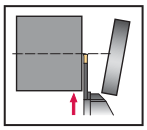
A 286 D 1 A 394 A 308 A 420 A 308

# Deep parting blade
# G2042...N
## Walter Cut

– Self-clamping system

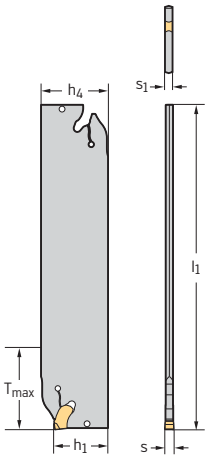
A2





SX

## Tool




| Designation | s mm | $T_{max}$ mm | $h_4$ mm | $l_1$ mm | $h_1$ mm | $s_1$ mm | Type |
|---|---|---|---|---|---|---|---|
| G2042.26N-2T30SX | 2 | 30 | 26 | 110 | 21,1 | 1,6 | SX-2E2 .. |
| G2042.32N-2T30SX | | 30 | 32 | 151 | 24,8 | 1,6 | |
| G2042.26N-3T38SX | 3 | 38 | 26 | 110 | 21 | 2,4 | SX-3E3 .. |
| G2042.32N-3T50SX | | 50 | 32 | 151 | 24,7 | 2,4 | |
| G2042.26N-4T40SX | 4 | 40 | 26 | 110 | 20,9 | 3,4 | SX-4E4 .. |
| G2042.32N-4T50SX | | 50 | 32 | 151 | 24,5 | 3,4 | |
| G2042.32N-5T60SX | 5 | 60 | 32 | 151 | 24,4 | 4,3 | SX-5E5 .. |
| G2042.46N-5T80SX | | 80 | 46 | 251 | 37,4 | 4,3 | |
| G2042.32N-6T60SX | 6 | 60 | 32 | 151 | 24,3 | 5,3 | SX-6E6 .. |
| G2042.46N-6T80SX | | 80 | 46 | 251 | 37,3 | 5,3 | |

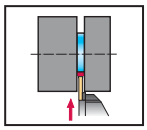
## Accessories

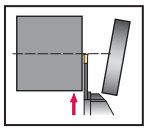
| | $h_4$ [mm] | 26-46 |
|---|---|---|
| | Mounting wrench for grooving insert | FS1494 |

A 286 D 1 A 394 A 308 A 308

# Deep parting blade
# G2042...N...-P
## Walter Cut

– Self-clamping system
– Precision cooling

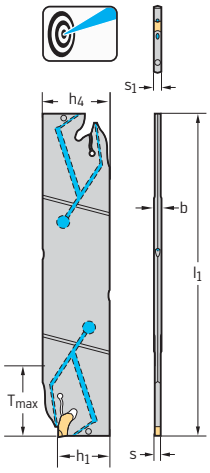




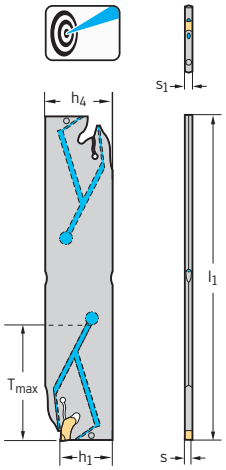


SX

## Tool




| Designation | s mm | $T_{max}$ mm | $h_4$ mm | b mm | $l_1$ mm | $h_1$ mm | $s_1$ mm | Type |
|---|---|---|---|---|---|---|---|---|
| G2042.26N-3T38SX-P | 3 | 38 | 26 | 3,5 | 131 | 20,8 | 2,4 | SX-3E3 .. |
| G2042.32N-3T45SX-P | | 45 | 32 | 3,5 | 151 | 24,5 | 2,4 | |




| Designation | s mm | $T_{max}$ mm | $h_4$ mm | b mm | $l_1$ mm | $h_1$ mm | $s_1$ mm | Type |
|---|---|---|---|---|---|---|---|---|
| G2042.26N-4T40SX-P | 4 | 40 | 26 | | 131 | 20,8 | 3,5 | SX-4E4 .. |
| G2042.32N-4T50SX-P | | 50 | 32 | | 151 | 24,5 | 3,5 | |
| G2042.32N-5T60SX-P | 5 | 60 | 32 | | 151 | 24,4 | 4,3 | SX-5E5 .. |
| G2042.32N-6T60SX-P | 6 | 60 | 32 | | 151 | 24,3 | 5,3 | SX-6E6 .. |
| G2042.52N-8T100SX-P | 8 | 100 | 52 | | 251 | 44,3 | 6,8 | SX-8E8 .. |
| G2042.52N-10T100SX-P | 10 | 100 | 52 | | 251 | 44 | 8,8 | SX-10E10 .. |

Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| $h_4$ [mm]<br>s [mm] | 26-32<br>3–4 | 32<br>5 | 32<br>6 | 52<br>8 | 52<br>10 |
|---|---|---|---|---|---|
| Coolant transfer insert | FS2282 | FS2283 | FS2284 | FS2285 | FS2286 |

## Accessories

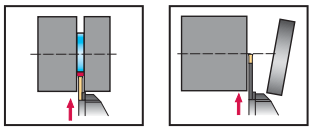
| $h_4$ [mm] | 26-32 | 52 |
|---|---|---|
| Mounting wrench for grooving insert | FS1494 | FS2274 |

A 286 D 1 A 394 A 308 A 308

# Reinforced parting blade G2042...R/L

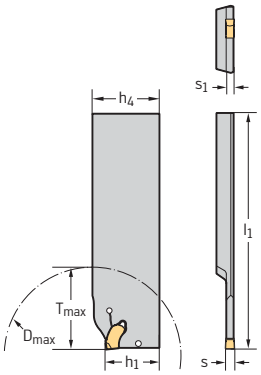
## Walter Cut

– Self-clamping system



A2

## Tool




| Designation | s mm | $T_{max}$ mm | $D_{max}$ mm | $h_4$ mm | $l_1$ mm | $h_1$ mm | $s_1$ mm | Type |
|---|---|---|---|---|---|---|---|---|
| G2042.26R/L-1.5T20SX | 1,5 | 20 | 40 | 26 | 110 | 21 | 1,2 | SX-1E1 .. |
| G2042.32R/L-1.5T20SX | | 20 | 40 | 32 | 110 | 24,7 | 1,2 | |
| G2042.26R/L-2T26SX | 2 | 26 | 52 | 26 | 110 | 21 | 1,6 | SX-2E2 .. |
| G2042.32R/L-2T26SX | | 26 | 52 | 32 | 110 | 24,7 | 1,6 | |
| G2042.26R/L-3T33SX | 3 | 33 | 65 | 26 | 110 | 21 | 2,4 | SX-3E3 .. |
| G2042.32R/L-3T33SX | | 33 | 65 | 32 | 110 | 24,7 | 2,4 | |
| G2042.32R/L-4T33SX | 4 | 33 | 65 | 32 | 110 | 24,7 | 3,4 | SX-4E4 .. |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Ordering example, right-hand tool: G2042.26R-1.5T20SX/ordering example, left-hand tool: G2042.26L-1.5T20SX

## Accessories

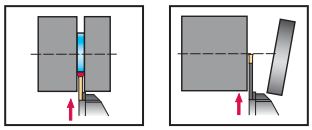
| | $h_4$ [mm]<br>s [mm] | 26-32<br>1,5 | 26<br>2–3 | 32<br>2–4 |
|---|---|---|---|---|
|  | Mounting wrench for grooving insert | FS2249 | FS1494 | FS1494 |

A 286 D 1 A 394 A 308 A 308

# Reinforced parting blade – Contra G2042...R/L...C

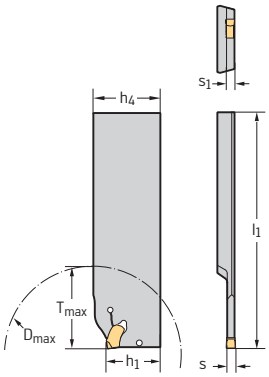
## Walter Cut

– Self-clamping system



SX

## Tool




| Designation | s mm | $T_{max}$ mm | $D_{max}$ mm | $h_4$ mm | $l_1$ mm | $h_1$ mm | $s_1$ mm | Type |
|---|---|---|---|---|---|---|---|---|
| G2042.26R/L-2T26SX-C | 2 | 26 | 52 | 26 | 110 | 21 | 1,6 | SX-2E2 .. |
| G2042.32R/L-2T26SX-C | | 26 | 52 | 32 | 110 | 24,6 | 1,6 | |
| G2042.26R/L-3T33SX-C | 3 | 33 | 65 | 26 | 110 | 21,0 | 2,4 | SX-3E3 .. |
| G2042.32R/L-3T33SX-C | | 33 | 65 | 32 | 110 | 24,7 | 2,4 | |
| G2042.32R/L-4T33SX-C | 4 | 33 | 65 | 32 | 110 | 24,7 | 3,4 | SX-4E4 .. |

Ordering example, right-hand tool: G2042.26R-2T26SX-C/ordering example, left-hand tool: G2042.26L-2T26SX-C

## Accessories

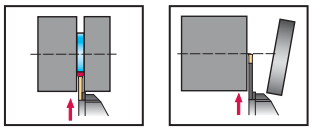
| | $h_4$ [mm] | 26-32 |
|---|---|---|
|  | Mounting wrench for grooving insert | FS1494 |

A 286 D 1 A 394 A 308 A 308

# Reinforced parting blade G2042...R/L...-P

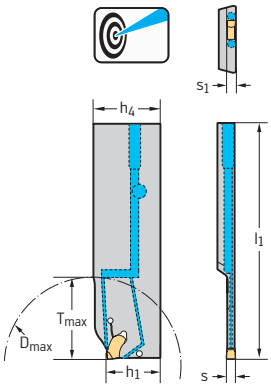
## Walter Cut

– Self-clamping system
– Precision cooling



SX

## Tool




| Designation | s mm | $T_{max}$ mm | $D_{max}$ mm | $h_4$ mm | $l_1$ mm | $h_1$ mm | $s_1$ mm | Type |
|---|---|---|---|---|---|---|---|---|
| G2042.32R/L-2T26SX-P | 2 | 26 | 52 | 32 | 110 | 24,7 | 1,6 | SX-2E2 .. |
| G2042.26R/L-3T33SX-P | 3 | 33 | 65 | 26 | 110 | 21 | 2,4 | SX-3E3 .. |
| G2042.32R/L-3T33SX-P | | 33 | 65 | 32 | 110 | 24,7 | 2,4 | |

Ordering example, right-hand tool: G2042.32R-2T26SX-P/ordering example, left-hand tool: G2042.32L-2T26SX-P

## Accessories

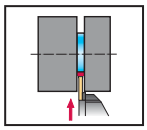
| | $h_4$ [mm] | 26-32 |
|---|---|---|
| | Mounting wrench for grooving insert | FS1494 |

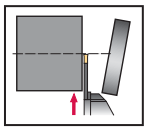
A 286 D 1 A 394 A 308 A 308

# Reinforced parting blade – Contra G2042...R/L...C-P

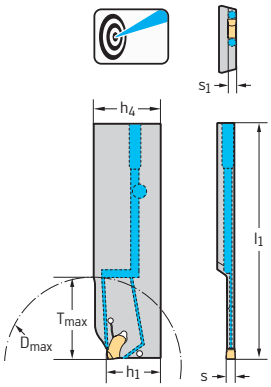
## Walter Cut

– Self-clamping system
– Precision cooling





## Tool




| Designation | s mm | $T_{max}$ mm | $D_{max}$ mm | $h_4$ mm | $l_1$ mm | $h_1$ mm | $s_1$ mm | Type |
|---|---|---|---|---|---|---|---|---|
| G2042.26R/L-2T26SX-C-P | 2 | 26 | 52 | 26 | 110 | 21,0 | 1,6 | SX-2E2 .. |
| G2042.32R/L-2T26SX-C-P | | 26 | 52 | 32 | 110 | 24,7 | 1,6 | |
| G2042.26R/L-3T33SX-C-P | 3 | 33 | 65 | 26 | 110 | 21,0 | 2,4 | SX-3E3 .. |
| G2042.32R/L-3T33SX-C-P | | 33 | 65 | 32 | 110 | 24,7 | 2,4 | |
| G2042.32R/L-4T33SX-C-P | 4 | 33 | 65 | 32 | 110 | 24,7 | 3,5 | SX-4E4 .. |

Ordering example, right-hand tool: G2042.26R-2T26SX-C-P/ordering example, left-hand tool: G2042.26L-2T26SX-C-P

## Accessories

| | $h_4$ [mm] | 26-32 |
|---|---|---|
| | Mounting wrench for grooving insert | FS1494 |

A 286 D 1 A 394 A 308 A 308

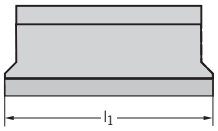
# Clamping block SBN

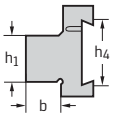
## Walter Cut

A2

– Clamping block for parting blades

## Tool




| Designation | $h_4$ mm | $h_1$ mm | b mm | $l_1$ mm |
|---|---|---|---|---|
| SBN2020-26-K | 26 | 20 | 20 | 90 |
| SBN2520-32-K | 32 | 25 | 20 | 110 |
| SBN3229-32-K | 32 | 32 | 29 | 120 |
| SBN3229-46-K | 46 | 32 | 29 | 150 |
| SBN4037-46-K | 46 | 40 | 37 | 150 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | $h_4$ [mm] | 26–32 | 46 |
|---|---|---|---|
| | Clamping screw | M06X025 ISO4762 12.9 (SW 5) | M08X035 ISO4762 12.9 (SW 6) |

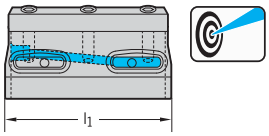
A 295 D 1 A 308

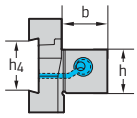
# Clamping block with internal coolant G2661...-P

## Walter Cut

– Precision cooling
– Clamping block for parting blades

## Tool




| Designation | $h_4$ mm | h mm | b mm | $l_1$ mm |
|---|---|---|---|---|
| G2661-1616N-26-P | 26 | 16 | 16 | 95 |
| G2661-2020N-26-P | 26 | 20 | 20 | 95 |
| G2661-2020N-32-P | 32 | 20 | 20 | 95 |
| G2661-2525N-32-P | 32 | 25 | 25 | 95 |
| G2661-3225N-32-P | 32 | 32 | 25 | 95 |
| G2661-3225N-52-P | 52 | 32 | 25 | 140 |
| G2661-4032N-52-P | 52 | 40 | 32 | 140 |
| | | | | |
| | | | | |

For the connection set for coolant supply with G1/8" thread, see "Assembly parts and accessories"
The maximum recommended coolant pressure is 80 bar (1160 psi)
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

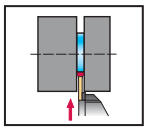
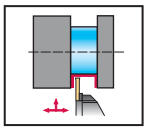
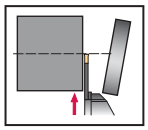
| $h_4$ [mm] | 26–32 | 52 |
|---|---|---|
| Clamping wedge | PK260 | PK263 |
| Clamping screw | M06X020 ISO4762 12.9 (SW 5) | M8X025 ISO4762 12.9 (SW 6) |
| O-ring | O-RING 20X2 | O-RING 27X2 70/80 |
| G 1/8" screw | FS2258 (SW 5) | FS2258 (SW 5) |
| ISO 2936 key | ISO2936-5 (SW 5) | ISO2936-6 (SW 6) |

A 295 D 1 A 308

# Shank tool – Radial grooving
# NCAE / NCBE
## Walter Cut

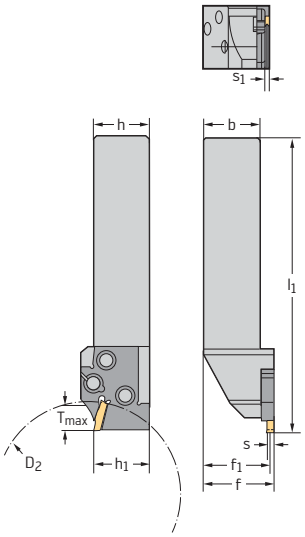
– Screw clamping



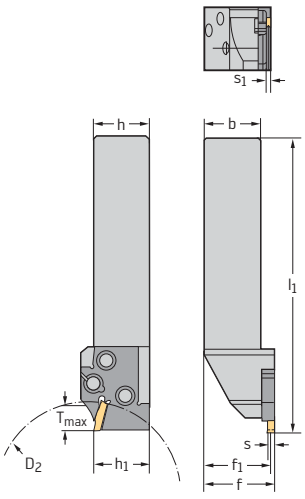




## Tool

| Designation | s mm | $T_{max}$ mm | $D_2$ mm | $h = h_1$ mm | b mm |
|---|---|---|---|---|---|
| NCAE16-1616R/L-GX09-1 | 2–2,5 | 7 | 52 | 16 | 16 |
| NCAE16-1616R/L-GX09-2 | 3 | 7 | 52 | 16 | 16 |
| NCAE20-2020R/L-GX16-1 | 2–2,5 | 12 | 63 | 20 | 20 |
| NCAE25-2525R/L-GX16-1 | | 12 | 79 | 25 | 25 |
| NCAE20-2020R/L-GX16-2 | 3 | 12 | 63 | 20 | 20 |
| NCAE25-2525R/L-GX16-2 | | 12 | 79 | 25 | 25 |
| NCAE32-3225R/L-GX16-2 | | 12 | 100 | 32 | 25 |
| NCAE20-2020R/L-GX16-3 | 4–5 | 12 | 63 | 20 | 20 |
| NCAE25-2525R/L-GX16-3 | | 12 | 79 | 25 | 25 |
| NCAE32-3225R/L-GX16-3 | | 12 | 100 | 32 | 25 |
| NCAE25-2525R/L-GX16-4 | 6 | 12 | 79 | 25 | 25 |




| Designation | s mm | $T_{max}$ mm | $D_2$ mm | $h = h_1$ mm | b mm |
|---|---|---|---|---|---|
| NCBE20-2020R/L-GX24-2-21 | 3 | 21 | 63 | 20 | 20 |
| NCBE25-2525R/L-GX24-2-21 | | 21 | 79 | 25 | 25 |
| NCBE25-2525R/L-GX24-3-21 | 4–5 | 21 | 79 | 25 | 25 |
| NCBE32-3225R/L-GX24-3-21 | | 21 | 100 | 32 | 25 |
| NCBE25-2525R/L-GX24-4-21 | 6 | 21 | 79 | 25 | 25 |
| NCBE32-3225R/L-GX24-4-21 | | 21 | 100 | 32 | 25 |
| NCBE25-2525R/L-GX24-5-21 | 8 | 21 | 79 | 25 | 25 |




$f = f_1 + s/2$
Right-hand tool = right-hand toolholder + right-hand module/left-hand tool = left-hand toolholder + left-hand module
For information on $T_{max}$ with diameters larger than $D_2$, see "Technical information – Grooving"
Ordering example, right-hand tool: NCAE16-1616R-GX09-1/ordering example, left-hand tool: NCAE16-1616L-GX09-1
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Module size | E16 | E20 | E25 | E32 |
|---|---|---|---|---|
| Screw for grooving module<br>Tightening torque | FS1052 (Torx 15)<br>2,0 Nm | FS1053 (Torx 15)<br>2,0 Nm | FS1054 (Torx 20)<br>3,0 Nm | FS1055 (Torx 25)<br>3,0 Nm |
| Handle key | FS1047 (Torx 15) | FS1047 (Torx 15) | FS1048 (Torx 20) | FS1049 (Torx 25) |

A2

GX..E.. GX..F..

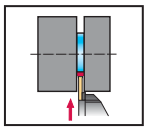
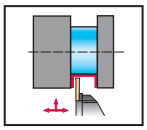
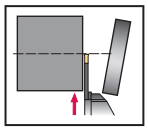
| | $f_1$ mm | $l_1$ mm | $s_1$ mm | Module size | Type | Grooving module | Toolholder |
|---|---|---|---|---|---|---|---|
| | 18,9 | 98 | 1,3 | E16 | GX09-1E2 .. | MSS-E16R/L07-GX09-1 | MSS-E16R/L00-1616G |
| | 18,6 | 98 | 2 | E16 | GX09-2E3 .. | MSS-E16R/L07-GX09-2 | MSS-E16R/L00-1616G |
| | 23,9 | 123 | 1,3 | E20 | GX16-1E2 .. | MSS-E20R/L12-GX16-1 | MSS-E20R/L00-2020J |
| | 30,8 | 153 | 1,3 | E25 | | MSS-E25R/L12-GX16-1 | MSS-E25R/L00-2525L |
| | 23,6 | 123 | 2 | E20 | GX16-2E3 .. | MSS-E20R/L12-GX16-2 | MSS-E20R/L00-2020J |
| | 30,4 | 153 | 2 | E25 | | MSS-E25R/L12-GX16-2 | MSS-E25R/L00-2525L |
| | 30,4 | 173 | 2 | E32 | | MSS-E32R/L12-GX16-2 | MSS-E32R/L00-3225N |
| | 23,1 | 123 | 3,0 | E20 | GX16-3E .. | MSS-E20R/L12-GX16-3 | MSS-E20R/L00-2020J |
| | 29,9 | 153 | 3,0 | E25 | | MSS-E25R/L12-GX16-3 | MSS-E25R/L00-2525L |
| | 29,9 | 173 | 3,0 | E32 | | MSS-E32R/L12-GX16-3 | MSS-E32R/L00-3225N |
| | 29,3 | 153 | 4,2 | E25 | GX16-4E6 .. | MSS-E25R/L12-GX16-4 | MSS-E25R/L00-2525L |
| | 23,6 | 132 | 2 | E20 | GX24-2E3 .. GX24-2F3 .. | MSS-E20R/L21-GX24-2 | MSS-E20R/L00-2020J |
| | 30,4 | 162 | 2 | E25 | | MSS-E25R/L21-GX24-2 | MSS-E25R/L00-2525L |
| | 29,9 | 162 | 3,0 | E25 | GX24-3E .. GX24-3F .. | MSS-E25R/L21-GX24-3 | MSS-E25R/L00-2525L |
| | 29,9 | 182 | 3,0 | E32 | | MSS-E32R/L21-GX24-3 | MSS-E32R/L00-3225N |
| | 29,3 | 162 | 4,2 | E25 | GX24-4E6 .. | MSS-E25R/L21-GX24-4 | MSS-E25R/L00-2525L |
| | 29,3 | 182 | 4,2 | E32 | | MSS-E32R/L21-GX24-4 | MSS-E32R/L00-3225N |
| | 28,5 | 162 | 5,9 | E25 | GX24-5R .. | MSS-E25R/L21-GX24-5 | MSS-E25R/L00-2525L |

A 278 D 1 A 394 A 308 A 400

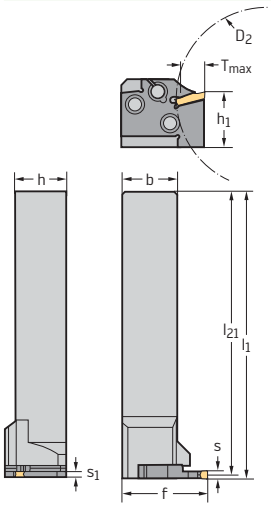
# Shank tool – 90° radial grooving
# NCLE
## Walter Cut

– Screw clamping



## Tool




| Designation | s mm | $T_{max}$ mm | $D_2$ mm | $h = h_1$ mm | b mm |
|---|---|---|---|---|---|
| NCLE20-2020R/L-GX16-1 | 2–2,5 | 12 | 63 | 20 | 20 |
| NCLE25-2525R/L-GX16-1 | | 12 | 79 | 25 | 25 |
| NCLE20-2020R/L-GX16-2 | 3 | 12 | 63 | 20 | 20 |
| NCLE25-2525R/L-GX16-2 | | 12 | 79 | 25 | 25 |
| NCLE32-3225R/L-GX16-2 | | 12 | 100 | 32 | 25 |
| NCLE20-2020R/L-GX16-3 | 4–5 | 12 | 63 | 20 | 20 |
| NCLE25-2525R/L-GX16-3 | | 12 | 79 | 25 | 25 |
| NCLE32-3225R/L-GX16-3 | | 12 | 100 | 32 | 25 |
| NCLE25-2525R/L-GX16-4 | 6 | 12 | 79 | 25 | 25 |
| NCLE20-2020R/L-GX24-2-21 | 3 | 21 | 63 | 20 | 20 |
| NCLE25-2525R/L-GX24-2-21 | | 21 | 79 | 25 | 25 |
| NCLE25-2525R/L-GX24-3-21 | 4–5 | 21 | 79 | 25 | 25 |
| NCLE32-3225R/L-GX24-3-21 | | 21 | 100 | 32 | 25 |
| NCLE25-2525R/L-GX24-4-21 | 6 | 21 | 79 | 25 | 25 |
| NCLE32-3225R/L-GX24-4-21 | | 21 | 100 | 32 | 25 |
| NCLE25-2525R/L-GX24-5-21 | 8 | 21 | 79 | 25 | 25 |

$l_1 = l_{21} + s/2$
For information on $T_{max}$ with diameters larger than $D_2$, see "Technical information – Grooving"
Right-hand tool = right-hand toolholder + left-hand module/left-hand tool = left-hand toolholder + right-hand module
Ordering example, right-hand tool: NCLE20-2020R-GX16-1/ordering example, left-hand tool: NCLE20-2020L-GX16-1
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Module size | E20 | E25 | E32 |
|---|---|---|---|---|
| | Screw for grooving module<br>Tightening torque | FS1053 (Torx 15)<br>2,0 Nm | FS1054 (Torx 20)<br>3,0 Nm | FS1055 (Torx 25)<br>3,0 Nm |
| | Handle key | FS1047 (Torx 15) | FS1048 (Torx 20) | FS1049 (Torx 25) |

A2

| | f mm | $l_{21}$ mm | $s_1$ mm | Module size | Type | Grooving module | Toolholder |
|---|---|---|---|---|---|---|---|
| | 33 | 109,8 | 1,3 | E20 | GX16-1E2 .. | MSS-E20R/L12-GX16-1 | MSS-E20R/L90-2020J |
| | 38 | 139,8 | 1,3 | E25 | | MSS-E25R/L12-GX16-1 | MSS-E25R/L90-2525L |
| | 33 | 109,3 | 2 | E20 | GX16-2E3 .. | MSS-E20R/L12-GX16-2 | MSS-E20R/L90-2020J |
| | 38 | 139,4 | 2 | E25 | | MSS-E25R/L12-GX16-2 | MSS-E25R/L90-2525L |
| | 45 | 159,4 | 2 | E32 | | MSS-E32R/L12-GX16-2 | MSS-E32R/L90-3225N |
| | 33 | 108,8 | 3,0 | E20 | GX16-3E .. | MSS-E20R/L12-GX16-3 | MSS-E20R/L90-2020J |
| | 38 | 138,9 | 3,0 | E25 | | MSS-E25R/L12-GX16-3 | MSS-E25R/L90-2525L |
| | 45 | 158,9 | 3,0 | E32 | | MSS-E32R/L12-GX16-3 | MSS-E32R/L90-3225N |
| | 38 | 138,3 | 4,2 | E25 | GX16-4E6 .. | MSS-E25R/L12-GX16-4 | MSS-E25R/L90-2525L |
| | 42 | 109,4 | 2 | E20 | GX24-2E3 .. GX24-2F3 .. | MSS-E20R/L21-GX24-2 | MSS-E20R/L90-2020J |
| | 47 | 139,4 | 2 | E25 | | MSS-E25R/L21-GX24-2 | MSS-E25R/L90-2525L |
| | 47 | 138,9 | 3,0 | E25 | GX24-3E .. GX24-3F .. | MSS-E25R/L21-GX24-3 | MSS-E25R/L90-2525L |
| | 54 | 158,9 | 3,0 | E32 | | MSS-E32R/L21-GX24-3 | MSS-E32R/L90-3225N |
| | 47 | 138,3 | 4,2 | E25 | GX24-4E6 .. | MSS-E25R/L21-GX24-4 | MSS-E25R/L90-2525L |
| | 54 | 158,3 | 4,2 | E32 | | MSS-E32R/L21-GX24-4 | MSS-E32R/L90-3225N |
| | 47 | 137,5 | 5,9 | E25 | GX24-5R .. | MSS-E25R/L21-GX24-5 | MSS-E25R/L90-2525L |

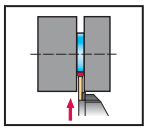
A 278 D 1 A 394 A 308 A 400

# Shank tool – Radial grooving
# NCCE

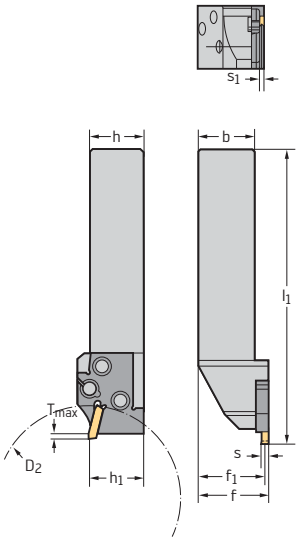
## Walter Cut

– Screw clamping
– Circlip grooves

A2



## Tool




| Designation | s mm | $T_{max}$ mm | $D_2$ mm | $h = h_1$ mm | b mm |
|---|---|---|---|---|---|
| NCCE16-1616R/L-GX09-1 | 0,6–1,7 | 2 | 52 | 16 | 16 |
| NCCE20-2020R/L-GX16-2 | 0,6–2,3 | 3 | 63 | 20 | 20 |
| NCCE25-2525R/L-GX16-2 | | 3 | 79 | 25 | 25 |
| NCCE32-3225R/L-GX16-2 | | 3 | 100 | 32 | 25 |

$f = f_1 + s/2$
Right-hand tool = right-hand toolholder + right-hand module/left-hand tool = left-hand toolholder + left-hand module
Ordering example, right-hand tool: NCCE16-1616R-GX09-1/ordering example, left-hand tool: NCCE16-1616L-GX09-1
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Module size | E16 | E20 | E25 | E32 |
|---|---|---|---|---|---|
| | Screw for grooving module<br>Tightening torque | FS1052 (Torx 15)<br>2,0 Nm | FS1053 (Torx 15)<br>2,0 Nm | FS1054 (Torx 20)<br>3,0 Nm | FS1055 (Torx 25)<br>3,0 Nm |
| | Handle key | FS1047 (Torx 15) | FS1047 (Torx 15) | FS1048 (Torx 20) | FS1049 (Torx 25) |

GX..E.. GX..F..

| | $f_1$ mm | $l_1$ mm | $s_1$ mm | Module size | Type | Grooving module | Toolholder |
|---|---|---|---|---|---|---|---|
| | 18,9 | 98 | 1,3 | E16 | GX09-1S .. | MSS-E16R/L02-GX09-1 | MSS-E16R/L00-1616G |
| | 23,6 | 123 | 2 | E20 | GX16-2S .. | MSS-E20R/L03-GX16-2 | MSS-E20R/L00-2020J |
| | 30,4 | 153 | 2 | E25 | | MSS-E25R/L03-GX16-2 | MSS-E25R/L00-2525L |
| | 30,4 | 173 | 2 | E32 | | MSS-E32R/L03-GX16-2 | MSS-E32R/L00-3225N |
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# Shank tool – 90° radial grooving
# NCNE
## Walter Cut

– Screw clamping
– Circlip grooves

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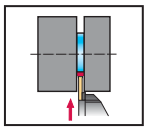
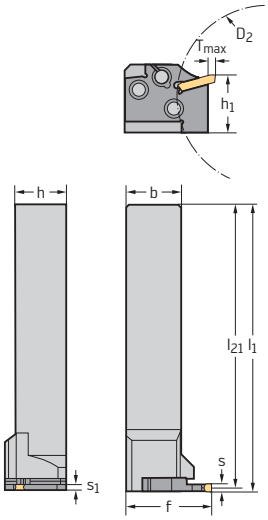


## Tool




| Designation | s mm | $T_{max}$ mm | $D_2$ mm | $h = h_1$ mm | b mm |
|---|---|---|---|---|---|
| NCNE20-2020R/L-GX16-2 | 0,6–2,3 | 3 | 63 | 20 | 20 |
| NCNE25-2525R/L-GX16-2 | | 3 | 79 | 25 | 25 |
| NCNE32-3225R/L-GX16-2 | | 3 | 100 | 32 | 25 |

$l_1 = l_{21} + s/2$
Right-hand tool = right-hand toolholder + left-hand module/left-hand tool = left-hand toolholder + right-hand module
Ordering example, right-hand tool: NCNE20-2020R-GX16-2/ordering example, left-hand tool: NCNE20-2020L-GX16-2
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Module size | E20 | E25 | E32 |
|---|---|---|---|---|
| | Screw for grooving module<br>Tightening torque | FS1053 (Torx 15)<br>2,0 Nm | FS1054 (Torx 20)<br>3,0 Nm | FS1055 (Torx 25)<br>3,0 Nm |
| | Handle key | FS1047 (Torx 15) | FS1048 (Torx 20) | FS1049 (Torx 25) |

GX..E.. GX..F..

| | f mm | $l_{21}$ mm | $s_1$ mm | Module size | Type | Grooving module | Toolholder |
|---|---|---|---|---|---|---|---|
| | 33 | 109,3 | 2 | E20 | GX16-2S .. | MSS-E20R/L03-GX16-2 | MSS-E20R/L90-2020J |
| | 38 | 139,4 | 2 | E25 | | MSS-E25R/L03-GX16-2 | MSS-E25R/L90-2525L |
| | 45 | 159,4 | 2 | E32 | | MSS-E32R/L03-GX16-2 | MSS-E32R/L90-3225N |
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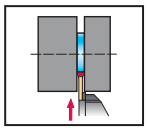
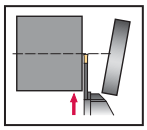
# Grooving module – Radial grooving
# G1332

## Walter Cut

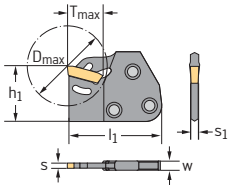
– Self-clamping system
– Replacement module





A 2

### Tool




| Designation | s mm | $T_{max}$ mm | $D_{max}$ mm | $h_1$ mm | W mm | $l_1$ mm | $s_1$ mm | Type |
|---|---|---|---|---|---|---|---|---|
| G1332.IMR-GAD1.5N-GX16 | 1,5 | 15 | 32 | 24 | 4 | 41 | 1,3 | GX16-0E1 .. |
| G1332.IMR-GAD2N-GX16 | 2 | 15 | 32 | 24 | 4 | 41 | 1,5 | GX16-1E2 .. |
| G1332.IMR-GAD3N-GX16 | 3 | 15 | 32 | 24 | 4 | 41 | 2,2 | GX16-2E3 .. |
| G1332.IMR-GAD3N-GX24 | | 15 | 32 | 24 | 4 | 52 | 2,2 | GX24-2E3 .. GX24-2F3 .. |
| | | | | | | | | |
| | | | | | | | | |

### Accessories

| s [mm] | 1,5–3 |
|---|---|
| Mounting wrench for grooving insert | FS1494 |

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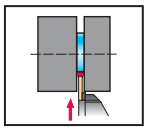
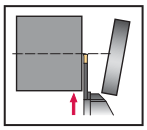
# Shank tool – Radial grooving
# G2612

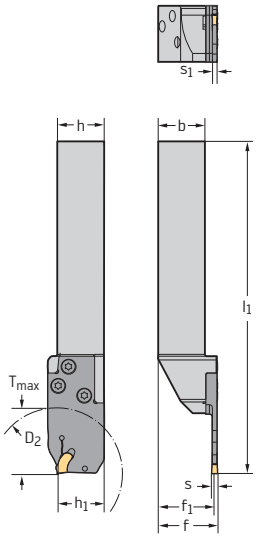
## Walter Cut

– Self-clamping system



## Tool




| Designation | s mm | $T_{max}$ mm | $D_2$ mm | $h = h_1$ mm | b mm |
|---|---|---|---|---|---|
| G2612-2020R/L-2T20SX | 2 | 20 | 66 | 20 | 20 |
| G2612-2525R/L-2T20SX | | 20 | 90 | 25 | 25 |
| G2612-2020R/L-3T20SX | 3 | 20 | 66 | 20 | 20 |
| G2612-2525R/L-3T25SX | | 25 | 90 | 25 | 25 |
| G2612-2525R/L-3T35SX | | 35 | 90 | 25 | 25 |
| G2612-3225R/L-3T45SX | | 45 | 100 | 32 | 25 |
| G2612-2020R/L-4T20SX | 4 | 20 | 66 | 20 | 20 |
| G2612-2525R/L-4T35SX | | 35 | 90 | 25 | 25 |
| G2612-3225R/L-4T45SX | | 45 | 100 | 32 | 25 |
| G2612-2525R/L-5T35SX | 5 | 35 | 90 | 25 | 25 |
| G2612-3225R/L-5T45SX | | 45 | 100 | 32 | 25 |
| G2612-2525R/L-6T35SX | 6 | 35 | 90 | 25 | 25 |
| G2612-3225R/L-6T45SX | | 45 | 100 | 32 | 25 |
| G2612-3225R/L-8T45SX | 8 | 45 | 100 | 32 | 25 |
| | | | | | |
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| | | | | | |

For information on $T_{max}$ with diameters larger than $D_2$, see "Technical information – Grooving"
Right-hand tool = right-hand toolholder + right-hand module/left-hand tool = left-hand toolholder + left-hand module
Ordering example, right-hand tool: G2612-2020R-2T20SX/ordering example, left-hand tool: G2612-2020L-2T20SX
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Module size | E20 | E25 | E32 |
|---|---|---|---|---|
| | Screw for grooving module<br>Tightening torque | FS1053 (Torx 15)<br>2,0 Nm | FS1054 (Torx 20)<br>3,0 Nm | FS1055 (Torx 25)<br>3,0 Nm |
| | Handle key | FS1047 (Torx 15) | FS1048 (Torx 20) | FS1049 (Torx 25) |

A2

SX

| | $f_1$ mm | $l_1$ mm | $s_1$ mm | Module size | Type | Grooving module | Toolholder |
|---|---|---|---|---|---|---|---|
| | 23,8 | 132 | 1,6 | E20 | SX-2E2 .. | G2632-E20R/L-2T20SX | MSS-E20R/L00-2020J |
| | 30,6 | 163 | 1,6 | E25 | | G2632-E25R/L-2T20SX | MSS-E25R/L00-2525L |
| | 23,4 | 132 | 2,4 | E20 | SX-3E3 .. | G2632-E20R/L-3T20SX | MSS-E20R/L00-2020J |
| | 30,2 | 170 | 2,4 | E25 | | G2632-E25R/L-3T25SX | MSS-E25R/L00-2525L |
| | 30,2 | 178 | 2,4 | E25 | | G2632-E25R/L-3T35SX | MSS-E25R/L00-2525L |
| | 30,2 | 208 | 2,4 | E32 | | G2632-E32R/L-3T45SX | MSS-E32R/L00-3225N |
| | 22,5 | 132 | 3,4 | E20 | SX-4E4 .. | G2632-E20R/L-4T20SX | MSS-E20R/L00-2020J |
| | 29,7 | 178 | 3,4 | E25 | | G2632-E25R/L-4T35SX | MSS-E25R/L00-2525L |
| | 29,7 | 208 | 3,4 | E32 | | G2632-E32R/L-4T45SX | MSS-E32R/L00-3225N |
| | 29,3 | 178 | 4,3 | E25 | SX-5E5 .. | G2632-E25R/L-5T35SX | MSS-E25R/L00-2525L |
| | 29,3 | 208 | 4,3 | E32 | | G2632-E32R/L-5T45SX | MSS-E32R/L00-3225N |
| | 28,3 | 178 | 5,3 | E25 | SX-6E6 .. | G2632-E25R/L-6T35SX | MSS-E25R/L00-2525L |
| | 28,8 | 208 | 5,3 | E32 | | G2632-E32R/L-6T45SX | MSS-E32R/L00-3225N |
| | 28,9 | 208 | 6,8 | E32 | SX-8E8 .. | G2632-E32N-8T45SX | MSS-E32R/L00-3225N |
| | | | | | | | |
| | | | | | | | |
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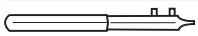
## Accessories

| | Module size s [mm] | E20 2–4 | E25 2–6 | E32 3–6 | E32 8 |
|---|---|---|---|---|---|
|  | Mounting wrench for grooving insert | FS1494 | FS1494 | FS1494 | FS2274 |

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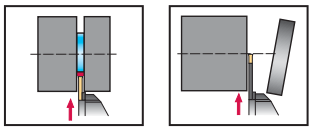
# Shank tool – 90° radial grooving
# G2622

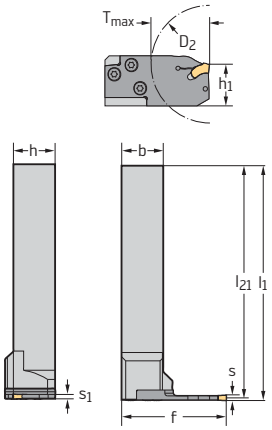
## Walter Cut

– Self-clamping system





## Tool




| Designation | s mm | $T_{max}$ mm | $D_2$ mm | $h = h_1$ mm | b mm |
|---|---|---|---|---|---|
| G2622-2020R/L-2T20SX | 2 | 20 | 66 | 20 | 20 |
| G2622-2525R/L-2T20SX | | 20 | 90 | 25 | 25 |
| G2622-2020R/L-3T20SX | 3 | 20 | 66 | 20 | 20 |
| G2622-2525R/L-3T25SX | | 25 | 90 | 25 | 25 |
| G2622-2525R/L-3T35SX | | 35 | 90 | 25 | 25 |
| G2622-3225R/L-3T45SX | | 45 | 100 | 32 | 25 |
| G2622-2020R/L-4T20SX | 4 | 20 | 66 | 20 | 20 |
| G2622-2525R/L-4T35SX | | 35 | 90 | 25 | 25 |
| G2622-3225R/L-4T45SX | | 45 | 100 | 32 | 25 |
| G2622-2525R/L-5T35SX | 5 | 32 | 90 | 25 | 25 |
| G2622-3225R/L-5T45SX | | 45 | 100 | 32 | 25 |
| G2622-2525R/L-6T35SX | 6 | 35 | 90 | 25 | 25 |
| G2622-3225R/L-6T45SX | | 45 | 100 | 32 | 25 |
| G2622-3225R/L-8T45SX | 8 | 45 | 100 | 32 | 25 |

$l_1 = l_{21} + s/2$
For information on $T_{max}$ with diameters larger than $D_2$, see "Technical information – Grooving"
Right-hand tool = right-hand toolholder + left-hand module/left-hand tool = left-hand toolholder + right-hand module
Ordering example, right-hand tool: G2622-2020R-2T20SX/ordering example, left-hand tool: G2622-2020L-2T20SX
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

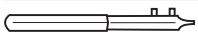
| | Module size | E20 | E25 | E32 |
|---|---|---|---|---|
| | Screw for grooving module<br>Tightening torque | FS1053 (Torx 15)<br>2,0 Nm | FS1054 (Torx 20)<br>3,0 Nm | FS1055 (Torx 25)<br>3,0 Nm |
| | Handle key | FS1047 (Torx 15) | FS1048 (Torx 20) | FS1049 (Torx 25) |

A2

SX

| | f mm | $l_{21}$ mm | $s_1$ mm | Module size | Type | Grooving module | Toolholder |
|---|---|---|---|---|---|---|---|
| | 42 | 109,5 | 1,6 | E20 | SX-2E2 .. | G2632-E20R/L-2T20SX | MSS-E20R/L90-2020J |
| | 48 | 139,6 | 1,6 | E25 | | G2632-E25R/L-2T20SX | MSS-E25R/L90-2525L |
| | 42 | 109,1 | 2,4 | E20 | SX-3E3 .. | G2632-E20R/L-3T20SX | MSS-E20R/L90-2020J |
| | 53 | 139,2 | 2,4 | E25 | | G2632-E25R/L-3T25SX | MSS-E25R/L90-2525L |
| | 63 | 139,2 | 2,4 | E25 | | G2632-E25R/L-3T35SX | MSS-E25R/L90-2525L |
| | 80 | 159,2 | 2,4 | E32 | | G2632-E32R/L-3T45SX | MSS-E32R/L90-3225N |
| | 42 | 108,6 | 3,4 | E20 | SX-4E4 .. | G2632-E20R/L-4T20SX | MSS-E20R/L90-2020J |
| | 63 | 138,8 | 3,4 | E25 | | G2632-E25R/L-4T35SX | MSS-E25R/L90-2525L |
| | 80 | 158,7 | 3,4 | E32 | | G2632-E32R/L-4T45SX | MSS-E32R/L90-3225N |
| | 63 | 138,3 | 4,3 | E25 | SX-5E5 .. | G2632-E25R/L-5T35SX | MSS-E25R/L90-2525L |
| | 80 | 158,3 | 4,3 | E32 | | G2632-E32R/L-5T45SX | MSS-E32R/L90-3225N |
| | 63 | 137,8 | 5,3 | E25 | SX-6E6 .. | G2632-E25R/L-6T35SX | MSS-E25R/L90-2525L |
| | 80 | 157,8 | 5,3 | E32 | | G2632-E32R/L-6T45SX | MSS-E32R/L90-3225N |
| | 80 | 163,8 | 6,8 | E32 | SX-8E8 .. | G2632-E32N-8T45SX | MSS-E32R/L90-3225N |

## Accessories

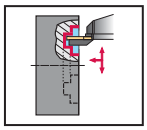
| | Module size s [mm] | E20 2–4 | E25 2–6 | E32 3–6 | E32 8 |
|---|---|---|---|---|---|
|  | Mounting wrench for grooving insert | FS1494 | FS1494 | FS1494 | FS2274 |

A 286 D 1 A 394 A 308 A 400

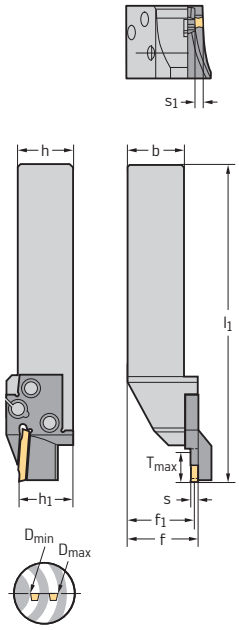
# Shank tool – Axial grooving
# NCEE
## Walter Cut

– Screw clamping





## Tool




| Designation | s mm | $T_{max}$ mm | $D_{min}$ mm | $D_{max}$ mm | $h = h_1$ mm |
|---|---|---|---|---|---|
| NCEE20-2020R/L-GX24-2-1 | 3 | 14 | 50 | 70 | 20 |
| NCEE20-2020R/L-GX24-2-2 | | 14 | 70 | 100 | 20 |
| NCEE20-2020R/L-GX24-2-3 | | 14 | 100 | 150 | 20 |
| NCEE25-2525R/L-GX24-2-1 | | 15 | 50 | 70 | 25 |
| NCEE25-2525R/L-GX24-2-2 | | 15 | 70 | 100 | 25 |
| NCEE25-2525R/L-GX24-2-3 | | 15 | 100 | 150 | 25 |
| NCEE25-2525R/L-GX24-3-1 | 4–5 | 15 | 50 | 70 | 25 |
| NCEE25-2525R/L-GX24-3-2 | | 15 | 70 | 100 | 25 |
| NCEE32-3225R/L-GX24-3-2 | | 15 | 70 | 100 | 32 |
| NCEE25-2525R/L-GX24-3-3 | | 15 | 100 | 150 | 25 |
| NCEE32-3225R/L-GX24-3-3 | | 15 | 100 | 150 | 32 |
| NCEE25-2525R/L-GX24-3-4 | | 15 | 150 | 300 | 25 |
| NCEE32-3225R/L-GX24-3-4 | | 15 | 150 | 300 | 32 |
| NCEE25-2525R/L-GX24-4-1 | 6 | 15 | 50 | 70 | 25 |
| NCEE25-2525R/L-GX24-4-2 | | 15 | 70 | 100 | 25 |
| NCEE32-3225R/L-GX24-4-2 | | 15 | 70 | 100 | 32 |
| NCEE25-2525R/L-GX24-4-3 | | 15 | 100 | 150 | 25 |
| NCEE32-3225R/L-GX24-4-3 | | 15 | 100 | 150 | 32 |
| NCEE25-2525R/L-GX24-4-4 | | 15 | 150 | 300 | 25 |
| NCEE32-3225R/L-GX24-4-4 | | 15 | 150 | 300 | 32 |
| NCEE32-3225R/L-GX24-4-5 | | 15 | 300 | 900 | 32 |

$f = f_1 + s/2$
Right-hand tool = right-hand toolholder + right-hand module/left-hand tool = left-hand toolholder + left-hand module
Ordering example, right-hand tool: NCEE20-2020R-GX24-2-1/ordering example, left-hand tool: NCEE20-2020L-GX24-2-1
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Module size | E20 | E25 | E32 |
|---|---|---|---|---|
| | Screw for grooving module<br>Tightening torque | FS1053 (Torx 15)<br>2,0 Nm | FS1054 (Torx 20)<br>3,0 Nm | FS1055 (Torx 25)<br>3,0 Nm |
| | Handle key | FS1047 (Torx 15) | FS1048 (Torx 20) | FS1049 (Torx 25) |

GX..E.. GX..F..

| b mm | $f_1$ mm | $l_1$ mm | $s_1$ mm | Module size | Type | Grooving module | Toolholder |
|---|---|---|---|---|---|---|---|
| 20 | 23,6 | 132 | 2 | E20 | GX24-2E3 .. GX24-2F3 .. | MSS-E20R/L14-GX24-2A5070 | MSS-E20R/L00-2020J |
| 20 | 23,6 | 132 | 2 | E20 | | MSS-E20R/L14-GX24-2A70100 | MSS-E20R/L00-2020J |
| 20 | 23,6 | 132 | 2 | E20 | | MSS-E20R/L14-GX24-2A100150 | MSS-E20R/L00-2020J |
| 25 | 30,4 | 162 | 2 | E25 | | MSS-E25R/L15-GX24-2A5070 | MSS-E25R/L00-2525L |
| 25 | 30,4 | 162 | 2 | E25 | | MSS-E25R/L15-GX24-2A70100 | MSS-E25R/L00-2525L |
| 25 | 30,4 | 162 | 2 | E25 | | MSS-E25R/L15-GX24-2A100150 | MSS-E25R/L00-2525L |
| 25 | 29,9 | 162 | 3 | E25 | GX24-3E .. GX24-3F .. | MSS-E25R/L15-GX24-3A5070 | MSS-E25R/L00-2525L |
| 25 | 29,9 | 162 | 3 | E25 | | MSS-E25R/L15-GX24-3A70100 | MSS-E25R/L00-2525L |
| 25 | 29,9 | 182 | 3 | E32 | | MSS-E32R/L15-GX24-3A70100 | MSS-E32R/L00-3225N |
| 25 | 29,9 | 162 | 3 | E25 | | MSS-E25R/L15-GX24-3A100150 | MSS-E25R/L00-2525L |
| 25 | 29,9 | 182 | 3 | E32 | | MSS-E32R/L15-GX24-3A100150 | MSS-E32R/L00-3225N |
| 25 | 29,9 | 162 | 3 | E25 | | MSS-E25R/L15-GX24-3A150300 | MSS-E25R/L00-2525L |
| 25 | 29,9 | 182 | 3 | E32 | | MSS-E32R/L15-GX24-3A150300 | MSS-E32R/L00-3225N |
| 25 | 29,3 | 162 | 4,2 | E25 | GX24-4E6 .. | MSS-E25R/L15-GX24-4A5070 | MSS-E25R/L00-2525L |
| 25 | 29,3 | 162 | 4,2 | E25 | | MSS-E25R/L15-GX24-4A70100 | MSS-E25R/L00-2525L |
| 25 | 29,3 | 182 | 4,2 | E32 | | MSS-E32R/L15-GX24-4A70100 | MSS-E32R/L00-3225N |
| 25 | 29,3 | 162 | 4,2 | E25 | | MSS-E25R/L15-GX24-4A100150 | MSS-E25R/L00-2525L |
| 25 | 29,3 | 182 | 4,2 | E32 | | MSS-E32R/L15-GX24-4A100150 | MSS-E32R/L00-3225N |
| 25 | 29,3 | 162 | 4,2 | E25 | | MSS-E25R/L15-GX24-4A150300 | MSS-E25R/L00-2525L |
| 25 | 29,3 | 182 | 4,2 | E32 | | MSS-E32R/L15-GX24-4A150300 | MSS-E32R/L00-3225N |
| 25 | 29,3 | 182 | 4,2 | E32 | | MSS-E32R/L15-GX24-4A300900 | MSS-E32R/L00-3225N |

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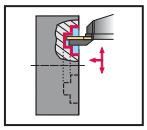
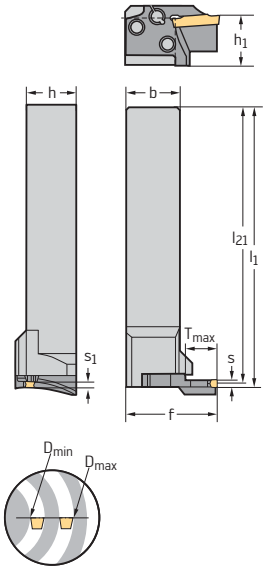
# Shank tool – 90° axial grooving
# NCHE
## Walter Cut

– Screw clamping



A2

## Tool




| Designation | s mm | $T_{max}$ mm | $D_{min}$ mm | $D_{max}$ mm | $h = h_1$ mm |
|---|---|---|---|---|---|
| NCHE20-2020R/L-GX24-2-1 | 3 | 14 | 50 | 70 | 20 |
| NCHE20-2020R/L-GX24-2-2 | | 14 | 70 | 100 | 20 |
| NCHE20-2020R/L-GX24-2-3 | | 14 | 100 | 150 | 20 |
| NCHE25-2525R/L-GX24-2-1 | | 15 | 50 | 70 | 25 |
| NCHE25-2525R/L-GX24-2-2 | | 15 | 70 | 100 | 25 |
| NCHE25-2525R/L-GX24-2-3 | | 15 | 100 | 150 | 25 |
| NCHE25-2525R/L-GX24-3-1 | 4–5 | 15 | 50 | 70 | 25 |
| NCHE25-2525R/L-GX24-3-2 | | 15 | 70 | 100 | 25 |
| NCHE32-3225R/L-GX24-3-2 | | 15 | 70 | 100 | 32 |
| NCHE25-2525R/L-GX24-3-3 | | 15 | 100 | 150 | 25 |
| NCHE32-3225R/L-GX24-3-3 | | 15 | 100 | 150 | 32 |
| NCHE25-2525R/L-GX24-3-4 | | 15 | 150 | 300 | 25 |
| NCHE32-3225R/L-GX24-3-4 | | 15 | 150 | 300 | 32 |
| NCHE25-2525R/L-GX24-4-1 | 6 | 15 | 50 | 70 | 25 |
| NCHE25-2525R/L-GX24-4-2 | | 15 | 70 | 100 | 25 |
| NCHE32-3225R/L-GX24-4-2 | | 15 | 70 | 100 | 32 |
| NCHE25-2525R/L-GX24-4-3 | | 15 | 100 | 150 | 25 |
| NCHE32-3225R/L-GX24-4-3 | | 15 | 100 | 150 | 32 |
| NCHE25-2525R/L-GX24-4-4 | | 15 | 150 | 300 | 25 |
| NCHE32-3225R/L-GX24-4-4 | | 15 | 150 | 300 | 32 |
| NCHE32-3225R/L-GX24-4-5 | | 15 | 300 | 900 | 32 |

$l_1 = l_{21} + s/2$
Right-hand tool = right-hand toolholder + left-hand module/left-hand tool = left-hand toolholder + right-hand module
Ordering example, right-hand tool: NCHE20-2020R-GX24-2-1/ordering example, left-hand tool: NCHE20-2020L-GX24-2-1
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Module size | E20 | E25 | E32 |
|---|---|---|---|---|
| | Screw for grooving module<br>Tightening torque | FS1053 (Torx 15)<br>2,0 Nm | FS1054 (Torx 20)<br>3,0 Nm | FS1055 (Torx 25)<br>3,0 Nm |
| | Handle key | FS1047 (Torx 15) | FS1048 (Torx 20) | FS1049 (Torx 25) |

GX..E.. GX..F..

| b mm | f mm | $l_{21}$ mm | $s_1$ mm | Module size | Type | Grooving module | Toolholder |
|---|---|---|---|---|---|---|---|
| 20 | 42 | 109,4 | 2 | E20 | GX24-2E3 .. GX24-2F3 .. | MSS-E20R/L14-GX24-2A5070 | MSS-E20R/L90-2020J |
| 20 | 42 | 109,4 | 2 | E20 | | MSS-E20R/L14-GX24-2A70100 | MSS-E20R/L90-2020J |
| 20 | 42 | 109,4 | 2 | E20 | | MSS-E20R/L14-GX24-2A100150 | MSS-E20R/L90-2020J |
| 25 | 47 | 139,4 | 2 | E25 | | MSS-E25R/L15-GX24-2A5070 | MSS-E25R/L90-2525L |
| 25 | 47 | 139,4 | 2 | E25 | | MSS-E25R/L15-GX24-2A70100 | MSS-E25R/L90-2525L |
| 25 | 47 | 139,4 | 2 | E25 | | MSS-E25R/L15-GX24-2A100150 | MSS-E25R/L90-2525L |
| 25 | 47 | 138,9 | 3,0 | E25 | GX24-3E .. GX24-3F .. | MSS-E25R/L15-GX24-3A5070 | MSS-E25R/L90-2525L |
| 25 | 47 | 138,9 | 3,0 | E25 | | MSS-E25R/L15-GX24-3A70100 | MSS-E25R/L90-2525L |
| 25 | 54 | 158,9 | 3,0 | E32 | | MSS-E32R/L15-GX24-3A70100 | MSS-E32R/L90-3225N |
| 25 | 47 | 138,9 | 3,0 | E25 | | MSS-E25R/L15-GX24-3A100150 | MSS-E25R/L90-2525L |
| 25 | 54 | 158,9 | 3,0 | E32 | | MSS-E32R/L15-GX24-3A100150 | MSS-E32R/L90-3225N |
| 25 | 47 | 138,9 | 3,0 | E25 | | MSS-E25R/L15-GX24-3A150300 | MSS-E25R/L90-2525L |
| 25 | 54 | 158,9 | 3,0 | E32 | | MSS-E32R/L15-GX24-3A150300 | MSS-E32R/L90-3225N |
| 25 | 47 | 138,3 | 4,2 | E25 | GX24-4E6 .. | MSS-E25R/L15-GX24-4A5070 | MSS-E25R/L90-2525L |
| 25 | 47 | 138,3 | 4,2 | E25 | | MSS-E25R/L15-GX24-4A70100 | MSS-E25R/L90-2525L |
| 25 | 54 | 158,3 | 4,2 | E32 | | MSS-E32R/L15-GX24-4A70100 | MSS-E32R/L90-3225N |
| 25 | 47 | 138,3 | 4,2 | E25 | | MSS-E25R/L15-GX24-4A100150 | MSS-E25R/L90-2525L |
| 25 | 54 | 158,3 | 4,2 | E32 | | MSS-E32R/L15-GX24-4A100150 | MSS-E32R/L90-3225N |
| 25 | 47 | 138,3 | 4,2 | E25 | | MSS-E25R/L15-GX24-4A150300 | MSS-E25R/L90-2525L |
| 25 | 54 | 158,3 | 4,2 | E32 | | MSS-E32R/L15-GX24-4A150300 | MSS-E32R/L90-3225N |
| 25 | 54 | 158,3 | 4,2 | E32 | | MSS-E32R/L15-GX24-4A300900 | MSS-E32R/L90-3225N |

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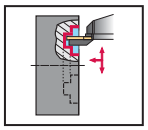
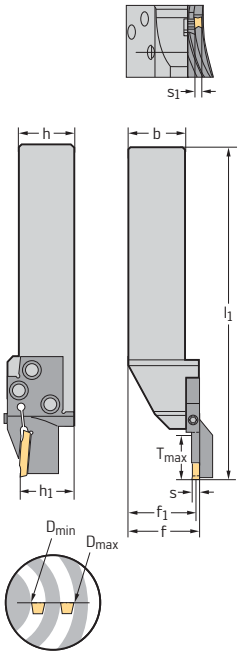
# Shank tool – Axial grooving
# NCFE
## Walter Cut

– Screw clamping





## Tool




| Designation | s mm | $T_{max}$ mm | $D_{min}$ mm | $D_{max}$ mm | $h = h_1$ mm |
|---|---|---|---|---|---|
| NCFE25-2525R/L-GX24-3-1 | 4–5 | 21 | 50 | 70 | 25 |
| NCFE25-2525R/L-GX24-3-2 | | 21 | 70 | 100 | 25 |
| NCFE25-2525R/L-GX24-3-3 | | 21 | 100 | 150 | 25 |
| NCFE25-2525R/L-GX24-3-4 | | 21 | 150 | 300 | 25 |
| NCFE25-2525R/L-GX24-4-1 | 6 | 25 | 50 | 70 | 25 |
| NCFE25-2525R/L-GX24-4-2 | | 25 | 70 | 100 | 25 |
| NCFE25-2525R/L-GX24-4-3 | | 25 | 100 | 150 | 25 |
| NCFE25-2525R/L-GX24-4-4 | | 25 | 150 | 300 | 25 |

$f = f_1 + s/2$
Right-hand tool = right-hand toolholder + right-hand module/left-hand tool = left-hand toolholder + left-hand module
Ordering example, right-hand tool: NCFE25-2525R-GX24-3-1/ordering example, left-hand tool: NCFE25-2525L-GX24-3-1
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Module size | E25 |
|---|---|---|
| | Screw for grooving module<br>Tightening torque | FS1054 (Torx 20)<br>3,0 Nm |
| | Clamping screw for grooving insert<br>Tightening torque | FS1342 (Torx 15)<br>2,0 Nm |
| | Handle key for module | FS1048 (Torx 20) |
| | Handle key for grooving insert | FS1047 (Torx 15) |

GX..E.. GX..F..

| b mm | $f_1$ mm | $l_1$ mm | $s_1$ mm | Module size | Type | Grooving module | Toolholder |
|---|---|---|---|---|---|---|---|
| 25 | 29,9 | 175 | 3 | E25 | GX24-3E .. GX24-3F .. | MSS-E25R/L21-GX24-3C5070 | MSS-E25R/L00-2525L |
| 25 | 29,9 | 175 | 3 | E25 | | MSS-E25R/L21-GX24-3C70100 | MSS-E25R/L00-2525L |
| 25 | 29,9 | 175 | 3 | E25 | | MSS-E25R/L21-GX24-3C100150 | MSS-E25R/L00-2525L |
| 25 | 29,9 | 175 | 3 | E25 | | MSS-E25R/L21-GX24-3C150300 | MSS-E25R/L00-2525L |
| 25 | 29,3 | 175 | 4,2 | E25 | GX24-4E6 .. | MSS-E25R/L25-GX24-4C5070 | MSS-E25R/L00-2525L |
| 25 | 29,3 | 175 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C70100 | MSS-E25R/L00-2525L |
| 25 | 29,3 | 175 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C100150 | MSS-E25R/L00-2525L |
| 25 | 29,3 | 175 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C150300 | MSS-E25R/L00-2525L |

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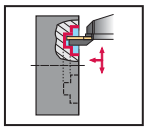
# Shank tool – Axial/contra
# NCFE...C

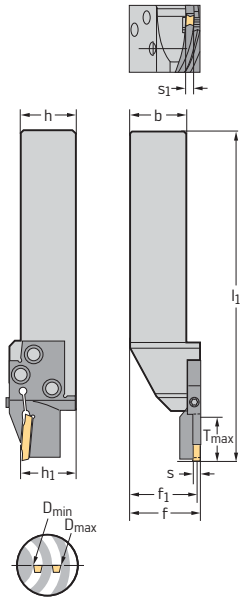
## Walter Cut

– Screw clamping
– Contra design

A2



## Tool




| Designation | s mm | $T_{max}$ mm | $D_{min}$ mm | $D_{max}$ mm | $h = h_1$ mm |
|---|---|---|---|---|---|
| NCFE25-2525R/L-GX24-3-1C | 4–5 | 21 | 50 | 70 | 25 |
| NCFE25-2525R/L-GX24-3-2C | | 21 | 70 | 100 | 25 |
| NCFE25-2525R/L-GX24-3-3C | | 21 | 100 | 150 | 25 |
| NCFE25-2525R/L-GX24-3-4C | | 21 | 150 | 300 | 25 |
| NCFE25-2525R/L-GX24-4-1C | 6 | 25 | 50 | 70 | 25 |
| NCFE25-2525R/L-GX24-4-2C | | 25 | 70 | 100 | 25 |
| NCFE25-2525R/L-GX24-4-3C | | 25 | 100 | 150 | 25 |
| NCFE25-2525R/L-GX24-4-4C | | 25 | 150 | 300 | 25 |

$f = f_1 + s/2$
Right-hand tool = right-hand toolholder + left-hand module/left-hand tool = left-hand toolholder + right-hand module
Ordering example, right-hand tool: NCFE25-2525R-GX24-3-1C/ordering example, left-hand tool: NCFE25-2525L-GX24-3-1C
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Module size | E25 |
|---|---|
| Screw for grooving module<br>Tightening torque | FS1054 (Torx 20)<br>3,0 Nm |
| Clamping screw for grooving insert<br>Tightening torque | FS1342 (Torx 15)<br>2,0 Nm |
| Handle key for module | FS1048 (Torx 20) |
| Handle key for grooving insert | FS1047 (Torx 15) |

GX..E.. GX..F..

| | b mm | $f_1$ mm | $l_1$ mm | $s_1$ mm | Module size | Type | Grooving module | Toolholder |
|---|---|---|---|---|---|---|---|---|
| | 25 | 27,2 | 175 | 3 | E25 | GX24-3E .. GX24-3F .. | MSS-E25R/L21-GX24-3C5070 | MSS-E25R/L00-2525L |
| | 25 | 27,2 | 175 | 3 | E25 | | MSS-E25R/L21-GX24-3C70100 | MSS-E25R/L00-2525L |
| | 25 | 27,2 | 175 | 3 | E25 | | MSS-E25R/L21-GX24-3C100150 | MSS-E25R/L00-2525L |
| | 25 | 27,2 | 175 | 3 | E25 | | MSS-E25R/L21-GX24-3C150300 | MSS-E25R/L00-2525L |
| | 25 | 27,7 | 175 | 4,2 | E25 | GX24-4E6 .. | MSS-E25R/L25-GX24-4C5070 | MSS-E25R/L00-2525L |
| | 25 | 27,7 | 175 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C70100 | MSS-E25R/L00-2525L |
| | 25 | 27,7 | 175 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C100150 | MSS-E25R/L00-2525L |
| | 25 | 27,7 | 175 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C150300 | MSS-E25R/L00-2525L |
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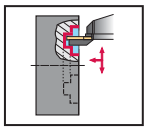
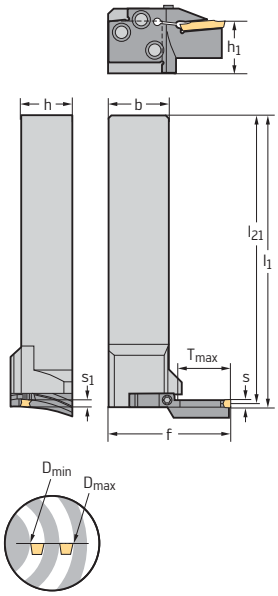
# Shank tool – 90° axial grooving
# NCOE
## Walter Cut

– Screw clamping





## Tool




| Designation | s mm | $T_{max}$ mm | $D_{min}$ mm | $D_{max}$ mm | $h = h_1$ mm |
|---|---|---|---|---|---|
| NCOE25-2525R/L-GX24-3-1 | 4–5 | 21 | 50 | 70 | 25 |
| NCOE25-2525R/L-GX24-3-2 | | 21 | 70 | 100 | 25 |
| NCOE25-2525R/L-GX24-3-3 | | 21 | 100 | 150 | 25 |
| NCOE25-2525R/L-GX24-3-4 | | 21 | 150 | 300 | 25 |
| NCOE25-2525R/L-GX24-4-1 | 6 | 25 | 50 | 70 | 25 |
| NCOE25-2525R/L-GX24-4-2 | | 25 | 70 | 100 | 25 |
| NCOE25-2525R/L-GX24-4-3 | | 25 | 100 | 150 | 25 |
| NCOE25-2525R/L-GX24-4-4 | | 25 | 150 | 300 | 25 |

$l_1 = l_{21} + s/2$
Right-hand tool = right-hand toolholder + left-hand module/left-hand tool = left-hand toolholder + right-hand module
Ordering example, right-hand tool: NCOE25-2525R-GX24-3-1/ordering example, left-hand tool: NCOE25-2525L-GX24-3-1
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Module size | E25 |
|---|---|
| Screw for grooving module<br>Tightening torque | FS1054 (Torx 20)<br>3,0 Nm |
| Clamping screw for grooving insert<br>Tightening torque | FS1342 (Torx 15)<br>2,0 Nm |
| Handle key for module | FS1048 (Torx 20) |
| Handle key for grooving insert | FS1047 (Torx 15) |

A2

GX..E.. GX..F..

| | b mm | f mm | $l_{21}$ mm | $s_1$ mm | Module size | Type | Grooving module | Toolholder |
|---|---|---|---|---|---|---|---|---|
| | 25 | 60 | 138,9 | 3 | E25 | GX24-3E .. GX24-3F .. | MSS-E25R/L21-GX24-3C5070 | MSS-E25R/L90-2525L |
| | 25 | 60 | 138,9 | 3 | E25 | | MSS-E25R/L21-GX24-3C70100 | MSS-E25R/L90-2525L |
| | 25 | 60 | 138,9 | 3 | E25 | | MSS-E25R/L21-GX24-3C100150 | MSS-E25R/L90-2525L |
| | 25 | 60 | 138,9 | 3 | E25 | | MSS-E25R/L21-GX24-3C150300 | MSS-E25R/L90-2525L |
| | 25 | 60 | 138,3 | 4,2 | E25 | GX24-4E6 .. | MSS-E25R/L25-GX24-4C5070 | MSS-E25R/L90-2525L |
| | 25 | 60 | 138,3 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C70100 | MSS-E25R/L90-2525L |
| | 25 | 60 | 138,3 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C100150 | MSS-E25R/L90-2525L |
| | 25 | 60 | 138,3 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C150300 | MSS-E25R/L90-2525L |
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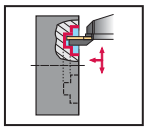
# Shank tool – 90° axial/contra
# NCOE...C

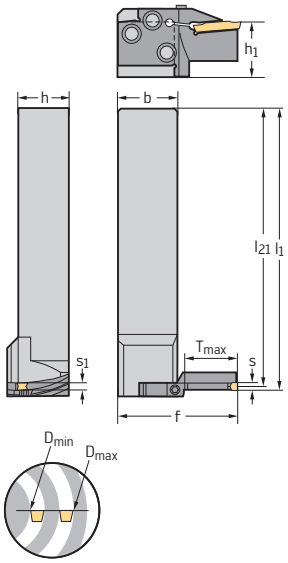
## Walter Cut

– Screw clamping
– Contra design





## Tool




| Designation | s mm | $T_{max}$ mm | $D_{min}$ mm | $D_{max}$ mm | $h = h_1$ mm | |
|---|---|---|---|---|---|---|
| NCOE25-2525R/L-GX24-3-1C | 4–5 | 21 | 50 | 70 | 25 | |
| NCOE25-2525R/L-GX24-3-2C | | 21 | 70 | 100 | 25 | |
| NCOE25-2525R/L-GX24-3-3C | | 21 | 100 | 150 | 25 | |
| NCOE25-2525R/L-GX24-3-4C | | 21 | 150 | 300 | 25 | |
| NCOE25-2525R/L-GX24-4-1C | 6 | 25 | 50 | 70 | 25 | |
| NCOE25-2525R/L-GX24-4-2C | | 25 | 70 | 100 | 25 | |
| NCOE25-2525R/L-GX24-4-3C | | 25 | 100 | 150 | 25 | |
| NCOE25-2525R/L-GX24-4-4C | | 25 | 150 | 300 | 25 | |

$l_1 = l_{21} + s/2$
Right-hand tool = right-hand toolholder + right-hand module/left-hand tool = left-hand toolholder + left-hand module
Ordering example, right-hand tool: NCOE25-2525R-GX24-3-1C/ordering example, left-hand tool: NCOE25-2525L-GX24-3-1C
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Module size | E25 |
|---|---|---|
| | Screw for grooving module<br>Tightening torque | FS1054 (Torx 20)<br>3,0 Nm |
| | Clamping screw for grooving insert<br>Tightening torque | FS1342 (Torx 15)<br>2,0 Nm |
| | Handle key for module | FS1048 (Torx 20) |
| | Handle key for grooving insert | FS1047 (Torx 15) |

A2

GX..E.. GX..F..

| | b mm | f mm | $l_{21}$ mm | $s_1$ mm | Module size | Type | Grooving module | Toolholder |
|---|---|---|---|---|---|---|---|---|
| | 25 | 60 | 136,2 | 3 | E25 | GX24-3E .. GX24-3F .. | MSS-E25R/L21-GX24-3C5070 | MSS-E25R/L90-2525L |
| | 25 | 60 | 136,2 | 3 | E25 | | MSS-E25R/L21-GX24-3C70100 | MSS-E25R/L90-2525L |
| | 25 | 60 | 136,2 | 3 | E25 | | MSS-E25R/L21-GX24-3C100150 | MSS-E25R/L90-2525L |
| | 25 | 60 | 136,2 | 3 | E25 | | MSS-E25R/L21-GX24-3C150300 | MSS-E25R/L90-2525L |
| | 25 | 60 | 136,8 | 4,2 | E25 | GX24-4E6 .. | MSS-E25R/L25-GX24-4C5070 | MSS-E25R/L90-2525L |
| | 25 | 60 | 136,8 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C70100 | MSS-E25R/L90-2525L |
| | 25 | 60 | 136,8 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C100150 | MSS-E25R/L90-2525L |
| | 25 | 60 | 136,8 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C150300 | MSS-E25R/L90-2525L |
| | | | | | | | | |
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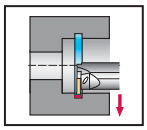
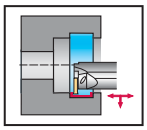
# Boring bar – Internal grooving
# NCAI
# Walter Cut

– Screw clamping



## Tool

| | Designation | s mm | $T_{max}$ mm | $D_{min}$ mm | $d_1$ mm | $d_4$ mm | f mm |
|---|---|---|---|---|---|---|---|
| 1.5 × D | NCAI16-2015R/L-GX09-1 | 2–2,5 | 4 | 20 | 20 | 25 | 11 |
| | NCAI20-2015R/L-GX09-1 | | 5 | 25 | 20 | 25 | 13 |
| | NCAI25-2515R/L-GX09-1 | | 6 | 32 | 25 | 32 | 17 |
| | NCAI32-3215R/L-GX16-1 | | 9 | 40 | 32 | 40 | 22 |
| | NCAI40-4015R/L-GX16-1 | | 10 | 50 | 40 | 50 | 27 |
| | NCAI16-2015R/L-GX09-2 | 3 | 4 | 20 | 20 | 25 | 11 |
| | NCAI20-2015R/L-GX09-2 | | 5 | 25 | 20 | 25 | 13 |
| | NCAI25-2515R/L-GX09-2 | | 6 | 32 | 25 | 32 | 17 |
| | NCAI32-3215R/L-GX16-2 | | 9 | 40 | 32 | 40 | 22 |
| | NCAI40-4015R/L-GX16-2 | | 10 | 50 | 40 | 50 | 27 |
| | NCAI32-3215R/L-GX16-3 | 4–5 | 9 | 40 | 32 | 40 | 22 |
| | NCAI40-4015R/L-GX16-3 | | 10 | 50 | 40 | 50 | 27 |
| | NCAI40-4015R/L-GX24-3 | | 19 | 60 | 40 | 50 | 36 |
| | NCAI32-3215R/L-GX16-4 | 6 | 9 | 40 | 32 | 40 | 22 |
| | NCAI40-4015R/L-GX16-4 | | 10 | 50 | 40 | 50 | 27 |
| | NCAI40-4015R/L-GX24-4 | | 19 | 60 | 40 | 50 | 36 |
| 2.5 × D | NCAI16-2025R/L-GX09-1 | 2–2,5 | 4 | 20 | 20 | | 14,5 |
| | NCAI20-2525R/L-GX09-1 | | 5 | 25 | 25 | | 18 |
| | NCAI25-3225R/L-GX09-1 | | 6 | 32 | 32 | | 22,5 |
| | NCAI32-4025R/L-GX16-1 | | 9 | 40 | 40 | | 29,5 |
| | NCAI40-5025R/L-GX16-1 | | 10 | 50 | 50 | | 35,5 |
| | NCAI16-2025R/L-GX09-2 | 3 | 4 | 20 | 20 | | 14,5 |
| | NCAI20-2525R/L-GX09-2 | | 5 | 25 | 25 | | 18 |
| | NCAI25-3225R/L-GX09-2 | | 6 | 32 | 32 | | 22,5 |
| | NCAI32-4025R/L-GX16-2 | | 9 | 40 | 40 | | 29,5 |
| | NCAI40-5025R/L-GX16-2 | | 10 | 50 | 50 | | 35,5 |
| | NCAI32-4025R/L-GX16-3 | 4–5 | 9 | 40 | 40 | | 29,5 |
| | NCAI40-5025R/L-GX16-3 | | 10 | 50 | 50 | | 35,5 |
| | NCAI40-5025R/L-GX24-3 | | 19 | 60 | 50 | | 44,5 |
| | NCAI32-4025R/L-GX16-4 | 6 | 9 | 40 | 40 | | 29,5 |
| | NCAI40-5025R/L-GX16-4 | | 10 | 50 | 50 | | 35,5 |
| | NCAI40-5025R/L-GX24-4 | | 19 | 60 | 50 | | 44,5 |

1.5 × D: $l_4 = l_{21} + s/2$
2.5 × D: $l_1 = l_{21} + s/2$
Right-hand tool = right-hand toolholder + right-hand module/left-hand tool = left-hand toolholder + left-hand module
Ordering example, right-hand tool: NCAI16-2015R-GX09-1/ordering example, left-hand tool: NCAI16-2015L-GX09-1
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Module size | I16 | I20 | I25 | I32 | I40 |
|---|---|---|---|---|---|---|
| | Screw for grooving module<br>Tightening torque | FS1051 (Torx 8)<br>2,0 Nm | FS1056 (Torx 10)<br>2,0 Nm | FS1052 (Torx 15)<br>2,0 Nm | FS1057 (Torx 20)<br>3,0 Nm | FS1054 (Torx 20)<br>3,0 Nm |
| | Handle key | FS257 (Torx 8) | FS1050 (Torx 10) | FS1047 (Torx 15) | FS1048 (Torx 20) | FS1048 (Torx 20) |

A2

GX..E.. GX..F..

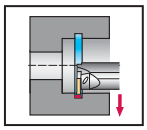
| $l_5$ mm | $l_4$ mm | $l_{21}$ mm | $l_{16}$ mm | $s_1$ mm | Module size | Type | Grooving module | Toolholder |
|---|---|---|---|---|---|---|---|---|
| 50 | | 31,4 | 31,4 | 1,3 | I16 | GX09-1E2 .. | MSS-I16R/L04-GX09-1 | MSS-I16R/L90-1,5D-N |
| 50 | | 36,4 | 36,4 | 1,3 | I20 | | MSS-I20R/L05-GX09-1 | MSS-I20R/L90-1,5D-N |
| 56 | | 45,4 | 45,4 | 1,3 | I25 | | MSS-I25R/L06-GX09-1 | MSS-I25R/L90-1,5D-N |
| 60 | | 58,4 | 58,4 | 1,3 | I32 | GX16-1E2 .. | MSS-I32R/L09-GX16-1 | MSS-I32R/L90-1,5D-N |
| 70 | | 71,4 | 71,4 | 1,3 | I40 | | MSS-I40R/L10-GX16-1 | MSS-I40R/L90-1,5D-N |
| 50 | | 31,4 | 31,4 | 2 | I16 | GX09-2E3 .. | MSS-I16R/L04-GX09-2 | MSS-I16R/L90-1,5D-N |
| 50 | | 36,4 | 36,4 | 2 | I20 | | MSS-I20R/L05-GX09-2 | MSS-I20R/L90-1,5D-N |
| 56 | | 45,4 | 45,4 | 2 | I25 | | MSS-I25R/L06-GX09-2 | MSS-I25R/L90-1,5D-N |
| 60 | | 58 | 58 | 2 | I32 | GX16-2E3 .. | MSS-I32R/L09-GX16-2 | MSS-I32R/L90-1,5D-N |
| 70 | | 71 | 71 | 2 | I40 | | MSS-I40R/L10-GX16-2 | MSS-I40R/L90-1,5D-N |
| 60 | | 57,5 | 57,5 | 3,0 | I32 | GX16-3E .. | MSS-I32R/L09-GX16-3 | MSS-I32R/L90-1,5D-N |
| 70 | | 70,5 | 70,5 | 3,0 | I40 | | MSS-I40R/L10-GX16-3 | MSS-I40R/L90-1,5D-N |
| 70 | | 70,8 | 70,5 | 3,0 | I40 | GX24-3E .. GX24-3F .. | MSS-I40N19-GX24-3 | MSS-I40R/L90-1,5D-N |
| 60 | | 56,9 | 56,9 | 4,2 | I32 | GX16-4E6 .. | MSS-I32R/L09-GX16-4 | MSS-I32R/L90-1,5D-N |
| 70 | | 69,9 | 69,9 | 4,2 | I40 | | MSS-I40R/L10-GX16-4 | MSS-I40R/L90-1,5D-N |
| 70 | | 70,2 | 69,9 | 4,2 | I40 | GX24-4E6 .. | MSS-I40N19-GX24-4 | MSS-I40R/L90-1,5D-N |
| | 39,4 | 179,3 | | 1,3 | I16 | GX09-1E2 .. | MSS-I16R/L04-GX09-1 | MSS-I16R/L90-2,5D-N |
| | 49,4 | 199,3 | | 1,3 | I20 | | MSS-I20R/L05-GX09-1 | MSS-I20R/L90-2,5D-N |
| | 62,4 | 249,3 | | 1,3 | I25 | | MSS-I25R/L06-GX09-1 | MSS-I25R/L90-2,5D-N |
| | 79,4 | 299,4 | | 1,3 | I32 | GX16-1E2 .. | MSS-I32R/L09-GX16-1 | MSS-I32R/L90-2,5D-N |
| | 99,4 | 349,4 | | 1,3 | I40 | | MSS-I40R/L10-GX16-1 | MSS-I40R/L90-2,5D-N |
| | 39 | 179 | | 2 | I16 | GX09-2E3 .. | MSS-I16R/L04-GX09-2 | MSS-I16R/L90-2,5D-N |
| | 49 | 199 | | 2 | I20 | | MSS-I20R/L05-GX09-2 | MSS-I20R/L90-2,5D-N |
| | 62 | 249 | | 2 | I25 | | MSS-I25R/L06-GX09-2 | MSS-I25R/L90-2,5D-N |
| | 79 | 299 | | 2 | I32 | GX16-2E3 .. | MSS-I32R/L09-GX16-2 | MSS-I32R/L90-2,5D-N |
| | 99 | 349 | | 2 | I40 | | MSS-I40R/L10-GX16-2 | MSS-I40R/L90-2,5D-N |
| | 78,5 | 298,5 | | 3,0 | I32 | GX16-3E .. | MSS-I32R/L09-GX16-3 | MSS-I32R/L90-2,5D-N |
| | 98,5 | 348,5 | | 3,0 | I40 | | MSS-I40R/L10-GX16-3 | MSS-I40R/L90-2,5D-N |
| | 100 | 348,8 | | 3,0 | I40 | GX24-3E .. GX24-3F .. | MSS-I40N19-GX24-3 | MSS-I40R/L90-2,5D-N |
| | 77,9 | 297,9 | | 4,2 | I32 | GX16-4E6 .. | MSS-I32R/L09-GX16-4 | MSS-I32R/L90-2,5D-N |
| | 97,9 | 347,9 | | 4,2 | I40 | | MSS-I40R/L10-GX16-4 | MSS-I40R/L90-2,5D-N |
| | 100 | 348,2 | | 4,2 | I40 | GX24-4E6 .. | MSS-I40N19-GX24-4 | MSS-I40R/L90-2,5D-N |

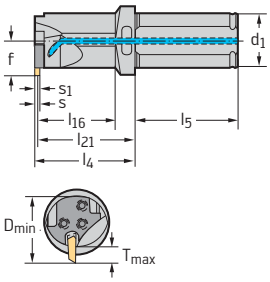
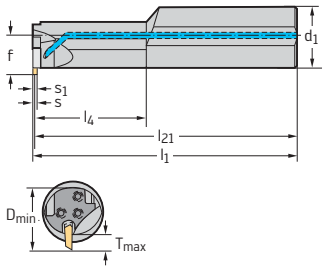
A 278 D 1 A 394 A 308 A 400

# Boring bar – Internal grooving
# NCCI
## Walter Cut

– Screw clamping
– Circlip grooves





| Tool | Designation | s mm | $T_{max}$ mm | $D_{min}$ mm | $d_1$ mm | $d_4$ mm | f mm |
|---|---|---|---|---|---|---|---|
| 1.5 × D  | NCCI16-2015R/L-GX09-1 | 0,6–1,7 | 2 | 20 | 20 | 25 | 11 |
| | NCCI20-2015R/L-GX09-1 | | 2 | 25 | 20 | 25 | 13 |
| | NCCI25-2515R/L-GX09-1 | | 2 | 32 | 25 | 32 | 17 |
| | NCCI32-3215R/L-GX16-2 | 0,6–2,3 | 3 | 40 | 32 | 40 | 22 |
| | NCCI40-4015R/L-GX16-2 | | 3 | 50 | 40 | 50 | 27 |
| 2.5 × D  | NCCI16-2025R/L-GX09-1 | 0,6–1,7 | 2 | 20 | 20 | | 14,5 |
| | NCCI20-2525R/L-GX09-1 | | 2 | 25 | 25 | | 18 |
| | NCCI25-3225R/L-GX09-1 | | 2 | 32 | 32 | | 22,5 |
| | NCCI32-4025R/L-GX16-2 | 0,6–2,3 | 3 | 40 | 40 | | 29,5 |
| | NCCI40-5025R/L-GX16-2 | | 3 | 50 | 50 | | 35,5 |

1.5 × D: $l_4 = l_{21} + s/2$
2.5 × D: $l_1 = l_{21} + s/2$
Right-hand tool = right-hand toolholder + right-hand module/left-hand tool = left-hand toolholder + left-hand module
Ordering example, right-hand tool: NCCI16-2015R-GX09-1/ordering example, left-hand tool: NCCI16-2015L-GX09-1
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Module size | l16 | l20 | l25 | l32 | l40 |
|---|---|---|---|---|---|---|
| | Screw for grooving module<br>Tightening torque | FS1051 (Torx 8)<br>2,0 Nm | FS1056 (Torx 10)<br>2,0 Nm | FS1052 (Torx 15)<br>2,0 Nm | FS1057 (Torx 20)<br>3,0 Nm | FS1054 (Torx 20)<br>3,0 Nm |
| | Handle key | FS257 (Torx 8) | FS1050 (Torx 10) | FS1047 (Torx 15) | FS1048 (Torx 20) | FS1048 (Torx 20) |

A2

GX..E.. GX..F..

| | $l_5$ mm | $l_4$ mm | $l_{21}$ mm | $l_{16}$ mm | $s_1$ mm | Module size | Type | Grooving module | Toolholder |
|---|---|---|---|---|---|---|---|---|---|
| | 50 | | 31,4 | 31,4 | 1,3 | I16 | GX09-1S .. | MSS-I16R/L02-GX09-1 | MSS-I16R/L90-1,5D-N |
| | 50 | | 36,4 | 36,4 | 1,3 | I20 | | MSS-I20R/L02-GX09-1 | MSS-I20R/L90-1,5D-N |
| | 56 | | 45,4 | 45,4 | 1,3 | I25 | | MSS-I25R/L02-GX09-1 | MSS-I25R/L90-1,5D-N |
| | 60 | | 58 | 58 | 2 | I32 | GX16-2S .. | MSS-I32R/L03-GX16-2 | MSS-I32R/L90-1,5D-N |
| | 70 | | 71 | 71 | 2 | I40 | | MSS-I40R/L03-GX16-2 | MSS-I40R/L90-1,5D-N |
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| | | 39,4 | 179,3 | | 1,3 | I16 | GX09-1S .. | MSS-I16R/L02-GX09-1 | MSS-I16R/L90-2,5D-N |
| | | 49,4 | 199,3 | | 1,3 | I20 | | MSS-I20R/L02-GX09-1 | MSS-I20R/L90-2,5D-N |
| | | 62,4 | 249,3 | | 1,3 | I25 | | MSS-I25R/L02-GX09-1 | MSS-I25R/L90-2,5D-N |
| | | 79 | 299 | | 2 | I32 | GX16-2S .. | MSS-I32R/L03-GX16-2 | MSS-I32R/L90-2,5D-N |
| | | 99 | 349 | | 2 | I40 | | MSS-I40R/L03-GX16-2 | MSS-I40R/L90-2,5D-N |
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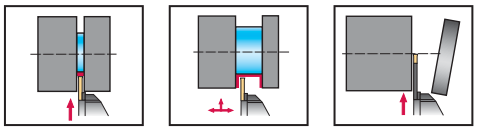
A 281 D 1 A 394 A 308 A 400

# Groove turning holders – Radial grooving
# C...-NCAE

## Walter Cut

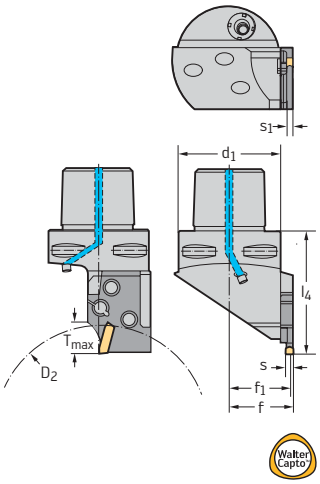
– Walter Capto™
– Screw clamping

A2



### Tool

Walter Capto™ in accordance with ISO 26623




| Designation | s mm | $T_{max}$ mm | $D_2$ mm | $d_1$ |
|---|---|---|---|---|
| NCAE16-C300R/L-GX09-1 | 2–2,5 | 7 | 52 | C3 |
| NCAE16-C300R/L-GX09-2 | 3 | 7 | 52 | C3 |
| NCAE20-C300R/L-GX16-1 | 2–2,5 | 12 | 63 | C3 |
| NCAE25-C400R/L-GX16-1 | | 12 | 79 | C4 |
| NCAE25-C500R/L-GX16-1 | | 12 | 79 | C5 |
| NCAE20-C300R/L-GX16-2 | 3 | 12 | 63 | C3 |
| NCAE25-C400R/L-GX16-2 | | 12 | 79 | C4 |
| NCAE25-C500R/L-GX16-2 | | 12 | 79 | C5 |
| NCAE32-C600R/L-GX16-2 | | 12 | 100 | C6 |
| NCAE20-C300R/L-GX16-3 | 4–5 | 12 | 63 | C3 |
| NCAE25-C400R/L-GX16-3 | | 12 | 79 | C4 |
| NCAE25-C500R/L-GX16-3 | | 12 | 79 | C5 |
| NCAE32-C600R/L-GX16-3 | | 12 | 100 | C6 |
| NCAE25-C400R/L-GX16-4 | 6 | 12 | 79 | C4 |
| NCAE25-C500R/L-GX16-4 | | 12 | 79 | C5 |
| | | | | |
| | | | | |

$f = f_1 + s/2$
For $T_{max}$ with diameters greater than $D_2$, see "Technical information – Grooving"
Right-hand tool = right-hand toolholder + right-hand module/left-hand tool = left-hand toolholder + left-hand module
Ordering example, right-hand tool: NCAE16-C300R-GX09-1/ordering example, left-hand tool: NCAE16-C300L-GX09-1
Bodies and assembly parts are included in the scope of delivery.

### Assembly parts

| | Module size<br>$d_1$ | E16<br>C3 | E20<br>C3 | E25<br>C4 | E25<br>C5 | E32<br>C6 |
|---|---|---|---|---|---|---|
| | Cooling lubricant nozzle | FS1477 | FS1477 | FS1477 | FS1476 | FS1476 |
| | Handle key | FS1047 (Torx 15) | FS1047 (Torx 15) | FS1048 (Torx 20) | FS1048 (Torx 20) | FS1049 (Torx 25) |
| | Screw for grooving module<br>Tightening torque | FS1052 (Torx 15)<br>2,0 Nm | FS1053 (Torx 15)<br>2,0 Nm | FS1054 (Torx 20)<br>3,0 Nm | FS1054 (Torx 20)<br>3,0 Nm | FS1055 (Torx 25)<br>3,0 Nm |

A2

GX..E.. GX..F..

| | $f_1$ mm | $l_4$ mm | $s_1$ mm | Module size | Type | Grooving module | Toolholder |
|---|---|---|---|---|---|---|---|
| | 19,8 | 41 | 1,3 | E16 | GX09-1E2 .. | MSS-E16R/L07-GX09-1 | C3-MSS-E16R/L00 |
| | 19,4 | 41 | 2 | E16 | GX09-2E3 .. | MSS-E16R/L07-GX09-2 | C3-MSS-E16R/L00 |
| | 19,8 | 50 | 1,3 | E20 | GX16-1E2 .. | MSS-E20R/L12-GX16-1 | C3-MSS-E20R/L00 |
| | 25,8 | 61 | 1,3 | E25 | | MSS-E25R/L12-GX16-1 | C4-MSS-E25R/L00 |
| | 30,8 | 61 | 1,3 | E25 | | MSS-E25R/L12-GX16-1 | C5-MSS-E25R/L00 |
| | 19,4 | 50 | 2 | E20 | GX16-2E3 .. | MSS-E20R/L12-GX16-2 | C3-MSS-E20R/L00 |
| | 25,4 | 61 | 2 | E25 | | MSS-E25R/L12-GX16-2 | C4-MSS-E25R/L00 |
| | 30,4 | 61 | 2 | E25 | | MSS-E25R/L12-GX16-2 | C5-MSS-E25R/L00 |
| | 36,4 | 67 | 2 | E32 | | MSS-E32R/L12-GX16-2 | C6-MSS-E32R/L00 |
| | 18,9 | 50 | 3,0 | E20 | GX16-3E .. | MSS-E20R/L12-GX16-3 | C3-MSS-E20R/L00 |
| | 24,9 | 61 | 3,0 | E25 | | MSS-E25R/L12-GX16-3 | C4-MSS-E25R/L00 |
| | 29,9 | 61 | 3,0 | E25 | | MSS-E25R/L12-GX16-3 | C5-MSS-E25R/L00 |
| | 35,9 | 67 | 3,0 | E32 | | MSS-E32R/L12-GX16-3 | C6-MSS-E32R/L00 |
| | 24,3 | 61 | 4,2 | E25 | GX16-4E6 .. | MSS-E25R/L12-GX16-4 | C4-MSS-E25R/L00 |
| | 29,3 | 61 | 4,2 | E25 | | MSS-E25R/L12-GX16-4 | C5-MSS-E25R/L00 |
| | | | | | | | |
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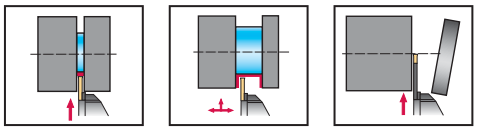
A 278 D 1 A 394 A 402 A 400

# Groove turning holders – Radial grooving
# C...-NCBE
## Walter Cut

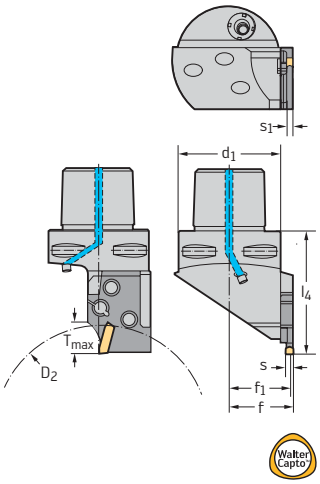
– Walter Capto™
– Screw clamping

A2



## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | s mm | $T_{max}$ mm | $D_2$ mm | $d_1$ | |
|---|---|---|---|---|---|
| NCBE20-C300R/L-GX24-2-21 | 3 | 21 | 63 | C3 | |
| NCBE25-C400R/L-GX24-2-21 | | 21 | 79 | C4 | |
| NCBE25-C500R/L-GX24-2-21 | | 21 | 79 | C5 | |
| NCBE25-C400R/L-GX24-3-21 | 4–5 | 21 | 79 | C4 | |
| NCBE25-C500R/L-GX24-3-21 | | 21 | 79 | C5 | |
| NCBE32-C600R/L-GX24-3-21 | | 21 | 100 | C6 | |
| NCBE25-C400R/L-GX24-4-21 | 6 | 21 | 79 | C4 | |
| NCBE25-C500R/L-GX24-4-21 | | 21 | 79 | C5 | |
| NCBE32-C600R/L-GX24-4-21 | | 21 | 100 | C6 | |
| NCBE25-C400R/L-GX24-5-21 | 8 | 21 | 79 | C4 | |
| NCBE25-C500R/L-GX24-5-21 | | 21 | 79 | C5 | |

$f = f_1 + s/2$
For $T_{max}$ with diameters greater than $D_2$, see "Technical information – Grooving"
Right-hand tool = right-hand toolholder + right-hand module/left-hand tool = left-hand toolholder + left-hand module
Ordering example, right-hand tool: NCBE20-C300R-GX24-2-21/ordering example, left-hand tool: NCBE20-C300L-GX24-2-21
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Module size $d_1$ | E20 C3 | E25 C4 | E25 C5 | E32 C6 |
|---|---|---|---|---|---|
| | Cooling lubricant nozzle | FS1477 | FS1477 | FS1476 | FS1476 |
| | Handle key | FS1047 (Torx 15) | FS1048 (Torx 20) | FS1048 (Torx 20) | FS1049 (Torx 25) |
| | Screw for grooving module<br>Tightening torque | FS1053 (Torx 15)<br>2,0 Nm | FS1054 (Torx 20)<br>3,0 Nm | FS1054 (Torx 20)<br>3,0 Nm | FS1055 (Torx 25)<br>3,0 Nm |

GX..E.. GX..F..

| | $f_1$ mm | $l_4$ mm | $s_1$ mm | Module size | Type | Grooving module | Toolholder |
|---|---|---|---|---|---|---|---|
| | 19,4 | 59 | 2 | E20 | GX24-2E3 .. GX24-2F3 .. | MSS-E20R/L21-GX24-2 | C3-MSS-E20R/L00 |
| | 25,4 | 70 | 2 | E25 | | MSS-E25R/L21-GX24-2 | C4-MSS-E25R/L00 |
| | 30,4 | 70 | 2 | E25 | | MSS-E25R/L21-GX24-2 | C5-MSS-E25R/L00 |
| | 24,9 | 70 | 3,0 | E25 | GX24-3E .. GX24-3F .. | MSS-E25R/L21-GX24-3 | C4-MSS-E25R/L00 |
| | 29,9 | 70 | 3,0 | E25 | | MSS-E25R/L21-GX24-3 | C5-MSS-E25R/L00 |
| | 35,9 | 76 | 3,0 | E32 | | MSS-E32R/L21-GX24-3 | C6-MSS-E32R/L00 |
| | 24,3 | 70 | 5,9 | E25 | GX24-4E6 .. | MSS-E25R/L21-GX24-4 | C4-MSS-E25R/L00 |
| | 29,3 | 70 | 5,9 | E25 | | MSS-E25R/L21-GX24-4 | C5-MSS-E25R/L00 |
| | 35,3 | 76 | 5,9 | E32 | | MSS-E32R/L21-GX24-4 | C6-MSS-E32R/L00 |
| | 23,5 | 70 | 5,9 | E25 | GX24-5R4 .. | MSS-E25R/L21-GX24-5 | C4-MSS-E25R/L00 |
| | 28,5 | 70 | 5,9 | E25 | | MSS-E25R/L21-GX24-5 | C5-MSS-E25R/L00 |
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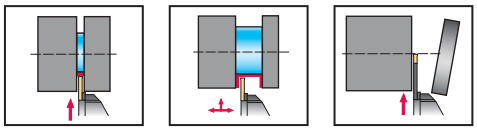
A 278 D 1 A 394 A 402 A 400

# Groove turning holders – 90° radial grooving
# C...-NCLE

## Walter Cut

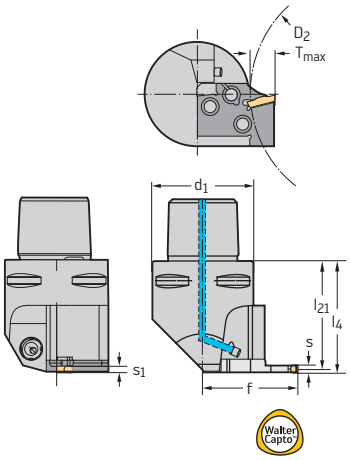
– Walter Capto™
– Screw clamping

A2



### Tool

Walter Capto™ in accordance with ISO 26623




| Designation | s mm | $T_{max}$ mm | $D_2$ mm | $d_1$ | |
|---|---|---|---|---|---|
| NCLE20-C300R/L-GX16-1 | 2–2,5 | 12 | 63 | C3 | |
| NCLE25-C400R/L-GX16-1 | | 12 | 79 | C4 | |
| NCLE25-C500R/L-GX16-1 | | 12 | 79 | C5 | |
| NCLE20-C300R/L-GX16-2 | 3 | 12 | 63 | C3 | |
| NCLE25-C400R/L-GX16-2 | | 12 | 79 | C4 | |
| NCLE25-C500R/L-GX16-2 | | 12 | 79 | C5 | |
| NCLE32-C600R/L-GX16-2 | | 12 | 100 | C6 | |
| NCLE20-C300R/L-GX16-3 | 4–5 | 12 | 63 | C3 | |
| NCLE25-C400R/L-GX16-3 | | 12 | 79 | C4 | |
| NCLE25-C500R/L-GX16-3 | | 12 | 79 | C5 | |
| NCLE32-C600R/L-GX16-3 | | 12 | 100 | C6 | |
| NCLE25-C400R/L-GX16-4 | 6 | 12 | 79 | C4 | |
| NCLE25-C500R/L-GX16-4 | | 12 | 79 | C5 | |
| NCLE20-C300R/L-GX24-2-21 | 3 | 21 | 63 | C3 | |
| NCLE25-C400R/L-GX24-2-21 | | 21 | 79 | C4 | |
| NCLE25-C500R/L-GX24-2-21 | | 21 | 79 | C5 | |
| NCLE25-C400R/L-GX24-3-21 | 4–5 | 21 | 79 | C4 | |
| NCLE25-C500R/L-GX24-3-21 | | 21 | 79 | C5 | |
| NCLE32-C600R/L-GX24-3-21 | | 21 | 100 | C6 | |
| NCLE25-C400R/L-GX24-4-21 | 6 | 21 | 79 | C4 | |
| NCLE25-C500R/L-GX24-4-21 | | 21 | 79 | C5 | |
| NCLE32-C600R/L-GX24-4-21 | | 21 | 100 | C6 | |
| NCLE25-C400R/L-GX24-5-21 | 8 | 21 | 79 | C4 | |
| NCLE25-C500R/L-GX24-5-21 | | 21 | 79 | C5 | |

$l_4 = l_{21} + s/2$
For $T_{max}$ with diameters greater than $D_2$, see "Technical information – Grooving"
Right-hand tool = right-hand toolholder + left-hand module/left-hand tool = left-hand toolholder + right-hand module
Ordering example, right-hand tool: NCLE20-C300R-GX16-1/ordering example, left-hand tool: NCLE20-C300L-GX16-1
Bodies and assembly parts are included in the scope of delivery.

### Assembly parts

| | Module size | E20 | E25 | E32 |
|---|---|---|---|---|
| | Cooling lubricant nozzle | FS1477 | FS1477 | FS1476 |
| | Handle key | FS1047 (Torx 15) | FS1048 (Torx 20) | FS1049 (Torx 25) |
| | Screw for grooving module<br>Tightening torque | FS1053 (Torx 15)<br>2,0 Nm | FS1054 (Torx 20)<br>3,0 Nm | FS1055 (Torx 25)<br>3,0 Nm |

GX..E.. GX..F..

| f mm | $l_{21}$ mm | $s_1$ mm | Module size | Type | Grooving module | Toolholder |
|---|---|---|---|---|---|---|
| 33 | 35,8 | 1,3 | E20 | GX16-1E2 .. | MSS-E20R/L12-GX16-1 | C3-MSS-E20R/L90 |
| 33 | 53,8 | 1,3 | E25 | | MSS-E25R/L12-GX16-1 | C4-MSS-E25R/L90 |
| 38 | 53,8 | 1,3 | E25 | | MSS-E25R/L12-GX16-1 | C5-MSS-E25R/L90 |
| 33 | 35,4 | 2 | E20 | GX16-2E3 .. | MSS-E20R/L12-GX16-2 | C3-MSS-E20R/L90 |
| 33 | 53,4 | 2 | E25 | | MSS-E25R/L12-GX16-2 | C4-MSS-E25R/L90 |
| 38 | 53,4 | 2 | E25 | | MSS-E25R/L12-GX16-2 | C5-MSS-E25R/L90 |
| 40 | 61,9 | 2 | E32 | | MSS-E32R/L12-GX16-2 | C6-MSS-E32R/L90 |
| 33 | 34,9 | 3,0 | E20 | GX16-3E .. | MSS-E20R/L12-GX16-3 | C3-MSS-E20R/L90 |
| 33 | 52,9 | 3,0 | E25 | | MSS-E25R/L12-GX16-3 | C4-MSS-E25R/L90 |
| 38 | 52,9 | 3,0 | E25 | | MSS-E25R/L12-GX16-3 | C5-MSS-E25R/L90 |
| 40 | 61,4 | 3,0 | E32 | | MSS-E32R/L12-GX16-3 | C6-MSS-E32R/L90 |
| 33 | 52,3 | 4,2 | E25 | GX16-4E6 .. | MSS-E25R/L12-GX16-4 | C4-MSS-E25R/L90 |
| 38 | 52,3 | 4,2 | E25 | | MSS-E25R/L12-GX16-4 | C5-MSS-E25R/L90 |
| 42 | 35,4 | 2 | E20 | GX24-2E3 .. GX24-2F3 .. | MSS-E20R/L21-GX24-2 | C3-MSS-E20R/L90 |
| 42 | 53,4 | 2 | E25 | | MSS-E25R/L21-GX24-2 | C4-MSS-E25R/L90 |
| 47 | 53,4 | 2 | E25 | | MSS-E25R/L21-GX24-2 | C5-MSS-E25R/L90 |
| 42 | 52,9 | 3,0 | E25 | GX24-3E .. GX24-3F .. | MSS-E25R/L21-GX24-3 | C4-MSS-E25R/L90 |
| 47 | 52,9 | 3,0 | E25 | | MSS-E25R/L21-GX24-3 | C5-MSS-E25R/L90 |
| 49 | 61,4 | 3,0 | E32 | | MSS-E32R/L21-GX24-3 | C6-MSS-E32R/L90 |
| 42 | 52,3 | 4,2 | E25 | GX24-4E6 .. | MSS-E25R/L21-GX24-4 | C4-MSS-E25R/L90 |
| 47 | 52,3 | 4,2 | E25 | | MSS-E25R/L21-GX24-4 | C5-MSS-E25R/L90 |
| 49 | 60,8 | 4,2 | E32 | | MSS-E32R/L21-GX24-4 | C6-MSS-E32R/L90 |
| 42 | 51,5 | 5,9 | E25 | GX24-5R4 .. | MSS-E25R/L21-GX24-5 | C4-MSS-E25R/L90 |
| 47 | 51,5 | 5,9 | E25 | | MSS-E25R/L21-GX24-5 | C5-MSS-E25R/L90 |

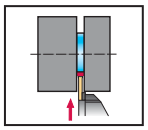
A 278 D 1 A 394 A 402 A 400

# Groove turning holders – Radial grooving
# C...-NCCE

## Walter Cut

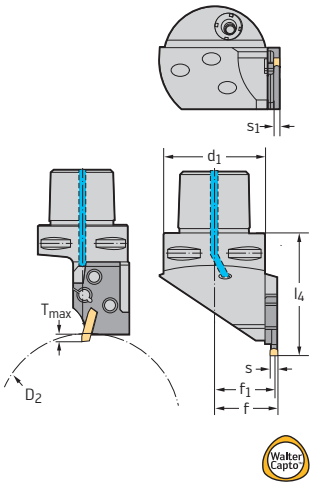
– Walter Capto™
– Screw clamping/circlip grooves

A2



### Tool

Walter Capto™ in accordance with ISO 26623




| Designation | s mm | $T_{max}$ mm | $D_2$ mm | $d_1$ |
|---|---|---|---|---|
| NCCE16-C300R/L-GX09-1 | 0,6–1,7 | 2 | 52 | C3 |
| NCCE20-C300R/L-GX16-2 | 0,6–2,3 | 3 | 52 | C3 |
| NCCE25-C400R/L-GX16-2 | | 3 | 63 | C4 |
| NCCE25-C500R/L-GX16-2 | | 3 | 79 | C5 |
| NCCE32-C600R/L-GX16-2 | | 3 | 100 | C6 |

$f = f_1 + s/2$
Right-hand tool = right-hand toolholder + right-hand module/left-hand tool = left-hand toolholder + left-hand module
Ordering example, right-hand tool: NCCE16-C300R-GX09-1/ordering example, left-hand tool: NCCE16-C300L-GX09-1
Bodies and assembly parts are included in the scope of delivery.

### Assembly parts

| | Module size $d_1$ | E16 C3 | E20 C3 | E25 C4 | E25 C5 | E32 C6 |
|---|---|---|---|---|---|---|
| | Cooling lubricant nozzle | FS1477 | FS1477 | FS1477 | FS1476 | FS1476 |
| | Handle key | FS1047 (Torx 15) | FS1047 (Torx 15) | FS1048 (Torx 20) | FS1048 (Torx 20) | FS1049 (Torx 25) |
| | Screw for grooving module<br>Tightening torque | FS1052 (Torx 15)<br>2,0 Nm | FS1053 (Torx 15)<br>2,0 Nm | FS1054 (Torx 20)<br>3,0 Nm | FS1054 (Torx 20)<br>3,0 Nm | FS1055 (Torx 25)<br>3,0 Nm |

A2

GX..E.. GX..F..

| | $f_1$ mm | $l_4$ mm | $s_1$ mm | Module size | Type | Grooving module | Toolholder |
|---|---|---|---|---|---|---|---|
| | 19,8 | 41 | 1,3 | E16 | GX09-1S .. | MSS-E16R/L02-GX09-1 | C3-MSS-E16R/L00 |
| | 19,4 | 50 | 2 | E20 | GX16-2S .. | MSS-E20R/L03-GX16-2 | C3-MSS-E20R/L00 |
| | 25,4 | 61 | 2 | E25 | | MSS-E25R/L03-GX16-2 | C4-MSS-E25R/L00 |
| | 30,4 | 61 | 2 | E25 | | MSS-E25R/L03-GX16-2 | C5-MSS-E25R/L00 |
| | 36,4 | 67 | 2 | E32 | | MSS-E32R/L03-GX16-2 | C6-MSS-E32R/L00 |
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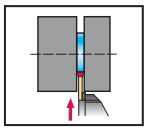
A 281 D 1 A 394 A 402 A 400

# Groove turning holders – 90° radial grooving
# C...-NCNE

## Walter Cut

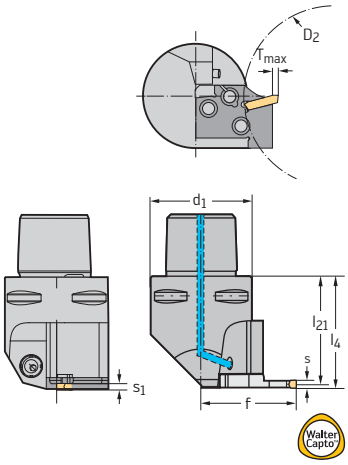
– Walter Capto™
– Screw clamping/circlip grooves

A2



## Tool

| Designation | s mm | $T_{max}$ mm | $D_2$ mm | $d_1$ |
|---|---|---|---|---|
| Walter Capto™ in accordance with ISO 26623 | | | | |
| NCNE20-C300R/L-GX16-2 | 0,6–2,3 | 3 | 63 | C3 |
| NCNE25-C400R/L-GX16-2 | | 3 | 79 | C4 |
| NCNE25-C500R/L-GX16-2 | | 3 | 79 | C5 |
| NCNE32-C600R/L-GX16-2 | | 3 | 100 | C6 |




$l_4 = l_{21} + s/2$
Right-hand tool = right-hand toolholder + left-hand module/left-hand tool = left-hand toolholder + right-hand module
Ordering example, right-hand tool: NCNE20-C300R-GX16-2/ordering example, left-hand tool: NCNE20-C300L-GX16-2
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Module size | E20 | E25 | E32 |
|---|---|---|---|---|
| | Cooling lubricant nozzle | FS1477 | FS1477 | FS1476 |
| | Handle key | FS1047 (Torx 15) | FS1048 (Torx 20) | FS1049 (Torx 25) |
| | Screw for grooving module<br>Tightening torque | FS1053 (Torx 15)<br>2,0 Nm | FS1054 (Torx 20)<br>3,0 Nm | FS1055 (Torx 25)<br>3,0 Nm |

A2

GX..E.. GX..F..

| | f mm | $l_{21}$ mm | $s_1$ mm | Module size | Type | Grooving module | Toolholder |
|---|---|---|---|---|---|---|---|
| | 33 | 35,4 | 2 | E20 | GX16-2S .. | MSS-E20R/L03-GX16-2 | C3-MSS-E20R/L90 |
| | 33 | 53,4 | 2 | E25 | | MSS-E25R/L03-GX16-2 | C4-MSS-E25R/L90 |
| | 38 | 53,4 | 2 | E25 | | MSS-E25R/L03-GX16-2 | C5-MSS-E25R/L90 |
| | 40 | 61,9 | 2 | E32 | | MSS-E32R/L03-GX16-2 | C6-MSS-E32R/L90 |
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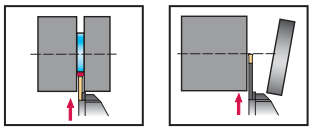
A 281 D 1 A 394 A 402 A 400

# Groove turning holders – Radial grooving
# C...-G2612

## Walter Cut

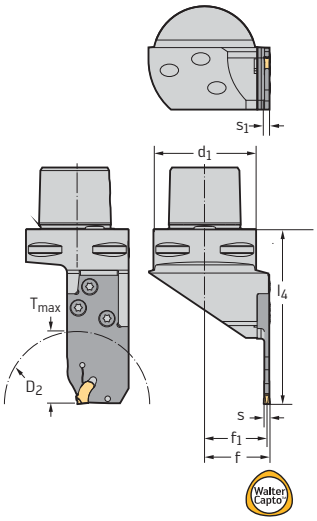
– Walter Capto™
– Self-clamping system

A2



## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | s mm | $T_{max}$ mm | $D_2$ mm | $d_1$ | |
|---|---|---|---|---|---|
| G2612-C3R/L-2T20SX | 2 | 20 | 66 | C3 | |
| G2612-C4R/L-2T20SX | | 20 | 90 | C4 | |
| G2612-C5R/L-2T20SX | | 20 | 90 | C5 | |
| G2612-C3R/L-3T20SX | 3 | 20 | 66 | C3 | |
| G2612-C4R/L-3T25SX | | 25 | 90 | C4 | |
| G2612-C5R/L-3T25SX | | 25 | 90 | C5 | |
| G2612-C4R/L-3T35SX | | 35 | 90 | C4 | |
| G2612-C5R/L-3T35SX | | 35 | 90 | C5 | |
| G2612-C6R/L-3T35SX | | 35 | 100 | C6 | |
| G2612-C6R/L-3T45SX | | 45 | 100 | C6 | |
| G2612-C3R/L-4T20SX | 4 | 20 | 66 | C3 | |
| G2612-C4R/L-4T35SX | | 35 | 90 | C4 | |
| G2612-C5R/L-4T35SX | | 35 | 90 | C5 | |
| G2612-C6R/L-4T35SX | | 35 | 100 | C6 | |
| G2612-C6R/L-4T45SX | | 45 | 100 | C6 | |
| G2612-C4R/L-5T35SX | 5 | 35 | 90 | C4 | |
| G2612-C5R/L-5T35SX | | 35 | 100 | C5 | |
| G2612-C6R/L-5T35SX | | 35 | 100 | C6 | |
| G2612-C6R/L-5T45SX | | 45 | 100 | C6 | |
| G2612-C4R/L-6T35SX | 6 | 35 | 90 | C4 | |
| G2612-C5R/L-6T35SX | | 35 | 100 | C5 | |
| G2612-C6R/L-6T35SX | | 35 | 100 | C6 | |
| G2612-C6R/L-6T45SX | | 45 | 100 | C6 | |
| G2612-C6R/L-8T45SX | 8 | 45 | 100 | C6 | |

$f = f_1 + s/2$
Right-hand tool = right-hand toolholder + right-hand module/left-hand tool = left-hand toolholder + left-hand module
Ordering example, right-hand tool: G2612-C3R-2T20SX/ordering example, left-hand tool: G2612-C3L-2T20SX
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Module size $d_1$ | E20 C3 | E25 C4 | E25 C5/C6 | E32 C6 |
|---|---|---|---|---|---|
| | Cooling lubricant nozzle | FS1477 | FS1477 | FS1476 | FS1476 |
| | Screw for grooving module<br>Tightening torque | FS1053 (Torx 15)<br>2,0 Nm | FS1054 (Torx 20)<br>3,0 Nm | FS1054 (Torx 20)<br>3,0 Nm | FS1055 (Torx 25)<br>3,0 Nm |
| | Handle key | FS1047 (Torx 15) | FS1048 (Torx 20) | FS1048 (Torx 20) | FS1049 (Torx 25) |

| | $f_1$ mm | $l_4$ mm | $s_1$ mm | Module size | Type | Grooving module | Toolholder |
|---|---|---|---|---|---|---|---|
| | 19,6 | 59 | 1,6 | E20 | SX-2E2 .. | G2632-E20R/L-2T20SX | C3-MSS-E20R/L00 |
| | 25,6 | 71 | 1,6 | E25 | | G2632-E25R/L-2T20SX | C4-MSS-E25R/L00 |
| | 30,6 | 71 | 1,6 | E25 | | G2632-E25R/L-2T20SX | C5-MSS-E25R/L00 |
| | 19,2 | 59 | 2,4 | E20 | SX-3E3 .. | G2632-E20R/L-3T20SX | C3-MSS-E20R/L00 |
| | 25,2 | 76 | 2,4 | E25 | | G2632-E25R/L-3T25SX | C4-MSS-E25R/L00 |
| | 30,2 | 76 | 2,4 | E25 | | G2632-E25R/L-3T25SX | C5-MSS-E25R/L00 |
| | 25,2 | 86 | 2,4 | E25 | | G2632-E25R/L-3T35SX | C4-MSS-E25R/L00 |
| | 30,2 | 86 | 2,4 | E25 | | G2632-E25R/L-3T35SX | C5-MSS-E25R/L00 |
| | 36,2 | 92 | 2,4 | E25 | | G2632-E25R/L-3T35SX | C6-MSS-E25R/L00 |
| | 36,2 | 102 | 2,4 | E32 | | G2632-E32R/L-3T45SX | C6-MSS-E32R/L00 |
| | 18,7 | 59 | 3,4 | E20 | SX-4E4 .. | G2632-E20R/L-4T20SX | C3-MSS-E20R/L00 |
| | 24,7 | 86 | 3,4 | E25 | | G2632-E25R/L-4T35SX | C4-MSS-E25R/L00 |
| | 29,7 | 86 | 3,4 | E25 | | G2632-E25R/L-4T35SX | C5-MSS-E25R/L00 |
| | 35,7 | 92 | 3,4 | E25 | | G2632-E25R/L-4T35SX | C6-MSS-E25R/L00 |
| | 35,7 | 102 | 3,4 | E32 | | G2632-E32R/L-4T45SX | C6-MSS-E32R/L00 |
| | 24,3 | 86 | 4,3 | E25 | SX-5E5 .. | G2632-E25R/L-5T35SX | C4-MSS-E25R/L00 |
| | 29,3 | 86 | 4,3 | E25 | | G2632-E25R/L-5T35SX | C5-MSS-E25R/L00 |
| | 35,3 | 92 | 4,3 | E25 | | G2632-E25R/L-5T35SX | C6-MSS-E25R/L00 |
| | 35,3 | 102 | 4,3 | E32 | | G2632-E32R/L-5T45SX | C6-MSS-E32R/L00 |
| | 23,8 | 86 | 5,3 | E25 | SX-6E6 .. | G2632-E25R/L-6T35SX | C4-MSS-E25R/L00 |
| | 28,8 | 86 | 5,3 | E25 | | G2632-E25R/L-6T35SX | C5-MSS-E25R/L00 |
| | 34,8 | 92 | 5,3 | E25 | | G2632-E25R/L-6T35SX | C6-MSS-E25R/L00 |
| | 34,8 | 102 | 5,3 | E32 | | G2632-E32R/L-6T45SX | C6-MSS-E32R/L00 |
| | 34,9 | 102 | 6,8 | E32 | SX-8E8 .. | G2632-E32N-8T45SX | C6-MSS-E32R/L00 |

## Accessories

| | Module size s [mm] | E20 2–4 | E25 2–6 | E32 3–6 | E32 8 |
|---|---|---|---|---|---|
|  | Mounting wrench for grooving insert | FS1494 | FS1494 | FS1494 | FS2274 |

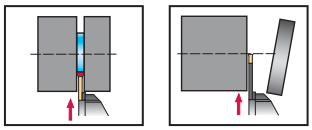
A 286 D 1 A 394 A 402 A 400

# Groove turning holders – 90° radial grooving
# C...-G2622

## Walter Cut

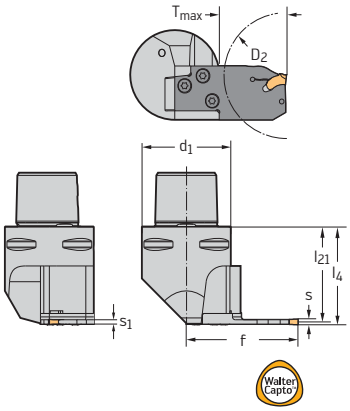
– Walter Capto™
– Self-clamping system

A2



## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | s mm | $T_{max}$ mm | $D_2$ mm | $d_1$ |
|---|---|---|---|---|
| G2622-C3R/L-2T20SX | 2 | 20 | 66 | C3 |
| G2622-C4R/L-2T20SX | | 20 | 90 | C4 |
| G2622-C5R/L-2T20SX | | 20 | 90 | C5 |
| G2622-C3R/L-3T20SX | 3 | 20 | 66 | C3 |
| G2622-C4R/L-3T25SX | | 25 | 90 | C4 |
| G2622-C5R/L-3T25SX | | 25 | 90 | C5 |
| G2622-C4R/L-3T35SX | | 35 | 90 | C4 |
| G2622-C5R/L-3T35SX | | 35 | 90 | C5 |
| G2622-C6R/L-3T45SX | | 45 | 100 | C6 |
| G2622-C3R/L-4T20SX | 4 | 20 | 66 | C3 |
| G2622-C4R/L-4T35SX | | 35 | 90 | C4 |
| G2622-C5R/L-4T35SX | | 35 | 90 | C5 |
| G2622-C6R/L-4T45SX | | 45 | 100 | C6 |
| G2622-C4R/L-5T35SX | 5 | 35 | 90 | C4 |
| G2622-C5R/L-5T35SX | | 35 | 90 | C5 |
| G2622-C6R/L-5T45SX | | 45 | 100 | C6 |
| G2622-C4R/L-6T35SX | 6 | 35 | 90 | C4 |
| G2622-C5R/L-6T35SX | | 35 | 90 | C5 |
| G2622-C6R/L-6T45SX | | 45 | 100 | C6 |
| G2622-C6R/L-8T45SX | 8 | 45 | 100 | C6 |

$l_4 = l_{21} + s/2$
Right-hand tool = right-hand toolholder + left-hand module/left-hand tool = left-hand toolholder + right-hand module
Ordering example, right-hand tool: G2622-C3R-2T20SX/ordering example, left-hand tool: G2622-C3L-2T20SX
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Module size $d_1$ | E20 C3 | E25 C4 | E25 C5 | E32 C6 |
|---|---|---|---|---|---|
| | Cooling lubricant nozzle | FS1477 | FS1477 | FS1476 | FS1476 |
| | Screw for grooving module<br>Tightening torque | FS1053 (Torx 15)<br>2,0 Nm | FS1054 (Torx 20)<br>3,0 Nm | FS1054 (Torx 20)<br>3,0 Nm | FS1055 (Torx 25)<br>3,0 Nm |
| | Handle key | FS1047 (Torx 15) | FS1048 (Torx 20) | FS1048 (Torx 20) | FS1049 (Torx 25) |

A2

SX

| f mm | $l_{21}$ mm | $s_1$ mm | Module size | Type | Grooving module | Toolholder |
|---|---|---|---|---|---|---|
| 42 | 35,6 | 1,6 | E20 | SX-2E2 .. | G2632-E20R/L-2T20SX | C3-MSS-E20R/L90 |
| 42 | 53,6 | 1,6 | E25 | | G2632-E25R/L-2T20SX | C4-MSS-E25R/L90 |
| 48 | 53,6 | 1,6 | E25 | | G2632-E25R/L-2T20SX | C5-MSS-E25R/L90 |
| 42 | 35,2 | 2,4 | E20 | SX-3E3 .. | G2632-E20R/L-3T20SX | C3-MSS-E20R/L90 |
| 53 | 52,2 | 2,4 | E25 | | G2632-E25R/L-3T25SX | C4-MSS-E25R/L90 |
| 53 | 53,2 | 2,4 | E25 | | G2632-E25R/L-3T25SX | C5-MSS-E25R/L90 |
| 63 | 52,2 | 2,4 | E25 | | G2632-E25R/L-3T35SX | C4-MSS-E25R/L90 |
| 63 | 53,2 | 2,4 | E25 | | G2632-E25R/L-3T35SX | C5-MSS-E25R/L90 |
| 80 | 61,7 | 2,4 | E32 | | G2632-E32R/L-3T45SX | C6-MSS-E32R/L90 |
| 42 | 34,7 | 3,4 | E20 | SX-4E4 .. | G2632-E20R/L-4T20SX | C3-MSS-E20R/L90 |
| 63 | 52,7 | 3,4 | E25 | | G2632-E25R/L-4T35SX | C4-MSS-E25R/L90 |
| 63 | 52,7 | 3,4 | E25 | | G2632-E25R/L-4T35SX | C5-MSS-E25R/L90 |
| 80 | 61,2 | 3,4 | E32 | | G2632-E32R/L-4T45SX | C6-MSS-E32R/L90 |
| 63 | 52,3 | 4,3 | E25 | SX-5E5 .. | G2632-E25R/L-5T35SX | C4-MSS-E25R/L90 |
| 63 | 52,3 | 4,3 | E25 | | G2632-E25R/L-5T35SX | C5-MSS-E25R/L90 |
| 80 | 60,8 | 4,3 | E32 | | G2632-E32R/L-5T45SX | C6-MSS-E32R/L90 |
| 63 | 51,8 | 5,3 | E25 | SX-6E6 .. | G2632-E25R/L-6T35SX | C4-MSS-E25R/L90 |
| 63 | 51,8 | 5,3 | E25 | | G2632-E25R/L-6T35SX | C5-MSS-E25R/L90 |
| 80 | 60,3 | 5,3 | E32 | | G2632-E32R/L-6T45SX | C6-MSS-E32R/L90 |
| 80 | 60,4 | 6,8 | E32 | SX-8E8 .. | G2632-E32N-8T45SX | C6-MSS-E32R/L90 |

## Accessories

| | Module size s [mm] | E20 2–4 | E25 2–6 | E32 3–6 | E32 8 |
|---|---|---|---|---|---|
|  | Mounting wrench for grooving insert | FS1494 | FS1494 | FS1494 | FS2274 |

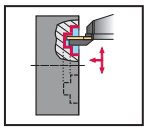
A 286 D 1 A 394 A 402 A 400

# Groove turning holders – Axial grooving
# C...-NCEE

## Walter Cut

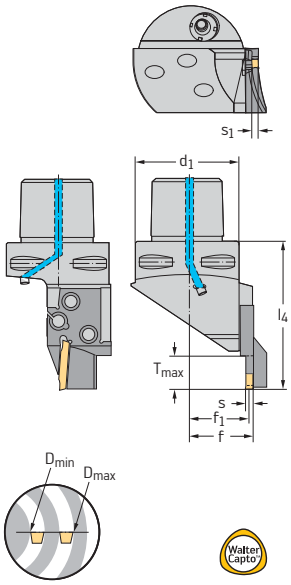
– Walter Capto™
– Screw clamping

A2



## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | s mm | $T_{max}$ mm | $D_{min}$ mm | $D_{max}$ mm | $d_1$ |
|---|---|---|---|---|---|
| NCEE20-C300R/L-GX24-2-1 | 3 | 14 | 50 | 70 | C3 |
| NCEE20-C300R/L-GX24-2-2 | | 14 | 70 | 100 | C3 |
| NCEE20-C300R/L-GX24-2-3 | | 14 | 100 | 150 | C3 |
| NCEE25-C400R/L-GX24-2-1 | | 15 | 50 | 70 | C4 |
| NCEE25-C500R/L-GX24-2-1 | | 15 | 50 | 70 | C5 |
| NCEE25-C400R/L-GX24-2-2 | | 15 | 70 | 100 | C4 |
| NCEE25-C500R/L-GX24-2-2 | | 15 | 70 | 100 | C5 |
| NCEE25-C400R/L-GX24-2-3 | | 15 | 100 | 150 | C4 |
| NCEE25-C500R/L-GX24-2-3 | | 15 | 100 | 150 | C5 |
| NCEE25-C400R/L-GX24-3-1 | 4–5 | 15 | 50 | 70 | C4 |
| NCEE25-C500R/L-GX24-3-1 | | 15 | 50 | 70 | C5 |
| NCEE25-C400R/L-GX24-3-2 | | 15 | 70 | 100 | C4 |
| NCEE25-C500R/L-GX24-3-2 | | 15 | 70 | 100 | C5 |
| NCEE32-C600R/L-GX24-3-2 | | 15 | 70 | 100 | C6 |
| NCEE25-C400R/L-GX24-3-3 | | 15 | 100 | 150 | C4 |
| NCEE25-C500R/L-GX24-3-3 | | 15 | 100 | 150 | C5 |
| NCEE32-C600R/L-GX24-3-3 | | 15 | 100 | 150 | C6 |
| NCEE25-C400R/L-GX24-3-4 | | 15 | 150 | 300 | C4 |
| NCEE25-C500R/L-GX24-3-4 | | 15 | 150 | 300 | C5 |
| NCEE32-C600R/L-GX24-3-4 | | 15 | 150 | 300 | C6 |
| NCEE25-C400R/L-GX24-4-1 | 6 | 15 | 50 | 70 | C4 |
| NCEE25-C500R/L-GX24-4-1 | | 15 | 50 | 70 | C5 |
| NCEE25-C400R/L-GX24-4-2 | | 15 | 70 | 100 | C4 |
| NCEE25-C500R/L-GX24-4-2 | | 15 | 70 | 100 | C5 |
| NCEE32-C600R/L-GX24-4-2 | | 15 | 70 | 100 | C6 |
| NCEE25-C400R/L-GX24-4-3 | | 15 | 100 | 150 | C4 |
| NCEE25-C500R/L-GX24-4-3 | | 15 | 100 | 150 | C5 |
| NCEE32-C600R/L-GX24-4-3 | | 15 | 100 | 150 | C6 |
| NCEE25-C400R/L-GX24-4-4 | | 15 | 150 | 300 | C4 |
| NCEE25-C500R/L-GX24-4-4 | | 15 | 150 | 300 | C5 |
| NCEE32-C600R/L-GX24-4-4 | | 15 | 150 | 300 | C6 |
| NCEE32-C600R/L-GX24-4-5 | | 15 | 300 | 900 | C6 |

$f = f_1 + s/2$
Right-hand tool = right-hand toolholder + right-hand module/left-hand tool = left-hand toolholder + left-hand module
Ordering example, right-hand tool: NCEE20-C300R-GX24-2-1/ordering example, left-hand tool: NCEE20-C300L-GX24-2-1
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Module size $d_1$ | E20 C3 | E25 C4 | E25 C5 | E32 C6 |
|---|---|---|---|---|---|
| | Cooling lubricant nozzle | FS1477 | FS1477 | FS1476 | FS1476 |
| | Handle key | FS1047 (Torx 15) | FS1048 (Torx 20) | FS1048 (Torx 20) | FS1049 (Torx 25) |
| | Screw for grooving module<br>Tightening torque | FS1053 (Torx 15)<br>2,0 Nm | FS1054 (Torx 20)<br>3,0 Nm | FS1054 (Torx 20)<br>3,0 Nm | FS1055 (Torx 25)<br>3,0 Nm |

GX..E.. GX..F..

| $f_1$ mm | $l_4$ mm | $s_1$ mm | Module size | Type | Grooving module | Toolholder |
|---|---|---|---|---|---|---|
| 19,4 | 59 | 2 | E20 | GX24-2E3 .. GX24-2F3 .. | MSS-E20R/L14-GX24-2A5070 | C3-MSS-E20R/L00 |
| 19,4 | 59 | 2 | E20 | | MSS-E20R/L14-GX24-2A70100 | C3-MSS-E20R/L00 |
| 19,4 | 59 | 2 | E20 | | MSS-E20R/L14-GX24-2A100150 | C3-MSS-E20R/L00 |
| 26,4 | 70 | 2 | E25 | | MSS-E25R/L15-GX24-2A5070 | C4-MSS-E25R/L00 |
| 31,4 | 70 | 2 | E25 | | MSS-E25R/L15-GX24-2A5070 | C5-MSS-E25R/L00 |
| 26,4 | 70 | 2 | E25 | | MSS-E25R/L15-GX24-2A70100 | C4-MSS-E25R/L00 |
| 31,4 | 70 | 2 | E25 | | MSS-E25R/L15-GX24-2A70100 | C5-MSS-E25R/L00 |
| 26,4 | 70 | 2 | E25 | | MSS-E25R/L15-GX24-2A100150 | C4-MSS-E25R/L00 |
| 31,4 | 70 | 2 | E25 | | MSS-E25R/L15-GX24-2A100150 | C5-MSS-E25R/L00 |
| 26,4 | 70 | 3 | E25 | GX24-3E .. GX24-3F .. | MSS-E25R/L15-GX24-3A5070 | C4-MSS-E25R/L00 |
| 31,4 | 70 | 3 | E25 | | MSS-E25R/L15-GX24-3A5070 | C5-MSS-E25R/L00 |
| 26,4 | 70 | 3 | E25 | | MSS-E25R/L15-GX24-3A70100 | C4-MSS-E25R/L00 |
| 31,4 | 70 | 3 | E25 | | MSS-E25R/L15-GX24-3A70100 | C5-MSS-E25R/L00 |
| 37,4 | 76 | 3 | E32 | | MSS-E32R/L15-GX24-3A70100 | C6-MSS-E32R/L00 |
| 26,4 | 70 | 3 | E25 | | MSS-E25R/L15-GX24-3A100150 | C4-MSS-E25R/L00 |
| 31,4 | 70 | 3 | E25 | | MSS-E25R/L15-GX24-3A100150 | C5-MSS-E25R/L00 |
| 37,4 | 76 | 3 | E32 | | MSS-E32R/L15-GX24-3A100150 | C6-MSS-E32R/L00 |
| 26,4 | 70 | 3 | E25 | | MSS-E25R/L15-GX24-3A150300 | C4-MSS-E25R/L00 |
| 31,4 | 70 | 3 | E25 | | MSS-E25R/L15-GX24-3A150300 | C5-MSS-E25R/L00 |
| 37,4 | 76 | 3 | E32 | | MSS-E32R/L15-GX24-3A150300 | C6-MSS-E32R/L00 |
| 26,4 | 70 | 4,2 | E25 | GX24-4E6 .. | MSS-E25R/L15-GX24-4A5070 | C4-MSS-E25R/L00 |
| 31,4 | 70 | 4,2 | E25 | | MSS-E25R/L15-GX24-4A5070 | C5-MSS-E25R/L00 |
| 26,4 | 70 | 4,2 | E25 | | MSS-E25R/L15-GX24-4A70100 | C4-MSS-E25R/L00 |
| 31,4 | 70 | 4,2 | E25 | | MSS-E25R/L15-GX24-4A70100 | C5-MSS-E25R/L00 |
| 37,4 | 76 | 4,2 | E32 | | MSS-E32R/L15-GX24-4A70100 | C6-MSS-E32R/L00 |
| 26,4 | 70 | 4,2 | E25 | | MSS-E25R/L15-GX24-4A100150 | C4-MSS-E25R/L00 |
| 31,4 | 70 | 4,2 | E25 | | MSS-E25R/L15-GX24-4A100150 | C5-MSS-E25R/L00 |
| 37,4 | 76 | 4,2 | E32 | | MSS-E32R/L15-GX24-4A100150 | C6-MSS-E32R/L00 |
| 26,4 | 70 | 4,2 | E25 | | MSS-E25R/L15-GX24-4A150300 | C4-MSS-E25R/L00 |
| 31,4 | 70 | 4,2 | E25 | | MSS-E25R/L15-GX24-4A150300 | C5-MSS-E25R/L00 |
| 37,4 | 76 | 4,2 | E32 | | MSS-E32R/L15-GX24-4A150300 | C6-MSS-E32R/L00 |
| 37,4 | 76 | 4,2 | E32 | | MSS-E32R/L15-GX24-4A300900 | C6-MSS-E32R/L00 |

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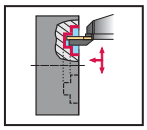
# Groove turning holders – 90° axial grooving
# C...-NCHE
## Walter Cut

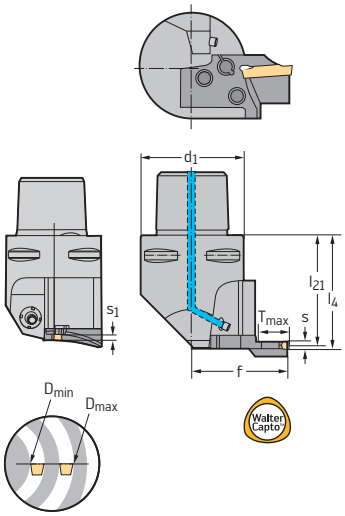
– Walter Capto™
– Screw clamping

A2



## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | s mm | $T_{max}$ mm | $D_{min}$ mm | $D_{max}$ mm | $d_1$ |
|---|---|---|---|---|---|
| NCHE20-C300R/L-GX24-2-1 | 3 | 14 | 50 | 70 | C3 |
| NCHE20-C300R/L-GX24-2-2 | | 14 | 70 | 100 | C3 |
| NCHE20-C300R/L-GX24-2-3 | | 14 | 100 | 150 | C3 |
| NCHE25-C400R/L-GX24-2-1 | | 15 | 50 | 70 | C4 |
| NCHE25-C500R/L-GX24-2-1 | | 15 | 50 | 70 | C5 |
| NCHE25-C400R/L-GX24-2-2 | | 15 | 70 | 100 | C4 |
| NCHE25-C500R/L-GX24-2-2 | | 15 | 70 | 100 | C5 |
| NCHE25-C400R/L-GX24-2-3 | | 15 | 100 | 150 | C4 |
| NCHE25-C500R/L-GX24-2-3 | | 15 | 100 | 150 | C5 |
| NCHE25-C400R/L-GX24-3-1 | 4–5 | 15 | 50 | 70 | C4 |
| NCHE25-C500R/L-GX24-3-1 | | 15 | 50 | 70 | C5 |
| NCHE25-C400R/L-GX24-3-2 | | 15 | 70 | 100 | C4 |
| NCHE25-C500R/L-GX24-3-2 | | 15 | 70 | 100 | C5 |
| NCHE32-C600R/L-GX24-3-2 | | 15 | 70 | 100 | C6 |
| NCHE25-C400R/L-GX24-3-3 | | 15 | 100 | 150 | C4 |
| NCHE25-C500R/L-GX24-3-3 | | 15 | 100 | 150 | C5 |
| NCHE32-C600R/L-GX24-3-3 | | 15 | 100 | 150 | C6 |
| NCHE25-C400R/L-GX24-3-4 | | 15 | 150 | 300 | C4 |
| NCHE25-C500R/L-GX24-3-4 | | 15 | 150 | 300 | C5 |
| NCHE32-C600R/L-GX24-3-4 | | 15 | 150 | 300 | C6 |
| NCHE25-C400R/L-GX24-4-1 | 6 | 15 | 50 | 70 | C4 |
| NCHE25-C500R/L-GX24-4-1 | | 15 | 50 | 70 | C5 |
| NCHE25-C400R/L-GX24-4-2 | | 15 | 70 | 100 | C4 |
| NCHE25-C500R/L-GX24-4-2 | | 15 | 70 | 100 | C5 |
| NCHE32-C600R/L-GX24-4-2 | | 15 | 70 | 100 | C6 |
| NCHE25-C400R/L-GX24-4-3 | | 15 | 100 | 150 | C4 |
| NCHE25-C500R/L-GX24-4-3 | | 15 | 100 | 150 | C5 |
| NCHE32-C600R/L-GX24-4-3 | | 15 | 100 | 150 | C6 |
| NCHE25-C400R/L-GX24-4-4 | | 15 | 150 | 300 | C4 |
| NCHE25-C500R/L-GX24-4-4 | | 15 | 150 | 300 | C5 |
| NCHE32-C600R/L-GX24-4-4 | | 15 | 150 | 300 | C6 |
| NCHE32-C600R/L-GX24-4-5 | | 15 | 300 | 900 | C6 |

$l_4 = l_{21} + s/2$
Right-hand tool = right-hand toolholder + left-hand module/left-hand tool = left-hand toolholder + right-hand module
Ordering example, right-hand tool: NCHE20-C300R-GX24-2-1/ordering example, left-hand tool: NCHE20-C300L-GX24-2-1
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Module size | E20 | E25 | E32 |
|---|---|---|---|---|
| | Cooling lubricant nozzle | FS1477 | FS1477 | FS1476 |
| | Handle key | FS1047 (Torx 15) | FS1048 (Torx 20) | FS1049 (Torx 25) |
| | Screw for grooving module<br>Tightening torque | FS1053 (Torx 15)<br>2,0 Nm | FS1054 (Torx 20)<br>3,0 Nm | FS1055 (Torx 25)<br>3,0 Nm |

A2

GX..E.. GX..F..

| f mm | $l_{21}$ mm | $s_1$ mm | Module size | Type | Grooving module | Toolholder |
|---|---|---|---|---|---|---|
| 42 | 35,4 | 2 | E20 | GX24-2E3 .. GX24-2F3 .. | MSS-E20R/L14-GX24-2A5070 | C3-MSS-E20R/L90 |
| 42 | 35,4 | 2 | E20 | | MSS-E20R/L14-GX24-2A70100 | C3-MSS-E20R/L90 |
| 42 | 35,4 | 2 | E20 | | MSS-E20R/L14-GX24-2A100150 | C3-MSS-E20R/L90 |
| 42 | 53,4 | 2 | E25 | | MSS-E25R/L15-GX24-2A5070 | C4-MSS-E25R/L90 |
| 47 | 53,4 | 2 | E25 | | MSS-E25R/L15-GX24-2A5070 | C5-MSS-E25R/L90 |
| 42 | 53,4 | 2 | E25 | | MSS-E25R/L15-GX24-2A70100 | C4-MSS-E25R/L90 |
| 47 | 53,4 | 2 | E25 | | MSS-E25R/L15-GX24-2A70100 | C5-MSS-E25R/L90 |
| 42 | 53,4 | 2 | E25 | | MSS-E25R/L15-GX24-2A100150 | C4-MSS-E25R/L90 |
| 47 | 53,4 | 2 | E25 | | MSS-E25R/L15-GX24-2A100150 | C5-MSS-E25R/L90 |
| 42 | 52,9 | 3,0 | E25 | GX24-3E .. GX24-3F .. | MSS-E25R/L15-GX24-3A5070 | C4-MSS-E25R/L90 |
| 47 | 52,9 | 3,0 | E25 | | MSS-E25R/L15-GX24-3A5070 | C5-MSS-E25R/L90 |
| 42 | 52,9 | 3,0 | E25 | | MSS-E25R/L15-GX24-3A70100 | C4-MSS-E25R/L90 |
| 47 | 52,9 | 3,0 | E25 | | MSS-E25R/L15-GX24-3A70100 | C5-MSS-E25R/L90 |
| 49 | 61,4 | 3,0 | E32 | | MSS-E32R/L15-GX24-3A70100 | C6-MSS-E32R/L90 |
| 42 | 52,9 | 3,0 | E25 | | MSS-E25R/L15-GX24-3A100150 | C4-MSS-E25R/L90 |
| 47 | 52,9 | 3,0 | E25 | | MSS-E25R/L15-GX24-3A100150 | C5-MSS-E25R/L90 |
| 49 | 61,4 | 3,0 | E32 | | MSS-E32R/L15-GX24-3A100150 | C6-MSS-E32R/L90 |
| 42 | 52,9 | 3,0 | E25 | | MSS-E25R/L15-GX24-3A150300 | C4-MSS-E25R/L90 |
| 47 | 52,9 | 3,0 | E25 | | MSS-E25R/L15-GX24-3A150300 | C5-MSS-E25R/L90 |
| 49 | 61,4 | 3,0 | E32 | | MSS-E32R/L15-GX24-3A150300 | C6-MSS-E32R/L90 |
| 42 | 52,3 | 4,2 | E25 | GX24-4E6 .. | MSS-E25R/L15-GX24-4A5070 | C4-MSS-E25R/L90 |
| 47 | 52,3 | 4,2 | E25 | | MSS-E25R/L15-GX24-4A5070 | C5-MSS-E25R/L90 |
| 42 | 52,3 | 4,2 | E25 | | MSS-E25R/L15-GX24-4A70100 | C4-MSS-E25R/L90 |
| 47 | 52,3 | 4,2 | E25 | | MSS-E25R/L15-GX24-4A70100 | C5-MSS-E25R/L90 |
| 49 | 60,8 | 4,2 | E32 | | MSS-E32R/L15-GX24-4A70100 | C6-MSS-E32R/L90 |
| 42 | 52,3 | 4,2 | E25 | | MSS-E25R/L15-GX24-4A100150 | C4-MSS-E25R/L90 |
| 47 | 52,3 | 4,2 | E25 | | MSS-E25R/L15-GX24-4A100150 | C5-MSS-E25R/L90 |
| 49 | 60,8 | 4,2 | E32 | | MSS-E32R/L15-GX24-4A100150 | C6-MSS-E32R/L90 |
| 42 | 52,3 | 4,2 | E25 | | MSS-E25R/L15-GX24-4A150300 | C4-MSS-E25R/L90 |
| 47 | 52,3 | 4,2 | E25 | | MSS-E25R/L15-GX24-4A150300 | C5-MSS-E25R/L90 |
| 49 | 60,8 | 4,2 | E32 | | MSS-E32R/L15-GX24-4A150300 | C6-MSS-E32R/L90 |
| 49 | 60,8 | 4,2 | E32 | | MSS-E32R/L15-GX24-4A300900 | C6-MSS-E32R/L90 |

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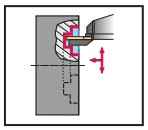
# Groove turning holders – Axial grooving
# C...-NCFE

## Walter Cut

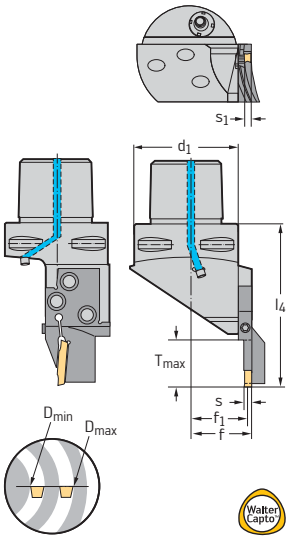
– Walter Capto™
– Screw clamping

A2



## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | s mm | $T_{max}$ mm | $D_{min}$ mm | $D_{max}$ mm | $d_1$ | |
|---|---|---|---|---|---|---|
| NCFE25-C400R/L-GX24-3-1 | 4–5 | 21 | 50 | 70 | C4 | |
| NCFE25-C500R/L-GX24-3-1 | | 21 | 50 | 70 | C5 | |
| NCFE25-C400R/L-GX24-3-2 | | 21 | 70 | 100 | C4 | |
| NCFE25-C500R/L-GX24-3-2 | | 21 | 70 | 100 | C5 | |
| NCFE25-C400R/L-GX24-3-3 | | 21 | 100 | 150 | C4 | |
| NCFE25-C500R/L-GX24-3-3 | | 21 | 100 | 150 | C5 | |
| NCFE25-C400R/L-GX24-3-4 | | 21 | 150 | 300 | C4 | |
| NCFE25-C500R/L-GX24-3-4 | | 21 | 150 | 300 | C5 | |
| NCFE25-C400R/L-GX24-4-1 | 6 | 25 | 50 | 70 | C4 | |
| NCFE25-C500R/L-GX24-4-1 | | 25 | 50 | 70 | C5 | |
| NCFE25-C400R/L-GX24-4-2 | | 25 | 70 | 100 | C4 | |
| NCFE25-C500R/L-GX24-4-2 | | 25 | 70 | 100 | C5 | |
| NCFE25-C400R/L-GX24-4-3 | | 25 | 100 | 150 | C4 | |
| NCFE25-C500R/L-GX24-4-3 | | 25 | 100 | 150 | C5 | |
| NCFE25-C400R/L-GX24-4-4 | | 25 | 150 | 300 | C4 | |
| NCFE25-C500R/L-GX24-4-4 | | 25 | 150 | 300 | C5 | |
| | | | | | | |
| | | | | | | |

$f = f_1 + s/2$
Right-hand tool = right-hand toolholder + right-hand module/left-hand tool = left-hand toolholder + left-hand module
Ordering example, right-hand tool: NCFE25-C400R-GX24-3-1/ordering example, left-hand tool: NCFE25-C400L-GX24-3-1
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Module size $d_1$ | E25 C4 | E25 C5 |
|---|---|---|---|
| | Clamping screw for grooving insert<br>Tightening torque | FS1342 (Torx 15)<br>2,0 Nm | FS1342 (Torx 15)<br>2,0 Nm |
| | Cooling lubricant nozzle | FS1477 | FS1476 |
| | Handle key | FS1048 (Torx 20) | FS1048 (Torx 20) |
| | Handle key for grooving insert | FS1047 (Torx 15) | FS1047 (Torx 15) |
| | Screw for grooving module<br>Tightening torque | FS1054 (Torx 20)<br>3,0 Nm | FS1054 (Torx 20)<br>3,0 Nm |

GX..E.. GX..F..

| | $f_1$ mm | $l_4$ mm | $s_1$ mm | Module size | Type | Grooving module | Toolholder |
|---|---|---|---|---|---|---|---|
| | 24,9 | 83 | 3 | E25 | GX24-3E .. GX24-3F .. | MSS-E25R/L21-GX24-3C5070 | C4-MSS-E25R/L00 |
| | 29,9 | 83 | 3 | E25 | | MSS-E25R/L21-GX24-3C5070 | C5-MSS-E25R/L00 |
| | 24,9 | 83 | 3 | E25 | | MSS-E25R/L21-GX24-3C70100 | C4-MSS-E25R/L00 |
| | 29,9 | 83 | 3 | E25 | | MSS-E25R/L21-GX24-3C70100 | C5-MSS-E25R/L00 |
| | 24,9 | 83 | 3 | E25 | | MSS-E25R/L21-GX24-3C100150 | C4-MSS-E25R/L00 |
| | 29,9 | 83 | 3 | E25 | | MSS-E25R/L21-GX24-3C100150 | C5-MSS-E25R/L00 |
| | 24,9 | 83 | 3 | E25 | | MSS-E25R/L21-GX24-3C150300 | C4-MSS-E25R/L00 |
| | 29,9 | 83 | 3 | E25 | | MSS-E25R/L21-GX24-3C150300 | C5-MSS-E25R/L00 |
| | 24,3 | 83 | 4,2 | E25 | GX24-4E6 .. | MSS-E25R/L25-GX24-4C5070 | C4-MSS-E25R/L00 |
| | 29,3 | 83 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C5070 | C5-MSS-E25R/L00 |
| | 24,3 | 83 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C70100 | C4-MSS-E25R/L00 |
| | 29,3 | 83 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C70100 | C5-MSS-E25R/L00 |
| | 24,3 | 83 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C100150 | C4-MSS-E25R/L00 |
| | 29,3 | 83 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C100150 | C5-MSS-E25R/L00 |
| | 24,3 | 83 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C150300 | C4-MSS-E25R/L00 |
| | 29,3 | 83 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C150300 | C5-MSS-E25R/L00 |
| | | | | | | | |
| | | | | | | | |

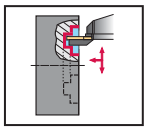
A 278 D 1 A 394 A 402 A 400

# Groove turning holders – Axial grooving/contra
# C...-NCFE...C

## Walter Cut

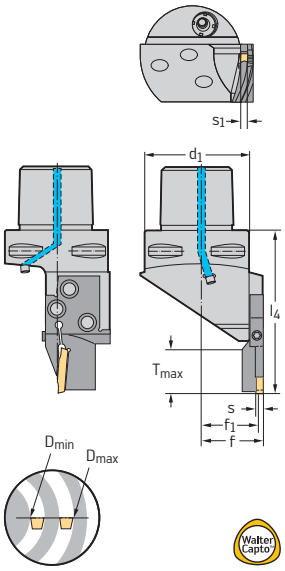
– Walter Capto™
– Screw clamping/contra design

A2



## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | s mm | $T_{max}$ mm | $D_{min}$ mm | $D_{max}$ mm | $d_1$ |
|---|---|---|---|---|---|
| NCFE25-C400R/L-GX24-3-1C | 4–5 | 21 | 50 | 70 | C4 |
| NCFE25-C500R/L-GX24-3-1C | | 21 | 50 | 70 | C5 |
| NCFE25-C400R/L-GX24-3-2C | | 21 | 70 | 100 | C4 |
| NCFE25-C500R/L-GX24-3-2C | | 21 | 70 | 100 | C5 |
| NCFE25-C400R/L-GX24-3-3C | | 21 | 100 | 150 | C4 |
| NCFE25-C500R/L-GX24-3-3C | | 21 | 100 | 150 | C5 |
| NCFE25-C400R/L-GX24-3-4C | | 21 | 150 | 300 | C4 |
| NCFE25-C500R/L-GX24-3-4C | | 21 | 150 | 300 | C5 |
| NCFE25-C400R/L-GX24-4-1C | 6 | 25 | 50 | 70 | C4 |
| NCFE25-C500R/L-GX24-4-1C | | 25 | 50 | 70 | C5 |
| NCFE25-C400R/L-GX24-4-2C | | 25 | 70 | 100 | C4 |
| NCFE25-C500R/L-GX24-4-2C | | 25 | 70 | 100 | C5 |
| NCFE25-C400R/L-GX24-4-3C | | 25 | 100 | 150 | C4 |
| NCFE25-C500R/L-GX24-4-3C | | 25 | 100 | 150 | C5 |
| NCFE25-C400R/L-GX24-4-4C | | 25 | 150 | 300 | C4 |
| NCFE25-C500R/L-GX24-4-4C | | 25 | 150 | 300 | C5 |
| | | | | | |
| | | | | | |
| | | | | | |

$f = f_1 + s/2$
Right-hand tool = right-hand toolholder + left-hand module/left-hand tool = left-hand toolholder + right-hand module
Ordering example, right-hand tool: NCFE25-C400R-GX24-3-1C/ordering example, left-hand tool: NCFE25-C400L-GX24-3-1C
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Module size $d_1$ | E25 C4 | E25 C5 |
|---|---|---|---|
| | Clamping screw for grooving insert<br>Tightening torque | FS1342 (Torx 15)<br>2,0 Nm | FS1342 (Torx 15)<br>2,0 Nm |
| | Cooling lubricant nozzle | FS1477 | FS1476 |
| | Handle key | FS1048 (Torx 20) | FS1048 (Torx 20) |
| | Handle key for grooving insert | FS1047 (Torx 15) | FS1047 (Torx 15) |
| | Screw for grooving module<br>Tightening torque | FS1054 (Torx 20)<br>3,0 Nm | FS1054 (Torx 20)<br>3,0 Nm |

GX..E.. GX..F..

| | $f_1$ mm | $l_4$ mm | $s_1$ mm | Module size | Type | Grooving module | Toolholder |
|---|---|---|---|---|---|---|---|
| | 22,2 | 83 | 3 | E25 | GX24-3E .. GX24-3F .. | MSS-E25R/L21-GX24-3C5070 | C4-MSS-E25R/L00 |
| | 27,2 | 83 | 3 | E25 | | MSS-E25R/L21-GX24-3C5070 | C5-MSS-E25R/L00 |
| | 22,2 | 83 | 3 | E25 | | MSS-E25R/L21-GX24-3C70100 | C4-MSS-E25R/L00 |
| | 27,2 | 83 | 3 | E25 | | MSS-E25R/L21-GX24-3C70100 | C5-MSS-E25R/L00 |
| | 22,2 | 83 | 3 | E25 | | MSS-E25R/L21-GX24-3C100150 | C4-MSS-E25R/L00 |
| | 27,2 | 83 | 3 | E25 | | MSS-E25R/L21-GX24-3C100150 | C5-MSS-E25R/L00 |
| | 22,2 | 83 | 3 | E25 | | MSS-E25R/L21-GX24-3C150300 | C4-MSS-E25R/L00 |
| | 27,2 | 83 | 3 | E25 | | MSS-E25R/L21-GX24-3C150300 | C5-MSS-E25R/L00 |
| | 22,7 | 83 | 4,2 | E25 | GX24-4E6 .. | MSS-E25R/L25-GX24-4C5070 | C4-MSS-E25R/L00 |
| | 27,8 | 83 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C5070 | C5-MSS-E25R/L00 |
| | 22,7 | 83 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C70100 | C4-MSS-E25R/L00 |
| | 27,8 | 83 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C70100 | C5-MSS-E25R/L00 |
| | 22,7 | 83 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C100150 | C4-MSS-E25R/L00 |
| | 27,8 | 83 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C100150 | C5-MSS-E25R/L00 |
| | 22,7 | 83 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C150300 | C4-MSS-E25R/L00 |
| | 27,8 | 83 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C150300 | C5-MSS-E25R/L00 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

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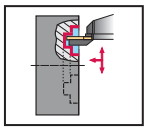
# Groove turning holders – 90° axial grooving
# C...-NCOE

## Walter Cut

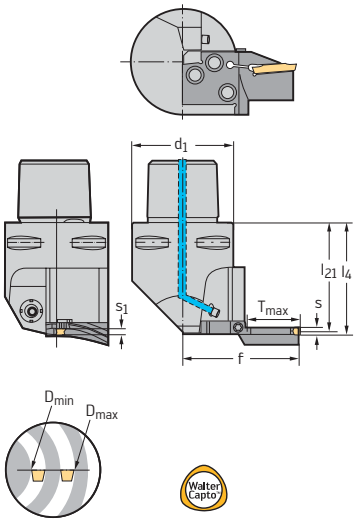
– Walter Capto™
– Screw clamping

A2



## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | s mm | $T_{max}$ mm | $D_{min}$ mm | $D_{max}$ mm | $d_1$ |
|---|---|---|---|---|---|
| NCOE25-C400R/L-GX24-3-1 | 4–5 | 21 | 50 | 70 | C4 |
| NCOE25-C500R/L-GX24-3-1 | | 21 | 50 | 70 | C5 |
| NCOE25-C400R/L-GX24-3-2 | | 21 | 70 | 100 | C4 |
| NCOE25-C500R/L-GX24-3-2 | | 21 | 70 | 100 | C5 |
| NCOE25-C400R/L-GX24-3-3 | | 21 | 100 | 150 | C4 |
| NCOE25-C500R/L-GX24-3-3 | | 21 | 100 | 150 | C5 |
| NCOE25-C400R/L-GX24-3-4 | | 21 | 150 | 300 | C4 |
| NCOE25-C500R/L-GX24-3-4 | | 21 | 150 | 300 | C5 |
| NCOE25-C400R/L-GX24-4-1 | 6 | 25 | 50 | 70 | C4 |
| NCOE25-C500R/L-GX24-4-1 | | 25 | 50 | 70 | C5 |
| NCOE25-C400R/L-GX24-4-2 | | 25 | 70 | 100 | C4 |
| NCOE25-C500R/L-GX24-4-2 | | 25 | 70 | 100 | C5 |
| NCOE25-C400R/L-GX24-4-3 | | 25 | 100 | 150 | C4 |
| NCOE25-C500R/L-GX24-4-3 | | 25 | 100 | 150 | C5 |
| NCOE25-C400R/L-GX24-4-4 | | 25 | 150 | 300 | C4 |
| NCOE25-C500R/L-GX24-4-4 | | 25 | 150 | 300 | C5 |
| | | | | | |
| | | | | | |

$l_4 = l_{21} + s/2$
Right-hand tool = right-hand toolholder + left-hand module/left-hand tool = left-hand toolholder + right-hand module
Ordering example, right-hand tool: NCOE25-C400R-GX24-3-1/ordering example, left-hand tool: NCOE25-C400L-GX24-3-1
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Module size | E25 |
|---|---|---|
| | Clamping screw for grooving insert<br>Tightening torque | FS1342 (Torx 15)<br>2,0 Nm |
| | Cooling lubricant nozzle | FS1477 |
| | Handle key | FS1048 (Torx 20) |
| | Handle key for grooving insert | FS1047 (Torx 15) |
| | Screw for grooving module<br>Tightening torque | FS1054 (Torx 20)<br>3,0 Nm |

A2

GX..E.. GX..F..

| | f mm | $l_{21}$ mm | $s_1$ mm | Module size | Type | Grooving module | Toolholder |
|---|---|---|---|---|---|---|---|
| | 55 | 52,9 | 3 | E25 | GX24-3E .. GX24-3F .. | MSS-E25R/L21-GX24-3C5070 | C4-MSS-E25R/L90 |
| | 60 | 52,9 | 3 | E25 | | MSS-E25R/L21-GX24-3C5070 | C5-MSS-E25R/L90 |
| | 55 | 52,9 | 3 | E25 | | MSS-E25R/L21-GX24-3C70100 | C4-MSS-E25R/L90 |
| | 60 | 52,9 | 3 | E25 | | MSS-E25R/L21-GX24-3C70100 | C5-MSS-E25R/L90 |
| | 55 | 52,9 | 3 | E25 | | MSS-E25R/L21-GX24-3C100150 | C4-MSS-E25R/L90 |
| | 60 | 52,9 | 3 | E25 | | MSS-E25R/L21-GX24-3C100150 | C5-MSS-E25R/L90 |
| | 55 | 52,9 | 3 | E25 | | MSS-E25R/L21-GX24-3C150300 | C4-MSS-E25R/L90 |
| | 60 | 52,9 | 3 | E25 | | MSS-E25R/L21-GX24-3C150300 | C5-MSS-E25R/L90 |
| | 55 | 52,3 | 4,2 | E25 | GX24-4E6 .. | MSS-E25R/L25-GX24-4C5070 | C4-MSS-E25R/L90 |
| | 60 | 52,3 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C5070 | C5-MSS-E25R/L90 |
| | 55 | 52,3 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C70100 | C4-MSS-E25R/L90 |
| | 60 | 52,3 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C70100 | C5-MSS-E25R/L90 |
| | 55 | 52,3 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C100150 | C4-MSS-E25R/L90 |
| | 60 | 52,3 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C100150 | C5-MSS-E25R/L90 |
| | 55 | 52,3 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C150300 | C4-MSS-E25R/L90 |
| | 60 | 52,3 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C150300 | C5-MSS-E25R/L90 |
| | | | | | | | |
| | | | | | | | |

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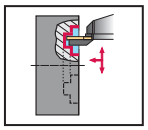
# Groove turning holders – 90° axial/contra
# C...-NCOE...C

## Walter Cut

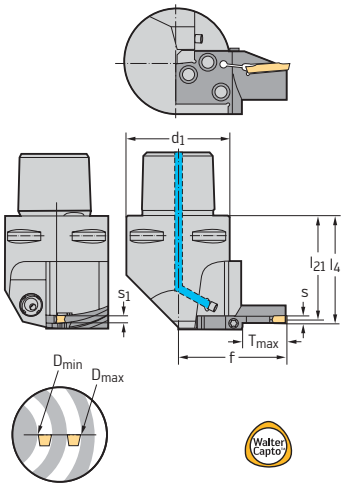
– Walter Capto™
– Screw clamping/contra design





## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | s mm | $T_{max}$ mm | $D_{min}$ mm | $D_{max}$ mm | $d_1$ |
|---|---|---|---|---|---|
| NCOE25-C400R/L-GX24-3-1C | 4–5 | 21 | 50 | 70 | C4 |
| NCOE25-C500R/L-GX24-3-1C | | 21 | 50 | 70 | C5 |
| NCOE25-C400R/L-GX24-3-2C | | 21 | 70 | 100 | C4 |
| NCOE25-C500R/L-GX24-3-2C | | 21 | 70 | 100 | C5 |
| NCOE25-C400R/L-GX24-3-3C | | 21 | 100 | 150 | C4 |
| NCOE25-C500R/L-GX24-3-3C | | 21 | 100 | 150 | C5 |
| NCOE25-C400R/L-GX24-3-4C | | 21 | 150 | 300 | C4 |
| NCOE25-C500R/L-GX24-3-4C | | 21 | 150 | 300 | C5 |
| NCOE25-C400R/L-GX24-4-1C | 6 | 25 | 50 | 70 | C4 |
| NCOE25-C500R/L-GX24-4-1C | | 25 | 50 | 70 | C5 |
| NCOE25-C400R/L-GX24-4-2C | | 25 | 70 | 100 | C4 |
| NCOE25-C500R/L-GX24-4-2C | | 25 | 70 | 100 | C5 |
| NCOE25-C400R/L-GX24-4-3C | | 25 | 100 | 150 | C4 |
| NCOE25-C500R/L-GX24-4-3C | | 25 | 100 | 150 | C5 |
| NCOE25-C400R/L-GX24-4-4C | | 25 | 150 | 300 | C4 |
| NCOE25-C500R/L-GX24-4-4C | | 25 | 150 | 300 | C5 |

$l_4 = l_{21} + s/2$
Right-hand tool = right-hand toolholder + right-hand module/left-hand tool = left-hand toolholder + left-hand module
Ordering example, right-hand tool: NCOE25-C400R-GX24-3-1C/ordering example, left-hand tool: NCOE25-C400L-GX24-3-1C
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Module size | E25 |
|---|---|---|
| | Clamping screw for grooving insert<br>Tightening torque | FS1342 (Torx 15)<br>2,0 Nm |
| | Cooling lubricant nozzle | FS1477 |
| | Handle key | FS1048 (Torx 20) |
| | Handle key for grooving insert | FS1047 (Torx 15) |
| | Screw for grooving module<br>Tightening torque | FS1054 (Torx 20)<br>3,0 Nm |

A2

GX..E.. GX..F..

| f mm | $l_{21}$ mm | $s_1$ mm | Module size | Type | Grooving module | Toolholder |
|---|---|---|---|---|---|---|
| 55 | 50,2 | 3 | E25 | GX24-3E .. GX24-3F .. | MSS-E25R/L21-GX24-3C5070 | C4-MSS-E25R/L90 |
| 60 | 50,2 | 3 | E25 | | MSS-E25R/L21-GX24-3C5070 | C5-MSS-E25R/L90 |
| 55 | 50,2 | 3 | E25 | | MSS-E25R/L21-GX24-3C70100 | C4-MSS-E25R/L90 |
| 60 | 50,2 | 3 | E25 | | MSS-E25R/L21-GX24-3C70100 | C5-MSS-E25R/L90 |
| 55 | 50,2 | 3 | E25 | | MSS-E25R/L21-GX24-3C100150 | C4-MSS-E25R/L90 |
| 60 | 50,2 | 3 | E25 | | MSS-E25R/L21-GX24-3C100150 | C5-MSS-E25R/L90 |
| 55 | 50,2 | 3 | E25 | | MSS-E25R/L21-GX24-3C150300 | C4-MSS-E25R/L90 |
| 60 | 50,2 | 3 | E25 | | MSS-E25R/L21-GX24-3C150300 | C5-MSS-E25R/L90 |
| 55 | 50,8 | 4,2 | E25 | GX24-4E6 .. | MSS-E25R/L25-GX24-4C5070 | C4-MSS-E25R/L90 |
| 60 | 50,8 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C5070 | C5-MSS-E25R/L90 |
| 55 | 50,8 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C70100 | C4-MSS-E25R/L90 |
| 60 | 50,8 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C70100 | C5-MSS-E25R/L90 |
| 55 | 50,8 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C100150 | C4-MSS-E25R/L90 |
| 60 | 50,8 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C100150 | C5-MSS-E25R/L90 |
| 55 | 50,8 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C150300 | C4-MSS-E25R/L90 |
| 60 | 50,8 | 4,2 | E25 | | MSS-E25R/L25-GX24-4C150300 | C5-MSS-E25R/L90 |
| | | | | | | |

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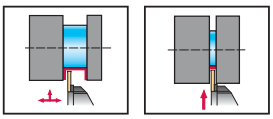
# Cutting data for Walter Cut





| Material group | Overview of the main material groups and code letters | | | Brinell hardness HB | Tensile strength $R_m$ N/mm² | Machining group [1] | = Cutting data for wet machining | = Dry machining is possible | Cutting material grades: HC WSM13S | HC WSM23S |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Starting values for cutting speed $v_c$ [m/min] | |
| P | Non-alloyed steel | C ≤ 0.25% | Annealed | 125 | 430 | P1 | ●● | ● | 200 | 190 |
| | | C > 0.25 to ≤ 0.55% | Annealed | 190 | 640 | P2 | ●● | ● | 180 | 170 |
| | | C > 0.25 to ≤ 0.55% | Heat-treated | 210 | 710 | P3 | ●● | ● | 170 | 160 |
| | | C > 0.55% | Annealed | 190 | 640 | P4 | ●● | ● | 190 | 180 |
| | | C > 0.55% | Heat-treated | 300 | 1010 | P5 | ●● | ● | 160 | 150 |
| | | Free cutting steel (short-chipping) | Annealed | 220 | 750 | P6 | ●● | ● | 190 | 180 |
| | Low-alloyed steel | Annealed | | 175 | 590 | P7 | ●● | ● | 190 | 180 |
| | | Heat-treated | | 285 | 960 | P8 | ●● | ● | 160 | 150 |
| | | Heat-treated | | 380 | 1280 | P9 | ●● | ● | 160 | 150 |
| | | Heat-treated | | 430 | 1480 | P10 | ●● | ● | | |
| | High-alloyed steel and high-alloyed tool steel | Annealed | | 200 | 680 | P11 | ●● | ● | 140 | 130 |
| | | Hardened and tempered | | 300 | 1010 | P12 | ●● | ● | 120 | 110 |
| | | Hardened and tempered | | 380 | 1280 | P13 | ●● | ● | | |
| | Stainless steel | Ferritic/martensitic, annealed | | 200 | 680 | P14 | ●● | ● | 190 | 180 |
| | | Martensitic, heat-treated | | 330 | 1110 | P15 | ●● | ● | 120 | 100 |
| M | Stainless steel | Austenitic, quench hardened | | 200 | 680 | M1 | ●● | ● | 190 | 170 |
| | | Austenitic, precipitation hardened (PH) | | 300 | 1010 | M2 | ●● | ● | 120 | 100 |
| | | Austenitic/ferritic, duplex | | 230 | 780 | M3 | ●● | ● | 170 | 150 |
| K | Malleable cast iron | Ferritic | | 200 | 400 | K1 | ●● | ● | 190 | 180 |
| | | Pearlitic | | 260 | 700 | K2 | ●● | ● | 170 | 160 |
| | Grey cast iron | Low tensile strength | | 180 | 200 | K3 | ●● | ● | 220 | 210 |
| | | High tensile strength/austenitic | | 245 | 350 | K4 | ●● | ● | 180 | 170 |
| | Cast iron with spheroidal graphite | Ferritic | | 155 | 400 | K5 | ●● | ● | 220 | 210 |
| | | Pearlitic | | 265 | 700 | K6 | ●● | ● | 180 | 170 |
| | GGV (CGI) | | | 230 | 400 | K7 | ●● | ● | | |
| N | Wrought aluminium alloys | Not hardenable | | 30 | – | N1 | ●● | ● | | |
| | | Hardenable, hardened | | 100 | 340 | N2 | ●● | ● | | |
| | Cast aluminium alloys | ≤ 12% Si, not hardenable | | 75 | 260 | N3 | ●● | ● | | |
| | | ≤ 12% Si, hardenable, hardened | | 90 | 310 | N4 | ●● | ● | | |
| | | > 12% Si, not hardenable | | 130 | 450 | N5 | | | | |
| | Magnesium-based alloys | | | 70 | 250 | N6 | | | | |
| | Copper and copper alloys (bronze/brass) | Non-alloyed, electrolytic copper | | 100 | 340 | N7 | ●● | ● | | |
| | | Brass, bronze, red brass | | 90 | 310 | N8 | ●● | ● | | |
| | | Cu-alloys, short-chipping | | 110 | 380 | N9 | ●● | ● | | |
| | | High-tensile, Ampco | | 300 | 1010 | N10 | | | | |
| S | Heat-resistant alloys | Fe-based | Annealed | 200 | 680 | S1 | ●● | ● | 110 | 100 |
| | | | Hardened | 280 | 940 | S2 | ●● | ● | 60 | 50 |
| | | Ni or Co base | Annealed | 250 | 840 | S3 | ●● | ● | 90 | 80 |
| | | | Hardened | 350 | 1180 | S4 | ●● | ● | 80 | 70 |
| | | | Cast | 320 | 1080 | S5 | ●● | ● | 80 | 70 |
| | Titanium alloys | Pure titanium | | 200 | 680 | S6 | ●● | ● | 160 | 150 |
| | | α and β alloys, hardened | | 375 | 1260 | S7 | ●● | ● | 45 | 40 |
| | | β alloys | | 410 | 1400 | S8 | ●● | ● | 35 | 30 |
| | Tungsten alloys | | | 300 | 1010 | S9 | | | | |
| | Molybdenum alloys | | | 300 | 1010 | S10 | | | | |
| H | Hardened steel | Hardened and tempered | | 50 HRC | – | H1 | | | | |
| | | Hardened and tempered | | 55 HRC | – | H2 | | | | |
| | | Hardened and tempered | | 60 HRC | – | H3 | | | | |
| | Hardened cast iron | Hardened and tempered | | 55 HRC | – | H4 | | | | |
| O | Thermoplastics | Without abrasive fillers | | | | O1 | | | | |
| | Thermosetting plastics | Without abrasive fillers | | | | O2 | | | | |
| | Plastic, glass fibre reinforced | GFRP | | | | O3 | | | | |
| | Plastic, carbon fibre reinforced | CFRP | | | | O4 | | | | |
| | Plastic, aramid fibre reinforced | AFRP | | | | O5 | | | | |
| | Graphite (technical) | | | 80 Shore | | O6 | | | | |

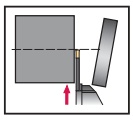
●● Recommended application (the specified cutting data is regarded as starting values for the recommended application)
● Possible application

**Note:**
– The specified cutting data indicates standard values. For special applications, adjustment is recommended.
– If dry machining is possible, the tool life is reduced by 20-30% on average.

[1] The classification of the machining groups can be found from page A 468 onwards.

A2

## 1. Grooving and recessing



## 2. Parting off

| Cutting material grades | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Starting values for cutting speed $v_c$ [m/min] | | | | | | | | | | | | |
| | HC | | | | | | HC | | | | | HW |
| | WSM33S | WSM43S | WKP13S | WKP23S | WKP33S | WTA33 | WSM13S | WSM23S | WSM33S | WSM43S | WKP23S | WK1 |
| | 180 | 170 | 220 | 200 | 180 | 190 | 190 | 180 | 170 | 160 | 190 | |
| | 170 | 160 | 200 | 180 | 170 | 180 | 180 | 170 | 160 | 150 | 170 | |
| | 150 | 140 | 190 | 170 | 160 | 160 | 160 | 150 | 140 | 130 | 160 | |
| | 170 | 160 | 200 | 180 | 170 | 180 | 180 | 170 | 160 | 150 | 170 | |
| | 140 | 130 | 170 | 150 | 150 | 120 | 150 | 140 | 130 | 120 | 140 | |
| | 170 | 160 | 200 | 180 | 170 | 180 | 180 | 170 | 160 | 150 | 170 | |
| | 160 | 150 | 200 | 180 | 160 | 180 | 180 | 170 | 150 | 140 | 170 | |
| | 110 | 100 | 170 | 150 | 150 | 150 | 150 | 140 | 100 | 90 | 140 | |
| | 100 | 100 | 170 | 150 | 130 | 130 | 150 | 140 | 90 | 90 | 140 | |
| | | | 100 | 80 | 60 | | | | | | | |
| | 120 | 110 | 180 | 170 | 160 | 180 | 130 | 120 | 110 | 100 | 120 | |
| | 90 | 80 | 160 | 150 | 140 | 140 | 110 | 100 | 80 | 70 | 100 | |
| | | | 100 | 80 | 60 | | | | | | | |
| | 160 | 140 | 200 | 180 | 160 | 180 | 180 | 170 | 150 | 130 | | |
| | 80 | 60 | 130 | 120 | 110 | 100 | 100 | 90 | 70 | 50 | | |
| | 150 | 130 | | | | 150 | 170 | 160 | 140 | 120 | | |
| | 80 | 60 | 130 | 120 | 110 | 100 | 100 | 90 | 70 | 50 | | |
| | 130 | 110 | | | | 130 | 150 | 140 | 120 | 100 | | |
| | 170 | | 190 | 160 | 140 | 100 | 180 | 170 | 160 | | 180 | |
| | 150 | | 170 | 130 | 100 | 60 | 160 | 150 | 140 | | 160 | |
| | 200 | | 350 | 330 | 250 | 260 | 230 | 220 | 210 | | 230 | |
| | 160 | | 310 | 300 | 290 | 210 | 190 | 180 | 170 | | 190 | |
| | 200 | | 300 | 290 | 280 | 240 | 210 | 200 | 190 | | 210 | |
| | 160 | | 260 | 250 | 240 | 190 | 170 | 160 | 150 | | 170 | |
| | | | 220 | 200 | 180 | | | | | | 190 | |
| | | | | | | | | | | | | 900 |
| | | | | | | | | | | | | 600 |
| | | | | | | | | | | | | 350 |
| | | | | | | | | | | | | 250 |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | 400 |
| | | | | | | | | | | | | 300 |
| | | | | | | | | | | | | 200 |
| | | | | | | | | | | | | |
| | 90 | 80 | | | | | 100 | 90 | 80 | 70 | | |
| | 40 | 30 | | | | | 50 | 40 | 30 | 25 | | |
| | 70 | 60 | | | | | 80 | 70 | 60 | 50 | | |
| | 60 | 50 | | | | | 70 | 60 | 50 | 40 | | |
| | 60 | 50 | | | | | 70 | 60 | 50 | 40 | | |
| | 130 | 120 | | | | | 150 | 140 | 130 | 110 | | |
| | 35 | 30 | | | | | 50 | 40 | 30 | 25 | | |
| | 25 | | | | | | 40 | 30 | 25 | | | |
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HC = Coated carbide
HW = Uncoated carbide

The specified cutting data are average standard values.
For special applications, adjustment is recommended.

# Cutting tool material application charts – Grooving



## Carbide

| Walter grade designation | Standard designation | Material groups P Steel | M Stainless steel | K Cast iron | N NF metals | S Materials with difficult cutting properties | H Hard materials | O Other | Range of applications 01 05 10 15 20 25 30 35 40 45 | Coating method | Coating composition | Indexable inserts example |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WSM13S | HC – M 10 | | ●● | | | | | | | PVD | TiAlN + $Al_2O_3$ (Al) | |
| | HC – S 10 | | | | | ●● | | | | | | |
| | HC – P 10 | ● | | | | | | | | | | |
| WSM23S | HC – M 20 | | ●● | | | | | | | PVD | TiAlN + $Al_2O_3$ (Al) | |
| | HC – S 20 | | | | | ●● | | | | | | |
| | HC – P 20 | ●● | | | | | | | | | | |
| WSM33S | HC – S 30 | | | | | ●● | | | | PVD | TiAlN + $Al_2O_3$ (Al) | |
| | HC – M 30 | | ●● | | | | | | | | | |
| | HC – P 30 | ●● | | | | | | | | | | |
| WSM43S | HC – S 45 | | | | | ●● | | | | PVD | TiAlN + $Al_2O_3$ (Al) | |
| | HC – M 45 | | ●● | | | | | | | | | |
| | HC – P 45 | ●● | | | | | | | | | | |
| WKP13S | HC – P 10 | ●● | | | | | | | | CVD | TiCN + $Al_2O_3$ (+ TiCN) | |
| | HC – K 20 | | | ●● | | | | | | | | |
| | HC – H 10 | | | | | | ● | | | | | |
| WKP23S | HC – P 20 | ●● | | | | | | | | CVD | TiCN + $Al_2O_3$ (+ TiCN) | |
| | HC – K 25 | | | ●● | | | | | | | | |
| WKP33S | HC – P 30 | ●● | | | | | | | | CVD | TiCN + $Al_2O_3$ (+ TiCN) | |
| | HC – K 30 | | | ●● | | | | | | | | |
| WK1 | HW – N 10 | | | | ●● | | | | | – | – | |
| | HW – S 10 | | | | | ● | | | | | | |
| WTA33 | HC – P 10 | ●● | | | | | | | | CVD | TiAlN + $Al_2O_3$ | |
| | HC – K 10 | | | ● | | | | | | | | |

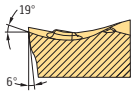
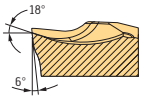
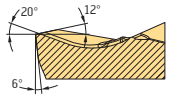
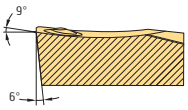
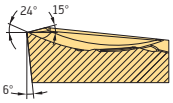
HC = Coated carbide
HW = Uncoated carbide

●● Primary application
● Additional application

# Geometry overview of cutting inserts



## GX system: Grooving and parting off

| Geometry | Remarks/ field of applications | Material groups P Steel | M Stainless steel | K Cast iron | N NF metals | S Materials with difficult cutting properties | H Hard materials | O Other | Cut Main cutting edge | View Main cutting edge | s [mm] | f [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **CF6**<br>– Low feeds<br>– Low burr/centre pip formation<br>– Low cutting force | •• | •• | | •• | •• | | • |  | | 1,5 | 0,03–0,10 |
| | | | | | | | | | | | 2 | 0,03–0,12 |
| | | | | | | | | | | | 2,5 | 0,03–0,15 |
| | | | | | | | | | | | 3 | 0,04–0,20 |
| | **CF5**<br>– Grooving and parting off operations<br>– Light to moderate feeds<br>– Good chip control<br>– Low burr/centre pip formation | •• | •• | • | •• | •• | | • |  | | 2 | 0,04–0,15 |
| | | | | | | | | | | | 2,5 | 0,05–0,15 |
| | | | | | | | | | | | 3 | 0,08–0,20 |
| | | | | | | | | | | | 4 | 0,10–0,22 |
| | | | | | | | | | | | 5 | 0,10–0,25 |
| | **CE4**<br>– Grooving and parting off operations<br>– Moderate to high feeds<br>– Good chip constriction<br>– Stable cutting edge | •• | • | •• | • | • | • | |  | | 2 | 0,06–0,15 |
| | | | | | | | | | | | 2,5 | 0,07–0,18 |
| | | | | | | | | | | | 3 | 0,09–0,30 |
| | | | | | | | | | | | 4 | 0,10–0,32 |
| | | | | | | | | | | | 5 | 0,12–0,35 |
| | | | | | | | | | | | 6 | 0,12–0,40 |
| | **GD3**<br>– Extremely soft cutting action<br>– Light to moderate feeds<br>– General parting off and grooving operations | •• | •• | • | • | • | | • |  | | 2 | 0,04–0,12 |
| | | | | | | | | | | | 2,5 | 0,06–0,14 |
| | | | | | | | | | | | 3 | 0,06–0,18 |
| | | | | | | | | | | | 4 | 0,10–0,20 |
| | | | | | | | | | | | 5 | 0,12–0,25 |
| | | | | | | | | | | | 6 | 0,14–0,28 |
| | **GD6**<br>– Medium feeds<br>– Long-chipping materials<br>– Average machining conditions | •• | •• | • | • | •• | | |  | | 2 | 0,04–0,12 |
| | | | | | | | | | | | 2,5 | 0,06–0,17 |
| | | | | | | | | | | | 3 | 0,08–0,18 |
| | | | | | | | | | | | 4 | 0,10–0,22 |
| | | | | | | | | | | | 5 | 0,12–0,24 |
| | | | | | | | | | | | 6 | 0,14–0,30 |

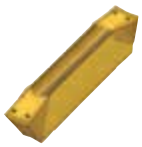
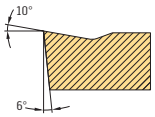
•• Primary application
• Additional application

# Geometry overview of cutting inserts

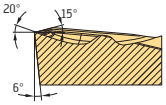
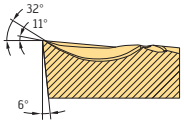
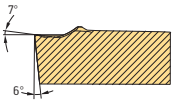
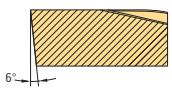
(continued)

A2

## GX system: Grooving of circlip grooves

| Geometry | Remarks/ field of applications | Material groups P Steel | M Stainless steel | K Cast iron | N NF metals | S Materials with difficult cutting properties | H Hard materials | O Other | Cut Main cutting edge | View Main cutting edge | s [mm] | f [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | **Cutting insert for circlip grooves**<br>– Excellent surface quality<br>– All common circlip types<br>– Low burr formation | ●● | ● | ●● | | | | |  | | 0,6–1,99<br>2–2,99<br>3–3,99<br>4–4,99<br>5–5,99 | 0,05–0,10<br>0,05–0,12<br>0,07–0,14<br>0,07–0,20<br>0,08–0,20 |

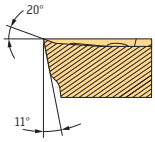
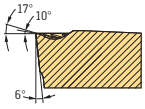
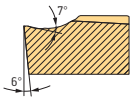
## GX system: Grooving, parting off and recessing

| Geometry | Remarks/ field of applications | Material groups P Steel | M Stainless steel | K Cast iron | N NF metals | S Materials with difficult cutting properties | H Hard materials | O Other | Cut Main cutting edge | View Main cutting edge | s [mm] | $a_p$ [mm] | f [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **UD6**<br>– Grooving in rust-resistant steel<br>– Average feed range<br>– Soft cutting action | ● | ●● | | ● | | | |  | | 2<br>2,5<br>3<br>4<br>5<br>6 | 0,3–2,5<br>0,3–2,5<br>0,4–3,0<br>0,5–3,5<br>0,5–3,0<br>0,6–3,5 | 0,06–0,15<br>0,08–0,14<br>0,10–0,20<br>0,12–0,25<br>0,12–0,30<br>0,14–0,35 |
| | **UF4**<br>– All grooving operations<br>– Good chip control<br>– Average feed range<br>– Positive cut | ●● | ●● | ●● | ● | ● | | |  | | 2<br>2,5<br>3<br>4<br>5<br>6 | 0,3–2,5<br>0,3–2,5<br>0,4–3,0<br>0,5–3,5<br>0,5–3,5<br>0,6–4,0 | 0,10–0,15<br>0,10–0,18<br>0,10–0,20<br>0,10–0,30<br>0,12–0,35<br>0,14–0,40 |
| | **UD4**<br>– Large chip breaking area<br>– Optimum chip breaking when machining forged parts<br>– Stable cutting edge<br>– For moderate to high feeds | ●● | ● | ●● | | | | |  | | 3<br>4<br>5<br>6<br>8 | 0,4–2,0<br>0,5–2,8<br>0,5–3,0<br>0,6–3,5<br>0,9–4,0 | 0,08–0,20<br>0,10–0,30<br>0,12–0,35<br>0,14–0,40<br>0,14–0,40 |
| | **UA4**<br>– For cast iron machining<br>– For middle to high machining parameters<br>– For maximum process reliability in cast iron machining | | | ●● | | | ● | |  | | 2<br>2,5<br>3<br>4<br>5<br>6 | 0,3–2,5<br>0,3–2,5<br>0,4–3,0<br>0,5–3,5<br>0,5–3,0<br>0,6–3,5 | 0,08–0,15<br>0,10–0,20<br>0,10–0,22<br>0,10–0,35<br>0,12–0,35<br>0,14–0,40 |

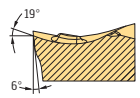
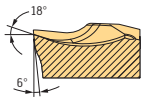
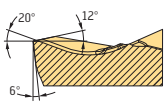
●● Primary application
● Additional application

A2

## GX system: Full radius cutting inserts for grooving and copy turning

| Geometry | Remarks/ field of applications | Material groups P Steel | M Stainless steel | K Cast iron | N NF metals | S Materials with difficult cutting properties | H Hard materials | O Other | Cut Main cutting edge | View Main cutting edge | s [mm] | $a_p$ [mm] | f [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **RK8**<br>– Polished rake face<br>– Sharp cutting edge<br>– Circumference fully ground<br>– Extremely positive | | | | •• | | | • |  | | 6 | 4,0 | 0,10–0,30 |
| | | | | | | | | | | | 8 | 5,0 | 0,10–0,35 |
| | **RF8**<br>– For copy and relief turning<br>– Circumference fully ground<br>– High surface quality<br>– Stable cutting edge | •• | •• | • | • | •• | | |  | | 2 | 0,1–1,0 | 0,08–0,25 |
| | | | | | | | | | | | 3 | 0,1–1,5 | 0,10–0,30 |
| | | | | | | | | | | | 4 | 0,1–2,0 | 0,12–0,45 |
| | | | | | | | | | | | 5 | 0,1–2,5 | 0,15–0,50 |
| | | | | | | | | | | | 6 | 0,1–3,0 | 0,15–0,55 |
| | | | | | | | | | | | 8 | 0,2–4,0 | 0,18–0,60 |
| | **RD4**<br>– For copy turning<br>– Outstanding chip control during grooving<br>– For moderate to high feeds<br>– Circumference-sintered | •• | • | •• | | • | | |  | | 2 | 0,2–1,0 | 0,08–0,25 |
| | | | | | | | | | | | 3 | 0,5–1,5 | 0,10–0,35 |
| | | | | | | | | | | | 4 | 0,5–2,0 | 0,15–0,50 |
| | | | | | | | | | | | 5 | 0,5–2,5 | 0,17–0,70 |
| | | | | | | | | | | | 6 | 0,5–3,0 | 0,17–0,70 |
| | | | | | | | | | | | 8 | 0,6–4,5 | 0,17–0,70 |

## SX system: Grooving and parting off

| Geometry | Remarks/ field of applications | Material groups P Steel | M Stainless steel | K Cast iron | N NF metals | S Materials with difficult cutting properties | H Hard materials | O Other | Cut Main cutting edge | View Main cutting edge | s [mm] | f [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **CF6**<br>– Low feeds<br>– Low burr/centre pip formation<br>– Low cutting force | •• | •• | | •• | •• | | • |  | | 1,5 | 0,03–0,10 |
| | | | | | | | | | | | 2 | 0,03–0,12 |
| | | | | | | | | | | | 3 | 0,04–0,20 |
| | **CF5**<br>– Grooving and parting off operations<br>– Light to moderate feeds<br>– Good chip control<br>– Low burr/centre pip formation | •• | •• | • | •• | •• | | • |  | | 1,5 | 0,03–0,13 |
| | | | | | | | | | | | 2 | 0,04–0,15 |
| | | | | | | | | | | | 3 | 0,08–0,20 |
| | | | | | | | | | | | 4 | 0,10–0,20 |
| | | | | | | | | | | | 5 | 0,10–0,25 |
| | | | | | | | | | | | 6 | 0,12–0,28 |
| | **CE4**<br>– Grooving and parting off operations<br>– Moderate to high feeds<br>– Good chip constriction<br>– Stable cutting edge | •• | • | •• | • | • | • | |  | | 1,5 | 0,05–0,13 |
| | | | | | | | | | | | 2 | 0,06–0,15 |
| | | | | | | | | | | | 3 | 0,09–0,30 |
| | | | | | | | | | | | 4 | 0,10–0,32 |
| | | | | | | | | | | | 5 | 0,12–0,35 |
| | | | | | | | | | | | 6 | 0,12–0,40 |
| | | | | | | | | | | | 8 | 0,20–0,50 |
| | | | | | | | | | | | 10 | 0,25–0,55 |

•• Primary application
• Additional application

# Application information: Assembly instructions for Walter Cut

A2

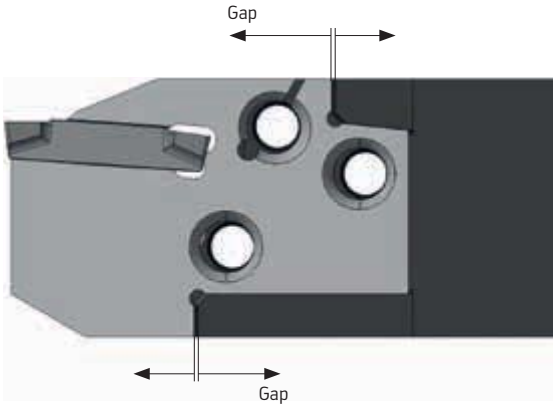
## Walter Cut – The strong connection

The axial clamping to the location face that occurs between the module and the basic holder when the clamping screws are tightened provides a backlash-free connection that ensures maximum stability.

The graphics show the module when unclamped and clamped, and the forces acting between the module and the tool.

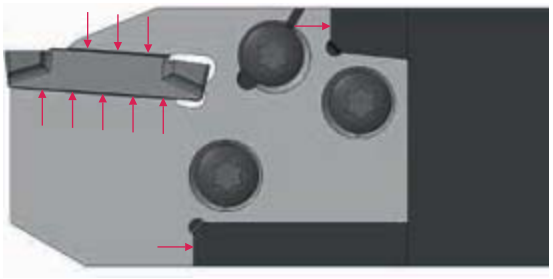
### Unclamped module

Gap between the module and the location face for axial clamping



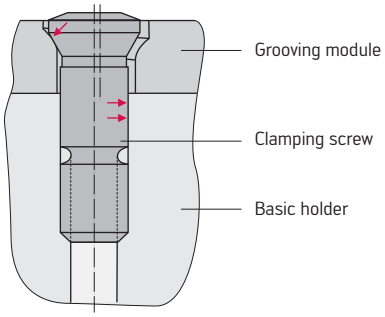

### Clamped module

Axial clamping to the location face
Backlash-free connection ensuring maximum stability

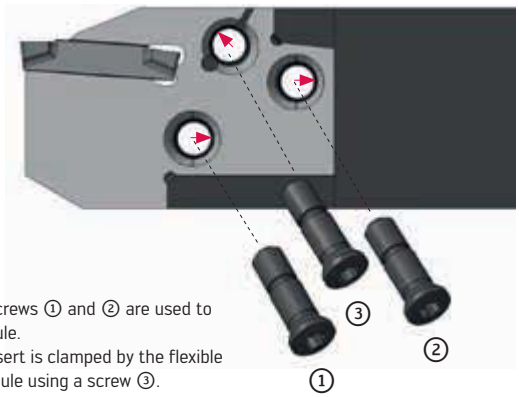


### Clamping screw

Section A–A:
Clamping screw with high clamping force




## GX: For grooving and turning

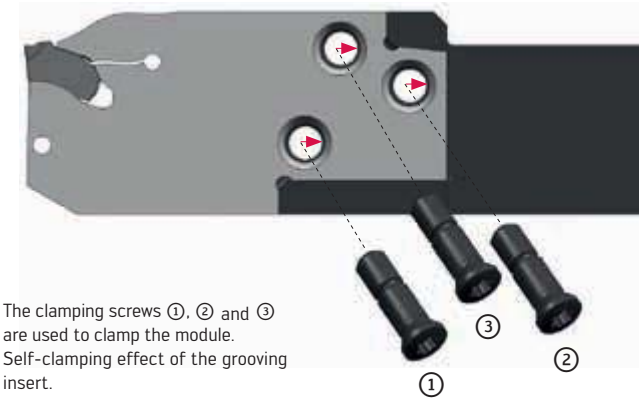



The clamping screws ① and ② are used to clamp the module.
The grooving insert is clamped by the flexible part of the module using a screw ③.

**Important:**
Follow the sequence for clamping the module.

| Step | Operation | Screw no. |
|---|---|---|
| A | Pre-tension the module | ① – ② (② – ①) |
| B | Re-tension the module | ① – ② (② – ①) |
| C | Clamp the GX grooving insert | ③ |

## SX: For parting off and deep grooving



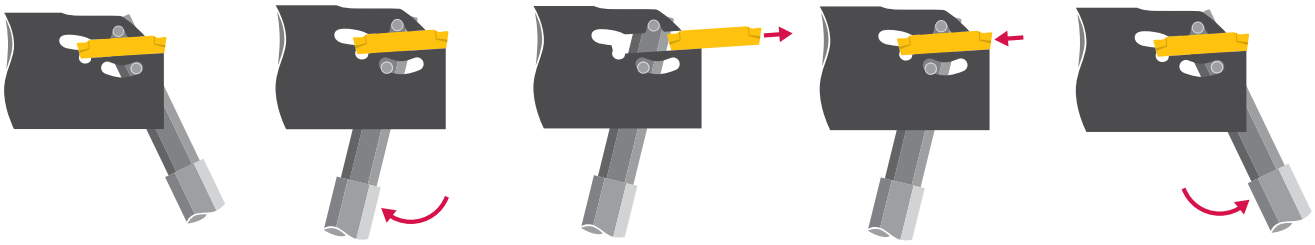

The clamping screws ①, ② and ③ are used to clamp the module.
Self-clamping effect of the grooving insert.

**Important:**
Follow the sequence for clamping the module.

| Step | Operation | Screw no. |
|---|---|---|
| A | Pre-tension the module | ① – ② – ③ |
| B | Re-tension the module | ① – ② – ③ |
| C | Clamp the SX grooving insert | Mounting wrench |

# Application information:
# Replacing the cutting edge on Walter Cut tools with self-clamping system

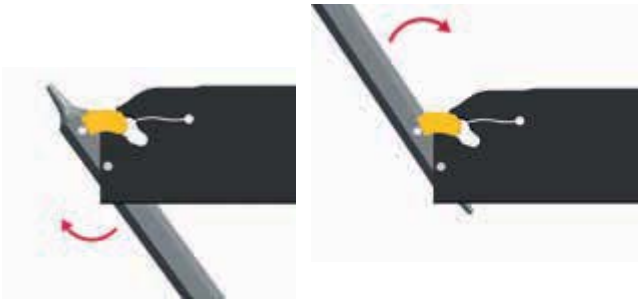
## Installing GX cutting inserts



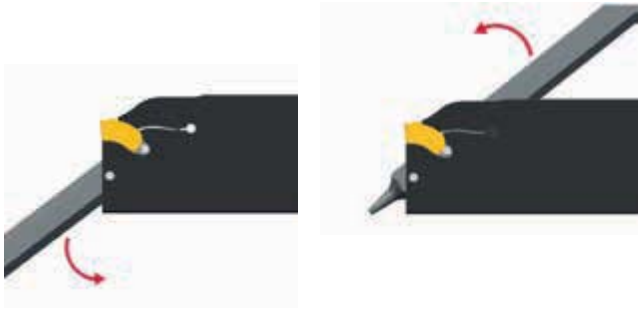
1. Insert the wrench
2. Open the clamp
3. Remove the old cutting insert
4. Insert the new cutting insert
5. Close the clamp

## Installing SX cutting inserts

### Inserting the cutting insert

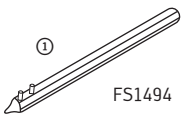


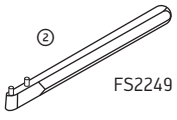
### Removing the cutting insert

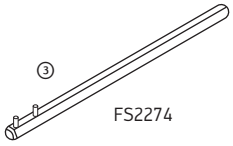


## Mounting wrench for GX/SX self-clamping system

| Family | Insert width s [mm] | Shank/blade $h = h_1$ [mm] | Mounting wrench |
|---|---|---|---|
| G1042 | 2–6 | 26–32 | FS1494 ① |
| G2012 | 1,5 | 12–20 | FS2249 ② |
| | 2–3 | 12–16 | FS2249 ② |
| | 2–6 | 20–25 | FS1494 ① |
| | 8–10 | 25–32 | FS2274 ③ |
| G2042-N<br>G2042-R/L<br>G2042-R/L-C | 1,5 | 26–32 | FS2249 ② |
| | 2–6 | 26–32 | FS1494 ① |
| | 8–10 | 52 | FS2274 ③ |




Note:
The same wrench is used for the precision cooled tools (-P).

# Application information:
# Walter Cut tool standard/contra version



## G1041R/L . . . / G1041R/L . . . C  G2042R/L . . . / G2042R/L . . . C

### Right-hand version

**Standard**
Example: G1041 . 32R–3T32GX24

**Contra**
Example: G1041 . 32R–3T32GX24C

### Left-hand version

**Standard**
Example: G1041 . 32L–3T32GX24

**Contra**
Example: G1041 . 32L–3T32GX24

## XLDE / XLDE . . . –C

### Right-hand version

**Standard**
Example: XLDER1616K–GX16–2

**Contra**
Example: XLDER1616K–GX16–2C

### Left-hand version

**Standard**
Example: XLDEL1616K–GX16–2

**Contra**
Example: XLDEL1616K–GX16–2C

## NCFE / NCFE . . . –C  G1111

### Right-hand version

**Standard**
Example: NCFE25–2525R–GX24–4–3
G1111 . 2525R3T22–067GX24

**Contra**
Example: NCFE25–2525R–GX24–4–3C

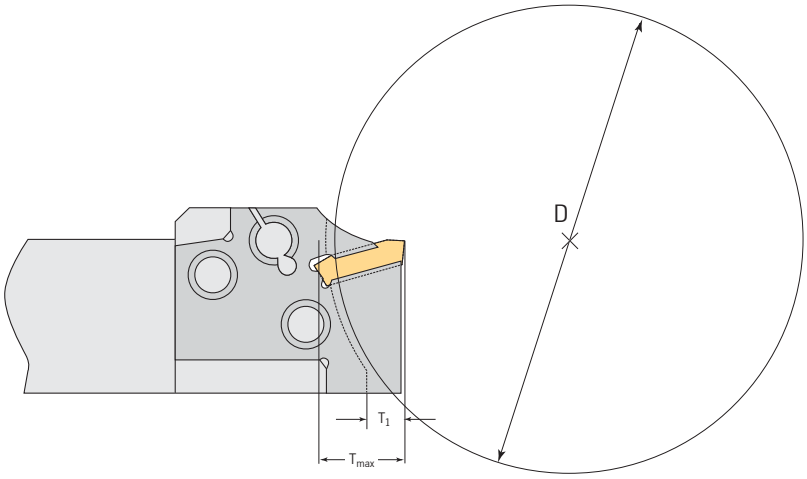
### Left-hand version

**Standard**
Example: NCFE25–2525L–GX24–4–3
G1111 . 2525L3T22–067GX24

**Contra**
Example: NCFE25–2525L–GX24–4–3C

A2

# Application information:
# Cutting depths depending on turning diameter




$T_{max}$ = Maximum cutting depth **depending** on turning diameter D

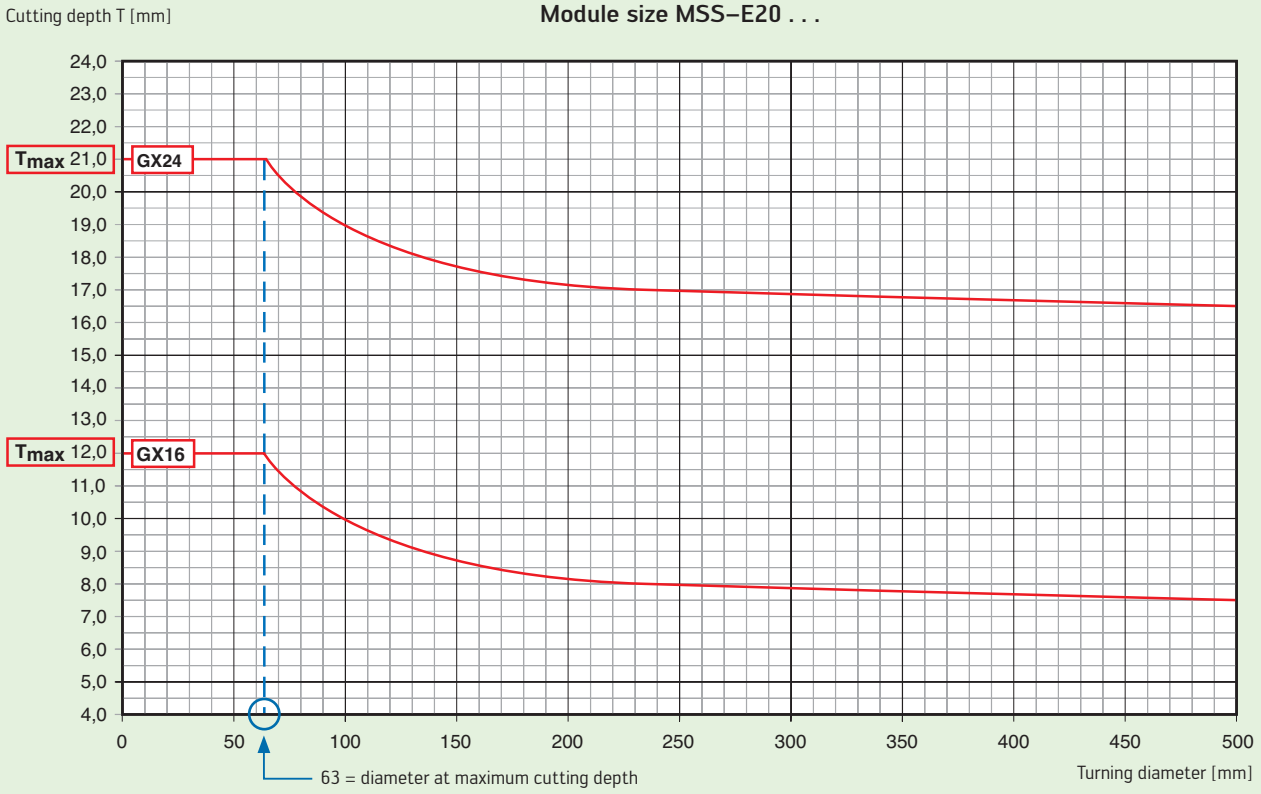
$T_1$ = Groove depth **independent** of turning diameter D

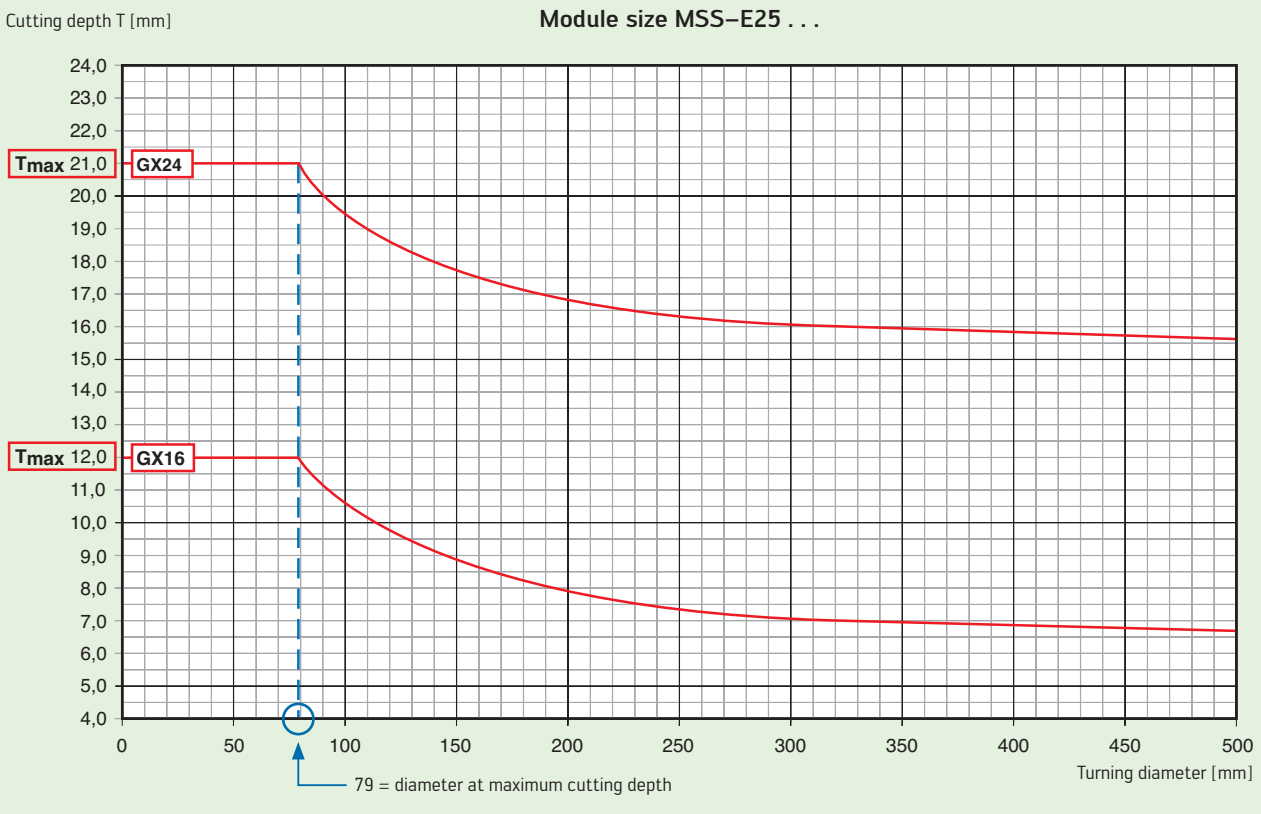
## Module size MSS–E12 . . .

## Module size MSS–E16 . . .

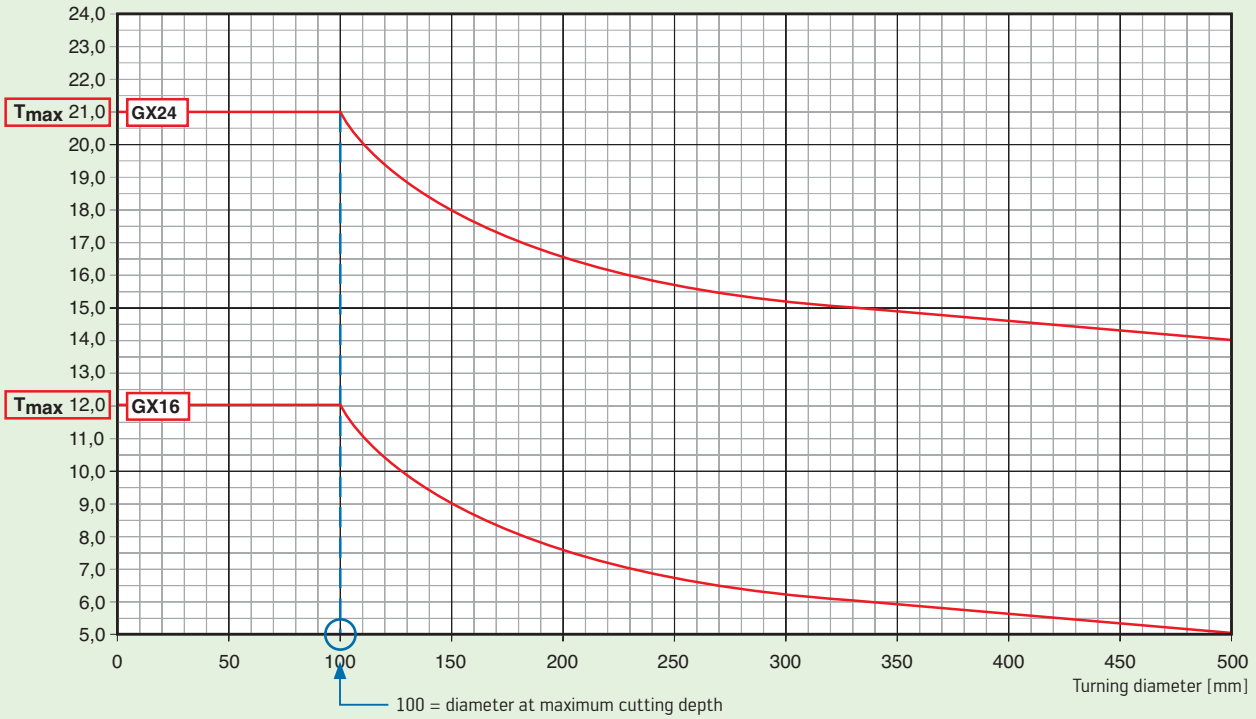
# Application information:
# Cutting depths depending on turning diameter (continued)



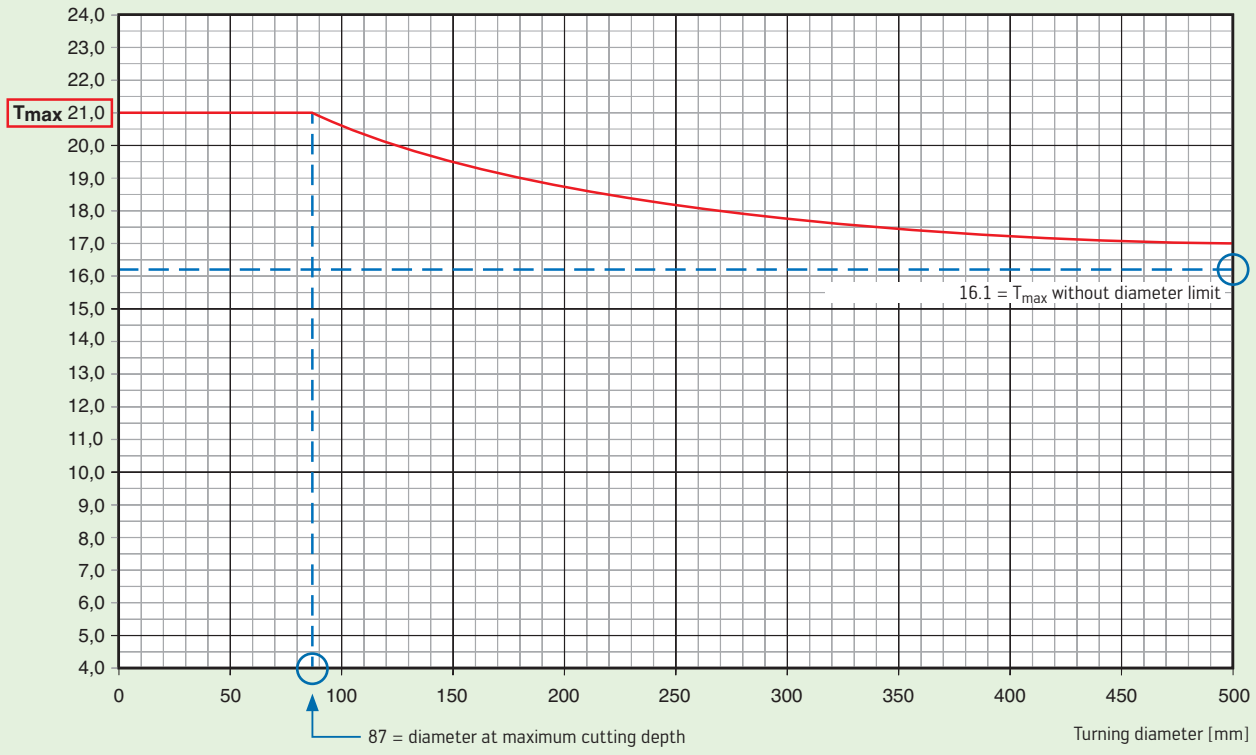


Module size MSS–E32 . . .

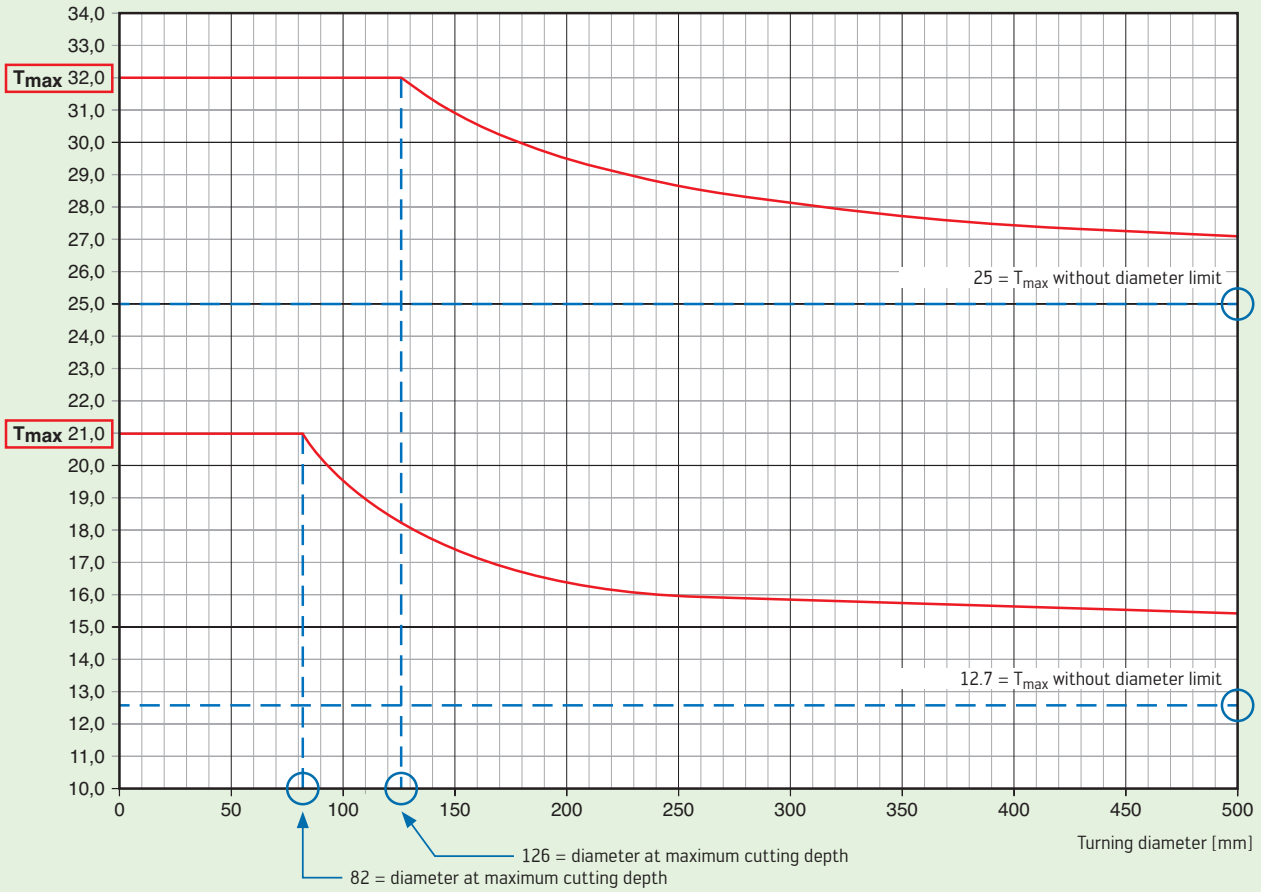


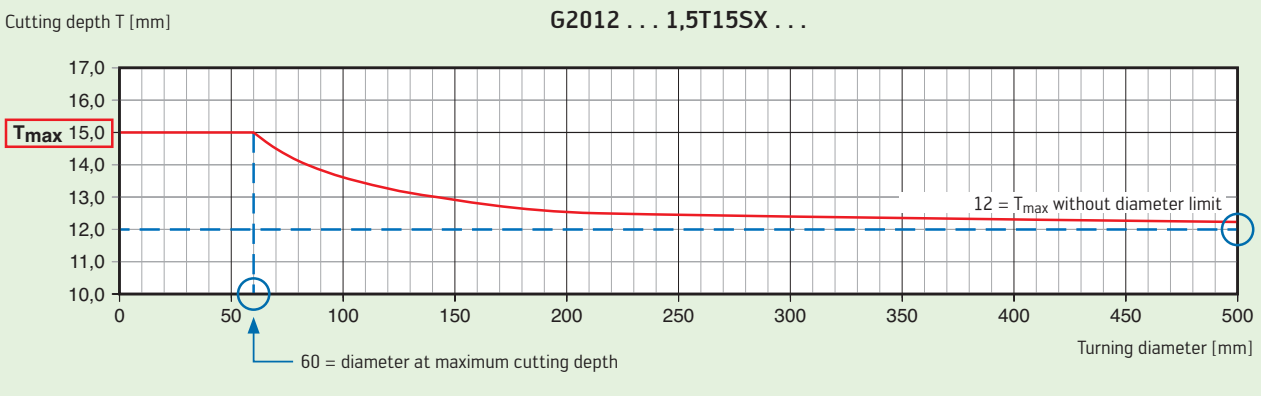

G1011-1616 . . . T21GX24 G1011-2020 . . . T21GX24



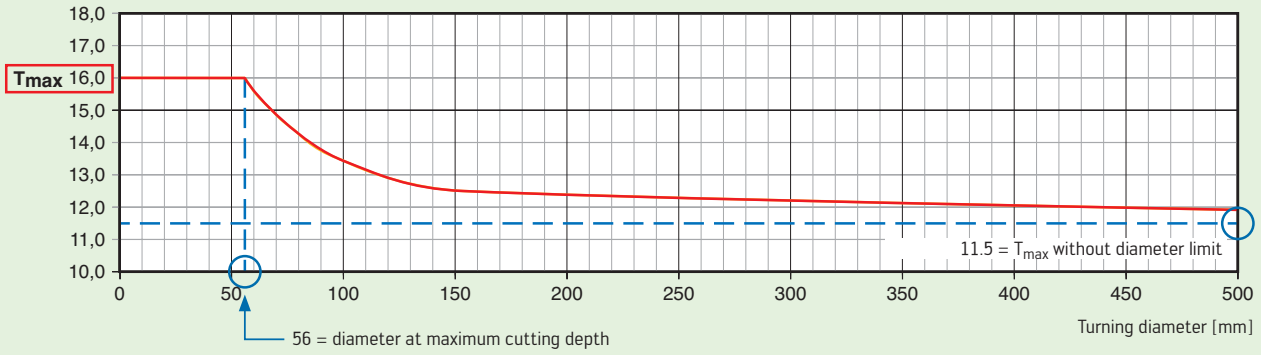
# Application information:
# Cutting depths depending on turning diameter (continued)



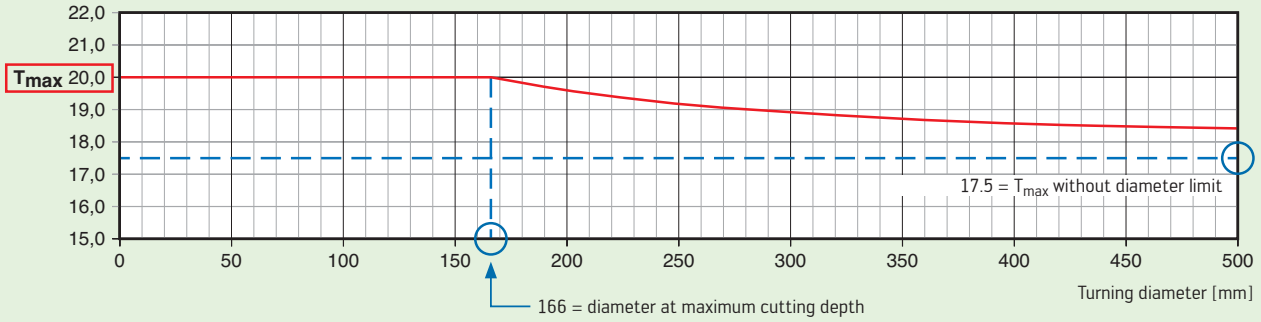


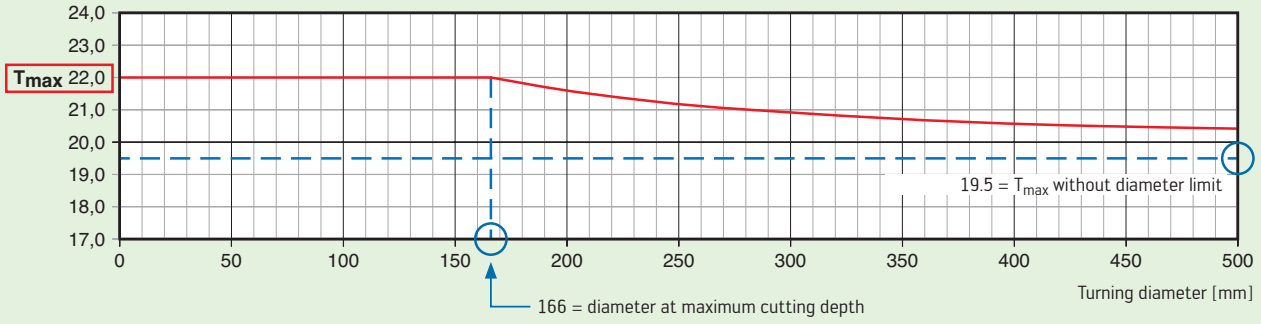
## G2012 . . . T16SX . . .




## G2012.2020 . . . T20SX . . .

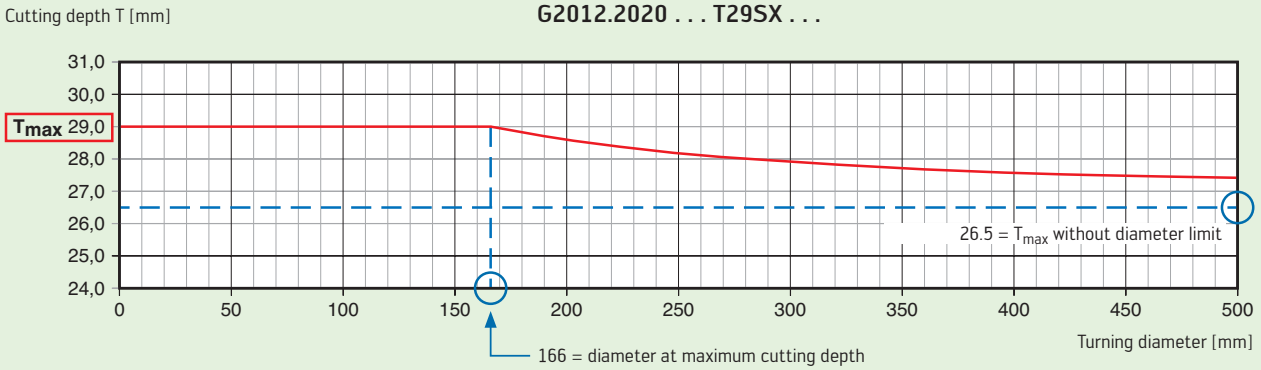


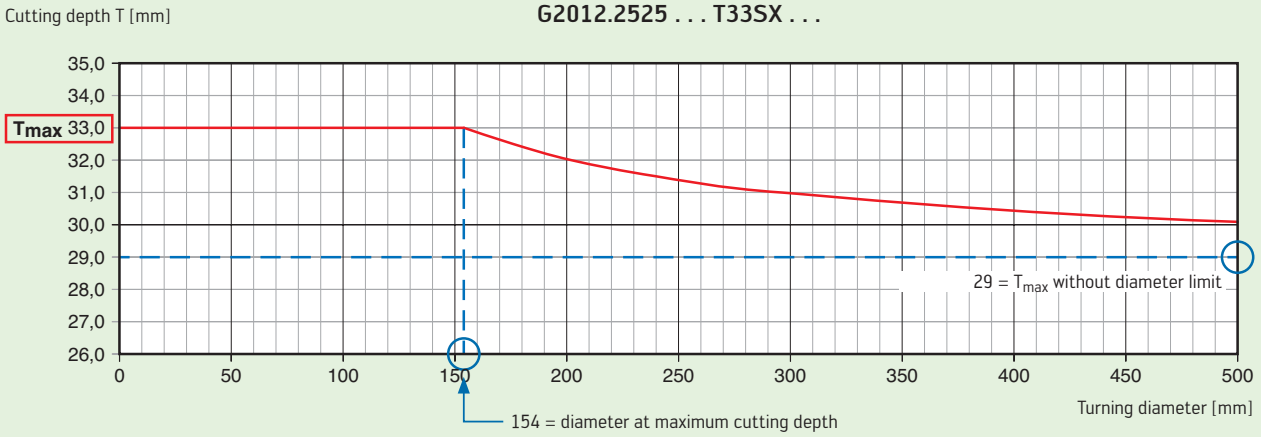

## G2012.2020 . . . T22SX . . .

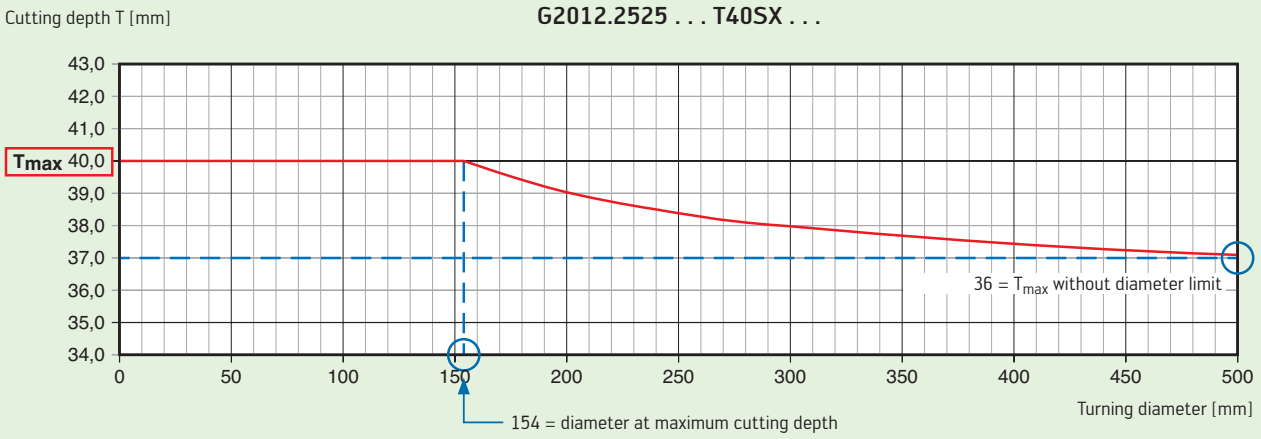


# Application information:
# Cutting depths depending on turning diameter (continued)

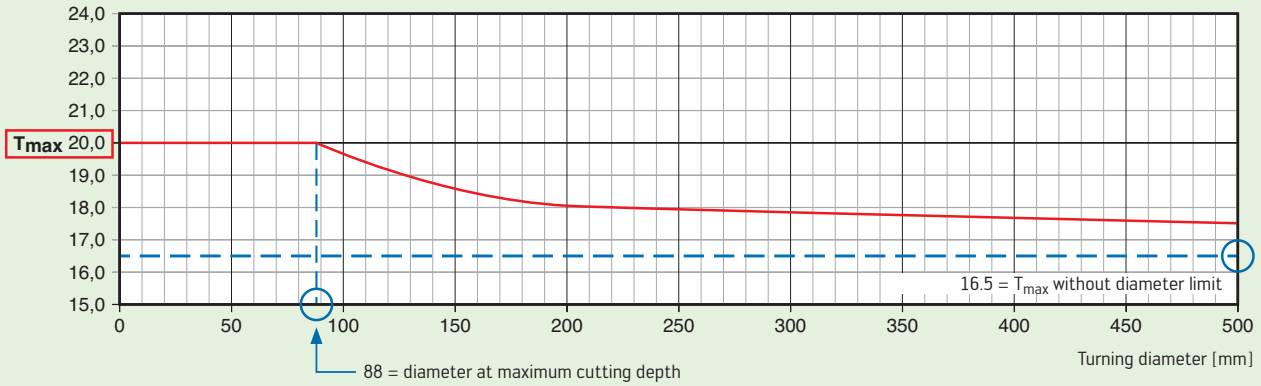




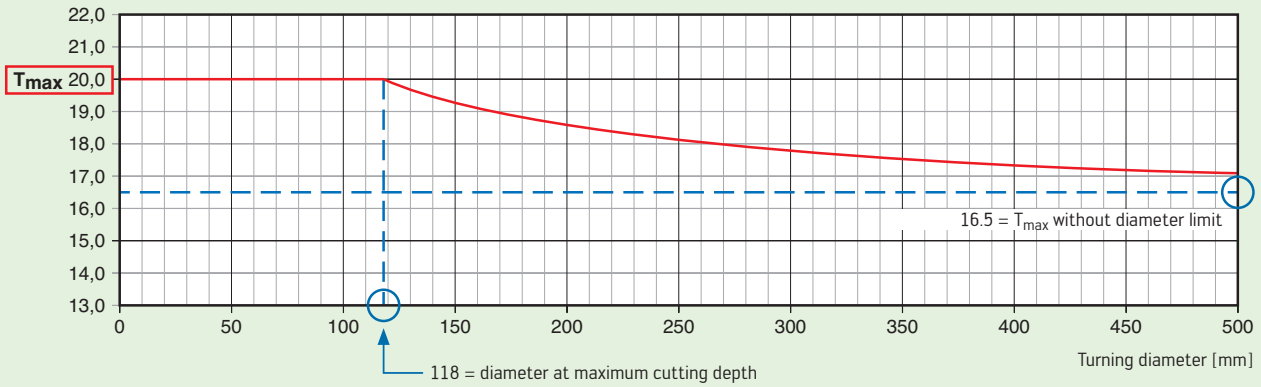



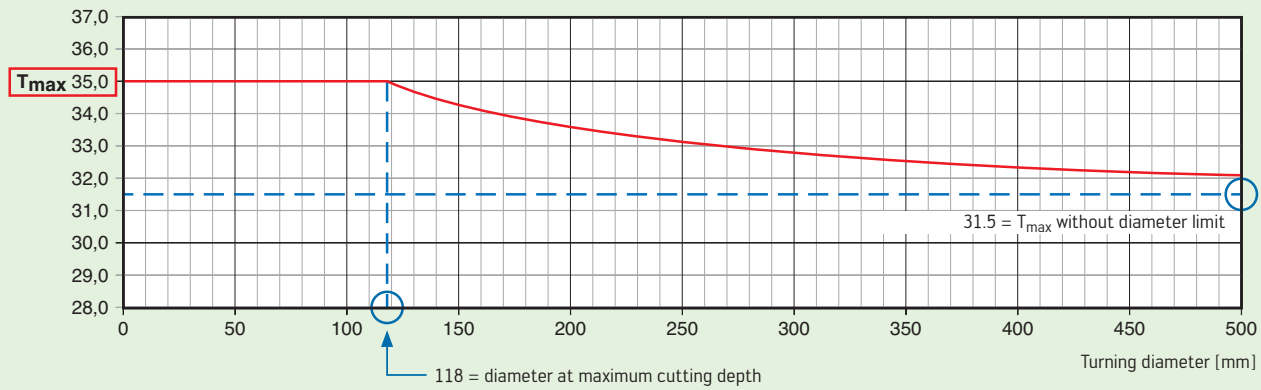
## G2632-E20 . . . T20SX . . .




## G2632-E25 . . . T20SX . . .

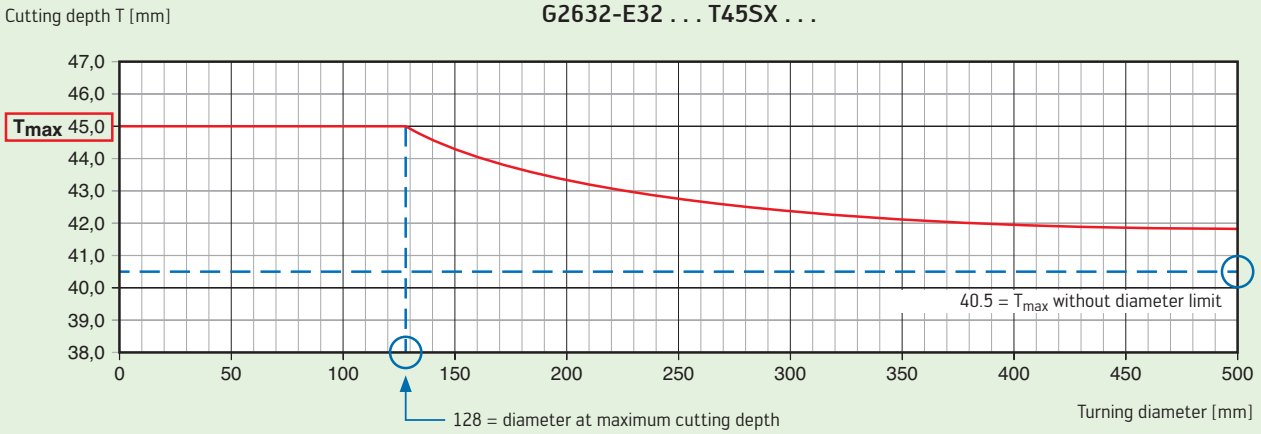



## G2632-E25 . . . T35SX . . .



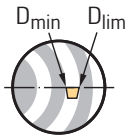
A2

## Application information:
## Cutting depths depending on turning diameter (continued)




## Application information:
## Diameter range when using the G1511/G1521 tools for axial grooving

### Diameter range




| Grooving insert width s [mm] | Minimum axial groove $D_{lim}$ [mm] | |
|---|---|---|
| | GX16 | GX24 |
| 2 | 112 | 120 |
| 2,5 | 92 | 240 |
| 3 | 81 | 65 |
| 4 | 75 | 62 |
| 5 | 63 | 51 |
| 6 | 53 | 43 |

$D_{min} = D_{lim} - 2 \times s$

# Application information – Parting off



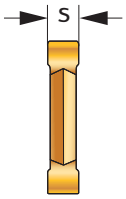
## 1. Basic principles

### General

The most stable tool possible should always be selected. This prevents vibration and increases the tool life.

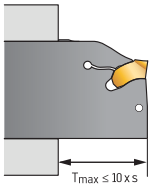
### Insert width

The insert width selected should be as narrow as possible, but as wide as necessary.
Reducing the insert width reduces the cutting force and saves material.

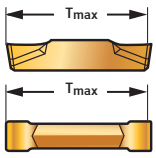



### Cutting depth

1. The maximum cutting depth [$T_{max}$] of the tool and the maximum clamping length of the insert holder should not exceed 10 × cutting edge width [s].
   The smallest possible cutting depth should always be selected.

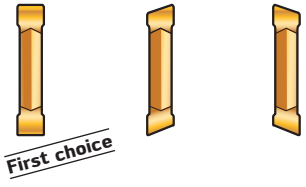



2. Double-edged Walter Cut GX indexable inserts are the most efficient option when the maximum cutting depth does not exceed the second cutting edge. At deeper cutting depths, single-edged Walter Cut SX cutting inserts are the first choice.



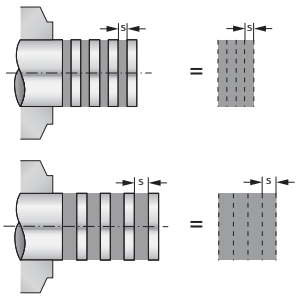

### 1. Use a neutral cutting edge where possible

- Improved chip formation
- Lower resultant cutting forces
- Longer tool life



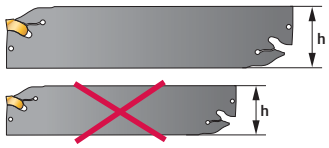

### 2. Use the smallest insert width possible

- Lower cutting force
- Reduced material consumption




### 3. Use the largest tool possible – in relation to the height of the support [h]

- Higher tool rigidity
- Reduced vibration
- Longer tool life



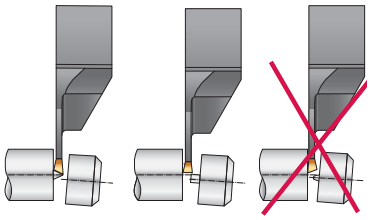

### Effect of the approach angle on machining

The design of the cutting inserts (right/left) can be determined by viewing the cutting edge from above, unlike the tools, which are viewed from the front instead.

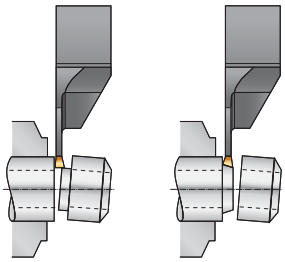
**The following rule always applies:**

| **Direction of rotation of the machine spindle:** | |
|---|---|
| Clockwise | → right cutting insert |
| Anticlockwise | → left cutting insert |

When parting off solid material, the use of inclined cutting inserts reduces the formation of residual pips on the component that has been parted off.



When parting off tubular material, the use of inclined cutting inserts prevents rings from forming. These rings could remain on the parted off component and interfere with the rest of the manufacturing process. It also leads to reduced burr formation.



**Note:**
The use of inclined cutting inserts always has a negative effect on the cutting insert tool life. If possible, neutral cutting inserts should be used.

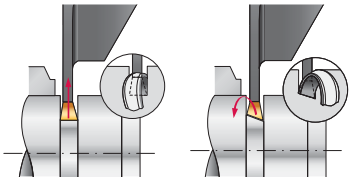
# Application information – Parting off



## 1. Basic principles (continued)

When inclined cutting inserts are used for parting off, the lead angle is likely to be detrimental to chip formation.

The chip rolls at 90° to the main cutting edge, preventing it from forming a watch spring shape (as with a neutral cutting insert), and instead causing it to form a helical shape.



One option for guiding the chip is to interrupt cutting briefly once a cutting depth of 1-2 × s is reached.
Once cutting resumes, the chip flows in the existing groove.

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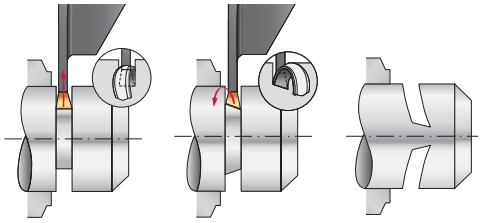
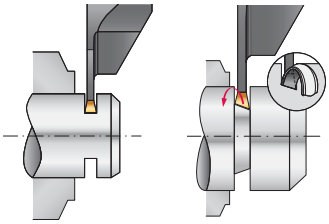
The feed values must be reduced by approximately 30%, because the tool tends to run off-centre as a result of the axial force generated [$F_n$]. This can lead to vibration and convex parted off surfaces.



### Effects on machining

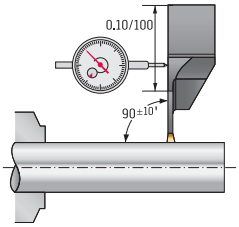
| | Neutral cutting insert | Inclined cutting insert |
|---|---|---|
| Stability and tool life | good | poor |
| Radial cutting forces (positive) | high | low |
| Axial cutting forces (negative) | low | high |
| Residual pip/burr formation | large | small |
| Risk of vibration | low | high |
| Surface quality and flatness | good | poor |
| Chip flow | good | poor |



## 2. User tips

**The tool must be aligned 90° to the axis of rotation**

- Better face flatness
- Reduced vibration tendency

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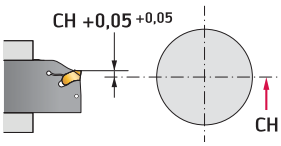
**Checking the centre height**

- Longer/more consistent tool life
- Reduced pip/burr formation




**Note:**
If the tool is positioned over or under centre, the effective cutting angles change during machining.

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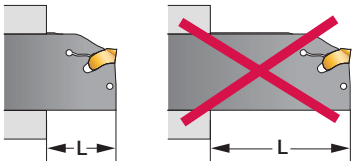
**Mount the tool in the machine with the shortest possible overhang**

- Better face flatness
- Reduced vibration tendency
- Improved tool life

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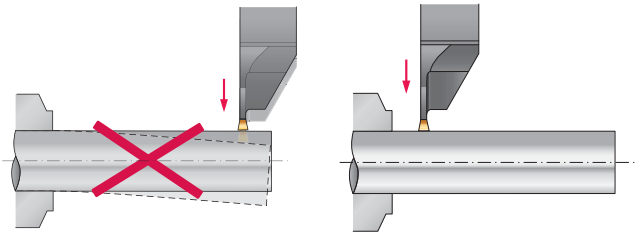
**Clamp the workpiece at the shortest length possible**



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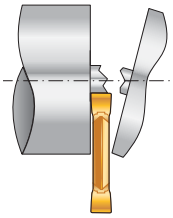
**Reducing the feed**

**At a diameter of 1.5 × s mm or above, reduce the feed [f] by 75%, as the cutting speed directly in the centre is 0 m/min.**
Do not groove past the centre, as there is a risk of fracture.
It is possible to groove past the centre to a maximum of corner radius +0.1 mm.



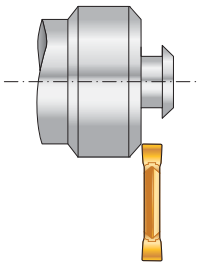
Example:
Corner radius 0.3 mm → x = -0.4 mm

Maintain a constant cutting speed with speed limitation (max. bar feeder speed).

## 2. User tips (continued)

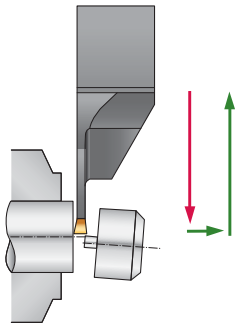
### Grooving on inclined surfaces

When grooving on inclined surfaces, the feed over the inclined section must be reduced by approx. 20-50 % and a sharper geometry must be used (e.g. CF5).

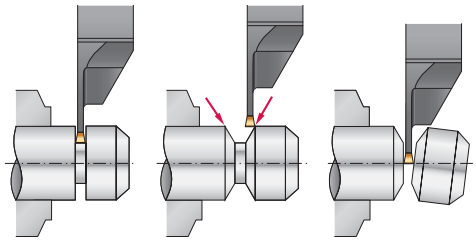


### Retracting the tool

After parting off, do not retract the tool immediately. First, retract in the axial direction and then retract radially.



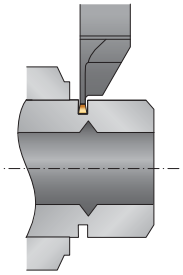
### Chamfering and parting off



1. Pre-grooving 2. Chamfering 3. Parting off

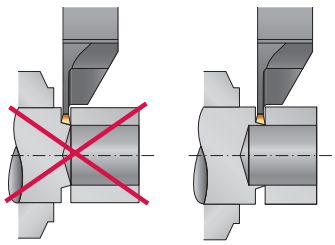
### Internal chamfering before parting off

The peripheral cutting edges of the previous chamfering tool and then the parting off tool must be precisely aligned to achieve the most burr-free result possible.



### Parting off to a drilled hole

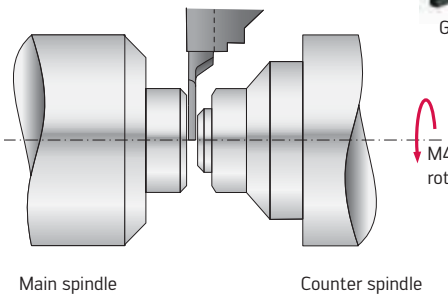
The hole must be pre-drilled to be deep enough for the entire cutting edge width of the parting off tool to exit in the cylindrical section of the drilled hole.



### Application conditions: Reinforced blades

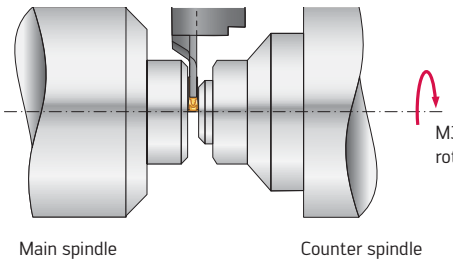
#### "Overhead" installation position Contra blade

G2042 . 32 . R-3T33SX-C



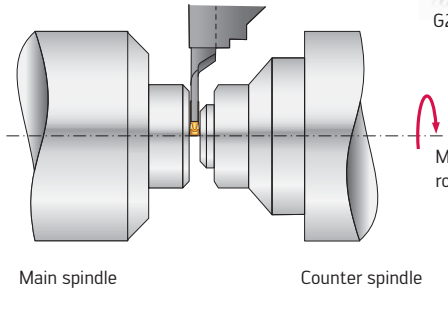

#### "Normal" installation position

G2042 . 32 . R–3T33SX




#### "Normal" installation position Contra blade

G2042 . 32 . L–3T33SX–C



# Application information – Parting off

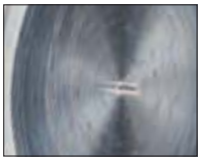
## 3. Parting off fault analysis



**Large residual pip/burr**
- Reduce the feed value by 50-75% at a diameter of 1.5 × s or above (s = cutting edge width)
- Use a cutting insert with a lead angle
- Use a narrower insert (reduction of cutting forces)
- Use a smaller corner radius
- Use a more positive geometry
- Check the centre height

**Poor surface/vibration**
- Use a more stable tool
- Clamp the tool at a shorter length
- Check whether the insert seat is damaged
- Use a more positive geometry
- Increase the feed

**Damage caused by chips**
- Use a chip formation with greater chip constriction
- Reduce the cutting speed
- Use a straight cutting insert
- Optimise the cooling
- Increase the feed



**Poor chip formation**
- Reduce the cutting speed
- Improve the cooling
- Check the chip formation
- Increase the feed

**Poor face flatness**
- Use a cutting insert with as small a lead angle as possible or no lead angle at all
- Use a tool with the shortest possible cutting depth
- Reduce the feed for cutting inserts with a lead angle
- Use a smaller corner radius
- Use a more positive geometry
- Align the tool

**Chip formation when parting off**
- Chip constriction prevents friction on the side walls of the tools and reduces chip accumulation
- Enables higher feed values
- No damage to parted off surfaces
- Chips are rolled up in a spiral shape and broken short, so that they can exit the groove more easily

# Application information – Grooving

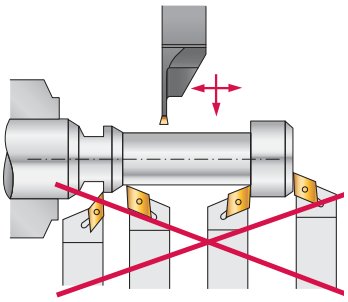


## 1. Basic principles

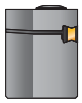
### General

Using recessing tools enables machining steps to be consolidated and reduces the number of tools required.

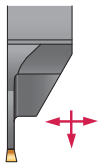
These tools are used in particular for machining between shoulders or when a limited number of tool spaces are available.



A precise positive-locking connection between the cutting insert and the insert seat enables both radial and axial forces to be absorbed.



This enables grooving and longitudinal turning operations when using special chip forming geometries.
The universal geometries are perfectly suited for this, e.g. UD4, UF4.



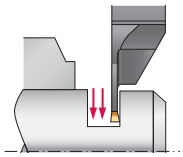
### Production strategy

There are two different basic production strategies:
Grooving and recessing.

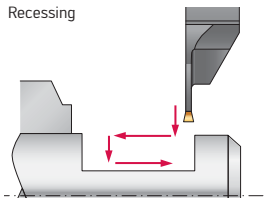
For **grooving**, the feed moves in only one direction.
Longitudinal turning with low material removal (approx. 0.1-0.3 mm) can only be carried out as a finishing operation.

**Recessing** is a combination of grooving and longitudinal turning movements.

Grooving



Recessing



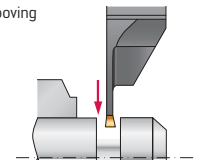
### Grooving or recessing?

The machining strategy should be selected based on the shape and size of the groove to be produced. As a rule of thumb, the following criteria can be used to make a decision:

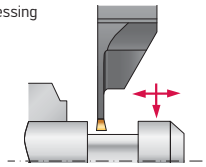
**Grooving:**
The groove depth is 1.5 times greater than the groove width.

**Recessing:**
The groove width is 1.5 times greater than the groove depth.

Grooving



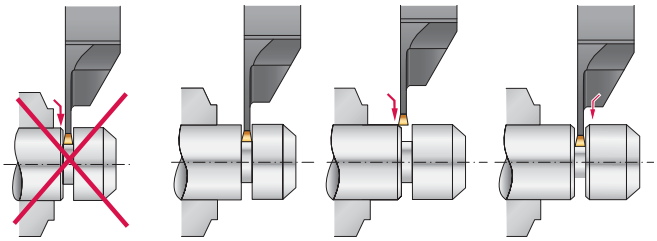
Recessing



## 2. User tips

**Note:**
For grooving, only one cutting edge is used.
This process also requires users to adhere to certain machining sequences, depending on the machining operation, to achieve an optimum result.

### Producing a narrow groove with chamfer

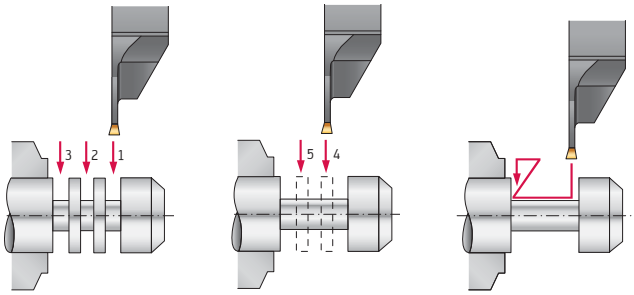


Grooving with 0.1 mm material removal on the diameter

Turn the chamfer and finish the first flank

Turn the chamfer and finish the second flank

### Producing a wide groove by grooving




Pre-grooving
Web width = s - 2 × r

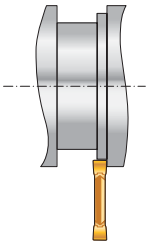
Pre-grooving

Finishing
$a_{p\ max}$ = r

s = cutting edge width/r = corner radius/$a_{p\ max}$ = max. depth of cut

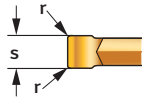
### Lateral offset [s] – [r]

For laterally offset grooving, a universal "U" geometry should be used if possible. When doing so, it is important to ensure that the insert width is at least between $^{s}/_{2}$ and the cutting edge width of s – 1 × r.



**$a_{p\ min}$: 0.5 × s**
**$a_{p\ max}$: s – r**

Example:
s = 3.0 mm; r = 0.2 mm → $a_{p\ min}$: 1.5 mm
$a_{p\ max}$: 2.8 mm



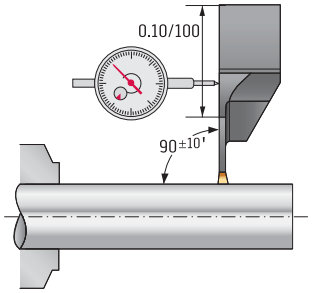
# Application information – Recessing

## 1. Basic principles

A2

**The tool must be aligned 90° to the axis of rotation.**

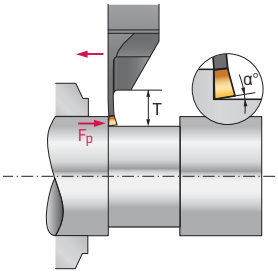
This is the only way to ensure that a clearance angle can be created when the tool is turned in both directions.
Poor tool alignment generates vibration and can lead to tool breakage.




### Deflection

Deflection means the deformation of the cutting insert support caused by a force [$F_p$]. This deflection is required in order to generate an adjacent clearance angle [α] during the longitudinal turning operation.

The degree of deflection is influenced by multiple factors:
- Depth of cut [$a_p$]
- Feed [f]
- Cutting speed [$v_c$]
- Corner radius [r]
- Material to be machined
- Cutting depth of the tool [T]
- Width of the cutting insert support




### Diameter compensation

The deflection produces different longitudinal ratios on the tool. In order to create an even diameter during a finishing operation, diameter compensation must take place when transitioning from the grooving movement to the longitudinal turning movement.

1 Pre-machine the component up to the finishing operation
2. Groove to the final diameter
3. Retract by 0.1 mm
4. Turn longitudinally
5. Measure the grooving diameter and longitudinal turning diameter and correct the retraction dimension (0.1 mm) by the difference in diameter.

**Surface quality produced by recessing in comparison to ISO turning**

A "Wiper effect" is generated by deflecting the cutting insert when recessing (see figure A).

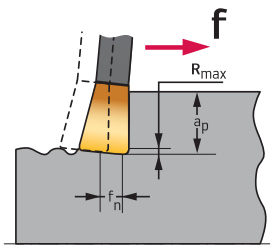



Fig. A

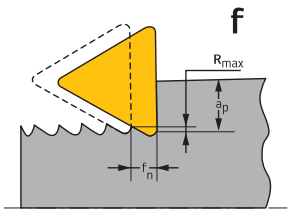
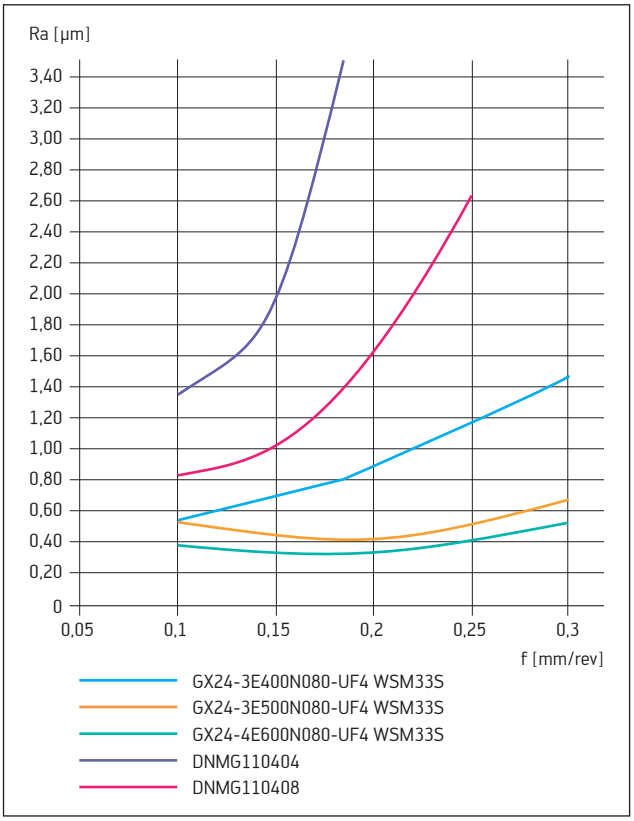



Fig. B

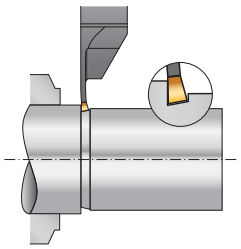
**Comparison of surface quality produced by recessing and by ISO turning**



## 2. User tips

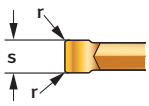
### Recessing

In order to ensure a reliable machining process, certain movements must be adhered to.
For instance, a tool must not be subjected to strain in two directions at the same time. At all times, ensure that the strain on the cutting edge is relieved after grooving before starting the longitudinal turning operation. Transition from longitudinal turning to grooving applications requires the strain on the cutting edge to be relieved in the same way.



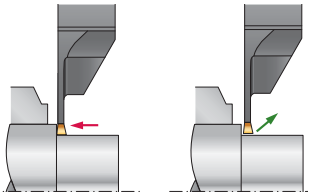
**Rule of thumb for recessing:**

| | |
|---|---|
| $f_{start}$ | $0.05 \times s$ |
| $f_{max}$ | $0.07 \times s$ |
| $a_{p\ min}$ | $r + 0.1$ mm |
| $a_{p\ max}$ | $0.7 \times s$ |

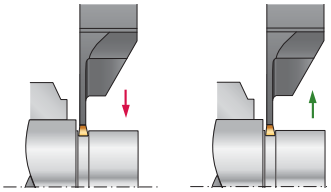



### Machining sequence

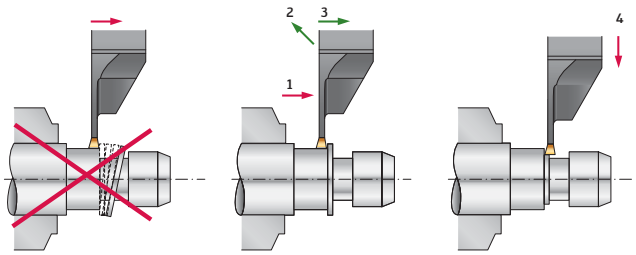
At the end of the longitudinal turning operation, retract in the opposite direction to the direction of feed and away from the machined diameter by at least 0.1 mm.
This enables the cutting edge to return to its original position.



The next grooving operation can now take place.
Before transitioning to the longitudinal turning operation at this point, it is necessary to retract again by approx. 0.1 mm.



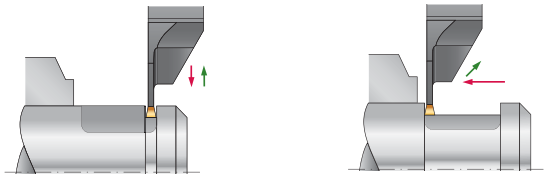
### Preventing ring formation



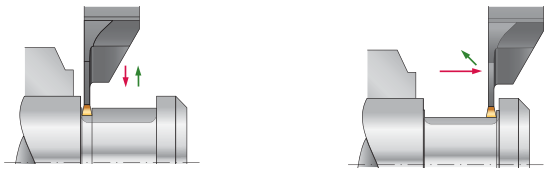

1. Turn longitudinally up to approx. 0.5-1.5 mm in front of the tool exit
2. Retract at an angle away from the corner
3. Position the tool above the ring
4. Remove the ring in the grooving operation

### Producing a recess:

#### 1. Roughing

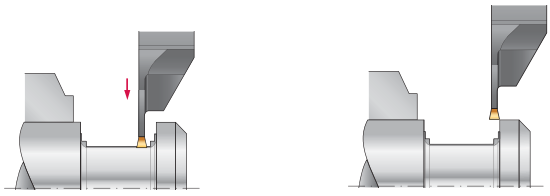


1. Grooving ($a_p$ longitudinal turning)
2. Retract by 0.1 mm
3. Turn longitudinally
4. Retract by 0.1 mm in two directions

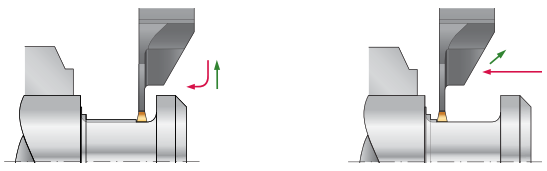


5. Grooving
6. Retract by 0.1 mm
7. Turn longitudinally to approximately 0.5 mm before the shoulder
8. Retract by 0.1 mm in two directions

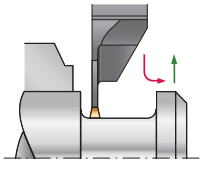
#### 2. Finishing



1. Pre-groove at the radius tangent point to the required finished diameter



2. Finish the first shoulder and copy the radius
3. Retract by the diameter compensation dimension
4. Turn longitudinally up to the radius tangent point
5. Retract by 0.1 mm in two directions



6. Finish the second shoulder and copy the radius

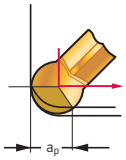
# Application information – Recessing

A2

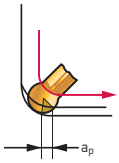
## 2. User tips (continued)

**Preventing vibration during copy turning**
- The radius of the indexable insert should always be smaller than the workpiece radius.
- Reduce the feed in the workpiece radius range by 50% in comparison to the longitudinal cut.

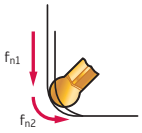
Insert radius = workpiece radius
**Not recommended.**

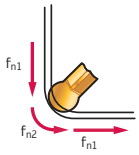


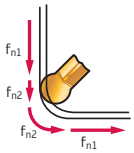

Insert radius < workpiece radius
**Recommended.**




$f_{n1}$ = longitudinal cuts – max. chip thickness 0.15-0.40 mm
$f_{n2}$ = radius machining – 50% max. chip thickness

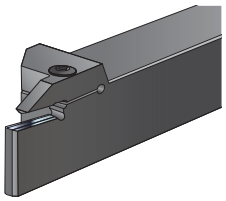


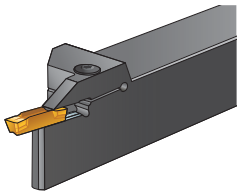




**Tool use**

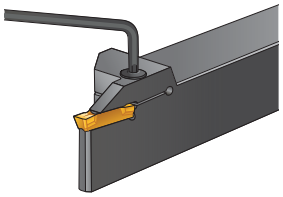
– Before inserting the cutting insert, it is important to check to ensure that the insert seat is free from dirt and damage.



– Insert the cutting insert along the prismatic surfaces and into the insert seat, and watch out for resistance.



– To tighten the clamping screw, use the screwdriver provided. We recommend using a **torque wrench**. The following values are recommended for this:

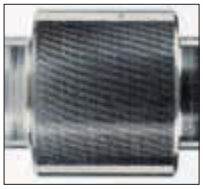


**Torque wrench values**

| Tool | Tightening torque |
|---|---|
| G15 . . | 5,0 Nm |
| G1011 | 5,0 Nm |
| G1111 | 4,0 Nm |
| G1041 | 3,5 Nm |
| XLDE | 3,5 Nm |

## 3. Recessing fault analysis

**Vibration during turning**
- Check tool alignment (see page A 416)
- Deflection of the cutting insert is too low (see page A 416)
- Use a narrower insert (deflects more sharply)
- Use a smaller corner radius
- Clamp the workpiece at a shorter length



**Step in turning diameter**
- Correct the retraction dimension before the finishing cut
- Ensure even material removal
- Check whether the insert seat is damaged
- Increase the cutting speed
- Use a more positive geometry

**Damage caused by chips**
- Use a chip formation with greater chip constriction
- Reduce the cutting speed
- Optimise the cooling

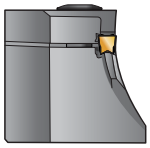
**Ring formation**
- Check the program sequence (see page A 417)

**Poor chip formation**
- Reduce the cutting speed
- Increase the feed
- Improve the cooling
- Check the chip formation

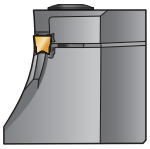
# Application information – Axial grooving

## Basic principles

**Selecting a tool design**



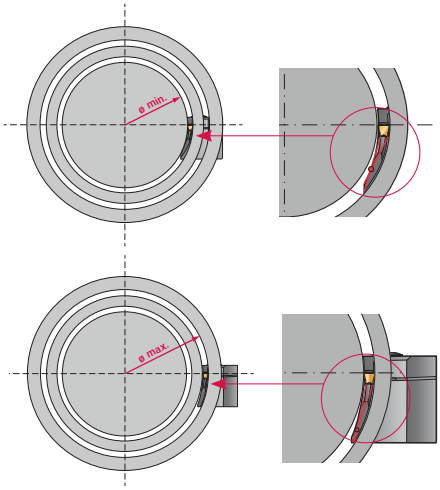
Right-hand tool



Left-hand tool

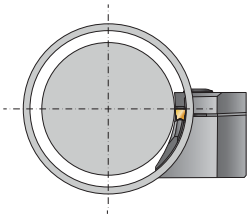
**Select the largest possible diameter range for the first groove**

**Note:**
The larger the diameter range of the first groove, the better the chip evacuation.

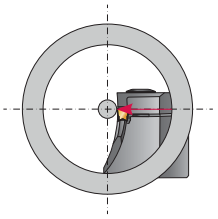



**Expanding an axial groove**

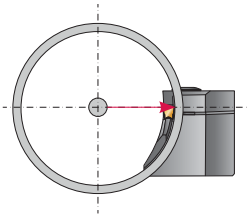
1. First groove on the largest possible diameter



2. Expanding inwards



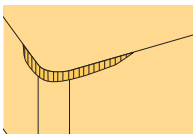
3. Expanding outwards



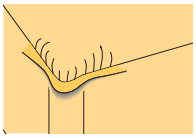
# Grooving in general

## Wear analysis

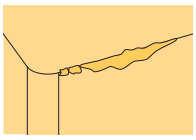
**Flank face wear**
– Use a more wear-resistant grade
– Reduce the cutting speed
– Improve the cooling



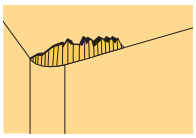
**Plastic deformation**
– Use a more wear-resistant grade
– Reduce the feed
– Optimise the cooling
– Reduce the cutting speed



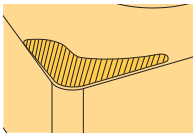
**Fractures**
– Use a tougher carbide grade
– Use a more stable tool
– Use a more stable geometry
– Use a wider cutting edge if necessary



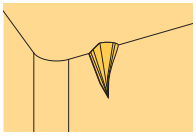
**Built-up edge**
– Increase the cutting speed
– Use a more positive geometry
– Optimise the cooling



**Crater wear**
– Reduce the cutting speed
– Use a more positive geometry
– Use a more wear-resistant grade
– Optimise the cooling



**Notch or oxidation wear**
– Reduce the cutting speed
– Reduce the feed

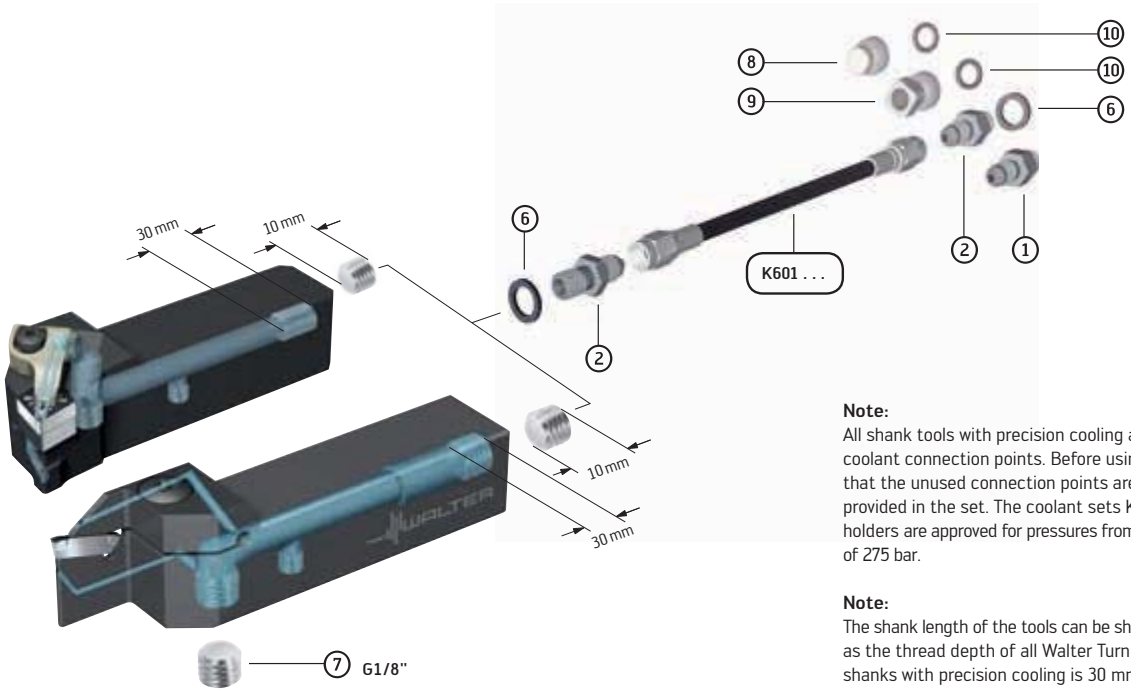


A2

# Assembly parts and accessories
# Coolant hose set for shank tools with precision cooling (-P)

## Shank tools -P

A2




**Note:**
All shank tools with precision cooling are equipped with three coolant connection points. Before using the tools, ensure that the unused connection points are sealed with the screws provided in the set. The coolant sets K601 . . . for shank tool holders are approved for pressures from 10 bar to a maximum of 275 bar.

**Note:**
The shank length of the tools can be shortened by up to 20 mm, as the thread depth of all Walter Turn and Walter Cut square shanks with precision cooling is 30 mm.

## Walter coolant hose set -P

| Individual components | | | Designation | Length | | | |
|---|---|---|---|---|---|---|---|
| | | | | 150 mm | K601.01.150 SET | K601.02.150 SET | K601.03.150 SET |
| | | | | 250 mm | K601.01.250 SET | K601.02.250 SET | K601.03.250 SET |
| | | | | 300 mm | K601.01.300 SET | K601.02.300 SET | K601.03.300 SET |
| | | | | | Set contents | | |
| ① | | M10 connection element | FS2252 | | 1 × | — | — |
| ② | | G1/8" double connection element | FS2253 | | 2 × | 1 × | — |
| ③ | | G1/8" angle connection | FS2254 | | — | 1 × | 2 × |
| ④ | | M10 angle connection | FS2255 | | — | 1 × | 1 × |
| ⑤ | | G1/4"-G1/8" reducer | FS2256 | | — | 1 × | 1 × |
| ⑥ | | Copper gasket | FS2257 | | 2 × | 3 × | 4 × |
| ⑦ | | G1/8" screw | FS2258 | | 1 × | 1 × | 1 × |
| ⑧ | | Brass blanking plug | FS2259 | | 1 × | 1 × | 1 × |
| ⑨ | | G1/8" brass nozzle | FS2260 | | 1 × | 1 × | 1 × |
| ⑩ | | O-ring | FS2261 | | 2 × | 2 × | 2 × |

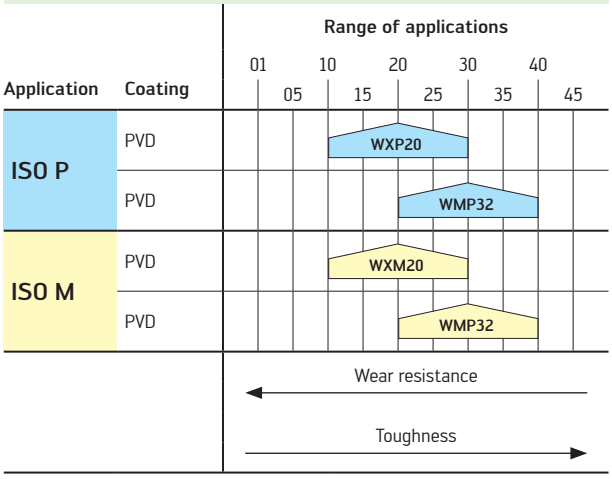
| | | Page |
|---|---|---|
| **Indexable inserts** | Product range overview | A 423 |
| | Designation key | A 424 |
| | Thread turning inserts – Partial profile | A 426 |
| | Thread turning inserts – Full profile | A 428 |
| **Walter NTS threading tools** | Product description | A 444 |
| | Product range overview | A 445 |
| | System overview | A 446 |
| | Designation key | A 448 |
| | Thread turning tools | A 450 |
| **Technical information** | Cutting data | A 456 |
| | Cutting tool material application charts | A 458 |
| | Application information | A 459 |

# Product range overview of indexable inserts and cutting tool materials: Thread turning

## Indexable inserts

| Application | | Thread type | Machining | Page |
|---|---|---|---|---|
| **Partial profile** | | | | |
| | General machining | 55° partial profile | Internal thread | A 427 |
| | | 60° partial profile | External thread<br>Internal thread | A 426<br>A 426 |
| **Full profile** | | | | |
| | General machining | ISO metric 60° | External thread<br>Internal thread | A 428<br>A 429 |
| | | American UN 60° | External thread<br>Internal thread | A 430<br>A 431 |
| | Aerospace | American UNJ 60° | External thread<br>Internal thread | A 432<br>A 433 |
| | | Whitworth | External thread<br>Internal thread | A 434<br>A 435 |
| | Steam, gas and water lines | American NPTF | External thread<br>Internal thread | A 436<br>A 437 |
| | | American NPT | External thread<br>Internal thread | A 438<br>A 439 |
| | Transmission thread with trapezoidal cross section | ACME | External thread<br>Internal thread | A 440<br>A 441 |
| | | Stub ACME | External thread<br>Internal thread | A 442<br>A 443 |

## Cutting tool materials: Carbide




A 3

# Designation key for thread turning inserts

**Example:**

| NTS | – | E | R | – | 16 | 0.50 | ISO |
|---|---|---|---|---|---|---|---|
| Walter Thread System | | 1 | 2 | | 3 | 4 | 5 |



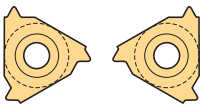
## 1 Machining

| | |
|---|---|
| E | External thread |
| I | Internal thread |

## 2 Insert design

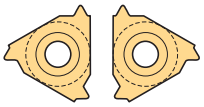
External thread

R L

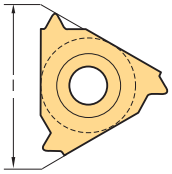


Internal thread

R L



## 3 Cutting edge length l



## 4 Pitch P

| Full profile pitch range | | |
|---|---|---|
| | [mm] | [Threads/ inch] |
| | 0,35–12,0 | 72–2 |

| Partial profile pitch range | | |
|---|---|---|
| | [mm] | [Threads/ inch] |
| A | 0,5–1,5 | 48–16 |
| AG | 0,5–3,0 | 48– 8 |
| G | 1,75–3,0 | 14–8 |
| N | 3,5–5,0 | 7–5 |
| U | 5,5–8,0 | 4½–3½ |
| Q | 5,5–6,0 | 4½–4 |
| U | 6,5–9,0 | 4–2¾ |
| V | 6,0–10,0 | 4–2½ |

## 5 Standard

| | |
|---|---|
| 55 | Partial profile 55° |
| 60 | Partial profile 60° |
| ISO | ISO metric 60° |
| UN | American UN 60° |
| UNJ | American UNJ 60° |
| W | Whitworth |
| NPTF | NPTF |
| NPT | NPT |
| ACME | ACME |
| STACME | Stub ACME |

# Designation key
# for carbide cutting tool materials – Thread turning

**Example:**

| W | M | P | 32 |
|---|---|---|---|
| Walter | 1 | 2 | 3 |

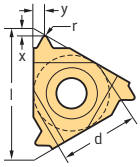
| 1 |
|---|
| **1. Primary application or coating type** |
| **P** Steel |
| **M** Stainless steel |
| **K** Cast iron |
| **N** NF metals |
| **S** Materials with difficult cutting properties |
| **H** Hard materials |
| **A** CVD aluminium oxide coating |
| **X** PVD coating |

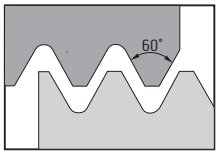
| 2 |
|---|
| **2. Primary application** |
| **P** Steel |
| **M** Stainless steel |
| **K** Cast iron |
| **N** NF metals |
| **S** Materials with difficult cutting properties |
| **H** Hard materials |

| 3 | | |
|---|---|---|
| **ISO range of applications** | | |
| | Wear resistance | Cutting tool materials for: |
| **01** | | **0** ISO turning |
| **05** | | **1** ISO turning |
| **10** | | **5** ISO turning |
| **20** | | **2** Thread turning |
| **21** | | **3** Grooving |
| **23** | | |
| **30** | | |
| **32** | | |
| **33** | | |
| **43** | Toughness | |

A 3

# External thread – Partial profile 60°
# NTS thread turning inserts



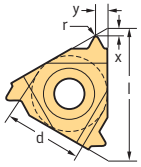

## Thread turning inserts

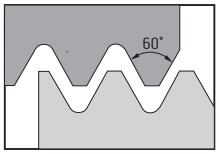
| | Designation | Pitch (P) mm | Pitch (TPI) inches | l mm | d mm | r mm | X mm | Y mm | P HC WXP20 | P HC WMP32 | M HC WXM20 | M HC WMP32 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NTS-ER/L-16 AG60 | 0,50–3,0 | 48–8 | 16 | 9,525 | 0,08 | 1,2 | 1,7 | ● | | ● | |
| | NTS-ER/L-16 G60 | 1,75–3,0 | 14–8 | 16 | 9,525 | 0,27 | 1,2 | 1,7 | ● | | ● | |
| | NTS-ER/L-22 N60 | 3,50–5,0 | 7–5 | 22 | 12,7 | 0,53 | 1,7 | 2,5 | ● | | ● | |

HC = Coated carbide

A3

# Internal thread – Partial profile 60°
# NTS thread turning inserts



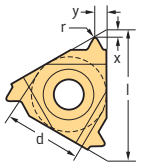

## Thread turning inserts

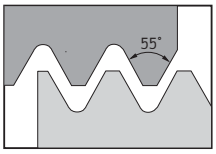
| | Designation | Pitch (P) mm | Pitch (TPI) inches | l mm | d mm | r mm | X mm | Y mm | P HC WXP20 | P HC WMP32 | M HC WXM20 | M HC WMP32 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NTS-IR/L-11 A60 | 0,50–1,5 | 48–16 | 11 | 6,35 | 0,05 | 0,8 | 0,9 | | ● | | ● |
| | NTS-IR/L-16 AG60 | 0,50–3,0 | 48–8 | 16 | 9,525 | 0,05 | 1,2 | 1,7 | ● | | ● | |
| | NTS-IR/L-16 G60 | 1,75–3,0 | 14–8 | 16 | 9,525 | 0,16 | 1,2 | 1,7 | ● | | ● | |
| | NTS-IR/L-22 N60 | 3,50–5,0 | 7–5 | 22 | 12,7 | 0,53 | 1,7 | 2,5 | ● | | ● | |

HC = Coated carbide

A 456 A 458 A 445 A 445

# Internal thread – Partial profile 55°
# NTS thread turning inserts




## Thread turning inserts

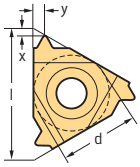
| | Designation | Pitch (P) mm | Pitch (TPI) inches | l mm | d mm | r mm | X mm | Y mm | P HC WXP20 | P HC WMP32 | M HC WXM20 | M HC WMP32 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NTS-IR/L-11 A55 | 0,50–1,5 | 48–16 | 11 | 6,35 | 0,05 | 0,8 | 0,9 | | ● | | ● |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

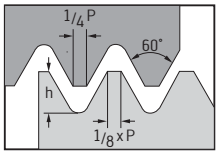
HC = Coated carbide

A 3

A 456 A 458 A 445 A 445

# External – Full profile, ISO metric 60°
# NTS thread turning inserts



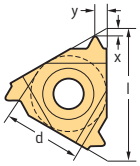

## Thread turning inserts

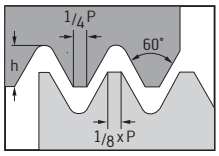
| | Designation | Pitch (P) mm | l mm | d mm | $h_{min}$ mm | X mm | Y mm | P HC WXP20 | P HC WMP32 | M HC WXM20 | M HC WMP32 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | NTS-ER/L-16 0.50ISO | 0,5 | 16 | 9,525 | 0,31 | 0,6 | 0,4 | ● | | ● | |
| | NTS-ER/L-16 0.60ISO | 0,6 | 16 | 9,525 | 0,37 | 0,6 | 0,6 | ● | | ● | |
| | NTS-ER/L-16 0.70ISO | 0,7 | 16 | 9,525 | 0,43 | 0,6 | 0,6 | ● | | ● | |
| | NTS-ER/L-16 0.75ISO | 0,75 | 16 | 9,525 | 0,46 | 0,6 | 0,6 | ● | | ● | |
| | NTS-ER/L-16 0.80ISO | 0,8 | 16 | 9,525 | 0,49 | 0,6 | 0,6 | ● | | ● | |
| | NTS-ER/L-16 1.00ISO | 1 | 16 | 9,525 | 0,61 | 0,7 | 0,7 | ● | | ● | |
| | NTS-ER/L-16 1.25ISO | 1,25 | 16 | 9,525 | 0,77 | 0,8 | 0,9 | ● | | ● | |
| | NTS-ER/L-16 1.50ISO | 1,5 | 16 | 9,525 | 0,92 | 0,8 | 1 | ● | | ● | |
| | NTS-ER/L-16 1.75ISO | 1,75 | 16 | 9,525 | 1,07 | 0,9 | 1,2 | ● | | ● | |
| | NTS-ER/L-16 2.00ISO | 2 | 16 | 9,525 | 1,23 | 1 | 1,3 | ● | | ● | |
| | NTS-ER/L-16 2.50ISO | 2,5 | 16 | 9,525 | 1,53 | 1,1 | 1,5 | ● | | ● | |
| | NTS-ER/L-16 3.00ISO | 3 | 16 | 9,525 | 1,84 | 1,2 | 1,6 | ● | | ● | |
| | NTS-ER/L-22 3.50ISO | 3,5 | 22 | 12,7 | 2,15 | 1,6 | 2,3 | ● | | ● | |
| | NTS-ER/L-22 4.00ISO | 4 | 22 | 12,7 | 2,45 | 1,6 | 2,3 | ● | | ● | |
| | NTS-ER/L-22 4.50ISO | 4,5 | 22 | 12,7 | 2,76 | 1,7 | 2,4 | ● | | ● | |
| | NTS-ER/L-22 5.00ISO | 5 | 22 | 12,7 | 3,07 | 1,7 | 2,5 | ● | | ● | |

HC = Coated carbide

A 456 A 458 A 445 A 445

# Internal – Full profile, ISO metric 60°
# NTS thread turning inserts




## Thread turning inserts

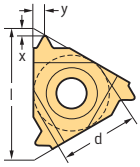
| | Designation | Pitch (P) mm | l mm | d mm | $h_{min}$ mm | X mm | Y mm | P HC WXP20 | P HC WMP32 | M HC WXM20 | M HC WMP32 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | NTS-IR/L-11 0.75ISO | 0,75 | 11 | 6,35 | 0,43 | 0,6 | 0,6 | | ● | | ● |
| | NTS-IR/L-11 0.80ISO | 0,8 | 11 | 6,35 | 0,46 | 0,6 | 0,6 | | ● | | ● |
| | NTS-IR/L-11 1.00ISO | 1 | 11 | 6,35 | 0,58 | 0,6 | 0,7 | | ● | | ● |
| | NTS-IR/L-11 1.25ISO | 1,25 | 11 | 6,35 | 0,72 | 0,8 | 0,9 | | ● | | ● |
| | NTS-IR/L-11 1.50ISO | 1,5 | 11 | 6,35 | 0,87 | 0,8 | 1 | | ● | | ● |
| | NTS-IR/L-11 1.75ISO | 1,75 | 11 | 6,35 | 1,01 | 0,9 | 1,1 | | ● | | ● |
| | NTS-IR/L-11 2.00ISO | 2 | 11 | 6,35 | 1,15 | 0,9 | 1,1 | | ● | | ● |
| | NTS-IR/L-11 2.50ISO | 2,5 | 11 | 6,35 | 1,44 | 0,8 | 1,1 | | ● | | ● |
| | NTS-IR/L-16 0.50ISO | 0,5 | 16 | 9,525 | 0,29 | 0,6 | 0,4 | ● | | ● | |
| | NTS-IR/L-16 0.60ISO | 0,6 | 16 | 9,525 | 0,35 | 0,6 | 0,6 | ● | | ● | |
| | NTS-IR/L-16 0.70ISO | 0,7 | 16 | 9,525 | 0,4 | 0,6 | 0,6 | ● | | ● | |
| | NTS-IR/L-16 0.75ISO | 0,75 | 16 | 9,525 | 0,43 | 0,6 | 0,6 | ● | | ● | |
| | NTS-IR/L-16 0.80ISO | 0,8 | 16 | 9,525 | 0,46 | 0,6 | 0,6 | ● | | ● | |
| | NTS-IR/L-16 1.00ISO | 1 | 16 | 9,525 | 0,58 | 0,6 | 0,7 | ● | | ● | |
| | NTS-IR/L-16 1.25ISO | 1,25 | 16 | 9,525 | 0,72 | 0,8 | 0,9 | ● | | ● | |
| | NTS-IR/L-16 1.50ISO | 1,5 | 16 | 9,525 | 0,87 | 0,8 | 1 | ● | | ● | |
| | NTS-IR/L-16 1.75ISO | 1,75 | 16 | 9,525 | 1,01 | 0,9 | 1,2 | ● | | ● | |
| | NTS-IR/L-16 2.00ISO | 2 | 16 | 9,525 | 1,15 | 1 | 1,3 | ● | | ● | |
| | NTS-IR/L-16 2.50ISO | 2,5 | 16 | 9,525 | 1,44 | 1,1 | 1,5 | ● | | ● | |
| | NTS-IR/L-16 3.00ISO | 3 | 16 | 9,525 | 1,73 | 1,1 | 1,5 | ● | | ● | |
| | NTS-IR/L-22 3.50ISO | 3,5 | 22 | 12,7 | 2,02 | 1,6 | 2,3 | ● | | ● | |
| | NTS-IR/L-22 4.00ISO | 4 | 22 | 12,7 | 2,31 | 1,6 | 2,3 | ● | | ● | |
| | NTS-IR/L-22 4.50ISO | 4,5 | 22 | 12,7 | 2,6 | 1,6 | 2,4 | ● | | ● | |
| | NTS-IR/L-22 5.00ISO | 5 | 22 | 12,7 | 2,89 | 1,6 | 2,4 | ● | | ● | |

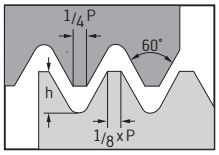
HC = Coated carbide

A3

A 456 A 458 A 445 A 445

# External – Full profile, American UN 60°
# NTS thread turning inserts



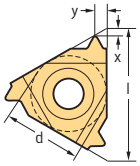

## Thread turning inserts

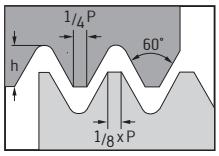
| | Designation | Pitch (TPI) inches | l mm | d mm | $h_{min}$ mm | X mm | Y mm | P HC WXP20 | P HC WMP32 | M HC WXM20 | M HC WMP32 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | NTS-ER/L-16 048UN | 48 | 16 | 9,525 | 0,32 | 0,6 | 0,6 | ☺ | | ☺ | |
| | NTS-ER/L-16 044UN | 44 | 16 | 9,525 | 0,35 | 0,6 | 0,6 | ☺ | | ☺ | |
| | NTS-ER/L-16 040UN | 40 | 16 | 9,525 | 0,39 | 0,6 | 0,6 | ☺ | | ☺ | |
| | NTS-ER/L-16 036UN | 36 | 16 | 9,525 | 0,43 | 0,6 | 0,6 | ☺ | | ☺ | |
| | NTS-ER/L-16 032UN | 32 | 16 | 9,525 | 0,49 | 0,6 | 0,6 | ☺ | | ☺ | |
| | NTS-ER/L-16 028UN | 28 | 16 | 9,525 | 0,56 | 0,6 | 0,7 | ☺ | | ☺ | |
| | NTS-ER/L-16 027UN | 27 | 16 | 9,525 | 0,58 | 0,7 | 0,8 | ☺ | | ☺ | |
| | NTS-ER/L-16 024UN | 24 | 16 | 9,525 | 0,65 | 0,7 | 0,8 | ☺ | | ☺ | |
| | NTS-ER/L-16 020UN | 20 | 16 | 9,525 | 0,78 | 0,8 | 0,9 | ☺ | | ☺ | |
| | NTS-ER/L-16 018UN | 18 | 16 | 9,525 | 0,87 | 0,8 | 1 | ☺ | | ☺ | |
| | NTS-ER/L-16 016UN | 16 | 16 | 9,525 | 0,97 | 0,9 | 1,1 | ☺ | | ☺ | |
| | NTS-ER/L-16 014UN | 14 | 16 | 9,525 | 1,11 | 1 | 1,2 | ☺ | | ☺ | |
| | NTS-ER/L-16 013UN | 13 | 16 | 9,525 | 1,2 | 1 | 1,3 | ☺ | | ☺ | |
| | NTS-ER/L-16 012UN | 12 | 16 | 9,525 | 1,3 | 1,1 | 1,4 | ☺ | | ☺ | |
| | NTS-ER/L-16 011UN | 11 | 16 | 9,525 | 1,42 | 1,1 | 1,5 | ☺ | | ☺ | |
| | NTS-ER/L-16 010UN | 10 | 16 | 9,525 | 1,56 | 1,1 | 1,5 | ☺ | | ☺ | |
| | NTS-ER/L-16 009UN | 9 | 16 | 9,525 | 1,73 | 1,2 | 1,7 | ☺ | | ☺ | |
| | NTS-ER/L-16 008UN | 8 | 16 | 9,525 | 1,95 | 1,2 | 1,6 | ☺ | | ☺ | |
| | NTS-ER/L-22 007UN | 7 | 22 | 12,7 | 2,22 | 1,6 | 2,3 | ☺ | | ☺ | |
| | NTS-ER/L-22 006UN | 6 | 22 | 12,7 | 2,6 | 1,6 | 2,3 | ☺ | | ☺ | |
| | NTS-ER/L-22 005UN | 5 | 22 | 12,7 | 3,12 | 1,7 | 2,5 | ☺ | | ☺ | |

HC = Coated carbide

A 456 A 458 A 445 A 445

# Internal – Full profile, American UN 60°
# NTS thread turning inserts



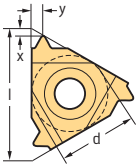

## Thread turning inserts

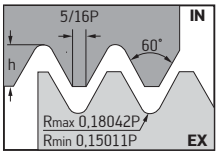
| | Designation | Pitch (TPI) inches | l mm | d mm | $h_{min}$ mm | X mm | Y mm | P HC WXP20 | P HC WMP32 | M HC WXM20 | M HC WMP32 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | NTS-IR/L-11 64UN | 64 | 11 | 6,35 | 0,23 | 0,8 | 0,4 | | ● | | ● |
| | NTS-IR/L-11 56UN | 56 | 11 | 6,35 | 0,26 | 0,7 | 0,4 | | ● | | ● |
| | NTS-IR/L-11 40UN | 40 | 11 | 6,35 | 0,37 | 0,6 | 0,6 | | ● | | ● |
| | NTS-IR/L-11 36UN | 36 | 11 | 6,35 | 0,41 | 0,6 | 0,6 | | ● | | ● |
| | NTS-IR/L-11 32UN | 32 | 11 | 6,35 | 0,46 | 0,6 | 0,6 | | ● | | ● |
| | NTS-IR/L-11 28UN | 28 | 11 | 6,35 | 0,52 | 0,6 | 0,7 | | ● | | ● |
| | NTS-IR/L-11 27UN | 27 | 11 | 6,35 | 0,54 | 0,7 | 0,8 | | ● | | ● |
| | NTS-IR/L-11 24UN | 24 | 11 | 6,35 | 0,61 | 0,7 | 0,8 | | ● | | ● |
| | NTS-IR/L-11 20UN | 20 | 11 | 6,35 | 0,73 | 0,8 | 0,9 | | ● | | ● |
| | NTS-IR/L-11 18UN | 18 | 11 | 6,35 | 0,81 | 0,8 | 1 | | ● | | ● |
| | NTS-IR/L-11 16UN | 16 | 11 | 6,35 | 0,92 | 0,9 | 1,1 | | ● | | ● |
| | NTS-IR/L-11 14UN | 14 | 11 | 6,35 | 1,05 | 0,9 | 1,1 | | ● | | ● |
| | NTS-IR/L-11 12UN | 12 | 11 | 6,35 | 1,22 | 0,8 | 1,1 | | ● | | ● |
| | NTS-IR/L-11 11UN | 11 | 11 | 6,35 | 1,33 | 0,8 | 1,1 | | ● | | ● |
| | NTS-IR/L-16 048UN | 48 | 16 | 9,525 | 0,31 | 0,6 | 0,6 | ● | | ● | |
| | NTS-IR/L-16 044UN | 44 | 16 | 9,525 | 0,33 | 0,6 | 0,6 | ● | | ● | |
| | NTS-IR/L-16 040UN | 40 | 16 | 9,525 | 0,37 | 0,6 | 0,6 | ● | | ● | |
| | NTS-IR/L-16 036UN | 36 | 16 | 9,525 | 0,41 | 0,6 | 0,6 | ● | | ● | |
| | NTS-IR/L-16 032UN | 32 | 16 | 9,525 | 0,51 | 0,6 | 0,6 | ● | | ● | |
| | NTS-IR/L-16 028UN | 28 | 16 | 9,525 | 0,52 | 0,6 | 0,7 | ● | | ● | |
| | NTS-IR/L-16 027UN | 27 | 16 | 9,525 | 0,54 | 0,7 | 0,8 | ● | | ● | |
| | NTS-IR/L-16 024UN | 24 | 16 | 9,525 | 0,61 | 0,7 | 0,8 | ● | | ● | |
| | NTS-IR/L-16 020UN | 20 | 16 | 9,525 | 0,73 | 0,8 | 0,9 | ● | | ● | |
| | NTS-IR/L-16 018UN | 18 | 16 | 9,525 | 0,81 | 0,8 | 1 | ● | | ● | |
| | NTS-IR/L-16 016UN | 16 | 16 | 9,525 | 0,92 | 0,9 | 1,1 | ● | | ● | |
| | NTS-IR/L-16 014UN | 14 | 16 | 9,525 | 1,05 | 0,9 | 1,2 | ● | | ● | |
| | NTS-IR/L-16 013UN | 13 | 16 | 9,525 | 1,13 | 1 | 1,3 | ● | | ● | |
| | NTS-IR/L-16 012UN | 12 | 16 | 9,525 | 1,22 | 1,1 | 1,4 | ● | | ● | |
| | NTS-IR/L-16 011UN | 11 | 16 | 9,525 | 1,33 | 1,1 | 1,5 | ● | | ● | |
| | NTS-IR/L-16 010UN | 10 | 16 | 9,525 | 1,47 | 1,1 | 1,5 | ● | | ● | |
| | NTS-IR/L-16 009UN | 9 | 16 | 9,525 | 1,63 | 1,2 | 1,7 | ● | | ● | |
| | NTS-IR/L-16 008UN | 8 | 16 | 9,525 | 1,83 | 1,1 | 1,5 | ● | | ● | |
| | NTS-IR/L-22 007UN | 7 | 22 | 12,7 | 2,09 | 1,6 | 2,3 | ● | | ● | |
| | NTS-IR/L-22 006UN | 6 | 22 | 12,7 | 2,44 | 1,6 | 2,3 | ● | | ● | |
| | NTS-IR/L-22 005UN | 5 | 22 | 12,7 | 2,93 | 1,6 | 2,3 | ● | | ● | |

HC = Coated carbide

A 456 A 458 A 445 A 445

# External – Full profile, American UNJ 60°
# NTS thread turning inserts



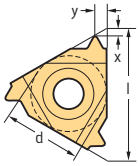

## Thread turning inserts

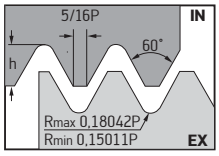
| | Designation | Pitch (TPI) inches | l mm | d mm | $h_{min}$ mm | X mm | Y mm | P HC WXP20 | P HC WMP32 | M HC WXM20 | M HC WMP32 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | NTS-ER/L-16 48UNJ | 48 | 16 | 9,525 | 0,31 | 0,6 | 0,5 | ● | | ● | |
| | NTS-ER/L-16 44UNJ | 44 | 16 | 9,525 | 0,33 | 0,6 | 0,6 | ● | | ● | |
| | NTS-ER/L-16 40UNJ | 40 | 16 | 9,525 | 0,37 | 0,6 | 0,6 | ● | | ● | |
| | NTS-ER/L-16 36UNJ | 36 | 16 | 9,525 | 0,41 | 0,6 | 0,6 | ● | | ● | |
| | NTS-ER/L-16 32UNJ | 32 | 16 | 9,525 | 0,46 | 0,6 | 0,7 | ● | | ● | |
| | NTS-ER/L-16 28UNJ | 28 | 16 | 9,525 | 0,52 | 0,7 | 0,7 | ● | | ● | |
| | NTS-ER/L-16 24UNJ | 24 | 16 | 9,525 | 0,61 | 0,7 | 0,8 | ● | | ● | |
| | NTS-ER/L-16 20UNJ | 20 | 16 | 9,525 | 0,73 | 0,8 | 0,9 | ● | | ● | |
| | NTS-ER/L-16 18UNJ | 18 | 16 | 9,525 | 0,81 | 0,8 | 1 | ● | | ● | |
| | NTS-ER/L-16 16UNJ | 16 | 16 | 9,525 | 0,92 | 0,9 | 1,1 | ● | | ● | |
| | NTS-ER/L-16 14UNJ | 14 | 16 | 9,525 | 1,05 | 1 | 1,2 | ● | | ● | |
| | NTS-ER/L-16 13UNJ | 13 | 16 | 9,525 | 1,13 | 1 | 1,3 | ● | | ● | |
| | NTS-ER/L-16 12UNJ | 12 | 16 | 9,525 | 1,22 | 1,1 | 1,3 | ● | | ● | |
| | NTS-ER/L-16 11UNJ | 11 | 16 | 9,525 | 1,33 | 1,2 | 1,5 | ● | | ● | |
| | NTS-ER/L-16 10UNJ | 10 | 16 | 9,525 | 1,47 | 1,2 | 1,5 | ● | | ● | |
| | NTS-ER/L-16 9UNJ | 9 | 16 | 9,525 | 1,63 | 1,3 | 1,7 | ● | | ● | |
| | NTS-ER/L-16 8UNJ | 8 | 16 | 9,525 | 1,83 | 1,2 | 1,6 | ● | | ● | |
| | NTS-ER/L-22 7UNJ | 7 | 22 | 12,7 | 2,09 | 1,7 | 2,3 | ● | | ● | |
| | NTS-ER/L-22 6UNJ | 6 | 22 | 12,7 | 2,44 | 1,7 | 2,3 | ● | | ● | |
| | NTS-ER/L-22 5UNJ | 5 | 22 | 12,7 | 2,93 | 1,8 | 2,5 | ● | | ● | |

HC = Coated carbide

A 456 A 458 A 445 A 445

# Internal – Full profile, American UNJ 60°
# NTS thread turning inserts




## Thread turning inserts

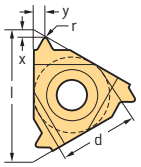
| | Designation | Pitch (TPI) inches | l mm | d mm | $h_{min}$ mm | X mm | Y mm | P HC WXP20 | P HC WMP32 | M HC WXM20 | M HC WMP32 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | NTS-IR/L-11 28UNJ | 28 | 11 | 6,35 | 0,47 | 0,7 | 0,7 | | ☺ | | ☺ |
| | NTS-IR/L-11 24UNJ | 24 | 11 | 6,35 | 0,55 | 0,7 | 0,8 | | ☺ | | ☺ |
| | NTS-IR/L-11 20UNJ | 20 | 11 | 6,35 | 0,66 | 0,8 | 0,9 | | ☺ | | ☺ |
| | NTS-IR/L-11 18UNJ | 18 | 11 | 6,35 | 0,74 | 0,8 | 1 | | ☺ | | ☺ |
| | NTS-IR/L-11 16UNJ | 16 | 11 | 6,35 | 0,83 | 0,9 | 0,1 | | ☺ | | ☺ |
| | NTS-IR/L-11 14UNJ | 14 | 11 | 6,35 | 0,95 | 1 | 1,2 | | ☺ | | ☺ |
| | NTS-IR/L-16 48UNJ | 48 | 16 | 9,525 | 0,28 | 0,6 | 0,5 | ☺ | | ☺ | |
| | NTS-IR/L-16 44UNJ | 44 | 16 | 9,525 | 0,3 | 0,6 | 0,6 | ☺ | | ☺ | |
| | NTS-IR/L-16 40UNJ | 40 | 16 | 9,525 | 0,33 | 0,6 | 0,6 | ☺ | | ☺ | |
| | NTS-IR/L-16 36UNJ | 36 | 16 | 9,525 | 0,37 | 0,6 | 0,6 | ☺ | | ☺ | |
| | NTS-IR/L-16 32UNJ | 32 | 16 | 9,525 | 0,42 | 0,6 | 0,7 | ☺ | | ☺ | |
| | NTS-IR/L-16 28UNJ | 28 | 16 | 9,525 | 0,47 | 0,7 | 0,7 | ☺ | | ☺ | |
| | NTS-IR/L-16 24UNJ | 24 | 16 | 9,525 | 0,55 | 0,7 | 0,8 | ☺ | | ☺ | |
| | NTS-IR/L-16 20UNJ | 20 | 16 | 9,525 | 0,66 | 0,8 | 0,9 | ☺ | | ☺ | |
| | NTS-IR/L-16 18UNJ | 18 | 16 | 9,525 | 0,74 | 0,8 | 1 | ☺ | | ☺ | |
| | NTS-IR/L-16 16UNJ | 16 | 16 | 9,525 | 0,83 | 0,9 | 1,1 | ☺ | | ☺ | |
| | NTS-IR/L-16 14UNJ | 14 | 16 | 9,525 | 0,95 | 1 | 1,2 | ☺ | | ☺ | |
| | NTS-IR/L-16 13UNJ | 13 | 16 | 9,525 | 1,02 | 1 | 1,3 | ☺ | | ☺ | |
| | NTS-IR/L-16 12UNJ | 12 | 16 | 9,525 | 1,11 | 1,1 | 1,3 | ☺ | | ☺ | |
| | NTS-IR/L-16 11UNJ | 11 | 16 | 9,525 | 1,21 | 1,2 | 1,5 | ☺ | | ☺ | |
| | NTS-IR/L-16 10UNJ | 10 | 16 | 9,525 | 1,33 | 1,2 | 1,5 | ☺ | | ☺ | |
| | NTS-IR/L-16 9UNJ | 9 | 16 | 9,525 | 1,48 | 1,3 | 1,7 | ☺ | | ☺ | |
| | NTS-IR/L-16 8UNJ | 8 | 16 | 9,525 | 1,66 | 1,2 | 1,6 | ☺ | | ☺ | |
| | NTS-IR/L-22 7UNJ | 7 | 22 | 12,7 | 1,9 | 1,7 | 2,3 | ☺ | | ☺ | |
| | NTS-IR/L-22 6UNJ | 6 | 22 | 12,7 | 2,21 | 1,7 | 2,3 | ☺ | | ☺ | |
| | NTS-IR/L-22 5UNJ | 5 | 22 | 12,7 | 2,66 | 1,8 | 2,5 | ☺ | | ☺ | |

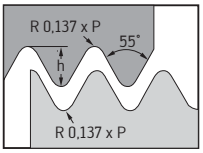
HC = Coated carbide

A3

A 456 A 458 A 445 A 445

# External – Full profile, Whitworth
# NTS thread turning inserts



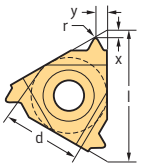

## Thread turning inserts

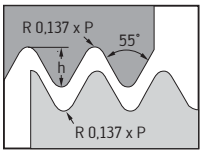
| | Designation | Pitch (TPI) inches | l mm | d mm | $h_{min}$ mm | X mm | Y mm | P HC WXP20 | P HC WMP32 | M HC WXM20 | M HC WMP32 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | NTS-ER/L-16 048W | 48 | 16 | 9,525 | 0,34 | 0,6 | 0,6 | ☺ | | ☺ | |
| | NTS-ER/L-16 040W | 40 | 16 | 9,525 | 0,41 | 0,6 | 0,6 | ☺ | | ☺ | |
| | NTS-ER/L-16 036W | 36 | 16 | 9,525 | 0,45 | 0,6 | 0,6 | ☺ | | ☺ | |
| | NTS-ER/L-16 032W | 32 | 16 | 9,525 | 0,51 | 0,6 | 0,6 | ☺ | | ☺ | |
| | NTS-ER/L-16 028W | 28 | 16 | 9,525 | 0,58 | 0,6 | 0,7 | ☺ | | ☺ | |
| | NTS-ER/L-16 026W | 26 | 16 | 9,525 | 0,63 | 0,7 | 0,8 | ☺ | | ☺ | |
| | NTS-ER/L-16 024W | 24 | 16 | 9,525 | 0,68 | 0,7 | 0,8 | ☺ | | ☺ | |
| | NTS-ER/L-16 022W | 22 | 16 | 9,525 | 0,74 | 0,8 | 0,9 | ☺ | | ☺ | |
| | NTS-ER/L-16 020W | 20 | 16 | 9,525 | 0,81 | 0,8 | 0,9 | ☺ | | ☺ | |
| | NTS-ER/L-16 019W | 19 | 16 | 9,525 | 0,86 | 0,8 | 1 | ☺ | | ☺ | |
| | NTS-ER/L-16 018W | 18 | 16 | 9,525 | 0,9 | 0,8 | 1 | ☺ | | ☺ | |
| | NTS-ER/L-16 016W | 16 | 16 | 9,525 | 1,02 | 0,9 | 1,1 | ☺ | | ☺ | |
| | NTS-ER/L-16 014W | 14 | 16 | 9,525 | 1,16 | 1 | 1,2 | ☺ | | ☺ | |
| | NTS-ER/L-16 012W | 12 | 16 | 9,525 | 1,36 | 1,1 | 1,4 | ☺ | | ☺ | |
| | NTS-ER/L-16 011W | 11 | 16 | 9,525 | 1,48 | 1,1 | 1,5 | ☺ | | ☺ | |
| | NTS-ER/L-16 010W | 10 | 16 | 9,525 | 1,63 | 1,1 | 1,5 | ☺ | | ☺ | |
| | NTS-ER/L-16 009W | 9 | 16 | 9,525 | 1,81 | 1,2 | 1,7 | ☺ | | ☺ | |
| | NTS-ER/L-16 008W | 8 | 16 | 9,525 | 2,03 | 1,2 | 1,5 | ☺ | | ☺ | |
| | NTS-ER/L-22 007W | 7 | 22 | 12,7 | 2,32 | 1,6 | 2,3 | ☺ | | ☺ | |
| | NTS-ER/L-22 006W | 6 | 22 | 12,7 | 2,71 | 1,6 | 2,3 | ☺ | | ☺ | |
| | NTS-ER/L-22 005W | 5 | 22 | 12,7 | 3,25 | 1,7 | 2,4 | ☺ | | ☺ | |

HC = Coated carbide

A 456 A 458 A 445 A 445

# Internal – Full profile, Whitworth
# NTS thread turning inserts



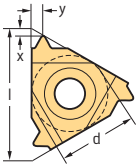

## Thread turning inserts

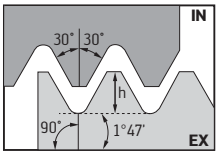
| | Designation | Pitch (TPI) inches | l mm | d mm | $h_{min}$ mm | X mm | Y mm | P HC WXP20 | P HC WMP32 | M HC WXM20 | M HC WMP32 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | NTS-IR/L-11 48W | 48 | 11 | 6,35 | 0,34 | 0,6 | 0,6 | | ☺ | | ☺ |
| | NTS-IR/L-11 36W | 36 | 11 | 6,35 | 0,45 | 0,6 | 0,6 | | ☺ | | ☺ |
| | NTS-IR/L-11 32W | 32 | 11 | 6,35 | 0,51 | 0,6 | 0,6 | | ☺ | | ☺ |
| | NTS-IR/L-11 26W | 26 | 11 | 6,35 | 0,63 | 0,7 | 0,8 | | ☺ | | ☺ |
| | NTS-IR/L-11 24W | 24 | 11 | 6,35 | 0,68 | 0,7 | 0,8 | | ☺ | | ☺ |
| | NTS-IR/L-11 22W | 22 | 11 | 6,35 | 0,74 | 0,8 | 0,9 | | ☺ | | ☺ |
| | NTS-IR/L-11 20W | 20 | 11 | 6,35 | 0,81 | 0,8 | 0,9 | | ☺ | | ☺ |
| | NTS-IR/L-11 19W | 19 | 11 | 6,35 | 0,86 | 0,8 | 1 | | ☺ | | ☺ |
| | NTS-IR/L-11 18W | 18 | 11 | 6,35 | 0,9 | 0,8 | 1 | | ☺ | | ☺ |
| | NTS-IR/L-11 16W | 16 | 11 | 6,35 | 1,02 | 0,9 | 1,1 | | ☺ | | ☺ |
| | NTS-IR/L-11 14W | 14 | 11 | 6,35 | 1,16 | 0,9 | 1,1 | | ☺ | | ☺ |
| | NTS-IR/L-11 12W | 12 | 11 | 6,35 | 1,32 | 0,9 | 1,2 | | ☺ | | ☺ |
| | NTS-IR/L-16 048W | 48 | 16 | 9,525 | 0,34 | 0,6 | 0,6 | ☺ | | ☺ | |
| | NTS-IR/L-16 040W | 40 | 16 | 9,525 | 0,41 | 0,6 | 0,6 | ☺ | | ☺ | |
| | NTS-IR/L-16 036W | 36 | 16 | 9,525 | 0,45 | 0,6 | 0,6 | ☺ | | ☺ | |
| | NTS-IR/L-16 032W | 32 | 16 | 9,525 | 0,51 | 0,6 | 0,6 | ☺ | | ☺ | |
| | NTS-IR/L-16 028W | 28 | 16 | 9,525 | 0,58 | 0,6 | 0,7 | ☺ | | ☺ | |
| | NTS-IR/L-16 026W | 26 | 16 | 9,525 | 0,63 | 0,7 | 0,8 | ☺ | | ☺ | |
| | NTS-IR/L-16 024W | 24 | 16 | 9,525 | 0,68 | 0,7 | 0,8 | ☺ | | ☺ | |
| | NTS-IR/L-16 022W | 22 | 16 | 9,525 | 0,74 | 0,8 | 0,9 | ☺ | | ☺ | |
| | NTS-IR/L-16 020W | 20 | 16 | 9,525 | 0,81 | 0,8 | 0,9 | ☺ | | ☺ | |
| | NTS-IR/L-16 019W | 19 | 16 | 9,525 | 0,86 | 0,8 | 1 | ☺ | | ☺ | |
| | NTS-IR/L-16 018W | 18 | 16 | 9,525 | 0,9 | 0,8 | 1 | ☺ | | ☺ | |
| | NTS-IR/L-16 016W | 16 | 16 | 9,525 | 1,02 | 0,9 | 1,1 | ☺ | | ☺ | |
| | NTS-IR/L-16 014W | 14 | 16 | 9,525 | 1,16 | 1 | 1,2 | ☺ | | ☺ | |
| | NTS-IR/L-16 012W | 12 | 16 | 9,525 | 1,36 | 1,1 | 1,4 | ☺ | | ☺ | |
| | NTS-IR/L-16 011W | 11 | 16 | 9,525 | 1,48 | 1,1 | 1,5 | ☺ | | ☺ | |
| | NTS-IR/L-16 010W | 10 | 16 | 9,525 | 1,63 | 1,1 | 1,5 | ☺ | | ☺ | |
| | NTS-IR/L-16 009W | 9 | 16 | 9,525 | 1,81 | 1,2 | 1,7 | ☺ | | ☺ | |
| | NTS-IR/L-16 008W | 8 | 16 | 9,525 | 2,03 | 1,2 | 1,5 | ☺ | | ☺ | |
| | NTS-IR/L-22 007W | 7 | 22 | 12,7 | 2,32 | 1,6 | 2,3 | ☺ | | ☺ | |
| | NTS-IR/L-22 006W | 6 | 22 | 12,7 | 2,71 | 1,6 | 2,3 | ☺ | | ☺ | |
| | NTS-IR/L-22 005W | 5 | 22 | 12,7 | 3,25 | 1,7 | 2,4 | ☺ | | ☺ | |

HC = Coated carbide

A 456 A 458 A 445 A 445

# External – Full profile, American NPTF
# NTS thread turning inserts inch




## Thread turning inserts

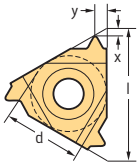
| | Designation | Pitch (TPI) inches | l mm | d mm | $h_{min}$ mm | X mm | Y mm | P HC WXP20 | P HC WMP32 | M HC WXM20 | M HC WMP32 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | NTS-ER/L-16 27NPTF | 27 | 16 | 9,525 | 0,64 | 0,7 | 0,8 | ● | | ● | |
| | NTS-ER/L-16 18NPTF | 18 | 16 | 9,525 | 1 | 0,8 | 1 | ● | | ● | |
| | NTS-ER/L-16 14NPTF | 14 | 16 | 9,525 | 1,35 | 0,9 | 1,2 | ● | | ● | |
| | NTS-ER/L-16 11.5NPTF | 11,5 | 16 | 9,525 | 1,63 | 1,1 | 1,5 | ● | | ● | |
| | NTS-ER/L-16 08NPTF | 8 | 16 | 9,525 | 2,38 | 1,3 | 1,8 | ● | | ● | |

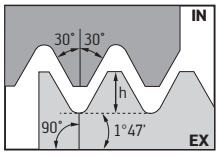
HC = Coated carbide

A 3

A 456 A 458 A 445 A 445

# Internal – Full profile, American NPTF
# NTS thread turning inserts inch




## Thread turning inserts

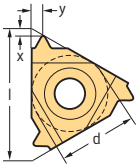
| | Designation | Pitch (TPI) inches | l mm | d mm | $h_{min}$ mm | X mm | Y mm | P HC WXP20 | P HC WMP32 | M HC WXM20 | M HC WMP32 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | NTS-IR/L-16 27NPTF | 27 | 16 | 9,525 | 0,64 | 0,7 | 0,8 | ● | | ● | |
| | NTS-IR/L-16 18NPTF | 18 | 16 | 9,525 | 1 | 0,8 | 1 | ● | | ● | |
| | NTS-IR/L-16 14NPTF | 14 | 16 | 9,525 | 1,35 | 0,9 | 1,2 | ● | | ● | |
| | NTS-IR/L-16 11.5NPTF | 11,5 | 16 | 9,525 | 1,63 | 1,1 | 1,5 | ● | | ● | |
| | NTS-IR/L-16 08NPTF | 8 | 16 | 9,525 | 2,38 | 1,3 | 1,8 | ● | | ● | |

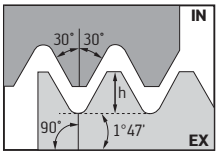
HC = Coated carbide

A3

A 456 A 458 A 445 A 445

# External – Full profile, American NPT
# NTS thread turning inserts inch




## Thread turning inserts

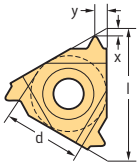
| | Designation | Pitch (TPI) inches | l mm | d mm | $h_{min}$ mm | X mm | Y mm | P HC WXP20 | P HC WMP32 | M HC WXM20 | M HC WMP32 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | NTS-ER/L-16 27NPT | 27 | 16 | 9,525 | 0,66 | 0,7 | 0,8 | ● | | ● | |
| | NTS-ER/L-16 18NPT | 18 | 16 | 9,525 | 1,01 | 0,8 | 1 | ● | | ● | |
| | NTS-ER/L-16 14NPT | 14 | 16 | 9,525 | 1,33 | 0,9 | 1,2 | ● | | ● | |
| | NTS-ER/L-16 11.5NPT | 11,5 | 16 | 9,525 | 1,64 | 1,1 | 1,5 | ● | | ● | |
| | NTS-ER/L-16 08NPT | 8 | 16 | 9,525 | 2,42 | 1,3 | 1,8 | ● | | ● | |

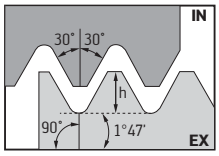
HC = Coated carbide

A 3

A 456 A 458 A 445 A 445

# Internal – Full profile, American NPT
# NTS thread turning inserts inch




## Thread turning inserts

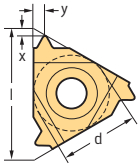
| | Designation | Pitch (TPI) inches | l mm | d mm | $h_{min}$ mm | X mm | Y mm | P HC WXP20 | P HC WMP32 | M HC WXM20 | M HC WMP32 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | NTS-IR/L-16 27NPT | 27 | 16 | 9,525 | 0,66 | 0,7 | 0,8 | ☺ | | ☹ | |
| | NTS-IR/L-16 18NPT | 18 | 16 | 9,525 | 1,01 | 0,8 | 1 | ☺ | | ☹ | |
| | NTS-IR/L-16 14NPT | 14 | 16 | 9,525 | 1,33 | 0,9 | 1,2 | ☺ | | ☹ | |
| | NTS-IR/L-16 11.5NPT | 11,5 | 16 | 9,525 | 1,64 | 1,1 | 1,5 | ☺ | | ☹ | |
| | NTS-IR/L-16 08NPT | 8 | 16 | 9,525 | 2,42 | 1,3 | 1,8 | ☺ | | ☹ | |

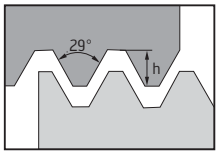
HC = Coated carbide

A3

A 456 A 458 A 445 A 445

# External – Full profile, ACME
# NTS thread turning inserts inch




## Thread turning inserts

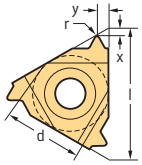
| | Designation | Pitch (TPI) inches | l mm | d mm | $h_{min}$ mm | X mm | Y mm | P HC WXP20 | P HC WMP32 | M HC WXM20 | M HC WMP32 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | NTS-ER/L-16 16ACME | 16 | 16 | 9,525 | 0,92 | 1 | 1,1 | ☺ | | ☺ | |
| | NTS-ER/L-16 14ACME | 14 | 16 | 9,525 | 1,03 | 1 | 1,2 | ☺ | | ☺ | |
| | NTS-ER/L-16 12ACME | 12 | 16 | 9,525 | 1,19 | 1,1 | 1,2 | ☺ | | ☺ | |
| | NTS-ER/L-16 10ACME | 10 | 16 | 9,525 | 1,52 | 1,3 | 1,4 | ☺ | | ☺ | |
| | NTS-ER/L-16 8ACME | 8 | 16 | 9,525 | 1,84 | 1,4 | 1,5 | ☺ | | ☺ | |
| | NTS-ER/L-22 6ACME | 6 | 22 | 12,7 | 2,37 | 1,8 | 2,1 | ☺ | | ☺ | |
| | NTS-ER/L-22 5ACME | 5 | 22 | 12,7 | 2,79 | 2 | 2,3 | ☺ | | ☺ | |

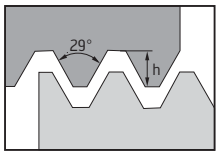
HC = Coated carbide

A 3

A 456 A 458 A 445 A 445

# Internal – Full profile, ACME
# NTS thread turning inserts inch




## Thread turning inserts

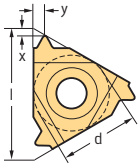
| | Designation | Pitch (TPI) inches | l mm | d mm | $h_{min}$ mm | X mm | Y mm | P HC WXP20 | P HC WMP32 | M HC WXM20 | M HC WMP32 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | NTS-IR/L-16 16ACME | 16 | 16 | 9,525 | 0,92 | 1 | 1,1 | ● | | ● | |
| | NTS-IR/L-16 14ACME | 14 | 16 | 9,525 | 1,03 | 1,1 | 1,2 | ● | | ● | |
| | NTS-IR/L-16 12ACME | 12 | 16 | 9,525 | 1,19 | 1,2 | 1,3 | ● | | ● | |
| | NTS-IR/L-16 10ACME | 10 | 16 | 9,525 | 1,52 | 1,2 | 1,3 | ● | | ● | |
| | NTS-IR/L-16 8ACME | 8 | 16 | 9,525 | 1,84 | 1,4 | 1,5 | ● | | ● | |
| | NTS-IR/L-22 6ACME | 6 | 22 | 12,7 | 2,37 | 1,8 | 2,1 | ● | | ● | |
| | NTS-IR/L-22 5ACME | 5 | 22 | 12,7 | 2,79 | 2 | 2,3 | ● | | ● | |

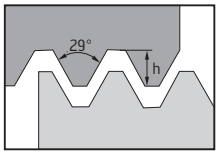
HC = Coated carbide

A3

A 456 A 458 A 445 A 445

# External – Full profile, stub ACME
# NTS thread turning inserts inch




## Thread turning inserts

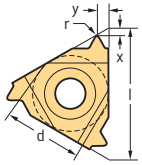
| | Designation | Pitch (TPI) inches | l mm | d mm | $h_{min}$ mm | X mm | Y mm | P HC WXP20 | P HC WMP32 | M HC WXM20 | M HC WMP32 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | NTS-ER/L-16 16STACME | 16 | 16 | 9,525 | 0,6 | 1 | 1 | ☺ | | ☺ | |
| | NTS-ER/L-16 14STACME | 14 | 16 | 9,525 | 0,67 | 1,1 | 1,1 | ☺ | | ☺ | |
| | NTS-ER/L-16 12STACME | 12 | 16 | 9,525 | 0,76 | 1,2 | 1,2 | ☺ | | ☺ | |
| | NTS-ER/L-16 10STACME | 10 | 16 | 9,525 | 1,02 | 1,2 | 1,3 | ☺ | | ☺ | |
| | NTS-ER/L-16 8STACME | 8 | 16 | 9,525 | 1,21 | 1,4 | 1,5 | ☺ | | ☺ | |
| | NTS-ER/L-16 6STACME | 6 | 16 | 9,525 | 1,52 | 1,7 | 1,8 | ☺ | | ☺ | |
| | NTS-ER/L-22 5STACME | 5 | 22 | 12,7 | 1,78 | 2,1 | 2,3 | ☺ | | ☺ | |

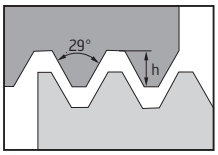
HC = Coated carbide

A 3

A 456 A 458 A 445 A 445

# Internal – Full profile, stub ACME
# NTS thread turning inserts inch




## Thread turning inserts

| | Designation | Pitch (TPI) inches | l mm | d mm | $h_{min}$ mm | X mm | Y mm | P HC WXP20 | P HC WMP32 | M HC WXM20 | M HC WMP32 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | NTS-IR/L-16 16STACME | 16 | 16 | 9,525 | 0,6 | 1 | 1 | ☺ | | ☹ | |
| | NTS-IR/L-16 14STACME | 14 | 16 | 9,525 | 0,67 | 1,1 | 1,1 | ☺ | | ☹ | |
| | NTS-IR/L-16 12STACME | 12 | 16 | 9,525 | 0,76 | 1,1 | 1,2 | ☺ | | ☹ | |
| | NTS-IR/L-16 10STACME | 10 | 16 | 9,525 | 1,02 | 1,2 | 1,3 | ☺ | | ☹ | |
| | NTS-IR/L-16 8STACME | 8 | 16 | 9,525 | 1,21 | 1,4 | 1,5 | ☺ | | ☹ | |
| | NTS-IR/L-16 6STACME | 6 | 16 | 9,525 | 1,52 | 1,7 | 1,8 | ☺ | | ☹ | |
| | NTS-IR/L-22 5STACME | 5 | 22 | 12,7 | 1,78 | 2,1 | 2,3 | ☺ | | ☹ | |

HC = Coated carbide

A3

A 456 A 458 A 445 A 445

# Walter NTS product description



## Thread turning tool families – External machining

**NTS-SE external thread holder**
– Standard position
– Standard inclination angle 1.5°
– Insert sizes: NTS-ER/L-16 . . ., NTS-ER/L-22 . . .

**C . . . -NTS-SE Walter Capto™ external thread holder**
– Standard position
– Standard inclination angle 1.5°
– Insert sizes: NTS-ER/L-16 . . ., NTS-ER/L-22 . . .

**C . . . -NTS-OE Walter Capto™ external thread holder, overhead**
– Overhead position
– The Walter Capto™ polygon is rotated through 180°
– Standard inclination angle 1.5°
– Insert sizes: NTS-ER/L-16 . . ., NTS-ER/L-22 . . .

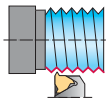
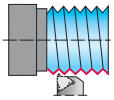
## Thread turning tool family – Internal machining

**A . . . -NTS-I/S . . . -NTS-I internal thread boring bar**
– Standard position
– Standard inclination angle 1.5°
– Insert sizes: NTS-IR/L-11 . . ., NTS-IR/L-16 . . ., NTS-IR/L-22 . . .

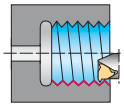
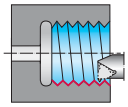
**C . . . -NTS-SI Walter Capto™ internal thread boring bar**
– Standard position
– For NTS-I . . . -16, . . . -22 threading inserts
– Standard inclination angle 1.5°
– Insert sizes: NTS-IR/L-16 . . ., NTS-IR/L-22 . . .

**C . . . -NTS-OI Walter Capto™ internal thread boring bar, overhead**
– Overhead position
– The Walter Capto™ polygon is rotated through 180°
– Standard inclination angle 1.5°
– Insert sizes: NTS-IR/L-16 . . ., NTS-IR/L-22 . . .

## Walter NTS threading tools product range overview
## Thread turning tools – External machining

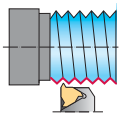
| | | | |
|---|---|---|---|
| |  | |  |
| **Type** | NTS.. | | NTS.. |
| | **NTS-SE** | **C...-NTS-SE** | **C...-NTS-OE** |
| Shank size h [mm] | 12–40 | C3–C6 | |
| Walter Capto™ size | | C3–C6 | C3–C6 |
| Insert size l [mm] | 16–22 | 16–22 | 16–22 |
| Page | A 450 | A 451 | A 452 |
| | | | |

## Walter NTS threading tools product range overview
## Thread turning tools – Internal machining

| | | | | |
|---|---|---|---|---|
| | |  | |  |
| **Type** | | NTS.. | | NTS.. |
| | **A...-NTS-I** | **S...-NTS-I** | **C...-NTS-SI** | **C...-NTS-OI** |
| Shank size h [mm] | 20 | 16–40 | | |
| Walter Capto™ size | | | C3–C6 | C3–C6 |
| Insert size l [mm] | 11–16 | 16–22 | 16–22 | 16–22 |
| Page | A 453 | A 453 | A 454 | A 455 |
| | | | | |

A3

# Thread turning system overview – Walter NTS external machining



**VDI adaptors for square shanks with precision cooling**

**A2120-VDI-P**

Page D 16

**A2121-VDI-P**

Page D 17

**Walter Capto™ adaptors for square shanks**

**C...-ASHR/L**
**C...-ASHR/L3**

Page D 11

**C...-ASHA**

Page D 12

**Walter Capto™ thread turning tools**

**C ...NTS-SE**
**C...NTS-OE**

Page A 451

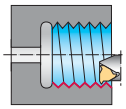
**Shank tools**

**e.g. NTS-SE**

Page A 450

= Precision cooling

# Thread turning system overview – Walter NTS internal machining



**Adaptors for boring bars**

**C … -131**

Page D 65

**C … -391.20**
**C … -391.27**

Page D 66

**Boring bars**

**e.g.**

**A…NTS-I**
**S…NTS-I**

Page A 453

**Walter Capto™ boring bars for thread turning**

**C…NTS-SI**
**C…NTS-OI**

Page A 454

A3

# Designation key for Walter NTS

**Example for external machining:**

| NTS | S | E | L | – | 16 | 16 | – | 16 |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | | 5 | 6 | | 7 |

**Example for internal machining:**

| S | 32 | S | – | NTS | I | R | – | 16 | – | 16 |
|---|---|---|---|---|---|---|---|---|---|---|
| 11 | 12 | 13 | | 1 | 3 | 4 | | 7 | | 10 |



### 1 – Tool range

**NTS** = Walter Thread System

### 2 – Tool position

**S** Standard position

**O** Overhead position

### 3 – Version Tool

**E** External

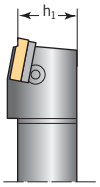
**I** Internal

### 4 – Version Shank

**R** Right

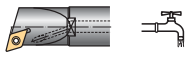
**L** Left

### 5 – Toolholder height $h_1$ [mm]

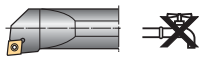



### 11 – Shank design

**A** Solid steel design **with** internal coolant supply

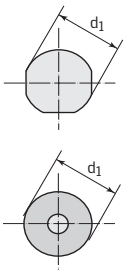


**S** Solid steel design **without** internal coolant supply



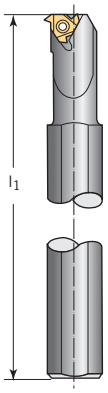
### 12 – Boring bar diameter $d_1$ [mm]

Shank diameter in mm.
Figures after the decimal point are ignored.
Single-digit numbers are preceded by a "0".




### 13 – Tool length $l_1$ [mm]

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



Walter Capto™

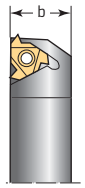
Example: Walter Capto™

| C4 | – | NTS | S | E | R | – | 27 | 050 | – | 16 |
|---|---|---|---|---|---|---|---|---|---|---|
| 14 | | 1 | 2 | 3 | 4 | | 8 | 9 | | 7 |



**6**

**Toolholder width b [mm]**



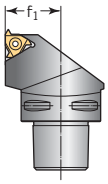

**7**

**Cutting edge length l [mm]**

l = 11
l = 16
l = 22

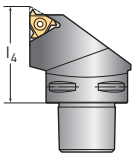
**8**

**$f_1$ dimension [mm]**



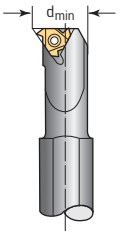

**9**

**Tool length $l_4$ [mm]**




**10**

**$d_{min}$ dimension [mm]**




**14**

**Coupling size $d_1$ [mm]**

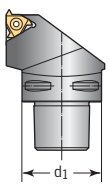
C = Walter Capto™
ISO 26623

**C3** $d_1 = 32$

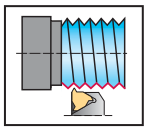
**C4** $d_1 = 40$

**C5** $d_1 = 50$

**C6** $d_1 = 63$

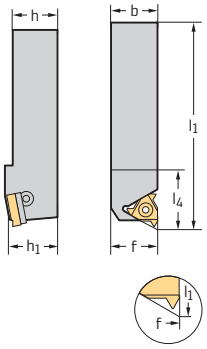


# Shank tool – External thread
# NTS-SE
## Walter NTS



NTS-E . .

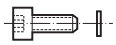
## Tool




| Designation | | h = $h_1$ mm | b mm | f mm | $l_1$ mm | $l_4$ mm | Type |
|---|---|---|---|---|---|---|---|
| NTS-SER/L1212-16 | 16 | 12 | 12 | 16 | 83,2 | 22 | |
| NTS-SER/L1616-16 | 16 | 16 | 16 | 16 | 100 | 22 | |
| NTS-SER/L2020-16 | 16 | 20 | 20 | 20 | 128,6 | 30 | NTS-E . -16 .. |
| NTS-SER/L2525-16 | 16 | 25 | 25 | 25 | 153,6 | 30 | |
| NTS-SER/L3232-16 | 16 | 32 | 32 | 32 | 173,6 | 34 | |
| NTS-SER/L2525-22 | 22 | 25 | 25 | 25 | 155,7 | 36 | |
| NTS-SER/L3232-22 | 22 | 32 | 32 | 32 | 175,7 | 36 | NTS-E . -22 .. |
| NTS-SER/L4040-22 | 22 | 40 | 40 | 40 | 205,7 | 36 | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

The toolholders listed are designed for an inclination angle of 1.5°
Ordering example, right-hand tool: NTS-SER1212-16/ordering example, left-hand tool: NTS-SEL1212-16
Bodies and assembly parts are included in the scope of delivery.

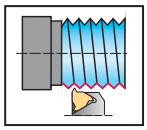
## Assembly parts

| | Type | NTS-E . -16 .. | NTS-E . -22 .. |
|---|---|---|---|
|  | Left shim | YI3 | YI4 |
| | Right shim | YE3 | YE4 |
| | Clamping screw for threading insert<br>Tightening torque | FS2177 (Torx 10)<br>1,7 Nm | FS2178 (Torx 20)<br>3,8 Nm |
|  | Clamping screw and washer for shim | FS2179 (Torx 10) | FS2180 (Torx 20) |
| | Torx key | FS1050 (Torx 10) | FS256 (Torx 20) |

A 426 D 1 A 456 A 459

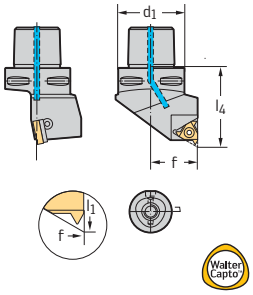
# Turning toolholders – External thread
# C...-NTS-SE
## Walter NTS

– Standard position
– Walter Capto™



## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $d_1$ mm | f mm | $l_4$ mm | Type |
|---|---|---|---|---|---|
| C3-NTS-SER/L22040-16 | 16 | C3 | 22 | 40 | NTS-E . -16 .. |
| C4-NTS-SER/L27050-16 | 16 | C4 | 27 | 50 | |
| C5-NTS-SER/L35060-16 | 16 | C5 | 35 | 60 | |
| C6-NTS-SER/L45065-16 | 16 | C6 | 45 | 65 | |
| C4-NTS-SER/L27050-22 | 22 | C4 | 27 | 50 | NTS-E . -22 .. |
| C5-NTS-SER/L35060-22 | 22 | C5 | 35 | 60 | |
| C6-NTS-SER/L45065-22 | 22 | C6 | 45 | 65 | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

The toolholders listed are designed for an inclination angle of 1.5°
Ordering example, right-hand tool: C3-NTS-SER22040-16/ordering example, left-hand tool: C3-NTS-SEL22040-16
Bodies and assembly parts are included in the scope of delivery.

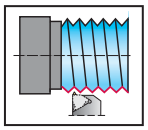
## Assembly parts

| | Type<br>$d_1$ [mm] | NTS-E . -16 ..<br>C3 | NTS-E . -16 ..<br>C4 | NTS-E . -16 ..<br>C5/C6 | NTS-E . -22 ..<br>C4 | NTS-E . -22 ..<br>C5/C6 |
|---|---|---|---|---|---|---|
|  | Left shim | YI3 | YI3 | YI3 | YI4 | YI4 |
| | Right shim | YE3 | YE3 | YE3 | YE4 | YE4 |
| | Clamping screw for threading insert<br>Tightening torque | FS2177 (Torx 10)<br>1,7 Nm | FS2177 (Torx 10)<br>1,7 Nm | FS2177 (Torx 10)<br>1,7 Nm | FS2178 (Torx 20)<br>3,8 Nm | FS2178 (Torx 20)<br>3,8 Nm |
| | Clamping screw and washer for shim | FS2179 (Torx 10) | FS2179 (Torx 10) | FS2179 (Torx 10) | FS2180 (Torx 20) | FS2180 (Torx 20) |
| | Torx key | FS1050 (Torx 10) | FS1050 (Torx 10) | FS1050 (Torx 10) | FS256 (Torx 20) | FS256 (Torx 20) |
| | Cooling lubricant nozzle | FS1230 | FS1018 | FS1019 | FS1018 | FS1019 |

A 426 D 1 A 456 A 459

# Turning toolholders – External thread
# C...-NTS-OE
## Walter NTS

– Overhead position
– Walter Capto™

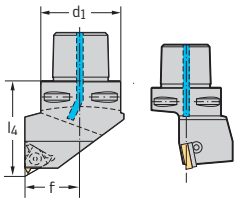


NTS-E . .

A3

## Tool

Walter Capto™ in accordance with ISO 26623

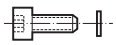


Walter Capto

| Designation | | $d_1$ mm | f mm | $l_4$ mm | Type |
|---|---|---|---|---|---|
| C3-NTS-OER/L22040-16 | 16 | C3 | 22 | 40 | NTS-E . -16 .. |
| C4-NTS-OER/L27050-16 | 16 | C4 | 27 | 50 | |
| C5-NTS-OER/L35060-16 | 16 | C5 | 35 | 60 | |
| C6-NTS-OER/L45065-16 | 16 | C6 | 45 | 65 | |
| C4-NTS-OER/L27050-22 | 22 | C4 | 27 | 50 | NTS-E . -22 .. |
| C5-NTS-OER/L35060-22 | 22 | C5 | 35 | 60 | |
| C6-NTS-OER/L45065-22 | 22 | C6 | 45 | 65 | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

The toolholders listed are designed for an inclination angle of 1.5°
Ordering example, right-hand tool: C3-NTS-OER22040-16/ordering example, left-hand tool: C3-NTS-OEL22040-16
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | NTS-E . -16 .. | NTS-E . -22 .. |
|---|---|---|---|
|  | Left shim | YI3 | YI4 |
| | Right shim | YE3 | YE4 |
| | Clamping screw for threading insert<br>Tightening torque | FS2177 (Torx 10)<br>1,7 Nm | FS2178 (Torx 20)<br>3,8 Nm |
|  | Clamping screw and washer for shim | FS2179 (Torx 10) | FS2180 (Torx 20) |
| | Torx key | FS1050 (Torx 10) | FS256 (Torx 20) |
| | Cooling lubricant nozzle | FS1230 | FS1230 |

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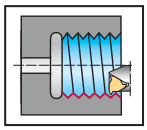
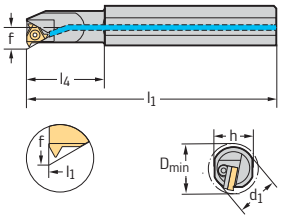
# Boring bar – Internal thread
# A...-NTS-I / S...-NTS-I
## Walter NTS



NTS-I . .

## Tool




| Designation | | $D_{min}$ mm | $d_1$ mm | f mm | h mm | $l_1$ mm | $l_4$ mm | β | Type |
|---|---|---|---|---|---|---|---|---|---|
| A20Q-NTS-IR/L11-12 | 11 | 12 | 20 | 7,3 | 18 | 180 | 25 | 3° | |
| A20Q-NTS-IR/L11-13 | 11 | 13 | 20 | 7,4 | 18 | 180 | 25 | 1,5° | NTS-I . -11 .. |
| A20Q-NTS-IR/L11-16 | 11 | 16 | 20 | 8,9 | 18 | 180 | 32 | 1,5° | |
| A20Q-NTS-IR/L16-16 | 16 | 16 | 20 | 10,2 | 18 | 180 | 34 | 2,5° | NTS-I . -16 .. |
| S20Q-NTS-IR/L16-17 | 16 | 17 | 20 | 10,3 | 18 | 180 | 32 | 1,5° | |
| S16M-NTS-IR/L16-20 | 16 | 20 | 16 | 11,3 | 15,2 | 150 | 32 | 1,5° | |
| S20Q-NTS-IR/L16-20 | 16 | 20 | 20 | 11,5 | 18 | 180 | 40 | 1,5° | |
| S20Q-NTS-IR/L16-24 | 16 | 24 | 20 | 13,4 | 18 | 180 | 40 | 1,5° | |
| S25R-NTS-IR/L16-29 | 16 | 29 | 25 | 16,1 | 22,6 | 200 | 45 | 1,5° | NTS-I . -16 .. |
| S32S-NTS-IR/L16-29 | 16 | 29 | 32 | 16,3 | 29 | 250 | 60 | 1,5° | |
| S32S-NTS-IR/L16-36 | 16 | 36 | 32 | 19,6 | 29 | 250 | 60 | 1,5° | |
| S40T-NTS-IR/L16-44 | 16 | 44 | 40 | 23,8 | 25,8 | 300 | 60 | 1,5° | |
| S20Q-NTS-IR/L22-27 | 22 | 27 | 20 | 15,6 | 18 | 180 | 50 | 1,5° | |
| S25R-NTS-IR/L22-32 | 22 | 32 | 25 | 17,2 | 22,6 | 200 | 45 | 1,5° | |
| S32S-NTS-IR/L22-32 | 22 | 32 | 32 | 17,4 | 29 | 250 | 60 | 1,5° | NTS-I . -22 .. |
| S32S-NTS-IR/L22-39 | 22 | 39 | 32 | 21,5 | 29 | 250 | 60 | 1,5° | |
| S40T-NTS-IR/L22-47 | 22 | 47 | 40 | 25,8 | 32 | 300 | 60 | 1,5° | |

For information on the inclination angle β, see "Technical information – Thread turning"
Ordering example, right-hand tool: A20Q-NTS-IR11-12/ordering example, left-hand tool: A20Q-NTS-IL11-12
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| Type<br>$D_{min}$ [mm] | NTS-I . -11 ..<br>12–16 | NTS-I . -16 ..<br>16–20 | NTS-I . -16 ..<br>24–44 | NTS-I . -22 ..<br>27 | NTS-I . -22 ..<br>32–47 |
|---|---|---|---|---|---|
| Left shim | | | YI3 | | YI4 |
| Right shim | | | YE3 | | YE4 |
| Clamping screw for threading insert<br>Tightening torque | FS2174<br>(Torx 8IP)<br>0,9 Nm | FS2175 (Torx 10)<br>1,7 Nm | FS2177 (Torx 10)<br>1,7 Nm | FS2176 (Torx 20)<br>3,8 Nm | FS2178 (Torx 20)<br>3,8 Nm |
| Clamping screw and washer for shim | | | FS2179 (Torx 10) | | FS2180 (Torx 20) |
| Torx key | FS257 (Torx 8) | FS1050 (Torx 10) | FS1050 (Torx 10) | FS256 (Torx 20) | FS256 (Torx 20) |

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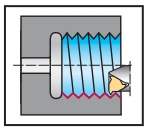
# Boring bar – Internal thread
# C...-NTS-SI
## Walter NTS

– Standard position
– Walter Capto™

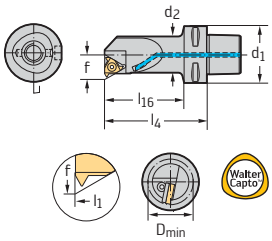


NTS-I . .

A3

## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $D_{min}$ mm | $d_2$ mm | $d_1$ | f mm | $l_4$ mm | $l_{16}$ mm | Type |
|---|---|---|---|---|---|---|---|---|
| C3-NTS-SIR/L22085-16 | 16 | 40 | 32 | C3 | 22 | 85 | 70 | NTS-I . -16 .. |
| C4-NTS-SIR/L22090-16 | 16 | 40 | 32 | C4 | 22 | 90 | 69 | |
| C4-NTS-SIR/L27080-16 | 16 | 50 | 39,5 | C4 | 27 | 80 | 60 | |
| C5-NTS-SIR/L22090-16 | 16 | 40 | 32 | C5 | 22 | 90 | 68 | |
| C5-NTS-SIR/L27105-16 | 16 | 50 | 40 | C5 | 27 | 105 | 84 | |
| C6-NTS-SIR/L22090-16 | 16 | 40 | 32 | C6 | 22 | 90 | 64 | |
| C6-NTS-SIR/L27105-16 | 16 | 50 | 40 | C6 | 27 | 105 | 80 | |
| C4-NTS-SIR/L22090-22 | 22 | 40 | 31,5 | C4 | 22 | 90 | 69 | NTS-I . -22 .. |
| C4-NTS-SIR/L27080-22 | 22 | 50 | 39,5 | C4 | 27 | 80 | 60 | |
| C5-NTS-SIR/L22090-22 | 22 | 40 | 31,5 | C5 | 22 | 90 | 68 | |
| C5-NTS-SIR/L27105-22 | 22 | 50 | 40 | C5 | 27 | 105 | 84 | |
| C6-NTS-SIR/L22090-22 | 22 | 40 | 31,5 | C6 | 22 | 90 | 64 | |
| C6-NTS-SIR/L27105-22 | 22 | 50 | 40 | C6 | 27 | 105 | 80 | |

The toolholders listed are designed for an inclination angle of 1.5°
Ordering example, right-hand tool: C3-NTS-SIR22085-16/ordering example, left-hand tool: C3-NTS-SIL22085-16
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | NTS-I . -16 .. | NTS-I . -22 .. |
|---|---|---|---|
|  | Left shim | YI3 | YI4 |
| | Right shim | YE3 | YE4 |
| | Clamping screw for threading insert<br>Tightening torque | FS2177 (Torx 10)<br>1,7 Nm | FS2178 (Torx 20)<br>3,8 Nm |
| | Clamping screw and washer for shim | FS2179 (Torx 10) | FS2180 (Torx 20) |
| | Torx key | FS1050 (Torx 10) | FS256 (Torx 20) |

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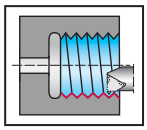
# Boring bar – Internal thread
# C...-NTS-OI
## Walter NTS

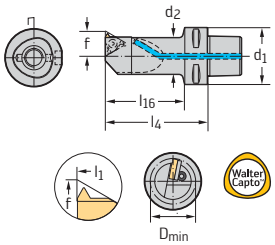
– Overhead position
– Walter Capto™



NTS-I . .

## Tool

Walter Capto™ in accordance with ISO 26623




| Designation | | $D_{min}$ mm | $d_2$ mm | $d_1$ | f mm | $l_4$ mm | $l_{16}$ mm | Type |
|---|---|---|---|---|---|---|---|---|
| C3-NTS-OIR/L22085-16 | 16 | 40 | 32 | C3 | 22 | 85 | 70 | NTS-I . -16 .. |
| C4-NTS-OIR/L22090-16 | 16 | 40 | 32 | C4 | 22 | 90 | 69 | |
| C4-NTS-OIR/L27080-16 | 16 | 50 | 39,5 | C4 | 27 | 80 | 60 | |
| C5-NTS-OIR/L22090-16 | 16 | 40 | 32 | C5 | 22 | 90 | 68 | |
| C5-NTS-OIR/L27105-16 | 16 | 50 | 40 | C5 | 27 | 105 | 84 | |
| C6-NTS-OIR/L22090-16 | 16 | 40 | 32 | C6 | 22 | 90 | 64 | |
| C6-NTS-OIR/L27105-16 | 16 | 50 | 40 | C6 | 27 | 105 | 80 | |
| C4-NTS-OIR/L22090-22 | 22 | 40 | 31,5 | C4 | 22 | 90 | 69 | NTS-I . -22 .. |
| C4-NTS-OIR/L27080-22 | 22 | 50 | 39,5 | C4 | 27 | 80 | 60 | |
| C5-NTS-OIR/L22090-22 | 22 | 40 | 31,5 | C5 | 22 | 90 | 68 | |
| C5-NTS-OIR/L27105-22 | 22 | 50 | 40 | C5 | 27 | 105 | 84 | |
| C6-NTS-OIR/L22090-22 | 22 | 40 | 31,5 | C6 | 22 | 90 | 64 | |
| C6-NTS-OIR/L27105-22 | 22 | 50 | 40 | C6 | 27 | 105 | 80 | |

The toolholders listed are designed for an inclination angle of 1.5°
Ordering example, right-hand tool: C3-NTS-OIR22085-16/ordering example, left-hand tool: C3-NTS-OIL22085-16
Bodies and assembly parts are included in the scope of delivery.

## Assembly parts

| | Type | NTS-I . -16 .. | NTS-I . -22 .. |
|---|---|---|---|
|  | Left shim | YI3 | YI4 |
| | Right shim | YE3 | YE4 |
| | Clamping screw for threading insert<br>Tightening torque | FS2177 (Torx 10)<br>1,7 Nm | FS2178 (Torx 20)<br>3,8 Nm |
| | Clamping screw and washer for shim | FS2179 (Torx 10) | FS2180 (Torx 20) |
| | Torx key | FS1050 (Torx 10) | FS256 (Torx 20) |

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# Cutting data for thread turning
# Carbide grades



= Cutting data for wet machining
= Dry machining is possible

| Material group | Overview of the main material groups and code letters | | | Brinell hardness HB | Tensile strength $R_m$ N/mm² | Machining group [1] | | | |
|---|---|---|---|---|---|---|---|---|---|
| P | Non-alloyed steel | C ≤ 0.25% | Annealed | 125 | 430 | P1 | ●● | | |
| | | C > 0.25 to ≤ 0.55% | Annealed | 190 | 640 | P2 | ●● | | |
| | | C > 0.25 to ≤ 0.55% | Heat-treated | 210 | 710 | P3 | ●● | | |
| | | C > 0.55% | Annealed | 190 | 640 | P4 | ●● | | |
| | | C > 0.55% | Heat-treated | 300 | 1010 | P5 | ●● | | |
| | | Free cutting steel (short-chipping) | Annealed | 220 | 750 | P6 | ●● | | |
| | Low-alloyed steel | Annealed | | 175 | 590 | P7 | ●● | | |
| | | Heat-treated | | 285 | 960 | P8 | ●● | | |
| | | Heat-treated | | 380 | 1280 | P9 | ●● | | |
| | | Heat-treated | | 430 | 1480 | P10 | ●● | | |
| | High-alloyed steel and high-alloyed tool steel | Annealed | | 200 | 680 | P11 | ●● | | |
| | | Hardened and tempered | | 300 | 1010 | P12 | ●● | | |
| | | Hardened and tempered | | 380 | 1280 | P13 | ●● | | |
| | Stainless steel | Ferritic/martensitic, annealed | | 200 | 680 | P14 | ●● | | |
| | | Martensitic, heat-treated | | 330 | 1110 | P15 | ●● | | |
| M | Stainless steel | Austenitic, quench hardened | | 200 | 680 | M1 | ●● | | |
| | | Austenitic, precipitation hardened (PH) | | 300 | 1010 | M2 | ●● | | |
| | | Austenitic/ferritic, duplex | | 230 | 780 | M3 | ●● | | |
| K | Malleable cast iron | Ferritic | | 200 | 400 | K1 | ●● | | |
| | | Pearlitic | | 260 | 700 | K2 | ●● | | |
| | Grey cast iron | Low tensile strength | | 180 | 200 | K3 | ●● | | |
| | | High tensile strength/austenitic | | 245 | 350 | K4 | ●● | | |
| | Cast iron with spheroidal graphite | Ferritic | | 155 | 400 | K5 | ●● | | |
| | | Pearlitic | | 265 | 700 | K6 | ●● | | |
| | GGV (CGI) | | | 230 | 400 | K7 | | | |
| N | Wrought aluminium alloys | Not hardenable | | 30 | – | N1 | ●● | | |
| | | Hardenable, hardened | | 100 | 340 | N2 | ●● | | |
| | Cast aluminium alloys | ≤ 12% Si, not hardenable | | 75 | 260 | N3 | ●● | | |
| | | ≤ 12% Si, hardenable, hardened | | 90 | 310 | N4 | ●● | | |
| | | > 12% Si, not hardenable | | 130 | 450 | N5 | | | |
| | Magnesium-based alloys | | | 70 | 250 | N6 | | | |
| | Copper and copper alloys (bronze/brass) | Non-alloyed, electrolytic copper | | 100 | 340 | N7 | ●● | | |
| | | Brass, bronze, red brass | | 90 | 310 | N8 | ●● | | |
| | | Cu-alloys, short-chipping | | 110 | 380 | N9 | ●● | | |
| | | High-tensile, Ampco | | 300 | 1010 | N10 | | | |
| S | Heat-resistant alloys | Fe-based | Annealed | 200 | 680 | S1 | | | |
| | | | Hardened | 280 | 940 | S2 | | | |
| | | Ni or Co base | Annealed | 250 | 840 | S3 | | | |
| | | | Hardened | 350 | 1180 | S4 | | | |
| | | | Cast | 320 | 1080 | S5 | | | |
| | Titanium alloys | Pure titanium | | 200 | 680 | S6 | | | |
| | | α and β alloys, hardened | | 375 | 1260 | S7 | | | |
| | | β alloys | | 410 | 1400 | S8 | | | |
| | Tungsten alloys | | | 300 | 1010 | S9 | | | |
| | Molybdenum alloys | | | 300 | 1010 | S10 | | | |
| H | Hardened steel | Hardened and tempered | | 50 HRC | – | H1 | | | |
| | | Hardened and tempered | | 55 HRC | – | H2 | | | |
| | | Hardened and tempered | | 60 HRC | – | H3 | | | |
| | Hardened cast iron | Hardened and tempered | | 55 HRC | – | H4 | | | |
| O | Thermoplastics | Without abrasive fillers | | | | O1 | | | |
| | Thermosetting plastics | Without abrasive fillers | | | | O2 | ● | | |
| | Plastic, glass fibre reinforced | GFRP | | | | O3 | | | |
| | Plastic, carbon fibre reinforced | CFRP | | | | O4 | | | |
| | Plastic, aramid fibre reinforced | AFRP | | | | O5 | | | |
| | Graphite (technical) | | | 80 Shore | | O6 | | | |

●● Recommended application (the specified cutting data is regarded as starting values for the recommended application)
● Possible application

[1] The classification of the machining groups can be found from page A 468 onwards.

The specified cutting data are average standard values.
For special applications, adjustment is recommended.

| | Cutting material grades | | | | | |
|---|---|---|---|---|---|---|
| | Starting values for cutting speed $v_c$ [m/min] | | | | | |
| | HC | | | | | |
| | WXP20 | | WXM20 | | WMP32 | |
| Pitch [mm] | 0,5–1,25 | 1,5–3,0 | 0,5–1,25 | 1,5–6,0 | 0,5–1,25 | 1,5–6,0 |
| Pitch [TPI] | 48–19 | 18–10 | 48–19 | 18–5 | 48–19 | 18–10 |
| | 200 | 240 | | | 180 | 215 |
| | 180 | 200 | | | 160 | 180 |
| | 150 | 180 | | | 135 | 160 |
| | 160 | 180 | | | 145 | 160 |
| | 80 | 100 | | | 70 | 90 |
| | 180 | 220 | | | 160 | 200 |
| | 150 | 170 | | | 135 | 155 |
| | 80 | 120 | | | 70 | 110 |
| | 60 | 80 | | | 55 | 70 |
| | 50 | 65 | | | 45 | 60 |
| | 90 | 100 | | | 80 | 90 |
| | 50 | 60 | | | 45 | 55 |
| | 50 | 65 | | | 45 | 60 |
| | 110 | 130 | 150 | 180 | 100 | 115 |
| | 40 | 50 | 120 | 150 | 35 | 45 |
| | | | 180 | 220 | 180 | 220 |
| | | | 60 | 70 | 60 | 70 |
| | | | 150 | 190 | 150 | 190 |
| | 100 | 120 | | | 90 | 110 |
| | 80 | 100 | | | 70 | 90 |
| | 170 | 200 | | | 155 | 180 |
| | 120 | 150 | | | 110 | 135 |
| | 100 | 120 | | | 90 | 110 |
| | 80 | 90 | | | 70 | 80 |
| | | | | | | |
| | | | 350 | 400 | | |
| | | | 250 | 300 | | |
| | | | 380 | 400 | | |
| | | | 270 | 320 | | |
| | | | | | | |
| | | | | | | |
| | | | 220 | 250 | | |
| | | | 220 | 250 | | |
| | | | 180 | 200 | | |
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| | | | 220 | 250 | | |
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HC = Coated carbide

A3

# Cutting tool material application charts – Thread turning

## Carbide

| Walter grade designation | Standard designation | Material groups P Steel | M Stainless steel | K Cast iron | N NF metals | S Materials with difficult cutting properties | H Hard materials | O Other | Range of applications 01 05 10 15 20 25 30 35 40 45 | Coating method | Coating composition | Indexable inserts example |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WXP20 | HC – P 20 | ●● | | | | | | | | PVD | TiN | |
| | HC – K 20 | | | ● | | | | | | | | |
| WXM20 | HC – M 20 | | ●● | | | | | | | PVD | TiCN | |
| | HC – N 20 | | | | ● | | | | | | | |
| WMP32 | HC – P 30 | ●● | | | | | | | | PVD | TiAlN | |
| | HC – M 30 | | ●● | | | | | | | | | |
| | HC – K 30 | | | ● | | | | | | | | |

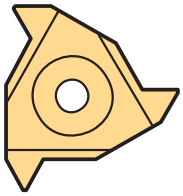
HC = Coated carbide

●● Primary application
● Additional application

A 3

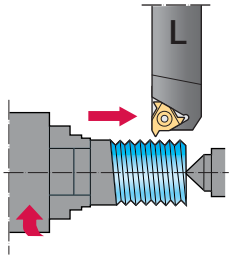
# Application information:
# Walter NTS thread turning – Application strategy

## Performance characteristics



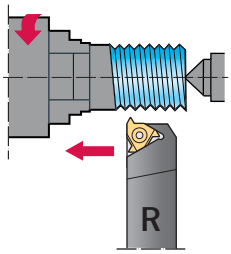
- Precision-ground profile
- Ground-in chip breaker
- Excellent cutting behaviour and reliable chip control thanks to the positive cutting edge shape
- Right-hand and left-hand versions available
- By changing the shim, a thread running in the opposite direction can be produced
- High repeat accuracy
- Extensive profile versatility
- Full profile and partial profile
- PVD-coated carbide grades

## External machining

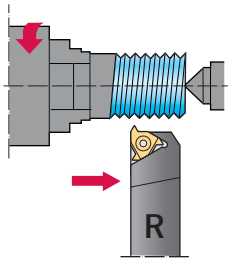


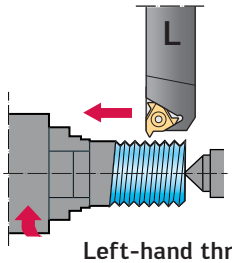

**Right-hand thread**
Left-hand tool holder
Left-hand insert
**Opposite inclination angle**

**Right-hand thread**
Right-hand tool holder
Right-hand insert




**Left-hand thread**
Right-hand tool holder
Right-hand insert
**Opposite inclination angle**

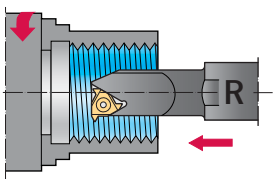


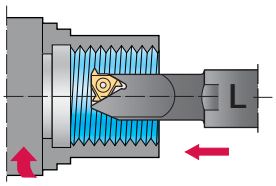

**Left-hand thread**
Left-hand tool holder
Left-hand insert

## Internal machining

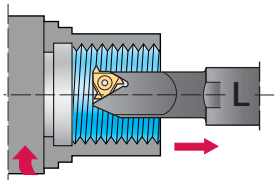
**Right-hand thread**
Right-hand tool holder
Right-hand insert



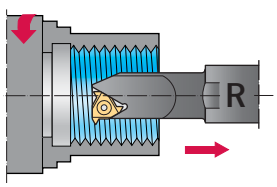

**Left-hand thread**
Left-hand tool holder
Left-hand insert




**Right-hand thread**
Left-hand tool holder
Left-hand insert
**Opposite inclination angle**




**Left-hand thread**
Right-hand tool holder
Right-hand insert
**Opposite inclination angle**



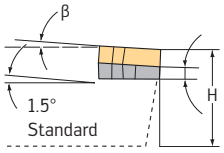

A3

# Application information:
# Thread turning – Inclination angle correction

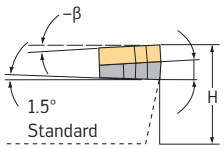


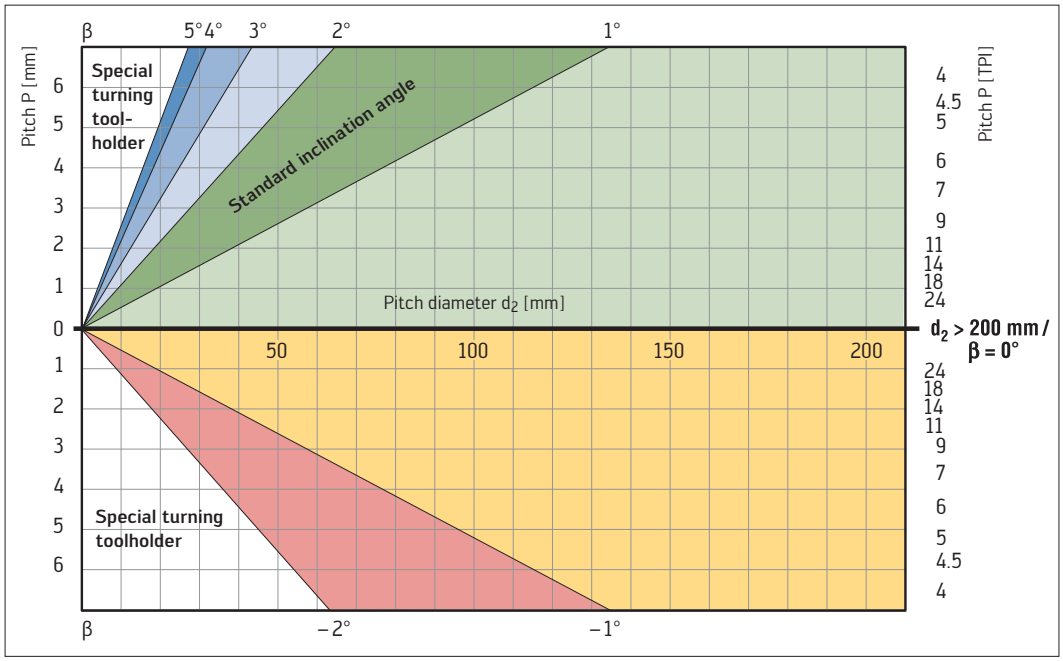
## Inclination angle diagram

**Standard inclination angle**
Feed rate in the direction of the head stock



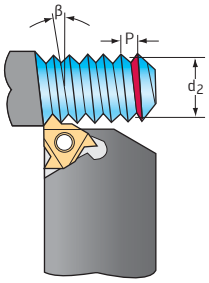

**Opposite inclination angle**
Feed rate in the direction of the tail stock




The colours in the inclination angle diagram correspond to the colours in the shim table.
No values must be read off.

## Inclination angle calculation




**The inclination angle is calculated according to the following formula:**

$$\beta = \arctan \frac{P}{\Pi \times d_2}$$

β = Inclination angle [°]
P = Thread pitch [mm]
$d_2$ = Pitch diameter [mm]

The inclination angle can also be determined using the diagram.
The suitable shim is selected in accordance with the relevant table.

## Shims

The external and internal standard tool holders have an inclination angle of β = 1.5°.

With an insert size of 1/4" (11 mm), the inclination angle is corrected via the tool.

| Insert size | | Tool holder | Order no. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| IC | L [mm] | | β = 4.5° | β = 3.5° | β = 2.5° | β = 1.5° | β = 0.5° | β = 0 | β = −0.5° | β = −1.5° |
| 3/8" | 16 | ER / IL | YE 3–3P | YE 3–2P | YE 3–1P | YE 3 | YE 3–1N | YE 3–1.5N | YE 3–2N | YE 3–3N |
| | | EL / IR | YI 3–3P | YI 3–2P | YI 3–1P | YI 3 | YI 3–1N | YI 3–1.5N | YI 3–2N | YI 3–3N |
| 1/2" | 22 | ER / IL | YE 4–3P | YE 4–2P | YE 4–1P | YE 4 | YE 4–1N | YE 4–1.5N | YE 4–2N | YE 4–3N |
| | | EL / IR | YI 4–3P | YI 4–2P | YI 4–1P | YI 4 | YI 4–1N | YI 4–1.5N | YI 4–2N | YI 4–3N |

# Application information:
# Standard values for thread turning with Walter NTS

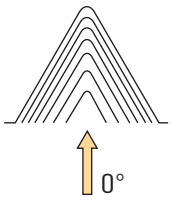
## Feed types and their influence on machining

### Radial feed

**Recommended for:**

– Short-chipping materials

– Hard materials




– Formation of V-shaped chips

– Both cutting edges engaged

– High cutting temperature

– Even indexable insert wear on both flanks

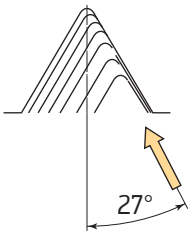
– Suitable for small pitches

### Feed via flank 27°-29°

**Recommended for:**

– Pitches greater than 1.5 mm or 16 TPI

– The manufacture of trapezoidal threads




– Good chip formation

– Formation of helical chips

– One cutting edge engaged

– Chips are directed away from the thread

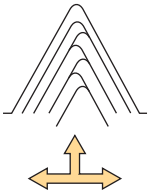
– Thread flanks with excellent surface quality

### Alternating feed

**Recommended for:**

– Steep pitches

– Long-chipping materials



– Good chip formation

– Formation of flat helical chips

– Both cutting edges are evenly engaged, ensuring even wear

A 3

## Standard values for the number of radial infeeds for each thread turning pass on manual lathes

The recommended cut distributions are only to be regarded as standard values. They were determined under good operating conditions with medium-strength steel materials. In the case of high-strength steel materials, the number of feeds must be increased. It is important to reduce the initial threading cuts in this case. If the operating conditions are different, the feeds should be modified accordingly. This applies to internal thread turning with a projection length of more than 2.5 × the boring bar diameter.

### Whitworth (WH), external and internal machining

| | Pitch [TPI] | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. of feeds | 28 | 26 | 20 | 19 | 18 | 16 | 14 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 |
| **Total depth [mm]** | **0,64** | **0,68** | **0,87** | **0,91** | **1,07** | **1,12** | **1,23** | **1,42** | **1,54** | **1,69** | **1,87** | **2,09** | **2,41** | **2,80** | **3,34** |
| 16 | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | 0,10 | 0,10 |
| 13 | | | | | | | | | | | | | | 0,12 | 0,12 |
| 12 | | | | | | | | | | | | 0,08 | 0,08 | 0,14 | 0,15 |
| 11 | | | | | | | | | | | 0,08 | 0,12 | 0,12 | 0,14 | 0,17 |
| 10 | | | | | | | | | | 0,08 | 0,12 | 0,12 | 0,14 | 0,15 | 0,18 |
| 9 | | | | | | | | | 0,08 | 0,12 | 0,12 | 0,13 | 0,15 | 0,16 | 0,19 |
| 8 | | | | | | 0,08 | 0,08 | 0,08 | 0,12 | 0,13 | 0,13 | 0,14 | 0,16 | 0,17 | 0,20 |
| 7 | | | | | 0,08 | 0,10 | 0,11 | 0,13 | 0,13 | 0,13 | 0,14 | 0,15 | 0,18 | 0,19 | 0,22 |
| 6 | | | 0,08 | 0,08 | 0,11 | 0,10 | 0,12 | 0,14 | 0,14 | 0,15 | 0,15 | 0,16 | 0,19 | 0,20 | 0,24 |
| 5 | 0,08 | 0,08 | 0,11 | 0,12 | 0,13 | 0,12 | 0,13 | 0,15 | 0,16 | 0,16 | 0,17 | 0,18 | 0,21 | 0,21 | 0,27 |
| 4 | 0,11 | 0,11 | 0,13 | 0,13 | 0,14 | 0,14 | 0,15 | 017 | 0,18 | 0,18 | 0,19 | 0,20 | 0,23 | 0,24 | 0,30 |
| 3 | 0,12 | 0,14 | 0,15 | 0,16 | 0,17 | 0,16 | 0,18 | 0,21 | 0,21 | 0,21 | 0,22 | 0,23 | 0,27 | 0,28 | 0,36 |
| 2 | 0,15 | 0,16 | 0,19 | 0,20 | 0,21 | 0,20 | 0,22 | 0,26 | 0,25 | 0,26 | 0,27 | 0,28 | 0,33 | 0,34 | 0,41 |
| 1 | 0,18 | 0,19 | 0,21 | 0,22 | 0,23 | 0,22 | 0,24 | 0,28 | 0,27 | 0,27 | 0,28 | 0,30 | 0,35 | 0,36 | 0,43 |

Radial infeed [mm]

Reduce the cutting speed

# Application information: Standard values for thread turning with Walter NTS

(continued)

## External machining, metric 60°

| | Pitch [mm] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. of feeds | 0,5 | 0,6 | 0,7 | 0,75 | 0,8 | 1,0 | 1,25 | 1,5 | 1,75 | 2,0 | 2,5 | 3,0 | 3,5 | 4,0 | 4,5 | 5,0 | 5,5 | 6,0 |
| Total depth [mm] | 0,34 | 0,40 | 0,47 | 0,50 | 0,54 | 0,67 | 0,80 | 0,94 | 1,14 | 1,28 | 1,58 | 1,89 | 2,20 | 2,50 | 2,80 | 3,12 | 3,41 | 3,72 |
| 16 | | | | | | | | | | | | | | | | | 0,10 | 0,10 |
| 15 | | | | | | | | | | | | | | | | | 0,12 | 0,12 |
| 14 | | | | | | | | | | | | | | 0,08 | 0,10 | 0,10 | 0,13 | 0,14 |
| 13 | | | | | | | | | | | | | | 0,11 | 0,12 | 0,12 | 0,13 | 0,15 |
| 12 | | | | | | | | | | | | 0,08 | 0,08 | 0,12 | 0,13 | 0,15 | 0,15 | 0,16 |
| 11 | | | | | | | | | | | | 0,10 | 0,11 | 0,12 | 0,14 | 0,16 | 0,16 | 0,18 |
| 10 | | | | | | | | | | | 0,08 | 0,11 | 0,12 | 0,13 | 0,15 | 0,17 | 0,17 | 0,19 |
| 9 | | | | | | | | | | | 0,11 | 0,12 | 0,14 | 0,14 | 0,16 | 0,18 | 0,18 | 0,20 |
| 8 | | | | | | | | | 0,08 | 0,08 | 0,11 | 0,12 | 0,14 | 0,15 | 0,17 | 0,19 | 0,19 | 0,21 |
| 7 | | | | | | | | | 0,10 | 0,11 | 0,12 | 0,13 | 0,15 | 0,16 | 0,18 | 0,20 | 0,20 | 0,22 |
| 6 | | | | | | | 0,08 | 0,08 | 0,10 | 0,12 | 0,13 | 0,14 | 0,17 | 0,17 | 0,20 | 0,22 | 0,22 | 0,24 |
| 5 | | | | | | 0,08 | 0,10 | 0,12 | 0,12 | 0,14 | 0,15 | 0,16 | 0,18 | 0,19 | 0,22 | 0,24 | 0,24 | 0,27 |
| 4 | 0,07 | 0,07 | 0,07 | 0,07 | 0,08 | 0,11 | 0,11 | 0,14 | 0,14 | 0,16 | 0,17 | 0,18 | 0,21 | 0,22 | 0,24 | 0,27 | 0,27 | 0,30 |
| 3 | 0,07 | 0,08 | 0,10 | 0,11 | 0,12 | 0,13 | 0,14 | 0,17 | 0,17 | 0,18 | 0,20 | 0,21 | 0,25 | 0,25 | 0,28 | 0,32 | 0,32 | 0,35 |
| 2 | 0,09 | 0,11 | 0,14 | 0,15 | 0,16 | 0,16 | 0,17 | 0,21 | 0,21 | 0,24 | 0,24 | 0,26 | 0,31 | 0,32 | 0,34 | 0,39 | 0,40 | 0,43 |
| 1 | 0,11 | 0,14 | 0,16 | 0,17 | 0,18 | 0,19 | 0,20 | 0,22 | 0,22 | 0,25 | 0,27 | 0,28 | 0,34 | 0,34 | 0,37 | 0,41 | 0,43 | 0,46 |

Radial infeed [mm] ← Reduce the cutting speed

## Internal machining, metric 60°

| | Pitch [mm] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. of feeds | 0,5 | 0,6 | 0,7 | 0,75 | 0,8 | 1,0 | 1,25 | 1,5 | 1,75 | 2,0 | 2,5 | 3,0 | 3,5 | 4,0 | 4,5 | 5,0 | 5,5 | 6,0 |
| Total depth [mm] | 0,34 | 0,38 | 0,44 | 0,48 | 0,51 | 0,63 | 0,77 | 0,90 | 1,07 | 1,20 | 1,49 | 1,77 | 2,04 | 2,32 | 2,62 | 2,89 | 3,20 | 3,46 |
| 16 | | | | | | | | | | | | | | | | | 0,10 | 0,10 |
| 15 | | | | | | | | | | | | | | | | | 0,12 | 0,12 |
| 14 | | | | | | | | | | | | | | 0,08 | 0,10 | 0,10 | 0,12 | 0,13 |
| 13 | | | | | | | | | | | | | | 0,10 | 0,11 | 0,12 | 0,13 | 0,14 |
| 12 | | | | | | | | | | | | 0,08 | 0,08 | 0,10 | 0,12 | 0,14 | 0,14 | 0,15 |
| 11 | | | | | | | | | | | | 0,09 | 0,10 | 0,11 | 0,12 | 0,14 | 0,14 | 0,15 |
| 10 | | | | | | | | | | | 0,08 | 0,10 | 0,11 | 0,12 | 0,13 | 0,15 | 0,15 | 0,16 |
| 9 | | | | | | | | | | | 0,10 | 0,10 | 0,12 | 0,12 | 0,14 | 0,15 | 0,16 | 0,18 |
| 8 | | | | | | | | | 0,08 | 0,08 | 0,10 | 0,11 | 0,13 | 0,13 | 0,15 | 0,16 | 0,17 | 0,19 |
| 7 | | | | | | | | | 0,09 | 0,10 | 0,11 | 0,12 | 0,14 | 0,14 | 0,16 | 0,17 | 0,18 | 0,20 |
| 6 | | | | | | | 0,08 | 0,08 | 0,09 | 0,11 | 0,12 | 0,13 | 0,15 | 0,15 | 0,19 | 0,20 | 0,20 | 0,22 |
| 5 | | | | | | 0,08 | 0,09 | 0,11 | 0,10 | 0,12 | 0,13 | 0,14 | 0,17 | 0,18 | 0,21 | 0,22 | 0,22 | 0,24 |
| 4 | 0,07 | 0,07 | 0,07 | 0,07 | 0,07 | 0,09 | 0,10 | 0,13 | 0,13 | 0,14 | 0,15 | 0,16 | 0,19 | 0,21 | 0,23 | 0,25 | 0,26 | 0,28 |
| 3 | 0,07 | 0,08 | 0,08 | 0,10 | 0,11 | 0,11 | 0,13 | 0,15 | 0,15 | 0,17 | 0,18 | 0,20 | 0,23 | 0,24 | 0,27 | 0,30 | 0,32 | 0,35 |
| 2 | 0,09 | 0,11 | 0,13 | 0,14 | 0,15 | 0,16 | 0,17 | 0,21 | 0,21 | 0,23 | 0,25 | 0,26 | 0,30 | 0,31 | 0,33 | 0,38 | 0,38 | 0,41 |
| 1 | 0,11 | 0,12 | 0,16 | 0,17 | 0,18 | 0,19 | 0,20 | 0,22 | 0,22 | 0,25 | 0,27 | 0,28 | 0,32 | 0,33 | 0,36 | 0,41 | 0,41 | 0,44 |

Radial infeed [mm] ← Reduce the cutting speed

## External machining, UN 60°

| | Pitch [TPI] | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. of feeds | 32 | 28 | 24 | 20 | 18 | 16 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 |
| **Total depth [mm]** | **0,52** | **0,62** | **0,71** | **0,83** | **0,93** | **1,03** | **1,17** | **1,26** | **1,36** | **1,48** | **1,63** | **1,79** | **2,01** | **2,28** | **2,66** | **3,19** |
| 16 | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | 0,10 | 0,10 |
| 13 | | | | | | | | | | | | | | | 0,11 | 0,12 |
| 12 | | | | | | | | | | | | | 0,08 | 0,08 | 0,12 | 0,15 |
| 11 | | | | | | | | | | | | 0,08 | 0,11 | 0,11 | 0,13 | 0,17 |
| 10 | | | | | | | | | | | 0,08 | 0,11 | 0,12 | 0,12 | 0,14 | 0,18 |
| 9 | | | | | | | | | | 0,08 | 0,11 | 0,12 | 0,12 | 0,14 | 0,15 | 0,19 |
| 8 | | | | | | | 0,08 | 0,08 | 0,08 | 0,11 | 0,12 | 0,12 | 0,13 | 0,15 | 0,16 | 0,19 |
| 7 | | | | | | 0,08 | 0,10 | 0,11 | 0,12 | 0,12 | 0,13 | 0,13 | 0,14 | 0,16 | 0,17 | 0,20 |
| 6 | | | | 0,08 | 0,08 | 0,11 | 0,11 | 0,12 | 0,13 | 0,13 | 0,14 | 0,14 | 0,15 | 0,17 | 0,18 | 0,22 |
| 5 | | 0,08 | 0,08 | 0,10 | 0,12 | 0,12 | 0,12 | 0,13 | 0,14 | 0,15 | 0,15 | 0,16 | 0,17 | 0,19 | 0,20 | 0,24 |
| 4 | 0,08 | 0,10 | 0,12 | 0,12 | 0,13 | 0,13 | 0,14 | 0,15 | 0,16 | 0,17 | 0,17 | 0,18 | 0,19 | 0,22 | 0,23 | 0,28 |
| 3 | 0,12 | 0,12 | 0,15 | 0,14 | 0,16 | 0,16 | 0,17 | 0,18 | 0,20 | 0,20 | 0,20 | 0,21 | 0,22 | 0,26 | 0,27 | 0,32 |
| 2 | 0,15 | 0,15 | 0,17 | 0,19 | 0,21 | 0,21 | 0,22 | 0,24 | 0,26 | 0,25 | 0,26 | 0,26 | 0,28 | 0,33 | 0,34 | 0,40 |
| 1 | 0,17 | 0,17 | 0,19 | 0,20 | 0,23 | 0,22 | 0,23 | 0,25 | 0,27 | 0,27 | 0,27 | 0,28 | 0,30 | 0,35 | 0,36 | 0,43 |

Radial infeed [mm] ← Reduce the cutting speed

## Internal machining, UN 60°

| | Pitch [TPI] | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. of feeds | 32 | 28 | 24 | 20 | 18 | 16 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 |
| **Total depth [mm]** | **0,49** | **0,59** | **0,66** | **0,78** | **0,86** | **0,95** | **1,10** | **1,17** | **1,26** | **1,38** | **1,49** | **1,66** | **1,86** | **2,11** | **2,44** | **2,93** |
| 16 | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | 0,10 | 0,10 |
| 13 | | | | | | | | | | | | | | | 0,11 | 0,12 |
| 12 | | | | | | | | | | | | | 0,08 | 0,08 | 0,11 | 0,14 |
| 11 | | | | | | | | | | | | 0,08 | 0,10 | 0,11 | 0,12 | 0,14 |
| 10 | | | | | | | | | | | 0,08 | 0,09 | 0,10 | 0,12 | 0,12 | 0,15 |
| 9 | | | | | | | | | | 0,08 | 0,10 | 0,10 | 0,11 | 0,12 | 0,13 | 0,16 |
| 8 | | | | | | | 0,08 | 0,08 | 0,08 | 0,10 | 0,10 | 0,11 | 0,11 | 0,13 | 0,14 | 0,17 |
| 9 | | | | | | 0,08 | 0,09 | 0,10 | 0,10 | 0,11 | 0,11 | 0,12 | 0,12 | 0,14 | 0,15 | 0,18 |
| 6 | | | | 0,08 | 0,08 | 0,09 | 0,10 | 0,11 | 0,11 | 0,12 | 0,12 | 0,13 | 0,13 | 0,15 | 0,16 | 0,20 |
| 5 | | 0,08 | 0,08 | 0,09 | 0,10 | 0,10 | 0,11 | 0,12 | 0,13 | 0,13 | 0,13 | 0,14 | 0,15 | 0,17 | 0,18 | 0,22 |
| 4 | 0,08 | 0,10 | 0,10 | 0,11 | 0,12 | 0,12 | 0,13 | 0,13 | 0,15 | 0,15 | 0,15 | 0,16 | 0,17 | 0,20 | 0,20 | 0,25 |
| 3 | 0,10 | 0,10 | 0,14 | 0,13 | 0,14 | 0,14 | 0,15 | 0,16 | 0,18 | 0,18 | 0,18 | 0,19 | 0,21 | 0,23 | 0,24 | 0,30 |
| 2 | 0,14 | 0,14 | 0,16 | 0,17 | 0,19 | 0,20 | 0,21 | 0,22 | 0,24 | 0,24 | 0,25 | 0,26 | 0,28 | 0,28 | 0,32 | 0,38 |
| 1 | 0,17 | 0,17 | 0,18 | 0,20 | 0,23 | 0,22 | 0,23 | 0,25 | 0,27 | 0,27 | 0,27 | 0,28 | 0,30 | 0,34 | 0,35 | 0,42 |

Radial infeed [mm] ← Reduce the cutting speed

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| Cutting forces of Walter machining groups | A 467 |
| Material comparison table | A 468 |
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| Clamping screws for indexable inserts | A 492 |
| Torque screwdriver with interchangeable blades | A 493 |
| Screwdriver | A 494 |
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# Calculation formulae for turning

### Speed

$$n = \frac{v_c \times 1000}{D_c \times \pi} \quad [rpm]$$

### Cutting speed

$$v_c = \frac{D_c \times \pi \times n}{1000} \quad [m/min]$$

### Feed rate

$$v_f = n \times f \quad [mm/min]$$

### Metal removal rate

$$Q = v_c \times a_p \times f \times \left(1 - \frac{a_p}{D_c}\right) \quad [cm^3/min]$$

### Chip cross section

$$A = h \times b = a_p \times f \quad [mm^2]$$

### Chip width, chip thickness

$$b = \frac{a_p}{\sin\kappa} \quad [mm] \qquad h = f \times \sin\kappa \quad [mm]$$

### Main cutting force

$$F_c = A \times k_{c1.1} \times h^{-mc} \quad [N]$$

### Specific cutting force

$$k_c = \frac{k_{c1.1}}{h^{m_c}} \quad [N/mm^2]$$

### Power requirement

$$P_{mot} = \frac{Q \times k_c}{60\,000 \times \eta} \quad [kW]$$

### Cutting time

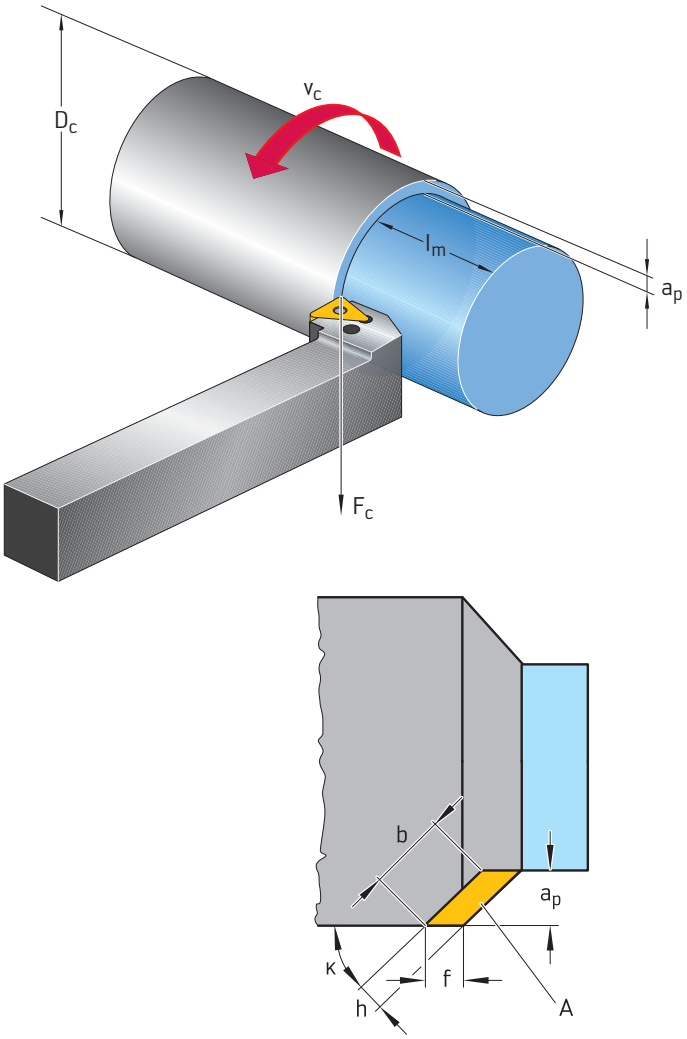
$$t_h = \frac{l_m}{f \times n} \quad [min]$$

### Roughness profile depth

$$R_{max} = \frac{f^2}{8 \times r} \times 1000 \quad [\mu m]$$

### Unrolled turning length

$$l_c = \frac{D_c \times \pi}{1000} \times \frac{l_m}{f} \quad [m]$$




| | | |
|---|---|---|
| n | Speed | rpm |
| $D_c$ | Cutting diameter | mm |
| $v_c$ | Cutting speed | m/min |
| $v_f$ | Feed rate | mm/min |
| f | Feed per revolution | mm |
| Q | Metal removal rate | $cm^3$/min |
| $a_p$ | Depth of cut | mm |
| A | Chip cross section | $mm^2$ |
| h | Chip thickness | mm |
| b | Chip width | mm |
| κ | Lead angle | ° |
| $F_c$ | Main cutting force | N |
| $k_{c1.1}$* | Specific cutting force for 1 $mm^2$ chip cross section | $N/mm^2$ |
| $m_c$* | Increase in the $k_c$ curve | |
| $P_{mot}$ | Power requirement | kW |
| $t_h$ | Cutting time | min |
| $l_m$ | Machining length | mm |
| $l_c$ | Unrolled turning length | m |
| $R_{max}$ | Roughness profile depth | µm |
| r | Corner radius of the indexable insert | mm |
| η | Machine efficiency | (0,75 – 0,9) |

* For $m_c$ and $k_{c1.1}$, see table on page A 467

# Cutting forces of Walter machining groups

| Description | Tensile strength min $R_m$ [N/mm²] | Tensile strength max $R_m$ [N/mm²] | Spec. cutting force $k_{c1.1}$ [N/mm²] | Increase value $m_c$ | Walter machining group |
|---|---|---|---|---|---|
| Non-alloyed and low-alloy steels, C > 0.25%, low and medium tensile strength | 350 | 750 | 1500 | 0,21 | P1, P6 |
| Non-alloyed and low-alloy steels, C > 0.55%, not heat-treated | 400 | 900 | 1700 | 0,25 | P2, P3, P4, P7, P14 |
| Low and high-alloy steels, low heat treatment level | 750 | 1100 | 2000 | 0,25 | P5, P8, P11, P12 |
| Stainless ferritic/martensitic steels, heat-treated | 800 | 1400 | 2200 | 0,25 | P15 |
| Low and high-alloy steels, medium heat treatment level | 1100 | 1400 | 2500 | 0,25 | P9 |
| Low and high-alloy steels, high heat treatment level | 1200 | 1600 | 3000 | 0,25 | P10, P13 |
| Stainless, austenitic steels | 400 | 900 | 1800 | 0,21 | M1 |
| Stainless, austenitic/ferritic steels + duplex | 600 | 1000 | 2000 | 0,21 | M3 |
| Stainless, austenitic steels, precipitation hardened (PH steels) | 700 | 1500 | 2400 | 0,21 | M2 |
| Grey cast iron + CGI + malleable cast iron, low tensile strength | 200 | 400 | 800 | 0,28 | K1, K3, K7 |
| Ductile cast iron with low tensile strength + malleable cast iron with higher tensile strength | 400 | 600 | 950 | 0,28 | K2, K5 |
| Grey cast iron with higher tensile strength | 300 | 400 | 1200 | 0,28 | K4, |
| Ductile cast iron with high tensile strength + ADI high tensile strength, unalloyed + alloyed | 600 | 800 | 1400 | 0,28 | K6 |
| Wrought aluminium alloy, not hardened | | | 350 | 0,25 | N1 |
| Wrought aluminium alloy, hardened | | | 600 | 0,25 | N2 |
| Cast aluminium alloy < 12% Si, not hardened | | | 600 | 0,25 | N3 |
| Cast aluminium alloy < 12% Si, hardened, cast aluminium alloy ≥ 12% | | | 700 | 0,25 | N4, N5 |
| Pure copper, copper alloy (brass, bronze) with low tensile strength | | | 550 | 0,25 | N7, N8, N9 |
| High tensile copper alloys, bronze with high tensile strength | | | 1000 | 0,25 | N10 |
| Heat-resistant alloys, iron-based, annealed | | | 2400 | 0,25 | S1 |
| Heat-resistant alloys, iron-based, hardened | | | 2500 | 0,25 | S2 |
| Pure titanium | | | 1300 | 0,25 | S6 |
| Titanium alloys, alpha, alpha/beta and beta alloys | | | 1500 | 0,25 | S7, S8 |
| Heat-resistant alloys, nickel-cobalt-based, annealed | | | 2800 | 0,25 | S3 |
| Heat-resistant alloys, nickel-cobalt-based, hardened | | | 2900 | 0,25 | S4 |
| Heat-resistant alloys, nickel-cobalt-based, cast | | | 3000 | 0,25 | S5 |
| Hardened steels 46 – 52 HRC | | | 3000 | 0,25 | H1 |
| Hardened steels 52 – 58 HRC | | | 3700 | 0,25 | H2 |
| Hardened steels 58 – 62 HRC | | | 4300 | 0,25 | H3 |
| Hardened cast iron 50 – 60 HRC | | | 3500 | 0,25 | H4 |
| Thermoplasts and thermosetting plastics, without abrasive fillers | | | 150 | 0,2 | O1, O2 |
| Fibre-reinforced plastics | | | 300 | 0,3 | O3, O4, O5 |
| Graphite | | | 400 | 0,25 | O6 |

**Comments:**
The information consists of standard values and refers to a neutral cutting edge geometry.
The condition of the material and of the cutting edge geometry considerably affects the cutting forces.

# Material comparison table

| Material group | Machining group | Germany | | | | | |
|---|---|---|---|---|---|---|---|
| | | Mat. no. DIN | Mat. no. DIN EN | DIN | DIN EN | Manufacturer designation | |
| P | Building and construction steels | | | | | | |
| | P1 | 1.0401 | | C 15 | C15 | | |
| | P1 | 1.0402 | | C 22 | C22 | | |
| | P2 | 1.0501 | | C 35 | C35 | | |
| | P2 | 1.0503 | | C 45 | C45 | | |
| | P4 | 1.0535 | | C 55 | C55 | | |
| | P4 / P5 | 1.0601 | | C 60 | C60 | | |
| | P6 | 1.0715 | | 9 SMn 28 | 11SMn30 | | |
| | P6 | 1.0718 | | 9 SMnPb 28 | 11SMnPb30 | | |
| | P6 | 1.0722 | | 10 SPb 20 | 10SPb20 | | |
| | P6 | 1.0726 | | 35 S 20 | 35S20 | | |
| | P6 | 1.0736 | | 9 SMn 36 | 11SMn37 | | |
| | P6 | 1.0737 | | 9 SMnPb 36 | 11SMnPb37 | Ledloy | |
| | P7 / P10 | 1.0904 | | | 55Si7 | | |
| | P7 / P10 | 1.0961 | | 60 SiCr 7 | S340MGC, 60SiCr7 | | |
| | P1 | 1.1141 | | Ck 15 | C15E | | |
| | P7 / H2 | 1.1157 | | 40 Mn 4 | 40Mn4 | | |
| | P1 / P3 | 1.1158 | | Ck 25 | C25E | | |
| | P7 | 1.1167 | | 36 Mn 5 | 36Mn5 | | |
| | P7 | 1.1170 | | 28 Mn 6 | 28Mn6 | | |
| | P2 | 1.1183 | | Cf 35 | C35G | | |
| | P2 | 1.1191 | | Ck 45 | C45E | | |
| | P4 / P5 | 1.1203 | | Ck 55 | C55E | | |

| | Great Britain | | France | Italy | Sweden | Spain | Japan | USA |
|---|---|---|---|---|---|---|---|---|
| | B.S. | EN | AFNOR | UNI | SS | UNE | JIS | AISI / SAE |
| | | | | | | | | |
| | 080M15, 144917CS, 040A15, 080A15 | | C18RR, XC18 | C15, C16, 1C15 | 1350 | F.111 | S 15 C, JIS S 15C | J 409 grade 1015 |
| | 040 A 15, 055 M 15, En 2, 22 CS, 22 HS, C 22, 070 M 20 | 2D, 2 | AF42C20, XC25, 1C22 | C20, C21 | 1450 | 1C22, F112 | S 20 C, S22C, JIS S 20C | 1020 |
| | 080A32, 080A35, 080M36, 1449.40CS | | C35, 1C35, AF55C35 | C35, 1C35 | 1572, 155 | F.113 | S 35 C | 1035 |
| | 060A47, 080M46, 1449.50HS, 1449.50CS | | 1C45, AF 65 C 45 | C45, 1C45 | 1650 | F.114 | JIS S 45C | 1045 |
| | 070M55, 5770-50 | 9 | C54, 1C55, AF 70 C 55 | C55, 1C55 | 1655 | F.115 | S 55 C | 1055 |
| | 060A62, 5770-60, 1449 60HS.CS | | C60, 1C60, AF70C55 | C60, 1C60 | | F.115 | S 58 C | 1060 |
| | 230M07 | | S250 | CF9Mn28 | 1912 | F.2111 - 11SMn28 | JIS SUM22 | 1213 |
| | | | S250Pb | CF9SMnPb28 | 1914 | F.2112 - 11SMnPb28 | SUM22L, SUM23L, SUM24L | 12L13, 12L14, J 403 grade 12L14, J 1397 grade 12L14 |
| | | | | | | | | |
| | 212M36 | | 35MF6 | | 1957 | F.210G | | J 403 grade 1141 |
| | 240M07 | 1B | S300 | CF9SMn36 | | F.2113 - 12 SMn 35 | SUM 25 | J 403 grade 1213, J 403 grade 1215, J 1392 grade 1213 |
| | | | S300Pb | CF9SMnPb36 | 1926 | F.2114 - 12 SMnPb 35 | | J 403 grade 12L14, J 1397 grade 12L14 |
| | 250A53 | 45 | 55S7 | | 2085 | F.1440 - 56 Si 7 | | 9255 |
| | 250A61 | | 60SC7 | | | F.1442 - 60 SiCr 8 | | 9262 |
| | 040A15, 080M15, S14, CS17 | 32C | | | 1370 | F.1511 - C 16 k, F.1110 - C 15 k | S 15, S 15 CK, JIS S 15 C | 1015 |
| | 150M36 | 15 | 35M5 | | | | | 1035, 1041 |
| | 070M26 | | 2C25 | | | F.1120 - C 25 k, C25K (F1120) | S 25 C, S 28 C | 1025 |
| | 150M36 | 15 B | 40M5 | | 2120 | F.1203 - 36 Mn5 | SMn 438 (H), SCMn 3 | 1335 |
| | 150M28, 150M19, S92 | 14A, 14B | 20M5 | C28Mn | | 28Mn6 | SCMn1 | 1027 |
| | 060A35, 080A35 | | XC38H1TS | C36, C38 | | | S 35 C | 1035 |
| | 080M46, 060A47 | | C45RR, XC42H1, XC45, 2C45, XC48, XC48H1 | | 1672 | F1140-C45k, F1142-C48k | S 45 C, S 48 C | 1045 |
| | 060A57 | 9 | XC55H1, 2C55, XC54 | | 1655 | F.1150 - C 55 k | S 55 C | 1055 |

# Material comparison table

| Material group | Machining group | Germany | | | | | |
|---|---|---|---|---|---|---|---|
| | | Mat. no. DIN | Mat. no. DIN EN | DIN | DIN EN | Manufacturer designation | |
| P | **Building and construction steels** (continued) | | | | | | |
| | P2 / P3 | 1.1213 | | Cf 53 | C53G | | |
| | P4 / P5 | 1.1221 | | Ck 60 | C60E | | |
| | P4 / H1 | 1.1274 | | Ck 101 | C101E, C100S | | |
| | P11 | 1.3401 | | X 120 Mn 12 | X120Mn12 | | |
| | P7 / H2 | 1.3505 | | 100 Cr 6 | 100Cr6 | | |
| | P7 | 1.5415 | | 15 Mo 3 | 16Mo3 | | |
| | P3 | 1.5423 | | 16 Mo 5 | 16Mo5 | | |
| | P7 | 1.5622 | | 14 Ni 6 | 14Ni6 | | |
| | P11 | 1.5662 | | X 8 Ni 9 | X8Ni9 | | |
| | P11 | 1.5680 | | 12 Ni 19 | X12Ni5, 12Ni19 | | |
| | P9 | 1.5710 | | 36 NiCr 6 | 36NiCr6 | | |
| | P7 | 1.5732 | | 14 NiCr 10 | 14NiCr10 | | |
| | P7 | 1.5752 | | 14 NiCr 14 | 15NiCr13 | | |
| | P7 / P9 | 1.6511 | | 36 CrNiMo 4 | 36CrNiMo4 | | |
| | P7 | 1.6523 | | 20NiCrMo2-2 | 21NiCrMo2 | | |
| | P9 | 1.6546 | | 40 NiCrMo 22 | 40NiCrMo2-2, 40NiCrMo2KD | | |
| | P7 / P9 | 1.6582 | | 34 CrNiMo 6 | 34CrNiMo6 | | |
| | P7 | 1.6587 | | 17 CrNiMo 8, 17 CrNiMo 6, 17 CrNiMo 6 BG | 17CrNiMo6, 18CrNiMo7-6 | | |
| | P7 | 1.6657 | | 14 NiCrMo 134 | 14NiCrMo13-4 | | |
| | P7 | 1.7015 | | 15 Cr 3 | 15Cr2KD | | |

| | Great Britain | | France | Italy | Sweden | Spain | Japan | USA |
|---|---|---|---|---|---|---|---|---|
| | B.S. | EN | AFNOR | UNI | SS | UNE | JIS | AISI / SAE |
| | | | | | | | | |
| | 060A52, 070M55 | | XC48H1TS | | | | S 50 C | 1050, 1055 |
| | 060A62, 070M60, CS60 | | C60RR, XC60, 2C60 | | 1665, 168 | F.511, F.512 | S 58 C | 1060 |
| | 060A96, 5770-95, CS95 | | C100RR, C100, XC100, E 100 | | 1870 | | SUP4 | 1095 |
| | | | Z120M12, Z120Mn12 | | 2183 | F.82551-AM-X 120 Mn 12 | SCMnH1, SCMnH11 | |
| | BL3, 534A99, 535A99, 2S135, S135 | | Y100C6, 100C6, 100Cr6 | 100Cr6 | 2258 | F.5230 100 Cr6, F.1310-100 Cr 6, F.131 | SUJ 2, SUJ 4 | L3, 52100 |
| | 1501-240, 1503-243B, 3606-243, 3059-243 | | 15D3, 15Mo3 | 16Mo3 (KG KW) | 2912 | F.2601-16 Mo 3 | | ASTM A20, GR |
| | 1503-245-420 | | | 16Mo5KG, 16Mo5KW | | F.2602-16Mo5 | SB 450 M, SB 480 M | 4520 |
| | | | 16N6, 15N6, 15Ni6 | 14Ni6KG, 14Ni6KT | | F.2641-15Ni6 | | ASTM A350 LF5 |
| | 1501-509;510, 3603-509LT, 1502-502-650, 509-690, 1503-509-690 | | Z8N9, 9Ni490 | X10Ni9, X12Ni09 | | F.2645-X8 Ni09 | SL9N53(60) | ASTM A353 |
| | | | Z18N5, 5Ni390 | | | | | 2515, 2517 |
| | 640A35 | | 35NC6 | | | | SNC 236 | 3135 |
| | | | 14NC11 | 16NiCr11 | | F.1540-15NiCr11 | SNC 415 (H) | 3415 |
| | 655M13, 655A12, 655H13 | 36A, 36B | 14NC11, 12NC15, 14NC12, 13NiCr14 | | | | SNC 815 (H), SNC22, JIS SNC 815 | 3310, 3415, 9314 |
| | 816M40 | 110 | 40NCD3, 36CrNiMo4, 35NCD5 | 38NiCrMo7 (KB) | | F.1280-35NiCrMo4 | | 9840 |
| | 805H20, 805M20, 806M20 | 362 | 20NCD2, 22NCD2 | 20NiCrMo2 | 2506 | F1552-20NiCrMo2, F1534-20NiCrMo3 | SNCM 220 (H) | J 1268 grade 8620H, 8620 |
| | 311-Type7 | | 40NCD2 | 40NiCrMo2 (KB) | | F1204-40NiCrMo2, F1205-40NiCrMo2DF | SNCM 240 | 8740 |
| | 816M40, 817M40 | 24 | 35NCD6, 34CrNiMo6, 34CrNiMo8 | 35NiCrMo6KB | 2541 | F1272-40NiCrMo7, 34CrNiMo6 | SNCM 447, JIS SNc M447 | 4340 |
| | 820A16 | | 18NCD6 | 18NiCrMo7 | | F.1560-14 NiCrMo13, F.156 | | |
| | 832H13, 832M13, S157 | 36C | 16NCD13 | 15NiCrMo13 | | F1560-14NiCrMo13, F.1569-14NiCrMo131 | | |
| | 523M15 | 206 | 12C3, 15Cr2, 18C3 | | | | SCr 415 (H) | 5132 |

# Material comparison table

| Material group | Machining group | Germany | | | | | |
|---|---|---|---|---|---|---|---|
| | | Mat. no. DIN | Mat. no. DIN EN | DIN | DIN EN | Manufacturer designation | |
| P | **Building and construction steels** (continued) | | | | | | |
| | P7 / P8 | 1.7033 | | 34 Cr 4 | 34Cr4 | | |
| | P7 / P9 | 1.7035 | | 41 Cr 4 | 41Cr4 | | |
| | P9 | 1.7045 | | 42 Cr 4 | 42Cr4 | | |
| | P7 | 1.7131 | | 16 MnCr 5 | 16MnCr5 | | |
| | P7 / P9 | 1.7176 | | 55 Cr 3 | 55Cr3 | | |
| | P8 | 1.7218 | | 25 CrMo 4 | 25CrMo4 | | |
| | P7 / P9 | 1.7220 | | 34 CrMo 4 | 34CrMo4 | | |
| | P7 / P9 | 1.7223 | | 41 CrMo 4 | 41CrMo4 | | |
| | P7 / P9 | 1.7225 | | 42 CrMo 4 | 42CrMo4 | | |
| | P7 | 1.7262 | | 15 CrMo 5 | 15CrMo5 | | |
| | P7 | 1.7335 | | 13 CrMo 4 4 | 13CrMo4-5 | | |
| | P7 / P10 | 1.7361 | | 32 CrMo 12 | 32CrMo12 | | |
| | P7 | 1.7380 | | 10 CrMo 9 10 | 10CrMo9-10 | | |
| | P7 | 1.7715 | | 14 MoV 6 3 | 14MoV6-3 | | |
| | P7 / P9 | 1.8159 | | 50 CrV 4 | 51CrV4 | | |
| | P7 | 1.8509 | | 41 CrAlMo 7 | 41CrAlMo7 | Nitralloy 135 | |
| | P7 / P10 | 1.8523 | | 39 CrMoV 13 9 | 40CrMoV13-9 | | |

| | Great Britain | | France | Italy | Sweden | Spain | Japan | USA |
|---|---|---|---|---|---|---|---|---|
| | B.S. | EN | AFNOR | UNI | SS | UNE | JIS | AISI / SAE |
| | | | | | | | | |
| | 530A32, 530H32, 530M32 | | 32C4, 34Cr4 | 34Cr4(KB) | | F.8221-35 Cr 4, F.224 | SCr 435 (H) | 5132 |
| | 530M40, 530A40, 530H40 | 18 | 42C4, 41Cr4 | 41Cr4, 41Cr4KB | | 38Cr4, 38Cr41, 42Cr4, F.1202-42Cr4 | SCR4, SCr 440 (H) | 5140 |
| | 530A40 | 18 | 42C4, 42C4TS | 41Cr4 | 2245 | F1201, F1202, F1206, F.1202-42Cr4 | SCR4, SCr 440 (H), SCr 440 | 5140, 5140H |
| | 527M17, 590H17, 590M17 | | 16MC5, 16MC4, 16MnCr5 | 16MnCr5 | 2511, 2173 | F.1515-16 MnCr5, F.151 | | J 1268 grade 4118H, C5115 |
| | 525A58, 525A60, 525H60 | 48 | 55Cr3, 55C3 | 55Cr3 | 2253 | F.1431-55 Cr3, F.143 | SUP 9 (A) | 5155 |
| | 1717CDS110, 708A25 | | 25CD4, 25CrMo4 | 25CrMo4 (KB) | 2225 | F8372-AM26CrMo4, F8330-AM25CrMo4, F1256-30CrMo4-1, F.222 | SCM420, SCM430, SCCrM1 | 4130 |
| | 708A37 | 19B | 35CD4, 34CrMo4, 35CD4 / 34CrMo5 | 34CrMo4KB, 35CrMo4, 35CrMo4F | 2234 | F8331-AM34CrMo4, F8231-34CrMo4, F1250-35CrMo4, F1254-35CrMo4DF, F.125 | SCM 432, SCCrM 3, SCM 435 H | 4135, 4137, J 1268 grade 4135H |
| | 708M40, 3111-5.1 | | 42CD4TS | 41CrMo4 | | F8332-AM42CrMo4, F8232-42CrMo4, F1252-40CrMo4 | SCm 440, JIS SCM 440 | 4140 |
| | 708A42, 708M40, 709M40 | 19A | 42CD4, 42CrMo4 | 38CrMo4KB, 42CrMo4, G40CrMo4 | 2244 | F8332-AM42CrMo4, F8232-42CrMo4, F1252-40CrMo4 | SCM 440 (H), SNB 7, JIS SCM 440 | 4140 |
| | | | 12CD4 | | | F.1551-12CrMo4 | SCM 415 (H) | |
| | 620-440, 1503-620-440, 1502, 620-470, 3606-620, 620-540, 3604-620-440 | | 15CD3.05, 15CD4.05 | 14CrMo3, 16CrMo3 | 2216 | F.2631-14CrMo45 | SFVA F 12 | A387 grade 12Cl2, ASTM A182 |
| | 722M24 | 40B | 30CD12 | 32CrMo12 | 2240 | F.124.A | | |
| | 3059-622-490, 3606-622, 1502-622, 3604-622, 622Gr.31, 622Gr.45 | | 12CD9.10, 10CrMo9-10, 10CrMo9-11 | 12CrMo9 (KW KG), G14CrMo9, 10 | 2218 | TU.H | SFVAF22A, BSCMV4, SCPH32-CF | A387 grade 22, A387 grade 22Cl2, ASTM A182 |
| | 1503-660-460, 3604-660 | | | | | F.2621-13 MoCrV6 | | |
| | 735A50, 735A51, 735H51, 735M50 | 47 | 50CV4, 51CrV4, 50CrV4 | 50CrV4 | 2230 | F.1430-51CrV4 | SUP 10 | 6150 |
| | 905M39 | 41B | 40CAD6.12 | 41CrAlMo7 | 2940 | F.1740-41CrAlMo7 | SACM 645, JIS SACM 645 | Nitralloy 135 |
| | 897M39 | 40C | | | | | | |

# Material comparison table

| Material group | Machining group | Germany | | | | | |
|---|---|---|---|---|---|---|---|
| | | Mat. no. DIN | Mat. no. DIN EN | DIN | DIN EN | Manufacturer designation | |
| P | **Stainless and heat-resistant steels** | | | | | | |
| | P14 / P15 | 1.4000 | | X 7 Cr 13 | X6Cr13 | | |
| | P14 | 1.4001 | | X 7 Cr 14 | X7Cr14 | | |
| | P14 / P15 | 1.4006 | | X 10 Cr 13,<br>X 12 Cr 13 | X12Cr13,<br>X10Cr13 | | |
| | P14 | 1.4016 | | X 6 Cr 17 | X6Cr17 | | |
| | P15 | 1.4027 | | G-X 20 Cr 14 | GX20Cr14 | | |
| | P15 | 1.4034 | | X 46 Cr 13 | X46Cr13 | | |
| | P15 | 1.4057 | | X 20 CrNi 17 2 | X19CrNi17-2,<br>X17CrNi16-2 | | |
| | P14 / P15 | 1.4104 | | X 12 CrMoS 17 | X14CrMoS17 | | |
| | P14 | 1.4113 | | X 6 CrMo 17 1 | X6CrMo17-1 | | |
| | P15 | 1.4313 | | X 4 CrNi 13 4 | X3CrNiMo13-4 | | |
| | P15 | 1.4718 | | X 45 CrSi 9 3 | X45CrSi9-3-1 | | |
| | P14 | 1.4724 | | X 10 CrAl 13,<br>X 10 CrAlSi 13 | X10CrAlSi13,<br>X10CrAl13 | | |
| | P14 | 1.4742 | | X 10 CrAl 18,<br>X 10 CrAlSi 18 | X10CrAl18,<br>X10CrAlSi18 | | |
| | P15 | 1.4747 | | X 80 CrNiSi 20 | X80CrNiSi20 | Sil XB | |
| | P14 | 1.4762 | | X 10 CrAl 24,<br>X 10 CrAlSi 25 | X10CrAl24,<br>X10CrAlSi25 | | |
| | **Tool steels** | | | | | | |
| | P4 | 1.1545 | | C 105 W 1 | C105U | | |
| | P4 | 1.1663 | | C 125 W | C125W,<br>C125U | | |
| | P7 / H2 | 1.2067 | | 100 Cr 6 | 99Cr6,<br>102Cr6 | | |
| | P11 / H3 | 1.2080 | | X 210 Cr 12 | X210Cr12 | | |
| | P11 / H1 | 1.2344 | | X 40 CrMoV 5 1 | X40CrMoV5-1 | | |
| | P11 / H3 | 1.2363 | | X 100 CrMoV 5 1 | X100CrMoV5-1 | | |
| | P7 / H2 | 1.2419 | | 105 WCr 6 | 107WCr5,<br>105WCr6,<br>100WCr6 | | |

| | Great Britain | | France | Italy | Sweden | Spain | Japan | USA |
|---|---|---|---|---|---|---|---|---|
| | B.S. | EN | AFNOR | UNI | SS | UNE | JIS | AISI / SAE |
| | | | | | | | | |
| | 403S17 | | Z6013, Z6Cr13, Z8C12 | X6Cr13 | 2301 | F.3110-X6 Cr13 | SUS403, SUS410S, SUS429 | 403, 13/6 |
| | 403S17 | | Z3014, Z8C13FF | X6Cr13 | | F.8401-AM-X12 Cr13 | SUS403, SUS410S, SUS429 | 403, 410S, 429 |
| | 410S21, 410C21, ANC1A | | Z12C13, Z12Cr13, Z10C13 | X12Cr13, X10Cr13 | 2302 | F.3401-X12 Cr13 | SUS 410, JIS SUS 410 | 410 |
| | 430S15, 430S17, 430S18 | 60 | Z8C17, Z6Cr17 | X8Cr17 | 2320 | F.3113-X8 Cr17 | SUS 430 | 430 |
| | ANC1B, ANC1C, 420C24, 420C29 | | Z20C13M | | | | SCS 2 | |
| | 420S45 | | Z40C14, Z40Cr14, Z38C13M, Z44C14 | X40Cr14 | | F.3405-X46 Cr13 | | 420 |
| | 431S29, 6S80, S80 | 57 | Z15CN16.02 | X16CrNi16 | 2321 | F.3427-X15 CrNi16, F.313, F3427-X19CrNi172 | SUS 431, JIS SUS 431 | 431 |
| | | | Z10CF17 | X10CrS17 | 2383 | F3117-X10CrS17, F3413-X14CrMoS17 | SUS 431, SUS430F | 430F, J 405 grade 51435 |
| | 434S17 | | Z8CD17.01 | X8CrMo17 | 2325 | F3116-X6CrMo171 | SUS 434 | 434 |
| | 425C11, 425C12 | | Z5CN13.4, Z4CND13.4M, Z6CN13-4, Z8CD17-01 | GX6CrNi13 04 | 2385 | | SCS 5, SCS 6 | CA6. 13/4 |
| | 401S45 | 52 | Z45CS9 | X45CrSi8 | | F.3220-X 4 ScrSi 09-03 | SUH 1 | HNV3 |
| | 403S17 | | Z10C13, Z13C13 | X10CrAl12 | | F.13152-X 10 CrAl13 | | 405 |
| | 430S15 | 60 | Z10CAS18, Z12CAS18 | X8Cr17 | | F.3153-X 10 CrAl 18 | SUH 21 | 430 |
| | 443S65 | 59 | Z80CSN20.02 | | | F.3222-X 80CrSiNi20-02 | SUH 4 | HNV6 |
| | | | Z10CAS24, Z12CAS25 | X16Cr26 | 2322 | F.3154-X 10 CrAl24 | SUH 446 | 446 |
| | | | | | | | | |
| | | | C105E2U, Y1105 | C100KU | 1880 | F515, F516 | SK 3 (TC105) | W110 |
| | | | Y2120 | | | F.5123 C120 | | W112 |
| | BL3, 534A99 | | 100Cr6RR, 100C6, Y100C6 | | 2258 | F.5230 100 Cr6, F.1310 - 100 Cr6, F.131 | SUJ 2, SUJ 4 | L3, 52100, L1 |
| | BD3 | | X200Cr12, Z200C12 | X205Cr12KU | | F.5212 X210 Cr12 | SKD 1, SKS | D3 |
| | BH13 | | X40CrMoV5, Z40CDV5 | X40CrMoV511KU | 2242 | F.5318 X40 CrMoV5 | SKD 61 | H13, P20 |
| | BA2 | | X100CrMoV5, Z100CDV5 | X100CrMoV51KU | 2260 | F.5227 X100 CrMoV5 | SKD 12, JIS SKD 12 | A2, D2 |
| | | | 105WC13 | 107WCr5KU | 2140 | F.5233 105 WCr5, F.523 | SKS 2, SKS 3, SKS 31 | |

# Material comparison table

| Material group | Machining group | Germany | | | | | |
|---|---|---|---|---|---|---|---|
| | | Mat. no. DIN | Mat. no. DIN EN | DIN | DIN EN | Manufacturer designation | |
| P | **Tool steels** (continued) | | | | | | |
| | P14 / H3 | 1.2436 | | X 210 CrW 12 | X210CrW12-1, X210CrW12 | | |
| | P7 / H2 | 1.2542 | | 45 WCrV 7 | 45WCrV8, 45WCrV7 | | |
| | P11 / P13 | 1.2581 | | X 30 WCrV 9 3 | X30WCrV9-3 | | |
| | P14 / H3 | 1.2601 | | X 165 CrMoV 12 | X165CrMoV12 | | |
| | P7 / P10 / H1 | 1.2713 | | 55 NiCrMoV 6 | 55NiCrMoV6 | | |
| | P7 / H3 | 1.2833 | | 100 V 1 | 100V1 | | |
| | P11 / H3 | 1.3243 | | S 6-5-2-5 | HS6-5-2-5 | | |
| | P11 / H3 | 1.3255 | | S 18-1-2-5 | HS18-1-2-5 | | |
| | P11 / H3 | 1.3343 | | S 6-5-2 | HS6-5-2 | | |
| | P11 / H3 | 1.3348 | | S 2-9-2 | HS2-9-2 | | |
| | P11 / H3 | 1.3355 | | S 18-0-1 | HS18-0-1 | | |
| M | **Stainless and heat-resistant steels** | | | | | | |
| | M1 | 1.4301 | | X 5 CrNi 18 10 | X5CrNi18-10 | | |
| | M1 | 1.4305 | | X 10 CrNiS 18 9 | X8CrNiS18-9 | | |
| | M1 | 1.4306 | | X 2 CrNi 19 11 | X2CrNi19-11 | | |
| | M1 | 1.4308 | | G-X 6 CrNi 18 9 | GX5CrNi19-10 | | |
| | M2 | 1.4310 | | X 12 CrNi 17 7 | X9CrNi18-8, X10CrNi18-8 | | |
| | M1 | 1.4311 | | X 2 CrNiN 18 10 | X2CrNiN18-10 | | |
| | M1 | 1.4401 | | X 5 CrNiMo 17 12 2 | X5CrNiMo17-12-2, X4CrNiMo17-12-2, X5CrNiMo18-10 | | |

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| | Great Britain | | France | Italy | Sweden | Spain | Japan | USA |
|---|---|---|---|---|---|---|---|---|
| | B.S. | EN | AFNOR | UNI | SS | UNE | JIS | AISI / SAE |
| | | | | | | | | |
| | | | X210CrW12-1, Z210CW12-01, Z 210 CW 12 | X215CrW121KU | 2312 | F.5213 X210 CrW12, F.521 | | D6 |
| | BS1 | | 45WCrV8, 45WCrV20 | 45WCrV8KU | 2710 | F.5241 45 WCrSi 8, F.524, F524145WCrSi 8 | | S1 |
| | BH21 | | X30WCrV9, Z30WCV9 | X30WCrV93KU | | F.5323 X30 WCrV9 | SKD 5 | O1, H21 |
| | | | | X165CrMoW12KU | 2310 | F.5211 X160 CrMoV12 | | |
| | BH224 | | | | | F.528, F520S | | L6 |
| | BW2 | | C105E2UV1, Y1105V, 100V2 | 102V2KU | | | SKS 43 | W210 |
| | BM35 | | Z85WDKCV06-05-05-04-02, Z90WDKCV06-05-05-04-02 | HS6-5-2-5 | 2723 | F.5613 6-5-2-5 | SKH 55 | S7, M35 |
| | BT4 | | Z80WKCV18-05-04-01 | HS18-1-1-5 | | F.5530 18-1-1-5 | SKH 3 | T4 |
| | BM2 | | Z85WDCV06-05-04-02 | HS6-5-2-5 | 2722 | F.5603 6-5-2 | SKH 51 | M2 |
| | | | Z100DCWV09-04-02-02 | HS2-9-2 | 2782 | F.5607 2-9-2 | | M7 |
| | BT1 | | Z80WCV18-04-01 | HS18-0-1 | | F.5520 18-0-1 | SKH 2 | T1 |
| | | | | | | | | |
| | 304S15, 304S16, 304S31, 304S11, 304S17, LW21, LWCF21 | 58E | Z4CN19-10FF, Z5CN17-08, Z6CN18-09, Z7CN18-09 | X5CrNi18 10 | 2332, 233 | F.3451-X5 CrNi18-10, F.314, F.3504-X6CrNi19 10, F3504-X5CrNi1810 | SUS 304 | 304, 304H |
| | 303S21, 303S22, 303S31 | 58M | Z10CNF18.09, Z8CNF18-09 | X10CrNiS18 09 | 2346 | F.3508-X10CrNiS18-09 | SUS 303, JIS SUS 303 | J 405 grade 30303, 303 |
| | 304S11, LW20, LWCF20, S536, T74, 304C12 (LT196), 305S11 | | Z1CN18-12, Z2CN18-10, Z3CN19.10M, Z3CN18-10, Z3CN19-11, Z3CN19-11FF | X3CrNi18 11, X2CrNi18 11, GX2CrNi19 10 | 2352 | F.3503-X 2CrNi19-10, F3503-X 2CrNi18-10 | JIS SCS 19, JIS SUS 304L | 304L |
| | 304C15, 304C15 (LT196) | | Z6CN18.10M | | | | SCS 13 | |
| | 301S21, 301S22, 302S26 | | Z12CN17.07, Z12CN18.07, Z11CN17-08, Z11CN18-08, Z12CN18-09 | X12CrNi17 07 | 2331 | F.3517-X12CrNi17 07 | SUS 301 | 301 |
| | 304S62 | | Z3CN18-07Az, Z3CN18-10AZ | X2CrNiN18 11 | 2371 | F3541-X2CrNiN1810 | SUS 304 LN | 304LN |
| | 316S13, 316S17, 316S19, 316S31, 316S33, 316S16 | | Z6CND17.11, Z3CD17-11-01, Z6CND17-11, Z6CND17-11-02FF, Z7CND17-11-02, Z7CND17-12-02 | X5CrNiMo17 12 | 2347 | F.3543-X5CrNiMo17-12, F.3543-X6 CrNiMo17-12-03, F3543-X5CrNiMo17-122 | SUS 316 | 316 |

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# Material comparison table

| Material group | Machining group | Germany | | | | | |
|---|---|---|---|---|---|---|---|
| | | Mat. no. DIN | Mat. no. DIN EN | DIN | DIN EN | Manufacturer designation | |
| M | **Stainless and heat-resistant steels** (continued) | | | | | | |
| | M1 | 1.4408 | | G-X 6 CrNiMo 18 10 | GX5CrNiMo19-11-2 | | |
| | M1 | 1.4429 | | X 2 CrNiMoN 17 13 3 | X2CrNiMoN17-13-3 | | |
| | M1 | 1.4435 | | X 2 CrNiMo 18 14 3, X 2 CrNiMo 18 12 | X2CrNiMo18-14-3 | | |
| | M1 | 1.4438 | | X 2 CrNiMo 18 16 4 | X2CrNiMo18-15-4 | | |
| | M1 | 1.4460 | | X 4 CrNiMoN 27 5 2 | X3CrNiMoN27-5-2 | | |
| | M1 | 1.4541 | | X 6 CrNiTi 18 10 | X6CrNiTi18-10 | | |
| | M1 | 1.4550 | | X 6 CrNiNb 18 10 | X6CrNiNb18-10 | | |
| | M1 | 1.4571 | | X 6 CrNiMoTi 17 12 2 | X6CrNiMoTi17-12-2 | | |
| | M1 | DIN 1.4565, 1.4581 | | G-X 5 CrNiMiNb 18 10 | GX5CrNiMoNb19-11-2 | | |
| | M1 | 1.4583 | | X 10 CrNiMoNb 18 12 | X10CrNiMoNb18-12 | | |
| | M1 | 1.4828 | | X 15 CrNiSi 20 12 | X15CrNiSi20-12 | | |
| | M2 | 1.4871 | | X 53 CrMnNiN 21 9 | X53CrMnNiN21-9 | | |
| | M1 | 1.4878 | | X 12 CrNiTi 18 9 | X12CrNiTi18-9, X10CrNiTi18-10 | | |
| | **Heat-resistant alloys, Fe-based** | | | | | | |
| | M1 | 1.4558 | | X 2 NiCrAlTi 32 20 | X2NiCrAlTi32-20 | | |
| | M1 | 1.4563 | | X 1 NiCrMoCu 31 27 4 | X1NiCrMoCu31-27-4 | | |
| | M1 | 1.4864 | | X 12 NiCrSi 36 16 | X12NiCrSi36-16, X12NiCrSi35-16 | Incoloy DS | |
| | M1 | 1.4958 | | X 5 NiCrAlTi31-20 | X5NiCrAlTi31-20 | | |
| | M1 | 1.4977 | | | X 40 CoCrNi 20 20 | | |

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| | Great Britain | | France | Italy | Sweden | Spain | Japan | USA |
|---|---|---|---|---|---|---|---|---|
| | B.S. | EN | AFNOR | UNI | SS | UNE | JIS | AISI/ SAE |
| | | | | | | | | |
| | 316C16, 316C16 (LT196), ANC4B | | | | | F.8414-AM-X7 CrNiMo20 10 | SCS 14 | |
| | 316S62, 316S63 | | Z2CND17.13Az | X2CrNiMoN17 13 | 2375 | F3543-X2CrNiMoN17133 | SUS 316 LN | 316LN |
| | 316S11, 316S13, 316S14, 316S31, LW22, LWCF22, 316S12 | | Z2CND17.13, Z3CND17-12-03, Z3CND18-14-03 | X2CrNiMo17 13 | 2353 | F.3533-X2 CrNiMo 17-12-03, F.3534-X6 CrNiMo 17-12-03 | | 316L |
| | 317S12 | | Z2CND19.15, Z2CND19-15-04, Z3CND19-15-04 | X2CrNiMo18 16 | 2367 | F3539-X2CrNiMo18164 | SUS 317 L | 317L |
| | | | Z3CND25-07Az, Z5CND27-05Az | | 2324 | F3309-X8CrNiMo27-05, F3552-X8CrNiMo266 | SUS 329 J1 | 329 |
| | 321S12, 321S31, 321S51 (1010, 1105) LW24, LWCF24 | 58B, 58C | Z6CNT18.10 | X6CrNiTi18 11 | 2337 | F.3553-X7 CrNiTi 18-11, F.3523-X 6 CrNiTi 18-11, 09 Ch 18N10T, F3523-X6CrNiTi1810 | SUS 321, JIS SUS 321 | 321, 15/5 PH, 17/4 PH |
| | 347S20, 347S31, 347S51, ANC3B | 58F, 58G | Z6CNNb18.10 | X6CrNiNb18 11, X8CrNiNb18 11 | 2338 | F.3552-X 7 CrNiNb 18-11, F.3524-X 67 CrNiNb 18-11, F3524-X6CrNiNb1810 | SUS 347 | 347, 13/8 MO |
| | 320S31, 320S17, 320S18 | 58J | Z6CNDT17.12 | X6CrNiMoTi17 12 | 2350 | F.3552-X 6 CrNiMoTi17-12-03, F3535-X6CrNiMoTi17122 | SUS 316 Ti | 316Ti, 326Ti |
| | 318C17, ANC4C | | Z4CNDNb18.12M | GX6crNiMoNb20 11 | | | SCS 22 | Nitronic 50.60 |
| | | | | X6CrNiMoNb17 13 | | | | |
| | 309S24 | | Z15CNS20.12, Z17CNS20-12, Z9CN24-13 | X16CrNi23 14 | | F3312-X15CrNiSi20-12 | SUH 309 | 309 |
| | 349S54 | | Z52CMN21.09, Z53CMNS21-09Az, Z53CMN21-09Az | X53CrMnNiN21 9 | | F.3217-X53 CrMnNiN 21-09 | SUH 35, SUH 36 | EV8, 2205 Duplex |
| | 321S20, 321S51 | 58B, 58C | T6CNT18.12 (B), Z6CNT18-10 | | 2337 | F.3523-X 6CrNiTi 18 11 | SUS 321 | 321 |
| | | | | | | | | |
| | | | | | | | | N08800 Incoloy 800 |
| | | | | | | | | N08028 Alloy 28 |
| | NA17 | | Z12NCS37.18, Z12NCS35.16, Z20NCS33-16 | | | F.3313-X12 CrNi 36-16 | SUH 330 | N08830 Alloy 330 |
| | | | | | | | | |
| | | | Z 42 CNKDWNb | | | | | |

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# Material comparison table

| Material group | Machining group | Germany | | | | | |
|---|---|---|---|---|---|---|---|
| | | Mat. no. DIN | Mat. no. DIN EN | DIN | DIN EN | Manufacturer designation | |
| K | **Grey cast iron** | | | | | | |
| | K3 | 0.6010 | EN-JL1010 | GG-10, GG 10 | EN-GJL-100 | | |
| | K3 | 0.6015 | EN-JL1020 | GG-15, GG 15 | EN-GJL-150 | | |
| | K3 | 0.6020 | EN-JL1030 | GG-20, GG 20 | EN-GJL-200 | | |
| | K3 | 0.6025 | EN-JL1040 | GG-25, GG 25 | EN-GJL-250 | | |
| | K4 | 0.6030 | EN-JL1050 | GG-30, GG 30 | EN-GJL-300 | | |
| | K4 | 0.6035 | EN-JL1060 | GG-35, GG 35 | EN-GJL-350 | | |
| | K4 | 0.6040 | | GG-40, GG 40 | EN-GJL-400 | | |
| | K4 | 0.6660 | | GGL-NiCr 20 2 | | | |
| | K4 | | | GG-26Cr, GG 26Cr | EN-GJL-260 Cr | | |
| | K7 | | | GGV 45 | EN-GJV-450 | | |
| | **Ductile cast iron** | | | | | | |
| | K5 | 0.7040 | EN-JS1030 | GGG-40 | EN-GJS-400-15 | | |
| | K6 | 0.7050 | EN-JS1050 | GGG-50 | EN-GJS-500-7 | | |
| | K6 | 0.7060 | EN-JS1060, EN-JS 1092 | GGG-60 | EN-GJS-600-3, EN-GJS-600-3U | | |
| | K6 | 0.7070 | EN-JS1070, EN-JS 1102 | GGG-70 | EN-GJS-700-2, EN-GJS-700-2U | | |
| | **Malleable cast iron** | | | | | | |
| | K1 | 0.8035 | EN-JM 1010 | GTW-35, GTW-35-04 | GTW-35-04, EN-GJMW-350-4 | | |
| | K1 | 0.8040 | EN-JM 1030 | GTW-40-05, GTW-40 | EN-GJMW-400-5, GTW-40-05 | | |
| | K1 | 0.8045 | EN-JM 1040 | GTW-45-07, GTW-45 | EN-GJMW-450-7 | | |
| | K1 | 0.8135 | EN-JM 1130 | GTS-35-10, GTS-35 | EN-GJMB 350-10 | | |
| | K1 | 0.8145 | EN-JM 1140 | GTS-45-06, GTS-45 | EN-GJMB 450-6, GTS-45-06 | | |
| | K1 | 0.8155 | EN-JM 1160 | GTS-55-04, GTS-55 | EN-GJMB 550-4, GTS-55-04 | | |
| | K2 | 0.8165 | EN-JM 1180 | GTS 65-02, GTS-65 | EN-GJMB 650-2, GTS-65-02 | | |
| | K2 | 0.8170 | EN-JM 1190 | GTS 70-02, GTS-70 | EN-GJMB 700-2, GTS-70-02 | | |

| | Great Britain | | France | Italy | Sweden | Spain | Japan | USA |
|---|---|---|---|---|---|---|---|---|
| | B.S. | EN | AFNOR | UNI | SS | UNE | JIS | AISI / SAE |
| | | | | | | | | |
| | | | Ft10D, FGL100 | G10 | 0110 | FG 10 | FC 100, FC10 | ASTM A-48-76 |
| | Grade 150 | | Ft15D, FGL150 | G15 | 0115 | FG 15 | FC 150 | NO 20B |
| | Grade 220 | | Ft20D, FGL200 | G20 | 0120 | FG 20 | FC 200, FC20 | NO 30B |
| | Grade 260 | | Ft25D, FGL250 | G25 | 0125 | FG 25 | FC25, FC 250 | NO 35B |
| | Grade 300 | | Ft30D, FGL300 | G30 | 0130 | FG 30 | FC 300 | NO 40B |
| | Grade 350 | | Ft35D, FGL350 | G35 | 0135 | FG 35 | FC 350 | NO 55B |
| | Grade 400 | | Ft40D, FGL400 | | 0140 | | | |
| | L-NiCr20 2 | | L-NC 20 2 | | 0523 | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | 420 / 12 | | FGS 400-12 | GS400-12 | 0717 | | FCD 400, FCD40 | 60/40/18 |
| | 500 / 7 | | FGS 500-7 | GS500-7 | 0727 | | FCD 500, FCD50 | 70/50/05 |
| | 600 / 3 | | FGS 600-3 | GS600-3 | 0732 | | FCD 600, FCD60 | 80/55/06 |
| | 700 / 2 | | FGS 700-2 | GS700-2 | 0737 | | FCD 700, FCD70 | 100/70/03 120/90/02 |
| | | | | | | | | |
| | W 35-04 | | MB 35-7 | | | | FCMW 330 | |
| | W 410 / 4 | | MB 40-10 | | | | FCMW 350 | |
| | 45-07 | | MB 45-7 | | | | FCMWP 440 | |
| | B 340 / 12 | | MN 35-10 | | 0815 | | FCMB 340 | 32510 |
| | P 440 / 7, P 45-06 | | MP 50-5 | | 0854 | | | 40010 |
| | P 540 / 5, P 55-04 | | MP 60-3 | | 0856 | | | 50005 |
| | P 65-02 | | | | 0862 | | | 60004 |
| | P 70-02 | | MP 70-2 | | 0862 | | | 70003 |

# Material comparison table

| Material group | Machining group | Germany | | | | | |
|---|---|---|---|---|---|---|---|
| | | Mat. no. DIN | Mat. no. DIN EN | DIN | DIN EN | Manufacturer designation | |
| N | **Aluminium alloys** | | | | | | |
| | N1 | 3.0255 | EN AW-1050A | Al99.5 | Al99.5 | | |
| | N4 | 3.1371 | EN AC-21000 | G-AlCu4TiMg | G-AlCu4TiMg | | |
| | N2 | 3.1655 | EN AW-2011 | AlCuBiPb | AlCu6BiPb | | |
| | N2 | 3.1734 | | Y-Alloy | AlCu4Mg1.5Ni2, WL 3.1734 | | |
| | N4 | 3.2371 | EN AC-42100 | G-AlSi7Mg | G-AlSi7Mg, AlSi7Mg | | |
| | N4 | 3.2373 | EN AC-43300 | G-AlSi9Mg | G-AlSi9Mg, AlSi9Mg | | |
| | N4 | 3.2381 | EN AC-43000 | G-AlSi10Mg | G-AlSi10Mg, AlSi10Mg | | |
| | N4 | 3.2382 | EN AC-43400 | GD-AlSi10Mg | AlSi10Mg(Fe) | | |
| | N4 | 3.2383 | EN AC-43200 | G-AlSi10MgCu | G-AlSi10MgCu, AlSi10Mg (Cu) | | |
| | N3 | 3.2581 | EN AC-44200 | G-AlSi12 | G-AlSi12, AlSi12 | | |
| | N3 | 3.2582 | EN AC-44300 | GD-AlSi12 | GD-AlSi12, AlSi12 (Fe) | | |
| | N3 | 3.2583 | EN AC-47000 | G-AlSi12 (Cu) | G-AlSi12 (Cu) | | |
| | N2 | 3.3315 | EN AW-5005A | AlMg1 | AlMg1C | | |
| | N3 | 3.3561 | EN AC-51300 | G-AlMg5 | G-AlMg5 | | |
| | N2 | 3.4345 | EN AW-7022 | AlZnMgCu0.5 | AlZnMgCu0.5 | | |
| | N4 | DIN 3.3211 | | | | | |
| | N4 | DIN 3.4365 | | | | | |
| | **Copper alloys** | | | | | | |
| | N7 | 2.0240 | CW502L | CuZn15 | CuZn15 | Medium red tombac, Gold tombac | |
| | N7 | 2.0265 | CW505L | CuZn30 | CuZn30 | Half tombac, Soldered brass, Cartridge brass, Polished copper, Metarsic | |
| | N7 | 2.0321 | CW508L | CuZn37 | CuZn37 | Pressed brass, Etching quality, Tuned brass, Soft brass, Stamped brass | |
| | N7 | 2.0592 | CC765S | G-CuZn35Al1, GK-CuZn35Al1, GZ-CuZn35Al1 | CuZn35Mn2Al1Fe1-C | | |
| | N7 | 2.0596 | CC764S | G-CuZn34Al2, GK-CuZn34Al2, GZ-CuZn34Al2 | CuZn34Mn3Al2Fe1-C | | |
| | N7 | 2.0966 | CW307G | CuAl10Ni5Fe4 | CuAl10Ni5Fe4 | | |
| | N7 | 2.0975 | CC333G | G-CuAl11Ni, G-CuAl10Ni | G-CuAl11Ni | | |
| | N7 | 2.1050 | CC480K | G-CuSn10Zn | CuSn10-C | | |

| | Great Britain | | France | Italy | Sweden | Spain | Japan | USA |
|---|---|---|---|---|---|---|---|---|
| | B.S. | EN | AFNOR | UNI | SS | UNE | JIS | AISI / SAE |
| | | | | | | | | |
| | 1B | | A5 | 4507 | 4007 | L-3051 | A1x1, A1050 | 1050A |
| | | | A-U5GT | | | L-2140 | AC1B | B26 |
| | FC1 | | A-U5PbBi | 6362 | 4355 | L-3182 | A2011 | 2011 |
| | LM14 | | A-U4NT | 3045 | | L-2150 | AC5A | |
| | 2L99, LM25 | | A-S7G0.3 | 7257 | 4244 | L-2651 | AC4C, JIS AC4 CH (AL 9) | B25 |
| | | | A7-S10G | 3051 | 4253 | | AC4A, JIS AC4 A (AL 4) | A13560 |
| | LM9 | | A-S10G | 3051 | 4253 | L-2560, L-2561 | JIS AC4 A (AL 4V) | A13600 |
| | LM9 | | A-S10G | 3051 | 4253 | L-2560, L-2561 | AC4A | |
| | | | A-S9GU | | | | JIS ADC3 (AL 4) | A360.2 |
| | LM6 | | A-S13 | 4514 | 4261 | L-2520, L-2521 | AC3A | A413.2 |
| | LM6, LM20 | | A-S13, A-S12 | 4514, G-AlSi13 | 4261 | L-2520, 21 | AC3A | A413.0 |
| | LM20 | | A-S12U | 3048 | 4260 | L-2530 | ADC1 (AK 12), AC3A (AL 12) | 413.1 |
| | N41 | | A-G0, 6 | 5764 | 4106 | L-3350 | A2x8, A5005 | 5005A |
| | N6, LM5 | | A-G6 | 3058 | 4146 | L-3320 | JIS AC7A (AL28) | 5056A, 514.1 |
| | | | A-Z5GU0.6 | | | | | |
| | | | | | | | | 6061-T6 |
| | | | | | | | | 7075-T6 |
| | | | | | | | | |
| | CZ 102 | | CuZn15 | | | | C2300 | C23000 |
| | CZ 106 | | CuZn30 | | | | C2600 | C26000 |
| | CZ 108 | | CuZn37 | | | | C2720 | C27400 |
| | HTB 1 | | | | | | | C86500 |
| | | | | | | | | C86200 |
| | CA 104 | | CuAl9Ni5Fe3Mn, U-A10N | | | | | C63000 |
| | AB2 | | CuAl11Ni5Fe | G-CuAl11Fe4Ni4 | | | | B-148-52 |
| | G1, CT1 | | | | | | | C90700 |

# Material comparison table

| Material group | Machining group | Germany | | | | | |
|---|---|---|---|---|---|---|---|
| | | Mat. no. DIN | Mat. no. DIN EN | DIN | DIN EN | Manufacturer designation | |
| N | **Copper alloys** (continued) | | | | | | |
| | N7 | 2.1052 | CC483K | G-CuSn12, GZ-CuSn12, GC-CuSn12 | CuSn12-C | | |
| | N9 | 2.1090 | CC493K | G-CuSn7ZnPb, GZ-CuSn7ZnPb, GC-CuSn7ZnPb | CuSn7Zn4Pb7-C | Rotguss 7 | |
| | N9 | 2.1096 | CC491K | G-CuSn5ZnPb | CuSn5Zn5Pb5-C | Rotguss 5 | |
| | N9 | 2.1098 | CC490K | G-CuSn2ZnPb | CuSn3Zn8Pb5-C | Alloy 5A | |
| | N9 | 2.1176 | CC495K | G-CuPb10Sn, GZ-CuPb10Sn, GC-CuPb10Sn | CuSn10Pb10-C | | |
| | N9 | 2.1182 | CC496K | G-CuPb15Sn, GZ-CuPb15Sn, GC-CuPb15Sn | CuSn7Pb15-C | | |
| | N9 | 2.1188 | CC497K | G-CuPb20Sn | CuSn5Pb20-C | | |
| | N7 | 2.1293 | CW106C | CuCrZr | CuCr1Zr | | |
| | N7 | | | CuAl6.5Fe2.5Sn0.25 | | AMPCO 8 | |
| | N7 | | | | | AMPCO 6 | |
| | N10 | | | CuAl13Fe4.5 | | AMPCO 21 | |
| | N10 | | | | | AMPCO 26 | |
| | **Magnesium-based alloys** | | | | | | |
| | N6 | 3.5101 | EN-MC35110 | G-MgZn 4 SE 1 Zr 1 | EN-MCMgZn4RE1Zr, G-MgZn4SE1Zr1 | | |
| | N6 | 3.5103 | EN-MC65120 | G-MgSE 3 Zn 2 Zr 1 | EN-MCMgRE3Zn2Zr, G-MgSE3Zn2Zr1 | | |
| | N6 | 3.5106 | EN-MC65210 | G-MgAg 3 SE 2 Zr 1 | EN-MCMgRE2Ag2Zr, G-MgAg3SE2Zr1 | | |
| | N6 | 3.5161 | | MgZn6Zr, MgZn 6 Zr F 29 | MgZn6Zr, MgZn6Zr F29 | | |
| | N6 | 3.5200 | | MgMn2 | MgMn2 | | |
| | N6 | 3.5312 | | MgAl3Zn | MgAl3Zn | | |
| | N6 | 3.5470 | EN-MC21320 | MgAl4Si1 | EN-MCMgAl4Si | | |
| | N6 | 3.5612 | | MgAl6Zn | MgAl6Zn | | |
| | N6 | 3.5632 | EN-MC21150 | G-MgAl 6 Zn 3 | G-MgAl6Zn3 | AZ63 | |
| | N6 | 3.5662 | | G-MgAl 6 | G-MgAl6 | | |
| | N6 | 3.5812 | EN-MC21110 | G-MgAl 8 Zn 1 | G-MgAl8Zn1 | AZ81 hp | |
| | N6 | 3.5912 | EN-MC21120 | GD-MgAl 9 Zn 1 | GD-MgAl9Zn1 | AZ91 | |

A 4

| | Great Britain | | France | Italy | Sweden | Spain | Japan | USA |
|---|---|---|---|---|---|---|---|---|
| | B.S. | EN | AFNOR | UNI | SS | UNE | JIS | AISI / SAE |
| | | | | | | | | |
| | Pb2 | | A53-707, CuSn12 | | | | | Amcoloy 712, B505 |
| | | | CuSn7Pb6Zn4 | | | | | C93200 |
| | LG2 | | CuPb5Sn5Zn5 | | | | | C83600 |
| | LG1 | | | | | | | |
| | LB2 | | CuPb10Sn10 | | | | | C93700 |
| | LB1 | | | | | | | C93800 |
| | LB5 | | CuPb20Sn5 | | | | | C94100 |
| | CC 102 | | | CuCrZr | | | | C18200 |
| | | | | | | | | AMPCO 8 |
| | | | | | | | | AMPCO 6 |
| | | | | | | | | AMPCO 21 |
| | | | | | | | | AMPCO 26 |
| | | | | | | | | |
| | RZ5, MAG5, MAG9, TZ6 | | G-Z4TR, ZH62 | | | | | ZE41 |
| | ZRE1, MAG6 | | G-TR3Z2 | | | | | EZ33 |
| | MSR, QE22 | | G-Ag2, 5 | | | | | QE22 |
| | ZW1, ZW3, ZW6, ZW21, MAG 161, MAG 131, MAG 141, MAG 151 | | | | | | | M1 |
| | MAG 101, AM503 | | G-M2 | | | | | |
| | AZ31, MAG 111 | | G-A3Z1, AZ31 | | | | | 52, 510 |
| | | | G-A4S1 | | | | | |
| | MAG121, AZM | | G-A6Z1, AZ61 | | | | | 520, 531 |
| | | | AZ63 | | | | | |
| | | | | | | | | |
| | MAG1, MAG2, AZ80, AZ81, A8 | | G-A9, AZ81 | AZ81 hp | | | AZ81 hp | AZ81 |
| | AZ91, MAG3, MAG7 | | G-A9Z1, AZ91 | AZ91 hp | | | | HK31 |

# Material comparison table

| Material group | Machining group | Germany | | | | | |
|---|---|---|---|---|---|---|---|
| | | Mat. no. DIN | Mat. no. DIN EN | DIN | DIN EN | Manufacturer designation | |
| S | **Titanium and titanium alloys** | | | | | | |
| | S6 | 3.7025 | | Ti 1 | Ti 99.8 | Titanium grade 1 | |
| | S7 | 3.7115.1 | | TiAl 5 Sn 2 | TiAl5Sn2.5 | | |
| | S6 | 3.7124 | | TiCu2 | TiCu2 | | |
| | S7 | 3.7164, 3.7165 | | TiAl 6 V 4 | TiAl6V4 | Titanium grade 5 | |
| | **Ni/Co-based heat-resistant alloys** | | | | | | |
| | S3 | 2.4360 | | NiCu30Fe | NiCu30 | Monel 400 | |
| | S4 | 2.4375 | | NiCu30Al | NiCu30Al3Ti | Monel K500 | |
| | S3 | 2.4630 | | NiCr20Ti | | Nimonic 75 | |
| | S3 | 2.4642 | | NiCr30Fe | | Inconel 690, Alloy 690 | |
| | S4 | 2.4668 | | NiCr19Fe19NbMo, NiCr19Fe19Nb5Mo3, NiCr19NbMo | NiCr19Nb5Mo3 | Inconel 718, Udimet 630 | |
| | S4 | 2.4669 | | NiCr15Fe7TiAl, Alloy X-750 | NiCr15Fe7Ti2Al | Inconel X-750, Alloy X-750 | |
| | S3 | 2.4856 | | NiCr22Mo9Nb, Alloy 625 | NiCr22Mo9Nb | Inconel 625 | |
| | S3 | 2.4858 | | NiCr21Mo, Alloy 825 | NiFe30Cr21Mo3 | Incoloy 825 | |
| | S4 | DIN 2.4698 | | | | | |
| | S4 | DIN 2.4654 | | | | | |
| H | **Hardened cast iron** | | | | | | |
| | H4 | 0.9640 | | G-X300CrMoNi1521 | GX300CrMoNi15-2-1 | | |
| | H4 | 0.9645 | | G-X260CrMoNi2021 | GX260CrMoNi20-2-1 | | |
| | H4 | 0.9650 | | G-X260Cr27 | GX260Cr27 | | |
| | H4 | 0.9655 | | G-X300CrMo271 | GX300CrMo27-1 | | |
| | **Chilled cast iron** | | | | | | |
| | H4 | 0.9620 | | G-X260NiCr42 | GX260NiCr42 | Ni hard 2 | |
| | H4 | 0.9625 | | G-X330NiCr42 | GX330NiCr42 | Ni hard 1 | |
| | H4 | 0.9630 | | G-X300CrNiSi952 | GX300CrNiSi952 | Ni hard 4 | |
| | H4 | 0.9635 | | G-X300CrMo153 | GX300CrMo15-3 | | |

| | Great Britain | | France | Italy | Sweden | Spain | Japan | USA |
|---|---|---|---|---|---|---|---|---|
| | B.S. | EN | AFNOR | UNI | SS | UNE | JIS | AISI / SAE |
| | | | | | | | | |
| | TA.1 | | T-35 | | | Ti-P01 | | R2050 |
| | | | | | | | | R54620 |
| | TA.21, TA.22, TA.23, TA.24, TA.52, TA.53, TA.54, TA.55, TA.58 | | T-U2 | | | Ti-P11 | | |
| | TA.10, TA.11, TA.12, TA.13, TA.28, TA.56 | | T-A6V | | | Ti-P63 | | 4911, 4928, 4935, 4954, 4965, 4967, 6AL4V |
| | | | | | | | | |
| | 3072-76, NA13 | | NU30 | | | | | Monel 400 |
| | 3072-76, HC202, 3146, Na18 | | | | | | | AMS 4676, Monel K500 |
| | HR5, 703 B, 203-4 | | NC 20 T | | | | | Nitronic 75, Nimonic 90/120 |
| | | | | | | | | Inconel 690 |
| | HR 8 | | NC 19 FeNb | | | | | Inconel 718 |
| | HR 505 | | NC 15 FeTNb | | | | | 5542G, Inconel X-750 |
| | | | NC 22 FeDNB | | | | | Incoloy 825 |
| | 3072-76 | | NC 21 FeDU | | | | | |
| | | | | | | | | Hastelloy C |
| | | | | | | | | Waspaloy |
| | | | | | | | | |
| | Grade 3A, grade 3B BS4844 | | | | | | | |
| | Grade 3C | | | | | | | |
| | Grade 3D | | | | 0466 | | | A532111A 25% CR |
| | Grade 3E | | | | | | | A532111A 25% CR |
| | | | | | | | | |
| | Grade 2A, BS4844 (1986) 2A | | | | 0512 | | | Ni hard 2 |
| | Grade 2B, BS4844 (1986) 2B | | | | 0513 | | | Ni hard 1 |
| | Grade 2C, Grade 2D, Grade 2E, BS4844 (1986) 2E | | | | 0457 | | | Ni hard 4 |
| | Grade 3A; B, Grade 3B | | | | | | | |

# Material comparison table

| Material group | Machining group | Germany | | | | | |
|---|---|---|---|---|---|---|---|
| | | Mat. no. DIN | Mat. no. DIN EN | DIN | DIN EN | Manufacturer designation | |
| 0 | **Thermosetting plastics** | | | | | | |
| | 02 | | | | | EP, Epoxide, Epoxy | |
| | 02 | | | | | Bakelite | |
| | 02 | | | | | Pertinax | |
| | 02 | | | | | Resitex | |
| | **Thermoplastics** | | | | | | |
| | 01 | | | | | PMMA, Polymethyl metacrylate, Plexiglas, Acrylic glass | |
| | 01 | | | | | PC, Polycarbonate, Makrolon | |
| | 01 | | | | | PA, Polyacrylamide | |

| | Great Britain | | France | Italy | Sweden | Spain | Japan | USA |
|---|---|---|---|---|---|---|---|---|
| | B.S. | EN | AFNOR | UNI | SS | UNE | JIS | AISI / SAE |
| | | | | | | | | |
| | | | | | | | | Epoxy, Bakelite |
| | | | | | | | | Phenolic |
| | | | | | | | | Phenolic w/glass |
| | | | | | | | | Resitex |
| | | | | | | | | |
| | | | | | | | | Plexiglas, Acrylic, Polycarbonate |
| | | | | | | | | UHMW |
| | | | | | | | | Acetal plastics, Delrin, Celcon, Teflon, Nylon |

# Hardness comparison table
# Tensile strength, Brinell, Vickers and Rockwell hardness (extract from DIN 50150)

| Tensile strength $R_m$ N/mm² | Vickers hardness HV | Brinell hardness HB | Rockwell hardness HRC |
|---|---|---|---|
| 255 | 80 | 76,0 | |
| 270 | 85 | 80,7 | |
| 285 | 90 | 85,5 | |
| 305 | 95 | 90,2 | |
| 320 | 100 | 95,0 | |
| 335 | 105 | 99,8 | |
| 350 | 110 | 105 | |
| 370 | 115 | 109 | |
| 385 | 120 | 114 | |
| 400 | 125 | 119 | |
| 415 | 130 | 124 | |
| 430 | 135 | 128 | |
| 450 | 140 | 133 | |
| 465 | 145 | 138 | |
| 480 | 150 | 143 | |
| 495 | 155 | 147 | |
| 510 | 160 | 152 | |
| 530 | 165 | 156 | |
| 545 | 170 | 162 | |
| 560 | 175 | 166 | |
| 575 | 180 | 171 | |
| 595 | 185 | 176 | |
| 610 | 190 | 181 | |
| 625 | 195 | 185 | |
| 640 | 200 | 190 | |
| 660 | 205 | 195 | |
| 675 | 210 | 199 | |
| 690 | 215 | 204 | |
| 705 | 220 | 209 | |
| 720 | 225 | 214 | |
| 740 | 230 | 219 | |
| 755 | 235 | 223 | |
| 770 | 240 | 228 | 20,3 |
| 785 | 245 | 233 | 21,3 |
| 800 | 250 | 238 | 22,2 |
| 820 | 255 | 242 | 23,1 |
| 835 | 260 | 247 | 24,0 |
| 850 | 265 | 252 | 24,8 |
| 865 | 270 | 257 | 25,6 |
| 880 | 275 | 261 | 26,4 |
| 900 | 280 | 266 | 27,1 |
| 915 | 285 | 271 | 27,8 |
| 930 | 290 | 276 | 28,5 |
| 950 | 295 | 280 | 29,2 |
| 965 | 300 | 285 | 29,8 |
| 995 | 310 | 295 | 31,0 |
| 1030 | 320 | 304 | 32,2 |
| 1060 | 330 | 314 | 33,3 |
| 1095 | 340 | 323 | 34,4 |
| 1125 | 350 | 333 | 35,5 |
| 1155 | 360 | 342 | 36,6 |
| 1190 | 370 | 352 | 37,7 |
| 1220 | 380 | 361 | 38,8 |
| 1255 | 390 | 371 | 39,8 |
| 1290 | 400 | 380 | 40,8 |
| 1320 | 410 | 390 | 41,8 |
| 1350 | 420 | 399 | 42,7 |
| 1385 | 430 | 409 | 43,6 |

| Tensile strength $R_m$ N/mm² | Vickers hardness HV | Brinell hardness HB | Rockwell hardness HRC |
|---|---|---|---|
| 1420 | 440 | 418 | 44,5 |
| 1455 | 450 | 428 | 45,3 |
| 1485 | 460 | 437 | 46,1 |
| 1520 | 470 | 447 | 46,9 |
| 1555 | 480 | (456) | 47,7 |
| 1595 | 490 | (466) | 48,4 |
| 1630 | 500 | (475) | 49,1 |
| 1665 | 510 | (485) | 49,8 |
| 1700 | 520 | (494) | 50,5 |
| 1740 | 530 | (504) | 51,1 |
| 1775 | 540 | (513) | 51,7 |
| 1810 | 550 | (523) | 52,3 |
| 1845 | 560 | (532) | 53,0 |
| 1880 | 570 | (542) | 53,6 |
| 1920 | 580 | (551) | 54,1 |
| 1955 | 590 | (561) | 54,7 |
| 1995 | 600 | (570) | 55,2 |
| 2030 | 610 | (580) | 55,7 |
| 2070 | 620 | (589) | 56,3 |
| 2105 | 630 | (599) | 56,8 |
| 2145 | 640 | (608) | 57,3 |
| 2180 | 650 | (618) | 57,8 |
| | 660 | | 58,3 |
| | 670 | | 58,8 |
| | 680 | | 59,2 |
| | 690 | | 59,7 |
| | 700 | | 60,1 |
| | 720 | | 61,0 |
| | 740 | | 61,8 |
| | 760 | | 62,5 |
| | 780 | | 63,3 |
| | 800 | | 64,0 |
| | 820 | | 64,7 |
| | 840 | | 65,3 |
| | 860 | | 65,9 |
| | 880 | | 66,4 |
| | 900 | | 67,0 |
| | 920 | | 67,5 |
| | 940 | | 68,0 |

Any hardness values converted on the basis of this table will be approximate only.
See DIN 50150.
Values in brackets are theoretically calculated values.

| Material property | Unit/ test method | Symbol |
|---|---|---|
| Tensile strength | N/mm² | $R_m$ |
| Vickers hardness | Diamond pyramid 136°<br>Testing force F ≥ 98 N | HV |
| Brinell hardness<br>Calculated from:<br>HB = 0.95 × HV | 0.102 × F/D² = 30 N/mm²<br>F = testing force in N<br>D = sphere diameter in mm | HB |
| Rockwell hardness C | Diamond cone 120°<br>Overall testing force 1471 ± 9 N | HRC |

# ISO tolerances

| Nominal size range in mm | Tolerances* for external dimensions | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | d11 | e7 | e8 | h5 | h6 | h7 | h8 | h9 | h10 | h11 | h12 | js14 | js16 | k6 | k10 | k11 | k12 | m7 | p7 |
| > 3 | −20<br>−80 | −14<br>−24 | −14<br>−28 | 0<br>−4 | 0<br>−6 | 0<br>−10 | 0<br>−14 | 0<br>−25 | 0<br>−40 | 0<br>−60 | 0<br>−100 | +125<br>−125 | +300<br>−300 | +6<br>0 | +40<br>0 | +60<br>0 | +100<br>0 | +12<br>+2 | +16<br>+6 |
| > 3<br>≤ 6 | −30<br>−105 | −20<br>−32 | −20<br>−38 | 0<br>−5 | 0<br>−8 | 0<br>−12 | 0<br>−18 | 0<br>−30 | 0<br>−48 | 0<br>−75 | 0<br>−120 | +150<br>−150 | +375<br>−375 | +9<br>+1 | +48<br>0 | +75<br>0 | +120<br>0 | +16<br>+4 | +24<br>+12 |
| > 6<br>≤ 10 | −40<br>−130 | −25<br>−40 | −25<br>−47 | 0<br>−6 | 0<br>−9 | 0<br>−15 | 0<br>−22 | 0<br>−36 | 0<br>−58 | 0<br>−90 | 0<br>−150 | +180<br>−180 | +450<br>−450 | +10<br>+1 | +58<br>0 | +90<br>0 | +150<br>0 | +21<br>+6 | +30<br>+15 |
| > 10<br>≤ 18 | −50<br>−160 | −32<br>−50 | −32<br>−59 | 0<br>−8 | 0<br>−11 | 0<br>−18 | 0<br>−27 | 0<br>−43 | 0<br>−70 | 0<br>−110 | 0<br>−180 | +215<br>−215 | +550<br>−550 | +12<br>+1 | +70<br>0 | +110<br>0 | +180<br>0 | +25<br>+7 | +36<br>+18 |
| > 18<br>≤ 30 | −65<br>−195 | −40<br>−61 | −40<br>−73 | 0<br>−9 | 0<br>−13 | 0<br>−21 | 0<br>−33 | 0<br>−52 | 0<br>−84 | 0<br>−130 | 0<br>−210 | +260<br>−260 | +650<br>−650 | +15<br>+2 | +84<br>0 | +130<br>0 | +210<br>0 | +29<br>+8 | +43<br>+22 |
| > 30<br>≤ 50 | −80<br>−240 | −60<br>−75 | −50<br>−89 | 0<br>−11 | 0<br>−16 | 0<br>−25 | 0<br>−39 | 0<br>−62 | 0<br>−100 | 0<br>−160 | 0<br>−250 | +310<br>−310 | +800<br>−800 | +18<br>+2 | +100<br>0 | +160<br>0 | +250<br>0 | +34<br>+9 | +51<br>+26 |
| > 50<br>≤ 80 | −100<br>−290 | −80<br>−90 | −60<br>−106 | 0<br>−13 | 0<br>−19 | 0<br>−30 | 0<br>−46 | 0<br>−74 | 0<br>−120 | 0<br>−190 | 0<br>−300 | +370<br>−370 | +950<br>−950 | +21<br>+2 | +120<br>0 | +190<br>0 | +300<br>0 | +41<br>+11 | +62<br>+32 |
| > 80<br>≤ 120 | −120<br>−340 | −72<br>−107 | −72<br>−126 | 0<br>−15 | 0<br>−22 | 0<br>−35 | 0<br>−54 | 0<br>−87 | 0<br>−140 | 0<br>−220 | 0<br>−350 | +435<br>−435 | +1100<br>−1100 | +25<br>+3 | +140<br>0 | +220<br>0 | +350<br>0 | +48<br>+13 | +72<br>+37 |
| > 120<br>≤ 180 | −145<br>−395 | −86<br>−125 | −85<br>−148 | 0<br>−18 | 0<br>−25 | 0<br>−40 | 0<br>−63 | 0<br>−100 | 0<br>−160 | 0<br>−250 | 0<br>−400 | +500<br>−500 | +1250<br>−1250 | +28<br>+3 | +160<br>0 | +250<br>0 | +400<br>0 | +55<br>+15 | +83<br>+43 |
| > 180<br>≤ 250 | −170<br>−460 | −100<br>−148 | −100<br>−172 | 0<br>−20 | 0<br>−29 | 0<br>−46 | 0<br>−72 | 0<br>−115 | 0<br>−185 | 0<br>−290 | 0<br>−460 | +575<br>−575 | +1450<br>−1450 | +33<br>+4 | +185<br>0 | +290<br>0 | +460<br>0 | +63<br>+17 | +96<br>+50 |
| > 250<br>≤ 315 | | −110<br>−162 | | | | | | | | | | | | | | | | | +108<br>+56 |
| > 315<br>≤ 400 | | −125<br>−182 | | | | | | | | | | | | | | | | | +119<br>+52 |
| > 400<br>≤ 500 | | −135<br>−198 | | | | | | | | | | | | | | | | | +131<br>+53 |

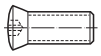
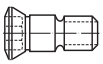
| Nominal size range in mm | Tolerances* for external dimensions |
|---|---|
| | z9 |
| > 3 | +51<br>+26 |
| > 3<br>≤ 6 | +65<br>+35 |
| > 6<br>≤ 10 | +78<br>+42 |
| > 10<br>≤ 14 | +93<br>+50 |
| > 14<br>≤ 18 | +103<br>+60 |
| > 18<br>≤ 24 | +125<br>+73 |
| > 24<br>≤ 30 | +140<br>+88 |
| > 30<br>≤ 40 | +174<br>+112 |
| > 40<br>≤ 50 | +196<br>+136 |
| > 50<br>≤ 65 | +246<br>+172 |
| > 65<br>≤ 80 | +284<br>+210 |
| > 80<br>≤ 100 | +345<br>+258 |
| > 100<br>≤ 120 | +397<br>+310 |
| > 120<br>≤ 140 | +465<br>+365 |
| > 140<br>≤ 160 | +515<br>+415 |
| > 160<br>≤ 180 | +565<br>+465 |
| > 180<br>≤ 200 | +635<br>+520 |

| Nominal size range in mm | Tolerances* for internal dimensions | | | |
|---|---|---|---|---|
| | H6 | H7 | H11 | H12 |
| > 3 | +6<br>0 | +10<br>0 | +60<br>0 | +0,10<br>0 |
| > 3<br>≤ 6 | +8<br>0 | +12<br>0 | +75<br>0 | +0,12<br>0 |
| > 6<br>≤ 10 | +9<br>0 | +15<br>0 | +90<br>0 | +0,15<br>0 |
| > 10<br>≤ 18 | +11<br>0 | +18<br>0 | +110<br>0 | +0,18<br>0 |
| > 18<br>≤ 30 | +13<br>0 | +21<br>0 | +130<br>0 | +0,21<br>0 |
| > 30<br>≤ 50 | +16<br>0 | +25<br>0 | +160<br>0 | +0,25<br>0 |
| > 50<br>≤ 80 | +19<br>0 | +30<br>0 | +190<br>0 | +0,30<br>0 |
| > 80<br>≤ 120 | +22<br>0 | +35<br>0 | +220<br>0 | +0,35<br>0 |
| > 120<br>≤ 180 | +25<br>0 | +40<br>0 | +250<br>0 | +0,40<br>0 |
| > 180<br>≤ 250 | +29<br>0 | +46<br>0 | +290<br>0 | +0,46<br>0 |

* Tolerances in µm in accordance with DIN ISO 286 (previously: DIN 7160 or DIN 7161)

A 4

# Clamping screws for indexable inserts

| Screw types | Designation | Dimensions | Torx | Tightening torque Nm |
|---|---|---|---|---|
|  Clamping screws with 43° head angle for indexable inserts with countersink | FS322 | M2,5 × 5,7 | 7 | 0,8 |
| | FS258 | M3 × 5,7 | 8 | 1,5 |
| | FS246 | M3 × 7 | 8 | 1,5 |
| | FS1163 | M3,5 × 10 | 15 | 3,0 |
| | FS320 | M4 × 5 | 15 | 3,0 |
| | FS318 | M4 × 6 | 15 | 3,0 |
| | FS245 | M4 × 6,5 | 15 | 3,0 |
| | FS321 | M4 × 7 | 15 | 3,0 |
| | FS319 | M4 × 8 | 15 | 3,0 |
| | FS244 | M4 × 9 | 15 | 3,0 |
| | FS749 | M4 × 10,5 | 15 | 3,0 |
| | FS326 | M4 × 12 | 15 | 3,0 |
| | FS1458 | M4 × 12 | 15IP | 2,5 |
| | FS954 | M4,5 × 11 | 20 | 4,5 |
| | FS260 | M5 × 9,5 | 20 | 5,0 |
| | FS243 | M5 × 11 | 20 | 5,0 |
| | FS242 | M5 × 13 | 20 | 5,0 |
| | FS1165 | M5 × 12 | 20 | 6,0 |
| | FS1010 | M6 × 14 | 20 | 5,0 |
| | FS1164 | M6 × 15 | 25 | 10,0 |
|  Fitting screws | FS925 | M2,5 × 6,5 | 8 | 0,8 |
| | FS397 | M3 × 6,9 | 8 | 1,0 |
| | FS2070 | M3 × 6,5 | 8IP | 2,0 |
| | FS922 | M3,5 × 9,5 | 15 | 2,5 |
| | FS390 | M4 × 0,5 × 8,4 | 15 | 4,0 |
| | FS2071 | M4 × 8,4 | 15IP | 4,0 |
| | FS1028 | M4,5 × 12,8 | 20 | 4,0 |
| | FS1153 | M4,5 × 14 | 20 | 4,0 |
| | FS391 | M5 × 0,5 × 9,1 | 20 | 5,0 |
| | FS392 | M5 × 0,5 × 12,75 | 20 | 5,0 |
| | FS393 | M5 × 0,5 × 15,45 | 20 | 5,0 |
| | FS2072 | M5 × 9,55 | 20IP | 5,0 |
| | FS2073 | M5 × 0,5 × 12,75 | 20IP | 5,0 |
| | FS2074 | M5 × 15,45 | 20IP | 5,0 |
| | FS2075 | M6 × 20,35 | 20IP | 5,0 |
| | FS394 | M6 × 0,7 × 20,35 | 20 | 5,0 |
| | FS395 | M8 × 0,75 × 24,7 | 30 | 6,0 |
| | FS2107 | M8 × 24,7 | 30IP | 10,0 |

| Screw types | Designation | Dimensions | Torx | Tightening torque Nm |
|---|---|---|---|---|
| Clamping screws with 60° head angle for indexable inserts with arched countersink in accordance with ISO | FS1358 | M1,8 × 3,5 | 6 | 0,4 |
| | FS1012 | M1,8 × 4,3 | 6 | 0,4 |
| | FS2076 | M2 × 3,2 | 6IP | 0,6 |
| | FS1003 | M2 × 3,25 | 6 | 0,4 |
| | FS1151 | M2 × 3,45 | 6 | 0,4 |
| | FS2147 | M2 × 4,25 | 6IP | 0,6 |
| | FS2148 | M2 × 4,95 | 6IP | 0,6 |
| | FS1004 | M2,2 × 4,6 | 7 | 0,6 |
| | FS2084 | M2,2 × 4,6 | 7IP | 0,9 |
| | FS2111 | M2,2 × 4,85 | 7IP | 0,9 |
| | FS1020 | M2,2 × 5,5 | 7 | 0,6 |
| | FS2149 | M2,2 × 6,4 | 7IP | 0,9 |
| | FS2066 | M2,5 × 5,2 | 7IP | 0,9 |
| | FS924 | M2,5 × 4,5 | 8 | 0,8 |
| | FS1455 | M2,5 × 4,5 | 8IP | 0,8 / 1,2 |
| | FS1129 | M2,5 × 5,2 | 8 | 0,8 |
| | FS2067 | M2,5 × 5,7 | 7IP | 0,9 |
| | FS375 | M2,5 × 5,8 | 7 | 0,8 |
| | FS923 | M2,5 × 6 | 8 | 0,8 / 1,2 |
| | FS1454 | M2,5 × 6 | 8IP | 0,8 / 1,2 |
| | FS2061 | M2,5 × 6,5 | 7IP | 0,9 |
| | FS2077 | M3 × 5,3 | 9IP | 1,5 |
| | FS1005 | M3 × 6 | 8 | 1,0 |
| | FS1456 | M3 × 6,2 | 9IP | 1,5 / 2,0 |
| | FS2078 | M3 × 7,2 | 9IP | 1,5 |
| | FS1013 | M3 × 7,5 | 8 | 1,0 |
| | FS1457 | M3 × 7,7 | 9IP | 1,5 |
| | FS379 | M3 × 8,5 | 8 | 1,0 |
| | FS2079 | M3 × 8,7 | 9IP | 2,0 |
| | FS920 | M3,5 × 7,3 | 15 | 2,5 |
| | FS2062 | M3,5 × 8,1 | 15IP | 3,0 |
| | FS2266 | M3,5 × 8,75 | 10IP | 2,0 |
| | FS359 | M3,5 × 9 | 15 | 2,5 |
| | FS2119 | M3,5 × 9,3 | 15IP | 3,0 |
| | FS2063 | M3,5 × 10,1 | 15IP | 3,0 |
| | FS1006 | M3,5 × 12 | 15 | 2,5 |
| | FS2060 | M3,5 × 12,1 | 15IP | 3,0 |
| | FS2279 | M3,5 × 12 | 15IP | 3,0 |
| | FS2064 | M4 × 0,5 × 11 | 15IP | 3,0 |
| | FS2065 | M4 × 0,5 × 14 | 15IP | 3,0 |
| | FS1011 | M4 × 7,8 | 15 | 3,0 |
| | FS2080 | M4 × 8,5 | 15IP | 2,5 |
| | FS2114 | M4 × 9 | 15IP | 2,5 |
| | FS378 | M4 × 9,5 | 15 | 3,0 |
| | FS1453 | M4 × 9,7 | 15IP | 2,5 / 3,5 |
| | FS1459* | M4 × 10 | 15IP | 4,0 |
| | FS2163 | M4 × 10,8 | 15IP | 3,0 |
| | FS2081 | M4 × 12 | 15IP | 3,0 |
| | FS1007 | M4 × 12 | 15 | 3,0 |
| | FS1029 | M5 × 9 | 20 | 5,0 |
| | FS2139 | M5 × 10 | 20IP | 5,0 |
| | FS1030 | M5 × 11 | 20 | 5,0 |
| | FS2281 | M5 × 11 | 20IP | 5,0 |
| | FS1495 | M5 × 13 | 20IP | 5,0 |
| | FS1031 | M5 × 13 | 20 | 5,0 |
| | FS1009 | M5 × 16 | 20 | 5,0 |
| | FS2112 | M5 × 16 | 20IP | 5,0 |
| | FS2090 | M5 × 17,25 | 20IP | 5,0 |
| | FS1036 | M6 × 14 | 20 | 5,0 |
| | FS2089 | M6 × 18,25 | 25IP | 5,0 |
| | FS1008 | M6 × 18 | 20 | 5,0 |
| | FS1152 | M8 × 1 × 18,5 | 30 | 10,0 |
| | FS2150 | M8 × 22 | 30IP | 10,0 |

* Screw head with radius

IP = Torx Plus

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# Torque screwdriver with interchangeable blades

## Torque screwdriver

| Designation | Size | | Scale range |
|---|---|---|---|
| FS2001 | 1 | 4 | 0,4–1,2 Nm |
| FS2003 | 3 | 4 | 1,5–5,0 Nm |
| FS2002 | 1 | 4 | 3,5–10,6 in lbs |
| FS2004 | 3 | 4 | 13,3–44 in lbs |

| Designation | Size | | Scale range |
|---|---|---|---|
| FS2248 | 3 | 4 | 1,0–6,0 Nm |
| | | | |

| Interchangeable blades | Designation | Torx | |
|---|---|---|---|
| Torx interchangeable blades Blade length 175 mm | FS2005 | 6 | 4 |
| | FS2006 | 7 | |
| | FS2007 | 8 | |
| | FS2008 | 10 | |
| | FS2009 | 15 | |
| | FS2010 | 20 | |
| Torx Plus interchangeable blades Blade length 175 mm | FS2085 | 6IP | 4 |
| | FS2011 | 7IP | |
| | FS2012 | 8IP | |
| | FS2013 | 9IP | |
| | FS2268 | 10IP | |
| | FS2014 | 15IP | |
| | FS2015 | 20IP | |
| | FS2016 | 25IP | |
| Complete blade set (FS2005–FS2016) Blade length 175 mm | FS2017 | | 4 |

IP = Torx Plus

## Torque T-handle

| Designation | | Scale range |
|---|---|---|
| FS2041 | 6 | 4,5–14 Nm |
| FS2042 | 6 | 40–123 in lbs |

| Interchangeable blades | Designation | Torx/SW | |
|---|---|---|---|
| Torx interchangeable blades Blade length 130 mm | FS2043 | 15 | 6 |
| | FS2044 | 20 | |
| | FS2045 | 25 | |
| | FS2046 | 30 | |
| Torx Plus interchangeable blades Blade length 130 mm | FS2047 | 15IP | 6 |
| | FS2048 | 20IP | |
| | FS2049 | 25IP | |
| | FS2109 | 30IP | |
| Hexagonal interchangeable blades Blade length 130 mm | FS2050 | SW3 | 6 |
| | FS2051 | SW4 | |
| | FS2052 | SW5 | |
| Complete blade set (FS2043–FS2052) Blade length 130 mm | FS2053 | | 6 |

IP = Torx Plus

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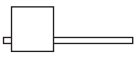
# Screwdriver

| Screwdriver types | Designation | Torx |
|---|---|---|
| Screwdriver | FS1063 | 6 |
| | FS2086 | 6IP |
| | FS309 | 7 |
| | FS2088 | 7IP |
| | FS230 | 8 |
| | FS1483 | 8IP |
| | FS1128 | 9 |
| | FS1484 | 9IP |
| | FS2267 | 10IP |
| | FS229 | 15 |
| | FS1485 | 15IP |
| | FS228 | 20 |
| | FS1486 | 20IP |
| | FS2167 | 25 |
| | FS1487 | 25IP |
| | FS396 | 30 |
| | FS2109 | 30IP |

IP = Torx Plus

| Screwdriver types | Designation | Torx | WAF |
|---|---|---|---|
|  Torx key | FS2146 | 6IP | – |
| | FS2087 | 6IP | – |
| | FS325 | 7 | – |
| | FS1490 | 7IP | – |
| | FS257 | 8 | – |
| | FS1466 | 9IP | – |
| | FS1050 | 10 | – |
| | FS255 | 15 | – |
| | FS1465 | 15IP | 3,5 |
| | FS1496 | 15IP | 4,0 |
| | FS256 | 20 | – |
| | FS1154 | – | 2,0 |
| | FS1155 | – | 2,5 |

IP = Torx Plus

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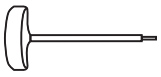
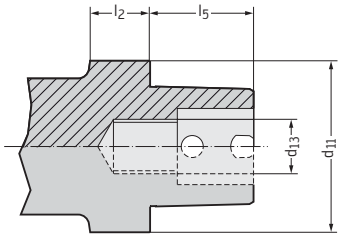
| Screwdriver types | Designation | Torx |
|---|---|---|
| Handle key, small | FS1047 | 15 |
| | FS1048 | 20 |
| | FS1049 | 25 |
|  Handle key, large | FS1172 | 15 |
| | FS1173 | 20 |
| | FS1174 | 25 |
| | FS1175 | 30 |

| Allen key | Designation | Torx | WAF |
|---|---|---|---|
| | ISO 2936–1,3 | – | 1,3 |
| | ISO 2936–1,5 | – | 1,5 |
| | ISO 2936–2 | – | 2 |
| | ISO 2936–2,5 | – | 2,5 |
| | ISO 2936–3 | – | 3 |
| | ISO 2936–3,5 | – | 3,5 |
| | ISO 2936–4 | – | 4 |
| | ISO 2936–5 | – | 5 |
| | ISO 2936–6 | – | 6 |
| | FS1464 | 20IP | – |
| | FS1592 | 25IP | – |

IP = Torx Plus

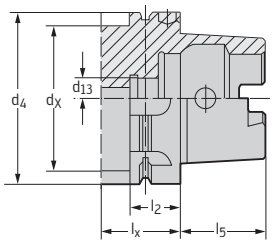
# Clamping systems for tools and tool adaptors

## Walter Capto™ tool adaptor ISO 26623



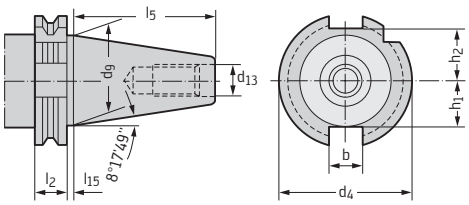

| Walter Capto™ | $d_{11}$ mm | $l_2$ mm | $l_5$ mm | $d_{13}$ |
|---|---|---|---|---|
| C3 | 32 | 15 | 19 | M12 × 1,5 |
| C4 | 40 | 20 | 24 | M14 × 1,5 |
| C5 | 50 | 20 | 30 | M16 × 1,5 |
| C6 | 63 | 22 | 38 | M20 × 2,0 |
| C8 | 80 | 30 | 48 | M20 × 2,0 |

## HSK tool adaptor DIN 69893 part 1, form A



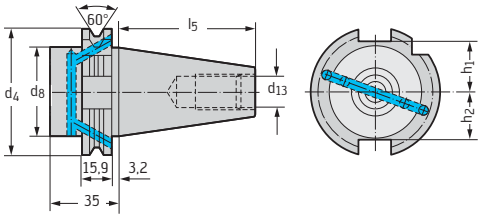

| HSK | $l_5$ mm | $d_4$ mm | $d_x$ max. mm | $d_{13}$ | $l_2$ mm | $l_x$ min. mm |
|---|---|---|---|---|---|---|
| 63 | 32 | 63 | 53 | M18 × 1,0 | 26 | 42 |
| 100 | 50 | 100 | 85 | M24 × 1,5 | 29 | 45 |

## SK tool adaptor DIN 69871 part 1, form A




| SK no. | $l_5$ −0,3 mm | $l_2$ −0,1 mm | $l_{15}$ ± 0,2 mm | $d_9$ mm | $d_{13}$ | $d_4$ −0,1 mm | b H12 mm | $h_1$ −0,4 mm | $h_2$ −0,4 mm |
|---|---|---|---|---|---|---|---|---|---|
| 40 | 68,4 | 15,9 | 3,2 | 44,45 | M16 | 63,55 | 16,1 | 22,8 | 25,0 |
| 50 | 101,75 | 15,9 | 3,2 | 69,85 | M24 | 97,50 | 25,7 | 35,5 | 37,7 |

## SK tool adaptor DIN 69871 part 1, form B




| SK no. | $l_5$ mm | $d_4$ mm | $d_8$ max. mm | $d_{13}$ | $h_2$ mm | $h_1$ mm |
|---|---|---|---|---|---|---|
| 40 | 68,40 | 63,55 | 50 | M16 | 22,8 | 25,0 |
| 50 | 101,75 | 97,50 | 80 | M24 | 35,5 | 37,7 |

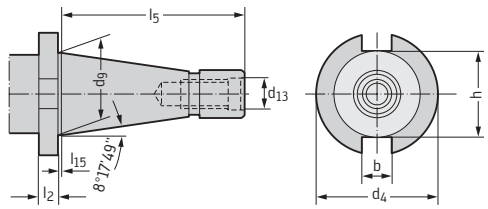
(with internal coolant supply; dimensions similar to form A)

A 4

# Clamping systems for tools and tool adaptors

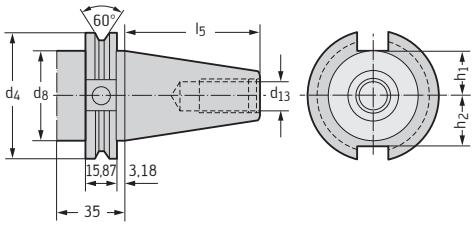
(continued)

## SK tool adaptor DIN 2080




| SK no. | $d_9$ mm | $l_5$ mm | $l_{15}$ ± 0,2 mm | $d_{13}$ | $d_4$ –0,4 mm | $l_2$ ± 0,15 mm | b H12 mm | h max. mm |
|---|---|---|---|---|---|---|---|---|
| 40 | 44,45 | 93,4 | 1,6 | M16 | 63,0 | 10 | 16,1 | 45,0 |
| 50 | 69,85 | 126,8 | 3,2 | M24 | 97,5 | 12 | 25,7 | 70,6 |

## CAT tool adaptor ANSI B 5.50

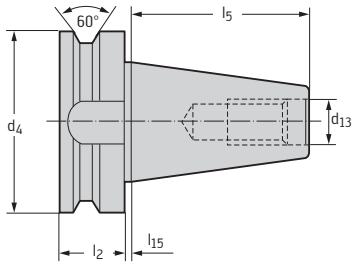



| SK no. | $l_5$ mm | $d_4$ mm | $d_8$ mm | $d_{13}$ | $h_2$ mm | $h_1$ mm |
|---|---|---|---|---|---|---|
| 40 | 68,25 | 63,5 | 44,5 | M16 | 22,6 | 25,0 |
| 50 | 101,6 | 98,4 | 70,0 | M24 | 35,3 | 37,7 |

(ANSI/ASME B 5.50 – 1885)

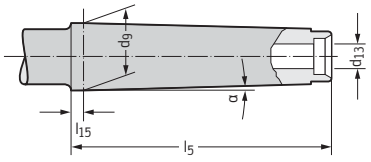
A 4

## MAS BT tool adaptor



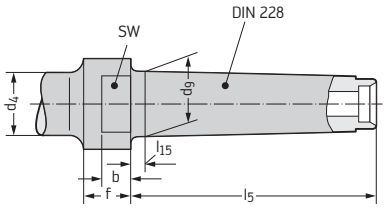

| SK no. | $l_5$ mm | $d_4$ mm | $d_{13}$ | $l_2$ mm | $l_{15}$ mm |
|---|---|---|---|---|---|
| 40 | 65,4 | 63 | M16 | 25 | 2 |
| 50 | 101,8 | 100 | M24 | 35 | 3 |

## MT tool adaptor DIN 228 A



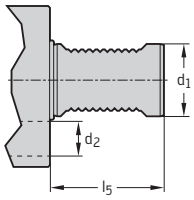

| MT | $d_9$ mm | $l_5$ mm | $l_{15}$ mm | α | $d_{13}$ |
|---|---|---|---|---|---|
| 0 | 9,045 | 53 | 3,0 | 1°29'27" | – |
| 1 | 12,065 | 57 | 3,5 | 1°25'43" | M6 |
| 2 | 17,780 | 69 | 5,0 | 1°25'50" | M10 |
| 3 | 23,825 | 86 | 5,0 | 1°26'16" | M12 |
| 4 | 31,267 | 109 | 6,5 | 1°29'15" | M16 |
| 5 | 44,399 | 136 | 6,5 | 1°30'26" | M20 |

## MT tool adaptor DIN 2207



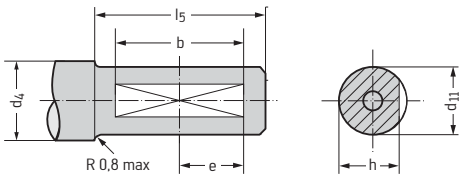

| MT | $d_9$ mm | $l_5$ mm | $l_{15}$ mm | $d_4$ mm | f mm | b mm | SW $d_9$ mm |
|---|---|---|---|---|---|---|---|
| 3 | 23,825 | 86 | 5,0 | 36 | 18 | 12 | 24 |
| 4 | 31,267 | 109 | 6,5 | 43 | 23 | 15 | 32 |
| 5 | 44,399 | 136 | 6,5 | 60 | 28 | 18 | 45 |

## VDI tool adaptor DIN 69880




| Type | $d_1$ mm | $d_2$ mm | $l_5$ mm |
|---|---|---|---|
| VDI 16 | 16 | 8 | 32 |
| VDI 20 | 20 | 10 | 40 |
| VDI 25 | 25 | 10 | 48 |
| VDI 30 | 30 | 14 | 55 |
| VDI 40 | 40 | 14 | 63 |
| VDI 50 | 50 | 16 | 78 |

## Parallel shank ISO 9766:1990 (E)




| $d_{11}$ $h_6$ mm | $d_4$ min. mm | h $h_{13}$ mm | $l_5$ ±1 mm | e mm | b mm |
|---|---|---|---|---|---|
| 20 | 25 | 18,2 | 50 | 14,5 | 29 |
| 25 | 31 | 23 | 56 | 17,5 | 35 |
| 32 | 38 | 30 | 60 | 19,5 | 39 |

A 4

WALTER