

YE-IT26  
EUROPE  
2025/2026



## CUTTING TOOLS



# INDEXABLE INSERTS

**YG** YG-1 CO., LTD.

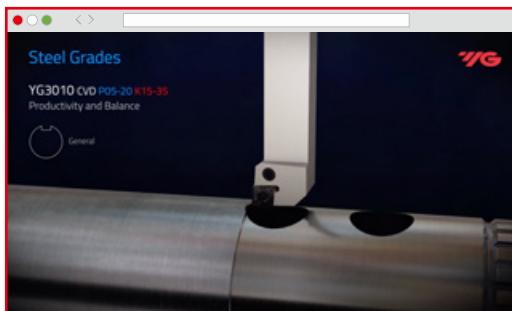
If you Click an icon or page number, you can easily find information as below;

- 1 Go to the page
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- 4 Go to the section
- 5 Watch the video

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| Type | Series | Size & Thickness | Page |
|------|--------|------------------|------|
|      | CNMA   | 1204 1606 1906   | 62   |
|      | CNMG   | 1204 1606 1906   |      |
|      | DNMA   | 1504 1506        | 65   |
|      | DNMG   | 1504 1506        |      |
|      | KNUX   | 1604             | 68   |

| Series | Turning Holder |       |
|--------|----------------|-------|
|        | CCGT           |       |
|        |                |       |
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3 Click for Overview

## YG TURN

Turning Inserts - Negative  
CNMA / CNMG (80° Rhombic)

TURNING  
FINISHING/GROOVING  
MILLING  
DRILLING  
TECHNICAL INFORMATION

| CNMA<br>CNMG | Designation    | RE  | Fn<br>(mm/rev) | Ap<br>(mm) | EDP 2200 |      |      |      |      |           |
|--------------|----------------|-----|----------------|------------|----------|------|------|------|------|-----------|
|              |                |     |                |            | K10      | P10  | K20  | P20  | P15  | P10       |
|              | CNMA 120404    | 0.4 | 0.15-0.50      | 0.5-5.0    | 0084     | 0089 | 0254 |      |      |           |
|              | CNMA 120408    | 0.8 | 0.15-0.50      | 1.0-5.0    | 1484     | 0210 | 0255 |      |      |           |
|              | CNMA 120412    | 1.2 | 0.15-0.50      | 1.5-5.0    | 0760     | 0211 | 0256 |      |      |           |
|              | CNMA 120416    | 1.6 | 0.15-0.50      | 2.0-5.0    | 1237     | 1288 | 1214 |      |      |           |
|              | CNMA 160612    | 1.2 | 0.15-0.50      | 1.5-5.0    | 0881     | 0212 | 0257 |      |      |           |
|              | CNMA 160616    | 1.6 | 0.15-0.50      | 2.0-5.0    | 0537     | 0448 | 0447 |      |      |           |
|              | CNMG 120404-UF | 0.4 | 0.05-0.25      | 0.5-2.5    |          |      |      | 0176 |      | 2210      |
|              | CNMG 120408-UF | 0.8 | 0.05-0.25      | 1.0-2.5    |          |      |      | 0180 |      | 1627 2210 |
|              | CNMG 120412-UF | 1.2 | 0.05-0.25      | 1.5-2.5    |          |      |      | 1349 |      | 2210      |
|              | CNMG 090308-UL | 0.8 | 0.10-0.30      | 1.0-2.5    |          |      |      | 1211 |      | 2210      |
|              | CNMG 090312-UL | 1.2 | 0.10-0.30      | 1.5-2.5    |          |      |      | 1274 |      | 2210      |
|              | CNMG 090408-UL | 0.8 | 0.10-0.30      | 1.0-2.5    |          |      |      | 1338 |      | 2210      |
|              | CNMG 090412-UL | 1.2 | 0.10-0.30      | 1.5-2.5    |          |      |      | 1339 |      | 2210      |
|              | CNMG 120404-UL | 0.4 | 0.10-0.30      | 0.5-3.0    |          |      |      | 0258 |      | 2210      |
|              | CNMG 120408-UL | 0.8 | 0.10-0.30      | 1.0-3.0    |          |      |      | 0192 |      | 2210      |
|              | CNMG 120412-UL | 1.2 | 0.10-0.30      | 1.5-3.0    |          |      |      | 0261 |      | 2210      |
|              | CNMG 120404-UM | 0.4 | 0.15-0.30      | 0.5-3.0    |          |      |      | 1074 | 0184 |           |
|              | CNMG 120408-UM | 0.8 | 0.15-0.30      | 1.0-3.0    |          |      |      | 0887 | 0338 | 0114 0843 |
|              | CNMG 120412-UM | 1.2 | 0.15-0.30      | 1.5-3.0    |          |      |      | 1075 | 0525 |           |



# INDEXABLE INSERTS



**TURNING**



**PARTING  
GROOVING**



**MILLING**



**DRILLING**

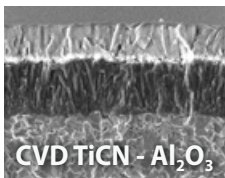
Turning  
New Product



# YG TURN YG1020

NEW

First choice for ductile cast iron

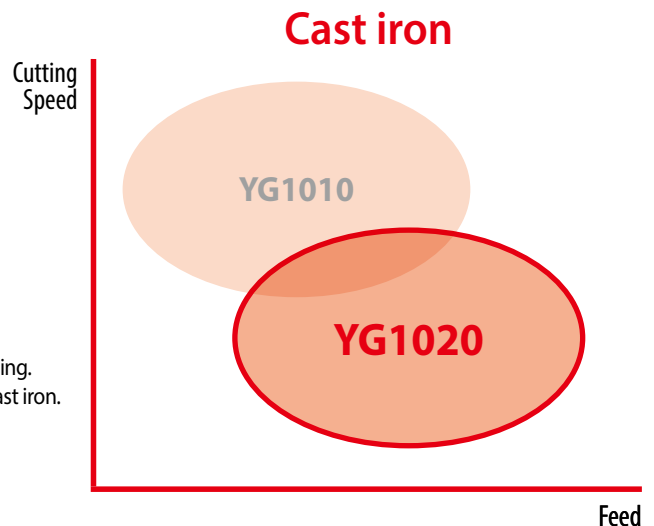


## YG1020

K15 - K25

### Optimized grade for machining various ductile cast iron

- Stability and wear resistance optimized for interrupted and continuous machining.
- A customized CVD coating structure was applied to the machining of ductile cast iron.
- Applying post-treatment improved the reliability of cutting edge and ensured stable tool life.

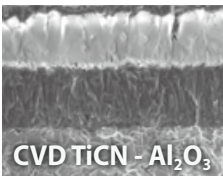


Turning  
New Product



# YG TURN YG3125 NEW

Recommended first grade for steel



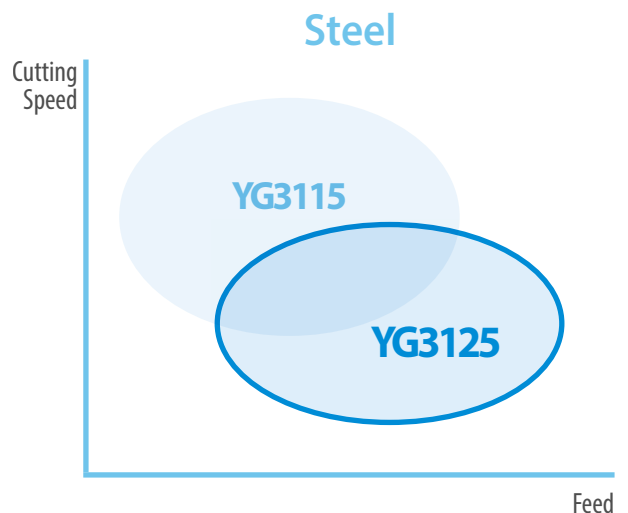
CVD TiCN - Al<sub>2</sub>O<sub>3</sub>

## YG3125

P20 - P30

### Recommended first grade for steel

- New substrates with a unique combination of good toughness and plastic deformation resistance
- General Machining on steel

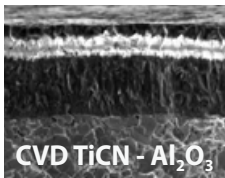


Turning  
New Product

# YG TURN YG2035

NEW

CVD Coated Grade for stainless steel at Low Cutting Speed



## YG2035

M30~M40

### CVD Grade with enhanced stability for stainless steel

- The substrate is suitable for interrupt and continuous machining conditions.
- Prevent build-up edge with a controlled surface finish, even at low cutting speeds.
- Specialized for irregular surface machining, providing predictable tool life.

Cutting  
Speed

Stainless steel

YG2025

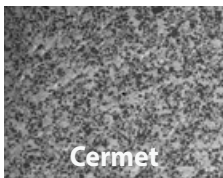
YG2035

Feed

Turning  
New Product

# YG TURN NEW YT100G

PVD-coated Cermet grade for turning



## YT100G

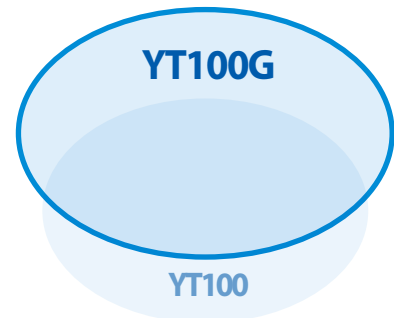
P5 - P20

M5 - M20

K5 - K20

Cutting  
Speed

Steel - Cermet



Feed

### PVD-Coated Cermet Grade for Turning

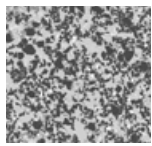


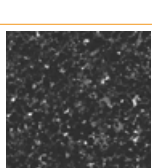
- Excellent wear resistance and low friction during machining provide better surface finishing
- For steels, stainless steels, and cast irons machining
- PVD-coated cermet provides better wear resistance and higher productivity.

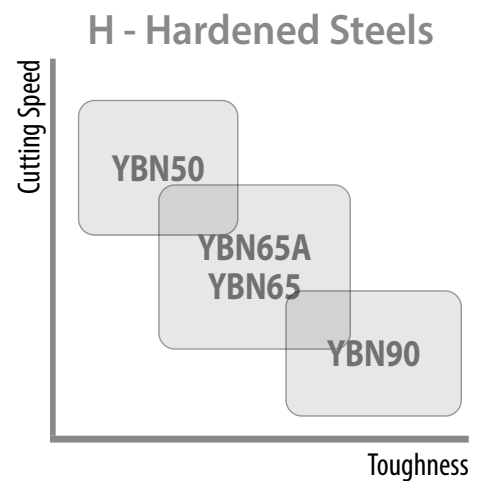
Turning  
New Product

# YG TURN PCBN GRADE

NEW

PCBN Turning Grades for Hardened Steel

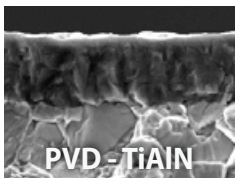
|   |   |   |
|---|---|---|
| <p><b>YBN50</b><br/>H5 - H15</p>                |  | <p>Uncoated PCBN grade for Continuous to light interrupted turning of hardened steels</p>   |
| <p><b>YBN65A</b><br/>H10 - H25</p>              |  | <p>Coated PCBN Grade for Continuous to Medium interrupted turning with higher cutting Speed of hardened steels</p>                            |
| <p><b>YBN65</b><br/>H10 - H25</p>               |  | <p>Uncoated PCBN grade for Continuous to Medium interrupted turning of hardened steels</p>  |
| <p><b>YBN90</b><br/>H20 - H35<br/>K05 - K20</p> |  | <p>Uncoated PCBN grade of Severe interrupted turning of hardened steels, and the Stable machining of Gray Cast iron, Sintered alloy steel</p> |



Milling  
New Product

**NEW**  
**YG MILL**  
**YG904**

First choice for difficult-to-cut materials with high reliability.



**YG904**

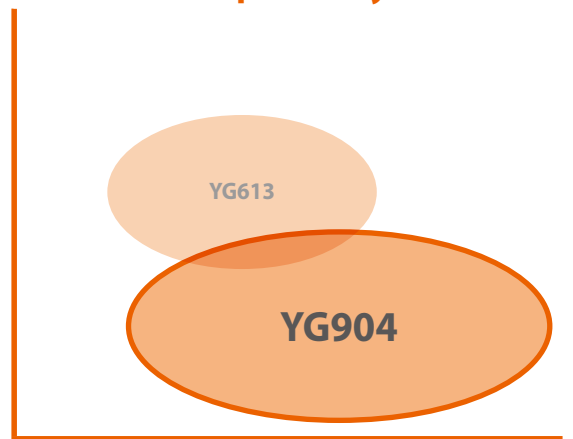
S30 - S45

First choice for difficult-to-cut materials with high reliability.

- Special substrates provide excellent reliability by heat resistance and chipping resistance.
- To prevent accidental breakage caused by chip flow, an anti-weld coating is applied.
- Surface treatment enhanced the stability of cutting performance.

Cutting Speed

Superalloy



Feed

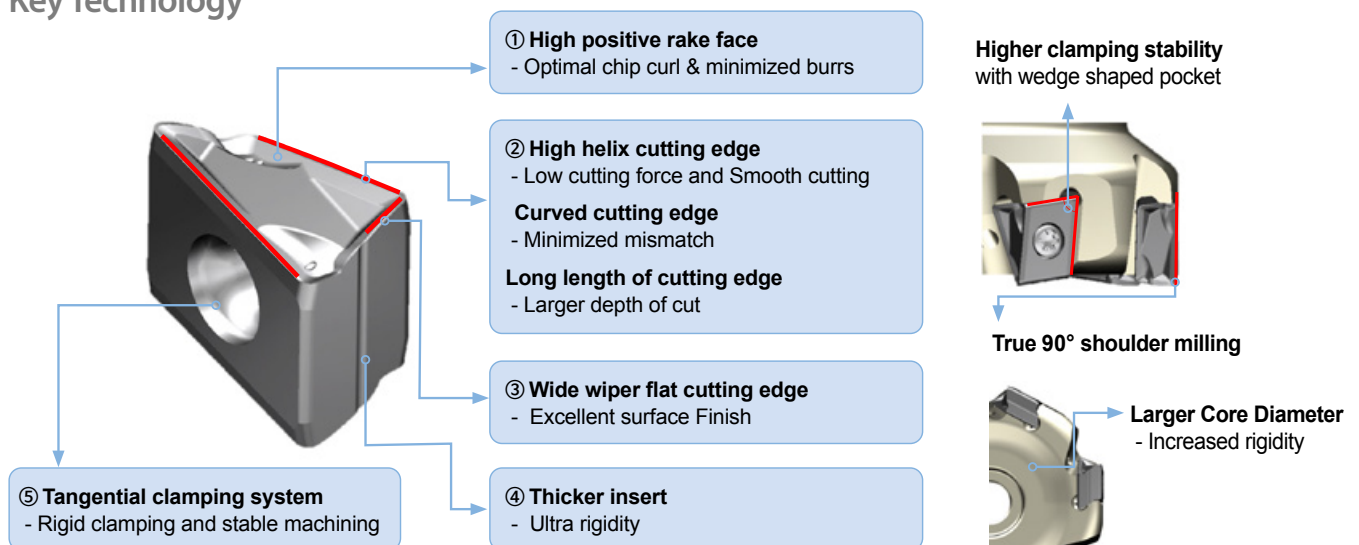
# YG INDEXABLE INSERTS

Milling  
New Product

## TM4 **NEW** YG MILL LNKU




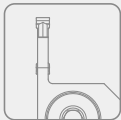
4 cutting edges High Productivity  
Tangential Insert




### Key Technology

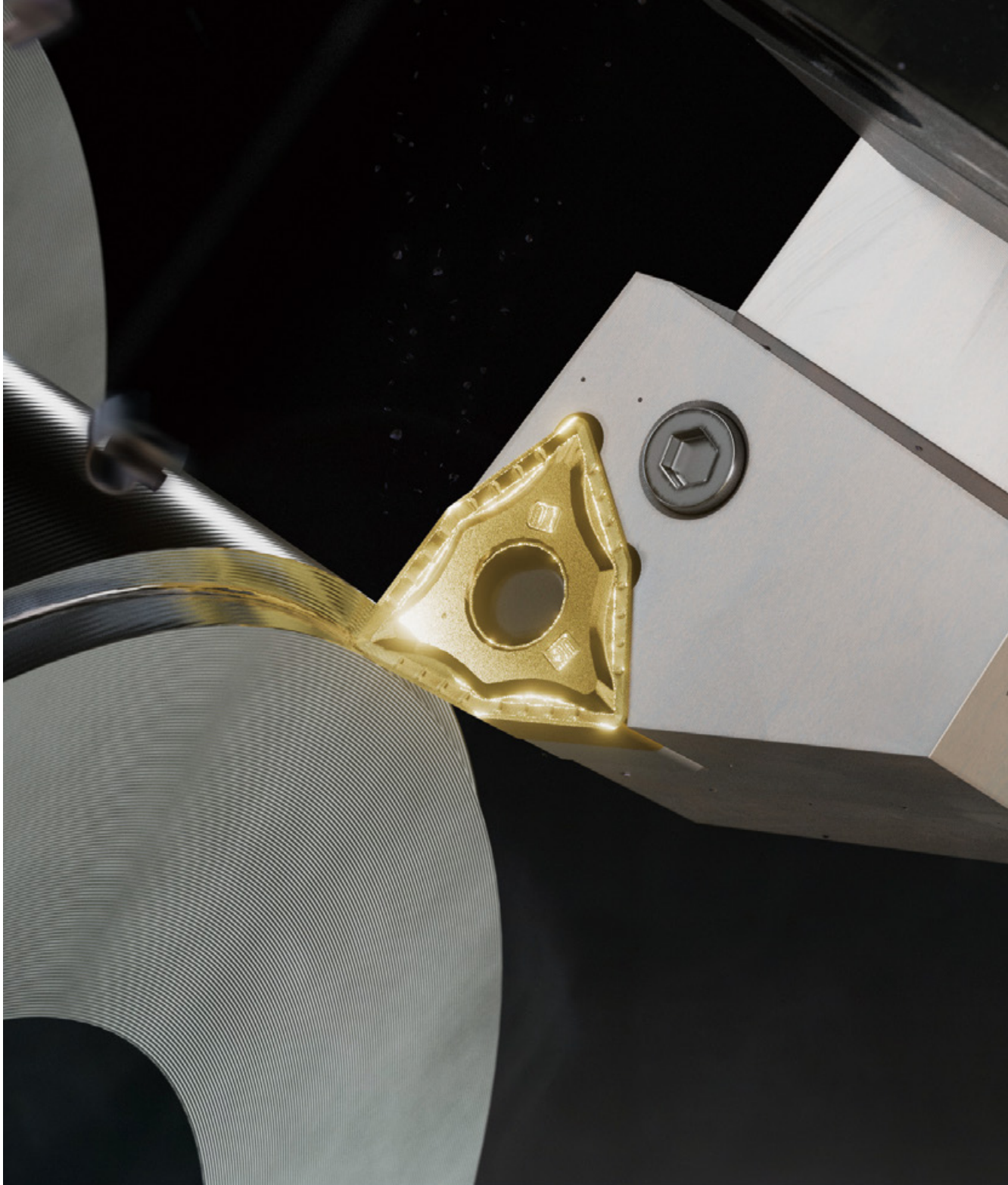




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# ISO TURNING

**Product Overview**

**Application Guide**

**Turning Inserts Overview**

**Turning Inserts**

**Turning Holders Overview**

**Turning Holders**



Scan this QR code  
to see our  
**Turning Grades**  
at work.



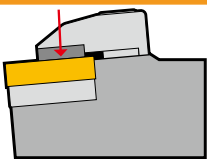
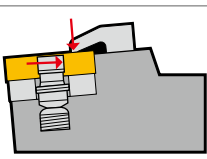
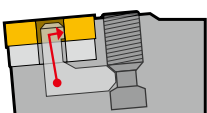
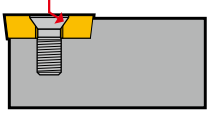
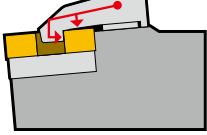
Scan this QR code  
to see our  
**New Grades**  
at work.

## Turning - Name Code System

### External Turning Holder Code

|                 |                                     |            |   |           |                  |                 |             |             |                  |
|-----------------|-------------------------------------|------------|---|-----------|------------------|-----------------|-------------|-------------|------------------|
| 1               | 2                                   | 3          | 4                                       | 5         | 6                | 7               | 8           | 9           | 10               |
| <b>P</b>        | <b>C</b>                            | <b>L</b>   | <b>N</b>                                | <b>R</b>  | <b>25</b>        | <b>25</b>       | <b>M</b>    | <b>12</b>   | <b>(C)</b>       |
| Clamping System | Insert Shape (1st Letter of Insert) | Tool Style | Insert Clearance (2nd Letter of Insert) | Tool Hand | Shank Height (H) | Shank Width (B) | Length (LF) | Insert Size | (Optional Clamp) |

### 1 - Clamping System

| Symbol                    | System   |
|---------------------------|--|
| <b>C</b>                  |  <p><b>Top Clamp</b><br/>(No Clamping Hole Insert)</p>            |
| <b>M</b>                  |  <p><b>Multi lock</b><br/>(Straight Clamping Hole Insert)</p>    |
| <b>P</b>                  |  <p><b>Lever Lock</b><br/>(Straight Clamping Hole Insert)</p>   |
| <b>S</b>                  |  <p><b>Screw Clamp</b><br/>(Screw Clamping Hole Insert)</p>     |
| <b>T</b><br><b>(D, A)</b> |  <p><b>Double Clamp</b><br/>(Straight Clamping Hole Insert)</p> |

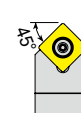

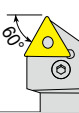


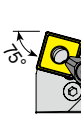
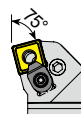
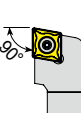
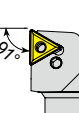

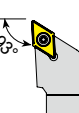
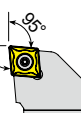
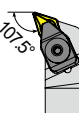
### 2, 4 - Insert Compatibility \*



\* Related to Insert Designation to check compatibility

\* Refer to '1-shape' of page 18

### 3 - Tool Style

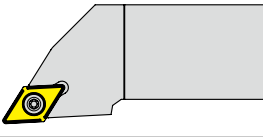
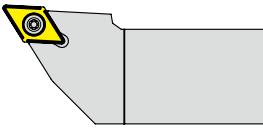
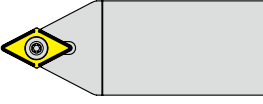
| Approach Angle (KAPR) | Side Direction  |   | End Direction   |
|-----------------------|---|---|---|
|                       | Straight Shank  | Offset Shank  |   |
| 45°                   | <b>D</b><br>   | <b>S</b><br>                       |   |
| 60°                   |   | <b>T</b><br>                      |   |
| 62.5°                 | <b>N</b><br> |   |   |
| 72.5°                 | <b>V</b><br> |   |   |
| 75°                   | <b>B</b><br> |   | <b>K</b><br> |
| 90°/91°               | <b>A</b><br> | <b>G</b><br>                     | <b>F</b><br> |
| 93°                   |   | <b>J</b><br>                     | <b>U</b>  |
| 95°                   |   | <b>L</b><br>(Both Direction)<br> |   |
| 107.5°                |   | <b>H</b><br>                     |   |

# Turning - Name Code System

## External Turning Holder Code

|                 |                                     |            |   |           |                  |                 |             |             |
|-----------------|-------------------------------------|------------|---|-----------|------------------|-----------------|-------------|-------------|
| <b>1</b>        | <b>2</b>                            | <b>3</b>   | <b>4</b>                                | <b>5</b>  | <b>6</b>         | <b>7</b>        | <b>8</b>    | <b>9</b>    |
| <b>S</b>        | <b>D</b>                            | <b>J</b>   | <b>C</b>                                | <b>R</b>  | <b>20</b>        | <b>20</b>       | <b>K</b>    | <b>11</b>   |
| Clamping System | Insert Shape (1st Letter of Insert) | Tool Style | Insert Clearance (2nd Letter of Insert) | Tool Hand | Shank Height (H) | Shank Width (B) | Length (LF) | Insert Size |

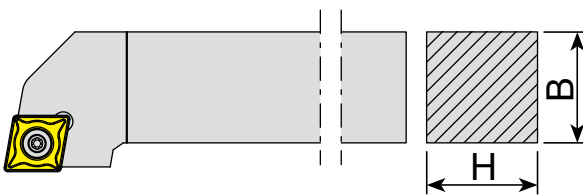
### 5 - Hand Direction

| Symbol   | Hand Direction   |
|----------|--|
| <b>R</b> | Right Hand  |
| <b>L</b> | Left Hand  |
| <b>N</b> | Neutral   |

### 8 - Length (LF)

| Symbol   | Length (mm) | Symbol   | Length (mm) |
|----------|-------------|----------|-------------|
| <b>E</b> | 70          | <b>Q</b> | 180         |
| <b>F</b> | 80          | <b>R</b> | 200         |
| <b>H</b> | 100         | <b>S</b> | 250         |
| <b>K</b> | 125         | <b>T</b> | 300         |
| <b>M</b> | 150         | <b>U</b> | 350         |
| <b>P</b> | 170         | <b>V</b> | 400         |

### 6, 7 - Shank Height (H) Shank Width (B)



### 9 - Insert Size \*

| Examples              | is Compatible with... |
|-----------------------|-----------------------|
| <b>PCLNR 2525M 12</b> | <b>CNMG 1204**</b>    |
| <b>SCLCR 2020K 09</b> | <b>CCMT 09T3**</b>    |
| <b>TWLN 2525M 08</b>  | <b>WNMG 0804**</b>    |

\* Related to Insert Designation to check compatibility

### (10 - Optional Clamp)

| Symbol   | Optional Clamp  |
|----------|-----------------|
| <b>C</b> | <b>Included</b> |

## Turning - Name Code System

### Internal Turning Holder Code

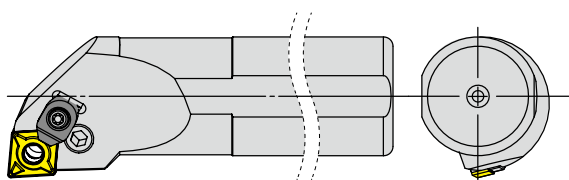
\*Metric

|                    |                       |            |          |                 |                                     |            |   |           |             |                  |
|--------------------|-----------------------|------------|----------|-----------------|-------------------------------------|------------|---|-----------|-------------|------------------|
| 1                  | 2                     | 3          | -        | 4               | 5                                   | 6          | 7                                       | 8         | 9           | 10               |
| <b>A</b>           | <b>32</b>             | <b>S</b>   | <b>-</b> | <b>P</b>        | <b>W</b>                            | <b>L</b>   | <b>N</b>                                | <b>R</b>  | <b>12</b>   | <b>(C)</b>       |
| Coolant & Material | Shank Diameter (DCON) | Legth (LF) |          | Clamping System | Insert Shape (1st Letter of Insert) | Tool Style | Insert Clearance (2nd Letter of Insert) | Tool Hand | Insert Size | (Optional Clamp) |

#### 1 - Coolant and Tool Material

| Symbol   | Internal Coolant | Tool Material  |
|----------|------------------|----------------|
| <b>A</b> | <b>O</b>         | <b>Steel</b>   |
| <b>S</b> | <b>X</b>         |                |
| <b>E</b> | <b>O</b>         | <b>Carbide</b> |
| <b>C</b> | <b>X</b>         |                |

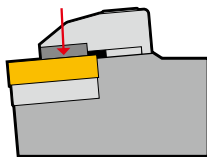
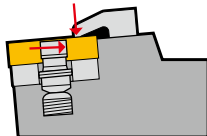
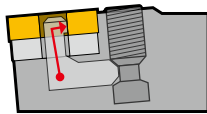
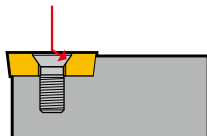
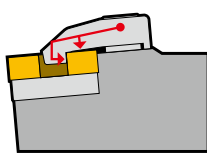
#### 2 - Shank Diameter (DCON)



#### 3 - Length (LF)

| Symbol   | Length (mm) | Symbol   | Length (mm) |
|----------|-------------|----------|-------------|
| <b>E</b> | 70          | <b>Q</b> | 180         |
| <b>F</b> | 80          | <b>R</b> | 200         |
| <b>H</b> | 100         | <b>S</b> | 250         |
| <b>K</b> | 125         | <b>T</b> | 300         |
| <b>M</b> | 150         | <b>U</b> | 350         |
| <b>P</b> | 170         | <b>V</b> | 400         |

#### 4 - Clamping System

| Symbol                    | System  |
|---------------------------|---|
| <b>C</b>                  | <br><b>Top Clamp</b><br>(No Clamping Hole Insert)            |
| <b>M</b>                  | <br><b>Multi lock</b><br>(Straight Clamping Hole Insert)    |
| <b>P</b>                  | <br><b>Lever Lock</b><br>(Straight Clamping Hole Insert)   |
| <b>S</b>                  | <br><b>Screw Clamp</b><br>(Screw Clamping Hole Insert)     |
| <b>T</b><br><b>(D, A)</b> | <br><b>Double Clamp</b><br>(Straight Clamping Hole Insert) |

# Turning - Name Code System

## Internal Turning Holder Code

\*Metric

|                    |                       |            |                 |                                     |            |   |           |             |           |
|--------------------|-----------------------|------------|-----------------|-------------------------------------|------------|---|-----------|-------------|-----------|
| <b>1</b>           | <b>2</b>              | <b>3</b>   | <b>4</b>        | <b>5</b>                            | <b>6</b>   | <b>7</b>                                | <b>8</b>  | <b>9</b>    |           |
| <b>A</b>           | <b>25</b>             | <b>R</b>   | <b>-</b>        | <b>S</b>                            | <b>C</b>   | <b>L</b>                                | <b>C</b>  | <b>R</b>    | <b>09</b> |
| Coolant & Material | Shank Diameter (DCON) | Legth (LF) | Clamping System | Insert Shape (1st Letter of Insert) | Tool Style | Insert Clearance (2nd Letter of Insert) | Tool Hand | Insert Size |           |

### 6 - Tool Style

| Approach Angle (KAPR) | Side Direction                | EndDirection |
|-----------------------|-------------------------------|--------------|
|                       | Offset Shank                  |              |
| 75°                   |                               | <b>K</b><br> |
| 91°                   |                               | <b>F</b><br> |
| 93°                   | <b>J</b><br>                  | <b>U</b><br> |
| 95°                   | <b>L</b> (Both Direction)<br> |              |
| 107.5°                |                               | <b>Q</b><br> |

### 8 - Hand Direction

| Symbol   | Hand Direction |
|----------|----------------|
| <b>R</b> | Right Hand<br> |
| <b>L</b> | Left Hand<br>  |

### 9 - Insert Size \*

| Examples              | is Compatible with ... |
|-----------------------|------------------------|
| <b>PCLNR 2525M 12</b> | <b>CNMG 1204**</b>     |
| <b>SCLCR 2020K 09</b> | <b>CCMT 09T3**</b>     |
| <b>TWLNR 2525M 08</b> | <b>WNMG 0804**</b>     |

\* Related to Insert Designation to check compatibility

### 5, 7 - Insert Compatibility \*



\* Related to Insert Designation to check compatibility  
\* Refer to '1-Shape' of page 18

### (10 - Optional Clamp)

| Symbol   | Optional Clamp  |
|----------|-----------------|
| <b>C</b> | <b>Included</b> |

# Insert ISO Code System

\*Metric : According to ISO 1832

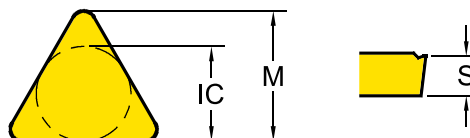
page 14

page 12

|          |           |           |                        |             |                  |               |                      |               |
|----------|-----------|-----------|------------------------|-------------|------------------|---------------|----------------------|---------------|
| <b>1</b> | <b>2</b>  | <b>3</b>  | <b>4</b>               | <b>5</b>    | <b>6</b>         | <b>7</b>      | <b>8</b>             | <b>9</b>      |
| <b>C</b> | <b>N</b>  | <b>M</b>  | <b>G</b>               | <b>12</b>   | <b>04</b>        | <b>08</b>     | <b>-UG</b>           | <b>YG3115</b> |
| Shape    | Clearance | Tolerance | Clamping & Chipbreaker | Insert Size | Insert Thickness | Corner Radius | Chipbreaker Geometry | Grade         |

## 1 - Shape

| Symbol   | Shape             |  |
|----------|-------------------|--|
| <b>H</b> | Hexagonal         |  |
| <b>O</b> | Octagonal         |  |
| <b>P</b> | Pentagonal        |  |
| <b>S</b> | Square            |  |
| <b>T</b> | Triangular        |  |
| <b>C</b> | Rhombic 80°       |  |
| <b>D</b> | Rhombic 55°       |  |
| <b>V</b> | Rhombic 35°       |  |
| <b>W</b> | Trigon            |  |
| <b>L</b> | Rectangular       |  |
| <b>K</b> | Parallelogram 55° |  |
| <b>R</b> | Round             |  |



## 3 - Tolerance Class

| Symbol    | Inner Circle IC (mm) | Nose Height M (mm) | Thickness S (mm) |
|-----------|----------------------|--------------------|------------------|
| <b>C</b>  | ± 0.025              | ± 0.013            | ± 0.025          |
| <b>E</b>  | ± 0.025              | ± 0.025            | ± 0.025          |
| <b>G</b>  | ± 0.025              | ± 0.025            | ± 0.13           |
| <b>H</b>  | ± 0.013              | ± 0.013            | ± 0.025          |
| <b>K*</b> | ± 0.05~0.15*         | ± 0.013            | ± 0.025          |
| <b>M*</b> | ± 0.05~0.15*         | ± 0.08~0.2*        | ± 0.13           |
| <b>U*</b> | ± 0.08~0.25*         | ± 0.13~0.38*       | ± 0.13           |

\* Tolerance is different by insert IC size. Please see ISO 1832

## 4 - Clamping & Chipbreaker

| Symbol   | Clamping                  | Chipbreaker | Figure |
|----------|---------------------------|-------------|--------|
| <b>N</b> | No clamping hole          | X           |        |
| <b>R</b> |                           | One Face    |        |
| <b>A</b> | Cylindrical Clamping hole | X           |        |
| <b>M</b> |                           | One Face    |        |
| <b>G</b> |                           | Both Faces  |        |
| <b>W</b> | Screw Hole                | X           |        |
| <b>T</b> |                           | One Face    |        |
| <b>U</b> |                           | Both Faces  |        |
| <b>X</b> |                           | Special     |        |

## 2 - Relief Angle (AN)

| Symbol   | Relief Angle (AN) |  |
|----------|-------------------|--|
| <b>N</b> | No Relief Angle   |  |
| <b>B</b> | Relief 5°         |  |
| <b>C</b> | Relief 7°         |  |
| <b>P</b> | Relief 11°        |  |
| <b>D</b> | Relief 15°        |  |
| <b>E</b> | Relief 20°        |  |
| <b>F</b> | Relief 25°        |  |
| <b>O</b> | Special           |  |

# Insert ISO Code System

\*Inch

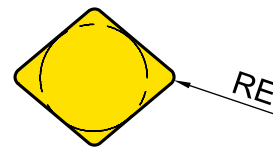
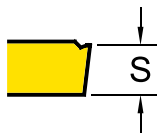
page 14

page 12

|          |           |           |                        |             |                  |               |                      |               |
|----------|-----------|-----------|------------------------|-------------|------------------|---------------|----------------------|---------------|
| <b>1</b> | <b>2</b>  | <b>3</b>  | <b>4</b>               | <b>5</b>    | <b>6</b>         | <b>7</b>      | <b>8</b>             | <b>9</b>      |
| <b>C</b> | <b>N</b>  | <b>M</b>  | <b>G</b>               | <b>4</b>    | <b>3</b>         | <b>2</b>      | <b>-UG</b>           | <b>YG3115</b> |
| Shape    | Clearance | Tolerance | Clamping & Chipbreaker | Insert Size | Insert Thickness | Corner Radius | Chipbreaker Geometry | Grade         |

## 5 - Insert Size

| Metric |    |    |    |    |    |         | Inner Circle IC (mm) | Inch |
|--------|----|----|----|----|----|---------|----------------------|------|
| S      | T  | C  | D  | V  | W  | R       |                      |      |
| 06     | 11 | 06 | 07 | 11 |    |         | 6.35                 | 2    |
| 07     | 13 | 08 | 09 | 13 | 15 |         | 7.94                 | 2.5  |
| 09     | 16 | 09 | 11 | 16 | 06 | 09 (00) | 9.525                | 3    |
| 12     | 22 | 12 | 15 | 22 | 08 | 12 (00) | 12.7                 | 4    |
| 15     | 27 | 16 | 19 | 27 | 10 |         | 15.875               | 5    |
| 19     | 33 | 19 | 23 | 33 | 13 |         | 19.05                | 6    |
| 25     |    | 25 |    |    |    |         | 25.4                 | 8    |
|        |    |    |    |    |    | 06 (M0) | 6                    |      |
|        |    |    |    |    |    | 08 (M0) | 8                    |      |
|        |    |    |    |    |    | 10 (M0) | 10                   |      |
|        |    |    |    |    |    | 12 (M0) | 12                   |      |
|        |    |    |    |    |    | 16 (M0) | 16                   |      |



## 6 - Insert Thickness (S)

| Metric    | Thickness - S (mm) | Inch       |
|-----------|--------------------|------------|
| <b>T1</b> | 1.98               | <b>1.2</b> |
| <b>02</b> | 2.38               | <b>1.5</b> |
| <b>03</b> | 3.18               | <b>2</b>   |
| <b>T3</b> | 3.97               | <b>2.5</b> |
| <b>04</b> | 4.76               | <b>3</b>   |
| <b>05</b> | 5.56               | <b>3.5</b> |
| <b>06</b> | 6.35               | <b>4</b>   |
| <b>07</b> | 7.94               | <b>5</b>   |
| <b>09</b> | 9.525              | <b>6</b>   |

## 7 - Corner Radius (RE)

| Metric    | Corner Radius - RE (mm) | Inch      |
|-----------|-------------------------|-----------|
| <b>01</b> | 0.1                     | <b>03</b> |
| <b>02</b> | 0.2                     | <b>05</b> |
| <b>04</b> | 0.4                     | <b>1</b>  |
| <b>08</b> | 0.8                     | <b>2</b>  |
| <b>12</b> | 1.2                     | <b>3</b>  |
| <b>16</b> | 1.6                     | <b>4</b>  |
| <b>20</b> | 2.0                     | <b>5</b>  |
| <b>24</b> | 2.4                     | <b>6</b>  |

# Grade Naming System

TURNING

| 1                           | 2                  | 3             | 4                             | 5                             | (6)             |
|-----------------------------|--------------------|---------------|-------------------------------|-------------------------------|-----------------|
| <b>YG</b>                   | <b>3</b>           | <b>1</b>      | <b>1</b>                      | <b>5</b>                      | <b>(G)</b>      |
| YG Brand                    | Workpiece Material | Grade Version | Application Range (1st Digit) | Application Range (2nd Digit) | Minor Variation |
| Carbide CVD (4 Digits)      | ●                  | ●             | ●                             | ●                             | <b>YG3115</b>   |
| Carbide PVD (3 Digits)      | ●                  | ●             | ●                             |                               | <b>YG211</b>    |
| Carbide Uncoated (2 Digits) | ●                  | ●             |                               |                               | <b>YG10</b>     |

PARTING & GROOVING

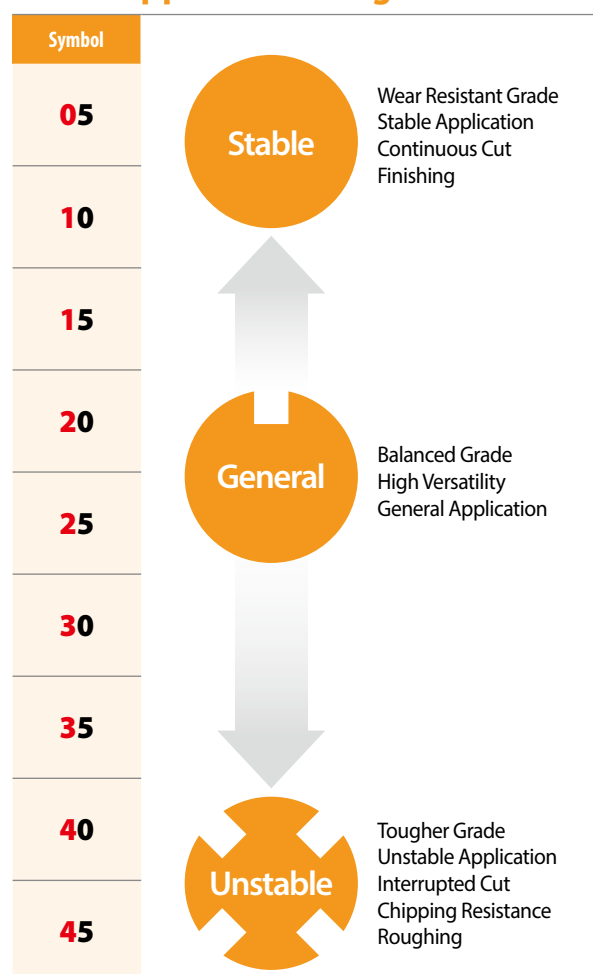
## 1 - YG Brand

## 2 - Workpiece Material

| Symbol   | Workpiece Material                         | Turning | Milling | Drilling | Parting |
|----------|--|---------|---------|----------|---------|
| <b>1</b> | <b>K</b> Cast Iron or <b>N</b> Non-Ferrous | ●       |         |          |         |
| <b>2</b> | <b>M</b> Stainless Steel                   | ●       |         |          |         |
| <b>3</b> | <b>P</b> Steel                             | ●       |         |          |         |
| <b>4</b> | <b>S</b> Superalloys                       | ●       |         |          |         |
| <b>5</b> | <b>K</b> Cast Iron or <b>N</b> Non-Ferrous |         | ●       | ●        | ●       |
| <b>6</b> | <b>M</b> Stainless Steel or Universal      |         | ●       | ●        | ●       |
| <b>7</b> | <b>P</b> Steel                             |         | ●       | ●        | ●       |
| <b>8</b> | Universal                                  | ●       |         |          |         |
| <b>9</b> | Exotic Material                            |         | ●       |          |         |
| <b>0</b> | Hardened Steel                             |         | ●       |          |         |

## 3 - Grade Version

## 4 & 5 - Application Range

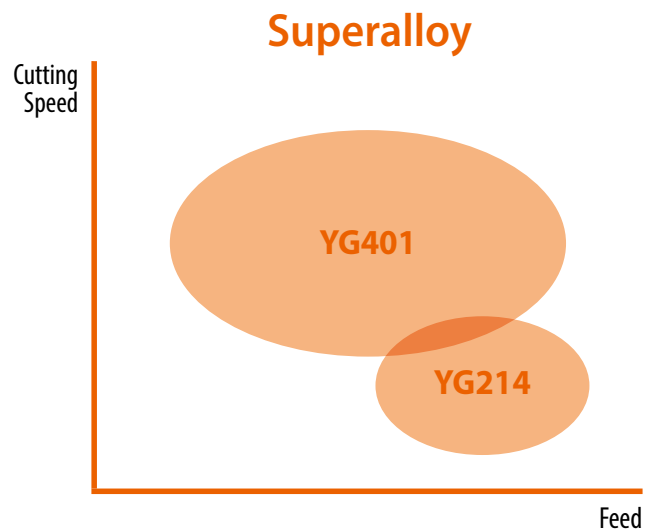
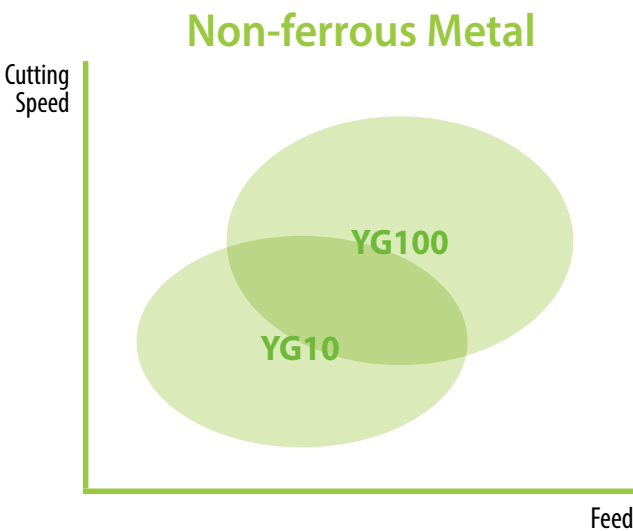
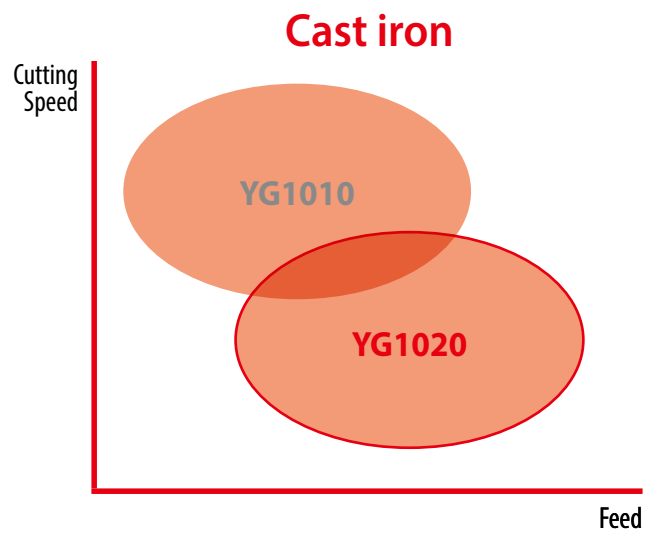
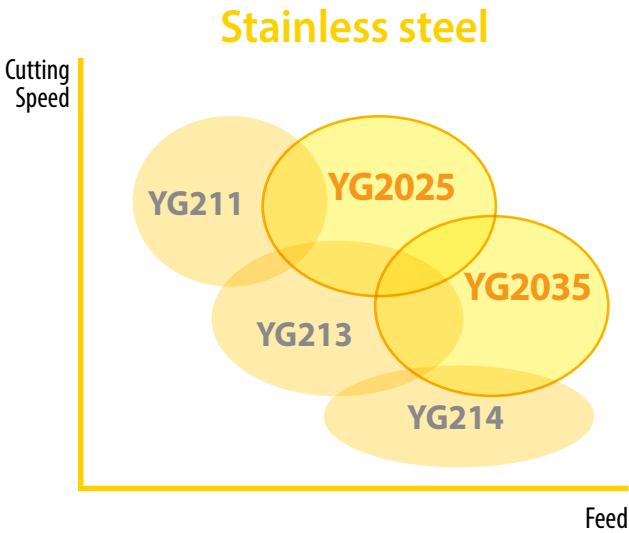
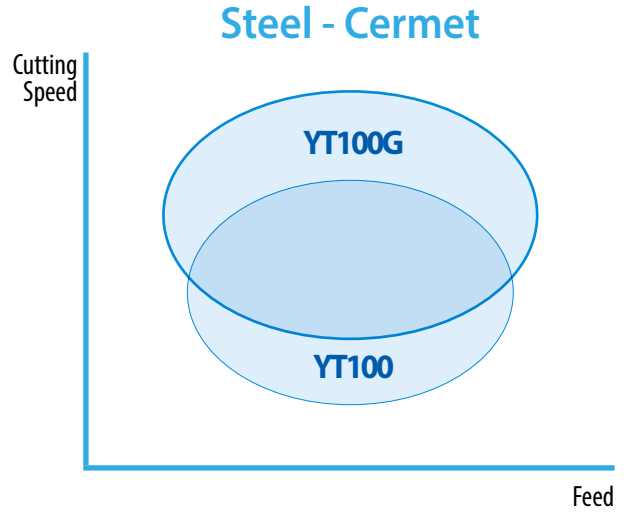
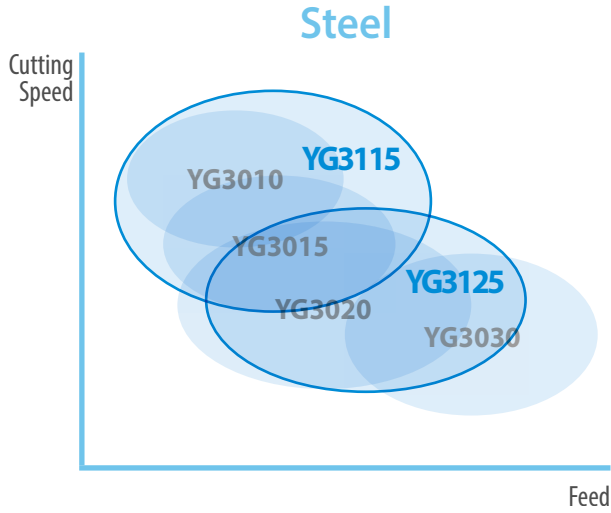


## (6) - (Minor Variation)

G - Gold Coated Version

# Turning Grades Map

Speed : Vc (m/min.)  
 Feed : Fn (mm/rev.)



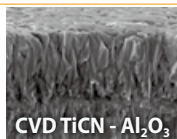
Product Overview

**Turning Grades**

| Turning Grades | P Steel |        |      |     | M Stainless steel |        |      | K Cast iron |     |     | N Non-ferrous |     | S Superalloys |     |
|----------------|---------|--------|------|-----|-------------------|--------|------|-------------|-----|-----|---------------|-----|---------------|-----|
|                | P10     | P20    | P30  | P40 | M10               | M20    | M30  | K10         | K20 | K30 | N10           | N20 | S10           | S20 |
| CVD            | YG1010  |        |      |     |                   |        |      | 1010        |     |     |               |     |               |     |
|                | YG1001  | 1001   |      |     |                   |        |      | 1001        |     |     |               |     |               |     |
|                | YG1020  |        |      |     |                   |        |      | 1020        |     |     |               |     |               |     |
|                | YG3010  | 3010   |      |     |                   |        |      | 3010        |     |     |               |     |               |     |
|                | YG3015  | 3015   |      |     |                   |        |      |             |     |     |               |     |               |     |
|                | YG3115  | 3115   |      |     |                   |        |      |             |     |     |               |     |               |     |
|                | YG3125  |        | 3125 |     |                   |        |      |             |     |     |               |     |               |     |
|                | YG3020  |        | 3020 |     |                   |        |      |             |     |     |               |     |               |     |
|                | YG3030  |        | 3030 |     |                   |        |      |             |     |     |               |     |               |     |
|                | YG2025  |        |      |     |                   | 2025   |      |             |     |     |               |     |               |     |
|                | YG2035  |        |      |     |                   |        | 2035 |             |     |     |               |     |               |     |
| PVD            | YG801   | 801    |      |     |                   |        |      |             |     |     |               |     |               |     |
|                | YG211   |        |      |     | 211               |        |      |             |     |     |               |     |               |     |
|                | YG213   |        |      |     |                   | 213    |      |             |     |     |               |     |               |     |
|                | YG214   |        |      |     |                   |        | 214  |             |     |     |               |     | 214           |     |
| Cermet         | YG401   |        |      |     |                   |        |      |             |     |     |               |     | 401           |     |
|                | YT100   | YT100  |      |     |                   | YT100  |      | YT100       |     |     |               |     |               |     |
|                | YT100G  | YT100G |      |     |                   | YT100G |      | YT100G      |     |     |               |     |               |     |
| DLC            | YG100   |        |      |     |                   |        |      |             |     |     | 100           |     |               |     |
| -              | YG10    |        |      |     |                   |        |      |             |     |     | 10            |     |               |     |

**YG1010**

K05 - K15



CVD TiCN - Al<sub>2</sub>O<sub>3</sub>

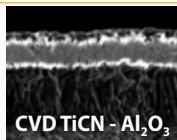
**First Choice for Cast Iron**

- Effective coating structure enables high speed machining
- Special post treatment for improved chipping resistance

**YG1001**

P01 - P10

K10 - K25



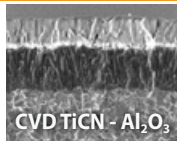
CVD TiCN - Al<sub>2</sub>O<sub>3</sub>

**Stable Machining of Cast Iron**

- Substrate especially designed for high wear resistance
- Thick Al<sub>2</sub>O<sub>3</sub> layer ensures good wear resistance at high cutting speeds including dry machining

**NEW YG1020**

K15 - K25



CVD TiCN - Al<sub>2</sub>O<sub>3</sub>

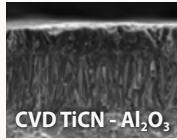
**First choice for ductile cast iron**

- Excellent wear and fracture resistance when machining ductile cast iron
- New coating ensures outstanding resistance to abrasion wear

**YG3010**

P05 - P20

K15 - K35



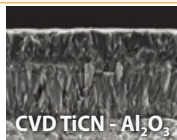
CVD TiCN - Al<sub>2</sub>O<sub>3</sub>

**First choice for Finishing Steels, and Ductile Cast iron**

- Finishing and light machining of steel under in stable condition
- New Al<sub>2</sub>O<sub>3</sub> coating technology and excellent surface smoothness increase wear resistance and chipping resistance

**YG3015**

P10 - P25



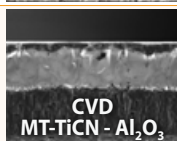
CVD TiCN - Al<sub>2</sub>O<sub>3</sub>

**Balanced Productivity for Continuous cut**

- High wear resistance and improved toughness ensures high productivity with less trouble

**YG3115**

P15 - P25



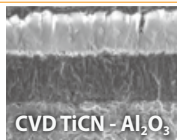
CVD MT-TiCN - Al<sub>2</sub>O<sub>3</sub>

**First choice grade for high cutting speed in Steels**

- Suitable for mass production due to stable and predictable tool life
- Minimizing built up edge due to new post surface treatment in mild steels, low carbon steel and low carbon alloy steel.
- Best choice for both continuous as well as interrupted cuts

**NEW YG3125**

P20 - P30



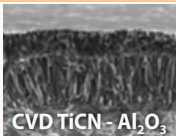
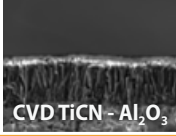

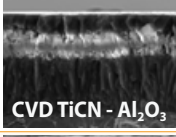
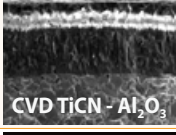
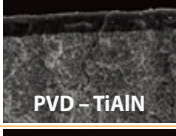
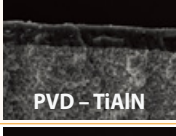
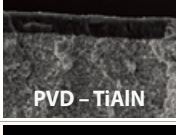
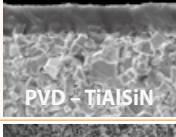
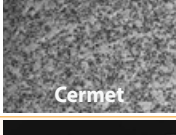
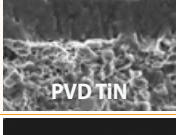


CVD TiCN - Al<sub>2</sub>O<sub>3</sub>

**Recommended first grade for steel**

- New substrates with a unique combination of good toughness and plastic deformation resistance
- General Machining on steel

Product Overview

# Turning Grades

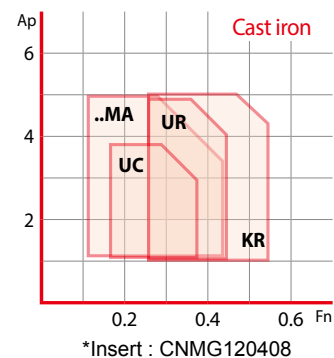
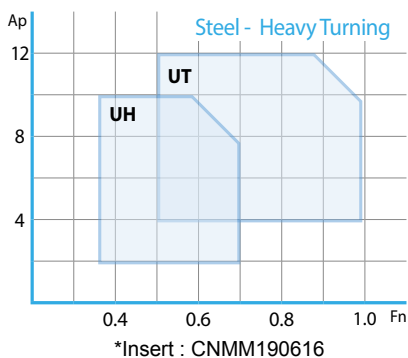
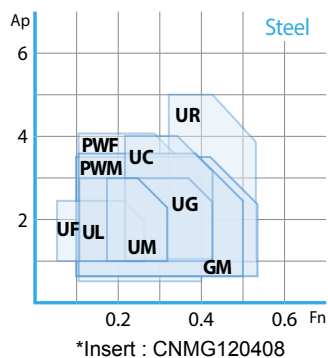
|  |   |  |
|--|---|--|
| <p><b>YG3020</b></p> <p>P15 - P30</p>                                    |  <p>CVD TiCN - Al<sub>2</sub>O<sub>3</sub></p> | <p><b>First Choice Grade for General Steel Application</b></p> <ul style="list-style-type: none"> <li>• Substrate especially designed for good toughness</li> <li>• Excellent surface smoothness increases wear resistance and reliability</li> </ul>  |
| <p><b>YG3030</b></p> <p>P20 - P35</p>                                    |  <p>CVD TiCN - Al<sub>2</sub>O<sub>3</sub></p> | <p><b>Interrupted Cutting of Steel and Stainless steel</b></p> <ul style="list-style-type: none"> <li>• Substrate for heavy roughing in mild steel and low carbon alloy steel</li> <li>• New Al<sub>2</sub>O<sub>3</sub> technology and optimized surface treatment achieves a good balance between wear resistance and chipping resistance</li> </ul> |
| <p><b>YG801</b></p> <p>P10 - P30</p>                                     |  <p>PVD - TiAlN</p>                            | <p><b>for Carbon Steel with Low Cutting Speed</b></p> <ul style="list-style-type: none"> <li>• Recommended for mild steel and boring application</li> <li>• Substrate and special PVD coating for excellent wear resistance</li> </ul>   |
| <p><b>YG2025</b></p> <p>M15 - M35</p>                                    |  <p>CVD TiCN - Al<sub>2</sub>O<sub>3</sub></p> | <p><b>CVD grade for High Cutting Speed for Stainless steel</b></p> <ul style="list-style-type: none"> <li>• Utilizing a new carbide substrate and new coating</li> <li>• Excellent combination of wear resistance and chipping resistance</li> <li>• Minimized built up edge due to post surface treatment</li> </ul>                                  |
| <p><b>NEW YG2035</b></p> <p>M30 - M40</p>                                |  <p>CVD TiCN - Al<sub>2</sub>O<sub>3</sub></p> | <p><b>CVD Coated Grade for stainless steel at Low Cutting Speed</b></p> <ul style="list-style-type: none"> <li>• Substrate withstands heavy interruption, while the coating provides the wear resistance needed for a long tool life</li> <li>• Smooth surface resists build-up edge, even at low cutting speeds</li> </ul>                            |
| <p><b>YG211</b></p> <p>M05 - M25</p>                                     |  <p>PVD - TiAlN</p>                           | <p><b>High wear Resistance Grade for Stainless steel</b></p> <ul style="list-style-type: none"> <li>• Finishing Stainless steel</li> </ul>   |
| <p><b>YG213</b></p> <p>M20 - M35</p>                                     |  <p>PVD - TiAlN</p>                          | <p><b>First Choice Grade on Low Cutting Speed of Stainless steel</b></p> <ul style="list-style-type: none"> <li>• First choice on Stainless steel for Low cutting speed</li> <li>• For Medium to low cutting speed</li> </ul>  |
| <p><b>YG214</b></p> <p>M30 - M40</p> <p>S25 - S30</p>                    |  <p>PVD - TiAlN</p>                          | <p><b>Heavy Interrupted cut for Stainless steel</b></p> <ul style="list-style-type: none"> <li>• For Heavy Interrupted cut on Stainless steel</li> <li>• Minimize risk of Mechanical fracture or Chipping</li> </ul>   |
| <p><b>YG401</b></p> <p>S10 - S20</p>                                     |  <p>PVD - TiAlSiN</p>                        | <p><b>PVD Turning Grade for HRSA</b></p> <ul style="list-style-type: none"> <li>• Highly heat-resistant TiAlSiN structure for excellent wear resistance</li> <li>• Greatly improved film coating realizes excellent boundary defect resistance</li> <li>• Top coating layer provides a smooth surface and lubricant effect</li> </ul>                  |
| <p><b>YT100</b></p> <p>P10 - P20</p> <p>M10 - M20</p> <p>K10 - K20</p>   |  <p>Cermet</p>                               | <p><b>New Generation Cermet Grade</b></p> <ul style="list-style-type: none"> <li>• Enhanced wear resistance &amp; chipping resistance</li> <li>• Excellent fracture resistance</li> <li>• Superior surface finish with special edge preparation</li> </ul>   |
| <p><b>NEW YT100G</b></p> <p>P5 - P20</p> <p>M5 - M20</p> <p>K5 - K20</p> |  <p>PVD TiN</p>                              | <p><b>PVD-coated Cermet grade for turning</b></p> <ul style="list-style-type: none"> <li>• Outstanding wear resistance and a low coefficient of friction enable high-speed turning of steels, stainless steels, and cast irons with extended tool life</li> </ul>  |
| <p><b>YG100</b></p> <p>N05 - N25</p>                                     |  <p>DLC</p>                                  | <p><b>First Choice Grade for Aluminum with DLC Coating</b></p> <ul style="list-style-type: none"> <li>• Submicron carbide for high wear resistance</li> <li>• DLC coating minimizes Built Up Edge tendency.</li> <li>• Improve tool life in sticky non-ferrous alloy</li> </ul>  |
| <p><b>YG10</b></p> <p>N05 - N25</p>                                      |  <p>Uncoated</p>                             | <p><b>Uncoated Grade for General Aluminum</b></p> <ul style="list-style-type: none"> <li>• Substrate consisted of submicron carbide for high wear resistance</li> <li>• Shining surface to prevent built up edge</li> </ul>  |

Product Overview

## Turning Chipbreakers - Negative

|                       | P | M | K | N | S | Feed           | Fn (mm/rev.)                                   |     |                            |     |     |     |     |  |  |
|-----------------------|---|---|---|---|---|----------------|--|-----|----------------------------|-----|-----|-----|-----|--|--|
|                       |   |   |   |   |   |                | 0  | 0.1 | 0.2                        | 0.3 | 0.4 | 0.5 | 0.6 |  |  |
| TURNING               | P |   |   |   |   | UF             | Finishing                                      |     | Fn 0.05~0.25<br>Ap 1.0~2.5 |     |     |     |     |  |  |
|                       | P |   |   |   |   | <b>NEW</b> PWF | Wiper-Finishing                                |     | Fn 0.10~0.40<br>Ap 0.5~4.0 |     |     |     |     |  |  |
| PARTING & GROOVING    | P |   |   |   |   | UL             | Semi Finishing and sticky materials            |     | Fn 0.1~0.3<br>Ap 1.0~3.0   |     |     |     |     |  |  |
|                       | P |   |   |   |   | UM             | Medium & Unstable conditions                   |     | Fn 0.15~0.3<br>Ap 1.0~3.0  |     |     |     |     |  |  |
| MILLING               | P |   |   |   |   | <b>NEW</b> GM  | Medium machining for steel & Stainless steel   |     | Fn 0.17~0.50<br>Ap 0.8~5.0 |     |     |     |     |  |  |
|                       | P |   |   |   |   | UG             | First Choice for Medium (Stable conditions)    |     | Fn 0.2~0.4<br>Ap 1.0~3.0   |     |     |     |     |  |  |
| DRILLING              | P |   |   |   |   | PWM            | Wiper-Medium                                   |     | Fn 0.1~0.5<br>Ap 0.8~3.5   |     |     |     |     |  |  |
|                       | P |   |   |   |   | UH             | Low cutting force                              |     | Fn 0.35~0.7<br>Ap 2.0~9.0  |     |     |     |     |  |  |
| TECHNICAL INFORMATION | P |   |   |   |   | UT             | Heavy roughing                                 |     | Fn 0.5~1.0<br>Ap 4.0~12.0  |     |     |     |     |  |  |
|                       | P |   | K |   |   | UC             | Medium Roughing and First choice for Cast iron |     | Fn 0.2~0.4<br>Ap 1.0~4.0   |     |     |     |     |  |  |
|                       | P |   | K |   |   | UR             | Roughing and Heavy interrupted cut             |     | Fn 0.3~0.5<br>Ap 1.0~5.0   |     |     |     |     |  |  |
|                       |   |   | K |   |   | ..MA           | Cast iron Heavy Roughing                       |     | Fn 0.15~0.50<br>Ap 1.0~5.0 |     |     |     |     |  |  |

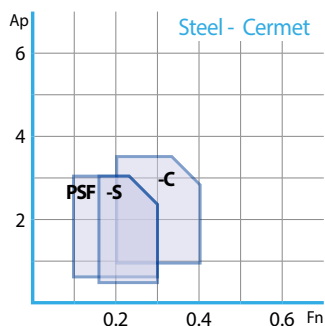
Depth of Cut Ap (mm)



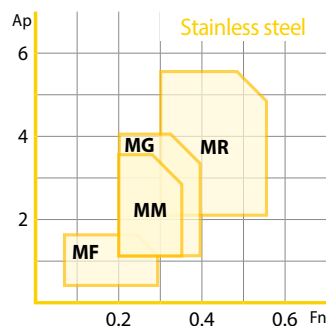
Product Overview

# Turning Chipbreakers - Negative

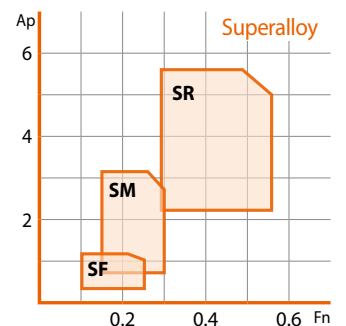
| P        | M        | K        | N | S | Code       | Material / Application                      | Diagram | Feed (mm/rev.) |              |              |     |            |     |     |  |  |
|----------|----------|----------|---|---|------------|---|---------|----------------|--------------|--------------|-----|------------|-----|-----|--|--|
|          |          |          |   |   |            |   |         | 0              | 0.1          | 0.2          | 0.3 | 0.4        | 0.5 | 0.6 |  |  |
|          |          | <b>K</b> |   |   | <b>KR</b>  | Cast Iron Heavy Roughing                    |         |                |              |              |     | Fn 0.3~0.6 |     |     |  |  |
|          | <b>M</b> |          |   |   | <b>MF</b>  | Stainless steel Finishing                   |         |                | Fn 0.07~0.30 |              |     |            |     |     |  |  |
| <b>P</b> | <b>M</b> |          |   |   | <b>MM</b>  | Stainless steel Medium and Low Carbon Steel |         |                |              | Fn 0.20~0.35 |     |            |     |     |  |  |
|          | <b>M</b> |          |   |   | <b>MG</b>  | Stainless steel General                     |         |                |              | Fn 0.20~0.40 |     |            |     |     |  |  |
|          | <b>M</b> |          |   |   | <b>MR</b>  | Stainless steel Roughing                    |         |                |              | Fn 0.30~0.55 |     |            |     |     |  |  |
|          |          |          |   |   | <b>SF</b>  | HRSA Finishing                              |         |                |              | Fn 0.1~0.25  |     |            |     |     |  |  |
|          |          |          |   |   | <b>SM</b>  | HRSA Medium                                 |         |                |              | Fn 0.15~0.30 |     |            |     |     |  |  |
|          |          |          |   |   | <b>SR</b>  | Roughing for HRSA                           |         |                |              | Fn 0.30~0.55 |     |            |     |     |  |  |
| <b>P</b> | <b>M</b> | <b>K</b> |   |   | <b>PSF</b> | Cermet Finishing to Semi medium             |         |                |              | Fn 0.10~0.30 |     |            |     |     |  |  |
| <b>P</b> | <b>M</b> | <b>K</b> |   |   | <b>-S</b>  | Cermet Finishing                            |         |                |              | Fn 0.15~0.30 |     |            |     |     |  |  |
| <b>P</b> | <b>M</b> | <b>K</b> |   |   | <b>-C</b>  | Cermet Medium                               |         |                |              | Fn 0.20~0.40 |     |            |     |     |  |  |



\*Insert : CNMG120408 / TNGG160408



\*Insert : CNMG120408



\*Insert : CNMG120408

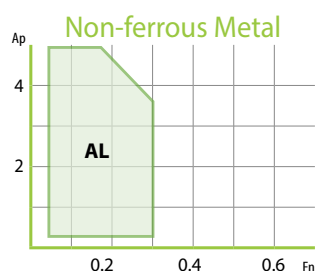
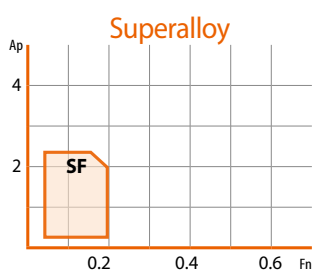
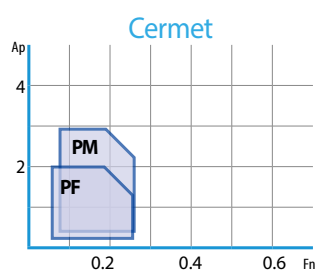
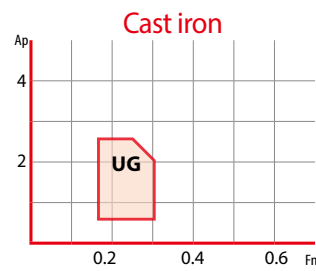
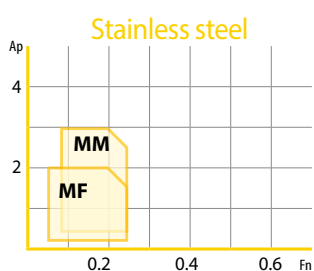
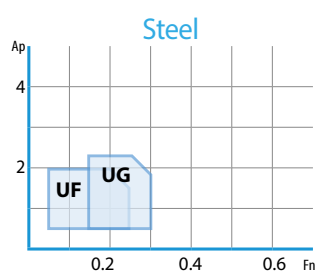
Product Overview

**Turning Chipbreakers - Positive**

|                    | P | M | K | N | S | Material | Application               | Diagram | Feed F <sub>n</sub> (mm/rev.) |          |     |     |     |     |     |
|--------------------|---|---|---|---|---|----------|---------------------------|---------|-------------------------------|----------|-----|-----|-----|-----|-----|
|                    |   |   |   |   |   |          |                           |         | 0                             | 0.1      | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 |
| TURNING            |   |   |   | N |   | AL       | Aluminum application      |         | 0.02~0.30                     | 0.1~5.0  |     |     |     |     |     |
|                    | P | M |   |   |   | UF       | Finishing application     |         | 0.05~0.25                     | 0.5~2.0  |     |     |     |     |     |
| PARTING & GROOVING | P |   | K |   |   | UG       | Medium application        |         | 0.15~0.30                     | 0.5~2.5  |     |     |     |     |     |
|                    |   | M |   |   |   | MF       | Stainless steel Finishing |         | 0.04~0.30                     | 0.1~2.0  |     |     |     |     |     |
| MILLING            |   | M |   |   |   | MM       | Stainless steel Medium    |         | 0.06~0.35                     | 0.25~3.0 |     |     |     |     |     |
|                    |   |   |   |   | S | SF       | HRSA Finishing            |         | 0.03~0.20                     | 0.1~2.5  |     |     |     |     |     |
| DRILLING           | P | M | K |   |   | PF       | Finishing                 |         | 0.06~0.25                     | 0.1~2.0  |     |     |     |     |     |
|                    | P | M | K |   |   | PM       | Medium                    |         | 0.08~0.25                     | 0.25~3.0 |     |     |     |     |     |

Depth of Cut Ap (mm)

TECHNICAL INFORMATION












\*Insert : CCMT09T304

Click/Touch each page number and move to the very page!







# Turning Inserts Overview

## Negative Inserts

Recommended Cutting Conditions : p.258

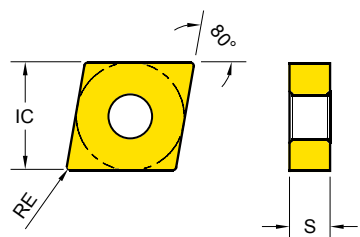
| Shape   | Series  | Size & Thickness |      |      |      |      |      |  |      |      |      | Page |      |      |      |      |  |
|---|---|------------------|------|------|------|------|------|--|------|------|------|------|------|------|------|------|--|
| <b>C</b>  |    | CNMA             |      |      |      | 1204 |      |  |      | 1606 | 1906 |      |      |      |      |      |  |
|   | CNMG  | 0903             | 0904 |      | 1204 |      |      |  |      | 1606 | 1906 |      |      |      |      | 2509 |  |
|   | CNGG  |                  |      |      | 1204 |      |      |  |      |      |      |      |      |      |      |      |  |
|   | CNMM  |                  |      |      | 1204 |      |      |  |      | 1606 | 1906 |      |      |      |      | 2509 |  |
| <b>D</b>  |    | DNMA             |      |      |      | 1504 | 1506 |  |      |      |      |      |      |      |      |      |  |
|   | DNMG  |                  |      | 1104 |      | 1504 | 1506 |  |      |      |      |      |      |      |      |      |  |
|   | DNGG  |                  |      |      |      | 1504 | 1506 |  |      |      |      |      |      |      |      |      |  |
|   | DNMM  |                  |      |      |      |      | 1506 |  |      |      |      |      |      |      |      |      |  |
|    | DNUX  |                  |      |      |      | 1504 | 1506 |  |      |      |      |      |      |      |      |      |  |
| <b>K</b>  |    | KNUX             |      |      |      |      |      |  |      | 1604 |      |      |      |      |      |      |  |
| <b>S</b>  |    | SNMA             |      |      |      | 1204 | 1506 |  |      |      | 1906 |      |      |      |      |      |  |
|   | SNMG  | 0903             |      |      |      | 1204 |      |  |      |      | 1906 |      |      |      | 2509 |      |  |
|   | SNMM  |                  |      |      |      |      | 1506 |  |      |      | 1906 |      | 2507 | 2509 |      |      |  |
| <b>T</b>  |   | TNMA             |      |      |      |      |      |  |      | 1604 |      |      |      |      |      |      |  |
|   | TNMG  |                  |      |      |      |      |      |  |      | 1604 |      | 2204 |      |      |      |      |  |
|   | TNGG  |                  |      |      |      |      |      |  |      | 1604 |      |      |      |      |      |      |  |
|   | TNMM  |                  |      |      |      |      |      |  |      | 1604 |      | 2204 |      |      |      |      |  |
|  | TNUX  |                  |      |      |      |      |      |  | 1604 |      |      |      |      |      |      |      |  |
| <b>V</b>  |  | VNMA             |      |      |      |      |      |  |      | 1604 |      |      |      |      |      |      |  |
|   | VNMG  |                  |      |      |      |      |      |  |      | 1604 |      |      |      |      |      |      |  |
|   | VNGG  |                  |      |      |      |      |      |  |      | 1604 |      |      |      |      |      |      |  |
| <b>W</b>  |  | WNMA             |      |      |      | 0804 |      |  |      |      |      |      |      |      |      |      |  |
|   | WNMG  |                  | 0604 |      |      | 0804 |      |  |      |      |      |      |      |      |      |      |  |
|   | WNGG  |                  |      |      |      | 0804 |      |  |      |      |      |      |      |      |      |      |  |

## Positive Inserts

| Shape    | Series  | Size & Thickness |      |      |      |      |      |  |      |      |      | Page |      |      |  |  |  |
|----------|---|------------------|------|------|------|------|------|--|------|------|------|------|------|------|--|--|--|
| <b>C</b> |  | CCGT             | 0602 |      |      | 09T3 |      |  |      |      | 1204 |      |      |      |  |  |  |
|          | CCMT  | 0602             |      |      |      | 09T3 |      |  |      |      | 1204 |      |      |      |  |  |  |
| <b>D</b> |  | DCGT             |      | 0702 |      |      |      |  |      |      | 11T3 |      |      |      |  |  |  |
|          | DCMT  |                  | 0702 |      |      |      |      |  |      |      | 11T3 |      |      |      |  |  |  |
| <b>R</b> |  | RCMT             | 0602 |      | 0803 |      | 10T3 |  |      |      | 1204 |      | 1606 |      |  |  |  |
|          | RCMX  |                  |      |      |      |      |      |  |      |      |      |      | 1606 | 2006 |  |  |  |
| <b>S</b> |  | SCGT             |      |      |      | 09T3 |      |  |      |      |      |      |      |      |  |  |  |
|          | SCMT  |                  |      |      |      | 09T3 |      |  |      |      | 1204 |      |      |      |  |  |  |
| <b>T</b> |  | TCGT             |      |      |      |      |      |  | 1102 |      |      |      | 16T3 |      |  |  |  |
|          | TCMT  |                  |      |      |      |      |      |  | 1102 |      |      |      | 16T3 |      |  |  |  |
| <b>V</b> |  | VBGT / VBMT      |      |      |      |      |      |  |      | 1103 |      |      | 1604 |      |  |  |  |
|          | VCGT / VCMT   |                  |      |      |      |      |      |  |      | 1103 |      |      | 1604 |      |  |  |  |







## Turning Inserts - Negative CNMA / CNMG (80° Rhombic)

Refer to  
Turning holder  
p.92,97,113,118,124



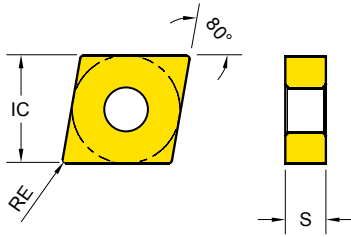
| Series    | IC     | S    | Series    | IC     | S    |
|-----------|--------|------|-----------|--------|------|
| CN** 0903 | 9.525  | 3.18 | CN** 1606 | 15.875 | 6.35 |
| CN** 0904 | 9.525  | 4.76 | CN** 1906 | 19.050 | 6.35 |
| CN** 1204 | 12.700 | 4.76 |           |        |      |

EDP 2200.. ● : Stock item ○ : Order made item

| CNMA<br>CNMG   | Designation      | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | K10 | P05 | K20 | P10 | P15 | P10 | P25 | P20 | P30 | P20 | M25 | M35 | M15 | M30 | M40 | S10 | P15 | P10 | N20 | N20 |
|--|------------------|-----|-----------------|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|  |                  |     |                 |            | K20 | K30 | K15 | K10 | K15 | K10 | N20 | N20 |     |     |     |     |     |     |     |     |     |     |     |     |
| <b>..MA</b><br><br>Cast iron  | CNMA 120404      | 0.4 | 0.15-0.50       | 0.5-5.0    | ●   | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | CNMA 120408      | 0.8 | 0.15-0.50       | 1.0-5.0    | ●   | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | CNMA 120412      | 1.2 | 0.15-0.50       | 1.5-5.0    | ●   | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | CNMA 120416      | 1.6 | 0.15-0.50       | 2.0-5.0    | ●   | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | CNMA 160612      | 1.2 | 0.15-0.50       | 1.5-5.0    | ●   | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | CNMA 160616      | 1.6 | 0.15-0.50       | 2.0-5.0    | ●   | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | CNMA 190612      | 1.2 | 0.15-0.50       | 1.5-9.0    | ●   | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | CNMA 190616      | 1.6 | 0.15-1.00       | 3.0-10.0   | ●   | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <b>-UF</b><br><br>Finishing   | CNMG 120404 - UF | 0.4 | 0.05-0.25       | 0.5-2.5    |     |     |     | ○   |     |     | ●   | ●   | ●   | ○   |     |     |     |     |     | ○   |     |     |     |     |
|  | CNMG 120408 - UF | 0.8 | 0.05-0.25       | 1.0-2.5    |     |     |     | ○   | ○   |     | ●   | ●   | ●   | ●   |     |     |     |     |     |     |     |     |     |     |
|  | CNMG 120412 - UF | 1.2 | 0.05-0.25       | 1.5-2.5    |     |     |     | ○   |     |     | ●   | ●   | ●   | ●   |     |     |     |     |     |     |     |     |     |     |
| <b>NEW</b><br><b>-PWF</b><br><br>Wiper-Finishing                                | CNMG120404 - PWF | 0.4 | 0.08-0.30       | 0.3-4.0    | ●   |     |     |     |     |     | ●   | ●   | ●   |     |     |     |     |     |     |     |     |     |     |     |
|  | CNMG120408 - PWF | 0.8 | 0.10-0.40       | 0.5-4.0    | ●   |     |     |     |     |     | ●   | ●   | ●   | ●   |     |     |     |     |     |     |     |     |     |     |
| <b>-UL</b><br><br>Light Machining<br>and Sticky Material                        | CNMG 090308 - UL | 0.8 | 0.10-0.30       | 1.0-2.5    |     |     |     | ○   |     |     | ●   | ●   | ●   | ●   |     |     |     |     |     |     |     |     |     |     |
|  | CNMG 090312 - UL | 1.2 | 0.10-0.30       | 1.5-2.5    |     |     |     | ○   |     |     | ●   | ●   | ●   | ●   |     |     |     |     |     |     |     |     |     |     |
|  | CNMG 090408 - UL | 0.8 | 0.10-0.30       | 1.0-2.5    |     |     |     | ○   |     |     | ●   | ●   | ●   | ●   |     |     |     |     |     |     |     |     |     |     |
|  | CNMG 090412 - UL | 1.2 | 0.10-0.30       | 1.5-2.5    |     |     |     | ○   |     |     | ●   | ●   | ●   | ●   |     |     |     |     |     |     |     |     |     |     |
|  | CNMG 120404 - UL | 0.4 | 0.10-0.30       | 0.5-3.0    |     |     |     | ○   |     |     | ●   | ●   | ●   | ●   |     |     |     |     |     |     |     |     |     |     |
|  | CNMG 120408 - UL | 0.8 | 0.10-0.30       | 1.0-3.0    |     |     |     | ○   |     |     | ●   | ●   | ●   | ●   |     |     |     |     |     |     |     |     |     |     |
| <b>-UM</b><br><br>Medium Machining<br>Unstable condition                        | CNMG 120404 - UM | 0.4 | 0.15-0.30       | 0.5-3.0    |     | ●   |     | ○   |     |     | ●   | ●   | ●   | ●   |     |     |     |     |     |     |     |     |     |     |
|  | CNMG 120408 - UM | 0.8 | 0.15-0.30       | 1.0-3.0    |     | ●   | ●   | ○   | ○   |     | ●   | ●   | ●   | ●   |     |     |     |     |     |     |     |     |     |     |
|  | CNMG 120412 - UM | 1.2 | 0.15-0.30       | 1.5-3.0    |     | ●   |     | ○   |     |     | ●   | ●   | ●   | ●   |     |     |     |     |     |     |     |     |     |     |
| <b>NEW</b><br><b>-GM</b><br><br>Medium machining for<br>steel & Stainless steel | CNMG 120404 - GM | 0.4 | 0.15~0.40       | 0.5~4.0    |     |     |     |     |     |     | ●   | ●   |     |     |     |     |     |     |     | ●   |     |     |     |     |
|  | CNMG 120408 - GM | 0.8 | 0.17~0.50       | 0.8~5.0    |     |     |     |     |     |     | ●   | ●   |     |     |     |     |     |     |     | ●   |     |     |     |     |
|  | CNMG 120412 - GM | 1.2 | 0.20~0.55       | 1.0~5.0    |     |     |     |     |     |     | ●   | ●   |     |     |     |     |     |     |     | ●   |     |     |     |     |






# Turning Inserts - Negative CNMG (80° Rhombic)

Refer to  
Turning holder  
p.92,97,113,118,124



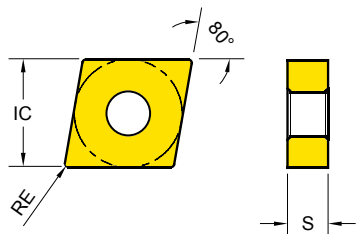
| Series    | IC     | S    | Series    | IC     | S    |
|-----------|--------|------|-----------|--------|------|
| CN** 0903 | 9.525  | 3.18 | CN** 1606 | 15.875 | 6.35 |
| CN** 0904 | 9.525  | 4.76 | CN** 1906 | 19.050 | 6.35 |
| CN** 1204 | 12.700 | 4.76 | CN** 2509 | 25.400 | 9.52 |

EDP 2200.. ● : Stock item ○ : Order made item

| CNMG   | Designation       | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | YG1010 | YG1001     | YG1020     | YG3010 | YG3015 | YG3115 | YG3125 | YG3020 | YG3030 | YG801 | YG2025 | YG2035 | YG211      | YG213 | YG214      | YG401      | YT100 | YT100G | YG100 | YG10 |  |
|--|-------------------|-----|-----------------|------------|--------|------------|------------|--------|--------|--------|--------|--------|--------|-------|--------|--------|------------|-------|------------|------------|-------|--------|-------|------|--|
|  |                   |     |                 |            | K10    | P05<br>K20 | P10<br>K30 | P15    | P25    | P20    | P30    | P20    | M25    | M35   | M15    | M30    | M40<br>S30 | S10   | P15<br>K15 | P10<br>M10 | N20   | N20    |       |      |  |
| <b>-UG</b><br><br>Medium Machining<br>at stable condition | CNMG 120404 - UG  | 0.4 | 0.20-0.40       | 0.5-3.0    | ●      | ○          | ●          | ○      |        | ●      | ●      | ●      | ●      |       |        |        |            |       |            |            |       |        |       |      |  |
|  | CNMG 120408 - UG  | 0.8 | 0.20-0.40       | 1.0-3.0    | ●      | ○          | ●          | ○      | ○      | ●      | ●      | ●      | ●      | ○     |        |        |            |       |            |            |       |        |       |      |  |
|  | CNMG 120412 - UG  | 1.2 | 0.20-0.40       | 1.5-3.0    | ●      | ○          | ●          | ○      |        | ●      | ●      | ●      | ●      |       |        |        |            |       |            |            |       |        |       |      |  |
|  | CNMG 160608 - UG  | 0.8 | 0.20-0.40       | 1.0-5.0    | ●      | ○          |            | ○      |        | ●      | ●      | ●      | ●      |       |        |        |            |       |            |            |       |        |       |      |  |
|  | CNMG 160612 - UG  | 1.2 | 0.20-0.40       | 1.5-5.0    | ●      | ○          |            | ○      |        | ●      | ●      | ●      | ●      |       | ○      | ●      |            |       |            |            |       |        |       |      |  |
|  | CNMG 160616 - UG  | 1.6 | 0.30-0.50       | 2.0-5.0    | ●      | ○          |            | ○      |        | ●      | ●      | ●      | ●      |       |        |        |            |       |            |            |       |        |       |      |  |
|  | CNMG 190608 - UG  | 0.8 | 0.20-0.60       | 1.0-6.0    | ●      |            |            | ○      |        | ●      | ●      | ●      | ●      |       |        |        |            |       |            |            |       |        |       |      |  |
|  | CNMG 190612 - UG  | 1.2 | 0.20-0.60       | 1.5-6.0    |        |            |            |        |        | ●      | ●      | ●      | ●      |       |        |        |            |       |            |            |       |        |       |      |  |
| <b>-PWM</b><br><br>Wiper-Medium                         | CNMG 120404 - PWM | 0.4 | 0.10-0.50       | 0.5-3.5    | ●      | ○          |            |        |        | ●      | ●      | ●      | ○      |       |        |        |            |       |            |            |       |        |       |      |  |
|  | CNMG 120408 - PWM | 0.8 | 0.10-0.50       | 0.8-3.5    | ●      |            |            |        |        | ●      | ●      | ●      | ●      | ○     | ●      |        |            |       |            |            |       | ●      |       |      |  |
|  | CNMG 120412 - PWM | 1.2 | 0.10-0.50       | 1.0-3.5    | ●      |            |            |        |        | ●      | ●      | ●      | ●      |       |        |        |            |       |            |            |       |        |       |      |  |
| <b>-UC</b><br><br>Cast iron and<br>Medium roughing      | CNMG 120404 - UC  | 0.4 | 0.20-0.40       | 0.5-4.0    | ●      | ○          | ●          | ○      |        | ●      | ●      | ●      | ●      |       |        |        |            |       |            |            |       |        |       |      |  |
|  | CNMG 120408 - UC  | 0.8 | 0.20-0.40       | 1.0-4.0    | ●      | ○          | ●          | ○      |        | ●      | ●      | ●      | ●      |       |        |        |            |       |            |            |       |        |       |      |  |
|  | CNMG 120412 - UC  | 1.2 | 0.20-0.40       | 1.5-4.0    | ●      | ○          | ●          | ○      |        | ●      | ●      | ●      | ●      |       |        |        |            |       |            |            |       |        |       |      |  |
| <b>-UR</b><br><br>Roughing                              | CNMG 120408 - UR  | 0.8 | 0.30-0.50       | 1.0-5.0    | ●      | ○          | ●          | ○      |        | ●      | ●      | ●      | ●      |       |        |        |            |       |            |            |       |        |       |      |  |
|  | CNMG 120412 - UR  | 1.2 | 0.30-0.50       | 1.5-5.0    | ●      | ○          | ●          | ○      |        | ●      | ●      | ●      | ●      | ○     |        |        |            |       | ○          |            |       |        |       |      |  |
|  | CNMG 120416 - UR  | 1.6 | 0.30-0.50       | 2.0-5.0    | ●      | ○          | ●          | ○      |        | ●      | ●      | ●      | ●      |       |        |        |            |       |            |            |       |        |       |      |  |
|  | CNMG 160608 - UR  | 0.8 | 0.30-0.50       | 1.0-5.0    | ●      | ○          |            | ○      |        | ●      | ●      | ●      | ●      |       |        |        |            |       |            |            |       |        |       |      |  |
|  | CNMG 160612 - UR  | 1.2 | 0.30-0.50       | 1.5-5.0    | ●      | ○          |            | ○      |        | ●      | ●      | ●      | ●      |       |        |        |            |       |            |            |       |        |       |      |  |
|  | CNMG 160616 - UR  | 1.6 | 0.30-0.50       | 2.0-5.0    | ●      | ○          |            | ○      |        | ●      | ●      | ●      | ●      |       |        |        |            |       |            |            |       |        |       |      |  |
|  | CNMG 190608 - UR  | 0.8 | 0.30-0.80       | 3.0-9.0    | ●      |            | ○          | ○      |        | ●      | ●      | ●      | ●      |       |        |        |            |       |            |            |       |        |       |      |  |
|  | CNMG 190612 - UR  | 1.2 | 0.30-0.80       | 3.0-9.0    | ●      | ○          |            | ○      |        | ●      | ●      | ●      | ●      |       |        |        |            |       |            |            |       |        |       |      |  |
|  | CNMG 190616 - UR  | 1.6 | 0.30-0.80       | 3.0-9.0    | ●      | ○          |            | ○      |        | ●      | ●      | ●      | ●      |       |        |        |            |       |            |            |       |        |       |      |  |
|  | CNMG 250924 - UR  | 2.4 | 0.40-1.00       | 5.0-12.0   |        |            |            |        |        | ●      | ●      | ●      | ●      |       |        |        |            |       |            |            |       |        |       |      |  |
| <b>-KR</b><br><br>Cast Iron<br>Heavy Roughing           | CNMG 120408 - KR  | 0.8 | 0.30-0.60       | 1.0-5.0    | ●      | ○          | ●          | ○      |        | ●      |        |        | ●      |       |        |        |            |       |            |            |       |        |       |      |  |
|  | CNMG 120412 - KR  | 1.2 | 0.30-0.60       | 1.5-5.0    | ●      | ○          | ●          | ○      |        | ●      |        |        | ●      |       |        |        |            |       |            |            |       |        |       |      |  |
|  | CNMG 160612 - KR  | 1.2 | 0.30-0.60       | 1.5-6.0    | ●      | ○          |            | ○      |        | ●      |        |        | ●      |       |        |        |            |       |            |            |       |        |       |      |  |
|  | CNMG 160616 - KR  | 1.6 | 0.30-0.60       | 2.0-6.0    | ●      | ○          |            | ○      |        | ●      |        |        | ●      |       |        |        |            |       |            |            |       |        |       |      |  |
|  | CNMG 190612 - KR  | 1.2 | 0.30-1.00       | 3.0-9.0    | ●      |            |            |        |        | ●      |        |        | ●      |       |        |        |            |       |            |            |       |        |       |      |  |





## Turning Inserts - Negative CNMG (80° Rhombic)

Refer to  
Turning holder  
p.92,97,113,118,124



| Series    | IC     | S    | Series    | IC     | S    |
|-----------|--------|------|-----------|--------|------|
| CN** 0903 | 9.525  | 3.18 | CN** 1606 | 15.875 | 6.35 |
| CN** 0904 | 9.525  | 4.76 | CN** 1906 | 19.050 | 6.35 |
| CN** 1204 | 12.700 | 4.76 |           |        |      |

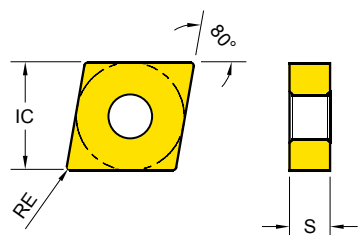
EDP 2200.. ● : Stock item ○ : Order made item

| CNMG   | Designation      | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | K10 | P05 | K20 | P10 | P15 | P10 | P25 | P20 | P30 | P20 | M25 | M35 | M15 | M30 | M40 | S10 | P15 | P10 | M15 | M10 | N20 | N20 |  |
|--|------------------|-----|-----------------|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|  |                  |     |                 |            | K20 | K30 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | K15 | K10 |  |
| <b>-MF</b><br><br>Stainless steel<br>Finishing  | CNMG 120404 - MF | 0.4 | 0.07-0.3        | 0.2-1.5    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|  | CNMG 120408 - MF | 0.8 | 0.07-0.3        | 0.2-1.5    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|  | CNMG 120412 - MF | 1.2 | 0.07-0.3        | 0.2-1.5    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| <b>-MM</b><br><br>Stainless steel<br>Medium     | CNMG 120404 - MM | 0.4 | 0.20-0.35       | 0.5-3.5    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|  | CNMG 120408 - MM | 0.8 | 0.20-0.35       | 1.0-3.5    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|  | CNMG 120412 - MM | 1.2 | 0.20-0.35       | 1.5-3.5    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|  | CNMG 190608 - MM | 0.8 | 0.20-0.50       | 2.0-5.5    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|  | CNMG 190612 - MM | 1.2 | 0.20-0.55       | 2.0-5.5    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| <b>-MG</b><br><br>Stainless steel<br>General  | CNMG120404 - MG  | 0.4 | 0.20-0.40       | 0.5-4.0    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|  | CNMG 120408 - MG | 0.8 | 0.20-0.40       | 1.0-4.0    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|  | CNMG 120412 - MG | 1.2 | 0.20-0.40       | 1.5-4.0    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|  | CNMG 160608 - MG | 0.8 | 0.20-0.45       | 1.0-4.0    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|  | CNMG 160612 - MG | 1.2 | 0.20-0.50       | 2.0-4.0    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|  | CNMG 160616 - MG | 1.6 | 0.20-0.50       | 2.0-4.0    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|  | CNMG 190616 - MG | 1.6 | 0.20-0.50       | 2.0-5.0    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| <b>-MR</b><br><br>Stainless steel<br>Roughing | CNMG 120408 - MR | 0.8 | 0.30-0.55       | 2.0-5.5    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|  | CNMG 120412 - MR | 1.2 | 0.30-0.55       | 2.0-5.5    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|  | CNMG 120416 - MR | 1.6 | 0.30-0.55       | 2.0-5.5    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|  | CNMG 160616 - MR | 1.6 | 0.30-0.55       | 2.0-6.0    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |



# Turning Inserts - Negative CNMM - Heavy Turning (80° Rhombic)

Refer to  
Turning holder  
p.92,97,113,118,124



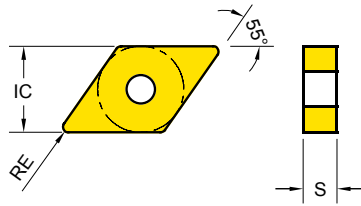
| Series    | IC     | S    | Series    | IC     | S    |
|-----------|--------|------|-----------|--------|------|
| CN** 1204 | 12.700 | 4.76 | CN** 1906 | 19.050 | 6.35 |
| CN** 1606 | 15.875 | 6.35 | CN** 2507 | 25.400 | 7.94 |
|           |        |      | CN** 2509 | 25.400 | 9.52 |

EDP 2200.. ● : Stock item ○ : Order made item

| CNMM                                | Designation      | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | K10 | P05 | K20 | P10 | P15 | P10 | P25 | P20 | P30 | P20 | M25 | M35 | M15 | M30 | M40 | S10 | P15 | P10 | N20 | N20 |   |   |
|-------------------------------------|------------------|-----|-----------------|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|---|
|                                     |                  |     |                 |            | K20 | K30 | S30 | K15 | K10 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |   |   |
| <b>-UH</b><br><br>Low cutting force | CNMM 120408 - UH | 0.8 | 0.30-0.50       | 1.5-5.0    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |   |   |
|                                     | CNMM 120412 - UH | 1.2 | 0.30-0.55       | 1.6-5.0    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |   |   |
|                                     | CNMM 120416 - UH | 1.6 | 0.30-0.60       | 2.0-5.0    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |   |   |
|                                     | CNMM 160612 - UH | 1.2 | 0.35-0.60       | 2.0-5.5    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |   |   |
|                                     | CNMM 160616 - UH | 1.6 | 0.35-0.60       | 2.5-5.5    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |   |   |
|                                     | CNMM 190612 - UH | 1.2 | 0.35-0.70       | 1.5-9.0    | ●   |     | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ● | ● |
|                                     | CNMM 190616 - UH | 1.6 | 0.35-0.70       | 2.0-9.0    | ●   |     | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ● | ● |
|                                     | CNMM 190624 - UH | 2.4 | 0.35-0.70       | 3.0-9.0    | ●   |     | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ● | ● |
|                                     | CNMM 250724 - UH | 2.4 | 0.40-0.80       | 3.0-10.0   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |   |   |
|                                     | CNMM 250924 - UH | 2.4 | 0.40-0.80       | 3.0-10.0   | ●   |     | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ● | ● |
| <b>-UT</b><br><br>Heavy Roughing    | CNMM 120408 - UT | 0.8 | 0.40-0.70       | 1.5-6.0    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |   |   |
|                                     | CNMM 160612 - UT | 1.2 | 0.45-0.70       | 2.0-6.0    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |   |   |
|                                     | CNMM 160616 - UT | 1.6 | 0.45-0.70       | 2.5-6.0    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |   |   |
|                                     | CNMM 190612 - UT | 1.2 | 0.50-1.00       | 3.0-12.0   | ●   | ○   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ● | ● |
|                                     | CNMM 190616 - UT | 1.6 | 0.50-1.00       | 4.0-12.0   | ●   | ○   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ● | ● |
|                                     | CNMM 190624 - UT | 2.4 | 0.50-1.00       | 6.0-12.0   | ●   | ○   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ● | ● |
|                                     | CNMM 250724 - UT | 2.4 | 0.40-0.80       | 3.0-10.0   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |   |   |
|                                     | CNMM 250924 - UT | 2.4 | 0.55-1.20       | 6.0-13.0   | ●   | ○   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ● | ● |





# Turning Inserts - Negative DNMA / DNMG (55° Rhombic)

Refer to  
Turning holder  
p. 93, 98, 114, 119, 124



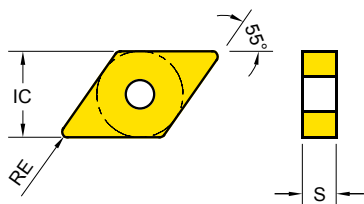
| Series    | IC     | S    |
|-----------|--------|------|
| DN** 1104 | 9.525  | 4.76 |
| DN** 1504 | 12.700 | 4.76 |
| DN** 1506 | 12.700 | 6.35 |

EDP 2200.. ● : Stock item ○ : Order made item

| DNMA<br>DNMG  | Designation       | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | K10 | P05 | K20 | P10 | P15 | P10 | P25 | P20 | P30 | P20 | M25 | M35 | M15 | M30 | M40 | S10 | P15 | P10 | N20 | N20 |
|---|-------------------|-----|-----------------|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|   |                   |     |                 |            | K20 | K30 | S30 | M15 | M10 | K15 | K10 |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <b>..MA</b><br><br>Cast iron                               | DNMA 150404       | 0.4 | 0.10-0.50       | 0.5-5.0    | ●   | ○   | ○   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|   | DNMA 150408       | 0.8 | 0.15-0.50       | 1.0-5.0    | ●   | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|   | DNMA 150412       | 1.2 | 0.15-0.50       | 1.5-5.0    | ●   | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|   | DNMA 150604       | 0.4 | 0.10-0.50       | 1.0-5.0    | ●   | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|   | DNMA 150608       | 0.8 | 0.15-0.50       | 1.0-5.0    | ●   | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|   | DNMA 150612       | 1.2 | 0.15-0.50       | 1.5-5.0    | ●   | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <b>-UF</b><br><br>Finishing                              | DNMG 150404 - UF  | 0.4 | 0.05-0.25       | 0.5-2.5    |     |     |     | ○   |     |     |     |     |     | ○   |     |     |     |     |     |     |     |     |     |     |
|   | DNMG 150408 - UF  | 0.8 | 0.05-0.25       | 1.0-2.5    |     |     |     | ○   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|   | DNMG 150412 - UF  | 1.2 | 0.05-0.25       | 1.5-2.5    |     |     |     | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|   | DNMG 150604 - UF  | 0.4 | 0.05-0.25       | 1.0-2.0    |     |     |     | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|   | DNMG 150608 - UF  | 0.8 | 0.05-0.25       | 1.5-3.5    |     |     |     | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|   | DNMG 150612 - UF  | 1.2 | 0.05-0.25       | 1.5-2.5    |     |     |     | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <b>NEW</b><br><b>-PWF</b><br><br>Wiper-Finishing         | DNMG110404 - PWF  | 0.4 | 0.08-0.30       | 0.3-2.5    | ●   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|   | DNMG110408 - PWF  | 0.8 | 0.10-0.40       | 0.5-2.5    | ●   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|   | DNMG150408 - PWF  | 0.8 | 0.10-0.40       | 0.5-3.5    | ●   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|   | DNMG 150608 - PWF | 0.8 | 0.10-0.40       | 0.5-3.5    | ●   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <b>-UL</b><br><br>Light Machining<br>and Sticky Material | DNMG 110404 - UL  | 0.4 | 0.10-0.3        | 0.5-2.5    |     |     |     | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|   | DNMG 110408 - UL  | 0.8 | 0.10-0.3        | 1.0-2.5    |     |     |     | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|   | DNMG 150404 - UL  | 0.4 | 0.10-0.3        | 0.5-3.0    |     |     |     | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|   | DNMG 150408 - UL  | 0.8 | 0.10-0.3        | 1.0-3.0    |     |     |     | ○   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|   | DNMG 150412 - UL  | 1.2 | 0.10-0.3        | 1.5-3.0    |     |     |     | ○   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|   | DNMG 150604 - UL  | 0.4 | 0.10-0.3        | 0.5-3.0    |     |     |     | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|   | DNMG 150608 - UL  | 0.8 | 0.10-0.3        | 1.0-3.0    |     |     |     | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|   | DNMG 150612 - UL  | 1.2 | 0.10-0.3        | 1.5-3.0    |     |     |     | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

## Turning Inserts - Negative DNMG (55° Rhombic)

Refer to  
Turning holder  
p.93,98,114,119,124



| Series    | IC     | S    |
|-----------|--------|------|
| DN** 1104 | 9.525  | 4.76 |
| DN** 1504 | 12.700 | 4.76 |
| DN** 1506 | 12.700 | 6.35 |

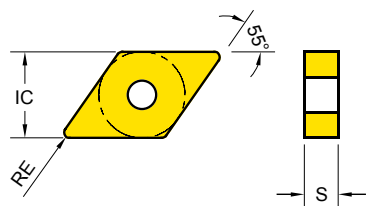
EDP 2200.. ● : Stock item ○ : Order made item

| DNMG  | Designation  | RE               | Fn<br>(mm/rev.) | Ap<br>(mm) | K10     | P05 | K20 | P10 | P15 | P10 | P25 | P20 | P30 | P20 | M25 | M35 | M15 | M30 | M40 | S10 | P15 | P10 | N20 | N20 |  |
|---|--|------------------|-----------------|------------|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|   |  |                  |                 |            | K20     | K30 | S30 | K15 | K10 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| <b>-UM</b><br><br>Medium Machining<br>Unstable condition          | DNMG 150404 - UM                                   | 0.4              | 0.15-0.30       | 0.5-3.0    | ○       | ○   | ○   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|   | DNMG 150408 - UM                                   | 0.8              | 0.15-0.30       | 1.0-3.0    | ○       | ○   | ○   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|   | DNMG 150412 - UM                                   | 1.2              | 0.15-0.30       | 1.5-3.0    | ○       | ○   | ○   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|   | DNMG 150604 - UM                                   | 0.4              | 0.15-0.30       | 0.5-3.0    | ○       | ○   | ○   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|   | DNMG 150608 - UM                                   | 0.8              | 0.15-0.30       | 1.0-3.0    | ○       | ○   | ○   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|   | DNMG 150612 - UM                                   | 1.2              | 0.15-0.30       | 1.5-3.0    | ○       | ○   | ○   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| <b>-GM</b><br><br>Medium machining for<br>steel & Stainless steel | DNMG 150404 - GM                                   | 0.4              | 0.15-0.40       | 0.5-4.0    |         |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|   | DNMG 150408 - GM                                   | 0.8              | 0.17-0.50       | 0.8-4.0    |         |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|   | DNMG 150412 - GM                                   | 1.2              | 0.20-0.55       | 1.0-4.0    |         |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|   | DNMG 150608 - GM                                   | 0.8              | 0.17-0.50       | 0.8-4.0    |         |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|   | DNMG 150612 - GM                                   | 1.2              | 0.20-0.55       | 1.0-4.0    |         |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| <b>-UG</b><br><br>Medium Machining<br>at stable condition         | DNMG 110408 - UG                                   | 0.8              | 0.20-0.40       | 1.0-2.5    |         |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|   | DNMG 110412 - UG                                   | 1.2              | 0.20-0.40       | 1.5-2.5    |         |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|   | DNMG 150404 - UG                                   | 0.4              | 0.20-0.40       | 0.5-3.0    | ●       | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|   | DNMG 150408 - UG                                   | 0.8              | 0.20-0.40       | 1.0-3.0    | ●       | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|   | DNMG 150412 - UG                                   | 1.2              | 0.20-0.40       | 1.5-3.0    | ●       | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|   | DNMG 150604 - UG                                   | 0.4              | 0.20-0.40       | 0.5-3.0    | ●       | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|   | DNMG 150608 - UG                                   | 0.8              | 0.20-0.40       | 1.0-3.0    | ●       | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|   | DNMG 150612 - UG                                   | 1.2              | 0.20-0.40       | 1.5-3.0    | ●       | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|   | DNMG 150616 - UG                                   | 1.6              | 0.20-0.40       | 1.8-3.0    |         |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|   | <b>-UC</b><br><br>Cast iron and<br>Medium roughing | DNMG 150404 - UC | 0.4             | 0.20-0.40  | 0.5-4.0 | ●   | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| DNMG 150408 - UC  |  | 0.8              | 0.20-0.40       | 1.0-4.0    | ●       | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| DNMG 150412 - UC  |  | 1.2              | 0.20-0.40       | 1.5-4.0    | ●       | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| DNMG 150604 - UC  |  | 0.4              | 0.20-0.40       | 0.5-4.0    | ●       | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| DNMG 150608 - UC  |  | 0.8              | 0.20-0.40       | 1.0-4.0    | ●       | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| DNMG 150612 - UC  |  | 1.2              | 0.20-0.40       | 1.5-4.0    | ●       | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| <b>-UR</b><br><br>Roughing  | DNMG 150408 - UR                                   | 0.8              | 0.30-0.50       | 1.0-5.0    | ●       | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|   | DNMG 150412 - UR                                   | 1.2              | 0.30-0.50       | 1.5-5.0    | ●       | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|   | DNMG 150608 - UR                                   | 0.8              | 0.30-0.50       | 1.0-5.0    | ●       | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|   | DNMG 150612 - UR                                   | 1.2              | 0.30-0.50       | 1.5-5.0    | ●       | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|   | DNMG 150616 - UR                                   | 1.6              | 0.30~0.50       | 1.8~5.0    | ●       | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |







## Turning Inserts - Negative DNGG / DNMG (55° Rhombic)

Refer to  
Turning holder  
p. 93, 98, 114, 119, 124



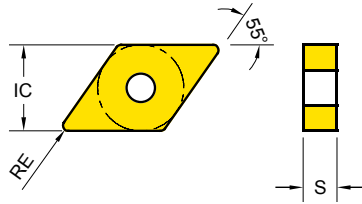
| Series    | IC     | S    |
|-----------|--------|------|
| DN** 1104 | 9.525  | 4.76 |
| DN** 1504 | 12.700 | 4.76 |
| DN** 1506 | 12.700 | 6.35 |

EDP 2200.. ● : Stock item ○ : Order made item

| DNGG<br>DNMG   | Designation       | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | K10    | P05    | K20    | P10    | P15    | P10    | P25    | P20    | P30    | P20   | M25    | M35    | M15   | M30   | M40   | S10   | P15   | P10    | N20   | N20  |  |
|--|-------------------|-----|-----------------|------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|--------|--------|-------|-------|-------|-------|-------|--------|-------|------|--|
|  |                   |     |                 |            | YG1010 | YG1001 | YG1020 | YG3010 | YG3015 | YG3115 | YG3125 | YG3020 | YG3030 | YG801 | YG2025 | YG2035 | YG211 | YG213 | YG214 | YG401 | YT100 | YT100G | YG100 | YG10 |  |
| <b>-SF</b><br><br>HRSA Finishing      | DNGG 150404 - SF  | 0.4 | 0.10-0.25       | 0.2-1.0    |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |       | ●     |        |       |      |  |
|  | DNGG 150408 - SF  | 0.8 | 0.10-0.25       | 0.2-1.0    |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |       |       | ●      |       |      |  |
|  | DNGG 150604 - SF  | 0.4 | 0.10-0.25       | 0.2-1.0    |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |       |       | ●      |       |      |  |
|  | DNGG 150608 - SF  | 0.8 | 0.10-0.25       | 0.2-1.0    |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |       |       | ●      |       |      |  |
| <b>-SM</b><br><br>HRSA Medium         | DNMG 150408 - SM  | 0.8 | 0.15-0.30       | 0.5-3.0    |        |        |        |        | ○      |        |        |        |        |       |        |        |       | ○     | ○     | ○     | ●     |        |       |      |  |
|  | DNMG 150412 - SM  | 1.2 | 0.15-0.30       | 0.5-3.0    |        |        |        |        |        |        |        |        |        |       |        |        |       |       | ○     | ○     | ○     | ●      |       |      |  |
|  | DNMG 150608 - SM  | 0.8 | 0.15-0.30       | 0.5-3.0    |        |        |        |        | ●      |        |        |        |        |       |        |        |       |       |       | ○     | ○     | ○      | ●     |      |  |
|  | DNMG 150612 - SM  | 1.2 | 0.15-0.30       | 0.5-3.0    |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       | ○     | ○     | ○      | ●     |      |  |
| <b>-SR</b><br><br>HRSA Roughing     | DNMG 150408 - SR  | 0.8 | 0.30-0.55       | 2.0-5.5    |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |       | ●     |        |       |      |  |
|  | DNMG 150412 - SR  | 1.2 | 0.30-0.55       | 2.0-5.5    |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |       |       | ●      |       |      |  |
|  | DNMG 150608 - SR  | 0.8 | 0.30-0.55       | 2.0-5.5    |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |       |       | ●      |       |      |  |
|  | DNMG 150612 - SR  | 1.2 | 0.30-0.55       | 2.0-5.5    |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |       |       | ●      |       |      |  |
| <b>-PSF</b><br><br>Cermet Finishing | DNMG 150404 - PSF | 0.4 | 0.07-0.30       | 0.4-3.0    |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |       | ●     | ○      |       |      |  |
|  | DNMG 150408 - PSF | 0.8 | 0.10-0.30       | 0.6-3.0    |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |       |       | ●      | ○     |      |  |
|  | DNMG 150604 - PSF | 0.4 | 0.07-0.30       | 0.4-3.0    |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |       |       | ●      | ○     |      |  |
|  | DNMG 150608 - PSF | 0.8 | 0.10-0.35       | 0.6-3.0    |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |       |       | ●      | ○     |      |  |

# Turning Inserts - Negative DNMM - Heavy Turning (55° Rhombic)

Refer to Turning holder  
p. 93, 98, 114, 119, 124



| Series    | IC     | S    |
|-----------|--------|------|
| DN** 1104 | 9.525  | 4.76 |
| DN** 1504 | 12.700 | 4.76 |
| DN** 1506 | 12.700 | 6.35 |

EDP 2200.. ● : Stock item ○ : Order made item

| DNMM | Designation      | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | YG1010 | YG1001     | YG1020 | YG3010     | YG3015 | YG3115 | YG3125 | YG3020 | YG3030 | YG801 | YG2025 | YG2035 | YG211 | YG213 | YG214      | YG401 | YT100             | YT100G            | YG100 | YG10 |
|------|------------------|-----|-----------------|------------|--------|------------|--------|------------|--------|--------|--------|--------|--------|-------|--------|--------|-------|-------|------------|-------|-------------------|-------------------|-------|------|
|      |                  |     |                 |            | K10    | P05<br>K20 | K20    | P10<br>K30 | P15    | P10    | P25    | P20    | P30    | P20   | M25    | M35    | M15   | M30   | M40<br>S30 | S10   | P15<br>M15<br>K15 | P10<br>M10<br>K10 | N20   | N20  |
| -UH  | DNMM 150612 - UH | 1.2 | 0.30-0.50       | 2.0-7.0    |        |            |        |            |        | ●      | ●      | ●      | ●      |       | ●      |        |       |       |            |       |                   |                   |       |      |
|      |                  |     |                 |            |        |            |        |            |        | 2731   | 3414   | 2327   | 2328   |       | 2769   |        |       |       |            |       |                   |                   |       |      |
| -UT  | DNMM 150612 - UT | 1.2 | 0.40-0.70       | 2.0-8.0    |        |            |        |            |        | ●      | ●      | ●      | ●      |       |        |        |       |       |            |       |                   |                   |       |      |
|      |                  |     |                 |            |        |            |        |            |        | 2732   | 3415   | 2329   | 2330   |       |        |        |       |       |            |       |                   |                   |       |      |



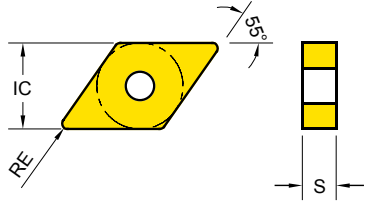
Low cutting force



Heavy Roughing

## Turning Inserts - Negative DNUX (4 Corners 55° Rhombic)

Refer to  
Turning holder  
p. 93, 98, 114, 119, 124



| Series    | IC   | S    |
|-----------|------|------|
| DNUX 1504 | 12.7 | 4.76 |
| DNUX 1506 | 12.7 | 6.35 |

TURNING



PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

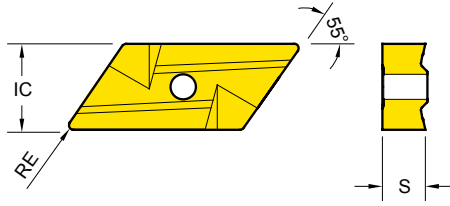
EDP 2200.. ● : Stock item ○ : Order made item

| DNUX  | Designation   | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | K10    | P05    | K20    | P10    | P15    | P10    | P25    | P20    | P30    | P20   | M25    | M35    | M15   | M30   | M40   | S10   | P15   | P10    | N20   | N20  |
|---|---------------|-----|-----------------|------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|--------|--------|-------|-------|-------|-------|-------|--------|-------|------|
|   |               |     |                 |            | YG1010 | YG1001 | YG1020 | YG3010 | YG3015 | YG3115 | YG3125 | YG3020 | YG3030 | YG801 | YG2025 | YG2035 | YG211 | YG213 | YG214 | YG401 | YT100 | YT100G | YG100 | YG10 |
| ..UX<br> | DNUX 150404 L | 0.4 | 0.10-0.35       | 0.7-4.0    |        |        |        | ○      |        |        |        |        |        |       |        |        |       |       |       |       |       |        |       |      |
|   | DNUX 150408 L | 0.8 | 0.10-0.35       | 1.0-4.0    |        |        |        | ○      |        |        |        |        |        |       |        |        |       |       |       |       |       |        |       |      |
|   | DNUX 150604 L | 0.4 | 0.10-0.35       | 0.7-4.0    |        |        |        | ○      |        |        |        |        |        |       |        |        |       |       |       |       |       |        |       |      |
|   | DNUX 150608 L | 0.8 | 0.10-0.35       | 1.0-4.0    |        |        |        | ○      |        |        |        |        |        |       |        |        |       |       |       |       |       |        |       |      |
| ..UX<br> | DNUX 150404 R | 0.4 | 0.10-0.35       | 0.7-4.0    |        |        |        | ○      |        |        |        |        |        |       |        |        |       |       |       |       |       |        |       |      |
|   | DNUX 150408 R | 0.8 | 0.10-0.35       | 1.0-4.0    |        |        |        | ○      |        |        |        |        |        |       |        |        |       |       |       |       |       |        |       |      |
|   | DNUX 150604 R | 0.4 | 0.10-0.35       | 0.7-4.0    |        |        |        | ○      |        |        |        |        |        |       |        |        |       |       |       |       |       |        |       |      |
|   | DNUX 150608 R | 0.8 | 0.10-0.35       | 1.0-4.0    |        |        |        | ○      |        |        |        |        |        |       |        |        |       |       |       |       |       |        |       |      |

Turning Inserts - Negative



**KNUX (2 Corners 55° Parallelogram)**

Refer to Turning holder p. 99, 127



| Series    | IC    | S    |
|-----------|-------|------|
| KN** 1604 | 9.525 | 4.76 |

EDP 2200.. ● : Stock item ○ : Order made item

| KNUX  | Designation   | RE  | Fn (mm/rev.) | Ap (mm) | YG1010 | P05 | K20 | P10    | P15    | P10    | P25    | P20    | P30    | P20   | M25    | M35    | M15   | M30   | M40   | S10   | P15   | P10    | N20   | N20  |
|---|---------------|-----|--------------|---------|--------|-----|-----|--------|--------|--------|--------|--------|--------|-------|--------|--------|-------|-------|-------|-------|-------|--------|-------|------|
|   |               |     |              |         | YG1001 | K20 | K30 | YG3010 | YG3015 | YG3115 | YG3125 | YG3020 | YG3030 | YG801 | YG2025 | YG2035 | YG211 | YG213 | YG214 | YG401 | YT100 | YT100G | YG100 | YG10 |
| <br>Left Hand Shown  | KNUX 160405 L | 0.5 | 0.10-0.40    | 0.5-6.0 |        |     |     | ○      |        | ●      | ●      | ●      | ●      | ○     |        |        |       |       |       |       |       |        |       |      |
|   | KNUX 160410 L | 1.0 | 0.30-0.60    | 1.0-6.0 |        |     |     | ○      |        | ●      | ●      | ●      | ●      |       |        |        |       |       |       |       |       |        |       |      |
| <br>Right Hand Shown | KNUX 160405 R | 0.5 | 0.10-0.40    | 0.5-6.0 |        |     |     | ○      |        | ●      | ●      | ●      | ●      | ○     |        |        |       |       |       |       |       |        |       |      |
|   | KNUX 160410 R | 1.0 | 0.30-0.60    | 1.0-6.0 |        |     |     | ○      |        | ●      | ●      | ●      | ●      |       |        |        |       |       |       |       |       |        |       |      |

TURNING

PARTING & GROOVING

MILLING

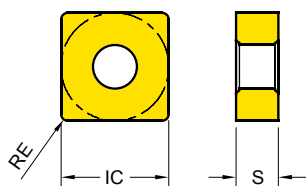
DRILLING

TECHNICAL INFORMATION

## Turning Inserts - Negative SNMA / SNMG (90° Square)

Refer to  
Turning holder  
p. 94, 100, 115, 120





TURNING



| Series    | IC     | S    | Series    | IC     | S    |
|-----------|--------|------|-----------|--------|------|
| SN** 0903 | 9.525  | 3.18 | SN** 1506 | 15.875 | 6.35 |
| SN** 1204 | 12.700 | 4.76 | SN** 1906 | 19.050 | 6.35 |

PARTING & GROOVING

EDP 2200.. ● : Stock item ○ : Order made item

| SNMA<br>SNMG  | Designation      | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | K10 | P05 | K20 | P10 | P15 | P10 | P25 | P20 | P30 | P20 | M25 | M35 | M15 | M30 | M40 | S10 | P15 | P10 | N20 | N20 |     |
|---|------------------|-----|-----------------|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|   |                  |     |                 |            | K20 | K30 | K30 | K30 | K30 | K30 | K30 | K30 | K30 | K30 | K30 | K30 | K30 | K30 | K30 | K30 | K30 | K30 | K30 | K30 | K30 |
| <b>..MA</b><br><br>Cast iron                               | SNMA 120408      | 0.8 | 0.15-0.50       | 1.0-5.0    | ●   | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|   | SNMA 120412      | 1.2 | 0.15-0.50       | 1.5-5.0    | ●   | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|   | SNMA 120416      | 1.6 | 0.15-0.50       | 1.8-5.0    | ●   | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|   | SNMA 150612      | 1.2 | 0.15-0.50       | 1.5-5.0    | ●   | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|   | SNMA 190616      | 1.6 | 0.15-0.50       | 2.0-9.0    | ●   | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <b>-UF</b><br><br>Finishing                                | SNMG 090308 - UF | 0.8 | 0.05-0.20       | 1.0-2.0    |     |     |     |     |     |     | ●   | ●   | ●   |     |     |     |     |     |     |     |     |     |     |     |     |
|   | SNMG 120404 - UF | 0.4 | 0.05-0.25       | 0.5-1.5    |     |     |     | ○   |     |     | ●   | ●   | ●   | ○   |     |     |     |     |     | ○   |     |     |     |     |     |
|   | SNMG 120408 - UF | 0.8 | 0.05-0.25       | 1.0-2.5    |     |     |     | ○   |     |     | ●   | ●   | ●   | ●   |     |     |     |     |     |     |     |     |     |     |     |
| <b>-UL</b><br><br>Light Machining<br>and Sticky Material | SNMG 120404 - UL | 0.4 | 0.10-0.30       | 0.5-3.0    |     |     |     | ○   |     |     | ●   | ●   | ●   | ●   |     |     |     |     |     |     |     |     |     |     |     |
|   | SNMG 120408 - UL | 0.8 | 0.10-0.30       | 1.0-3.0    |     |     |     | ○   |     |     | ●   | ●   | ●   | ●   |     |     |     |     |     |     |     |     |     |     |     |
| <b>-UM</b><br><br>Medium Machining<br>Unstable condition | SNMG 120408 - UM | 0.8 | 0.15-0.30       | 1.0-3.0    |     | ○   |     | ○   |     |     | ●   | ●   | ●   | ●   |     |     |     |     |     |     |     |     |     |     |     |

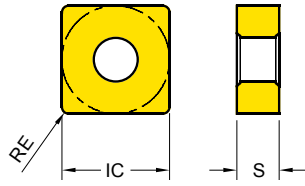
MILLING

DRILLING

TECHNICAL INFORMATION

# Turning Inserts - Negative SNMG (90° Square)

Refer to  
Turning holder  
p. 94, 100, 115, 120



| Series    | IC     | S    | Series    | IC     | S    |
|-----------|--------|------|-----------|--------|------|
| SN** 0903 | 9.525  | 3.18 | SN** 1906 | 19.050 | 6.35 |
| SN** 1204 | 12.700 | 4.76 | SN** 2509 | 25.400 | 9.52 |
| SN** 1506 | 15.875 | 6.35 |           |        |      |

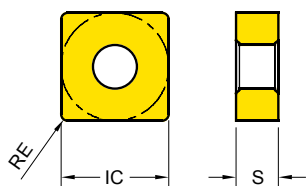
EDP 2200.. ● : Stock item ○ : Order made item

| SNMG   | Designation      | RE  | Fn (mm/rev.) | Ap (mm)  | K10 |     | P05 |     | K20 |     | P10 |     | P15 |     | P20 |     | P30 |     | P20 |     | M25 |     | M35 |   | M15 |   | M30 |   | M40 |   | S10 |   | P15 |   | P10 |   | N20 |   | N20 |   |
|--|------------------|-----|--------------|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|-----|---|-----|---|-----|---|-----|---|-----|---|-----|---|-----|---|-----|---|
|  |                  |     |              |          | K20 | K30 | K20 | K30 | P10 | P15 | P20 | P30 | P20 | M25 | M35 | M15 | M30 | M40 | S10 | M15 | M10 | N20 | N20 |   |     |   |     |   |     |   |     |   |     |   |     |   |     |   |     |   |
| <b>-UG</b><br><br>Medium Machining at stable condition | SNMG 120408 - UG | 0.8 | 0.20-0.40    | 1.0-3.0  | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ |
|  | SNMG 120412 - UG | 1.2 | 0.20-0.40    | 1.5-3.0  | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ |
|  | SNMG 120416 - UG | 1.6 | 0.20-0.40    | 2.0-3.0  | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ |
| <b>-UC</b><br><br>Cast iron and Medium roughing        | SNMG 120404 - UC | 0.4 | 0.20-0.40    | 0.5-4.0  | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ |
|  | SNMG 120408 - UC | 0.8 | 0.20-0.40    | 1.0-4.0  | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ |
|  | SNMG 120412 - UC | 1.2 | 0.20-0.40    | 1.5-4.0  | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ |
| <b>-UR</b><br><br>Roughing                             | SNMG 120408 - UR | 0.8 | 0.30-0.50    | 1.0-5.0  | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ |
|  | SNMG 120412 - UR | 1.2 | 0.30-0.50    | 1.5-5.0  | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ |
|  | SNMG 120416 - UR | 1.6 | 0.30-0.50    | 2.0-5.0  | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ |
|  | SNMG 150616 - UR | 1.6 | 0.30-0.60    | 2.0-7.0  | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ |
|  | SNMG 190612 - UR | 1.2 | 0.30-0.80    | 3.0-9.0  | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ |
|  | SNMG 190616 - UR | 1.6 | 0.30-0.80    | 3.0-9.0  | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ |
|  | SNMG 250924 - UR | 2.4 | 0.40-1.00    | 5.0-12.0 | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ |
| <b>-KR</b><br><br>Cast Iron Heavy Roughing             | SNMG 120412 - KR | 1.2 | 0.30-0.60    | 1.5-5.0  | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ |
|  | SNMG 120416 - KR | 1.6 | 0.30-0.60    | 2.0-5.0  | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○   | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ | ●   | ○ |

TURNING  
PARTING & GROOVING  
MILLING  
DRILLING  
TECHNICAL INFORMATION

## Turning Inserts - Negative SNMG (90° Square)

Refer to  
Turning holder  
p. 94, 100, 115, 120



| Series    | IC     | S    | Series    | IC     | S    |
|-----------|--------|------|-----------|--------|------|
| SN** 0903 | 9.525  | 3.18 | SN** 1506 | 15.875 | 6.35 |
| SN** 1204 | 12.700 | 4.76 | SN** 1906 | 19.050 | 6.35 |

EDP 2200.. ● : Stock item ○ : Order made item

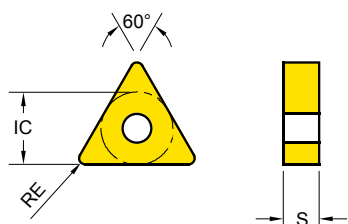
| SNMG | Designation      | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | K10    | P05    | K20    | P10    | P15    | P10    | P25    | P20    | P30    | P20   | M25    | M35    | M15   | M30   | M40   | S10   | P15   | P10    | N20   | N20  |  |
|------|------------------|-----|-----------------|------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|--------|--------|-------|-------|-------|-------|-------|--------|-------|------|--|
|      |                  |     |                 |            | K20    | K30    |        |        |        |        |        |        |        |       |        |        |       | S30   |       | K15   | K10   |        |       |      |  |
| -MF  | SNMG 120404 - MF | 0.4 | 0.07 - 0.30     | 0.2 - 1.5  | YG1010 | YG1001 | YG1020 | YG3010 | YG3015 | YG3115 | YG3125 | YG3020 | YG3030 | YG801 | YG2025 | YG2035 | YG211 | YG213 | YG214 | YG401 | YT100 | YT100G | YG100 | YG10 |  |
|      | SNMG 120408 - MF | 0.8 | 0.07 - 0.30     | 0.2 - 1.5  |        |        |        |        |        | ●      |        |        | ○      |       | ●      | ●      | ●     | ●     | ●     | ○     |       |        |       |      |  |
|      | SNMG 120412 - MF | 1.2 | 0.07 - 0.30     | 0.2 - 1.5  |        |        |        |        |        | ●      |        |        | ○      |       | ●      | ●      | ●     | ●     | ●     | ○     |       |        |       |      |  |
| -MM  | SNMG 120408 - MM | 0.8 | 0.20 - 0.35     | 1.0 - 3.5  |        |        |        |        |        |        |        |        |        |       |        |        | ●     | ●     | ●     | ○     |       |        |       |      |  |
|      | SNMG 120412 - MM | 1.2 | 0.20 - 0.35     | 1.5 - 3.5  |        |        |        |        |        |        |        |        |        |       |        |        | ●     | ●     | ●     | ○     |       |        |       |      |  |
| -MG  | SNMG 120404 - MG | 0.4 | 0.20 - 0.40     | 0.5 - 4.0  |        |        |        |        |        |        |        |        |        |       | ●      | ●      |       |       |       |       |       |        |       |      |  |
|      | SNMG 120408 - MG | 0.8 | 0.20 - 0.40     | 1.0 - 4.0  |        |        |        |        |        |        |        |        |        |       | ●      | ●      | ●     | ●     | ●     | ●     |       |        |       |      |  |
|      | SNMG 120412 - MG | 1.2 | 0.20 - 0.40     | 1.5 - 4.0  |        |        |        |        |        |        |        |        |        |       | ●      | ●      |       |       |       |       |       |        |       |      |  |
| -MR  | SNMG 120408 - MR | 0.8 | 0.30 - 0.55     | 2.0 - 5.5  |        |        |        |        |        |        |        |        | ○      |       | ●      | ●      | ●     | ●     | ●     |       |       |        |       |      |  |
|      | SNMG 120412 - MR | 1.2 | 0.30 - 0.55     | 2.0 - 5.5  |        |        |        |        |        |        |        |        | ○      |       | ●      | ●      | ●     | ●     | ●     |       |       |        |       |      |  |
|      | SNMG 120416 - MR | 1.6 | 0.30 - 0.55     | 2.0 - 5.5  |        |        |        |        |        |        |        |        |        |       | ●      | ●      |       |       |       |       |       |        |       |      |  |
| -SM  | SNMG 090304 - SM | 0.4 | 0.15 - 0.30     | 0.5 - 3.0  |        |        |        |        |        |        |        |        |        |       |        |        |       | ○     |       | ●     |       |        |       |      |  |
|      | SNMG 120408 - SM | 0.8 | 0.15 - 0.30     | 0.5 - 3.0  |        |        |        |        |        |        |        |        |        |       |        |        |       | ○     | ○     | ○     | ●     |        |       |      |  |
| -SR  | SNMG 120408 - SR | 0.8 | 0.30 - 0.55     | 2.0 - 5.5  |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |       |       |        |       | ●    |  |
|      | SNMG 120412 - SR | 1.2 | 0.30 - 0.55     | 2.0 - 5.5  |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |       |       |        |       | ●    |  |









## Turning Inserts - Negative TNMA / TNMG (60° Triangle)

Refer to  
Turning holder  
p.95, 101, 116, 121, 125

| Series    | IC     | S    |
|-----------|--------|------|
| TN** 1604 | 9.525  | 4.76 |
| TN** 2204 | 12.700 | 4.76 |

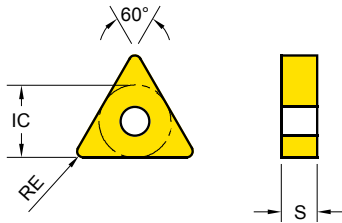


EDP 2200.. ● : Stock item ○ : Order made item

| TNMA<br>TNMG   | Designation      | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | K10  | P05 | K20 | P10 | P15 | P10  | P25  | P20 | P30  | P20 | M25 | M35 | M15 | M30 | M40 | S30 | S10 | P15 | P10 | N20  | N20 |
|--|------------------|-----|-----------------|------------|------|-----|-----|-----|-----|------|------|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|
|  |                  |     |                 |            | K20  | K30 | K15 | K10 | N20 | N20  |      |     |      |     |     |     |     |     |     |     |     |     |     |      |     |
| ..MA<br><br>Cast iron   | TNMA 160404      | 0.4 | 0.15-0.50       | 0.5-5.0    | ●    | ○   | ●   | ○   |     |      |      |     |      |     |     |     |     |     |     |     |     |     |     |      |     |
|  | TNMA 160408      | 0.8 | 0.15-0.50       | 1.0-5.0    | ●    | ○   | ●   | ○   |     |      |      |     |      |     |     |     |     |     |     |     |     |     |     |      |     |
|  | TNMA 160412      | 1.2 | 0.15-0.50       | 1.5-5.0    | ●    | ○   | ●   | ○   |     |      |      |     |      |     |     |     |     |     |     |     |     |     |     |      |     |
| -UF<br><br>Finishing  | TNMG 160404 - UF | 0.4 | 0.05-0.25       | 0.5-2.5    |      |     |     | ○   |     | ●    | ●    | ●   | ○    |     |     |     |     |     |     |     |     |     |     |      |     |
|  | TNMG 160408 - UF | 0.8 | 0.05-0.25       | 1.0-2.5    |      |     |     | ○   |     | ●    | ●    | ●   | ○    |     |     |     |     |     |     |     |     |     |     |      |     |
|  | TNMG 160412 - UF | 1.2 | 0.05-0.25       | 1.5-2.5    |      |     |     | ○   |     | ●    | ●    | ●   | ○    |     |     |     |     |     |     |     |     |     |     |      |     |
|  | TNMG 220404 - UF | 0.4 | 0.10-0.35       | 0.5-4.0    |      |     |     | ○   |     | ●    | ●    | ●   | ○    |     |     |     |     |     |     |     |     |     |     |      |     |
| NEW<br>-PWF<br><br>Wiper-Finishing                                | TNMG160404 - PWF | 0.4 | 0.08-0.25       | 0.3-2.5    | ●    |     |     |     |     | ●    | ●    | ●   | ○    |     |     |     |     |     |     |     |     |     | ○   |      |     |
|  |                  |     |                 |            | 3854 |     |     |     |     | 3858 | 3865 |     | 3872 |     |     |     |     |     |     |     |     |     |     | 3873 |     |
| -UL<br><br>Light Machining<br>and Sticky Material                 | TNMG 160404 - UL | 0.4 | 0.10-0.30       | 0.5-3.0    |      |     |     | ○   |     | ●    | ●    | ●   | ○    |     |     |     |     |     |     |     |     |     |     |      |     |
|  | TNMG 160408 - UL | 0.8 | 0.10-0.30       | 1.0-3.0    |      |     |     | ○   | ○   | ●    | ●    | ●   | ○    |     |     |     |     |     |     |     |     |     |     |      |     |
|  | TNMG 160412 - UL | 1.2 | 0.10-0.30       | 1.5-3.0    |      |     |     | ○   | ○   | ●    | ●    | ●   | ○    |     |     |     |     |     |     |     |     |     |     |      |     |
| -UM<br><br>Medium Machining<br>Unstable condition                 | TNMG 160404 - UM | 0.4 | 0.15-0.30       | 0.5-3.0    | ○    | ○   |     | ○   | ○   | ●    | ●    | ●   | ○    |     |     |     |     |     |     |     |     |     |     |      |     |
|  | TNMG 160408 - UM | 0.8 | 0.15-0.30       | 1.0-3.0    | ○    | ○   |     | ○   | ○   | ●    | ●    | ●   | ○    |     |     |     |     |     |     |     |     |     |     |      |     |
|  | TNMG 160412 - UM | 1.2 | 0.15-0.30       | 1.5-3.0    | ○    | ○   |     | ○   | ○   | ●    | ●    | ●   | ○    |     |     |     |     |     |     |     |     |     |     |      |     |
| NEW<br>-GM<br><br>Medium machining for<br>steel & Stainless steel | TNMG 160404 - GM | 0.4 | 0.15-0.40       | 0.5-4.5    |      |     |     |     |     | ●    | ●    |     |      |     |     |     |     |     |     |     |     |     |     |      |     |
|  | TNMG 160408 - GM | 0.8 | 0.17-0.50       | 0.8-4.5    |      |     |     |     |     | ●    | ●    |     |      |     |     |     |     |     |     |     |     |     |     |      |     |
|  | TNMG 160412 - GM | 1.2 | 0.20-0.55       | 1.0-4.5    |      |     |     |     |     | ●    | ●    |     |      |     |     |     |     |     |     |     |     |     |     |      |     |




# Turning Inserts - Negative TNMG (60° Triangle)

Refer to Turning holder  
p.95, 101, 116, 121, 125



| Series    | IC     | S    |
|-----------|--------|------|
| TN** 1604 | 9.525  | 4.76 |
| TN** 2204 | 12.700 | 4.76 |

EDP 2200.. ● : Stock item ○ : Order made item

| TNMG  | Designation      | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | K10 | P05 | K20 | P10 | P15 | P10 | P25 | P20 | P30 | P20 | M25 | M35 | M15 | M30 | M40 | S10 | P15 | P10 | N20 | N20 |  |
|---|------------------|-----|-----------------|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|   |                  |     |                 |            | K20 | K30 | S30 | M15 | M10 | K15 | K10 |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| -UG<br><br>Medium Machining<br>at stable condition | TNMG 160404 - UG | 0.4 | 0.20-0.40       | 0.5-3.0    | ●   | ○   | ●   | ○   |     | ●   | ●   | ●   | ●   |     |     |     |     |     |     |     |     |     |     |     |  |
|   | TNMG 160408 - UG | 0.8 | 0.20-0.40       | 1.0-3.0    | ●   | ○   | ●   | ○   | ○   | ●   | ●   | ●   | ●   | ○   |     |     |     |     | ○   |     |     |     |     |     |  |
|   | TNMG 160412 - UG | 1.2 | 0.20-0.40       | 1.5-3.0    | ●   | ○   | ●   | ○   | ○   | ●   | ●   | ●   | ●   |     |     |     |     |     |     |     |     |     |     |     |  |
|   | TNMG 220408 - UG | 0.8 | 0.25-0.60       | 1.0-6.0    | ●   | ○   | ●   | ○   |     | ●   | ●   | ●   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |  |
|   | TNMG 220412 - UG | 1.2 | 0.25-0.60       | 1.5-6.0    | ●   | ○   | ●   | ○   |     | ●   | ●   | ●   | ●   |     |     |     |     |     |     |     |     |     |     |     |  |
|   | TNMG 220416 - UG | 1.6 | 0.25-0.60       | 2.0-6.0    | ●   | ○   | ○   | ○   | ○   | ●   | ●   | ●   | ●   |     |     |     |     |     |     |     |     |     |     |     |  |
| -UC<br><br>Cast iron and<br>Medium roughing       | TNMG 160404 - UC | 0.4 | 0.20-0.40       | 0.5-4.0    | ●   | ○   | ●   | ○   |     | ●   | ●   | ●   | ●   |     |     |     |     |     |     |     |     |     |     |     |  |
|   | TNMG 160408 - UC | 0.8 | 0.20-0.40       | 1.0-4.0    | ●   | ○   | ●   | ○   |     | ●   | ●   | ●   | ●   |     |     |     |     |     |     |     |     |     |     |     |  |
|   | TNMG 160412 - UC | 1.2 | 0.20-0.40       | 1.5-4.0    | ●   | ○   | ●   | ○   |     | ●   | ●   | ●   | ●   |     |     |     |     |     |     |     |     |     |     |     |  |
|   | TNMG 220416 - UC | 1.6 | 0.20-0.40       | 2.0-4.0    |     |     |     |     |     |     | ●   | ●   | ●   |     |     |     |     |     |     |     |     |     |     |     |  |
| -UR<br><br>Roughing                              | TNMG 160408 - UR | 0.8 | 0.30-0.50       | 1.0-5.0    | ●   | ○   | ●   | ○   |     | ●   | ●   | ●   | ●   |     |     |     |     |     |     |     |     |     |     |     |  |
|   | TNMG 160412 - UR | 1.2 | 0.30-0.50       | 1.5-5.0    | ●   | ○   | ●   | ○   | ○   | ●   | ●   | ●   | ●   | ○   |     |     |     |     |     | ○   |     |     |     |     |  |
|   | TNMG 220412 - UR | 1.2 | 0.30-0.65       | 1.5-7.0    | ●   | ○   | ●   | ○   |     | ●   | ●   | ●   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |  |
|   | TNMG 220416 - UR | 1.6 | 0.30-0.65       | 2.0-7.0    | ●   | ○   | ●   | ○   |     | ●   | ●   | ●   | ●   |     |     |     |     |     |     |     |     |     |     |     |  |

TURNING

PARTING & GROOVING

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## Turning Inserts - Negative TNMG (60° Triangle)

Refer to  
Turning holder  
p.95, 101, 116, 121, 125

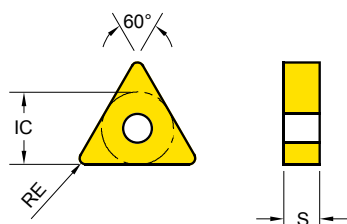
TURNING

PARTING & GROOVING

MILLING





DRILLING

TECHNICAL INFORMATION



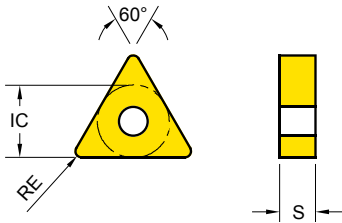
| Series    | IC     | S    |
|-----------|--------|------|
| TN** 1604 | 9.525  | 4.76 |
| TN** 2204 | 12.700 | 4.76 |

EDP 2200.. ● : Stock item ○ : Order made item

| TNMG  | Designation      | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | K10 | P05 | K20 | P10 | P15 | P10 | P25 | P20 | P30 | P20 | M25 | M35 | M15 | M30 | M40 | S30 | S10 | P15 | P10 | N20 | N20 |
|---|------------------|-----|-----------------|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|   |                  |     |                 |            | K20 | K30 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | K15 |
| -MF<br><br>Stainless steel<br>Finishing  | TNMG 160404 - MF | 0.4 | 0.07-0.3        | 0.2-1.5    | ●   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|   | TNMG 160408 - MF | 0.8 | 0.07-0.3        | 0.2-1.5    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| -MM<br><br>Stainless steel<br>Medium     | TNMG 160404 - MM | 0.4 | 0.20-0.35       | 0.5-3.5    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|   | TNMG 160408 - MM | 0.8 | 0.20-0.35       | 1.0-3.5    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|   | TNMG 160412 - MM | 1.2 | 0.20-0.35       | 1.5-3.5    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| -MG<br><br>Stainless steel<br>General  | TNMG 160404 - MG | 0.4 | 0.20-0.40       | 0.5-4.0    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|   | TNMG 160408 - MG | 0.8 | 0.20-0.40       | 1.0-4.0    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|   | TNMG 160412 - MG | 1.2 | 0.20-0.50       | 2.0-4.0    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| -MR<br><br>Stainless steel<br>Roughing | TNMG 160408 - MR | 0.8 | 0.30-0.55       | 2.0-5.5    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|   | TNMG 160412 - MR | 1.2 | 0.30-0.55       | 2.0-5.5    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |




# Turning Inserts - Negative TNMG / TNMG (60° Triangle)

Refer to  
Turning holder  
p. 95, 101, 116, 121, 125



| Series    | IC     | S    |
|-----------|--------|------|
| TN** 1604 | 9.525  | 4.76 |
| TN** 2204 | 12.700 | 4.76 |

EDP 2200.. ● : Stock item ○ : Order made item

| TNMG   | Designation      | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | YG1010 | P05 | K20 | P10    | P15    | P10    | P25    | P20    | P30    | P20   | M25    | M35    | M15   | M30   | M40   | S10  | P15 | P10 | N20 | N20 |
|--|------------------|-----|-----------------|------------|--------|-----|-----|--------|--------|--------|--------|--------|--------|-------|--------|--------|-------|-------|-------|------|-----|-----|-----|-----|
|  |                  |     |                 |            | YG1001 | K20 | K30 | YG3010 | YG3015 | YG3115 | YG3125 | YG3020 | YG3030 | YG801 | YG2025 | YG2035 | YG211 | YG213 | YG214 | S30  | M15 | M10 | K15 | K10 |
| <b>-SF</b><br><br>HRSA Finishing  | TNMG 160408 - SF | 0.8 | 0.10-0.25       | 0.2 - 1.0  |        |     |     |        |        |        |        |        |        |       |        |        |       |       |       | ●    |     |     |     |     |
|  |                  |     |                 |            |        |     |     |        |        |        |        |        |        |       |        |        |       |       |       | 1427 |     |     |     |     |
| <b>-SM</b><br><br>HRSA Medium     | TNMG 160408 - SM | 0.8 | 0.15-0.30       | 0.5 - 3.0  |        |     |     |        |        |        |        |        |        |       |        |        | ○     | ○     | ○     | ●    |     |     |     |     |
|  | TNMG 160412 - SM | 1.2 | 0.15-0.30       | 0.5 - 3.0  |        |     |     |        |        |        |        |        |        |       |        |        | ○     | ○     | ○     | ●    |     |     |     |     |
|  | TNMG 220412 - SM | 1.2 | 0.18-0.33       | 1.0 - 6.0  |        |     |     |        |        |        |        |        |        |       |        |        |       |       |       | ●    |     |     |     |     |
|  |                  |     |                 |            |        |     |     |        |        |        |        |        |        |       |        |        |       |       |       | 3161 |     |     |     |     |
| <b>-SR</b><br><br>HRSA Roughing | TNMG 160408 - SR | 0.8 | 0.30-0.55       | 2.0 - 5.5  |        |     |     |        |        |        |        |        |        |       |        |        |       |       |       | ●    |     |     |     |     |
|  | TNMG 160412 - SR | 1.2 | 0.30-0.55       | 2.0 - 5.5  |        |     |     |        |        |        |        |        |        |       |        |        |       |       |       | 1307 |     |     |     |     |
|  |                  |     |                 |            |        |     |     |        |        |        |        |        |        |       |        |        |       |       |       | ●    |     |     |     |     |
|  |                  |     |                 |            |        |     |     |        |        |        |        |        |        |       |        |        |       |       |       | 1306 |     |     |     |     |

Turning Inserts - Negative  
**TNGG / TNMG (60° Triangle)**

Refer to  
Turning holder  
p. 95, 101, 116, 121, 125

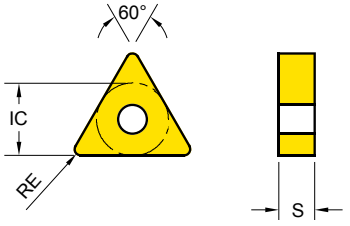
TURNING

PARTING & GROOVING

MILLING






DRILLING

TECHNICAL INFORMATION



| Series    | IC     | S    |
|-----------|--------|------|
| TN** 1604 | 9.525  | 4.76 |
| TN** 2204 | 12.700 | 4.76 |

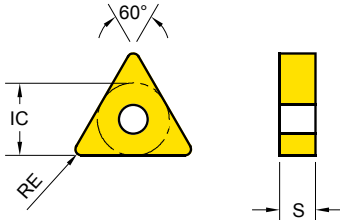
EDP 2200.. ● : Stock item ○ : Order made item

| TNGG<br>TNMG   | Designation       | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | K10    | P05<br>K20 | K20    | P10<br>K30 | P15    | P10    | P25    | P20    | P30    | P20   | M25    | M35    | M15   | M30   | M40<br>S30 | S10   | P15<br>M15<br>K15 | P10<br>M10<br>K10 | N20   | N20  |  |
|--|-------------------|-----|-----------------|------------|--------|------------|--------|------------|--------|--------|--------|--------|--------|-------|--------|--------|-------|-------|------------|-------|-------------------|-------------------|-------|------|--|
|  |                   |     |                 |            | YG1010 | YG1001     | YG1020 | YG3010     | YG3015 | YG3115 | YG3125 | YG3020 | YG3030 | YG801 | YG2025 | YG2035 | YG211 | YG213 | YG214      | YG401 | YT100             | YT100G            | YG100 | YG10 |  |
| <b>-PSF</b><br><br>Cermet Finishing                                   | TNMG 160404 - PSF | 0.4 | 0.07-0.30       | 0.4-2.5    |        |            |        |            |        |        |        |        |        |       |        |        |       |       |            |       | ●                 | ○                 |       |      |  |
|  | TNMG 160408 - PSF | 0.8 | 0.10-0.30       | 0.6-2.5    |        |            |        |            |        |        |        |        |        |       |        |        |       |       |            |       |                   | ●                 | ○     |      |  |
| <b>NEW</b><br><b>-S</b><br><br>Cermet Finishing<br>Left Hand Shown    | TNGG 160402L - S  | 0.2 | 0.10-0.20       | 0.3-2.0    |        |            |        |            |        |        |        |        |        |       |        |        |       |       |            |       | ●                 | ○                 |       |      |  |
|  | TNGG 160404L - S  | 0.4 | 0.10-0.20       | 0.4-2.0    |        |            |        |            |        |        |        |        |        |       |        |        |       |       |            |       |                   | ●                 | ○     |      |  |
|  | TNGG 160408L - S  | 0.8 | 0.12-0.22       | 0.6-2.0    |        |            |        |            |        |        |        |        |        |       |        |        |       |       |            |       |                   | ●                 | ○     |      |  |
| <b>NEW</b><br><b>-S</b><br><br>Cermet Finishing<br>Right Hand Shown | TNGG 160402R - S  | 0.2 | 0.10-0.20       | 0.3-2.0    |        |            |        |            |        |        |        |        |        |       |        |        |       |       |            |       | ●                 | ○                 |       |      |  |
|  | TNGG 160404R - S  | 0.4 | 0.10-0.20       | 0.4-2.0    |        |            |        |            |        |        |        |        |        |       |        |        |       |       |            |       |                   | ●                 | ○     |      |  |
|  | TNGG 160408R - S  | 0.8 | 0.12-0.22       | 0.6-2.0    |        |            |        |            |        |        |        |        |        |       |        |        |       |       |            |       |                   | ●                 | ○     |      |  |
| <b>-C</b><br><br>Cermet Medium<br>Left Hand Shown                   | TNGG 160402L - C  | 0.2 | 0.20-0.40       | 0.3-3.5    |        |            |        |            |        |        |        |        |        |       |        |        |       |       |            |       | ○                 | ○                 |       |      |  |
|  | TNGG 160404L - C  | 0.4 | 0.20-0.40       | 0.5-3.5    |        |            |        |            |        |        |        |        |        |       |        |        |       |       |            |       |                   | ○                 | ○     |      |  |
|  | TNGG 160408L - C  | 0.8 | 0.20-0.40       | 1.0-3.5    |        |            |        |            |        |        |        |        |        |       |        |        |       |       |            |       |                   | ○                 | ○     |      |  |
| <b>-C</b><br><br>Cermet Medium<br>Right Hand Shown                  | TNGG 160402R - C  | 0.2 | 0.20-0.40       | 0.3-3.5    |        |            |        |            |        |        |        |        |        |       |        |        |       |       |            |       | ○                 | ○                 |       |      |  |
|  | TNGG 160404R - C  | 0.4 | 0.20-0.40       | 0.5-3.5    |        |            |        |            |        |        |        |        |        |       |        |        |       |       |            |       |                   | ○                 | ○     |      |  |
|  | TNGG 160408R - C  | 0.8 | 0.20-0.40       | 1.0-3.5    |        |            |        |            |        |        |        |        |        |       |        |        |       |       |            |       |                   | ○                 | ○     |      |  |

Turning Inserts - Negative

**TNMM - Heavy Turning (60° Triangle)**

Refer to Turning holder p. 95, 101, 116, 121, 125



| Series    | IC     | S    |
|-----------|--------|------|
| TN** 1604 | 9.525  | 4.76 |
| TN** 2204 | 12.700 | 4.76 |

EDP 2200.. ● : Stock item ○ : Order made item

| TNMM       | Designation      | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | YG1010 | YG1001     | YG1020 | YG3010     | YG3015 | YG3115 | YG3125 | YG3020 | YG3030 | YG801 | YG2025 | YG2035 | YG211 | YG213 | YG214      | YG401 | YT100             | YT100G            | YG100 | YG10 |
|------------|------------------|-----|-----------------|------------|--------|------------|--------|------------|--------|--------|--------|--------|--------|-------|--------|--------|-------|-------|------------|-------|-------------------|-------------------|-------|------|
|            |                  |     |                 |            | K10    | P05<br>K20 | K20    | P10<br>K30 | P15    | P10    | P25    | P20    | P30    | P20   | M25    | M35    | M15   | M30   | M40<br>S30 | S10   | P15<br>M15<br>K15 | P10<br>M10<br>K10 | N20   | N20  |
| <b>-UH</b> | TNMM 160412 - UH | 1.2 | 0.30-0.50       | 2.0-5.0    |        |            |        |            |        | ● 2846 |        |        |        |       |        |        |       |       |            |       |                   |                   |       |      |
|            | TNMM 220412 - UH | 1.2 | 0.30-0.50       | 2.0-7.0    |        |            |        |            |        | ● 2848 |        |        |        |       |        |        |       |       |            |       |                   |                   |       |      |

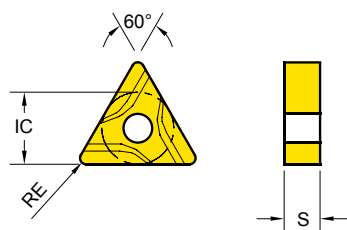


Low cutting force



## Turning Inserts - Negative TNUX (60° Triangle)

Refer to  
Turning holder  
p.95, 101, 116, 121, 125

| Series    | IC    | S    |
|-----------|-------|------|
| TN** 1604 | 9.525 | 4.76 |



EDP 2200.. ● : Stock item ○ : Order made item

| TNUX  | Designation   | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | YG1010 | P05 | K20 | P10    | P15    | P10    | P25    | P20    | P30    | P20   | M25    | M35    | M15   | M30   | M40   | S30   | S10   | P15    | P10   | N20  | N20 |
|---|---------------|-----|-----------------|------------|--------|-----|-----|--------|--------|--------|--------|--------|--------|-------|--------|--------|-------|-------|-------|-------|-------|--------|-------|------|-----|
|   |               |     |                 |            | YG1001 | K20 | K30 | YG3010 | YG3015 | YG3115 | YG3125 | YG3020 | YG3030 | YG801 | YG2025 | YG2035 | YG211 | YG213 | YG214 | YG401 | YT100 | YT100G | YG100 | YG10 |     |
| ..UX<br><br>Left Hand Shown  | TNUX 160404 L | 0.4 | 0.10-0.30       | 0.5-4.0    |        |     |     | ○      |        |        | ●      | ●      | ●      | ○     |        |        | ●     |       |       |       |       |        |       |      |     |
|   | TNUX 160408 L | 0.8 | 0.10-0.40       | 1.0-5.0    |        |     |     | ○      |        |        | ●      | ●      | ●      | ○     |        |        | ●     |       |       |       |       |        |       |      |     |
| ..UX<br><br>Right Hand Shown | TNUX 160404 R | 0.4 | 0.10-0.30       | 0.5-4.0    |        |     |     | ○      |        | ●      | ●      | ●      | ●      |       |        |        | ●     |       |       |       | ●     | ●      | ○     |      |     |
|   | TNUX 160408 R | 0.8 | 0.10-0.40       | 1.0-5.0    |        |     |     | ○      |        | ●      | ●      | ●      | ●      |       |        |        | ●     |       |       |       | ●     | ●      |       |      |     |

TURNING

PARTING & GROOVING

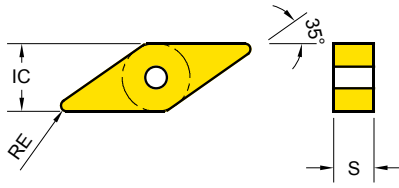
MILLING

DRILLING

TECHNICAL INFORMATION









# Turning Inserts - Negative VNMA / VNMG (35° Rhombic)

Refer to  
Turning holder  
p. 102, 122



| Series    | IC    | S    |
|-----------|-------|------|
| VN** 1604 | 9.525 | 4.76 |

EDP 2200.. ● : Stock item ○ : Order made item

| VNMA<br>VNMG   | Designation      | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | K10  | P05  | K20  | P10  | P15  | P10  | P25  | P20  | P30  | P20  | M25 | M35 | M15 | M30 | M40 | S10 | P15 | P10 | N20 | N20 |
|--|------------------|-----|-----------------|------------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|  |                  |     |                 |            | K20  | K30  | S30  | M15  | M10  | K15  | K10  |      |      |      |     |     |     |     |     |     |     |     |     |     |
| <b>..MA</b><br><br>Cast iron  | VNMA 160408      | 0.8 | 0.15-0.40       | 1.0-5.0    | ●    | ○    | ●    | ○    |      |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |
|  |                  |     |                 |            | 1573 | 0162 | 3491 | 1275 |      |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |
| <b>-UF</b><br><br>Finishing   | VNMG 160404 - UF | 0.4 | 0.05-0.25       | 0.5-2.5    |      |      |      | ○    |      | ●    | ●    | ●    | ○    |      |     |     |     |     |     |     |     |     |     |     |
|  |                  |     |                 |            |      |      |      | 0306 |      | 2205 | 3242 | 0307 | 0308 | 0049 |     |     |     |     |     |     |     |     |     |     |
| <b>-UL</b><br><br>Light Machining<br>and Sticky Material           | VNMG 160404 - UL | 0.4 | 0.10-0.30       | 0.5-3.0    |      |      |      | ○    |      | ●    | ●    | ●    | ●    |      |     |     |     |     |     |     |     |     |     |     |
|  |                  |     |                 |            |      |      |      | 0886 |      | 2412 | 3327 | 0912 | 0723 |      |     |     |     |     |     |     |     |     |     |     |
| <b>-UM</b><br><br>Medium Machining<br>Unstable condition          | VNMG 160408 - UM | 0.8 | 0.15-0.30       | 1.0-3.0    |      |      |      | ○    |      | ●    | ●    | ●    | ●    |      |     |     |     |     |     |     |     |     |     |     |
|  |                  |     |                 |            |      |      |      | 1357 |      | 1359 | 2424 | 3363 | 1361 | 1362 |     |     |     |     |     |     |     |     |     |     |
| <b>-GM</b><br><br>Medium machining for<br>steel & Stainless steel | VNMG 160404 - GM | 0.4 | 0.15-0.35       | 0.5-3.0    |      |      |      |      |      | ●    | ●    |      |      |      |     |     |     |     |     |     |     |     |     |     |
|  |                  |     |                 |            |      |      |      |      |      | 3641 | 3662 |      |      |      |     |     |     |     |     |     |     |     |     |     |
| <b>-UG</b><br><br>Medium Machining<br>at stable condition         | VNMG 160404 - UG | 0.4 | 0.20-0.40       | 0.5-3.0    |      |      |      | ●    | ○    | ●    | ●    | ●    | ●    |      |     |     |     |     |     |     |     |     |     |     |
|  |                  |     |                 |            |      |      |      | 1648 | 1331 | 3521 | 0993 |      |      |      |     |     |     |     |     |     |     |     |     |     |
| <b>-UC</b><br><br>Cast iron and<br>Medium roughing                | VNMG 160404 - UC | 0.4 | 0.20-0.40       | 0.5-3.5    |      |      |      | ●    | ○    | ○    | ○    | ●    | ●    | ●    |     |     |     |     |     |     |     |     |     |     |
|  |                  |     |                 |            |      |      |      | 1612 | 0885 | 3503 | 0423 |      |      |      |     |     |     |     |     |     |     |     |     |     |
| <b>-UR</b><br><br>Roughing  | VNMG 160412 - UR | 1.2 | 0.30-0.45       | 1.5-4.0    |      |      |      | ●    | ○    | ○    | ○    | ○    | ●    | ●    | ●   | ○   |     |     |     |     |     |     |     |     |
|  |                  |     |                 |            |      |      |      | 1638 | 1231 | 3515 | 0430 | 0871 |      |      |     |     |     |     |     |     |     |     |     |     |

## Turning Inserts - Negative VNGG / VNMG (35° Rhombic)

Refer to  
Turning holder  
p. 102, 122

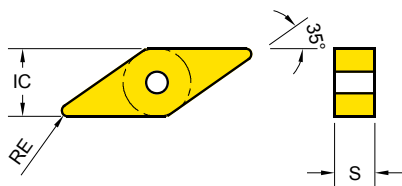
TURNING

PARTING & GROOVING

MILLING








DRILLING

TECHNICAL INFORMATION



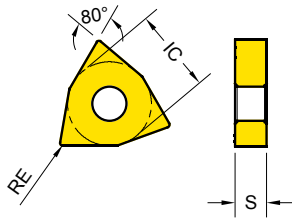
| Series    | IC    | S    |
|-----------|-------|------|
| VN** 1604 | 9.525 | 4.76 |

EDP 2200.. ● : Stock item ○ : Order made item

| VNGG<br>VNMG   | Designation       | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | K10    | P05    | K20    | P10    | P15    | P10    | P25    | P20    | P30    | P20   | M25    | M35    | M15   | M30   | M40   | S10   | P15   | P10    | N20   | N20  |
|--|-------------------|-----|-----------------|------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|--------|--------|-------|-------|-------|-------|-------|--------|-------|------|
|  |                   |     |                 |            | YG1010 | YG1001 | YG1020 | YG3010 | YG3015 | YG3115 | YG3125 | YG3020 | YG3030 | YG801 | YG2025 | YG2035 | YG211 | YG213 | YG214 | YG401 | YT100 | YT100G | YG100 | YG10 |
| <b>-MF</b><br><br>Stainless steel<br>Finishing  | VNMG 160404 - MF  | 0.4 | 0.07 - 0.30     | 0.2 - 1.5  |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |       |       |        |       |      |
|  | VNMG 160408 - MF  | 0.8 | 0.07 - 0.30     | 0.2 - 1.5  |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |       |       |        |       |      |
| <b>-MM</b><br><br>Stainless steel<br>Medium     | VNMG 160404 - MM  | 0.4 | 0.20 - 0.35     | 0.5 - 3.5  |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |       |       |        |       |      |
|  | VNMG 160408 - MM  | 0.8 | 0.20 - 0.35     | 1.0 - 3.5  |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |       |       |        |       |      |
| <b>-MG</b><br><br>Stainless steel<br>Genera    | VNMG 160404 - MG  | 0.4 | 0.20 - 0.40     | 0.5 - 4.0  |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |       |       |        |       |      |
|  | VNMG 160408 - MG  | 0.8 | 0.20 - 0.40     | 1.0 - 4.0  |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |       |       |        |       |      |
|  | VNMG 160412 - MG  | 1.2 | 0.20 - 0.40     | 1.5 - 4.0  |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |       |       |        |       |      |
| <b>-MR</b><br><br>Stainless steel<br>Roughing | VNMG 160408 - MR  | 0.8 | 0.30 - 0.55     | 2.0 - 5.5  |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |       |       |        |       |      |
|  | VNMG 160412 - MR  | 1.2 | 0.30 - 0.55     | 2.0 - 5.5  |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |       |       |        |       |      |
| <b>-SF</b><br><br>HRSA Finishing              | VNGG 160412 - SF  | 1.2 | 0.10 - 0.25     | 0.4 - 1.5  |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |       |       |        |       |      |
| <b>-SR</b><br><br>HRSA Medium                 | VNMG 160408 - SR  | 0.8 | 0.30 - 0.55     | 2.0 - 5.5  |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |       |       |        |       |      |
| <b>-PSF</b><br><br>Cermet Finishing           | VNMG 160404 - PSF | 0.4 | 0.07 - 0.30     | 0.3 - 2.0  |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |       |       |        |       |      |
|  | VNMG 160408 - PSF | 0.8 | 0.10 - 0.35     | 0.5 - 2.0  |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |       |       |        |       |      |






# Turning Inserts - Negative WNMA / WNMG (80° Trigon)

Refer to  
Turning holder  
p.96, 103, 105, 117, 123, 126



| Series    | IC     | S    |
|-----------|--------|------|
| WN** 0604 | 9.525  | 4.76 |
| WN** 0804 | 12.700 | 4.76 |

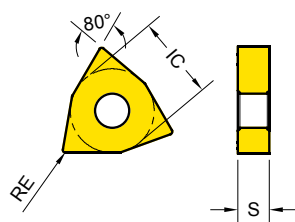
EDP 2200.. ● : Stock item ○ : Order made item

| WNMA<br>WNMG   | Designation      | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | YG1010 | YG1001 | YG1020 | YG3010 | YG3015 | YG3115 | YG3125 | YG3020 | YG3030 | YG801 | YG2025 | YG2035 | YG211 | YG213 | YG214 | YG401 | YT100 | YT100G | YG100 | YG10 |
|--|------------------|-----|-----------------|------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|--------|--------|-------|-------|-------|-------|-------|--------|-------|------|
|  |                  |     |                 |            | K10    | P05    | K20    | P10    | P15    | P25    | P20    | P30    | P20    | M25   | M35    | M15    | M30   | M40   | S10   | P15   | P10   | M15    | M10   | N20  |
| ..MA<br><br>Cast iron   | WNMA 060412      | 1.2 | 0.15-0.50       | 1.5-4.0    | ●      |        |        |        |        |        |        |        |        |       |        |        |       |       |       |       |       |        |       |      |
|  | WNMA 080404      | 0.4 | 0.15-0.50       | 0.5-5.0    | ●      | ○      | ●      | ○      |        |        |        |        |        |       |        |        |       |       |       |       |       |        |       |      |
|  | WNMA 080408      | 0.8 | 0.15-0.50       | 1.0-5.0    | ●      | ○      | ●      | ○      |        |        |        |        |        |       |        |        |       |       |       |       |       |        |       |      |
|  | WNMA 080412      | 1.2 | 0.15-0.50       | 1.5-5.0    | ●      | ○      | ●      | ○      |        |        |        |        |        |       |        |        |       |       |       |       |       |        |       |      |
| -UF<br><br>Finishing  | WNMG 060404 - UF | 0.4 | 0.05-0.20       | 0.5-2.0    |        |        |        | ○      | ●      | ●      | ●      | ●      | ○      |       |        |        |       |       |       |       |       |        |       |      |
|  | WNMG 080404 - UF | 0.4 | 0.05-0.25       | 0.5-2.5    |        |        |        | ○      | ●      | ●      | ●      | ●      | ○      |       |        |        |       |       |       |       |       |        |       |      |
|  | WNMG 080408 - UF | 0.8 | 0.05-0.25       | 1.0-2.5    |        |        |        | ○      | ●      | ●      | ●      | ●      |        |       |        |        |       |       |       |       |       |        |       |      |
|  | WNMG 080412 - UF | 1.2 | 0.05-0.25       | 1.5-2.5    |        |        |        | ○      | ●      | ●      | ●      | ●      |        |       |        |        |       |       |       |       |       |        |       |      |
| -UL<br><br>Light Machining<br>and Sticky Material                 | WNMG 060408 - UL | 0.8 | 0.10-0.30       | 1.0-2.5    |        |        |        | ○      | ●      | ●      | ●      | ●      |        |       |        |        |       |       |       |       |       |        |       |      |
|  | WNMG 080404 - UL | 0.4 | 0.10-0.30       | 0.5-3.0    |        |        |        | ○      | ●      | ●      | ●      | ●      |        |       |        |        |       |       |       |       |       |        |       |      |
|  | WNMG 080408 - UL | 0.8 | 0.10-0.30       | 1.0-3.0    |        |        |        | ○      | ●      | ●      | ●      | ●      |        |       |        |        |       |       |       |       |       |        |       |      |
|  | WNMG 080412 - UL | 1.2 | 0.10-0.30       | 1.5-3.0    |        |        |        | ○      | ●      | ●      | ●      | ●      |        |       |        |        |       |       |       |       |       |        |       |      |
| -UM<br><br>Medium Machining<br>Unstable condition                 | WNMG 060404 - UM | 0.4 | 0.15-0.30       | 0.5-2.5    | ○      | ○      |        | ○      | ●      | ●      | ●      | ●      |        |       |        |        |       |       |       |       |       |        |       |      |
|  | WNMG 060408 - UM | 0.8 | 0.15-0.30       | 1.0-2.5    | ○      | ○      |        | ○      | ●      | ●      | ●      | ●      |        |       |        |        |       |       |       |       |       |        |       |      |
|  | WNMG 080404 - UM | 0.4 | 0.15-0.30       | 0.5-3.0    |        |        |        | ○      | ●      | ●      | ●      | ●      |        |       |        |        |       |       |       |       |       |        |       |      |
|  | WNMG 080408 - UM | 0.8 | 0.15-0.30       | 1.0-3.0    |        |        |        | ○      | ●      | ●      | ●      | ●      |        |       |        |        |       |       |       |       |       |        |       |      |
|  | WNMG 080412 - UM | 1.2 | 0.15-0.30       | 1.5-3.0    |        |        |        | ○      | ●      | ●      | ●      | ●      |        |       |        |        |       |       |       |       |       |        |       |      |
|  | WNMG 080416 - UM | 1.6 | 0.15-0.30       | 2.0-3.0    |        |        |        | ○      | ●      | ●      | ●      | ●      |        |       |        |        |       |       |       |       |       |        |       |      |
| NEW<br>-GM<br><br>Medium machining for<br>steel & Stainless steel | WNMG 060404 - GM | 0.4 | 0.15-0.40       | 0.5-3.0    |        |        |        |        | ●      | ●      |        |        |        |       | ●      |        |       |       |       |       |       |        |       |      |
|  | WNMG 060408 - GM | 0.8 | 0.17-0.50       | 0.8-3.0    |        |        |        |        | ●      | ●      |        |        |        |       | ●      |        |       |       |       |       |       |        |       |      |
|  | WNMG 060412 - GM | 1.2 | 0.20-0.55       | 1.0-3.0    |        |        |        |        | ●      | ●      |        |        |        |       | ●      |        |       |       |       |       |       |        |       |      |
|  | WNMG 080404 - GM | 0.4 | 0.15-0.40       | 0.5-4.0    |        |        |        |        | ●      | ●      |        |        |        |       | ●      |        |       |       |       |       |       |        |       |      |
|  | WNMG 080408 - GM | 0.8 | 0.17-0.50       | 0.8-4.0    |        |        |        |        | ●      | ●      |        |        |        |       | ●      |        |       |       |       |       |       |        |       |      |
|  | WNMG 080412 - GM | 1.2 | 0.20-0.55       | 1.0-4.0    |        |        |        |        | ●      | ●      |        |        |        |       | ●      |        |       |       |       |       |       |        |       |      |
|  | WNMG 080416 - GM | 1.6 | 0.23-0.55       | 1.3-4.0    |        |        |        |        | ●      | ●      |        |        |        |       | ●      |        |       |       |       |       |       |        |       |      |

## Turning Inserts - Negative WNMG (80° Trigon)

Refer to  
Turning holder  
p. 96, 103, 105, 117, 123, 126






TURNING



| Series    | IC     | S    |
|-----------|--------|------|
| WN** 0604 | 9.525  | 4.76 |
| WN** 0804 | 12.700 | 4.76 |

PARTING & GROOVING

EDP 2200.. ● : Stock item ○ : Order made item

| WNMG   | Designation       | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | K10    | P05    | K20    | P10    | P15    | P10    | P25    | P20    | P30    | P20   | M25    | M35    | M15   | M30   | M40   | S10   | P15   | P10    | N20   | N20  |
|--|-------------------|-----|-----------------|------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|--------|--------|-------|-------|-------|-------|-------|--------|-------|------|
|  |                   |     |                 |            | YG1010 | YG1001 | YG1020 | YG3010 | YG3015 | YG3115 | YG3125 | YG3020 | YG3030 | YG801 | YG2025 | YG2035 | YG211 | YG213 | YG214 | YG401 | YT100 | YT100G | YG100 | YG10 |
| <b>-UG</b><br><br>Medium Machining<br>at stable condition | WNMG 060408 - UG  | 0.8 | 0.20-0.40       | 1.0-3.0    | ●      | ○      | ●      | ○      |        |        | ●      | ●      | ●      | ○     |        |        |       |       |       |       |       |        |       |      |
|  | WNMG 080404 - UG  | 0.4 | 0.20-0.40       | 0.5-3.0    | ●      | ○      | ●      | ○      |        |        | ●      | ●      | ●      | ○     |        |        |       |       |       |       |       |        |       |      |
|  | WNMG 080408 - UG  | 0.8 | 0.20-0.40       | 1.0-3.0    | ○      | ○      | ○      | ○      |        |        | ○      | ○      | ○      | ○     |        |        |       |       |       |       | ○     | ○      |       |      |
|  | WNMG 080412 - UG  | 1.2 | 0.20-0.40       | 1.5-3.0    | ●      | ○      | ●      | ○      | ○      | ○      | ●      | ●      | ●      | ●     |        |        |       |       |       |       |       |        |       |      |
|  | WNMG 080416 - UG  | 1.6 | 0.20-0.40       | 2.0-3.0    | ●      | ○      | ●      | ○      | ○      | ○      | ●      | ●      | ●      | ●     |        |        |       |       |       |       |       |        |       |      |
| <b>-PWM</b><br><br>Wiper-Medium                           | WNMG 060408 - PWM | 0.8 | 0.10-0.40       | 0.8-2.5    |        |        |        |        |        |        |        |        |        | ●     |        |        |       |       |       |       |       |        |       |      |
|  | WNMG 080408 - PWM | 0.8 | 0.10-0.50       | 0.8-3.5    |        |        |        |        |        |        | ●      |        |        |       |        |        |       |       |       |       |       |        |       |      |
|  | WNMG 080412 - PWM | 1.2 | 0.10-0.50       | 1.0-3.5    | ●      |        |        |        |        |        | ●      |        |        | ●     |        |        |       |       |       |       |       |        |       |      |
| <b>-UC</b><br><br>Cast iron and<br>Medium roughing      | WNMG 060408 - UC  | 0.8 | 0.20-0.40       | 1.0-3.0    | ●      | ○      | ●      | ○      |        |        | ●      | ●      | ●      | ●     |        |        |       |       |       |       |       |        |       |      |
|  | WNMG 080404 - UC  | 0.4 | 0.20-0.40       | 0.5-4.0    | ●      | ○      | ●      | ○      |        |        | ●      | ●      | ●      | ○     |        |        |       |       |       |       |       |        |       |      |
|  | WNMG 080408 - UC  | 0.8 | 0.20-0.40       | 1.0-4.0    | ●      | ○      | ●      | ○      | ○      | ○      | ●      | ●      | ●      | ●     |        |        |       |       |       |       |       |        |       |      |
|  | WNMG 080412 - UC  | 1.2 | 0.20-0.40       | 1.5-4.0    | ●      | ○      | ●      | ○      | ○      | ○      | ●      | ●      | ●      | ●     |        |        |       |       |       |       |       |        |       |      |
|  | WNMG 080416 - UC  | 1.6 | 0.20-0.40       | 2.0-4.0    | ●      | ○      | ●      | ○      |        |        | ●      | ●      | ●      | ●     |        |        |       |       |       |       |       |        |       |      |
| <b>-UR</b><br><br>Roughing                              | WNMG 060412 - UR  | 1.2 | 0.30-0.50       | 1.5-4.0    | ●      | ○      |        | ○      |        |        | ●      |        | ●      | ●     |        |        |       |       |       |       |       |        |       |      |
|  | WNMG 060412 - UR  | 1.2 | 0.30-0.50       | 1.5-4.0    |        |        | ●      |        |        |        | ●      |        |        |       |        |        |       |       |       |       |       |        |       |      |
|  | WNMG 080408 - UR  | 0.8 | 0.30-0.50       | 1.0-5.0    | ●      | ○      | ●      | ○      |        |        | ●      | ●      | ●      | ●     |        |        |       |       |       |       |       |        |       |      |
|  | WNMG 080412 - UR  | 1.2 | 0.30-0.50       | 1.5-5.0    | ●      | ○      | ●      | ○      | ○      | ○      | ●      | ●      | ●      | ●     | ○      |        |       |       |       |       |       |        |       |      |
|  | WNMG 080416 - UR  | 1.6 | 0.30-0.50       | 2.0-5.0    | ●      | ○      | ●      | ○      | ○      | ○      | ●      | ●      | ●      | ●     |        |        |       |       |       |       |       |        |       |      |
| <b>-KR</b><br><br>Cast Iron<br>Heavy Roughing           | WNMG 060412 - KR  | 1.2 | 0.30-0.60       | 1.5-4.0    | ●      |        |        |        |        |        | ●      |        |        |       |        |        |       |       |       |       |       |        |       |      |
|  | WNMG 080408 - KR  | 0.8 | 0.30-0.60       | 1.0-5.0    | ●      | ○      | ●      | ○      |        |        | ●      |        |        |       |        |        |       |       |       |       |       |        |       |      |
|  | WNMG 080412 - KR  | 1.2 | 0.30-0.60       | 1.5-5.0    | ●      | ○      | ●      | ○      |        |        | ●      |        |        |       |        |        |       |       |       |       |       |        |       |      |

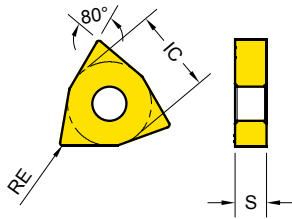
MILLING

DRILLING

TECHNICAL INFORMATION





# Turning Inserts - Negative WNMG (80° Trigon)

Refer to  
Turning holder  
p.96, 103, 105, 117, 123, 126



| Series    | IC     | S    |
|-----------|--------|------|
| WN** 0604 | 9.525  | 4.76 |
| WN** 0804 | 12.700 | 4.76 |

EDP 2200.. ● : Stock item ○ : Order made item

| WNMG   | Designation      | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | YG1010 | P05<br>K20 | K20 | P10<br>K30 | P15 | P10 | P25 | P20 | P30 | P20 | M25 | M35 | M15 | M30 | M40<br>S30 | S10 | P15<br>K15 | P10<br>M10 | N20 | N20 |  |
|--|------------------|-----|-----------------|------------|--------|------------|-----|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------------|-----|------------|------------|-----|-----|--|
|  |                  |     |                 |            |        |            |     |            |     |     |     |     |     |     |     |     |     |     |            |     |            |            |     |     |  |
| <b>-MF</b><br><br>Stainless steel<br>Finishing  | WNMG 060404 - MF | 0.4 | 0.07 - 0.30     | 0.4 - 2.0  |        |            |     | ○          |     | ●   |     |     | ○   |     |     |     |     |     |            |     |            |            |     |     |  |
|  | WNMG 060408 - MF | 0.8 | 0.07 - 0.30     | 0.8 - 2.0  |        |            |     |            |     | ●   |     |     | ●   |     |     |     |     |     |            |     |            |            |     |     |  |
|  | WNMG 080404 - MF | 0.4 | 0.07 - 0.30     | 0.4 - 2.5  |        |            |     |            |     |     | ●   |     | ○   |     |     |     |     |     |            |     |            |            |     |     |  |
|  | WNMG 080408 - MF | 0.8 | 0.07 - 0.30     | 0.8 - 2.5  |        |            |     |            |     |     | ●   |     | ○   |     |     |     |     |     |            |     |            |            |     |     |  |
| <b>-MM</b><br><br>Stainless steel<br>Medium     | WNMG 080404 - MM | 0.4 | 0.20 - 0.35     | 0.5 - 3.5  |        |            |     |            |     |     |     |     |     |     |     |     |     |     |            |     |            |            |     |     |  |
|  | WNMG 080408 - MM | 0.8 | 0.20 - 0.35     | 1.0 - 3.5  |        |            |     |            |     |     |     |     | ○   |     |     |     |     |     |            |     |            |            |     |     |  |
|  | WNMG 080412 - MM | 1.2 | 0.20 - 0.35     | 1.5 - 3.5  |        |            |     |            |     |     |     |     |     |     |     |     |     |     |            |     |            |            |     |     |  |
| <b>-MG</b><br><br>Stainless steel<br>General  | WNMG 060404 - MG | 0.4 | 0.20 - 0.40     | 0.5 - 3.0  |        |            |     |            |     |     |     |     |     |     |     |     | ●   | ●   |            |     |            |            |     |     |  |
|  | WNMG 060408 - MG | 0.8 | 0.20 - 0.40     | 1.0 - 3.0  |        |            |     |            |     |     |     |     |     |     |     |     |     | ●   | ●          |     |            |            |     |     |  |
|  | WNMG 060412 - MG | 1.2 | 0.20 - 0.40     | 1.5 - 3.0  |        |            |     |            |     |     |     |     |     |     |     |     |     | ●   | ●          |     |            |            |     |     |  |
|  | WNMG 080404 - MG | 0.4 | 0.20 - 0.40     | 0.5 - 4.0  |        |            |     |            |     |     |     |     |     |     |     |     |     | ●   | ●          |     |            |            |     |     |  |
|  | WNMG 080408 - MG | 0.8 | 0.20 - 0.40     | 1.0 - 4.0  |        |            |     |            |     |     |     |     |     |     |     |     |     | ●   | ●          |     |            |            |     |     |  |
|  | WNMG 080412 - MG | 1.2 | 0.20 - 0.40     | 1.5 - 4.0  |        |            |     |            |     |     |     |     |     |     |     |     |     | ●   | ●          |     |            |            |     |     |  |
| <b>-MR</b><br><br>Stainless steel<br>Roughing | WNMG 060408 - MR | 0.8 | 0.30 - 0.55     | 1.2 - 4.0  |        |            |     |            |     |     |     |     |     |     |     |     | ●   | ●   |            |     |            |            |     |     |  |
|  | WNMG 060412 - MR | 1.2 | 0.30 - 0.55     | 1.2 - 4.0  |        |            |     |            |     |     |     |     | ○   |     |     |     | ●   | ●   |            | ●   | ●          |            |     |     |  |
|  | WNMG 080408 - MR | 0.8 | 0.30 - 0.55     | 2.0 - 5.5  |        |            |     |            |     |     |     |     | ○   |     |     |     | ●   | ●   |            | ●   | ●          |            |     |     |  |
|  | WNMG 080412 - MR | 1.2 | 0.30 - 0.55     | 2.0 - 5.5  |        |            |     |            |     |     |     |     | ○   |     |     |     | ●   | ●   |            | ●   | ●          |            |     |     |  |

TURNING

PARTING & GROOVING

MILLING

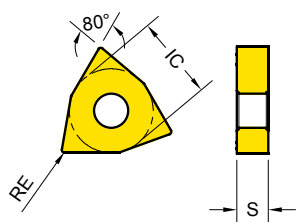
DRILLING

TECHNICAL INFORMATION

## Turning Inserts - Negative WNGG / WNMG (80° Trigon)

Refer to  
Turning holder  
p. 96, 103, 105, 117, 123, 126

TURNING



| Series    | IC     | S    |
|-----------|--------|------|
| WN** 0604 | 9.525  | 4.76 |
| WN** 0804 | 12.700 | 4.76 |





PARTING & GROOVING

MILLING

DRILLING

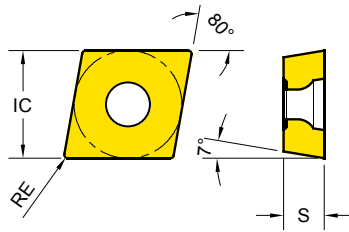
TECHNICAL INFORMATION

EDP 2200.. ● : Stock item ○ : Order made item

| WNGG<br>WNMG  | Designation       | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | K10    | P05    | K20    | P10    | P15    | P10    | P25    | P20    | P30    | P20   | M25    | M35    | M15   | M30   | M40   | S10 | P15   | P10   | N20    | N20   |
|---|-------------------|-----|-----------------|------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|--------|--------|-------|-------|-------|-----|-------|-------|--------|-------|
|   |                   |     |                 |            | YG1010 | YG1001 | YG1020 | YG3010 | YG3015 | YG3115 | YG3125 | YG3020 | YG3030 | YG801 | YG2025 | YG2035 | YG211 | YG213 | YG214 | S30 | YG401 | YT100 | YT100G | YG100 |
| -SF<br><br>HRSA Finishing      | WNGG 080408 - SF  | 0.8 | 0.10-0.25       | 0.2-1.0    |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       | ●   |       |       |        |       |
|   |                   |     |                 |            |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |     | 1308  |       |        |       |
| -SM<br><br>HRSA Medium         | WNMG 080408 - SM  | 0.8 | 0.15-0.30       | 0.5-3.0    |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       | ○   | ○     | ○     | ●      |       |
|   | WNMG 080412 - SM  | 1.2 | 0.15-0.30       | 0.5-3.0    |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       | ○   | ○     | ○     | ●      |       |
|   |                   |     |                 |            |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       | ○   | ○     | ○     | ●      |       |
|   |                   |     |                 |            |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       | ○   | ○     | ○     | ●      |       |
| -SR<br><br>HRSA Roughing     | WNMG 060412 - SR  | 1.2 | 0.30-0.55       | 2.0-4.0    |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       | ●   |       |       |        |       |
|   | WNMG 080408 - SR  | 0.8 | 0.30-0.55       | 2.0-5.5    |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |     | ●     |       |        |       |
|   | WNMG 080412 - SR  | 1.2 | 0.30-0.55       | 2.0-5.5    |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |     | ●     |       |        |       |
|   | WNMG 080416 - SR  | 1.6 | 0.30-0.55       | 2.0-5.5    |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |     | ●     |       |        |       |
|   |                   |     |                 |            |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |     | ●     |       |        |       |
| -PSF<br><br>Cermet Finishing | WNMG 080404 - PSF | 0.4 | 0.07-0.30       | 0.4-2.5    |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |     | ●     | ○     |        |       |
|   | WNMG 080408 - PSF | 0.8 | 0.10-0.35       | 0.6-2.5    |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |     | ●     | ○     |        |       |
|   |                   |     |                 |            |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |     | ○     | ○     |        |       |
|   |                   |     |                 |            |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |     | ○     | ○     |        |       |




# Turning Inserts - Positive CCGT / CCMT (80° Rhombic)

Refer to Turning holder  
p. 106, 128, 129



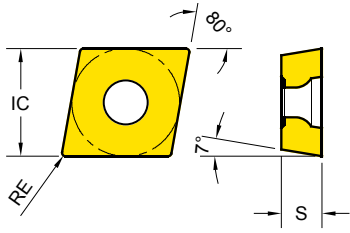
| Series    | IC     | S    |
|-----------|--------|------|
| CC** 0602 | 6.350  | 2.38 |
| CC** 09T3 | 9.525  | 3.97 |
| CC** 1204 | 12.700 | 4.76 |

EDP 2200.. ● : Stock item ○ : Order made item

| CCGT<br>CCMT   | Designation      | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | K10       | P05<br>K20 | K20       | P10<br>K30 | P15       | P10    | P25    | P20    | P30    | P20       | M25    | M35    | M15   | M30   | M40<br>S30 | S10       | P15<br>M15<br>K15 | P10<br>M10<br>K10 | N20   | N20  |           |           |           |
|--|------------------|-----|-----------------|------------|-----------|------------|-----------|------------|-----------|--------|--------|--------|--------|-----------|--------|--------|-------|-------|------------|-----------|-------------------|-------------------|-------|------|-----------|-----------|-----------|
|  |                  |     |                 |            | YG1010    | YG1001     | YG1020    | YG3010     | YG3015    | YG3115 | YG3125 | YG3020 | YG3030 | YG801     | YG2025 | YG2035 | YG211 | YG213 | YG214      | YG401     | YT100             | YT100G            | YG100 | YG10 |           |           |           |
| <b>-AL</b><br><br>Aluminum    | CCGT 060202 - AL | 0.2 | 0.01 - 0.12     | 0.05 - 3.0 |           |            |           |            |           |        |        |        |        |           |        |        |       |       |            |           |                   |                   |       |      | ●<br>1398 |           |           |
|  | CCGT 060204 - AL | 0.4 | 0.02 - 0.15     | 0.10 - 3.0 |           |            |           |            |           |        |        |        |        |           |        |        |       |       |            |           |                   |                   |       |      | ●<br>1278 | ●<br>1320 |           |
|  | CCGT 09T302 - AL | 0.2 | 0.02 - 0.20     | 0.05 - 3.0 |           |            |           |            |           |        |        |        |        |           |        |        |       |       |            |           |                   |                   |       |      |           | ●<br>0340 | ●<br>0339 |
|  | CCGT 09T304 - AL | 0.4 | 0.02 - 0.30     | 0.10 - 5.0 |           |            |           |            |           |        |        |        |        |           |        |        |       |       |            |           |                   |                   |       |      |           | ●<br>0330 | ●<br>0081 |
|  | CCGT 09T308 - AL | 0.8 | 0.03 - 0.50     | 0.10 - 5.0 |           |            |           |            |           |        |        |        |        |           |        |        |       |       |            |           |                   |                   |       |      |           | ●<br>0331 | ●<br>0082 |
|  | CCGT 120402 - AL | 0.2 | 0.02 - 0.30     | 0.05 - 4.0 |           |            |           |            |           |        |        |        |        |           |        |        |       |       |            |           |                   |                   |       |      |           | ●<br>0474 | ●<br>0473 |
|  | CCGT 120404 - AL | 0.4 | 0.03 - 0.50     | 0.10 - 5.0 |           |            |           |            |           |        |        |        |        |           |        |        |       |       |            |           |                   |                   |       |      |           | ●<br>0476 | ●<br>0475 |
|  | CCGT 120408 - AL | 0.8 | 0.04 - 0.80     | 0.10 - 5.5 |           |            |           |            |           |        |        |        |        |           |        |        |       |       |            |           |                   |                   |       |      |           | ●<br>0478 | ●<br>0477 |
| <b>-UF</b><br><br>Finishing | CCMT 060204 - UF | 0.4 | 0.05 - 0.20     | 0.5 - 2.0  |           |            |           | ○          | ○         | ●      | ●      | ●      | ●      |           |        |        |       |       |            |           |                   |                   |       |      |           |           |           |
|  | CCMT 09T304 - UF | 0.4 | 0.05 - 0.25     | 0.5 - 2.0  |           |            |           | ○          |           | ●      | ●      | ●      | ●      |           |        |        |       |       |            |           |                   |                   |       |      |           |           |           |
|  | CCMT 09T308 - UF | 0.8 | 0.05 - 0.25     | 1.0 - 2.0  |           |            |           | ○          |           | ●      | ●      | ●      | ●      |           |        |        |       |       |            |           |                   |                   |       |      |           |           |           |
|  | CCMT 120404 - UF | 0.4 | 0.10 - 0.25     | 1.0 - 5.0  |           |            |           |            |           | ●      | ●      | ●      | ●      |           |        |        |       |       |            |           |                   |                   |       |      |           |           |           |
| <b>-UG</b><br><br>General   | CCMT 060204 - UG | 0.4 | 0.10 - 0.25     | 0.5 - 2.0  | ●<br>1377 | ●<br>3466  | ○<br>0166 |            |           | ●      | ●      | ●      | ●      | ○<br>0168 |        |        |       |       | ○<br>2224  |           |                   |                   |       |      |           |           |           |
|  | CCMT 060208 - UG | 0.8 | 0.10 - 0.25     | 0.8 - 2.0  | ●<br>1825 | ○<br>0864  | ○<br>3526 | ○<br>0479  |           | ●      | ●      | ●      | ●      | ○<br>0684 |        |        |       |       |            | ○<br>2225 |                   |                   |       |      |           |           | ○<br>1901 |
|  | CCMT 09T304 - UG | 0.4 | 0.15 - 0.30     | 0.5 - 2.5  | ●<br>1844 |            | ○<br>3541 | ○<br>0172  |           | ●      | ●      | ●      | ●      | ○<br>0174 |        |        |       |       |            |           |                   |                   |       |      |           |           | ○<br>1586 |
|  | CCMT 09T308 - UG | 0.8 | 0.15 - 0.30     | 0.8 - 2.5  | ●<br>1553 | ○<br>0445  | ●<br>3487 | ○<br>0150  |           | ●      | ●      | ●      | ●      | ○<br>0152 |        |        |       |       |            | ○<br>1908 |                   |                   |       |      |           |           | ○<br>1902 |
|  | CCMT 120404 - UG | 0.4 | 0.15 - 0.35     | 0.5 - 3.0  | ●<br>1845 |            | ○<br>3542 | ○<br>0175  |           | ●      | ●      | ●      | ●      |           |        |        |       |       |            |           |                   |                   |       |      |           |           |           |
|  | CCMT 120408 - UG | 0.8 | 0.15 - 0.35     | 0.8 - 3.0  | ●<br>1462 | ○<br>1461  | ●<br>3471 | ○<br>0153  | ○<br>0867 | ●      | ●      | ●      | ●      | ○<br>0155 |        |        |       |       |            |           |                   |                   |       |      |           |           | ○<br>1125 |
|  | CCMT 120412 - UG | 1.2 | 0.15 - 0.35     | 1.2 - 3.0  | ●<br>1846 |            | ○<br>3543 | ○<br>0483  |           | ●      | ●      | ●      | ●      |           |        |        |       |       |            |           |                   |                   |       |      |           |           | ○<br>1126 |

## Turning Inserts - Positive CCGT / CCMT (80° Rhombic)

Refer to  
Turning holder  
p. 106, 128, 129



| Series    | IC     | S    |
|-----------|--------|------|
| CC** 0602 | 6.350  | 2.38 |
| CC** 09T3 | 9.525  | 3.97 |
| CC** 1204 | 12.700 | 4.76 |

EDP 2200.. ● : Stock item ○ : Order made item

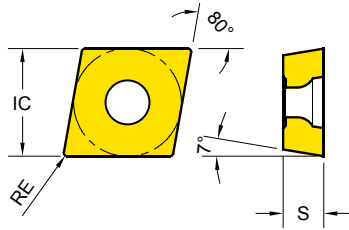
| K10 | P05 | K20 | P10 | P15 | P10 | P25 | P20 | P30 | P20 | M25 | M35 | M15 | M30 | M40 | S10 | P15 | P10 | N20 | N20 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| K20 | K30 | K30 | K15 | K10 | K10 | K10 | K10 | K10 | K10 | K10 | K10 | K10 | K10 | K10 | K10 | K15 | K10 | K10 | K10 |

| CCGT / CCMT                                 | Designation      | RE  | Fn (mm/rev.) | Ap (mm)  | YG1010 | YG1001 | YG1020 | YG3010 | YG3015 | YG3115 | YG3125 | YG3020 | YG3030 | YG801 | YG2025 | YG2035 | YG211 | YG213 | YG214 | YG401 | YT100 | YT100G | YG100 | YG10 |  |  |
|---|------------------|-----|--------------|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|--------|--------|-------|-------|-------|-------|-------|--------|-------|------|--|--|
| <b>-SF</b><br><br>HRSA Finishing            | CCGT 060201 - SF | 0.1 | 0.02-0.15    | 0.10-1.5 |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       | ●     | ●     |        |       |      |  |  |
|   | CCGT 060202 - SF | 0.2 | 0.02-0.15    | 0.10-1.5 |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       | ●     | ●     |        |       |      |  |  |
|   | CCGT 060204 - SF | 0.4 | 0.03-0.20    | 0.10-2.4 |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       | ●     | ●     |        |       |      |  |  |
|   | CCGT 09T301 - SF | 0.1 | 0.02-0.15    | 0.10-2.5 |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       | ●     | ●     |        |       |      |  |  |
|   | CCGT 09T302 - SF | 0.2 | 0.02-0.15    | 0.10-2.5 |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       | ●     | ●     |        |       |      |  |  |
|   | CCGT 09T304 - SF | 0.4 | 0.03-0.20    | 0.10-2.5 |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       | ●     | ●     |        |       |      |  |  |
| <b>-MF</b><br><br>Stainless steel Finishing | CCGT 09T308 - SF | 0.8 | 0.03-0.25    | 0.10-2.5 |        |        |        |        |        |        |        |        |        |       |        |        |       |       | ●     | ●     |       |        |       |      |  |  |
|   | CCMT 060202 - MF | 0.2 | 0.04-0.15    | 0.08-2.0 |        |        |        |        |        |        |        |        |        | ●     | ●      | ●      | ●     | ●     | ●     |       |       |        |       |      |  |  |
|   | CCMT 060204 - MF | 0.4 | 0.06-0.25    | 0.10-2.0 |        |        |        |        |        |        |        |        |        | ●     | ●      | ●      | ●     | ●     | ●     |       |       |        |       |      |  |  |
|   | CCMT 060208 - MF | 0.8 | 0.07-0.28    | 0.12-2.0 |        |        |        |        |        |        |        |        |        | ●     | ●      | ●      | ●     | ●     | ●     |       |       |        |       |      |  |  |
|   | CCMT 09T302 - MF | 0.2 | 0.04-0.15    | 0.08-2.0 |        |        |        |        |        |        |        |        |        | ●     | ●      | ●      | ●     | ●     | ●     |       |       |        |       |      |  |  |
|   | CCMT 09T304 - MF | 0.4 | 0.06-0.25    | 0.10-2.0 |        |        |        |        |        |        |        |        |        | ●     | ●      | ●      | ●     | ●     | ●     |       |       |        |       |      |  |  |
| <b>-MM</b><br><br>Stainless steel Medium    | CCMT 09T308 - MF | 0.8 | 0.08-0.30    | 0.15-2.0 |        |        |        |        | ○      |        |        |        |        | ●     | ●      | ●      | ●     | ●     | ●     |       |       |        |       |      |  |  |
|   | CCMT 120404 - MF | 0.4 | 0.07-0.25    | 0.20-2.4 |        |        |        |        |        |        |        |        |        | ●     | ●      |        |       |       |       |       |       |        |       |      |  |  |
|   | CCMT 120408 - MF | 0.8 | 0.08-0.30    | 0.50-2.4 |        |        |        |        |        |        |        |        |        | ●     | ●      |        |       |       |       |       |       |        |       |      |  |  |
|   | CCMT 060204 - MM | 0.4 | 0.06-0.17    | 0.3-2.4  |        |        |        |        |        |        |        |        |        | ●     | ●      |        |       |       |       |       |       |        |       |      |  |  |
|   | CCMT 060208 - MM | 0.8 | 0.08-0.23    | 0.8-2.4  |        |        |        |        |        |        |        |        |        | ●     | ●      |        |       |       |       |       |       |        |       |      |  |  |
|   | CCMT 09T304 - MM | 0.4 | 0.08-0.25    | 0.25-3.0 |        |        |        |        |        |        |        |        |        | ●     | ●      | ●      | ●     | ●     | ●     |       |       |        |       |      |  |  |

TURNING  
PARTING & GROOVING  
MILLING  
DRILLING  
TECHNICAL INFORMATION



# Turning Inserts - Positive CCMT (80° Rhombic)

Refer to  
Turning holder  
p. 106, 128, 129



| Series    | IC     | S    |
|-----------|--------|------|
| CC** 0602 | 6.350  | 2.38 |
| CC** 09T3 | 9.525  | 3.97 |
| CC** 1204 | 12.700 | 4.76 |

EDP 2200.. ● : Stock item ○ : Order made item

| CCMT   | Designation      | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | K10 | P05 | K20 | P10 | P15 | P10 | P25 | P20 | P30 | P20 | M25 | M35 | M15 | M30 | M40 | S10 | P15 | P10 | N20 | N20 |
|--|------------------|-----|-----------------|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|  |                  |     |                 |            | K20 | K30 |     |     |     |     |     |     |     |     |     |     |     | S30 | M15 | M10 | K15 | K10 |     |     |
| - PF<br><br>Finishing | CCMT 060202 - PF | 0.2 | 0.04-0.15       | 0.08-2.0   |     |     |     |     |     | ●   |     |     | ●   |     |     |     |     |     |     |     | ●   | ○   |     |     |
|  | CCMT 060204 - PF | 0.4 | 0.06-0.25       | 0.10-2.0   |     |     |     |     |     | ●   |     |     | ●   |     |     |     |     |     |     |     | ●   | ○   |     |     |
|  | CCMT 09T302 - PF | 0.2 | 0.04-0.15       | 0.08-2.0   |     |     |     |     |     | ●   |     |     | ●   |     |     |     |     |     |     |     | ●   | ○   |     |     |
|  | CCMT 09T304 - PF | 0.4 | 0.06-0.25       | 0.10-2.0   |     |     |     |     |     | ●   |     |     | ●   |     |     |     |     |     |     |     | ●   | ○   |     |     |
|  | CCMT 09T308 - PF | 0.8 | 0.08-0.30       | 0.15-2.0   |     |     |     |     |     | ●   |     |     | ●   |     |     |     |     |     |     |     | ●   | ○   |     |     |
|  | CCMT 09T312 - PF | 1.2 | 0.10-0.32       | 0.2-2.0    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | ●   | ○   |     |     |
|  | CCMT 120404 - PF | 0.4 | 0.07-0.25       | 0.2-2.4    |     |     |     |     |     | ●   |     |     | ●   |     |     |     |     |     |     |     |     |     |     |     |
|  | CCMT 120408 - PF | 0.8 | 0.08-0.30       | 0.5-2.4    |     |     |     |     |     | ●   |     |     | ●   |     |     |     |     |     |     |     |     |     |     |     |
| - PM<br><br>Medium  | CCMT 060204 - PM | 0.4 | 0.06-0.17       | 0.25-2.4   |     |     |     |     |     | ●   |     |     | ●   |     |     |     |     |     |     |     | ●   | ○   |     |     |
|  | CCMT 060208 - PM | 0.8 | 0.08-0.23       | 0.8-2.4    |     |     |     |     |     | ●   |     |     | ●   |     |     |     |     |     |     |     | ●   | ○   |     |     |
|  | CCMT 09T304 - PM | 0.4 | 0.08-0.25       | 0.25-3.0   |     |     |     |     |     | ●   |     |     | ●   |     |     |     |     |     |     |     | ●   | ○   |     |     |
|  | CCMT 09T308 - PM | 0.8 | 0.10-0.30       | 0.50-3.0   |     |     |     |     |     | ●   |     |     | ●   |     |     |     |     |     |     |     | ●   | ○   |     |     |
|  | CCMT 09T312 - PM | 1.2 | 0.12-0.35       | 1.0-3.0    |     |     |     |     |     | ●   |     |     | ●   |     |     |     |     |     |     |     | ●   | ○   |     |     |
|  | CCMT 120404 - PM | 0.4 | 0.09-0.27       | 0.4-4.2    |     |     |     |     |     | ●   |     |     | ●   |     |     |     |     |     |     |     |     |     |     |     |
|  | CCMT 120408 - PM | 0.8 | 0.12-0.36       | 0.8-4.2    |     |     |     |     |     | ●   |     |     | ●   |     |     |     |     |     |     |     |     |     |     |     |
|  | CCMT 120412 - PM | 1.2 | 0.14-0.43       | 1.2-4.2    |     |     |     |     |     | ●   |     |     | ●   |     |     |     |     |     |     |     |     |     |     |     |

TURNING

PARTING & GROOVING

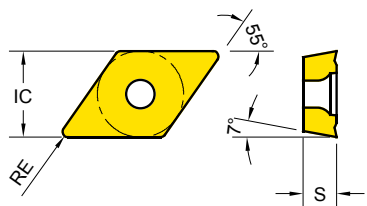
MILLING

DRILLING

TECHNICAL INFORMATION

## Turning Inserts - Positive DCGT / DCMT (55° Rhombic)

Refer to  
Turning holder  
p. 107, 130, 131



| Series    | IC    | S    |
|-----------|-------|------|
| DC** 0702 | 6.350 | 2.38 |
| DC** 11T3 | 9.525 | 3.97 |

TURNING




PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

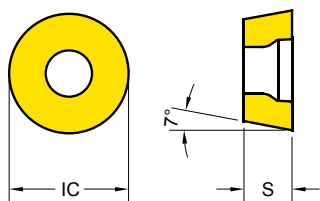
EDP 2200.. ● : Stock item ○ : Order made item

| DCGT<br>DCMT   | Designation      | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | K10 | P05 | K20  | P10 | P15  | P10 | P25 | P20 | P30 | P20 | M25 | M35 | M15 | M30 | M40  | S10  | P15  | P10  | N20  | N20  |      |      |   |      |
|--|------------------|-----|-----------------|------------|-----|-----|------|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|---|------|
|  |                  |     |                 |            | K20 | K30 | K30  | K15 | K10  | N20 | N20 |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |   |      |
| -AL<br><br>Aluminum   | DCGT 070202 - AL | 0.2 | 0.01 - 0.20     | 0.05 - 3.0 | ●   |     |      |     |      |     |     |     |     |     |     |     |     |     |      |      |      |      |      | ●    | 1399 |      |   |      |
|  | DCGT 070204 - AL | 0.4 | 0.02 - 0.30     | 0.10 - 4.0 |     |     |      |     |      |     |     |     |     |     |     |     |     |     |      |      |      |      |      |      | ●    | 1400 |   |      |
|  | DCGT 11T301 - AL | 0.1 | 0.01 - 0.30     | 0.05 - 4.0 |     |     |      |     |      |     |     |     |     |     |     |     |     |     |      |      |      |      |      |      | ●    | 2101 | ● | 2100 |
|  | DCGT 11T302 - AL | 0.2 | 0.02 - 0.30     | 0.05 - 4.0 |     |     |      |     |      |     |     |     |     |     |     |     |     |     |      |      |      |      |      |      | ●    | 0342 | ● | 0341 |
|  | DCGT 11T304 - AL | 0.4 | 0.03 - 0.50     | 0.10 - 5.0 |     |     |      |     |      |     |     |     |     |     |     |     |     |     |      |      |      |      |      |      | ●    | 0332 | ● | 0083 |
|  | DCGT 11T308 - AL | 0.8 | 0.03 - 0.50     | 0.10 - 5.0 |     |     |      |     |      |     |     |     |     |     |     |     |     |     |      |      |      |      |      |      | ●    | 0333 | ● | 0084 |
| -UF<br><br>Finishing | DCMT 070204 - UF | 0.4 | 0.05 - 0.20     | 0.50 - 2.0 |     |     |      | ○   | 0207 | ●   | ●   | ●   | ●   |     |     |     |     | ○   | 1909 | ○    | 1903 |      |      |      |      |      |   |      |
|  | DCMT 11T304 - UF | 0.4 | 0.05 - 0.25     | 0.50 - 2.0 |     | ○   | 1533 | ○   | 0213 | ●   | ●   | ●   | ●   |     |     |     |     | ○   | 1044 | ○    | 1043 | ○    | 1910 |      |      |      |   |      |
|  | DCMT 11T308 - UF | 0.8 | 0.05 - 0.25     | 1.00 - 2.0 |     | ●   | 2053 | ○   | 0219 | ●   | ●   | ●   | ●   |     |     |     |     |     |      |      |      |      |      |      |      |      |   |      |
| -UG<br><br>General  | DCMT 070204 - UG | 0.4 | 0.10 - 0.25     | 0.50 - 2.0 | ●   | ○   | 1849 | ○   | 0210 | ●   | ●   | ●   | ●   | ○   |     |     |     |     |      |      |      |      |      |      |      |      |   |      |
|  | DCMT 070208 - UG | 0.8 | 0.10 - 0.25     | 0.80 - 2.0 | ●   | ○   | 1850 | ○   | 0484 | ●   | ●   | ●   | ●   |     |     |     |     |     |      |      |      |      |      |      |      |      |   |      |
|  | DCMT 11T304 - UG | 0.4 | 0.15 - 0.30     | 0.50 - 2.5 | ●   | ○   | 1831 | ○   | 0216 | ●   | ●   | ●   | ●   | ○   |     |     |     |     | ○    | 1520 | ○    | 1522 | ○    | 1521 |      |      |   |      |
|  | DCMT 11T308 - UG | 0.8 | 0.15 - 0.30     | 0.80 - 2.5 | ●   | ○   | 1832 | ○   | 0222 | ●   | ●   | ●   | ●   | ○   |     |     |     |     |      |      |      |      |      |      |      |      |   |      |
|  | DCMT 11T312 - UG | 1.2 | 0.15 - 0.35     | 1.50 - 3.0 |     |     |      |     |      |     | ●   | ●   | ●   |     |     |     |     |     |      |      |      |      |      |      |      |      |   |      |



Turning Inserts - Positive  
**RCMT (Round)**

Refer to  
Turning holder  
p. 108, 132



| Series    | IC | S    | Series    | IC | S    |
|-----------|----|------|-----------|----|------|
| RC** 0602 | 6  | 2.38 | RC** 10T3 | 10 | 3.97 |
| RC** 0803 | 8  | 3.18 | RC** 1204 | 12 | 4.76 |

TURNING



PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

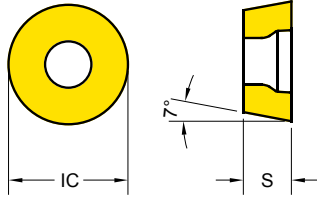
EDP 2200.. ● : Stock item ○ : Order made item

| RCMT   | Designation      | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | K10 | P05 | K20 | P10 | P15 | P10 | P25 | P20 | P30 | P20 | M25 | M35 | M15 | M30 | M40 | S10 | P15 | P10 | N20 | N20 |     |
|--|------------------|-----|-----------------|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|  |                  |     |                 |            | K20 | K30 | K30 | K30 | K30 | K30 | K30 | K30 | K30 | K30 | K30 | K30 | K30 | K30 | K30 | K30 | K30 | K30 | K30 | K30 | K30 |
| <br>General | RCMT 0602M0      | 3.0 | 0.05-0.25       | 0.2-1.2    | ●   | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | RCMT 0803M0      | 4.0 | 0.05-0.30       | 0.5-1.5    | ●   | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | RCMT 10T3M0      | 5.0 | 0.10-0.35       | 0.5-2.5    | ●   | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | RCMT 1204M0      | 6.0 | 0.15-0.45       | 0.5-3.0    | ●   | ○   | ●   | ○   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <br>General | RCMT 0602M0 - SM | 3.0 | 0.12-0.33       | 0.3-1.6    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | ●   |     |     |     |     |
|  | RCMT 0803M0 - SM | 4.0 | 0.15-0.41       | 0.3-2.0    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | ●   |     |     |     |
|  | RCMT 10T3M0 - SM | 5.0 | 0.17-0.46       | 0.4-2.5    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | ●   |     |     |     |
|  | RCMT 1204M0 - SM | 6.0 | 0.20-0.56       | 0.5-3.0    | ●   |     |     |     |     |     | ●   |     |     |     | ●   |     |     |     |     |     |     | ●   |     |     |     |
|  | RCMT 1606M0 - SM | 8.0 | 0.25-0.77       | 0.7-4.0    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | ●   |     |     |     |

Turning Inserts - Positive

**RCMX - Heavy Turning (Round)**

Refer to Turning holder p. 108, 132



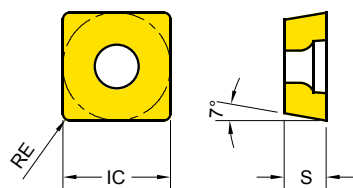
| Series    | IC | S    | Series    | IC | S    |
|-----------|----|------|-----------|----|------|
| RC** 1606 | 16 | 6.35 | RC** 2507 | 25 | 7.94 |
| RC** 2006 | 20 | 6.35 | RC** 3209 | 32 | 9.52 |

EDP 2200.. ● : Stock item ○ : Order made item

| RCMX                  | Designation      | RE   | Fn (mm/rev.) | Ap (mm)  | YG1010    | YG1001 | YG1020    | YG3010    | YG3015 | YG3115    | YG3125    | YG3020    | YG3030    | YG801 | YG2025    | YG2035    | YG211 | YG213 | YG214 | YG401 | YT100 | YT100G | YG100 | YG10 |
|-----------------------|------------------|------|--------------|----------|-----------|--------|-----------|-----------|--------|-----------|-----------|-----------|-----------|-------|-----------|-----------|-------|-------|-------|-------|-------|--------|-------|------|
|                       |                  |      |              |          | K10       | P05    | K20       | P10       | P15    | P10       | P25       | P20       | P30       | P20   | M25       | M35       | M15   | M30   | M40   | S10   | P15   | P10    | M15   | M10  |
| -UT<br>Heavy Roughing | RCMX 1606M0 - UT | 8.0  | 0.3-0.8      | 1.0-7.0  | ●<br>2441 |        |           |           |        | ●<br>2719 |           |           |           |       | ●<br>3160 | ●<br>3734 |       |       |       |       |       |        |       |      |
|                       | RCMX 2006M0 - UT | 10.0 | 0.4-0.9      | 1.5-9.0  | ●<br>3564 |        |           | ●<br>1928 |        | ●<br>2169 | ●<br>3423 | ●<br>2844 | ●<br>2845 |       |           |           |       |       |       |       |       |        |       |      |
|                       | RCMX 2507M0 - UT | 12.5 | 0.5-1.2      | 2.5-12.0 | ●<br>3837 |        | ●<br>3838 |           |        | ●<br>3146 | ●<br>3840 |           | ●<br>3839 |       |           |           |       |       |       |       |       |        |       |      |
|                       | RCMX 3209M0 - UT | 16.0 | 0.6-1.5      | 3.5-15.0 | ●<br>3841 |        | ●<br>3842 |           |        | ●<br>3147 | ●<br>3844 |           | ●<br>3843 |       |           |           |       |       |       |       |       |        |       |      |

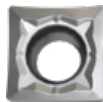




## Turning Inserts - Positive SCGT / SCMT (Square)

Refer to  
Turning holder  
p. 109, 133



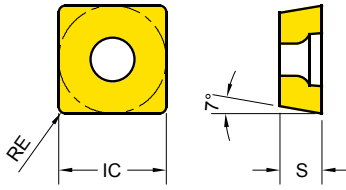
| Series    | IC     | S    |
|-----------|--------|------|
| SC** 09T3 | 9.525  | 3.97 |
| SC** 1204 | 12.700 | 4.76 |

EDP 2200.. ● : Stock item ○ : Order made item

| SCGT<br>SCMT   | Designation      | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | K10    | P05    | K20    | P10    | P15    | P10    | P25    | P20    | P30    | P20   | M25    | M35    | M15   | M30   | M40   | S30   | S10   | P15    | P10   | M15  | M10 | N20 | N20 |
|--|------------------|-----|-----------------|------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|--------|--------|-------|-------|-------|-------|-------|--------|-------|------|-----|-----|-----|
|  |                  |     |                 |            | YG1010 | YG1001 | YG1020 | YG3010 | YG3015 | YG3115 | YG3125 | YG3020 | YG3030 | YG801 | YG2025 | YG2035 | YG211 | YG213 | YG214 | YG401 | YT100 | YT100G | YG100 | YG10 |     |     |     |
| -AL<br><br>Aluminium                      | SCGT 09T304 - AL | 0.4 | 0.03-0.40       | 0.1-5.0    |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |       |       |        |       |      |     |     | ●   |
|  | SCGT 09T308 - AL | 0.8 | 0.04-0.40       | 0.1-5.0    |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |       |       |        |       |      |     |     |     |
| -UF<br><br>Finishing                      | SCMT 09T304 - UF | 0.4 | 0.05-0.25       | 0.5-2.0    |        |        |        | ○      |        | ●      | ●      | ●      | ●      |       |        |        |       |       |       |       |       |        |       |      |     |     |     |
|  | SCMT 09T308 - UF | 0.8 | 0.05-0.25       | 1.0-2.0    | ●      |        |        | ○      |        | ●      | ●      | ●      | ●      |       |        |        |       |       |       |       |       |        |       |      |     |     |     |
| -UG<br><br>General                       | SCMT 09T304 - UG | 0.4 | 0.15-0.30       | 0.5-2.5    | ●      | ○      | ●      | ○      |        | ●      | ●      | ●      | ●      | ○     |        |        |       | ○     |       |       |       |        |       |      |     |     |     |
|  | SCMT 09T308 - UG | 0.8 | 0.15-0.30       | 0.8-2.5    | ●      | ○      | ●      | ○      |        | ●      | ●      | ●      | ●      | ○     |        |        |       |       |       |       | ○     |        |       |      |     |     |     |
|  | SCMT 120408 - UG | 0.8 | 0.15-0.35       | 0.8-3.0    | ●      | ○      | ●      | ○      |        | ●      | ●      | ●      | ●      |       |        |        |       |       |       |       | ○     |        |       |      |     |     |     |
|  | SCMT 120412 - UG | 1.2 | 0.15-0.35       | 1.5-3.0    | ●      |        |        |        |        |        |        |        |        |       |        |        |       |       |       |       |       | ○      |       |      |     |     |     |
| -MF<br><br>Stainless steel<br>Finishing | SCMT 09T304 - MF | 0.4 | 0.06-0.22       | 0.1-2.0    |        |        |        |        |        |        |        |        |        |       | ●      | ●      |       |       |       |       |       |        |       |      |     |     |     |
|  | SCMT 09T308 - MF | 0.8 | 0.09-0.30       | 0.3-2.0    |        |        |        |        |        |        |        |        |        |       | ●      | ●      |       |       |       |       |       | ●      |       |      |     |     |     |
|  | SCMT 120404 - MF | 0.4 | 0.09-0.28       | 0.3-4.2    |        |        |        |        |        |        |        |        |        |       | ●      | ●      |       |       |       |       |       |        |       |      |     |     |     |
|  | SCMT 120408 - MF | 0.8 | 0.10-0.30       | 0.6-4.2    |        |        |        |        |        |        |        |        |        |       | ●      | ●      |       |       |       |       |       |        |       |      |     |     |     |
| -MM<br><br>Stainless steel<br>Medium    | SCMT 09T304 - MM | 0.4 | 0.08-0.24       | 0.4-3.2    |        |        |        |        |        |        |        |        |        |       | ●      | ●      |       |       |       |       |       |        |       |      |     |     |     |
|  | SCMT 09T308 - MM | 0.8 | 0.10-0.30       | 0.8-3.2    |        |        |        |        |        |        |        |        |        |       | ●      | ●      |       |       |       |       |       |        |       |      |     |     |     |
|  | SCMT 09T312 - MM | 1.2 | 0.12-0.35       | 0.9-3.2    |        |        |        |        |        |        |        |        |        |       | ●      | ●      |       |       |       |       |       |        |       |      |     |     |     |
|  | SCMT 120404 - MM | 0.4 | 0.09-0.28       | 0.3-4.2    |        |        |        |        |        |        |        |        |        |       | ●      | ●      |       |       |       |       |       |        |       |      |     |     |     |
|  | SCMT 120408 - MM | 0.8 | 0.10-0.30       | 0.6-4.2    |        |        |        |        |        |        |        |        |        |       | ●      | ●      | ●     | ●     | ●     | ●     |       |        |       |      |     |     |     |
|  | SCMT 120412 - MM | 1.2 | 0.16-0.45       | 1.2-4.2    |        |        |        |        |        |        |        |        |        |       | ●      | ●      |       |       |       |       |       |        |       |      |     |     |     |

## Turning Inserts - Positive **SCMT (Square)**

Refer to  
 Turning holder  
 p. 109, 133



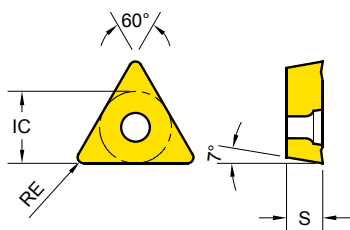
| Series    | IC     | S    |
|-----------|--------|------|
| SC** 09T3 | 9.525  | 3.97 |
| SC** 1204 | 12.700 | 4.76 |

EDP 2200.. ● : Stock item ○ : Order made item

| SCMT                        | Designation      | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | YG1010 | P05 | K20 | P10 | P15 | P10 | P25 | P20 | P30 | P20 | M25 | M35 | M15 | M30 | M40 | S10 | P15 | P10 | N20 | N20 |  |  |
|-----------------------------|------------------|-----|-----------------|------------|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|                             |                  |     |                 |            | K10    | K20 | K30 | M15 | M10 | K15 | K10 |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| <b>-PF</b><br><br>Finishing | SCMT 09T304 - PF | 0.4 | 0.06-0.22       | 0.1-2.0    |        |     |     |     |     |     |     |     | ●   |     |     |     |     |     |     |     |     |     |     |     |  |  |
|                             | SCMT 09T308 - PF | 0.8 | 0.09-0.30       | 0.3-2.0    |        |     |     |     |     |     |     |     | ●   |     |     |     |     |     |     |     |     |     |     |     |  |  |
|                             | SCMT 120404 - PF | 0.4 | 0.09-0.28       | 0.3-4.2    |        |     |     |     |     |     |     |     | ●   |     |     |     |     |     |     |     |     |     |     |     |  |  |
|                             | SCMT 120408 - PF | 0.8 | 0.10-0.30       | 0.6-4.2    |        |     |     |     |     |     |     |     | ●   |     |     |     |     |     |     |     |     |     |     |     |  |  |
| <b>-PM</b><br><br>Medium    | SCMT 09T304 - PM | 0.4 | 0.08-0.24       | 0.4-3.2    |        |     |     |     |     |     |     |     | ●   |     |     |     |     |     |     |     |     |     |     |     |  |  |
|                             | SCMT 09T308 - PM | 0.8 | 0.10-0.30       | 0.8-3.2    |        |     |     |     |     |     |     |     | ●   |     |     |     |     |     |     |     | ●   | ○   |     |     |  |  |
|                             | SCMT 09T312 - PM | 1.2 | 0.12-0.35       | 0.9-3.2    |        |     |     |     |     |     |     |     | ●   |     |     |     |     |     |     |     |     |     |     |     |  |  |
|                             | SCMT 120404 - PM | 0.4 | 0.09-0.28       | 0.3-4.2    |        |     |     |     |     |     |     |     | ●   |     |     |     |     |     |     |     |     |     |     |     |  |  |
|                             | SCMT 120408 - PM | 0.8 | 0.10-0.30       | 0.6-4.2    |        |     |     |     |     |     |     |     | ●   |     |     |     |     |     |     |     |     | ●   | ○   |     |  |  |
|                             | SCMT 120412 - PM | 1.2 | 0.16-0.45       | 1.2-4.2    |        |     |     |     |     |     |     |     | ●   |     |     |     |     |     |     |     |     |     |     |     |  |  |




## Turning Inserts - Positive TCGT / TCMT (Triangle)

Refer to  
Turning holder  
p. 110, 134



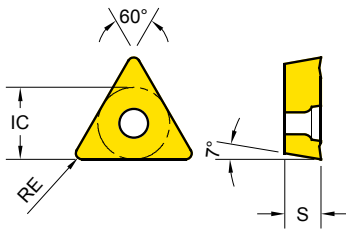
| Series    | IC    | S    |
|-----------|-------|------|
| TC** 0902 | 5.56  | 2.38 |
| TC** 1102 | 6.350 | 2.38 |
| TC** 16T3 | 9.525 | 3.97 |

EDP 2200.. ● : Stock item ○ : Order made item

| TCGT<br>TCMT  | Designation      | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | K10 | P05 | K20 | P10 | P15 | P10 | P25 | P20 | P30 | P20 | M25 | M35 | M15 | M30 | M40 | S10 | P15 | P10 | N20 | N20 |   |     |
|---|------------------|-----|-----------------|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|-----|
|   |                  |     |                 |            | K20 | K30 | K30 | K15 | K10 | N20 | N20 |     |     |     |     |     |     |     |     |     |     |     |     |     |   |     |
| -AL<br><br>Aluminum  | TCGT 110204 - AL | 0.4 | 0.03-0.30       | 0.10-4.0   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | ● |     |
|   | TCGT 16T302 - AL | 0.2 | 0.02-0.30       | 0.05-5.0   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |   | ● ● |
|   | TCGT 16T304 - AL | 0.4 | 0.03-0.40       | 0.10-5.5   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |   | ● ● |
|   | TCGT 16T308 - AL | 0.8 | 0.03-0.50       | 0.10-5.5   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |   | ● ● |
| -UF<br><br>Finishing | TCMT 090204 - UF | 0.4 | 0.05-0.20       | 0.5-1.5    | ●   |     |     |     |     |     | ●   |     | ●   |     |     |     |     |     |     |     |     |     |     |     |   |     |
|   | TCMT 110204 - UF | 0.4 | 0.05-0.20       | 0.5-2.0    |     |     |     | ○   |     |     | ● ● | ● ● |     |     |     |     |     | ○   | ○   | ○   |     |     |     |     |   |     |
|   | TCMT 16T304 - UF | 0.4 | 0.05-0.25       | 0.5-2.0    |     |     |     | ○   |     |     | ● ● | ● ● | ○   |     |     |     |     | ○   | ○   |     |     |     |     |     |   |     |
|   | TCMT 16T308 - UF | 0.8 | 0.05-0.25       | 0.8-2.0    |     |     |     | ○   |     |     | ● ● | ● ● | ● ● |     |     |     |     |     |     |     |     |     |     |     |   |     |
| -UG<br><br>General | TCMT 090204 - UG | 0.4 | 0.10-0.25       | 0.5-1.5    | ●   |     |     |     |     |     | ●   |     | ●   |     |     |     |     |     |     |     |     |     |     |     |   |     |
|   | TCMT 090208 - UG | 0.8 | 0.10-0.25       | 0.8-1.5    | ●   |     |     |     |     |     | ●   |     | ●   |     |     |     |     |     |     |     |     |     |     |     |   |     |
|   | TCMT 110204 - UG | 0.4 | 0.10-0.25       | 0.5-2.0    | ●   | ○   | ●   | ○   |     |     | ● ● | ● ● | ○   |     |     |     |     | ○   |     |     |     |     |     |     |   |     |
|   | TCMT 110208 - UG | 0.8 | 0.10-0.25       | 0.8-2.0    | ●   | ○   | ○   | ○   |     |     | ● ● | ● ● | ● ● |     |     |     |     |     |     |     |     |     |     |     |   |     |
|   | TCMT 16T304 - UG | 0.4 | 0.15-0.30       | 0.5-2.5    | ●   | ○   | ●   | ○   |     |     | ● ● | ● ● | ● ● |     |     |     |     |     |     |     |     |     |     |     |   |     |
|   | TCMT 16T308 - UG | 0.8 | 0.15-0.30       | 0.8-2.5    | ●   | ○   | ●   | ○   |     |     | ● ● | ● ● | ● ● | ○   |     |     |     | ○   | ○   |     |     |     |     |     |   |     |





# Turning Inserts - Positive TCMT (Triangle)

Refer to Turning holder p.110, 134



| Series    | IC    | S    |
|-----------|-------|------|
| TC** 1102 | 6.350 | 2.38 |
| TC** 16T3 | 9.525 | 3.97 |

EDP 2200.. ● : Stock item ○ : Order made item

| TCMT  | Designation      | RE  | Fn (mm/rev.) | Ap (mm)    | YG1010 | YG1001     | YG1020 | YG3010     | YG3015 | YG3115 | YG3125 | YG3020 | YG3030 | YG801 | YG2025 | YG2035 | YG211 | YG213 | YG214      | YG401 | YT100             | YT100G            | YG100 | YG10 |  |
|---|------------------|-----|--------------|------------|--------|------------|--------|------------|--------|--------|--------|--------|--------|-------|--------|--------|-------|-------|------------|-------|-------------------|-------------------|-------|------|--|
|   |                  |     |              |            | K10    | P05<br>K20 | K20    | P10<br>K30 | P15    | P10    | P25    | P20    | P30    | P20   | M25    | M35    | M15   | M30   | M40<br>S30 | S10   | P15<br>M15<br>K15 | P10<br>M10<br>K10 | N20   | N20  |  |
| -MF<br><br>Stainless steel Finishing | TCMT 110202 - MF | 0.2 | 0.04-0.14    | 0.1 - 1.7  |        |            |        |            |        |        |        |        |        |       | ●      | ●      |       |       |            |       |                   |                   |       |      |  |
|   | TCMT 110204 - MF | 0.4 | 0.07-0.20    | 0.2 - 1.7  |        |            |        |            |        |        |        |        |        |       | ●      | ●      |       |       |            |       | ●                 |                   |       |      |  |
|   | TCMT 110208 - MF | 0.8 | 0.07-0.25    | 0.3 - 1.7  |        |            |        |            |        |        |        |        |        |       | ●      | ●      |       |       |            |       | ●                 |                   |       |      |  |
|   | TCMT 16T304 - MF | 0.4 | 0.06-0.25    | 0.10 - 2.0 |        |            |        |            |        |        |        |        |        |       | ●      | ●      | ●     | ●     | ●          | ●     | ●                 |                   |       |      |  |
|   | TCMT 16T308 - MF | 0.8 | 0.08-0.30    | 0.15 - 2.0 |        |            |        |            |        |        |        |        |        |       | ●      | ●      | ●     | ●     | ●          | ●     | ●                 |                   |       |      |  |
| -MM<br><br>Stainless steel Medium   | TCMT 110204 - MM | 0.4 | 0.06-0.19    | 0.25 - 2.2 |        |            |        |            |        |        |        |        |        |       | ●      | ●      |       |       |            |       |                   |                   |       |      |  |
|   | TCMT 110208 - MM | 0.8 | 0.09-0.26    | 0.5 - 2.2  |        |            |        |            |        |        |        |        |        |       | ●      | ●      |       |       |            |       |                   |                   |       |      |  |
|   | TCMT 16T304 - MM | 0.4 | 0.08-0.25    | 0.25 - 3.0 |        |            |        |            |        |        |        |        |        |       | ●      | ●      | ●     | ●     | ●          | ●     | ●                 |                   |       |      |  |
|   | TCMT 16T308 - MM | 0.8 | 0.10-0.30    | 0.50 - 3.0 |        |            |        |            |        |        |        |        |        |       | ●      | ●      | ●     | ●     | ●          | ●     | ●                 |                   |       |      |  |
|   | TCMT 16T312 - MM | 1.2 | 0.12-0.36    | 0.9 - 3.0  |        |            |        |            |        |        |        |        |        |       | ●      | ●      |       |       |            |       |                   |                   |       |      |  |
| -PF<br><br>Medium                  | TCMT 110202 - PF | 0.2 | 0.04-0.14    | 0.1 - 1.7  |        |            |        |            |        | ●      |        |        |        | ●     |        |        |       |       |            |       |                   |                   |       |      |  |
|   | TCMT 110204 - PF | 0.4 | 0.07-0.20    | 0.2 - 1.7  |        |            |        |            |        | ●      |        |        |        | ●     |        |        |       |       |            |       |                   | ●                 | ○     |      |  |
|   | TCMT 110208 - PF | 0.8 | 0.07-0.25    | 0.3 - 1.7  |        |            |        |            |        | ●      |        |        |        | ●     |        |        |       |       |            |       |                   |                   |       |      |  |
|   | TCMT 16T304 - PF | 0.4 | 0.06-0.25    | 0.10 - 2.0 |        |            |        |            |        | ●      |        |        |        | ●     |        |        |       |       |            |       |                   | ●                 | ○     |      |  |
|   | TCMT 16T308 - PF | 0.8 | 0.08-0.30    | 0.15 - 2.0 |        |            |        |            |        | ●      |        |        |        | ●     |        |        |       |       |            |       |                   | ●                 | ○     |      |  |
| -PM<br><br>Medium                  | TCMT 110204 - PM | 0.4 | 0.06-0.19    | 0.25 - 2.2 |        |            |        |            |        | ●      |        |        |        | ●     |        |        |       |       |            |       |                   |                   |       |      |  |
|   | TCMT 110208 - PM | 0.8 | 0.09-0.26    | 0.5 - 2.2  |        |            |        |            |        | ●      |        |        |        | ●     |        |        |       |       |            |       |                   |                   |       |      |  |
|   | TCMT 16T304 - PM | 0.4 | 0.08-0.25    | 0.25 - 3.0 |        |            |        |            |        | ●      |        |        |        | ●     |        |        |       |       |            |       |                   | ●                 | ○     |      |  |
|   | TCMT 16T308 - PM | 0.8 | 0.10-0.30    | 0.50 - 3.0 |        |            |        |            |        | ●      |        |        |        | ●     |        |        |       |       |            |       |                   | ●                 | ○     |      |  |
|   | TCMT 16T312 - PM | 1.2 | 0.12-0.36    | 0.9 - 3.0  |        |            |        |            |        | ●      |        |        |        | ●     |        |        |       |       |            |       |                   | ●                 | ○     |      |  |

TURNING

PARTING & GROOVING

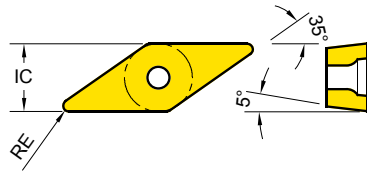
MILLING

DRILLING

TECHNICAL INFORMATION

## Turning Inserts - Positive VBGT / VBMT (35° Rhombic)

Refer to  
Turning holder  
p. 111, 135



| Series    | IC    | S    |
|-----------|-------|------|
| VB** 1103 | 6.350 | 3.18 |
| VB** 1604 | 9.525 | 4.76 |

TURNING








PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

EDP 2200.. ● : Stock item ○ : Order made item

| VBGT<br>VBMT  | Designation      | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | K10 | P05 | K20 | P10 | P15 | P10 | P25 | P20 | P30 | P20 | M25 | M35 | M15 | M30 | M40 | S10 | P15 | P10 | N20 | N20 |  |  |
|---|------------------|-----|-----------------|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|   |                  |     |                 |            | K20 | K30 | K30 | S30 | K15 | K10 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| <b>-SF</b><br><br>HRSA Finishing                 | VBGT 110301 - SF | 0.1 | 0.01 - 0.20     | 0.10 - 1.5 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|   | VBGT 110302 - SF | 0.2 | 0.02 - 0.20     | 0.10 - 1.5 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|   | VBGT 110304 - SF | 0.4 | 0.05 - 0.20     | 0.20 - 1.5 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|   | VBGT 160404 - SF | 0.4 | 0.05 - 0.20     | 0.20 - 2.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|   | VBGT 160408 - SF | 0.8 | 0.05 - 0.20     | 0.4 - 2.0  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| <b>-UF</b><br><br>Finishing                      | VBMT 110304 - UF | 0.4 | 0.04 - 0.16     | 0.10 - 0.8 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|   | VBMT 110308 - UF | 0.4 | 0.04 - 0.16     | 0.40 - 1.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|   | VBMT 160404 - UF | 0.4 | 0.05 - 0.25     | 0.50 - 2.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|   | VBMT 160408 - UF | 0.8 | 0.05 - 0.25     | 0.80 - 2.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| <b>-UG</b><br><br>General                      | VBMT 160404 - UG | 0.4 | 0.15 - 0.30     | 0.50 - 2.5 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|   | VBMT 160408 - UG | 0.8 | 0.15 - 0.30     | 0.80 - 2.5 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| <b>-MF</b><br><br>Stainless steel<br>Finishing | VBMT 110304 - MF | 0.4 | 0.05 - 0.20     | 0.1 - 1.7  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|   | VBMT 110308 - MF | 0.8 | 0.07 - 0.23     | 0.3 - 1.7  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|   | VBMT 160402 - MF | 0.2 | 0.04 - 0.15     | 0.10 - 2.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|   | VBMT 160404 - MF | 0.4 | 0.05 - 0.20     | 0.20 - 2.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|   | VBMT 160408 - MF | 0.8 | 0.07 - 0.27     | 0.30 - 2.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| <b>-MM</b><br><br>Stainless steel<br>Medium    | VBMT 110304 - MM | 0.4 | 0.06 - 0.18     | 0.25 - 2.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|   | VBMT 110308 - MM | 0.8 | 0.07 - 0.23     | 0.5 - 2.2  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|   | VBMT 160404 - MM | 0.4 | 0.07 - 0.21     | 0.25 - 2.7 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|   | VBMT 160408 - MM | 0.8 | 0.08 - 0.27     | 0.50 - 2.7 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| <b>-PF</b><br><br>Cermet Medium                | VBMT 110304 - PF | 0.4 | 0.05 - 0.20     | 0.1 - 1.7  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|   | VBMT 110308 - PF | 0.8 | 0.07 - 0.23     | 0.3 - 1.7  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|   | VBMT 160402 - PF | 0.2 | 0.04 - 0.15     | 0.10 - 2.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|   | VBMT 160404 - PF | 0.4 | 0.05 - 0.20     | 0.20 - 2.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|   | VBMT 160408 - PF | 0.8 | 0.07 - 0.27     | 0.30 - 2.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| <b>-PM</b><br><br>Cermet Medium                | VBMT 110304 - PM | 0.4 | 0.06 - 0.18     | 0.25 - 2.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|   | VBMT 110308 - PM | 0.8 | 0.07 - 0.23     | 0.5 - 2.2  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|   | VBMT 160404 - PM | 0.4 | 0.07 - 0.21     | 0.25 - 2.7 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|   | VBMT 160408 - PM | 0.8 | 0.08 - 0.27     | 0.50 - 2.7 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |



## Turning Inserts - Positive VCMT (35° Rhombic)

Refer to  
Turning holder  
p. 112, 136

TURNING

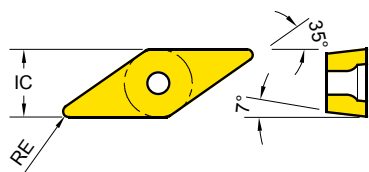
PARTING & GROOVING

MILLING





DRILLING

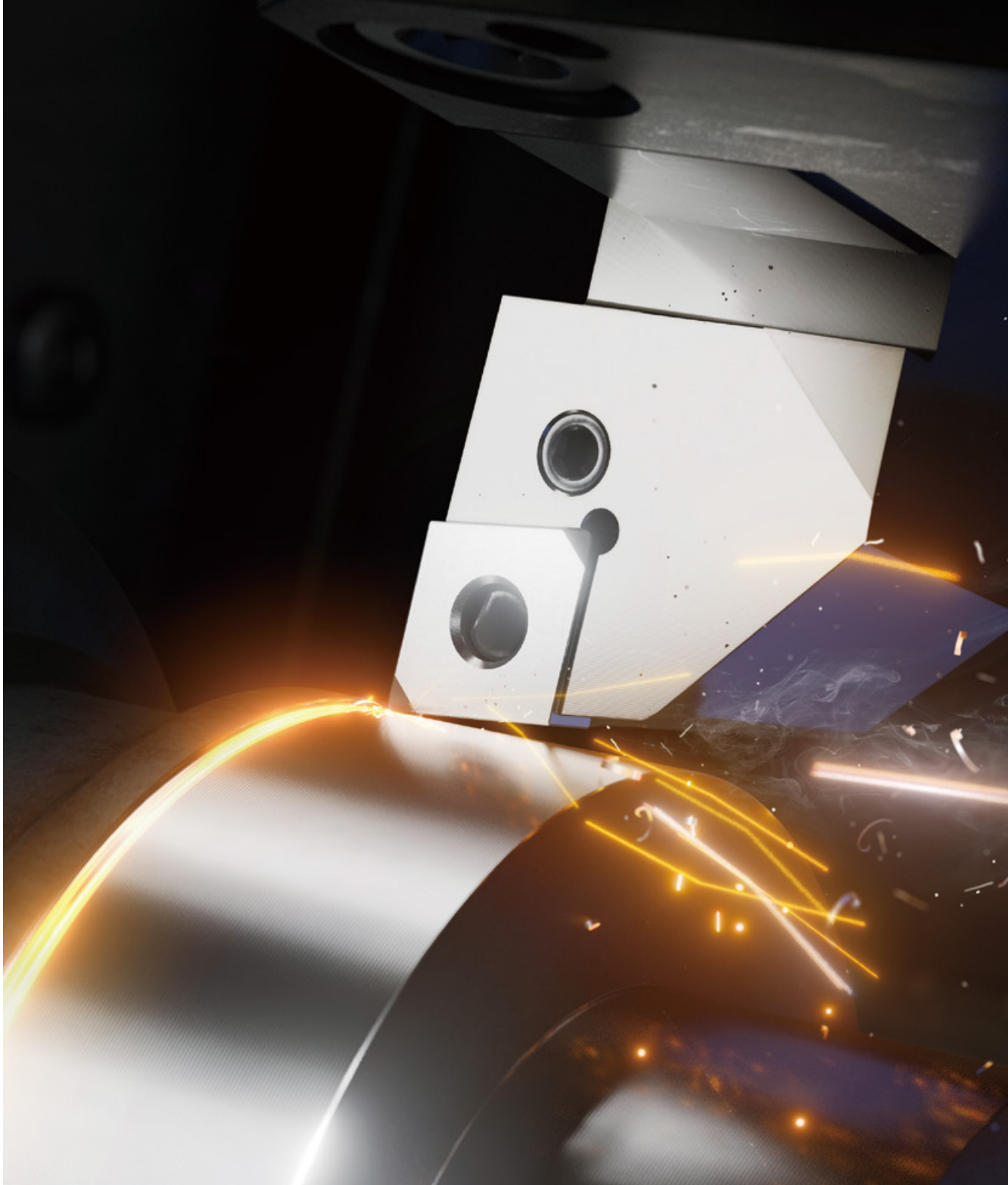
TECHNICAL INFORMATION

| Series    | IC    | S    |
|-----------|-------|------|
| VC** 1103 | 6.350 | 3.18 |
| VC** 1604 | 9.525 | 4.76 |



EDP 2200.. ● : Stock item ○ : Order made item

| VCMT  | Designation      | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | K10    | P05    | K20    | P10    | P15    | P10    | P25    | P20    | P30    | P20   | M25    | M35    | M15   | M30   | M40   | S30   | S10   | P15    | P10   | N20  | N20 |
|---|------------------|-----|-----------------|------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|--------|--------|-------|-------|-------|-------|-------|--------|-------|------|-----|
|   |                  |     |                 |            | YG1010 | YG1001 | YG1020 | YG3010 | YG3015 | YG3115 | YG3125 | YG3020 | YG3030 | YG801 | YG2025 | YG2035 | YG211 | YG213 | YG214 | YG401 | YT100 | YT100G | YG100 | YG10 |     |
| <b>-MF</b><br><br>Stainless steel<br>Finishing | VCMT 110304 - MF | 0.4 | 0.05 - 0.20     | 0.1 - 1.7  |        |        |        |        |        |        |        |        |        |       |        |        |       |       |       |       |       |        |       |      |     |
|   | VCMT 160404 - MF | 0.4 | 0.05 - 0.20     | 0.2 - 2.0  |        |        |        |        |        |        |        |        |        |       |        | ●      | ●     |       |       |       |       |        |       |      |     |
|   | VCMT 160408 - MF | 0.8 | 0.07 - 0.27     | 0.3 - 2.0  |        |        |        |        |        |        |        |        |        |       |        | ●      | ●     |       |       |       |       |        |       |      |     |
| <b>-MM</b><br><br>Stainless steel<br>Medium    | VCMT 110304 - MM | 0.4 | 0.06 - 0.18     | 0.25 - 2.2 |        |        |        |        |        |        |        |        |        |       |        | ●      | ●     |       |       |       |       |        |       |      |     |
|   | VCMT 160404 - MM | 0.4 | 0.07 - 0.21     | 0.25 - 2.7 |        |        |        |        |        |        |        |        |        |       |        | ●      | ●     |       |       |       |       |        |       |      |     |
|   | VCMT 160408 - MM | 0.8 | 0.08 - 0.27     | 0.5 - 2.7  |        |        |        |        |        |        |        |        |        |       |        | ●      | ●     |       |       |       |       |        |       |      |     |
| <b>-PF</b><br><br>Finishing                  | VCMT 110304 - PF | 0.4 | 0.05 - 0.20     | 0.1 - 1.7  |        |        |        |        |        | ●      |        |        | ●      |       |        |        |       |       |       |       |       | ●      | ○     |      |     |
|   | VCMT 160404 - PF | 0.4 | 0.05 - 0.20     | 0.2 - 2.0  |        |        |        |        |        | ●      |        |        | ●      |       |        |        |       |       |       |       |       |        |       |      |     |
|   | VCMT 160408 - PF | 0.8 | 0.07 - 0.27     | 0.3 - 2.0  |        |        |        |        |        | ●      |        |        | ●      |       |        |        |       |       |       |       |       |        |       |      |     |
| <b>-PM</b><br><br>Medium                     | VCMT 110304 - PM | 0.4 | 0.06 - 0.18     | 0.25 - 2.2 |        |        |        |        |        | ●      |        |        | ●      |       |        |        |       |       |       |       |       |        |       |      |     |
|   | VCMT 160404 - PM | 0.4 | 0.07 - 0.21     | 0.25 - 2.7 |        |        |        |        |        | ●      |        |        | ●      |       |        |        |       |       |       |       |       |        |       |      |     |
|   | VCMT 160408 - PM | 0.8 | 0.08 - 0.27     | 0.5 - 2.7  |        |        |        |        |        | ●      |        |        | ●      |       |        |        |       |       |       |       |       |        |       |      |     |



# PCBN TURNING

**Product Overview**








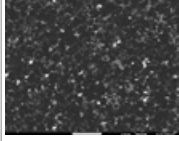
**PCBN - Turning Inserts Overview**

**PCBN Turning Inserts**

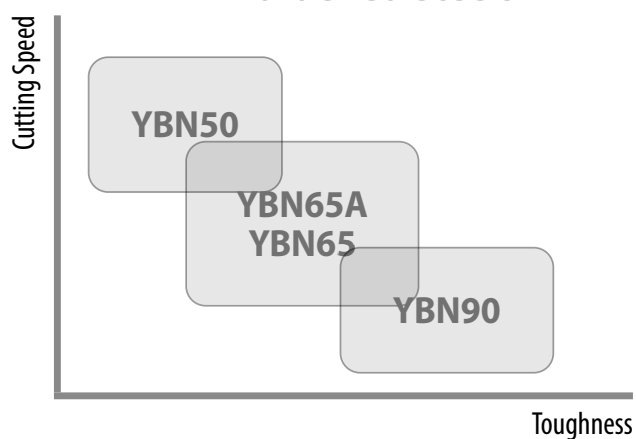
Product Overview

**PCBN - Turning Grades**

| Turning Grades |        | K Cast iron |     |     | H Hardened Steel |       |     |
|----------------|--------|-------------|-----|-----|------------------|-------|-----|
|                |        | K10         | K20 | K30 | H10              | H20   | H30 |
| PCBN           | YBN50  |             |     |     | YBN50            |       |     |
|                | YBN65  |             |     |     | YBN65            |       |     |
|                | YBN65A |             |     |     | YBN65A           |       |     |
|                | YBN90  | YBN90       |     |     |                  | YBN90 |     |

|   |  |
|---|--|
| <p><b>NEW</b></p> <p><b>YBN50</b></p> <p>H5 - H15</p>                         | <p>Uncoated PCBN grade for<br/>Continuous to light interrupted turning of hardened steels</p> <ul style="list-style-type: none"> <li>• Low content PCBN with excellent chemical wear resistance</li> </ul>   |
| <p><b>NEW</b></p> <p><b>YBN65A</b></p> <p>H10 - H25</p>                    | <p>Coated PCBN Grade for<br/>Continuous to Medium interrupted turning of hardened steels</p> <ul style="list-style-type: none"> <li>• A coated (AlTiSiN Multi layer) PCBN grade for higher cutting speed</li> <li>• Medium content PCBN with superior edge toughness, Good flank and crater wear resistance</li> <li>• Suitable for both roughing and finishing</li> </ul> |
| <p><b>NEW</b></p> <p><b>YBN65</b></p> <p>H10 - H25</p>                    | <p>Uncoated PCBN grade for<br/>Continuous to Medium interrupted turning of hardened steels</p> <ul style="list-style-type: none"> <li>• Medium content PCBN with superior edge toughness, good flank and crater wear resistance</li> <li>• Suitable for both roughing and finishing</li> </ul>   |
| <p><b>NEW</b></p> <p><b>YBN90</b></p> <p>H20 - H35</p> <p>K05 - K20</p>   | <p>Uncoated PCBN grade of Severe interrupted turning of hardened steels, and the Stable machining of Gray Cast iron, Sintered alloy steel</p> <ul style="list-style-type: none"> <li>• High content PCBN with high wear resistance, superior impact strength</li> <li>• Excellent edge quality and retention</li> </ul>  |

**H - Hardened Steels**



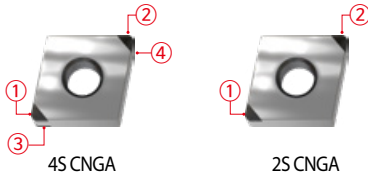
Product Overview

# PCBN - Turning Insert Code System

|   |                                     |   |  |   |                              |  |
|---|-------------------------------------|---|--|---|------------------------------|--|
| <b>1</b><br><b>2</b><br>Number of PCBN corner | <b>2</b><br><b>S</b><br>PCBN Length | <b>3</b><br><b>CNGA120408</b><br>Insert ISO Code System | <b>4</b><br><b>S</b><br>Edge preparation | <b>5</b><br><b>010</b><br>① Chamfer width | <b>20</b><br>② Chamfer angel | <b>6</b><br><b>WG</b><br>Special shape |
|---|-------------------------------------|---|--|---|------------------------------|--|

## 1 - Number of PCBN corner

|          |                 |
|----------|-----------------|
| <b>1</b> | One corner PCBN |
| <b>2</b> | Two corner PCBN |



## 3 - Insert ISO Code System

|                   |
|-------------------|
| Refer to Page. 20 |
|-------------------|

## 6 - Special shape

|             |          |
|-------------|----------|
| <b>WG</b>   | Wiper    |
| <b>None</b> | No Wiper |

## 4 - Edge preparation

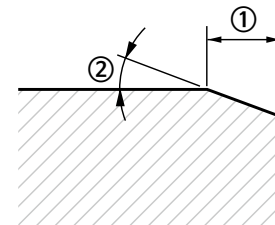
|          |                     |
|----------|---------------------|
| <b>T</b> | T-Land, None Honing |
| <b>S</b> | T-Land with Honed   |
| <b>X</b> | Special land shape  |

## 2 - PCBN Length

|           |                                     |
|-----------|-------------------------------------|
| <b>N</b>  | Normal PCBN tip length, Regrindable |
| <b>S</b>  | Small PCBN tip length One time use  |
| <b>SD</b> | Solid PCBN                          |
| <b>FT</b> | Full Top PCBN                       |

## 5 - Chamfer

|   |                                  |
|---|----------------------------------|
| ① | Chamfer width (010 means 0.10mm) |
| ② | Chamfer angle (20 means 20°)     |



# Grade Name Code System

|                                      |                                    |   |   |
|--------------------------------------|------------------------------------|---|---|
| <b>1</b><br><b>Y</b><br>Company Name | <b>2</b><br><b>BN</b><br>Materials | <b>3</b><br><b>65</b><br>Contents of PCBN | <b>4</b><br><b>A</b><br>Kind of Coating |
|--------------------------------------|------------------------------------|---|---|

## 1 - Company Name

|          |      |
|----------|------|
| <b>Y</b> | YG-1 |
|----------|------|

## 2 - Materials

|           |      |
|-----------|------|
| <b>BN</b> | PCBN |
|-----------|------|

## 3 - Contents of PCBN





|           |     |
|-----------|-----|
| <b>50</b> | 50% |
| <b>65</b> | 65% |
| <b>90</b> | 90% |

## 4 - Kind of Coating






|             |                     |
|-------------|---------------------|
| <b>None</b> | Uncoated            |
| <b>A</b>    | AlTiSiN multi-layer |
| <b>B</b>    | TiAlN-TiN           |

## PCBN - Turning Inserts Overview

## Negative Inserts

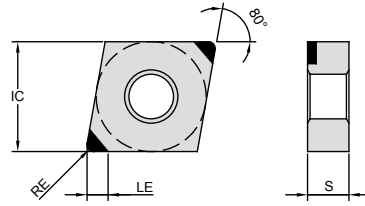
| Shape   | Series | No. of PCBN Eege | Size & Thickness |      |      |      |      |    | Page |
|---|--------|------------------|------------------|------|------|------|------|----|------|
| <b>C</b><br>   | CNGA   | 2                |                  | 1204 |      |      |      | 75 |      |
|   |        | 4                |                  | 1204 |      |      |      |    |      |
| <b>D</b><br>   | DNGA   | 2                |                  |      | 1504 | 1506 |      | 76 |      |
|   |        | 4                |                  |      | 1504 |      |      |    |      |
| <b>S</b><br>   | SNGA   | 4                |                  | 1204 |      |      |      | 77 |      |
| <b>T</b><br>   | TNGA   | 3                |                  |      |      |      | 1604 | 78 |      |
|   |        | 6                |                  |      |      |      | 1604 |    |      |
| <b>V</b><br>  | VNGA   | 2                |                  |      |      |      | 1604 | 79 |      |
| <b>W</b><br> | WNGA   | 3                | 0804             |      |      |      |      | 80 |      |
|   |        | 6                | 0804             |      |      |      |      |    |      |

## Positive Inserts

| Shape   | Series | No. of PCBN Eege | Size & Thickness |      |      |      |      |      | Page |
|---|--------|------------------|------------------|------|------|------|------|------|------|
| <b>C</b><br> | CCGW   | 2                | 0602             |      | 09T3 |      |      |      | 81   |
| <b>D</b><br> | DCGW   | 2                |                  | 0702 |      |      | 11T3 |      | 82   |
| <b>S</b><br> | SCGW   | 2                |                  |      | 09T3 |      |      |      | 83   |
| <b>T</b><br> | TCGW   | 3                |                  | 0902 | 1102 |      |      | 16T3 | 84   |
|   | TPGW   | 3                |                  | 0902 |      | 1103 | 1604 |      | 85   |
| <b>V</b><br> | VBGW   |                  |                  |      |      | 1103 | 1604 |      | 86   |
|   | VCGW   |                  |                  |      |      | 1103 | 1604 |      | 87   |

# Turning Inserts - Negative CNGA - PCBN (80° Rhombic)

Refer to Turning holder  
p. 92, 97, 113, 118, 124



| Series    | IC    | S    |
|-----------|-------|------|
| CN.. 1204 | 12.70 | 4.76 |

EDP 2200..

● : Stock item ○ : Order made item

|  | H05 - H15 | H10 - H25 | H10 - H25 | H20 - H35 |
|--|-----------|-----------|-----------|-----------|
|  | YBN50     | YBN65     | YBN65A    | YBN90     |
|  |           | ● 3008    |           |           |
|  | ● 3009    | ● 3010    | ● 3011    |           |
|  |           |           |           | ● 3065    |
|  |           | ● 3012    | ● 3013    |           |
|  |           | ● 3014    |           |           |
|  |           | ● 3015    |           |           |
|  | ● 3016    | ● 3017    | ● 3018    |           |
|  |           |           |           | ● 3066    |
|  | ● 3019    | ● 3020    | ● 3021    |           |
|  |           |           |           | ● 3067    |
|  |           | ● 3022    |           |           |

| CNGA | Designation             | RE  | LE  | Fn (mm/rev.) | Ap (mm)     | No. of PCBN Edge |
|------|-------------------------|-----|-----|--------------|-------------|------------------|
|      | 2S CNGA120404 S01225    | 0.4 | 2.5 | 0.03 ~ 0.20  | 0.05 ~ 0.30 | 2                |
|      | 2S CNGA120408 S01225    | 0.8 | 2.4 | 0.03 ~ 0.20  | 0.05 ~ 0.30 | 2                |
|      | 2S CNGA120408 T01020    | 0.8 | 2.4 | 0.03 ~ 0.20  | 0.05 ~ 0.30 | 2                |
|      | 4S CNGA120408 S01225    | 0.8 | 2.4 | 0.03 ~ 0.20  | 0.05 ~ 0.30 | 4                |
|      | 2S CNGA120412 S01225    | 1.2 | 2.3 | 0.03 ~ 0.20  | 0.05 ~ 0.30 | 2                |
|      | 2S CNGA120404 S01215 WG | 0.4 | 2.5 | 0.03 ~ 0.20  | 0.05 ~ 0.30 | 2                |
|      | 2S CNGA120408 S01215 WG | 0.8 | 2.4 | 0.03 ~ 0.20  | 0.05 ~ 0.30 | 2                |
|      | 2S CNGA120408 T01020 WG | 0.8 | 2.4 | 0.03 ~ 0.20  | 0.05 ~ 0.30 | 2                |
|      | 4S CNGA120408 S01215 WG | 0.8 | 2.4 | 0.03 ~ 0.20  | 0.05 ~ 0.30 | 4                |
|      | 4S CNGA120408 T01020 WG | 0.8 | 2.4 | 0.03 ~ 0.20  | 0.05 ~ 0.30 | 4                |
|      | 2S CNGA120412 S01215 WG | 1.2 | 2.3 | 0.03 ~ 0.20  | 0.05 ~ 0.30 | 2                |



TURNING

PARTING & GROOVING

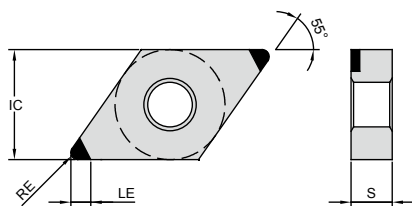
MILLING

DRILLING

TECHNICAL INFORMATION

Turning Inserts - Negative  
**DNGA - PCBN (55° Rhombic)**

Refer to  
Turning holder  
p. 93, 98, 114, 119, 124



| Series    | IC    | S    |
|-----------|-------|------|
| DN.. 1504 | 12.70 | 4.76 |
| DN.. 1506 | 12.70 | 6.35 |

TURNING

PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

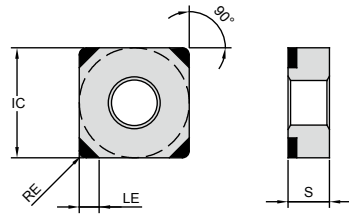
|  | H05 - H15 | H10 - H25 | H10 - H25 | H20 - H35 |
|--|-----------|-----------|-----------|-----------|
|  | YBN50     | YBN65     | YBN65A    | YBN90     |
|  |           | ●<br>3023 |           |           |
|  | ●<br>3024 | ●<br>3025 | ●<br>3026 |           |
|  |           |           |           | ●<br>3068 |
|  |           | ●<br>3027 | ●<br>3028 |           |
|  |           | ●<br>3029 |           |           |
|  |           | ●<br>3030 |           |           |
|  | ●<br>3031 | ●<br>3032 | ●<br>3033 |           |
|  |           |           |           | ●<br>3069 |
|  |           | ●<br>3034 |           |           |

| DNGA | Designation          | RE  | LE  | Fn<br>(mm/rev.) | Ap<br>(mm) | No. of<br>PCBN Eege |
|------|----------------------|-----|-----|-----------------|------------|---------------------|
|      | 2S DNGA150404 S01225 | 0.4 | 2.5 | 0.03~0.20       | 0.05~0.30  | 2                   |
|      | 2S DNGA150408 S01225 | 0.8 | 2.3 | 0.03~0.20       | 0.05~0.30  | 2                   |
|      | 2S DNGA150408 T01020 | 0.8 | 2.3 | 0.03~0.20       | 0.05~0.30  | 2                   |
|      | 4S DNGA150408 S01225 | 0.8 | 2.3 | 0.03~0.20       | 0.05~0.30  | 4                   |
|      | 2S DNGA150412 S01225 | 1.2 | 2   | 0.03~0.20       | 0.05~0.30  | 2                   |
|      | 2S DNGA150604 S01225 | 0.4 | 2.5 | 0.03~0.20       | 0.05~0.30  | 2                   |
|      | 2S DNGA150608 S01225 | 0.8 | 2.3 | 0.03~0.20       | 0.05~0.30  | 2                   |
|      | 2S DNGA150608 T01020 | 0.8 | 2.3 | 0.03~0.20       | 0.05~0.30  | 2                   |
|      | 2S DNGA150612 S01225 | 1.2 | 2.0 | 0.03~0.20       | 0.05~0.30  | 2                   |



Turning Inserts - Negative  
**SNGA - PCBN (Square)**

Refer to  
Turning holder  
p. 94, 100, 115, 120



| Series    | IC    | S    |
|-----------|-------|------|
| SN.. 1204 | 12.70 | 4.76 |

| SNGA | Designation          | RE  | LE  | Fn<br>(mm/rev.) | Ap<br>(mm)  | No. of<br>PCBN Edge | H05 - H15 | H10 - H25 | H10 - H25 | H20 - H35          |
|------|----------------------|-----|-----|-----------------|-------------|---------------------|-----------|-----------|-----------|--------------------|
|      |                      |     |     |                 |             |                     | YBN50     | YBN65     | YBN65A    | K05 - K20<br>YBN90 |
|      | 4S SNGA120404 S01225 | 0.4 | 2.3 | 0.03 ~ 0.20     | 0.05 ~ 0.30 | 4                   |           | ●<br>3035 |           |                    |
|      | 4S SNGA120408 S01225 | 0.8 | 2.3 | 0.03 ~ 0.20     | 0.05 ~ 0.30 | 4                   | ●<br>3036 | ●<br>3037 | ●<br>3038 |                    |
|      | 4S SNGA120408 T01020 | 0.8 | 2.3 | 0.03 ~ 0.20     | 0.05 ~ 0.30 | 4                   |           |           |           | ●<br>3070          |
|      | 4S SNGA120412 S01225 | 1.2 | 2.3 | 0.03 ~ 0.20     | 0.05 ~ 0.30 | 4                   |           | ●<br>3039 |           |                    |

TURNING

PARTING & GROOVING

MILLING

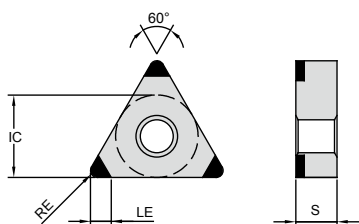
DRILLING

TECHNICAL INFORMATION

Turning Inserts - Negative  
**TNGA - PCBN (60° Triangle)**

Refer to  
Turning holder  
p. 95, 101, 116, 121, 125

| Series    | IC    | S    |
|-----------|-------|------|
| TN.. 1604 | 9.525 | 4.76 |



TURNING

PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

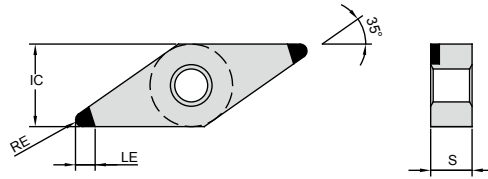
| H05 - H15 | H10 - H25 | H10 - H25 | H20 - H35 |
|-----------|-----------|-----------|-----------|
| YBN50     | YBN65     | YBN65A    | YBN90     |
|           | ●<br>3040 |           |           |
| ●<br>3041 | ●<br>3042 | ●<br>3043 |           |
|           |           |           | ●<br>3071 |
|           | ●<br>3044 | ●<br>3045 |           |
|           | ●<br>3046 |           |           |

| TNGA | Designation          | RE  | LE  | Fn<br>(mm/rev.) | Ap<br>(mm) | No. of<br>PCBN Eege |
|------|----------------------|-----|-----|-----------------|------------|---------------------|
|      | 3S TNGA160404 S01225 | 0.4 | 2.6 | 0.03~0.20       | 0.05~0.30  | 3                   |
|      | 3S TNGA160408 S01225 | 0.8 | 2.3 | 0.03~0.20       | 0.05~0.30  | 3                   |
|      | 3S TNGA160408 T01020 | 0.8 | 2.3 | 0.03~0.20       | 0.05~0.30  | 3                   |
|      | 6S TNGA160408 S01225 | 0.8 | 2.3 | 0.03~0.20       | 0.05~0.30  | 6                   |
|      | 3S TNGA160412 S01225 | 1.2 | 2   | 0.03~0.20       | 0.05~0.30  | 3                   |

# Turning Inserts - Negative VNGA - PCBN (35° Rhombic)

Refer to Turning holder p. 102, 122

| Series    | IC    | S    |
|-----------|-------|------|
| VN.. 1604 | 9.525 | 4.76 |



| VNGA | Designation         | RE  | LE  | Fn (mm/rev.) | Ap (mm)     | No. of PCBN Eege | H05 - H15 | H10 - H25 | H10 - H25 | H20 - H35          |
|------|---------------------|-----|-----|--------------|-------------|------------------|-----------|-----------|-----------|--------------------|
|      |                     |     |     |              |             |                  | YBN50     | YBN65     | YBN65A    | K05 - K20<br>YBN90 |
|      | 2SVNGA160404 S01225 | 0.4 | 2.5 | 0.03 ~ 0.20  | 0.05 ~ 0.30 | 2                |           | ●<br>3047 |           |                    |
|      | 2SVNGA160408 S01225 | 0.8 | 2   | 0.03 ~ 0.20  | 0.05 ~ 0.30 | 2                | ●<br>3048 | ●<br>3049 | ●<br>3050 |                    |
|      | 2SVNGA160408 T01020 | 0.8 | 2   | 0.03 ~ 0.20  | 0.05 ~ 0.30 | 2                |           |           |           | ●<br>3072          |



TURNING

PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

Turning Inserts - Negative  
**WNGA - PCBN (80° Trigon)**

Refer to  
Turning holder  
p. 96, 103, 105, 117, 123, 126

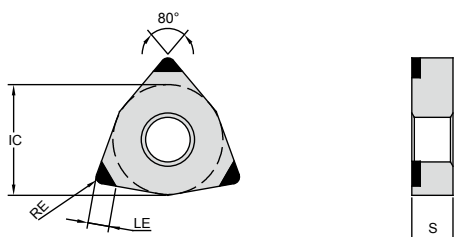
TURNING

PARTING & GROOVING

MILLING

DRILLING

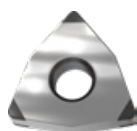
TECHNICAL INFORMATION



| Series    | IC    | S    |
|-----------|-------|------|
| WN.. 0804 | 12.70 | 4.76 |

| H05 - H15 | H10 - H25 | H10 - H25 | H20 - H35 |
|-----------|-----------|-----------|-----------|
|           |           |           | K05 - K20 |
| YBN50     | YBN65     | YBN65A    | YBN90     |
|           | ●<br>3051 |           |           |
| ●<br>3052 | ●<br>3053 | ●<br>3054 |           |
|           |           |           | ●<br>3073 |
|           | ●<br>3055 | ●<br>3056 |           |
|           | ●<br>3057 |           |           |
|           | ●<br>3058 |           |           |
| ●<br>3059 | ●<br>3060 | ●<br>3061 |           |
|           |           |           | ●<br>3074 |
|           | ●<br>3062 | ●<br>3063 |           |
|           | ●<br>3064 |           |           |

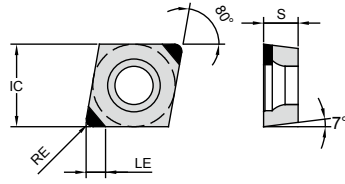
| WNGA | Designation             | RE  | LE  | Fn<br>(mm/rev.) | Ap<br>(mm) | No. of<br>PCBN Eege |           |           |           |           |
|------|-------------------------|-----|-----|-----------------|------------|---------------------|-----------|-----------|-----------|-----------|
|      |                         |     |     |                 |            |                     | YBN50     | YBN65     | YBN65A    | YBN90     |
|      | 3S WNGA080404 S01225    | 0.4 | 2.5 | 0.03~0.20       | 0.05~0.30  | 3                   |           | ●<br>3051 |           |           |
|      | 3S WNGA080408 S01225    | 0.8 | 2.4 | 0.03~0.20       | 0.05~0.30  | 3                   | ●<br>3052 | ●<br>3053 | ●<br>3054 |           |
|      | 3S WNGA080408 T01020    | 0.8 | 2.4 | 0.03~0.20       | 0.05~0.30  | 3                   |           |           |           | ●<br>3073 |
|      | 6S WNGA080408 S01225    | 0.8 | 2.4 | 0.03~0.20       | 0.05~0.30  | 6                   |           | ●<br>3055 | ●<br>3056 |           |
|      | 3S WNGA080412 S01225    | 1.2 | 2.3 | 0.03~0.20       | 0.05~0.30  | 3                   |           | ●<br>3057 |           |           |
|      | 3S WNGA080404 S01215 WG | 0.4 | 2.5 | 0.03~0.20       | 0.05~0.30  | 3                   |           | ●<br>3058 |           |           |
|      | 3S WNGA080408 S01215 WG | 0.8 | 2.4 | 0.03~0.20       | 0.05~0.30  | 3                   | ●<br>3059 | ●<br>3060 | ●<br>3061 |           |
|      | 3S WNGA080408 T01020 WG | 0.8 | 2.4 | 0.03~0.20       | 0.05~0.30  | 3                   |           |           |           | ●<br>3074 |
|      | 6S WNGA080408 S01215 WG | 0.8 | 2.4 | 0.03~0.20       | 0.05~0.30  | 6                   |           | ●<br>3062 | ●<br>3063 |           |
|      | 3S WNGA080412 S01215 WG | 1.2 | 2.3 | 0.03~0.20       | 0.05~0.30  | 3                   |           | ●<br>3064 |           |           |




# Turning Inserts - Positive

## CCGW - PCBN (80° Rhombic)

Refer to Turning holder p. 106, 128, 129



| Series    | IC    | S    |
|-----------|-------|------|
| CC.. 0602 | 6.35  | 2.38 |
| CC.. 09T3 | 9.525 | 3.97 |

| CCGW  | Designation             | RE  | LE  | Fn (mm/rev.) | Ap (mm)     | No. of PCBN Edge | H05 - H15 | H10 - H25 | H10 - H25 | H20 - H35 |
|---|-------------------------|-----|-----|--------------|-------------|------------------|-----------|-----------|-----------|-----------|
|   |                         |     |     |              |             |                  | YBN50     | YBN65     | YBN65A    | YBN90     |
|   | 2S CCGW060202 S01225    | 0.2 | 2.6 | 0.03 ~ 0.20  | 0.05 ~ 0.30 | 2                |           | ●<br>3075 |           |           |
|   | 2S CCGW060204 S01225    | 0.4 | 2.5 | 0.03 ~ 0.20  | 0.05 ~ 0.30 | 2                | ●<br>3076 | ●<br>3077 | ●<br>3078 |           |
|   | 2S CCGW060204 T01020    | 0.4 | 2.5 | 0.03 ~ 0.20  | 0.05 ~ 0.30 | 2                |           |           |           | ●<br>3133 |
|   | 2S CCGW060208 S01225    | 0.8 | 2.4 | 0.03 ~ 0.20  | 0.05 ~ 0.30 | 2                |           | ●<br>3079 | ●<br>3080 |           |
|  | 2S CCGW09T302 S01225    | 0.2 | 2.6 | 0.03 ~ 0.20  | 0.05 ~ 0.30 | 2                |           | ●<br>3081 |           |           |
|   | 2S CCGW09T304 S01225    | 0.4 | 2.5 | 0.03 ~ 0.20  | 0.05 ~ 0.30 | 2                |           | ●<br>3082 | ●<br>3083 |           |
|   | 2S CCGW09T308 S01225    | 0.8 | 2.4 | 0.03 ~ 0.20  | 0.05 ~ 0.30 | 2                | ●<br>3084 | ●<br>3085 | ●<br>3086 |           |
|   | 2S CCGW09T308 T01020    | 0.8 | 2.4 | 0.03 ~ 0.20  | 0.05 ~ 0.30 | 2                |           |           |           | ●<br>3134 |
|   | 2S CCGW09T304 S01215 WG | 0.4 | 2.5 | 0.03 ~ 0.20  | 0.05 ~ 0.30 | 2                |           | ●<br>3087 | ●<br>3088 |           |
|   | 2S CCGW09T308 S01215 WG | 0.8 | 2.4 | 0.03 ~ 0.20  | 0.05 ~ 0.30 | 2                |           | ●<br>3089 | ●<br>3090 |           |

TURNING

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TECHNICAL INFORMATION

Turning Inserts - Positive  
**DCGW - PCBN (55° Rhombic)**

Refer to  
Turning holder  
p. 107, 130, 131

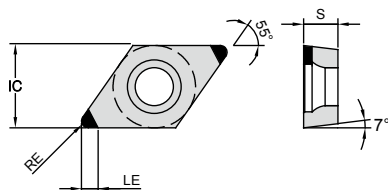
TURNING

PARTING & GROOVING


MILLING

DRILLING

TECHNICAL INFORMATION

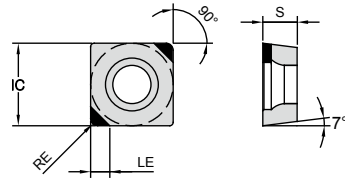


| Series    | IC    | S    |
|-----------|-------|------|
| DC.. 0702 | 6.35  | 2.38 |
| DC.. 11T3 | 9.525 | 3.97 |

| DCGW  | Designation          | RE  | LE  | Fn<br>(mm/rev.) | Ap<br>(mm) | No. of<br>PCBN Eege | H05- H15  | H10- H25  | H10- H25  | H20- H35  |
|---|----------------------|-----|-----|-----------------|------------|---------------------|-----------|-----------|-----------|-----------|
|   |                      |     |     |                 |            |                     | YBN50     | YBN65     | YBN65A    | YBN90     |
|  | 2S DCGW070202 S01225 | 0.2 | 2.7 | 0.03~0.20       | 0.05~0.30  | 2                   |           | ●<br>3091 |           |           |
|   | 2S DCGW070204 S01225 | 0.4 | 2.5 | 0.03~0.20       | 0.05~0.30  | 2                   |           | ●<br>3092 | ●<br>3093 |           |
|   | 2S DCGW070208 S01225 | 0.8 | 2.3 | 0.03~0.20       | 0.05~0.30  | 2                   | ●<br>3094 | ●<br>3095 | ●<br>3096 |           |
|   | 2S DCGW070208 T01020 | 0.8 | 2.3 | 0.03~0.20       | 0.05~0.30  | 2                   |           |           |           | ●<br>3135 |
|   | 2S DCGW11T302 S01225 | 0.2 | 2.7 | 0.03~0.20       | 0.05~0.30  | 2                   |           | ●<br>3097 | ●<br>3098 |           |
|   | 2S DCGW11T304 S01225 | 0.4 | 2.5 | 0.03~0.20       | 0.05~0.30  | 2                   |           | ●<br>3099 | ●<br>3100 |           |
|   | 2S DCGW11T308 S01225 | 0.8 | 2.3 | 0.03~0.20       | 0.05~0.30  | 2                   | ●<br>3101 | ●<br>3102 | ●<br>3103 |           |
|   | 2S DCGW11T308 T01020 | 0.8 | 2.3 | 0.03~0.20       | 0.05~0.30  | 2                   |           |           |           | ●<br>3136 |

Turning Inserts - Positive  
**SCGW - PCBN (Square)**

Refer to  
Turning holder  
p. 109, 133



| Series    | IC    | S    |
|-----------|-------|------|
| SC.. 09T3 | 9.525 | 3.97 |

| SCGW | Designation          | RE  | LE  | Fn<br>(mm/rev.) | Ap<br>(mm)  | No. of<br>PCBN Edge | H05 - H15 | H10 - H25 | H10 - H25 | H20 - H35 |
|------|----------------------|-----|-----|-----------------|-------------|---------------------|-----------|-----------|-----------|-----------|
|      |                      |     |     |                 |             |                     | YBN50     | YBN65     | YBN65A    | YBN90     |
|      | 2S SCGW09T304 S01225 | 0.4 | 2.3 | 0.03 ~ 0.20     | 0.05 ~ 0.30 | 2                   |           | ●<br>3104 |           |           |
|      | 2S SCGW09T308 S01225 | 0.8 | 2.3 | 0.03 ~ 0.20     | 0.05 ~ 0.30 | 2                   |           | ●<br>3105 |           |           |

TURNING

PARTING & GROOVING

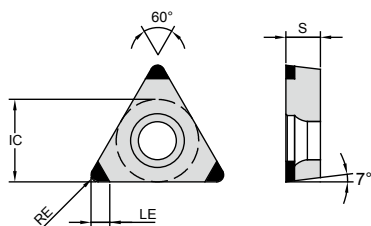
MILLING

DRILLING

TECHNICAL INFORMATION

Turning Inserts - Positive  
**TCGW - PCBN (Triangle)**

Refer to  
Turning holder  
p. 110, 134



| Series    | IC    | S    |
|-----------|-------|------|
| TC.. 0902 | 5.56  | 2.38 |
| TC.. 1102 | 6.35  | 2.38 |
| TC.. 16T3 | 9.525 | 3.97 |

TURNING

PARTING & GROOVING

MILLING

DRILLING

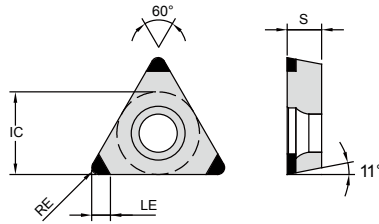
TECHNICAL INFORMATION

|  | H05 - H15 | H10 - H25 | H10 - H25 | H20 - H35 |
|--|-----------|-----------|-----------|-----------|
|  | YBN50     | YBN65     | YBN65A    | YBN90     |
|  |           | ●<br>3106 |           |           |
|  |           | ●<br>3107 | ●<br>3108 |           |
|  |           | ●<br>3109 | ●<br>3110 |           |
|  |           | ●<br>3111 | ●<br>3112 |           |
|  | ●<br>3113 | ●<br>3114 | ●<br>3115 |           |
|  |           |           |           | ●<br>3137 |

| TCGW | Designation          | RE  | LE  | Fn<br>(mm/rev.) | Ap<br>(mm) | No. of<br>PCBN Eege |
|------|----------------------|-----|-----|-----------------|------------|---------------------|
|      | 3S TCGW090204 S01225 | 0.4 | 2.6 | 0.03~0.20       | 0.05~0.30  | 3                   |
|      | 3S TCGW110204 S01225 | 0.4 | 2.6 | 0.03~0.20       | 0.05~0.30  | 3                   |
|      | 3S TCGW110208 S01225 | 0.8 | 2.3 | 0.03~0.20       | 0.05~0.30  | 3                   |
|      | 3S TCGW16T304 S01225 | 0.4 | 2.6 | 0.03~0.20       | 0.05~0.30  | 3                   |
|      | 3S TCGW16T308 S01225 | 0.8 | 2.3 | 0.03~0.20       | 0.05~0.30  | 3                   |
|      | 3S TCGW16T308 T01020 | 0.8 | 2.3 | 0.03~0.20       | 0.05~0.30  | 3                   |



## Turning Inserts - Positive TPGW - PCBN (Triangle)



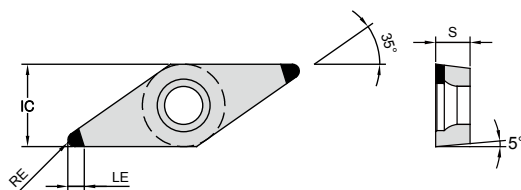
| Series    | IC    | S    |
|-----------|-------|------|
| TP.. 0902 | 5.56  | 2.38 |
| TP.. 1103 | 6.35  | 3.18 |
| TP.. 1604 | 9.525 | 4.76 |

| TPGW | Designation         | RE  | LE  | Fn<br>(mm/rev.) | Ap<br>(mm)  | No. of<br>PCBN Edge | H05 - H15 | H10 - H25 | H10 - H25 | H20 - H35          |
|------|---------------------|-----|-----|-----------------|-------------|---------------------|-----------|-----------|-----------|--------------------|
|      |                     |     |     |                 |             |                     | YBN50     | YBN65     | YBN65A    | K05 - K20<br>YBN90 |
|      | 3STPGW090204 S01225 | 0.4 | 2.6 | 0.03 ~ 0.20     | 0.05 ~ 0.30 | 3                   |           | ●<br>3116 |           |                    |
|      | 3STPGW090208 S01225 | 0.8 | 2.3 | 0.03 ~ 0.20     | 0.05 ~ 0.30 | 3                   |           | ●<br>3117 |           |                    |
|      | 3STPGW110304 S01225 | 0.4 | 2.6 | 0.03 ~ 0.20     | 0.05 ~ 0.30 | 3                   |           | ●<br>3118 |           |                    |
|      | 3STPGW110308 S01225 | 0.8 | 2.3 | 0.03 ~ 0.20     | 0.05 ~ 0.30 | 3                   |           | ●<br>3119 |           |                    |
|      | 3STPGW160404 S01225 | 0.4 | 2.6 | 0.03 ~ 0.20     | 0.05 ~ 0.30 | 3                   |           | ●<br>3120 |           |                    |
|      | 3STPGW160408 S01225 | 0.8 | 2.3 | 0.03 ~ 0.20     | 0.05 ~ 0.30 | 3                   |           | ●<br>3121 |           |                    |



Turning Inserts - Positive  
**VBGW - PCBN (35° Rhombic)**

Refer to  
Turning holder  
p. 111, 135



| Series    | IC    | S    |
|-----------|-------|------|
| VB.. 1103 | 6.35  | 3.18 |
| VB.. 1604 | 9.525 | 4.76 |

TURNING


PARTING & GROOVING

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DRILLING

TECHNICAL INFORMATION

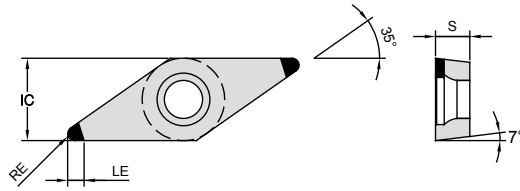
| H05 - H15 | H10 - H25 | H10 - H25 | H20 - H35 |
|-----------|-----------|-----------|-----------|
| YBN50     | YBN65     | YBN65A    | YBN90     |
|           | ●<br>3122 |           |           |
|           | ●<br>3123 |           |           |
|           | ●<br>3124 | ●<br>3125 |           |
| ●<br>3126 | ●<br>3127 | ●<br>3128 |           |
|           |           |           | ●<br>3138 |

| VBGW  | Designation          | RE  | LE  | Fn<br>(mm/rev.) | Ap<br>(mm) | No. of<br>PCBN Eege |
|---|----------------------|-----|-----|-----------------|------------|---------------------|
|   | 2S VBGW110304 S01225 | 0.4 | 2.5 | 0.03~0.20       | 0.05~0.30  | 2                   |
|   | 2S VBGW110308 S01225 | 0.8 | 2   | 0.03~0.20       | 0.05~0.30  | 2                   |
|  | 2S VBGW160404 S01225 | 0.4 | 2.5 | 0.03~0.20       | 0.05~0.30  | 2                   |
|   | 2S VBGW160408 S01225 | 0.8 | 2   | 0.03~0.20       | 0.05~0.30  | 2                   |
|   | 2S VBGW160408 T01020 | 0.8 | 2   | 0.03~0.20       | 0.05~0.30  | 2                   |

# Turning Inserts - Positive

## VCGW - PCBN (35° Rhombic)

Refer to Turning holder p.112, 136



| Series    | IC    | S    |
|-----------|-------|------|
| VC.. 1103 | 6.35  | 3.18 |
| VC.. 1604 | 9.525 | 4.76 |

| VCGW | Designation         | RE  | LE  | Fn (mm/rev.) | Ap (mm)     | No. of PCBN Eege | H05 - H15 | H10 - H25 | H10 - H25 | H20 - H35 |
|------|---------------------|-----|-----|--------------|-------------|------------------|-----------|-----------|-----------|-----------|
|      |                     |     |     |              |             |                  | YBN50     | YBN65     | YBN65A    | YBN90     |
|      | 2SVCGW110304 S01225 | 0.4 | 2.5 | 0.03 ~ 0.20  | 0.05 ~ 0.30 | 2                |           | ●<br>3129 |           |           |
|      | 2SVCGW110308 S01225 | 0.8 | 2   | 0.03 ~ 0.20  | 0.05 ~ 0.30 | 2                |           | ●<br>3130 |           |           |
|      | 2SVCGW160404 S01225 | 0.4 | 2.5 | 0.03 ~ 0.20  | 0.05 ~ 0.30 | 2                |           | ●<br>3131 |           |           |
|      | 2SVCGW160408 S01225 | 0.8 | 2   | 0.03 ~ 0.20  | 0.05 ~ 0.30 | 2                |           | ●<br>3132 |           |           |

TURNING

PARTING & GROOVING

MILLING


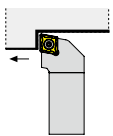
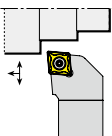
DRILLING

TECHNICAL INFORMATION


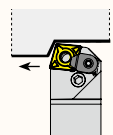
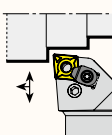
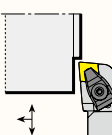
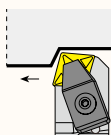
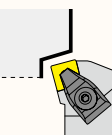
**External Holders Overview**

Click/Touch each page number and move to the very page!


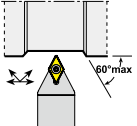
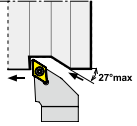
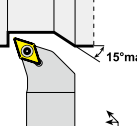
TURNING

| Insert  |                      | Turning Holder  |   |  |  |
|---|----------------------|---|---|--|--|
|  | <b>CCGT<br/>CCMT</b> | <br>SCACR/L<br>Screw | <br>SCLCR/L<br>Screw |  |  |
| <b>Page</b>   | <b>57</b>            | <b>106</b>  | <b>106</b>  |  |  |


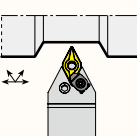
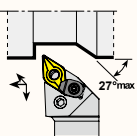
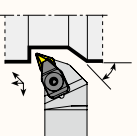
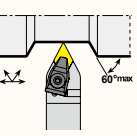
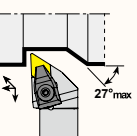
PARTING & GROOVING

|   |                      |   |  |  |  |  |
|---|----------------------|---|--|--|--|--|
|  | <b>CNMA<br/>CNMG</b> | <br>PCBNR/L<br>Lever | <br>PCLNR/L<br>Lever (+Clamp) | <br>TCLNR/L<br>Double Clamp | <br>TCBNR/L<br>Double Clamp | <br>TCKNR/L<br>Double Clamp |
| <b>Page</b>   | <b>28</b>            | <b>92</b>   | <b>92</b>  | <b>97</b>  | <b>97</b>  | <b>97</b>  |


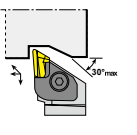
MILLING


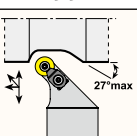
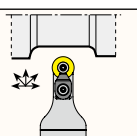
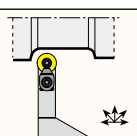
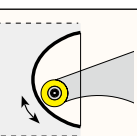
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|---|----------------------|---|---|---|--|--|
|  | <b>DCGT<br/>DCMT</b> | <br>SDNCN<br>Screw | <br>SDJCR/L<br>Screw | <br>SDHCR/L<br>Screw |  |  |
| <b>Page</b>   | <b>60</b>            | <b>107</b>  | <b>107</b>  | <b>107</b>  |  |  |


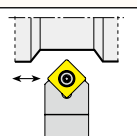
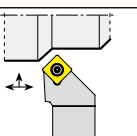
DRILLING

|   |                      |  |  |  |  |  |
|---|----------------------|--|--|--|--|--|
|  | <b>DNMA<br/>DNMG</b> | <br>PDNNN<br>Lever (+Clamp) | <br>PDJNR/L<br>Lever (+Clamp) | <br>TDHNR/L<br>Double Clamp | <br>TDNNN<br>Double Clamp | <br>TDJNR/L<br>Double Clamp |
| <b>Page</b>   | <b>33</b>            | <b>93</b>  | <b>93</b>  | <b>98</b>  | <b>98</b>  | <b>98</b>  |

TECHNICAL INFORMATION

|   |             |   |  |  |  |  |
|---|-------------|---|--|--|--|--|
|  | <b>KNUX</b> | <br>CKJNR/L<br>Top Clamp |  |  |  |  |
| <b>Page</b>   | <b>39</b>   | <b>99</b>   |  |  |  |  |


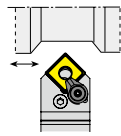
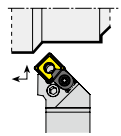
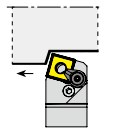
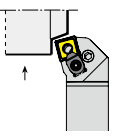
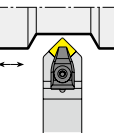
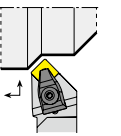
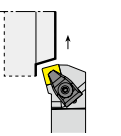

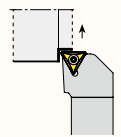
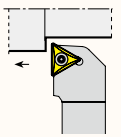
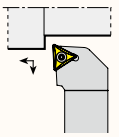
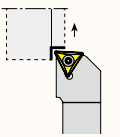

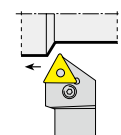
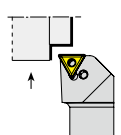
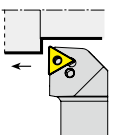
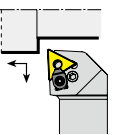
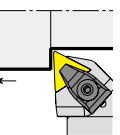
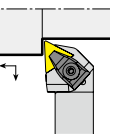
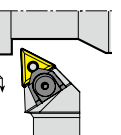

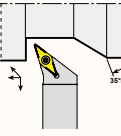
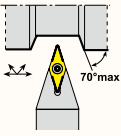
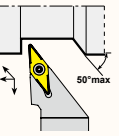

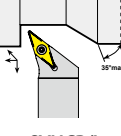
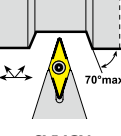
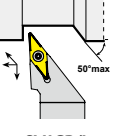

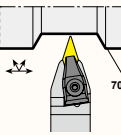
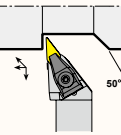
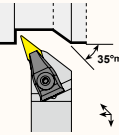

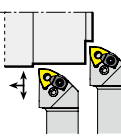
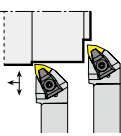
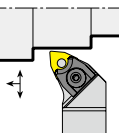
|   |             |   |   |   |   |
|---|-------------|---|---|---|---|
|  | <b>RCMT</b> | <br>SRGCR/L<br>Screw | <br>SRDCN<br>Screw | <br>SRDCR/L<br>Screw | <br>SRHCR/L<br>Screw |
| <b>Page</b>   | <b>62</b>   | <b>108</b>  | <b>108</b>  | <b>108</b>  | <b>108</b>  |

|   |                      |   |   |  |  |  |
|---|----------------------|---|---|--|--|--|
|  | <b>SCGT<br/>SCMT</b> | <br>SSDCN<br>Screw | <br>SSSCR/L<br>Screw |  |  |  |
| <b>Page</b>   | <b>64</b>            | <b>109</b>  | <b>109</b>  |  |  |  |


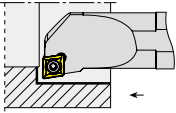
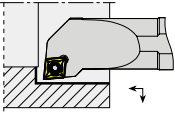
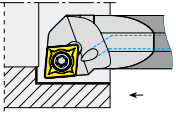
# Turning - Holder - External

## External Holders Overview


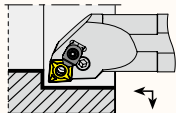
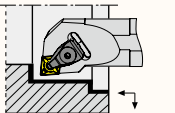
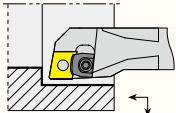
Click/Touch each page number and move to the very page!

| Insert  |                      | Turning Holder  |   |   |  |   |   |   |
|---|----------------------|---|---|---|--|---|---|---|
|    | SNMA<br>SNMG         |    |    |    |  |  |  |  |
|   |                      | PSDNN<br>Lever (+Clamp)   | PSSNR/L<br>Lever (+Clamp)   | PSBNR/L<br>Lever (+Clamp)   | PSKNR/L<br>Lever (+Clamp)  | TSDNN<br>Double Clamp   | TSSNR/L<br>Double Clamp   | TSKNR/L<br>Double Clamp   |
| Page  | 40                   | 94  | 94  | 94  | 94   | 100   | 100   | 100   |
|    | TCGT<br>TCMT         |    |    |    |  |   |   |   |
|   |                      | STFCR/L<br>Screw  | STGCR/L<br>Screw  | STJCR/L<br>Screw  | STUCR/L<br>Screw   |   |   |   |
| Page  | 66                   | 110   | 110   | 110   | 110  |   |   |   |
|    | TNMA<br>TNMG<br>TNUX |    |    |    |  |  |  |  |
|   |                      | PTTNR/L<br>Lever (+Clamp)   | PTFNR/L<br>Lever (+Clamp)   | PTGNR/L<br>Lever (+Clamp)   | PTJNR/L<br>Lever (+Clamp)  | TTGNR/L<br>Double Clamp   | TTJNR/L<br>Double Clamp   | MTJNR/L<br>Multi-Clamp  |
| Page  | 44                   | 95  | 95  | 95  | 95   | 101   | 101   | 104   |
|  | VBMT                 |  |  |  |  |   |   |   |
|   |                      | SVHBR/L<br>Screw  | SVVBN<br>Screw  | SVJBR/L<br>Screw  |  |   |   |   |
| Page  | 68                   | 111   | 111   | 111   |  |   |   |   |
|  | VCGT<br>VCMT         |  |  |  |  |   |   |   |
|   |                      | SVHCR/L<br>Screw  | SVVCN<br>Screw  | SVJCR/L<br>Screw  |  |   |   |   |
| Page  | 69                   | 112   | 112   | 112   |  |   |   |   |
|  | VNMA<br>VNMG         |  |  |  |  |   |   |   |
|   |                      | TVVNN<br>Double Clamp   | TVJNR/L<br>Double Clamp   | TVHNR/L<br>Double Clamp   |  |   |   |   |
| Page  | 51                   | 102   | 102   | 102   |  |   |   |   |
|  | WNMA<br>WNMG         |  |  |  |  |   |   |   |
|   |                      | PWLNR/L<br>Lever (+Clamp)   | TWLNR/L<br>Double Clamp   | MWLNR/L<br>Multi-Clamp  |  |   |   |   |
| Page  | 53                   | 96  | 103   | 105   |  |   |   |   |


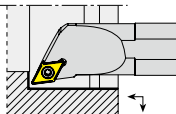
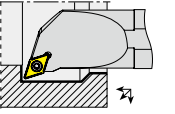
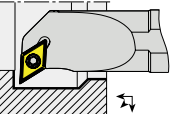
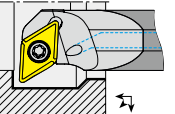
TURNING

| Insert  |              | Turning Holder  |   |  |
|---|--------------|---|---|--|
|  | CCGT<br>CCMT |  |  |  |
|   |              | ..SCFCR/L   | ..SCLCR/L   | E..SCLCR/L   |
|   |              | Screw   | Screw   | Screw  |
| Page  | 57           | 128   | 129   | 129  |


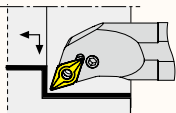
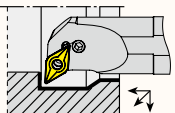
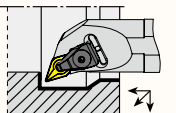
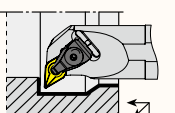
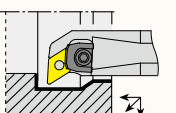
PARTING & GROOVING

|   |              |   |   |  |
|---|--------------|---|---|--|
|  | CNMA<br>CNMG |  |  |  |
|   |              | ..PCLNR/L   | ..TCLNR/L   | ..MCLNR/L  |
|   |              | Lever (+Clamp)  | Double Clamp  | Multi-Clamp  |
| Page  | 28           | 113   | 118   | 124  |

MILLING


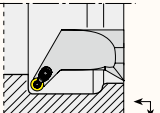
|   |              |   |   |  |   |
|---|--------------|---|---|--|---|
|  | DCGT<br>DCMT |  |  |  |  |
|   |              | ..SDPCR/L   | ..SDQCR/L   | ..SDUCR/L  | E..SDUCR/L  |
|   |              | Screw   | Screw   | Screw  | Screw   |
| Page  | 60           | 130   | 130   | 131  | 131   |


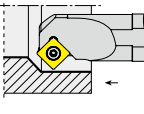
DRILLING

|   |              |   |   |  |   |   |
|---|--------------|---|---|--|---|---|
|  | DNMA<br>DNMG |  |  |  |  |  |
|   |              | ..PDQNR/L   | ..PDUNR/L   | ..TDQNR/L  | ..TDUNR/L   | ..MDUNR/L   |
|   |              | Lever (+Clamp)  | Lever (+Clamp)  | Double Clamp   | Double Clamp  | Multi-Clamp   |
| Page  | 33           | 114   | 114   | 119  | 119   | 124   |

TECHNICAL INFORMATION

|   |      |   |
|---|------|---|
|  | KNUX |  |
|   |      | ..CKUNR/L   |
|   |      | Top Clamp   |
| Page  | 39   | 127   |


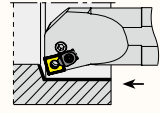
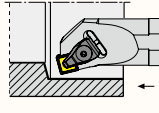

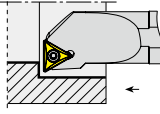
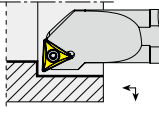

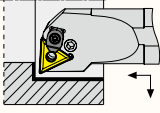
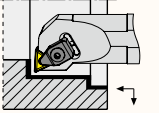
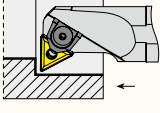
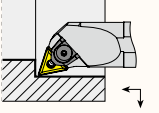
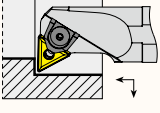

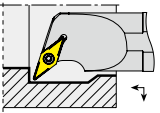
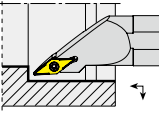
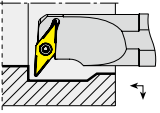

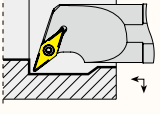
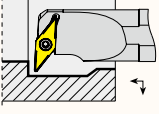

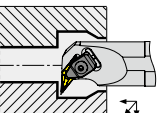

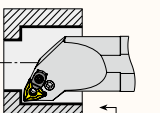
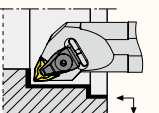
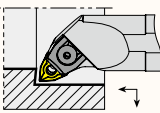
|   |      |   |
|---|------|---|
|  | RCMT |  |
|   |      | ..SRGCR-L   |
|   |      | Screw Type  |
| Page  | 62   | 132   |

|   |              |   |
|---|--------------|---|
|  | SCGT<br>SCMT |  |
|   |              | ..SSSCR/L   |
|   |              | Screw Type  |
| Page  | 64           | 133   |

# Turning - Holder - Internal

## Internal Holders Overview

Click/Touch each page number and move to the very page!

| Insert  |                      | Turning Holder  |   |  |   |   |
|---|----------------------|---|---|--|---|---|
|    | SNMA<br>SNMG         |    |    |  |   |   |
| Page  | 40                   | ..PSKNR/L<br>Lever (+Clamp)<br>115  | ..TSKNR/L<br>Double Clamp<br>120  |  |   |   |
|    | TCGT<br>TCMT         |    |    |  |   |   |
| Page  | 66                   | ..STFCR/L<br>Screw<br>134   | ..STUCR/L<br>Screw<br>134   |  |   |   |
|    | TNMA<br>TNMG<br>TNUX |    |    |    |  |  |
| Page  | 44                   | ..PTUNR/L<br>Lever (+Clamp)<br>116  | ..TTUNR/L<br>Double Clamp<br>121  | ..MTFNR/L<br>Pin + Clamp<br>125  | ..MTQNR/L<br>Multi-Clamp<br>125   | ..MTUNR/L<br>Pin + Clamp<br>125   |
|  | VBMT                 |  |  |  |   |   |
| Page  | 68                   | ..SVQBR/L<br>Screw<br>135   | ..SVJBR/L<br>Screw<br>135   | ..SVUBR/L<br>Screw<br>135  |   |   |
|  | VCGT<br>VCMT         |  |  |  |   |   |
| Page  | 69                   | ..SVQCR/L<br>Screw<br>136   | ..SVUCR/L<br>Screw<br>136   |  |   |   |
|  | VNMA<br>VNMG         |  |   |  |   |   |
| Page  | 51                   | ..TVUNR/L<br>Double Clamp<br>122  |   |  |   |   |
|  | WNMA<br>WNMG         |  |  |  |   |   |
| Page  | 53                   | ..PWLNR/L<br>Lever (+Clamp)<br>117  | ..TWLNR/L<br>Double Clamp<br>123  | ..MWLNR/L<br>Multi-Clamp<br>126  |   |   |

TURNING

PARTING & GROOVING

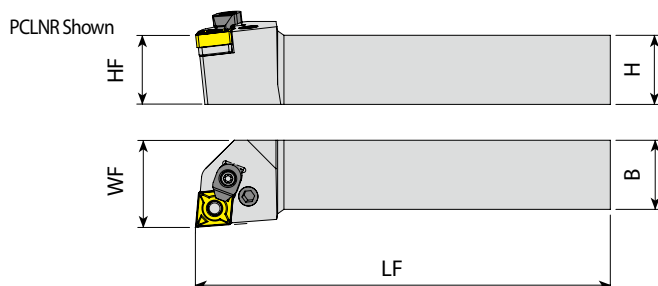
MILLING

DRILLING

TECHNICAL INFORMATION

Turning - Holder - External

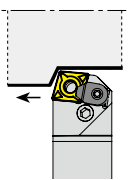
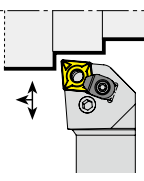
**Lever Lock type for CN\*\* Insert**



\* 'C' Letter at Last : Optional Clamp Included

: Refer to p. 28

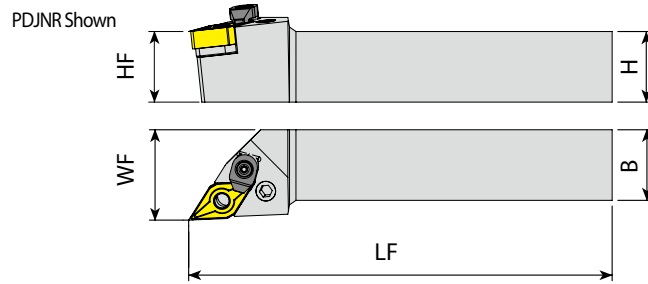
Unit:mm

| Series   | Designation       | EDP 2700..<br>R | L    | H (= HF) | B  | WF   | LF  | Insert |
|--|-------------------|-----------------|------|----------|----|------|-----|--------|
|  <p><b>PCBNR/L</b><br/>Approach angle<br/>75°</p>   | PCBNR/L 2020K 12C | 0438            | 0439 | 20       | 20 | 17.5 | 125 | CN1204 |
|  | PCBNR/L 2525M 12C | 0440            | 0441 | 25       | 25 | 22.5 | 150 |        |
|  | PCBNR/L 3232P 12C | 0442            | 0443 | 32       | 32 | 29.5 | 170 | CN1606 |
|  | PCBNR/L 2525M 16C | 0444            | 0445 | 25       | 25 | 22.0 | 150 |        |
|  | PCBNR/L 3232P 16C | 0446            | 0447 | 32       | 32 | 27.0 | 170 | CN1906 |
|  | PCBNR/L 3232P 19C | 0448            | 0449 | 32       | 32 | 37.0 | 170 |        |
|  | PCBNR/L 4040S 19C | 0450            | 0451 | 40       | 40 | 37.0 | 250 |        |
|  <p><b>PCLNR/L</b><br/>Approach angle<br/>95°</p> | PCLNR/L 1616-H09  | 0001            | 0002 | 16       | 16 | 20.0 | 100 | CN0903 |
|  | PCLNR/L 1616H 12  | 0464            | 0465 | 16       | 16 | 20.0 | 100 | CN1204 |
|  | PCLNR/L 2020K 12C | 0466            | 0467 | 20       | 20 | 25.0 | 125 |        |
|  | PCLNR/L 2525M 12C | 0468            | 0469 | 25       | 25 | 32.0 | 150 |        |
|  | PCLNR/L 3232P 12C | 0470            | 0471 | 32       | 32 | 40.0 | 170 | CN1606 |
|  | PCLNR/L 2525M 16C | 0472            | 0473 | 25       | 25 | 32.0 | 150 |        |
|  | PCLNR/L 3232P 16C | 0474            | 0475 | 32       | 32 | 40.0 | 170 | CN1906 |
|  | PCLNR/L 2525M 19C | 0476            | 0477 | 25       | 25 | 32.0 | 150 |        |
|  | PCLNR/L 3232P 19C | 0478            | 0479 | 32       | 32 | 40.0 | 170 |        |
|  | PCLNR/L 4040S 19C | 0480            | 0481 | 40       | 40 | 50.0 | 250 |        |

| Series | Designation | Infomation  | Lever          | Lever Screw   | Clamp         | Clamp Screw  | Shim         | Shim Pin  | Allen Key   |
|--------|-------------|-------------|----------------|---------------|---------------|--------------|--------------|-----------|-------------|
| PC..   | H09         | Description | YAPL-01        | YALV-02-M6x17 | -             | -            | YAACN-2-0002 | YAAY-01   | YAAL-02-2.5 |
|        |             | EDP         | 18000092       | 18000099      | -             | -            | 28000028     | 18000053  | 18000060    |
|        | ..12        | Description | YAPL-02        | YALV-03-M8x19 | -             | -            | YAACN-3-0001 | YAAY-02   | YAAL-03-3   |
|        |             | EDP         | 18000093       | 18000100      | -             | -            | 18000137     | 18000054  | 18000061    |
| ..12C  | Description | YAPL-02     | YALV-03-M8x19  | YACK-05       | Y4015-M4x11   | YAACN-3-0001 | YAAY-02      | YAAL-03-3 |             |
|        | EDP         | 18000093    | 18000100       | 18000065      | 18000119      | 18000137     | 18000054     | 18000061  |             |
| ..16C  | Description | YAPL-04     | YALV-04-M8x22  | YACK-09       | YAAV-05-M6x15 | YAACN-3-0002 | YAAY-03      | YAAL-03-3 |             |
|        | EDP         | 18000095    | 18000101       | 18000066      | 18000078      | 18000138     | 18000055     | 18000061  |             |
| ..19C  | Description | YAPL-05     | YALV-05-M10x27 | YACK-09       | YAAV-05-M6x15 | YAACN-3-0003 | YAAY-04      | YAAL-05-4 |             |
|        | EDP         | 18000096    | 18000102       | 18000066      | 18000078      | 18000139     | 18000056     | 18000062  |             |

Turning - Holder - External

**Lever Lock type for DN\*\* Insert**



\* 'C' Letter at Last : Optional Clamp Included

: Refer to p. 33

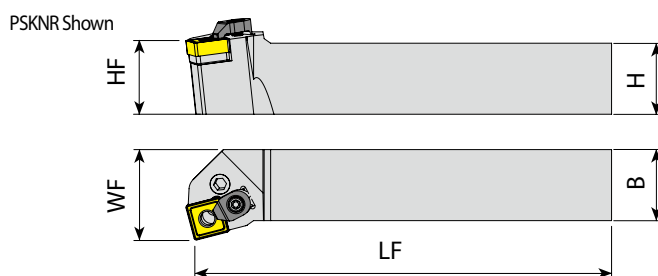
Unit: mm

| Series   | Designation       | EDP 2700..<br>R L | H (= HF) | B  | WF   | LF  | Insert |
|--|-------------------|-------------------|----------|----|------|-----|--------|
| <p><b>PDNNN</b><br/>Approach angle<br/>62.5°</p> | PDNNN 2020K 15C   | 0515              | 20       | 20 | 10.0 | 125 | DN1506 |
|  | PDNNN 2525M 15C   | 0516              | 25       | 25 | 12.5 | 150 |        |
|  | PDNNN 3232P 15C   | 0517              | 32       | 32 | 16.0 | 170 |        |
|  |                   |                   |          |    |      |     |        |
| <p><b>PDJNR/L</b><br/>Approach angle<br/>93°</p> | PDJNR/L 1616-H11  | 0031 0032         | 16       | 16 | 20.0 | 100 | DN1104 |
|  | PDJNR/L 2020K 15C | 0500 0501         | 20       | 20 | 25.0 | 125 | DN1506 |
|  | PDJNR/L 2525M 15C | 0502 0503         | 25       | 25 | 32.0 | 150 |        |
|  | PDJNR/L 3232P 15C | 0504 0505         | 32       | 32 | 40.0 | 170 |        |
|  | PDJNR/L 4040S 15C | 1734 0506         | 40       | 40 | 50.0 | 250 |        |

| Series | Designation | Information | Lever    | Lever Screw   | Clamp    | Clamp Screw | Shim         | Shim Pin | Allen Key   |
|--------|-------------|-------------|----------|---------------|----------|-------------|--------------|----------|-------------|
| PD..   | ..15C       | Description | YAPL-03  | YALV-03-M8x19 | YACK-05  | Y4015-M4x11 | YAADN-3-0001 | YAAY-02  | YAAL-03-3   |
|        |             | EDP         | 18000094 | 18000100      | 18000065 | 18000119    | 18000137     | 18000054 | 18000061    |
|        | ..H11       | Description | YAPL-01  | YALV-02-M6x17 | -        | -           | YAADN-SD317  | YAAY-01  | YAAL-02-2.5 |
|        |             | EDP         | 18000092 | 18000099      | -        | -           | 28000029     | 18000053 | 18000060    |
|        | ..M15       | Description | YAPL-03  | YALV-03-M8x19 | YACK-05  | Y4015-M4x11 | YAADN-3-0001 | YAAY-02  | YAAL-03-3   |
|        |             | EDP         | 18000094 | 18000100      | 18000065 | 18000119    | 18000137     | 18000054 | 18000061    |

Turning - Holder - External

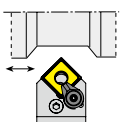
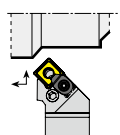
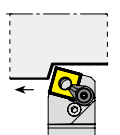
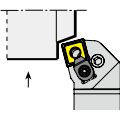
**Lever Lock type for SN\*\* Insert**



\* 'C' Letter at Last : Optional Clamp Included

: Refer to p. 40

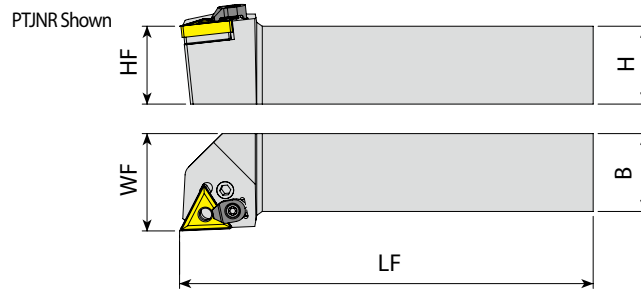
Unit:mm

| Series   | Designation       | EDP 2700..<br>R | L    | H (= HF) | B  | WF   | LF  | Insert |
|--|-------------------|-----------------|------|----------|----|------|-----|--------|
|  <p><b>PSDNN</b><br/>Approach angle<br/>45°</p>     | PSDNN 1616-H09    | 0075            |      | 16       | 16 | 8.0  | 100 | SN0903 |
|  | PSDNN 2020K 12C   | 0530            |      | 20       | 20 | 10.0 | 125 | SN1204 |
|  | PSDNN 2525M 12C   | 0531            |      | 25       | 25 | 12.5 | 150 |        |
|  | PSDNN 3232P 12C   | 0532            |      | 32       | 32 | 16.0 | 170 |        |
|  <p><b>PSSNR/L</b><br/>Approach angle<br/>45°</p>  | PSSNR/L 1616-H09  | 0079            | 0080 | 16       | 16 | 20.0 | 100 | SN0903 |
|  | PSSNR/L 2020K 12C | 0548            | 0549 | 20       | 20 | 25.0 | 125 | SN1204 |
|  | PSSNR/L 2525M 12C | 0550            | 0551 | 25       | 25 | 32.0 | 150 |        |
|  | PSSNR/L 3232P 12C | 0552            | 0553 | 32       | 32 | 40.0 | 170 |        |
|  <p><b>PSBNR/L</b><br/>Approach angle<br/>75°</p> | PSBNR/L 1616-H09  | 0069            | 0070 | 16       | 16 | 13.0 | 100 | SN0903 |
|  | PSBNR/L 2020K 12  | 0430            | 0525 | 20       | 20 | 17.0 | 125 | SN1204 |
|  | PSBNR/L 2525M 12C | 0526            | 0527 | 25       | 25 | 22.0 | 150 |        |
|  | PSBNR/L 3232P 12C | 0528            | 0529 | 32       | 32 | 27.0 | 170 |        |
|  <p><b>PSKNR/L</b><br/>Approach angle<br/>75°</p> | PSKNR/L 2020K 12C | 0537            |      | 20       | 20 | 25.0 | 125 | SN1204 |
|  | PSKNR/L 2525M 12C | 0538            | 0539 | 25       | 25 | 32.0 | 150 |        |
|  | PSKNR/L 3232P 12C | 0540            | 0541 | 32       | 32 | 40.0 | 170 |        |

| Series | Designation | Infomation  | Lever    | Lever Screw   | Clamp    | Clamp Screw | Shim         | Shim Pin | Allen Key   |
|--------|-------------|-------------|----------|---------------|----------|-------------|--------------|----------|-------------|
| PS..   | ..H09       | Description | YAPL-01  | YALV-02-M6x17 | -        | -           | YAASN-2-0002 | YAAY-01  | YAAL-02-2.5 |
|        |             | EDP         | 18000092 | 18000099      | -        | -           | 28000028     | 18000053 | 18000060    |
|        | ..12        | Description | YAPL-02  | YALV-03-M8x19 | -        | -           | YAASN-3-0004 | YAAY-02  | YAAL-03-3   |
|        |             | EDP         | 18000093 | 18000100      | -        | -           | 18000145     | 18000054 | 18000060    |
|        | ..12C       | Description | YAPL-02  | YALV-03-M8x19 | YACK-05  | Y4015-M4x11 | YAASN-3-0004 | YAAY-02  | YAAL-03-3   |
|        |             | EDP         | 18000093 | 18000100      | 18000065 | 18000119    | 18000145     | 18000054 | 18000060    |

Turning - Holder - External

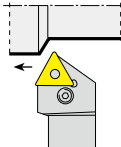
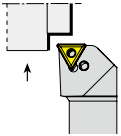
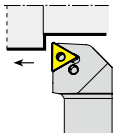
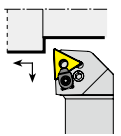
# Lever Lock type for TN\*\* Insert



\* 'C' Letter at Last : Optional Clamp Included

: Refer to p. 44

Unit: mm

| Series  | Designation      | EDP 2700..<br>R   | EDP 2700..<br>L | H (= HF) | B  | WF   | LF   | Insert |
|---|------------------|-------------------|-----------------|----------|----|------|------|--------|
| <br><b>PTTNR/L</b><br>Approach angle 60°   | PTTNR/L 1616H 16 | 0619              | 0620            | 16       | 16 | 13.0 | 100  | TN1604 |
|   | PTTNR/L 2020K 16 | 0429              | 0621            | 20       | 20 | 17.0 | 125  |        |
|   | PTTNR/L 2525M 16 | 0622              | 0623            | 25       | 25 | 21.5 | 150  |        |
|   | TN2204           | PTTNR/L 2525M 22C | 0626            | 0627     | 25 | 25   | 20.5 | 150    |
|   |                  | PTTNR/L 3232P 16  | 0624            | 0625     | 32 | 32   | 31.0 | 170    |
|   |                  | PTTNR/L 3232P 22C | 0628            | 0629     | 32 | 32   | 29.0 | 170    |
| <br><b>PTFNR/L</b><br>Approach angle 91° | PTFNR/L 1616H 16 | 0560              | 0561            | 16       | 16 | 20.0 | 100  | TN1604 |
|   | PTFNR/L 2020K 16 | 0049              | 0050            | 20       | 20 | 25.0 | 125  |        |
|   | PTFNR/L 2525M 16 | 0051              | 0052            | 25       | 25 | 32.0 | 150  |        |
|   | TN2204           | PTFNR/L 2525M 22C | 0564            | 0565     | 25 | 25   | 32.0 | 150    |
|   |                  | PTFNR/L 3232P 16  | 0562            | 0563     | 32 | 32   | 40.0 | 170    |
|   |                  | PTFNR/L 3232P 22C | 0566            | 0567     | 32 | 32   | 40.0 | 170    |
| <br><b>PTGNR/L</b><br>Approach angle 91° | PTGNR/L 1616H 16 | 0568              | 0569            | 16       | 16 | 20.0 | 100  | TN1604 |
|   | PTGNR/L 2020K 16 | 0055              | 0056            | 20       | 20 | 25.0 | 125  |        |
|   | TN2204           | PTGNR/L 2525M 16  | 0057            | 0058     | 25 | 25   | 32.0 | 150    |
|   |                  | PTGNR/L 2525M 22C | 0570            | 0571     | 25 | 25   | 32.0 | 150    |
|   |                  | PTGNR/L 3232P 22C | 0572            | 0573     | 32 | 32   | 40.0 | 170    |
| <br><b>PTJNR/L</b><br>Approach angle 93° | PTJNR/L 1616H 16 | 0597              | 0598            | 16       | 16 | 20.0 | 100  | TN1604 |
|   | PTJNR/L 2020K 16 | 0599              | 0600            | 20       | 20 | 25.0 | 125  |        |
|   | PTJNR/L 2525M 16 | 0601              | 0602            | 25       | 25 | 32.0 | 150  |        |
|   | TN2204           | PTJNR/L 3232P 16  | 0603            | 0604     | 32 | 32   | 40.0 | 170    |
|   |                  | PTJNR/L 2525M 22C | 0605            | 0606     | 25 | 25   | 32.0 | 150    |
|   |                  | PTJNR/L 3232P 22C | 0607            | 0608     | 32 | 32   | 40.0 | 170    |

| Series | Designation | Information | Lever    | Lever Screw   | Clamp    | Clamp Screw | Shim         | Shim Pin | Allen Key   |
|--------|-------------|-------------|----------|---------------|----------|-------------|--------------|----------|-------------|
| PT..   | ..16        | Description | YAPL-01  | YALV-02-M6x17 | -        | -           | YAATN-3-0025 | YAAY-01  | YAAL-02-2.5 |
|        |             | EDP         | 18000092 | 18000099      | -        | -           | 18000149     | 18000053 | 18000060    |
|        | ..22..      | Description | YAPL-02  | YALV-03-M8x19 | YACK-05  | Y4015-M4x11 | YAATN-3-0015 | YAAY-02  | YAAL-03-3   |
|        |             | EDP         | 18000093 | 18000100      | 18000065 | 18000119    | 18000148     | 18000054 | 18000061    |

# Lever Lock type for WN\*\* Insert

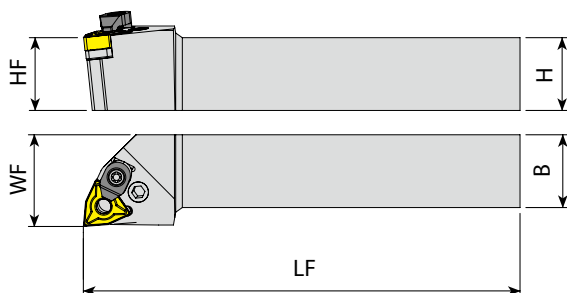
TURNING

PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

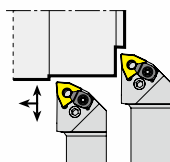


\* 'C' Letter at Last : Optional Clamp Included

: Refer to p. 53

Unit:mm

| Series  | Designation       | EDP 2700.. |      | H (= HF) | B  | WF | LF  | Insert |
|---------|-------------------|------------|------|----------|----|----|-----|--------|
|         |                   | R          | L    |          |    |    |     |        |
| PWLNR/L | PWLNR/L 1616H 06  | 0647       | 0648 | 16       | 16 | 20 | 100 | WN0604 |
|         | PWLNR/L 2020K 06  | 0649       | 0650 | 20       | 20 | 25 | 125 |        |
|         | PWLNR/L 2525M 06  | 0651       | 0652 | 25       | 25 | 32 | 150 |        |
| PWLNR/L | PWLNR/L 1616H 08  | 0653       | 0654 | 16       | 16 | 20 | 100 | WN0804 |
|         | PWLNR/L 2020K 08C | 0655       | 0656 | 20       | 20 | 25 | 125 |        |
|         | PWLNR/L 2525M 08C | 0657       | 0658 | 25       | 25 | 32 | 150 |        |
|         | PWLNR/L 3232P 08C | 0659       | 0660 | 32       | 32 | 40 | 170 |        |



**PWLNR/L**

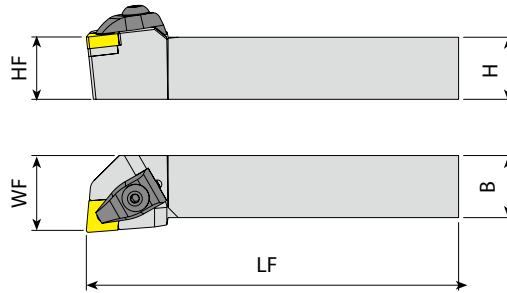
Approach angle  
95°

| Series | Designation | Infomation  | Lever    | Lever Screw   | Clamp    | Clamp Screw | Shim         | Shim Pin | Allen Key   |
|--------|-------------|-------------|----------|---------------|----------|-------------|--------------|----------|-------------|
| PW..   | ..06        | Description | YAPL-01  | YALV-02-M6x17 | -        | -           | YAAWN-SW317  | YAAY-01  | YAAL-02-2.5 |
|        |             | EDP         | 18000092 | 18000099      | -        | -           | 18000152     | 18000053 | 18000060    |
|        | ..08        | Description | YAPL-02  | YALV-03-M8x19 | -        | -           | YAAWN-3-0001 | YAAY-02  | YAAL-03-3   |
|        |             | EDP         | 18000093 | 18000100      | -        | -           | 18000151     | 18000054 | 18000061    |
|        | ..08C       | Description | YAPL-02  | YALV-03-M8x19 | YACK-05  | Y4015-M4x11 | YAAWN-3-0001 | YAAY-02  | YAAL-03-3   |
|        |             | EDP         | 18000093 | 18000100      | 18000065 | 18000119    | 18000151     | 18000054 | 18000061    |

Turning - Holder - External

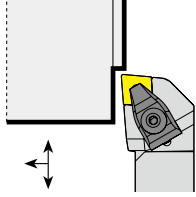
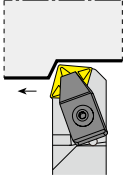
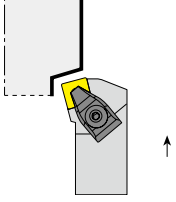
**Double Clamp type for CN\*\* Insert**

TCLNR Shown



: Refer to p. 28

Unit:mm

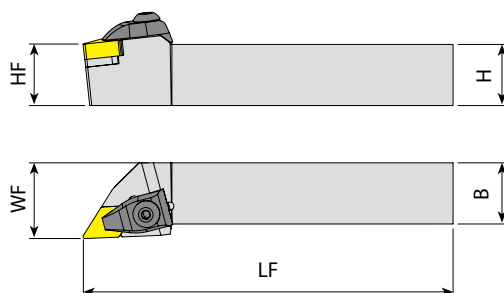
| Series   | Designation      | EDP 2700.. |      | H (= HF) | B  | WF  | LF  | Insert |
|--|------------------|------------|------|----------|----|-----|-----|--------|
|  |                  | R          | L    |          |    |     |     |        |
|  <p><b>TCLNR/L</b><br/>Approach angle 90°</p>   | TCLNR/L 2020K 12 | 0482       | 0483 | 20       | 20 | 25  | 125 | CN1204 |
|  | TCLNR/L 2525M 12 | 0484       | 0485 | 25       | 25 | 32  | 150 |        |
|  | TCLNR/L 3232P 12 | 0486       | 0487 | 32       | 32 | 40  | 170 |        |
|  | TCLNR/L 4040S 12 | 0488       | 0489 | 40       | 40 | 50  | 250 |        |
|  | TCLNR/L 5050S 12 | 0490       | 0491 | 50       | 50 | 63  | 250 |        |
|  | TCLNR/L 2525M 16 | 0492       | 0493 | 25       | 25 | 32  | 150 | CN1606 |
| TCLNR/L 3232P 16   | 0494             | -          | 32   | 32       | 40 | 170 |     |        |
|  <p><b>TCBNR/L</b><br/>Approach angle 75°</p> | TCBNR/L 2525M 16 | 0452       | 0453 | 25       | 25 | 22  | 150 | CN1606 |
|  |                  |            |      |          |    |     |     |        |
|  <p><b>TCKNR/L</b><br/>Approach angle 75°</p> | TCKNR/L 2020K 12 | 0454       | 0455 | 20       | 20 | 25  | 125 | CN1204 |
|  | TCKNR/L 2525M 12 | 0456       | 0457 | 25       | 25 | 32  | 150 |        |
|  | TCKNR/L 3232P 12 | 0458       | 0459 | 32       | 32 | 40  | 170 |        |
|  | TCKNR/L 2525M 16 | 0460       | 0461 | 25       | 25 | 32  | 150 | CN1606 |
|  | TCKNR/L 3232P 16 | 0462       | 0463 | 32       | 32 | 40  | 170 |        |

| Series | Designation | Information | Clamp    | Clamp Screw   | Upper Ring | Lower Ring | Shim         | Shim Screw    | Allen Key |
|--------|-------------|-------------|----------|---------------|------------|------------|--------------|---------------|-----------|
| TC..   | ..12        | Description | YATK-02  | YAKV-30-M6x22 | YABPL-01   | YAS-01     | YAACN-3-0001 | YAAV-02-M5x12 | YAAL-03-3 |
|        |             | EDP         | 18000075 | 18000091      | 18000058   | 18000052   | 18000137     | 18000156      | 18000061  |
|        | ..16        | Description | YATK-04  | YAKV-19-M7x25 | YABPL-02   | YAS-02     | YAACN-3-0002 | YAAV-05-M6x15 | YAAL-05-4 |
|        |             | EDP         | 18000077 | 18000088      | 18000059   | 28000042   | 18000138     | 18000078      | 18000062  |

Turning - Holder - External

**Double Clamp type for DN\*\* Insert**

TDJNR Shown



: Refer to p. 33

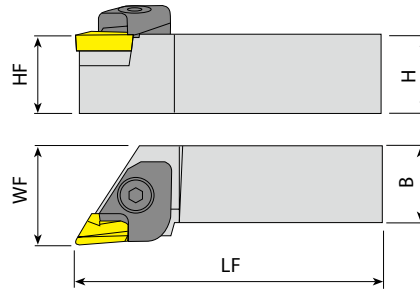
Unit:mm

| Series   | Designation      | EDP 2700..<br>R | L    | H (= HF) | B  | WF   | LF  | Insert |
|--|------------------|-----------------|------|----------|----|------|-----|--------|
| <p><b>TDHNR/L</b><br/>Approach angle<br/>107.5°</p>  | TDHNR/L 2020K 15 | 0495            | 0496 | 20       | 20 | 25.0 | 125 | DN1506 |
|  | TDHNR/L 2525M 15 | 0497            | 0498 | 25       | 25 | 32.0 | 150 |        |
|  | TDHNR/L 3232P 15 | 0499            | -    | 32       | 32 | 40.0 | 170 |        |
|  |                  |                 |      |          |    |      |     |        |
| <p><b>TDNNN</b><br/>Approach angle<br/>62.5° max</p> | TDNNN 2020K 15   | 0518            |      | 20       | 20 | 10.0 | 125 | DN1506 |
|  | TDNNN 2525M 15   | 0519            |      | 25       | 25 | 12.5 | 150 |        |
|  | TDNNN 3232P 15   | 0520            |      | 32       | 32 | 16.0 | 170 |        |
|  |                  |                 |      |          |    |      |     |        |
| <p><b>TDJNR/L</b><br/>Approach angle<br/>93°</p>     | TDJNR/L 2020K 15 | 0507            | 0508 | 20       | 20 | 25.0 | 125 | DN1506 |
|  | TDJNR/L 2525M 15 | 0509            | 0510 | 25       | 25 | 32.0 | 150 |        |
|  | TDJNR/L 3232P 15 | 0511            | 0512 | 32       | 32 | 40.0 | 170 |        |
|  | TDJNR/L 4040S 15 | 0513            | 0514 | 40       | 40 | 50.0 | 250 |        |

| Series | Designation | Infomation  | Clamp    | Clamp Screw   | Upper Ring | Lower Ring | Shim         | Shim Screw    | Allen Key |
|--------|-------------|-------------|----------|---------------|------------|------------|--------------|---------------|-----------|
| TD..   | ..15        | Description | YATK-02  | YAKV-30-M6x22 | YABPL-01   | YAS-01     | YAADN-3-0001 | YAAV-02-M5x12 | YAAL-03-3 |
|        |             | EDP         | 18000075 | 18000091      | 18000058   | 18000052   | 18000142     | 18000156      | 18000061  |

Turning - Holder - External

**Top Clamp type for KN\*\* Insert**



: Refer to p. 39

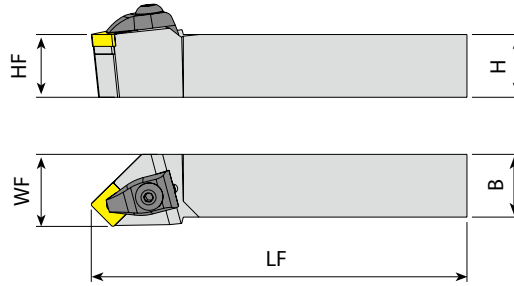
Unit: mm

| Series   | Designation      | EDP 2700.. |      | H (= HF) | B  | WF   | LF  | Insert   |
|--|------------------|------------|------|----------|----|------|-----|----------|
|  |                  | R          | L    |          |    |      |     |          |
| <p><b>CKJNR/L</b><br/>Approach angle<br/>93°</p> | CKJNR/L 2020K 16 | 0521       | 0522 | 20       | 20 | 27.5 | 125 | KNUX1604 |
|  | CKJNR/L 2525M 16 | 0152       | 0153 | 25       | 25 | 31.5 | 150 |          |
|  | CKJNR/L 3232P 16 | 0154       | 0155 | 32       | 32 | 40.0 | 170 |          |
|  | CKJNR/L 4040S 16 | 0523       | 0524 | 40       | 40 | 50.0 | 250 |          |

| Series | Designation | Information | Clamp     | Clamp Screw   | Spring   | Upper Ring | Shim      | Shim Screw    | Allen Key |
|--------|-------------|-------------|-----------|---------------|----------|------------|-----------|---------------|-----------|
| CK..   | ..16        | Description | YACK-01-R | YAKV-06-M6x20 | YAKY-02  | YABPL-01   | YAKS-16-R | YAAV-01-M3x10 | YAAL-05-4 |
|        |             | EDP         | 18000064  | 18000083      | 18000164 | 18000058   | 18000154  | 18000155      | 18000062  |
|        | ..16        | Description | YACK-02-L | YAKV-06-M6x20 | YAKY-02  | YABPL-01   | YAKS-16-L | YAAV-01-M3x10 | YAAL-05-4 |
|        |             | EDP         | 18000063  | 18000083      | 18000164 | 18000058   | 18000153  | 18000155      | 18000062  |

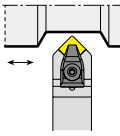
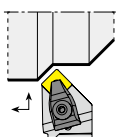
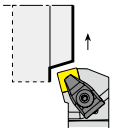
# Double Clamp type for SN\*\* Insert

TSSNR Shown



: Refer to p. 40

Unit:mm

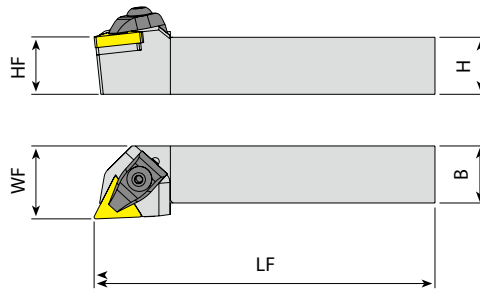
| Series   | Designation      | EDP 2700..<br>R | L    | H (= HF) | B  | WF   | LF  | Insert |
|--|------------------|-----------------|------|----------|----|------|-----|--------|
| <br><b>TSDNN</b><br>Approach angle<br>45°     | TSDNN 1616H 12   | 0533            |      | 16       | 16 | 8.0  | 100 | SN1204 |
|  | TSDNN 2020K 12   | 0534            |      | 20       | 20 | 10.0 | 125 |        |
|  | TSDNN 2525M 12   | 0535            |      | 25       | 25 | 12.5 | 150 |        |
|  | TSDNN 3232P 12   | 0536            |      | 32       | 32 | 16.0 | 170 |        |
| <br><b>TSSNR/L</b><br>Approach angle<br>45°  | TSSNR/L 2020K 12 | 0554            | 0555 | 20       | 20 | 25.0 | 125 | SN1204 |
|  | TSSNR/L 2525M 12 | 0556            | 0557 | 25       | 25 | 32.0 | 150 |        |
|  | TSSNR/L 3232P 12 | 0558            | 0559 | 32       | 32 | 40.0 | 170 |        |
| <br><b>TSKNR/L</b><br>Approach angle<br>75° | TSKNR/L 2020K 12 | 0542            | 0543 | 20       | 20 | 25.0 | 125 | SN1204 |
|  | TSKNR/L 2525M 12 | 0544            | 0545 | 25       | 25 | 32.0 | 150 |        |
|  | TSKNR/L 3232P 12 | 0546            | 0547 | 32       | 32 | 40.0 | 170 |        |

| Series | Designation | Infomation  | Clamp    | Clamp Screw   | Upper Ring | Lower Ring | Shim         | Shim Screw    | Allen Key |
|--------|-------------|-------------|----------|---------------|------------|------------|--------------|---------------|-----------|
| TS..   | ..12        | Description | YATK-02  | YAKV-30-M6x22 | YABPL-01   | YAS-01     | YAASN-3-0004 | YAAV-02-M5x12 | YAAL-03-3 |
|        |             | EDP         | 18000075 | 18000091      | 18000058   | 18000052   | 18000145     | 18000156      | 18000061  |

Turning - Holder - External

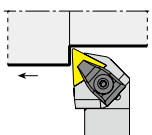
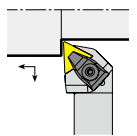
# Double Clamp type for TN\*\* Insert

TTJNR Shown



: Refer to p. 44

Unit: mm

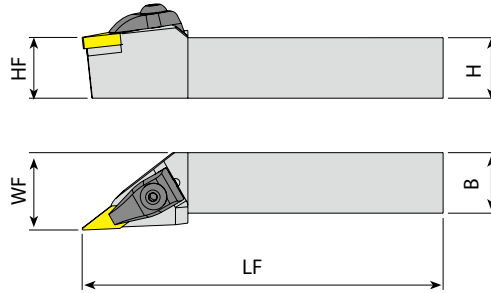
| Series   | Designation      | EDP 2700.. |      | H (= HF) | B  | WF | LF  | Insert |
|--|------------------|------------|------|----------|----|----|-----|--------|
|  |                  | R          | L    |          |    |    |     |        |
|  <p><b>TTGNR/L</b><br/>Approach angle 91°</p>   | TTGNR/L 2020K 16 | 0574       | 0575 | 20       | 20 | 25 | 125 | TN1604 |
|  | TTGNR/L 2525M 16 | 0576       | 0577 | 25       | 25 | 32 | 150 |        |
|  | TTGNR/L 3232P 16 | 0578       | 0579 | 32       | 32 | 40 | 170 |        |
|  | TTGNR/L 2525M 22 | 0580       | 0581 | 25       | 25 | 32 | 150 | TN2204 |
|  | TTGNR/L 3232P 22 | 0582       | 0583 | 32       | 32 | 40 | 170 |        |
|  | TTGNR/L 4040S 22 | 0584       | -    | 40       | 40 | 50 | 250 |        |
|  <p><b>TTJNR/L</b><br/>Approach angle 93°</p> | TTJNR/L 2020K 16 | 0609       | 0610 | 20       | 20 | 25 | 125 | TN1604 |
|  | TTJNR/L 2525M 16 | 0611       | 0612 | 25       | 25 | 32 | 150 |        |
|  | TTJNR/L 3232P 16 | 0613       | 0614 | 32       | 32 | 40 | 170 |        |
|  | TTJNR/L 2525M 22 | 0615       | 0616 | 25       | 25 | 32 | 150 | TN2204 |
|  | TTJNR/L 3232P 22 | 0617       | 0618 | 32       | 32 | 40 | 170 |        |

| Series | Designation | Information | Clamp    | Clamp Screw   | Upper Ring | Lower Ring | Shim         | Shim Screw    | Allen Key |
|--------|-------------|-------------|----------|---------------|------------|------------|--------------|---------------|-----------|
| TT..   | ..16        | Description | YATK-01  | YAKV-01-M5x22 | YABPL-01   | -          | YAATN-2-0002 | YAAV-03-M5x12 | YAAL-03-3 |
|        |             | EDP         | 18000074 | 18000080      | 18000058   | -          | 18000147     | 18000157      | 18000061  |
|        | ..22        | Description | YATK-02  | YAKV-30-M6x22 | YABPL-01   | YAS-01     | YAATN-3-0015 | YAAV-02-M5x12 | YAAL-03-3 |
|        |             | EDP         | 18000075 | 18000091      | 18000058   | 18000052   | 18000148     | 18000156      | 18000061  |

Turning - Holder - External

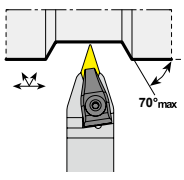
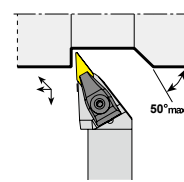
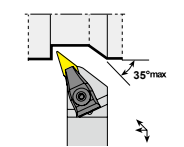
**Double Clamp type for VN\*\* Insert**

TVJNR Shown



: Refer to p. 51

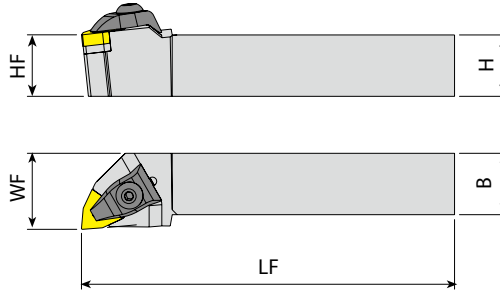
Unit:mm

| Series  | Designation      | EDP 2700..<br>R | L    | H (= HF) | B  | WF   | LF  | Insert |
|---|------------------|-----------------|------|----------|----|------|-----|--------|
|  <p><b>TVVNN</b><br/>Approach angle<br/>72.5°</p>      | TVVNN 2020K 16   | 0642            |      | 20       | 20 | 10.0 | 125 | VN1604 |
|   | TVVNN 2525M 16   | 0643            |      | 25       | 25 | 12.5 | 150 |        |
|   | TVVNN 3232P 16   | 0644            |      | 32       | 32 | 16.0 | 170 |        |
|   |                  |                 |      |          |    |      |     |        |
|  <p><b>TVJNR/L</b><br/>Approach angle<br/>93°</p>     | TVJNR/L 2020K 16 | 0636            | 0637 | 20       | 20 | 25.0 | 125 | VN1604 |
|   | TVJNR/L 2525M 16 | 0638            | 0639 | 25       | 25 | 32.0 | 150 |        |
|   | TVJNR/L 3232P 16 | 0640            | 0641 | 32       | 32 | 40.0 | 170 |        |
|   |                  |                 |      |          |    |      |     |        |
|  <p><b>TVHNR/L</b><br/>Approach angle<br/>107.5°</p> | TVHNR/L 2020K 16 | 0630            | 0631 | 20       | 20 | 25.0 | 125 | VN1604 |
|   | TVHNR/L 2525M 16 | 0632            | 0633 | 25       | 25 | 32.0 | 150 |        |
|   | TVHNR/L 3232P 16 | 0634            | 0635 | 32       | 32 | 40.0 | 170 |        |

| Series | Designation | Infomation  | Clamp    | Clamp Screw   | Upper Ring | Lower Ring | Shim         | Shim Screw    | Allen Key |
|--------|-------------|-------------|----------|---------------|------------|------------|--------------|---------------|-----------|
| TV..   | ..16        | Description | YATK-03  | YAKV-30-M6x22 | YABPL-01   | YAS-01     | YAAVN-2-0002 | YAAV-04-M5x12 | YAAL-03-3 |
|        |             | EDP         | 18000076 | 18000091      | 18000058   | 18000052   | 18000150     | 18000158      | 18000061  |

Turning - Holder - External

# Double Clamp type for WN\*\* Insert



: Refer to p. 53

Unit: mm

| Series                                       | Designation      | EDP 2700.. |      | H (= HF) | B  | WF  | LF  | Insert |
|--|------------------|------------|------|----------|----|-----|-----|--------|
|  |                  | R          | L    |          |    |     |     |        |
| <p><b>TWLNR/L</b><br/>Approach angle 95°</p> | TWLNR/L 1616H 06 | 0661       | 0662 | 16       | 16 | 20  | 100 | WN0604 |
|  | TWLNR/L 2020K 06 | 0663       | 0664 | 20       | 20 | 25  | 125 |        |
|  | TWLNR/L 2525M 06 | 0665       | 0666 | 25       | 25 | 32  | 150 |        |
|  | TWLNR/L 2020K 08 | 0667       | 0668 | 20       | 20 | 25  | 125 | WN0804 |
|  | TWLNR/L 2525M 08 | 0669       | 0670 | 25       | 25 | 32  | 150 |        |
|  | TWLNR/L 3232P 08 | 0671       | 0672 | 32       | 32 | 40  | 170 |        |
| TWLNR/L 4040S 08                             | 0673             | 0674       | 40   | 40       | 50 | 250 |     |        |

| Series | Designation | Information | Clamp    | Clamp Screw   | Upper Ring | Lower Ring | Shim         | Shim Screw    | Allen Key |
|--------|-------------|-------------|----------|---------------|------------|------------|--------------|---------------|-----------|
| TW..   | .06         | Description | YATK-01  | YAKV-01-M5x22 | YABPL-01   | -          | YAAWN-SW317  | YAAV-01-M3x10 | YAAL-03-3 |
|        |             | EDP         | 18000074 | 18000080      | 18000058   | -          | 18000152     | 18000155      | 18000061  |
|        | .08         | Description | YATK-02  | YAKV-30-M6x22 | YABPL-01   | YAS-01     | YAAWN-3-0001 | YAAV-02-M5x12 | YAAL-03-3 |
|        |             | EDP         | 18000075 | 18000091      | 18000058   | 18000052   | 18000151     | 18000156      | 18000061  |

# Multi-Clamp type for TN\*\* Insert

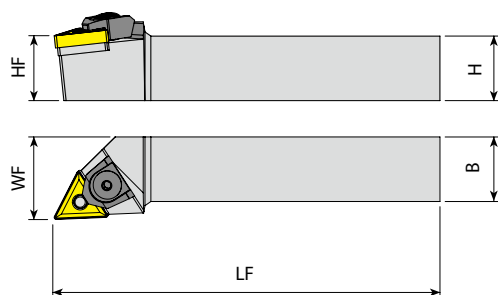
TURNING

PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION



: Refer to p. 44

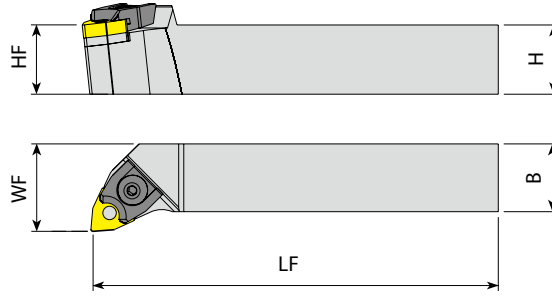
Unit:mm

| Series                                       | Designation      | EDP 2700.. |      | H (= HF) | B  | WF | LF  | Insert |
|--|------------------|------------|------|----------|----|----|-----|--------|
|  |                  | R          | L    |          |    |    |     |        |
| <p><b>MTJNR/L</b><br/>Approach angle 93°</p> | MTJNR/L 2020K 16 | 0585       | 0586 | 20       | 20 | 25 | 125 | TN1604 |
|  | MTJNR/L 2525M 16 | 0587       | 0588 | 25       | 25 | 32 | 150 |        |
|  | MTJNR/L 3232P 16 | 0589       | 0590 | 32       | 32 | 40 | 170 |        |
|  | MTJNR/L 2525M 22 | 0591       | 0592 | 25       | 25 | 32 | 150 | TN2204 |
|  | MTJNR/L 3232P 22 | 0593       | 0594 | 32       | 32 | 40 | 170 |        |
|  | MTJNR/L 4040S 22 | 0595       | 0596 | 40       | 40 | 50 | 250 |        |

| Series | Designation | Information | Clamp    | Clamp Screw   | Upper Ring | Lower Ring | Pin      | Shim         | Allen Key |
|--------|-------------|-------------|----------|---------------|------------|------------|----------|--------------|-----------|
| MT..   | ..16        | Description | YAMK-04  | YAKV-30-M6x22 | YABPL-01   | YAS-01     | YAPM-01  | YAATN-2-0002 | YAAL-03-3 |
|        |             | EDP         | 18000072 | 18000091      | 18000058   | 18000052   | 18000110 | 18000147     | 18000061  |
|        | ..22        | Description | YAMK-04  | YAKV-30-M6x22 | YABPL-01   | YAS-01     | YAPM-02  | YAATN-3-0015 | YAAL-03-3 |
|        |             | EDP         | 18000072 | 18000091      | 18000058   | 18000052   | 18000111 | 18000148     | 18000061  |

Turning - Holder - External

**Multi-Clamp type for WN\*\* Insert**



: Refer to p. 53

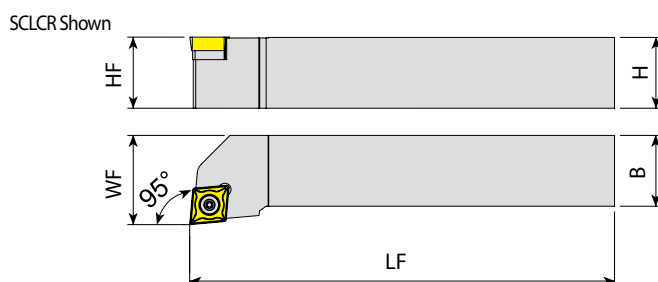
Unit: mm

| Series                                       | Designation      | EDP 2700.. |      | H (= HF) | B  | WF | LF  | Insert |
|--|------------------|------------|------|----------|----|----|-----|--------|
|  |                  | R          | L    |          |    |    |     |        |
| <p><b>MWLNR/L</b><br/>Approach angle 95°</p> | MWLNR/L 1616H 06 | 0645       | 0646 | 16       | 16 | 20 | 100 | WN0604 |
|  | MWLNR/L 2020K 06 | 0021       | 0022 | 20       | 20 | 25 | 125 |        |
|  | MWLNR/L 2525M 06 | 0023       | 0024 | 25       | 25 | 32 | 150 |        |
|  | MWLNR/L 2020K 08 | 0025       | 0026 | 20       | 20 | 25 | 125 | WN0804 |
|  | MWLNR/L 2525M 08 | 0027       | 0028 | 25       | 25 | 32 | 150 |        |
|  | MWLNR/L 3232P 08 | 0029       | 0030 | 32       | 32 | 40 | 170 |        |

| Series | Designation | Information | Clamp    | Clamp Screw   | Upper Ring | Lower Ring | Pin      | Shim         | Allen Key |
|--------|-------------|-------------|----------|---------------|------------|------------|----------|--------------|-----------|
| MW..   | ..06        | Description | YAMK-01  | YAKV-04-M5x17 | -          | -          | YAPM-08  | -            | YAAL-03-3 |
|        |             | EDP         | 18000070 | 18000082      | -          | -          | 18000114 | -            | 18000061  |
|        | ..08        | Description | YAMK-05  | YAKV-03-M6x22 | YABPL-01   | YAS-01     | YAPM-02  | YAAWN-3-0001 | YAAL-03-3 |
|        |             | EDP         | 18000073 | 18000081      | 18000058   | 18000052   | 18000111 | 18000151     | 18000061  |

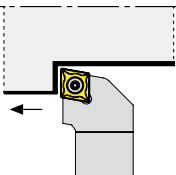
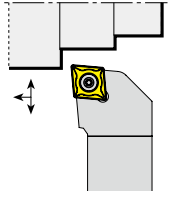
Turning - Holder - External

**Screw on type for CC\*\* Insert**



☐: Refer to p. 57

Unit:mm

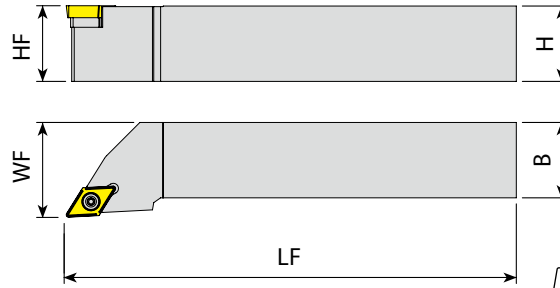
| Series   | Designation      | EDP 2700..<br>R | EDP 2700..<br>L | H (= HF) | B  | WF | LF  | Insert |
|--|------------------|-----------------|-----------------|----------|----|----|-----|--------|
|  <p><b>SCACR/L</b><br/>Approach angle 90°</p>   | SCACR/L 0808E 06 | 0675            | 0676            | 08       | 08 | 10 | 70  | CC0602 |
|  | SCACR/L 1010E 06 | 0677            | 0678            | 10       | 10 | 12 | 70  |        |
|  | SCACR/L 1212F 09 | 0679            | 0680            | 12       | 12 | 16 | 80  | CC09T3 |
|  | SCACR/L 1616H 09 | 0681            | 0682            | 16       | 16 | 20 | 100 |        |
|  | SCACR/L 2020K 09 | 0683            | 0684            | 20       | 20 | 25 | 125 | CC1204 |
|  | SCACR/L 2020K 12 | 0685            | 0686            | 20       | 20 | 25 | 125 |        |
|  | SCACR/L 2525M 12 | 0687            | 0688            | 25       | 25 | 32 | 150 |        |
|  <p><b>SCLCR/L</b><br/>Approach angle 95°</p> | SCLCR/L 0808E 06 | 0689            | 0690            | 08       | 08 | 10 | 70  | CC0602 |
|  | SCLCR/L 1010E 06 | 0691            | -               | 10       | 10 | 12 | 70  |        |
|  | SCLCR/L 1010E 09 | 0692            | 0693            | 10       | 10 | 12 | 70  | CC09T3 |
|  | SCLCR/L 1212F 09 | 0089            | 0090            | 12       | 12 | 16 | 80  |        |
|  | SCLCR/L 1616H 09 | 0091            | 0092            | 16       | 16 | 20 | 100 |        |
|  | SCLCR/L 2020K 09 | 0093            | 0094            | 20       | 20 | 25 | 125 | CC1204 |
|  | SCLCR/L 2525M 09 | 0694            | 0695            | 25       | 25 | 32 | 150 |        |
|  | SCLCR/L 1616H 12 | 0696            | -               | 16       | 16 | 20 | 100 |        |
|  | SCLCR/L 2020K 12 | 0095            | 0096            | 20       | 20 | 25 | 125 |        |
|  | SCLCR/L 2525M 12 | 0097            | 0098            | 25       | 25 | 32 | 150 |        |

| Series | Designation     | Information | Screw         | Shim         | Shim Screw      | Torx Key |
|--------|-----------------|-------------|---------------|--------------|-----------------|----------|
| SC..   | ..06            | Description | Y4008-M2.5x6  | -            | -               | Y80-T08  |
|        |                 | EDP         | 18000127      | -            | -               | 18000165 |
|        | ..F09           | Description | Y4015-M3.5x11 | YAACN-2-0001 | YAAV-06-M3.5x11 | Y80-T15  |
|        |                 | EDP         | 18000118      | 18000135     | 18000159        | 18000167 |
|        | ..H09           | Description | Y4015-M3.5x14 | YAACN-2-0001 | YAAV-06-M3.5x11 | Y80-T15  |
|        |                 | EDP         | 18000129      | 18000135     | 18000159        | 18000167 |
|        | ..12            | Description | Y1020-M4.5x16 | YAACN-2-0003 | YAAV-07-M4.5x13 | Y80-T20  |
|        |                 | EDP         | 18000120      | 18000136     | 18000160        | 18000168 |
|        | ..1010..09      | Description | Y4015-M3x9    | -            | -               | Y80-T15  |
|        |                 | EDP         | 18000132      | -            | -               | 18000159 |
|        | ..1212..09      | Description | Y4015-M3.5x11 | -            | -               | Y80-T15  |
|        |                 | EDP         | 18000118      | -            | -               | 18000159 |
|        | ..1616~2525..09 | Description | Y4015-M3.5x14 | YAACN-2-0001 | YAAV-06-M3.5x11 | Y80-T15  |
|        |                 | EDP         | 18000129      | 18000135     | 18000159        | 18000159 |
|        | ..1616..12      | Description | Y1020-M5x11   | -            | -               | Y80-T20  |
|        |                 | EDP         | 18000121      | -            | -               | 18000168 |
|        | ..2020~2525..12 | Description | Y1020-M4.5x16 | YAACN-2-0003 | YAAV-07-M4.5x13 | Y80-T20  |
|        |                 | EDP         | 18000120      | 18000136     | 18000160        | 18000168 |

Turning - Holder - External

**Screw on type for DC\*\* Insert**

SDJCR Shown



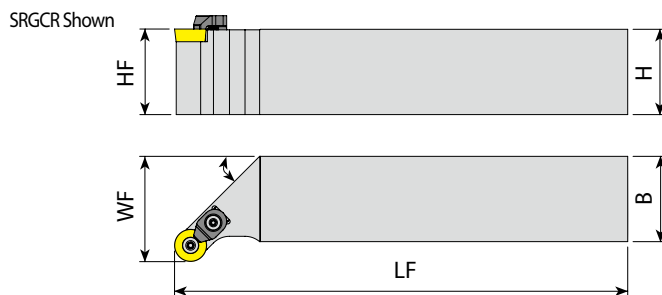
Unit: mm

| Series                                      | Designation                              | EDP 2700..<br>R | EDP 2700..<br>L | H (= HF) | B    | WF   | LF     | Insert |        |
|---|--|-----------------|-----------------|----------|------|------|--------|--------|--------|
| <br><b>SDNCN</b><br>Approach angle 62.5°    | SDNCN 0808E 07                           | 0723            |                 | 08       | 08   | 4.0  | 70     | DC0702 |        |
|   | SDNCN 1010E 07                           | 0724            |                 | 10       | 10   | 5.0  | 70     |        |        |
|   | SDNCN 1212F 07                           | 0123            |                 | 12       | 12   | 6.0  | 80     |        |        |
|   | SDNCN 1616H 07                           | 0725            |                 | 16       | 16   | 8.0  | 100    |        |        |
|   | <br><b>SDJCR/L</b><br>Approach angle 93° | SDNCN 1616H 11  | 0124            |          | 16   | 16   | 8.0    | 100    | DC11T3 |
|   |  | SDNCN 2020K 11  | 0125            |          | 20   | 20   | 10.0   | 125    |        |
|   |  | SDNCN 2525M 11  | 0126            |          | 25   | 25   | 12.5   | 150    |        |
|   |  | SDNCN 3232P 11  | 0726            |          | 32   | 32   | 16.0   | 170    |        |
| SDJCR/L 0808E 07                            |  | 0713            | 0714            | 08       | 08   | 10.0 | 70     | DC0702 |        |
| SDJCR/L 1010E 07                            |  | 0715            | 0716            | 10       | 10   | 12.0 | 70     |        |        |
| SDJCR/L 1212F 07                            | 0113                                     | 0114            | 12              | 12       | 16.0 | 80   |        |        |        |
| <br><b>SDHCR/L</b><br>Approach angle 107.5° | SDJCR/L 1616H 07                         | 0717            | 0718            | 16       | 16   | 20.0 | 100    | DC11T3 |        |
|   | SDJCR/L 1616H 11                         | 0117            | 0118            | 16       | 16   | 20.0 | 100    |        |        |
|   | SDJCR/L 2020K 11                         | 0119            | 0120            | 20       | 20   | 25.0 | 125    |        |        |
|   | SDJCR/L 2525M 11                         | 0719            | 0720            | 25       | 25   | 32.0 | 150    | DC0702 |        |
|   | SDJCR/L 3232P 11                         | 0721            | 0722            | 32       | 32   | 40.0 | 170    |        |        |
|   | SDHCR/L 0808E 07                         | 0697            | 0698            | 05       | 05   | 11.0 | 70     |        |        |
|   | SDHCR/L 1010E 07                         | 0699            | 0700            | 10       | 10   | 12.0 | 70     |        |        |
|   | SDHCR/L 1212F 07                         | 0701            | 0702            | 12       | 12   | 16.0 | 80     |        |        |
|   | SDHCR/L 1616H 07                         | 0703            | 0704            | 16       | 16   | 20.0 | 100    |        |        |
|   | SDHCR/L 1616H 11                         | 0705            | 0706            | 16       | 16   | 20.0 | 100    |        |        |
| SDHCR/L 2020K 11                            | 0707                                     | 0708            | 20              | 20       | 25.0 | 125  | DC11T3 |        |        |
| SDHCR/L 2525M 11                            | 0709                                     | 0710            | 25              | 25       | 32.0 | 150  |        |        |        |
| SDHCR/L 3232P 11                            | 0711                                     | 0712            | 32              | 32       | 40.0 | 170  |        |        |        |

| Series | Designation | Information | Screw         | Shim         | Shim Screw      | Torx Key |
|--------|-------------|-------------|---------------|--------------|-----------------|----------|
| SD..   | ..07        | Description | Y4008-M2.5x6  | -            | -               | Y80-T08  |
|        |             | EDP         | 18000127      | -            | -               | 18000165 |
|        | ..11        | Description | Y4015-M3.5x14 | YAADN-2-0001 | YAAV-06-M3.5x11 | Y80-T15  |
|        |             | EDP         | 18000129      | 18000140     | 18000159        | 18000167 |

## Turning - Holder - External

### Screw on type for RC\*\* Insert



\* 'C' Letter at Last : Optional Clamp Included

: Refer to p. 62

Unit:mm

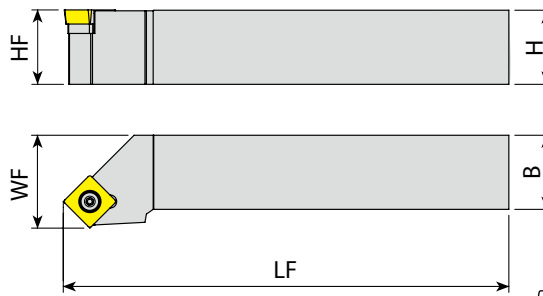
| Series                                   | Designation                            | EDP 2700..     |      | H (= HF) | B  | WF   | LF   | Insert |        |
|--|--|----------------|------|----------|----|------|------|--------|--------|
|  |  | R              | L    |          |    |      |      |        |        |
| <br><b>SRGCR/L</b><br>Approach angle 90° | SRGCR/L 1616H 06                       | 0739           | 0740 | 16       | 16 | 20.0 | 100  | RC0602 |        |
|  | SRGCR/L 2020K 06                       | 0741           | 0742 | 20       | 20 | 25.0 | 125  |        |        |
|  | SRGCR/L 1616H 08C                      | 0743           | 0744 | 16       | 16 | 32.0 | 100  | RC0803 |        |
|  | SRGCR/L 2020K 08C                      | 0745           | 0746 | 20       | 20 | 25.0 | 125  |        |        |
|  | SRGCR/L 2525M 08C                      | 0747           | 0748 | 25       | 25 | 32.0 | 150  | RC10T3 |        |
|  | SRGCR/L 1616H 10C                      | 0749           | 0750 | 16       | 16 | 20.0 | 100  |        |        |
|  | SRGCR/L 2020K 10C                      | 0751           | 0752 | 20       | 20 | 25.0 | 125  |        |        |
|  | SRGCR/L 2525M 10C                      | 0753           | 0754 | 25       | 25 | 32.0 | 150  | RC1204 |        |
|  | SRGCR/L 2020K 12C                      | 0757           | 0758 | 20       | 20 | 25.0 | 125  |        |        |
|  | SRGCR/L 2525M 12C                      | 0759           | 0760 | 25       | 25 | 32.0 | 150  |        |        |
|  | SRGCR/L 3232P 10C                      | 0755           | 0756 | 32       | 32 | 40.0 | 170  | RC1204 |        |
|  | SRGCR/L 3232P 12C                      | 0761           | 0762 | 32       | 32 | 40.0 | 170  |        |        |
|  | <br><b>SRDCN</b><br>Approach angle 90° | SRDCN 1616H 06 |      | 0162     | 16 | 16   | 8.0  | 100    | RC0602 |
|  |  | SRDCN 2020K 06 |      | 0163     | 20 | 20   | 10.0 | 125    |        |
| SRDCN 2525M 06                           |  |                | 0164 | 25       | 25 | 12.5 | 150  | RC0803 |        |
| SRDCN 1616H 08C                          |  |                | 0727 | 16       | 16 | 8.0  | 100  |        |        |
| SRDCN 2020K 08C                          |  |                | 0728 | 20       | 20 | 10.0 | 125  | RC10T3 |        |
| SRDCN 2525M 08C                          |  |                | 0729 | 25       | 25 | 12.5 | 150  |        |        |
| SRDCN 1616H 10C                          |  |                | 0730 | 16       | 16 | 8.0  | 100  | RC1204 |        |
| SRDCN 2020K 10C                          |  |                | 0731 | 20       | 20 | 10.0 | 125  |        |        |
| SRDCN 2525M 10C                          |  |                | 0732 | 25       | 25 | 12.5 | 150  | RC1204 |        |
| SRDCN 3232P 10C                          |  |                | 0733 | 32       | 32 | 16.0 | 170  |        |        |
| SRDCN 2020K 12C                          |  |                | 0734 | 20       | 20 | 10.0 | 125  | RC1204 |        |
| SRDCN 2525M 12C                          |  |                | 0735 | 25       | 25 | 12.5 | 150  |        |        |
| SRDCN 3232P 12C                          |  |                | 0736 | 32       | 32 | 16.0 | 170  | RC1204 |        |
| SRDCR/L3232P12C                          |  |                | 0737 | 0738     | 32 | 32   | 40.0 |        | 170    |
| <br><b>SRHCR/L</b>                       | SRHCR/L 2525K 06                       | 0763           | -    | 25       | 25 | 25.0 | 125  | RC0602 |        |
|  | SRHCR/L 2525K 08                       | 0764           | 0765 | 25       | 25 | 25.0 | 125  | RC0803 |        |
|  | SRHCR/L 2525K 10                       | 0766           | 0767 | 25       | 25 | 25.0 | 125  | RC10T3 |        |
|  | SRHCR/L 2525K 12                       | 0768           | 0769 | 25       | 25 | 25.0 | 125  | RC1204 |        |

| Series | Designation  | Infomation  | Clamp    | Clamp Screw   | Screw         | Torx Key |
|--------|--------------|-------------|----------|---------------|---------------|----------|
| SR..   | ..06         | Description | -        | -             | Y3008-M2.5x6  | Y80-T08  |
|        |              | EDP         | -        | -             | 18000124      | 18000165 |
| SR..   | ..08         | Description | -        | -             | Y3008-M3x8    | Y80-T15  |
|        |              | EDP         | -        | -             | 18000125      | 18000167 |
| SR..   | ..08C        | Description | YACK-15  | Y4015-M3.5x11 | Y3008-M3x8    | Y80-T08  |
|        |              | EDP         | 18000069 | 18000118      | 18000125      | 18000165 |
| SR..   | ..10C        | Description | YACK-15  | Y4015-M3.5x11 | Y4015-M3.5x11 | Y80-T15  |
|        |              | EDP         | 18000069 | 18000118      | 18000118      | 18000167 |
| SR..   | ..12C        | Description | YACK-05  | Y4015-M4x11   | Y4015-M3.5x11 | Y80-T15  |
|        |              | EDP         | 18000065 | 18000119      | 18000118      | 18000167 |
| SR..   | ..10 ..12    | Description | -        | -             | Y4015-M3.5x11 | Y80-T15  |
|        |              | EDP         | -        | -             | 18000118      | 18000167 |
| SR..   | ..1616 ..08C | Description | YACK-15  | Y4015-M3.5x11 | Y3008-M3x8    | Y80-T08  |
|        |              | EDP         | 18000069 | 18000118      | 18000125      | 18000165 |

Turning - Holder - External

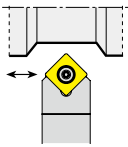
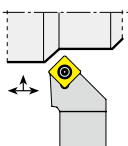
**Screw on type for SC\*\* Insert**

SSSCR Shown



: Refer to p. 64

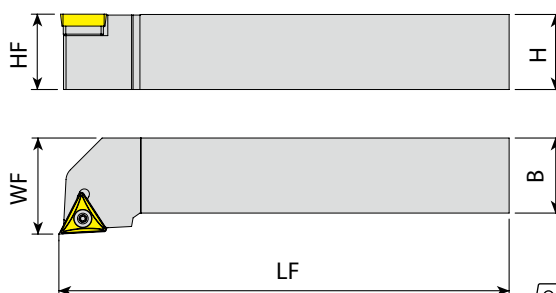
Unit: mm

| Series   | Designation      | EDP 2700..<br>R L | H (= HF)  | B  | WF   | LF   | Insert |        |
|--|------------------|-------------------|-----------|----|------|------|--------|--------|
|  <p><b>SSDCN</b><br/>Approach angle 45°</p>     | SSDCN 1212F 09   | 0148              | 12        | 12 | 6.0  | 80   | SC09T3 |        |
|  | SSDCN 1616H 09   | 0149              | 16        | 16 | 8.0  | 100  |        |        |
|  | SSDCN 2020K 09   | 0770              | 20        | 20 | 10.0 | 125  |        |        |
|  |                  | SSDCN 1616H 12    | 0771      | 16 | 16   | 8.0  | 100    | SC1204 |
|  |                  | SSDCN 2020K 12    | 0150      | 20 | 20   | 10.0 | 125    |        |
|  |                  | SSDCN 2525M 12    | 0151      | 25 | 25   | 12.5 | 150    |        |
|  <p><b>SSSCR/L</b><br/>Approach angle 45°</p> | SSSCR/L 1212F 09 | 0772 0773         | 12        | 12 | 16.0 | 80   | SC09T3 |        |
|  | SSSCR/L 1616H 09 | 0774 0775         | 16        | 16 | 20.0 | 100  |        |        |
|  | SSSCR/L 2020K 09 | 0776 0777         | 20        | 20 | 25.0 | 125  |        |        |
|  |                  | SSSCR/L 1616H 12  | 0778 0779 | 16 | 16   | 20.0 | 100    | SC1204 |
|  |                  | SSSCR/L 2020K 12  | 0780 0781 | 20 | 20   | 25.0 | 125    |        |
|  |                  | SSSCR/L 2525M 12  | 0782 0783 | 25 | 25   | 32.0 | 150    |        |

| Series | Designation     | Information | Screw         | Shim         | Shim Screw      | Torx Key |
|--------|-----------------|-------------|---------------|--------------|-----------------|----------|
| SS..   | ..1212..09      | Description | Y4015-M3.5x11 | -            | -               | Y80-T15  |
|        |                 | EDP         | 18000118      | -            | -               | 18000167 |
|        | ..1616~2020..09 | Description | Y4015-M3.5x14 | YAASN-2-0001 | YAAV-06-M3.5x11 | Y80-T15  |
|        |                 | EDP         | 18000129      | 18000135     | 18000159        | 18000167 |
|        | ..1616..12      | Description | Y4020-M4.5x12 | YAASN-2-0004 | YAAV-10-M4.5x8  | Y80-T20  |
|        |                 | EDP         | 18000134      | 18000144     | 18000162        | 18000168 |
|        | ..2020~2525..12 | Description | Y1020-M4.5x16 | YAASN-2-0004 | YAAV-07-M4.5x13 | Y80-T20  |
|        |                 | EDP         | 18000120      | 18000144     | 18000160        | 18000168 |

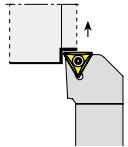
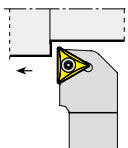
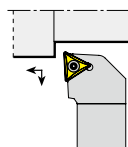
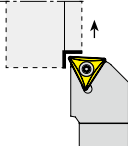
# Screw on type for TC\*\* Insert

STJCR Shown



: Refer to p. 66

Unit:mm

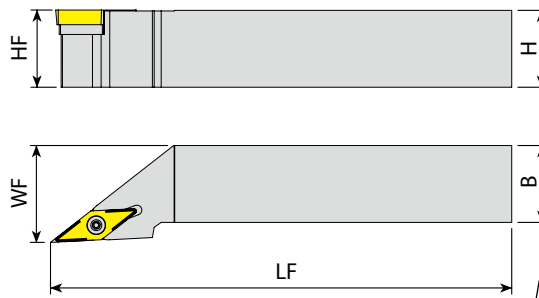
| Series  | Designation      | EDP 2700..<br>R | L    | H (= HF) | B  | WF | LF  | Insert |
|---|------------------|-----------------|------|----------|----|----|-----|--------|
| <br><b>STFCR/L</b><br>Approach angle 91°   | STFCR/L 1212F 11 | 0099            | 0100 | 12       | 12 | 16 | 80  | TC1102 |
|   | STFCR/L 1616H 11 | 0101            | 0102 | 16       | 16 | 20 | 100 |        |
|   | STFCR/L 1616H 16 | 0105            | 0106 | 16       | 16 | 20 | 100 | TC16T3 |
|   | STFCR/L 2020K 16 | 0107            | 0108 | 20       | 20 | 25 | 125 |        |
|   | STFCR/L 2525M 16 | 0109            | 0110 | 25       | 25 | 32 | 150 |        |
|   | STFCR/L 3232P 16 | 0784            | 0785 | 32       | 32 | 40 | 170 |        |
| <br><b>STGCR/L</b><br>Approach angle 91°  | STGCR/L 1212F 11 | 0786            | 0787 | 12       | 12 | 16 | 80  | TC1102 |
|   | STGCR/L 1616H 11 | 0433            | 0788 | 16       | 16 | 20 | 100 |        |
|   | STGCR/L 1616H 16 | 0789            | 0790 | 16       | 16 | 20 | 100 | TC16T3 |
|   | STGCR/L 2020K 16 | 0434            | 0791 | 20       | 20 | 25 | 125 |        |
|   | STGCR/L 2525M 16 | 0792            | 0793 | 25       | 25 | 32 | 150 |        |
|   | STGCR/L 3232P 16 | 0794            | 0795 | 32       | 32 | 40 | 170 |        |
| <br><b>STJCR/L</b><br>Approach angle 93° | STJCR/L 1212F 11 | 0796            | 0797 | 12       | 12 | 16 | 80  | TC1102 |
|   | STJCR/L 1616H 11 | 0798            | 0799 | 16       | 16 | 20 | 100 |        |
|   | STJCR/L 1616H 16 | 0800            | 0801 | 16       | 16 | 20 | 100 | TC16T3 |
|   | STJCR/L 2020K 16 | 0802            | 0803 | 20       | 20 | 25 | 125 |        |
|   | STJCR/L 2525M 16 | 0804            | 0805 | 25       | 25 | 32 | 150 |        |
|   | STJCR/L 3232P 16 | 0806            | 0807 | 32       | 32 | 40 | 170 |        |
| <br><b>STUCR/L</b><br>Approach angle 93° | STUCR/L 1212F 11 | 0808            | 0809 | 12       | 12 | 16 | 80  | TC1102 |
|   | STUCR/L 1616H 11 | 0810            | 0811 | 16       | 16 | 20 | 100 |        |
|   | STUCR/L 2020K 16 | 0812            | 0813 | 20       | 20 | 25 | 125 | TC16T3 |
|   | STUCR/L 2525M 16 | 0814            | 0815 | 25       | 25 | 32 | 150 |        |
|   | STUCR/L 3232P 16 | 0816            | 0817 | 32       | 32 | 40 | 170 |        |

| Series | Designation | Infomation  | Screw         | Shim         | Shim Screw      | Torx Key |
|--------|-------------|-------------|---------------|--------------|-----------------|----------|
| ST..   | ..11        | Description | Y4008-M2.5x6  | -            | -               | Y80-T08  |
|        |             | EDP         | 18000127      | -            | -               | 18000165 |
|        | ..16        | Description | Y4015-M3.5x14 | YAATN-2-0001 | YAAV-06-M3.5x11 | Y80-T15  |
|        |             | EDP         | 18000129      | 18000146     | 18000159        | 18000167 |

Turning - Holder - External

**Screw on type for VB\*\* Insert**

SVJBR Shown



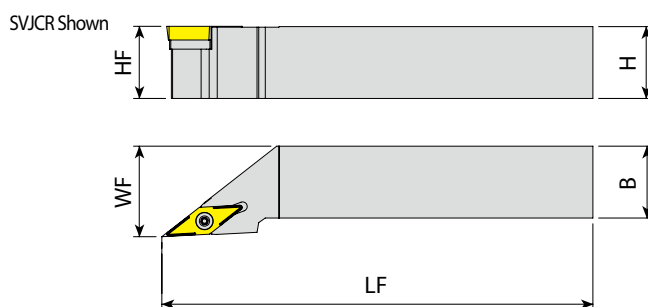
Unit:mm

| Series  | Designation      | EDP 2700..<br>R | L    | H (= HF) | B  | WF   | LF  | Insert        |
|---|------------------|-----------------|------|----------|----|------|-----|---------------|
| <p><b>SVHBR/L</b><br/>Approach angle<br/>107.5°</p> | SVHBR/L 2020K 16 | 0818            | 0819 | 20       | 20 | 25.0 | 125 | <b>VB1604</b> |
|   | SVHBR/L 2525M 16 | 0820            | 0821 | 25       | 25 | 32.0 | 150 |               |
|   | SVHBR/L 3232P 16 | 0822            | 0823 | 32       | 32 | 40.0 | 170 |               |
|   |                  |                 |      |          |    |      |     |               |
| <p><b>SVVBN</b><br/>Approach angle<br/>72.5°</p>    | SVVBN 2020K 16   | 0131            |      | 20       | 20 | 10.0 | 125 | <b>VB1604</b> |
|   | SVVBN 2525M 16   | 0132            |      | 25       | 25 | 12.5 | 150 |               |
|   | SVVBN 3232P 16   | 0827            |      | 32       | 32 | 16.0 | 170 |               |
|   |                  |                 |      |          |    |      |     |               |
| <p><b>SVJBR/L</b><br/>Approach angle<br/>93°</p>    | SVJBR/L 1616H 16 | 0824            | 0825 | 16       | 16 | 20.0 | 100 | <b>VB1604</b> |
|   | SVJBR/L 2020K 16 | 0127            | 0128 | 20       | 20 | 25.0 | 125 |               |
|   | SVJBR/L 2525M 16 | 0129            | 0130 | 25       | 25 | 32.0 | 150 |               |
|   | SVJBR/L 3232P 16 | 0436            | 0826 | 32       | 32 | 40.0 | 170 |               |

| Series | Designation | Information | Screw         | Shim         | Shim Screw      | Torx Key |
|--------|-------------|-------------|---------------|--------------|-----------------|----------|
| SV..   | ..16        | Description | Y4015-M3.5x14 | YAAVN-2-0002 | YAAV-06-M3.5x11 | Y80-T15  |
|        |             | EDP         | 18000129      | 28000043     | 18000159        | 18000167 |

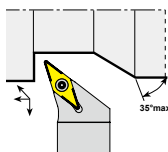
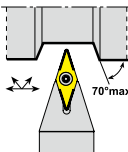
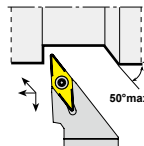
Turning - Holder - External

**Screw on type for VC\*\* Insert**



: Refer to p. 69

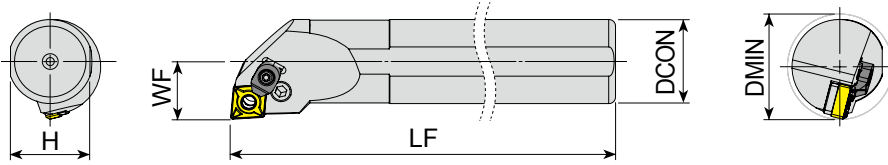
Unit:mm

| Series  | Designation      | EDP 2700..<br>R  | EDP 2700..<br>L | H (= HF) | B  | WF | LF   | Insert |        |
|---|------------------|------------------|-----------------|----------|----|----|------|--------|--------|
| <br><b>SVHCR/L</b><br>Approach angle<br>107.5° | SVHCR/L 2020K 16 | 0828             | 0829            | 20       | 20 | 25 | 125  | VC1604 |        |
|   | SVHCR/L 2525M 16 | 0830             | 0831            | 25       | 25 | 32 | 150  |        |        |
|   | SVHCR/L 3232P 16 | 0832             | 0833            | 32       | 32 | 40 | 170  |        |        |
|   |                  |                  |                 |          |    |    |      |        |        |
| <br><b>SVVCN</b><br>Approach angle<br>72.5°   | SVVCN 1212-F11   | 0143             |                 | 12       | 12 | 06 | 80   | VC1103 |        |
|   | SVVCN 1616-H11   | 0144             |                 | 16       | 16 | 08 | 100  |        |        |
|   | SVVCN 2020-K11   | 0145             |                 | 20       | 20 | 10 | 125  |        |        |
|   | SVVCN 2020-K16   | 0146             |                 | 20       | 20 | 10 | 125  |        |        |
|   |                  | SVVCN 2525M 16   | 0147            |          | 25 | 25 | 12.5 | 150    | VC1604 |
|   |                  | SVVCN 3232P 16   | 0838            |          | 32 | 32 | 16   | 170    |        |
| <br><b>SVJCR/L</b><br>Approach angle<br>93°  | SVJCR/L 1212F 16 | 0834             | 0835            | 12       | 12 | 16 | 80   | VC1604 |        |
|   | SVJCR/L 2020K 16 | 0139             | 0140            | 20       | 20 | 25 | 125  |        |        |
|   | SVJCR/L 2525M 16 | 0141             | 0142            | 25       | 25 | 32 | 150  |        |        |
|   | SVJCR/L 3232P 16 | 0836             | 0837            | 32       | 32 | 40 | 170  |        |        |
|   |                  | SVJCR/L 1212-F11 | 0133            | 0134     | 12 | 12 | 16   | 80     | VC1103 |
|   |                  | SVJCR/L 1616-H11 | 0135            | 0136     | 16 | 16 | 20   | 100    |        |
|   |                  | SVJCR/L 2020-K11 | 0137            | 0138     | 20 | 20 | 25   | 125    |        |

| Series | Designation     | Information | Screw         | Shim         | Shim Screw      | Torx Key |
|--------|-----------------|-------------|---------------|--------------|-----------------|----------|
| SV..   | ..11            | Description | Y4008-M2.5x6  | -            | -               | Y80-T08  |
|        |                 | EDP         | 18000127      | -            | -               | 18000165 |
|        | ..16            | Description | Y4015-M3.5x14 | YAAVN-2-0002 | YAAV-06-M3.5x11 | Y80-T15  |
|        |                 | EDP         | 18000129      | 28000043     | 18000159        | 18000167 |
|        | ..1212..16      | Description | Y4015-M3.5x11 | -            | -               | Y80-T15  |
|        |                 | EDP         | 18000118      | -            | -               | 18000167 |
|        | ..2020~3232..16 | Description | Y4015-M3.5x14 | YAAVN-2-0002 | YAAV-06-M3.5x11 | Y80-T15  |
|        |                 | EDP         | 18000129      | 28000043     | 18000159        | 18000167 |

Turning - Holder - Internal

**Lever Lock type for CN\*\* Insert**

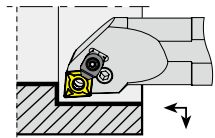


\* 'C' Letter at Last : Optional Clamp Included

☐ : Refer to p.28

Unit:mm

| Series               | Designation          | EDP 2700..<br>R L    | DMIN      | DCON | H    | WF   | LF  | Insert |        |        |
|----------------------|----------------------|----------------------|-----------|------|------|------|-----|--------|--------|--------|
| ●                    | A25R - PCLNR/L 12C   | 0839 0840            | 32        | 25   | 23   | 17   | 200 | CN1204 |        |        |
|                      | A32S - PCLNR/L 12C   | 0841 0842            | 40        | 32   | 30   | 22   | 250 |        |        |        |
|                      | A40T - PCLNR/L 12C   | 0843 0844            | 50        | 40   | 37.5 | 27   | 300 |        |        |        |
|                      | A50U - PCLNR/L 12C   | 0845 0846            | 63        | 50   | 47   | 35   | 350 |        |        |        |
|                      | S25S - PCLNR/L 12C   | 0863 0864            | 32        | 25   | 23   | 17   | 250 |        |        |        |
|                      | X S32T - PCLNR/L 12C | 0865 0866            | 40        | 32   | 30   | 22   | 300 |        |        |        |
|                      | X S40U - PCLNR/L 12C | 0867 0868            | 50        | 40   | 37.5 | 27   | 350 |        |        |        |
|                      | X S50V - PCLNR/L 12C | 0869 0870            | 63        | 50   | 47   | 35   | 400 |        |        |        |
|                      | ●                    | A32S - PCLNR/L 16C   | 0847 0848 | 40   | 32   | 30   | 22  |        | 250    | CN1606 |
|                      |                      | A40T - PCLNR/L 16C   | 0849 0850 | 50   | 40   | 37.5 | 27  |        | 300    |        |
| A50U - PCLNR/L 16C   |                      | 0851 0852            | 63        | 50   | 47   | 35   | 350 |        |        |        |
| S32T - PCLNR/L 16C   |                      | 0871 0872            | 40        | 32   | 30   | 22   | 300 |        |        |        |
| X S40U - PCLNR/L 16C |                      | 0873 0874            | 50        | 40   | 37.5 | 27   | 350 |        |        |        |
| X S50V - PCLNR/L 16C |                      | 0875 0876            | 63        | 50   | 47   | 35   | 400 |        |        |        |
| ●                    |                      | A40T - PCLNR/L 19C   | 0853 0854 | 50   | 40   | 37.5 | 27  | 300    | CN1906 |        |
|                      |                      | A50U - PCLNR/L 19C   | 0855 0856 | 63   | 50   | 47   | 35  | 350    |        |        |
|                      |                      | X S40U - PCLNR/L 19C | 0877 0878 | 50   | 40   | 37.5 | 27  | 350    |        |        |
|                      |                      | X S50V - PCLNR/L 19C | 0879 0880 | 63   | 50   | 47   | 35  | 400    |        |        |



..-PCLNR/L

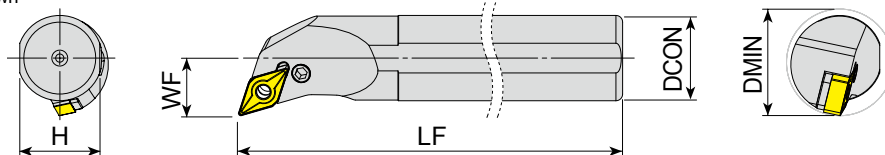
Approach angle  
95°

| Series         | Designation | Infomation | Lever          | Lever Screw | Clamp         | Clamp Screw  | Shim     | Shim Pin  | Allen Key |
|----------------|-------------|------------|----------------|-------------|---------------|--------------|----------|-----------|-----------|
| ..25..- 12C    | Description | YAPL-02    | YALV-08-M8x16  | YACK-05     | Y4015-M4x11   | YAACN-3-0001 | YAAY-02  | YAAL-03-3 |           |
|                | EDP         | 18000093   | 18000104       | 18000065    | 18000119      | 18000137     | 18000054 | 18000061  |           |
| ..32~50..- 12C | Description | YAPL-02    | YALV-03-M8x19  | YACK-05     | Y4015-M4x11   | YAACN-3-0001 | YAAY-02  | YAAL-03-3 |           |
|                | EDP         | 18000093   | 18000100       | 18000065    | 18000119      | 18000137     | 18000054 | 18000061  |           |
| ..PC..         | Description | YAPL-04    | YALV-04-M8x22  | YACK-09     | YAAV-05-M6x15 | YAACN-3-0002 | YAAY-03  | YAAL-03-3 |           |
|                | EDP         | 18000095   | 18000101       | 18000066    | 18000078      | 18000138     | 18000055 | 18000061  |           |
| ..19C          | Description | YAPL-05    | YALV-05-M10x27 | YACK-09     | YAAV-05-M6x15 | YAACN-3-0003 | YAAY-04  | YAAL-05-4 |           |
|                | EDP         | 18000096   | 18000102       | 18000066    | 18000078      | 18000139     | 18000056 | 18000062  |           |
| ..19C          | Description | YAPL-05    | YALV-05-M10x27 | YACK-09     | YAAV-05-M6x15 | YAACN-3-0003 | YAAY-04  | YAAL-05-4 |           |
|                | EDP         | 18000096   | 18000102       | 18000066    | 18000078      | 18000139     | 18000056 | 18000062  |           |

## Turning - Holder - Internal

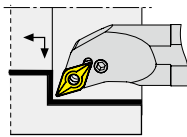
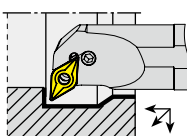
### Lever Lock type for DN\*\* Insert

..PDQNR Shown



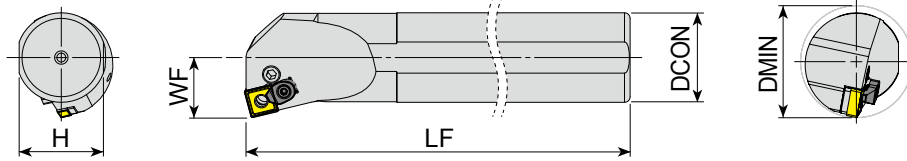
: Refer to p. 33

Unit:mm

| Series   | Designation           | EDP 2700.. |      | DMIN | DCON | H    | WF  | LF  | Insert |
|--|-----------------------|------------|------|------|------|------|-----|-----|--------|
|  |                       | R          | L    |      |      |      |     |     |        |
|  <p>..PDQNR/L<br/>Approach angle 107.5°</p> | ● A32S - PDQNR/L 1504 | 0895       | -    | 40   | 32   | 30   | 22  | 250 | DN1504 |
|  | ● A40T - PDQNR/L 1504 | 0896       | -    | 50   | 40   | 37.5 | 27  | 300 |        |
|  | S32T - PDQNR/L 1504   | 0903       | -    | 40   | 32   | 30   | 22  | 300 |        |
|  | X S40U - PDQNR/L 1504 | 0904       | -    | 50   | 40   | 37.5 | 27  | 350 |        |
|  | S50V - PDQNR/L 1504   | 0905       | -    | 63   | 50   | 47   | 35  | 400 |        |
|  | ● A32S - PDQNR/L 15   | 0897       | 0898 | 40   | 32   | 30   | 22  | 250 |        |
| ● A40T - PDQNR/L 15  | 0899                  | 0900       | 50   | 40   | 37.5 | 27   | 300 |     |        |
| A50U - PDQNR/L 15  | 0901                  | 0902       | 63   | 50   | 47   | 35   | 350 |     |        |
| S32T - PDQNR/L 15  | 0906                  | 0907       | 40   | 32   | 30   | 22   | 300 |     |        |
| X S40U - PDQNR/L 15  | 0908                  | 0909       | 50   | 40   | 37.5 | 27   | 350 |     |        |
| S50V - PDQNR/L 15  | 0910                  | 0911       | 63   | 50   | 47   | 35   | 400 |     |        |
|  <p>..PDUNR/L<br/>Approach angle 93°</p>  | A32S - PDUNR/L 15     | 0920       | 0921 | 40   | 32   | 30   | 22  | 250 | DN1506 |
|  | ● A40T - PDUNR/L 15   | 0922       | 0923 | 50   | 40   | 37.5 | 27  | 300 |        |
|  | A50U - PDUNR/L 15     | 0924       | 0925 | 63   | 50   | 47   | 35  | 350 |        |
|  | S25S - PDUNR/L 15     | 0934       | 0935 | 32   | 25   | 23   | 19  | 250 |        |
|  | X S32T - PDUNR/L 15   | 0936       | 0937 | 40   | 32   | 30   | 22  | 300 |        |
|  | S40U - PDUNR/L 15     | 0938       | 0939 | 50   | 40   | 37.5 | 27  | 350 |        |
|  | S50V - PDUNR/L 15     | 0940       | 0941 | 63   | 50   | 47   | 35  | 400 |        |

| Series      | Designation | Information | Lever    | Lever Screw   | Shim         | Shim Pin | Allen Key |
|-------------|-------------|-------------|----------|---------------|--------------|----------|-----------|
| ..15        | Description |             | YAPL-03  | YALV-03-M8x19 | YAADN-3-0001 | YAAY-02  | YAAL-03-3 |
|             | EDP         |             | 18000094 | 18000100      | 18000142     | 18000054 | 18000061  |
| ..1504      | Description |             | YAPL-03  | YALV-03-M8x19 | YAADN-2-0003 | YAAY-02  | YAAL-03-3 |
|             | EDP         |             | 18000094 | 18000100      | 18000141     | 18000054 | 18000061  |
| ..25..15    | Description |             | YAPL-03  | YALV-08-M8x16 | YAADN-3-0001 | YAAY-02  | YAAL-03-3 |
|             | EDP         |             | 18000094 | 18000104      | 18000142     | 18000054 | 18000061  |
| ..32~50..15 | Description |             | YAPL-03  | YALV-03-M8x19 | YAADN-3-0001 | YAAY-02  | YAAL-03-3 |
|             | EDP         |             | 18000094 | 18000100      | 18000142     | 18000054 | 18000061  |

## Turning - Holder - Internal Lever Lock type for SN\*\* Insert



\* 'C' Letter at Last : Optional Clamp Included

: Refer to p.40

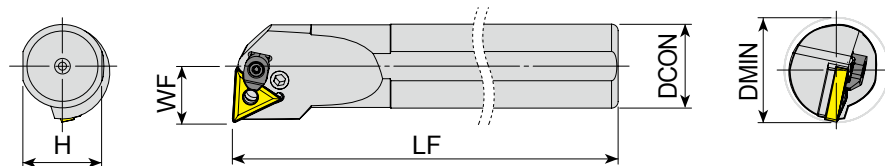
Unit:mm

| Series   | Designation          | EDP 2700..<br>R L | DMIN | DCON | H    | WF | LF  | Insert |
|--|----------------------|-------------------|------|------|------|----|-----|--------|
| <br><b>..-PSKNR/L</b><br>Approach angle<br>75° | X S25S - PSKNR/L 12C | 0958 0959         | 32   | 25   | 23   | 17 | 250 | SN1204 |
|  | S32T - PSKNR/L 12C   | 0960 0961         | 40   | 32   | 30   | 22 | 300 |        |
|  | X S40U - PSKNR/L12C  | 0962 0963         | 50   | 40   | 37.5 | 27 | 350 | SN1204 |
|  | S50V - PSKNR/L12C    | 0964 0965         | 63   | 50   | 47   | 35 | 400 |        |

| Series | Designation                            | Infomation  | Lever    | Lever Screw   | Clamp    | Clamp Screw | Shim         | Shim Pin | Allen Key |
|--------|--|-------------|----------|---------------|----------|-------------|--------------|----------|-----------|
| ..PS.. | ..25.. 12C                             | Description | YAPL-02  | YALV-08-M8x16 | YACK-05  | Y4015-M4x11 | YAASN-3-0004 | YAAY-02  | YAAL-03-3 |
|        |  | EDP         | 18000093 | 18000104      | 18000065 | 18000119    | 18000145     | 18000054 | 18000061  |
|        | ..32.. 12C<br>..40.. 12C<br>..50.. 12C | Description | YAPL-02  | YALV-03-M8x19 | YACK-05  | Y4015-M4x11 | YAASN-3-0004 | YAAY-02  | YAAL-03-3 |
|        |  | EDP         | 18000093 | 18000100      | 18000065 | 18000119    | 18000145     | 18000054 | 18000061  |

Turning - Holder - Internal

**Lever Lock type for TN\*\* Insert**

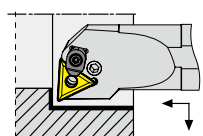


\* 'C' Letter at Last : Optional Clamp Included

: Refer to p.44

Unit:mm

| Series | Designation        | EDP 2700.. |      | DMIN | DCON | H    | WF | LF  | Insert |
|--------|--------------------|------------|------|------|------|------|----|-----|--------|
|        |                    | R          | L    |      |      |      |    |     |        |
|        | S16P - PTUNR/L 16  | 1014       | 1015 | 20   | 16   | 14.8 | 11 | 170 | TN1604 |
|        | S20R - PTUNR/L 16  | 1016       | 1017 | 25   | 20   | 18.3 | 13 | 200 |        |
| X      | S25S - PTUNR/L 16C | 1018       | 1019 | 32   | 25   | 23   | 17 | 250 |        |
|        | S32T - PTUNR/L 16C | 1020       | 1021 | 40   | 32   | 30   | 22 | 300 |        |
|        | S40U - PTUNR/L 16C | 1022       | 1023 | 50   | 40   | 37.5 | 27 | 350 |        |
|        | S32T - PTUNR/L 22C | 1024       | 1025 | 40   | 32   | 30   | 22 | 300 | TN2204 |
| X      | S40U - PTUNR/L 22C | 1026       | 1027 | 50   | 40   | 37.5 | 27 | 350 |        |
|        | S50V - PTUNR/L 22C | 1028       | 1029 | 63   | 50   | 47   | 35 | 400 |        |



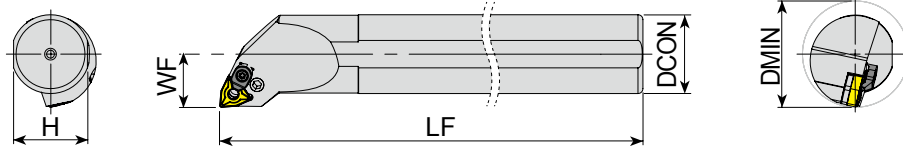
..PTUNR/L

Approach angle  
93°

| Series | Designation | Information | Lever         | Lever Screw   | Clamp       | Clamp Screw  | Shim         | Shim Pin  | Allen Key   |
|--------|-------------|-------------|---------------|---------------|-------------|--------------|--------------|-----------|-------------|
| ..PT.. | ..16..16    | Description | YAPL-08       | YALV-07-M6x13 | -           | -            | -            | YAAY-07   | YAAL-02-2.5 |
|        |             | EDP         | 18000097      | 18000103      | -           | -            | -            | 18000057  | 18000060    |
|        | ..20..16    | Description | YAPL-01       | YALV-01-M6x14 | -           | -            | YAATN-3-0025 | YAAY-01   | YAAL-02-2.5 |
|        |             | EDP         | 18000092      | 18000098      | -           | -            | 18000149     | 18000053  | 18000060    |
|        | ..16C       | Description | YAPL-01       | YALV-02-M6x17 | YACK-05     | Y4015-M4x11  | YAATN-3-0025 | YAAY-01   | YAAL-02-2.5 |
|        |             | EDP         | 18000092      | 18000099      | 18000065    | 18000119     | 18000149     | 18000053  | 18000060    |
| ..22C  | Description | YAPL-02     | YALV-03-M8x19 | YACK-05       | Y4015-M4x11 | YAATN-3-0015 | YAAY-02      | YAAL-03-3 |             |
|        | EDP         | 18000093    | 18000100      | 18000065      | 18000119    | 18000148     | 18000054     | 18000061  |             |

Turning - Holder - Internal

# Lever Lock type for WN\*\* Insert

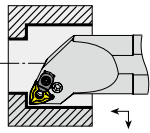


\* 'C' Letter at Last : Optional Clamp Included

: Refer to p. 53

Unit:mm

| Series | Designation          | EDP 2700..<br>R | L    | DMIN | DCON | H    | WF | LF  | Insert |
|--------|----------------------|-----------------|------|------|------|------|----|-----|--------|
| ●      | A20P - PWLNR/L 06    | 1048            | 1049 | 25   | 20   | 18.3 | 13 | 170 | WN0604 |
|        | A25R - PWLNR/L 06    | 1050            | 1051 | 32   | 25   | 23   | 17 | 200 |        |
|        | A32S - PWLNR/L 06    | 1052            | 1053 | 40   | 32   | 30   | 22 | 250 |        |
|        | S20R - PWLNR/L 06    | 1076            | 1077 | 25   | 20   | 18.3 | 13 | 200 |        |
|        | X S25S - PWLNR/L 06  | 1078            | 1079 | 32   | 25   | 23   | 17 | 250 |        |
|        | S32T - PWLNR/L 06    | 1080            | 1081 | 40   | 32   | 30   | 22 | 300 |        |
| ●      | A25R - PWLNR/L 08C   | 1054            | 1055 | 32   | 25   | 23   | 17 | 200 | WN0804 |
|        | A32S - PWLNR/L 08C   | 1056            | 1057 | 40   | 32   | 30   | 22 | 250 |        |
|        | A40T - PWLNR/L 08C   | 1058            | 1059 | 50   | 40   | 37.5 | 27 | 300 |        |
|        | A50U - PWLNR/L 08C   | 1060            | 1061 | 63   | 50   | 47   | 35 | 350 |        |
|        | S25S - PWLNR/L 08C   | 1082            | 1083 | 32   | 25   | 23   | 17 | 250 |        |
|        | X S32T - PWLNR/L 08C | 1084            | 1085 | 40   | 32   | 30   | 22 | 300 |        |
|        | S40U - PWLNR/L 08C   | 1086            | 1087 | 50   | 40   | 37.5 | 27 | 350 |        |
|        | S50V - PWLNR/L 08C   | 1088            | 1089 | 63   | 50   | 47   | 35 | 400 |        |

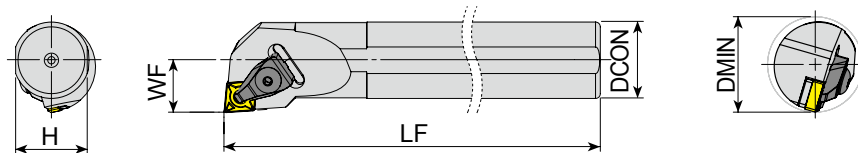


..-PWLNR/L

Approach angle  
95°

| Series      | Designation | Infomation  | Lever    | Lever Screw   | Clamp    | Clamp Screw | Shim         | Shim Pin | Allen Key   |
|-------------|-------------|-------------|----------|---------------|----------|-------------|--------------|----------|-------------|
| ..20..06    |             | Description | YAPL-01  | YALV-01-M6x14 | -        | -           | YAAWN-SW317  | YAAY-01  | YAAL-02-2.5 |
|             |             | EDP         | 18000092 | 18000098      | -        | -           | 18000152     | 18000053 | 18000060    |
| ..25~32..06 |             | Description | YAPL-01  | YALV-02-M6x17 | -        | -           | YAAWN-SW317  | YAAY-01  | YAAL-02-2.5 |
|             |             | EDP         | 18000092 | 18000099      | -        | -           | 18000152     | 18000053 | 18000060    |
| ..08C       |             | Description | YAPL-02  | YALV-03-M8x19 | YACK-05  | Y4015-M4x11 | YAAWN-3-0001 | YAAY-02  | YAAL-03-3   |
|             |             | EDP         | 18000093 | 18000100      | 18000065 | 18000119    | 18000151     | 18000054 | 18000061    |

# Double Clamp type for CN\*\* Insert



: Refer to p. 28

Unit:mm

| Series                               | Designation        | EDP 2700.. |      | DMIN | DCON | H    | WF | LF  | Insert |
|--------------------------------------|--------------------|------------|------|------|------|------|----|-----|--------|
|                                      |                    | R          | L    |      |      |      |    |     |        |
| <br>..-TCLNR/L<br>Approach angle 95° | X S25S -TCLNR/L 12 | 0881       | 0882 | 32   | 25   | 23   | 17 | 250 | CN1204 |
|                                      | S32T -TCLNR/L 12   | 0883       | 0884 | 40   | 32   | 30   | 22 | 300 |        |
|                                      | S40U -TCLNR/L 12   | 0885       | 0886 | 50   | 40   | 37.5 | 27 | 350 |        |
|                                      | S50V -TCLNR/L 12   | 0887       | 0888 | 63   | 50   | 47   | 35 | 400 |        |
|                                      | S32T -TCLNR/L 16   | 0889       | 0890 | 40   | 32   | 30   | 22 | 300 | CN1606 |
|                                      | X S40U -TCLNR/L 16 | 0891       | 0892 | 50   | 40   | 37.5 | 27 | 350 |        |
|                                      | S50V -TCLNR/L 16   | 0893       | 0894 | 63   | 50   | 47   | 35 | 400 |        |

TURNING

PARTING & GROOVING

MILLING

DRILLING

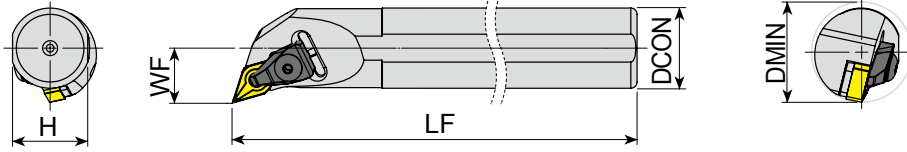
TECHNICAL INFORMATION

| Series | Designation | Information | Clamp    | Clamp Screw   | Upper Ring | Lower Ring | Shim         | Shim Screw    | Allen Key |
|--------|-------------|-------------|----------|---------------|------------|------------|--------------|---------------|-----------|
| ..TC.. | ..25..12    | Description | YATK-02  | YAKV-30-M6x22 | YABPL-01   | YAS-01     | YAACN-3-0001 | YAAV-13-M5x8  | YAAL-03-3 |
|        |             | EDP         | 18000075 | 18000091      | 18000058   | 18000052   | 18000137     | 18000163      | 18000061  |
|        | ..32~50..12 | Description | YATK-02  | YAKV-30-M6x22 | YABPL-01   | YAS-01     | YAACN-3-0001 | YAAV-02-M5x12 | YAAL-03-3 |
|        |             | EDP         | 18000075 | 18000091      | 18000058   | 18000052   | 18000137     | 18000156      | 18000061  |
|        | ..16        | Description | YATK-04  | YAKV-19-M7x25 | YABPL-02   | -          | YAACN-3-0002 | YAAV-05-M6x15 | YAAL-05-4 |
|        |             | EDP         | 18000077 | 18000088      | 18000059   | -          | 18000138     | 18000078      | 18000062  |

Turning - Holder - Internal

# Double Clamp type for DN\*\* Insert

..TDQNR Shown



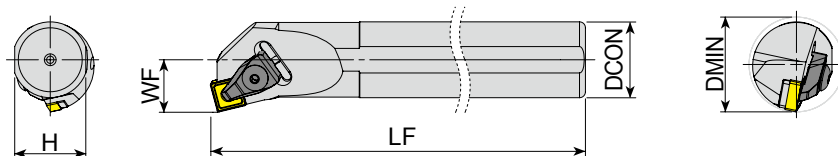
: Refer to p. 33

Unit:mm

| Series  | Designation       | EDP 2700..<br>R L | DMIN | DCON | H    | WF | LF  | Insert |
|---|-------------------|-------------------|------|------|------|----|-----|--------|
| <br><b>..TDQNR/L</b><br>Approach angle 107.5° | S25S - TDQNR/L 15 | 0912 0913         | 32   | 25   | 23   | 17 | 250 | DN1506 |
|   | S32T - TDQNR/L 15 | 0914 0915         | 40   | 32   | 30   | 22 | 300 |        |
|   | S40U - TDQNR/L 15 | 0916 0917         | 50   | 40   | 37.5 | 27 | 350 |        |
|   | S50V - TDQNR/L 15 | 0918 0919         | 63   | 50   | 47   | 35 | 400 |        |
| <br><b>..TDUNR/L</b><br>Approach angle 93°    | S25S - TDUNR/L 15 | 0942 0943         | 34   | 25   | 23   | 17 | 250 | DN1506 |
|   | S32T - TDUNR/L 15 | 0944 0945         | 40   | 32   | 30   | 22 | 300 |        |
|   | S40U - TDUNR/L 15 | 0946 0947         | 50   | 40   | 37.5 | 27 | 350 |        |
|   | S50V - TDUNR/L 15 | 0948 0949         | 63   | 50   | 47   | 35 | 400 |        |

| Series             | Designation | Infomation | Clamp         | Clamp Screw | Upper Ring | Lower Ring   | Shim          | Shim Screw | Allen Key |
|--------------------|-------------|------------|---------------|-------------|------------|--------------|---------------|------------|-----------|
| ..TDQ..25..15      | Description | YATK-02    | YAKV-30-M6x22 | YABPL-01    | -          | YAADN-3-0001 | YAAV-13-M5x8  | YAAL-03-3  |           |
|                    | EDP         | 18000075   | 18000091      | 18000058    | -          | 18000142     | 18000163      | 18000061   |           |
| ..TD..<br>..25..15 | Description | YATK-02    | YAKV-30-M6x22 | YABPL-01    | YAS-01     | YAADN-3-0001 | YAAV-13-M5x8  | YAAL-03-3  |           |
|                    | EDP         | 18000075   | 18000091      | 18000058    | 18000052   | 18000142     | 18000163      | 18000061   |           |
| ..32~50..15        | Description | YATK-02    | YAKV-30-M6x22 | YABPL-01    | YAS-01     | YAADN-3-0001 | YAAV-02-M5x12 | YAAL-03-3  |           |
|                    | EDP         | 18000075   | 18000091      | 18000058    | 18000052   | 18000142     | 18000156      | 18000061   |           |

# Double Clamp type for SN\*\* Insert



: Refer to p. 40

Unit:mm

| Series  | Designation       | EDP 2700.. |      | DMIN | DCON | H    | WF | LF  | Insert |
|---|-------------------|------------|------|------|------|------|----|-----|--------|
|   |                   | R          | L    |      |      |      |    |     |        |
| <p><b>..-TSKNR/L</b><br/>Approach angle<br/>75°</p> | S25S - TSKNR/L 12 | 0966       | -    | 32   | 25   | 23   | 17 | 250 | SN1204 |
|   | S32T - TSKNR/L12  | 0968       | 0969 | 40   | 32   | 30   | 22 | 300 |        |
|   | S40U - TSKNR/L 12 | 0970       | 0971 | 50   | 40   | 37.5 | 27 | 350 |        |

TURNING

PARTING & GROOVING

MILLING

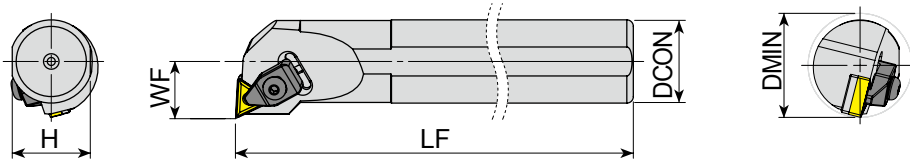
DRILLING

TECHNICAL INFORMATION

| Series | Designation | Information | Clamp    | Clamp Screw   | Upper Ring | Lower Ring | Shim         | Shim Screw   | Allen Key |
|--------|-------------|-------------|----------|---------------|------------|------------|--------------|--------------|-----------|
| ..TS.. | ..12        | Description | YATK-02  | YAKV-30-M6x22 | YABPL-01   | YAS-01     | YAASN-3-0004 | YAAV-13-M5x8 | YAAL-03-3 |
|        |             | EDP         | 18000075 | 18000091      | 18000058   | 18000052   | 18000145     | 18000163     | 18000061  |

Turning - Holder - Internal

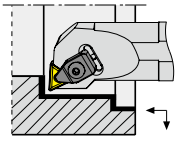
# Double Clamp type for TN\*\* Insert



: Refer to p.44

Unit:mm

| Series | Designation       | EDP 2700.. |      | DMIN | DCON | H    | WF | LF  | Insert |
|--------|-------------------|------------|------|------|------|------|----|-----|--------|
|        |                   | R          | L    |      |      |      |    |     |        |
| X      | S25S - TTUNR/L 16 | 1030       | 1031 | 32   | 25   | 23   | 17 | 250 | TN1604 |
|        | S32T - TTUNR/L 16 | 1032       | 1033 | 40   | 32   | 30   | 22 | 300 |        |
| X      | S25S - TTUNR/L 22 | 1034       | 1035 | 32   | 25   | 23   | 17 | 250 | TN2204 |
|        | S32T - TTUNR/L 22 | 1036       | 1037 | 40   | 32   | 30   | 22 | 300 |        |
|        | S40U - TTUNR/L 22 | 1038       | 1039 | 50   | 40   | 37.5 | 27 | 350 |        |
|        | S50V - TTUNR/L 22 | 1040       | 1041 | 63   | 50   | 47   | 35 | 400 |        |



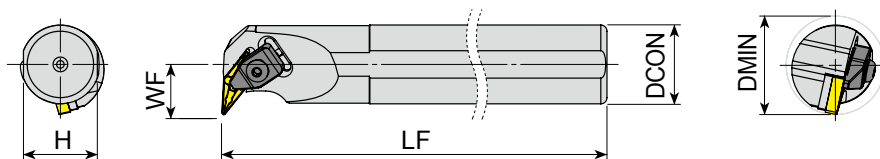
..- TTUNR/L

Approach angle  
93°

| Series | Designation | Infomation  | Clamp    | Clamp Screw   | Upper Ring | Lower Ring | Shim         | Shim Screw    | Allen Key |
|--------|-------------|-------------|----------|---------------|------------|------------|--------------|---------------|-----------|
| ..TT.. | ..16        | Description | YATK-01  | YAKV-01-M5x22 | YABPL-01   | -          | YAATN-2-0002 | YAAV-03-M5x12 | YAAL-03-3 |
|        |             | EDP         | 18000074 | 18000080      | 18000058   | -          | 18000147     | 18000156      | 18000061  |
|        | ..22        | Description | YATK-02  | YAKV-30-M6x22 | YABPL-01   | YAS-01     | YAATN-3-0015 | YAAV-02-M5x12 | YAAL-03-3 |
|        |             | EDP         | 18000075 | 18000091      | 18000058   | 18000052   | 18000148     | 18000156      | 18000061  |

Turning - Holder - Internal

# Double Clamp type for VN\*\* Insert



: Refer to p. 51

Unit:mm

| Series                              | Designation       | EDP 2700.. |      | DMIN | DCON | H    | WF | LF  | Insert |
|-------------------------------------|-------------------|------------|------|------|------|------|----|-----|--------|
|                                     |                   | R          | L    |      |      |      |    |     |        |
| <br>..TVUNR/L<br>Approach angle 93° | S25S - TVUNR/L 16 | 1042       | 1043 | 36   | 25   | 23   | 20 | 250 | VN1604 |
|                                     | S32T - TVUNR/L 16 | 1044       | 1045 | 40   | 32   | 30   | 22 | 300 |        |
|                                     | S40U - TVUNR/L 16 | 1046       | 1047 | 50   | 40   | 37.5 | 27 | 350 |        |
|                                     |                   |            |      |      |      |      |    |     |        |

TURNING

PARTING & GROOVING

MILLING

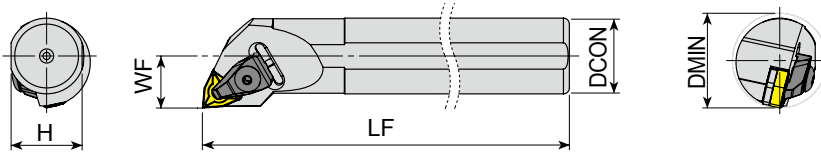
DRILLING

TECHNICAL INFORMATION

| Series | Designation | Information | Clamp    | Clamp Screw   | Upper Ring | Shim         | Shim Screw    | Allen Key |
|--------|-------------|-------------|----------|---------------|------------|--------------|---------------|-----------|
| ..TV.. | ..16        | Description | YATK-01  | YAKV-01-M5x22 | YABPL-01   | YAAVN-2-0002 | YAAV-04-M5x12 | YAAL-03-3 |
|        |             | EDP         | 18000074 | 18000080      | 18000058   | 18000150     | 18000185      | 18000061  |

Turning - Holder - Internal

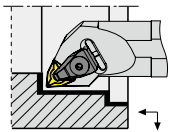
# Double Clamp type for WN\*\* Insert



: Refer to p. 53

Unit:mm

| Series | Designation       | EDP 2700.. |      | DMIN | DCON | H    | WF | LF  | Insert |
|--------|-------------------|------------|------|------|------|------|----|-----|--------|
|        |                   | R          | L    |      |      |      |    |     |        |
| X      | S25S - TWLNR/L 06 | 1090       | 1091 | 32   | 25   | 23   | 17 | 250 | WN0604 |
|        | S32T - TWLNR/L 06 | 1092       | 1093 | 40   | 32   | 30   | 22 | 300 |        |
| ●      | A40T - TWLNR/L 08 | 1062       | -    | 50   | 40   | 37.5 | 27 | 300 | WN0804 |
|        | A50U - TWLNR/L 08 | 1063       | -    | 63   | 50   | 47   | 35 | 350 |        |
| X      | S25S - TWLNR/L 08 | 1094       | 1095 | 32   | 25   | 23   | 17 | 250 |        |
|        | S32T - TWLNR/L 08 | 1096       | 1097 | 40   | 32   | 30   | 22 | 300 |        |
|        | S40U - TWLNR/L 08 | 1098       | 1099 | 50   | 40   | 37.5 | 27 | 350 |        |
|        | S50V - TWLNR/L 08 | 1100       | 1101 | 63   | 50   | 47   | 35 | 400 |        |



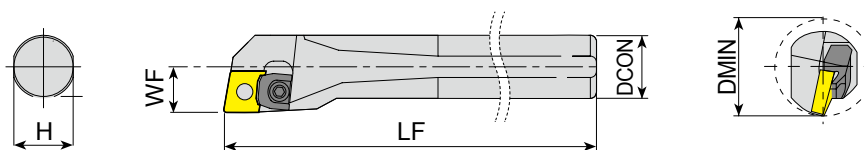
..-TWLNR/L

Approach angle  
95°

| Series | Designation | Infomation  | Clamp    | Clamp Screw   | Upper Ring | Lower Ring | Shim         | Shim Screw    | Allen Key |
|--------|-------------|-------------|----------|---------------|------------|------------|--------------|---------------|-----------|
| ..TW.. | ..06        | Description | YATK-01  | YAKV-01-M5x22 | YABPL-01   | -          | YAAWN-SW317  | YAAV-01-M3x10 | YAAL-03-3 |
|        |             | EDP         | 18000074 | 18000080      | 18000058   | -          | 18000152     | 18000155      | 18000061  |
|        | ..25..08    | Description | YATK-02  | YAKV-30-M6x22 | YABPL-01   | YAS-01     | YAAWN-3-0001 | YAAV-13-M5x8  | YAAL-03-3 |
|        |             | EDP         | 18000075 | 18000091      | 18000058   | 18000052   | 18000151     | 18000163      | 18000061  |
|        | ..32~50..08 | Description | YATK-02  | YAKV-30-M6x22 | YABPL-01   | YAS-01     | YAAWN-3-0001 | YAAV-02-M5x12 | YAAL-03-3 |
|        |             | EDP         | 18000075 | 18000091      | 18000058   | 18000052   | 18000151     | 18000156      | 18000061  |

Turning - Holder - Internal

**Multi-Clamp type for CN\*\* Insert**



: Refer to p. 28

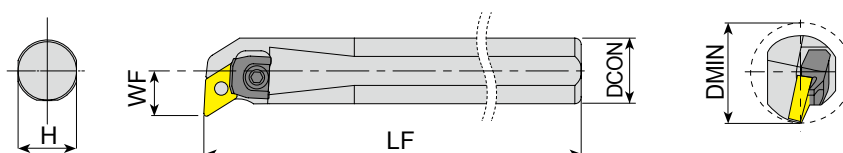
Unit:mm

| Series   | Designation      | EDP 2700..<br>R | EDP 2700..<br>L | DMIN | DCON | H    | WF | LF  | Insert |
|--|------------------|-----------------|-----------------|------|------|------|----|-----|--------|
| <p><b>..- MCLNR/L</b><br/>Approach angle 95°</p> | S20R - MCLNR/L12 | 0857            | 0858            | 25   | 20   | 18.3 | 13 | 200 | CN1204 |
|  | S32T - MCLNR/L12 | 0861            | 0862            | 40   | 32   | 30   | 22 | 300 |        |
|  | X                |                 |                 |      |      |      |    |     |        |

| Series | Designation | Information | Clamp    | Clamp Screw   | Shim         | Shim Pin | Allen Key |
|--------|-------------|-------------|----------|---------------|--------------|----------|-----------|
| ..MC.. | ..20..12    | Description | YAMK-07  | YAKV-04-M5x17 | -            | YAPM-12  | YAAL-03-3 |
|        |             | EDP         | 28000019 | 18000082      | -            | 28000025 | 18000061  |
|        | ..32..12    | Description | YAMK-03  | -             | YAACN-3-0001 | YAPM-04  | -         |
|        |             | EDP         | 28000020 | -             | 18000137     | 18000113 | -         |

Turning - Holder - Internal

**Multi-Clamp type for DN\*\* Insert**



: Refer to p. 33

Unit:mm

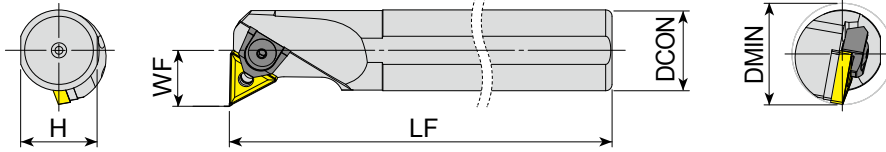
| Series   | Designation      | EDP 2700..<br>R | EDP 2700..<br>L | DMIN | DCON | H    | WF | LF  | Insert |
|--|------------------|-----------------|-----------------|------|------|------|----|-----|--------|
| <p><b>..- MDUNR/L</b><br/>Approach angle 93°</p> | S32T - MDUNR/L15 | 0928            | 0929            | 40   | 32   | 30   | 22 | 300 | DN1506 |
|  | S40U - MDUNR/L15 | 0930            | 0931            | 50   | 40   | 37.5 | 27 | 350 |        |
|  | S50V - MDUNR/L15 | 0932            | 0933            | 63   | 50   | 47   | 35 | 400 |        |
|  | X                |                 |                 |      |      |      |    |     |        |

| Series | Designation | Information | Clamp    | Clamp Screw   | Upper Ring | Lower Ring | Shim         | Shim Pin | Allen Key |
|--------|-------------|-------------|----------|---------------|------------|------------|--------------|----------|-----------|
| ..MD.. | ..15        | Description | YAMK-04  | YAKV-30-M6x22 | YABPL-01   | YAS-01     | YAADN-3-0001 | YAPM-04  | YAAL-03-3 |
|        |             | EDP         | 18000072 | 18000091      | 18000058   | 18000052   | 18000142     | 18000113 | 18000061  |

Turning - Holder - Internal

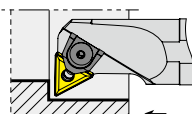
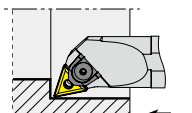
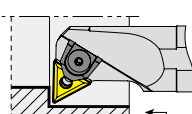
**Multi-Clamp type for TN\*\* Insert**

..MTFNR Shown



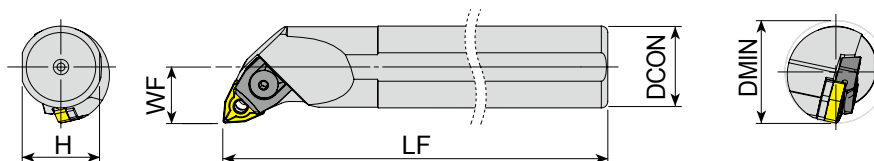
: Refer to p. 44

Unit:mm

| Series  | Designation         | EDP 2700..<br>R L | DMIN | DCON | H    | WF  | LF  | Insert |
|---|---------------------|-------------------|------|------|------|-----|-----|--------|
|  <p><b>..- MTFNR/L</b><br/>Approach angle<br/>91°</p>      | X S20R - MTFNR/L 16 | 0972 -            | 25   | 20   | 18.3 | 14  | 200 | TN1604 |
|   | S25S - MTFNR/L 16   | 0973 0974         | 32   | 25   | 23   | 17  | 250 |        |
|   | S32T - MTFNR/L 16   | 0975 0976         | 40   | 32   | 30   | 22  | 300 |        |
|   | S40U - MTFNR/L 16   | 0977 0978         | 50   | 40   | 37.5 | 27  | 350 | TN2204 |
|   | X S32T - MTFNR/L 22 | 0979 0980         | 40   | 32   | 30   | 22  | 300 |        |
| S40U - MTFNR/L 22   | 0981 0982           | 50                | 40   | 37.5 | 27   | 350 |     |        |
| S50V - MTFNR/L 22   | 0983 -              | 63                | 50   | 47   | 35   | 400 |     |        |
|  <p><b>..- MTQNR/L</b><br/>Approach angle<br/>107.5°</p> | X S20R - MTQNR/L 16 | 0984 0985         | 25   | 20   | 18.3 | 13  | 200 | TN1604 |
|   | S32T - MTQNR/L 16   | 0988 0989         | 40   | 32   | 30   | 22  | 300 |        |
|   | S40U - MTQNR/L 16   | 0990 0991         | 50   | 40   | 37.5 | 27  | 350 |        |
|   | X S32T - MTQNR/L 22 | 0992 0993         | 40   | 32   | 30   | 22  | 300 | TN2204 |
|   | S40U - MTQNR/L 22   | 0994 0995         | 50   | 40   | 37.5 | 27  | 350 |        |
|   | S50V - MTQNR/L 22   | 0996 0997         | 63   | 50   | 47   | 35  | 400 |        |
|   | X S32T - MTUNR/L 22 | 1008 1009         | 40   | 32   | 30   | 22  | 300 |        |
| S40U - MTUNR/L 22   | 1010 1011           | 50                | 40   | 37.5 | 27   | 350 |     |        |
| S50V - MTUNR/L 22   | 1012 1013           | 63                | 50   | 47   | 35   | 400 |     |        |
|  <p><b>..- MTUNR/L</b><br/>Approach angle<br/>93°</p>    | X S20R - MTUNR/L 16 | 0998 0999         | 25   | 20   | 18.3 | 13  | 200 | TN1604 |
|   | S25S - MTUNR/L 16   | 1000 1001         | 32   | 25   | 23   | 17  | 250 |        |
|   | S32T - MTUNR/L 16   | 1002 1003         | 40   | 32   | 30   | 22  | 300 |        |
|   | S40U - MTUNR/L 16   | 1004 1005         | 50   | 40   | 37.5 | 27  | 350 |        |
|   | S50V - MTUNR/L 16   | 1006 1007         | 63   | 50   | 47   | 35  | 400 |        |

| Series      | Designation | Infomation | Clamp    | Clamp Screw   | Upper Ring | Lower Ring | Pin      | Shim         | Shim Pin | Allen Key |
|-------------|-------------|------------|----------|---------------|------------|------------|----------|--------------|----------|-----------|
| ..20..16    | Description | YAMK-02    | YAMK-02  | YAKV-17-M5x15 | -          | -          | YAPM-03  | -            | -        | YAAL-03-3 |
|             | EDP         | 18000071   | 18000071 | 18000087      | -          | -          | 18000112 | -            | -        | 18000061  |
| ..22        | Description | YAMK-04    | YAMK-04  | YAKV-30-M6x22 | YABPL-01   | YAS-01     | YAPM-02  | YAATN-3-0015 | -        | YAAL-03-3 |
|             | EDP         | 18000072   | 18000072 | 18000091      | 18000058   | 18000052   | 18000054 | 18000148     | -        | 18000061  |
| ..25..16    | Description | YAMK-04    | YAMK-04  | YAKV-30-M6x22 | YABPL-01   | YAS-01     | YAPM-14  | YAATN-2-0002 | -        | YAAL-03-3 |
|             | EDP         | 18000072   | 18000072 | 18000091      | 18000058   | 18000052   | 18000117 | 18000147     | -        | 18000061  |
| ..32~40..16 | Description | YAMK-04    | YAMK-04  | YAKV-30-M6x22 | YABPL-01   | YAS-01     | -        | YAATN-2-0002 | YAPM-14  | YAAL-03-3 |
|             | EDP         | 18000072   | 18000072 | 18000091      | 18000058   | 18000052   | -        | 18000147     | 18000117 | 18000061  |
| ..32~50..16 | Description | YAMK-04    | YAMK-04  | YAKV-30-M6x22 | YABPL-01   | YAS-01     | YAPM-01  | YAATN-2-0002 | -        | YAAL-03-3 |
|             | EDP         | 18000072   | 18000072 | 18000091      | 18000058   | 18000052   | 18000110 | 18000147     | -        | 18000061  |
| ..32~50..22 | Description | YAMK-04    | YAMK-04  | YAKV-30-M6x22 | YABPL-01   | YAS-01     | -        | YAATN-3-0015 | YAPM-02  | YAAL-03-3 |
|             | EDP         | 18000072   | 18000072 | 18000091      | 18000058   | 18000052   | -        | 18000148     | 18000111 | 18000061  |

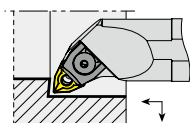
## Multi-Clamp type for WN\*\* Insert



: Refer to p. 53

Unit:mm

| Series | Designation       | EDP 2700.. |      | DMIN | DCON | H    | WF | LF  | Insert |
|--------|-------------------|------------|------|------|------|------|----|-----|--------|
|        |                   | R          | L    |      |      |      |    |     |        |
| X      | S16P - MWLNR/L 06 | 1064       | 1065 | 20   | 16   | 14.8 | 11 | 170 | WN0604 |
|        | S20R - MWLNR/L 06 | 1066       | 1067 | 25   | 20   | 18.3 | 13 | 200 |        |
|        | S25S - MWLNR/L 06 | 1068       | 1069 | 32   | 25   | 23   | 17 | 250 |        |
| X      | S25S - MWLNR/L 08 | 1070       | 1071 | 32   | 25   | 23   | 17 | 250 | WN0804 |
|        | S32T - MWLNR/L 08 | 1072       | 1073 | 40   | 32   | 30   | 22 | 300 |        |
|        | S40U - MWLNR/L 08 | 1074       | 1075 | 50   | 40   | 37.5 | 27 | 350 |        |



..-MWLNR/L

Approach angle  
95°

TURNING

PARTING & GROOVING

MILLING

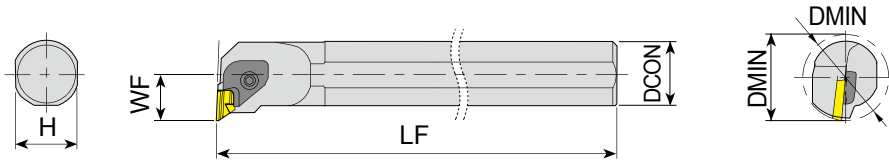
DRILLING

TECHNICAL INFORMATION

| Series      | Designation | Infomation | Clamp    | Clamp Screw   | Upper Ring | Lower Ring | Pin      | Shim         | Allen Key |
|-------------|-------------|------------|----------|---------------|------------|------------|----------|--------------|-----------|
| ..16..06    | Description | YAMK-01    | YAMK-01  | YAKV-17-M5x15 | -          | -          | YAPM-09  | -            | -         |
|             | EDP         | 18000070   | 18000070 | 18000087      | -          | -          | 18000115 | -            | -         |
| ..20..06    | Description | YAMK-01    | YAMK-01  | YAKV-04-M5x17 | -          | -          | YAPM-10  | -            | -         |
|             | EDP         | 18000070   | 18000070 | 18000082      | -          | -          | 18000116 | -            | -         |
| ..25..06    | Description | YAMK-01    | YAMK-01  | YAKV-04-M5x17 | -          | -          | YAPM-08  | -            | -         |
|             | EDP         | 18000070   | 18000070 | 18000082      | -          | -          | 18000114 | -            | -         |
| ..25..08    | Description | YAMK-05    | YAMK-05  | YAKV-27-M6x20 | YABPL-01   | YAS-01     | YAPM-04  | YAAWN-3-0001 | YAAL-03-3 |
|             | EDP         | 18000073   | 18000073 | 18000090      | 18000058   | 18000052   | 18000113 | 18000151     | 18000061  |
| ..32~40..08 | Description | YAMK-05    | YAMK-05  | YAKV-03-M6x22 | YABPL-01   | YAS-01     | YAPM-02  | YAAWN-3-0001 | YAAL-03-3 |
|             | EDP         | 18000073   | 18000073 | 18000081      | 18000058   | 18000052   | 18000111 | 18000151     | 18000061  |

Turning - Holder - Internal

# Top Clamp type for KN\*\* Insert



: Refer to p. 39

Unit:mm

| Series  | Designation      | EDP 2700.. |      | DMIN | DCON | H    | WF | LF  | Insert |
|---|------------------|------------|------|------|------|------|----|-----|--------|
|   |                  | R          | L    |      |      |      |    |     |        |
| <p><b>..-CKUNR/L</b><br/>Approach angle 93°</p> | S32T - CKUNR/L16 | 0952       | 0953 | 40   | 32   | 30   | 22 | 300 | KN1604 |
|   | S40U - CKUNR/L16 | 0954       | 0955 | 50   | 40   | 37.5 | 27 | 350 |        |
|   | S50V - CKUNR/L16 | 0956       | 0957 | 63   | 50   | 47   | 35 | 400 |        |

TURNING

PARTING & GROOVING

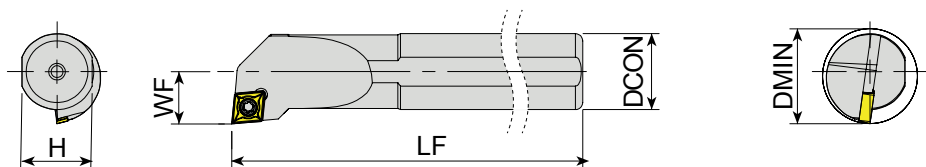
MILLING

DRILLING

TECHNICAL INFORMATION

| Series | Designation | Infomation  | Clamp                  | Clamp Screw   | Spring   | Upper Ring | Shim                   | Shim Screw    | Allen Key |
|--------|-------------|-------------|------------------------|---------------|----------|------------|------------------------|---------------|-----------|
| ..CK.. | ..16        | Description | YACK-01-R              | YAKV-06-M6x20 | YAKY-02  | YABPL-01   | YAKS-16-R              | YAAV-01-M3x10 | YAAL-05-4 |
|        |             |             | YACK-02-L              |               |          |            | YAKS-16-L              |               |           |
|        |             | EDP         | 18000064<br>(18000063) | 18000083      | 18000164 | 18000058   | 18000154<br>(18000153) | 18000155      | 18000062  |

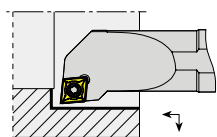
# Screw on type for CC\*\* Insert



: Refer to p. 57

Unit:mm

| Series | Designation       | EDP 2700.. |      | DMIN | DCON | H    | WF | LF  | Insert |
|--------|-------------------|------------|------|------|------|------|----|-----|--------|
|        |                   | R          | L    |      |      |      |    |     |        |
|        | S08H - SCFCR/L 06 | 1102       | 1103 | 11   | 08   | 7.3  | 6  | 100 | CC0602 |
| X      | S10K - SCFCR/L 06 | 1104       | 1105 | 13   | 10   | 9    | 7  | 125 |        |
|        | S12K - SCFCR/L 06 | 1106       | 1107 | 16   | 12   | 11   | 9  | 125 |        |
|        | S12K - SCFCR/L 09 | 1108       | 1109 | 16   | 12   | 11   | 9  | 125 | CC09T3 |
| X      | S16P - SCFCR/L 09 | 1110       | 1111 | 20   | 16   | 14.8 | 11 | 170 |        |
|        | S20R - SCFCR/L 09 | 1112       | 1113 | 25   | 20   | 18.3 | 13 | 200 |        |
|        | S25S - SCFCR/L 09 | 1114       | 1115 | 32   | 25   | 23   | 17 | 250 | CC1204 |
| X      | S25S - SCFCR/L 12 | 1116       | -    | 32   | 25   | 23   | 17 | 250 |        |



..- SCFCR/L

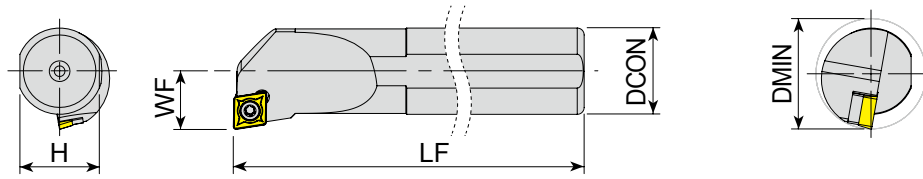
Approach angle  
91°

▶ NEXT PAGE

| Series      | Designation | Information | Screw         | Shim         | Shim Screw     | Torx Key |
|-------------|-------------|-------------|---------------|--------------|----------------|----------|
| ..06        | Description |             | Y4008-M2.5x6  | -            | -              | Y80-T08  |
|             | EDP         |             | 18000127      | -            | -              | 18000165 |
| ..12        | Description |             | Y4020-M4.5x12 | YAACN-2-0003 | YAAV-10-M4.5x8 | Y80-T20  |
|             | EDP         |             | 18000134      | 18000136     | 18000162       | 18000168 |
| ..SC..      | Description |             | Y4015-M3.5x8  | -            | -              | Y80-T15  |
|             | EDP         |             | 18000130      | -            | -              | 18000167 |
| ..16~20..09 | Description |             | Y4015-M3.5x9  | -            | -              | Y80-T15  |
|             | EDP         |             | 18000131      | -            | -              | 18000167 |
| ..25..09    | Description |             | Y4015-M3.5x12 | YAACN-2-0001 | YAAV-08-M3.5x8 | Y80-T15  |
|             | EDP         |             | 18000128      | 18000135     | 18000161       | 18000167 |

Turning - Holder - Internal

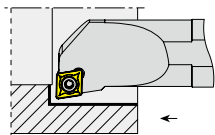
**Screw on type for CC\*\* Insert**



: Refer to p. 57

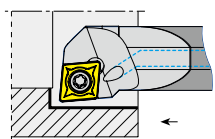
Unit:mm

| Series              | Designation         | EDP 2700..<br>R L | DMIN      | DCON | H    | WF   | LF  | Insert |        |
|---------------------|---------------------|-------------------|-----------|------|------|------|-----|--------|--------|
| ●                   | A08H - SCLCR/L 06   | 1117 1118         | 11        | 08   | 7.3  | 6    | 100 | CC0602 |        |
|                     | A10H - SCLCR/L 06   | 1119 1120         | 13        | 10   | 9    | 7    | 100 |        |        |
|                     | A12H - SCLCR/L 06   | 1121 1122         | 16        | 12   | 11   | 9    | 100 |        |        |
|                     | S08H - SCLCR/L 06   | 1133 1134         | 11        | 08   | 7.3  | 6    | 100 |        |        |
|                     | X S10K - SCLCR/L 06 | 1135 1136         | 13        | 10   | 9    | 7    | 125 |        |        |
|                     | S12K - SCLCR/L 06   | 1137 1138         | 16        | 12   | 11   | 9    | 125 |        |        |
|                     | S16P - SCLCR/L 06   | 1139 1140         | 20        | 16   | 14.8 | 11   | 170 |        |        |
| ●                   | A16M - SCLCR/L 09   | 1123 1124         | 20        | 16   | 14.8 | 11   | 150 | CC09T3 |        |
|                     | A20P - SCLCR/L 09   | 1125 1126         | 25        | 20   | 18.3 | 13   | 170 |        |        |
|                     | A25R - SCLCR/L 09   | 1127 1128         | 32        | 25   | 23   | 17   | 200 |        |        |
|                     | A32S - SCLCR/L 09   | 1129 1130         | 40        | 32   | 30   | 22   | 250 |        |        |
|                     | S12K - SCLCR/L 09   | 1141 1142         | 16        | 12   | 11   | 9    | 125 |        |        |
|                     | S16P - SCLCR/L 09   | 1474 1143         | 20        | 16   | 14.8 | 11   | 170 |        |        |
|                     | X S20R - SCLCR/L 09 | 1144 1145         | 25        | 20   | 18.3 | 13   | 200 |        |        |
|                     | S25S - SCLCR/L 09   | 1146 1147         | 32        | 25   | 23   | 17   | 250 |        |        |
|                     | S32T - SCLCR/L 09   | 1148 1149         | 40        | 32   | 30   | 22   | 300 |        |        |
|                     | ●                   | A25R - SCLCR/L 12 | 1131 1132 | 32   | 25   | 23   | 17  |        | 200    |
| S25S - SCLCR/L 12   |                     | 1150 1151         | 32        | 25   | 23   | 17   | 250 |        |        |
| X S32T - SCLCR/L 12 |                     | 1152 1153         | 40        | 32   | 30   | 22   | 300 |        |        |
| S40U - SCLCR/L 12   |                     | 1154 1155         | 50        | 40   | 37.5 | 27   | 350 |        |        |
| ●                   | E08K - SCLCR/L 06   | 0325 1156         | 11        | 08   | 7.3  | 6    | 125 | CC0602 |        |
|                     | E12Q - SCLCR/L 06   | 1157 1158         | 16        | 12   | 11   | 9    | 180 |        |        |
|                     | ●                   | E16R - SCLCR/L 09 | 0329 1159 | 20   | 16   | 14.8 | 11  | 200    | CC09T3 |
|                     |                     | E20S - SCLCR/L 09 | 1160 1161 | 24   | 20   | 18.3 | 13  | 250    |        |



**..-SCLCR/L**

Approach angle  
95°



**E..-SCLCR/L**  
(Carbide Shank)

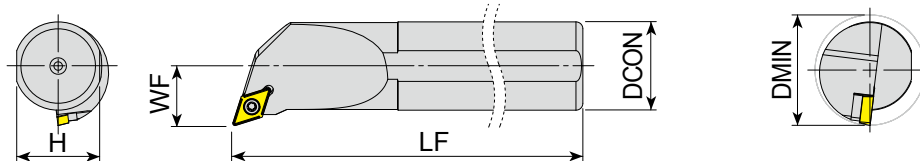
Approach angle  
95°

| Series  | Designation | Information | Screw         | Shim         | Shim Screw      | Torx Key |
|---------|-------------|-------------|---------------|--------------|-----------------|----------|
| ..SC..  | ..06        | Description | Y4008-M2.5x6  | -            | -               | Y80-T08  |
|         |             | EDP         | 18000127      | -            | -               | 18000165 |
|         | ..12..09    | Description | Y4015-M3.5x8  | -            | -               | Y80-T15  |
|         |             | EDP         | 18000130      | -            | -               | 18000167 |
|         | ..16~20..09 | Description | Y4015-M3.5x9  | -            | -               | Y80-T15  |
|         |             | EDP         | 18000131      | -            | -               | 18000167 |
|         | ..25~32..09 | Description | Y4015-M3.5x12 | YAACN-2-0001 | YAAV-08-M3.5x8  | Y80-T15  |
|         |             | EDP         | 18000128      | 18000135     | 18000161        | 18000167 |
|         | ..25~32..12 | Description | Y4020-M4.5x12 | YAACN-2-0003 | YAAV-10-M4.5x8  | Y80-T20  |
|         |             | EDP         | 18000134      | 18000136     | 18000162        | 18000168 |
|         | ..40..12    | Description | Y1020-M4.5x16 | YAACN-2-0003 | YAAV-07-M4.5x13 | Y80-T20  |
|         |             | EDP         | 18000120      | 18000136     | 18000160        | 18000168 |
| E..SC.. | ..06        | Description | Y4008-M2.5x6  | -            | -               | Y80-T08  |
|         |             | EDP         | 18000127      | -            | -               | 18000165 |
|         | ..09        | Description | Y4015-M3.5x9  | -            | -               | Y80-T15  |
|         |             | EDP         | 18000131      | -            | -               | 18000167 |

Turning - Holder - Internal

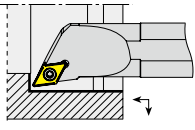
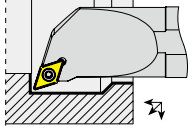
**Screw on type for DC\*\* Insert**

..SDQCR Shown



: Refer to p. 60

Unit:mm

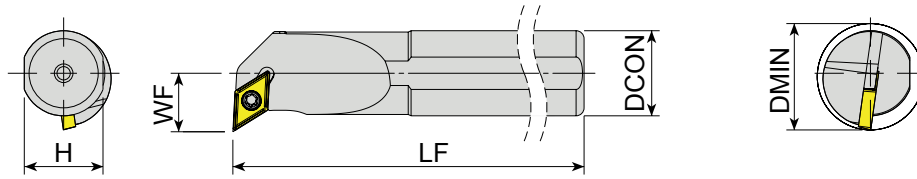
| Series  | Designation         | EDP 2700.. |      | DMIN | DCON | H    | WF  | LF     | Insert |
|---|---------------------|------------|------|------|------|------|-----|--------|--------|
|   |                     | R          | L    |      |      |      |     |        |        |
| <br>..SDPCR/L<br>Approach angle 117.5°   | S10K - SDPCR/L07    | 1162       | 1163 | 13   | 10   | 9    | 7   | 125    | DC0702 |
|   | S12K - SDPCR/L07    | 1164       | 1165 | 16   | 12   | 11   | 9   | 125    |        |
|   | S16P - SDPCR/L11    | 1166       | 1167 | 20   | 16   | 14.8 | 11  | 170    | DC11T3 |
|   | S25S - SDPCR/L11    | 1170       | 1171 | 32   | 25   | 23   | 17  | 250    |        |
| <br>..SDQCR/L<br>Approach angle 107.5° | A10H - SDQCR/L 07   | 1172       | 1173 | 13   | 10   | 9    | 7   | 100    | DC0702 |
|   | A12H - SDQCR/L 07   | 1174       | 1175 | 16   | 12   | 11   | 9   | 100    |        |
|   | A16M - SDQCR/L 07   | 1176       | 1177 | 20   | 16   | 14.8 | 11  | 150    |        |
|   | A20P - SDQCR/L 07   | 1178       | 1179 | 25   | 20   | 18.3 | 13  | 170    |        |
|   | S10K - SDQCR/L 07   | 1188       | 1189 | 13   | 10   | 9    | 7   | 125    |        |
|   | S12K - SDQCR/L 07   | 1190       | 1191 | 16   | 12   | 11   | 9   | 125    |        |
|   | X S16P - SDQCR/L 07 | 1192       | 1193 | 20   | 16   | 14.8 | 11  | 170    | DC11T3 |
|   | S20R - SDQCR/L 07   | 1194       | 1195 | 25   | 20   | 18.3 | 13  | 200    |        |
|   | A16M - SDQCR/L 11   | 1180       | 1181 | 20   | 16   | 14.8 | 11  | 150    |        |
|   | A20P - SDQCR/L 11   | 1182       | 1183 | 25   | 20   | 18.3 | 13  | 170    |        |
|   | A25R - SDQCR/L 11   | 1184       | 1185 | 32   | 25   | 23   | 17  | 200    |        |
|   | A32S - SDQCR/L 11   | 1186       | 1187 | 40   | 32   | 30   | 22  | 250    |        |
| S16P - SDQCR/L 11   | 1196                | 1197       | 20   | 16   | 14.8 | 11   | 170 | DC11T3 |        |
| S20R - SDQCR/L 11   | 1198                | 1199       | 25   | 20   | 18.3 | 13   | 200 |        |        |
| X S25S - SDQCR/L 11   | 1200                | 1201       | 32   | 25   | 23   | 17   | 250 |        |        |
| S32T - SDQCR/L 11   | 1202                | 1203       | 40   | 32   | 30   | 22   | 300 |        |        |
| S40U - SDQCR/L 11   | 1204                | 1205       | 50   | 40   | 37.5 | 27   | 350 |        |        |

▶ NEXT PAGE

| Series   | Designation | Information | Screw         | Shim         | Shim Screw      | Torx Key |
|----------|-------------|-------------|---------------|--------------|-----------------|----------|
| ..07     | Description |             | Y4008-M2.5x6  | -            | -               | Y80-T08  |
|          | EDP         |             | 18000127      | -            | -               | 18000165 |
| ..11     | Description |             | Y4008-M2.5x6  | -            | -               | Y80-T15  |
|          | EDP         |             | 18000127      | -            | -               | 18000167 |
| ..16..11 | Description |             | Y4015-M3.5x9  | -            | -               | Y80-T15  |
|          | EDP         |             | 18000131      | -            | -               | 18000167 |
| ..20..11 | Description |             | Y4015-M3.5x11 | -            | -               | Y80-T15  |
|          | EDP         |             | 18000118      | -            | -               | 18000167 |
| ..25..11 | Description |             | Y4015-M3.5x12 | YAADN-2-0001 | YAAV-08-M3.5x8  | Y80-T15  |
|          | EDP         |             | 18000128      | 18000140     | 18000162        | 18000167 |
| ..32..11 | Description |             | Y4015-M3.5x14 | YAADN-2-0001 | YAAV-06-M3.5x11 | Y80-T15  |
|          | EDP         |             | 18000129      | 18000140     | 18000159        | 18000162 |

Turning - Holder - Internal

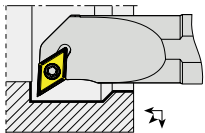
**Screw on type for DC\*\* Insert**



: Refer to p. 60

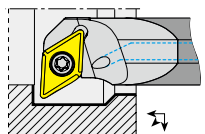
Unit:mm

| Series            | Designation       | EDP 2700..<br>R L | DMIN      | DCON | H    | WF   | LF  | Insert |        |        |
|-------------------|-------------------|-------------------|-----------|------|------|------|-----|--------|--------|--------|
| ●                 | A10H - SDUCR/L 07 | 1206 1207         | 13        | 10   | 9    | 8    | 100 | DC0702 |        |        |
|                   | A12H - SDUCR/L 07 | 1208 1209         | 16        | 12   | 11   | 9    | 100 |        |        |        |
|                   | A16M - SDUCR/L 07 | 1210 1211         | 20        | 16   | 14.8 | 11   | 150 |        |        |        |
|                   | A20P - SDUCR/L 07 | 1212 1213         | 25        | 20   | 18.3 | 13   | 170 |        |        |        |
|                   | S10K - SDUCR/L 07 | 1222 1223         | 13        | 10   | 9    | 8    | 125 |        |        |        |
|                   | S12K - SDUCR/L 07 | 1224 1225         | 16        | 12   | 11   | 9    | 125 |        |        |        |
|                   | S16P - SDUCR/L 07 | 1226 1227         | 20        | 16   | 14.8 | 11   | 170 |        |        |        |
|                   | S20R - SDUCR/L 07 | 1228 1229         | 25        | 20   | 18.3 | 13   | 200 |        |        |        |
|                   | ●                 | A16M - SDUCR/L 11 | 1214 1215 | 20   | 16   | 14.8 | 11  |        | 150    | DC11T3 |
|                   |                   | A20P - SDUCR/L 11 | 1216 1217 | 25   | 20   | 18.3 | 13  |        | 170    |        |
| A25R - SDUCR/L 11 |                   | 1218 1219         | 32        | 25   | 23   | 17   | 200 |        |        |        |
| A32S - SDUCR/L 11 |                   | 1220 1221         | 40        | 32   | 30   | 22   | 250 |        |        |        |
| S16P - SDUCR/L 11 |                   | 1230 1231         | 20        | 16   | 14.8 | 11   | 170 |        |        |        |
| S20R - SDUCR/L 11 |                   | 1232 1233         | 25        | 20   | 18.3 | 13   | 200 |        |        |        |
| S25S - SDUCR/L 11 |                   | 1234 1235         | 32        | 25   | 23   | 17   | 250 |        |        |        |
| S32T - SDUCR/L 11 |                   | 1236 1237         | 40        | 32   | 30   | 22   | 300 |        |        |        |
| S40U - SDUCR/L 11 |                   | 1238 1239         | 50        | 40   | 37.5 | 27   | 350 |        |        |        |
| S50V - SDUCR/L 11 |                   | - 1240            | 63        | 50   | 47   | 35   | 400 |        |        |        |
| ●                 | E10M - SDUCR/L 07 | 1241 1242         | 13        | 10   | 9    | 8    | 150 | DC0702 |        |        |
|                   | E12Q - SDUCR/L 07 | 1243 1244         | 16        | 12   | 11   | 9    | 180 |        |        |        |
|                   | ●                 | E16R - SDUCR/L 11 | 0339 1245 | 20   | 16   | 14.8 | 11  | 200    | DC11T3 |        |
|                   |                   | E20S - SDUCR/L 11 | 1246 1247 | 23   | 20   | 18.3 | 12  | 250    |        |        |



**..SDUCR/L**

Approach angle  
93°



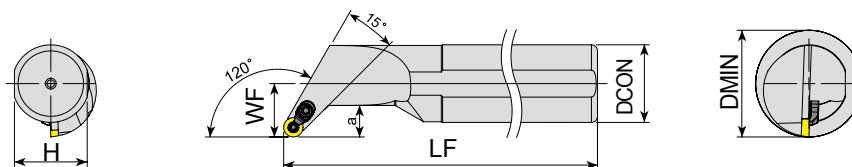
**E..SDUCR/L**

(Carbide Shank)

Approach angle  
93°

| Series   | Designation | Infomation | Screw         | Shim         | Shim Screw      | Torx Key |
|----------|-------------|------------|---------------|--------------|-----------------|----------|
| ..07     | Description |            | Y4008-M2.5x6  | -            | -               | Y80-T08  |
|          | EDP         |            | 18000127      | -            | -               | 18000165 |
| ..16..11 | Description |            | Y4015-M3.5x9  | -            | -               | Y80-T15  |
|          | EDP         |            | 18000131      | -            | -               | 18000167 |
| ..SD..   | Description |            | Y4015-M3.5x11 | -            | -               | Y80-T15  |
|          | EDP         |            | 18000118      | -            | -               | 18000167 |
| ..25..11 | Description |            | Y4015-M3.5x12 | YAADN-2-0001 | YAAV-08-M3.5x8  | Y80-T15  |
|          | EDP         |            | 18000128      | 18000140     | 18000161        | 18000167 |
| ..32..11 | Description |            | Y4015-M3.5x14 | YAADN-2-0001 | YAAV-06-M3.5x11 | Y80-T15  |
|          | EDP         |            | 18000129      | 18000140     | 18000159        | 18000167 |
| E..SD..  | Description |            | Y4008-M2.5x6  | -            | -               | Y80-T08  |
|          | EDP         |            | 18000127      | -            | -               | 18000165 |
| ..11     | Description |            | Y4015-M3.5x9  | -            | -               | Y80-T15  |
|          | EDP         |            | 18000131      | -            | -               | 18000167 |

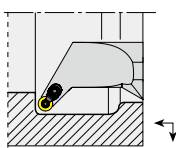
# Screw on type for RC\*\* Insert



\* 'C' Letter at Last : Optional Clamp Included

: Refer to p. 62

Unit:mm

| Series  | Designation         | EDP 2700.. |      | DMIN | DCON | H    | WF | LF  | Insert |
|---|---------------------|------------|------|------|------|------|----|-----|--------|
|   |                     | R          | L    |      |      |      |    |     |        |
|  <b>..-SRGCR/L</b> | X S16P - SRGCR/L08  | 1248       | -    | 22   | 16   | 14.8 | 11 | 170 | RC0803 |
|   | S40U - SRGCR 08C    | 1254       | -    | 54   | 40   | 37.5 | 27 | 350 |        |
|   | ● S32T - SRGCR/L08C | 1253       | -    | 44   | 32   | 30   | 22 | 300 |        |
|   | S25S - SRGCR/L08C   | 1251       | 1252 | 34   | 25   | 23   | 17 | 250 |        |

TURNING

PARTING & GROOVING

MILLING

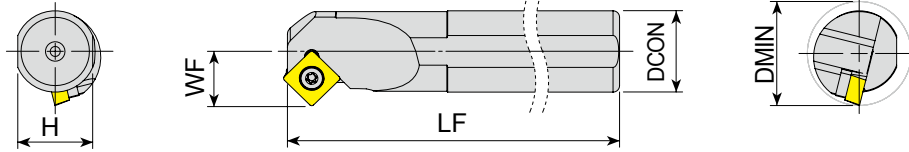
DRILLING

TECHNICAL INFORMATION

| Series | Designation | Information | Screw      | Clamp    | Clamp Screw   | Torx Key |
|--------|-------------|-------------|------------|----------|---------------|----------|
| ..SR.. | ..08        | Description | Y3008-M3x8 | -        | -             | Y80-T08  |
|        |             | EDP         | 18000125   | -        | -             | 18000165 |
|        | ..08C       | Description | Y3008-M3x8 | YACK-15  | Y4015-M3.5x11 | Y80-T08  |
|        |             | EDP         | 18000125   | 18000069 | 18000118      | 18000165 |

Turning - Holder - Internal

**Screw on type for SC\*\* Insert**



: Refer to p. 64

Unit: mm

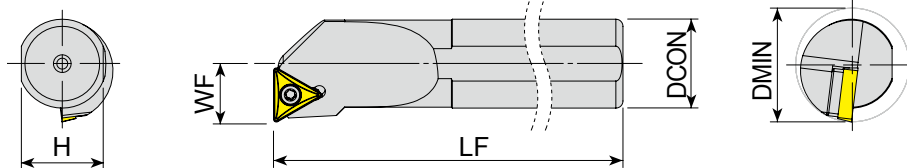
| Series  | Designation      | EDP 2700..<br>R L | DMIN | DCON | H    | WF | LF  | Insert |
|---|------------------|-------------------|------|------|------|----|-----|--------|
| <p><b>.. - SSSCR/L</b><br/>Approach angle 45°</p> | S16P - SSSCR/L09 | 1255 1256         | 20   | 16   | 14.8 | 11 | 170 | SC09T3 |
|   | S25S - SSSCR/L09 | 1259 1260         | 32   | 25   | 23   | 17 | 250 |        |
|   | S25S - SSSCR/L12 | 1261 1262         | 32   | 25   | 23   | 17 | 250 | SC1204 |
|   | S32T - SSSCR12   | 1263 -            | 40   | 32   | 30   | 22 | 300 |        |

| Series   | Designation | Infomation    | Screw         | Shim           | Shim Screw     | Torx Key |
|----------|-------------|---------------|---------------|----------------|----------------|----------|
| ..SS..   | ..16..09    | Description   | Y4015-M3.5x9  | -              | -              | Y80-T15  |
|          |             | EDP           | 18000131      | -              | -              | 18000167 |
|          | ..25..09    | Description   | Y4015-M3.5x12 | YAASN-2-0001   | YAAV-08-M3.5x8 | Y80-T15  |
|          |             | EDP           | 18000128      | 18000143       | 18000161       | 18000167 |
|          | ..25..12    | Description   | Y4020-M4.5x12 | YAASN-2-0004   | YAAV-10-M4.5x8 | Y80-T20  |
|          |             | EDP           | 18000134      | 18000144       | 18000162       | 18000168 |
| ..32..12 | Description | Y1020-M4.5x16 | YAASN-2-0004  | YAAV-10-M4.5x8 | Y80-T20        |          |
|          | EDP         | 18000120      | 18000144      | 18000162       | 18000168       |          |

Turning - Holder - Internal

**Screw on type for TC\*\* Insert**

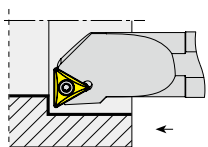
..STFCR Shown



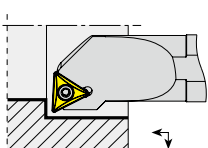
: Refer to p.66

Unit:mm

| Series            | Designation       | EDP 2700..<br>R | L    | DMIN | DCON | H    | WF  | LF  | Insert |        |
|-------------------|-------------------|-----------------|------|------|------|------|-----|-----|--------|--------|
| X                 | S12K - STFCR/L 11 | 1264            | 1265 | 17   | 12   | 11   | 9   | 125 | TC1102 |        |
|                   | S16P - STFCR/L 11 | 1266            | 1267 | 20   | 16   | 14.8 | 11  | 170 |        |        |
|                   | S20R - STFCR/L 11 | 1268            | 1269 | 25   | 20   | 18.3 | 13  | 200 |        |        |
| X                 | S16P - STFCR/L 16 | 1270            | 1271 | 20   | 16   | 14.8 | 11  | 170 | TC16T3 |        |
|                   | S20R - STFCR/L 16 | 1272            | 1273 | 25   | 20   | 18.3 | 13  | 200 |        |        |
|                   | S25S - STFCR/L 16 | 1274            | 1275 | 32   | 25   | 23   | 17  | 250 |        |        |
|                   | S32T - STFCR/L 16 | 1276            | 1277 | 40   | 32   | 30   | 22  | 300 |        |        |
|                   | S40U - STFCR/L 16 | 1278            | -    | 50   | 40   | 37.5 | 27  | 350 |        |        |
|                   | S12K - STUCR/L 11 | 1279            | 1280 | 17   | 12   | 11   | 9   | 125 |        | TC1102 |
|                   | S16P - STUCR/L 11 | 1281            | 1282 | 20   | 16   | 14.8 | 11  | 170 |        |        |
| S20R - STUCR/L 11 | 1283              | 1284            | 25   | 20   | 18.3 | 13   | 200 |     |        |        |
| X                 | S16P - STUCR/L 16 | 1285            | 1286 | 20   | 16   | 14.8 | 11  | 170 | TC16T3 |        |
|                   | S20R - STUCR/L 16 | 1287            | 1288 | 25   | 20   | 18.3 | 13  | 200 |        |        |
|                   | S25S - STUCR/L 16 | 1289            | 1290 | 32   | 25   | 23   | 17  | 250 |        |        |
|                   | S32T - STUCR/L 16 | 1291            | 1292 | 40   | 32   | 30   | 22  | 300 |        |        |
|                   | S40U - STUCR/L 16 | 1293            | 1294 | 50   | 40   | 37.5 | 27  | 350 |        |        |



**..STFCR/L**  
Approach angle  
91°



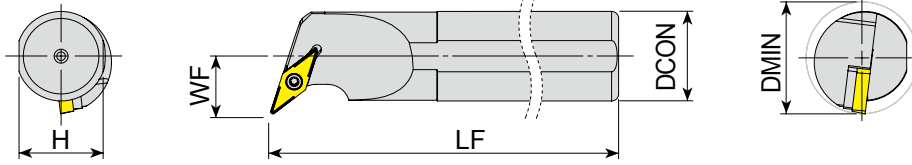
**..STUCR/L**  
Approach angle  
93°

| Series      | Designation | Information | Screw         | Shim         | Shim Screw      | Torx Key |
|-------------|-------------|-------------|---------------|--------------|-----------------|----------|
| ..11        | Description |             | Y4008-M2.5x6  | -            | -               | Y80-T08  |
|             | EDP         |             | 18000127      | -            | -               | 18000165 |
| ..12~20..11 | Description |             | Y4008-M2.5x6  | -            | -               | Y80-T08  |
|             | EDP         |             | 18000127      | -            | -               | 18000165 |
| ..16..16    | Description |             | Y4015-M3.5x9  | -            | -               | Y80-T15  |
|             | EDP         |             | 18000131      | -            | -               | 18000167 |
| ..20..16    | Description |             | Y4015-M3.5x11 | -            | -               | Y80-T15  |
|             | EDP         |             | 18000118      | -            | -               | 18000167 |
| ..25..16    | Description |             | Y4015-M3.5x14 | YAATN-2-0001 | YAAV-08-M3.5x8  | Y80-T15  |
|             | EDP         |             | 18000129      | 18000146     | 18000161        | 18000167 |
| ..32~40..16 | Description |             | Y4015-M3.5x14 | YAATN-2-0001 | YAAV-06-M3.5x11 | Y80-T15  |
|             | EDP         |             | 18000129      | 18000146     | 18000159        | 18000167 |

Turning - Holder - Internal

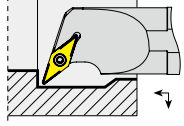
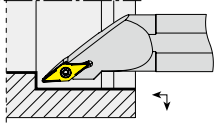
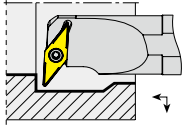
**Screw on type for VB\*\* Insert**

..STFCR Shown



: Refer to p. 68

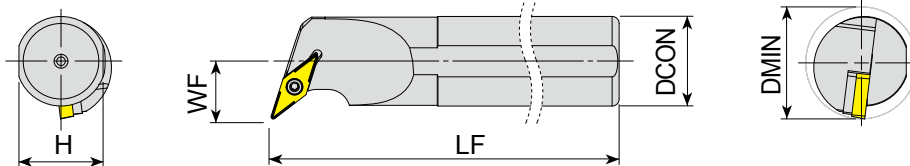
Unit:mm

| Series   | Designation         | EDP 2700..<br>R L | DMIN | DCON | H    | WF | LF  | Insert |
|--|---------------------|-------------------|------|------|------|----|-----|--------|
| <br><b>..SVQBR/L</b><br>Approach angle 107.5° | ● A20Q - SVQBR/L 16 | 1299 1300         | 30   | 20   | 18.3 | 20 | 180 | VB1604 |
|  | ● A25S - SVQBR/L 16 | 1301 1302         | 32   | 25   | 23   | 17 | 250 |        |
|  | A32S - SVQBR/L 16   | 1303 1304         | 40   | 32   | 30   | 22 | 250 |        |
|  | X S25S - SVQBR/L 16 | 1305 1306         | 32   | 25   | 23   | 17 | 250 |        |
|  | X S32T - SVQBR/L 16 | 1307 1308         | 40   | 32   | 30   | 22 | 300 |        |
|  | S40U - SVQBR/L 16   | 1309 1310         | 50   | 40   | 37.5 | 27 | 350 |        |
| <br><b>..SVJBR/L</b><br>Approach angle 93°   | X S25S - SVJBR/L 16 | 1295 1296         | 32   | 25   | 23   | 17 | 250 | VB1604 |
|  | X S32T - SVJBR/L 16 | 1297 1298         | 40   | 32   | 30   | 22 | 300 |        |
| <br><b>..SVUBR/L</b><br>Approach angle 93°  | ● A20Q - SVUBR/L 16 | 1311 -            | 30   | 20   | 18.3 | 20 | 180 | VB1604 |
|  | ● A32S - SVUBR/L 16 | 1312 1313         | 40   | 32   | 30   | 22 | 250 |        |
|  | S25S - SVUBR/L 16   | 1314 1315         | 32   | 25   | 23   | 19 | 250 |        |
|  | X S32T - SVUBR/L 16 | 1316 1317         | 40   | 32   | 30   | 22 | 300 |        |
|  | S40U - SVUBR/L 16   | 1318 1319         | 50   | 40   | 37.5 | 27 | 350 |        |

| Series       | Designation | Infomation | Screw         | Shim         | Shim Screw      | Torx Key |
|--------------|-------------|------------|---------------|--------------|-----------------|----------|
| ..20..16     | Description |            | Y4015-M3.5x11 | -            | -               | Y80-T15  |
|              | EDP         |            | 18000118      | -            | -               | 18000167 |
| A - ..25..16 | Description |            | Y4015-M3.5x14 | YAAVN-2-0002 | YAAV-06-M3.5x11 | Y80-T15  |
|              | EDP         |            | 18000129      | 18000150     | 18000159        | 18000167 |
| S - ..25..16 | Description |            | Y4015-M3.5x14 | YAAVN-2-0002 | YAAV-08-M3.5x8  | Y80-T15  |
|              | EDP         |            | 18000129      | 18000150     | 18000161        | 18000167 |
| ..32~40..16  | Description |            | Y4015-M3.5x11 | YAAVN-2-0002 | YAAV-06-M3.5x11 | Y80-T15  |
|              | EDP         |            | 18000129      | 18000150     | 18000159        | 18000167 |
| ..16         | Description |            | Y4015-M3.5x12 | YAAVN-2-0002 | YAAV-08-M3.5x8  | Y80-T15  |
|              | EDP         |            | 18000128      | 18000150     | 18000161        | 18000167 |
| ..25~40..16  | Description |            | Y4015-M3.5x14 | YAAVN-2-0002 | YAAV-06-M3.5x11 | Y80-T15  |
|              | EDP         |            | 18000129      | 18000150     | 18000159        | 18000167 |

# Screw on type for VC\*\* Insert

..SVQCR Shown



: Refer to p. 69

Unit:mm

| Series  | Designation         | EDP 2700.. |      | DMIN | DCON | H    | WF   | LF  | Insert |
|---|---------------------|------------|------|------|------|------|------|-----|--------|
|   |                     | R          | L    |      |      |      |      |     |        |
| <p><b>..SVQCR/L</b><br/>Approach angle 107.5°</p> | S25S - SVQCR/L 16   | 1320       | 1321 | 32   | 25   | 23   | 17   | 250 | VC1604 |
|   | X S32T - SVQCR/L 16 | 1322       | 1323 | 40   | 32   | 30   | 22   | 300 |        |
|   | S40U - SVQCR/L 16   | 1324       | 1325 | 50   | 40   | 37.5 | 27   | 350 |        |
|   |                     |            |      |      |      |      |      |     |        |
| <p><b>..SVUCR/L</b><br/>Approach angle 93°</p>    | X S16P - SVUCR/L11  | 1495       | 1496 | 20   | 16   | 14.8 | 12.5 | 170 | VC1103 |
|   | X S20R - SVUCR/L11  | 1497       | 1498 | 25   | 20   | 18.3 | 13   | 200 | VC1103 |
|   | ● A25R - SVUCR/L 16 | 1326       | -    | 32   | 25   | 23   | 19   | 200 | VC1604 |
|   | S25S - SVUCR/L 16   | 1327       | 1328 | 32   | 25   | 23   | 19   | 250 |        |
|   | X S32T - SVUCR/L 16 | 1329       | 1330 | 40   | 32   | 30   | 22   | 300 |        |
|   | S40U - SVUCR/L 16   | 1331       | 1332 | 50   | 40   | 37.5 | 27   | 350 |        |

| Series      | Designation | Information | Screw         | Shim         | Shim Screw      | Torx Key |
|-------------|-------------|-------------|---------------|--------------|-----------------|----------|
| ..11        | Description |             | Y4008-M2.5x6  | -            | -               | Y80-T08  |
|             | EDP         |             | 18000127      | -            | -               | 18000165 |
| ..16        | Description |             | Y4015-M3.5x14 | YAAVN-2-0002 | YAAV-06-M3.5x11 | Y80-T15  |
|             | EDP         |             | 18000129      | 18000150     | 18000159        | 18000167 |
| ..25..16    | Description |             | Y4015-M3.5x14 | YAAVN-2-0002 | YAAV-08-M3.5x8  | Y80-T15  |
|             | EDP         |             | 18000129      | 18000150     | 18000161        | 18000167 |
| ..32~40..16 | Description |             | Y4015-M3.5x14 | YAAVN-2-0002 | YAAV-06-M3.5x11 | Y80-T15  |
|             | EDP         |             | 18000129      | 18000150     | 18000159        | 18000167 |



# PARTING & GROOVING

**Parting & Grooving Inserts Overview**

**Parting & Grooving Inserts**

**Parting & Grooving Holders**

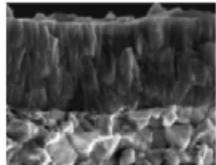
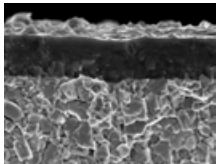


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to see our  
**New Grades**  
at work.


## Parting & Grooving Overview

### Parting & Groove Turn Grades













| Parting and Grooving Grades |                | P Steel |      |     |     | M Stainless steel |      |     |     | K Cast iron |      |     | N Non Ferrous |     | S Super Alloy |      |
|-----------------------------|----------------|---------|------|-----|-----|-------------------|------|-----|-----|-------------|------|-----|---------------|-----|---------------|------|
|                             |                | P10     | P20  | P30 | P40 | M10               | M20  | M30 | M40 | K10         | K20  | K30 | N10           | N20 | S10           | S20  |
| PVD                         | YG602G (YG602) |         | 602G |     |     |                   | 602G |     |     |             | 602G |     |               |     |               | 602G |
|                             | YG603          |         |      |     |     |                   | 603  |     |     |             |      |     |               |     |               |      |

|   |   |  |
|---|---|--|
| <p><b>YG602G</b><br/>(YG602)</p> <p>P20 - P35    M20 - M40<br/>K20 - K40    S15 - S25</p> | <p>PVD - TiAlN</p>   | <p><b>Universal grade for Parting &amp; Groove Turn</b></p> <ul style="list-style-type: none"> <li>Ultra Dense PVD Coating with optimal thermal resistance &amp; strength</li> <li>Sub-Micron substrate designed for demanding application</li> <li>YG602G : First Choice for Low Cutting Speed, Soft and Sticky Material with Low Hardness (Gold Color)</li> <li>YG602 : First Choice for General Application (Violet Color)</li> </ul> |
| <p><b>YG603</b></p> <p>M30 - M50</p>  | <p>PVD - TiAlN</p>  | <p><b>PVD Parting &amp; Grooving Grade for Stainless Steel</b></p> <ul style="list-style-type: none"> <li>Ultra high toughness substrate and strong adhesion</li> <li>Excellent cutting edge strength and chipping resistance</li> <li>Stable machinability and tool life for stainless steel</li> </ul>   |

### Parting & Grooving Inserts

|   |            |                |                  |
|---|------------|----------------|------------------|
|  | TD. Series | <b>Inserts</b> | 2, 3, 4, 5, 6, 8 |
|   |            | TDN, TDP, TDY  |                  |

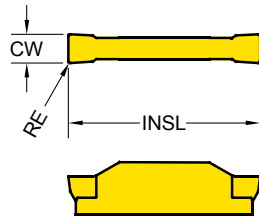
### Parting & Grooving Chipbreakers

|                    |           |   |   |  |
|--------------------|-----------|---|---|--|
| Parting & Grooving | <b>-P</b> |  |  | <ul style="list-style-type: none"> <li>For Parting &amp; Grooving</li> <li>For Low Feed Rate and Difficult to Cut Materials</li> </ul>   |
|                    | <b>-N</b> |  |  | <ul style="list-style-type: none"> <li>For External Parting And Grooving</li> <li>For General Use</li> </ul>   |
| Turning & Grooving | <b>-Y</b> |  |  | <ul style="list-style-type: none"> <li>For External Turning &amp; Grooving</li> <li>For Medium feed rate</li> </ul>  |
|                    | <b>GL</b> |  |  | <ul style="list-style-type: none"> <li>For External, Internal turning and Grooving</li> <li>Face grooving and Face turning</li> <li>For low feed rate</li> </ul>                 |
|                    | <b>GM</b> |  |  | <ul style="list-style-type: none"> <li>For External, Internal turning and Grooving</li> <li>First choice Face Grooving and Face turning</li> <li>For Medium feed rate</li> </ul> |
|                    | <b>RG</b> |  |  | <ul style="list-style-type: none"> <li>For External, Internal turning and Grooving</li> <li>Full radius Insert for Profiling</li> </ul>  |

Parting & Grooving

# Parting & Grooving Inserts

Recommended Cutting Conditions : p.258



| Series | INSL  | CW   | Series | INSL  | CW   |
|--------|-------|------|--------|-------|------|
| TD* 2  | 20.00 | 2.00 | TD* 5  | 25.00 | 5.00 |
| TD* 3  | 20.00 | 3.00 | TD* 6  | 25.00 | 6.00 |
| TD* 4  | 20.00 | 4.00 | TD* 8  | 30.00 | 8.00 |

\* CDX : Cutting Depth Maximum

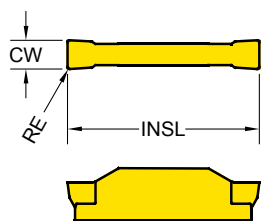
● : Stock item ○ : Order made item

| TD.  | Designation   | RE        | Parting & Grooving |           | Turning      |         | EDP 5200.. |        |       |
|--|---|-----------|--------------------|-----------|--------------|---------|------------|--------|-------|
|  |   |           | Fn (mm/rev.)       | CDX (mm)  | Fn (mm/rev.) | Ap (mm) | YG602      | YG602G | YG603 |
| -P<br><br>Parting & Grooving (Sharp edge) | TDP 2002  | 0.2       | 0.04-0.12          | 19        | -            | -       | ●          | ○      | ●     |
|  | TDP 3002  | 0.2       | 0.05-0.16          | 19        | -            | -       | ●          | ○      | ●     |
|  | TDP 4003  | 0.3       | 0.06-0.18          | 19        | -            | -       | ●          | ○      | ●     |
|  | TDP5003   | 0.3       | 0.06-0.20          | 24        | -            | -       | ●          | ○      | ●     |
|  | TDP6003   | 0.3       | 0.06-0.22          | 24        | -            | -       | ●          | ○      | ●     |
|  | *T DPR 2002 - 6   | 0.2       | 0.03-0.08          | 19        | -            | -       | ●          |        | ●     |
|  | *T DPR 3002 - 6   | 0.2       | 0.04-0.12          | 19        | -            | -       | ●          |        | ●     |
|  | *T DPL 2002 - 6   | 0.2       | 0.03-0.08          | 19        | -            | -       | ●          |        | ●     |
|  | *T DPL 3002 - 6   | 0.2       | 0.04-0.12          | 19        | -            | -       | ●          |        | ●     |
|  | -N<br><br>Parting & Grooving Right Hand Shown (Sharp edge)<br>*  6° Angled Parting | TDN 2002  | 0.2                | 0.05-0.18 | 19           | -       | -          | ●      | ○     |
| TDN 3002   |   | 0.2       | 0.07-0.23          | 19        | -            | -       | ●          | ○      | ●     |
| TDN 4003   |   | 0.3       | 0.08-0.28          | 19        | -            | -       | ●          | ○      | ●     |
| TDN 5003   |   | 0.3       | 0.09-0.30          | 24        | -            | -       | ●          | ○      | ●     |
| TDN6003  |   | 0.3       | 0.10-0.35          | 24        | -            | -       | ●          | ○      | ●     |
| TDN8004  |   | 0.4       | 0.12-0.40          | 29        | -            | -       | ●          | ○      | ●     |
| *T DNR 2002 - 6  |   | 0.2       | 0.04-0.14          | 19        | -            | -       | ●          |        | ●     |
| *T DNR 3002 - 6  |   | 0.2       | 0.06-0.18          | 19        | -            | -       | ●          |        | ●     |
| *T DNL 2002 - 6  |   | 0.2       | 0.04-0.14          | 19        | -            | -       | ●          |        | ●     |
| *T DNL 3002 - 6  |   | 0.2       | 0.06-0.18          | 19        | -            | -       | ●          |        | ●     |
| *T DNL 4003 - 6  | 0.3   | 0.06-0.24 | 19                 | -         | -            | ●       |            | ●      |       |

Parting & Grooving

**Parting & Grooving Inserts**


Recommended Cutting Conditions : p.258



| Series | INSL  | CW  | Series | INSL  | CW  |
|--------|-------|-----|--------|-------|-----|
| TD* 2  | 20.00 | 2.0 | TD* 5  | 25.00 | 5.0 |
| TD* 3  | 20.00 | 3.0 | TD* 6  | 25.00 | 6.0 |
| TD* 4  | 20.00 | 4.0 | TD* 8  | 30.00 | 8.0 |

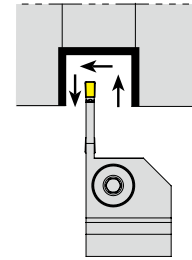
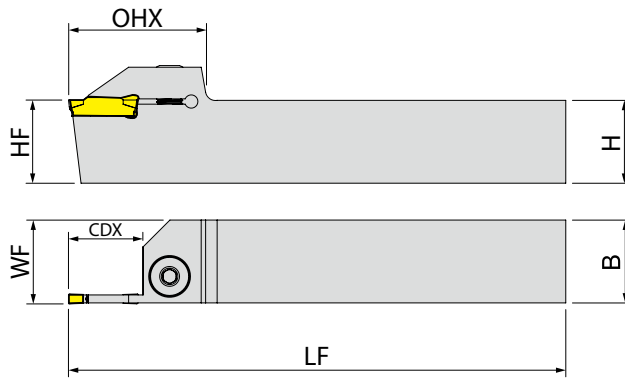
\* CDX : Cutting Depth Maximum

● : Stock item ○ : Order made item

| TD.  | Designation      | RE  | Parting & Grooving |          | Turning      |           | EDP 5200.. |           |           |
|--|------------------|-----|--------------------|----------|--------------|-----------|------------|-----------|-----------|
|  |                  |     | Fn (mm/rev.)       | CDX (mm) | Fn (mm/rev.) | Ap (mm)   | YG602      | YG602G    | YG603     |
| <br>Turn Groove | TDY3E - 0.4      | 0.4 | 0.06 ~ 0.24        | 10       | 0.12 ~ 0.22  | 0.5 ~ 2.4 |            | ●<br>0027 |           |
|  | TDY4E - 0.4      | 0.4 | 0.08 ~ 0.27        | 10       | 0.15 ~ 0.30  | 0.5 ~ 2.8 |            | ●<br>0020 |           |
|  | TDY5E - 0.4      | 0.4 | 0.08 ~ 0.23        | 10       | 0.15 ~ 0.30  | 0.5 ~ 3.2 |            | ●<br>0082 |           |
| <br>GL         | TDY2E - 0.3 - GL | 0.3 | 0.04 ~ 0.20        | 10       | 0.06 ~ 0.18  | 0.4 ~ 1.5 |            | ●<br>0123 | ●<br>0124 |
|  | TDY3E - 0.3 - GL | 0.3 | 0.05 ~ 0.23        | 10       | 0.08 ~ 0.20  | 0.4 ~ 2.0 |            | ●<br>0125 | ●<br>0126 |
|  | TDY4E - 0.4 - GL | 0.4 | 0.06 ~ 0.26        | 10       | 0.10 ~ 0.25  | 0.5 ~ 2.3 |            | ●<br>0112 | ●<br>0127 |
|  | TDY5E - 0.4 - GL | 0.4 | 0.08 ~ 0.30        | 12.5     | 0.10 ~ 0.30  | 0.5 ~ 3.0 |            | ●<br>0157 | ●<br>0158 |
|  | TDY6E - 0.4 - GL | 0.4 | 0.12 ~ 0.35        | 12.5     | 0.15 ~ 0.35  | 0.5 ~ 3.5 |            | ●<br>0159 | ●<br>0160 |
| <br>GM        | TDY8E - 0.8 - GL | 0.8 | 0.15 ~ 0.50        | 15       | 0.20 ~ 0.50  | 1.0 ~ 4.5 |            | ●<br>0164 | ●<br>0165 |
|  | TDY3E - 0.4 - GM | 0.4 | 0.06 ~ 0.24        | 10       | 0.12 ~ 0.22  | 0.5 ~ 2.4 |            | ●<br>0118 | ●<br>0119 |
|  | TDY4E - 0.4 - GM | 0.4 | 0.08 ~ 0.27        | 10       | 0.15 ~ 0.30  | 0.5 ~ 2.8 |            | ●<br>0113 | ●<br>0120 |
|  | TDY4E - 0.8 - GM | 0.8 | 0.10 ~ 0.27        | 10       | 0.18 ~ 0.32  | 0.8 ~ 2.8 |            | ●<br>0114 | ●<br>0122 |
|  | TDY5E - 0.4 - GM | 0.4 | 0.08 ~ 0.27        | 12.5     | 0.18 ~ 0.35  | 0.5 ~ 3.0 |            | ●<br>0134 | ●<br>0135 |
|  | TDY5E - 0.8 - GM | 0.8 | 0.10 ~ 0.27        | 12.5     | 0.18 ~ 0.37  | 0.8 ~ 3.0 |            | ●<br>0148 | ●<br>0149 |
|  | TDY6E - 0.4 - GM | 0.4 | 0.12 ~ 0.30        | 12.5     | 0.18 ~ 0.40  | 0.8 ~ 3.6 |            | ●<br>0150 | ●<br>0153 |
|  | TDY6E - 0.8 - GM | 0.8 | 0.12 ~ 0.35        | 12.5     | 0.18 ~ 0.42  | 1.0 ~ 3.6 |            | ●<br>0129 | ●<br>0154 |
| <br>RG        | TDY8E - 0.8 - GM | 0.8 | 0.10 ~ 0.25        | 15       | 0.20 ~ 0.50  | 1.0 ~ 4.5 |            | ●<br>0155 | ●<br>0156 |
|  | TDY2E - 1.0 - RG | 1.0 | 0.05 ~ 0.15        | 10       | 0.10 ~ 0.30  | 0.1 ~ 0.8 |            | ●<br>0111 | ●<br>0115 |
|  | TDY3E - 1.5 - RG | 1.5 | 0.08 ~ 0.18        | 10       | 0.15 ~ 0.35  | 0.1 ~ 1.2 |            | ●<br>0108 | ●<br>0116 |
|  | TDY4E - 2.0 - RG | 2.0 | 0.10 ~ 0.20        | 10       | 0.18 ~ 0.45  | 0.1 ~ 1.6 |            | ●<br>0109 | ●<br>0117 |
|  | TDY5E - 2.5 - RG | 2.5 | 0.12 ~ 0.23        | 12.5     | 0.20 ~ 0.50  | 0.1 ~ 2.0 |            | ●<br>0166 | ●<br>0167 |
|  | TDY6E - 3.0 - RG | 3.0 | 0.15 ~ 0.28        | 12.5     | 0.25 ~ 0.60  | 0.1 ~ 2.4 |            | ●<br>0168 | ●<br>0169 |
|  | TDY8E - 4.0 - RG | 4.0 | 0.18 ~ 0.30        | 15       | 0.25 ~ 0.70  | 0.1 ~ 3.2 |            | ●<br>0170 | ●<br>0171 |

Parting & Grooving - Holder - External

# External holders



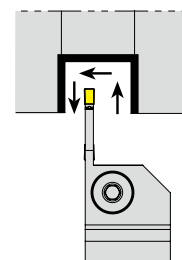
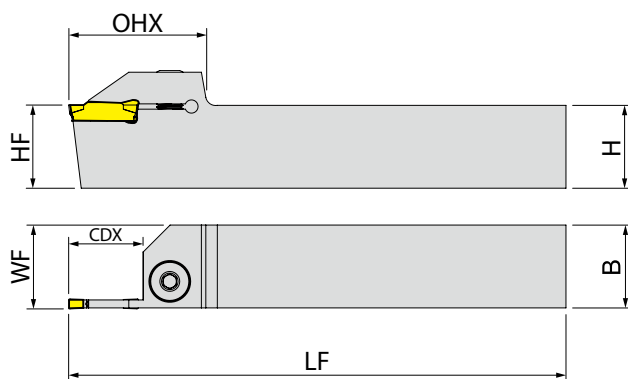
: Refer to p. 139-140 Unit : mm

| Designation      | EDP 5700..<br>R L | CW | CDX | H (= HF) | B  | LF  | OHX  | WF    | Insert |
|------------------|-------------------|----|-----|----------|----|-----|------|-------|--------|
| YTER/L1616J-2T08 | 0574 0634         | 2  | 8   | 16       | 16 | 110 | 33   | 15.12 | TD.2.. |
| YTER/L1616J-2T15 | 0575 0618         | 2  | 15  | 16       | 16 | 110 | 33   | 15.12 |        |
| YTER/L2020K-2T08 | 0576 0635         | 2  | 8   | 20       | 20 | 125 | 33   | 19.12 |        |
| YTER/L2020K-2T15 | 0577 0619         | 2  | 15  | 20       | 20 | 125 | 33   | 19.12 |        |
| YTER/L2525M-2T08 | 0578 0638         | 2  | 8   | 25       | 25 | 150 | 33   | 24.12 |        |
| YTER/L2525M-2T15 | 0579 0622         | 2  | 15  | 25       | 25 | 150 | 33   | 24.12 |        |
| YTER/L1616J-3T10 | 0580 0641         | 3  | 10  | 16       | 16 | 110 | 33   | 14.8  | TD.3.. |
| YTER/L1616J-3T20 | 0581 0625         | 3  | 20  | 16       | 16 | 110 | 38.5 | 14.8  |        |
| YTER/L2020K-3T10 | 0582 0644         | 3  | 10  | 20       | 20 | 125 | 33   | 18.8  |        |
| YTER/L2020K-3T20 | 0583 0626         | 3  | 20  | 20       | 20 | 125 | 38.5 | 18.8  |        |
| YTER/L2525M-3T10 | 0584 0674         | 3  | 10  | 25       | 25 | 150 | 33   | 23.8  |        |
| YTER/L2525M-3T20 | 0585 0627         | 3  | 20  | 25       | 25 | 150 | 38.5 | 23.8  |        |
| YTER/L2020K-4T13 | 0586 0649         | 4  | 13  | 20       | 20 | 125 | 33   | 18.5  | TD.4.. |
| YTER/L2020K-4T25 | 0587 0650         | 4  | 25  | 20       | 20 | 125 | 45   | 18.5  |        |
| YTER/L2525M-4T13 | 0588 0651         | 4  | 13  | 25       | 25 | 150 | 33   | 23.5  |        |
| YTER/L2525M-4T25 | 0589 0654         | 4  | 25  | 25       | 25 | 150 | 45   | 23.5  |        |
| YTER/L2020K-5T13 | 0695 0739         | 5  | 13  | 20       | 20 | 125 | 37   | 18.02 | TD.5.. |
| YTER/L2020K-5T20 | 0696 0740         | 5  | 20  | 20       | 20 | 125 | 39   | 18.02 |        |
| YTER/L2525M-5T13 | 0697 0741         | 5  | 13  | 25       | 25 | 150 | 37   | 23.02 |        |
| YTER/L2525M-5T20 | 0698 0742         | 5  | 20  | 25       | 25 | 150 | 39   | 23.02 |        |
| YTER/L2525M-5T25 | 0699 0743         | 5  | 25  | 25       | 25 | 150 | 47   | 23.02 |        |
| YTER/L2525M-5T32 | 0700 0744         | 5  | 32  | 25       | 25 | 150 | 56   | 23.02 |        |
| YTER/L3232P-5T20 | 0701 0745         | 5  | 20  | 32       | 32 | 170 | 39   | 30.02 |        |
| YTER/L3232P-5T32 | 0702 0746         | 5  | 32  | 32       | 32 | 170 | 56   | 30.02 |        |

▶ NEXT PAGE

Parting & Grooving - Holder - External

**External holders**



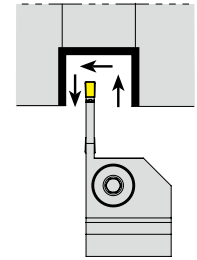
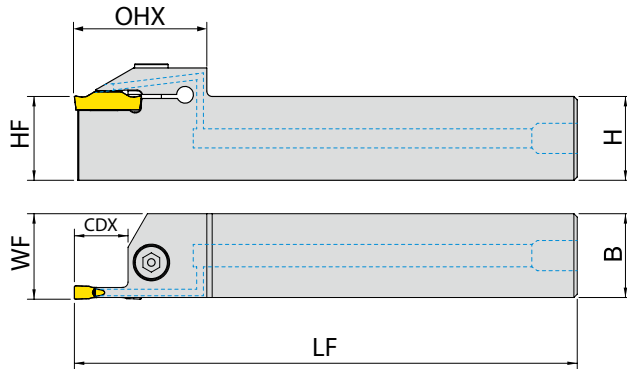
: Refer to p. 139-140 Unit : mm

| Designation      | EDP 5700.. |      | CW | CDX | H (= HF) | B  | LF  | OHX | WF    | Insert |
|------------------|------------|------|----|-----|----------|----|-----|-----|-------|--------|
|                  | R          | L    |    |     |          |    |     |     |       |        |
| YTER/L2020K-6T13 | 0703       | 0747 | 6  | 13  | 20       | 20 | 125 | 38  | 17.52 | TD.6.. |
| YTER/L2020K-6T20 | 0704       | 0748 | 6  | 20  | 20       | 20 | 125 | 41  | 17.52 |        |
| YTER/L2525M-6T13 | 0705       | 0749 | 6  | 13  | 25       | 25 | 150 | 38  | 22.52 |        |
| YTER/L2525M-6T20 | 0706       | 0750 | 6  | 20  | 25       | 25 | 150 | 41  | 22.52 |        |
| YTER/L2525M-6T25 | 0707       | 0751 | 6  | 25  | 25       | 25 | 150 | 47  | 22.52 |        |
| YTER/L2525M-6T32 | 0708       | 0752 | 6  | 32  | 25       | 25 | 150 | 56  | 22.52 |        |
| YTER/L3232P-6T20 | 0709       | 0753 | 6  | 20  | 32       | 32 | 170 | 41  | 29.52 | TD.8.. |
| YTER/L3232P-6T25 | 0710       | 0754 | 6  | 25  | 32       | 32 | 170 | 47  | 29.52 |        |
| YTER/L3232P-6T32 | 0711       | 0755 | 6  | 32  | 32       | 32 | 170 | 56  | 29.52 |        |
| YTER/L2525M-8T16 | 0712       | 0756 | 8  | 16  | 25       | 25 | 150 | 47  | 22.02 |        |
| YTER/L2525M-8T25 | 0713       | 0757 | 8  | 25  | 25       | 25 | 150 | 47  | 22.02 |        |
| YTER/L3232P-8T16 | 0714       | 0758 | 8  | 16  | 32       | 32 | 170 | 47  | 29.02 |        |
| YTER/L3232P-8T25 | 0715       | 0759 | 8  | 25  | 32       | 32 | 170 | 47  | 29.02 | TD.8.. |
| YTER/L3232P-8T32 | 0716       | 0760 | 8  | 32  | 32       | 32 | 170 | 56  | 29.02 |        |

| Series | Designation     | Infomation  | Screw           | Ring | Wrench   |
|--------|-----------------|-------------|-----------------|------|----------|
| YTER/L | ..1616-.2T/3T.. | Description | SHB-M5x0.8x15L  | -    | HL-04    |
|        |                 | EDP         | 58000035        | -    | 58000040 |
|        | ..2020-.2T/3T.. | Description | SHB-M5x0.8x20L  | -    | HL-04    |
|        |                 | EDP         | 58000036        | -    | 58000040 |
|        | ..2525-.2T/3T.. | Description | SHB-M5x0.8x25L  | -    | HL-04    |
|        |                 | EDP         | 58000037        | -    | 58000040 |
|        | ..2020-.4T/5T.. | Description | SHB-M6x1.0x20L  | -    | HL-05    |
|        |                 | EDP         | 58000038        | -    | 58000041 |
|        | ..2525-.4T/5T.. | Description | SHB-M6x1.0x25L  | -    | HL-05    |
|        |                 | EDP         | 58000039        | -    | 58000041 |
|        | ..3232-.5T..    | Description | SHB-M6x1.0x25L  | -    | HL-05    |
|        |                 | EDP         | 58000039        | -    | 58000041 |
|        | ..2020-.6T..    | Description | SHB-M8x1.25x20L | -    | HL-06    |
|        |                 | EDP         | 58000045        | -    | 58000047 |
|        | ..2525-.6T/8T.. | Description | SHB-M8x1.25x25L | -    | HL-06    |
|        |                 | EDP         | 58000046        | -    | 58000047 |
|        | ..3232-.6T/8T.. | Description | SHB-M8x1.25x25L | -    | HL-06    |
|        |                 | EDP         | 58000046        | -    | 58000047 |

Parting & Grooving - Holder - External

# External holders with coolant supply

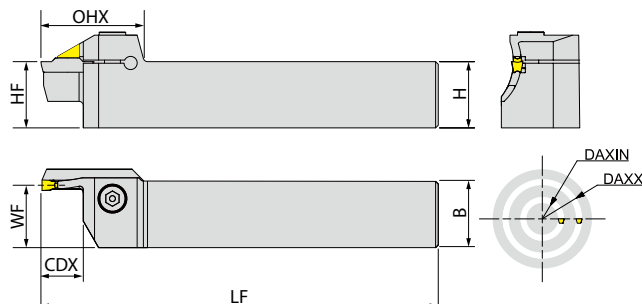


: Refer to p. 139-140 Unit : mm

| Designation        |   | EDP 5700..<br>R L | CW | CDX | H (= HF) | B  | LF  | WF   | Insert |
|--------------------|---|-------------------|----|-----|----------|----|-----|------|--------|
| YTER/L 1212-2T15-C | ● | 0194 0171         | 2  | 15  | 12       | 12 | 100 | 12.3 | TD.2.. |
| YTER/L 1616-2T15-C | ● | 0197 0174         | 2  | 15  | 16       | 16 | 125 | 16.3 |        |
| YTER/L 2020-2T15-C | ● | 0201 0178         | 2  | 15  | 20       | 20 | 125 | 20.3 |        |
| YTER/L 2020-2T17-C | ● | 0202              | 2  | 17  | 20       | 20 | 125 | 20.3 |        |
| YTER/L 2020-2T20-C | ● | 0203 0179         | 2  | 20  | 20       | 20 | 125 | 20.3 |        |
| YTER/L 2020-2T09-C | ● | 0204 0180         | 2  | 09  | 20       | 20 | 125 | 20.3 |        |
| YTER/L 2525-2T17-C | ● | 0208 0184         | 2  | 17  | 25       | 25 | 150 | 25.3 | TD.3.. |
| YTER/L 1212-3T15-C | ● | 0196 0173         | 3  | 15  | 12       | 12 | 100 | 12.4 |        |
| YTER/L 1616-3T15-C | ● | 0199 0176         | 3  | 15  | 16       | 16 | 125 | 16.4 |        |
| YTER/L 2020-3T20-C | ● | 0205 0181         | 3  | 20  | 20       | 20 | 125 | 20.4 |        |
| YTER/L 2020-3T25-C | ● | 0206 0182         | 3  | 25  | 20       | 20 | 125 | 20.4 |        |
| YTER/L 2020-3T30-C | ● | 0207 0183         | 3  | 30  | 20       | 20 | 125 | 20.4 |        |
| YTER/L 2525-3T22-C | ● | 0209 0185         | 3  | 22  | 25       | 25 | 150 | 25.4 |        |
| YTER/L 2525-3T25-C | ● | 0210 0186         | 3  | 25  | 25       | 25 | 150 | 25.4 |        |
| YTER/L 2525-3T30-C | ● | 0211 0187         | 3  | 30  | 25       | 25 | 150 | 25.4 |        |
| YTER/L 2525-3T09-C | ● | 0212 0188         | 3  | 09  | 25       | 25 | 150 | 25.4 |        |
| YTER/L 3232-3T25-C | ● | 0217 0192         | 3  | 25  | 32       | 32 | 170 | 32.4 | TD.4.. |
| YTER/L 2525-4T22-C | ● | 0213 0189         | 4  | 22  | 25       | 25 | 150 | 25.5 |        |
| YTER/L 2525-4T25-C | ● | 0214              | 4  | 25  | 25       | 25 | 150 | 25.5 |        |
| YTER/L 2525-4T30-C | ● | 0215 0190         | 4  | 30  | 25       | 25 | 150 | 25.5 | TD.5.. |
| YTER/L 2525-5T25-C | ● | 0216 0191         | 5  | 25  | 25       | 25 | 150 | 25.5 |        |

| Series | Designation       | Information | Screw         | Ring     | Wrench    |
|--------|-------------------|-------------|---------------|----------|-----------|
| YTER/L | ..2..             | Description | YAKV-02-M6X22 | YABPL-01 | YAAL-03-3 |
|        |                   | EDP         | 18000195      | 18000058 | 18000061  |
|        | ..3../..4../..5.. | Description | Y2004-M8X1X20 | -        | YAAL-05-4 |
|        |                   | EDP         | 18000196      | -        | 18000062  |

# External holders- Face grooving



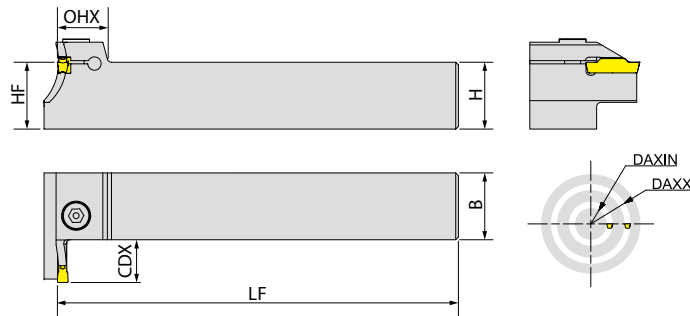
: Refer to p. 139-140 Unit : mm

| Designation              | EDP 5700.. |      | CW | DAXIN | DAXX | CDX | H<br>(= HF) | B  | LF  | OHX | WF    | Insert |
|--------------------------|------------|------|----|-------|------|-----|-------------|----|-----|-----|-------|--------|
|                          | R          | L    |    |       |      |     |             |    |     |     |       |        |
| YTFR/L 25M-D034050-3T10A | 0599       | 0657 | 3  | 34    | 50   | 10  | 25          | 25 | 150 | 38  | 24    | TD.3.. |
| YTFR/L 25M-D044060-3T15A | 0600       | 0658 | 3  | 44    | 60   | 15  | 25          | 25 | 150 | 38  | 24    |        |
| YTFR/L 25M-D054085-3T15A | 0601       | 0659 | 3  | 54    | 85   | 15  | 25          | 25 | 150 | 38  | 24    |        |
| YTFR/L 25M-D034050-4T15A | 0602       | 0660 | 4  | 34    | 50   | 15  | 25          | 25 | 150 | 39  | 23.6  | TD.4.. |
| YTFR/L 25M-D042060-4T15A | 0603       | 0661 | 4  | 42    | 60   | 15  | 25          | 25 | 150 | 39  | 23.6  |        |
| YTFR/L 25M-D052072-4T20A | 0604       | 0662 | 4  | 52    | 72   | 20  | 25          | 25 | 150 | 39  | 23.6  |        |
| YTFR/L 25M-D064120-4T20A | 0605       | 0663 | 4  | 64    | 120  | 20  | 25          | 25 | 150 | 39  | 23.6  |        |
| YTFR/L 25M-D112200-4T20A | 0606       | 0664 | 4  | 112   | 200  | 20  | 25          | 25 | 150 | 39  | 23.6  |        |
| YTFR/L 25M-D200-4T20A    | 0607       | 0665 | 4  | 200   | -    | 20  | 25          | 25 | 150 | 39  | 23.6  | TD.5.. |
| YTFR/L 25M-D050080-5T20A | 0717       | 0761 | 5  | 50    | 80   | 20  | 25          | 25 | 150 | 49  | 23.02 |        |
| YTFR/L 25M-D070110-5T20A | 0718       | 0762 | 5  | 70    | 110  | 20  | 25          | 25 | 150 | 49  | 23.02 |        |
| YTFR/L 25M-D100150-5T20A | 0719       | 0763 | 5  | 100   | 150  | 20  | 25          | 25 | 150 | 49  | 23.02 |        |
| YTFR/L 25M-D140200-5T20A | 0720       | 0764 | 5  | 140   | 200  | 20  | 25          | 25 | 150 | 49  | 23.02 |        |
| YTFR/L 25M-D200-5T20A    | 0721       | 0765 | 5  | 200   | -    | 20  | 25          | 25 | 150 | 49  | 23.02 | TD.6.. |
| YTFR/L 25M-D058100-6T20A | 0722       | 0766 | 6  | 58    | 100  | 20  | 25          | 25 | 150 | 49  | 22.52 |        |
| YTFR/L 25M-D088180-6T20A | 0723       | 0767 | 6  | 88    | 180  | 20  | 25          | 25 | 150 | 49  | 22.52 |        |
| YTFR/L 25M-D168400-6T20A | 0724       | 0768 | 6  | 168   | 400  | 20  | 25          | 25 | 150 | 49  | 22.52 |        |

| Series | Designation | Information | Screw           | Ring | Wrench   |
|--------|-------------|-------------|-----------------|------|----------|
| YTFR/L | ..-3T/4T..  | Description | SHB-M6x1.0x25L  | -    | HL-05    |
|        |             | EDP         | 58000039        | -    | 58000041 |
|        | ..-5T/6T..  | Description | SHB-M8x1.25x25L | -    | HL-06    |
|        |             | EDP         | 58000046        | -    | 58000047 |

Parting & Grooving - Holder - External

# External holders - Perpendicular Face grooving

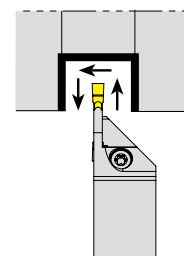
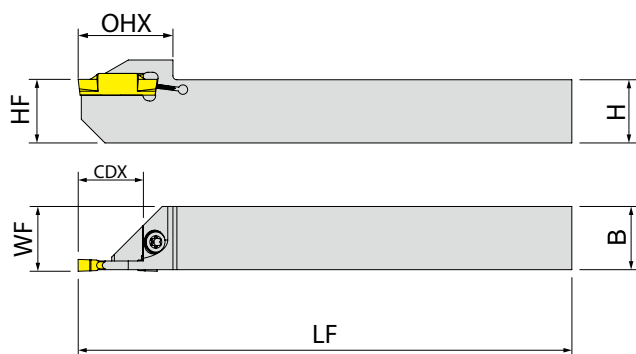


: Refer to p. 139-140      Unit : mm

| Designation                  | EDP 5700..<br>R      L | CW | DAXIN | DAXX | CDX | H (= HF) | B  | LF  | OHX  | Insert |
|------------------------------|------------------------|----|-------|------|-----|----------|----|-----|------|--------|
| YTFPR/L25M - D034050 - 3T12A | 0608 0666              | 3  | 34    | 50   | 12  | 25       | 25 | 150 | 18.5 | TD.3.. |
| YTFPR/L25M - D044060 - 3T15A | 0609 0667              | 3  | 44    | 60   | 15  | 25       | 25 | 150 | 18.5 |        |
| YTFPR/L25M - D054085 - 3T15A | 0610 0668              | 3  | 54    | 85   | 15  | 25       | 25 | 150 | 18.5 |        |
| YTFPR/L25M - D034050 - 4T15A | 0611 0669              | 4  | 34    | 50   | 15  | 25       | 25 | 150 | 19   | TD.4.. |
| YTFPR/L25M - D042060 - 4T15A | 0612 0670              | 4  | 42    | 60   | 15  | 25       | 25 | 150 | 19   |        |
| YTFPR/L25M - D052072 - 4T20A | 0613 0671              | 4  | 52    | 72   | 20  | 25       | 25 | 150 | 19   |        |
| YTFPR/L25M - D064120 - 4T20A | 0614 0672              | 4  | 64    | 120  | 20  | 25       | 25 | 150 | 19   |        |
| YTFPR/L25M - D112200 - 4T20A | 0615 0673              | 4  | 112   | 200  | 20  | 25       | 25 | 150 | 19   | TD.5.. |
| YTFPR/L25M - D050080 - 5T20A | 0725 0769              | 5  | 50    | 80   | 20  | 25       | 25 | 150 | 22   |        |
| YTFPR/L25M - D070110 - 5T20A | 0726 0770              | 5  | 70    | 110  | 20  | 25       | 25 | 150 | 22   |        |
| YTFPR/L25M - D100150 - 5T20A | 0727 0771              | 5  | 100   | 150  | 20  | 25       | 25 | 150 | 22   |        |
| YTFPR/L25M - D140200 - 5T20A | 0728 0772              | 5  | 140   | 200  | 20  | 25       | 25 | 150 | 22   |        |
| YTFPR/L25M - D200 - 5T20A    | 0729 0773              | 5  | 200   | -    | 20  | 25       | 25 | 150 | 22   | TD.6.. |
| YTFPR/L25M - D073150 - 6T20A | 0730 0774              | 6  | 73    | 150  | 20  | 25       | 25 | 150 | 22   |        |
| YTFPR/L25M - D138250 - 6T20A | 0731 0775              | 6  | 138   | 250  | 20  | 25       | 25 | 150 | 22   |        |

| Series  | Designation | Infomation  | Screw           | Ring | Wrench   |
|---------|-------------|-------------|-----------------|------|----------|
| YTFPR/L | ..-3T/4T..  | Description | SHB-M6x1.0x25L  | -    | HL-05    |
|         |             | EDP         | 58000039        | -    | 58000041 |
|         | ..-5T/6T..  | Description | SHB-M8x1.25x25L | -    | HL-06    |
|         |             | EDP         | 58000046        | -    | 58000047 |

Parting & Grooving - Holder - External  
**External holders (Swiss Lathe)**



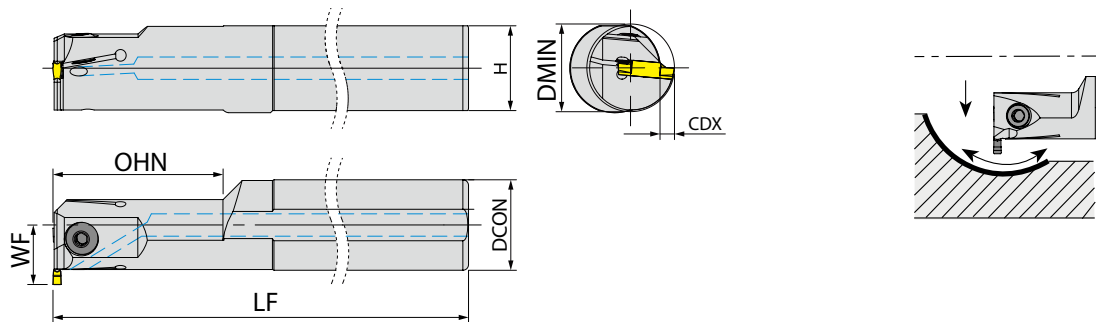
: Refer to p. 139-140 Unit : mm

| Designation                | X | EDP 5700.. |      | CW | CDX | H (= HF) | B   | LF  | OHX | WF    | Insert |
|----------------------------|---|------------|------|----|-----|----------|-----|-----|-----|-------|--------|
|                            |   | R          | L    |    |     |          |     |     |     |       |        |
| YTER/L1010K-2D20-S         | X | 0678       | 0680 | 2  | 10  | 10       | 125 | 10  | 21  | 9.12  | TD.2.. |
| YTER/L1212K-2D24-S         | X | 0628       | 0655 | 2  | 12  | 12       | 125 | 12  | 21  | 11.12 |        |
| YTER/L1616K-2D32-S         | X | 0629       | 0656 | 2  | 16  | 16       | 125 | 16  | 24  | 15.12 |        |
| YTER/L1010K-3D20-S         | X | 0679       | 0681 | 3  | 10  | 10       | 125 | 10  | 21  | 8.8   | TD.3.. |
| YTER/L1212K-3D24-S         | X | 0631       | 0630 | 3  | 12  | 12       | 125 | 12  | 21  | 10.8  |        |
| YTER/L1616K-3D32-S         | X | 0633       | 0632 | 3  | 16  | 16       | 125 | 16  | 24  | 14.8  |        |
| YTER/L 1212 - 2T12 - S - C | ● | 0193       | 0170 | 2  | 12  | 12       | 12  | 125 | -   | 12.2  | TD.2.. |
| YTER/L 1616 - 2T16 - S - C | ● | 0198       | 0175 | 2  | 16  | 16       | 16  | 125 | -   | 16.2  |        |
| YTER/L 1212 - 3T12 - S - C | ● | 0195       | 0172 | 3  | 12  | 12       | 12  | 125 | -   | 12.3  | TD.3.. |
| YTER/L 1616 - 3T16 - S - C | ● | 0200       | 0177 | 3  | 16  | 16       | 16  | 125 | -   | 16.3  |        |

| Series | Designation | Information | Screw       | Ring | Wrench   |
|--------|-------------|-------------|-------------|------|----------|
| YTER/L | ..S..-C     | Description | Y4015-M4x11 | -    | Y80-T15  |
|        |             | EDP         | 18000119    | -    | 18000167 |
|        | ..S         | Description | TOS150412   | -    | TOF-15   |
|        |             | EDP         | 58000042    | -    | 58000043 |

## Parting & Grooving - Holder - Internal

### Internal holders with Coolant supply



: Refer to p. 139-140 Unit : mm

| Designation          |   | EDP 5700..<br>R L | CW | DMIN | CDX | DCON | H (= HF) | OHN | LF  | WF   | Insert |
|----------------------|---|-------------------|----|------|-----|------|----------|-----|-----|------|--------|
| YTIR/L16K-D25-2T06-C | ● | 0590 0682         | 2  | 25   | 6   | 16   | 15       | 40  | 125 | 14.5 | TD.2.. |
| YTIR/L20N-D27-2T06-C | ● | 0591 0683         | 2  | 27   | 6   | 20   | 18       | 40  | 160 | 16   |        |
| YTIR/L25R-D29-2T06-C | ● | 0592 0684         | 2  | 29   | 6   | 25   | 23       | 40  | 200 | 18.5 |        |
| YTIR/L20N-D27-3T06-C | ● | 0593 0685         | 3  | 27   | 6   | 20   | 18       | 40  | 160 | 16   | TD.3.. |
| YTIR/L25R-D29-3T06-C | ● | 0594 0686         | 3  | 29   | 6   | 25   | 23       | 40  | 200 | 18.5 |        |
| YTIR/L32S-D40-3T10-C | ● | 0595 0687         | 3  | 40   | 10  | 32   | 30       | 60  | 250 | 26   |        |
| YTIR/L20N-D27-4T06-C | ● | 0596 0688         | 4  | 27   | 6   | 20   | 18       | 40  | 160 | 16   | TD.4.. |
| YTIR/L25R-D29-4T06-C | ● | 0597 0689         | 4  | 29   | 6   | 25   | 23       | 40  | 200 | 18.5 |        |
| YTIR/L32S-D40-4T10-C | ● | 0598 0690         | 4  | 40   | 10  | 32   | 30       | 60  | 250 | 26   |        |
| YTIR/L25R-D31-5T07-C | ● | 0732 0776         | 5  | 31   | 7   | 25   | 23       | 40  | 200 | 19.5 | TD.5.. |
| YTIR/L32S-D40-5T10-C | ● | 0733 0777         | 5  | 40   | 10  | 32   | 30       | 60  | 250 | 26   |        |
| YTIR/L32S-D31-6T07-C | ● | 0734 0778         | 6  | 31   | 7   | 32   | 28       | 60  | 250 | 23   | TD.6.. |
| YTIR/L32S-D40-6T10-C | ● | 0735 0779         | 6  | 40   | 10  | 32   | 30       | 60  | 250 | 26   |        |
| YTIR/L32S-D40-8T10-C | ● | 0736 0780         | 8  | 40   | 10  | 32   | 30       | 60  | 250 | 26   | TD.8.. |
| YTIR/L40T-D45-8T10-C | ● | 0737 0781         | 8  | 45   | 10  | 40   | 37       | 65  | 300 | 30   |        |

| Series | Designation    | Information | Screw          | Ring | Wrench   |
|--------|----------------|-------------|----------------|------|----------|
| YTIR/L | ..16.-2T..     | Description | SHB-M5X0.8X10L | -    | HL-04    |
|        |                | EDP         | 58000033       | -    | 58000040 |
|        | ..20.-2/3/4T.. | Description | SHB-M5X0.8X12L | -    | HL-04    |
|        |                | EDP         | 58000034       | -    | 58000040 |
|        | ..25.-2/3/4T.. | Description | SHB-M5X0.8X15L | -    | HL-04    |
|        |                | EDP         | 58000035       | -    | 58000040 |
|        | ..32.-2/3/4T.. | Description | SHB-M5X0.8X15L | -    | HL-04    |
|        |                | EDP         | 58000035       | -    | 58000040 |
|        | ..25.-5T..     | Description | SHB-M6X1.0X16L | -    | HL-05    |
|        |                | EDP         | 58000044       | -    | 58000041 |
|        | ..32.-5/6/8T.. | Description | SHB-M6X1.0X20L | -    | HL-05    |
|        |                | EDP         | 58000045       | -    | 58000041 |
|        | ..40.-8T..     | Description | SHB-M6X1.0X25L | -    | HL-05    |
|        |                | EDP         | 58000046       | -    | 58000041 |

Parting & Grooving - Holder  
**Blade**

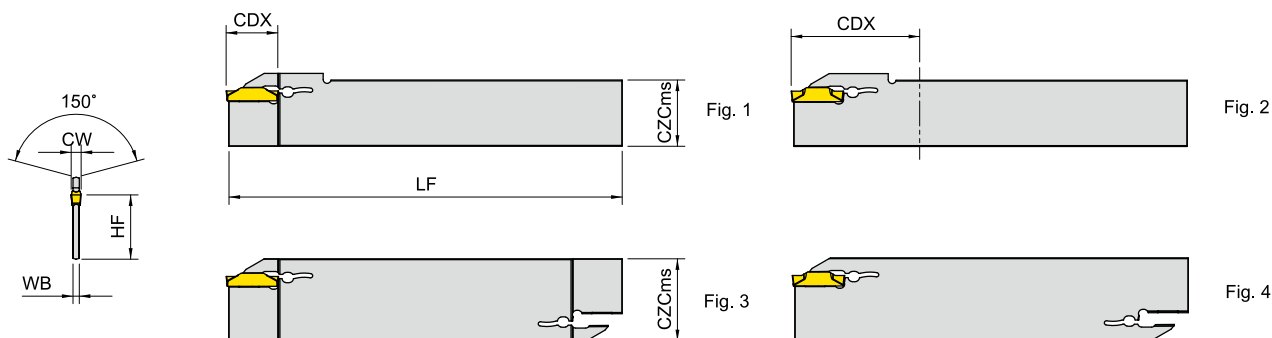
TURNING

PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION



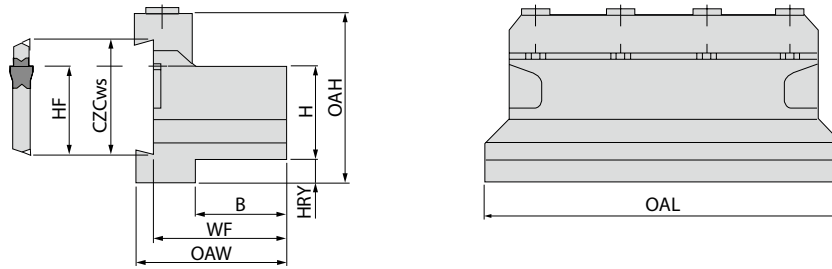
: Refer to p. 139-140 Unit :mm

| Designation | EDP 5700.. | CZCms | CW | CDX | HF   | LF  | WB  | Insert | Fig |
|-------------|------------|-------|----|-----|------|-----|-----|--------|-----|
| YBT26-2S    | 0834       | 26    | 2  | 20  | 21.4 | 150 | 1.8 | TD.2.. | 1   |
| YBT26-3S    | 0835       | 26    | 3  | 50  | 21.4 | 150 | 2.4 | TD.3.. | 2   |
| YBT32-2     | 0826       | 32    | 2  | 20  | 25   | 150 | 1.8 | TD.2.. | 3   |
| YBT32-3     | 0827       | 32    | 3  | 50  | 25   | 150 | 2.4 | TD.3.. | 4   |

| Series | Designation | Information | Screw | Ring | Wrench   |
|--------|-------------|-------------|-------|------|----------|
| YBT    | ..-26/32-.. | Description | -     | -    | KEY-B01  |
|        |             | EDP         | -     | -    | 58000048 |

# Parting & Grooving - Holder

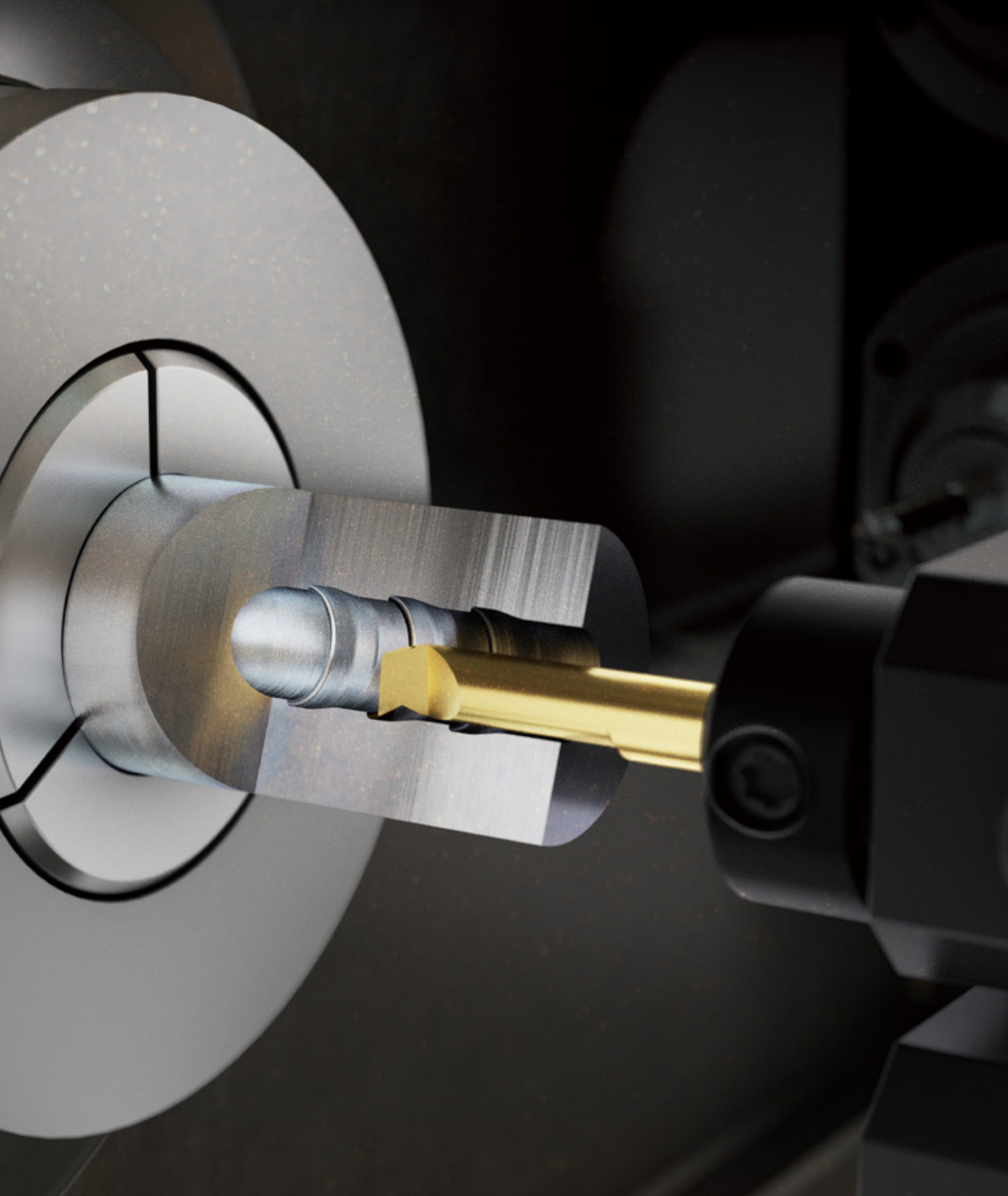
## Blade Block



: Refer to p. 139-140      Unit : mm

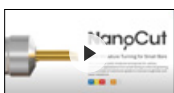
| Designation | EDP 5700.. | CZCws | H  | B  | HF   | WF | HRY | OAL | OAH | OAW |
|-------------|------------|-------|----|----|------|----|-----|-----|-----|-----|
| YGBL20-26   | 0829       | 26    | 20 | 19 | 21.4 | 33 | 9   | 86  | 43  | 38  |
| YGBL20-32   | 0830       | 32    | 20 | 19 | 25   | 33 | 13  | 100 | 50  | 38  |
| YGBL25-26   | 0831       | 26    | 25 | 23 | 21.4 | 37 | 4   | 110 | 43  | 42  |
| YGBL25-32   | 0828       | 32    | 25 | 23 | 25   | 37 | 8   | 110 | 50  | 42  |

| Series | Designation | Infomation  | Screw          | Ring | Wrench   |
|--------|-------------|-------------|----------------|------|----------|
| YGBL   | ..20/25-..  | Description | SHB-M6X1.0X15L | -    | HL-05    |
|        |             | EDP         | 58000049       | -    | 58000041 |



# SOLID MINIATURE TURNING for SMALL BORE

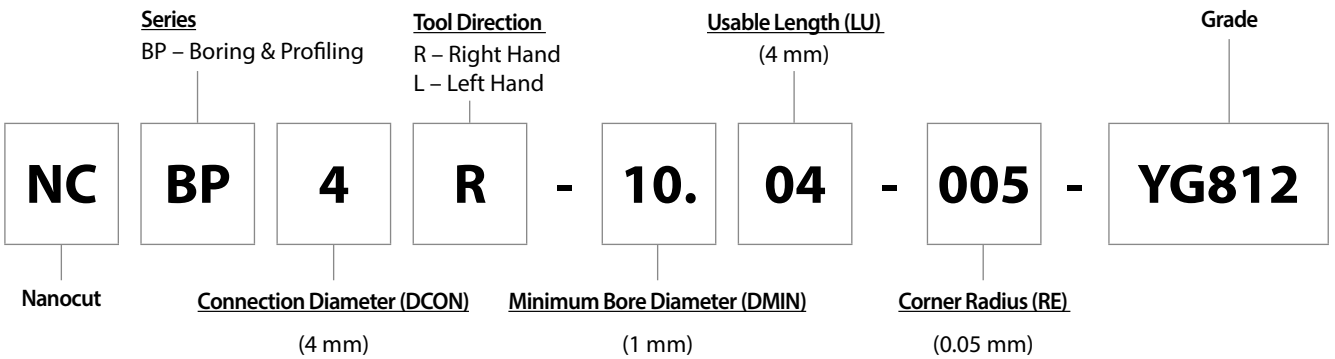
Click this  
QR code!!



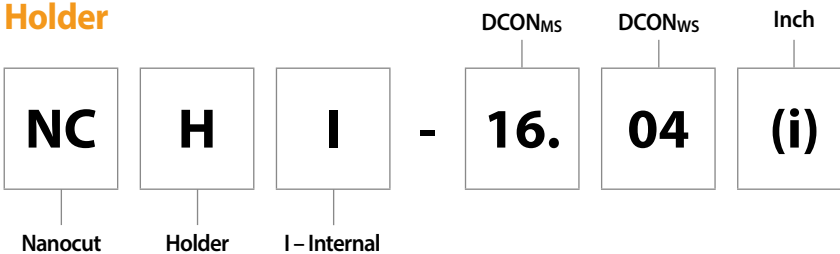
Scan this QR code  
to see our  
**Nanocut**  
at work.

# Code Keys - Boring Tool & Holder

## Boring Tool



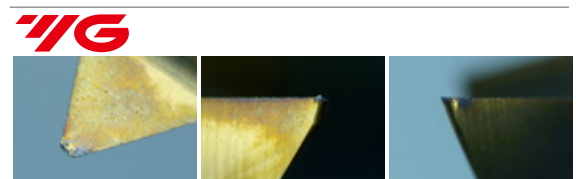
## Holder



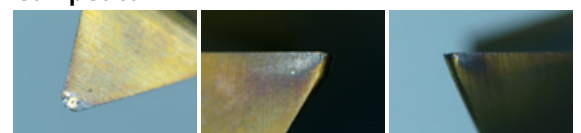
## Success Story

### Cutting Conditions

|                     |                                 |
|---------------------|---------------------------------|
| Size                | Ø 6 mm, R 0.2 mm                |
| Work Material       | SCM440 (HRc 20)                 |
| Cutting Speed       | 100 m/min.                      |
| RPM                 | 637 rev./min.                   |
| Feed per Revolution | 0.1 mm/rev.                     |
| Boring Depth        | Axial: 10 mm<br>Radial: 0.15 mm |
| Coolant             | Wet Cut                         |
| Operation           | Boring                          |
| Machine             | Turn Mill                       |



### Competitor



# Overview

At present, as demand for small parts (camera lens, mobile phone parts) and medical instruments (implants) increases, demand for small-diameter products capable of high-precision processing is increasing.

## Application

- Turning of Small Bore Components
- Internal Turning(Boring), Grooving and Threading



## Features

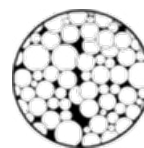
- Minimum Diameter(Boring & Profiling series) : Ø 1 mm
- Internal Coolant for Longer Tool life and Enhanced Chip Evacuation
- Secure Connection Design: Pin + Slant Positioning
- 10 Geometries for Various Applications

## Benefits

- Reduced Machine Down Time
- Lower Machining Cost

## YG812 - Micro Grain Carbide Grade

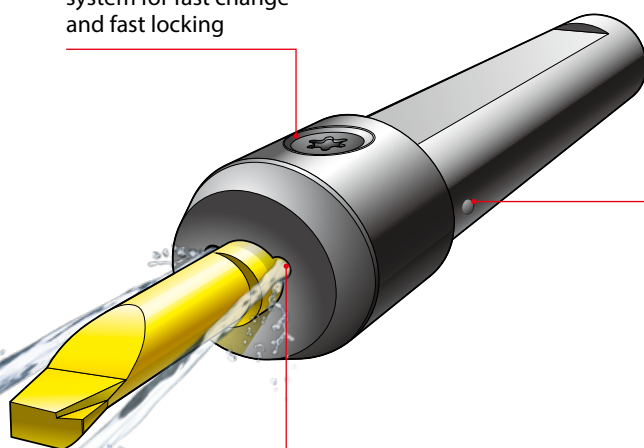
|           |           |   |
|-----------|-----------|---|
| P10 - P20 | M20 - M30 | Submicron Grade Carbide Substrate Material for high toughness |
| K20 - K30 | S10 - S25 | and wear resistance realizes high precision machining         |



## Advantages of Nanocut

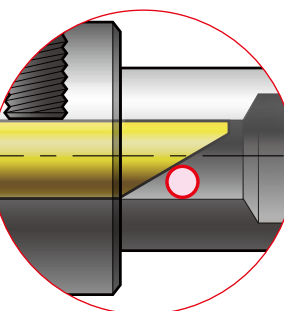
### Easy Clamping

Secure and Simple system for fast change and fast locking




### Internal Coolant

Helps chip evacuation and improves tool life



### Secure Slant Connection

Ensures High repeatability for height and axial position

 Click/Touch each page number and move to the very page!

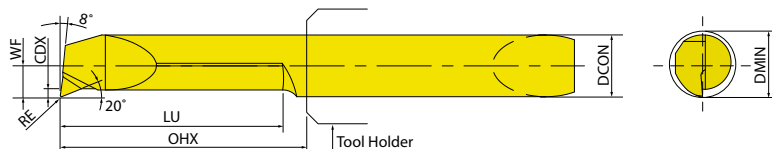
# Overview

Recommended Cutting Conditions : p.258

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| <b>PR</b>     | Profiling               | 98                      |                         | <b>157</b> |
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## Boring Tool

### BP - Boring & Profiling

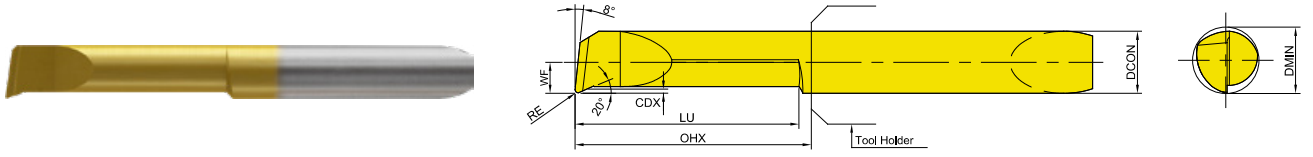


●: Stock item  
○: Order made item

| KAPR                   | DCON (mm)              | Designation            | EDP             | Metric (mm) |      |      |      |      |     |     | YG812 |
|------------------------|------------------------|------------------------|-----------------|-------------|------|------|------|------|-----|-----|-------|
|                        |                        |                        |                 | DMIN        | LU   | RE   | CDX  | WF   | OHX | OAL |       |
| 98°                    | 4                      | NCBP4R-10.04-005-YG812 | NCBP04R1004005T | 1           | 4    | 0.05 | 0.1  | 0.45 | 13  | 28  | ●     |
|                        |                        | NCBP4R-10.04-010-YG812 | NCBP04R1004010T | 1           | 4    | 0.10 | 0.1  | 0.45 | 13  | 28  | ●     |
|                        |                        | NCBP4R-10.06-005-YG812 | NCBP04R1006005T | 1           | 6    | 0.05 | 0.1  | 0.45 | 13  | 28  | ●     |
|                        |                        | NCBP4R-10.06-010-YG812 | NCBP04R1006010T | 1           | 6    | 0.10 | 0.1  | 0.45 | 13  | 28  | ●     |
|                        |                        | NCBP4R-17.06-005-YG812 | NCBP04R1706005T | 1.7         | 6    | 0.05 | 0.2  | 0.7  | 13  | 28  | ○     |
|                        |                        | NCBP4R-17.06-010-YG812 | NCBP04R1706010T | 1.7         | 6    | 0.10 | 0.2  | 0.7  | 13  | 28  | ●     |
|                        |                        | NCBP4R-17.09-005-YG812 | NCBP04R1709005T | 1.7         | 9    | 0.05 | 0.2  | 0.7  | 13  | 28  | ○     |
|                        |                        | NCBP4R-17.09-010-YG812 | NCBP04R1709010T | 1.7         | 9    | 0.10 | 0.2  | 0.7  | 13  | 28  | ●     |
|                        |                        | NCBP4R-22.06-005-YG812 | NCBP04R2206005T | 2.2         | 6    | 0.05 | 0.2  | 0.95 | 13  | 28  | ○     |
|                        |                        | NCBP4R-22.06-010-YG812 | NCBP04R2206010T | 2.2         | 6    | 0.10 | 0.2  | 0.95 | 13  | 28  | ●     |
|                        |                        | NCBP4R-22.09-005-YG812 | NCBP04R2209005T | 2.2         | 9    | 0.05 | 0.2  | 0.95 | 13  | 28  | ○     |
|                        |                        | NCBP4R-22.09-010-YG812 | NCBP04R2209010T | 2.2         | 9    | 0.10 | 0.2  | 0.95 | 13  | 28  | ●     |
|                        |                        | NCBP4R-22.13-010-YG812 | NCBP04R2213010T | 2.2         | 13   | 0.10 | 0.2  | 0.95 | 18  | 33  | ●     |
|                        |                        | NCBP4R-27.10-005-YG812 | NCBP04R2710005T | 2.7         | 10   | 0.05 | 0.2  | 1.2  | 13  | 28  | ○     |
|                        |                        | NCBP4R-27.10-015-YG812 | NCBP04R2710015T | 2.7         | 10   | 0.15 | 0.2  | 1.2  | 13  | 28  | ●     |
|                        |                        | NCBP4R-27.15-005-YG812 | NCBP04R2715005T | 2.7         | 15   | 0.05 | 0.2  | 1.2  | 18  | 33  | ○     |
|                        |                        | NCBP4R-27.15-015-YG812 | NCBP04R2715015T | 2.7         | 15   | 0.15 | 0.2  | 1.2  | 18  | 33  | ●     |
|                        |                        | NCBP4R-32.10-015-YG812 | NCBP04R3210015T | 3.2         | 10   | 0.15 | 0.2  | 1.45 | 13  | 28  | ●     |
|                        |                        | NCBP4R-32.15-015-YG812 | NCBP04R3215015T | 3.2         | 15   | 0.15 | 0.2  | 1.45 | 18  | 33  | ●     |
|                        |                        | NCBP4R-32.20-005-YG812 | NCBP04R3220005T | 3.2         | 20   | 0.05 | 0.2  | 1.45 | 23  | 38  | ○     |
| NCBP4R-32.20-015-YG812 | NCBP04R3220015T        | 3.2                    | 20              | 0.15        | 0.2  | 1.45 | 23   | 38   | ●   |     |       |
| NCBP4R-42.10-015-YG812 | NCBP04R4210015T        | 4.2                    | 10              | 0.15        | 0.3  | 1.95 | 13   | 28   | ●   |     |       |
| NCBP4R-42.15-005-YG812 | NCBP04R4215005T        | 4.2                    | 15              | 0.05        | 0.3  | 1.95 | 18   | 33   | ○   |     |       |
| NCBP4R-42.15-015-YG812 | NCBP04R4215015T        | 4.2                    | 15              | 0.15        | 0.3  | 1.95 | 18   | 33   | ●   |     |       |
| NCBP4R-42.20-005-YG812 | NCBP04R4220005T        | 4.2                    | 20              | 0.05        | 0.3  | 1.95 | 23   | 38   | ○   |     |       |
| NCBP4R-42.20-015-YG812 | NCBP04R4220015T        | 4.2                    | 20              | 0.15        | 0.3  | 1.95 | 23   | 38   | ●   |     |       |
| NCBP4R-42.25-005-YG812 | NCBP04R4225005T        | 4.2                    | 25              | 0.05        | 0.3  | 1.95 | 28   | 43   | ○   |     |       |
| NCBP4R-42.25-015-YG812 | NCBP04R4225015T        | 4.2                    | 25              | 0.15        | 0.3  | 1.95 | 28   | 43   | ●   |     |       |
| 6                      | NCBP6R-62.15-020-YG812 | NCBP06R6215020T        | 6.2             | 15          | 0.20 | 0.5  | 2.95 | 20.5 | 43  | ●   |       |
|                        | NCBP6R-62.20-020-YG812 | NCBP06R6220020T        | 6.2             | 20          | 0.20 | 0.5  | 2.95 | 25.5 | 48  | ●   |       |
|                        | NCBP6R-62.25-020-YG812 | NCBP06R6225020T        | 6.2             | 25          | 0.20 | 0.5  | 2.95 | 30.5 | 53  | ●   |       |
|                        | NCBP6R-62.30-020-YG812 | NCBP06R6230020T        | 6.2             | 30          | 0.20 | 0.5  | 2.95 | 35.5 | 58  | ●   |       |
|                        | NCBP6R-62.35-020-YG812 | NCBP06R6235020T        | 6.2             | 35          | 0.20 | 0.5  | 2.95 | 40.5 | 63  | ●   |       |
|                        | NCBP6R-62.40-020-YG812 | NCBP06R6240020T        | 6.2             | 40          | 0.20 | 0.5  | 2.95 | 45.5 | 68  | ●   |       |

Boring Tool

# BO - Boring with Chip Breaker

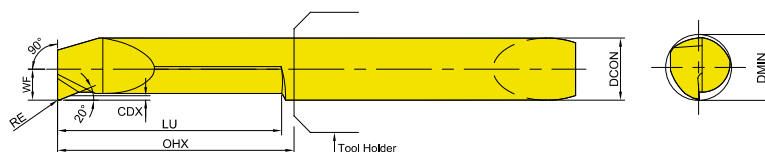


●: Stock item  
○: Order made item

| KAPR                         | DCON (mm)                    | Designation                  | EDP             | Metric (mm) |      |      |      |      |     |     | YG812 |
|------------------------------|------------------------------|------------------------------|-----------------|-------------|------|------|------|------|-----|-----|-------|
|                              |                              |                              |                 | DMIN        | LU   | RE   | CDX  | WF   | OHX | OAL |       |
| 98°                          | 4                            | NCBO4R - 10.06 - 005 - YG812 | NCBO04R1006005T | 1           | 6    | 0.05 | 0.1  | 0.45 | 13  | 28  | ○     |
|                              |                              | NCBO4R - 10.06 - 010 - YG812 | NCBO04R1006010T | 1           | 6    | 0.10 | 0.1  | 0.45 | 13  | 28  | ●     |
|                              |                              | NCBO4R - 17.09 - 005 - YG812 | NCBO04R1709005T | 1.7         | 9    | 0.05 | 0.2  | 0.7  | 13  | 28  | ○     |
|                              |                              | NCBO4R - 17.09 - 010 - YG812 | NCBO04R1709010T | 1.7         | 9    | 0.10 | 0.2  | 0.7  | 13  | 28  | ○     |
|                              |                              | NCBO4R - 22.09 - 005 - YG812 | NCBO04R2209005T | 2.2         | 9    | 0.05 | 0.2  | 0.95 | 13  | 28  | ○     |
|                              |                              | NCBO4R - 22.09 - 010 - YG812 | NCBO04R2209010T | 2.2         | 9    | 0.10 | 0.2  | 0.95 | 13  | 28  | ●     |
|                              |                              | NCBO4R - 22.13 - 010 - YG812 | NCBO04R2213010T | 2.2         | 13   | 0.10 | 0.2  | 0.95 | 18  | 33  | ○     |
|                              | NCBO4R - 27.15 - 005 - YG812 | NCBO04R2715005T              | 2.7             | 15          | 0.05 | 0.2  | 1.2  | 18   | 33  | ○   |       |
|                              | NCBO4R - 27.15 - 015 - YG812 | NCBO04R2715015T              | 2.7             | 15          | 0.15 | 0.2  | 1.2  | 18   | 33  | ○   |       |
|                              | NCBO4R - 32.15 - 015 - YG812 | NCBO04R3215015T              | 3.2             | 15          | 0.15 | 0.2  | 1.45 | 18   | 33  | ●   |       |
|                              | NCBO4R - 32.20 - 005 - YG812 | NCBO04R3220005T              | 3.2             | 20          | 0.05 | 0.2  | 1.45 | 23   | 38  | ○   |       |
|                              | NCBO4R - 32.20 - 015 - YG812 | NCBO04R3220015T              | 3.2             | 20          | 0.15 | 0.2  | 1.45 | 23   | 38  | ●   |       |
|                              | NCBO4R - 42.20 - 005 - YG812 | NCBO04R4220005T              | 4.2             | 20          | 0.05 | 0.3  | 1.95 | 23   | 38  | ○   |       |
|                              | NCBO4R - 42.20 - 015 - YG812 | NCBO04R4220015T              | 4.2             | 20          | 0.15 | 0.3  | 1.95 | 23   | 38  | ●   |       |
| NCBO4R - 42.25 - 005 - YG812 | NCBO04R4225005T              | 4.2                          | 25              | 0.05        | 0.3  | 1.95 | 28   | 43   | ○   |     |       |
| NCBO4R - 42.25 - 015 - YG812 | NCBO04R4225015T              | 4.2                          | 25              | 0.15        | 0.3  | 1.95 | 28   | 43   | ●   |     |       |
| 6                            | NCBO6R - 62.15 - 020 - YG812 | NCBO06R6215020T              | 6.2             | 15          | 0.20 | 0.5  | 2.95 | 20.5 | 43  | ●   |       |
|                              | NCBO6R - 62.25 - 020 - YG812 | NCBO06R6225020T              | 6.2             | 25          | 0.20 | 0.5  | 2.95 | 30.5 | 53  | ●   |       |
|                              | NCBO6R - 62.30 - 020 - YG812 | NCBO06R6230020T              | 6.2             | 30          | 0.20 | 0.5  | 2.95 | 35.5 | 58  | ●   |       |
|                              | NCBO6R - 62.35 - 020 - YG812 | NCBO06R6235020T              | 6.2             | 35          | 0.20 | 0.5  | 2.95 | 40.5 | 63  | ●   |       |
|                              | NCBO6R - 62.40 - 020 - YG812 | NCBO06R6240020T              | 6.2             | 40          | 0.20 | 0.5  | 2.95 | 45.5 | 68  | ○   |       |

Boring Tool

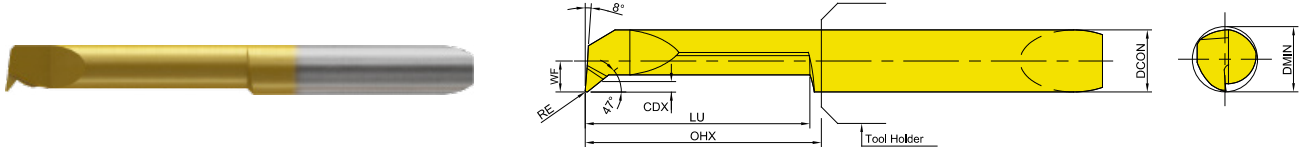
**BF - 90° Boring**



●: Stock item  
○: Order made item

| KAPR                         | DCON (mm)       | Designation                  | EDP             | Metric (mm) |     |      |     |      |      |     | YG812 |
|------------------------------|-----------------|------------------------------|-----------------|-------------|-----|------|-----|------|------|-----|-------|
|                              |                 |                              |                 | DMIN        | LU  | RE   | CDX | WF   | OHX  | OAL |       |
| 90°                          | 4               | NCBF4R - 10.04 - 010 - YG812 | NCBF04R1004010T | 1           | 4   | 0.10 | 0.1 | 0.45 | 13   | 28  | ○     |
|                              |                 | NCBF4R - 10.06 - 010 - YG812 | NCBF04R1006010T | 1           | 6   | 0.10 | 0.1 | 0.45 | 13   | 28  | ○     |
|                              |                 | NCBF4R - 17.06 - 010 - YG812 | NCBF04R1706010T | 1.7         | 6   | 0.10 | 0.2 | 0.7  | 13   | 28  | ○     |
|                              |                 | NCBF4R - 17.09 - 010 - YG812 | NCBF04R1709010T | 1.7         | 9   | 0.10 | 0.2 | 0.7  | 13   | 28  | ○     |
|                              |                 | NCBF4R - 22.06 - 010 - YG812 | NCBF04R2206010T | 2.2         | 6   | 0.10 | 0.2 | 0.95 | 13   | 28  | ○     |
|                              |                 | NCBF4R - 22.09 - 010 - YG812 | NCBF04R2209010T | 2.2         | 9   | 0.10 | 0.2 | 0.95 | 13   | 28  | ○     |
|                              |                 | NCBF4R - 22.13 - 010 - YG812 | NCBF04R2213010T | 2.2         | 13  | 0.10 | 0.2 | 0.95 | 18   | 33  | ○     |
|                              |                 | NCBF4R - 27.10 - 015 - YG812 | NCBF04R2710015T | 2.7         | 10  | 0.15 | 0.2 | 1.2  | 13   | 28  | ○     |
|                              |                 | NCBF4R - 27.15 - 015 - YG812 | NCBF04R2715015T | 2.7         | 15  | 0.15 | 0.2 | 1.2  | 18   | 33  | ○     |
|                              |                 | NCBF4R - 32.10 - 015 - YG812 | NCBF04R3210015T | 3.2         | 10  | 0.15 | 0.2 | 1.45 | 13   | 28  | ○     |
|                              |                 | NCBF4R - 32.15 - 015 - YG812 | NCBF04R3215015T | 3.2         | 15  | 0.15 | 0.2 | 1.45 | 18   | 33  | ○     |
|                              |                 | NCBF4R - 32.20 - 015 - YG812 | NCBF04R3220015T | 3.2         | 20  | 0.15 | 0.2 | 1.45 | 23   | 38  | ○     |
|                              |                 | NCBF4R - 42.10 - 015 - YG812 | NCBF04R4210015T | 4.2         | 10  | 0.15 | 0.3 | 1.95 | 13   | 28  | ○     |
|                              |                 | NCBF4R - 42.15 - 015 - YG812 | NCBF04R4215015T | 4.2         | 15  | 0.15 | 0.3 | 1.95 | 18   | 33  | ○     |
| NCBF4R - 42.20 - 015 - YG812 | NCBF04R4220015T | 4.2                          | 20              | 0.15        | 0.3 | 1.95 | 23  | 38   | ○    |     |       |
| NCBF4R - 42.25 - 015 - YG812 | NCBF04R4225015T | 4.2                          | 25              | 0.15        | 0.3 | 1.95 | 28  | 43   | ○    |     |       |
| 90°                          | 6               | NCBF6R - 62.15 - 020 - YG812 | NCBF06R6215020T | 6.2         | 15  | 0.20 | 0.5 | 2.95 | 20.5 | 43  | ○     |
|                              |                 | NCBF6R - 62.20 - 020 - YG812 | NCBF06R6220020T | 6.2         | 20  | 0.20 | 0.5 | 2.95 | 25.5 | 48  | ○     |
|                              |                 | NCBF6R - 62.25 - 020 - YG812 | NCBF06R6225020T | 6.2         | 25  | 0.20 | 0.5 | 2.95 | 30.5 | 53  | ○     |
|                              |                 | NCBF6R - 62.30 - 020 - YG812 | NCBF06R6230020T | 6.2         | 30  | 0.20 | 0.5 | 2.95 | 35.5 | 58  | ○     |
|                              |                 | NCBF6R - 62.35 - 020 - YG812 | NCBF06R6235020T | 6.2         | 35  | 0.20 | 0.5 | 2.95 | 40.5 | 63  | ○     |
|                              |                 | NCBF6R - 62.40 - 020 - YG812 | NCBF06R6240020T | 6.2         | 40  | 0.20 | 0.5 | 2.95 | 45.5 | 68  | ○     |

Boring Tool  
**PR - Profiling**

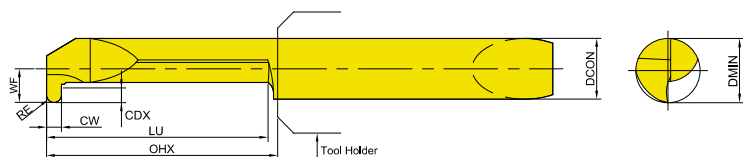


●: Stock item  
○: Order made item

| KAPR | DCON (mm) | Designation                  | EDP             | Metric (mm) |    |      |     |      |      |     | YG812 |
|------|-----------|------------------------------|-----------------|-------------|----|------|-----|------|------|-----|-------|
|      |           |                              |                 | DMIN        | LU | RE   | CDX | WF   | OHX  | OAL |       |
| 98°  | 4         | NCPR4R - 10.04 - 010 - YG812 | NCPR04R1004010T | 1           | 4  | 0.10 | 0.1 | 0.45 | 13   | 28  | ○     |
|      |           | NCPR4R - 10.06 - 010 - YG812 | NCPR04R1006010T | 1           | 6  | 0.10 | 0.1 | 0.45 | 13   | 28  | ○     |
|      |           | NCPR4R - 17.06 - 010 - YG812 | NCPR04R1706010T | 1.7         | 6  | 0.10 | 0.2 | 0.7  | 13   | 28  | ○     |
|      |           | NCPR4R - 17.09 - 010 - YG812 | NCPR04R1709010T | 1.7         | 9  | 0.10 | 0.2 | 0.7  | 13   | 28  | ○     |
|      |           | NCPR4R - 22.06 - 010 - YG812 | NCPR04R2206010T | 2.2         | 6  | 0.10 | 0.4 | 0.95 | 13   | 28  | ○     |
|      |           | NCPR4R - 22.09 - 010 - YG812 | NCPR04R2209010T | 2.2         | 9  | 0.10 | 0.4 | 0.95 | 13   | 28  | ○     |
|      |           | NCPR4R - 22.13 - 010 - YG812 | NCPR04R2213010T | 2.2         | 13 | 0.10 | 0.4 | 0.95 | 18   | 33  | ○     |
|      |           | NCPR4R - 27.10 - 015 - YG812 | NCPR04R2710015T | 2.7         | 10 | 0.15 | 0.5 | 1.2  | 13   | 28  | ○     |
|      |           | NCPR4R - 27.15 - 015 - YG812 | NCPR04R2715015T | 2.7         | 15 | 0.15 | 0.5 | 1.2  | 18   | 33  | ○     |
|      |           | NCPR4R - 32.10 - 015 - YG812 | NCPR04R3210015T | 3.2         | 10 | 0.15 | 0.6 | 1.45 | 13   | 28  | ○     |
|      |           | NCPR4R - 32.15 - 015 - YG812 | NCPR04R3215015T | 3.2         | 15 | 0.15 | 0.6 | 1.45 | 18   | 33  | ○     |
|      |           | NCPR4R - 32.20 - 015 - YG812 | NCPR04R3220015T | 3.2         | 20 | 0.15 | 0.6 | 1.45 | 23   | 38  | ○     |
|      |           | NCPR4R - 42.10 - 015 - YG812 | NCPR04R4210015T | 4.2         | 10 | 0.15 | 0.8 | 1.95 | 13   | 28  | ●     |
|      |           | NCPR4R - 42.15 - 015 - YG812 | NCPR04R4215015T | 4.2         | 15 | 0.15 | 0.8 | 1.95 | 18   | 33  | ●     |
|      |           | NCPR4R - 42.20 - 015 - YG812 | NCPR04R4220015T | 4.2         | 20 | 0.15 | 0.8 | 1.95 | 23   | 38  | ●     |
|      |           | NCPR4R - 42.25 - 015 - YG812 | NCPR04R4225015T | 4.2         | 25 | 0.15 | 0.8 | 1.95 | 28   | 43  | ○     |
| 6    |           | NCPR6R - 62.15 - 020 - YG812 | NCPR06R6215020T | 6.2         | 15 | 0.20 | 1.8 | 2.95 | 20.5 | 43  | ●     |
|      |           | NCPR6R - 62.20 - 020 - YG812 | NCPR06R6220020T | 6.2         | 20 | 0.20 | 1.8 | 2.95 | 25.5 | 48  | ●     |
|      |           | NCPR6R - 62.25 - 020 - YG812 | NCPR06R6225020T | 6.2         | 25 | 0.20 | 1.8 | 2.95 | 30.5 | 53  | ○     |
|      |           | NCPR6R - 62.30 - 015 - YG812 | NCPR06R6230015T | 6.2         | 30 | 0.15 | 1.8 | 2.95 | 35.5 | 58  | ●     |
|      |           | NCPR6R - 62.30 - 020 - YG812 | NCPR06R6230020T | 6.2         | 30 | 0.20 | 1.8 | 2.95 | 35.5 | 58  | ○     |
|      |           | NCPR6R - 62.35 - 020 - YG812 | NCPR06R6235020T | 6.2         | 35 | 0.20 | 1.8 | 2.95 | 40.5 | 63  | ○     |
|      |           | NCPR6R - 62.40 - 020 - YG812 | NCPR06R6240020T | 6.2         | 40 | 0.20 | 1.8 | 2.95 | 45.5 | 68  | ○     |

Boring Tool

**GR - Grooving Round**



●: Stock item  
○: Order made item

| DCON (mm) | Designation                    | EDP             | Metric (mm) |    |      |     |     |      |      |     |   | YG812 |
|-----------|--------------------------------|-----------------|-------------|----|------|-----|-----|------|------|-----|---|-------|
|           |                                |                 | DMIN        | LU | RE   | CW  | CDX | WF   | OHX  | OAL |   |       |
| 4         | NCGR4R - 42.15 - 10x08 - YG812 | NCGR04R4215100T | 4.2         | 15 | 0.5  | 1.0 | 0.8 | 1.95 | 18   | 33  | ○ |       |
|           | NCGR4R - 42.15 - 12x08 - YG812 | NCGR04R4215120T | 4.2         | 15 | 0.58 | 1.2 | 0.8 | 1.95 | 18   | 33  | ○ |       |
|           | NCGR4R - 42.15 - 15x08 - YG812 | NCGR04R4215150T | 4.2         | 15 | 0.75 | 1.5 | 1   | 1.95 | 18   | 33  | ○ |       |
|           | NCGR4R - 42.15 - 16x08 - YG812 | NCGR04R4215160T | 4.2         | 15 | 0.81 | 1.6 | 1   | 1.95 | 18   | 33  | ○ |       |
| 6         | NCGR6R - 62.25 - 10x18 - YG812 | NCGR06R6225100T | 6.2         | 25 | 0.5  | 1.0 | 1.8 | 2.95 | 30.5 | 53  | ○ |       |
|           | NCGR6R - 62.25 - 15x18 - YG812 | NCGR06R6225150T | 6.2         | 25 | 0.75 | 1.5 | 1.8 | 2.95 | 30.5 | 53  | ○ |       |
|           | NCGR6R - 62.25 - 16x18 - YG812 | NCGR06R6225160T | 6.2         | 25 | 0.81 | 1.6 | 1.8 | 2.95 | 30.5 | 53  | ○ |       |
|           | NCGR6R - 62.25 - 20x18 - YG812 | NCGR06R6225200T | 6.2         | 25 | 1    | 2.0 | 1.8 | 2.95 | 30.5 | 53  | ○ |       |

TURNING

PARTING & GROOVING

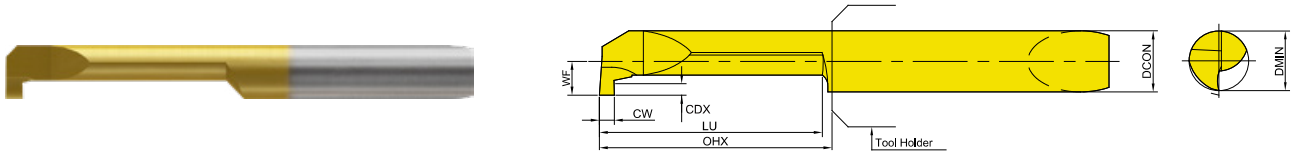
MILLING

DRILLING

TECHNICAL INFORMATION

# Boring Tool

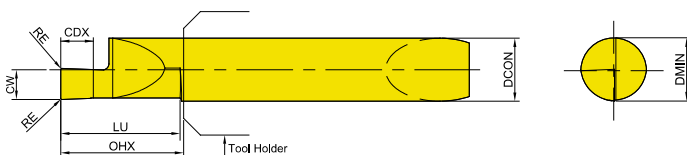
## GS - Grooving Square



●: Stock item  
○: Order made item

| DCON (mm)                       | Designation                     | EDP             | Metric (mm) |      |      |      |      |      |     | YG812 |
|---------------------------------|---------------------------------|-----------------|-------------|------|------|------|------|------|-----|-------|
|                                 |                                 |                 | DMIN        | LU   | CW   | CDX  | WF   | OHX  | OAL |       |
| 4                               | NCGS4R - 42.10 - 079x08 - YG812 | NCGS04R4210079T | 4.2         | 10   | 0.79 | 0.8  | 1.95 | 13   | 38  | ○     |
|                                 | NCGS4R - 42.15 - 079x08 - YG812 | NCGS04R4215079T | 4.2         | 15   | 0.79 | 0.8  | 1.95 | 18   | 43  | ○     |
|                                 | NCGS4R - 42.20 - 079x08 - YG812 | NCGS04R4220079T | 4.2         | 20   | 0.79 | 0.8  | 1.95 | 23   | 48  | ○     |
|                                 | NCGS4R - 42.10 - 100x08 - YG812 | NCGS04R4210100T | 4.2         | 10   | 1.00 | 0.8  | 1.95 | 13   | 38  | ●     |
|                                 | NCGS4R - 42.15 - 100x08 - YG812 | NCGS04R4215100T | 4.2         | 15   | 1.00 | 0.8  | 1.95 | 18   | 43  | ●     |
|                                 | NCGS4R - 42.20 - 100x08 - YG812 | NCGS04R4220100T | 4.2         | 20   | 1.00 | 0.8  | 1.95 | 23   | 48  | ○     |
| 6                               | NCGS6R - 62.10 - 079x18 - YG812 | NCGS06R6210079T | 6.2         | 10   | 0.79 | 1.8  | 2.95 | 15.5 | 38  | ○     |
|                                 | NCGS6R - 62.15 - 079x18 - YG812 | NCGS06R6215079T | 6.2         | 15   | 0.79 | 1.8  | 2.95 | 20.5 | 43  | ○     |
|                                 | NCGS6R - 62.25 - 079x18 - YG812 | NCGS06R6225079T | 6.2         | 25   | 0.79 | 1.8  | 2.95 | 30.5 | 53  | ○     |
|                                 | NCGS6R - 62.35 - 079x18 - YG812 | NCGS06R6235079T | 6.2         | 35   | 0.79 | 1.8  | 2.95 | 40.5 | 63  | ○     |
|                                 | NCGS6R - 62.10 - 100x18 - YG812 | NCGS06R6210100T | 6.2         | 10   | 1.00 | 1.8  | 2.95 | 15.5 | 38  | ○     |
|                                 | NCGS6R - 62.15 - 100x18 - YG812 | NCGS06R6215100T | 6.2         | 15   | 1.00 | 1.8  | 2.95 | 20.5 | 43  | ●     |
|                                 | NCGS6R - 62.25 - 100x18 - YG812 | NCGS06R6225100T | 6.2         | 25   | 1.00 | 1.8  | 2.95 | 30.5 | 53  | ●     |
|                                 | NCGS6R - 62.35 - 100x18 - YG812 | NCGS06R6235100T | 6.2         | 35   | 1.00 | 1.8  | 2.95 | 40.5 | 63  | ○     |
|                                 | NCGS6R - 62.10 - 117x18 - YG812 | NCGS06R6210117T | 6.2         | 10   | 1.17 | 1.8  | 2.95 | 15.5 | 38  | ○     |
|                                 | NCGS6R - 62.15 - 117x18 - YG812 | NCGS06R6215117T | 6.2         | 15   | 1.17 | 1.8  | 2.95 | 20.5 | 43  | ○     |
|                                 | NCGS6R - 62.25 - 117x18 - YG812 | NCGS06R6225117T | 6.2         | 25   | 1.17 | 1.8  | 2.95 | 30.5 | 53  | ○     |
|                                 | NCGS6R - 62.35 - 117x18 - YG812 | NCGS06R6235117T | 6.2         | 35   | 1.17 | 1.8  | 2.95 | 40.5 | 63  | ○     |
|                                 | NCGS6R - 62.10 - 150x18 - YG812 | NCGS06R6210150T | 6.2         | 10   | 1.50 | 1.8  | 2.95 | 15.5 | 38  | ●     |
|                                 | NCGS6R - 62.15 - 150x18 - YG812 | NCGS06R6215150T | 6.2         | 15   | 1.50 | 1.8  | 2.95 | 20.5 | 43  | ●     |
|                                 | NCGS6R - 62.25 - 150x18 - YG812 | NCGS06R6225150T | 6.2         | 25   | 1.50 | 1.8  | 2.95 | 30.5 | 53  | ●     |
|                                 | NCGS6R - 62.35 - 150x18 - YG812 | NCGS06R6235150T | 6.2         | 35   | 1.50 | 1.8  | 2.95 | 40.5 | 63  | ○     |
|                                 | NCGS6R - 62.10 - 157x18 - YG812 | NCGS06R6210157T | 6.2         | 10   | 1.57 | 1.8  | 2.95 | 15.5 | 38  | ○     |
|                                 | NCGS6R - 62.15 - 157x18 - YG812 | NCGS06R6215157T | 6.2         | 15   | 1.57 | 1.8  | 2.95 | 20.5 | 43  | ○     |
|                                 | NCGS6R - 62.25 - 157x18 - YG812 | NCGS06R6225157T | 6.2         | 25   | 1.57 | 1.8  | 2.95 | 30.5 | 53  | ○     |
|                                 | NCGS6R - 62.35 - 157x18 - YG812 | NCGS06R6235157T | 6.2         | 35   | 1.57 | 1.8  | 2.95 | 40.5 | 63  | ○     |
|                                 | NCGS6R - 62.10 - 198x18 - YG812 | NCGS06R6210198T | 6.2         | 10   | 1.98 | 1.8  | 2.95 | 15.5 | 38  | ○     |
|                                 | NCGS6R - 62.15 - 198x18 - YG812 | NCGS06R6215198T | 6.2         | 15   | 1.98 | 1.8  | 2.95 | 20.5 | 43  | ○     |
|                                 | NCGS6R - 62.25 - 198x18 - YG812 | NCGS06R6225198T | 6.2         | 25   | 1.98 | 1.8  | 2.95 | 30.5 | 53  | ○     |
|                                 | NCGS6R - 62.30 - 198x18 - YG812 | NCGS06R6230198T | 6.2         | 30   | 1.98 | 1.8  | 2.95 | 35.5 | 58  | ○     |
| NCGS6R - 62.10 - 200x18 - YG812 | NCGS06R6210200T                 | 6.2             | 10          | 2.00 | 1.8  | 2.95 | 15.5 | 38   | ●   |       |
| NCGS6R - 62.15 - 200x18 - YG812 | NCGS06R6215200T                 | 6.2             | 15          | 2.00 | 1.8  | 2.95 | 20.5 | 43   | ●   |       |
| NCGS6R - 62.25 - 200x18 - YG812 | NCGS06R6225200T                 | 6.2             | 25          | 2.00 | 1.8  | 2.95 | 30.5 | 53   | ●   |       |

## Boring Tool FI - Face Grooving Internal



●: Stock item  
○: Order made item

| DCON (mm) | Designation                    | EDP             | Metric (mm) |    |     |     |     |      |      |     | YG812 |
|-----------|--------------------------------|-----------------|-------------|----|-----|-----|-----|------|------|-----|-------|
|           |                                |                 | DMIN        | LU | RE  | CW  | CDX | WF   | OHX  | OAL |       |
| 6         | NCFI6R - 62.15 - 10x20 - YG812 | NCFI06R6215010T | 6.2         | 15 | 0.1 | 1.0 | 2.0 | 2.95 | 20.5 | 43  | ●     |
|           | NCFI6R - 62.15 - 15x30 - YG812 | NCFI06R6215015T | 6.2         | 15 | 0.1 | 1.5 | 3.0 | 2.95 | 20.5 | 43  | ●     |
|           | NCFI6R - 62.15 - 20x40 - YG812 | NCFI06R6215020T | 6.2         | 15 | 0.1 | 2.0 | 4.0 | 2.95 | 20.5 | 43  | ●     |
|           | NCFI6R - 62.15 - 25x50 - YG812 | NCFI06R6215025T | 6.2         | 15 | 0.1 | 2.5 | 5.0 | 2.95 | 20.5 | 43  | ●     |
|           | NCFI6R - 62.15 - 30x60 - YG812 | NCFI06R6215030T | 6.2         | 15 | 0.1 | 3.0 | 6.0 | 2.95 | 20.5 | 43  | ●     |

TURNING

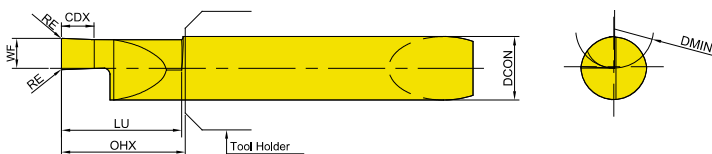
PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

## Boring Tool FE - Face Grooving External

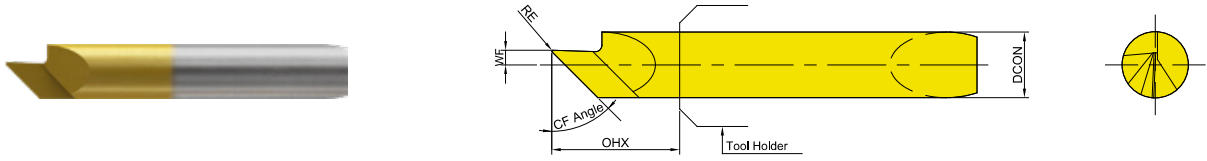


●: Stock item  
○: Order made item

| DCON (mm) | Designation                    | EDP             | Metric (mm) |    |     |     |     |      |      |     | YG812 |
|-----------|--------------------------------|-----------------|-------------|----|-----|-----|-----|------|------|-----|-------|
|           |                                |                 | DMIN        | LU | RE  | CW  | CDX | WF   | OHX  | OAL |       |
| 6         | NCFE6R - 62.15 - 10x20 - YG812 | NCFE06R6215010T | 6.2         | 15 | 0.1 | 1.0 | 2.0 | 2.95 | 20.5 | 43  | ●     |
|           | NCFE6R - 62.15 - 15x30 - YG812 | NCFE06R6215015T | 6.2         | 15 | 0.1 | 1.5 | 3.0 | 2.95 | 20.5 | 43  | ●     |
|           | NCFE6R - 62.15 - 20x40 - YG812 | NCFE06R6215020T | 6.2         | 15 | 0.1 | 2.0 | 4.0 | 2.95 | 20.5 | 43  | ●     |
|           | NCFE6R - 62.15 - 25x50 - YG812 | NCFE06R6215025T | 6.2         | 15 | 0.1 | 2.5 | 5.0 | 2.95 | 20.5 | 43  | ●     |
|           | NCFE6R - 62.15 - 30x60 - YG812 | NCFE06R6215030T | 6.2         | 15 | 0.1 | 3.0 | 6.0 | 2.95 | 20.5 | 43  | ●     |

# Boring Tool

## CH - Chamfering



●: Stock item  
○: Order made item

| KAPR | DCON (mm) | Designation                 | EDP            | Metric (mm) |     |     |     |      |     | YG812 |
|------|-----------|-----------------------------|----------------|-------------|-----|-----|-----|------|-----|-------|
|      |           |                             |                | DMIN        | RE  | CDX | WF  | OHX  | OAL |       |
| 45°  | 6         | NCCH6R - 10.03 - 45 - YG812 | NCCH06R103045T | 1.0         | 0.2 | 3.5 | 1.1 | 15.5 | 38  | ○     |
| 60°  |           | NCCH6R - 10.04 - 60 - YG812 | NCCH06R103060T | 1.0         | 0.2 | 4   | 0.5 | 15.5 | 38  | ○     |

TURNING

PARTING & GROOVING

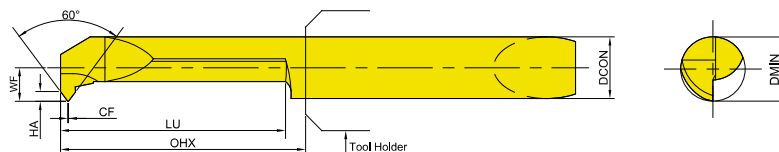
MILLING

DRILLING

TECHNICAL INFORMATION

## Boring Tool

## TH - Threading



\* P-60 : Partial Profile, 60°

| DCON<br>(mm) | Designation                            | EDP             | Metric (mm) |    |      |      |      |      |      |      |     |   | YG812 |
|--------------|--|-----------------|-------------|----|------|------|------|------|------|------|-----|---|-------|
|              |  |                 | DMIN        | LU | TPN  | TPX  | WF   | HA   | CF   | OHX  | OAL |   |       |
| 4            | NCTH04R - 42.15 - 050 - P - 60 - YG812 | NCTV04R4215050T | 4.2         | 15 | 0.50 | 0.70 | 2    | 0.45 | 0.06 | 18   | 33  | ○ |       |
|              | NCTH04R - 42.15 - 075 - P - 60 - YG812 | NCTV04R4215075T | 4.2         | 15 | 0.75 | 1.00 | 2.35 | 0.65 | 0.09 | 18   | 33  | ○ |       |
|              | NCTH04R - 42.15 - 100 - P - 60 - YG812 | NCTV04R4215100T | 4.2         | 15 | 1.00 | 1.25 | 2.25 | 0.8  | 0.12 | 18   | 33  | ○ |       |
| 6            | NCTH06R - 62.15 - 100 - P - 60 - YG812 | NCTV06R6215100T | 6.2         | 15 | 1.00 | 1.25 | 2.95 | 0.8  | 0.12 | 20.5 | 43  | ○ |       |
|              | NCTH06R - 62.15 - 125 - P - 60 - YG812 | NCTV06R6215125T | 6.2         | 15 | 1.25 | 1.50 | 2.3  | 0.97 | 0.15 | 20.5 | 43  | ○ |       |
|              | NCTH06R - 62.15 - 150 - P - 60 - YG812 | NCTV06R6215150T | 6.2         | 15 | 1.50 | 1.75 | 2.95 | 1.14 | 0.18 | 20.5 | 43  | ○ |       |

TURNING

PARTING &amp; GROOVING

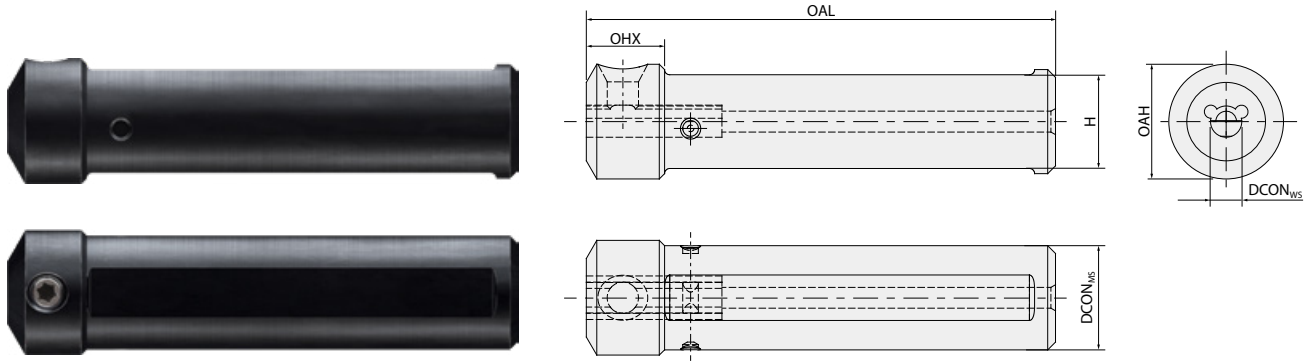
MILLING

DRILLING

TECHNICAL INFORMATION

# Boring ToolHolder

## Holder



| Scale       | Insert Size (DCON <sub>MS</sub> ) | Designation | EDP        | DCON <sub>MS</sub> | OAL | H  | OAH  | OHX |
|-------------|-----------------------------------|-------------|------------|--------------------|-----|----|------|-----|
| Metric (mm) | 4                                 | NCHI - 12.4 | ZBR0400012 | 12                 | 70  | 10 | 15.5 | 14  |
|             |                                   | NCHI - 16.4 | ZBR0400016 | 16                 | 75  | 14 | 17.5 |     |
|             |                                   | NCHI - 20.4 | ZBR0400020 | 20                 | 90  | 18 | 20   |     |
|             |                                   | NCHI - 22.4 | ZBR0400022 | 22                 | 110 | 20 | 22   |     |
|             |                                   | NCHI - 25.4 | ZBR0400025 | 25                 | 110 | 23 | 25   |     |
|             | 6                                 | NCHI - 12.6 | ZBR0600012 | 12                 | 70  | 10 | 16.5 |     |
|             |                                   | NCHI - 16.6 | ZBR0600016 | 16                 | 75  | 14 | 18.5 |     |
|             |                                   | NCHI - 20.6 | ZBR0600020 | 20                 | 90  | 18 | 22   |     |
|             |                                   | NCHI - 22.6 | ZBR0600022 | 22                 | 110 | 20 | 22   |     |
|             |                                   | NCHI - 25.6 | ZBR0600025 | 25                 | 110 | 23 | 25   |     |

| Information | Screw    | Wrench   |
|-------------|----------|----------|
| Description | -        | TPWFTP15 |
| EDP         | TP156075 | 18000003 |

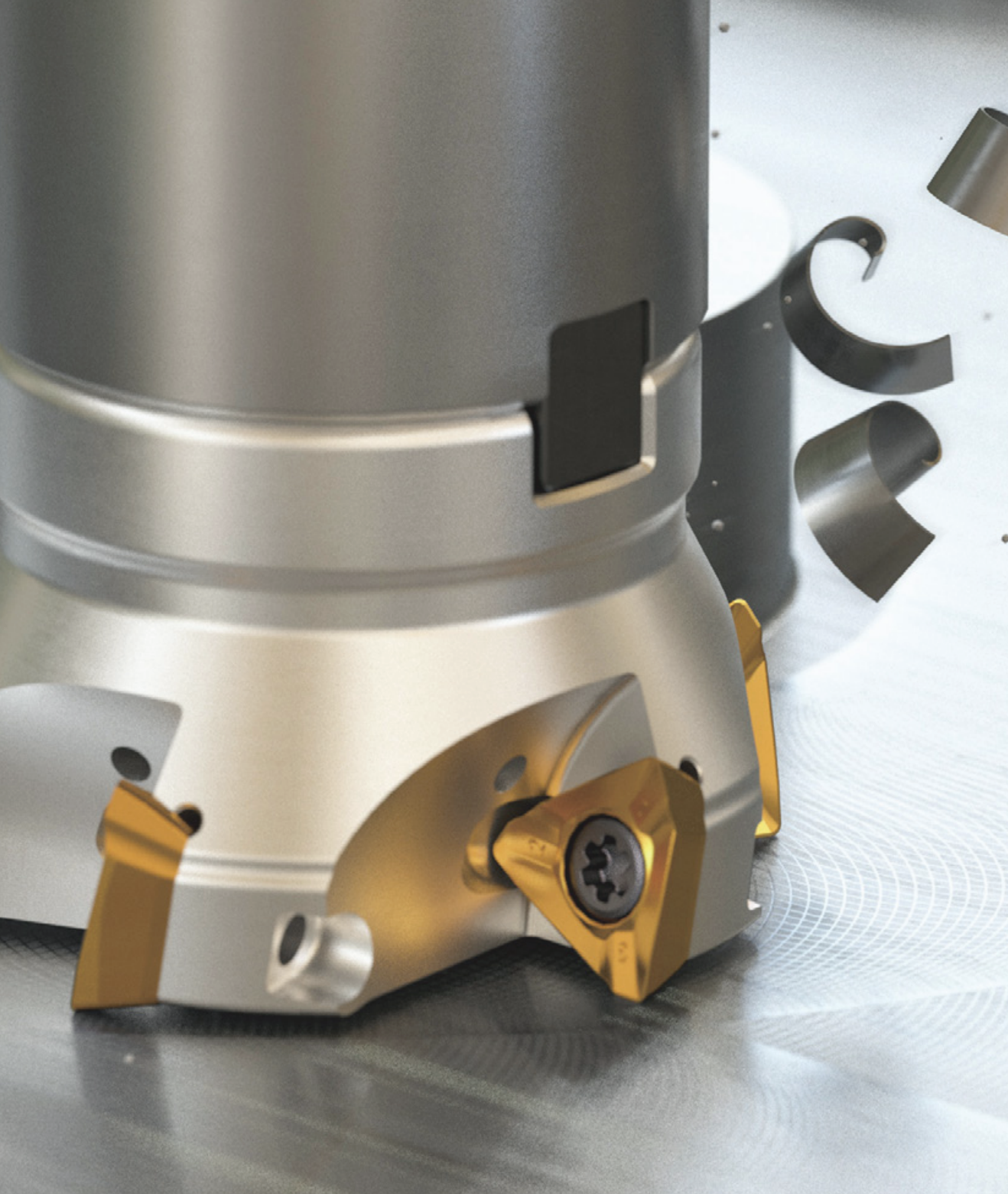
TURNING

PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION



# MILLING

**Product Overview**

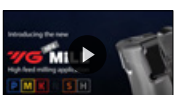
**Application Guide**

**Milling Inserts Overview**

**Milling Cutter Overview**

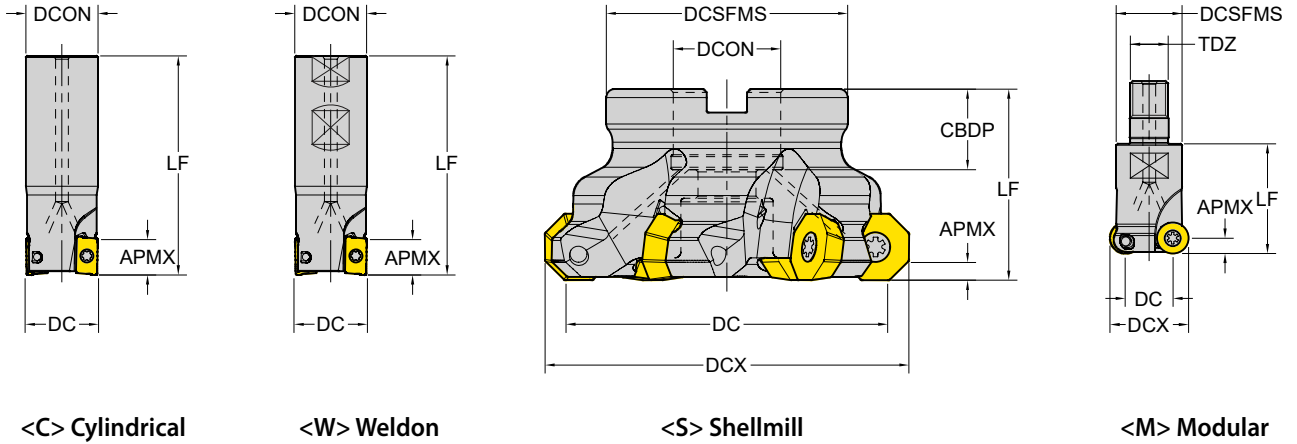


Scan this QR code  
to see our  
**YG SM3 Mill**  
at work.



Scan this QR code  
to see our  
**YG HF4 Mill**  
at work.

# Code Keys - Milling Cutters

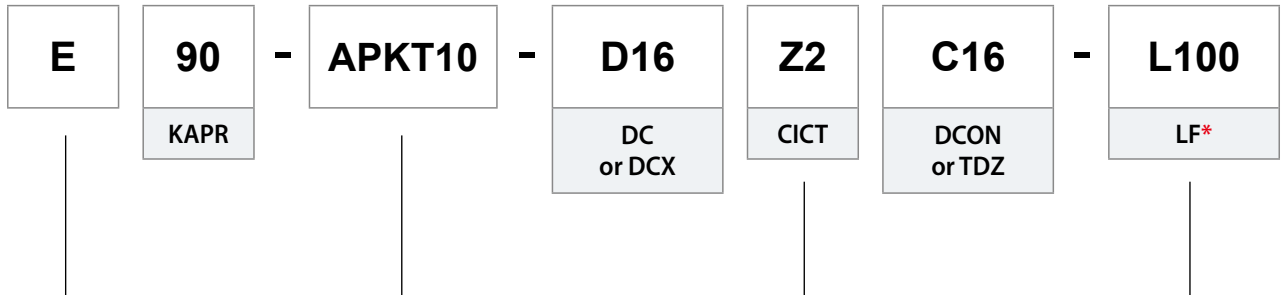


Entering Cutting Angle  
(90°)

Cutter Diameter  
(Ø16)

Connection Type and Size

C - Cylindrical      W - Weldon  
S - Shellmill      M - Modular  
(Cylindrical Ø16)



**Cutter Type**  
E - Endmill Type  
F - Facemill Type  
M - Modular Type

**Insert Series**  
(APKT 10)

**Number of Teeth**  
(Z=2)

**Functional Length**  
(100mm)

Milling - Code System  
**Insert ISO Code System**

TURNING

PARTING & GROOVING










MILLING

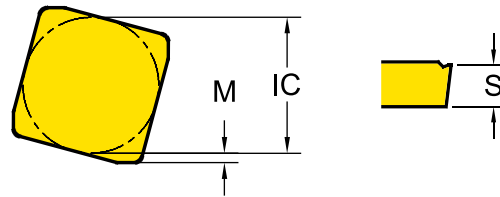
DRILLING

TECHNICAL INFORMATION

|                               |   |                                   |  |                                      |   |  |
|-------------------------------|---|-----------------------------------|--|--------------------------------------|---|--|
| <b>1</b><br><b>A</b><br>Shape | <b>2</b><br><b>P</b><br>Relief Angle (AN) | <b>3</b><br><b>K</b><br>Tolerance | <b>4</b><br><b>T</b><br>Clamping & Chipbreaker | <b>5</b><br><b>16</b><br>Insert Size | <b>6</b><br><b>04</b><br>Insert Thickness (S) | <b>7</b><br><b>08</b><br>Corner Radius |
|-------------------------------|---|-----------------------------------|--|--------------------------------------|---|--|

**1 - Shape**

| Symbol   | Shape             |   |
|----------|-------------------|---|
| <b>H</b> | Hexagonal         |    |
| <b>O</b> | Octagonal         |    |
| <b>P</b> | Pentagonal        |    |
| <b>S</b> | Square            |   |
| <b>T</b> | Triangular        |  |
| <b>W</b> | Trigon            |  |
| <b>L</b> | Rectangular       |  |
| <b>A</b> | Parallelogram 80° |  |
| <b>R</b> | Round             |  |





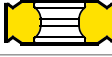


**3 - Tolerance Class**


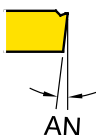
| Symbol    | Inner Circle IC (mm) | Nose Height M (mm) | Thickness S (mm) |
|-----------|----------------------|--------------------|------------------|
| <b>C</b>  | ± 0.025              | ± 0.013            | ± 0.025          |
| <b>E</b>  | ± 0.025              | ± 0.025            | ± 0.025          |
| <b>G</b>  | ± 0.025              | ± 0.025            | ± 0.13           |
| <b>H</b>  | ± 0.013              | ± 0.013            | ± 0.025          |
| <b>K*</b> | ± 0.05~0.15*         | ± 0.013            | ± 0.025          |
| <b>M*</b> | ± 0.05~0.15*         | ± 0.08~0.2*        | ± 0.13           |
| <b>U*</b> | ± 0.08~0.25*         | ± 0.13~0.38*       | ± 0.13           |

\* Tolerance is different by insert IC size. Please see ISO 1832

**4 - Clamping & Chipbreaker**

| Symbol   | Clamping         | Chipbreaker | Figure  |
|----------|------------------|-------------|---|
| <b>N</b> | No clamping hole | X           |  |
| <b>R</b> |                  | One Face    |  |
| <b>W</b> | Screw Hole       | X           |  |
| <b>T</b> |                  | One Face    |  |
| <b>U</b> |                  | Both Faces  |  |
| <b>X</b> |                  | Special     |   |

**2 - Relief Angle (AN)**

| Symbol   | Relief Angle (AN) |   |
|----------|-------------------|---|
| <b>N</b> | No Relief Angle   |  |
| <b>B</b> | Relief 5°         |  |
| <b>C</b> | Relief 7°         |   |
| <b>P</b> | Relief 11°        |   |
| <b>D</b> | Relief 15°        |   |
| <b>E</b> | Relief 20°        |   |
| <b>F</b> | Relief 25°        |   |
| <b>O</b> | Special           |   |

**5 - Insert Size**

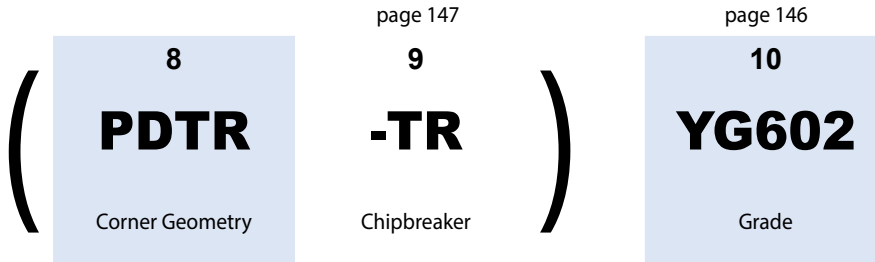
\* No Standard for milling insert size

**6 - Insert Thickness**

\* No Standard for milling insert thickness

# Milling - Code System

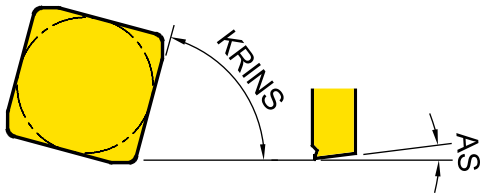
## Insert ISO Code System



### 7 - Corner Radius (RE)

| Symbol    | Corner Radius - RE(mm) | Symbol    | Corner Radius - RE(mm) |
|-----------|------------------------|-----------|------------------------|
| <b>04</b> | 0.4                    | <b>16</b> | 1.6                    |
| <b>08</b> | 0.8                    | <b>20</b> | 2.0                    |
| <b>12</b> | 1.2                    | <b>24</b> | 2.4                    |

### 8 - Corner Geometry







| 8-1                        | 8-2                       | 8-3            | 8-4            |
|----------------------------|---------------------------|----------------|----------------|
| <b>P</b>                   | <b>D</b>                  | <b>T</b>       | <b>R</b>       |
| Cutting Edge Angle (KRINS) | Wiper Edge Clearance (AS) | Edge Condition | Feed Direction |

\*Refer to page. 147 for -AL, -ST, -TR... types

#### 8-1 - Cutting Edge Angle (KRINS)

| Symbol   | Cutting Edge Angle (KRINS) |
|----------|----------------------------|
| <b>P</b> | 90°                        |
| <b>A</b> | 45°                        |
| <b>D</b> | 60°                        |
| <b>E</b> | 75°                        |
| <b>F</b> | 85°                        |
| <b>Z</b> | Special                    |




#### 8-3 - Edge Condition

| Symbol   | Edge Condition  |
|----------|---|
| <b>F</b> | Sharp              |
| <b>E</b> | Round              |
| <b>T</b> | Chamfer            |
| <b>S</b> | Chamfer and Round  |

#### 8-2 - Wiper Edge Clearance (AS)

| Symbol   | Wiper Edge Clearance (AS) |
|----------|---------------------------|
| <b>N</b> | 0°                        |
| <b>P</b> | 11°                       |
| <b>D</b> | 15°                       |
| <b>E</b> | 20°                       |
| <b>F</b> | 25°                       |
| <b>Z</b> | Special                   |

#### 8-4 - Feed Direction

| Symbol   | Feed Direction  |
|----------|---|
| <b>R</b> | Right-hand Insert  |
| <b>N</b> | Neutral Insert     |
| <b>L</b> | Left-hand Insert   |

# Milling Grades and Chipbreakers

## Milling Grades

| Milling Grades | P Steel |     |     |     | M Stainless steel |     |     |     | K Cast iron |      |     |     | N Non-ferrous |     |     |     | S Super alloys |     |     |     | H Hardened Steel |     |     |     |
|----------------|---------|-----|-----|-----|-------------------|-----|-----|-----|-------------|------|-----|-----|---------------|-----|-----|-----|----------------|-----|-----|-----|------------------|-----|-----|-----|
|                | P05     | P15 | P25 | P35 | P45               | M05 | M15 | M25 | M35         | K05  | K15 | K25 | K35           | N05 | N15 | N25 | N35            | S05 | S15 | S25 | S35              | H05 | H15 | H25 |
| PVD            | YG012   | 012 |     |     |                   |     |     |     |             |      |     |     |               |     |     |     |                | 012 |     |     |                  |     |     |     |
|                | YG712   | 712 |     |     |                   |     |     |     |             |      |     |     |               |     |     |     |                |     |     |     |                  |     |     |     |
|                | YG713   | 713 |     |     |                   |     |     |     |             |      |     |     |               |     |     |     |                |     |     |     |                  |     |     |     |
|                | YG612   | 612 |     |     |                   | 612 |     |     |             |      |     |     |               |     |     |     |                | 612 |     |     |                  |     |     |     |
|                | YG622   | 622 |     |     |                   |     |     |     |             | 622  |     |     |               |     |     |     |                |     |     |     |                  |     |     |     |
|                | YG602   | 602 |     |     |                   | 602 |     |     |             | 602  |     |     |               |     |     |     |                | 602 |     |     |                  |     |     |     |
|                | YG613   | 613 |     |     |                   | 613 |     |     |             |      |     |     |               |     |     |     |                |     |     |     |                  |     |     |     |
|                | YG501   |     |     |     |                   |     |     |     |             | 501  |     |     |               |     |     |     |                |     |     |     |                  |     |     |     |
|                | YG904   |     |     |     |                   |     |     |     |             |      |     |     |               |     |     |     |                | 904 |     |     |                  |     |     |     |
| CVD            | YG5020  |     |     |     |                   |     |     |     |             | 5020 |     |     |               |     |     |     |                |     |     |     |                  |     |     |     |
| Uncoated       | YG50    |     |     |     |                   |     |     |     |             |      |     |     |               | 50  |     |     |                |     |     |     |                  |     |     |     |

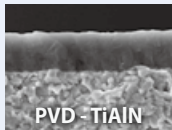
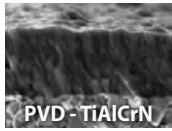
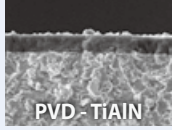
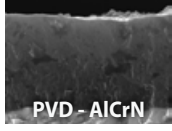
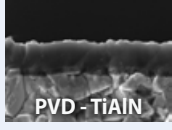
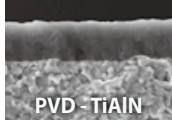
TURNING

PARTING & GROOVING

MILLING

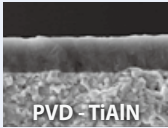
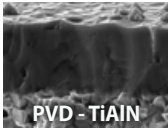
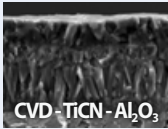
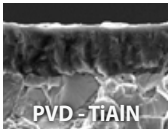

DRILLING

TECHNICAL INFORMATION






|  |  |   |
|--|--|---|
| <p><b>YG012</b></p> <p>H10 - H30<br/>P10 - P30</p>                             |  <p>PVD - TiAlN</p>   | <p><b>Optimized Milling Grade for Pre-Hardened &amp; Hardened steel</b></p> <ul style="list-style-type: none"> <li>Applied Extreme Oxidation PVD layer and Crack-free Substrate</li> <li>Excellent Cutting performance for Die &amp; Mold application</li> </ul>  |
| <p><b>YG712</b></p> <p>P10 - P30</p>   |  <p>PVD - TiAlCrN</p> | <p><b>Milling Grade for Medium of Steel Application</b></p> <ul style="list-style-type: none"> <li>Superior wear resistance and excellent toughness in high speed machining</li> <li>Coating layer with high hardness and oxidation resistance</li> </ul>   |
| <p><b>YG713</b></p> <p>P15 - P25</p>   |  <p>PVD - TiAlN</p>   | <p><b>Milling Grade for General Steel Application</b></p> <ul style="list-style-type: none"> <li>Multi-layer TiAlN structure realizes stronger crater and flank wear resistance</li> <li>Fine-grained carbide and balanced substrate</li> </ul>   |
| <p><b>YG622</b></p> <p>P20 - P35<br/>K20 - K40</p>                             |  <p>PVD - AlCrN</p>   | <p><b>Optimized Grade for High Alloyed or Prehardened Steel</b></p> <p>Excellent for High Temperature Hardness and Oxidation Resistance at High Speed</p>   |
| <p><b>YG612</b></p> <p>P20 - P40<br/>M20 - M40<br/>S20 - S40</p>               |  <p>PVD - TiAlN</p>   | <p><b>Specialized Multi-Nano Coated Grade with high wear resistance and chipping resistance</b></p> <ul style="list-style-type: none"> <li>Special Multi-Nano coating prevent crack and providing predictable tool life</li> <li>Special universal Grade can achieve stable tool life in any workpiece</li> </ul> |
| <p><b>YG602</b></p> <p>P20 - P35<br/>K20 - K40<br/>M20 - M40<br/>S15 - S25</p> |  <p>PVD - TiAlN</p>   | <p><b>Universal grade for General Milling Application</b></p> <ul style="list-style-type: none"> <li>Ultra Dense PVD Coating with optimal thermal resistance &amp; strength</li> <li>Sub-Micron substrate designed for demanding application</li> </ul>   |

# Milling Grades and Chipbreakers

## Milling Grades

|  |   |  |
|--|---|--|
| <p><b>YG613</b></p> <p>P30 - P50<br/>M30 - M40</p>     |  <p>PVD - TiAlN</p>                              | <p><b>Milling Grade for Stainless Steel Application</b></p> <ul style="list-style-type: none"> <li>• New coating layer with lubrication preventing built-up edge on ultra fine grain substrate with high toughness.</li> <li>• The toughest substrate provides excellent cutting performance in stainless steel</li> </ul> |
| <p><b>YG501</b></p> <p>K05 - K25</p>                   |  <p>PVD - TiAlN</p>                              | <p><b>Hard Milling grade for Cast Iron</b></p> <ul style="list-style-type: none"> <li>• Substrate especially designed for high wear resistance</li> <li>• Excellent wear resistance in cast iron milling application</li> </ul>  |
| <p><b>YG5020</b></p> <p>K01 - K30</p>                  |  <p>CVD - TiCN - Al<sub>2</sub>O<sub>3</sub></p> | <p><b>CVD Milling grade for Cast Iron</b></p> <ul style="list-style-type: none"> <li>• CVD coating for Excellent wear resistance</li> <li>• Improved Toughness for chipping resistance</li> </ul>  |
| <p><b>NEW</b></p> <p><b>YG904</b></p> <p>S30 - S45</p> |  <p>PVD - TiAlN</p>                              | <p><b>Excellent performance for machining HRSA (Heat resistant super alloys)</b></p> <ul style="list-style-type: none"> <li>• Newly developed substrate improves resistance to chipping and breakage</li> <li>• High-performance PVD coating technology ensures excellent wear resistance for machining HRSA</li> </ul>    |
| <p><b>YG50</b></p> <p>N05 - N20</p>                    |  <p>Uncoated</p>                               | <p><b>Uncoated Milling Grade for Aluminium</b></p> <ul style="list-style-type: none"> <li>• Submicron carbide substrate for high wear resistance</li> <li>• Preventing built up edge with shining surface</li> </ul>   |

## Milling Chipbreakers

|                                      |   |  |
|--------------------------------------|---|--|
| <p><b>-AL</b></p>                    |  | <ul style="list-style-type: none"> <li>• For Aluminum</li> <li>• Very Sharp Geometry</li> </ul>                |
| <p><b>-ST</b></p>                    |  | <ul style="list-style-type: none"> <li>• For Stainless Steel, Super Alloy</li> <li>• Sharp Geometry</li> </ul> |
| <p><b>-GN</b><br/>(General Type)</p> |  | <ul style="list-style-type: none"> <li>• First Choice for General Application</li> </ul>                       |
| <p><b>-TR</b></p>                    |  | <ul style="list-style-type: none"> <li>• For Hardened Steels</li> <li>• Reinforced Geometry</li> </ul>         |
| <p><b>...W / ...N</b></p>            |  | <ul style="list-style-type: none"> <li>• For Hardened Material and Cast Irons</li> </ul>                       |

# Milling Inserts Overview

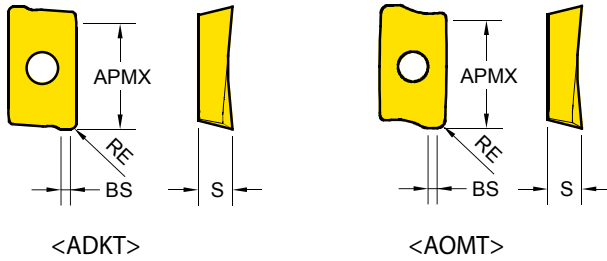
Recommended Cutting Conditions : p.259

TURNING  
PARTING & GROOVING  
MILLING  
DRILLING  
TECHNICAL INFORMATION

|                        |                                |      |                             |  |        |
|------------------------|--------------------------------|------|-----------------------------|--|--------|
| <b>A</b><br>2 Corners  | Positive                       |      | ADKT                        | ADKT 1505  | p. 171 |
|                        |                                |      | AOMT                        | AOMT 1236  | p. 171 |
|                        |                                |      | APGT                        | APGT 1003, 1604  | p. 172 |
|                        |                                |      | APKT                        | APKT 1003, 1604  | p. 173 |
|                        |                                |      | APMT                        | APMT 1135, 1504, 1604  | p. 174 |
| <b>E</b><br>4 Corners  | Negative                       |      | ENMX                        | ENMX 0402 <b>NEW</b><br>ENMX 0604<br>ENMX 0905                   | p. 175 |
| <b>L</b><br>4 Corners  | Tangential Milling<br>Negative |      | LNHU / LNKU <b>NEW</b>      | LNHU 1306<br>LNKU 1306   | p. 177 |
| <b>O</b><br>Octagon    | Positive                       |      | ODMT / ODMW                 | ODMT / ODMW 0605   | p. 178 |
|                        | Negative                       |      | OFER                        | OFER 0704  | p. 179 |
|                        |                                |      | OFMT                        | OFMT 05T3  |        |
|                        |                                |      | ONMU / ONHU                 | ONMU / ONHU 0806   | p. 180 |
| <b>P</b><br>10 Corners | Negative                       |      | PNMU                        | PNMU1206   | p. 181 |
| <b>R</b><br>Round      | Positive Round                 |      | RDKT / RDKW                 | RDKT 0802, 10T3, 1204, 1604<br>RDKW 0501, 0702, 0802, 10T3, 1204 | p. 182 |
|                        |                                |      | RDMT / RDMW                 | RDMT 0802, 0803, 10T3, 1204<br>RDMW 0802, 10T3, 1204             | p. 183 |
|                        |                                |      | RPMX <b>NEW</b>             | RPMX 08T2, 10T3, 1204  | p. 184 |
|                        |                                |      | RPMT / RPMW                 | RPMT 08T2, 10T3, 1204<br>RPMW 1003, 1204                         | p. 185 |
| <b>S</b><br>Square     | High Feed                      |      | SDMT / SDMW                 | SDMT 1204, SDMW 1204   | p. 187 |
|                        | Positive                       |      | SDCN (45°) / SDKN           | SDKN, SDCN 1203, 1504  | p. 186 |
|                        |                                |      | SEGT                        | SEGT12T3, 1204   | p. 188 |
|                        |                                |      | SEKR (45°) / SEKN           | SEKR, SEKN 1203  | p. 191 |
|                        |                                |      | SEKT                        | SEKT 12T3, 1204  | p. 189 |
|                        |                                |      | SEMT                        | SEMT1204, 13T3   | p. 190 |
|                        |                                |      | SPMT                        | SPMT 1204  | p. 195 |
|                        | Negative                       |      | SNGX <b>NEW</b>             | SNGX1206   | p. 192 |
|                        |                                |      | SNMX                        | SNMX1206   | p. 193 |
|                        | ISO                            |      | SPCN(75°) / SPKN /<br>SPKR' | SPKN 1203, 1504<br>SPKR 1203<br>SPCN 1203, 1504                  | p. 194 |
|                        |                                | SPUN | SPUN 1203                   | p. 196   |        |
| <b>T</b><br>Triangle   | Positive 3 Corners             |      | TPCT <b>NEW</b>             | TPCT 0703, 1104, 1605  | p. 197 |
|                        |                                |      | TPKT                        | TPKT 0703, 1104, TPKT 1605                                       | p. 198 |
|                        | ISO                            |      | TPCN(90°) / TPKN /<br>TPKR  | TPKN 1603, 2204<br>TPKR 1603, 2204<br>TPCN 2204                  | p. 199 |
|                        |                                |      | TPUN                        | TPUN 1603  | p. 200 |
| <b>W</b><br>Trigon     | Negative 6 Corners             |      | WNEX                        | WNEX 0403, 0806 <b>NEW</b>                                       | p. 201 |

Milling - Shoulder Milling - Inserts


**ADKT / AOMT** - Shoulder Milling Positive (2 Corners)




| Series    | APMX | IC  | S   |
|-----------|------|-----|-----|
| ADKT 1505 | 14   | 9.7 | 5.8 |
| AOMT 1236 | 11   | 6.6 | 3.6 |

EDP 1200.. ●: Stock item ○: Order made item

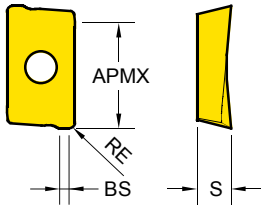
| H20 | P15 | P25 | P30 | P30        | P30 | P40        | K10 | K15 | S40 |
|-----|-----|-----|-----|------------|-----|------------|-----|-----|-----|
| P20 |     |     | K30 | M30<br>S30 | M30 | M40<br>S40 |     |     |     |

| <b>ADKT</b>            |   | Designation      | RE (mm) | Fz (mm/tooth) | BS (mm) | APMX (mm) | YG012     | YG712 | YG713 | YG622 | YG612     | YG602     | YG613 | YG5020 | YG501 | YG904 |
|------------------------|---|------------------|---------|---------------|---------|-----------|-----------|-------|-------|-------|-----------|-----------|-------|--------|-------|-------|
| <b>ADKT</b><br>General |  | ADKT 150508 PDTR | 0.8     | 0.05 - 0.24   | 1.87    | 14.0      | ●<br>0913 |       |       |       | ●<br>1053 | ●<br>0220 |       |        |       |       |
|                        |   | ADKT 150516 PDTR | 1.6     | 0.05 - 0.24   | 1.73    | 14.0      | ●<br>0916 |       |       |       |           | ●<br>0755 |       |        |       |       |
|                        |   | ADKT 150524 PDTR | 2.4     | 0.05 - 0.24   | 1.20    | 14.0      | ●<br>0917 |       |       |       |           | ●<br>0756 |       |        |       |       |
|                        |   | ADKT 150532 PDTR | 3.2     | 0.05 - 0.24   | 0.30    | 14.0      | ●<br>0918 |       |       |       |           | ●<br>0757 |       |        |       |       |

| <b>AOMT</b>            |   | Designation      | RE (mm) | Fz (mm/tooth) | BS (mm) | APMX (mm) | YG012     | YG712 | YG713 | YG622 | YG612 | YG602     | YG613     | YG5020 | YG501 | YG904 |
|------------------------|---|------------------|---------|---------------|---------|-----------|-----------|-------|-------|-------|-------|-----------|-----------|--------|-------|-------|
| <b>AOMT</b><br>General |  | AOMT 123604 PDTR | 0.4     | 0.05 ~ 0.14   | 1.07    | 11.0      |           |       |       |       |       | ●<br>0217 |           |        |       |       |
|                        |   | AOMT 123608 PDTR | 0.8     | 0.05 ~ 0.14   | 0.91    | 11.0      | ○<br>0912 |       |       |       |       | ●<br>0218 | ●<br>0613 |        |       |       |

Milling - Shoulder Milling - Inserts  
**APGT** - Shoulder Milling Positive (2 Corners)

Refer to  
 Milling Cutter  
 p. 204 - 207



| Series    | APMX | IC  | S   |
|-----------|------|-----|-----|
| APGT 1003 | 9    | 6.7 | 3.6 |
| APGT 1604 | 14   | 9.4 | 5.3 |

TURNING

PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

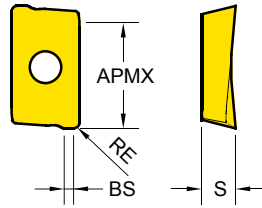
EDP 1200.. ●: Stock item ○: Order made item

| H20   | P15   | P25   | P30   | P30        | P30   | P40        | K10    | K15   | N15       |
|-------|-------|-------|-------|------------|-------|------------|--------|-------|-----------|
| P20   |       |       | K30   | M30<br>S30 | M30   | M40<br>S40 |        |       |           |
| YG012 | YG712 | YG713 | YG622 | YG612      | YG602 | YG613      | YG5020 | YG501 | YG50      |
|       |       |       |       |            |       |            |        |       | ●<br>0730 |
|       |       |       |       |            |       |            |        |       | ●<br>0428 |
|       |       |       |       |            |       |            |        |       | ●<br>0798 |

| APGT                    | Designation      | RE (mm) | Fz (mm/tooth) | BS (mm) | APMX (mm) |
|-------------------------|------------------|---------|---------------|---------|-----------|
| <b>-AL</b><br>Aluminium | APGT 100305 - AL | 0.5     | 0.05-0.25     | 1.4     | 9.0       |
|                         | APGT 160408 - AL | 0.8     | 0.05-0.25     | 1.7     | 14.0      |
|                         | APGT 160430 - AL | 3.0     | 0.05-0.25     | 0.2     | 14.0      |




Milling - Shoulder Milling - Inserts  
**APKT** - Shoulder Milling Positive (2 Corners)

Refer to  
 Milling Cutter  
 p.204 - 207



| Series    | APMX | IC  | S   |
|-----------|------|-----|-----|
| APKT 1003 | 9    | 6.7 | 3.6 |
| APKT 1604 | 14   | 9.4 | 5.3 |

EDP 1200.. ●: Stock item ○: Order made item

| APKT  | Designation      | RE (mm) | Fz (mm/tooth) | BS (mm) | APMX (mm) | H20       | P15       | P25       | P30       | P30       | P30       | P40       | K10 | K15       | S40       |
|---|------------------|---------|---------------|---------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----|-----------|-----------|
|   |                  |         |               |         |           | P20       | M30       | M30       | M30       | M40       | S40       |           |     |           |           |
| <b>APKT</b><br>General<br>                         | APKT 100305 PDTR | 0.5     | 0.05-0.24     | 0.86    | 9.0       | ●<br>0749 |           | ○<br>0638 | ○<br>0429 | ●<br>0818 | ●<br>0005 | ●<br>0672 |     |           | ●<br>1183 |
|   | APKT 100308 PDTR | 0.8     | 0.05-0.24     | 0.90    | 9.0       | ●<br>0750 |           | ○<br>0632 | ○<br>0430 | ●<br>0819 | ●<br>0004 | ●<br>0610 |     |           |           |
|   | APKT 100316 PDTR | 1.6     | 0.05-0.24     | 1.03    | 9.0       |           |           |           |           | ●<br>0975 | ●<br>0713 | ●<br>0714 |     |           |           |
|   | APKT 160404 PDTR | 0.4     | 0.05-0.25     | 1.11    | 14.0      |           |           | ○<br>0656 |           | ●<br>0828 | ●<br>0003 | ●<br>0673 |     |           |           |
|   | APKT 160408 PDTR | 0.8     | 0.05-0.25     | 1.32    | 14.0      | ●<br>0797 |           | ○<br>0633 | ○<br>0767 | ●<br>0820 | ●<br>0001 | ●<br>0607 |     | ●<br>0796 | ●<br>1180 |
|   | APKT 160412 PDTR | 1.2     | 0.05-0.25     | 1.13    | 14.0      |           |           | ○<br>0649 |           | ●<br>0980 | ●<br>0002 |           |     |           |           |
|   | APKT 160416 PDTR | 1.6     | 0.05-0.25     | 1.13    | 14.0      |           |           | ○<br>0661 |           | ●<br>0979 | ●<br>0006 | ●<br>1013 |     |           |           |
|   | APKT 160424 PDTR | 2.4     | 0.05-0.25     | 1.2     | 14.0      |           |           | ○<br>0653 |           | ●<br>0836 | ●<br>0255 | ●<br>1014 |     |           |           |
| <b>-ST</b><br>Stainless Steel<br>Super Alloy<br> | APKT 100305 - ST | 0.5     | 0.05-0.12     | 0.86    | 9.0       |           |           |           |           | ●<br>0834 | ●<br>0278 | ●<br>0618 |     |           | ●<br>1182 |
|   | APKT 100312 - ST | 1.2     | 0.05-0.12     | 1.32    | 9.0       |           |           |           |           | ●<br>0981 |           | ●<br>0776 |     |           |           |
|   | APKT 100316 - ST | 1.6     | 0.05-0.12     | 1.03    | 9.0       |           |           |           |           | ●<br>0982 |           | ●<br>0719 |     |           |           |
|   | APKT 160408 - ST | 0.8     | 0.05-0.12     | 1.32    | 14.0      |           |           |           |           | ●<br>0835 | ●<br>0270 | ●<br>0617 |     |           | ●<br>1181 |
| <b>-TR</b><br>Hardened<br>Steel<br>              | APKT 160404 - TR | 0.4     | 0.05-0.40     | 2.12    | 14.0      |           |           |           | ○<br>0505 | ●<br>0970 | ●<br>0492 |           |     |           |           |
|   | APKT 160408 - TR | 0.8     | 0.05-0.40     | 1.32    | 14.0      | ●<br>0746 | ●<br>0471 | ○<br>0637 | ○<br>0337 | ●<br>0821 | ●<br>0256 |           |     |           |           |
|   | APKT 160412 - TR | 1.2     | 0.05-0.40     | 2.40    | 14.0      | ●<br>0914 |           |           | ○<br>0523 | ●<br>0829 | ●<br>0493 |           |     |           |           |
|   | APKT 160416 - TR | 1.6     | 0.05-0.40     | 2.40    | 14.0      | ●<br>0747 |           |           | ○<br>0524 | ●<br>0969 | ●<br>0472 |           |     |           |           |
|   | APKT 160424 - TR | 2.4     | 0.05-0.40     | 1.50    | 14.0      | ●<br>0748 |           |           | ○<br>0520 | ●<br>0971 | ●<br>0494 |           |     |           |           |

TURNING

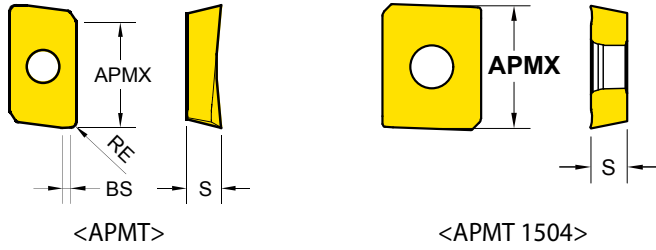
PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION



Milling - Shoulder Milling - Inserts  
**APMT** - Shoulder Milling Positive (2 Corners)



| Series    | APMX | IC   | S    |
|-----------|------|------|------|
| APMT 1135 | 9    | 6.2  | 3.50 |
| APMT 1604 | 14   | 9.2  | 4.76 |
| APMT 1504 | 14   | 12.7 | 4.76 |

EDP 1200.. ●: Stock item ○: Order made item

| H20   | P15   | P25   | P30   | P30   | P30   | P40   | K10    | K15   | S40   |
|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|
| P20   |       |       | K30   | M30   | M30   | M40   |        |       |       |
|       |       |       | S30   | S30   | S30   | S40   |        |       |       |
| YG012 | YG712 | YG713 | YG622 | YG612 | YG602 | YG613 | YG5020 | YG501 | YG904 |
| ●     |       | ○     | ○     | ●     | ●     | ●     |        |       |       |
| 0752  |       | 0655  | 0400  | 0940  | 0009  | 0669  |        |       |       |
|       |       | ○     |       | ●     | ●     | ●     |        |       |       |
|       |       | 0654  |       | 0941  | 0010  | 0668  |        |       |       |
| ●     | ●     | ○     | ○     | ●     | ●     | ●     |        | ●     |       |
| 0751  | 0423  | 0642  | 0399  | 0939  | 0008  | 0663  |        | 0464  |       |
|       |       |       | ○     | ●     | ●     | ●     |        |       |       |
|       |       |       | 0445  | 0838  | 0276  | 0777  |        |       |       |

| APMT                        | Designation  | RE (mm) | Fz (mm/tooth) | BS (mm) | APMX (mm) |
|-----------------------------|--|---------|---------------|---------|-----------|
| <b>APMT</b><br>General      |  APMT 113504 PDTR | 0.4     | 0.05-0.24     | 1.26    | 9.0       |
|                             | APMT 113508 PDTR   | 0.8     | 0.05-0.24     | 1.07    | 9.0       |
|                             | APMT 160408 PDTR   | 0.8     | 0.05-0.24     | 1.11    | 14.0      |
| <b>APMT 1504</b><br>General |  APMT 1504       | -       | 0.05-0.24     | -       | -         |

TURNING

PARTING & GROOVING

MILLING

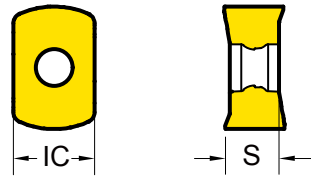
DRILLING

TECHNICAL INFORMATION

Milling - High Feed Milling - Inserts  
**ENMX** - High Feed Negative (4 Corners)

Refer to  
**Milling Cutter**  
 p.208 - 210

| Series    | IC  | S    |
|-----------|-----|------|
| ENMX 0402 | 4.0 | 2.35 |
| ENMX 0604 | 6.3 | 4.21 |
| ENMX 0905 | 9.0 | 5.40 |

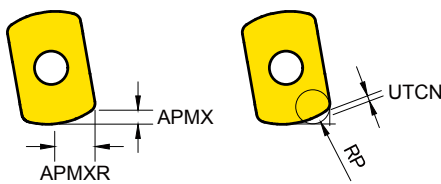


EDP 1200.. ●: Stock item ○: Order made item

| ENMX                    | Designation    | RE (mm) | Fz (mm/tooth) | BS (mm) | APMX (mm) | EDP 1200.. |        |        |       |        |        |        |        |       |        |
|-------------------------|----------------|---------|---------------|---------|-----------|------------|--------|--------|-------|--------|--------|--------|--------|-------|--------|
|                         |                |         |               |         |           | YG012      | YG712  | YG713  | YG622 | YG612  | YG602  | YG613  | YG5020 | YG501 | YG904  |
| ENMX General            | ENMX 0604      | 0.8     | 0.3-2.0       | -       | 1.0       | ● 0734     |        |        |       | ● 0822 | ● 0474 | ● 0606 |        |       | ● 1186 |
|                         | ENMX 0905      | 1.0     | 0.3-2.5       | -       | 1.5       | ● 0736     |        |        |       | ● 0824 | ● 0702 | ● 0703 |        |       |        |
| - ST<br>Stainless Steel | ENMX 0402 - ST | 0.5     | 0.2-0.8       | -       | 0.5       |            |        |        |       | ● 1064 |        | ● 1065 |        |       |        |
|                         | ENMX 0604 - ST | 0.8     | 0.1-0.8       | -       | 1.0       |            |        |        |       | ● 0973 | ● 0623 | ● 0625 |        |       | ● 1184 |
|                         | ENMX 0905 - ST | 1.0     | 0.2-1.2       | -       | 1.5       |            |        |        |       | ● 0974 | ● 0705 | ● 0706 |        |       | ● 1187 |
| - TR<br>Hardened Steel  | ENMX 0402 - TR | 0.5     | 0.2-1.3       | -       | 0.5       | ● 1060     | ● 1062 |        |       | ● 1059 |        | ● 1061 |        |       |        |
|                         | ENMX 0604 - TR | 0.8     | 0.3-2.5       | -       | 1.0       | ● 0733     | ● 0504 | ○ 0636 |       | ● 0823 | ● 0459 |        |        |       | ● 1185 |
|                         | ENMX 0905 - TR | 1.0     | 0.3-3.0       | -       | 1.5       | ● 0735     |        |        |       | ● 0825 | ● 0600 | ● 0874 |        |       |        |

**ENMX** - High Feed Negative (4 Corners) Technical Information

**ENMX 0402**



| APMXR<br>Radial AP Max |
|------------------------|
| 0.5                    |

| RP<br>Programmed Corner R | UTCN<br>Uncut Thickness | Overcut |
|---------------------------|-------------------------|---------|
| 0.8                       | 0                       | 0.25    |
| 0.9                       | 0                       | 0.22    |
| 1                         | 0.01                    | 0.19    |

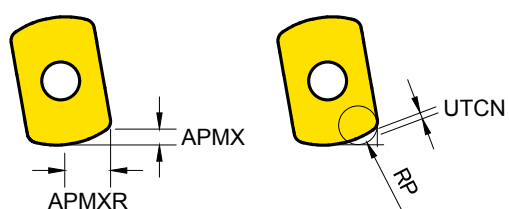


| DCX<br>External Cutter Diameter | APMX<br>Maximum Depth of Cut | APMXR<br>Maximum Radial Depth of Cut | RMPX<br>Maximum Ramping Angle(°) | RP<br>Programmed Corner Radius | UTCN<br>Uncut Thickness | Diameter<br>Maximum Cutting Diameter | Pitch<br>Helical Interpolation Pitch | Diameter<br>Minimum Cutting Diameter | Pitch<br>Helical Interpolation Pitch | Ae<br>Enlarge Width |
|---------------------------------|------------------------------|--------------------------------------|----------------------------------|--------------------------------|-------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|---------------------|
| 8                               | 0.5                          | 2.4                                  | 0.5                              | 0.9                            | 0.22                    | 16                                   | 0.2                                  | 11.6                                 | 0.1                                  | 5.6                 |
| 10                              | 0.5                          | 2.4                                  | 0.7                              | 0.9                            | 0.22                    | 20                                   | 0.4                                  | 15                                   | 0.2                                  | 7.6                 |
| 11                              | 0.5                          | 2.4                                  | 0.7                              | 0.9                            | 0.22                    | 22                                   | 0.4                                  | 16.8                                 | 0.2                                  | 8.6                 |
| 12                              | 0.5                          | 2.4                                  | 1                                | 0.9                            | 0.22                    | 24                                   | 0.5                                  | 18.4                                 | 0.4                                  | 9.6                 |
| 13                              | 0.5                          | 2.4                                  | 1.1                              | 0.9                            | 0.22                    | 26                                   | 0.5                                  | 20                                   | 0.5                                  | 10.6                |
| 16                              | 0.5                          | 2.4                                  | 1                                | 0.9                            | 0.22                    | 32                                   | 0.5                                  | 25.7                                 | 0.5                                  | 13.6                |
| 17                              | 0.5                          | 2.4                                  | 1                                | 0.9                            | 0.22                    | 34                                   | 0.5                                  | 27.6                                 | 0.5                                  | 14.6                |
| 20                              | 0.5                          | 2.4                                  | 0.9                              | 0.9                            | 0.22                    | 40                                   | 0.5                                  | 33.6                                 | 0.5                                  | 17.6                |
| 21                              | 0.5                          | 2.4                                  | 0.7                              | 0.9                            | 0.22                    | 42                                   | 0.5                                  | 35.6                                 | 0.5                                  | 18.6                |
| 25                              | 0.5                          | 2.4                                  | 0.7                              | 0.9                            | 0.22                    | 50                                   | 0.5                                  | 43.4                                 | 0.5                                  | 22.6                |
| 32                              | 0.5                          | 2.4                                  | 0.5                              | 0.9                            | 0.22                    | 64                                   | 0.5                                  | 57.4                                 | 0.5                                  | 29.6                |

Milling - High Feed Milling - Inserts

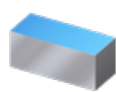
**ENMX - High Feed Negative (4 Corners) Technical Information**

**ENMX 0604**



Unit:mm

| DCX<br>Cutting Diameter<br>Maximum | APMXR<br>Radial AP Max | RP<br>Programmed<br>Corner R | UTCN<br>Uncut Thickness | Overcut |
|------------------------------------|------------------------|------------------------------|-------------------------|---------|
| 16                                 | 3.5                    | R2.0                         | 0.31                    | 0.00    |
| 16~                                | 3.7                    | R2.5                         | 0.18                    | 0.18    |
|                                    |                        | R3.0                         | 0.07                    | 0.36    |



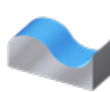
General



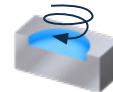
Plunging



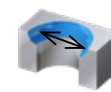
Ramping



Profiling



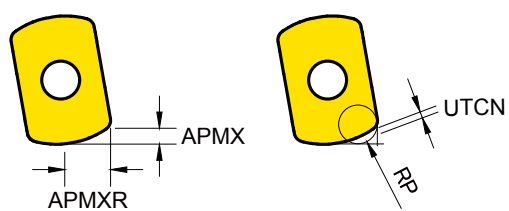
Helical Interpolation



Enlarge Hole

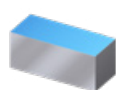
| DCX<br>External<br>Cutter Diameter | APMX<br>Maximum<br>Depth of Cut | APMXR<br>Maximum Radial<br>Depth of Cut | RMPX<br>Maximum<br>Ramping Angle(°) | RP<br>Programmed<br>Corner Radius | UTCN<br>Uncut<br>Thickness | Diameter<br>Minimum<br>Cutting Diameter | Diameter<br>Maximum<br>Cutting Diameter | Pitch<br>Helical<br>Interpolation Pitch | Ae<br>Enlarge Width |
|------------------------------------|---------------------------------|---|-------------------------------------|-----------------------------------|----------------------------|---|---|---|---------------------|
| 16                                 | 0.9                             | 3.5                                     | 2.4°                                | 2.0                               | 0.3                        | 22                                      | 32                                      | 0.9                                     | 12.5                |
| 17                                 | 0.9                             | 3.5                                     | 1.9°                                | 2.0                               | 0.3                        | 24                                      | 34                                      | 0.9                                     | 13.5                |
| 20                                 | 1                               | 3.7                                     | 1.8°                                | 2.0                               | 0.31                       | 29                                      | 40                                      | 1                                       | 16.3                |
| 21                                 | 1                               | 3.7                                     | 1.8°                                | 2.0                               | 0.31                       | 31                                      | 42                                      | 1                                       | 17.3                |
| 25                                 | 1                               | 3.7                                     | 1.2°                                | 2.0                               | 0.31                       | 39                                      | 50                                      | 1                                       | 21.3                |
| 26                                 | 1                               | 3.7                                     | 1.2°                                | 2.0                               | 0.31                       | 41                                      | 52                                      | 1                                       | 22.3                |
| 32                                 | 1                               | 3.7                                     | 0.8°                                | 2.0                               | 0.31                       | 53                                      | 64                                      | 1                                       | 28.3                |
| 33                                 | 1                               | 3.7                                     | 0.8°                                | 2.0                               | 0.31                       | 55                                      | 66                                      | 1                                       | 29.3                |
| 40                                 | 1                               | 3.7                                     | 0.6°                                | 2.0                               | 0.31                       | 69                                      | 80                                      | 1                                       | 36.3                |
| 50                                 | 1                               | 3.7                                     | 0.5°                                | 2.0                               | 0.31                       | 89                                      | 98                                      | 1                                       | 46.3                |
| 63                                 | 1                               | 3.7                                     | 0.4°                                | 2.0                               | 0.31                       | 115                                     | 126                                     | 1                                       | 59.3                |

**ENMX 0905**



Unit:mm

| APMXR<br>Radial AP Max | RP<br>Programmed<br>Corner R | UTCN<br>Uncut Thickness | Overcut |
|------------------------|------------------------------|-------------------------|---------|
| 4.7                    | R2.5                         | 0.56                    | 0       |
|                        | R3.0                         | 0.40                    | 0.10    |
|                        | R3.5                         | 0.24                    | 0.25    |
|                        | R4.0                         | 0.10                    | 0.41    |
|                        | R4.5                         | 0                       | 0.49    |



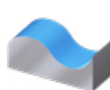
General



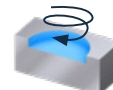
Plunging



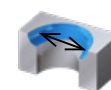
Ramping



Profiling



Helical Interpolation



Enlarge Hole

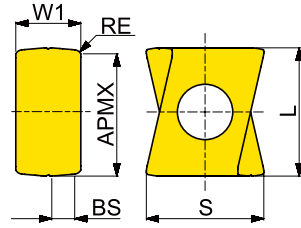
| DCX<br>External<br>Cutter Diameter | APMX<br>Maximum<br>Depth of Cut | APMXR<br>Maximum Radial<br>Depth of Cut | RMPX<br>Maximum<br>Ramping Angle(°) | RP<br>Programmed<br>Corner Radius | UTCN<br>Uncut<br>Thickness | Diameter<br>Minimum<br>Cutting Diameter | Diameter<br>Maximum<br>Cutting Diameter | Pitch<br>Helical<br>Interpolation Pitch | Ae<br>Enlarge Width |
|------------------------------------|---------------------------------|---|-------------------------------------|-----------------------------------|----------------------------|---|---|---|---------------------|
| 25                                 | 1.5                             | 5                                       | 3.8°                                | 2.5                               | 0.56                       | 42                                      | 50                                      | 1.5                                     | 20                  |
| 26                                 | 1.5                             | 5                                       | 3.4°                                | 2.5                               | 0.56                       | 44                                      | 52                                      | 1.5                                     | 21                  |
| 32                                 | 1.5                             | 5                                       | 2.3°                                | 2.5                               | 0.56                       | 56                                      | 64                                      | 1.5                                     | 27                  |
| 33                                 | 1.5                             | 5                                       | 2.2°                                | 2.5                               | 0.56                       | 58                                      | 66                                      | 1.5                                     | 28                  |
| 40                                 | 1.5                             | 5                                       | 1.6°                                | 2.5                               | 0.56                       | 72                                      | 80                                      | 1.5                                     | 35                  |
| 50                                 | 1.5                             | 5                                       | 1.1°                                | 2.5                               | 0.56                       | 92                                      | 100                                     | 1.5                                     | 45                  |
| 63                                 | 1.5                             | 5                                       | 0.8°                                | 2.5                               | 0.56                       | 118                                     | 126                                     | 1.5                                     | 57                  |
| 80                                 | 1.5                             | 5                                       | 0.6°                                | 2.5                               | 0.56                       | 152                                     | 160                                     | 1.5                                     | 74                  |

Milling - Shoulder Milling - Inserts

**LNHU, LNKU** - Tangential Milling Negative (4 Corners)

Refer to Milling Cutter p.211

| Series    | W1  | L    |
|-----------|-----|------|
| LN*U 1306 | 6.7 | 13.2 |



EDP 1200.. ●: Stock item ○: Order made item

| H20    | P15   | P25   | P30   | P30    | P30    | P40    | K10    | K15   | S40   |
|--------|-------|-------|-------|--------|--------|--------|--------|-------|-------|
| P20    |       |       | K30   | M30    | M30    | M40    |        |       |       |
|        |       |       | S30   |        |        | S40    |        |       |       |
| YG012  | YG712 | YG713 | YG622 | YG612  | YG602  | YG613  | YG5020 | YG501 | YG904 |
| ● 0905 |       |       |       | ● 0723 | ○ 0640 | ● 0724 | ● 0725 |       |       |

| LNHU                          | Designation | RE (mm) | Fz (mm/tooth) | BS (mm) | APMX (mm) |
|-------------------------------|-------------|---------|---------------|---------|-----------|
| <b>NEW</b><br>LNHU<br>General | LNHU130608R | 0.8     | 0.05-0.3      | 2.09    | 12.0      |



| LNKU                          | Designation | RE (mm) | Fz (mm/tooth) | BS (mm) | APMX (mm) |
|-------------------------------|-------------|---------|---------------|---------|-----------|
| <b>NEW</b><br>LNKU<br>General | LNKU130608R | 0.8     | 0.05-0.3      | 2.09    | 12.0      |
|                               | LNKU130612R | 1.2     | 0.05-0.3      | 1.73    | 12.0      |
|                               | LNKU130616R | 1.6     | 0.05-0.3      | 1.59    | 12.0      |

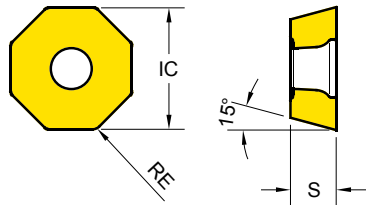


| YG012  | YG712 | YG713 | YG622 | YG612  | YG602 | YG613  | YG5020 | YG501  | YG904 |
|--------|-------|-------|-------|--------|-------|--------|--------|--------|-------|
| ● 0906 |       |       |       | ● 0740 |       | ● 0741 | ● 0742 | ● 0935 |       |
| ● 0907 |       |       |       | ● 0764 |       | ● 0765 | ● 0766 | ● 0936 |       |
| ● 0919 |       |       |       | ● 1052 |       |        | ● 0782 |        |       |



Milling - Face Milling - Inserts  
**ODMT, ODMW** - Face Milling Positive (8 Corners)

Refer to  
 Milling Cutter  
 p.212

| Series    | IC   | S   |
|-----------|------|-----|
| ODM* 0605 | 15.9 | 5.6 |



EDP 1200.. ●: Stock item ○: Order made item

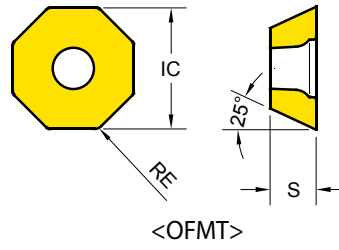
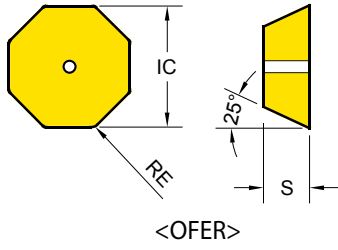
| ODMT<br>ODMW   | Designation | RE<br>(mm) | Fz<br>(mm/tooth) | BS<br>(mm) | APMX<br>(mm) | H20       | P15       | P25        | P30       | P30        | P30       | P40 | K10 | K15 | S40 |
|--|-------------|------------|------------------|------------|--------------|-----------|-----------|------------|-----------|------------|-----------|-----|-----|-----|-----|
|  |             |            |                  |            |              | P20       | K30       | M30<br>S30 | M30       | M40<br>S40 |           |     |     |     |     |
| <b>ODMT</b><br>General          | ODMT 060508 | 0.8        | 0.05-0.30        | -          | 3.5          | ●<br>1056 | ●<br>0513 | ○<br>0659  | ●<br>0830 | ●<br>0030  | ●<br>0675 |     |     |     |     |
|  |             |            |                  |            |              |           |           |            |           |            |           |     |     |     |     |
|  |             |            |                  |            |              |           |           |            |           |            |           |     |     |     |     |
| <b>ODMW</b><br>Hard Materials  | ODMW 060508 | 0.8        | 0.05-0.30        | -          | 3.5          |           |           |            | ●<br>0942 | ●<br>0031  |           |     |     |     |     |
|  |             |            |                  |            |              |           |           |            |           |            |           |     |     |     |     |
|  |             |            |                  |            |              |           |           |            |           |            |           |     |     |     |     |

Milling - Face Milling - Inserts

**OFER, OFMT** - Face Milling Positive (8 Corners)




Refer to Milling Cutter p.212



| Series    | IC    | S    |
|-----------|-------|------|
| OFER 0704 | 18.05 | 4.78 |
| OFMT 05T3 | 12.73 | 4.06 |

EDP 1200.. ●: Stock item ○: Order made item

| OFER  | Designation | RE (mm) | Fz (mm/tooth) | BS (mm) | APMX (mm) | H20   | P15   | P25   | P30   | P30   | P30    | P40   | K10    | K15   | S40   |
|---|-------------|---------|---------------|---------|-----------|-------|-------|-------|-------|-------|--------|-------|--------|-------|-------|
|   |             |         |               |         |           | P20   | M30   | M30   | M30   | M40   | S40    |       |        |       |       |
| <b>OFER</b><br>General<br> | OFER 070405 | 0.5     | 0.05-0.30     | -       | 5.0       | YG012 | YG712 | YG713 | YG622 | YG612 | YG602  | YG613 | YG5020 | YG501 | YG904 |
|   |             |         |               |         |           |       |       |       |       |       | ● 0209 |       |        |       |       |

| OFMT | Designation | RE (mm) | Fz (mm/tooth) | BS (mm) | APMX (mm) | YG012 | YG712 | YG713 | YG622 | YG612 | YG602 | YG613 | YG5020 | YG501 | YG904 |
|------|-------------|---------|---------------|---------|-----------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|
|      |             |         |               |         |           |       |       |       |       |       |       |       |        |       |       |

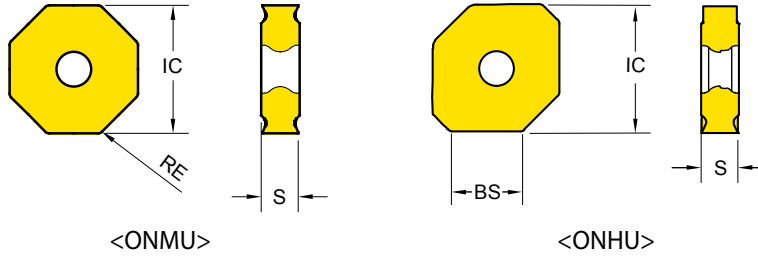
**OFMT**  
General



Milling - Face Milling - Inserts

**ONHU / ONMU** - Face Milling Negative (16 Corners)

| Series    | IC   | S   |
|-----------|------|-----|
| ON*U 0806 | 20.2 | 5.8 |



EDP 1200.. ●: Stock item ○: Order made item

|        | H20 | P15 | P25 | P30 | P30 | P30 | P40 | K10 | K15 | S40 |
|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|        | P20 |     |     | K30 | M30 | M30 | M40 |     |     |     |
|        | S30 |     |     |     | S30 | S40 |     |     |     |     |
| YG012  |     |     |     |     |     |     |     |     |     |     |
| YG712  |     |     |     |     |     |     |     |     |     |     |
| YG713  |     |     |     |     |     |     |     |     |     |     |
| YG622  |     |     |     |     |     |     |     |     |     |     |
| YG612  | ●   |     |     |     | ●   |     |     | ●   | ●   |     |
| YG602  |     |     |     |     | ●   |     |     |     |     |     |
| YG613  |     |     |     |     |     |     |     |     |     |     |
| YG5020 |     |     |     |     |     |     |     | ●   | ●   |     |
| YG501  |     |     |     |     |     |     |     |     |     | ●   |
| YG904  |     |     |     |     |     |     |     |     |     |     |

| ONMU<br>ONHU                | Designation | RE (mm) | Fz (mm/tooth) | BS (mm) | APMX (mm) |
|-----------------------------|-------------|---------|---------------|---------|-----------|
|                             | ONHU 080612 | 1.2     | 0.08-0.25     | 10.6    | 5.5       |
| <b>ONHU</b><br>Wiper Insert |             |         |               |         |           |
|                             | ONMU 080608 | 0.8     | 0.05-0.35     | -       | 5.5       |
|                             | ONMU 080612 | 1.2     | 0.05-0.35     | -       | 5.5       |
| <b>ONMU</b><br>General      |             |         |               |         |           |
|                             | ONMU 080620 | 2.0     | 0.05-0.35     | -       | 5.5       |

\* Wiper Insert can use 4 corners for right handed cutter and 4 corners for left handed cutter

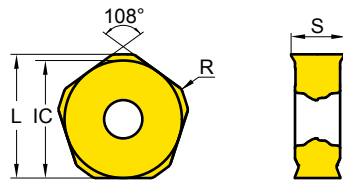
Milling - Face Milling - Inserts

**PNMU** - Face Milling Negative (10 Corners)





Refer to Milling Cutter p.214

| Series    | KRINS | IC   | S    |
|-----------|-------|------|------|
| PNMU 1206 | 36    | 14.0 | 5.84 |



EDP 1200.. ●: Stock item ○: Order made item

| PNMU  | Designation  | RE (mm) | Fz (mm/tooth) | BS (mm) | APMX (mm) | H20       | P15       | P25       | P30       | P30       | P30       | P40       | K10       | K15 | S40 |
|---|--------------|---------|---------------|---------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----|-----|
|   |              |         |               |         |           | P20       | M30       | S30       | M30       | M40       | S40       |           |           |     |     |
| <b>PNMU</b><br>General<br>                         | PNMU 1206ZNN | 0.8     | 0.05-0.50     | 2.10    | 4.0       | ●<br>0753 | ●<br>0596 | ○<br>0645 | ●<br>0826 | ●<br>0535 | ●<br>0671 | ●<br>0534 | ●<br>0538 |     |     |
|   | PNMU 1206-ST | 0.8     | 0.05-0.30     | 2.10    | 4.0       |           |           |           | ●<br>0978 | ●<br>0761 | ●<br>0760 |           |           |     |     |
| <b>- ST</b><br>Stainless Steel<br>Super Alloy<br> |              |         |               |         |           |           |           |           |           |           |           |           |           |     |     |

TURNING

PARTING & GROOVING

MILLING

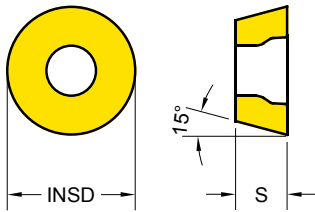
DRILLING

TECHNICAL INFORMATION

Milling - Profiling - Inserts

**RDKT / W**- Profiling Positive (Round)

Refer to  
Milling Cutter  
p.215 - 216



| Series    | INSD | S   | Series    | INSD | S   |
|-----------|------|-----|-----------|------|-----|
| RDK* 0501 | 5    | 1.4 | RDK* 10T3 | 10   | 4.0 |
| RDK* 0702 | 7    | 2.4 | RDK* 1204 | 12   | 4.8 |
| RDK* 0802 | 8    | 2.4 | RDK* 1604 | 16   | 4.8 |

TURNING

PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

EDP 1200.. ●: Stock item ○: Order made item

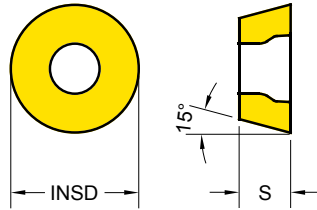
| H20 | P15 | P25 | P30 | P30 | P30 | P40 | K10 | K15 | S40 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| P20 |     |     | K30 | M30 | M30 | M40 |     |     |     |
|     |     |     | S30 | S30 | S40 | S40 |     |     |     |

| RDKT<br>RDKW                                 |  | Designation      | Fz<br>(mm/tooth) | APMX<br>(mm) | YG012  | YG712  | YG713  | YG622  | YG612  | YG602  | YG613  | YG5020 | YG501 | YG904 |  |
|--|--|------------------|------------------|--------------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|--|
| <b>RDKT</b><br>General                       |  | RDKT 0802M0      | 0.05 - 0.25      | 4.0          |        |        |        |        | ● 0943 | ● 0035 |        |        |       |       |  |
|  |  | RDKT 10T3M0      | 0.05 - 0.30      | 5.0          |        |        | ○ 0651 |        | ● 0948 | ● 0041 |        |        |       |       |  |
|  |  | RDKT 1204M0      | 0.05 - 0.50      | 6.0          |        |        | ○ 0635 |        | ● 0938 | ● 0034 | ● 0678 |        |       |       |  |
|  |  | RDKT 1604M0      | 0.05 - 0.50      | 8.0          |        | ● 0915 |        |        | ● 0972 | ● 0539 |        |        |       |       |  |
| <b>-ST</b><br>Stainless Steel<br>Super Alloy |  | RDKT 0802M0 - ST | 0.05 - 0.15      | 4.0          |        |        |        | ● 0965 | ● 0292 |        |        |        |       |       |  |
|  |  | RDKT 10T3M0 - ST | 0.05 - 0.20      | 5.0          |        |        |        | ● 0966 | ● 0293 | ● 0620 |        |        |       |       |  |
|  |  | RDKT 1204M0 - ST | 0.05 - 0.30      | 6.0          |        |        |        | ● 0967 | ● 0294 | ● 0621 |        |        |       |       |  |
| <b>-TR</b><br>Hardened<br>Steel              |  | RDKT 0802M0 - TR | 0.05 - 0.35      | 4.0          | ● 0745 |        |        | ○ 0339 | ● 0837 | ● 0284 |        |        |       |       |  |
|  |  | RDKT 10T3M0 - TR | 0.05 - 0.40      | 5.0          | ● 0744 |        |        | ○ 0338 | ● 0841 | ● 0285 |        |        |       |       |  |
|  |  | RDKT 1204M0 - TR | 0.05 - 0.60      | 6.0          | ● 0743 |        | ○ 0650 | ○ 0340 | ● 0842 | ● 0272 |        |        |       |       |  |
| <b>RDKW</b><br>Hard<br>Materials             |  | RDKW 0501M0      | 0.05 - 0.20      | 2.5          |        |        |        | ○ 0412 | ● 0843 | ● 0207 |        |        |       |       |  |
|  |  | RDKW 0702M0      | 0.05 - 0.25      | 3.5          |        |        | ○ 0652 | ○ 0439 | ● 0844 | ● 0208 |        |        |       |       |  |
|  |  | RDKW 0802M0      | 0.05 - 0.30      | 4.0          |        | ● 0909 |        |        | ○ 0440 | ● 0950 | ● 0043 |        |       |       |  |
|  |  | RDKW 10T3M0      | 0.05 - 0.40      | 5.0          |        | ● 0908 |        |        | ○ 0441 | ● 0947 | ● 0040 |        |       |       |  |
|  |  | RDKW 1204M0      | 0.05 - 0.60      | 6.0          |        |        |        | ○ 0647 | ○ 0442 | ● 0949 | ● 0042 |        |       |       |  |
|  |  | RDKW 1604M0      | 0.05 - 0.60      | 8.0          |        | ● 0817 |        |        |        |        | ● 0720 |        |       |       |  |

Milling - Profiling - Inserts

**RDMT / W**- Profiling Positive (Round)

Refer to Milling Cutter p.215 - 216



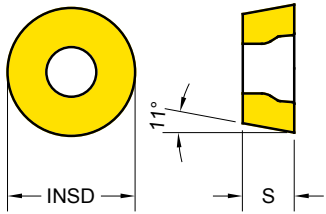
| Series    | INSD | S    | Series    | INSD | S    |
|-----------|------|------|-----------|------|------|
| RDM* 0602 | 6    | 2.38 | RDM* 10T3 | 10   | 3.97 |
| RDM* 0802 | 8    | 2.38 | RDM* 1204 | 12   | 4.76 |
| RDM* 0803 | 8    | 3.18 |           |      |      |

EDP 1200.. ●: Stock item ○: Order made item

| RDMT / RDMW            | Designation | Fz (mm/tooth) | APMX (mm) | H20 | P15 | P25 | P30 | P30 | P30 | P40 | K10 | K15 | S40 |
|------------------------|-------------|---------------|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                        |             |               |           | P20 | M30 | S30 | M30 | M40 | S40 |     |     |     |     |
| RDMT<br>General        | RDMT 0602M0 | 0.05 - 0.20   | 3.0       | ●   |     |     |     |     |     |     |     |     |     |
|                        | RDMT 0802M0 | 0.05 - 0.25   | 4.0       |     |     |     |     |     | ●   |     |     |     |     |
|                        | RDMT 0803M0 | 0.05 - 0.25   | 4.0       |     |     |     |     |     | ●   |     |     |     |     |
|                        | RDMT 10T3M0 | 0.05 - 0.30   | 5.0       |     |     |     |     |     | ●   |     |     |     |     |
|                        | RDMT 1204M0 | 0.05 - 0.50   | 6.0       |     |     |     |     |     | ●   |     |     |     |     |
| RDMW<br>Hard Materials | RDMW 0802M0 | 0.05 - 0.30   | 4.0       |     |     |     |     |     | ●   |     |     |     |     |
|                        | RDMW 10T3M0 | 0.05 - 0.40   | 5.0       |     |     |     |     |     | ●   |     |     |     |     |
|                        | RDMW 1204M0 | 0.05 - 0.60   | 6.0       |     |     |     |     |     | ●   |     |     |     |     |
|                        |             |               |           |     |     |     |     |     | ●   |     |     |     |     |

Milling - Profiling - Inserts

**RPMX** - Profiling Positive (Round)



| Series      | INSD | S    |
|-------------|------|------|
| RPM* 0803M0 | 8    | 2.78 |
| RPM* 10T3M0 | 10   | 3.97 |
| RPM* 1204M0 | 12   | 4.76 |

EDP 1200.. ●: Stock item ○: Order made item

| H20   | P15   | P25   | P30   | P30   | P30   | P40   | K10    | K15   | S40   |
|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|
| P20   |       |       | K30   | M30   | M30   | M40   |        |       |       |
|       |       |       | S30   |       |       | S40   |        |       |       |
| YG012 | YG712 | YG713 | YG622 | YG612 | YG602 | YG613 | YG5020 | YG501 | YG904 |

| RPMX   | Designation       | Fz (mm/tooth) | APMX (mm) |
|--|-------------------|---------------|-----------|
|    | RPMX 0803M0 - XSF | 0.04-0.1      | 4.0       |
|  | RPMX 10T3M0 - XSF | 0.04-0.1      | 5.0       |
|  | RPMX 1204M0 - XSF | 0.04-0.1      | 6.0       |
|   | RPMX 0803M0 - XSM | 0.04-0.12     | 4.0       |
|  | RPMX 10T3M0 - XSM | 0.04-0.12     | 5.0       |
|  | RPMX 1204M0 - XSM | 0.04-0.12     | 6.0       |

TURNING

PARTING & GROOVING

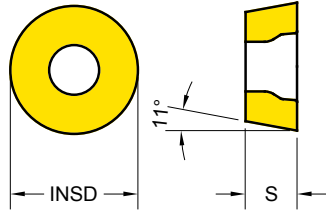
MILLING

DRILLING

TECHNICAL INFORMATION

Milling - Profiling - Inserts

**RPMT / W** - Profiling Positive (Round)

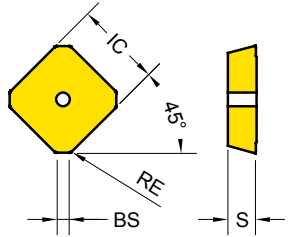


| Series    | INSD | S    | Series    | INSD | S    |
|-----------|------|------|-----------|------|------|
| RPM* 08T2 | 8    | 2.78 | RPM* 10T3 | 10   | 3.97 |
| RPM* 1003 | 10   | 3.18 | RPM* 1204 | 12   | 4.76 |

EDP 1200.. ●: Stock item ○: Order made item

| RPMW   | Designation      | Fz (mm/tooth) | APMX (mm) | H20   | P15   | P25   | P30   | P30   | P30   | P40   | K10    | K15   | S40   |
|--|------------------|---------------|-----------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|
|  |                  |               |           | P20   | M30   | M30   | M30   | M40   | S40   |       |        |       |       |
|  |                  |               |           | YG012 | YG712 | YG713 | YG622 | YG612 | YG602 | YG613 | YG5020 | YG501 | YG904 |
| <b>RPMT</b><br>General                       | RPMT 08T2M0      | 0.05 - 0.25   | 4.0       |       |       | ○     |       | ●     | ●     | ●     |        |       |       |
|  | RPMT 10T3M0      | 0.05 - 0.30   | 5.0       |       |       | ○     |       | ●     | ●     | ●     |        |       |       |
|  | RPMT 1204M0      | 0.05 - 0.50   | 6.0       |       | ●     | ○     | ○     | ●     | ●     | ●     |        | ●     |       |
|  | RPMT 1606M0      | 0.05 - 0.60   | 8.0       |       |       |       |       |       |       | ●     |        |       |       |
| <b>-ST</b><br>Stainless Steel<br>Super Alloy | RPMT 1204M0 - ST | 0.05 - 0.30   | 6.0       |       |       |       |       | ●     | ●     | ●     |        |       |       |
|  |                  |               |           |       |       |       |       |       |       |       |        |       |       |
| <b>-TR</b><br>Hardened<br>Steel              | RPMT 1204M0 - TR | 0.05 - 0.55   | 6.0       |       |       |       |       | ●     | ●     | ●     |        |       |       |
|  |                  |               |           |       |       |       |       |       |       |       |        |       |       |
| <b>RPMW</b><br>Hard<br>Materials             | RPMW 1003M0      | 0.05 - 0.40   | 5.0       | ●     | ○     | ○     | ○     | ●     | ●     |       |        |       |       |
|  | RPMW 1204M0      | 0.05 - 0.60   | 6.0       |       | ○     | ○     | ○     | ●     | ●     |       |        |       |       |

Milling - Face Milling - Inserts  
**SDCN, SDKN** - Face Milling Positive (4 Corners ISO)



| Series    | IC    | S    |
|-----------|-------|------|
| SD** 1203 | 12.70 | 3.18 |
| SD** 1504 | 15.88 | 4.76 |

TURNING

PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

EDP 1200.. ●: Stock item ○: Order made item

| H20   | P15   | P25   | P30   | P30   | P30   | P40   | K10    | K15   | S40   |
|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|
| P20   |       |       | K30   | M30   | M30   | M40   |        |       |       |
|       |       |       | S30   | S30   | S40   | S40   |        |       |       |
| YG012 | YG712 | YG713 | YG622 | YG612 | YG602 | YG613 | YG5020 | YG501 | YG904 |

| SDCN<br>SDKN | Designation | RE (mm) | Fz (mm/tooth) | BS (mm) | APMX (mm) |
|--------------|-------------|---------|---------------|---------|-----------|
|--------------|-------------|---------|---------------|---------|-----------|

**SDCN**  
Ground insert



|  |                     |     |           |      |     |
|--|---------------------|-----|-----------|------|-----|
|  | SDCN 1203 AESN - M  | 1.0 | 0.05-0.20 | 2.04 | 6.0 |
|  | SDCN 1504 AESN - M  | 1.0 | 0.05-0.20 | 2.19 | 8.0 |
|  | SDCN 1504 AESN - MR | 1.0 | 0.05-0.20 | 2.19 | 8.0 |

**SDKN**  
Hard Materials

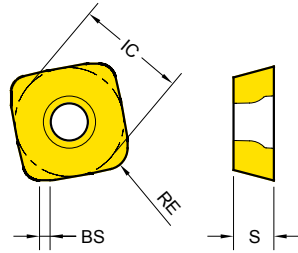


|  |                     |      |           |      |     |
|--|---------------------|------|-----------|------|-----|
|  | SDKN 1203 AETN      | 0.5  | 0.05-0.30 | 1.85 | 6.0 |
|  | SDKN 1203 AETN - PW | 0.4  | 0.05-0.30 | 1.98 | 6.0 |
|  | SDKN 1203 AETN - GW | 1.3  | 0.05-0.30 | 1.85 | 6.0 |
|  | SDKN 1203 AESN - GW | 1.3  | 0.05-0.30 | 1.85 | 6.0 |
|  | SDKN 1504 AETN      | 0.45 | 0.05-0.30 | 2.00 | 8.0 |
|  | SDKN 1504 AETN - PW | 0.4  | 0.05-0.30 | 1.95 | 8.0 |
|  | SDKN 1504 AETN - GW | 1.3  | 0.05-0.30 | 2.05 | 8.0 |

- PW : For Improved Surface Roughness
- GW : Ground Wiper
- M : For Mold & Die
- MR : For Mold & Die Roughing

Milling - High Feed Milling - Inserts  
**SDMT / W** - High Feed Positive (4 Corners)

Refer to Milling Cutter p.217



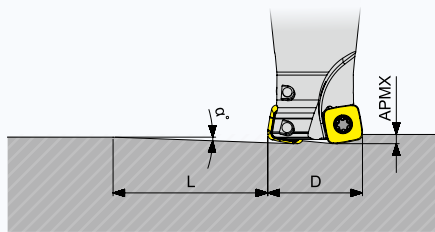
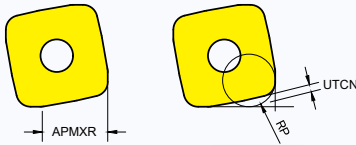
| Series    | IC   | S   |
|-----------|------|-----|
| SDM* 1204 | 12.7 | 4.7 |

EDP 1200.. ●: Stock item ○: Order made item

|        | H20 | P15 | P25 | P30 | P30 | P30 | P40 | K10 | K15 | S40 |
|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|        | P20 |     |     | K30 | M30 | M30 | M40 |     |     |     |
|        |     |     |     | S30 |     | S40 |     |     |     |     |
| YG012  |     |     |     |     |     |     | ●   |     |     |     |
| YG712  |     |     |     |     |     |     | ●   |     |     |     |
| YG713  |     |     |     |     |     |     | ●   |     |     |     |
| YG622  |     |     |     |     |     |     | ●   |     |     |     |
| YG612  |     |     |     |     |     |     | ●   |     |     |     |
| YG602  |     |     |     |     |     |     | ●   |     |     |     |
| YG613  |     |     |     |     |     |     | ●   |     |     |     |
| YG5020 |     |     |     |     |     |     |     |     |     |     |
| YG501  |     |     |     |     |     |     |     |     |     |     |
| YG904  |     |     |     |     |     |     |     |     |     |     |

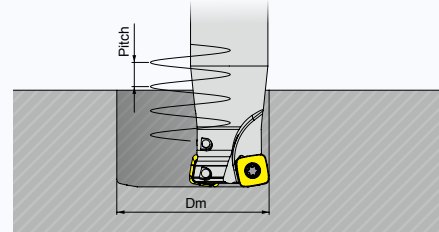
| SDMT<br>SDMW                                 | Designation     | RE (mm) | Fz (mm/tooth) | BS (mm) | APMX (mm) |
|--|-----------------|---------|---------------|---------|-----------|
| <b>-ST</b><br>Stainless Steel<br>Super Alloy | SDMT 120420 -ST | 1.9     | 0.60-1.20     | 1.45    | 1.8       |
| <b>SDMW</b><br>Hard<br>Materials             | SDMW 120420     | 1.9     | 0.60-1.40     | 1.4     | 1.8       |

**Technical Information**



| APMXR<br>Radial AP Max | RP<br>Programmed<br>Corner R | UTCN<br>Uncut Thickness |
|------------------------|------------------------------|-------------------------|
| 8.6                    | 3.5                          | 0.94                    |

|        |  | Linear Ramping Data |                |       |                    |
|--------|--|---------------------|----------------|-------|--------------------|
|        |  | D                   | $\alpha^\circ$ | APMX  | L (cutting length) |
| Metric |  | 32                  | 2.1            | 1.8   | 49                 |
|        |  | 33                  | 2.0            | 1.8   | 52                 |
|        |  | 35                  | 1.6            | 1.8   | 64                 |
|        |  | 40                  | 2.7            | 1.8   | 38                 |
|        |  | 50                  | 2.0            | 1.8   | 52                 |
|        |  | 63                  | 1.4            | 1.8   | 74                 |
|        |  | 80                  | 1.0            | 1.8   | 103                |
|        |  | 100                 | 0.8            | 1.8   | 129                |
|        |  | 125                 | 0.6            | 1.8   | 172                |
|        |  | 160                 | 0.4            | 1.8   | 258                |
| Inch   |  | 1.25                | 2.4            | 0.071 | 0.067              |
|        |  | 1.5                 | 3.1            | 0.071 | 0.052              |
|        |  | 2.0                 | 2.0            | 0.071 | 0.080              |
|        |  | 2.5                 | 1.4            | 0.071 | 0.114              |
|        |  | 3.0                 | 1.1            | 0.071 | 0.145              |
|        |  | 4.0                 | 0.8            | 0.071 | 0.200              |
|        |  | 5.0                 | 0.6            | 0.071 | 0.266              |
|        |  | 6.0                 | 0.5            | 0.071 | 0.320              |



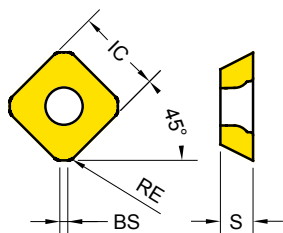
|        |  | Helical Interpolation Data |          |       |              |       |
|--------|--|----------------------------|----------|-------|--------------|-------|
|        |  | D                          | Dm (max) | Pitch | Dm (minimum) | Pitch |
| Metric |  | 32                         | 64       | 1.8   | 54           | 1.8   |
|        |  | 33                         | 66       | 1.8   | 56           | 1.8   |
|        |  | 35                         | 70       | 1.8   | 59           | 1.8   |
|        |  | 40                         | 80       | 1.8   | 69           | 1.8   |
|        |  | 50                         | 100      | 1.8   | 89           | 1.8   |
|        |  | 63                         | 126      | 1.8   | 115          | 1.8   |
|        |  | 80                         | 160      | 1.8   | 149          | 1.8   |
|        |  | 100                        | 200      | 1.8   | 189          | 1.8   |
|        |  | 125                        | 250      | 1.8   | 239          | 1.8   |
|        |  | 160                        | 320      | 1.8   | 309          | 1.8   |
| Inch   |  | 1.25                       | 2.5      | 0.071 | 2.1          | 0.071 |
|        |  | 1.5                        | 3        | 0.071 | 2.6          | 0.071 |
|        |  | 2.0                        | 4        | 0.071 | 3.6          | 0.071 |
|        |  | 2.5                        | 5        | 0.071 | 4.6          | 0.071 |
|        |  | 3.0                        | 6        | 0.071 | 5.6          | 0.071 |
|        |  | 4.0                        | 8        | 0.071 | 7.6          | 0.071 |
|        |  | 5.0                        | 10       | 0.071 | 9.6          | 0.071 |
|        |  | 6.0                        | 12       | 0.071 | 11.6         | 0.071 |

Milling - Face Milling - Inserts

**SEGT - Face Milling Positive (4 Corners)**

Refer to  
Milling Cutter  
p. 218

| Series    | IC    | S    |
|-----------|-------|------|
| SEGT 1204 | 12.74 | 4.91 |
| SEGT 12T3 | 13.40 | 4.03 |



EDP 1200.. ●: Stock item ○: Order made item

|     |     |     |     |            |     |            |     |     |     |
|-----|-----|-----|-----|------------|-----|------------|-----|-----|-----|
| H20 | P15 | P25 | P30 | P30        | P30 | P40        | K10 | K15 | N15 |
| P20 |     |     | K30 | M30<br>S30 | M30 | M40<br>S40 |     |     |     |

| SEGT 1204 | Designation | RE (mm) | Fz (mm/tooth) | BS (mm) | APMX (mm) | YG012          | YG712 | YG713     | YG622 | YG612 | YG602 | YG613 | YG5020 | YG501 | YG50 |
|-----------|-------------|---------|---------------|---------|-----------|----------------|-------|-----------|-------|-------|-------|-------|--------|-------|------|
|           |             |         |               |         |           | SEGT 1204 - AL | 1.2   | 0.05-0.30 | 2.01  | 6.0   |       |       |        |       |      |

**-AL**  
Aluminium



| SEGT 12T3 | Designation | RE (mm) | Fz (mm/tooth) | BS (mm) | APMX (mm) | YG012          | YG712 | YG713     | YG622 | YG612 | YG602 | YG613 | YG5020 | YG501 | YG50 |
|-----------|-------------|---------|---------------|---------|-----------|----------------|-------|-----------|-------|-------|-------|-------|--------|-------|------|
|           |             |         |               |         |           | SEGT 12T3 - AL | 1.2   | 0.05-0.30 | 1.94  | 6.0   |       |       |        |       |      |

**-AL**  
Aluminium



TURNING

PARTING & GROOVING

MILLING

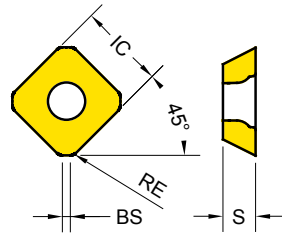
DRILLING

TECHNICAL INFORMATION

Milling - Face Milling - Inserts



**SEKT** - Face Milling Positive (4 Corners)



Refer to Milling Cutter p.218



| Series    | IC   | S   |
|-----------|------|-----|
| SEKT 1204 | 12.7 | 4.9 |
| SEKT 12T3 | 13.4 | 4   |

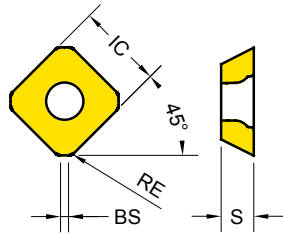
EDP 1200.. ●: Stock item ○: Order made item

| SEKT 1204  | Designation    | RE (mm) | Fz (mm/tooth) | BS (mm) | APMX (mm) | H20   | P15   | P25   | P30    | P30    | P30    | P40    | K10    | K15   | S40   |
|--|----------------|---------|---------------|---------|-----------|-------|-------|-------|--------|--------|--------|--------|--------|-------|-------|
|  |                |         |               |         |           | P20   | M30   | M30   | M30    | M40    | S40    |        |        |       |       |
| <b>SEKT 1204</b><br>General<br>                   | SEKT 1204 AFTN | 1.1     | 0.20-0.35     | 1.18    | 6.0       | YG012 | YG712 | YG713 | YG622  | YG612  | YG602  | YG613  | YG5020 | YG501 | YG904 |
|  |                |         |               |         |           |       |       |       | ○ 0416 | ○ 0833 | ● 0055 |        |        |       |       |
| <b>-ST</b><br>Stainless Steel<br>Super Alloy<br> | SEKT 1204 -ST  | 1.1     | 0.08-0.30     | 2.00    | 6.0       |       |       |       |        | ● 0962 | ● 0257 | ● 0722 |        |       |       |
|  |                |         |               |         |           |       |       |       |        |        |        |        |        |       |       |

| SEKT 12T3   | Designation    | RE (mm) | Fz (mm/tooth) | BS (mm) | APMX (mm) | YG012 | YG712 | YG713 | YG622 | YG612  | YG602  | YG613  | YG5020 | YG501 | YG904  |
|---|----------------|---------|---------------|---------|-----------|-------|-------|-------|-------|--------|--------|--------|--------|-------|--------|
|   |                |         |               |         |           |       |       |       |       |        |        |        |        |       | ● 0953 |
| <b>SEKT 12T3</b><br>General<br>                  | SEKT 12T3 AGTN | 1.5     | 0.05-0.24     | 1.30    | 6.0       |       |       |       |       |        |        |        |        |       |        |
|   |                |         |               |         |           |       |       |       |       | ● 0963 | ● 0271 | ● 0689 |        |       |        |
| <b>-ST</b><br>Stainless Steel<br>Super Alloy<br> | SEKT 12T3 -ST  | 1.5     | 0.05-0.12     | 2.00    | 6.0       |       |       |       |       |        |        |        |        |       |        |
|   |                |         |               |         |           |       |       |       |       |        |        |        |        |       |        |

Milling - Face Milling - Inserts

**SEMT** - Face Milling Positive (4 Corners)



| Series   | IC    | S   |
|----------|-------|-----|
| SEMT1204 | 12.92 | 5.1 |
| SEMT13T3 | 13.40 | 4.0 |

TURNING

PARTING & GROOVING

MILLING

DRILLING

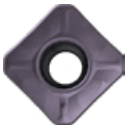
TECHNICAL INFORMATION

EDP 1200.. ●: Stock item ○: Order made item

| H20   | P15   | P25   | P30   | P30        | P30       | P40        | K10    | K15   | S40   |
|-------|-------|-------|-------|------------|-----------|------------|--------|-------|-------|
| P20   |       |       | K30   | M30<br>S30 | M30       | M40<br>S40 |        |       |       |
| YG012 | YG712 | YG713 | YG622 | YG612      | YG602     | YG613      | YG5020 | YG501 | YG904 |
|       |       |       |       |            | ●<br>0052 |            |        |       |       |
|       |       |       |       |            | ●<br>0203 |            |        |       |       |

| SEMT | Designation | RE (mm) | Fz (mm/tooth) | BS (mm) | APMX (mm) |
|------|-------------|---------|---------------|---------|-----------|
|------|-------------|---------|---------------|---------|-----------|

**SEMT 1204**  
General



SEMT 1204 AFTN 1.2 0.05-0.24 1.24 6.0

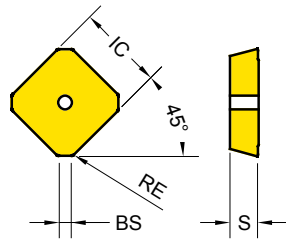
**SEMT 13T3**  
General



SEMT 13T3 AGSN 1.5 0.05-0.24 1.31 6.0

Milling - Face Milling - Inserts

**SEKR / N** - Face Milling Positive (4 Corners ISO)



| Series    | IC   | S   |
|-----------|------|-----|
| SEK* 1203 | 12.7 | 3.2 |

EDP 1200.. ●: Stock item ○: Order made item

| SEKR<br>SEKN           | Designation         | RE<br>(mm) | Fz<br>(mm/tooth) | BS<br>(mm) | APMX<br>(mm) | EDP 1200.. |       |       |       |        |        |        |        |       |       |  |  |  |  |  |
|------------------------|---------------------|------------|------------------|------------|--------------|------------|-------|-------|-------|--------|--------|--------|--------|-------|-------|--|--|--|--|--|
|                        |                     |            |                  |            |              | YG012      | YG712 | YG713 | YG622 | YG612  | YG602  | YG613  | YG5020 | YG501 | YG904 |  |  |  |  |  |
| SEKR<br>General        | SEKR 1203 AFTN      | 0.4        | 0.05-0.23        | 1.40       | 6.0          |            |       |       |       |        |        |        |        |       |       |  |  |  |  |  |
|                        | SEKR 1203 AFTN - PW | 0.4        | 0.05-0.24        | 2.00       | 6.0          |            |       |       |       |        |        |        |        |       |       |  |  |  |  |  |
| SEKN<br>Hard Materials | SEKN 1203 AFTN      | 0.4        | 0.05-0.30        | 1.40       | 6.0          |            |       |       |       | ○ 0832 | ● 0051 |        |        |       |       |  |  |  |  |  |
|                        | SEKN 1203 AFTN - GW | 0.4        | 0.05-0.33        | 2.00       | 6.0          | ● 0774     |       |       |       | ● 0952 | ● 0054 |        |        |       |       |  |  |  |  |  |
|                        | SEKN 1203 AFTN - PW | 0.4        | 0.05-0.33        | 2.00       | 6.0          |            |       |       |       |        | ● 0304 | ● 0297 |        |       |       |  |  |  |  |  |

- PW : For Improved Surface Roughness  
- GW : Ground Wiper

Milling - Face Milling - Inserts  
**SNGX** - Face Milling Negative (8 Corners)

Refer to  
 Milling Cutter  
 p. 220

TURNING

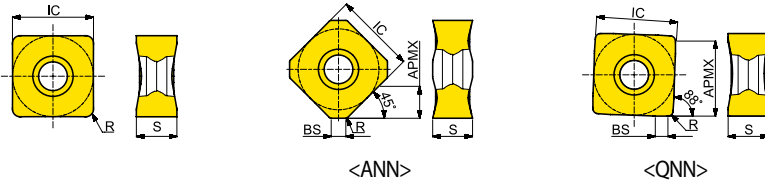
PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

| Series    | IC   | S    |
|-----------|------|------|
| SN** 1206 | 12.7 | 6.25 |



EDP 1200.. ●: Stock item ○: Order made item

| H20   | P15   | P25   | P30   | P30   | P30   | P40   | K10    | K15   | S40   |
|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|
|       |       |       |       |       |       |       |        |       |       |
| YG012 | YG712 | YG713 | YG622 | YG612 | YG602 | YG613 | YG5020 | YG501 | YG904 |
| ●     |       |       |       | ●     |       | ●     |        |       |       |
| 1021  |       |       |       | 1023  |       | 1024  |        |       |       |
| ●     | ●     |       |       | ●     |       | ●     | ●      | ●     |       |
| 1079  | 1081  |       |       | 1078  |       | 1080  | 1082   | 1083  |       |
| ●     | ●     |       |       | ●     |       | ●     | ●      | ●     |       |
| 1016  | 1121  |       |       | 1015  |       | 1120  | 1122   | 1019  |       |

**SNGX**

Designation

RE (mm) Fz (mm/tooth) BS (mm) APMX (mm)

**NEW**

**SNGX**  
General



SNGX 120612 - GN

1.2 0.05-0.35 - 10.5

SNGX 1206 ANN - GN

0.4 0.05-0.35 2.3 6.0

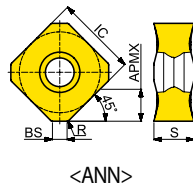
SNGX 1206 QNN - GN

0.8 0.05-0.35 2 9.8

MILLING

DRILLING

TECHNICAL INFORMATION



EDP 1200.. ●: Stock item ○: Order made item

| H20   | P15   | P25   | P30   | P30   | P30   | P40   | K10    | K15   | N15  |
|-------|-------|-------|-------|-------|-------|-------|--------|-------|------|
|       |       |       |       |       |       |       |        |       |      |
| YG012 | YG712 | YG713 | YG622 | YG612 | YG602 | YG613 | YG5020 | YG501 | YG50 |
|       |       |       |       |       |       |       |        |       | ●    |
|       |       |       |       |       |       |       |        |       | 1086 |

**SNGX**

Designation

RE (mm) Fz (mm/tooth) BS (mm) APMX (mm)

**NEW**

**-AL**  
Aluminium



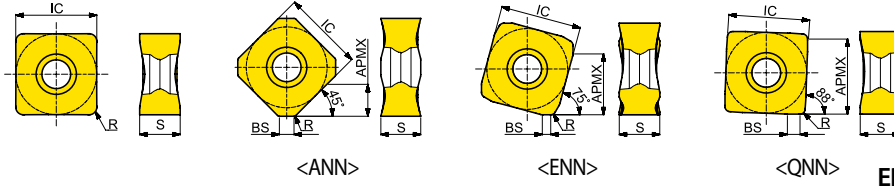
SNGX 1206 ANN - AL

0.4 0.05~0.35 2.3 6.0

Milling - Face Milling - Inserts

**SNMX** - Face Milling Negative (8 Corners)

Refer to Milling Cutter p.220



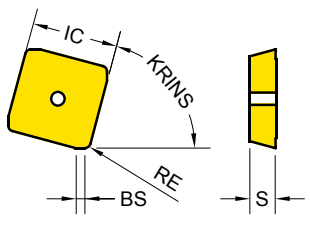
| Series    | IC   | S    |
|-----------|------|------|
| SN** 1206 | 12.7 | 6.25 |

EDP 1200.. ●: Stock item ○: Order made item

| SNMX                                  | Designation        | RE (mm) | Fz (mm/tooth) | BS (mm) | APMX (mm) | H20       | P15       | P25       | P30 | P30 | P30       | P40       | K10       | K15       | S40       |       |
|---------------------------------------|--------------------|---------|---------------|---------|-----------|-----------|-----------|-----------|-----|-----|-----------|-----------|-----------|-----------|-----------|-------|
|                                       |                    |         |               |         |           | P20       | M30       | M30       | M30 | M40 | S40       | YG012     | YG712     | YG713     | YG622     | YG612 |
| General                               | SNMX 1206 ANN      | 0.8     | 0.05-0.24     | 1.70    | 6.0       | ●<br>0754 |           | ○<br>0658 |     |     | ●<br>0959 | ●<br>0231 | ●<br>0674 | ●<br>0460 | ●<br>0461 |       |
|                                       | SNMX 1206 QNN      | 0.8     | 0.05-0.24     | 1.99    | 9.8       | ●<br>0901 | ●<br>0732 |           |     |     |           |           |           | ●<br>0731 | ●<br>0686 |       |
|                                       | SNMX 120612 - GN   | 1.2     | 0.05-0.35     |         | 10.5      | ●<br>1018 | ●<br>1139 |           |     |     | ●<br>1054 |           | ●<br>1138 | ●<br>1140 | ●<br>1141 |       |
|                                       | SNMX 1206 ANN - GN | 0.4     | 0.05-0.35     | 2.3     | 6.0       | ●<br>1071 | ●<br>1073 |           |     |     | ●<br>1070 |           | ●<br>1072 | ●<br>1074 | ●<br>1075 |       |
|                                       | SNMX 1206 ENN - GN | 0.8     | 0.05-0.35     | 1.3     | 9.5       | ●<br>1093 | ●<br>1095 |           |     |     | ●<br>1092 |           | ●<br>1094 | ●<br>1096 | ●<br>1097 |       |
|                                       | SNMX 1206 QNN - GN | 0.8     | 0.05-0.35     | 2       | 9.8       | ●<br>1017 | ●<br>1113 |           |     |     | ●<br>1111 |           | ●<br>1112 | ●<br>1114 | ●<br>1115 |       |
| -ST<br>Stainless Steel<br>Super Alloy | SNMX 1206 ANN - ST | 0.4     | 0.05-0.25     | 2.3     | 6.0       |           |           |           |     |     | ●<br>1076 |           | ●<br>1077 |           |           |       |
|                                       | SNMX 1206 QNN - ST | 0.8     | 0.05-0.25     | 2       | 9.8       |           |           |           |     |     | ●<br>1116 |           | ●<br>1117 |           |           |       |

Milling - Face Milling - Inserts  
**SPCN, SPKN / R - Face Milling Positive (4 Corners ISO)**

Refer to  
**Milling Cutter**  
 p. 219



| Series    | KRINS | IC    | S    |
|-----------|-------|-------|------|
| SP** 1203 | 75°   | 12.70 | 3.18 |
| SP** 1504 | 75°   | 15.88 | 4.76 |

TURNING

PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

EDP 1200.. ●: Stock item ○: Order made item

| H20    | P15    | P25   | P30   | P30    | P30    | P40   | K10    | K15   | S40   |
|--------|--------|-------|-------|--------|--------|-------|--------|-------|-------|
| P20    |        |       | K30   | M30    | M30    | M40   |        |       |       |
|        |        |       | S30   | S30    | S40    | S40   |        |       |       |
| YG012  | YG712  | YG713 | YG622 | YG612  | YG602  | YG613 | YG5020 | YG501 | YG904 |
| ● 0081 | ● 0198 |       |       |        |        |       |        |       |       |
|        | ● 0098 |       |       |        |        |       |        |       |       |
|        | ● 0199 |       |       |        |        |       |        |       |       |
| ○ 0910 |        |       |       | ● 0848 | ● 0048 |       |        |       |       |
|        |        |       |       | ● 0847 | ● 0280 |       |        |       |       |
|        |        |       |       |        | ● 0279 |       |        |       |       |
| ○ 0900 |        |       |       | ● 0850 | ● 0049 |       |        |       |       |
|        |        |       |       | ● 0849 | ● 0305 |       |        |       |       |
|        |        |       |       |        | ● 0299 |       |        |       |       |
|        |        |       |       | ● 0951 | ● 0050 |       |        |       |       |
|        |        |       |       |        | ● 0298 |       |        |       |       |

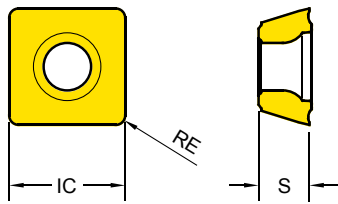
| SPCN SPKN SPKR                | Designation         | RE (mm) | Fz (mm/tooth) | BS (mm) | APMX (mm) |
|-------------------------------|---------------------|---------|---------------|---------|-----------|
| <b>SPCN</b><br>Ground insert  | SPCN 1203 EDSR - M  | 0.8     | 0.10-0.20     | 1.82    | 8.0       |
|                               | SPCN 1203 EDSR - MR | 0.8     | 0.10-0.20     | 1.77    | 8.0       |
|                               | SPCN 1504 EDSR - M  | 0.8     | 0.10-0.20     | 1.92    | 12.0      |
|                               | SPCN 1504 EDSR - MR | 0.8     | 0.10-0.20     | 1.86    | 12.0      |
| <b>SPKN</b><br>Hard Materials | SPKN 1203 EDTR      | 0.8     | 0.05-0.30     | 1.40    | 8.0       |
|                               | SPKN 1203 EDTR - GW | 0.6     | 0.05-0.38     | 1.50    | 8.0       |
|                               | SPKN 1203 EDTR - PW | 0.8     | 0.05-0.38     | 1.50    | 8.0       |
|                               | SPKN 1504 EDTR      | 0.8     | 0.05-0.24     | 1.30    | 12.0      |
|                               | SPKN 1504 EDTR - GW | 0.8     | 0.05-0.38     | 2.20    | 12.0      |
|                               | SPKN 1504 EDTR - PW | 0.8     | 0.05-0.38     | 2.13    | 12.0      |
| <b>SPKR</b><br>General        | SPKR 1203 EDTR      | 0.8     | 0.05-0.24     | 1.40    | 8.0       |
|                               | SPKR 1203 EDTR - PW | 0.8     | 0.05-0.11     | 1.54    | 8.0       |

- PW : For Improved Surface Roughness
- GW : Ground Wiper
- M : For Mold & Die
- MR : For Mold & Die Roughing

Milling - Face Milling - Inserts

**SPMT** - Universal Positive (4 Corners)

| Series    | AS  | IC   | S    |
|-----------|-----|------|------|
| SPMT 1204 | 11° | 12.7 | 4.81 |



EDP 1200.. ●: Stock item ○: Order made item

|        | H20 | P15 | P25 | P30 | P30 | P30 | P40 | K10 | K15 | S40 |
|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|        | P20 |     |     | K30 | M30 | M30 | M40 |     |     |     |
|        |     |     |     | S30 |     | S40 |     |     |     |     |
| YG012  | ●   |     |     |     |     |     |     |     |     |     |
| YG712  | ○   |     |     |     |     |     |     |     |     |     |
| YG713  |     |     |     |     |     |     |     |     |     |     |
| YG622  |     |     |     |     |     |     |     |     |     |     |
| YG612  | ●   |     |     |     |     |     |     |     |     |     |
| YG602  | ●   |     |     |     |     |     |     |     |     |     |
| YG613  | ●   |     |     |     |     |     |     |     |     |     |
| YG5020 |     |     |     |     |     |     |     |     |     |     |
| YG501  |     |     |     |     |     |     |     |     |     |     |
| YG904  |     |     |     |     |     |     |     |     |     |     |

| SPMT | Designation | RE (mm) | Fz (mm/tooth) | BS (mm) | APMX (mm) |
|------|-------------|---------|---------------|---------|-----------|
|------|-------------|---------|---------------|---------|-----------|

**SPMT**  
General



|  |             |     |           |   |      |
|--|-------------|-----|-----------|---|------|
|  | SPMT 120408 | 0.8 | 0.05-0.24 | - | 10.0 |
|  |             |     |           |   |      |
|  |             |     |           |   |      |

TURNING

PARTING & GROOVING

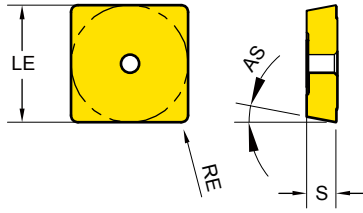
MILLING

DRILLING

TECHNICAL INFORMATION

Milling - Face Milling - Inserts

**SPUN** - Universal Positive (4 Corners ISO)



| Series    | AS  | IC   | S   |
|-----------|-----|------|-----|
| SPUN 1203 | 11° | 12.7 | 3.2 |

EDP 1200.. ●: Stock item ○: Order made item

| H20   | P15   | P25   | P30   | P30   | P30       | P40   | K10    | K15   | S40   |
|-------|-------|-------|-------|-------|-----------|-------|--------|-------|-------|
| P20   |       |       | K30   | M30   | M30       | M40   |        |       |       |
|       |       |       | S30   | S30   | S40       | S40   |        |       |       |
| YG012 | YG712 | YG713 | YG622 | YG612 | YG602     | YG613 | YG5020 | YG501 | YG904 |
|       |       |       |       |       | ●<br>0224 |       |        |       |       |

| SPUN | Designation | RE (mm) | Fz (mm/tooth) | BS (mm) | APMX (mm) |
|------|-------------|---------|---------------|---------|-----------|
|------|-------------|---------|---------------|---------|-----------|

**SPUN**  
General



SPUN 120308 0.8 0.05-0.29

TURNING

PARTING & GROOVING

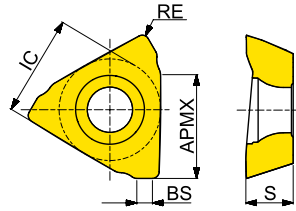
MILLING

DRILLING

TECHNICAL INFORMATION

Milling - Shoulder Milling - Inserts  
**TPCT** - Shoulder Milling Positive (3 Corners)

Refer to  
 Milling Cutter  
 p.222 - 226



| Series    | IC    | S    |
|-----------|-------|------|
| TP** 0703 | 5.51  | 2.92 |
| TP** 1104 | 7.54  | 4.28 |
| TP** 1605 | 11.66 | 5.38 |

EDP 1200.. ●: Stock item ○: Order made item

| TPCT | Designation       | RE (mm) | Fz (mm/tooth) | BS (mm) | APMX (mm) | EDP 1200.. |       |       |       |            |       |            |        |       |      |   |
|------|-------------------|---------|---------------|---------|-----------|------------|-------|-------|-------|------------|-------|------------|--------|-------|------|---|
|      |                   |         |               |         |           | H20        | P15   | P25   | P30   | P30        | P30   | P40        | K10    | K15   | N15  |   |
|      |                   |         |               |         |           | P20        |       |       | K30   | M30<br>S30 | M30   | M40<br>S40 |        |       |      |   |
|      |                   |         |               |         |           | YG012      | YG712 | YG713 | YG622 | YG612      | YG602 | YG613      | YG5020 | YG501 | YG50 | ● |
|      | TPCT 070302R - AL | 0.2     | 0.05~0.2      | 1.35    | 4.5       |            |       |       |       |            |       |            |        |       |      | ● |
|      | TPCT 070304R - AL | 0.4     | 0.05~0.2      | 1.15    | 4.5       |            |       |       |       |            |       |            |        |       |      | ● |
|      | TPCT 070308R - AL | 0.8     | 0.05~0.2      | 0.75    | 4.5       |            |       |       |       |            |       |            |        |       |      | ● |
|      | TPCT 110404R - AL | 0.4     | 0.05~0.25     | 1.5     | 7.0       |            |       |       |       |            |       |            |        |       |      | ● |
|      | TPCT 110408R - AL | 0.8     | 0.05~0.25     | 1.1     | 7.0       |            |       |       |       |            |       |            |        |       |      | ● |
|      | TPCT 160504R - AL | 0.4     | 0.05~0.5      | 2.4     | 11.0      |            |       |       |       |            |       |            |        |       |      | ● |
|      | TPCT 160508R - AL | 0.8     | 0.05~0.5      | 1.9     | 11.0      |            |       |       |       |            |       |            |        |       |      | ● |

**NEW**  
**-AL**  
 Aluminium



TURNING

PARTING & GROOVING

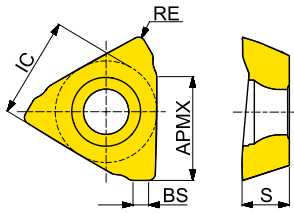
MILLING

DRILLING

TECHNICAL INFORMATION

Milling - Shoulder Milling - Inserts  
**TPKT** - Shoulder Milling Positive (3 Corners)

Refer to  
 Milling Cutter  
 p. 222 - 226



| Series    | IC    | S    |
|-----------|-------|------|
| TP** 0703 | 5.51  | 2.92 |
| TP** 1104 | 7.54  | 4.28 |
| TP** 1605 | 11.66 | 5.38 |

TURNING

PARTING & GROOVING



MILLING

DRILLING

TECHNICAL INFORMATION

EDP 1200.. ●: Stock item ○: Order made item

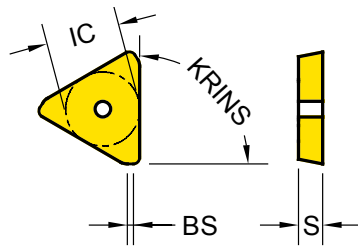
| H20 | P15 | P25 | P30 | P30        | P30 | P40        | K10 | K15 | S40 |
|-----|-----|-----|-----|------------|-----|------------|-----|-----|-----|
| P20 |     |     | K30 | M30<br>S30 | M30 | M40<br>S40 |     |     |     |

| TPKT   | Designation   | RE (mm)           | Fz (mm/tooth) | BS (mm)     | APMX (mm) | YG012     | YG712     | YG713 | YG622     | YG612     | YG602     | YG613     | YG5020    | YG501     | YG904     |
|--|---|-------------------|---------------|-------------|-----------|-----------|-----------|-------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>TPKT</b><br>General<br> | TPKT 070302R - GN   | 0.2               | 0.05 - 0.2    | 1           | 4.5       | ●<br>0987 | ●<br>0989 |       |           | ●<br>0986 |           | ●<br>0988 |           |           |           |
|  | TPKT 070304R - GN   | 0.4               | 0.05 - 0.2    | 0.9         | 4.5       | ●<br>0991 | ●<br>0993 |       |           | ●<br>0990 |           | ●<br>0992 | ●<br>0994 | ●<br>0995 | ●<br>1196 |
|  | TPKT 070308R - GN   | 0.8               | 0.05 - 0.2    | 0.5         | 4.5       | ●<br>0997 | ●<br>0999 |       |           | ●<br>0996 |           | ●<br>0998 | ●<br>1000 | ●<br>1001 |           |
|  | TPKT 110404R - GN   | 0.4               | 0.05 - 0.24   | 1.6         | 7.0       | ●<br>0802 | ●<br>0807 |       |           | ●<br>0801 |           |           | ●<br>0808 | ●<br>0928 |           |
|  | TPKT 110408R - GN   | 0.8               | 0.05 - 0.24   | 1.15        | 7.0       | ●<br>0804 | ●<br>0811 |       |           | ●<br>0803 |           |           | ●<br>0812 | ●<br>0929 | ●<br>1194 |
|  | TPKT 110412R - GN   | 1.2               | 0.05 - 0.24   | 0.8         | 7.0       | ●<br>1206 | ●<br>1207 |       |           | ●<br>1205 |           |           | ●<br>1209 | ●<br>1208 |           |
|  | TPKT 110416R - GN   | 1.6               | 0.05 - 0.24   | 0.6         | 6.5       | ●<br>0806 | ●<br>0815 |       |           | ●<br>0805 |           |           | ●<br>0816 | ●<br>0930 |           |
|  | TPKT 110420R - GN   | 2                 | 0.05 - 0.24   | 0.13        | 6.5       | ●<br>1213 | ●<br>1214 |       |           | ●<br>1212 |           |           | ●<br>1216 | ●<br>1215 |           |
|  | TPKT 160504R - GN   | 0.4               | 0.05 - 0.27   | 2.2         | 11.0      | ●<br>0888 | ●<br>0889 |       |           | ●<br>0887 |           |           | ●<br>0890 | ●<br>0931 |           |
|  | TPKT 160508R - GN   | 0.8               | 0.05 - 0.27   | 1.79        | 11.0      | ●<br>0781 | ●<br>0779 |       |           | ●<br>0718 |           |           | ●<br>0780 | ●<br>0932 | ●<br>1195 |
|  | TPKT 160512R - GN   | 1.2               | 0.05 - 0.27   | 1.29        | 11.0      | ●<br>1218 | ●<br>1219 |       |           | ●<br>1217 |           |           | ●<br>1221 | ●<br>1220 |           |
|  | TPKT 160516R - GN   | 1.6               | 0.05 - 0.27   | 1.2         | 11.0      | ●<br>0785 | ●<br>0786 |       |           | ●<br>0784 |           |           | ●<br>0787 | ●<br>0933 |           |
|  | TPKT 160520R - GN   | 2                 | 0.05 - 0.27   | 0.8         | 11.0      | ●<br>1225 | ●<br>1226 |       |           | ●<br>1224 |           |           | ●<br>1228 | ●<br>1227 |           |
|  | TPKT 160524R - GN   | 2.4               | 0.05 - 0.27   | 0.7         | 11.0      | ●<br>0789 | ●<br>0790 |       |           | ●<br>0788 |           |           | ●<br>0791 | ●<br>0934 |           |
|  | <b>-ST</b><br>Stainless Steel<br>Super Alloy<br> | TPKT 070302R - ST | 0.2           | 0.05 - 0.13 | 1         | 4.5       |           |       |           |           | ●<br>1002 |           | ●<br>1003 |           |           |
| TPKT 070304R - ST  |   | 0.4               | 0.05 - 0.13   | 0.9         | 4.5       |           |           |       |           | ●<br>1004 |           | ●<br>1005 |           |           |           |
| TPKT 070308R - ST  |   | 0.8               | 0.05 - 0.13   | 0.5         | 4.5       |           |           |       |           | ●<br>1006 |           | ●<br>1007 |           |           |           |
| TPKT 110404R - ST  |   | 0.4               | 0.05 - 0.15   | 1.6         | 7.0       |           |           |       |           | ●<br>0809 |           | ●<br>0810 |           |           |           |
| TPKT 110408R - ST  |   | 0.8               | 0.05 - 0.15   | 1.15        | 7.0       |           |           |       |           | ●<br>0813 |           | ●<br>0814 |           |           |           |
| TPKT 110412R - ST  |   | 1.2               | 0.05 - 0.15   | 0.8         | 7.0       |           |           |       |           | ●<br>1210 |           | ●<br>1211 |           |           |           |
| TPKT 160504R - ST  |   | 0.4               | 0.05 - 0.15   | 2.2         | 11.0      |           |           |       |           | ●<br>0891 |           | ●<br>0892 |           |           |           |
| TPKT 160508R - ST  |   | 0.8               | 0.05 - 0.15   | 1.79        | 11.0      |           |           |       |           | ●<br>0758 |           | ●<br>0759 |           |           |           |
| TPKT 160512R - ST  | 1.2   | 0.05 - 0.15       | 1.29          | 11.0        |           |           |           |       | ●<br>1222 |           | ●<br>1223 |           |           |           |           |

Milling - Shoulder Milling - Inserts

**TPCN / TPKN / KR** - Shoulder Milling Positive (3 Corners ISO)

Refer to Milling Cutter p.221



| Series    | KRINS | IC   | S    |
|-----------|-------|------|------|
| TP** 1603 | 90    | 9.53 | 3.18 |
| TP** 2204 | 90    | 12.7 | 4.85 |

EDP 1200.. ●: Stock item ○: Order made item

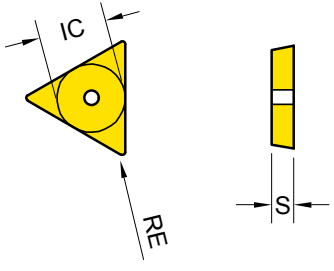
| TPCN TPKN TPKR                | Designation         | RE (mm) | Fz (mm/tooth) | BS (mm) | APMX (mm) | H20     | P15     | P25 | P30    | P30    | P30    | P40 | K10 | K15 | S40 |  |
|-------------------------------|---------------------|---------|---------------|---------|-----------|---------|---------|-----|--------|--------|--------|-----|-----|-----|-----|--|
|                               |                     |         |               |         |           | P20     | M30     | S30 | M30    | M40    | S40    |     |     |     |     |  |
| <b>TPCN</b><br>Ground insert  | TPCN 2204 PDSR - M  |         | 0.05-0.20     | 1.76    | 18.0      | ● YG012 | ● YG712 |     |        |        |        |     |     |     |     |  |
|                               | TPCN 2204 PDSR - MR |         | 0.05-0.20     | 1.76    | 18.0      |         | ● 0202  |     |        |        |        |     |     |     |     |  |
| <b>TPKN</b><br>Hard Materials | TPKN 1603 PDTR      |         | 0.05-0.21     | 1.2     | 12.0      |         |         |     | ● 0956 | ● 0062 | ● 1012 |     |     |     |     |  |
|                               | TPKN 1603 PDTR - GW |         | 0.05-0.15     | 1.6     | 12.0      |         |         |     |        | ● 0306 |        |     |     |     |     |  |
|                               | TPKN 1603 PDTR - PW |         | 0.05-0.30     | 1.2     | 12.0      |         |         |     |        | ● 0302 |        |     |     |     |     |  |
|                               | TPKN 2204 PDTR      |         | 0.05-0.24     | 1.7     | 18.0      | ● 0902  |         |     | ● 0852 | ● 0063 |        |     |     |     |     |  |
|                               | TPKN 2204 PDTR - GW |         | 0.05-0.45     | 2.5     | 18.0      |         |         |     |        | ● 0307 |        |     |     |     |     |  |
|                               | TPKN 2204 PDTR - PW |         | 0.05-0.29     | 1.7     | 18.0      |         |         |     |        | ● 0303 |        |     |     |     |     |  |
| <b>TPKR</b><br>General        | TPKR 1603 PDTR      |         | 0.15-0.28     | 1.2     | 12.0      |         |         |     | ● 0955 | ● 0060 | ● 0690 |     |     |     |     |  |
|                               | TPKR 1603 PDTR - PW |         | 0.11-0.20     | 1.2     | 12.0      |         |         |     |        | ● 0300 |        |     |     |     |     |  |
|                               | TPKR 2204 PDTR      |         | 0.18-0.35     | 1.7     | 18.0      |         |         |     | ● 0853 | ● 0061 | ● 0715 |     |     |     |     |  |
|                               | TPKR 2204 PDTR - PW |         | 0.18-0.35     | 1.7     | 18.0      |         |         |     |        | ● 0301 |        |     |     |     |     |  |

- PW : For Improved Surface Roughness
- GW : Ground Wiper
- M : For Mold & Die
- MR : For Mold & Die Roughing

Milling - Shoulder Milling - Inserts  
**TPUN** - Universal Positive (3 Corners ISO)

- TURNING
- PARTING & GROOVING
- MILLING**
- DRILLING
- TECHNICAL INFORMATION

| Series    | IC   | S    |
|-----------|------|------|
| TPUN 1603 | 9.53 | 3.18 |



EDP 1200.. ●: Stock item ○: Order made item

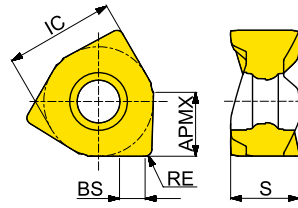
| H20   | P15   | P25   | P30   | P30   | P30       | P40   | K10    | K15   | S40   |
|-------|-------|-------|-------|-------|-----------|-------|--------|-------|-------|
| P20   |       |       | K30   | M30   | M30       | M40   |        |       |       |
|       |       |       | S30   | S30   | S40       | S40   |        |       |       |
| YG012 | YG712 | YG713 | YG622 | YG612 | YG602     | YG613 | YG5020 | YG501 | YG904 |
|       |       |       |       |       | ●<br>0064 |       |        |       |       |

| TPUN | Designation | RE (mm) | Fz (mm/tooth) | BS (mm) | APMX (mm) |
|------|-------------|---------|---------------|---------|-----------|
|      | TPUN 160308 | 0.8     | 0.08-0.15     |         |           |





Milling - Shoulder Milling - Inserts  
**WNEX** - Shoulder Milling Negative (6 Corners)


Refer to  
 Milling Cutter  
 p.227 - 228



| Series    | IC   | S    |
|-----------|------|------|
| WNE* 0403 | 7.0  | 3.60 |
| WNE* 0806 | 12.9 | 6.25 |

EDP 1200.. ●: Stock item ○: Order made item

| WNEX  | Designation      | RE (mm) | Fz (mm/tooth) | BS (mm) | APMX (mm) | H20 | P15 | P25 | P30 | P30 | P30 | P40 | K10 | K15 | S40 |
|---|------------------|---------|---------------|---------|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|   |                  |         |               |         |           | P20 | M30 | M30 | M30 | M40 | S40 | K10 | K15 | S40 |     |
| <b>WNEX</b><br>General<br>                         | WNEX 040304R -GN | 0.4     | 0.05~0.24     | 2       | 4.0       | ●   | ●   |     |     |     |     | ●   | ●   | ●   |     |
|   | WNEX 040308R -GN | 0.8     | 0.05~0.24     | 1.65    | 4.0       | ●   | ●   |     |     |     |     | ●   | ●   | ●   |     |
|   | WNEX 040312R -GN | 1.2     | 0.05~0.24     | 1.3     | 4.0       | ●   | ●   |     |     |     |     | ●   | ●   | ●   |     |
|   | WNEX 080604R -GN | 0.4     | 0.05 - 0.26   | 3.2     | 7.0       | ●   | ●   |     |     |     |     |     | ●   | ●   | ●   |
|   | WNEX 080608R -GN | 0.8     | 0.05 - 0.26   | 2.8     | 7.0       | ●   | ●   |     |     |     |     |     | ●   | ●   | ●   |
|   | WNEX 080612R -GN | 1.2     | 0.05 - 0.26   | 2.4     | 7.0       | ●   | ●   |     |     |     |     |     | ●   | ●   | ●   |
|   | WNEX 080616R -GN | 1.6     | 0.05 - 0.26   | 2.0     | 7.0       | ●   | ●   |     |     |     |     |     | ●   | ●   | ●   |
|   | WNEX 080620R -GN | 2.0     | 0.05 - 0.26   | 1.6     | 7.0       | ●   | ●   |     |     |     |     |     | ●   | ●   | ●   |
| <b>-ST</b><br>Stainless Steel<br>Super Alloy<br> | WNEX 040304R -ST | 0.4     | 0.05~0.16     | 2       | 4.0       |     |     |     |     |     |     | ●   |     |     |     |
|   | WNEX 040308R -ST | 0.8     | 0.05~0.16     | 1.65    | 4.0       |     |     |     |     |     |     | ●   |     |     |     |
|   | WNEX 040312R -ST | 1.2     | 0.05~0.16     | 1.3     | 4.0       |     |     |     |     |     |     | ●   |     |     |     |
|   | WNEX 080604R -ST | 0.4     | 0.05 - 0.19   | 3.6     | 7.0       |     |     |     |     |     |     | ●   |     |     |     |
|   | WNEX 080608R -ST | 0.8     | 0.05 - 0.19   | 3.3     | 7.0       |     |     |     |     |     |     | ●   |     |     |     |
|   | WNEX 080612R -ST | 1.2     | 0.05 - 0.19   | 2.8     | 7.0       |     |     |     |     |     |     | ●   |     |     |     |
|   | WNEX 080616R -ST | 1.6     | 0.05 - 0.19   | 2.4     | 7.0       |     |     |     |     |     |     | ●   |     |     |     |
|   | WNEX 080620R -ST | 2.0     | 0.05 - 0.19   | 2.0     | 7.0       |     |     |     |     |     |     | ●   |     |     |     |

| WNEX   | Designation      | RE (mm) | Fz (mm/tooth) | BS (mm) | APMX (mm) | H20 | P15 | P25 | P30 | P30 | P30 | P40 | K10 | K15 | N15 |
|--|------------------|---------|---------------|---------|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|  |                  |         |               |         |           | P20 | M30 | M30 | M30 | M40 | S40 | K10 | K15 | N15 |     |
| <b>NEW</b><br><b>-AL</b><br>Aluminium<br> | WNEX 080604R -AL | 0.4     | 0.05 - 0.4    | 4       | 7.0       |     |     |     |     |     |     |     |     |     | ●   |
|  | WNEX 080608R -AL | 0.8     | 0.05 - 0.4    | 3.4     | 7.0       |     |     |     |     |     |     |     |     |     | ●   |

# Milling Cutters Overview

Mounting Bolt : p. 229

TURNING

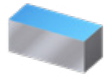
PARTING & GROOVING

MILLING

DRILLING

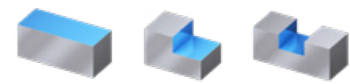
TECHNICAL INFORMATION

## Face Milling



| Negative Octagonal |  |           |                    | Negative Square    |  |           |     |
|--------------------|--|-----------|--------------------|--------------------|--|-----------|-----|
| Cutter             |  | ONMU 0806 |                    |                    |  | SNMX 1206 |     |
| APMX               |  | 5.5       |                    |                    |  | 6.0       |     |
| DC                 |  | Ø63-315   |                    |                    |  | Ø50-200   |     |
| page               |  | 213       |                    |                    |  | 220       |     |
| Negative 10 Corner |  |           | Positive Octagonal |                    |  |           |     |
| Cutter             |  | PNMU 1206 |                    | ODMT/<br>ODMW 0605 |  | OFER 0704 |     |
| APMX               |  | 4.0       |                    | 3.5                |  | 5.0       |     |
| DC                 |  | Ø50-125   |                    | Ø63-125            |  | Ø63-160   |     |
| page               |  | 214       |                    | 212                |  | 212       |     |
| Positive Square    |  |           |                    | ISO                |  |           |     |
| Cutter             |  | SEKT 1204 |                    | SEKT 12T3          |  | SEGT 1204 |     |
| APMX               |  | 6.0       |                    | 6.0                |  | 6.0       |     |
| DC                 |  | Ø40-160   |                    | Ø50-160            |  | Ø40-160   |     |
| page               |  |           |                    | 218                |  |           | 219 |

## Shoulder Milling

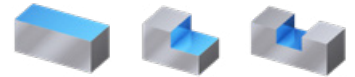


| 2 Corner Positive |  |                         |  | 4 Corner Negative |  |           |                         |
|-------------------|--|-------------------------|--|-------------------|--|-----------|-------------------------|
| Cutter            |  | APKT 1003               |  | APKT 1604         |  | LNHU 1306 | <b>NEW</b>              |
| APMX              |  | 9.0                     |  | 14.0              |  | 11.0      |                         |
| DC                |  | Ø16-100                 |  | Ø25-200           |  | Ø40-160   |                         |
| page              |  | 204-205                 |  | 206-207           |  | 211       |                         |
| 3 Corner Positive |  |                         |  | ISO               |  |           |                         |
| Cutter            |  | <b>NEW</b><br>TPKT 0703 |  | TPKT 1104         |  | TPKT 1605 |                         |
| APMX              |  | 4.5                     |  | 7.0               |  | 11.0      |                         |
| DC                |  | 12-52                   |  | 20-63             |  | 32-200    |                         |
| page              |  | 222                     |  | 224               |  | 226       |                         |
|                   |  |                         |  |                   |  |           |                         |
|                   |  |                         |  |                   |  |           | TPKN/TPKR/<br>TPCN 2204 |
|                   |  |                         |  |                   |  |           | TPKN/TPKR/<br>TPCN 2204 |
| APMX              |  |                         |  |                   |  |           | 12.0                    |
| DC                |  |                         |  |                   |  |           | Ø50-125                 |
| page              |  |                         |  |                   |  |           | 221                     |
|                   |  |                         |  |                   |  |           | 18.0                    |
|                   |  |                         |  |                   |  |           | Ø63-315                 |
|                   |  |                         |  |                   |  |           | 221                     |

# Milling Cutters Overview

Mounting Bolt : p. 229

## Shoulder Milling



### 6 Corner Negative

|        |  |  |  |  |                     |          |
|--------|--|--|--|--|---------------------|----------|
| Cutter |  |  |  |  |                     |          |
|        |  |  |  |  |                     |          |
| APMX   |  |  |  |  | <b>NEW</b> WNEX0403 | WNEX0806 |
| DC     |  |  |  |  | 4.0                 | 7.0      |
| page   |  |  |  |  | Ø20-52              | Ø32-125  |
|        |  |  |  |  | 227                 | 228      |

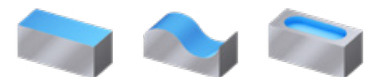
## Profiling



### Round Positive

|        |  |  |  |  |  |  |  |  |  |
|--------|--|--|--|--|--|--|--|--|--|
| Cutter |  |  |  |  |  |  |  |  |  |
|        |  |  |  |  |  |  |  |  |  |
| APMX   |  |  |  |  |  |  |  |  |  |
| DCX    |  |  |  |  |  |  |  |  |  |
| page   |  |  |  |  |  |  |  |  |  |

## High Feed Milling



### Negative 4 Corner

### Positive 4 Corner

|        |  |  |  |  |  |  |  |  |
|--------|--|--|--|--|--|--|--|--|
| Cutter |  |  |  |  |  |  |  |  |
|        |  |  |  |  |  |  |  |  |
| APMX   |  |  |  |  |  |  |  |  |
| DCX    |  |  |  |  |  |  |  |  |
| page   |  |  |  |  |  |  |  |  |

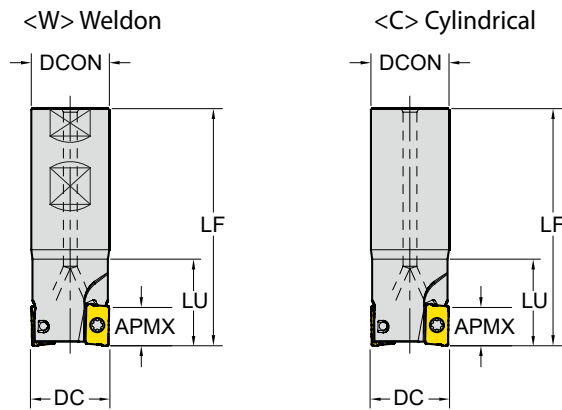
## Modular Shank

### Modular Shank for Modular Head

|        |  |           |
|--------|--|-----------|
| Cutter |  | M08 - M16 |
| page   |  | 229       |

Milling - Shoulder Milling - Cutter  
**Cutters for APKT**

Entering Angle : 90°  
2 Corner Positive



CICT : Number of Inserts  
CBDP : Connection Bore Depth

□ : Refer to p. 171

Unit:mm

| Series                         | APMX | Designation                          | EDP 1700.. | DC | CICT | LU  | LF  | TYPE        | DCON | CBDP | DCSFMS | ☉ |
|--------------------------------|------|--------------------------------------|------------|----|------|-----|-----|-------------|------|------|--------|---|
| APKT 1003                      | 9.0  | E90 - APKT10 - D16Z2C16 - L100       | 0083       | 16 | 2    | 40  | 100 | Cylindrical | 16   | -    | -      | ● |
|                                |      | E90 - APKT10 - D16Z2C16 - L120       | 0532       | 16 | 2    | 30  | 120 |             | 16   | -    | -      | ● |
|                                |      | E90 - APKT10 - D16Z2C16 - L150       | 0154       | 16 | 2    | 40  | 150 |             | 16   | -    | -      | ● |
|                                |      | E90 - APKT10 - D16Z2C16 - L200       | 0533       | 16 | 2    | 100 | 200 |             | 16   | -    | -      | ● |
|                                |      | E90 - APKT10 - D20Z2C20 - L250       | 0534       | 20 | 2    | 150 | 250 |             | 20   | -    | -      | ● |
|                                |      | E90 - APKT10 - D20Z3C20 - L100       | 0535       | 20 | 3    | 30  | 100 |             | 20   | -    | -      | ● |
|                                |      | E90 - APKT10 - D20Z3C20 - L120       | 0085       | 20 | 3    | 40  | 120 |             | 20   | -    | -      | ● |
|                                |      | E90 - APKT10 - D20Z3C20 - L150       | 0536       | 20 | 3    | 50  | 150 |             | 20   | -    | -      | ● |
|                                |      | E90 - APKT10 - D20Z3C20 - L200       | 0270       | 20 | 3    | 100 | 200 |             | 20   | -    | -      | ● |
|                                |      | E90 - APKT10 - D25Z3C25 - L100       | 0537       | 25 | 3    | 30  | 100 |             | 25   | -    | -      | ● |
|                                |      | E90 - APKT10 - D25Z3C25 - L120       | 0186       | 25 | 3    | 40  | 120 |             | 25   | -    | -      | ● |
|                                |      | E90 - APKT10 - D30Z4C25 - L100       | 0122       | 30 | 4    | 30  | 100 |             | 25   | -    | -      | ● |
|                                |      | E90 - APKT10 - D30Z4C25 - L120       | 0086       | 30 | 4    | 30  | 120 | 25          | -    | -    | ●      |   |
|                                |      | E90 - APKT10 - D32Z4C25 - L100       | 0538       | 32 | 4    | 35  | 100 | 25          | -    | -    | ●      |   |
|                                |      | E90 - APKT10 - D32Z4C25 - L150 - WOC | 0539       | 32 | 4    | 35  | 150 | 25          | -    | -    | X      |   |
|                                |      | E90 - APKT10 - D12Z1W16 - L100       | 0540       | 12 | 1    | 30  | 100 | Weldon      | 16   | -    | -      | ● |
|                                |      | E90 - APKT10 - D14Z1W16 - L100       | 0541       | 14 | 1    | 30  | 100 |             | 16   | -    | -      | ● |
|                                |      | E90 - APKT10 - D16Z2W16 - L100       | 0542       | 16 | 2    | 30  | 100 |             | 16   | -    | -      | ● |
| E90 - APKT10 - D16Z2W16 - L85  | 0082 | 16                                   | 2          | -  | 85   | 16  | -   |             | -    | ●    |        |   |
| E90 - APKT10 - D18Z2W16 - L100 | 0543 | 18                                   | 2          | 30 | 100  | 16  | -   |             | -    | ●    |        |   |

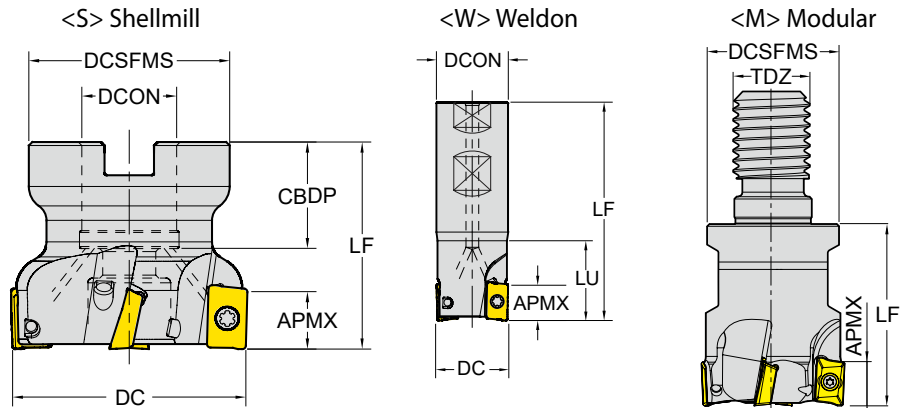
▶ NEXT PAGE

\* Clamping Torque (Nm) 1.2Nm

| APKT10      | Screw (Cutter D16~D20) | Screw (Cutter D20~) | Wrench   |
|-------------|------------------------|---------------------|----------|
| Description | TP072505               | TP072506            | TPWFTP07 |
| EDP         | 18000016               | 18000013            | 18000001 |

# Milling - Shoulder Milling - Cutter Cutters for APKT

Entering Angle : 90°  
2 Corner Positive



CICT : Number of Inserts  
CBDP : Connection Bore Depth

: Refer to p. 171

Unit:mm

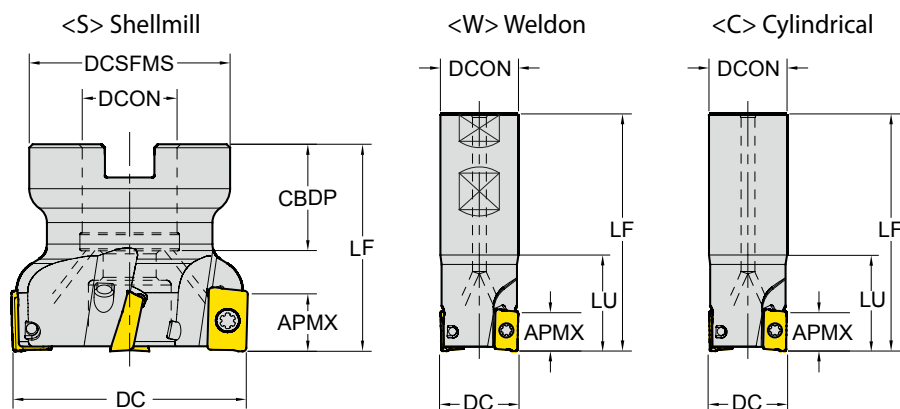
| Series                  | APMX | Designation                          | EDP 1700.. | DC  | CICT | LU  | LF  | TYPE      | DCON | CBDP | DCSFMS |   |
|-------------------------|------|--------------------------------------|------------|-----|------|-----|-----|-----------|------|------|--------|---|
| APKT 1003               | 9.0  | E90 - APKT10 - D20Z3W20 - L100       | 0461       | 20  | 3    | 30  | 100 | Weldon    | 20   | -    | -      | ● |
|                         |      | E90 - APKT10 - D20Z3W20 - L90        | 0084       | 20  | 3    | 40  | 90  |           | 20   | -    | -      | ● |
|                         |      | E90 - APKT10 - D22Z3W20 - L100       | 0544       | 22  | 3    | 30  | 100 |           | 20   | -    | -      | ● |
|                         |      | E90 - APKT10 - D25Z3W25 - L100       | 0545       | 25  | 3    | 30  | 100 |           | 25   | -    | -      | ● |
|                         |      | E90 - APKT10 - D25Z4W25 - L100       | 0546       | 25  | 4    | 30  | 100 |           | 25   | -    | -      | ● |
|                         |      | E90 - APKT10 - D32Z4W32 - L150 - WOC | 0547       | 32  | 4    | 50  | 150 |           | 32   | -    | -      | X |
|                         |      | F90 - APKT10 - D40Z4S16              | 0087       | 40  | 4    | -   | 40  | Shellmill | 16   | 18   | 34     | ● |
|                         |      | F90 - APKT10 - D40Z5S16              | 0472       | 40  | 5    | -   | 40  |           | 16   | 20   | 36     | ● |
|                         |      | F90 - APKT10 - D50Z6S22              | 0215       | 50  | 6    | -   | 40  |           | 22   | 22   | 42     | ● |
|                         |      | F90 - APKT10 - D50Z7S22              | 0088       | 50  | 7    | -   | 40  |           | 22   | 20   | 42     | ● |
|                         |      | F90 - APKT10 - D63Z7S22              | 0548       | 63  | 7    | -   | 40  |           | 22   | 22   | 48     | ● |
|                         |      | F90 - APKT10 - D80Z8S27              | 0549       | 80  | 8    | -   | 50  |           | 27   | 25   | 58     | ● |
|                         |      | F90 - APKT10 - D100Z9S32             | 0550       | 100 | 9    | -   | 50  |           | 32   | 26   | 65     | ● |
|                         |      | M90 - APKT10 - D16Z2M08              | 0551       | 16  | 2    | -   | 30  | Modular   | M08  | -    | 14.75  | ● |
|                         |      | M90 - APKT10 - D20Z3M10              | 0552       | 20  | 3    | -   | 30  |           | M10  | -    | 18     | ● |
|                         |      | M90 - APKT10 - D25Z3M12              | 0553       | 25  | 3    | -   | 35  |           | M12  | -    | 21     | ● |
|                         |      | M90 - APKT10 - D32Z4M16              | 0554       | 32  | 4    | -   | 35  |           | M16  | -    | 29     | ● |
|                         |      | M90 - APKT10 - D40Z5M16              | 0555       | 40  | 5    | -   | 43  |           | M16  | -    | 29     | ● |
| M90 - APKT10 - D42Z5M16 | 0556 | 42                                   | 5          | -   | 43   | M16 | -   |           | 29   | ●    |        |   |

\* Clamping Torque (Nm) 1.2Nm

| APKT10      | Screw (Cutter D16~D20) | Screw (Cutter D20~) | Wrench   |
|-------------|------------------------|---------------------|----------|
| Description | TP072505               | TP072506            | TPWFTP07 |
| EDP         | 18000016               | 18000013            | 18000001 |

Milling - Shoulder Milling - Cutter  
**Cutters for APKT**

Entering Angle : 90°  
2 Corner Positive



CICT : Number of Inserts  
CDBP : Connection Bore Depth

☐ : Refer to p. 171

Unit:mm

| Series           | APMX | Designation                          | EDP 1700.. | DC | CICT | LU  | LF  | TYPE        | DCON /TDZ | CBDP | DCSFMS | ☐ |
|------------------|------|--------------------------------------|------------|----|------|-----|-----|-------------|-----------|------|--------|---|
| <b>APKT 1604</b> | 14.0 | E90 - APKT16 - D25Z2C20 - L100       | 0091       | 25 | 2    | -   | 100 | Cylindrical | 20        | -    | -      | ● |
|                  |      | E90 - APKT16 - D25Z2C20 - L100 - WOC | 0243       | 25 | 2    | 35  | 100 |             | 20        | -    | -      | X |
|                  |      | E90 - APKT16 - D25Z2C25 - L250 - WOC | 0557       | 25 | 2    | 100 | 250 |             | 25        | -    | -      | X |
|                  |      | E90 - APKT16 - D32Z2C32 - L250 - WOC | 0558       | 32 | 2    | 100 | 250 |             | 32        | -    | -      | X |
|                  |      | E90 - APKT16 - D32Z3C25 - L110       | 0094       | 32 | 3    | -   | 110 | Weldon      | 25        | -    | -      | ● |
|                  |      | E90 - APKT16 - D32Z3C25 - L200       | 0559       | 32 | 3    | 40  | 200 |             | 25        | -    | -      | ● |
|                  |      | E90 - APKT16 - D32Z3C32 - L150 - WOC | 0250       | 32 | 3    | 50  | 150 |             | 32        | -    | -      | X |
|                  |      | E90 - APKT16 - D32Z3C32 - L250 - WOC | 0560       | 32 | 3    | 100 | 250 |             | 32        | -    | -      | X |
|                  |      | E90 - APKT16 - D40Z4C32 - L150 - WOC | 0561       | 40 | 4    | 40  | 150 |             | 32        | -    | -      | X |
|                  |      | E90 - APKT16 - D25Z2W25 - L100       | 0562       | 25 | 2    | 35  | 100 |             | 25        | -    | -      | ● |
|                  |      | E90 - APKT16 - D25Z2W25 - L110       | 0092       | 25 | 2    | -   | 110 |             | 25        | -    | -      | ● |
|                  |      | E90 - APKT16 - D28Z3W25 - L100       | 0563       | 28 | 3    | 40  | 100 |             | 25        | -    | -      | ● |
|                  |      | E90 - APKT16 - D30Z3W25 - L110       | 0564       | 30 | 3    | 40  | 110 | 25          | -         | -    | ●      |   |
|                  |      | E90 - APKT16 - D32Z3W25 - L110       | 0093       | 32 | 3    | -   | 110 | 25          | -         | -    | ●      |   |
|                  |      | E90 - APKT16 - D32Z3W32 - L110       | 0565       | 32 | 3    | 40  | 110 | 32          | -         | -    | ●      |   |
|                  |      | E90 - APKT16 - D36Z3W32 - L110       | 0566       | 36 | 3    | 40  | 110 | 32          | -         | -    | ●      |   |

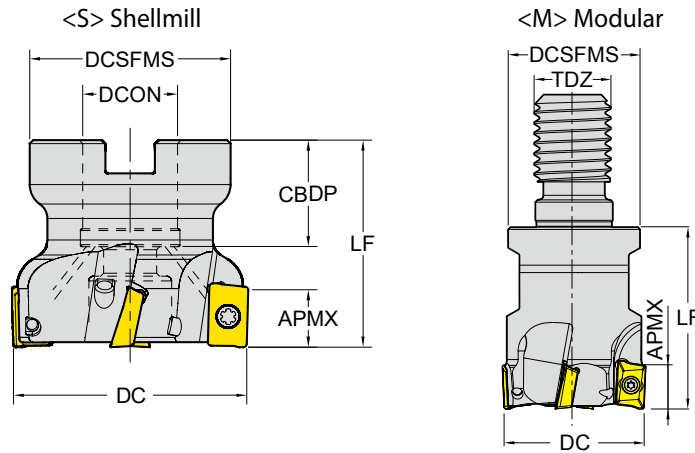
▶ NEXT PAGE

\* Clamping Torque (Nm) 3.0Nm

| APKT16      | Screw    | Wrench   |
|-------------|----------|----------|
| Description | TP154008 | TPWFTP15 |
| EDP         | 18000006 | 18000003 |

# Milling - Shoulder Milling - Cutter Cutters for APKT

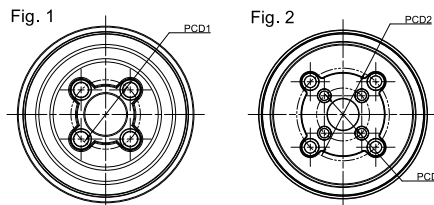
Entering Angle : 90°  
2 Corner Positive



CICT : Number of Inserts  
CBDP : Connection Bore Depth

Unit: mm

| Series                  | APMX | Designation                     | EDP 1700.. | DC  | CICT | LU  | LF | TYPE      | DCON /TDZ | CBDP | DCSFMS |    |
|-------------------------|------|---------------------------------|------------|-----|------|-----|----|-----------|-----------|------|--------|----|
| APKT 1604               | 14.0 | F90 - APKT16 - D40Z4S16         | 0275       | 40  | 4    | -   | 40 | Shellmill | 16        | 20   | 36     | ●  |
|                         |      | F90 - APKT16 - D50Z5S22         | 0095       | 50  | 5    | -   | 40 |           | 22        | 20   | 45     | ●  |
|                         |      | F90 - APKT16 - D52Z5S22         | 0567       | 52  | 5    | -   | 40 |           | 22        | 22   | 42     | ●  |
|                         |      | F90 - APKT16 - D63Z6S22         | 0096       | 63  | 6    | -   | 40 |           | 22        | 20   | 50     | ●  |
|                         |      | F90 - APKT16 - D80Z7S27         | 0097       | 80  | 7    | -   | 50 |           | 27        | 23   | 56     | ●  |
|                         |      | F90 - APKT16 - D100Z8S32        | 0181       | 100 | 8    | -   | 50 | Shellmill | 32        | 26   | 65     | ●  |
|                         |      | F90 - APKT16 - D125Z9S40 - WOC  | 0238       | 125 | 9    | -   | 63 |           | 40        | 32   | 80     | X  |
|                         |      | F90 - APKT16 - D160Z10S40 - WOC | 0568       | 160 | 10   | -   | 63 |           | 40        | 32   | 110    | X  |
|                         |      | F90 - APKT16 - D200Z12S60 - WOC | 0569       | 200 | 12   | -   | 63 |           | 60        | 40   | 130    | X  |
|                         |      | M90 - APKT16 - D25Z2M12         | 0570       | 25  | 2    | -   | 43 |           | Modular   | M12  | -      | 21 |
| M90 - APKT16 - D32Z3M16 | 0571 | 32                              | 3          | -   | 43   | M16 | -  | 29        |           | ●    |        |    |
| M90 - APKT16 - D42Z4M16 | 0572 | 42                              | 4          | -   | 43   | M16 | -  | 29        |           | ●    |        |    |



| DC       | PCD1   | Fig. |
|----------|--------|------|
| Ø160     | Ø66.7  | 1    |
| Ø200/250 | Ø101.6 | 1    |
|          | Ø101.6 | 1    |

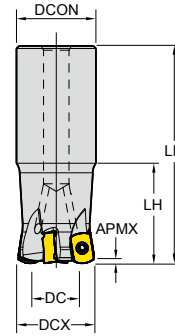
\* Clamping Torque (Nm) 3.0Nm

| APKT16      | Screw    | Wrench   |
|-------------|----------|----------|
| Description | TP154008 | TPWFTP15 |
| EDP         | 18000006 | 18000003 |

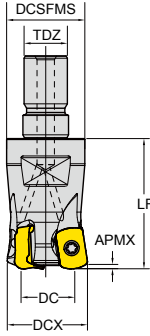
Milling - High Feed Milling - Cutter  
**Cutters for ENMX**

Entering Angle : 10°  
 4 Corner Negative

<C> Cylindrical



<M> Modular



CICT : Number of Inserts  
 CBDP : Connection Bore Depth

☐ : Refer to p. 175

Unit : mm

| Series                         | APMX                   | Designation            | EDP 1700.. | DC    | DCX | CICT | LF  | Type        | DCON /TDZ | LH | CBDP | DCSFMS | ☉ |
|--------------------------------|------------------------|------------------------|------------|-------|-----|------|-----|-------------|-----------|----|------|--------|---|
| <b>NEW</b><br><b>ENMX 0402</b> | 0.5                    | EHF-EN04-D08Z1C08-L80  | 1287D      | 3.18  | 8   | 1    | 80  | Cylindrical | 08        | 20 | -    | -      | ● |
|                                |                        | EHF-EN04-D10Z2C10-L100 | 1288D      | 5.18  | 10  | 2    | 100 |             | 10        | 20 | -    | -      | ● |
|                                |                        | EHF-EN04-D11Z2C10-L100 | 1289D      | 6.18  | 11  | 2    | 100 |             | 10        | 20 | -    | -      | ● |
|                                |                        | EHF-EN04-D12Z3C12-L120 | 1290D      | 7.18  | 12  | 3    | 120 |             | 12        | 20 | -    | -      | ● |
|                                |                        | EHF-EN04-D13Z3C12-L120 | 1291D      | 8.18  | 13  | 3    | 120 |             | 12        | 20 | -    | -      | ● |
|                                |                        | EHF-EN04-D16Z4C16-L150 | 1292D      | 11.18 | 16  | 4    | 150 |             | 16        | 40 | -    | -      | ● |
|                                |                        | EHF-EN04-D17Z4C16-L150 | 1293D      | 12.18 | 17  | 4    | 150 |             | 16        | 40 | -    | -      | ● |
|                                |                        | EHF-EN04-D20Z5C20-L150 | 1294D      | 15.18 | 20  | 5    | 150 |             | 20        | 40 | -    | -      | ● |
|                                | EHF-EN04-D21Z5C20-L150 | 1295D                  | 16.18      | 21    | 5   | 150  | 20  | 40          | -         | -  | ●    |        |   |
|                                | Modular                | MHF-EN04-D10Z2M06      | 1296D      | 5.18  | 10  | 2    | 17  | M06         | -         | -  | 9.7  | ●      |   |
|                                |                        | MHF-EN04-D11Z2M06      | 1297D      | 6.18  | 11  | 2    | 17  | M06         | -         | -  | 9.7  | ●      |   |
|                                |                        | MHF-EN04-D12Z3M06      | 1298D      | 7.18  | 12  | 3    | 17  | M06         | -         | -  | 11   | ●      |   |
|                                |                        | MHF-EN04-D13Z3M06      | 1299D      | 8.18  | 13  | 3    | 17  | M06         | -         | -  | 11   | ●      |   |
|                                |                        | MHF-EN04-D16Z4M08      | 1300D      | 11.18 | 16  | 4    | 23  | M08         | -         | -  | 13   | ●      |   |
|                                |                        | MHF-EN04-D20Z5M10      | 1301D      | 15.18 | 20  | 5    | 23  | M10         | -         | -  | 18   | ●      |   |
|                                |                        | MHF-EN04-D25Z7M12      | 1302D      | 20.18 | 25  | 7    | 27  | M12         | -         | -  | 21   | ●      |   |
|                                |                        | MHF-EN04-D32Z8M16      | 1303D      | 27.18 | 32  | 8    | 27  | M16         | -         | -  | 29   | ●      |   |

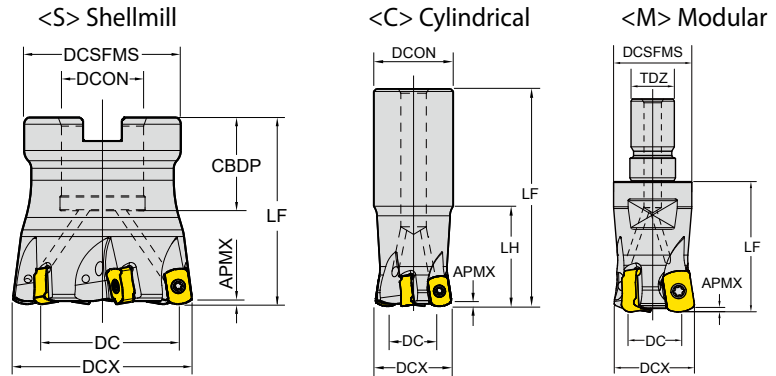
\* Clamping Torque (Nm) 0.6Nm

| ENMX04      | Screw       | Wrench   | Handle   | BIT      |
|-------------|-------------|----------|----------|----------|
| Description | TP061804-GS | TPWBTP06 | DH-H4    | DB-TP06  |
| EDP         | 18000272    | 18000277 | 18000189 | 18000274 |

# Milling - High Feed Milling - Cutter

## Cutters for ENMX

Entering Angle : 10°  
4 Corner Negative



CICT : Number of Inserts  
CBDP : Connection Bore Depth

☐ : Refer to p. 175

Unit : mm

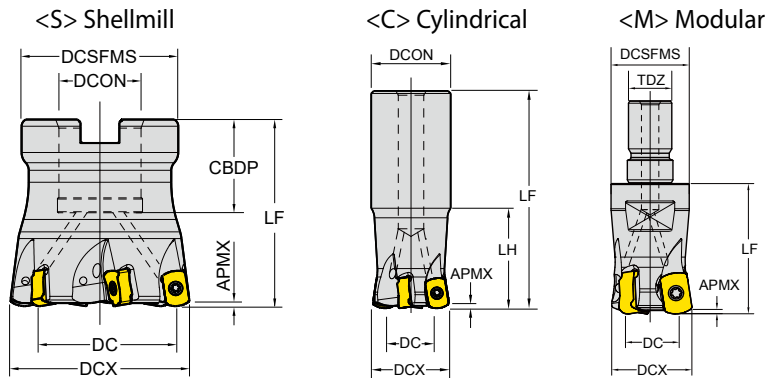
| Series                         | APMX                    | Designation                    | EDP 1700.. | DC   | DCX | CICT | LF        | Type        | DCON /TDZ | LH  | CBDP | DCSFMS | ☐ |
|--------------------------------|-------------------------|--------------------------------|------------|------|-----|------|-----------|-------------|-----------|-----|------|--------|---|
| ENMX 0604                      | 0.9                     | EHF - ENMX06 - D16Z2C16 - L100 | 0644       | 9.0  | 16  | 2    | 100       | Cylindrical | 16        | 30  | -    | -      | ● |
|                                |                         | EHF - ENMX06 - D16Z2C16 - L150 | 0645       | 9.0  | 16  | 2    | 150       |             | 16        | 50  | -    | -      | ● |
|                                |                         | EHF - ENMX06 - D17Z2C16 - L100 | 0674       | 10.0 | 17  | 2    | 100       |             | 16        | 20  | -    | -      | ● |
|                                |                         | EHF - ENMX06 - D17Z2C16 - L150 | 0473       | 10.0 | 17  | 2    | 150       |             | 16        | 20  | -    | -      | ● |
|                                | 1                       | EHF - ENMX06 - D20Z3C20 - L130 | 0463       | 12.6 | 20  | 3    | 130       | Cylindrical | 20        | 50  | -    | -      | ● |
|                                |                         |                                | 0646       | 12.6 | 20  | 3    | 160       |             | 20        | 80  | -    | -      | ● |
|                                |                         | EHF - ENMX06 - D21Z3C20 - L150 | 0475       | 13.6 | 21  | 3    | 150       |             | 20        | 20  | -    | -      | ● |
|                                |                         | EHF - ENMX06 - D21Z3C20 - L200 | 0476       | 13.6 | 21  | 3    | 200       |             | 20        | 20  | -    | -      | ● |
|                                |                         | EHF - ENMX06 - D25Z4C25 - L140 | 0647       | 17.6 | 25  | 4    | 140       |             | 25        | 60  | -    | -      | ● |
|                                |                         | EHF - ENMX06 - D25Z4C25 - L180 | 0464       | 17.6 | 25  | 4    | 180       |             | 25        | 80  | -    | -      | ● |
|                                |                         | EHF - ENMX06 - D25Z4C25 - L250 | 0648       | 17.6 | 25  | 4    | 250       |             | 25        | 120 | -    | -      | ● |
|                                |                         | EHF - ENMX06 - D26Z4C25 - L150 | 0479       | 18.6 | 26  | 4    | 150       |             | 25        | 30  | -    | -      | ● |
|                                |                         | EHF - ENMX06 - D26Z4C25 - L200 | 0480       | 18.6 | 26  | 4    | 200       |             | 25        | 30  | -    | -      | ● |
|                                |                         | EHF - ENMX06 - D32Z5C32 - L150 | 0649       | 24.6 | 32  | 5    | 150       |             | 32        | 70  | -    | -      | ● |
| EHF - ENMX06 - D32Z5C32 - L200 | 0465                    | 24.6                           | 32         | 5    | 200 | 32   | 100       | -           | -         | ●   |      |        |   |
| 0.9                            | MHF - ENMX06 - D16Z2M08 | 0691                           | 9.0        | 16   | 2   | 23   | Modular   | M08         | -         | -   | 13   | ●      |   |
|                                |                         | 0730                           | 11.0       | 18   | 2   | 23   |           | M08         | -         | -   | 13   | ●      |   |
|                                | 1                       | MHF - ENMX06 - D20Z3M10        | 0692       | 12.6 | 20  | 3    | 30        | Modular     | M10       | -   | -    | 18     | ● |
|                                |                         |                                | 0693       | 17.6 | 25  | 4    | 35        |             | M12       | -   | -    | 21     | ● |
|                                |                         | MHF - ENMX06 - D32Z5M16        | 0694       | 24.6 | 32  | 5    | 42        |             | M16       | -   | -    | 29     | ● |
|                                |                         |                                | 0695       | 27.6 | 35  | 5    | 42        |             | M16       | -   | -    | 29     | ● |
|                                |                         | MHF - ENMX06 - D40Z6M16        | 0732       | 32.6 | 40  | 6    | 42        |             | M16       | -   | -    | 29     | ● |
|                                |                         |                                | 0696       | 34.6 | 42  | 6    | 42        |             | M16       | -   | -    | 29     | ● |
| 1                              | FHF - ENMX06 - D40Z6S16 | 0482                           | 32.6       | 40   | 6   | 40   | Shellmill | 16          | -         | 18  | 37   | ●      |   |
|                                |                         | 0471                           | 42.6       | 50   | 6   | 50   |           | 22          | -         | 25  | 42   | ●      |   |

\* Clamping Torque (Nm) 1.2Nm

| ENMX06      | Screw       | Wrench   | Handle   | BIT      |
|-------------|-------------|----------|----------|----------|
| Description | TP082507-GS | TPWBTP08 | DH-H4    | DB-TP08  |
| EDP         | 18000206    | 18000218 | 18000189 | 18000190 |

Milling - High Feed Milling - Cutter  
**Cutters for ENMX**

Entering Angle : 10°  
 4 Corner Negative



CICT : Number of Inserts  
 CBDP : Connection Bore Depth

☐ : Refer to p. 175

Unit : mm

| Series                    | APMX | Designation                    | EDP 1700.. | DC | DCX | CICT | LF  | Type        | DCON / TDZ | LH | CBDP | DCSFMS | 🔹 |
|---------------------------|------|--------------------------------|------------|----|-----|------|-----|-------------|------------|----|------|--------|---|
| <b>ENMX 0905</b>          | 1.5  | EHF - ENMX09 - D25Z2C25 - L150 | 0745       | 15 | 25  | 2    | 150 | Cylindrical | 25         | 70 | -    | -      | ● |
|                           |      | EHF - ENMX09 - D26Z2C25 - L200 | 0746       | 16 | 26  | 2    | 200 |             | 25         | 30 | -    | -      | ● |
|                           |      | EHF - ENMX09 - D26Z3C25 - L200 | 0747       | 16 | 26  | 3    | 200 |             | 25         | 30 | -    | -      | ● |
|                           |      | EHF - ENMX09 - D32Z3C32 - L160 | 0748       | 22 | 32  | 3    | 160 |             | 32         | 70 | -    | -      | ● |
|                           |      | EHF - ENMX09 - D33Z3C32 - L200 | 0749       | 23 | 33  | 3    | 200 |             | 32         | 30 | -    | -      | ● |
|                           |      | EHF - ENMX09 - D33Z4C32 - L200 | 0750       | 23 | 33  | 4    | 200 |             | 32         | 40 | -    | -      | ● |
|                           |      | EHF - ENMX09 - D40Z5C32 - L180 | 0751       | 30 | 40  | 5    | 180 |             | 32         | 40 | -    | -      | ● |
|                           |      | MHF - ENMX09 - D35Z4M16        | 0989       | 25 | 35  | 4    | 42  | Modular     | M16        | -  | -    | 29     | ● |
|                           |      | FHF - ENMX09 - D50Z3S22        | 0820       | 40 | 50  | 3    | 50  | Shellmill   | 22         | -  | 20   | 42     | ● |
|                           |      | FHF - ENMX09 - D50Z4S22        | 0821       | 40 | 50  | 4    | 50  |             | 22         | -  | 20   | 42     | ● |
|                           |      | FHF - ENMX09 - D50Z5S22        | 0752       | 40 | 50  | 5    | 50  |             | 22         | -  | 20   | 42     | ● |
|                           |      | FHF - ENMX09 - D63Z4S22        | 0822       | 53 | 63  | 4    | 50  |             | 22         | -  | 20   | 48     | ● |
|                           |      | FHF - ENMX09 - D63Z5S22        | 0823       | 53 | 63  | 5    | 50  |             | 22         | -  | 20   | 48     | ● |
|                           |      | FHF - ENMX09 - D63Z6S22        | 0753       | 53 | 63  | 6    | 50  |             | 22         | -  | 20   | 48     | ● |
|                           |      | FHF - ENMX09 - D63Z7S22        | 0754       | 53 | 63  | 7    | 50  |             | 22         | -  | 20   | 48     | ● |
| FHF - ENMX09 - D80Z8S27   | 0755 | 70                             | 80         | 8  | 50  | 27   | -   |             | 23         | 56 | ●    |        |   |
| FHF - ENMX09 - D100Z10S32 | 0824 | 90                             | 100        | 10 | 63  | 32   | -   | 26          | 78         | ●  |      |        |   |
| FHF - ENMX09 - D125Z12S40 | 0825 | 115                            | 125        | 12 | 63  | 40   | -   | 28          | 89         | ●  |      |        |   |

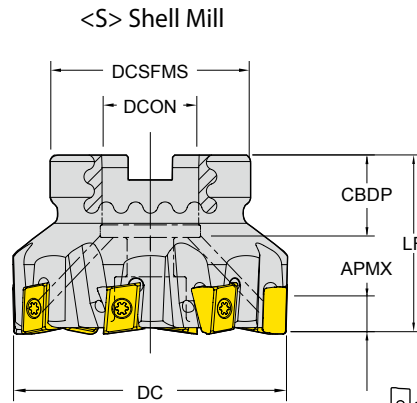
\* Clamping Torque (Nm) 2.0Nm

| ENMX09      | Screw       | Wrench   | Handle   | BIT      |
|-------------|-------------|----------|----------|----------|
| Description | TP103509-GS | TPWBTP10 | DH-H4    | DB-TP10  |
| EDP         | 18000266    | 18000280 | 18000189 | 18000271 |

# Milling - Shoulder Milling - Cutter

## Cutters for LNHU, LNKU

Entry Angle : 90°  
4 Corner Negative



ZEPF : Effective Number of Cutting Edges  
CBDP : Connection Bore Depth

Refer to p. 177

Unit : mm

| Series                         | APMX | Designation                | EDP 1700.. | DC  | CICT | LF | TYPE      | DCON | CBDP | DCSFMS | ⦿ |
|--------------------------------|------|----------------------------|------------|-----|------|----|-----------|------|------|--------|---|
| <b>NEW</b><br><b>LNHU 1306</b> | 11   | F90 - LNHU13R - D40Z4S16   | 0787       | 40  | 4    | 40 | Shellmill | 16   | 18   | 37     | ● |
|                                |      | F90 - LNHU13R - D40Z5S16   | 0884       | 40  | 5    | 40 |           | 16   | 18   | 37     | ● |
|                                |      | F90 - LNHU13R - D50Z5S22   | 0793       | 50  | 5    | 40 |           | 22   | 20   | 42     | ● |
|                                |      | F90 - LNHU13R - D50Z6S22   | 0794       | 50  | 6    | 40 |           | 22   | 20   | 42     | ● |
|                                |      | F90 - LNHU13R - D63Z6S22   | 0795       | 63  | 6    | 40 |           | 22   | 20   | 48     | ● |
|                                |      | F90 - LNHU13R - D63Z8S22   | 0796       | 63  | 8    | 40 |           | 22   | 20   | 48     | ● |
|                                |      | F90 - LNHU13R - D80Z5S27   | 0910       | 80  | 5    | 50 |           | 27   | 23   | 56     | ● |
|                                |      | F90 - LNHU13R - D80Z7S27   | 0797       | 80  | 7    | 50 |           | 27   | 23   | 56     | ● |
|                                |      | F90 - LNHU13R - D80Z8S27   | 0798       | 80  | 8    | 50 |           | 27   | 23   | 56     | ● |
|                                |      | F90 - LNHU13R - D80Z10S27  | 0885       | 80  | 10   | 50 |           | 27   | 23   | 56     | ● |
|                                |      | F90 - LNHU13R - D100Z6S32  | 0911       | 100 | 6    | 50 |           | 32   | 26   | 67     | ● |
|                                |      | F90 - LNHU13R - D100Z8S32  | 0845       | 100 | 8    | 50 |           | 32   | 26   | 67     | ● |
|                                |      | F90 - LNHU13R - D100Z9S32  | 0886       | 100 | 9    | 50 |           | 32   | 26   | 67     | ● |
|                                |      | F90 - LNHU13R - D100Z13S32 | 0846       | 100 | 13   | 50 |           | 32   | 26   | 67     | ● |
|                                |      | F90 - LNHU13R - D125Z11S40 | 0887       | 125 | 11   | 63 |           | 40   | 29   | 89     | ● |
|                                |      | F90 - LNHU13R - D125Z16S40 | 0888       | 125 | 16   | 63 |           | 40   | 29   | 89     | ● |
|                                |      | F90 - LNHU13R - D160Z13S40 | 0889       | 160 | 13   | 63 |           | 40   | 40   | 110    | X |
|                                |      | F90 - LNHU13R - D160Z18S40 | 0890       | 160 | 18   | 63 |           | 40   | 40   | 110    | X |

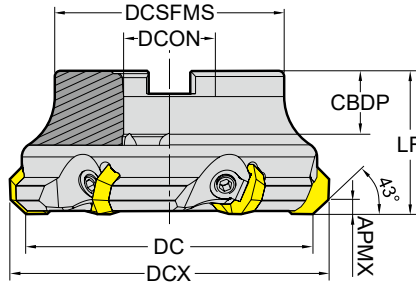
\* Clamping Torque (Nm) 3.0Nm

| LNHU13      | Screw       | Wrench   | Handle   | BIT      |
|-------------|-------------|----------|----------|----------|
| Description | TP154012-GS | TPWBTP15 | DH-H4    | DB-TP15  |
| EDP         | 18000225    | 18000217 | 18000189 | 18000208 |

Milling - Face Milling - Cutter  
**Cutters for OFER**

Entering Angle : 43°  
8 Corner Positive

<S> Shellmill

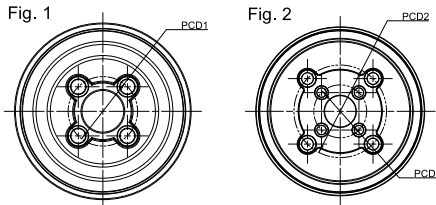


CICT : Number of Inserts  
CBDP : Connection Bore Depth

☐ : Refer to p. 179

Unit:mm

| Series           | APMX | Designation                    | EDP 1700.. | DC  | DCX | CICT | LF | TYPE      | DCON | CBDP | DCSFMS | ☐ |
|------------------|------|--------------------------------|------------|-----|-----|------|----|-----------|------|------|--------|---|
| <b>Ofer 0704</b> | 5.0  | F43 - OFER07 - D63Z4S22 - WOC  | 0484       | 63  | 75  | 4    | 45 | Shellmill | 22   | 22   | 48     | X |
|                  |      | F43 - OFER07 - D80Z5S27 - WOC  | 0485       | 80  | 92  | 5    | 50 |           | 27   | 25   | 58     | X |
|                  |      | F43 - OFER07 - D100Z6S32 - WOC | 0486       | 100 | 112 | 6    | 50 |           | 32   | 26   | 80     | X |
|                  |      | F43 - OFER07 - D125Z8S40 - WOC | 0487       | 125 | 137 | 8    | 63 |           | 40   | 32   | 85     | X |
|                  |      | F43 - OFER07 - D160Z9S40 - WOC | 0488       | 160 | 172 | 9    | 63 |           | 40   | 32   | 110    | X |



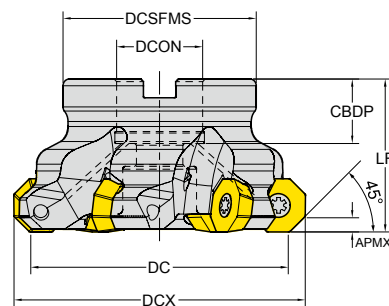
| DC       | PCD1   | Fig. |
|----------|--------|------|
| Ø160     | Ø66.7  | 1    |
| Ø200/250 | Ø101.6 | 1    |
|          | Ø101.6 | 1    |

| Ofer07      | Screw           | Wrench    | Wedge Clamp |
|-------------|-----------------|-----------|-------------|
| Description | YAKV-15-M8x1x20 | YAAL-05-4 | YACK-11     |
| EDP         | 18000086        | 18000062  | 18000068    |

Milling - Face Milling - Cutter  
**Cutters for ODMT, ODMW**

Entering Angle : 45°  
8 Corner Positive

<S> Shellmill



CICT : Number of Inserts  
CBDP : Connection Bore Depth

☐ : Refer to p. 178

Unit:mm

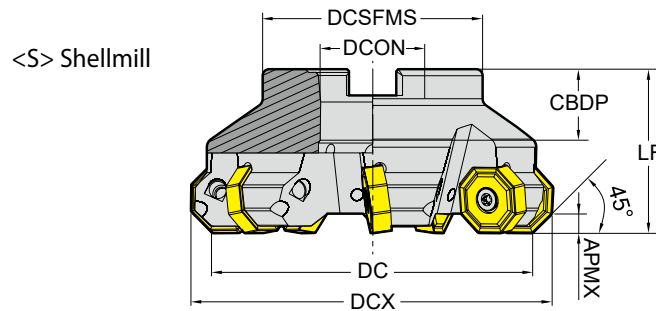
| Series                | APMX | Designation              | EDP 1700.. | DC  | DCX | CICT | LF | TYPE      | DCON | CBDP | DCSFMS | ☐ |
|-----------------------|------|--------------------------|------------|-----|-----|------|----|-----------|------|------|--------|---|
| <b>ODMT ODMW 0605</b> | 3.5  | F43 - ODMT06 - D63Z5S22  | 0001       | 63  | 73  | 5    | 40 | Shellmill | 22   | 20   | 50     | ● |
|                       |      | F43 - ODMT06 - D80Z6S27  | 0002       | 80  | 90  | 6    | 50 |           | 27   | 23   | 56     | ● |
|                       |      | F43 - ODMT06 - D100Z7S32 | 0003       | 100 | 110 | 7    | 50 |           | 32   | 26   | 78     | ● |
|                       |      | F43 - ODMT06 - D125Z8S40 | 0004       | 125 | 135 | 8    | 63 |           | 40   | 28   | 89     | ● |

\* Clamping Torque (Nm) 5.3Nm

| ODMT06      | Screw    | Wrench   |
|-------------|----------|----------|
| Description | TP205013 | TPWFTP20 |
| EDP         | 18000007 | 18000004 |

# Milling - Face Milling - Cutter Cutters for ONMU

Entering Angle: 45°  
16 Corner Negative



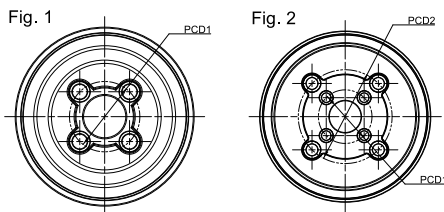
CICT : Number of Inserts  
CBDP : Connection Bore Depth

☐ : Refer to p. 180

Unit:mm

| Series    | APMX | Designation                     | EDP 1700.. | DC  | DCX | CICT | LF | TYPE      | DCON | CBDP | DCSFMS | ☐ |
|-----------|------|---------------------------------|------------|-----|-----|------|----|-----------|------|------|--------|---|
| ONMU 0806 | 5.5  | F45 - ONMU08 - D63Z5S22         | 0493       | 63  | 75  | 5    | 40 | Shellmill | 22   | 22   | 49     | ● |
|           |      | F45 - ONMU08 - D80Z6S27         | 0494       | 80  | 92  | 6    | 50 |           | 27   | 25   | 58     | ● |
|           |      | F45 - ONMU08 - D100Z7S32        | 0495       | 100 | 112 | 7    | 50 |           | 32   | 26   | 67     | ● |
|           |      | F45 - ONMU08 - D125Z8S40 - WOC  | 0496       | 125 | 137 | 8    | 63 |           | 40   | 32   | 87     | X |
|           |      | F45 - ONMU08 - D160Z10S40 - WOC | 0497       | 160 | 172 | 10   | 63 |           | 40   | 32   | 107    | X |
|           |      | F45 - ONMU08 - D200Z12S60 - WOC | 0498       | 200 | 212 | 12   | 63 |           | 60   | 40   | 130    | X |
|           |      | F45 - ONMU08 - D315Z16S60 - WOC | 0499       | 315 | 327 | 16   | 63 |           | 60   | 40   | 220    | X |

► ONHU is Available for Wiper Insert



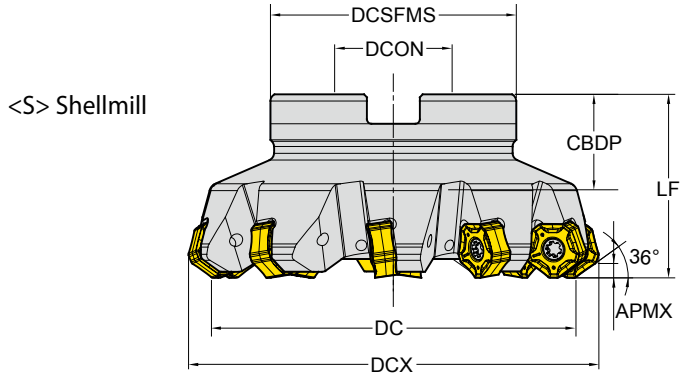
| DC       | DCON    | PCD1   | PCD2   | Fig. |
|----------|---------|--------|--------|------|
| Ø160     | Ø40     | Ø66.7  | -      | 1    |
| Ø200/250 | Ø47.625 | Ø101.6 | -      | 1    |
|          | Ø60     | Ø101.6 | -      | 1    |
| Ø315     | Ø60     | Ø101.6 | Ø177.8 | 2    |
|          | Ø47.625 | Ø101.6 | Ø177.8 | 2    |

\* Clamping Torque (Nm) 5.3Nm

| ONMU08      | Screw    | Wrench   |
|-------------|----------|----------|
| Description | TP205013 | TPWFTP20 |
| EDP         | 18000007 | 18000004 |

Milling - Face Milling - Cutter  
**Cutters for PNMU**

Entering Angle : 36°  
 10 Corner Negative



CICT : Number of Inserts  
 CBDP : Connection Bore Depth

☐ : Refer to p. 181

Unit:mm

| Series    | APMX | Designation               | EDP 1700.. | DC  | DCX   | CICT | LF | TYPE      | DCON | CBDP | DCSFMS | ☐ |
|-----------|------|---------------------------|------------|-----|-------|------|----|-----------|------|------|--------|---|
| PNMU 1206 | 4.0  | F36 - PNMU12 - D50Z4S22   | 0774       | 50  | 63.6  | 4    | 40 | Shellmill | 22   | 20   | 42     | ● |
|           |      | F36 - PNMU12 - D50Z5S22   | 0785       | 50  | 63.6  | 5    | 40 |           | 22   | 20   | 42     | ● |
|           |      | F36 - PNMU12 - D63Z5S22   | 0775       | 63  | 76.6  | 5    | 40 |           | 22   | 20   | 48     | ● |
|           |      | F36 - PNMU12 - D63Z6S22   | 0483       | 63  | 76.6  | 6    | 40 |           | 22   | 20   | 48     | ● |
|           |      | F36 - PNMU12 - D80Z8S27   | 0466       | 80  | 93.6  | 8    | 50 |           | 27   | 23   | 58     | ● |
|           |      | F36 - PNMU12 - D100Z10S32 | 0467       | 100 | 113.6 | 10   | 50 |           | 32   | 26   | 67     | ● |
|           |      | F36 - PNMU12 - D125Z10S40 | 0786       | 125 | 138.6 | 10   | 63 |           | 40   | 29   | 89     | ● |

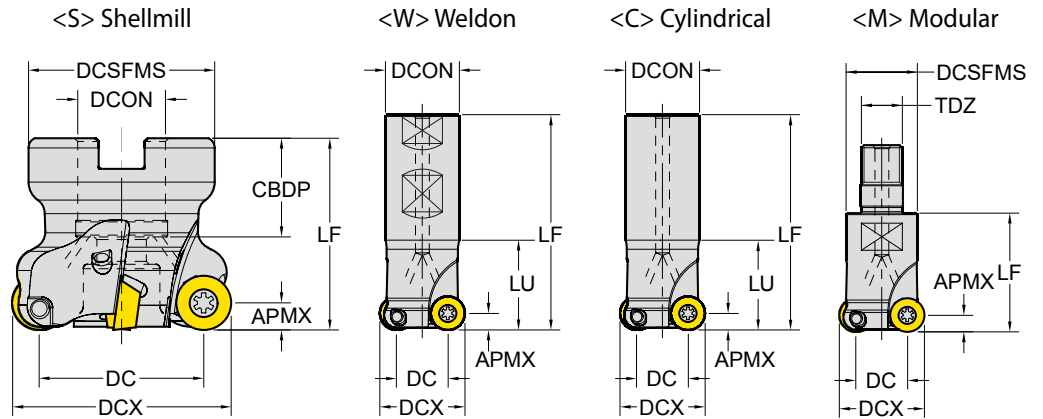
\* Clamping Torque (Nm) 3.0Nm

| PNMU12      | Screw    | Wrench   | Handle   | BIT      |
|-------------|----------|----------|----------|----------|
| Description | TP154008 | TPWBTP15 | DH-H4    | DB-TP15  |
| EDP         | 1800006  | 18000217 | 18000189 | 18000208 |

Milling - Profiling - Cutter

**Cutters for RDKT, RDKW**

Round Positive



CICT : Number of Inserts  
 CBDP : Connection Bore Depth

: Refer to p. 182

Unit : mm

| Series                | APMX | Designation                        | EDP 1700.. | DC | DCX | CICT | LU  | LF  | TYPE        | DCON /TDZ | CBDP | DCSFMS |   |
|-----------------------|------|------------------------------------|------------|----|-----|------|-----|-----|-------------|-----------|------|--------|---|
| <b>RDKT RDKW 0802</b> | 4.0  | E - RDKT08 - D16Z2C16 - L160       | 0005       | 8  | 16  | 2    | -   | 160 | Cylindrical | 16        | -    | -      | ● |
|                       |      | E - RDKT08 - D20Z2C20 - L180       | 0007       | 12 | 20  | 2    | -   | 180 |             | 20        | -    | -      | ● |
|                       |      | E - RDKT08 - D25Z3C20 - L180       | 0009       | 17 | 25  | 3    | -   | 180 |             | 20        | -    | -      | ● |
|                       |      | M - RDKT08 - D16Z2M08              | 0010       | 8  | 16  | 2    | -   | 23  | Modular     | M08       | -    | 13     | ● |
|                       |      | M - RDKT08 - D20Z2M10              | 0011       | 12 | 20  | 2    | -   | 30  |             | M10       | -    | 18     | ● |
|                       |      | M - RDKT08 - D25Z3M12              | 0012       | 17 | 25  | 3    | -   | 35  |             | M12       | -    | 21     | ● |
| <b>RDKT RDKW 10T3</b> | 5.0  | E - RDKT10 - D20Z2C20 - L150 - WOC | 0576       | 10 | 20  | 2    | 60  | 150 | Cylindrical | 20        | -    | -      | X |
|                       |      | E - RDKT10 - D20Z2C20 - L180       | 0013       | 10 | 20  | 2    | -   | 180 |             | 20        | -    | -      | ● |
|                       |      | E - RDKT10 - D25Z2C25 - L150 - WOC | 0299       | 15 | 25  | 2    | 60  | 150 |             | 25        | -    | -      | X |
|                       |      | E - RDKT10 - D25Z2C25 - L180       | 0015       | 15 | 25  | 2    | -   | 180 |             | 25        | -    | -      | ● |
|                       |      | E - RDKT10 - D20Z2W20 - L150 - WOC | 0577       | 10 | 20  | 2    | 60  | 150 | Weldon      | 20        | -    | -      | X |
|                       |      | E - RDKT10 - D25Z2W25 - L150 - WOC | 0578       | 15 | 25  | 2    | 60  | 150 |             | 25        | -    | -      | X |
|                       |      | E - RDKT10 - D32Z3W32 - L150 - WOC | 0579       | 22 | 32  | 3    | 60  | 150 |             | 32        | -    | -      | X |
|                       |      | F - RDKT10 - D40Z5S16              | 0019       | 30 | 40  | 5    | -   | 40  | Shellmill   | 16        | 18   | 34     | ● |
|                       |      | F - RDKT10 - D50Z5S22              | 0580       | 40 | 50  | 5    | -   | 50  |             | 22        | 22   | 42     | ● |
|                       |      | F - RDKT10 - D50Z6S22              | 0020       | 40 | 50  | 6    | -   | 50  |             | 22        | 22   | 42     | ● |
|                       |      | F - RDKT10 - D63Z6S22              | 0581       | 53 | 63  | 6    | -   | 50  |             | 22        | 22   | 48     | ● |
|                       |      | M - RDKT10 - D20Z2M10              | 0017       | 10 | 20  | 2    | -   | 30  | Modular     | M10       | -    | 18     | ● |
| M - RDKT10 - D25Z3M12 | 0018 | 15                                 | 25         | 3  | -   | 35   | M12 | -   |             | 21        | ●    |        |   |

\* Clamping Torque (Nm) 1.2Nm

| <b>RDKT08</b> | Screw    | Wrench   |
|---------------|----------|----------|
| Description   | TP082505 | TPWFTP08 |
| EDP           | 18000008 | 18000002 |

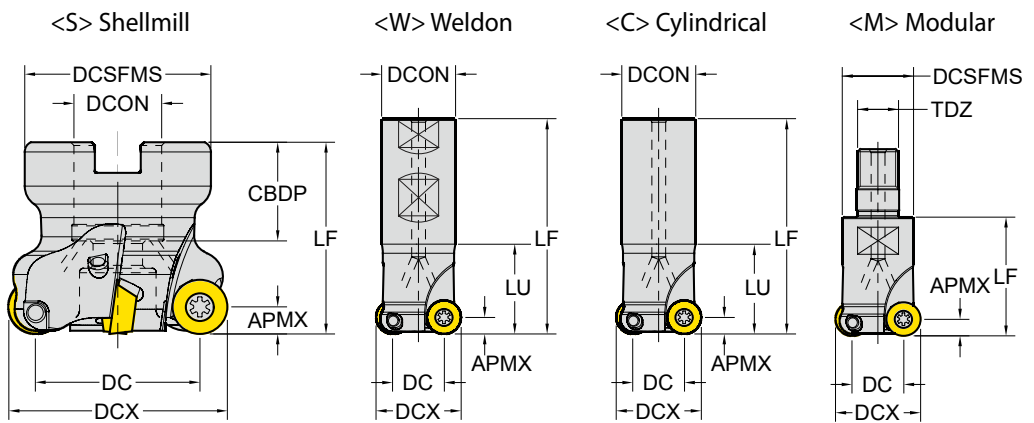
\* Clamping Torque (Nm) 3.0Nm

| <b>RDKT10</b> | Screw      | Wrench   |
|---------------|------------|----------|
| Description   | TP154008RD | TPWFTP15 |
| EDP           | 18000017   | 18000003 |

Milling - Profiling - Cutter  
**Cutters for RDKT, RDKW**

TURNING  
 PARTING & GROOVING  
 MILLING  
 DRILLING  
 TECHNICAL INFORMATION

Round Positive



CICT : Number of Inserts  
 CDBP : Connection Bore Depth

Refer to p. 182 Unit : mm

| Series                | APMX | Designation                        | EDP 1700.. | DC | DCX | CICT | LU  | LF  | TYPE        | DCON / TDZ | CBDP | DCSFMS | ⚙️ |
|-----------------------|------|------------------------------------|------------|----|-----|------|-----|-----|-------------|------------|------|--------|----|
| RDKT<br>RDKW<br>1204  | 6.0  | E - RDKT12 - D25Z2C25 - L180       | 0021       | 13 | 25  | 2    | 80  | 180 | Cylindrical | 25         | -    | -      | ●  |
|                       |      | E - RDKT12 - D32Z2C32 - L200       | 0023       | 20 | 32  | 2    | 60  | 200 |             | 32         | -    | -      | ●  |
|                       |      | E - RDKT12 - D32Z3C32 - L160       | 0024       | 20 | 32  | 3    | 60  | 160 |             | 32         | -    | -      | ●  |
|                       |      | E - RDKT12 - D32Z3C32 - L160 - WOC | 0582       | 20 | 32  | 3    | 70  | 160 |             | 32         | -    | -      | X  |
|                       |      | E - RDKT12 - D33Z3C32 - L160 - WOC | 0583       | 21 | 33  | 3    | 70  | 160 |             | 32         | -    | -      | X  |
|                       |      | E - RDKT12 - D32Z3W32 - L160 - WOC | 0584       | 20 | 32  | 3    | 50  | 160 | Weldon      | 32         | -    | -      | X  |
|                       |      | F - RDKT12 - D40Z4S16              | 0028       | 28 | 40  | 4    | -   | 40  | Shellmill   | 16         | 18   | 32     | ●  |
|                       |      | F - RDKT12 - D50Z5S22              | 0029       | 38 | 50  | 5    | -   | 50  |             | 22         | 20   | 40     | ●  |
|                       |      | F - RDKT12 - D52Z5S22              | 0585       | 40 | 52  | 5    | -   | 50  |             | 22         | 22   | 42     | ●  |
|                       |      | F - RDKT12 - D63Z6S22              | 0030       | 51 | 63  | 6    | -   | 50  |             | 22         | 20   | 48     | ●  |
|                       |      | F - RDKT12 - D80Z7S27              | 0586       | 68 | 80  | 7    | -   | 50  |             | 27         | 25   | 58     | ●  |
|                       |      | F - RDKT12 - D100Z7S32             | 0587       | 88 | 100 | 7    | -   | 50  |             | 32         | 26   | 65     | ●  |
|                       |      | F - RDKT12 - D100Z8S32             | 0588       | 88 | 100 | 8    | -   | 50  | 32          | 26         | 65   | ●      |    |
|                       |      | M - RDKT12 - D25Z2M12              | 0026       | 13 | 25  | 2    | -   | 35  | Modular     | M12        | -    | 21     | ●  |
| M - RDKT12 - D32Z3M16 | 0027 | 20                                 | 32         | 3  | -   | 42   | M16 | -   |             | 29         | ●    |        |    |
| M - RDKT12 - D42Z4M16 | 0589 | 30                                 | 42         | 4  | -   | 43   | M16 | -   |             | 29         | ●    |        |    |

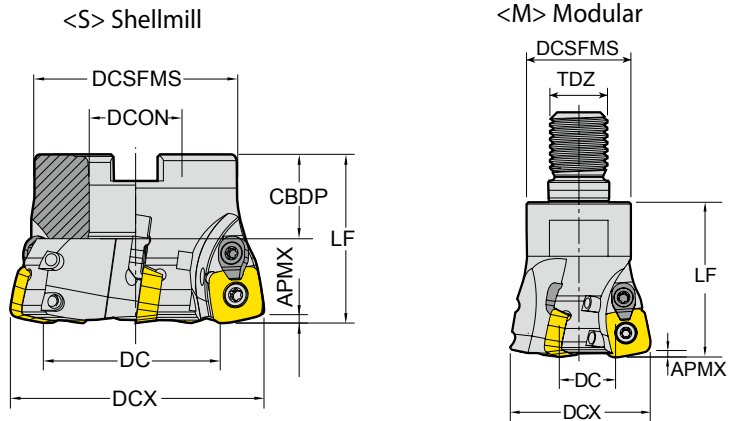
\* Clamping Torque (Nm) 3.0Nm

| RDKT12      | Screw    | Wrench   | Wedge Clamp    |
|-------------|----------|----------|----------------|
| Description | TP154009 | TPWFTP15 | MTCA - 130813P |
| EDP         | 18000010 | 18000003 | 18000037       |

# Milling - High Feed Milling - Cutter

## Cutters for SDMT, SDMW

Entering Angle : 10°  
4 Corner Positive



CICT : Number of Inserts  
CDBP : Connection Bore Depth

: Refer to p. 187

Unit : mm

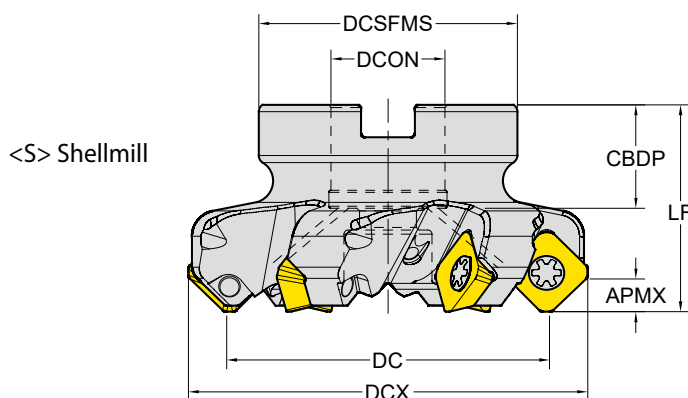
| Series                        | APMX | Designation             | EDP 1700.. | DC   | DCX | CICT | Lf | TYPE      | DCON /TDZ | CDBP | DCSFMS |   |
|-------------------------------|------|-------------------------|------------|------|-----|------|----|-----------|-----------|------|--------|---|
| <b>SDMT<br/>SDMW<br/>1204</b> | 1.8  | FHF - SDM12 - D50Z4S22  | 0604       | 32.4 | 50  | 4    | 40 | Shellmill | 22        | 22   | 42     | ● |
|                               |      | FHF - SDM12 - D63Z5S22  | 0605       | 45.4 | 63  | 5    | 40 |           | 22        | 22   | 48     | ● |
|                               |      | FHF - SDM12 - D80Z6S27  | 0606       | 62.4 | 80  | 6    | 50 |           | 27        | 25   | 58     | ● |
|                               |      | FHF - SDM12 - D100Z8S32 | 0607       | 82.4 | 100 | 8    | 50 |           | 32        | 26   | 65     | ● |
|                               |      | MHF - SDM12 - D32Z2M16  | 0608       | 14.4 | 32  | 2    | 43 | Modular   | M16       | -    | 29     | ● |
|                               |      | MHF - SDM12 - D40Z3M16  | 0609       | 22.4 | 40  | 3    | 43 |           | M16       | -    | 29     | ● |

| SDMT12      | Screw       | Wrench   | Wedge Clamp |
|-------------|-------------|----------|-------------|
| Description | Y4015-M4x11 | Y80-T15  | YACK-15     |
| EDP         | 18000119    | 18000167 | 18000069    |

\* Clamping Torque (Nm) 3.0Nm

Milling - Face Milling - Cutter  
**Cutters for SEGT, SEKT**

Entering Angle : 45°  
4 Corner Positive

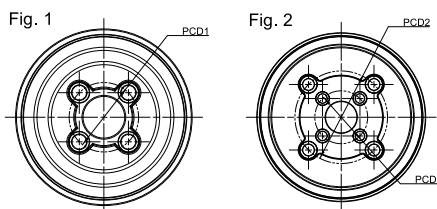


CICT : Number of Inserts  
CBDP : Connection Bore Depth

☐ : Refer to p. 188-189

Unit:mm

| Series         | APMX | Designation                     | EDP 1700.. | DC  | DCX | CICT | LF | TYPE      | DCON | CBDP | DCSFMS | ☐ |
|----------------|------|---------------------------------|------------|-----|-----|------|----|-----------|------|------|--------|---|
| SEGT SEKT 12T3 | 6.0  | F45 - SE12T3 - D50Z4S22         | 0500       | 50  | 64  | 4    | 40 | Shellmill | 22   | 22   | 48     | ● |
|                |      | F45 - SE12T3 - D63Z5S22         | 0501       | 63  | 77  | 5    | 40 |           | 22   | 22   | 48     | ● |
|                |      | F45 - SE12T3 - D80Z6S27         | 0502       | 80  | 94  | 6    | 50 |           | 27   | 25   | 58     | ● |
|                |      | F45 - SE12T3 - D100Z7S32        | 0503       | 100 | 114 | 7    | 50 |           | 32   | 26   | 65     | ● |
|                |      | F45 - SE12T3 - D125Z8S40 - WOC  | 0504       | 125 | 139 | 8    | 63 |           | 40   | 32   | 85     | X |
|                |      | F45 - SE12T3 - D160Z10S40 - WOC | 0505       | 160 | 174 | 10   | 63 |           | 40   | 32   | 110    | X |
| SEGT SEKT 1204 | 6.0  | F45 - SEKT12 - D40Z4S16         | 0031       | 40  | 54  | 4    | 40 | Shellmill | 16   | 18   | 32     | ● |
|                |      | F45 - SEKT12 - D50Z5S22         | 0032       | 50  | 64  | 5    | 40 |           | 22   | 20   | 48     | ● |
|                |      | F45 - SEKT12 - D63Z4S22         | 0033       | 63  | 77  | 4    | 40 |           | 22   | 20   | 50     | ● |
|                |      | F45 - SEKT12 - D63Z6S22         | 0034       | 63  | 77  | 6    | 40 |           | 22   | 20   | 50     | ● |
|                |      | F45 - SEKT12 - D80Z4S27         | 0035       | 80  | 94  | 4    | 50 |           | 27   | 22   | 56     | ● |
|                |      | F45 - SEKT12 - D80Z7S27         | 0036       | 80  | 94  | 7    | 50 |           | 27   | 22   | 56     | ● |
|                |      | F45 - SEKT12 - D100Z8S32        | 0037       | 100 | 114 | 8    | 50 |           | 32   | 25   | 78     | ● |
|                |      | F45 - SEKT12 - D125Z10S40       | 0038       | 125 | 139 | 10   | 63 |           | 40   | 29   | 90     | ● |
|                |      | F45 - SEKT12 - D160Z12S40       | 0039       | 160 | 174 | 12   | 63 |           | 40   | 30   | 114    | X |



| DC       | PCD1   | Fig. |
|----------|--------|------|
| Ø160     | Ø66.7  | 1    |
| Ø200/250 | Ø101.6 | 1    |
|          | Ø101.6 | 1    |

\* Clamping Torque (Nm) 2.4Nm

| SEKT12T3    | Screw         | Wrench   |
|-------------|---------------|----------|
| Description | Y4015-M3.5x11 | Y80-T15  |
| EDP         | 18000118      | 18000167 |

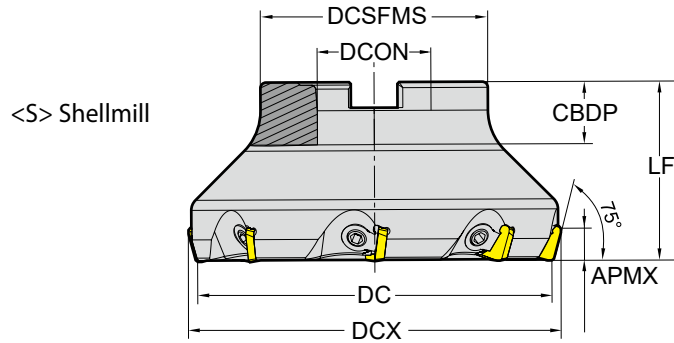
\* Clamping Torque (Nm) 5.3Nm

| SEKT1204    | Screw    | Wrench   |
|-------------|----------|----------|
| Description | TP204510 | TPWFTP20 |
| EDP         | 18000011 | 18000004 |

Milling - Face Milling - Cutter

**Cutters for SPCN, SPKN, SPKR**

Entering Angle : 75°  
4 Corner Positive ISO

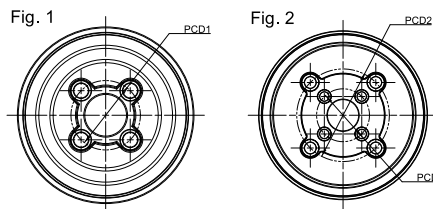


CICT : Number of Inserts  
CBDP : Connection Bore Depth

: Refer to p. 194

Unit:mm

| Series                                 | APMX | Designation                     | EDP 1700.. | DC  | DCX | CICT | LF | TYPE      | DCON | CBDP | DCSFMS |   |
|--|------|---------------------------------|------------|-----|-----|------|----|-----------|------|------|--------|---|
| <b>SPCN<br/>SPKN<br/>SPKR<br/>1203</b> | 8.0  | F75 - SPKN12 - D50Z4S22 - WOC   | 0611       | 50  | 56  | 4    | 42 | Shellmill | 22   | 22   | 42     | X |
|  |      | F75 - SPKN12 - D63Z5S22 - WOC   | 0612       | 63  | 69  | 5    | 40 |           | 22   | 22   | 48     | X |
|  |      | F75 - SPKN12 - D80Z6S27 - WOC   | 0613       | 80  | 86  | 6    | 50 |           | 27   | 25   | 58     | X |
|  |      | F75 - SPKN12 - D100Z7S32 - WOC  | 0614       | 100 | 106 | 7    | 50 |           | 32   | 26   | 65     | X |
|  |      | F75 - SPKN12 - D125Z8S40 - WOC  | 0615       | 125 | 131 | 8    | 63 |           | 40   | 32   | 80     | X |
|  |      | F75 - SPKN12 - D160Z9S40 - WOC  | 0616       | 160 | 166 | 9    | 63 |           | 40   | 32   | 110    | X |
|  |      | F75 - SPKN12 - D200Z12S60 - WOC | 0617       | 200 | 206 | 12   | 63 |           | 60   | 40   | 130    | X |

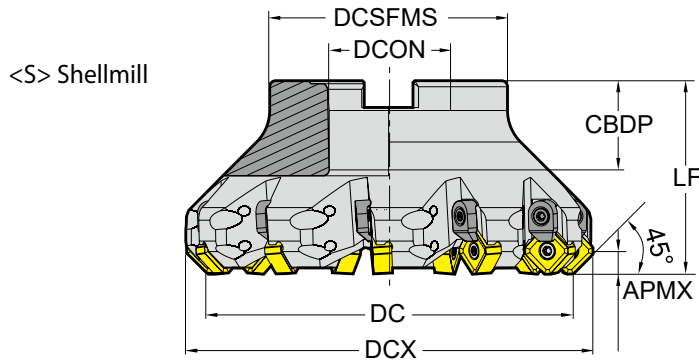


| DC       | PCD1   | Fig. |
|----------|--------|------|
| Ø160     | Ø66.7  | 1    |
| Ø200/250 | Ø101.6 | 1    |
|          | Ø101.6 | 1    |

| SPKN1203    | Screw           | Wrench    | Wedge Clamp |
|-------------|-----------------|-----------|-------------|
| Description | YAKV-22-M8x1x14 | YAAL-05-4 | YACK-10     |
| EDP         | 18000089        | 18000062  | 18000067    |
| Description | YAKV-13-M8x1x16 | -         | -           |
| EDP         | 18000084        | -         | -           |

Milling - Face Milling - Cutter  
**Cutters for SNMX**

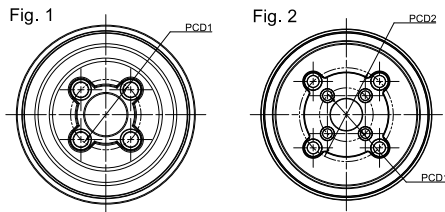
Entering Angle : 45°  
8 Corner Negative



CICT : Number of Inserts  
CBDP : Connection Bore Depth

Refer to p. 192-193 Unit: mm

| Series              | APMX | Designation                     | EDP 1700.. | DC  | DCX | CICT | LF | TYPE      | DCON | CBDP | DCSFMS |   |
|---------------------|------|---------------------------------|------------|-----|-----|------|----|-----------|------|------|--------|---|
| SNMX<br>1206<br>ANN | 6.0  | F45 - SNMX12 - D50Z4S22         | 0506       | 50  | 63  | 4    | 42 | Shellmill | 22   | 22   | 42     | ● |
|                     |      | F45 - SNMX12 - D50Z5S22         | 0507       | 50  | 63  | 5    | 42 |           | 22   | 22   | 42     | ● |
|                     |      | F45 - SNMX12 - D63Z6S22         | 0508       | 63  | 76  | 6    | 42 |           | 22   | 22   | 48     | ● |
|                     |      | F45 - SNMX12 - D63Z7S22         | 0509       | 63  | 76  | 7    | 42 |           | 22   | 22   | 48     | ● |
|                     |      | F45 - SNMX12 - D80Z7S27         | 0510       | 80  | 93  | 7    | 52 |           | 27   | 25   | 58     | ● |
|                     |      | F45 - SNMX12 - D80Z8S27         | 0511       | 80  | 93  | 8    | 52 |           | 27   | 25   | 58     | ● |
|                     |      | F45 - SNMX12 - D100Z10S32       | 0512       | 100 | 113 | 10   | 52 |           | 32   | 26   | 67     | ● |
|                     |      | F45 - SNMX12 - D100Z8S32        | 0513       | 100 | 113 | 8    | 52 |           | 32   | 26   | 67     | ● |
|                     |      | F45 - SNMX12 - D125Z11S40 - WOC | 0514       | 125 | 138 | 11   | 65 |           | 40   | 32   | 80     | X |
|                     |      | F45 - SNMX12 - D160Z12S40 - WOC | 0515       | 160 | 173 | 12   | 65 |           | 40   | 32   | 110    | X |
|                     |      | F45 - SNMX12 - D200Z14S60 - WOC | 0516       | 200 | 213 | 14   | 65 |           | 60   | 40   | 130    | X |



| DC       | PCD1   | Fig. |
|----------|--------|------|
| Ø160     | Ø66.7  | 1    |
| Ø200/250 | Ø101.6 | 1    |
|          | Ø101.6 | 1    |

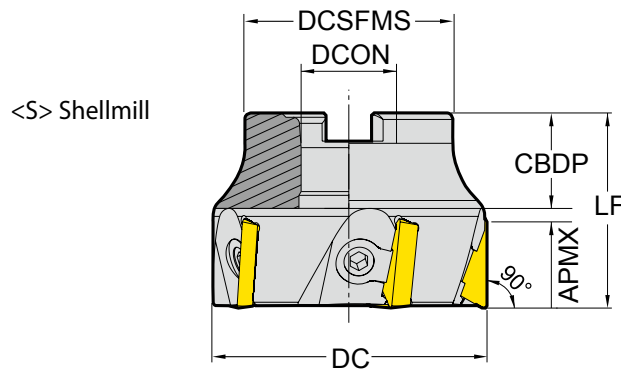
\* Clamping Torque (Nm) 3.0Nm

| SNMX12      | Screw       | Wrench   | Wedge Clamp |
|-------------|-------------|----------|-------------|
| Description | Y4015-M4x11 | Y80-T15  | Y4015-M4x11 |
| EDP         | 18000119    | 18000167 | 18000119    |

# Milling - Shoulder Milling - Cutter

## Cutters for TPCN, TPKN, TPKR

Entering Angle : 90°  
3 Corner Positive ISO

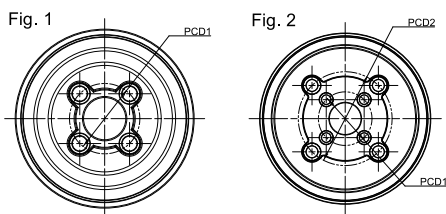


CICT : Number of Inserts  
CBDP : Connection Bore Depth

Refer to p. 199

Unit:mm

| Series                                 | APMX | Designation                     | EDP 1700.. | DC  | CICT | LU | LF | TYPE      | DCON | CBDP | DCSFMS |   |
|--|------|---------------------------------|------------|-----|------|----|----|-----------|------|------|--------|---|
| <b>TPCN<br/>TPKN<br/>TPKR<br/>1603</b> | 12.0 | F90 - TPKN16 - D50Z4S22 - WOC   | 0618       | 50  | 4    | -  | 40 | Shellmill | 22   | 22   | 42     | X |
|  |      | F90 - TPKN16 - D63Z6S22 - WOC   | 0619       | 63  | 6    | -  | 45 |           | 22   | 22   | 48     | X |
|  |      | F90 - TPKN16 - D80Z7S27 - WOC   | 0620       | 80  | 7    | -  | 50 |           | 27   | 25   | 58     | X |
|  |      | F90 - TPKN16 - D125Z8S40 - WOC  | 0621       | 125 | 8    | -  | 63 |           | 40   | 32   | 80     | X |
| <b>TPCN<br/>TPKN<br/>TPKR<br/>2204</b> | 18.0 | F90 - TPKN22 - D63Z5S22 - WOC   | 0622       | 63  | 5    | -  | 45 | Shellmill | 22   | 22   | 48     | X |
|  |      | F90 - TPKN22 - D80Z6S27 - WOC   | 0623       | 80  | 6    | -  | 50 |           | 27   | 25   | 58     | X |
|  |      | F90 - TPKN22 - D100Z7S32 - WOC  | 0624       | 100 | 7    | -  | 50 |           | 32   | 26   | 65     | X |
|  |      | F90 - TPKN22 - D125Z8S40 - WOC  | 0625       | 125 | 8    | -  | 63 |           | 40   | 32   | 80     | X |
|  |      | F90 - TPKN22 - D160Z9S40 - WOC  | 0626       | 160 | 9    | -  | 63 |           | 40   | 32   | 110    | X |
|  |      | F90 - TPKN22 - D200Z12S60 - WOC | 0627       | 200 | 12   | -  | 63 |           | 60   | 40   | 130    | X |
|  |      | F90 - TPKN22 - D250Z15S60 - WOC | 0628       | 250 | 15   | -  | 63 |           | 60   | 40   | 160    | X |
|  |      | F90 - TPKN22 - D315Z18S60 - WOC | 0629       | 315 | 18   | -  | 63 |           | 60   | 40   | 220    | X |



| DC       | DCON    | PCD1   | PCD2   | Fig. |
|----------|---------|--------|--------|------|
| Ø160     | Ø40     | Ø66.7  | -      | 1    |
| Ø200/250 | Ø47.625 | Ø101.6 | -      | 1    |
|          | Ø60     | Ø101.6 | -      | 1    |
| Ø315     | Ø60     | Ø101.6 | Ø177.8 | 2    |
|          | Ø47.625 | Ø101.6 | Ø177.8 | 2    |

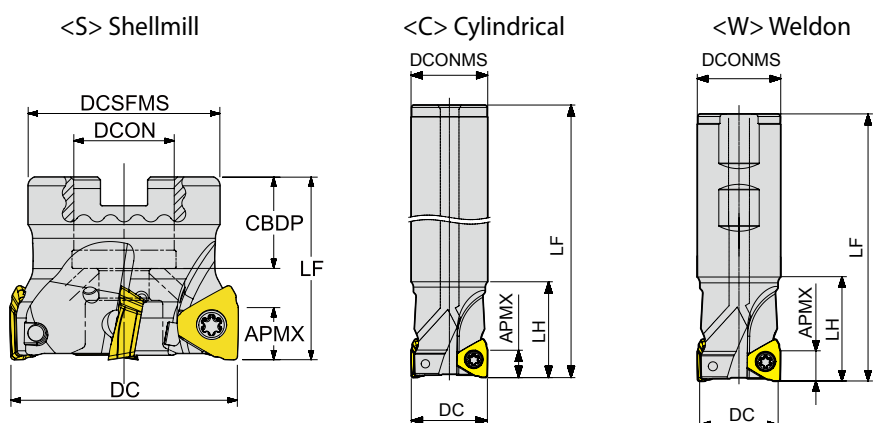
| TPKN16      | Screw           | Wrench    | Wedge Clamp |
|-------------|-----------------|-----------|-------------|
| Description | YAKV-13-M8x1x16 | YAAL-05-4 | YACK-10     |
| EDP         | 18000084        | 18000062  | 18000067    |

| TPKN22      | Screw           | Wrench    | Wedge Clamp |
|-------------|-----------------|-----------|-------------|
| Description | YAKV-14-M8x1x18 | YAAL-05-4 | YACK-11     |
| EDP         | 18000085        | 18000062  | 18000068    |

Milling - Shoulder Milling - Cutter  
**Cutters for TPKT**

Entering Angle : 90°  
3 Corner Positive



CICT : Number of Inserts  
CDBP : Connection Bore Depth

Refer to p. 197-198 Unit : mm

| Series                  | APMX | Designation                  | EDP 1700.. | DC | CICT      | LF  | TYPE        | DCON | LH | CDBP | DCSFMS |   |
|-------------------------|------|------------------------------|------------|----|-----------|-----|-------------|------|----|------|--------|---|
| NEW<br><b>TPKT 0703</b> | 4.5  | E90 - TP07 - D12Z1C12 - L80  | 1136       | 12 | 1         | 80  | Cylindrical | 12   | 20 | -    | -      | ● |
|                         |      | E90 - TP07 - D14Z1C12 - L80  | 1137       | 14 | 1         | 80  |             | 12   | 20 | -    | -      | ● |
|                         |      | E90 - TP07 - D16Z2C16 - L110 | 1138       | 16 | 2         | 110 |             | 16   | 25 | -    | -      | ● |
|                         |      | E90 - TP07 - D16Z2C16 - L150 | 1139       | 16 | 2         | 150 |             | 16   | 25 | -    | -      | ● |
|                         |      | E90 - TP07 - D16Z3C16 - L150 | 1140       | 16 | 3         | 150 |             | 16   | 25 | -    | -      | ● |
|                         |      | E90 - TP07 - D17Z3C16 - L150 | 1141       | 17 | 3         | 150 |             | 16   | 25 | -    | -      | ● |
|                         |      | E90 - TP07 - D18Z3C16 - L150 | 1142       | 18 | 3         | 150 |             | 16   | 25 | -    | -      | ● |
|                         |      | E90 - TP07 - D20Z3C20 - L160 | 1143       | 20 | 3         | 160 |             | 20   | 25 | -    | -      | ● |
|                         |      | E90 - TP07 - D25Z5C25 - L115 | 1146       | 25 | 5         | 115 | 25          | 25   | -  | -    | ●      |   |
|                         |      | E90 - TP07 - D42Z8C32 - L130 | 1161       | 42 | 8         | 130 | 32          | 30   | -  | -    | ●      |   |
|                         |      | E90 - TP07 - D25Z4W20 - L115 | 1144       | 25 | 4         | 115 | Weldon      | 20   | 25 | -    | -      | ● |
|                         |      | E90 - TP07 - D25Z5W25 - L115 | 1145       | 25 | 5         | 115 |             | 25   | 25 | -    | -      | ● |
|                         |      | E90 - TP07 - D32Z6W25 - L130 | 1147       | 32 | 6         | 130 |             | 25   | 30 | -    | -      | ● |
|                         |      | E90 - TP07 - D40Z8W32 - L130 | 1148       | 40 | 8         | 130 |             | 32   | 30 | -    | -      | ● |
| F90 - TP07 - D32Z6S16   | 1149 | 32                           | 6          | 32 | Shellmill | 16  | -           | 18   | 30 | ●    |        |   |
| F90 - TP07 - D35Z7S16   | 1150 | 35                           | 7          | 35 |           | 16  | -           | 18   | 30 | ●    |        |   |
| F90 - TP07 - D40Z7S16   | 1151 | 40                           | 7          | 40 |           | 16  | -           | 18   | 38 | ●    |        |   |
| F90 - TP07 - D40Z8S16   | 1152 | 40                           | 8          | 40 |           | 16  | -           | 18   | 38 | ●    |        |   |
| F90 - TP07 - D40Z8S22   | 1153 | 40                           | 8          | 40 |           | 22  | -           | 20   | 38 | ●    |        |   |
| F90 - TP07 - D50Z9S22   | 1162 | 50                           | 9          | 40 |           | 22  | -           | 20   | 45 | ●    |        |   |
| F90 - TP07 - D52Z9S22   | 1163 | 52                           | 9          | 40 |           | 22  | -           | 20   | 45 | ●    |        |   |

▶ NEXT PAGE

\* Clamping Torque (Nm) 0.6Nm

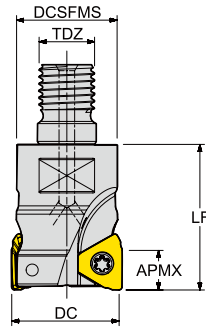
| TPKT0703    | Screw       | Wrench   | Handle   | BIT      |
|-------------|-------------|----------|----------|----------|
| Description | TP062004-GS | TPWBTP06 | DH-H4    | DB-TP06  |
| EDP         | 18000252    | 18000277 | 18000189 | 18000274 |

# Milling - Shoulder Milling - Cutter

## Cutters for TPKT

Entering Angle : 90°  
3 Corner Positive

<M> Modular



CICT : Number of Inserts  
CBDP : Connection Bore Depth

: Refer to p. 197-198

Unit : mm

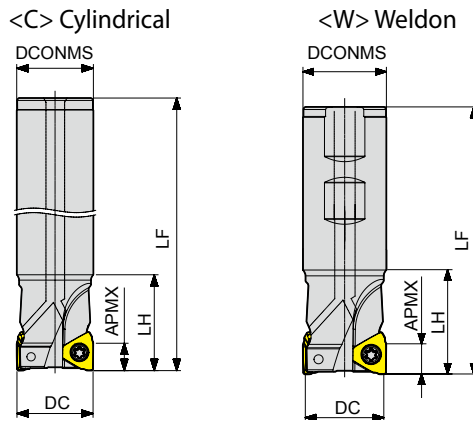
| Series                         | APMX | Designation           | EDP 1700.. | DC | CICT | LF | TYPE    | DCON | LH | CBDP | DCSFMS |  |
|--------------------------------|------|-----------------------|------------|----|------|----|---------|------|----|------|--------|--|
| <b>NEW</b><br><b>TPKT 0703</b> | 4.5  | M90 - TP07 - D16Z2M08 | 1154       | 16 | 2    | 40 | Modular | M08  | 23 | -    | 13     |  |
|                                |      | M90 - TP07 - D20Z3M10 | 1155       | 20 | 3    | 55 |         | M10  | 35 | -    | 18     |  |
|                                |      | M90 - TP07 - D22Z4M10 | 1156       | 22 | 4    | 55 |         | M10  | 35 | -    | 18     |  |
|                                |      | M90 - TP07 - D25Z5M12 | 1157       | 25 | 5    | 57 |         | M12  | 35 | -    | 21     |  |
|                                |      | M90 - TP07 - D32Z6M16 | 1158       | 32 | 6    | 68 |         | M16  | 43 | -    | 29     |  |
|                                |      | M90 - TP07 - D40Z7M16 | 1159       | 40 | 7    | 68 |         | M16  | 43 | -    | 29     |  |
|                                |      | M90 - TP07 - D42Z8M16 | 1160       | 42 | 8    | 68 |         | M16  | 43 | -    | 29     |  |

| TPKT0703    | Screw       | Wrench   | Handle   | BIT      |
|-------------|-------------|----------|----------|----------|
| Description | TP062004-GS | TPWBTP06 | DH-H4    | DB-TP06  |
| EDP         | 18000252    | 18000277 | 18000189 | 18000274 |

\* Clamping Torque (Nm) 0.6Nm

Milling - Shoulder Milling - Cutter  
**Cutters for TPKT**

Entering Angle : 90°  
3 Corner Positive



CICT : Number of Inserts  
CBDP : Connection Bore Depth

Refer to p. 197-198

Unit : mm

| Series                       | APMX | Designation                  | EDP 1700.. | DC  | CICT | LF  | TYPE        | DCON /TDZ | LH | CBDP | DCSFMS |   |
|------------------------------|------|------------------------------|------------|-----|------|-----|-------------|-----------|----|------|--------|---|
| TPKT 1104                    | 7.0  | E90 - TP11 - D20Z2C20 - L170 | 1037       | 20  | 2    | 170 | Cylindrical | 20        | 40 | -    | -      | ● |
|                              |      | E90 - TP11 - D20Z2C20 - L200 | 1074       | 20  | 2    | 200 |             | 20        | 60 | -    | -      | ● |
|                              |      | E90 - TP11 - D21Z2C20 - L150 | 1038       | 21  | 2    | 150 |             | 20        | 40 | -    | -      | ● |
|                              |      | E90 - TP11 - D21Z2C20 - L200 | 1039       | 21  | 2    | 200 |             | 20        | 40 | -    | -      | ● |
|                              |      | E90 - TP11 - D25Z3C25 - L200 | 1026       | 25  | 3    | 200 |             | 25        | 60 | -    | -      | ● |
|                              |      | E90 - TP11 - D26Z2C25 - L200 | 1041       | 26  | 2    | 200 |             | 25        | 40 | -    | -      | ● |
|                              |      | E90 - TP11 - D26Z2C25 - L250 | 1042       | 26  | 2    | 200 |             | 25        | 40 | -    | -      | ● |
|                              |      | E90 - TP11 - D26Z3C25 - L150 | 1043       | 26  | 3    | 150 |             | 25        | 40 | -    | -      | ● |
|                              |      | E90 - TP11 - D26Z3C25 - L200 | 1044       | 26  | 3    | 200 |             | 25        | 40 | -    | -      | ● |
|                              |      | E90 - TP11 - D32Z3C32 - L230 | 1045       | 32  | 3    | 230 |             | 32        | 60 | -    | -      | ● |
|                              |      | E90 - TP11 - D33Z3C32 - L200 | 1047       | 33  | 3    | 200 | 32          | 40        | -  | -    | ●      |   |
|                              |      | E90 - TP11 - D40Z4C32 - L200 | 1048       | 40  | 4    | 200 | 32          | 60        | -  | -    | ●      |   |
|                              |      | E90 - TP11 - D20Z2W20 - L90  | 0995       | 20  | 2    | 90  | Weldon      | 20        | 40 | -    | -      | ● |
|                              |      | E90 - TP11 - D25Z3W25 - L100 | 1040       | 25  | 3    | 100 |             | 25        | 40 | -    | -      | ● |
| E90 - TP11 - D32Z4W32 - L110 | 1046 | 32                           | 4          | 110 | 32   | 40  |             | -         | -  | ●    |        |   |
| E90 - TP11 - D40Z5W32 - L115 | 1049 | 40                           | 5          | 115 | 32   | 40  |             | -         | -  | ●    |        |   |

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\* Clamping Torque (Nm) 1.2Nm

| TPKT1104 (D20, D21) | Screw       | Wrench   | Handle   | BIT      |
|---------------------|-------------|----------|----------|----------|
| Description         | TP082562-GS | TPWBTP08 | DH-H4    | DB-TP08  |
| EDP                 | 18000265    | 18000218 | 18000189 | 18000190 |

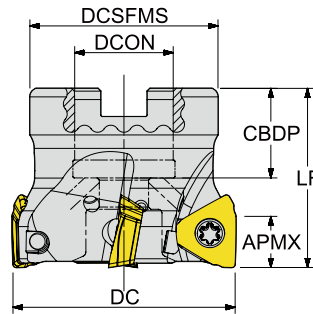
| TPKT1104 (over D25) | Screw       | Wrench   | Handle   | BIT      |
|---------------------|-------------|----------|----------|----------|
| Description         | TP082506-GS | TPWBTP08 | DH-H4    | DB-TP08  |
| EDP                 | 18000259    | 18000218 | 18000189 | 18000190 |

# Milling - Shoulder Milling - Cutter

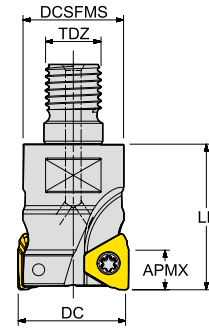
## Cutters for TPKT

Entering Angle : 90°  
3 Corner Positive

<S> Shellmill



<M> Modular



CICT : Number of Inserts  
CBDP : Connection Bore Depth

: Refer to p. 197-198

Unit : mm

| Series               | APMX                  | Designation           | EDP<br>1700.. | DC | CICT | LF      | TYPE      | DCON<br>/TDZ | LH | CBDP | DCSFMS |  |
|----------------------|-----------------------|-----------------------|---------------|----|------|---------|-----------|--------------|----|------|--------|--|
| <b>TPKT<br/>1104</b> | 7.0                   | F90 - TP11 - D40Z5S16 | 1050          | 40 | 5    | 40      | Shellmill | 16           | -  | 20   | 38     |  |
|                      |                       | F90 - TP11 - D50Z6S22 | 1051          | 50 | 6    | 40      |           | 22           | -  | 20   | 42     |  |
|                      |                       | F90 - TP11 - D63Z7S22 | 1052          | 63 | 7    | 40      |           | 22           | -  | 20   | 48     |  |
|                      |                       | F90 - TP11 - D63Z8S22 | 1053          | 63 | 8    | 40      |           | 22           | -  | 20   | 48     |  |
|                      | M90 - TP11 - D32Z4M16 | 1095                  | 32            | 4  | 43   | Modular | M16       | 68           | -  | 29   |        |  |

\* Clamping Torque (Nm) 1.2Nm

| TPKT1104<br>(D20, D21) | Screw       | Wrench   | Handle   | BIT      |
|------------------------|-------------|----------|----------|----------|
| Description            | TP082562-GS | TPWBTP08 | DH-H4    | DB-TP08  |
| EDP                    | 18000265    | 18000218 | 18000189 | 18000190 |

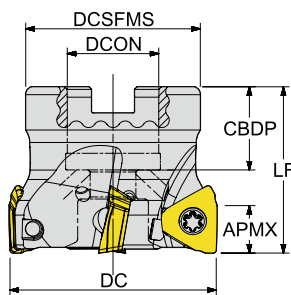
  

| TPKT1104<br>(over D25) | Screw       | Wrench   | Handle   | BIT      |
|------------------------|-------------|----------|----------|----------|
| Description            | TP082506-GS | TPWBTP08 | DH-H4    | DB-TP08  |
| EDP                    | 18000259    | 18000218 | 18000189 | 18000190 |

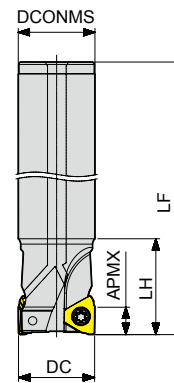
Milling - Shoulder Milling - Cutter  
**Cutters for TPKT**

Entering Angle : 90°  
3 Corner Positive

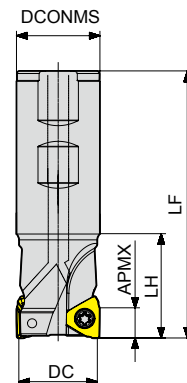
<S> Shellmill



<C> Cylindrical



<W> Weldon



CICT : Number of Inserts  
CBDP : Connection Bore Depth

Refer to p. 197-198

Unit : mm

| Series                  | APMX | Designation                  | EDP 1700.. | DC  | CICT | LF  | TYPE        | DCON /TDZ | LH | CBDP | DCSFMS |   |
|-------------------------|------|------------------------------|------------|-----|------|-----|-------------|-----------|----|------|--------|---|
| TPKT<br>1605            | 11.0 | E90 - TP16 - D32Z2C32 - L150 | 0941       | 32  | 2    | 150 | Cylindrical | 32        | 40 | -    | -      | ● |
|                         |      | E90 - TP16 - D32Z2C32 - L250 | 0942       | 32  | 2    | 250 |             | 32        | 80 | -    | -      | ● |
|                         |      | E90 - TP16 - D33Z2C32 - L200 | 0929       | 33  | 2    | 200 |             | 32        | 40 | -    | -      | ● |
|                         |      | E90 - TP16 - D33Z2C32 - L250 | 1010       | 33  | 2    | 250 |             | 32        | 40 | -    | -      | ● |
|                         |      | E90 - TP16 - D40Z4C32 - L200 | 0945       | 40  | 4    | 200 | Weldon      | 32        | 40 | -    | -      | ● |
|                         |      | E90 - TP16 - D40Z3W32 - L110 | 0944       | 40  | 3    | 110 |             | 32        | 40 | -    | -      | ● |
|                         |      | F90 - TP16 - D50Z4S22        | 0931       | 50  | 4    | 40  | Shellmill   | 22        | -  | 20   | 42     | ● |
|                         |      | F90 - TP16 - D50Z5S22        | 1069       | 50  | 5    | 40  |             | 22        | -  | 20   | 42     | ● |
|                         |      | F90 - TP16 - D63Z5S22        | 0932       | 63  | 5    | 40  |             | 22        | -  | 20   | 48     | ● |
|                         |      | F90 - TP16 - D63Z6S22        | 0947       | 63  | 6    | 40  |             | 22        | -  | 20   | 48     | ● |
|                         |      | F90 - TP16 - D80Z6S27        | 0948       | 80  | 6    | 50  |             | 27        | -  | 23   | 56     | ● |
|                         |      | F90 - TP16 - D80Z7S27        | 0949       | 80  | 7    | 50  |             | 27        | -  | 23   | 56     | ● |
|                         |      | F90 - TP16 - D100Z8S32       | 0950       | 100 | 8    | 50  |             | 32        | -  | 26   | 67     | ● |
|                         |      | F90 - TP16 - D125Z10S40      | 0951       | 125 | 10   | 63  |             | 40        | -  | 29   | 89     | ● |
|                         |      | F90 - TP16 - D125Z12S40      | 0952       | 125 | 12   | 63  |             | 40        | -  | 29   | 89     | ● |
|                         |      | F90 - TP16 - D140Z10S40      | 1073       | 140 | 10   | 63  |             | 40        | -  | 29   | 110    | ● |
| F90 - TP16 - D160Z11S40 | 0953 | 160                          | 11         | 63  | 40   | -   | 40          | 110       | X  |      |        |   |
| F90 - TP16 - D200Z11S60 | 0955 | 200                          | 11         | 63  | 60   | -   | 40          | 160       | X  |      |        |   |

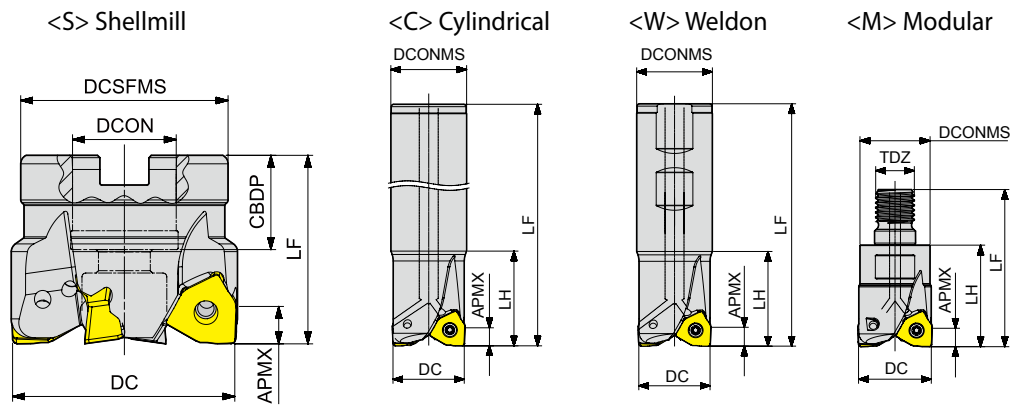
\* Clamping Torque (Nm) 5.3Nm

| TPKT1605    | Screw     | Wrench   | Handle   | BIT      |
|-------------|-----------|----------|----------|----------|
| Description | TP2045105 | TPWBTP20 | DH-H6    | DB-TP20  |
| EDP         | 18000264  | 18000256 | 18000210 | 18000257 |

# Milling - Shoulder Milling - Cutter

## Cutters for WNEX

Entering Angle : 90°  
6 Corner Negative



CICT : Number of Inserts  
CBDP : Connection Bore Depth

Refer to p. 201

Unit : mm

| Series                                   | APMX | Designation                  | EDP 1700.. | DC | CICT    | LF  | TYPE        | DCON /TDZ | LH | CBDP | DCSFMS | 🔹 |
|--|------|------------------------------|------------|----|---------|-----|-------------|-----------|----|------|--------|---|
| <b>NEW</b><br><b>WNEX</b><br><b>0403</b> | 4.0  | E90 - WN04 - D20Z2C20 - L150 | 1222       | 20 | 2       | 150 | Cylindrical | 20        | 40 | -    | -      | ● |
|  |      | E90 - WN04 - D20Z3C20 - L150 | 1224       | 20 | 3       | 150 |             | 20        | 40 | -    | -      | ● |
|  |      | E90 - WN04 - D21Z2C20 - L150 | 1255       | 21 | 2       | 150 |             | 20        | 40 | -    | -      | ● |
|  |      | E90 - WN04 - D25Z3C25 - L150 | 1226       | 25 | 3       | 150 |             | 25        | 40 | -    | -      | ● |
|  |      | E90 - WN04 - D25Z4C25 - L150 | 1228       | 25 | 4       | 150 |             | 25        | 40 | -    | -      | ● |
|  |      | E90 - WN04 - D26Z3C25 - L150 | 1256       | 26 | 3       | 150 |             | 25        | 40 | -    | -      | ● |
|  |      | E90 - WN04 - D32Z5C32 - L150 | 1230       | 32 | 5       | 150 |             | 32        | 40 | -    | -      | ● |
|  |      | E90 - WN04 - D20Z2W20 - L110 | 1221       | 20 | 2       | 110 | Weldon      | 20        | 40 | -    | -      | ● |
|  |      | E90 - WN04 - D20Z3W20 - L110 | 1223       | 20 | 3       | 110 |             | 20        | 40 | -    | -      | ● |
|  |      | E90 - WN04 - D25Z3W25 - L110 | 1225       | 25 | 3       | 110 |             | 25        | 40 | -    | -      | ● |
|  |      | E90 - WN04 - D25Z4W25 - L110 | 1227       | 25 | 4       | 110 |             | 25        | 40 | -    | -      | ● |
|  |      | E90 - WN04 - D32Z5W32 - L110 | 1229       | 32 | 5       | 110 |             | 32        | 40 | -    | -      | ● |
|  |      | E90 - WN04 - D32Z6W32 - L110 | 1231       | 32 | 6       | 110 | 32          | 40        | -  | -    | ●      |   |
|  |      | F90 - WN04 - D40Z5S16        | 1232       | 40 | 5       | 40  | Shellmill   | 16        | -  | 18   | 38     | ● |
|  |      | F90 - WN04 - D40Z6S16        | 1233       | 40 | 6       | 40  |             | 16        | -  | 18   | 38     | ● |
|  |      | F90 - WN04 - D40Z7S16        | 1234       | 40 | 7       | 40  |             | 16        | -  | 18   | 38     | ● |
|  |      | F90 - WN04 - D50Z7S22        | 1235       | 50 | 7       | 40  |             | 22        | -  | 20   | 45     | ● |
|  |      | F90 - WN04 - D50Z8S22        | 1236       | 50 | 8       | 40  |             | 22        | -  | 20   | 45     | ● |
|  |      | F90 - WN04 - D50Z9S22        | 1237       | 50 | 9       | 40  |             | 22        | -  | 20   | 45     | ● |
|  |      | F90 - WN04 - D63Z8S22        | 1238       | 63 | 8       | 40  |             | 22        | -  | 20   | 48     | ● |
| F90 - WN04 - D63Z10S22                   | 1239 | 63                           | 10         | 40 | 22      | -   |             | 20        | 48 | ●    |        |   |
| F90 - WN04 - D63Z11S22                   | 1240 | 63                           | 11         | 40 | 22      | -   |             | 20        | 48 | ●    |        |   |
| F90 - WN04 - D42Z7S16                    | 1257 | 42                           | 7          | 40 | 16      | -   |             | 18        | 38 | ●    |        |   |
| F90 - WN04 - D52Z9S22                    | 1258 | 52                           | 9          | 40 | 22      | -   | 20          | 45        | ●  |      |        |   |
| M90 - WN04 - D20Z2M10                    | 1241 | 20                           | 2          | 55 | Modular | M10 | 35          | -         | 18 | ●    |        |   |
| M90 - WN04 - D20Z3M10                    | 1242 | 20                           | 3          | 55 |         | M10 | 35          | -         | 18 | ●    |        |   |
| M90 - WN04 - D25Z3M12                    | 1243 | 25                           | 3          | 57 |         | M12 | 35          | -         | 21 | ●    |        |   |
| M90 - WN04 - D25Z4M12                    | 1244 | 25                           | 4          | 57 |         | M12 | 35          | -         | 21 | ●    |        |   |
| M90 - WN04 - D32Z5M16                    | 1245 | 32                           | 5          | 68 |         | M16 | 43          | -         | 29 | ●    |        |   |
| M90 - WN04 - D32Z6M16                    | 1246 | 32                           | 6          | 68 |         | M16 | 43          | -         | 29 | ●    |        |   |

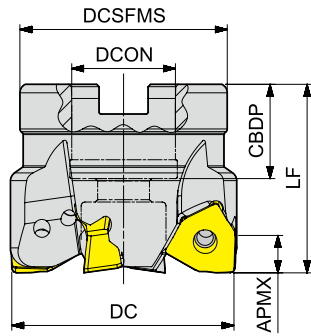
\* Clamping Torque (Nm) 0.7Nm

| ENMX04      | Screw       | Wrench   | Handle   | BIT      |
|-------------|-------------|----------|----------|----------|
| Description | TP072557-GS | TPWBTP07 | DH-H4    | DB-TP07  |
| EDP         | 18000275    | 18000289 | 18000189 | 18000278 |

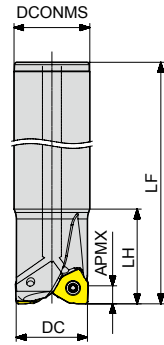
Milling - Shoulder Milling - Cutter  
**Cutters for WNEX**

Entering Angle : 90°  
6 Corner Negative

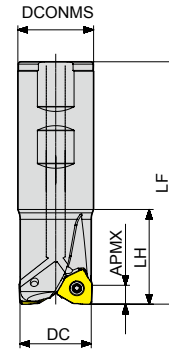
<S> Shellmill



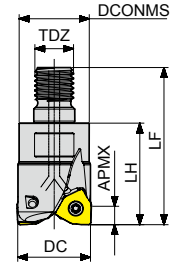
<C> Cylindrical



<W> Weldon



<M> Modular



CICT : Number of Inserts  
CBDP : Connection Bore Depth

☐ : Refer to p. 201

Unit : mm

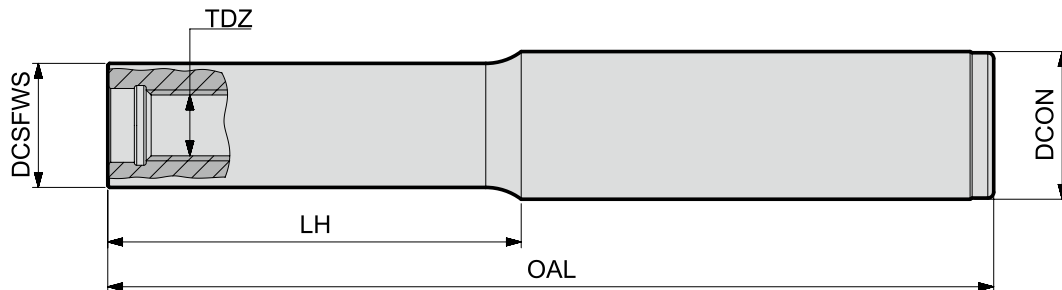
| Series    | APMX | Designation                     | EDP 1700.. | DC  | CICT | LF  | TYPE      | DCON /TDZ   | LH | CBDP  | DCSFMS | ☐  |   |
|-----------|------|---------------------------------|------------|-----|------|-----|-----------|-------------|----|-------|--------|----|---|
| WNEX 0806 | 7.0  | E90 - WN08 - D32Z2W32 - L120    | 0969       | 32  | 2    | 120 | Weldon    | 32          | 40 | -     | -      | ●  |   |
|           |      | E90 - WN08 - D40Z3W32 - L120    | 0972       | 40  | 3    | 120 |           | 32          | 40 | -     | -      | ●  |   |
|           |      | E90 - WN08 - D40Z4W32 - L120    | 0973       | 40  | 4    | 120 |           | 32          | 40 | -     | -      | ●  |   |
|           |      | E90 - WN08 - D50Z4W32 - L120    | 0974       | 50  | 4    | 120 |           | 32          | 40 | -     | -      | ●  |   |
|           |      | E90 - WN08 - D50Z5W32 - L120    | 0990       | 50  | 5    | 120 |           | 32          | 40 | -     | -      | ●  |   |
|           |      | E90 - WN08 - D32Z2C32 - L120    | 0991       | 32  | 2    | 120 |           | Cylindrical | 32 | 40    | -      | -  | ● |
|           |      | E90 - WN08 - D32Z2C32 - L200    | 0872       | 32  | 2    | 200 | 32        |             | 60 | -     | -      | ●  |   |
|           |      | E90 - WN08 - D33Z2C32 - L200    | 0873       | 33  | 2    | 200 | 32        |             | 40 | -     | -      | ●  |   |
|           |      | E90 - WN08 - D40Z3C32 - L120    | 0994       | 40  | 3    | 120 | 32        |             | 40 | -     | -      | ●  |   |
|           |      | E90 - WN08 - D40Z3C32 - L200    | 0874       | 40  | 3    | 200 | 32        |             | 40 | -     | -      | ●  |   |
|           |      | E90 - WN08 - D40Z4C32 - L120    | 0996       | 40  | 4    | 120 | 32        |             | 40 | -     | -      | ●  |   |
|           |      | E90 - WN08 - D50Z4C32 - L120    | 0997       | 50  | 4    | 120 | 32        |             | 40 | -     | -      | ●  |   |
|           |      | E90 - WN08 - D50Z5C32 - L120    | 0998       | 50  | 5    | 120 | 32        |             | 40 | -     | -      | ●  |   |
|           |      | F90 - WN08 - D50Z4S22           | 0875       | 50  | 4    | 40  | Shellmill |             | 22 | -     | 20     | 44 | ● |
|           |      | F90 - WN08 - D50Z5S22           | 0976       | 50  | 5    | 40  |           |             | 22 | -     | 20     | 44 | ● |
|           |      | F90 - WN08 - D63Z5S22           | 0876       | 63  | 5    | 40  |           | 22          | -  | 20    | 48     | ●  |   |
|           |      | F90 - WN08 - D63Z6S22           | 0977       | 63  | 6    | 40  |           | 22          | -  | 20    | 48     | ●  |   |
|           |      | F90 - WN08 - D80Z4S27           | 0999       | 80  | 4    | 50  |           | 27          | -  | 20    | 56     | ●  |   |
|           |      | F90 - WN08 - D80Z6S25.4         | 1000       | 80  | 6    | 50  |           | 25.4        | -  | 26.64 | 56     | ●  |   |
|           |      | F90 - WN08 - D80Z7S27           | 0878       | 80  | 7    | 50  |           | 27          | -  | 23    | 56     | ●  |   |
|           |      | F90 - WN08 - D80Z7S25.4         | 0877       | 80  | 7    | 50  |           | 25.4        | -  | 26.64 | 56     | ●  |   |
|           |      | F90 - WN08 - D80Z9S27           | 0978       | 80  | 9    | 50  |           | 27          | -  | 23    | 56     | ●  |   |
|           |      | F90 - WN08 - D100Z8S31.75 - WOC | 1002       | 100 | 8    | 50  |           | 31.75       | -  | 32    | 67     | X  |   |
|           |      | F90 - WN08 - D100Z9S32          | 0979       | 100 | 9    | 50  | 32        | -           | 26 | 67    | ●      |    |   |
|           |      | F90 - WN08 - D100Z11S32         | 0980       | 100 | 11   | 50  | 32        | -           | 26 | 67    | ●      |    |   |
|           |      | F90 - WN08 - D125Z10S38.1 - WOC | 1003       | 125 | 10   | 63  | 38.1      | -           | 38 | 85    | X      |    |   |
|           |      | F90 - WN08 - D125Z11S40         | 0981       | 125 | 11   | 63  | 40        | -           | 29 | 85    | ●      |    |   |
|           |      | F90 - WN08 - D125Z14S40         | 0982       | 125 | 14   | 63  | 40        | -           | 29 | 85    | ●      |    |   |
|           |      | M90 - WN08 - D32Z2M16           | 1004       | 32  | 2    | 65  | Modular   | M16         | 42 | -     | 29     | ●  |   |
|           |      | M90 - WN08 - D40Z3M16           | 1005       | 40  | 3    | 65  |           | M16         | 42 | -     | 29     | ●  |   |
|           |      | M90 - WN08 - D40Z4M16           | 0984       | 40  | 4    | 65  |           | M16         | 42 | -     | 29     | ●  |   |

\* Clamping Torque (Nm) 3.0Nm

| WNEX0806    | Screw       | Wrench   | Handle   | BIT      |
|-------------|-------------|----------|----------|----------|
| Description | TP154011-GS | TPWBTP15 | DH-H4    | DB-TP15  |
| EDP         | 18000251    | 18000217 | 18000189 | 18000208 |

## Milling - Modular Shank

# Modular Shanks



Unit:mm

| Series     | Designation              | EDP 1700.. | DCSFWS | TDZ | LF  | LH  | TYPE        | DCON |   |
|------------|--------------------------|------------|--------|-----|-----|-----|-------------|------|---|
| <b>M08</b> | EM - M08 - D13C16 - L100 | 0634       | 13     | M08 | 100 | 40  | Cylindrical | 16   | ● |
|            | EM - M08 - D15C16 - L130 | 0635       | 15     | M08 | 130 | 70  |             | 16   | ● |
| <b>M10</b> | EM - M10 - D18C20 - L130 | 0636       | 18     | M10 | 130 | 70  | Cylindrical | 20   | ● |
| <b>M12</b> | EM - M12 - D23C25 - L150 | 0637       | 23     | M12 | 150 | 70  | Cylindrical | 25   | ● |
|            | EM - M12 - D23C25 - L200 | 0638       | 23     | M12 | 200 | 100 |             | 25   | ● |
|            | EM - M12 - D23C25 - L250 | 0639       | 23     | M12 | 250 | 150 |             | 25   | ● |
| <b>M16</b> | EM - M16 - D30C32 - L150 | 0640       | 30     | M16 | 150 | 70  | Cylindrical | 32   | ● |
|            | EM - M16 - D30C32 - L200 | 0641       | 30     | M16 | 200 | 100 |             | 32   | ● |
|            | EM - M16 - D30C32 - L250 | 0642       | 30     | M16 | 250 | 150 |             | 32   | ● |
|            | EM - M16 - D30C32 - L300 | 0643       | 30     | M16 | 300 | 200 |             | 32   | ● |

## Mounting Bolt

| DCON                | Description    | EDP      |
|---------------------|----------------|----------|
| Ø16                 | YHBM08-L20     | 18000224 |
| Ø16 HF              | YHBM08-L25     | 18000238 |
| Ø22                 | YHBM10-L25     | 18000239 |
| Ø22 HF              | YHBM10-L30     | 18000240 |
| Ø25.4 (Metric O.D)  | YHBM12-L30     | 18000241 |
| Ø27                 | YHBM12-L30     | 18000241 |
| Ø31.75 (Metric O.D) | YMBM16-L42     | 18000242 |
| Ø32                 | YMBM16-L42     | 18000242 |
| Ø32 HF              | YMBM16-L50     | 18000258 |
| Ø38.1 (Metric O.D)  | YMBM20-L54     | 18000243 |
| Ø40                 | YMBM20-L54     | 18000243 |
| Ø0.5" (Ø12.7)       | YHBU250-L25.4  | 18000244 |
| Ø0.75" (Ø19.05)     | YHBU375-L25.4  | 18000245 |
| Ø0.75" (Ø19.05) HF  | YHBU375-L31.75 | 18000246 |
| Ø1.0" (Ø25.4)       | YHBU500-L38.1  | 18000247 |
| Ø1.25" (Ø31.75)     | YMBU625-L52    | 18000248 |
| Ø1.5" (Ø38.1)       | YMBU750-L60    | 18000249 |
| Ø2.0" (Ø50.8)       | YMBU1000-L70   | 18000250 |



# DRILLING

**Drilling Overview**

**Drill Holder**

**X-Drill Inserts (SYMx)**

**Square Drill Inserts (SPMx)**

**Triagonal Drilling Inserts (WCMx)**

Click this  
QR code!! 



Scan this QR code  
to see our  
X-Drill  
at work.

# Drilling Overview

## Drilling Grades

| Drilling Grades |       | P Steel |     |     |     |     | M Stainless steel |     |     |     |     | K Cast iron |     |     |     |     |
|-----------------|-------|---------|-----|-----|-----|-----|-------------------|-----|-----|-----|-----|-------------|-----|-----|-----|-----|
|                 |       | P05     | P15 | P25 | P35 | P45 | M05               | M15 | M25 | M35 | M45 | K05         | K15 | K25 | K35 | K45 |
| PVD             | YG713 |         |     | 713 |     |     |                   |     | 713 |     |     |             |     | 713 |     |     |
|                 | YG602 |         |     | 602 |     |     |                   |     | 602 |     |     |             |     | 602 |     |     |
|                 | YG613 |         |     |     | 613 |     |                   |     |     | 613 |     |             |     |     |     |     |

|   |                    |   |
|---|--------------------|---|
| <p><b>YG713</b></p> <p>P15 - P30    M15 - M30</p> <p>K15 - K30    H20 - H30</p> | <p>PVD - TiAlN</p> | <p><b>Drilling Grade for General Steel Application</b></p> <ul style="list-style-type: none"> <li>Multi-layer TiAlN structure realizes stronger crater and flank wear resistance</li> <li>Fine-grained carbide and balanced substrate</li> </ul>  |
| <p><b>YG602</b></p> <p>P20 - P35    M20 - M40</p> <p>K20 - K40    S15 - S25</p> | <p>PVD - TiAlN</p> | <p><b>Universal grade for General Drilling Application</b></p> <ul style="list-style-type: none"> <li>Ultra Dense PVD Coating with optimal thermal resistance &amp; strength</li> <li>Sub-Micron substrate designed for demanding application</li> </ul>  |
| <p><b>YG613</b></p> <p>P30 - P50</p> <p>M30 - M50</p>                           | <p>PVD - TiAlN</p> | <p><b>Drilling Grade for Stainless Steel Application</b></p> <ul style="list-style-type: none"> <li>New coating layer with lubrication preventing built-up edge on ultra fine grain substrate with high toughness.</li> <li>The toughest substrate provides excellent cutting performance in stainless steel</li> </ul> |

## Universal Drilling Inserts

|  |              |             |      |  |
|--|--------------|-------------|------|--|
|  | 4 Corner     | SYMX Series | SYMX | 05, 06, 07, 08<br><b>NEW</b><br>10, 11, 13, 15 |
|  | 4 Corner     | SPMX Series | SPMX | 05, 06, 07, 09, 11, 14                         |
|  | ISO 3 Corner | WCMX Series | WCMX | 03, 04, 05, 06, 08                             |

## Drilling Chipbreakers

| P | M | K |  |  |
|---|---|---|--|--|
|   | M |   | -ST  | <ul style="list-style-type: none"> <li>Sharp Geometry</li> <li>Sticky Material, Stainless Steel</li> </ul> |
| P | M | K | <b>General Inserts</b><br>(No Description) | <ul style="list-style-type: none"> <li>First Choice for General Application</li> </ul>                     |

Drilling - Inserts

**X-Drill Inserts (SYMX)**

Recommended Cutting Conditions : p.259

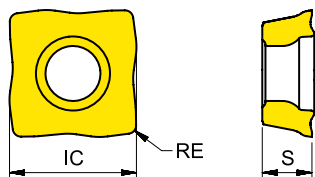
TURNING

PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION



| Series    | IC   | S    | Series    | IC    | S    |
|-----------|------|------|-----------|-------|------|
| SYMX 0502 | 4.97 | 2.35 | SYMX 10T3 | 9.99  | 3.97 |
| SYMX 0602 | 5.99 | 2.35 | SYMX 1104 | 11.39 | 4.00 |
| SYMX 07T2 | 7.01 | 2.80 | SYMX 1304 | 13.00 | 4.76 |
| SYMX 0803 | 8.30 | 3.20 | SYMX 1505 | 15.50 | 5.00 |

EDP 3200..

| SYMX | Designation | RE (mm) | Fn (mm/rev.) | P25   | P20       | P40       |
|------|-------------|---------|--------------|-------|-----------|-----------|
|      |             |         |              | M25   | M20       | M40       |
|      |             |         |              | K30   | K20       | M40       |
|      |             |         |              | YG602 | YG713     | YG613     |
|      | SYMX 050204 | 0.4     | 0.06~0.12    |       | ●<br>0097 | ●<br>0098 |
|      | SYMX 060204 | 0.4     | 0.06~0.12    |       | ●<br>0093 | ●<br>0095 |
|      | SYMX 07T206 | 0.6     | 0.06~0.12    |       | ●<br>0099 | ●<br>0100 |
|      | SYMX 080306 | 0.6     | 0.08~0.20    |       | ●<br>0101 | ●<br>0102 |
|      | SYMX 10T308 | 0.8     | 0.08~0.2     |       | ●<br>0107 | ●<br>0108 |
|      | SYMX 110408 | 0.8     | 0.08~0.2     |       | ●<br>0109 | ●<br>0110 |
|      | SYMX 130410 | 1.0     | 0.08~0.2     |       | ●<br>0111 | ●<br>0112 |
|      | SYMX 150512 | 1.2     | 0.08~0.22    |       | ●<br>0113 | ●<br>0114 |

**SYMX**  
General

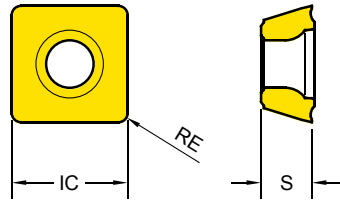


● : Stock item ○ : Order made item

Drilling - Inserts



# Square Drill Inserts (SPMX)

Recommended Cutting Conditions : p.259



| Series    | IC    | S    |
|-----------|-------|------|
| SPMX 0502 | 5.00  | 2.38 |
| SPMX 0602 | 6.00  | 2.41 |
| SPMX 07T3 | 7.94  | 3.97 |
| SPMX 0904 | 9.80  | 4.30 |
| SPMX 1104 | 11.50 | 4.80 |
| SPMX 1405 | 14.30 | 5.20 |

EDP 3200..

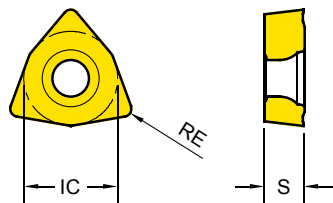
| SPMX  | Designation      | RE (mm) | Fn (mm/rev.) | P25       | P20       | P40       |
|---|------------------|---------|--------------|-----------|-----------|-----------|
|   |                  |         |              | M25       | M20       | M40       |
|   |                  |         |              | K30       | K20       | M40       |
|   |                  |         |              | YG602     | YG713     | YG613     |
| <b>SPMX</b><br>General           | SPMX 050204      | 0.4     | 0.07~0.14    | ●<br>0005 | ●<br>0062 | ●<br>0077 |
|   | SPMX 060204      | 0.4     | 0.08~0.14    | ●<br>0006 | ●<br>0063 | ●<br>0078 |
|   | SPMX 07T308      | 0.8     | 0.08~0.16    | ●<br>0007 | ●<br>0064 | ●<br>0061 |
|   | SPMX 090408      | 0.8     | 0.08~0.16    | ●<br>0008 | ●<br>0065 | ●<br>0079 |
|   | SPMX 110408      | 0.8     | 0.10~0.18    | ●<br>0009 | ●<br>0066 | ●<br>0080 |
|   | SPMX 140512      | 1.2     | 0.10~0.20    | ●<br>0010 | ●<br>0067 |           |
| <b>-ST</b><br>Stainless Steel  | SPMX 050204 - ST | 0.4     | 0.03~0.10    | ●<br>0011 |           | ●<br>0070 |
|   | SPMX 060204 - ST | 0.4     | 0.04~0.11    | ●<br>0012 |           | ●<br>0071 |
|   | SPMX 07T308 - ST | 0.8     | 0.04~0.11    | ●<br>0013 |           | ●<br>0068 |
|   | SPMX 090408 - ST | 0.8     | 0.05~0.12    | ●<br>0014 |           | ●<br>0072 |
|   | SPMX 110408 - ST | 0.8     | 0.05~0.12    |           |           | ●<br>0073 |
|   | SPMX 140512 - ST | 1.2     | 0.05~0.16    |           |           | ●<br>0074 |

● : Stock item ○ : Order made item

Drilling - Inserts

**Triagonal Drill Inserts (WCMX)**

Recommended Cutting Conditions : p.259



| Series    | IC    | S    |
|-----------|-------|------|
| WCMX 0302 | 5.56  | 2.38 |
| WCMX 0402 | 6.35  | 2.38 |
| WCMX 0503 | 7.94  | 3.18 |
| WCMX 06T3 | 9.53  | 3.97 |
| WCMX 0804 | 12.70 | 4.76 |

EDP 3200..

| WCMX | Designation | RE (mm) | Fn (mm/rev.) | P25       | P20       | P40       |
|------|-------------|---------|--------------|-----------|-----------|-----------|
|      |             |         |              | M25       | M20       | M40       |
|      |             |         |              | K30       | K20       | M40       |
|      |             |         |              | YG602     | YG713     | YG613     |
|      | WCMX 030208 | 0.8     | 0.05~0.12    | ●<br>0031 | ●<br>0086 |           |
|      | WCMX 040208 | 0.8     | 0.05~0.12    | ●<br>0003 | ●<br>0087 |           |
|      | WCMX 050308 | 0.8     | 0.06~0.14    | ●<br>0001 | ●<br>0088 |           |
|      | WCMX 06T308 | 0.8     | 0.08~0.14    | ●<br>0002 | ●<br>0089 |           |
|      | WCMX 080412 | 1.2     | 0.08~0.14    | ●<br>0004 | ●<br>0090 | ●<br>0091 |

**WCMX**  
General



● : Stock item ○ : Order made item

TURNING

PARTING & GROOVING

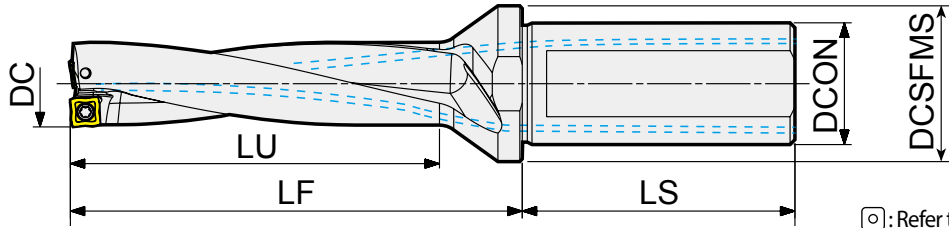
MILLING

DRILLING

TECHNICAL INFORMATION

Drilling - Drill Holder

# X-Drill Holder (SYM05) (DC 14~16.5)



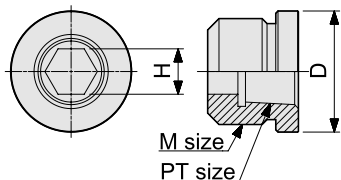
: Refer to p. 232

Unit: mm

| Series           | DC   | LU                  | Designation         | EDP 3700.. | LF    | OAL   | DCON | DCSFMS | LS |
|------------------|------|---------------------|---------------------|------------|-------|-------|------|--------|----|
| <b>SYM050204</b> | 14   | 28                  | YGSY2 - 140S20 - 05 | 1019       | 46    | 96.0  | 20   | 25     | 50 |
|                  |      | 42                  | YGSY3 - 140S20 - 05 | 1031       | 60    | 110.0 |      |        |    |
|                  |      | 56                  | YGSY4 - 140S20 - 05 | 1043       | 74    | 124.0 |      |        |    |
|                  |      | 70                  | YGSY5 - 140S20 - 05 | 1055       | 88    | 141.5 |      |        |    |
|                  | 14.5 | 30                  | YGSY2 - 145S20 - 05 | 1134       | 49    | 99.0  |      |        |    |
|                  |      | 45                  | YGSY3 - 145S20 - 05 | 1149       | 64    | 114.0 |      |        |    |
|                  |      | 60                  | YGSY4 - 145S20 - 05 | 1164       | 79    | 129.0 |      |        |    |
|                  | 15   | 75                  | YGSY5 - 145S20 - 05 | 1179       | 94    | 144.0 |      |        |    |
|                  |      | 30                  | YGSY2 - 150S20 - 05 | 1020       | 49    | 99.0  |      |        |    |
|                  |      | 45                  | YGSY3 - 150S20 - 05 | 1032       | 64    | 114.0 |      |        |    |
|                  |      | 60                  | YGSY4 - 150S20 - 05 | 1044       | 79    | 129.0 |      |        |    |
|                  | 15.5 | 75                  | YGSY5 - 150S20 - 05 | 1056       | 94    | 146.5 |      |        |    |
|                  |      | 32                  | YGSY2 - 155S20 - 05 | 1135       | 52    | 102.0 |      |        |    |
|                  |      | 48                  | YGSY3 - 155S20 - 05 | 1150       | 68    | 118.0 |      |        |    |
|                  |      | 64                  | YGSY4 - 155S20 - 05 | 1165       | 84    | 134.0 |      |        |    |
|                  | 16   | 80                  | YGSY5 - 155S20 - 05 | 1180       | 100   | 150.0 |      |        |    |
|                  |      | 32                  | YGSY2 - 160S20 - 05 | 1021       | 52    | 102.0 |      |        |    |
|                  |      | 48                  | YGSY3 - 160S20 - 05 | 1033       | 68    | 118.0 |      |        |    |
|                  |      | 64                  | YGSY4 - 160S20 - 05 | 1045       | 84    | 134.0 |      |        |    |
|                  | 16.5 | 80                  | YGSY5 - 160S20 - 05 | 1057       | 100   | 151.5 |      |        |    |
| 34               |      | YGSY2 - 165S20 - 05 | 1136                | 54         | 104.0 |       |      |        |    |
| 51               |      | YGSY3 - 165S20 - 05 | 1151                | 72         | 122.0 |       |      |        |    |
| 68               |      | YGSY4 - 165S20 - 05 | 1166                | 89         | 139.0 |       |      |        |    |
|                  |      | 85                  | YGSY5 - 165S20 - 05 | 1181       | 106   | 155.0 |      |        |    |

► Refer to offset value and hole tolerance: p. 293

## PLUG (DCON20)



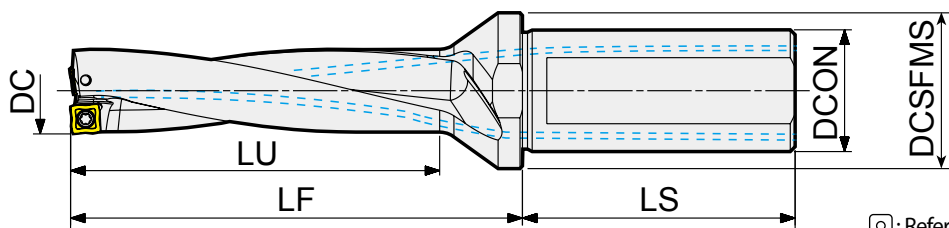
| Designation  | EDP No.  | DCON | ØD | M size  | PT size | H |
|--------------|----------|------|----|---------|---------|---|
| PLUG M12-1/8 | 38000001 | 20   | 14 | M12x1.0 | PT 1/8  | 6 |

\* Plug for turning lathe should be ordered separately.

\* Clamping Torque (Nm) 0.6Nm

| SYM05       |             | Screw        | Wrench       |
|-------------|-------------|--------------|--------------|
| Description |             | TP062004-GS  | TPWFTP06     |
| EDP         |             | 18000252     | 18000262     |
| Plug        | DCON        | Ø 20         | Ø 25         |
|             | Description | PLUG M12-1/8 | PLUG M14-1/8 |
|             | EDP         | 38000001     | 38000002     |
|             |             |              | Ø 32         |
|             |             |              | PLUG M22-1/4 |
|             |             |              | 38000003     |

## X-Drill Holder (SYM06) (DC 17~20.5)



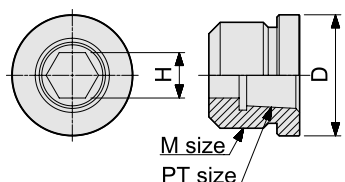
☐: Refer to p. 232 Unit:mm

| Series       | DC   | LU                  | Designation         | EDP 3700.. | LF    | OAL   | DCON | DCSFMS | LS |
|--------------|------|---------------------|---------------------|------------|-------|-------|------|--------|----|
| <b>SYM06</b> | 17   | 34                  | YGSY2 - 170S25 - 06 | 0851       | 54    | 96.0  | 25   | 32     | 56 |
|              |      | 51                  | YGSY3 - 170S25 - 06 | 0855       | 71    | 110.0 |      |        |    |
|              |      | 68                  | YGSY4 - 170S25 - 06 | 0859       | 88    | 124.0 |      |        |    |
|              |      | 85                  | YGSY5 - 170S25 - 06 | 0863       | 105   | 141.5 |      |        |    |
|              | 17.5 | 36                  | YGSY2 - 175S25 - 06 | 1137       | 57    | 99.0  |      |        |    |
|              |      | 54                  | YGSY3 - 175S25 - 06 | 1152       | 75    | 114.0 |      |        |    |
|              |      | 72                  | YGSY4 - 175S25 - 06 | 1167       | 93    | 129.0 |      |        |    |
|              | 18   | 36                  | YGSY2 - 180S25 - 06 | 0852       | 57    | 99.0  |      |        |    |
|              |      | 54                  | YGSY3 - 180S25 - 06 | 0856       | 75    | 114.0 |      |        |    |
|              |      | 72                  | YGSY4 - 180S25 - 06 | 0860       | 93    | 129.0 |      |        |    |
|              | 18.5 | 90                  | YGSY5 - 175S25 - 06 | 1182       | 111   | 144.0 |      |        |    |
|              |      | 38                  | YGSY2 - 185S25 - 06 | 1138       | 59    | 102.0 |      |        |    |
|              |      | 57                  | YGSY3 - 185S25 - 06 | 1153       | 78    | 118.0 |      |        |    |
|              | 19   | 76                  | YGSY4 - 185S25 - 06 | 1168       | 97    | 134.0 |      |        |    |
|              |      | 95                  | YGSY5 - 185S25 - 06 | 1183       | 116   | 150.0 |      |        |    |
|              |      | 38                  | YGSY2 - 190S25 - 06 | 0853       | 59    | 102.0 |      |        |    |
|              | 19.5 | 57                  | YGSY3 - 190S25 - 06 | 0857       | 78    | 118.0 |      |        |    |
|              |      | 76                  | YGSY4 - 190S25 - 06 | 0861       | 97    | 134.0 |      |        |    |
|              |      | 95                  | YGSY5 - 190S25 - 06 | 0865       | 116   | 151.5 |      |        |    |
|              | 19.5 | 40                  | YGSY2 - 195S25 - 06 | 1139       | 63    | 104.0 |      |        |    |
| 60           |      | YGSY3 - 195S25 - 06 | 1154                | 83         | 122.0 |       |      |        |    |
| 80           |      | YGSY4 - 195S25 - 06 | 1169                | 103        | 139.0 |       |      |        |    |
|              |      | 100                 | YGSY5 - 195S25 - 06 | 1184       | 123   | 155.0 |      |        |    |

▶ Refer to offset value and hole tolerance: p. 293

▶ NEXT PAGE

### PLUG (DCON25)



| Designation  | EDP No.  | DCON | ØD | M size  | PT size | H |
|--------------|----------|------|----|---------|---------|---|
| PLUG M14-1/8 | 38000002 | 25   | 16 | M14x1.0 | PT 1/8  | 6 |

\* Plug for turning lathe should be ordered separately.

\* Clamping Torque (Nm) 0.7Nm

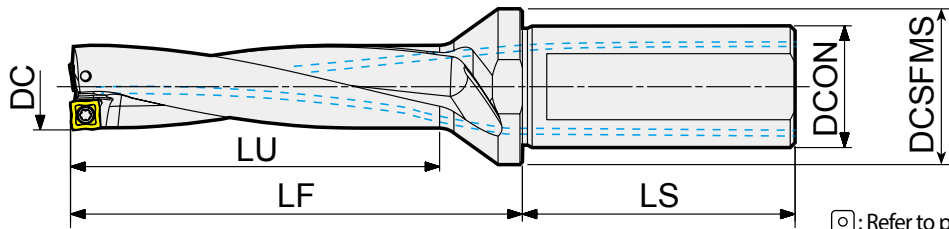
| SYM06       | Screw       | Wrench   |
|-------------|-------------|----------|
| Description | TP072205-GS | TPWFTP07 |
| EDP         | 18000253    | 18000001 |

| Plug | DCON        | Ø 20         | Ø 25         | Ø 32         |
|------|-------------|--------------|--------------|--------------|
|      | Description | PLUG M12-1/8 | PLUG M14-1/8 | PLUG M22-1/4 |
|      | EDP         | 38000001     | 38000002     | 38000003     |

Drilling - Drill Holder

# X-Drill Holder (SYM06) (DC 17~20.5)

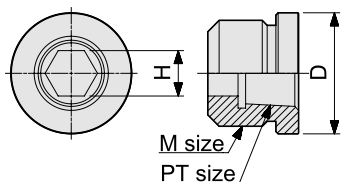


☐: Refer to p. 232 Unit: mm

| Series                       | DC   | LU  | Designation         | EDP 3700.. | LF  | OAL   | DCON | DCSFMS | LS |
|------------------------------|------|-----|---------------------|------------|-----|-------|------|--------|----|
| <b>SYM06</b><br><b>06204</b> | 20   | 40  | YGSY2 - 200S25 - 06 | 0854       | 63  | 119.0 | 25   | 32     | 56 |
|                              |      | 60  | YGSY3 - 200S25 - 06 | 0858       | 83  | 139.0 |      |        |    |
|                              |      | 80  | YGSY4 - 200S25 - 06 | 0862       | 103 | 159.0 |      |        |    |
|                              | 20.5 | 100 | YGSY5 - 200S25 - 06 | 0866       | 123 | 179.0 |      |        |    |
|                              |      | 42  | YGSY2 - 205S25 - 06 | 1140       | 65  | 121.0 |      |        |    |
|                              |      | 63  | YGSY3 - 205S25 - 06 | 1155       | 86  | 142.0 |      |        |    |
|                              |      | 84  | YGSY4 - 205S25 - 06 | 1170       | 107 | 163.0 |      |        |    |
|                              |      | 105 | YGSY5 - 205S25 - 06 | 1185       | 128 | 184.0 |      |        |    |

► Refer to offset value and hole tolerance: p. 293

## PLUG (DCON25)



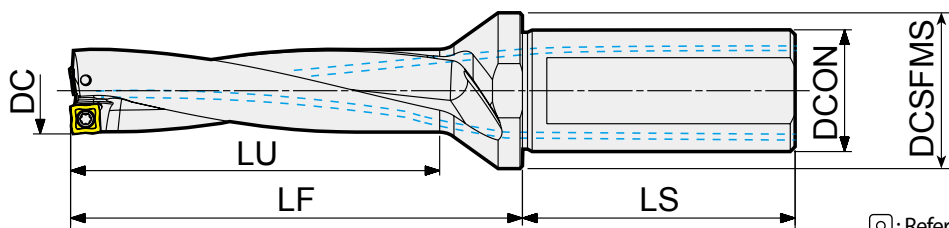
| Designation  | EDP No.  | DCON | ØD | M size  | PT size | H |
|--------------|----------|------|----|---------|---------|---|
| PLUG M14-1/8 | 38000002 | 25   | 16 | M14x1.0 | PT 1/8  | 6 |

\* Plug for turning lathe should be ordered separately.

\* Clamping Torque (Nm) 0.7Nm

| SYM06       |             | Screw        | Wrench       |
|-------------|-------------|--------------|--------------|
| Description |             | TP072205-GS  | TPWFTP07     |
| EDP         |             | 18000253     | 18000001     |
| Plug        | DCON        | Ø 20         | Ø 25         |
|             | Description | PLUG M12-1/8 | PLUG M14-1/8 |
|             | EDP         | 38000001     | 38000002     |
|             |             |              | Ø 32         |
|             |             |              | PLUG M22-1/4 |
|             |             |              | 38000003     |

**X-Drill Holder (SYM07) (DC 21~23.5)**

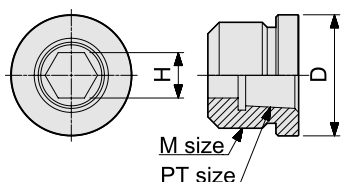


☐: Refer to p. 232 Unit:mm

| Series           | DC   | LU                  | Designation         | EDP 3700.. | LF    | OAL   | DCON | DCSFMS | LS |
|------------------|------|---------------------|---------------------|------------|-------|-------|------|--------|----|
| <b>SYM07T206</b> | 21   | 42                  | YGSY2 - 210S25 - 07 | 1022       | 65    | 121.0 | 25   | 32     | 56 |
|                  |      | 63                  | YGSY3 - 210S25 - 07 | 1034       | 86    | 142.0 |      |        |    |
|                  |      | 84                  | YGSY4 - 210S25 - 07 | 1046       | 107   | 163.0 |      |        |    |
|                  |      | 105                 | YGSY5 - 210S25 - 07 | 1058       | 128   | 184.0 |      |        |    |
|                  | 21.5 | 44                  | YGSY2 - 215S25 - 07 | 1141       | 67    | 123.0 |      |        |    |
|                  |      | 66                  | YGSY3 - 215S25 - 07 | 1156       | 89    | 145.0 |      |        |    |
|                  |      | 88                  | YGSY4 - 215S25 - 07 | 1171       | 111   | 167.0 |      |        |    |
|                  | 22   | 110                 | YGSY5 - 215S25 - 07 | 1186       | 133   | 189.0 |      |        |    |
|                  |      | 44                  | YGSY2 - 220S25 - 07 | 1023       | 67    | 123.0 |      |        |    |
|                  |      | 66                  | YGSY3 - 220S25 - 07 | 1035       | 89    | 145.0 |      |        |    |
|                  | 22.5 | 88                  | YGSY4 - 220S25 - 07 | 1047       | 111   | 167.0 |      |        |    |
|                  |      | 46                  | YGSY2 - 225S25 - 07 | 1142       | 68    | 124.0 |      |        |    |
|                  |      | 69                  | YGSY3 - 225S25 - 07 | 1157       | 91    | 147.0 |      |        |    |
|                  | 23   | 92                  | YGSY4 - 225S25 - 07 | 1172       | 114   | 170.0 |      |        |    |
|                  |      | 115                 | YGSY5 - 225S25 - 07 | 1187       | 137   | 193.0 |      |        |    |
|                  |      | 46                  | YGSY2 - 230S25 - 07 | 1024       | 68    | 124.0 |      |        |    |
|                  | 23.5 | 69                  | YGSY3 - 230S25 - 07 | 1036       | 91    | 147.0 |      |        |    |
|                  |      | 92                  | YGSY4 - 230S25 - 07 | 1048       | 114   | 170.0 |      |        |    |
|                  |      | 115                 | YGSY5 - 230S25 - 07 | 1060       | 137   | 193.0 |      |        |    |
|                  | 23.5 | 48                  | YGSY2 - 235S25 - 07 | 1143       | 71    | 127.0 |      |        |    |
| 72               |      | YGSY3 - 235S25 - 07 | 1158                | 94         | 150.0 |       |      |        |    |
| 96               |      | YGSY4 - 235S25 - 07 | 1173                | 118        | 174.0 |       |      |        |    |
|                  |      | 120                 | YGSY5 - 235S25 - 07 | 1188       | 142   | 198.0 |      |        |    |

▶ Refer to offset value and hole tolerance: p. 293

**PLUG (DCON25)**



| Designation  | EDP No.  | DCON | ØD | M size  | PT size | H |
|--------------|----------|------|----|---------|---------|---|
| PLUG M14-1/8 | 38000002 | 25   | 16 | M14x1.0 | PT 1/8  | 6 |

\* Plug for turning lathe should be ordered separately.

\* Clamping Torque (Nm) 0.7Nm

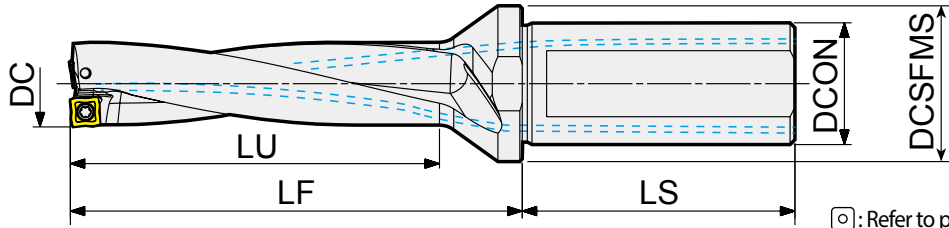
| SYM07       | Screw       | Wrench   |
|-------------|-------------|----------|
| Description | TP072205-GS | TPWFTP07 |
| EDP         | 18000253    | 18000001 |

| Plug | DCON        | Ø 20         | Ø 25         | Ø 32         |
|------|-------------|--------------|--------------|--------------|
|      | Description | PLUG M12-1/8 | PLUG M14-1/8 | PLUG M22-1/4 |
| EDP  | 38000001    | 38000002     | 38000003     |              |

Drilling - Drill Holder

# X-Drill Holder (SYM08) (DC 24~28.5)



☐: Refer to p. 232

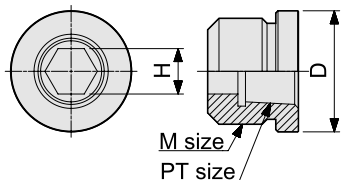
Unit: mm

| Series           | DC   | LU  | Designation         | EDP 3700.. | LF  | OAL   | DCON | DCSFMS | LS |
|------------------|------|-----|---------------------|------------|-----|-------|------|--------|----|
| <b>SYM080306</b> | 24   | 48  | YGSY2 - 240S32 - 08 | 1025       | 70  | 130.0 | 32   | 40     | 60 |
|                  |      | 72  | YGSY3 - 240S32 - 08 | 1037       | 94  | 154.0 |      |        |    |
|                  |      | 96  | YGSY4 - 240S32 - 08 | 1049       | 118 | 178.0 |      |        |    |
|                  |      | 120 | YGSY5 - 240S32 - 08 | 1061       | 142 | 202.0 |      |        |    |
|                  | 24.5 | 50  | YGSY2 - 245S32 - 08 | 1144       | 72  | 132.0 |      |        |    |
|                  |      | 75  | YGSY3 - 245S32 - 08 | 1159       | 97  | 157.0 |      |        |    |
|                  |      | 100 | YGSY4 - 245S32 - 08 | 1174       | 122 | 182.0 |      |        |    |
|                  |      | 125 | YGSY5 - 245S32 - 08 | 1189       | 147 | 207.0 |      |        |    |
|                  | 25   | 50  | YGSY2 - 250S32 - 08 | 1026       | 72  | 132.0 |      |        |    |
|                  |      | 75  | YGSY3 - 250S32 - 08 | 1038       | 97  | 157.0 |      |        |    |
|                  |      | 100 | YGSY4 - 250S32 - 08 | 1050       | 122 | 182.0 |      |        |    |
|                  |      | 125 | YGSY5 - 250S32 - 08 | 1062       | 147 | 207.0 |      |        |    |
|                  | 25.5 | 52  | YGSY2 - 255S32 - 08 | 1145       | 73  | 133.0 |      |        |    |
|                  |      | 78  | YGSY3 - 255S32 - 08 | 1160       | 99  | 159.0 |      |        |    |
|                  |      | 104 | YGSY4 - 255S32 - 08 | 1175       | 125 | 185.0 |      |        |    |
|                  |      | 130 | YGSY5 - 255S32 - 08 | 1190       | 151 | 211.0 |      |        |    |
|                  | 26   | 52  | YGSY2 - 260S32 - 08 | 1027       | 73  | 133.0 |      |        |    |
|                  |      | 78  | YGSY3 - 260S32 - 08 | 1039       | 99  | 159.0 |      |        |    |
|                  |      | 104 | YGSY4 - 260S32 - 08 | 1051       | 125 | 185.0 |      |        |    |
|                  |      | 130 | YGSY5 - 260S32 - 08 | 1063       | 151 | 211.0 |      |        |    |

► Refer to offset value and hole tolerance: p. 293

► NEXT PAGE

## PLUG (DCON32)



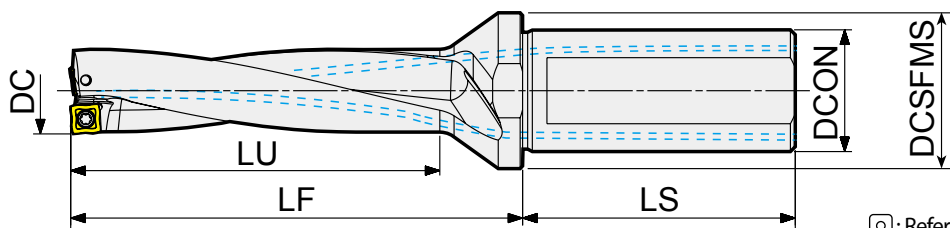
| Designation  | EDP No.  | DCON | ØD | M size   | PT size | H  |
|--------------|----------|------|----|----------|---------|----|
| PLUG M22-1/4 | 38000003 | 32   | 24 | M22x1.25 | PT 1/4  | 10 |

\* Plug for turning lathe should be ordered separately.

\* Clamping Torque (Nm) 1.2Nm

| SYM08       |             | Screw        | Wrench       |
|-------------|-------------|--------------|--------------|
| Description |             | TP072506-GS  | TPWFTP07     |
| EDP         |             | 18000261     | 18000001     |
| Plug        | DCON        | Ø 20         | Ø 25         |
|             | Description | PLUG M12-1/8 | PLUG M14-1/8 |
|             | EDP         | 38000001     | 38000002     |
|             |             |              | Ø 32         |
|             |             |              | PLUG M22-1/4 |
|             |             |              | 38000003     |

**X-Drill Holder (SYM08) (DC 24~28.5)**

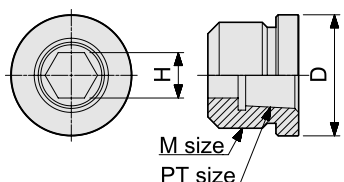


☐: Refer to p. 232 Unit:mm

| Series       | DC   | LU                  | Designation         | EDP 3700..          | LF    | OAL   | DCON | DCSFMS | LS |
|--------------|------|---------------------|---------------------|---------------------|-------|-------|------|--------|----|
| <b>SYM08</b> | 26.5 | 54                  | YGSY2 - 265S32 - 08 | 1146                | 77    | 137.0 | 32   | 40     | 60 |
|              |      | 81                  | YGSY3 - 265S32 - 08 | 1161                | 104   | 164.0 |      |        |    |
|              |      | 108                 | YGSY4 - 265S32 - 08 | 1176                | 131   | 191.0 |      |        |    |
|              |      | 135                 | YGSY5 - 265S32 - 08 | 1191                | 158   | 218.0 |      |        |    |
|              |      | 27                  | 54                  | YGSY2 - 270S32 - 08 | 1028  | 77    |      |        |    |
|              | 81   | YGSY3 - 270S32 - 08 | 1040                | 104                 | 164.0 |       |      |        |    |
|              | 108  | YGSY4 - 270S32 - 08 | 1052                | 131                 | 191.0 |       |      |        |    |
|              | 135  | YGSY5 - 270S32 - 08 | 1064                | 158                 | 218.0 |       |      |        |    |
|              | 27.5 | 56                  | YGSY2 - 275S32 - 08 | 1147                | 79    | 139.0 |      |        |    |
|              | 84   | YGSY3 - 275S32 - 08 | 1162                | 107                 | 167.0 |       |      |        |    |
|              | 112  | YGSY4 - 275S32 - 08 | 1177                | 135                 | 195.0 |       |      |        |    |
|              | 140  | YGSY5 - 275S32 - 08 | 1192                | 163                 | 223.0 |       |      |        |    |
|              | 28   | 56                  | YGSY2 - 280S32 - 08 | 1029                | 79    | 139.0 |      |        |    |
|              | 84   | YGSY3 - 280S32 - 08 | 1041                | 107                 | 167.0 |       |      |        |    |
|              | 112  | YGSY4 - 280S32 - 08 | 1053                | 135                 | 195.0 |       |      |        |    |
|              | 140  | YGSY5 - 280S32 - 08 | 1065                | 163                 | 223.0 |       |      |        |    |
|              | 28.5 | 58                  | YGSY2 - 285S32 - 08 | 1148                | 81    | 141.0 |      |        |    |
|              | 87   | YGSY3 - 285S32 - 08 | 1163                | 110                 | 170.0 |       |      |        |    |
|              | 116  | YGSY4 - 285S32 - 08 | 1178                | 139                 | 199.0 |       |      |        |    |
|              | 145  | YGSY5 - 285S32 - 08 | 1193                | 168                 | 228.0 |       |      |        |    |

▶ Refer to offset value and hole tolerance: p. 293

**PLUG (DCON32)**



| Designation  | EDP No.  | DCON | ØD | M size   | PT size | H  |
|--------------|----------|------|----|----------|---------|----|
| PLUG M22-1/4 | 38000003 | 32   | 24 | M22x1.25 | PT 1/4  | 10 |

\* Plug for turning lathe should be ordered separately.

\* Clamping Torque (Nm) 1.2Nm

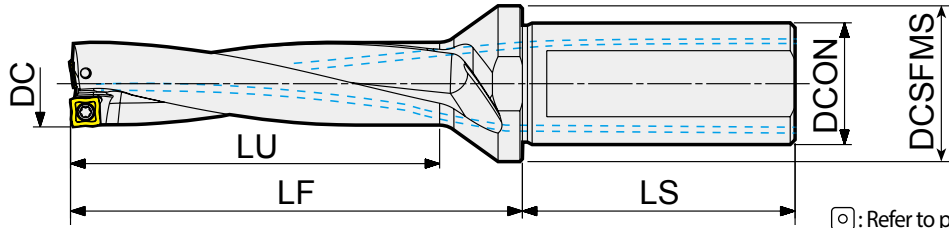
| SYM08       | Screw       | Wrench   |
|-------------|-------------|----------|
| Description | TP072506-GS | TPWFTP07 |
| EDP         | 18000261    | 18000001 |

| Plug | DCON        | Ø 20         | Ø 25         | Ø 32         |
|------|-------------|--------------|--------------|--------------|
|      | Description | PLUG M12-1/8 | PLUG M14-1/8 | PLUG M22-1/4 |
|      | EDP         | 38000001     | 38000002     | 38000003     |

Drilling - Drill Holder

# X-Drill Holder (SYMX10) (DC 29~33.5)



☐: Refer to p. 232

Unit: mm

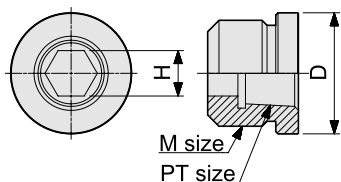
| Series | DC  | LU | Designation     | EDP 3700.. | LF  | OAL   | DCON | DCSFMS | LS |
|--------|-----|----|-----------------|------------|-----|-------|------|--------|----|
| 29     | 58  |    | YGSY2-290S32-10 | 1212       | 82  | 142.0 | 32   | 40     | 60 |
|        | 87  |    | YGSY3-290S32-10 | 1222       | 111 | 171.0 |      |        |    |
|        | 116 |    | YGSY4-290S32-10 | 1232       | 140 | 200.0 |      |        |    |
|        | 145 |    | YGSY5-290S32-10 | 1242       | 169 | 229.0 |      |        |    |
| 29.5   | 60  |    | YGSY2-295S32-10 | 1213       | 84  | 144.0 |      |        |    |
|        | 90  |    | YGSY3-295S32-10 | 1223       | 114 | 174.0 |      |        |    |
|        | 120 |    | YGSY4-295S32-10 | 1233       | 144 | 204.0 |      |        |    |
|        | 150 |    | YGSY5-295S32-10 | 1243       | 174 | 234.0 |      |        |    |
| 30     | 60  |    | YGSY2-300S32-10 | 1214       | 84  | 144.0 |      |        |    |
|        | 90  |    | YGSY3-300S32-10 | 1224       | 114 | 174.0 |      |        |    |
|        | 120 |    | YGSY4-300S32-10 | 1234       | 144 | 204.0 |      |        |    |
|        | 150 |    | YGSY5-300S32-10 | 1244       | 174 | 234.0 |      |        |    |
| 30.5   | 62  |    | YGSY2-305S32-10 | 1215       | 86  | 146.0 |      |        |    |
|        | 93  |    | YGSY3-305S32-10 | 1225       | 117 | 177.0 |      |        |    |
|        | 124 |    | YGSY4-305S32-10 | 1235       | 148 | 208.0 |      |        |    |
|        | 155 |    | YGSY5-305S32-10 | 1245       | 179 | 239.0 |      |        |    |
| 31     | 62  |    | YGSY2-310S32-10 | 1216       | 86  | 146.0 |      |        |    |
|        | 93  |    | YGSY3-310S32-10 | 1226       | 117 | 177.0 |      |        |    |
|        | 124 |    | YGSY4-310S32-10 | 1236       | 148 | 208.0 |      |        |    |
|        | 155 |    | YGSY5-310S32-10 | 1246       | 179 | 239.0 |      |        |    |

**NEW**  
**SYM X**  
**10T308**

► Refer to offset value and hole tolerance: p. 293

► NEXT PAGE

## PLUG (DCON32)



| Designation  | EDP No.  | DCON | ØD | M size   | PT size | H  |
|--------------|----------|------|----|----------|---------|----|
| PLUG M22-1/4 | 38000003 | 32   | 24 | M22x1.25 | PT 1/4  | 10 |

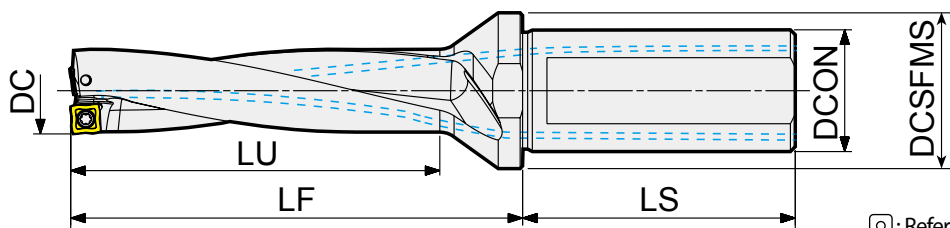
\* Plug for turning lathe should be ordered separately.

\* Clamping Torque (Nm) 2.0Nm

| SYM X10     |             | Screw        |              | Wrench       |              |
|-------------|-------------|--------------|--------------|--------------|--------------|
| Description |             | TP103509-GS  |              | TPWFTP10     |              |
| EDP         |             | 18000266     |              | 18000284     |              |
| Plug        | DCON        | Ø 20         | Ø 25         | Ø 32         | Ø 40         |
|             | Description | PLUG M12-1/8 | PLUG M14-1/8 | PLUG M22-1/4 | PLUG M26-1/4 |
|             | EDP         | 38000001     | 38000002     | 38000003     | 38000004     |

Drilling - Drill Holder

**X-Drill Holder (SYMX10) (DC 29~33.5)**



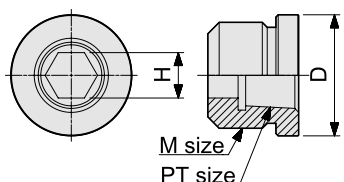
☐: Refer to p. 232 Unit:mm

| Series | DC  | LU | Designation     | EDP 3700.. | LF  | OAL   | DCON | DCSFMS | LS |
|--------|-----|----|-----------------|------------|-----|-------|------|--------|----|
| 31.5   | 64  |    | YGSY2-315S32-10 | 1217       | 88  | 148.0 | 32   | 40     | 60 |
|        | 96  |    | YGSY3-315S32-10 | 1227       | 120 | 180.0 |      |        |    |
|        | 128 |    | YGSY4-315S32-10 | 1237       | 152 | 212.0 |      |        |    |
|        | 160 |    | YGSY5-315S32-10 | 1247       | 184 | 244.0 |      |        |    |
| 32     | 64  |    | YGSY2-320S32-10 | 1218       | 88  | 148.0 |      |        |    |
|        | 96  |    | YGSY3-320S32-10 | 1228       | 120 | 180.0 |      |        |    |
|        | 128 |    | YGSY4-320S32-10 | 1238       | 152 | 212.0 |      |        |    |
|        | 160 |    | YGSY5-320S32-10 | 1248       | 184 | 244.0 |      |        |    |
| 32.5   | 66  |    | YGSY2-325S32-10 | 1219       | 89  | 149.0 |      |        |    |
|        | 99  |    | YGSY3-325S32-10 | 1229       | 122 | 182.0 |      |        |    |
|        | 132 |    | YGSY4-325S32-10 | 1239       | 155 | 215.0 |      |        |    |
| 33     | 165 |    | YGSY5-325S32-10 | 1249       | 188 | 248.0 |      |        |    |
|        | 66  |    | YGSY2-330S32-10 | 1220       | 89  | 149.0 |      |        |    |
|        | 99  |    | YGSY3-330S32-10 | 1230       | 122 | 182.0 |      |        |    |
| 33.5   | 132 |    | YGSY4-330S32-10 | 1240       | 155 | 215.0 |      |        |    |
|        | 165 |    | YGSY5-330S32-10 | 1250       | 188 | 248.0 |      |        |    |
|        | 68  |    | YGSY2-335S32-10 | 1221       | 90  | 150.0 |      |        |    |
|        | 102 |    | YGSY3-335S32-10 | 1231       | 124 | 184.0 |      |        |    |
| 33.5   | 136 |    | YGSY4-335S32-10 | 1241       | 158 | 218.0 |      |        |    |
|        | 170 |    | YGSY5-335S32-10 | 1251       | 192 | 252.0 |      |        |    |

**NEW**  
**SYM X**  
**10T308**

▶ Refer to offset value and hole tolerance: p. 293

**PLUG (DCON32)**



| Designation  | EDP No.  | DCON | ØD | M size   | PT size | H  |
|--------------|----------|------|----|----------|---------|----|
| PLUG M22-1/4 | 38000003 | 32   | 24 | M22x1.25 | PT 1/4  | 10 |

\* Plug for turning lathe should be ordered separately.

\* Clamping Torque (Nm) 2.0Nm

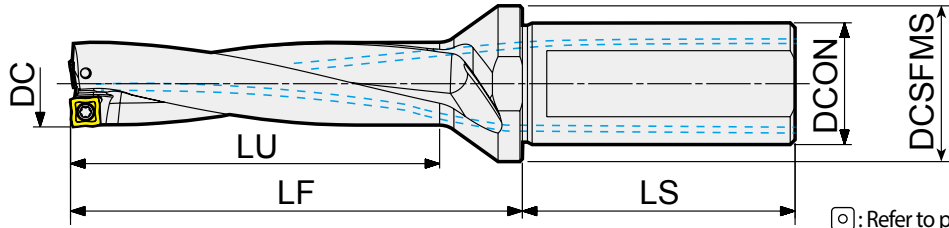
| SYM X10     | Screw       | Wrench   |
|-------------|-------------|----------|
| Description | TP103509-GS | TPWFTP10 |
| EDP         | 18000266    | 18000284 |

| Plug | DCON        | Ø 20         | Ø 25         | Ø 32         | Ø 40         |
|------|-------------|--------------|--------------|--------------|--------------|
|      | Description | PLUG M12-1/8 | PLUG M14-1/8 | PLUG M22-1/4 | PLUG M26-1/4 |
| EDP  | 38000001    | 38000002     | 38000003     | 38000004     |              |

Drilling - Drill Holder

# X-Drill Holder (SYMX11) (DC 34~38)



☐: Refer to p. 232

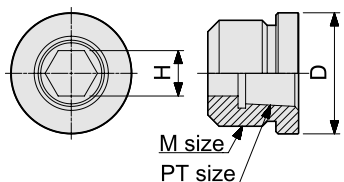
Unit: mm

| Series | DC  | LU | Designation     | EDP 3700.. | LF  | OAL   | DCON | DCSFMS | LS |
|--------|-----|----|-----------------|------------|-----|-------|------|--------|----|
| 34     | 68  |    | YGSY2-340S40-11 | 1252       | 94  | 164.0 | 40   | 50     | 70 |
|        | 102 |    | YGSY3-340S40-11 | 1257       | 128 | 198.0 |      |        |    |
|        | 136 |    | YGSY4-340S40-11 | 1262       | 162 | 232.0 |      |        |    |
|        | 170 |    | YGSY5-340S40-11 | 1267       | 196 | 266.0 |      |        |    |
| 35     | 70  |    | YGSY2-350S40-11 | 1253       | 96  | 166.0 |      |        |    |
|        | 105 |    | YGSY3-350S40-11 | 1258       | 131 | 201.0 |      |        |    |
|        | 140 |    | YGSY4-350S40-11 | 1263       | 166 | 236.0 |      |        |    |
|        | 175 |    | YGSY5-350S40-11 | 1268       | 201 | 271.0 |      |        |    |
| 36     | 72  |    | YGSY2-360S40-11 | 1254       | 98  | 168.0 |      |        |    |
|        | 108 |    | YGSY3-360S40-11 | 1259       | 134 | 204.0 |      |        |    |
|        | 144 |    | YGSY4-360S40-11 | 1264       | 170 | 240.0 |      |        |    |
|        | 180 |    | YGSY5-360S40-11 | 1269       | 206 | 276.0 |      |        |    |
| 37     | 74  |    | YGSY2-370S40-11 | 1255       | 99  | 169.0 |      |        |    |
|        | 111 |    | YGSY3-370S40-11 | 1260       | 136 | 206.0 |      |        |    |
|        | 148 |    | YGSY4-370S40-11 | 1265       | 173 | 243.0 |      |        |    |
|        | 185 |    | YGSY5-370S40-11 | 1270       | 210 | 280.0 |      |        |    |
| 38     | 76  |    | YGSY2-380S40-11 | 1256       | 101 | 171.0 |      |        |    |
|        | 114 |    | YGSY3-380S40-11 | 1261       | 139 | 209.0 |      |        |    |
|        | 152 |    | YGSY4-380S40-11 | 1266       | 177 | 247.0 |      |        |    |
|        | 190 |    | YGSY5-380S40-11 | 1271       | 215 | 285.0 |      |        |    |

**NEW**  
**SYM X**  
**110408**

► Refer to offset value and hole tolerance: p. 293

## PLUG (DCON40)



| Designation  | EDP No.  | DCON | ØD | M size   | PT size | H  |
|--------------|----------|------|----|----------|---------|----|
| PLUG M26-1/4 | 38000004 | 40   | 28 | M26x1.25 | PT 1/4  | 10 |

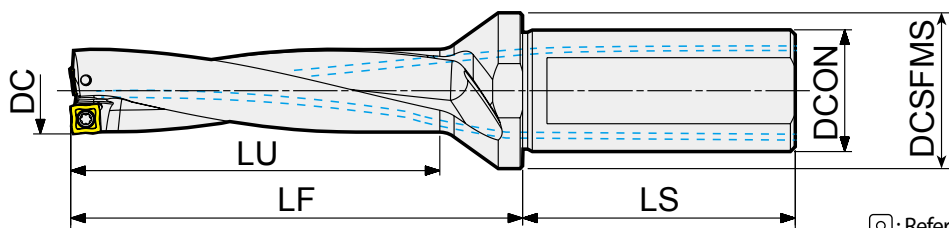
\* Plug for turning lathe should be ordered separately.

\* Clamping Torque (Nm) 2.0Nm

| SYM X11     |             | Screw        |              | Wrench       |              |
|-------------|-------------|--------------|--------------|--------------|--------------|
| Description |             | TP103509-GS  |              | TPWFTP10     |              |
| EDP         |             | 18000266     |              | 18000284     |              |
| Plug        | DCON        | Ø 20         | Ø 25         | Ø 32         | Ø 40         |
|             | Description | PLUG M12-1/8 | PLUG M14-1/8 | PLUG M22-1/4 | PLUG M26-1/4 |
|             | EDP         | 38000001     | 38000002     | 38000003     | 38000004     |

Drilling - Drill Holder

## X-Drill Holder (SYMX13) (DC 39~44)



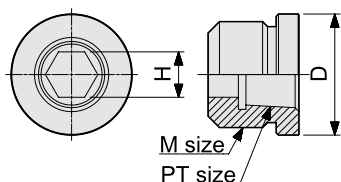
: Refer to p. 232 Unit:mm

| Series | DC  | LU | Designation     | EDP 3700.. | LF  | OAL   | DCON | DCSFMS | LS |
|--------|-----|----|-----------------|------------|-----|-------|------|--------|----|
| 39     | 78  |    | YGSY2-390S40-13 | 1326       | 104 | 174.0 | 40   | 50     | 70 |
|        | 117 |    | YGSY3-390S40-13 | 1332       | 143 | 213.0 |      |        |    |
|        | 156 |    | YGSY4-390S40-13 | 1338       | 182 | 252.0 |      |        |    |
|        | 195 |    | YGSY5-390S40-13 | 1344       | 221 | 291.0 |      |        |    |
| 40     | 80  |    | YGSY2-400S40-13 | 1327       | 106 | 176.0 |      |        |    |
|        | 120 |    | YGSY3-400S40-13 | 1333       | 146 | 216.0 |      |        |    |
|        | 160 |    | YGSY4-400S40-13 | 1339       | 186 | 256.0 |      |        |    |
|        | 200 |    | YGSY5-400S40-13 | 1345       | 226 | 296.0 |      |        |    |
| 41     | 82  |    | YGSY2-410S40-13 | 1328       | 108 | 178.0 |      |        |    |
|        | 123 |    | YGSY3-410S40-13 | 1334       | 149 | 219.0 |      |        |    |
|        | 164 |    | YGSY4-410S40-13 | 1340       | 190 | 260.0 |      |        |    |
|        | 205 |    | YGSY5-410S40-13 | 1346       | 231 | 301.0 |      |        |    |
| 42     | 84  |    | YGSY2-420S40-13 | 1329       | 110 | 180.0 |      |        |    |
|        | 126 |    | YGSY3-420S40-13 | 1335       | 152 | 222.0 |      |        |    |
|        | 168 |    | YGSY4-420S40-13 | 1341       | 194 | 264.0 |      |        |    |
|        | 210 |    | YGSY5-420S40-13 | 1347       | 236 | 306.0 |      |        |    |
| 43     | 86  |    | YGSY2-430S40-13 | 1330       | 112 | 182.0 |      |        |    |
|        | 129 |    | YGSY3-430S40-13 | 1336       | 155 | 225.0 |      |        |    |
|        | 172 |    | YGSY4-430S40-13 | 1342       | 198 | 268.0 |      |        |    |
|        | 215 |    | YGSY5-430S40-13 | 1348       | 241 | 311.0 |      |        |    |
| 44     | 88  |    | YGSY2-440S50-13 | 1331       | 114 | 184.0 |      |        |    |
|        | 132 |    | YGSY3-440S50-13 | 1337       | 158 | 228.0 |      |        |    |
|        | 176 |    | YGSY4-440S50-13 | 1343       | 202 | 272.0 |      |        |    |
|        | 220 |    | YGSY5-440S50-13 | 1349       | 246 | 316.0 |      |        |    |

**NEW**  
**SYMX**  
**130410**

▶ Refer to offset value and hole tolerance: p. 293

### PLUG (DCON40)



| Designation  | EDP No.  | DCON | ØD | M size   | PT size | H  |
|--------------|----------|------|----|----------|---------|----|
| PLUG M26-1/4 | 38000004 | 40   | 28 | M26x1.25 | PT 1/4  | 10 |

\* Plug for turning lathe should be ordered separately.

\* Clamping Torque (Nm) 3.0Nm

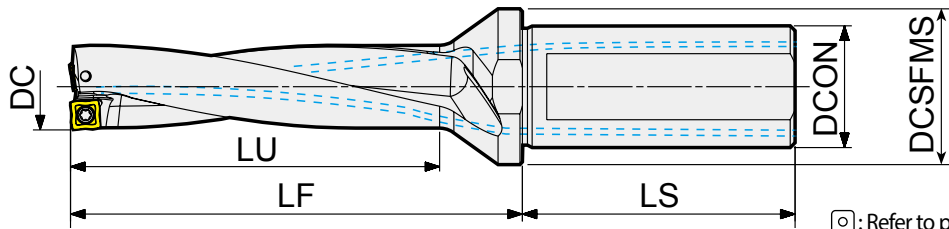
| SYMX13      | Screw       | Wrench   |
|-------------|-------------|----------|
| Description | TP154010-HS | TPWFTP15 |
| EDP         | 18000232    | 18000003 |

| Plug | DCON        | Ø 20         | Ø 25         | Ø 32         | Ø 40         |
|------|-------------|--------------|--------------|--------------|--------------|
|      | Description | PLUG M12-1/8 | PLUG M14-1/8 | PLUG M22-1/4 | PLUG M26-1/4 |
| EDP  | 38000001    | 38000002     | 38000003     | 38000004     |              |

Drilling - Drill Holder

# X-Drill Holder (SYM15) (DC 45~50)



☐: Refer to p. 232

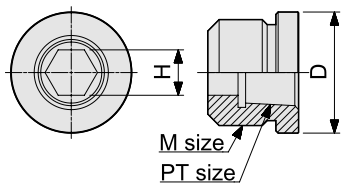
Unit: mm

**NEW**  
**SYM15**  
**150512**

| Series | DC  | LU | Designation     | EDP 3700.. | LF  | OAL   | DCON | DCSFMS | LS |
|--------|-----|----|-----------------|------------|-----|-------|------|--------|----|
| 45     | 90  |    | YGSY2-450S40-15 | 1350       | 125 | 195.0 | 40   | 60     | 70 |
|        | 135 |    | YGSY3-450S40-15 | 1356       | 170 | 240.0 |      |        |    |
|        | 180 |    | YGSY4-450S40-15 | 1362       | 215 | 285.0 |      |        |    |
|        | 225 |    | YGSY5-450S40-15 | 1368       | 260 | 330.0 |      |        |    |
| 46     | 92  |    | YGSY2-460S40-15 | 1351       | 127 | 197.0 |      |        |    |
|        | 138 |    | YGSY3-460S40-15 | 1357       | 173 | 243.0 |      |        |    |
|        | 184 |    | YGSY4-460S40-15 | 1363       | 219 | 289.0 |      |        |    |
|        | 230 |    | YGSY5-460S40-15 | 1369       | 265 | 335.0 |      |        |    |
| 47     | 94  |    | YGSY2-470S40-15 | 1352       | 129 | 199.0 |      |        |    |
|        | 141 |    | YGSY3-470S40-15 | 1358       | 176 | 246.0 |      |        |    |
|        | 188 |    | YGSY4-470S40-15 | 1364       | 223 | 293.0 |      |        |    |
|        | 235 |    | YGSY5-470S40-15 | 1370       | 270 | 340.0 |      |        |    |
| 48     | 96  |    | YGSY2-480S40-15 | 1353       | 131 | 201.0 |      |        |    |
|        | 144 |    | YGSY3-480S40-15 | 1359       | 179 | 249.0 |      |        |    |
|        | 192 |    | YGSY4-480S40-15 | 1365       | 227 | 297.0 |      |        |    |
|        | 240 |    | YGSY5-480S40-15 | 1371       | 275 | 345.0 |      |        |    |
| 49     | 98  |    | YGSY2-490S40-15 | 1354       | 133 | 203.0 |      |        |    |
|        | 147 |    | YGSY3-490S40-15 | 1360       | 182 | 252.0 |      |        |    |
|        | 196 |    | YGSY4-490S40-15 | 1366       | 231 | 301.0 |      |        |    |
|        | 245 |    | YGSY5-490S40-15 | 1372       | 280 | 350.0 |      |        |    |
| 50     | 100 |    | YGSY2-500S40-15 | 1355       | 135 | 205.0 |      |        |    |
|        | 150 |    | YGSY3-500S40-15 | 1361       | 185 | 255.0 |      |        |    |
|        | 200 |    | YGSY4-500S40-15 | 1367       | 235 | 305.0 |      |        |    |
|        | 250 |    | YGSY5-500S40-15 | 1373       | 285 | 355.0 |      |        |    |

► Refer to offset value and hole tolerance: p. 293

## PLUG (DCON40)



| Designation  | EDP No.  | DCON | ØD | M size   | PT size | H  |
|--------------|----------|------|----|----------|---------|----|
| PLUG M26-1/4 | 38000004 | 40   | 28 | M26x1.25 | PT 1/4  | 10 |

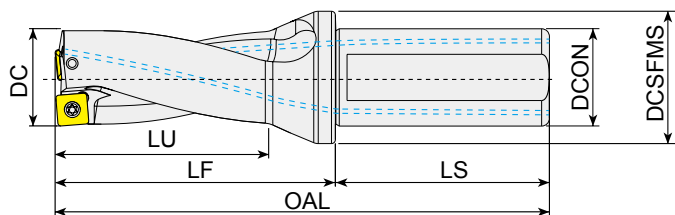
\* Plug for turning lathe should be ordered separately.

\* Clamping Torque (Nm) 3.5Nm

| SYM15       |             | Screw        |              | Wrench       |              |
|-------------|-------------|--------------|--------------|--------------|--------------|
| Description |             | T20590D      |              | TWFT20       |              |
| EDP         |             | 18000182     |              | 18000036     |              |
| Plug        | DCON        | Ø 20         | Ø 25         | Ø 32         | Ø 40         |
|             | Description | PLUG M12-1/8 | PLUG M14-1/8 | PLUG M22-1/4 | PLUG M26-1/4 |
|             | EDP         | 38000001     | 38000002     | 38000003     | 38000004     |

Drilling - Drill Holder

**Square Drill Holder (SPMX05) (DC 13~15)**



☐: Refer to p. 233 Unit:mm

| Series             | DC | LU | Designation            | EDP 3700.. | LF | OAL | DCON | DCSFMS | LS |
|--------------------|----|----|------------------------|------------|----|-----|------|--------|----|
| <b>SPMX 050204</b> | 13 | 26 | YGSP2 - 13S20F026 - 05 | 0001       | 44 | 94  | 20   | 25     | 50 |
|                    |    | 39 | YGSP3 - 13S20F039 - 05 | 0004       | 57 | 107 |      |        |    |
|                    |    | 65 | YGSP5 - 13S20F065 - 05 | 0007       | 83 | 133 |      |        |    |
|                    | 14 | 28 | YGSP2 - 14S20F028 - 05 | 0002       | 46 | 96  |      |        |    |
|                    |    | 42 | YGSP3 - 14S20F042 - 05 | 0005       | 60 | 110 |      |        |    |
|                    |    | 70 | YGSP5 - 14S20F070 - 05 | 0008       | 88 | 138 |      |        |    |
|                    | 15 | 30 | YGSP2 - 15S20F030 - 05 | 0003       | 48 | 98  |      |        |    |
|                    |    | 45 | YGSP3 - 15S20F045 - 05 | 0006       | 63 | 113 |      |        |    |
|                    |    | 75 | YGSP5 - 15S20F075 - 05 | 0009       | 93 | 143 |      |        |    |

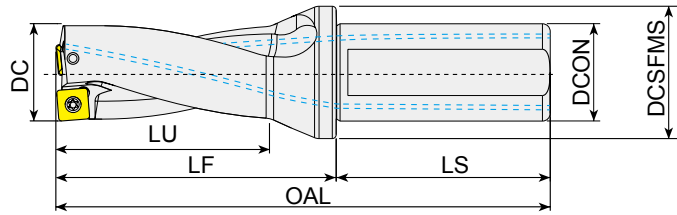
\* Call for us DC size increments of 0.5

\* Clamping Torque (Nm) 0.6Nm

| SPMX05      | Screw    | Wrench   |
|-------------|----------|----------|
| Description | T062043D | TWFT06   |
| EDP         | 18000177 | 18000031 |

Drilling - Drill Holder

# Square Drill Holder (SPMX06) (DC 16~21)



: Refer to p. 233

Unit: mm

| Series         | DC | LU  | Designation            | EDP 3700.. | LF  | OAL | DCON | DCSFMS | LS |
|----------------|----|-----|------------------------|------------|-----|-----|------|--------|----|
| SPMX<br>060204 | 16 | 32  | YGSP2 - 16S25F032 - 06 | 0010       | 53  | 109 | 25   | 32     | 56 |
|                |    | 48  | YGSP3 - 16S25F048 - 06 | 0016       | 69  | 125 |      |        |    |
|                |    | 80  | YGSP5 - 16S25F080 - 06 | 0022       | 101 | 157 |      |        |    |
|                | 17 | 34  | YGSP2 - 17S25F034 - 06 | 0011       | 55  | 111 |      |        |    |
|                |    | 51  | YGSP3 - 17S25F051 - 06 | 0017       | 72  | 128 |      |        |    |
|                |    | 85  | YGSP5 - 17S25F085 - 06 | 0023       | 106 | 162 |      |        |    |
|                | 18 | 36  | YGSP2 - 18S25F036 - 06 | 0012       | 57  | 113 |      |        |    |
|                |    | 54  | YGSP3 - 18S25F054 - 06 | 0018       | 75  | 131 |      |        |    |
|                |    | 90  | YGSP5 - 18S25F090 - 06 | 0024       | 111 | 167 |      |        |    |
|                | 19 | 38  | YGSP2 - 19S25F038 - 06 | 0013       | 59  | 115 |      |        |    |
|                |    | 57  | YGSP3 - 19S25F057 - 06 | 0019       | 78  | 134 |      |        |    |
|                |    | 95  | YGSP5 - 19S25F095 - 06 | 0025       | 116 | 172 |      |        |    |
|                | 20 | 40  | YGSP2 - 20S25F040 - 06 | 0014       | 62  | 118 |      |        |    |
|                |    | 60  | YGSP3 - 20S25F060 - 06 | 0020       | 82  | 138 |      |        |    |
|                |    | 100 | YGSP5 - 20S25F100 - 06 | 0026       | 122 | 178 |      |        |    |
|                | 21 | 42  | YGSP2 - 21S25F042 - 06 | 0015       | 64  | 120 |      |        |    |
|                |    | 63  | YGSP3 - 21S25F063 - 06 | 0021       | 85  | 141 |      |        |    |
|                |    | 105 | YGSP5 - 21S25F105 - 06 | 0027       | 127 | 183 |      |        |    |

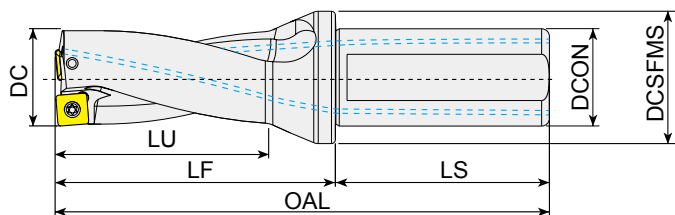
\* Call for us DC size increments of 0.5

\* Clamping Torque (Nm) 0.7Nm

| SPMX06      | Screw    | Wrench   |
|-------------|----------|----------|
| Description | T072252D | TWFT07   |
| EDP         | 18000178 | 18000032 |

Drilling - Drill Holder

# Square Drill Holder (SPMX07) (DC 22~27)



☐: Refer to p. 233 Unit:mm

| Series             | DC | LU                     | Designation            | EDP 3700.. | LF  | OAL | DCON | DCSFMS | LS |
|--------------------|----|------------------------|------------------------|------------|-----|-----|------|--------|----|
| <b>SPMX 07T308</b> | 22 | 44                     | YGSP2 - 22S32F044 - 07 | 0028       | 74  | 134 | 32   | 45     | 60 |
|                    |    | 66                     | YGSP3 - 22S32F066 - 07 | 0034       | 96  | 156 |      |        |    |
|                    |    | 110                    | YGSP5 - 22S32F110 - 07 | 0040       | 140 | 200 |      |        |    |
|                    | 23 | 46                     | YGSP2 - 23S32F046 - 07 | 0029       | 76  | 136 |      |        |    |
|                    |    | 69                     | YGSP3 - 23S32F069 - 07 | 0035       | 99  | 159 |      |        |    |
|                    |    | 115                    | YGSP5 - 23S32F115 - 07 | 0041       | 145 | 205 |      |        |    |
|                    | 24 | 48                     | YGSP2 - 24S32F048 - 07 | 0030       | 78  | 138 |      |        |    |
|                    |    | 72                     | YGSP3 - 24S32F072 - 07 | 0036       | 102 | 162 |      |        |    |
|                    |    | 120                    | YGSP5 - 24S32F120 - 07 | 0042       | 150 | 210 |      |        |    |
|                    | 25 | 50                     | YGSP2 - 25S32F050 - 07 | 0031       | 80  | 140 |      |        |    |
|                    |    | 75                     | YGSP3 - 25S32F075 - 07 | 0037       | 105 | 165 |      |        |    |
|                    |    | 125                    | YGSP5 - 25S32F125 - 07 | 0043       | 155 | 215 |      |        |    |
|                    | 26 | 52                     | YGSP2 - 26S32F052 - 07 | 0032       | 82  | 142 |      |        |    |
|                    |    | 78                     | YGSP3 - 26S32F078 - 07 | 0038       | 108 | 168 |      |        |    |
|                    |    | 130                    | YGSP5 - 26S32F130 - 07 | 0044       | 160 | 220 |      |        |    |
|                    | 27 | 54                     | YGSP2 - 27S32F054 - 07 | 0033       | 84  | 144 |      |        |    |
| 81                 |    | YGSP3 - 27S32F081 - 07 | 0039                   | 111        | 171 |     |      |        |    |
| 135                |    | YGSP5 - 27S32F135 - 07 | 0045                   | 165        | 225 |     |      |        |    |

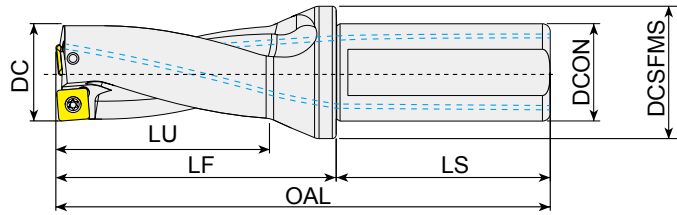
\* Call for us DC size increments of 0.5

\* Clamping Torque (Nm) 1.2Nm

| SPMX07      | Screw    | Wrench   |
|-------------|----------|----------|
| Description | T082564D | TWFT08   |
| EDP         | 18000179 | 18000033 |

Drilling - Drill Holder

# Square Drill Holder (SPMX09) (DC 28~33)



: Refer to p. 233

Unit: mm

| Series                 | DC | LU  | Designation            | EDP 3700.. | LF  | OAL | DCON | DCSFMS | LS |
|------------------------|----|-----|------------------------|------------|-----|-----|------|--------|----|
| <b>SPMX<br/>090408</b> | 28 | 56  | YGSP2 - 28S32F056 - 09 | 0046       | 86  | 146 | 32   | 45     | 60 |
|                        |    | 84  | YGSP3 - 28S32F084 - 09 | 0052       | 114 | 174 |      |        |    |
|                        |    | 140 | YGSP5 - 28S32F140 - 09 | 0058       | 170 | 230 |      |        |    |
|                        | 29 | 58  | YGSP2 - 29S32F058 - 09 | 0047       | 88  | 148 |      |        |    |
|                        |    | 87  | YGSP3 - 29S32F087 - 09 | 0053       | 117 | 177 |      |        |    |
|                        |    | 145 | YGSP5 - 29S32F145 - 09 | 0059       | 175 | 235 |      |        |    |
|                        | 30 | 60  | YGSP2 - 30S32F060 - 09 | 0048       | 91  | 151 |      |        |    |
|                        |    | 90  | YGSP3 - 30S32F090 - 09 | 0054       | 121 | 181 |      |        |    |
|                        |    | 150 | YGSP5 - 30S32F150 - 09 | 0060       | 181 | 241 |      |        |    |
|                        | 31 | 62  | YGSP2 - 31S32F062 - 09 | 0049       | 93  | 153 |      |        |    |
|                        |    | 93  | YGSP3 - 31S32F093 - 09 | 0055       | 124 | 184 |      |        |    |
|                        |    | 155 | YGSP5 - 31S32F155 - 09 | 0061       | 186 | 246 |      |        |    |
|                        | 32 | 64  | YGSP2 - 32S32F064 - 09 | 0050       | 95  | 155 |      |        |    |
|                        |    | 96  | YGSP3 - 32S32F096 - 09 | 0056       | 127 | 187 |      |        |    |
|                        |    | 160 | YGSP5 - 32S32F160 - 09 | 0062       | 191 | 251 |      |        |    |
|                        | 33 | 66  | YGSP2 - 33S32F066 - 09 | 0051       | 97  | 157 |      |        |    |
|                        |    | 99  | YGSP3 - 33S32F099 - 09 | 0057       | 130 | 190 |      |        |    |
|                        |    | 165 | YGSP5 - 33S32F165 - 09 | 0063       | 196 | 256 |      |        |    |

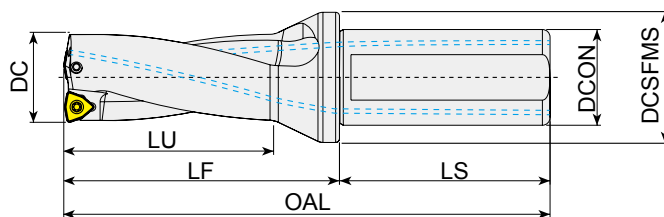
\* Call for us DC size increments of 0.5

\* Clamping Torque (Nm) 2.4Nm

| SPMX09      | Screw    | Wrench   |
|-------------|----------|----------|
| Description | T103588D | TWFT10   |
| EDP         | 18000180 | 18000034 |

Drilling - Drill Holder

# Trigonal Drill Holder (WCMX03) (DC 16~19.5)



☺: Refer to p.234 Unit:mm

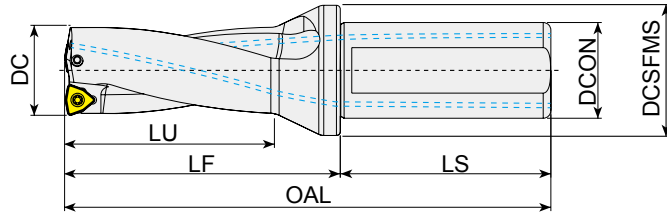
| Series                 | DC   | LU | Designation              | EDP 3700.. | LF | OAL | DCON | DCSFMS | LS |
|------------------------|------|----|--------------------------|------------|----|-----|------|--------|----|
| <b>WCMX<br/>030208</b> | 16   | 32 | YGWC2 - 16S25F032 - 03   | 0253       | 54 | 110 | 25   | 34     | 56 |
|                        |      | 48 | YGWC3 - 16S25F048 - 03   | 0296       | 70 | 126 |      |        |    |
|                        |      | 64 | YGWC4 - 16S25F064 - 03   | 0339       | 86 | 142 |      |        |    |
|                        | 16.5 | 32 | YGWC2 - 16.5S25F032 - 03 | 0780       | 54 | 110 |      |        |    |
|                        |      | 48 | YGWC3 - 16.5S25F048 - 03 | 0781       | 70 | 126 |      |        |    |
|                        |      | 64 | YGWC4 - 16.5S25F064 - 03 | 0782       | 86 | 142 |      |        |    |
|                        | 17   | 34 | YGWC2 - 17S25F034 - 03   | 0254       | 56 | 112 |      |        |    |
|                        |      | 51 | YGWC3 - 17S25F051 - 03   | 0297       | 73 | 129 |      |        |    |
|                        |      | 68 | YGWC4 - 17S25F068 - 03   | 0340       | 90 | 146 |      |        |    |
|                        | 17.5 | 34 | YGWC2 - 17.5S25F034 - 03 | 0783       | 56 | 112 |      |        |    |
|                        |      | 51 | YGWC3 - 17.5S25F051 - 03 | 0784       | 73 | 129 |      |        |    |
|                        |      | 68 | YGWC4 - 17.5S25F068 - 03 | 0785       | 90 | 146 |      |        |    |
|                        | 18   | 36 | YGWC2 - 18S25F036 - 03   | 0255       | 58 | 114 |      |        |    |
|                        |      | 54 | YGWC3 - 18S25F054 - 03   | 0298       | 76 | 132 |      |        |    |
|                        |      | 72 | YGWC4 - 18S25F072 - 03   | 0341       | 94 | 150 |      |        |    |
|                        | 18.5 | 36 | YGWC2 - 18.5S25F036 - 03 | 0786       | 58 | 114 |      |        |    |
|                        |      | 54 | YGWC3 - 18.5S25F054 - 03 | 0787       | 76 | 132 |      |        |    |
|                        |      | 72 | YGWC4 - 18.5S25F072 - 03 | 0788       | 94 | 150 |      |        |    |
|                        | 19   | 38 | YGWC2 - 19S25F038 - 03   | 0256       | 60 | 116 |      |        |    |
|                        |      | 57 | YGWC3 - 19S25F057 - 03   | 0299       | 79 | 135 |      |        |    |
|                        |      | 76 | YGWC4 - 19S25F076 - 03   | 0342       | 98 | 154 |      |        |    |
|                        | 19.5 | 38 | YGWC2 - 19.5S25F038 - 03 | 0789       | 60 | 116 |      |        |    |
|                        |      | 57 | YGWC3 - 19.5S25F057 - 03 | 0790       | 79 | 135 |      |        |    |
|                        |      | 76 | YGWC4 - 19.5S25F076 - 03 | 0791       | 98 | 154 |      |        |    |

\* Clamping Torque (Nm) 0.6Nm

| WCMX03      | Screw    | Wrench   |
|-------------|----------|----------|
| Description | T0622557 | TWFT06   |
| EDP         | 18000183 | 18000031 |

Drilling - Drill Holder

# Trigonal Drill Holder (WCMX04) (DC 20~23.5)



☺: Refer to p.234

Unit:mm

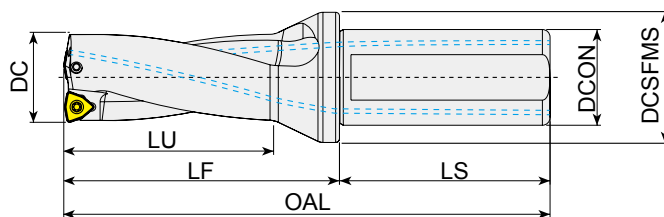
| Series                 | DC   | LU                       | Designation              | EDP 3700.. | LF  | OAL | DCON | DCSFMS | LS |
|------------------------|------|--------------------------|--------------------------|------------|-----|-----|------|--------|----|
| <b>WCMX<br/>040208</b> | 20   | 40                       | YGWC2 - 20S25F040 - 04   | 0257       | 62  | 118 | 25   | 34     | 56 |
|                        |      | 60                       | YGWC3 - 20S25F060 - 04   | 0300       | 82  | 138 |      |        |    |
|                        |      | 80                       | YGWC4 - 20S25F080 - 04   | 0343       | 102 | 158 |      |        |    |
|                        | 20.5 | 40                       | YGWC2 - 20.5S25F040 - 04 | 0726       | 62  | 118 |      |        |    |
|                        |      | 60                       | YGWC3 - 20.5S25F060 - 04 | 0727       | 82  | 138 |      |        |    |
|                        | 21   | 42                       | YGWC2 - 21S25F042 - 04   | 0258       | 64  | 120 |      |        |    |
|                        |      | 63                       | YGWC3 - 21S25F063 - 04   | 0301       | 85  | 141 |      |        |    |
|                        |      | 84                       | YGWC4 - 21S25F084 - 04   | 0344       | 106 | 162 |      |        |    |
|                        | 21.5 | 42                       | YGWC2 - 21.5S25F042 - 04 | 0728       | 64  | 120 |      |        |    |
|                        |      | 63                       | YGWC3 - 21.5S25F063 - 04 | 0729       | 85  | 141 |      |        |    |
|                        | 22   | 44                       | YGWC2 - 22S25F044 - 04   | 0259       | 66  | 122 |      |        |    |
|                        |      | 66                       | YGWC3 - 22S25F066 - 04   | 0302       | 88  | 144 |      |        |    |
|                        |      | 88                       | YGWC4 - 22S25F088 - 04   | 0345       | 110 | 166 |      |        |    |
|                        | 22.5 | 44                       | YGWC2 - 22.5S25F044 - 04 | 0730       | 66  | 122 |      |        |    |
|                        |      | 66                       | YGWC3 - 22.5S25F066 - 04 | 0731       | 88  | 144 |      |        |    |
|                        | 23   | 88                       | YGWC4 - 22.5S25F088 - 04 | 0732       | 110 | 166 |      |        |    |
|                        |      | 46                       | YGWC2 - 23S25F046 - 04   | 0260       | 68  | 124 |      |        |    |
|                        |      | 69                       | YGWC3 - 23S25F069 - 04   | 0303       | 91  | 147 |      |        |    |
|                        | 23.5 | 92                       | YGWC4 - 23S25F092 - 04   | 0346       | 114 | 170 |      |        |    |
|                        |      | 46                       | YGWC2 - 23.5S25F046 - 04 | 0733       | 68  | 124 |      |        |    |
| 69                     |      | YGWC3 - 23.5S25F069 - 04 | 0734                     | 91         | 147 |     |      |        |    |

\* Clamping Torque (Nm) 1.2Nm

| WCMX04      | Screw    | Wrench   |
|-------------|----------|----------|
| Description | T072565D | TWFT07   |
| EDP         | 18000184 | 18000032 |

Drilling - Drill Holder

# Trigonal Drill Holder (WCMX05) (D24 ~29.5)



☺: Refer to p.234 Unit:mm

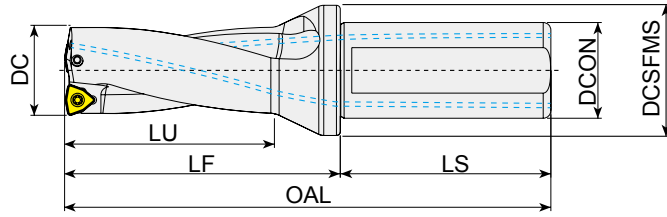
| Series             | DC   | LU                       | Designation              | EDP 3700.. | LF  | OAL | DCON | DCSFMS | LS |
|--------------------|------|--------------------------|--------------------------|------------|-----|-----|------|--------|----|
| <b>WCMX 050308</b> | 24   | 48                       | YGWC2 - 24S25F048 - 05   | 0261       | 70  | 126 | 25   | 34     | 56 |
|                    |      | 72                       | YGWC3 - 24S25F072 - 05   | 0304       | 94  | 150 |      |        |    |
|                    |      | 96                       | YGWC4 - 24S25F096 - 05   | 0347       | 118 | 174 |      |        |    |
|                    | 24.5 | 48                       | YGWC2 - 24.5S25F048 - 05 | 0735       | 70  | 126 |      |        |    |
|                    |      | 72                       | YGWC3 - 24.5S25F072 - 05 | 0736       | 94  | 150 |      |        |    |
|                    |      | 50                       | YGWC2 - 25S25F050 - 05   | 0262       | 72  | 128 |      |        |    |
|                    | 25   | 75                       | YGWC3 - 25S25F075 - 05   | 0305       | 97  | 153 |      |        |    |
|                    |      | 100                      | YGWC4 - 25S25F100 - 05   | 0251       | 122 | 178 |      |        |    |
|                    |      | 50                       | YGWC2 - 25.5S25F050 - 05 | 0737       | 72  | 128 |      |        |    |
|                    | 25.5 | 75                       | YGWC3 - 25.5S25F075 - 05 | 0738       | 97  | 153 |      |        |    |
|                    |      | 52                       | YGWC2 - 26S25F052 - 05   | 0263       | 74  | 130 |      |        |    |
|                    |      | 78                       | YGWC3 - 26S25F078 - 05   | 0306       | 100 | 156 |      |        |    |
|                    | 26   | 104                      | YGWC4 - 26S25F104 - 05   | 0349       | 126 | 182 |      |        |    |
|                    |      | 52                       | YGWC2 - 26.5S25F052 - 05 | 0739       | 74  | 130 |      |        |    |
|                    |      | 78                       | YGWC3 - 26.5S25F078 - 05 | 0741       | 100 | 156 |      |        |    |
|                    | 26.5 | 104                      | YGWC4 - 26.5S25F104 - 05 | 0742       | 126 | 182 |      |        |    |
|                    |      | 54                       | YGWC2 - 27S25F054 - 05   | 0264       | 76  | 132 |      |        |    |
|                    |      | 81                       | YGWC3 - 27S25F081 - 05   | 0307       | 103 | 159 |      |        |    |
|                    | 27   | 108                      | YGWC4 - 27S25F108 - 05   | 0350       | 130 | 186 |      |        |    |
|                    |      | 54                       | YGWC2 - 27.5S25F054 - 05 | 0743       | 76  | 132 |      |        |    |
|                    |      | 81                       | YGWC3 - 27.5S25F081 - 05 | 0744       | 103 | 159 |      |        |    |
|                    | 27.5 | 56                       | YGWC2 - 28S25F056 - 05   | 0265       | 78  | 134 |      |        |    |
|                    |      | 84                       | YGWC3 - 28S25F084 - 05   | 0308       | 106 | 162 |      |        |    |
|                    |      | 112                      | YGWC4 - 28S25F112 - 05   | 0351       | 134 | 190 |      |        |    |
| 28                 | 56   | YGWC2 - 28.5S25F056 - 05 | 0745                     | 78         | 134 |     |      |        |    |
|                    | 84   | YGWC3 - 28.5S25F084 - 05 | 0746                     | 106        | 162 |     |      |        |    |
|                    | 112  | YGWC4 - 28.5S25F112 - 05 | 0747                     | 134        | 190 |     |      |        |    |
| 28.5               | 58   | YGWC2 - 29S25F058 - 05   | 0266                     | 80         | 136 |     |      |        |    |
|                    | 87   | YGWC3 - 29S25F087 - 05   | 0309                     | 109        | 165 |     |      |        |    |
|                    | 116  | YGWC4 - 29S25F116 - 05   | 0352                     | 138        | 194 |     |      |        |    |
| 29                 | 58   | YGWC2 - 29.5S25F058 - 05 | 0748                     | 80         | 136 |     |      |        |    |
|                    | 87   | YGWC3 - 29.5S25F087 - 05 | 0749                     | 109        | 165 |     |      |        |    |
|                    | 116  | YGWC4 - 29.5S25F116 - 05 | 0749                     | 109        | 165 |     |      |        |    |

\* Clamping Torque (Nm) 1.6Nm

| WCMX05      | Screw    | Wrench   |
|-------------|----------|----------|
| Description | T693072D | TWFT08   |
| EDP         | 18000185 | 18000033 |

Drilling - Drill Holder

# Trigonal Drill Holder (WCMX06) (DC 30~44.5)



Refer to p. 234

Unit: mm

| Series                 | DC   | LU                       | Designation              | EDP 3700.. | LF  | OAL | DCON | DCSFMS | LS |
|------------------------|------|--------------------------|--------------------------|------------|-----|-----|------|--------|----|
| <b>WCMX<br/>06T308</b> | 30   | 60                       | YGWC2 - 30S32F060 - 06   | 0267       | 87  | 147 | 32   | 44     | 60 |
|                        |      | 90                       | YGWC3 - 30S32F090 - 06   | 0310       | 117 | 177 |      |        |    |
|                        |      | 120                      | YGWC4 - 30S32F120 - 06   | 0353       | 147 | 207 |      |        |    |
|                        | 30.5 | 90                       | YGWC3 - 30.5S32F090 - 06 | 0750       | 117 | 177 |      |        |    |
|                        | 31   | 62                       | YGWC2 - 31S32F062 - 06   | 0268       | 89  | 149 |      |        |    |
|                        |      | 93                       | YGWC3 - 31S32F093 - 06   | 0311       | 120 | 180 |      |        |    |
|                        |      | 124                      | YGWC4 - 31S32F124 - 06   | 0354       | 151 | 211 |      |        |    |
|                        | 31.5 | 93                       | YGWC3 - 31.5S32F093 - 06 | 0751       | 120 | 180 |      |        |    |
|                        | 32   | 64                       | YGWC2 - 32S32F064 - 06   | 0269       | 91  | 151 |      |        |    |
|                        |      | 96                       | YGWC3 - 32S32F096 - 06   | 0312       | 123 | 183 |      |        |    |
|                        |      | 128                      | YGWC4 - 32S32F128 - 06   | 0252       | 155 | 215 |      |        |    |
|                        | 32.5 | 96                       | YGWC3 - 32.5S32F096 - 06 | 0752       | 123 | 183 |      |        |    |
|                        | 33   | 66                       | YGWC2 - 33S32F066 - 06   | 0753       | 93  | 153 |      |        |    |
|                        |      | 99                       | YGWC3 - 33S32F099 - 06   | 0754       | 126 | 186 |      |        |    |
|                        |      | 132                      | YGWC4 - 33S32F132 - 06   | 0755       | 159 | 219 |      |        |    |
|                        | 33.5 | 99                       | YGWC3 - 33.5S32F099 - 06 | 0756       | 126 | 186 |      |        |    |
|                        |      | 132                      | YGWC4 - 33.5S32F132 - 06 | 0757       | 159 | 219 |      |        |    |
|                        | 34   | 68                       | YGWC2 - 34S32F068 - 06   | 0271       | 95  | 155 |      |        |    |
|                        |      | 102                      | YGWC3 - 34S32F102 - 06   | 0314       | 129 | 189 |      |        |    |
|                        |      | 136                      | YGWC4 - 34S32F136 - 06   | 0357       | 163 | 223 |      |        |    |
|                        | 34.5 | 102                      | YGWC3 - 34.5S32F102 - 06 | 0758       | 129 | 189 |      |        |    |
|                        | 35   | 70                       | YGWC2 - 35S32F070 - 06   | 0272       | 97  | 157 |      |        |    |
|                        |      | 105                      | YGWC3 - 35S32F105 - 06   | 0315       | 132 | 192 |      |        |    |
|                        |      | 140                      | YGWC4 - 35S32F140 - 06   | 0358       | 167 | 227 |      |        |    |
|                        | 35.5 | 105                      | YGWC3 - 35.5S32F105 - 06 | 0759       | 132 | 192 |      |        |    |
|                        | 36   | 72                       | YGWC2 - 36S32F072 - 06   | 0273       | 99  | 159 |      |        |    |
|                        |      | 108                      | YGWC3 - 36S32F108 - 06   | 0316       | 135 | 195 |      |        |    |
|                        |      | 144                      | YGWC4 - 36S32F144 - 06   | 0359       | 171 | 231 |      |        |    |
| 36.5                   | 108  | YGWC3 - 36.5S32F108 - 06 | 0760                     | 135        | 195 |     |      |        |    |
| 37                     | 74   | YGWC2 - 37S32F074 - 06   | 0274                     | 101        | 161 |     |      |        |    |
|                        | 111  | YGWC3 - 37S32F111 - 06   | 0317                     | 138        | 198 |     |      |        |    |
|                        | 148  | YGWC4 - 37S32F148 - 06   | 0360                     | 175        | 235 |     |      |        |    |

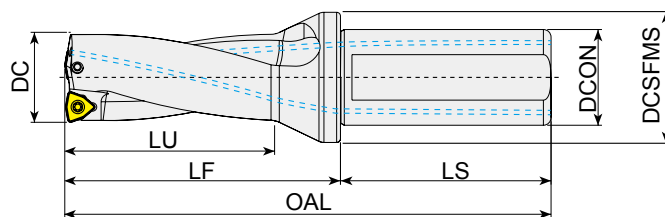
▶ NEXT PAGE

\* Clamping Torque (Nm) 2.4Nm

| WCMX06      | Screw    | Wrench   |
|-------------|----------|----------|
| Description | T103588D | TWFT10   |
| EDP         | 18000180 | 18000034 |

Drilling - Drill Holder

# Trigonal Drill Holder (WCMX06) (DC 30~44.5)



☺: Refer to p.234 Unit:mm

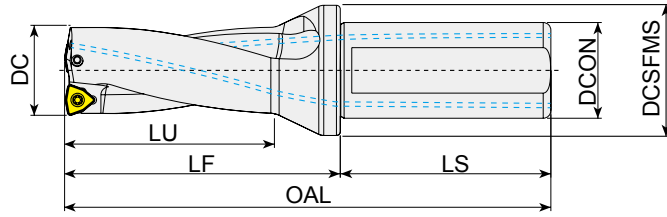
| Series                 | DC   | LU                       | Designation              | EDP 3700.. | LF  | OAL | DCON | DCSFMS | LS |
|------------------------|------|--------------------------|--------------------------|------------|-----|-----|------|--------|----|
| <b>WCMX<br/>06T308</b> | 37.5 | 111                      | YGWC3 - 37.5S32F111 - 06 | 0761       | 138 | 198 | 32   | 44     | 60 |
|                        |      | 76                       | YGWC2 - 38S32F076 - 06   | 0275       | 103 | 163 |      |        |    |
|                        | 38   | 114                      | YGWC3 - 38S32F114 - 06   | 0318       | 141 | 201 |      |        |    |
|                        |      | 152                      | YGWC4 - 38S32F152 - 06   | 0361       | 179 | 239 |      |        |    |
|                        | 38.5 | 114                      | YGWC3 - 38.5S32F114 - 06 | 0762       | 141 | 201 |      |        |    |
|                        |      | 152                      | YGWC4 - 38.5S32F152 - 06 | 0763       | 179 | 239 |      |        |    |
|                        |      | 78                       | YGWC2 - 39S32F078 - 06   | 0276       | 105 | 165 |      |        |    |
|                        | 39   | 117                      | YGWC3 - 39S32F117 - 06   | 0319       | 144 | 204 |      |        |    |
|                        |      | 156                      | YGWC4 - 39S32F156 - 06   | 0362       | 183 | 243 |      |        |    |
|                        | 39.5 | 117                      | YGWC3 - 39.5S32F117 - 06 | 0764       | 144 | 204 |      |        |    |
|                        |      | 80                       | YGWC2 - 40S32F080 - 06   | 0277       | 107 | 167 |      |        |    |
|                        | 40   | 120                      | YGWC3 - 40S32F120 - 06   | 0320       | 147 | 207 |      |        |    |
|                        |      | 160                      | YGWC4 - 40S32F160 - 06   | 0363       | 187 | 247 |      |        |    |
|                        | 40.5 | 120                      | YGWC3 - 40.5S32F120 - 06 | 0765       | 147 | 207 |      |        |    |
|                        |      | 82                       | YGWC2 - 41S32F082 - 06   | 0278       | 109 | 169 |      |        |    |
|                        | 41   | 123                      | YGWC3 - 41S32F123 - 06   | 0321       | 150 | 210 |      |        |    |
|                        |      | 164                      | YGWC4 - 41S32F164 - 06   | 0364       | 191 | 251 |      |        |    |
|                        | 41.5 | 123                      | YGWC3 - 41.5S32F123 - 06 | 0766       | 150 | 210 |      |        |    |
|                        |      | 84                       | YGWC2 - 42S32F084 - 06   | 0279       | 111 | 171 |      |        |    |
|                        | 42   | 126                      | YGWC3 - 42S32F126 - 06   | 0322       | 153 | 213 |      |        |    |
|                        |      | 168                      | YGWC4 - 42S32F168 - 06   | 0365       | 195 | 255 |      |        |    |
|                        | 42.5 | 126                      | YGWC3 - 42.5S32F126 - 06 | 0767       | 153 | 213 |      |        |    |
|                        |      | 86                       | YGWC2 - 43S32F086 - 06   | 0280       | 113 | 173 |      |        |    |
|                        | 43   | 129                      | YGWC3 - 43S32F129 - 06   | 0323       | 156 | 216 |      |        |    |
|                        |      | 172                      | YGWC4 - 43S32F172 - 06   | 0366       | 199 | 259 |      |        |    |
|                        | 43.5 | 129                      | YGWC3 - 43.5S32F129 - 06 | 0768       | 156 | 216 |      |        |    |
|                        |      | 88                       | YGWC2 - 44S32F088 - 06   | 0281       | 115 | 175 |      |        |    |
|                        | 44   | 132                      | YGWC3 - 44S32F132 - 06   | 0324       | 159 | 219 |      |        |    |
|                        | 176  | YGWC4 - 44S32F176 - 06   | 0367                     | 203        | 263 |     |      |        |    |
| 44.5                   | 132  | YGWC3 - 44.5S32F132 - 06 | 0769                     | 159        | 219 |     |      |        |    |

\* Clamping Torque (Nm) 2.4Nm

| WCMX06      | Screw    | Wrench   |
|-------------|----------|----------|
| Description | T103588D | TWFT10   |
| EDP         | 18000180 | 18000034 |

Drilling - Drill Holder

# Trigonal Drill Holder (WCMX08) (DC 45~60)



△: Refer to p.234

Unit:mm

| Series                 | DC   | LU                     | Designation              | EDP 3700.. | LF  | OAL | DCON | DCSFMS | LS |
|------------------------|------|------------------------|--------------------------|------------|-----|-----|------|--------|----|
| <b>WCMX<br/>080412</b> | 45   | 90                     | YGWC2 - 45S40F090 - 08   | 0282       | 122 | 192 | 40   | 54     | 70 |
|                        |      | 135                    | YGWC3 - 45S40F135 - 08   | 0325       | 167 | 237 |      |        |    |
|                        |      | 180                    | YGWC4 - 45S40F180 - 08   | 0368       | 212 | 282 |      |        |    |
|                        | 45.5 | 135                    | YGWC3 - 45.5S40F135 - 08 | 0770       | 167 | 237 |      |        |    |
|                        | 46   | 92                     | YGWC2 - 46S40F092 - 08   | 0283       | 124 | 194 |      |        |    |
|                        |      | 138                    | YGWC3 - 46S40F138 - 08   | 0326       | 170 | 240 |      |        |    |
|                        |      | 184                    | YGWC4 - 46S40F184 - 08   | 0369       | 216 | 286 |      |        |    |
|                        | 47   | 94                     | YGWC2 - 47S40F094 - 08   | 0284       | 126 | 196 |      |        |    |
|                        |      | 141                    | YGWC3 - 47S40F141 - 08   | 0327       | 173 | 243 |      |        |    |
|                        |      | 188                    | YGWC4 - 47S40F188 - 08   | 0370       | 220 | 290 |      |        |    |
|                        | 48   | 96                     | YGWC2 - 48S40F096 - 08   | 0285       | 128 | 198 |      |        |    |
|                        |      | 144                    | YGWC3 - 48S40F144 - 08   | 0328       | 176 | 246 |      |        |    |
|                        |      | 192                    | YGWC4 - 48S40F192 - 08   | 0371       | 224 | 294 |      |        |    |
|                        | 49   | 98                     | YGWC2 - 49S40F098 - 08   | 0286       | 130 | 200 |      |        |    |
|                        |      | 147                    | YGWC3 - 49S40F147 - 08   | 0329       | 179 | 249 |      |        |    |
|                        | 50   | 196                    | YGWC4 - 49S40F196 - 08   | 0372       | 228 | 298 |      |        |    |
|                        |      | 100                    | YGWC2 - 50S40F100 - 08   | 0287       | 132 | 202 |      |        |    |
|                        |      | 150                    | YGWC3 - 50S40F150 - 08   | 0330       | 182 | 252 |      |        |    |
|                        | 51   | 200                    | YGWC4 - 50S40F200 - 08   | 0373       | 232 | 302 |      |        |    |
|                        |      | 102                    | YGWC2 - 51S40F102 - 08   | 0288       | 134 | 204 |      |        |    |
| 153                    |      | YGWC3 - 51S40F153 - 08 | 0331                     | 185        | 255 |     |      |        |    |

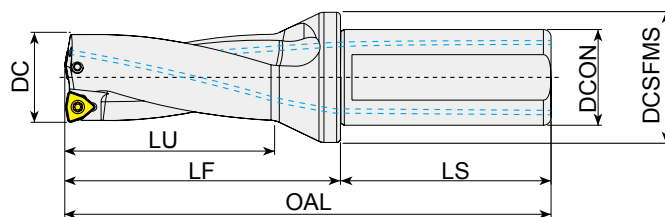
▶ NEXT PAGE

\* Clamping Torque (Nm) 3.0Nm

| WCMX08      | Screw    | Wrench   |
|-------------|----------|----------|
| Description | T154011D | TWFT15   |
| EDP         | 18000186 | 18000035 |

Drilling - Drill Holder

**Trigonal Drill Holder (WCMX08) (DC 45~60)**

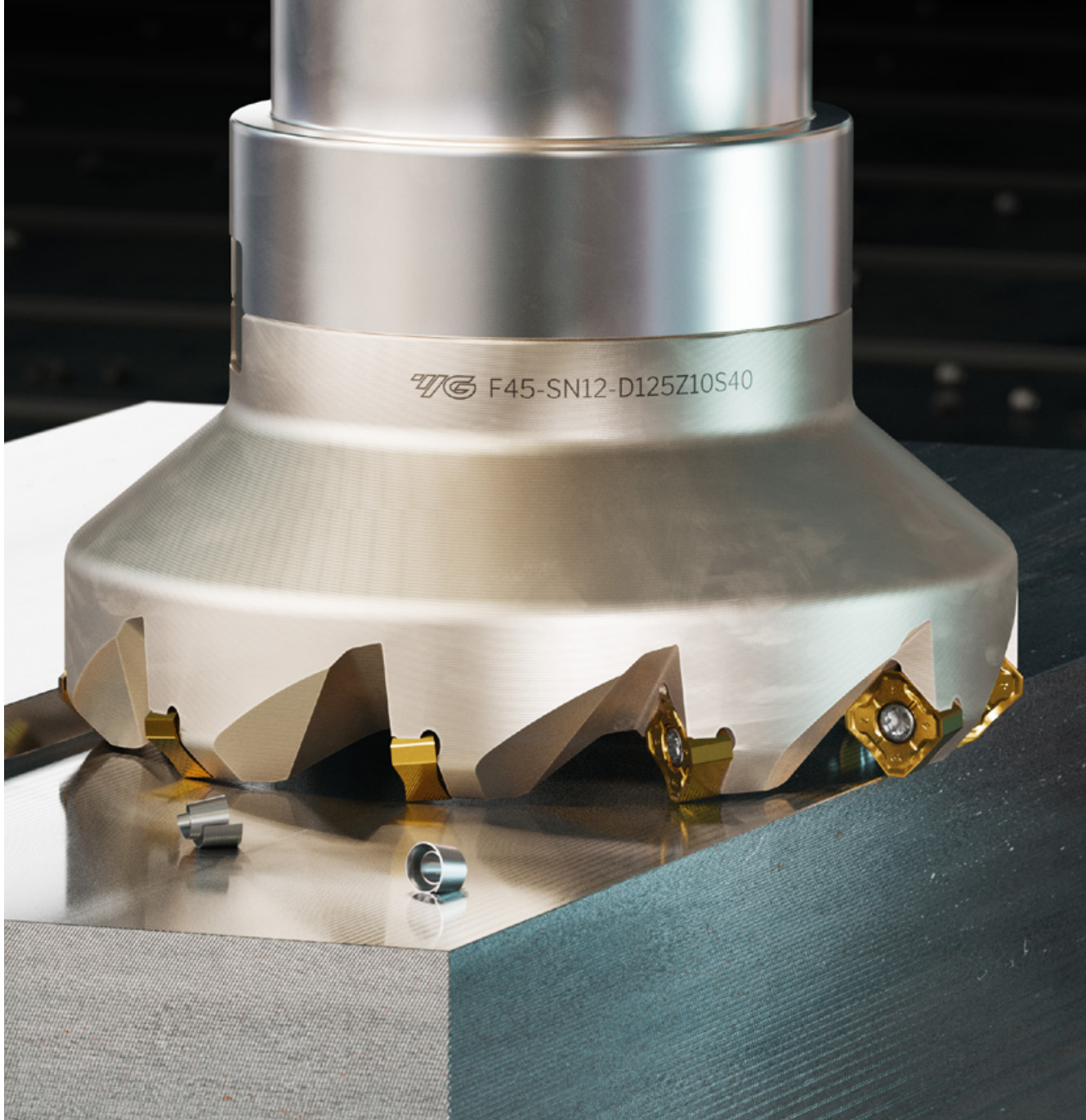


☺: Refer to p.234 Unit:mm

| Series             | DC | LU  | Designation            | EDP 3700.. | LF  | OAL | DCON | DCSFMS | LS |
|--------------------|----|-----|------------------------|------------|-----|-----|------|--------|----|
| <b>WCMX 080412</b> | 52 | 104 | YGWC2 - 52S40F104 - 08 | 0289       | 136 | 206 | 40   | 54     | 70 |
|                    |    | 156 | YGWC3 - 52S40F156 - 08 | 0332       | 188 | 258 |      |        |    |
|                    | 53 | 106 | YGWC2 - 53S40F106 - 08 | 0290       | 138 | 208 |      |        |    |
|                    |    | 159 | YGWC3 - 53S40F159 - 08 | 0333       | 191 | 261 |      |        |    |
|                    | 54 | 108 | YGWC2 - 54S40F108 - 08 | 0291       | 140 | 210 |      |        |    |
|                    |    | 162 | YGWC3 - 54S40F162 - 08 | 0334       | 194 | 264 |      |        |    |
|                    | 55 | 110 | YGWC2 - 55S40F110 - 08 | 0292       | 142 | 212 |      |        |    |
|                    |    | 165 | YGWC3 - 55S40F165 - 08 | 0335       | 197 | 267 |      |        |    |
|                    | 56 | 112 | YGWC2 - 56S40F112 - 08 | 0293       | 144 | 214 |      |        |    |
|                    |    | 168 | YGWC3 - 56S40F168 - 08 | 0336       | 200 | 270 |      |        |    |
|                    | 57 | 114 | YGWC2 - 57S40F114 - 08 | 0294       | 146 | 216 |      |        |    |
|                    |    | 171 | YGWC3 - 57S40F171 - 08 | 0337       | 203 | 273 |      |        |    |
|                    | 58 | 116 | YGWC2 - 58S40F116 - 08 | 0295       | 148 | 218 |      |        |    |
|                    |    | 174 | YGWC3 - 58S40F174 - 08 | 0338       | 206 | 276 |      |        |    |
|                    | 59 | 118 | YGWC2 - 59S40F118 - 08 | 0771       | 150 | 220 |      |        |    |
|                    |    | 177 | YGWC3 - 59S40F177 - 08 | 0772       | 209 | 279 |      |        |    |
|                    | 60 | 120 | YGWC2 - 60S40F120 - 08 | 0773       | 152 | 222 |      |        |    |
|                    |    | 180 | YGWC3 - 60S40F180 - 08 | 0774       | 212 | 282 |      |        |    |

\* Clamping Torque (Nm) 3.0Nm

| WCMX08      | Screw    | Wrench   |
|-------------|----------|----------|
| Description | T154011D | TWFT15   |
| EDP         | 18000186 | 18000035 |



# TECHNICAL INFORMATION

**Recommended Cutting Conditions**

**ISO 13399 Terms**

**Hardness Conversion Table**

**Comparison Chart**

**Formulas**

**Material Groups**

**X-Drill(SYMX) Offset Value & Hole Tolerance**

**ISO ↔ ANSI**

**Search**

# Technical Information

## Recommended cutting conditions

### Turning

| Cutting Speed |       |                            | Vc (m/min.) |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |       |     |
|---------------|-------|----------------------------|-------------|-----|--------|-----|--------|-----|--------|-----|--------|-----|--------|-----|--------|-----|--------|-----|--------|-----|-------|-----|
| ISO           | VDI   | Sub Group                  | YG1010      |     | YG1001 |     | YG1020 |     | YG3010 |     | YG3015 |     | YG3115 |     | YG3125 |     | YG3020 |     | YG3030 |     | YG801 |     |
|               |       |                            | Min         | Max | Min    | Max | Min    | Max | Min    | Max | Min    | Max | Min    | Max | Min    | Max | Min    | Max | Min    | Max | Min   | Max |
| P             | 1~5   | Non-Alloyed Steel          | -           | -   | 220    | 480 | -      | -   | 230    | 450 | 200    | 430 | 180    | 500 | 150    | 400 | 160    | 380 | 130    | 350 | 120   | 200 |
|               | 6~9   | Low-Alloyed Steel          | -           | -   | 220    | 420 | -      | -   | 180    | 380 | 150    | 350 | 170    | 450 | 130    | 350 | 140    | 320 | 130    | 280 | 70    | 200 |
|               | 10~11 | High-Alloyed Steel         | -           | -   | -      | -   | -      | -   | 60     | 200 | 90     | 180 | 60     | 300 | 60     | 280 | 60     | 130 | 70     | 110 | -     | -   |
| M             | 12~13 | Ferritic & Martensitic     | -           | -   | -      | -   | -      | -   | -      | -   | -      | -   | -      | -   | -      | -   | -      | -   | -      | -   | -     | -   |
|               | 14    | Austenitic Stainless Steel | -           | -   | -      | -   | -      | -   | -      | -   | -      | -   | -      | -   | -      | -   | -      | -   | -      | -   | -     | -   |
| K             | 15~16 | Grey Cast Iron             | 300         | 450 | 250    | 420 | 180    | 350 | 120    | 300 | -      | -   | -      | -   | -      | -   | -      | -   | -      | -   | -     | -   |
|               | 17~18 | Nodular Cast Iron          | 120         | 350 | 120    | 300 | 100    | 280 | 120    | 280 | -      | -   | -      | -   | -      | -   | -      | -   | -      | -   | -     | -   |
| N             | 21~30 | Non-Ferrous Metals (Al)    | -           | -   | -      | -   | -      | -   | -      | -   | -      | -   | -      | -   | -      | -   | -      | -   | -      | -   | -     | -   |
| S             | 31~37 | Superalloys & Titanium     | -           | -   | -      | -   | -      | -   | -      | -   | -      | -   | -      | -   | -      | -   | -      | -   | -      | -   | -     | -   |
| H             | 38~41 | Hard Materials             | -           | -   | -      | -   | -      | -   | -      | -   | -      | -   | -      | -   | -      | -   | -      | -   | -      | -   | -     | -   |

### Turning

| Cutting Speed |       |                            | Vc (m/min.) |     |        |     |       |     |       |     |       |     |       |     |       |     |        |     |       |     |      |     |
|---------------|-------|----------------------------|-------------|-----|--------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|--------|-----|-------|-----|------|-----|
| ISO           | VDI   | Sub Group                  | YG2025      |     | YG2035 |     | YG211 |     | YG213 |     | YG214 |     | YG401 |     | YT100 |     | YT100G |     | YG100 |     | YG10 |     |
|               |       |                            | Min         | Max | Min    | Max | Min   | Max | Min   | Max | Min   | Max | Min   | Max | Min   | Max | Min    | Max | Min   | Max | Min  | Max |
| P             | 1~5   | Non-Alloyed Steel          | -           | -   | -      | -   | -     | -   | -     | -   | -     | -   | -     | 150 | 480   | 170 | 500    | -   | -     | -   | -    |     |
|               | 6~9   | Low-Alloyed Steel          | -           | -   | -      | -   | -     | -   | -     | -   | -     | -   | -     | 160 | 480   | 180 | 500    | -   | -     | -   | -    |     |
|               | 10~11 | High-Alloyed Steel         | -           | -   | -      | -   | -     | -   | -     | -   | -     | -   | -     | 70  | 180   | 100 | 230    | -   | -     | -   | -    |     |
| M             | 12~13 | Ferritic & Martensitic     | 170         | 220 | 140    | 180 | 170   | 270 | 120   | 180 | 100   | 150 | -     | -   | 150   | 280 | 170    | 300 | -     | -   | -    | -   |
|               | 14    | Austenitic Stainless Steel | 150         | 200 | 120    | 165 | 150   | 230 | 40    | 160 | 100   | 150 | -     | -   | 130   | 260 | 140    | 270 | -     | -   | -    | -   |
| K             | 15~16 | Grey Cast Iron             | -           | -   | -      | -   | -     | -   | -     | -   | -     | -   | -     | 130 | 450   | 140 | 500    | -   | -     | -   | -    |     |
|               | 17~18 | Nodular Cast Iron          | -           | -   | -      | -   | -     | -   | -     | -   | -     | -   | -     | 100 | 400   | 110 | 440    | -   | -     | -   | -    |     |
| N             | 21~30 | Non-Ferrous Metals (Al)    | -           | -   | -      | -   | -     | -   | -     | -   | -     | -   | -     | -   | -     | -   | -      | 250 | 1200  | 250 | 800  |     |
| S             | 31~37 | Superalloys & Titanium     | -           | -   | -      | -   | 30    | 100 | 30    | 70  | 30    | 50  | 30    | 90  | -     | -   | -      | -   | -     | -   | -    | -   |
| H             | 38~41 | Hard Materials             | -           | -   | -      | -   | -     | -   | -     | -   | -     | -   | -     | -   | -     | -   | -      | -   | -     | -   | -    | -   |

### Parting & Grooving

| Cutting Speed |       |                            | Vc (m/min.)    |     |       |     |
|---------------|-------|----------------------------|----------------|-----|-------|-----|
| ISO           | VDI   | Sub Group                  | YG602G (YG602) |     | YG603 |     |
|               |       |                            | Min            | Max | Min   | Max |
| P             | 1~5   | Non-Alloyed Steel          | 120            | 180 | -     | -   |
|               | 6~9   | Low-Alloyed Steel          | 100            | 140 | -     | -   |
|               | 10~11 | High-Alloyed Steel         | 80             | 110 | -     | -   |
| M             | 12~13 | Ferritic & Martensitic     | 70             | 160 | 50    | 90  |
|               | 14    | Austenitic Stainless Steel | 55             | 140 | 40    | 80  |
| K             | 15~16 | Grey Cast Iron             | 110            | 185 | -     | -   |
|               | 17~18 | Nodular Cast Iron          | 110            | 140 | -     | -   |
| N             | 21~30 | Non-Ferrous Metals (Al)    | 250            | 440 | -     | -   |
| S             | 31~37 | Superalloys & Titanium     | 25             | 45  | -     | -   |
| H             | 38~41 | Hard Materials             | 25             | 50  | -     | -   |

# Technical Information

## Recommended cutting conditions

### Nanocut

| YG812 GRADE |       |                            | Cutting Speed |     | Feed per Revolution (Fn) |       |
|-------------|-------|----------------------------|---------------|-----|--------------------------|-------|
| ISO         | VDI   | Sub Group                  | Vc (m/min.)   |     | Fn (mm/rev.)             |       |
|             |       |                            | Min           | Max | Min                      | Max   |
| P           | 1~5   | Non-Alloyed Steel          | 170           | 200 | 0.015                    | 0.025 |
|             | 6~9   | Low-Alloyed Steel          | 95            | 160 | 0.015                    | 0.025 |
|             | 10~11 | High-Alloyed Steel         | 85            | 95  | 0.015                    | 0.025 |
| M           | 12~13 | Ferritic & Martensitic     | 105           | 140 | 0.015                    | 0.025 |
|             | 14    | Austenitic Stainless Steel | 95            | 130 | 0.015                    | 0.025 |
| K           | 15~16 | Grey Cast Iron             | 140           | 190 | 0.015                    | 0.025 |
|             | 17~18 | Nodular Cast Iron          | 140           | 190 | 0.015                    | 0.025 |
| N           | 21~30 | Non-Ferrous Metals (Al)    | -             | -   | -                        | -     |
| S           | 31~37 | Superalloys & Titanium     | 10            | 75  | 0.015                    | 0.025 |
| H           | 38~41 | Hard Materials             | -             | -   | -                        | -     |

### Milling

| Cutting Speed |       |                            | Vc (m/min.) |     |       |     |       |     |       |     |       |     |       |     |       |     |          |     |        |     |       |     |      |     |   |
|---------------|-------|----------------------------|-------------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|----------|-----|--------|-----|-------|-----|------|-----|---|
| ISO           | VDI   | Sub Group                  | YG012       |     | YG712 |     | YG713 |     | YG622 |     | YG612 |     | YG602 |     | YG613 |     | YG501(G) |     | YG5020 |     | YG904 |     | YG50 |     |   |
|               |       |                            | Min         | Max | Min   | Max | Min   | Max | Min   | Max | Min   | Max | Min   | Max | Min   | Max | Min      | Max | Min    | Max | Min   | Max | Min  | Max |   |
| P             | 1~5   | Non-Alloyed Steel          | 180         | 280 | 170   | 300 | 200   | 300 | 140   | 400 | 180   | 280 | 180   | 270 | 100   | 210 | -        | -   | -      | -   | -     | -   | -    | -   | - |
|               | 6~9   | Low-Alloyed Steel          | 150         | 250 | 180   | 250 | 170   | 270 | 120   | 320 | 150   | 250 | 150   | 240 | 70    | 180 | -        | -   | -      | -   | -     | -   | -    | -   |   |
|               | 10~11 | High-Alloyed Steel         | 80          | 150 | 100   | 140 | 85    | 145 | 70    | 170 | 70    | 140 | 70    | 130 | 40    | 90  | -        | -   | -      | -   | -     | -   | -    | -   |   |
| M             | 12~13 | Ferritic & Martensitic     | -           | -   | -     | -   | -     | -   | -     | -   | 120   | 200 | 120   | 180 | 70    | 180 | -        | -   | -      | -   | -     | -   | -    | -   |   |
|               | 14    | Austenitic Stainless Steel | -           | -   | -     | -   | -     | -   | -     | -   | 130   | 250 | 30    | 230 | 70    | 200 | -        | -   | -      | -   | -     | -   | -    | -   |   |
| K             | 15~16 | Grey Cast Iron             | -           | -   | -     | -   | -     | -   | 120   | 270 | -     | -   | 120   | 250 | -     | -   | 160      | 300 | 200    | 350 | -     | -   | -    | -   |   |
|               | 17~18 | Nodular Cast Iron          | -           | -   | -     | -   | -     | -   | 130   | 240 | -     | -   | 120   | 220 | -     | -   | 130      | 210 | 150    | 300 | -     | -   | -    | -   |   |
| N             | 21~30 | Non-Ferrous Metals (Al)    | -           | -   | -     | -   | -     | -   | -     | -   | -     | -   | -     | -   | -     | -   | -        | -   | -      | -   | -     | -   | 300  | 800 |   |
| S             | 31~37 | Superalloys & Titanium     | -           | -   | -     | -   | -     | -   | -     | -   | 25    | 45  | 5     | 45  | -     | -   | -        | -   | -      | -   | 20    | 60  | -    | -   |   |
| H             | 38~41 | Hard Materials             | 70          | 120 | -     | -   | -     | -   | 40    | 100 | -     | -   | -     | -   | -     | -   | -        | -   | -      | -   | -     | -   | -    | -   |   |

### Drilling

| Cutting Speed |       |                            | Vc (m/min.) |     |       |     |       |     |
|---------------|-------|----------------------------|-------------|-----|-------|-----|-------|-----|
| ISO           | VDI   | Sub Group                  | YG602       |     | YG713 |     | YG613 |     |
|               |       |                            | Min         | Max | Min   | Max | Min   | Max |
| P             | 1~5   | Non-Alloyed Steel          | 180         | 380 | 200   | 300 | 100   | 210 |
|               | 6~9   | Low-Alloyed Steel          | 120         | 300 | 170   | 270 | 70    | 180 |
|               | 10~11 | High-Alloyed Steel         | 70          | 150 | 85    | 145 | 40    | 90  |
| M             | 12~13 | Ferritic & Martensitic     | 120         | 200 | 130   | 230 | 70    | 180 |
|               | 14    | Austenitic Stainless Steel | 130         | 250 | 130   | 230 | 70    | 200 |
| K             | 15~16 | Grey Cast Iron             | 120         | 250 | -     | -   | -     | -   |
|               | 17~18 | Nodular Cast Iron          | 130         | 220 | -     | -   | -     | -   |
| H             | 38~41 | Hard Materials             | -           | -   | -     | -   | -     | -   |

## Technical Information

### ISO 13399 Terms

|               |                                       |              |                               |
|---------------|---------------------------------------|--------------|-------------------------------|
| <b>AN</b>     | Clearance angle major                 | <b>INSD</b>  | Insert diameter               |
| <b>APMX</b>   | Maximum depth of cut                  | <b>KAPR</b>  | Tool cutting edge angle       |
| <b>AS</b>     | Clearance angle wiper edge            | <b>KRINS</b> | Cutting edge angle major      |
| <b>B</b>      | Shank width                           | <b>KWW</b>   | Keyway width                  |
| <b>BS</b>     | Wiper edge length                     | <b>L</b>     | Cutting edge length           |
| <b>CBDP</b>   | Connection bore depth                 | <b>LE</b>    | Cutting edge effective length |
| <b>CDX</b>    | Cutting depth maximum                 | <b>LF</b>    | Functional length             |
| <b>CICT</b>   | Number of Inserts                     | <b>LH</b>    | Head length                   |
| <b>CW</b>     | Cutting width                         | <b>LS</b>    | Shank length                  |
| <b>CZC</b>    | Connection size code                  | <b>LU</b>    | Usable length                 |
| <b>DC</b>     | Cutting diameter                      | <b>LUX</b>   | Usable length maximum         |
| <b>DCON</b>   | Connection diameter                   | <b>M</b>     | Nose (or Wiper) Height        |
| <b>DCSFMS</b> | Contact surface diameter machine side | <b>OAL</b>   | Overall length                |
| <b>DCX</b>    | Cutting diameter maximum              | <b>RE</b>    | Corner radius                 |
| <b>DMIN</b>   | Minimum bore diameter                 | <b>RMPX</b>  | Maximum ramping angle         |
| <b>DMM</b>    | Shank diameter                        | <b>RPMX</b>  | Rotational speed maximum      |
| <b>EPSR</b>   | Insert included angle                 | <b>S</b>     | Insert thickness              |
| <b>H</b>      | Shank height                          | <b>TDZ</b>   | Thread diameter size          |
| <b>HAND</b>   | Hand                                  | <b>WF</b>    | Functional width              |
| <b>IC</b>     | Inscribed circle diameter             |              |                               |

## Technical Information

# Hardness Conversion Table

| HB  | HRC | HRB | HV  | N/mm <sup>2</sup> |
|-----|-----|-----|-----|-------------------|
| 199 | 15  | 93  | 199 | 667               |
| 203 | 16  | 94  | 201 | 680               |
| 208 | 17  | 95  | 210 | 696               |
| 212 | 18  | 95  | 218 | 706               |
| 216 | 19  | 96  | 222 | 716               |
| 223 | 20  | 97  | 227 | 755               |
| 229 | 21  | 98  | 235 | 775               |
| 233 | 22  | 99  | 241 | 794               |
| 240 | 23  | 100 | 247 | 824               |
| 245 | 24  | 100 | 252 | 838               |
| 250 | 25  | 101 | 255 | 853               |
| 255 | 26  | 102 | 258 | 870               |
| 262 | 27  | 103 | 262 | 880               |
| 264 | 28  | 103 | 271 | 892               |
| 271 | 29  | 104 | 277 | 941               |
| 277 | 30  | 105 | 285 | 971               |
| 290 | 31  | 106 | 292 | 990               |
| 300 | 32  | 107 | 303 | 1020              |
| 308 | 33  | 107 | 311 | 1035              |
| 314 | 34  | 108 | 320 | 1049              |
| 322 | 35  | 108 | 332 | 1089              |
| 331 | 36  | 109 | 342 | 1118              |
| 341 | 37  | 109 | 351 | 1157              |
| 348 | 38  | 110 | 361 | 1187              |
| 360 | 39  | 111 | 376 | 1236              |
| 373 | 40  | 111 | 388 | 1265              |
| 375 | 41  | 112 | 393 | 1314              |
| 388 | 42  | 113 | 406 | 1363              |
| 402 | 43  | 114 | 424 | 1390              |
| 415 | 44  | 114 | 438 | 1422              |
| 419 | 45  | 114 | 448 | 1447              |
| 430 | 46  | 115 | 458 | 1471              |
| 445 | 47  | 115 | 474 | 1520              |
| 456 | 48  | 116 | 490 | 1569              |
| 468 | 49  | 117 | 497 |                   |
| 469 | 50  | 117 | 505 |                   |
| 486 | 51  | 118 | 531 |                   |
| 504 | 52  | 118 | 549 |                   |
| 513 | 53  | 119 | 567 |                   |
| 534 | 54  | 120 | 589 |                   |
| 552 | 55  |     | 649 |                   |
| 572 | 56  |     | 694 |                   |
| 592 | 57  |     | 727 |                   |
| 601 | 58  |     | 746 |                   |
| 613 | 59  |     |     |                   |
| 627 | 60  |     |     |                   |
| 642 | 61  |     |     |                   |
| 658 | 62  |     |     |                   |
| 681 | 63  |     |     |                   |
| 695 | 64  |     |     |                   |
| HB  | HRC | HRB | HV  | N/mm <sup>2</sup> |

TURNING

PARTING &amp; GROOVING

MILLING

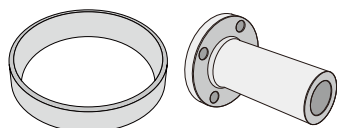
DRILLING

TECHNICAL INFORMATION

Application Guide  
**Steel Guide**

**Grade Recommendation based on Workpiece Material Condition**

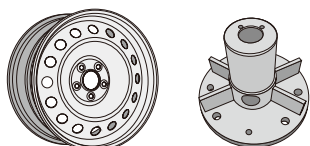
TURNING



**Pre Machined Condition**

No Outer Skin  
Uniform hardness on material  
Has stable machining condition

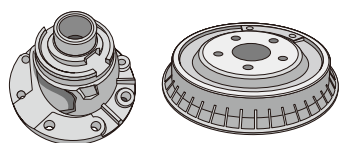
PARTING & GROOVING



**Welded Condition**

Soft / No Outer Skin  
Weld Bead Could be of Different Hardness than Actual Part  
Stock on Part could even except weld Seam during Machining causing shock loads

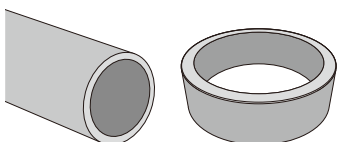
MILLING



**Cast Condition**

Hard Outer Skin  
Could have Sand Inclusion,- if Green Sand Cast  
Component could have uneven Stock during machining

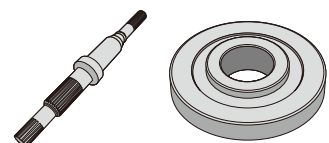
DRILLING



**Hot Rolled Condition**

Soft / No Outer Skin  
Usually heat treated before machine to reduce Hardness  
Component could have uneven Stock During Machining

TECHNICAL INFORMATION



**Forged Condition**

Soft Outer Skin  
Usually heat treated before machine to reduce Hardness  
Component could have uneven Stock during machining

HARD

YG3115

YG3125

YG3030

TOUGH

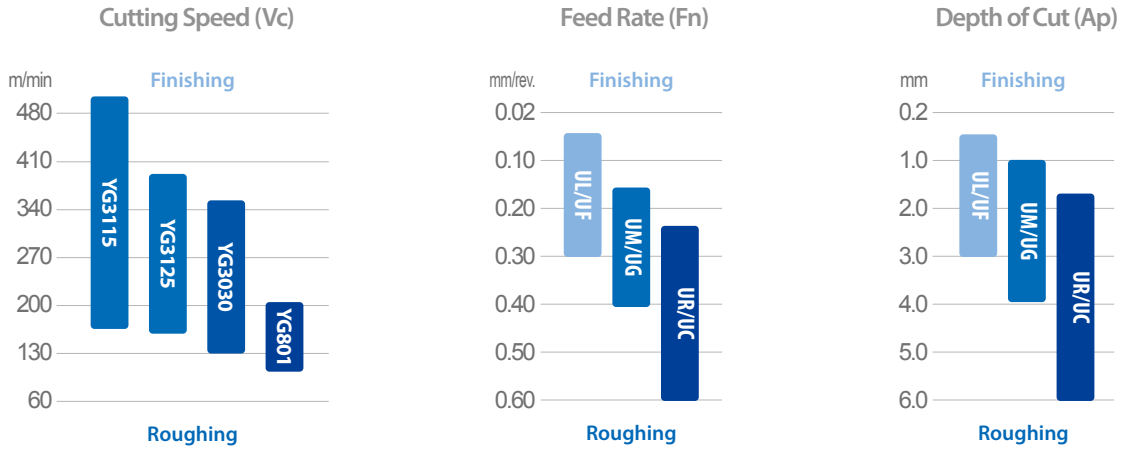
**Chipbreaker, Feed Rate and Depth of Cut**

|  |                 | Sharp Edge         | General | Strong Edge |
|--|-----------------|--------------------|---------|-------------|
|  | Continuous      | <br>-UF<br><br>-UL | <br>-UM | <br>-UG     |
|  | General         |                    |         | <br>-UC     |
|  | Heavy Interrupt |                    |         | <br>-UR     |

# Application Guide

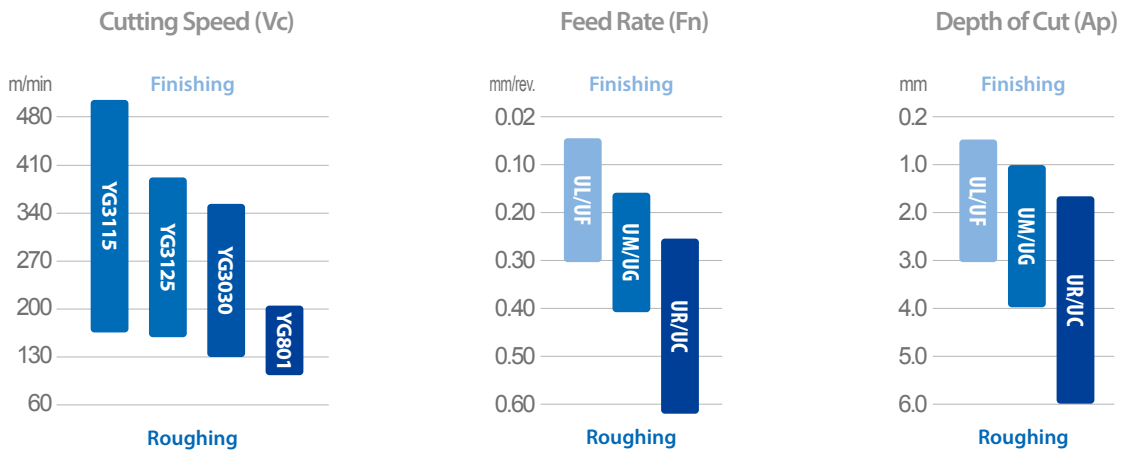
## Steel Guide

| P Non Alloy Steel, About 0.15% C (Low Carbon Steel) |      |      |           |           |      |       |     |        |        |      |
|---|------|------|-----------|-----------|------|-------|-----|--------|--------|------|
| VDI   | JIS  | DIN  | Mat'l No. | AISI/ASTM | SS   | AFNOR | UNI | UNE    | BS     | GOST |
| 1   | S15C | CK15 | 1.0401    | 1015      | 1350 | XC18  | C15 | F.1110 | 080M15 | 15   |



**First Choice Grade and Value**  
 YG3030 - Vc 280m/min

| P Non Alloy Steel, About 0.45% C (Medium Carbon Steel) |      |     |           |           |      |          |     |        |        |      |
|--|------|-----|-----------|-----------|------|----------|-----|--------|--------|------|
| VDI  | JIS  | DIN | Mat'l No. | AISI/ASTM | SS   | AFNOR    | UNI | UNE    | BS     | GOST |
| 2~3  | S45C | C45 | 1.0503    | 1045      | 1672 | XC42H1TS | C45 | F.1140 | 060A47 | 45   |



**First Choice Grade and Value**  
 YG3125 - Vc 270m/min

# Application Guide

## Steel Guide

TURNING

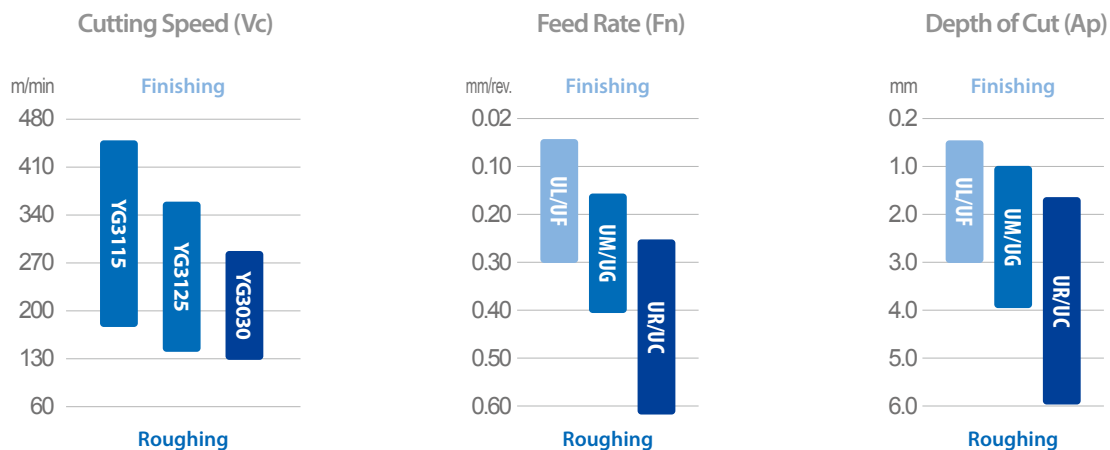
PARTING & GROOVING

MILLING

DRILLING

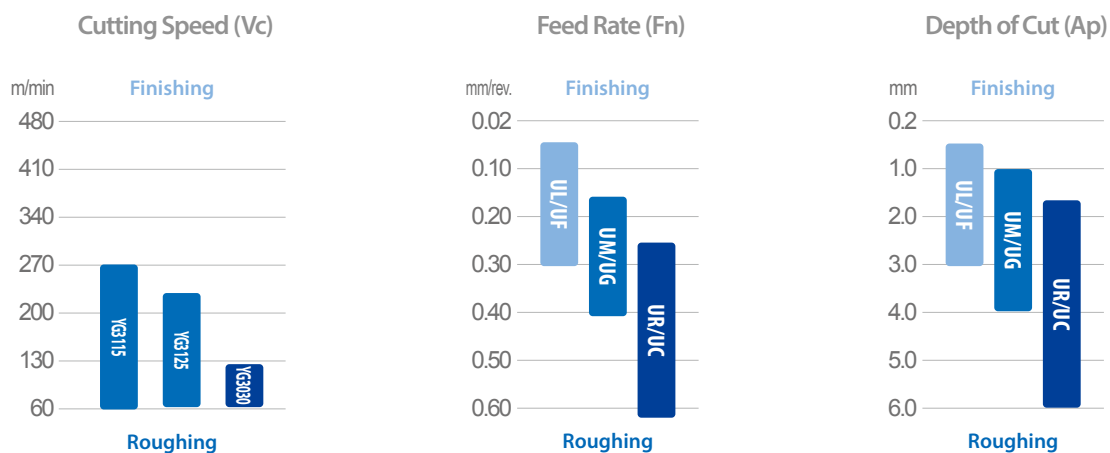
TECHNICAL INFORMATION

| P Low-alloyed Steel |        |         |           |           |      |         |         |        |        |      |
|---------------------|--------|---------|-----------|-----------|------|---------|---------|--------|--------|------|
| VDI                 | JIS    | DIN     | Mat'l No. | AISI/ASTM | SS   | AFNOR   | UNI     | UNE    | BS     | GOST |
| 6-9                 | SCM440 | 42CrMo4 | 1.7225    | 4140      | 2244 | 42 CD 4 | 42CrMo4 | F.1252 | 708M40 | 38HM |



**First Choice Grade and Value**  
 YG3125 - Vc 240m/min

| P High Alloyed Steel, and Tool Steel |       |              |           |           |      |           |               |        |     |        |
|--------------------------------------|-------|--------------|-----------|-----------|------|-----------|---------------|--------|-----|--------|
| VDI                                  | JIS   | DIN          | Mat'l No. | AISI/ASTM | SS   | AFNOR     | UNI           | UNE    | BS  | GOST   |
| 10-11                                | SKD11 | X155CrVMo121 | 1.2379    | D2        | 2310 | Z160CDV12 | X165CrMoW12KU | F.5318 | BD2 | KH12MF |

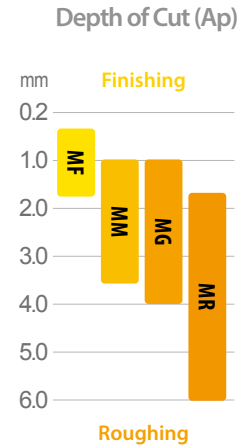
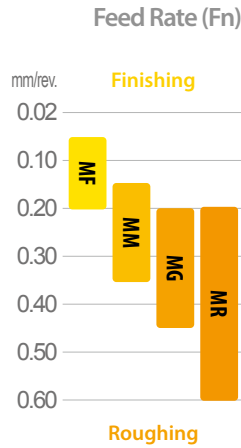
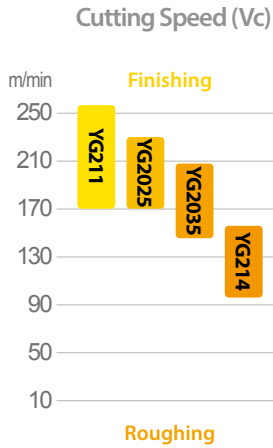


**First Choice Grade and Value**  
 YG3115 - Vc 150m/min

Application Guide

# Stainless steel Guide

| M     | Ferritic / Martensitic Stainless |        |           |           |      |       |       |       |        |       |
|-------|----------------------------------|--------|-----------|-----------|------|-------|-------|-------|--------|-------|
| VDI   | JIS                              | DIN    | Mat'l No. | AISI/ASTM | SS   | AFNOR | UNI   | UNE   | BS     | GOST  |
| 12~13 | SUS430                           | X6Cr17 | 1.4016    | 430       | 2320 | Z8C17 | Z8C17 | F3113 | 430S15 | 12C17 |



### First Choice Grade and Value

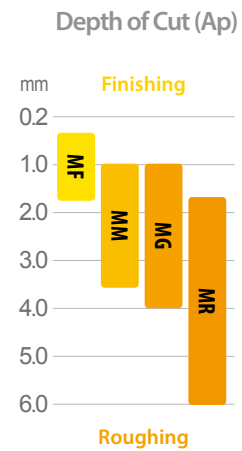
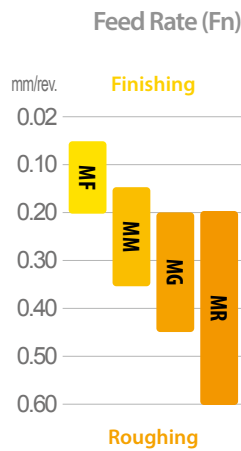
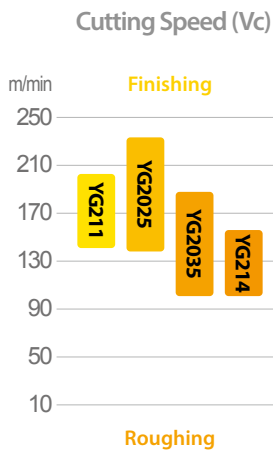
#### Ferritic Stainless steel

YG213 - Vc 160m/min  
YG2025 - Vc 190m/min

#### Martensitic

YG213 - Vc 130m/min  
YG2025 - Vc 160m/min

| M   | Austenitic Stainless steel |            |           |           |      |           |             |       |        |           |
|-----|----------------------------|------------|-----------|-----------|------|-----------|-------------|-------|--------|-----------|
| VDI | JIS                        | DIN        | Mat'l No. | AISI/ASTM | SS   | AFNOR     | UNI         | UNE   | BS     | GOST      |
| 14  | SUS304                     | X5CrNi18 9 | 1.4350    | 304       | 2332 | Z6CN18 09 | X5CrNi18 10 | F3551 | 304S15 | 03KH18N11 |



### First Choice Grade and Value

YG2025 - Vc 190m/min

# Application Guide

## Cast iron Guide

TURNING

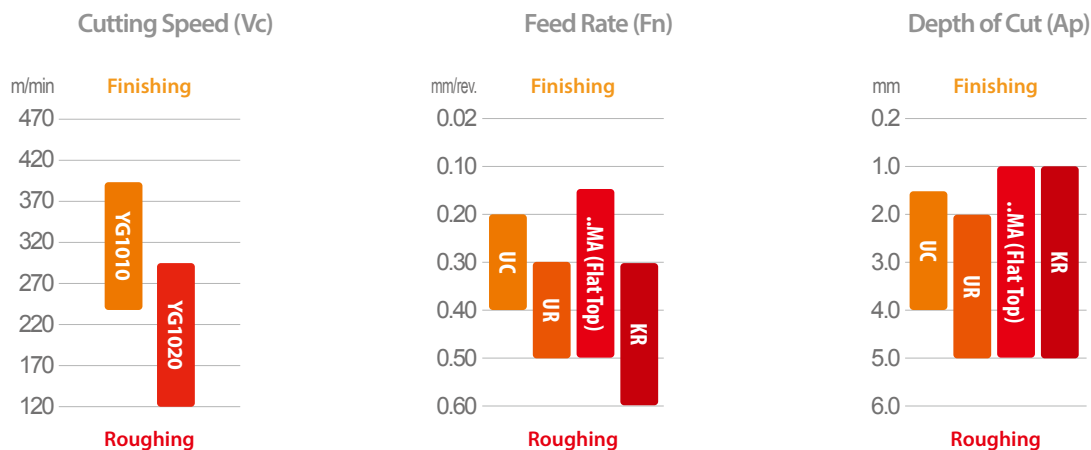
PARTING & GROOVING

MILLING

DRILLING

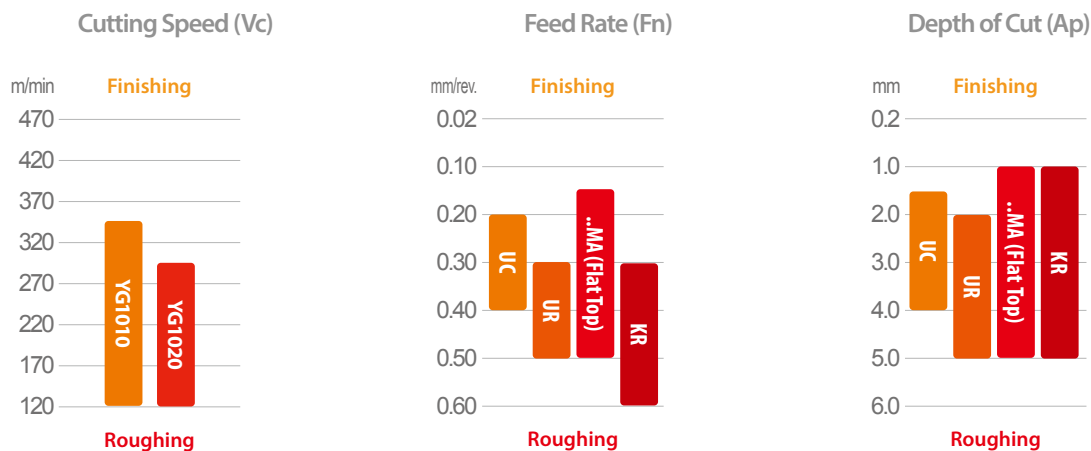
TECHNICAL INFORMATION

| K     |       | Grey cast iron |           |           |      |         |     |      |           |       |
|-------|-------|----------------|-----------|-----------|------|---------|-----|------|-----------|-------|
| VDI   | JIS   | DIN            | Mat'l No. | AISI/ASTM | SS   | AFNOR   | UNI | UNE  | BS        | GOST  |
| 15~16 | FC250 | GG25           | 0.6025    | A48 40 B  | 0125 | Ft 25 D | G25 | FG25 | Grade 260 | Sc 25 |



**First Choice Grade and Value**  
**YG1010** - Vc 320m/min

| K     |        | Nodular cast iron |           |           |        |           |          |         |           |         |
|-------|--------|-------------------|-----------|-----------|--------|-----------|----------|---------|-----------|---------|
| VDI   | JIS    | DIN               | Mat'l No. | AISI/ASTM | SS     | AFNOR     | UNI      | UNE     | BS        | GOST    |
| 17~18 | FCD500 | GGG50             | 0.7050    | 80-55-06  | 0.7050 | FGS 500-7 | GS 500-7 | FGE50-7 | SNG 500-7 | Vc 50-2 |

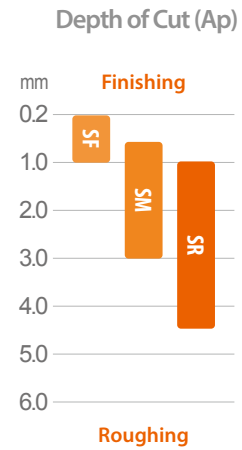
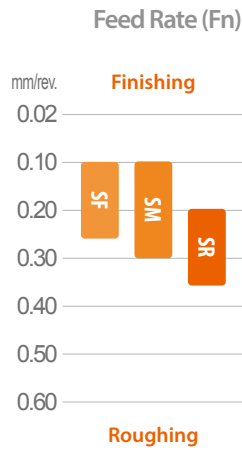
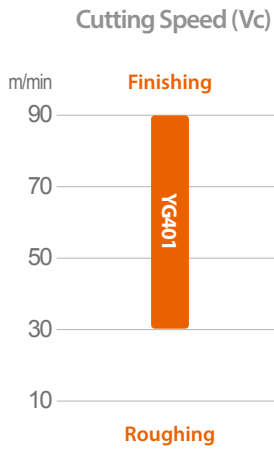


**First Choice Grade and Value**  
**YG1020** - Vc 230m/min

# Application Guide

## HRSA Guide

| S Superalloys & Titanium Alloys |                |           |           |         |     |        |             |       |        |       |
|---------------------------------|----------------|-----------|-----------|---------|-----|--------|-------------|-------|--------|-------|
| VDI                             | DIN            | Mat'l No. | AISI/ASTM | AFNOR   | BS  | UNS    | Brands      | UNE   | BS     | GOST  |
| 31~37                           | NiCr19Fe19NbMo | 2.4668    | 5383      | NC19eNB | HR8 | N07718 | Inconel 718 | F3113 | 430S15 | 12C17 |



**First Choice Grade and Value**  
 YG401 - Vc 50m/min

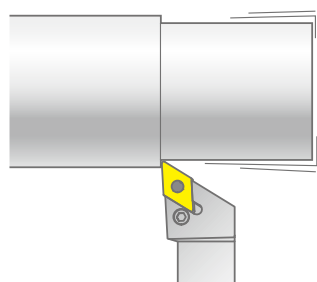
# Surface Roughness Guide

## Trouble Shooting

| Pattern | Reasons | Solutions |
|---------|---------|-----------|
|---------|---------|-----------|

TURNING

### Vibration

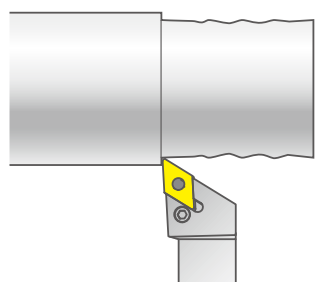


- High radial or tangential force
- Unstable condition

- Lower depth of cut (ap)
- Use sharper chipbreaker
- Check stability, and position of tool and workpiece
- Reduce the overhang (bigger and shorter tool)

PARTING & GROOVING

### Bad Surface



- Work material is damaged by chips
- Feed is too high for corner radius

- Different chipbreaker
- Lower depth of cut (ap)
- Lower feed
- Larger corner radius

MILLING

DRILLING

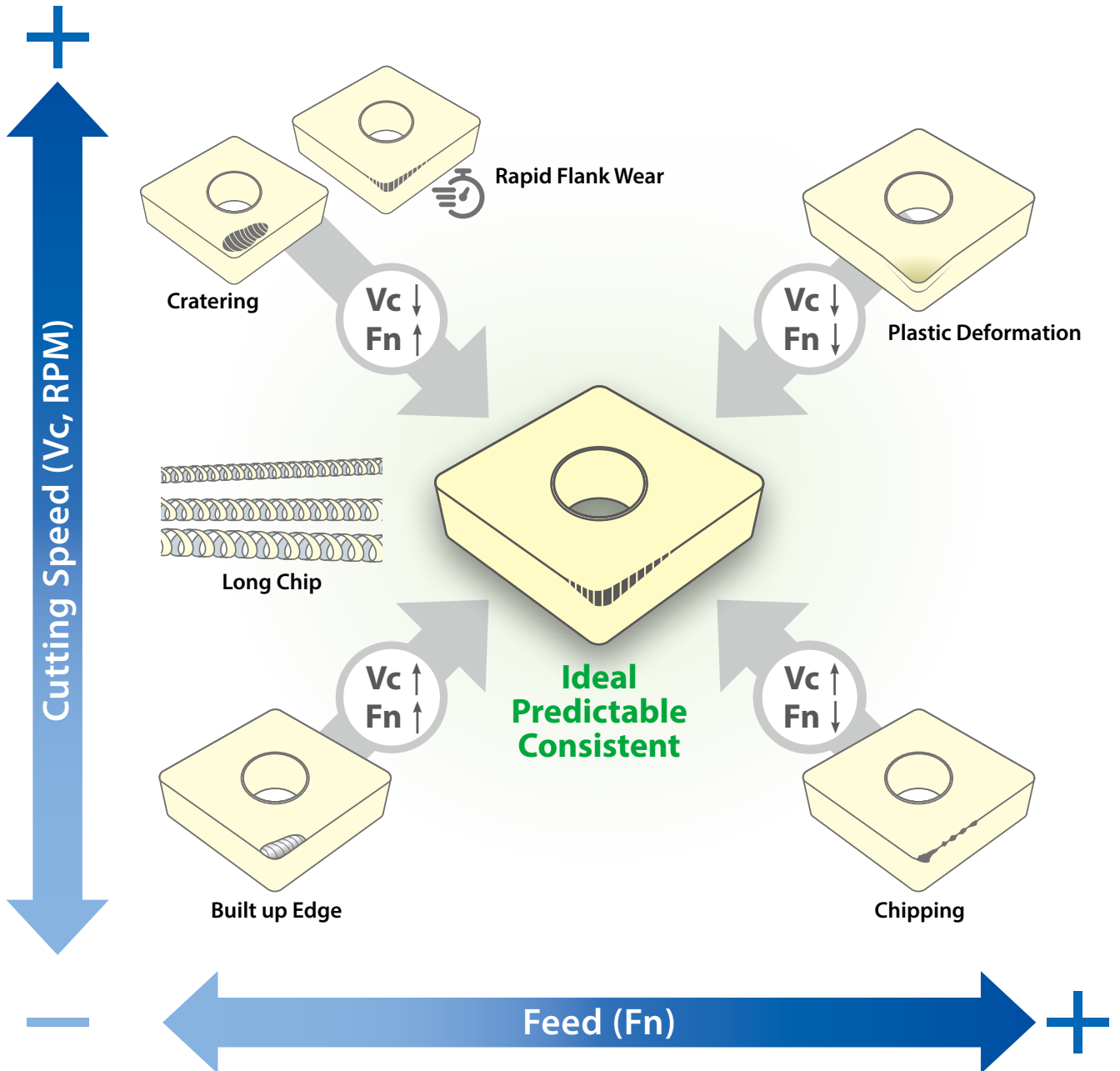
TECHNICAL INFORMATION

## Theoretical Surface Roughness

| Ra / Rz $\mu$ m  | Insert Corner Radius Code ISO |      |      |      |      |      |
|------------------|-------------------------------|------|------|------|------|------|
|                  | 02                            | 04   | 08   | 12   | 16   | 24   |
| Feed Rate mm/rev |                               |      |      |      |      |      |
| 0.4 / 1.6        | 0.05                          | 0.07 | 0.1  | 0.12 | 0.14 | 0.18 |
| 1.6 / 6.3        | 0.1                           | 0.14 | 0.2  | 0.25 | 0.28 | 0.35 |
| 3.2 / 12.5       | 0.14                          | 0.2  | 0.28 | 0.35 | 0.4  | 0.49 |
| 6.3 / 25         | -                             | 0.28 | 0.4  | 0.49 | 0.57 | 0.69 |
| 8 / 32           | -                             | -    | 0.45 | 0.55 | 0.64 | 0.78 |

# Trouble Shooting

## Trouble Shooting Guide map



TURNING

PARTING & GROOVING

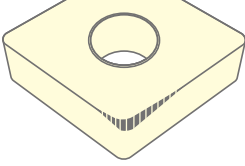
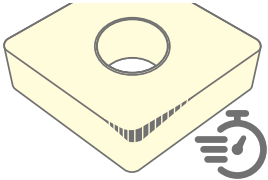
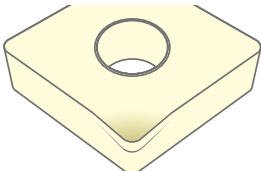
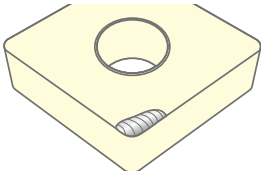
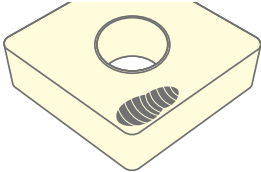
MILLING

DRILLING

TECHNICAL INFORMATION

## Application Guide

# Trouble Shooting

| Pattern   | Reasons  | Solutions  |
|---|--|--|
| <p><b>General Flank Wear</b></p>  <p>Flank face near by corner is abraded</p>                | <ul style="list-style-type: none"> <li>- The most ideal wear</li> <li>- Consistent and predictable</li> <li>- General wear behavior when machining condition is normal</li> </ul>  |  |
| <p><b>Rapid Flank Wear</b></p>  <p>Looks same as general flank wear, but happens quickly</p> | <p><b>Grade</b></p> <ul style="list-style-type: none"> <li>- Not enough wear resistance</li> <li>- Too tough grade</li> </ul> <p><b>Heat</b></p> <ul style="list-style-type: none"> <li>- Cutting speed is too high</li> <li>- Not enough coolant</li> </ul> | <ul style="list-style-type: none"> <li>- More wear resistant grade</li> <li>- Reduce the cutting speed (Vc, SFM, RPM or SFPM)</li> <li>- Optimize coolant</li> <li>- Increase Feed (Fn) if feed is low</li> </ul>  |
| <p><b>Plastic Deformation</b></p>  <p>Deformed Edge</p>                                    | <ul style="list-style-type: none"> <li>- Excess thermal load</li> <li>- Excess mechanical load</li> </ul>  | <ul style="list-style-type: none"> <li>- Reduce cutting temperature</li> <li>- More wear resistant grade</li> <li>- Reduce the cutting speed (Vc, SFM, RPM or SFPM)</li> <li>- Lower feed (Fn)</li> <li>- Lower depth of cut (ap)</li> <li>- Optimize coolant</li> </ul> |
| <p><b>Built up Edge</b></p>  <p>Workpiece material is welded on the cutting edge</p>       | <ul style="list-style-type: none"> <li>- Sticky materials (low carbon steel, Stainless steel, non-ferrous metal, heat resistant super alloys)</li> <li>- Too low cutting speed</li> </ul>  | <ul style="list-style-type: none"> <li>- Increase cutting speed</li> <li>- Lower feed rate</li> <li>- Sharper chipbreaker &amp; geometry</li> <li>- Use high pressure coolant</li> <li>- Use PVD grade</li> <li>- Use Positive Insert</li> </ul>                         |
| <p><b>Cratering</b></p>    | <p><b>Heat</b></p> <ul style="list-style-type: none"> <li>- Cutting speed is too high</li> <li>- Too tough grade</li> </ul>  | <ul style="list-style-type: none"> <li>- Reduce cutting temperature</li> <li>- Lower cutting speed (Vc, SFM, RPM or SFPM)</li> <li>- Adjust Feed (Fn)</li> <li>- Harder grade</li> </ul>   |

## Application Guide

# Trouble Shooting

| Pattern                                   | Reasons   | Solutions   |
|---|---|---|
| <b>Chipping</b><br>                       | <ul style="list-style-type: none"> <li>- Unstable machining condition (Vibration)</li> <li>- Grade is too hard / brittle</li> <li>- Cutting edge is too sharp</li> </ul>  | <ul style="list-style-type: none"> <li>- Focus on stabilizing cutting condition</li> <li>- Reduce overhang (shorter and bigger tool)</li> <li>- Tougher grade</li> <li>- Tougher chipbreaker</li> </ul>   |
| <b>Thermal Crack</b><br>                  | <ul style="list-style-type: none"> <li>- Thermal stress due to rapid change of temperature</li> </ul>   | <ul style="list-style-type: none"> <li>- Tougher grade</li> <li>- Lower cutting speed (Vc, SFM, RPM or SFPM)</li> <li>- Lower feed (Fn)</li> <li>- Sharper chipbreaker</li> <li>- Change coolant / dry cut</li> </ul>   |
| <b>Notching</b><br>                       | <ul style="list-style-type: none"> <li>- Improved edge strength work piece has hardened skin</li> </ul>   | <ul style="list-style-type: none"> <li>- More wear resistant grade</li> <li>- Reduce the cutting speed (Vc, SFM, RPM or SFPM)</li> <li>- Adjust Feed (Fn)</li> <li>- Lower depth of cut (ap)</li> <li>- Optimize coolant</li> <li>- Go for tougher chipbreaker</li> </ul> |
| <b>Breakage (Mechanical Fracture)</b><br> | <ul style="list-style-type: none"> <li>- Mechanical load is too heavy (feed or depth is too high)</li> <li>- Heavy interrupted cut</li> <li>- Grade is too hard for work material</li> <li>- Unstable machining (vibration)</li> <li>- Cutting speed is too low</li> <li>- Impurities in work material</li> </ul> | <ul style="list-style-type: none"> <li>- Lower feed (Fn) or depth of cut (ap)</li> <li>- Tougher grade</li> <li>- Reduce overhang and check stability of tool and work material</li> <li>- Higher cutting speed (Vc, SFM, RPM or SFPM)</li> </ul>                         |
| <b>Long Chip</b><br>                      | <ul style="list-style-type: none"> <li>- Feed is too low for chip breaking</li> <li>- Depth of cut is too shallow for corner radius</li> <li>- Chip area (Fn x Ap) too low</li> </ul>   | <ul style="list-style-type: none"> <li>- Higher feed</li> <li>- Sharper chipbreaker</li> <li>- Higher depth of cut</li> <li>- Select a smaller corner radius</li> </ul>   |

TURNING

PARTING &amp; GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

Technical Information

# Comparison Chart - Turning Chipbreakers

| ISO          | Application     | YG-1                | Taegutec          | SANDVIK      | Kyocera        | Tungaloy                      | Mitsubishi            | Sumitomo          | Korloy     | ISCAR         | KENNAMETAL           | Seco                                     | Walter                | AchTech  | ZCC           |
|--------------|-----------------|---------------------|-------------------|--------------|----------------|-------------------------------|-----------------------|-------------------|------------|---------------|----------------------|--|-----------------------|----------|---------------|
| P            | Finish          | <b>UF</b>           | FG, FLP, FC, FX   | PE, LC       | PP             | TSE, PS, TS<br>ZF, 11, 17, NS | SH                    | LU, FE, SU        | VE, VB     | F3P, NF       | FN, K                | MF2                                      | NF4, NF3              | -        | -             |
|              | Semi Finish     | <b>PSF (Cermet)</b> | FM                | XF           | PQ, HQ, CI     | AM, NM, TQ, 27                | C                     | -                 | VQ(Cermet) | TF            | -                    | -  | MP3                   | -        | -             |
|              |                 | <b>UL</b>           | MLP, FT           | -            | CQ, VC, VF     | ZM                            | SA, SY                | SE                | VC, CP     | -             | LF, CT               | -  | NS6                   | PB3, BS  | -             |
|              | Medium          | <b>UM</b>           | MC                | -            | -              | -                             | -                     | SX                | LP         | -             | -                    | MF5                                      | MP3                   | PC3      | -             |
|              |                 | <b>GM</b>           | PC, MGP           | PM           | PMG, PG        | PM, TM                        | -                     | GE, GU            | MP         | -             | -                    | -  | -                     | -        | -             |
|              | Medium Roughing | <b>UG</b>           | MT                | XM, QM, PMC  | HK, GS, HS, PS | DM                            | MP, MA, MH            | UG, UX            | VM, HM     | M3P, GN       | MP, MN               | M3                                       | NM4, MP5,<br>MUS, NM6 | PD3, PL5 | PM, DM        |
|              |                 | <b>UC</b>           | MG-               | -            | MG-            | MG-                           | MG-                   | -                 | B2S        | MG-           | MG-                  | M5                                       | MG-                   | PC4      | MG-           |
|              | Roughing        | <b>UR</b>           | RGP, RT           | PR, XMR      | PT, GT, HT, PH | 65, TH, TRS                   | RP, GH                | MU, ME,<br>MX, MP | HR, GR, VR | R3P, NR       | RP, RN               | MRS, MR6, MR7                            | NR4, RPS, RP7         | PD5      | DR            |
|              | Heavy Roughing  | <b>UH</b>           | RX, RH            | PR, QR, MR   | PX             | TRS                           | HL, HX, HR,<br>HZ, HM | MP, HG            | GH         | R3P, NM       | RM, RP, MR           | R4, R5                                   | NRF, NR6, HU3,<br>HU5 | PC8, PD8 | LR            |
|              |                 | <b>UT</b>           | HT, HD, HY, HZ    | HR           | -              | TU, TUS                       | HV                    | HP, HU, HW, HF    | VH, VT     | H3P, H4P, H5P | RH                   | R6 R7, R8,<br>PR6, PR9, R56,<br>R57, R68 | NRR, HU7              | PC9, PD9 | DR, HDR, HPR  |
| Wiper Finish | <b>PWF</b>      | WS, WA              | WF, WL            | WF, WP       | AFW, FW        | SW                            | LUW, SEW              | VW                | WF         | FW            | W-MF2                | FWS                                      | -                     | WCF      |               |
| Wiper Medium | <b>PWM</b>      | WT                  | WM, WXM           | WQ, WE       | ASW, SW        | MW                            | GUW                   | LW                | WG         | MW, RW        | W-M3, W-M6,<br>W-MF5 | MW5                                      | -                     | WGM      |               |
| M            | Finish          | <b>MF</b>           | EA, SF            | ME, XF       | MQ, SK         | SF                            | LM                    | SU, EF            | VP2        | SF, F3M, NF   | FF, FP               | FF1, MF2                                 | NF4, FM5              | SC1, MB2 | EF            |
|              | Medium          | <b>GM, MM, MG</b>   | MK, EM,<br>MM, MP | MM, XM, MMC  | MS, MU, (HU)   | SS, SM                        | MM, GM, MA            | EX, EG, GU        | MM, HS     | TF, M3M, VL   | MP, UP, MR           | MF3, MF4, M3                             | MMS, MU5              | MC3      | EM            |
|              | Rough           | <b>MR</b>           | ET                | MR, XMR, MRR | SG             | SH, S                         | RM                    | HM, EM, MU        | RM, GS     | GN, R3M, NR   | RP                   | MF5, M5                                  | NRS                   | MC4      | ER            |
| K            | Medium          | <b>UC</b>           | MT, MG-           | KM           | KG, MG-, C     | CM, MG-                       | MK, GK, MG-           | GZ, UX            | MK, B2S    | M3P, GN, MG-  | -                    | M5                                       | NM5, RK5              | PC4      | MG-           |
|              | Rough           | <b>UR</b>           | RT, KT            | KR           | KH, ZS, GC, PH | CH                            | RK                    | -                 | RK, GR     | NR            | UN, R P              | MR7                                      | MV7, RK7              | KC4      | DR            |
| S            | Medium          | <b>KR, MA-</b>      | MA-               | MA-, KRR     | MA-            | MA-                           | MA-                   | MA-               | MA-        | MA-           | MA-                  | MA-                                      | MA-RK5,<br>MA-RK7     | KD5      | -             |
|              |                 | <b>GG-SF</b>        | EA, SF            | SF, GG-SGF   | SQ, MQ, SK     | HRF                           | GG-FJ, LS             | EF                | VP1        | SF, F3M, F3S  | FS, GG-FS            | M1                                       | NF4                   | SC1, MB2 | GG-NF, GG-NCF |
|              | Rough           | <b>SM</b>           | MK, MGS, MP       | QM, SM, 23   | MS, MU         | HMM, HRM                      | MS                    | EG, EX            | VP3        | TF, M3M, VL   | UP                   | MF4, MF5                                 | NMS, NMT              | SC3      | -             |
|              | Rough           | <b>SR</b>           | ET                | SR, SMR      | SG, (R/L-SX)   | -                             | RS, GJ                | MU                | VP4        | MR            | RP                   | MR4                                      | NRS, NRT              | MC4      | -             |

| ISO    | Application  | YG-1               | Taegutec               | SANDVIK     | Kyocera                                 | Tungaloy     | Mitsubishi     | Sumitomo              | Korloy        | ISCAR           | KENNAMETAL    | Seco     | Walter               | AchTech      | ZCC           |
|--------|--------------|--------------------|------------------------|-------------|---|--------------|----------------|-----------------------|---------------|-----------------|---------------|----------|----------------------|--------------|---------------|
| P      | Finish       | <b>GT-SF Swiss</b> | GT-SL, GT-SA,<br>GT-SM | GT-UM       | GT-CF, GT-GF,<br>GT-SKS<br>GT-GQ, GT-SK | GT-01        | GT-SMG         | -                     | GT-FS, GT-VP1 | GT-FM, GT-SM    | -             | FF1      | FP4                  | GT-LF, GT-UF | GT-SF         |
|        |              | <b>PF</b>          | FA, FX                 | PE, UF      | PP, XP, GK, GP,<br>DP                   | PSF          | FP, FV         | FC, FB, LU,<br>FP, FK | FP            | PF              | 11            | FF1      | FP4                  | LF           | -             |
|        |              | <b>UF</b>          | FG                     | UM, XF      | XQ, GK                                  | TSE, PSS     | LP, SV         | SI, LB                | VE, VL        | F3P             | UF            | F1       | FP4, PS5             | UF, PB1, BS  | HF            |
|        | Medium       | <b>PM</b>          | FM, GT-SH              | PM, XM, PMC | HQ, GQ                                  | TM, PS       | MT-, MV        | SC, SU, GU            | HMP, MP       | 14, SM          | LF, FP        | MF2, M3  | MP4                  | PC2, M2T     | HM            |
|        |              | <b>UG</b>          | MT, PC                 | PR, UR, XR  | MT-                                     | PM, TSE, TM  | MP             | MU                    | C2S           | M3P, 19         | MF, MP        | F2, M5   | FP6, PMS, E47        | KC2          | HR            |
| M      | Finish       | <b>GT-SF Swiss</b> | GT-SA                  | GT-UM       | GT-CF, GT-GF,<br>GT-GQ                  | GT-01        | GT-SMG         | -                     | GT-FS, GT-MS  | GT-FM, GT-SM    | GT-LF         | GT-F1    | -                    | GT-LF, GT-UF | GT-SF         |
|        |              | <b>MF</b>          | FG                     | ME, UM      | MQ, SKS, SK                             | PSF, PSS, PS | FM, FV, LM, SV | FC, SI<br>LU, SU      | VE, VL        | SM, TF, F3M, 14 | 11, UF, FP    | F1       | FM4                  | PB1          | EF            |
| Medium | <b>MM</b>    | PC                 | MM, MMC                | GQ          | PM                                      | MM, MV       | MU             | HMP, MP               | M3M, SM       | MP, MF          | F2, MF2       | MM4, RM4 | PC2                  | EM           |               |
| K      | Medium       | <b>UG</b>          | MT                     | KM, KR      | MT-                                     | CM, MT-      | MK, MT-        | MU                    | C2S           | SM, 14          | MT, C, MP, MF | M3, M5   | F2, FK6,<br>MK4, RK6 | KC2          | HR            |
| N      | Finish       | <b>GT-AL</b>       | FL                     | GX-AL       | AP, AH                                  | AL           | AZ             | AW, AG, AY            | AK, AR        | AE, AS          | HP            | AL       | MN2                  | NC2          | LC, LH        |
| S      | Super Finish | <b>GT-SF</b>       | GT-FGS, GT-SA          | GT-UM       | GT-CF, GT-GF,<br>GT-GQ                  | GT-01        | GT-FS, GT-LS   | -                     | GT-FS, GT-MS  | GT-FM, GT-SM    | GT-LF         | GT-F1    | GT-PF2               | GT-UF        | GT-NF, GT-NCF |
|        | Finish       | <b>MF</b>          | FG                     | ME, UM      | MQ, SKS, SK                             | PSF          | FS             | FC, SI                | VP1, VL       | SM, PF, F3M, 14 | FP            | F1, F2   | PF4, PS5             | PB1          | NF            |
|        | Medium       | <b>MM</b>          | PC                     | MM          | GQ                                      | PSS, PM      | LS, MS         | SU, GU                | MP            | M3M, SM         | LF            | MF2      | PMS                  | PC2          | SNR           |

Technical Information

**Comparison Chart - Turning Grades**

|            | ISO             | YG-1  | ISCAR                               | SANDVIK                                       | SECO                       | PRAMET  | KENNAMETAL   | TUNGALOY   | MITSUBISHI   | HITACHI   | WALTER                               | TAEGUTEK                               | NTK  | DUJET  | KORLOY  | SUMITOMO   | KYOCERA                             |                                     |
|------------|-----------------|---|-------------------------------------|---|----------------------------|---|--|--|--|---|--------------------------------------|--|--|--|---|--|-------------------------------------|-------------------------------------|
| CVD Coated | P               | YG3010  | IC8150<br>IC9150<br>IC9015          | GC4415<br>GC4305<br>GC4315                    | TP0501<br>TP1500<br>TP1501 | T9310<br>T9315  | KCP05B<br>KCP05<br>KCPK05<br>KCP10B<br>KCP10               | T9205<br>T9105<br>T9215<br>T9115                         | UE6105<br>UE6110<br>MY5015<br>MC6015                               | HG8010  | WPP10G<br>WPP01<br>WPP05S<br>WPP10S  | TT8105B<br>TT8115B<br>TT8105<br>TT8115 | CP7  | -  | NC3215  | AC8015P<br>AC810P<br>AC700G                              | CA510<br>CA515<br>CA5505<br>CA5515  |                                     |
|            |                 | YG3115  | IC8150<br>IC9150                    | GC4315<br>GC4415                              | TP1501<br>TP1500           | T9315   | KCP10<br>KCP10B  | T9115<br>T9215   | MC9015<br>MC6115<br>UE6110   |   | WPP10<br>WPP10S                      | TT8115<br>TT8115B                      | -  | -  | NC3215  | AC8015P<br>AC820P<br>AC810P                              | CA515<br>CA5515                     |                                     |
|            |                 | YG3020  | IC8250<br>IC9250                    | GC4425<br>GC4325                              | TP2500<br>TP2501           | T9325   | KCP25<br>KCP25B  | T9225<br>T9125   | MC6025<br>UE6020   | GM8020<br>HG8025<br>GM25                                | WPP20G<br>WPP20S<br>WMP20S           | TT8125B<br>TT8125<br>LC225P            | CP5  | JC110V<br>JC215V                               | NC3120<br>NC3225  | AC8025P<br>AC820P  | CA025P<br>CA525<br>CA5525           |                                     |
|            |                 | YG3125  | IC8250<br>IC8350                    | GC4325<br>GC4425                              | TP2501<br>TP25<br>TP200    | T9325   | KCP25C   | T9225<br>T9125   | MC6125<br>MC6025<br>UE6020   | GM8020<br>HG8025<br>GM25                                | WPP20S<br>WPP20G                     | TT8125B<br>TT8125                      | CP1  | JC215V   | NC3120<br>NC3225  | AC8025P<br>AC820P  | CA125P<br>CA025P<br>CA525<br>CA5525 |                                     |
|            | YG3030          | IC8350<br>IC9350  | GC4235<br>GC2135<br>GC4035          | TP3500<br>TP3501                              | T9335                      | KCP30B<br>KCP30<br>KCP40B<br>KCP40                              | T9235<br>T9135   | MC6035<br>UE6035<br>UH6400                               | GM8035   | WPP30G<br>WPP30S<br>WKP30S                              | -                                    | -                                      | JC325V   | NC3030<br>NC5330                               | AC8035P<br>AC830P   | CA530<br>CA5535  |                                     |                                     |
|            | YG3030          | IC6015<br>IC6025<br>IC9300<br>IC520M<br>IC4050<br>IC635 | GC2015<br>GC2025<br>GC2035<br>GC235 | TM1501<br>TM2501<br>TM3501                    | T7325<br>T7330<br>T7335    | KCM15B<br>KCM15<br>KCM25B<br>KCM25<br>KCM35B<br>KCM35           | T6120<br>T6020<br>T6130<br>T6030                           | MC7015<br>MC7025<br>US7020<br>US735<br>UH6400            | GM25<br>GX30<br>HG8025<br>GH8035                                   | WMP20S  | TT9215<br>TT9225<br>TT9235           | -                                      | -  | NC9115<br>NC9125<br>NC9135<br>NC5330           | AC6020M<br>AC610M<br>AC6030M<br>AC630M<br>AC6040M<br>AC830P | CA6515<br>CA6525   |                                     |                                     |
|            | YG2025          | IC9025<br>IC9325  | GC2220                              | TM2501<br>TM2000                              | -                          | KCM25   | T6120<br>T9125   | MC7025<br>US7020   | -  | -   | TT9225<br>TT5100                     | -                                      | -  | -  | AC6020M<br>AC6030M  | CA6525   |                                     |                                     |
|            | YG2035          | IC6025  | GC2025                              | TM3501  | T7335                      | KCM35B<br>KCM35   | -  | US735  | GM25<br>GM8035   | WMP20S  | TT9225                               | -                                      | JC525X   | NC9135<br>NC3235                               | AC6030M   | -  |                                     |                                     |
|            | YG1010<br>YG001 | IC5005<br>IC5010<br>IC4028<br>IC8150                    | GC3205<br>GC3210<br>GC3215          | TK0501<br>TK1501                              | T5305<br>T5315             | KCK05<br>KCK05B<br>KCK15<br>KCK15B<br>KCK20<br>KCK20B<br>KCPK05 | T5105<br>T515<br>T5115<br>T1215<br>T1115<br>T5125<br>T5020 | MC5005,<br>UC5105,<br>MC5015<br>UC5115<br>MY5015         | HG3305<br>HG3315<br>HG3505<br>HG3515<br>GM8020<br>HG8010<br>HG8025 | WKK105<br>WKK205<br>WAK30<br>WKP305<br>WKK10<br>WKK20   | TT3005<br>TT7005<br>TT7310<br>TT7015 | CP1<br>CP2<br>CP5                      | JC105V<br>JC110V<br>JC215V                     | NC6310<br>NC6315<br>NC5330                     | AC4010K<br>AC405K<br>AC4015K<br>AC415K<br>AC420K<br>AC8025P | CA310<br>CA315<br>CA320<br>CA4505<br>CA4515              |                                     |                                     |
|            | YG1020          | IC5010  | GC3225                              | TK1501  | T5315                      | KCK20B<br>KCK20   | T5125<br>T1215<br>T1115                                    | MC5125<br>MC5020   | GM8020<br>HG8025   | WKK205<br>WKP255<br>WAK20                               | TT7025                               | CP1                                    | JC110V<br>JC215V                               | NC6315<br>NC5320                               | AC4015K<br>AC4125K<br>AC420K                                | CA320<br>CA4515  |                                     |                                     |
|            | PVD Coated      | P   | YG801                               | IC807<br>IC830<br>IC507<br>IC908              | GC1025                     | TP1030<br>TP1020  | T6310<br>T8430<br>T8345                                    | KU10T<br>KCU10<br>KT315<br>KU25T<br>KC5010               | AH330<br>AH725<br>AH730<br>SH725<br>SH730                          | VP10RT<br>MS6015<br>VP15TF<br>VP20MF<br>VP20RT<br>UP20M | IP2000<br>IP3000                     | WTA43<br>WTA41                         | TT4410<br>TT9020<br>TT4430<br>TT9080<br>TT8080 | -  | JC5003<br>JC5015  | PC5300<br>PC5400<br>PC3035                               | AC1030U                             | PR930<br>PR1225<br>PR1535<br>PR1725 |
|            |                 | M   | YG211                               | IC3028<br>IC907                               | GC1105<br>GC1115<br>GC2015 | TS2000<br>TS2050  | T6310<br>T8315   | KCU10<br>KCU5010   | AH120<br>AH140<br>AH630<br>AH645                                   | VP10RT  | IP505<br>IP1005<br>HG8025            | WSM21<br>WSM01<br>WSM105               | TT5030   | ZM3<br>QM3<br>VM1<br>TAS                       | JC5003<br>JC5015  | PC8105<br>PC8110   | SC520U<br>AC1030U                   | -                                   |
| YG401      |                 |   | IC807                               | -   | -                          | -   | -  | -  | MP9005   | -   | -                                    | TT5080                                 | -  | -  | PC8115  | AC5005S  | -                                   |                                     |
| YG213      |                 |   | IC908                               | GC2025  | CP200<br>CP500             | T8330<br>M6330  | KCU25<br>KCU5025   | SH725<br>AH7025  | VP15TF<br>VP20MF<br>VP20RT<br>UP20M<br>MP7025                      | GM25<br>GX30  | WSM20S                               | TT9080                                 | -  | -  | PC5300<br>PC8120<br>PC9030                                  | AC530U   | PR930<br>PR1225<br>PR1535<br>PR1725 |                                     |
| YG214      |                 |   | IC330<br>IC830                      | GC2035  | CP600                      | T8430   | -  | SH730<br>GH330<br>GH730<br>AH4035                        | -  | -   | WSM30S                               | TT8080<br>TT8020                       | -  | -  | PC5400  | -  | -                                   |                                     |
| S          | YG401           | IC804<br>IC806<br>IC830<br>IC807<br>IC908               | GC1025<br>GC1105<br>GC1125          | TS2000<br>TS2050<br>TS2500<br>TH1000<br>CP200 | M6330<br>T6310             | KCS10<br>KCU10<br>KCU25<br>KC5010<br>KC5025                     | AH110<br>AH120   | MP9005<br>VP05RT<br>MP9015<br>VP10RT<br>MP9025<br>VP20RT | -  | WSM01<br>WSM105<br>WSM20S<br>WSM21<br>WSM30S            | TT3010<br>TT3020<br>TT5080<br>TT5030 | -                                      | -  | PC8105<br>PC8110<br>PC8115<br>PC5300<br>PC5400 | AC5015S<br>SC5025S<br>AC510U<br>AC520U                      | PR0055<br>PR0155<br>PR1535<br>PR1125<br>PR1305<br>PR1310 |                                     |                                     |
| Non Coated | N               | YG10  | IC20                                | -   | KX                         | -   | K313   | -  | HT110  | -   | WK1                                  | -                                      | -  | H01<br>H05                                     | H1  | KW10   |                                     |                                     |
| Cermet     | P10             | YT100G  | IC20N<br>IC520N                     | -   | -                          | -   | KT315  | NS520  | AP25N<br>NX1010<br>NX2525  | -   | -                                    | PV3010                                 | -  | -  | CC1500  | T1000A<br>T1500Z   | PV710<br>PV720<br>PV7040<br>CCX     |                                     |
|            |                 | YT100   | IC30N                               | CT5005<br>CT5015<br>CT525<br>GC1525           | TP1030<br>CMP<br>CM        | TT010<br>TT310  | KT5020<br>KT125<br>KT150                                   | GT730<br>GT530<br>NS520<br>NS720                         | UP35N  | DC610   | -                                    | CT3000                                 | T15<br>Z15<br>CZ7                              | AT200  | CN1500<br>CN2500<br>CC125                                   | T1500A<br>T1000A<br>T2500Z                               | TN60<br>TN610<br>TN620<br>TC40N     |                                     |

TURNING  
PARTING & GROOVING  
MILLING  
DRILLING

TECHNICAL INFORMATION

# Technical Information

## Comparison Chart - Milling Grades

|                       | ISO | YG-1   | SANDVIK                    | SECO                   | KENNAMETAL                                     | ISCAR                            | WALTER                    | TUNGALOY                                  | MITSUBISHI                           | TAEGUTEK                   | KORLOY                                | SUMITOMO                               | KVOCERA                             | HITACHI                                       | MOLDINO                              | DUJET                      | ZCC                        | Achtek           |        |
|-----------------------|-----|--------|----------------------------|------------------------|--|----------------------------------|---------------------------|---|--------------------------------------|----------------------------|---------------------------------------|--|-------------------------------------|---|--------------------------------------|----------------------------|----------------------------|------------------|--------|
| TURNING               | P   | YG712  | GC4220<br>GC1130           | T250M<br>MP3000        | KC715M<br>KC522M<br>KC635M                     | -                                | WKP25S<br>WKP25<br>WAM10  | T3130<br>GH330                            | MP8010<br>MP6120<br>MP6130<br>MP9120 | TT7070<br>TT7080<br>TT7030 | PC3700<br>PC3600<br>PC3+M3:<br>M24500 | ACP2000<br>ACZ310                      | PR730                               | CY9020<br>JP4020<br>TB6045                    | -                                    | JC5003                     | YBM251                     | AP301P<br>AP301U |        |
|                       |     | YG713  | GC4230<br>GC4330           | T350M<br>F25M          | KC525M   | IC950<br>IC1008                  | WAM20<br>WAM30            | AH710<br>AH120<br>T3225                   | -                                    | -                          | -                                     | PC210F                                 | ACP200<br>ACZ330                    | PR830<br>PR630                                | JP4120<br>CY250                      | JP4120                     | JC5015                     | YBM351           | AP351M |
|                       |     | YG602  | GC1030<br>GC4240           | F30M                   | KC725M<br>KC735M                               | IC900<br>IC808<br>IC908<br>IC330 | WKP35G,<br>WKP35S         | T3130<br>AH3035<br>AH110                  | VP15TF<br>VP20RT<br>MP9130           | TT9030<br>TT9080           | NC5330<br>PC5300<br>NCM325<br>NC5350  | ACP3000                                | PR1025<br>PR1225                    | PTH30E<br>JS4060<br>JP4160                    | JP4020                               | JC5030<br>JC5040           | YBG202                     | AP351U           |        |
|                       |     | YG612  | GC1030<br>GC1130<br>GC4340 | MP3000<br>F40M<br>F32M | KC522M<br>KC725M<br>KCPK30<br>KCPM40<br>KCSM30 | IC330<br>IC928<br>IC830          | WKP25<br>WKP35<br>WKP45   | AH120<br>AH140<br>AH3035<br>AH3225        | MP6130<br>VP15TF<br>VP30RT<br>UP20M  | TT9080<br>TT8080<br>TT8020 | PC3700<br>PC5300<br>PC5400            | ACP300<br>ACP200<br>ACP3000<br>ACU2500 | PR1525<br>PR1225<br>PR1835<br>PR830 | -   | JP4160<br>PTH40H<br>PTH30E<br>JP4120 | JP5003                     | YBC251<br>YBC152<br>YBC202 | -                |        |
|                       |     | YG613  | GC4340<br>GC1040           | F40M<br>T60M           | KCPM20<br>KC935M<br>KCPM40                     | IC830<br>IC928                   | WKP45X,<br>WKP45S         | AH725<br>AH730<br>GH330<br>AH130<br>AH140 | FH7020<br>VP30RT<br>F7030            | TT8020<br>TT8025<br>TT8080 | NC5340<br>PC5400<br>NCM335            | ACP300<br>ACZ350                       | PR1525<br>PR1230<br>PR660           | JM4160<br>PTH40H                              | -                                    | -                          | YGC302<br>YBG302           | -                |        |
| MILLING               | M   | YG602  | GC2030<br>GC1030           | F25M                   | KC635M<br>KC522M<br>KC725M                     | IC330                            | WAM30<br>WXM35,<br>WSM35, | AH725<br>AH120<br>GH110<br>AH730          | VP15TF<br>MP7130<br>MP7030           | TT9030<br>TT9080           | PC210F<br>PC5300<br>NCM325<br>NC5350  | XCU2500<br>ACM100<br>ACP200<br>ACM300  | PR1025<br>PR1225<br>PR1525<br>PR630 | JX1015<br>TB6020<br>CY250<br>GX2160<br>JX1045 | GX2160                               | JC5003<br>JC5015<br>JC5030 | YBG205<br>YBG202<br>YBG302 | AP351M           |        |
|                       |     | YG612  | GC1125<br>GC2140           | MP2050                 | KC522M<br>KC725M<br>KCPM40<br>KCSM30<br>KCSM40 | IC330<br>IC328<br>IC928          | WSM35S<br>WSP45           | AH3135<br>AH6235                          | MP7140<br>MP9120                     | TT9030<br>TT8020           | PC5300<br>PC9030<br>PC5400<br>PC6510  | ACM300                                 | PR1225                              | -   | JX1060                               | JC5015                     | YBM253<br>YBM153           | -                |        |
|                       |     | YG613  | GC2040                     | F30M<br>F40M           | KC722  | IC928<br>IC328                   | WSP45                     | AH140<br>GH340                            | MP9030<br>MP7140<br>VP30RT           | TT8080<br>TT8020           | PC9530<br>NCM335<br>PC5400            | ACP300<br>ACZ350<br>ACP400             | PR660<br>PR1535<br>PR660            | TB6045<br>JX1060<br>TB6060                    | -                                    | JC5040                     | YBC302                     | AP403M           |        |
| DRILLING              | K   | YG5020 | GC3220<br>GC1020           | MK1500<br>MP1500       | KC915M   | DT7150<br>IC5100<br>IC418        | WAK15                     | T1015                                     | VP15TF                               | TT6290<br>TT7515<br>TT6800 | NC5330<br>PC8110                      | XCK2000                                | PR1510<br>PR510                     | -   | -                                    | JC5003                     | YBD152                     | AP301K           |        |
|                       |     | YG501  | GC3040                     | MK2050<br>MK2000       | KCK15<br>KC520M                                | IC910 IC810                      | WKK25S<br>WKP25           | T1115<br>T1215<br>AH120                   | MP8010<br>MC5020                     | TT6080<br>TT6030           | PC6510<br>NC5340                      | -                                      | PR1210<br>PR905                     | -   | -                                    | JC5015                     | YBG102<br>YBG202           | AP351K           |        |
|                       |     | YG622  | -                          | MK3000                 | -  | -                                | WKP35                     | GH110                                     | VP20RT                               | -                          | NC5350<br>PC5300                      | ACK300                                 | CA420M                              | -   | -                                    | -                          | -                          | -                |        |
| TECHNICAL INFORMATION | S   | YG50   | H10<br>H13A<br>H10F        | H15                    | K115M<br>K110M<br>K313                         | IC20<br>IC08                     | WK10                      | TH10                                      | HT10<br>MT2010                       | K10<br>UF10                | H01<br>H05                            | H1                                     | KW10<br>GW25                        | WH10  | -                                    | -                          | YD101                      | AW100K           |        |
|                       |     | YG602  | GC1025<br>GC1040           | F40M<br>MM4500         | KC510M<br>KCU30M                               | IC328<br>IC408                   | WSM35S                    | -   | VP15TF<br>VP30RT                     | TT9030<br>TT8020<br>TT9540 | PC5300<br>PC5400<br>PC9540            | AC520U                                 | CA6535<br>PR620                     | ACS05E  | -                                    | -                          | YBG102                     | -                |        |
|                       |     | YG613  | S30T<br>S40T               | MS2500                 | KC725M   | IC903                            | WSM45S<br>WSM45X          | -   | MP9130                               | TT8080<br>TT3540           | UPC845                                | -                                      | PR660<br>PR1535                     | -   | -                                    | -                          | -                          | -                |        |
|                       |     | YG904  | -                          | -                      | X700   | -                                | WSP45G<br>WMP45G<br>W3536 | -   | -                                    | TT3540<br>TT9540           | UPC845<br>UNC840                      | -                                      | -                                   | -   | -                                    | -                          | -                          | -                |        |
|                       | H   | YG012  | GC1130<br>GC1030           | MP1500<br>MP3000       | -  | IC1008                           | -                         | VP15TF                                    | -                                    | -                          | -                                     | -                                      | -                                   | JP4120  | -                                    | -                          | -                          | -                |        |

## Technical Information

# Formulas

|                           |   |   |
|---------------------------|---|---|
| <b>Cutting Speed (Vc)</b> | <b>Metric</b> $Vc = D \times RPM \times 0.0031$ (m/min.)                  | <b>Inch</b> $Vc = D \times RPM \times .262$ (ft/min.) |
|                           | <b>Metric Vc to Inch Vc</b> $Inch\ Vc = Metric\ Vc \times 3.28$ (ft/min.) |   |
|                           | <b>Inch Vc to Metric Vc</b> $Metric\ Vc = Inch\ Vc \times .305$ (m/min.)  |   |

### Turning Formulas

|                                    |   |   |
|------------------------------------|---|---|
| <b>Spindle Speed (RPM)</b>         | <b>Metric</b><br>$RPM = Vc \times 318.3 \div D$ (rev./min.)           | <b>Inch</b><br>$RPM = Vc \times 3.82 \div D$ (rev./min.)                      |
| <b>Feed Rate (Vf = Table Feed)</b> | $Vf = Fn \times RPM$ (mm/min. or in/min.)                             |   |
| <b>Feed per Revolution (Fn)</b>    | $Fn = Vf \div RPM$ (mm/rev. or in/rev.)                               |   |
| <b>Metal Removal Rate (Q)</b>      | <b>Metric</b><br>$Q = Vc \times Fn \times Ap$ (cm <sup>3</sup> /min.) | <b>Inch</b><br>$Q = Vc \times Fn \times Ap \times 12$ (in <sup>3</sup> /min.) |
| <b>Cutting Time</b>                | $T = L \div Vf$ (min.)  |   |

### Milling Formulas

|                                 |  |   |
|---------------------------------|--|---|
| <b>Feed per Revolution (Fn)</b> | $Fn = Vf \div RPM$ (mm/rev. or in/rev.)<br>$= Fz \times \text{Number of tooth}$ (mm/rev. or in/rev.)                           |   |
| <b>Feed per Tooth (Fz)</b>      | $Fz = Vf \div RPM \div \text{Number of tooth}$ (mm/rev. or in/rev.)<br>$= Fn \div \text{Number of tooth}$ (mm/rev. or in/rev.) |   |
| <b>Metal Removal Rate (Q)</b>   | <b>Metric</b><br>$Q = Ap \times Ae \times Vf \div 1000$ (cm <sup>3</sup> /min.)  | <b>Inch</b><br>$Q = Ap \times Ae \times Vf$ (in <sup>3</sup> /min.)           |
| <b>Cutting Time</b>             | $T = L \div Vf$ (min.)   |   |
| <b>Power Consumption (Pc)</b>   | <b>Metric</b><br>$Pc = Ap \times Ae \times Vf \times Kc \times 0.000000017$ (kW)   | <b>Inch</b><br>$Pc = Ap \times Ae \times Vf \times Kc \times 0.00000253$ (Hp) |

### Drilling Formulas

|                               |   |   |
|-------------------------------|---|---|
| <b>Power Consumption (Pc)</b> | <b>Metric</b><br>$Pc = Fn \times Vc \times D \times Kc \times 0.0000042$ (kW) | <b>Inch</b><br>$Pc = Fn \times Vc \times D \times Kc \times 0.0000076$ (Hp) |
| <b>Torque (Mc)</b>            | <b>Metric</b><br>$Mc = Pc \times 9554.1 \div RPM$ (Nm)                        | <b>Inch</b><br>$Mc = Pc \times 5255 \div RPM$ (lbf ft)                      |
| <b>Thrust (T)</b>             | $T \approx 0.5 \times Kc \times DC/2 \times Fn \times \sin KAPR$ (N)          |   |

### Terms

|                |                                       |
|----------------|---------------------------------------|
| <b>RPM (n)</b> | Spindle Speed (Revolution per minute) |
| <b>Vc</b>      | Cutting Speed                         |
| <b>D</b>       | Work Diameter                         |
| <b>Vf</b>      | Feed Rate (Table Feed)                |
| <b>Fn</b>      | Feed per Revolution                   |
| <b>Ap</b>      | Depth of Cut                          |
| <b>Q</b>       | Metal Removal Rate                    |
| <b>L</b>       | Length of cut                         |
| <b>T</b>       | Cutting Time (min.)                   |

# Technical Information

## Material Groups

TURNING  
PARTING & GROOVING  
MILLING  
DRILLING  
TECHNICAL INFORMATION

| ISO      | VDI 3323  | Material Description                             | Composition / Structure / Heat Treatment       |                     | HB     | HRc | Examples                        |      |
|----------|-----------|--|--|---------------------|--------|-----|---------------------------------|------|
| <b>P</b> | 1         | <b>Non-alloyed steel</b>                         | About 0.15% C                                  | Annealed            | 125    |     | S15C, C15, 1015                 |      |
|          | 2         |  | About 0.45% C                                  | Annealed            | 190    | 13  | S45C, C45, 1045                 |      |
|          | 3         |  | About 0.45% C                                  | Quenched & Tempered | 250    | 25  |                                 |      |
|          | 4         |  | About 0.75% C                                  | Annealed            | 270    | 28  | SK5, Ck75, 1080                 |      |
|          | 5         |  | About 0.75% C                                  | Quenched & Tempered | 300    | 32  |                                 |      |
|          | 6         | <b>Low-alloyed Steel</b>                         |  | Annealed            | 180    | 10  | SCM440, 42CrMo4, 410            |      |
|          | 7         |  |  | Quenched & Tempered | 275    | 29  |                                 |      |
|          | 8         |  |  | Quenched & Tempered | 300    | 32  |                                 |      |
|          | 9         |  |  | Quenched & Tempered | 350    | 38  |                                 |      |
|          | 10        | <b>High-alloyed steel, and tool steel</b>        |  | Annealed            | 200    | 15  | SKD, D2                         |      |
|          | 11        |  |  | Quenched & Tempered | 325    | 35  | SKH, SUH, M42                   |      |
| <b>M</b> | 12        | <b>Stainless Steel</b>                           | Ferritic / Martensitic                         | Annealed            | 200    | 15  | SUS 420, X40Cr13, 420           |      |
|          | 13        |  | Martensitic                                    | Quenched & Tempered | 240    | 23  |                                 |      |
|          | 14        |  | Austenitic                                     |                     | 180    | 10  | SUS 316, 316, X5CrNiMo 17 12 2  |      |
| <b>K</b> | 15        | <b>Grey cast iron</b>                            | Pearlitic / Ferritic                           |                     | 180    | 10  | FC, GG, EN-GJL-250              |      |
|          | 16        |  | Pearlitic (Martensitic)                        |                     | 260    | 26  |                                 |      |
|          | 17        | <b>Nodular cast iron</b>                         | Ferritic                                       |                     | 160    | 3   | FCD, GGG, EN-GJS-500-7          |      |
|          | 18        |  | Pearlitic                                      |                     | 250    | 25  |                                 |      |
|          | 19        | <b>Malleable cast iron</b>                       | Ferritic                                       |                     | 130    |     | FCMW, FCMP, GTS, GJMB350-10     |      |
| 20       | Pearlitic |  |  | 230                 | 21     |     |                                 |      |
| <b>N</b> | 21        | <b>Aluminum-wrought alloy</b>                    | Not Curable                                    |                     | 60     |     | SAE 1000, AIMg 1, 3.3315        |      |
|          | 22        |  | Curable Hardened                               |                     | 100    |     | SAE 7050, AlCuMg 1, 3.1325      |      |
|          | 23        | <b>Aluminum-cast, alloyed</b>                    | ≤ 12% Si, Not Curable                          |                     | 75     |     | ADC12, G-AISI12, 3.2581         |      |
|          | 24        |  | ≤ 12% Si, Curable Hardened                     |                     | 90     |     | C4BS, G-AISI10Mg, 3.2381        |      |
|          | 25        |  | > 12% Si, Not Curable                          |                     | 130    |     |                                 |      |
|          | 26        |  | Cutting Alloys, PB>1%                          |                     | 110    |     | CuZn36Pb 3, 2.0375              |      |
|          | 27        | <b>Copper and copper alloys (Bronze / Brass)</b> | CuZn, CuSnZn (Brass)                           |                     | 90     |     | CuZn 15, 2.0240                 |      |
|          | 28        |  | CuSn, lead-free copper and electrolytic copper |                     | 100    |     | G-CuZn40Fe, 2.0590              |      |
|          | 29        | <b>Non-metallic materials</b>                    | Duroplastic, Fiber Reinforced Plastic          |                     |        |     |                                 | CFRP |
|          | 30        |  | Rubber, Wood, etc.                             |                     |        |     |                                 |      |
| <b>S</b> | 31        | <b>Heat resistant super alloys</b>               | Fe Based                                       | Annealed            | 200    | 15  | X12 NiCrSi 36-16, 1.4864        |      |
|          | 32        |  |  | Aged                | 280    | 30  |                                 |      |
|          | 33        |  |  | Annealed            | 250    | 25  | Inconel 718, NiCr20TiAl, 2.4631 |      |
|          | 34        |  | Ni or Co Based                                 | Aged                | 350    | 38  | NiCu30Al, 2.4375                |      |
|          | 35        |  |  | Cast                | 320    | 34  | G-X120Mn12, 1.3401              |      |
|          | 36        | <b>Titanium alloys</b>                           | Pure Titanium                                  |                     | 400 Rm |     |                                 |      |
|          | 37        |  | Alpha + Beta Alloys                            | Hardened            | 1050Rm |     | TiAl6V4, 3.7165                 |      |
| <b>H</b> | 38        | <b>Hardened steel</b>                            | Hardened                                       |                     | 550    | 55  | SK3                             |      |
|          | 39        |  | Hardened                                       |                     | 630    | 60  |                                 |      |
|          | 40        | <b>Chilled cast iron</b>                         | Cast   |                     | 400    | 42  |                                 |      |
|          | 41        | <b>Hardened cast iron</b>                        | Hardened                                       |                     | 550    | 55  |                                 |      |

# Technical Information

## Material Groups

| Mat'l No. | JIS          | DIN            | Material Description |            |             | Composition / Structure / Heat Treatment |      |             |           |        | HB     | HRC    |
|-----------|--------------|----------------|----------------------|------------|-------------|--|------|-------------|-----------|--------|--------|--------|
|           |              |                | AISI/ASTM/SAE        | BS         | EN          | About 0.15% C, Annealed                  |      |             |           |        |        |        |
|           |              |                | Non-alloyed steel    |            |             |  |      |             |           |        | 125    |        |
|           |              |                |                      |            |             | AFNOR                                    | SS   | UNI         | UNE / IHA | UNS    | GOST   | Brands |
| 1.0037    | STKM 12 C    | St 37-2        | -                    | 4360 40 B  | S235JR      | E24-2                                    | 1311 | Fe 360 B    |           |        | 16D    |        |
| 1.0038    | STKM 12 A    | St 37-3        | A570.36              | 4360 40 C  | S275J2G3    | E28-3                                    | 1312 | Fe 360 D FF |           |        | ST14KP |        |
| 1.0045    | SM 490 YA    | S 355 JR       | -                    | -          | S 1207      | E36-2                                    | -    | Fe 510 BFN  |           |        |        |        |
| 1.0050    | SS 50        | St 50-2        | A570 Gr.50           | 4360 50 B  | E 295       | A50-2                                    | 2172 | Fe 490      |           |        | ST5PS  |        |
| 1.0060    | SM 58        | St 60-2        | A572 Gr.65           | 4360 55 E  | -           | A60-2                                    | 1650 | Fe 60-2     |           |        | ST6PS  |        |
| 1.0114    |              | S 235 J0       | -                    | En 40C     | S 235 J0    | E24-3                                    |      | Fe 360 CFN  |           |        |        |        |
| 1.0143    |              | S 275 J0       | -                    | -          | S 275 J0    | E28-3                                    | 1414 | Fe 430 C    |           |        |        |        |
| 1.0144    | SM41C, SM400 | St 44-3 N      | A573 Gr.81           | 4360 43C   | S 275 J2 G3 | E28-3                                    | 1412 | Fe 430 D FF |           |        | ST14KP |        |
| 1.0149    |              | Ro St 44-2     | -                    | 43C        | S 275 J0 H  | -  | 1412 | Fe430C      |           |        |        |        |
| 1.0301    | S10C         | C10            | 1010                 | 045M10     | C10         | 34C10, XC10                              |      | C10         | F.1511    | G10100 | 10     |        |
| 1.0330    | SPCC         | St 12          | -                    | DC 01      | Fe P01      | DC 01/Fe P01                             | 1142 | Fe P01      |           |        | 15KP   |        |
| 1.0335    | SPHE         | DD 13 (StW 24) | A622(1008)           | H S 3      | DD 13       | 3C                                       |      | FeP13       |           |        | 08KP   |        |
| 1.0338    | SPCE         | St 4           | A620(1008)           | 14491CR    | Fe P04      | Fe 14                                    | 1147 | DC04/FeP04  |           |        | 08JU   |        |
| 1.0345    | SPV 50       | P235 GH        | A516 Gr.65           | P 235 GH   | P 235 GH    | A 37 CP                                  | 1330 | Fe E 235    |           | K02503 |        |        |
| 1.0401    | S15C         | C15            | 1015                 | 080M15     | -           | C18RR, XC18                              | 1350 | C15, C16    | F.1110    | G10170 | 15     |        |
| 1.0402    | S20C         | C22            | 1020                 | 050 A 20   | 1 C 22      | C20                                      | 1450 | C 20        | F.1120    | G10200 | 20     |        |
| 1.0425    | SPV315       | P265GH/HII     |                      |            |             | A42CP                                    | 1430 | Fe4101KW    |           | K02801 | 16K    |        |
| 1.0443    | SC 450       | GS-45          | A2765-35             | A1         |             | E23-45M                                  | 1305 |             |           |        |        |        |
| 1.0539    |              | S355NH         |                      |            |             | TSE355-4                                 | 2134 | Fe510B      |           |        |        |        |
| 1.0545    |              | S355N          |                      | 4360-50E   |             | E355R                                    | 2334 | FeE355KG    |           |        |        |        |
| 1.0546    |              | S355NL         |                      | 4360-50EE  |             | E355FP                                   | 2135 | FeE355KT    |           |        |        |        |
| 1.0547    |              | S355J0H        |                      | 4360-50C   |             | TSE355-3                                 | 2172 | Fe510C      |           |        |        |        |
| 1.0549    |              | S355NLH        |                      |            |             |  | 2135 | Fe510D      |           |        |        |        |
| 1.0553    | SM 520 M     | St52-3U        | A14880-40            | 4360-50C   |             | 320-560M                                 | 1606 | Fe510C      |           |        |        |        |
| 1.0562    | SM490A       | St E 355       | A633 Gr.C            | P 355 N    |             | FeE355KGN                                | 2132 | Fe E 355 KG |           | K12000 | 15GF   |        |
| 1.0565    |              | W St E 355     |                      | P 355 NH   |             | P 355 NH                                 | 2106 | Fe E 355 KW |           | K01600 |        |        |
| 1.0566    | SLA 37       | T St E 355     |                      | P 355 NL1  |             | P 355 NL1                                | 2107 | Fe E 355 KT |           |        |        |        |
| 1.0570    | SM 50 YA     | St 52-3        | 1                    | 4360-50 C  | S355JR      | E36-3                                    | 2172 | Fe 510 B    |           |        | 17G15  |        |
| 1.0715    | SUM22        | 95Mn28         | 1213                 | 230M07     |             | S250                                     | 1912 | CF5Mn28     | F.2111    | G12130 |        |        |
| 1.0718    | SUM22L       | 95MnPb28       | 12L13                |            |             | S250Pb                                   | 1914 | CF95MnPb28  | F.2112    | G12134 |        |        |
| 1.0721    |              | 10S20          | 1108                 | 10S20      |             | 10S20                                    |      | CF10S20     | F.2121    | G11080 |        |        |
| 1.0722    |              | 10SPb20        | 11L08                |            |             | 10PbF2                                   |      | CF10SPb20   |           | G11084 |        |        |
| 1.0736    | SUM25        | 95Mn36         | 1215                 |            |             | S300                                     |      | CF9Mn36     | F.2113    | G12150 |        |        |
| 1.0737    |              | 95MnPb36       | 12L14                |            |             | S300Pb                                   | 1926 | CF95MnPb36  | F.2114    | G12144 |        |        |
| 1.0972    |              | S315MC         |                      | 1501-40F30 |             | E315D                                    |      |             |           |        |        |        |
| 1.0976    |              | S355MC         |                      | 1501-43F35 |             | E355D                                    | 2642 | FeE355TM    |           |        |        |        |
| 1.0982    |              | S460MC         |                      | 1501-50F45 |             |  |      |             |           |        |        |        |
| 1.0984    |              | S500MC         |                      |            |             | E490D                                    | 2662 | FeE490TM    |           |        |        |        |
| 1.0986    |              | S500MC         |                      | 1501-60F55 |             | E560D                                    |      | FeE560TM    |           |        |        |        |
| 1.1121    | S10C         | Ck10           | 1010                 | 040A10     |             | XC10                                     | 1265 | C10         | F.1510    | G10100 | 10     |        |
| 1.1141    | S15          | Ck15           | 1015                 | 040A15     | 32C         | XC15                                     | 1370 | C15         | F.1110    | G10150 | 15     |        |
| 1.1151    | S20C         | C22E           | 1020                 | 055M15     |             | 2C22                                     | 1450 | C20         | F.1120    | G10230 | 20     |        |
| 1.8900    | S25C         | StE380         | A572-60              | 436055E    |             |  | 2145 | FeE390KG    |           |        |        |        |
|           |              | St44-2         | A36                  | 436043A    |             | NFA35-501E28                             | 1411 |             |           |        |        |        |
|           |              | StE320-3Z      |                      | 1501160    |             |  | 1421 |             |           |        |        |        |

## Technical Information

# Material Groups

TURNING

PARTING &amp; GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

| Mat'l No.   | JIS       | DIN           | Material Description |               |     | Composition / Structure / Heat Treatment |      |        |           |        | HB   | HRC    |
|---|-----------|---------------|----------------------|---------------|-----|--|------|--------|-----------|--------|------|--------|
|   |           |               | AISI/ASTM/SAE        | BS            | EN  | About 0.45% C, Annealed                  |      |        |           |        | 190  | 13     |
| <div style="display: flex; justify-content: space-between; align-items: center;"> <span style="font-size: 2em; font-weight: bold;">P</span> <span style="font-size: 1.5em; font-weight: bold;">VDI 3323<br/>2</span> <div style="text-align: center;"> <p>Material Description</p> <p>Non-alloyed steel</p> </div> <div style="text-align: center;"> <p>Composition / Structure / Heat Treatment</p> <p>About 0.45% C, Annealed</p> </div> <div style="text-align: center;"> <p>HB</p> <p>190</p> </div> <div style="text-align: center;"> <p>HRC</p> <p>13</p> </div> </div> |           |               |                      |               |     |  |      |        |           |        |      |        |
| Mat'l No.   | JIS       | DIN           | AISI/ASTM/SAE        | BS            | EN  | AFNOR                                    | SS   | UNI    | UNE / IHA | UNS    | GOST | Brands |
| 1.0501  | S35C      | C35           | 1035                 | 080A32        |     | 1C35                                     | 1572 | C35    | F.113     | G10350 | 35   |        |
| 1.0503  | S45C      | C45           | 1045                 | 060A47        |     | XC42HITS                                 | 1672 | C45    | F.114     | G10450 | 45   |        |
| 1.0511  | S40C      | C40           | 1040                 | 080M40        |     | 1C40                                     |      | C40    | F.114.A   | G10400 | 40   |        |
| 1.0540  | S 50 C    | C50           |                      |               |     |  | 1674 | C50    |           | G10500 |      |        |
| 1.0551  |           | G5-52         | A2770-36             | A2            |     | 280-480M                                 | 1505 |        |           |        |      |        |
| 1.0553  | SM 520 M  | St52-3U       | A14880-40            | 4360-50C      |     | 320-560M                                 | 1606 | Fe510C |           |        |      |        |
| 1.0577  |           | S 355 J 2 G 4 | A738                 | Fe 510 D 2 FF |     | A52FP                                    | 2107 |        |           |        |      |        |
| 1.0726  |           | 35S20         | 1140                 | 212M36        | 8M  | 35MF6                                    | 1957 |        |           | G11400 | 40   |        |
| 1.0727  |           | 45S20         | 1146                 |               |     | 45MF4                                    | 1973 |        |           | G11460 |      |        |
| 1.1157  |           | 40Mn4         | 1039                 | 150M36        | 15  | 40M5                                     |      |        |           | G10390 | 40G  |        |
| 1.1158  | S25C      | C25E          | 1025                 | 070M25        |     | XC25                                     |      | C25    | F.1120    | G10250 | 25   |        |
| 1.1166  | SMn433H   | 34Mn5         | 1536                 |               |     |  |      |        | TO.B      | G15360 |      |        |
| 1.1167  | SMn438(H) | 36Mn5         | 1335                 | 150M36        |     | 40M5                                     | 2120 | 36Mn6  | F.1203    | G13350 | 35G2 |        |
| 1.1170  | SCMn1     | 28Mn6         | 1330                 | 150M28        | 14A | 20M5                                     |      | C28Mn  | 28Mn6     | G13300 | 30G  |        |
| 1.1178  | S 30 C    | C30E          |                      | 080M30        |     | XC32                                     |      | C30    | 2C30      | G10300 |      |        |
| 1.1180  |           | C35R          | 1035                 | 080A35        |     | 3C35                                     | 1572 |        | F.1135    | G10350 |      |        |
| 1.1181  | S35C      | C35E          | 1035                 | 080A35        |     | XC38                                     | 1572 | C36    | F.1130    | G10340 | 35   |        |
| 1.1191  | S45C      | Ck45          | 1045                 | 080A46        |     | XC45                                     | 1672 | C45    | F.1140    |        | 45   |        |
| 1.1206  | S 50 C    | C50E          | 1050                 | 080M50        |     | 2C50                                     | 1674 | C50    |           | G10500 | 50   |        |
| 1.1213  | S50C      | Cf53          | 1050                 | 070M55        |     | XC48HTS                                  | 1674 | C53    |           | G10500 | 50   |        |

| Mat'l No.   | JIS       | DIN              | Material Description |          |          | Composition / Structure / Heat Treatment |      |             |           |        | HB   | HRC    |
|---|-----------|------------------|----------------------|----------|----------|--|------|-------------|-----------|--------|------|--------|
|   |           |                  | AISI/ASTM/SAE        | BS       | EN       | About 0.45% C, Annealed                  |      |             |           |        | 250  | 25     |
| <div style="display: flex; justify-content: space-between; align-items: center;"> <span style="font-size: 2em; font-weight: bold;">P</span> <span style="font-size: 1.5em; font-weight: bold;">VDI 3323<br/>3</span> <div style="text-align: center;"> <p>Material Description</p> <p>Non-alloyed steel</p> </div> <div style="text-align: center;"> <p>Composition / Structure / Heat Treatment</p> <p>About 0.45% C, Annealed</p> </div> <div style="text-align: center;"> <p>HB</p> <p>250</p> </div> <div style="text-align: center;"> <p>HRC</p> <p>25</p> </div> </div> |           |                  |                      |          |          |  |      |             |           |        |      |        |
| Mat'l No.   | JIS       | DIN              | AISI/ASTM/SAE        | BS       | EN       | AFNOR                                    | SS   | UNI         | UNE / IHA | UNS    | GOST | Brands |
| 1.0481  | SG365     | 17 Mn 4/P 295 GH | A516 Gr.70           | 224-460B | P 295 GH | A 48 CP                                  | 2102 | Fe E 295    | A47RCI    | K03501 | 14G2 |        |
| 1.0501  | S35C      | C35              | 1035                 | 080A32   |          | 1C35                                     | 1572 | C35         | F.1130    | G10350 | 35   |        |
| 1.0503  | S45C      | C45              | 1045                 | 060A47   |          | XC42HITS                                 | 1672 | C45         | F.1140    | G10450 | 45   |        |
| 1.0614  |           | C76D             | 1074                 |          |          | XC75                                     |      |             |           | G10750 |      |        |
| 1.0616  |           | C86D             | 1086                 |          |          | XC80                                     |      | C85         |           | G10860 |      |        |
| 1.0618  |           | C92D             | 1095                 |          |          | XC90                                     |      |             |           | G10950 |      |        |
| 1.0726  |           | 35S20            | 1140                 | 212M36   | 8M       | 35MF6                                    | 1957 |             |           | G11400 | 40   |        |
| 1.1157  |           | 40Mn4            | 1039                 | 150M36   | 15       | 40M5                                     |      |             |           | G10390 | 40G  |        |
| 1.1165  | SMn433H   | 30Mn5            | 1036                 | 120M36   |          | 35M5                                     |      | 30Mn5       | F.8211    | K13300 | 30G2 |        |
| 1.1167  | SMn438(H) | 36Mn5            | 1335                 | 150M36   |          | 40M5                                     | 2120 | 36Mn6       | F.1203    | G13350 | 35G2 |        |
| 1.1186  | S40C      | C40E             | 1040                 | 060A40   |          | 2C40                                     |      | C40         |           | G10400 |      |        |
| 1.1191  | S45C      | Ck45             | 1045                 | 080M46   |          | 2C45                                     | 1672 | C45         | F.1140    |        | 45   |        |
| 1.1201  | S50C      | C45R             | 1049                 | 080M46   |          | 3C45                                     | 1660 | C45         | F.1145    |        | 38HM |        |
| 1.1213  | S50C      | Cf53             | 1050                 | 070M55   |          | XC48HTS                                  | 1674 | C53         |           | G10500 | 50   |        |
| 1.7242  | SCM418 H  | 18CrMo4          |                      |          |          |  |      |             |           |        |      |        |
| 1.7337  |           | 16CrMo4-4        | A387 Gr.12           |          |          |  |      | A18CrMo45KW |           | K11564 | 15CM |        |
| 1.7362  | SCMV 6    | 12CrMo195        |                      | 3606-625 |          | Z10CD5-05                                |      | 16CrMo205   |           | K41545 |      |        |
|   |           | 17MnV6           | A572-60              | 436055E  |          | NFA35-501E36                             | 2142 |             |           |        |      |        |

# Technical Information

## Material Groups

| Mat'l No. | JIS       | DIN    | Material Description |          |        | Composition / Structure / Heat Treatment |      |          |           |        | HB                      | HRC    |  |  |
|-----------|-----------|--------|----------------------|----------|--------|--|------|----------|-----------|--------|-------------------------|--------|--|--|
|           |           |        | AISI/ASTM/SAE        | BS       | EN     | Non-alloyed steel                        |      |          |           |        | About 0.75% C, Annealed |        |  |  |
| Mat'l No. | JIS       | DIN    | AISI/ASTM/SAE        | BS       | EN     | AFNOR                                    | SS   | UNI      | UNE / IHA | UNS    | GOST                    | Brands |  |  |
| 1.0603    | S70 C-CSP | C67    | 107                  | 080A67   |        | XC65                                     |      | C67      |           | G10700 |                         |        |  |  |
| 1.0605    |           | C75    | 1075                 | 144980HS |        |  |      | C75      |           | G10740 | 75                      |        |  |  |
| 1.1203    | S55C      | Ck55   | 1055                 | 060A57   |        | 2C55                                     | 1655 | C55      | F.1150    | G10550 | 55                      |        |  |  |
| 1.1209    |           | C55R   | 1055                 | 070M55   |        | 3C55                                     |      | C55      | F.1155    | G10550 |                         |        |  |  |
| 1.1221    | S58C      | Ck60   | 1060                 | 060A62   | 43D    | 2C60                                     | 1678 | C60      | F.1150    | G10640 | 60                      |        |  |  |
| 1.1231    | S70 C-CSP | C67E   | 1070                 | 060A67   |        | XC68                                     | 1770 | C70      | F5103     | G10700 | 65GA                    |        |  |  |
| 1.1248    | C75       | C75E   | 1074                 | 060A78   |        | XC75                                     | 1774 | C75      | F5107     | G10800 | 75(A)                   |        |  |  |
| 1.1269    | SK5-CSP   | C85E   | 1086                 |          |        | XC90                                     |      | C90      |           | G10900 | 85(A)                   |        |  |  |
| 1.1274    | SUP4      | Ck101  | 1095                 | 060 A 96 | C 100S | XC100                                    | 1870 | C100     | F5117     | G10950 |                         |        |  |  |
| 1.1545    | SK3       | C105W1 | W1                   | BW 2     | C 105U | Y1 105                                   | 1880 | C 100 KU | F5118     |        | U10A                    |        |  |  |
| 1.1663    | SK2       | C125W  | W112                 |          |        | Y2120                                    |      |          |           |        | U13                     |        |  |  |

| Mat'l No. | JIS    | DIN      | Material Description |           |        | Composition / Structure / Heat Treatment |      |          |           |        | HB                                 | HRC    |  |  |
|-----------|--------|----------|----------------------|-----------|--------|--|------|----------|-----------|--------|------------------------------------|--------|--|--|
|           |        |          | AISI/ASTM/SAE        | BS        | EN     | Non-alloyed steel                        |      |          |           |        | About 0.75% C, Quenched & Tempered |        |  |  |
| Mat'l No. | JIS    | DIN      | AISI/ASTM/SAE        | BS        | EN     | AFNOR                                    | SS   | UNI      | UNE / IHA | UNS    | GOST                               | Brands |  |  |
| 1.0070    |        | St 70-2  | 1055                 | Fe690-2FN | -      | A70-2                                    | 1655 | Fe 690   | F.1150    |        | 55                                 |        |  |  |
| 1.0535    | S55C   | C55      | 1055                 | 070M55    |        | 1C55                                     | 1655 | C55      |           | J05000 | 55                                 |        |  |  |
| 1.0601    | S58C   | C60      | 1060                 | 060A62    | 43D    | 1C60                                     |      | C60      |           | G10600 | 60(G)                              |        |  |  |
| 1.1203    | S55C   | Ck55     | 1055                 | 060A57    |        | 2C55                                     | 1655 | C55      | F.1150    | G10550 | 55                                 |        |  |  |
| 1.1221    | S58C   | Ck60     | 1060                 | 060A62    | 43D    | 2C60                                     | 1678 | C60      | F.1150    | G10640 | 60                                 |        |  |  |
| 1.1274    | SUP4   | Ck101    | 1095                 | 060 A 96  | C 100S | XC100                                    | 1870 | C100     | F5117     | G10950 |                                    |        |  |  |
| 1.1545    | SK3    | C105W1   | W1                   | BW 2      | C 105U | Y1 105                                   | 1880 | C 100 KU | F5118     |        | U10A                               |        |  |  |
| 1.1663    | SK2    | C125W    | W112                 |           |        | Y2120                                    |      |          |           |        | U13                                |        |  |  |
| 1.5120    |        | 38MnSi4  |                      |           |        |  |      |          |           |        |                                    |        |  |  |
| 1.5710    | SNC236 | 36NiCr6  | 3135                 | 640A35    | 111A   | 35NC6                                    |      |          |           |        |                                    |        |  |  |
| 1.7701    |        | 51CrMoV4 |                      |           |        |  |      | 51CrMoV4 |           |        |                                    |        |  |  |

## Technical Information

# Material Groups

| Mat'l No.   | JIS          | DIN          | Material Description |              |             | Composition / Structure / Heat Treatment |      |               |           |        | HB      | HRC    |
|---|--------------|--------------|----------------------|--------------|-------------|--|------|---------------|-----------|--------|---------|--------|
|   |              |              | AISI/ASTM/SAE        | BS           | EN          | Annealed                                 |      |               |           |        | 180     | 10     |
| <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="font-size: 2em; font-weight: bold; color: blue;">P</div> <div style="text-align: center;"> <b>VDI 3323</b><br/> <b>6</b> </div> <div style="text-align: center;"> <b>Material Description</b><br/> <b>Low-alloyed Steel</b> </div> <div style="text-align: center;"> <b>Composition / Structure / Heat Treatment</b><br/> <b>Annealed</b> </div> <div style="text-align: center;"> <b>HB</b><br/> <b>180</b> </div> <div style="text-align: center;"> <b>HRC</b><br/> <b>10</b> </div> </div> |              |              |                      |              |             |  |      |               |           |        |         |        |
| Mat'l No.   | JIS          | DIN          | AISI/ASTM/SAE        | BS           | EN          | AFNOR                                    | SS   | UNI           | UNE / IHA | UNS    | GOST    | Brands |
| 1.0116  |              | St 37-3      | A570 Gr. 36          | 4360-40C     | S 235 J2 G3 | E24-3                                    | 1312 | Fe 360 D1(2)  | AE235D    |        | ST3KP   |        |
| 1.0904  | SKH 1, SKT 4 | 55Si7        | 9255                 | 250A53       | 45          | 55S7                                     | 2085 | 55Si8         | 56Si7     | G92550 | 55S2    |        |
| 1.0961  | SUP 7        | 60SiCr7      | 9262                 |              |             | 60SC6                                    |      | 60SiCr8       | 60SiCr8   | G92620 |         |        |
| 1.2067  |              | 100Cr6       | L3                   | BL3          |             | Y100C6                                   |      |               | 100Cr6    |        |         |        |
| 1.2108  |              | 90CrSi5      | L1                   |              |             |  | 2092 | 105WCR5       |           |        |         |        |
| 1.2210  |              | 115CrV3      | L2                   |              |             | 100C3                                    |      | 107CrV3KU     | F520L     |        | 11KHF   |        |
| 1.2241  |              | 51CrV4       |                      |              |             |  |      |               |           |        |         |        |
| 1.2330  | SCM435TK     | 35CrMo4      | 4135                 | 708A37       |             | 34CD4                                    | 2234 | 35CrMo4       |           |        | 35KHM   |        |
| 1.2419  | SKS31        | 105WCr6      |                      | 105WC13      |             | 105WC13                                  | 2140 | 10WCr6        |           |        | CWG     |        |
| 1.2510  | SKS3         | 100MnCrW4    | O1                   | BO1          |             | 90 MWCV 5                                | 2140 | 95 MnWCr 5 KU | F5220     |        | 9KHVG   |        |
| 1.2542  |              | 45WCrV7      | S1                   | BS1          |             |  | 2710 | 45WCrV8KU     |           |        | 5CW25F  |        |
| 1.2550  |              | 60WCrV7      | S1                   |              |             | 55WC20                                   | 2710 | 58WCr9KU      |           |        | 5KHV25F |        |
| 1.2713  | SKT4         | 55NiCrMoV6   | L6                   |              |             | 55NCDV7                                  |      |               | F520S     |        | 5C NM   |        |
| 1.2721  |              | 50NiCr13     | L6                   |              |             | 55NCV6                                   | 2550 |               | F528      |        |         |        |
| 1.2842  |              | 90MnCrV8     | O2                   | BO2          |             | 90MV8                                    |      |               |           | T31502 | 9G2F    |        |
| 1.3501  |              | 100Cr2       | E50100               |              |             |  |      |               |           |        |         |        |
| 1.3505  | SUJ2         | 100Cr6       | 52100                | 2S135        | 31          | 100C6                                    | 2258 | 100Cr6        | F.1310    |        | SCC 15  |        |
| 1.5024  |              | 46Si7        |                      |              |             | 45S7                                     |      | 46Si7         | F.1451    |        |         |        |
| 1.5025  |              | 51Si7        | 9259H                |              | 50Si7       | 51S7                                     | 2090 | 50Si7         | F.1450    |        |         |        |
| 1.5026  |              | 55Si7        |                      |              | 56Si7       | 55S7                                     | 2085 | 55Si7         | F.1440    | G92550 | 55S2    |        |
| 1.5027  |              | 60Si7        | 9260                 | 251A60       | 60Si7       | 60S7                                     |      | 60Si7         | F.1441    | G92600 | 60S2    |        |
| 1.5028  | SUP7         | 65Si7        | 9260H                |              |             |  |      |               |           |        |         |        |
| 1.5415  | STFA 12      | 15Mo3        | A204Gr.A             | 1503-243B    |             | 15D3                                     | 2912 | 16Mo3(KG)     | F.2601    | K11820 |         |        |
| 1.5419  | SCPH11       | 20Mo4        | 4419                 | 1503-243-430 |             |  | 2512 | G20Mo5        |           | G44190 |         |        |
| 1.5423  | SB450M       | 16Mo5        | 4520                 | 1503-245-420 |             |  |      | 16Mo5(KG)     | F.2602    | K11522 |         |        |
| 1.5622  |              | 14Ni6        | A350-LF5             |              |             | 16N6                                     |      | 14Ni6(KG)     | F.2641    |        |         |        |
| 1.5732  | SNC415(H)    | 14NiCr10     | 3415                 |              |             | 14NC11                                   |      | 16NiCr11      |           |        |         |        |
| 1.5752  | SNC815(H)    | 14NiCr14     | 3310                 | 655M13       | 36A         | 12NC15                                   |      |               |           |        | 20X2H4A |        |
| 1.6511  | SUP10        | 36CrNiMo4    | 9840                 | 816M40       | 110         | 40NCD3                                   |      | 36NiCrMo4(KB) |           |        | 40CN2MA |        |
| 1.6523  | SNCM220(H)   | 21NiCrMo2    | 8620                 | 805M20       | 362         | 20NCD2                                   | 2506 | 20NiCrMo2     |           |        | 20C GNM |        |
| 1.6546  | SNCM240      | 40NiCrMo2-2  | 8740                 | 311-Tyre7    |             |  |      | 40NiCrMo2(KB) |           |        | 38C GNM |        |
| 1.6566  |              | 17NiCrMo6-4  |                      |              |             |  |      |               |           |        |         |        |
| 1.6587  |              | 17CrNiMo6    |                      | 820A16       |             | 18NCD6                                   |      | 14NiCrMo13    |           |        |         |        |
| 1.6657  |              | 10NiCrMo13-4 |                      |              |             |  |      | 14NiCrMo131   |           |        |         |        |
| 1.7015  | SCr415(H)    | 10Cr3        | 5015                 | 523M15       |             | 12C3                                     |      |               |           | G50150 | 15C     |        |
| 1.7033  | SCr430(H)    | 34Cr4        | 5132                 | 530A32       | 18B         | 32C4                                     |      | 34Cr4(KB)     |           | G51300 | 35C     |        |
| 1.7035  | SCr440(H)    | 41Cr4        | 5140                 | 530M40       | 18          | 42C4                                     | 2245 | 41Cr4         |           | G51400 | 40H     |        |
| 1.7131  | SCR 415      | 16MnCr5      | 5115                 | 527M17       |             | 16MCS                                    | 2511 | 16MnCr5       |           | G51150 | 12KHN2  |        |
| 1.7139  |              | 16MnCr55     |                      |              |             |  | 2127 |               |           |        | 18HG    |        |
| 1.7176  | SUP9(A)      | 55Cr3        | 5155                 | 527A60       | 48          | 55C3                                     | 2253 | 55Cr3         |           |        | 50C GA  |        |
| 1.7218  | SCM420       | 25CrMo4      | 4130                 | CDS110       |             | 25CD4                                    | 2225 | 25CrMo4(KB)   |           |        | 20C M   |        |
| 1.7220  | SCM432       | 34CrMo4      | 4135                 | 708 A 37     |             | 35CD4                                    | 2234 | 34CrMo4       |           |        | 35C M   |        |
| 1.7223  | SNB22-1      | 41CrMo4      | 4142                 |              |             |  |      | 41CrMo4       |           |        | 40C FA  |        |
| 1.7225  | SCM 440 (H)  | 42CrMo4      | 4140                 | 708 M 40     | 42 CrMo 4   | 42 CD 4                                  | 2244 | 42 CrMo 4     | F.1252    |        | 38HM    |        |
| 1.7228  |              | 55NiCrMoV6G  |                      | 823M30       | 33          |  | 2512 | 653M31        |           |        |         |        |
| 1.7262  | SCM415(H)    | 15CrMo5      |                      |              |             | 12CD4                                    | 2216 | 12CrMo4       |           |        |         |        |
| 1.7321  |              | 20mOcr4      |                      |              |             |  | 2625 |               |           |        |         |        |
| 1.7335  | SCM415(H)    | 13CrMo4-4    | A182-F11             | 1501-620     |             | 15CD4-5                                  | 2216 | 14CrMo45      |           |        | 12C M   |        |
| 1.7361  |              | 32CrMo12     |                      | 722M24       | 40B         | 30CD12                                   | 2240 | 30CrMo12      | F.124A    |        |         |        |
| 1.7380  |              | 10CrMo9-10   | A182F22              | 1501-622     |             | 12CD9-10                                 | 2218 | 12CrMo9       |           |        | 12KH8   |        |

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## Material Groups

| Mat'l No. | JIS      | DIN         | Material Description |              |     | Composition / Structure / Heat Treatment |      |           |  |        | HB      | HRc |  |
|-----------|----------|-------------|----------------------|--------------|-----|--|------|-----------|--|--------|---------|-----|--|
|           |          |             | AISI/ASTM/SAE        | BS           | EN  | Annealed                                 |      |           |  |        | 180     | 10  |  |
| 1.7715    |          | 14MoV6-3    |                      | 1503-660-440 |     |  |      | 13MoCrV6  |  |        |         |     |  |
| 1.8159    | SUP 10   | 50CrV4      | 6150                 | 735A50       | 47  | 50CrV4                                   | 2230 | 50CrV4    |  | G61500 | 50C GFA |     |  |
| 1.8161    |          | 58CrV4      |                      |              |     |  |      |           |  |        |         |     |  |
| 1.8509    | SACM 645 | 41CrAlMo7   | A355A                | 905M39       | 41B | 40CAD6-12                                | 2940 | 41CrAlMo7 |  |        |         |     |  |
| 1.8523    |          | 39CrMoV13-9 |                      | 897M39       | 40C |  |      | 36CrMoV12 |  |        |         |     |  |

| Mat'l No. | JIS       | DIN            | Material Description |              |     | Composition / Structure / Heat Treatment |      |               |        |        | HB        | HRc |
|-----------|-----------|----------------|----------------------|--------------|-----|--|------|---------------|--------|--------|-----------|-----|
|           |           |                | AISI/ASTM/SAE        | BS           | EN  | Quenched & Tempered                      |      |               |        |        | 275       | 29  |
| 1.5415    | STFA 12   | 15Mo3          | A204GrA              | 1503-243B    |     | 15D3                                     | 2912 | 16Mo3(KG)     | F2601  | K11820 |           |     |
| 1.5423    | SB450M    | 16Mo5          | 4520                 | 1503-245-420 |     |  |      | 16Mo5(KG)     | F2602  | K11522 |           |     |
| 1.5622    |           | 14Ni6          | A350-LF5             |              |     | 16N6                                     |      | 14Ni6(KG)     | F2641  |        |           |     |
| 1.5732    | SNC415(H) | 14NiCr10       | 3415                 |              |     | 14NC11                                   |      | 16NiCr11      |        |        |           |     |
| 1.5752    | SNC815(H) | 14NiCr14       | 3310                 | 655M13       | 36A | 12NC15                                   |      |               |        |        | 20X2H4A   |     |
| 1.5755    | SNC236    | 31NiCr14       |                      | 653M31       |     | 18NC13                                   | 2534 |               | F.1270 |        |           |     |
| 1.6565    | SNCM447   | 40NiCrMo6      | 4340                 | 817M40       | 24  | 35NCD6                                   | 2541 | 35NiCrMo6(KB) |        |        | 38C 2N2MA |     |
| 1.6587    |           | 17CrNiMo6      |                      | 820A16       |     | 18NCD6                                   |      | 14NiCrMo13    |        |        |           |     |
| 1.6657    |           | 10NiCrMo13-4   |                      |              |     |  |      | 14NiCrMo131   |        |        |           |     |
| 1.6957    |           | 26NiCrMoV14-5  |                      |              |     |  |      |               |        |        |           |     |
| 1.7015    | SCr415(H) | 10Cr3          | 5015                 | 523M15       |     | 12C3                                     |      |               |        | G50150 | 15C       |     |
| 1.7262    | SCM415(H) | 15CrMo5        |                      |              |     | 12CD4                                    | 2216 | 12CrMo4       |        |        |           |     |
| 1.7335    | SCM415(H) | 13CrMo4-4      | A182-F11             | 1501-620     |     | 15CD4-5                                  | 2216 | 14CrMo45      |        |        | 12C M     |     |
| 1.7380    |           | 10CrMo9-10     | A182F22              | 1501-622     |     | 12CD9-10                                 | 2218 | 12CrMo9       |        |        | 12KH8     |     |
| 1.7715    |           | 14MoV6-3       |                      | 1503-660-440 |     |  |      | 13MoCrV6      |        |        |           |     |
| 1.7733    |           | 24CrMoV55      |                      |              |     | 20CDV6                                   |      | 21CrMoV511    |        |        |           |     |
| 1.7755    |           | G5-45CrMoV10-4 |                      |              |     |  |      |               |        |        |           |     |
| 1.8070    |           | 21CrMoV511     |                      |              |     |  |      | 35NiCr9       |        |        |           |     |

| Mat'l No. | JIS         | DIN       | Material Description |        |     | Composition / Structure / Heat Treatment |      |             |        |        | HB      | HRc |
|-----------|-------------|-----------|----------------------|--------|-----|--|------|-------------|--------|--------|---------|-----|
|           |             |           | AISI/ASTM/SAE        | BS     | EN  | Quenched & tempered                      |      |             |        |        | 300     | 32  |
| 1.1730    |             | C45W3     | C45W                 |        |     | XC48                                     |      |             |        |        |         |     |
| 1.2332    | SCM(440)    | 47CrMo4   | 4142                 | 708M40 | 19A | 42CD4                                    | 2244 | 42CrMo4     |        |        |         |     |
| 1.5736    | SNC 631 (H) | 36NiCr10  | 3435                 |        |     | 30NC11                                   |      |             |        |        |         |     |
| 1.6523    | SNCM220(H)  | 21NiCrMo2 | 8620                 | 805M20 | 362 | 20NCD2                                   | 2506 | 20NiCrMo2   |        |        | 20C GNM |     |
| 1.7033    | SCr430(H)   | 34Cr4     | 5132                 | 530A32 | 18B | 32C4                                     |      | 34Cr4(KB)   |        | G51300 | 35C     |     |
| 1.7218    | SCM420      | 25CrMo4   | 4130                 | CDS110 |     | 25CD4                                    | 2225 | 25CrMo4(KB) |        |        | 20C M   |     |
| 1.8515    |             | 32CrMo12  |                      | 722M24 | 40B | 30CD12                                   | 2240 | 32CrMo12    | F.124A |        |         |     |

## Technical Information

# Material Groups

TURNING

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MILLING

DRILLING

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| Mat'l No. | JIS          | DIN             | Material Description |           |           | Composition / Structure / Heat Treatment |      |               |        |        | HB      | HRC |
|-----------|--------------|-----------------|----------------------|-----------|-----------|--|------|---------------|--------|--------|---------|-----|
|           |              |                 | AISI/ASTM/SAE        | BS        | EN        | Quenched & Tempered                      |      |               |        |        | 350     | 38  |
| 1.0904    | SKH 1, SKT 4 | 55Si7           | 9255                 | 250A53    | 45        | 55S7                                     | 2085 | 55Si8         |        | G92550 | 55S2    |     |
| 1.0961    | SUP 7        | 60SiCr7         | 9262                 |           |           | 60SC6                                    |      | 60SiCr8       |        | G92620 |         |     |
| 1.2067    |              | 100Cr6          | L3                   | BL3       |           | Y100C6                                   |      | 100Cr6        |        |        |         |     |
| 1.2419    | SKS31        | 105WCr6         |                      | 105WC13   |           | 105WC13                                  | 2140 | 10WCr6        |        |        | CWG     |     |
| 1.2542    |              | 45WCrV7         | S1                   | BS1       |           |  | 2710 | 45WCrV8KU     |        |        | 5CW25F  |     |
| 1.2713    | SKT4         | 55NiCrMoV6      | L6                   |           |           | 55NCDV7                                  |      |               | F5205  |        | 5C NM   |     |
| 1.4882    |              | X50CrMnNiNbN219 |                      |           |           | Z50CMNNb21-09                            |      |               |        |        |         |     |
| 1.5120    |              | 38MnSi4         |                      |           |           |  |      |               |        |        |         |     |
| 1.5710    | SNC236       | 36NiCr6         | 3135                 | 640A35    | 111A      | 35NC6                                    |      |               |        |        |         |     |
| 1.5755    | SNC236       | 31NiCr14        |                      | 830m31    |           | 18NC13                                   | 2534 |               | F1270  |        |         |     |
| 1.6511    | SUP10        | 36CrNiMo4       | 9840                 | 816M40    | 110       | 40NCD3                                   |      | 36NiCrMo4(KB) |        |        | 40CN2MA |     |
| 1.6546    | SNM240       | 40NiCrMo2-2     | 8740                 | 311-Tyre7 |           |  |      | 40NiCrMo2(KB) |        |        | 38C GNM |     |
| 1.7035    | SCR440(H)    | 41Cr4           | 5140                 | 530M40    | 18        | 42C4                                     | 2245 | 41Cr4         |        | G51400 | 40H     |     |
| 1.7176    | SUP9(A)      | 55Cr3           | 5155                 | 527A60    | 48        | 55C3                                     | 2253 | 55Cr3         |        |        | 50C GA  |     |
| 1.7220    | SCM432       | 34CrMo4         | 4135                 | 708Aa37   |           | 35CD4                                    | 2234 | 34CrMo4       |        |        | 35CM    |     |
| 1.7223    | SNB22-1      | 41CrMo4         | 4142                 |           |           |  |      | 41CrMo4       |        |        | 40CFA   |     |
| 1.7225    | SCM 440 (H)  | 42CrMo4         | 4140                 | 708 M 40  | 42 CrMo 4 | 42 CD 4                                  | 2244 | 42 CrMo 4     | F1252  |        | 38HM    |     |
| 1.7361    |              | 32CrMo12        |                      | 722M24    | 40B       | 30CD12                                   | 2240 | 30CrMo12      | F124A  |        |         |     |
| 1.8159    | SUP 10       | 50CrV4          | 6150                 | 735A50    | 47        | 50CrV4                                   | 2230 | 50CrV4        | 51CrV4 | G61500 | 50C GFA |     |
| 1.8161    |              | 58CrV4          |                      |           |           |  |      |               |        |        |         |     |
| 1.8509    | SACM 645     | 41CrAlMo7       | A355A                | 905M39    | 41B       | 40CAD6-12                                | 2940 | 41CrAlMo7     |        |        |         |     |
| 1.8523    |              | 39CrMoV13-9     |                      | 897M39    | 40C       |  |      | 36CrMoV12     |        |        |         |     |

| Mat'l No. | JIS       | DIN          | Material Description |        |           | Composition / Structure / Heat Treatment |      |               |       |        | HB      | HRC       |
|-----------|-----------|--------------|----------------------|--------|-----------|--|------|---------------|-------|--------|---------|-----------|
|           |           |              | AISI/ASTM/SAE        | BS     | EN        | Annealed                                 |      |               |       |        | 200     | 15        |
| 1.0347    | SPCD      | RR St 3      | A619                 | CR 3   | Fe P03    | F 13                                     |      | DC03/FeP03    |       |        | 08JU    |           |
| 1.0723    | SUM32     | 15S22        |                      | 210A15 |           |  | 1922 |               | F210F |        |         |           |
| 1.2080    | SKD1      | X210Cr12     | D3                   | BD3    | X210Cr12  | Z200C12                                  |      | X205Cr12KU    |       | T30403 | KH12    |           |
| 1.2162    | SCR 420 H | 21MnCr5      |                      |        |           | 20MCS                                    |      |               |       |        |         |           |
| 1.2311    |           | 40CrMnMo7    |                      |        |           | 40CMD8                                   |      | 35CrMo8KU     |       |        |         |           |
| 1.2312    |           | 40CrMnMoS8.6 | P20+S                |        |           | 40CMD8S                                  |      |               |       |        |         |           |
| 1.2316    |           | X36CrMo17    |                      |        | X38CrMo16 |  |      |               |       |        |         |           |
| 1.2343    | SKD 6     | X38CrMoV5-1  | H11                  | BH11   |           | Z38CDV5                                  |      | X37CrMoV51KU  |       | T20811 | 4C5MFS  |           |
| 1.2344    | SKD61     | X40CrMoV5-1  | H13                  | BH13   |           | Z40CDV5                                  | 2242 | X40CrMoV511KU | F5318 | T20813 | 4C5MF1S |           |
| 1.2363    | SKD12     | X100CrMoV5-1 | A2                   | BA2    |           | Z100CDV5                                 | 2260 | X100CrMoV51KU | F5227 |        | 9KH5VF  |           |
| 1.2379    | SKD11     | X155CrVMo121 | D2                   | BD2    |           | Z160CDV12                                | 2310 | X165CrMoW12KU |       | T30402 | KH12MF  | KRUPP2379 |
| 1.2436    | SKD 2     | X210CrW12    | D4(D6)               | BD6    |           | Z200CD12                                 | 2312 | X215CrW121KU  | F5213 |        | KH12    |           |

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## Material Groups

| Mat'l No.  | JIS         | DIN         | AISI/ASTM/SAE | BS      | EN | Composition / Structure / Heat Treatment |      |              |           |        | HB      | HRC    |
|--|-------------|-------------|---------------|---------|----|--|------|--------------|-----------|--------|---------|--------|
|  |             |             |               |         |    | AFNOR                                    | SS   | UNI          | UNE / IHA | UNS    | GOST    | Brands |
| <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="font-size: 2em; font-weight: bold; color: blue;">P</div> <div style="text-align: center;"> <b>VDI 3323</b><br/> <b>10</b> </div> <div style="text-align: center;"> <b>Material Description</b><br/>                     High-alloyed steel,<br/>                     and tool steel                 </div> <div style="text-align: center;"> <b>Composition / Structure / Heat Treatment</b><br/>                     Annealed                 </div> <div style="text-align: center;"> <b>HB</b><br/>                     200                 </div> <div style="text-align: center;"> <b>HRC</b><br/>                     15                 </div> </div> |             |             |               |         |    |  |      |              |           |        |         |        |
| 1.2510   | SKS3        | 100MnCrW4   | O1            | BO1     |    | 90MWCV5                                  | 2140 | 95MnWCr5KU   | F5220     |        | 9KHVG   |        |
| 1.2581   | SKD5        | X30WCrV9-3  | H21           | BH21    |    | Z30WCV9                                  |      | X30WCrV93KU  | F526      | T20821 | 3C2W8F  |        |
| 1.2601   |             | X165CrMoV12 |               |         |    |  | 2310 | X160CrMoV12  |           |        | KH12MF  |        |
| 1.2606   | SKD62       | X37CrMoW51  | H12           | BH12    |    | Z35CWDV5                                 |      | X35CrMoW05KU | F537      | T20812 | 5CNM    |        |
| 1.2764   |             | X19NiCrMo4  |               |         |    |  |      |              |           |        |         |        |
| 1.2767   |             | X45NiCrMo4  |               |         |    | 45NCD16                                  |      | 40NiCrMoV8KU |           |        |         |        |
| 1.2842   |             | 90MnCrV8    | O2            | B02     |    | 90MV8                                    |      | 90MnVCr8KU   |           | T31502 | 9G2F    |        |
| 1.3243   | SKH55       | S6-5-2-5    | T15           |         |    | KCV06-05-05-04-02                        | 2723 | H56-5-2-5    |           |        | R6M5K5  |        |
| 1.3249   | SKH3        | S18-1-2-5   | T4            | BT4     |    | Z80WKCV18-05-04                          |      |              |           |        | R18K5F2 |        |
| 1.3343   | SKH51, SKH9 | S6-5-2      | M2            | BM2     |    | Z85WDCV                                  | 2722 | H5652        | F5604     |        | R6M5    |        |
| 1.3348   | SKH58       | S2-9-2      | M7            |         |    | Z100DCWV09-04-02                         | 2782 | HS292        | F5607     |        |         |        |
| 1.3355   | SKH2        | S18-0-1     | T1            | BT1     |    | Z80WCV18-4-01                            |      |              |           |        | R18     |        |
| 1.4718   | SUH1        | X45CrSi9-3  | HNV3          | 401S45  | 52 | Z45CS9                                   |      | X45CrSi8     | F322      |        | 40C952  |        |
| 1.5662   | SL9N60(53)  | X8Ni9       | ASMA353       | 502-650 |    | 9Ni                                      |      | X10Ni9       | F2645     |        |         |        |
| 1.5680   |             | 12Ni19      | 2515          | 12Ni19  |    | Z18N5                                    |      |              |           |        |         |        |

| Mat'l No.   | JIS         | DIN          | AISI/ASTM/SAE | BS     | EN       | Composition / Structure / Heat Treatment |      |               |           |        | HB      | HRC    |
|---|-------------|--------------|---------------|--------|----------|--|------|---------------|-----------|--------|---------|--------|
|   |             |              |               |        |          | AFNOR                                    | SS   | UNI           | UNE / IHA | UNS    | GOST    | Brands |
| <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="font-size: 2em; font-weight: bold; color: blue;">P</div> <div style="text-align: center;"> <b>VDI 3323</b><br/> <b>11</b> </div> <div style="text-align: center;"> <b>Material Description</b><br/>                     High-alloyed steel,<br/>                     and tool steel                 </div> <div style="text-align: center;"> <b>Composition / Structure / Heat Treatment</b><br/>                     Quenched &amp; Tempered                 </div> <div style="text-align: center;"> <b>HB</b><br/>                     325                 </div> <div style="text-align: center;"> <b>HRC</b><br/>                     35                 </div> </div> |             |              |               |        |          |  |      |               |           |        |         |        |
| 1.2080  | SKD1        | X210Cr12     | D3            | BD3    | X210Cr12 | Z200C12                                  |      | X205Cr12KU    |           | T30403 | KH12    |        |
| 1.2344  | SKD61       | X40CrMoV5-1  | H13           | BH13   |          | Z40CDV5                                  | 2242 | X40CrMoV511KU | F5318     | T20813 | 4C5MF15 |        |
| 1.2363  | SKD12       | X100CrMoV5-1 | A2            | BA2    |          | Z100CDV5                                 | 2260 | X100CrMoV51KU | F5227     |        | 9KH5VF  |        |
| 1.2436  | SKD2        | X210CrW12    | D4(D6)        | BD6    |          | Z200CD12                                 | 2312 | X215CrW121KU  | F5213     |        | KH12    |        |
| 1.2581  | SKD5        | X30WCrV9-3   | H21           | BH21   |          | Z30WCV9                                  |      | X30WCrV93KU   | F526      | T20821 | 3C2W8F  |        |
| 1.2601  |             | X165CrMoV12  |               |        |          |  | 2310 | X160CrMoV12   |           |        | KH12MF  |        |
| 1.2714  | SKT4        | 55NiCrMoV7   | 6F3/L6        |        |          | 55NiCrMoV7                               |      |               | F5205     |        | 5KHNV   |        |
| 1.3202  |             | S12-1-4-5    |               | BT15   |          |  |      | HS12-1-5-5    |           |        |         |        |
| 1.3207  |             | S10-4-3-10   |               | BT42   |          | Z130WKCDV                                |      |               |           |        |         |        |
| 1.3243  | SKH55       | S6-5-2-5     | T15           |        |          | KCV06-05-05-04-02                        | 2723 | H56-5-2-5     |           |        | R6M5K5  |        |
| 1.3246  |             | S7-4-2-5     | M35           |        |          | Z110WKCDV07-05-04                        |      | HS7-4-2-5     |           |        |         |        |
| 1.3247  | SKH51       | S2-10-1-8    | M42           | BM42   |          | Z110DKWV09-08-04                         |      | HS2-9-1-8     |           |        | R2AM9K5 |        |
| 1.3255  | SKH3        | S18-1-2-5    | T4            | BT4    |          | Z80WKCV18-05-04                          |      |               |           |        | R18K5F2 |        |
| 1.3343  | SKH51, SKH9 | S6-5-2       | M2            | BM2    |          | Z85WDCV                                  | 2722 | H5652         | F5604     |        | R6M5    |        |
| 1.3348  | SKH58       | S2-9-2       | M7            |        |          | Z100DCWV09-04-02                         | 2782 | HS292         | F5607     |        |         |        |
| 1.3355  | SKH2        | S18-0-1      | T1            | BT1    |          | Z80WCV18-4-01                            |      |               |           |        | R18     |        |
| 1.4718  | SUH1        | X45CrSi9-3   | HNV3          | 401S45 | 52       | Z45CS9                                   |      | X45CrSi8      | F322      |        | 40C952  |        |
| 1.4935  | SUH616      | X20CrMoWV121 | 422           |        |          |  |      |               |           | S42200 |         |        |
| 1.5680  |             | 12Ni19       | 2515          | 12Ni19 |          | Z18N5                                    |      |               |           |        |         |        |

## Technical Information

# Material Groups

TURNING

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| <b>M</b>  |             | <b>VDI 3323<br/>12</b> |               | Material Description |        |               | Composition / Structure / Heat Treatment |               |           |        |             | HB       | HRC |
|-----------|-------------|------------------------|---------------|----------------------|--------|---------------|--|---------------|-----------|--------|-------------|----------|-----|
|           |             |                        |               | Stainless steel      |        |               | Ferritic / Martensitic, Annealed         |               |           |        |             | 200      | 15  |
| Mat'l No. | JIS         | DIN                    | AISI/ASTM/SAE | BS                   | EN     | AFNOR         | SS                                       | UNI           | UNE / IHA | UNS    | GOST        | Brands   |     |
| 1.4000    | SUS403      | X6Cr13                 | 403           | 403S17               |        | Z6C13         | 2301                                     | X6Cr13        | F3110     | S40300 | 08C 13      | ATI410S  |     |
| 1.4001    |             | X7Cr14                 | 410S          | 403S7                |        | Z8C13         | 2301                                     |               | F8401     |        | 08C 13      |          |     |
| 1.4002    | SUS 405     | X6CrAl13               | 405           | 405S17               |        | Z6CA13        | 2302                                     | X6CrAl13      |           | S40500 |             |          |     |
| 1.4005    | SUS416      | X12CrS13               | 416           | 416S21               |        | Z11CF13       | 2380                                     | X12CrS13      | F3411     | S41600 |             | ATI416   |     |
| 1.4006    | SUS410      | X12Cr13                | 410           | 410S21               | 56A    | Z10C13        | 2302                                     | X12Cr13       | F3401     | S41000 | 12C 13      | ATI410   |     |
| 1.4016    | SUS430      | X6Cr17                 | 430           | 430S15               | X8Cr17 | Z8C17         | 2320                                     | X8Cr17        | F3113     | S43000 | 12C 17      | ATI430   |     |
| 1.4027    | SCS 2       | GX20Cr14               |               | 420C29               |        | Z20C13M       |  |               |           |        | 20C 13L     |          |     |
| 1.4028    | SUS420J2    | X30Cr13                | 420           | 420S45               |        | Z30C13        | 2304                                     |               |           | S42020 | 20C 13      |          |     |
| 1.4034    | SUS420J2    | X46Cr13                |               | 420S45               |        | Z40C14        |  | X40Cr14       | F3405     |        |             |          |     |
| 1.4057    | SUS431      | X19CrNi17-2            | 431           | 431S29               | 57     | Z15CN16-02    | 2321                                     | X16CrNi16     | F3427     | S43100 | 20C 17N2    | 431 (HT) |     |
| 1.4086    |             | GX120Cr29              |               | 452C11               |        |               |  |               |           |        |             |          |     |
| 1.4104    | SUS430F     | X12CrMoS17             | 430F          | 420S37               |        | Z10CF17       | 2383                                     | X10CrS17      | F3117     | S43020 |             |          |     |
| 1.4112    | SUS 440 B   | X90CrMoV18             | 440B          |                      |        |               |  |               |           | S44003 | 95KH18      |          |     |
| 1.4113    | SUS434      | X6CrMo17               | 434           | 434S17               |        | Z8CD17-01     | 2325                                     | X8CrMo17      |           | S43400 |             | AL 434   |     |
| 1.4313    | SCS5        | X3CrNi13-4             | CA6-NM        | 425C11               |        | Z4CND13-04M   | 2385                                     | (G)X6CrNi304  |           | J91540 |             |          |     |
| 1.4340    |             | GX40CrNi274            |               |                      |        |               |  |               |           | J92615 |             |          |     |
| 1.4417    |             | X2CrNiMoSi195          | S31500        |                      |        |               | 2376                                     |               |           | S39215 |             |          |     |
| 1.4418    |             | X4CrNiMo165            |               |                      |        | Z6CND16-04-01 | 2387                                     |               |           |        |             | APX4     |     |
| 1.4510    | SUS430LX    | X6CrTi17               | XM8           |                      |        | Z4CT17        |  | X6CrTi17      | F3115     | S43035 | 08C 17T     | 430 Ti   |     |
| 1.4511    | SUS430LK    | X6CrNb17               |               |                      |        | Z4CNb17       |  | X6CrNb17      | F3122     |        |             | AXC525   |     |
| 1.4512    | SUH409      | X6CrTi12               | 409           | LW19                 |        | Z3CT12        |  | X6CrTi12      |           | S40900 |             |          |     |
| 1.4720    |             | X20CrMo13              |               |                      |        |               |  |               |           |        |             |          |     |
| 1.4724    | SUS 405     | X10CrAl13              | 405           | 403S17               |        | Z10C13        |  | X10CrAl12     | F311      |        | 10C 13S1U   |          |     |
| 1.4742    | SUS430      | X10CrAl18              | 430           | 439S15               | 60     | Z10CAS18      |  | X8Cr17        | F3113     | S43000 | 15C 13S1U   |          |     |
| 1.4747    | SUH4        | X80CrNiSi20            | H1NV6         | 443S65               | 59     | Z80CSN20-02   |  | X80CrSiNi20   | F320B     | S65006 |             |          |     |
| 1.4749    |             | X18CrNi28              | 446           |                      |        |               |  |               |           |        | 15KH28      |          |     |
| 1.4762    | SUH446      | X10CrAl124             | 446           |                      |        | Z10CAS24      | 2322                                     | X16Cr26       |           | S44600 |             |          |     |
| 1.4871    | SUH35,SUH36 | X53CrMnNiN21-9         | EV8           | 349S54               |        | Z52CMN21-09   |  | X53CrMnNiN219 |           | S63008 | 55C 20G9AN4 |          |     |
|           |             | X10CrNi15              | 429           |                      |        |               |  |               |           |        |             |          |     |
|           |             | X12CrNi18-9            | 302           | 302S31               |        | Z10CN18-09    | 2330                                     |               |           |        |             |          |     |

| <b>M</b>  |             | <b>VDI 3323<br/>13</b> |               | Material Description |        |                | Composition / Structure / Heat Treatment |               |           |        |             | HB          | HRC |
|-----------|-------------|------------------------|---------------|----------------------|--------|----------------|--|---------------|-----------|--------|-------------|-------------|-----|
|           |             |                        |               | Stainless steel      |        |                | Martensitic, Quenched & Tempered         |               |           |        |             | 240         | 23  |
| Mat'l No. | JIS         | DIN                    | AISI/ASTM/SAE | BS                   | EN     | AFNOR          | SS                                       | UNI           | UNE / IHA | UNS    | GOST        | Brands      |     |
| 1.4000    | SUS403      | X6Cr13                 | 403           | 403S17               |        | Z6C13          | 2301                                     | X6Cr13        | F3110     | S40300 | 08C 13      | ATI410S     |     |
| 1.4001    |             | X7Cr14                 | 410S          | 403S7                |        | Z8C13          | 2301                                     |               | F8401     |        | 08C 13      |             |     |
| 1.4006    | SUS410      | X12Cr13                | 410           | 410S21               | 56A    | Z10C13         | 2302                                     | X12Cr13       | F3401     | S41000 | 12C 13      | ATI410      |     |
| 1.4016    | SUS430      | X6Cr17                 | 430           | 430S15               | X8Cr17 | Z8C17          | 2320                                     | X8Cr17        | F3113     | S43000 | 12C 17      | ATI430      |     |
| 1.4021    | SUS 420J1   | X20Cr13                | 420           | 420S37               |        | Z20C13         | 2303                                     | 14210         | F5261     | S42000 | 20C 13      | ATI420      |     |
| 1.4027    | SCS 2       | GX20Cr14               |               | 420C29               |        | Z20C13M        |  |               |           |        | 20C 13L     |             |     |
| 1.4031    | SUS 420J2   | X40Cr13                | 420           |                      |        | Z40C14         | -2304                                    |               | F3404     | S42080 | 40C 13      |             |     |
| 1.4034    | SUS420J2    | X46Cr13                |               | 420S45               |        | Z40C14         |  | X40Cr14       | F3405     |        |             |             |     |
| 1.4057    | SUS431      | X19CrNi17-2            | 431           | 431S29               | 57     | Z15CN16-02     | 2321                                     | X16CrNi16     | F3427     | S43100 | 20C 17N2    | 431 (HT)    |     |
| 1.4104    | SUS430F     | X12CrMoS17             | 430F          | 420S37               |        | Z10CF17        | 2383                                     | X10CrS17      | F3117     | S43020 |             |             |     |
| 1.4113    | SUS434      | X6CrMo17               | 434           | 434S17               |        | Z8CD17-01      | 2325                                     | X8CrMo17      |           | S43400 |             | AL 434      |     |
| 1.4313    | SCS5        | X3CrNi13-4             | CA6-NM        | 425C11               |        | Z4CND13-04M    | 2385                                     | (G)X6CrNi304  |           | J91540 |             |             |     |
| 1.4544    |             | A 700                  | 321           | S524                 |        | Z 10 CNT 18 11 |  | X6CrNiTi1811  |           | J92630 | 08C 18N12T  |             |     |
| 1.4546    |             | X5CrNiNb18-10          | 348           | 347S31               |        |                |  | X6CrNiNb1811  |           | J92640 |             | ATI 348     |     |
| 1.4871    | SUH35,SUH36 | X53CrMnNiN21-9         | EV8           | 349S54               |        | Z52CMN21-09    |  | X53CrMnNiN219 |           | S63008 | 55C 20G9AN4 |             |     |
| 1.4922    |             | X20CrMnV12-1           |               |                      |        |                | 2317                                     | x20CrMnOn1201 |           |        |             |             |     |
| 1.4923    |             | X22CrMoV121            |               |                      |        |                |  |               |           |        |             | Jethete X20 |     |

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## Material Groups

| <b>M</b>  |            | <b>VDI 3323<br/>14</b> |               | Material Description<br>Stainless steel |              |                 | Composition / Structure / Heat Treatment<br>Austenitic |                 |           |        |              | HB<br>180     | HRC<br>10 |
|-----------|------------|------------------------|---------------|---|--------------|-----------------|--|-----------------|-----------|--------|--------------|---------------|-----------|
| Mat'l No. | JIS        | DIN                    | AISI/ASTM/SAE | BS                                      | EN           | AFNOR           | SS   | UNI             | UNE / IHA | UNS    | GOST         | Brands        |           |
| 1.4301    | SUS 304    | X5CrNi18-10            | 304           | 304S15                                  |              | Z5CN18-09       | 2332   |                 | F.3551    | S30409 | 08C 18N10    |               |           |
| 1.4305    | SUS303     | X10CrNiS18-10          | 303           | 303S21                                  | 58M          | Z8CNF18-09      | 2346   | X10CrNiS18.09   | F.3508    | S30300 | 30C 18N11    | ATI 303       |           |
| 1.4306    | SCS19      | X2CrNi1911             | 304L          | 304C12                                  | X3CrNi1810KD | Z2CN18-09       | 2352   | GX2CrNi1910     | F.3503    | S30403 | 03KH18N11    | ATI 304L      |           |
| 1.4308    | SUS304L    | GX6CrNi18-9            | CF-8          | 304C15                                  | 58E          | Z6CN18-10M      | 2333   |                 |           |        |              | CF-8          |           |
| 1.4310    | SUS 301    | X10CrNi18-8            | 301           | 301S21                                  |              | Z12CN17-07      | 2331   | X2CrNi1807      | F.3517    | S30100 | 07KH16N6     | ATI 301       |           |
| 1.4311    | SUS304LN   | X2CrNiN18 10           | 304LN         | 304S62                                  |              | Z2CN18-10       | 2371   | X2CrNiN1810     | F.3541    | S30453 | 03KH18N11    |               |           |
| 1.4312    | SCS12      | GX10CrNi188            | 305           | 302C25                                  |              | Z10CN18-9M      |  |                 |           |        | 10C 18N9L    | ATI 305       |           |
| 1.4350    | SUS304     | X5CrNi18-9             | 304           | 304S15                                  | 58E          | Z6CN18-09       | 2332   | X5CrNi1810      | F.3551    | S30400 |              | ATI 304       |           |
| 1.4362    |            | X2CrNiN234             | S32304        |   |              | Z2CN23-04AZ     | 2327   |                 |           | S32304 |              | ATI 2304TM    |           |
| 1.4371    |            | X3CrMnNiN18887         | 202           | 284S16                                  |              | Z8CMN18-08-05   |  |                 |           |        |              |               |           |
| 1.4401    | SUS316     | X5CrNiMo17-12-2        | 316           | 316S13                                  |              | Z3CND17-11-01   | 2347   | X5CrNiMo17 12 2 | F.3534    | S31600 | 08KH17H13M2T | ATI 316       |           |
| 1.4404    | SUS316L    | X2CrNiMo17-13-2        | 316L          | 316S11                                  |              | Z2CND17-12      | 2348   | X2CrNiMo1712    | F.3533    | S31603 |              | ATI 316L      |           |
| 1.4406    | SUS316LN   | X2CrNiMoN17122         | 316LN         | 316S61                                  |              | Z2CND17-12AZ    |  | X2CrNiMoN1712   | F.3542    | S31653 | 07C 18N      | ATI 316LN     |           |
| 1.4408    | SCS14      | GX6CrNiMo18-10         | CF-8M         | 316C16                                  |              |                 | 2343   | X7CrNiMo2010    | F.8414    | J92900 | 10G2S2MSL    |               |           |
| 1.4410    | SCS 14 A   | GX10CrNiMo18-9         |               |   |              | Z5CND20-12M     | 2328   |                 |           | S32750 |              |               |           |
| 1.4429    | SUS316LN   | X2CrNiMoN17-13-3       | 316Ln         | 316S62                                  |              | Z2CND17-13AZ    | 2375   | X2CrNiMoN17133  | F.3543    |        | 03KH16N15M3  |               |           |
| 1.4435    | SUS316L    | X2CrNiMo18143          | 316L          | 316S11                                  |              | Z3CND17-12-03   | 2375   | X2CrNiMo17 13 2 | F.3533    | S31603 | 03C 17N14M3  |               |           |
| 1.4436    | SUS316     | X3CrNiMo17-13-3        | 316           | 316S19                                  |              | Z6CND18-12-03   | 2343   | X5CrNiMo17 12 2 | F.3543    | S31600 |              |               |           |
| 1.4438    | SUS317L    | X2CrNiMo18164          | 317L          | 317S12                                  |              | Z2CND19-15-04   | 2367   | X2CrNiMo18 16 4 | F.3539    | S31703 |              | ATI 317L      |           |
| 1.4439    |            | X2CrNiMoN17135         | (s31726)      |   |              | Z3CND18-14-06AZ |  |                 |           |        |              |               |           |
| 1.4440    |            | X2CrNiMo18-16          |               |   |              |                 |  |                 |           |        |              |               |           |
| 1.4449    | SUS317     | X5CrNiMo17133          | 317           | 317S16                                  |              |                 |  | X5CrNiMo1815    |           | S31700 |              | ATI 317       |           |
| 1.4460    | SUS 329 J1 | X8CrNiMo275            | 329           |   |              |                 | 2324   |                 |           | S32900 |              | 10RE51        |           |
| 1.4462    | SUS329J3L  | X2CrNiMoN2253          |               | 318S13                                  |              | Z3CND22-05Az    | 2377   |                 |           | S31803 |              | ATI 2205TM    |           |
| 1.4500    |            | X7NiCrMoCuNb2520       |               |   |              | Z3NCUD25-20M    |  |                 |           | J95150 |              |               |           |
| 1.4521    | SUS444     | X2CrMoTi18-2           | 443444        |   |              |                 | 2326   | X2CrMoTiNb18 2  | F.3123    |        |              |               |           |
| 1.4539    |            | X1NiCrMoCuN25205       |               |   |              | Z2NCUD25-20     | 2562   |                 |           | N08904 |              | ATI 904L      |           |
| 1.4541    | SUS321     | X14CrNiTi18-10         | 321           | 321S31                                  |              | Z6CNT18-10      | 2337   | X6CrNiTi18 11   | F.3523    | S32100 | 06C 18N10T   | ATI 321       |           |
| 1.4542    | SUS630     | X5CrNiCuNb174          | 630           |   |              | Z7CNU15-05      |  |                 |           |        |              | UGIMA 4542    |           |
| 1.4545    |            | Z7CNU15.05             | 15-5PH        |   |              |                 |  |                 |           | S15500 |              | ATI 15-5      |           |
| 1.4547    |            | X1CrNiMoN20187         | S31254        |   |              |                 | 2378   |                 |           | S31254 |              | Uranus B256Mo |           |
| 1.4550    | SUS347     | X6CrNiNb18-10          | 347           | 347S17                                  | 58F          | Z6CNNb18-10     | 2338   | X6CrNiNb 18 11  | F.3552    | S34700 | 08C 18N12B   | ATI 347       |           |
| 1.4552    | SCS 21     | GX7CrNiNb18-9          |               |   |              | Z4CNNb19-10M    |  |                 |           | J92710 |              |               |           |
| 1.4568    | SUS 631    | X 7 CrNiAl 17 7        |               | 316S111                                 |              | Z9 CAN 17-7     | 2388   | Z8CNA17-07      |           | S17700 | 09C 17NUJ1   | 17-7PH        |           |
| 1.4571    | SUS 316Ti  | X6CrNiMoTi17-12-2      | 316Ti         | 320S31                                  | 58J          | Z6NDT17-12      | 2350   | X6CrNiMoTi17 12 | F.3535    |        | 10C 17N13M2T | ATI 316Ti     |           |
| 1.4581    | SCS 22     | GX5CrNiMoNb18          |               | 318C17                                  |              | Z4CNDNb18-12M   |  |                 |           |        |              |               |           |
| 1.4583    |            | X6CrNiMoNb18-12        | 318           | 303S21                                  |              | Z15CNS20-12     |  | X15CrNiSi2 12   |           |        |              |               |           |
| 1.4585    |            | GX7CrNiMoCuNb1818      |               |   |              |                 |  | X6CrNiMoTi17 12 |           | J94651 |              |               |           |
| 1.4821    |            | X20CrNiSi254           |               |   |              | Z20CNS25-04     |  |                 |           | S44635 |              |               |           |
| 1.4823    |            | GX40CrNiSi274          |               |   |              |                 |  |                 |           | J92605 |              |               |           |
| 1.4828    | SCS17      | X15CrNiSi20-12         | 309           | 309S24                                  | 58C          | Z15CNS20-12     |  |                 | F.8414    | S30900 | 20C 20N1452  | ATI 309       |           |
| 1.4833    | SUS 309 S  | X6CrNi2213             | 309S          | 309S13                                  |              | Z15CN24-13      |  |                 |           | J93400 |              |               |           |
| 1.4845    | SUH310     | X12CrNi25-21           | 310S          | 310S24                                  |              | Z12CN25-20      | 2361   | X6CrNi2520      | F.331     | S31008 | 20C 23N18    | ATI 310S      |           |
| 1.4878    | SUS321     | X12CrNiTi18-9          | 321           | 321S20                                  | 58B          | Z6CNT18-12(B)   | 2337   | X6CrNiTi1811    | F.3553    | S32100 |              | ACX315        |           |
| 1.4891    |            | X5CrNiNb18-10          | Ss30415       |   |              |                 | 2372   |                 |           |        |              |               |           |
| 1.4893    |            | X8CrNiNb11             | S30815        |   |              |                 | 2368   |                 |           |        |              |               |           |
| 1.4948    |            | X6CrNi1811             | 304H          | 304S51                                  |              | Z5CN18-09       | 2333   |                 |           | S30480 |              |               |           |
| 1.4980    |            | X5NiCrTi2515           | 660           |   |              |                 | 2570   |                 |           | S66286 |              | Incoloy A 286 |           |
|           |            | X5NiCrN3525            |               |   |              |                 |  |                 |           |        |              |               |           |
|           |            | X2CrNiMoN18134         | S31753        |   |              |                 |  |                 |           |        |              |               |           |
|           |            | X2CrNiMoN25227         |               |   |              |                 |  |                 |           |        |              |               |           |

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| Mat'l No. | JIS    | DIN           | AISI/ASTM/SAE | BS        | EN              | AFNOR    | SS   | UNI          | UNE / IHA | UNS    | GOST  | Brands      | VDI 3323 15          |  |     |     |
|-----------|--------|---------------|---------------|-----------|-----------------|----------|------|--------------|-----------|--------|-------|-------------|----------------------|--|-----|-----|
|           |        |               |               |           |                 |          |      |              |           |        |       |             | Material Description | Composition / Structure / Heat Treatment | HB  | HRC |
|           |        |               |               |           |                 |          |      |              |           |        |       |             | Grey cast iron       | Pearlitic / Ferritic                     | 180 | 10  |
| 0.6010    | FC100  | GG10          | A48 20 B      | Grade 100 | GJL-100         | Ft 10 D  | 0100 | G10          | FG10      |        | Sc 10 |             |                      |  |     |     |
| 0.6015    | FC150  | GG15          | A48 25 B      | Grade 150 | GJL-150         | Ft 15 D  | 0115 | G15          | FG15      |        | Sc 15 |             |                      |  |     |     |
| 0.6020    | FC200  | GG20          | A48 30 B      | Grade 220 | GJL-200         | Ft 20 D  | 0120 | G20          | FG20      | W06020 | Sc 20 |             |                      |  |     |     |
| 0.6025    | FC250  | GG25          | A48 40 B      | Grade 260 | GJL-250         | Ft 25 D  | 0125 | G25          | FG25      |        | Sc 25 |             |                      |  |     |     |
| 0.6660    |        | GGL-NiCr 20 2 | 1050/700/7    | Grade F2  | GJLA-XNiCr 20-2 | L-NC 202 | 0523 | -            |           | F41002 |       | Ni-Resist 2 |                      |  |     |     |
| 1.4449    | SUS317 | X5CrNiMo17133 | 317           | 317S16    |                 |          |      | X5CrNiMo1815 |           | S31700 |       | ATI317      |                      |  |     |     |

| Mat'l No. | JIS   | DIN  | AISI/ASTM/SAE | BS        | EN      | AFNOR   | SS   | UNI | UNE / IHA | UNS | GOST  | Brands | VDI 3323 16          |  |     |     |
|-----------|-------|------|---------------|-----------|---------|---------|------|-----|-----------|-----|-------|--------|----------------------|--|-----|-----|
|           |       |      |               |           |         |         |      |     |           |     |       |        | Material Description | Composition / Structure / Heat Treatment | HB  | HRC |
|           |       |      |               |           |         |         |      |     |           |     |       |        | Grey cast iron       | Pearlitic (Martensitic)                  | 260 | 26  |
| 0.6025    | FC250 | GG25 | A48 40 B      | Grade 260 | GJL-250 | Ft 25 D | 0125 | G25 | FG25      |     | Sc 25 |        |                      |  |     |     |
| 0.6030    | FC300 | GG30 | A48 45 B      | Grade 300 | GJL-300 | Ft 30 D | 0130 | G30 | FG30      |     | Sc 30 |        |                      |  |     |     |
| 0.6035    | FC350 | GG35 | A48 50 B      | Grade 350 | GJL-350 | Ft 35 D | 0135 | G35 | FG35      |     | Sc 35 |        |                      |  |     |     |
| 0.6040    | FC400 | GG40 | A48 60 B      | Grade 400 | GJL-400 | Ft 40 D | 0140 | G40 | FC40      |     | Sc 40 |        |                      |  |     |     |

| Mat'l No. | JIS        | DIN     | AISI/ASTM/SAE | BS         | EN            | AFNOR      | SS      | UNI       | UNE / IHA | UNS    | GOST     | Brands | VDI 3323 17          |  |     |     |
|-----------|------------|---------|---------------|------------|---------------|------------|---------|-----------|-----------|--------|----------|--------|----------------------|--|-----|-----|
|           |            |         |               |            |               |            |         |           |           |        |          |        | Material Description | Composition / Structure / Heat Treatment | HB  | HRC |
|           |            |         |               |            |               |            |         |           |           |        |          |        | Nodular cast iron    | Ferritic                                 | 160 | 3   |
| 0.7033    | FCD350-22L | GGG35.3 | -             | 350/22L40  | GJS-350-22LT  | FGS 370-17 | 0717-15 | -         |           |        |          |        |                      |  |     |     |
| 0.7040    | FCD400     | GGG40   | 60-40-18      | SNG 420-12 | GJS-400-15    | FCS 400-12 | 0717-02 | GS 400-12 | FG E38-17 | F32800 | Vc 42-12 |        |                      |  |     |     |
| 0.7043    | FCD 370    | GGG40.3 | 60-40-18      | SNG 370-17 | GJS-400-18-LT | FGS 370-17 | 0717-12 | GSO 42-17 |           |        | Vc 42-12 |        |                      |  |     |     |
| 0.6040    | FC400      | GG40    | A48 60 B      | Grade 400  | GJL-400       | Ft 40 D    | 0140    | G40       | FC40      |        | Sc 40    |        |                      |  |     |     |

| Mat'l No. | JIS           | DIN           | AISI/ASTM/SAE | BS        | EN              | AFNOR        | SS      | UNI      | UNE / IHA | UNS    | GOST    | Brands        | VDI 3323 18          |  |     |     |
|-----------|---------------|---------------|---------------|-----------|-----------------|--------------|---------|----------|-----------|--------|---------|---------------|----------------------|--|-----|-----|
|           |               |               |               |           |                 |              |         |          |           |        |         |               | Material Description | Composition / Structure / Heat Treatment | HB  | HRC |
|           |               |               |               |           |                 |              |         |          |           |        |         |               | Nodular cast iron    | Pearlitic                                | 250 | 25  |
| 0.7050    | FCD500        | GGG50         | 80-55-06      | SNG 500-7 | GJS-500-7       | FGS 500-7    | 0727-02 | GS 500-7 | FG E50-7  | F33100 | Vc 50-2 |               |                      |  |     |     |
| 0.7060    | FCD600        | GGG60         | 80-55-06      | SNG 600-3 | GJS-600-3       | FGS 600-3    | 0732-03 | GS 600-3 | FG E60-2  |        | Vc 60-2 |               |                      |  |     |     |
| 0.7070    | FCD700        | GGG70         | 100-70-03     | SNG 700-2 | GJS-700-2       | FGS 700-2    | 0737-01 | GS 700-2 | FG S70-2  | F34800 | Vc 70-2 |               |                      |  |     |     |
| 0.7652    | FCDA-NiMn 137 | GGG NiMn 13-7 | -             | Grade S6  | GJSA-XNiMn 13-7 | FGS Ni13 Mn7 | 0772    | -        |           |        |         | Nodumag       |                      |  |     |     |
| 0.7660    |               | GGG NiCr 20-2 | A436 D2       | Grade S2  | GJSA-XNiCr 20-2 | FGS Ni20 Cr2 | 0776    | -        |           |        |         | Ni-Resist D-2 |                      |  |     |     |

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## Material Groups

| <b>K</b>  | <b>VDI 3323</b> |        | <b>Material Description</b> |          |            |          | <b>Composition / Structure / Heat Treatment</b> |        |           |     | <b>HB</b> | <b>HRC</b> |
|-----------|-----------------|--------|-----------------------------|----------|------------|----------|---|--------|-----------|-----|-----------|------------|
|           | <b>19</b>       |        | Malleable cast iron         |          |            |          | Ferritic  |        |           |     | 130       |            |
| Mat'l No. | JIS             | DIN    | AISI/ASTM/SAE               | BS       | EN         | AFNOR    | SS  | UNI    | UNE / IHA | UNS | GOST      | Brands     |
| 0.8135    | FCMW330         | GTS-35 | 32510                       | B 340-12 | GJMB350-10 | MN 35-10 | 0815  | GMN 35 | GTS35     |     | Kc 35-10  |            |

| <b>K</b>  | <b>VDI 3323</b> |        | <b>Material Description</b> |         |            |          | <b>Composition / Structure / Heat Treatment</b> |        |           |     | <b>HB</b> | <b>HRC</b> |
|-----------|-----------------|--------|-----------------------------|---------|------------|----------|---|--------|-----------|-----|-----------|------------|
|           | <b>20</b>       |        | Malleable cast iron         |         |            |          | Pearlitic                                       |        |           |     | 230       | 21         |
| Mat'l No. | JIS             | DIN    | AISI/ASTM/SAE               | BS      | EN         | AFNOR    | SS  | UNI    | UNE / IHA | UNS | GOST      | Brands     |
| 0.8145    | FCMW370         | GTS-45 | A220-40010                  | P 440-7 | GJMB450-6  | MN 450   | 0852  | GMN 45 |           |     |           |            |
| 0.8155    | FCMP490         | GTS-55 | 50005                       | P 510-4 | GJMB-550-4 | MP 50-5  | 0854  | GMN 55 |           |     | Kc 60-3   |            |
| 0.8165    | FCMP590         | GTS-65 | 70003                       | P 570-3 | GJMB-650-2 | MN 650-3 | 0856  | GMN 65 |           |     |           |            |
| 0.8170    | FCMP690         | GTS-70 | 90001                       | P 690-2 | GJMB-700-2 | MN 700-2 | 0862  | GMN 70 |           |     | Kc 70-2   |            |

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| <b>N</b>  |         | <b>VDI 3323<br/>21</b> | Material Description   |     |    | Composition / Structure / Heat Treatment |    |     |           |     | HB   | HRc    |
|-----------|---------|------------------------|------------------------|-----|----|--|----|-----|-----------|-----|------|--------|
|           |         |                        | Aluminum-wrought alloy |     |    | Not Curable                              |    |     |           |     | 60   |        |
| Mat'l No. | JIS     | DIN                    | AISI/ASTM/SAE          | BS  | EN | AFNOR                                    | SS | UNI | UNE / IHA | UNS | GOST | Brands |
| 3.0205    |         | Al99                   | Al99                   |     |    |  |    |     |           |     |      |        |
| 3.0255    | (A1050) | Al99.5                 | 1000                   | L31 |    | A59050C                                  |    |     |           |     | D1   |        |
| 3.3315    |         | AlMg1                  |                        |     |    |  |    |     |           |     |      |        |

| <b>N</b>  |       | <b>VDI 3323<br/>22</b> | Material Description   |      |    | Composition / Structure / Heat Treatment |    |               |           |     | HB   | HRc    |
|-----------|-------|------------------------|------------------------|------|----|--|----|---------------|-----------|-----|------|--------|
|           |       |                        | Aluminum-wrought alloy |      |    | Curable, Hardened                        |    |               |           |     | 100  |        |
| Mat'l No. | JIS   | DIN                    | AISI/ASTM/SAE          | BS   | EN | AFNOR                                    | SS | UNI           | UNE / IHA | UNS | GOST | Brands |
| 3.1325    |       | AlCuMg1                |                        |      |    |  |    |               |           |     | AD35 |        |
| 3.1655    | A2011 | AlCuSiPb               |                        |      |    |  |    |               |           |     |      |        |
| 3.2315    |       | AlMgSi1                |                        |      |    |  |    |               |           |     | AK9  |        |
| 3.4345    |       | AlZnMgCu0,5            | 7050                   | L86  |    | AZ4GU/9051                               |    | 811-04        |           |     |      |        |
| 3.4365    | 7075  | AlZnMgCu1,5            | 7075                   | 7075 |    | 7075                                     |    | AlZn5.8MgCuCr |           |     | B95  |        |

| <b>N</b>  |     | <b>VDI 3323<br/>23</b> | Material Description   |       |    | Composition / Structure / Heat Treatment |      |     |           |     | HB   | HRc    |
|-----------|-----|------------------------|------------------------|-------|----|--|------|-----|-----------|-----|------|--------|
|           |     |                        | Aluminum-cast, alloyed |       |    | ≤ 12% Si, Not Curable                    |      |     |           |     | 75   |        |
| Mat'l No. | JIS | DIN                    | AISI/ASTM/SAE          | BS    | EN | AFNOR                                    | SS   | UNI | UNE / IHA | UNS | GOST | Brands |
| 3.2163    |     | G-AlSi9Cu3             |                        |       |    |  |      |     |           |     | VAL8 |        |
| 3.2382    |     | GD-AlSi10Mg            |                        |       |    |  |      |     |           |     |      |        |
| 3.2383    |     | G-AlSi0Mg(Cu)          | A360.2                 | LM9   |    |  | 4253 |     |           |     |      |        |
| 3.2581    |     | G-AlSi12               |                        |       |    |  |      |     |           |     |      |        |
| 3.3561    |     | G-AlMg5                |                        |       |    |  |      |     |           |     |      |        |
| 3.5101    |     | G-MgZn4sE1Zr1          | ZE41                   | MAG5  |    |  |      |     |           |     |      |        |
| 3.5103    |     | MgSE3Zn27r1            | EZ33                   | MAG6  |    | G-TR3Z2                                  |      |     |           |     |      |        |
| 3.5812    |     | G-MgAl8Zn1             | AZ81                   | NMAG1 |    |  |      |     |           |     |      |        |
| 3.5912    |     | G-MgAl9Zn1             | AZ91                   | MAG7  |    |  |      |     |           |     |      |        |
|           |     |                        | A356-72                | 2789  |    | NFA32-201                                |      |     |           |     |      |        |
| A5052     |     |                        | 356.1                  | LM25  |    |  | 4244 |     |           |     | AK7  |        |
|           |     | G-AlSi12               | A413.2                 | LM6   |    |  | 4261 |     |           |     |      |        |
| ADC12     |     | G-AlSi12(Cu)           | A413.1                 | LM20  |    |  | 4260 |     |           |     | AK12 |        |
| A6061     |     | GD-AlSi12              | A413.0                 |       |    |  | 4247 |     |           |     |      |        |
| A7075     |     | GD-AlSi8Cu3            | A380.1                 | LM24  |    |  | 4250 |     |           |     |      |        |

# Technical Information

## Material Groups

| Mat'l No. | JIS  | DIN           | AISI/ASTM/SAE | BS                 | EN | Composition / Structure / Heat Treatment       |      |     |           |     | HB  | HRc    |    |  |
|-----------|------|---------------|---------------|--------------------|----|--|------|-----|-----------|-----|---|--------|----|--|
|           |      |               |               |                    |    | AFNOR  | SS   | UNI | UNE / IHA | UNS | GOST  | Brands |    |  |
|           |      | <b>N</b>      |               | <b>VDI 3323 24</b> |    | Material Description<br>Aluminum-cast, alloyed |      |     |           |     | Composition / Structure / Heat Treatment<br>≤ 12% Si, Curable, Hardened |        | 90 |  |
| 2.1871    |      | G-AlCu4TiMg   |               |                    |    |  |      |     |           |     |   |        |    |  |
| 3.1754    |      | G-AlCu5Ni1,5  |               |                    |    |  |      |     |           |     |   |        |    |  |
| 3.2371    |      | G-AlSi7Mg     | 4218B         |                    |    |  |      |     |           |     |   | AK8    |    |  |
| 3.2373    | C4BS | G-AlSi9MgWA   | SC64D         |                    |    | A-57G  | 4251 |     |           |     |   | AK9    |    |  |
| 3.2381    |      | G-AlSi10Mg    |               |                    |    |  |      |     |           |     |   | AK12   |    |  |
| 3.5106    |      | G-MgAg3SE2Zr1 | QE22          | mag12              |    |  |      |     |           |     |   |        |    |  |
|           |      | G-ALMG5       | GD-AISI12     | LM5                |    | A-SU12   | 4252 |     |           |     |   |        |    |  |

| Mat'l No. | JIS | DIN         | AISI/ASTM/SAE | BS                 | EN | Composition / Structure / Heat Treatment                             |    |     |           |     | HB  | HRc    |     |  |
|-----------|-----|-------------|---------------|--------------------|----|--|----|-----|-----------|-----|---|--------|-----|--|
|           |     |             |               |                    |    | AFNOR  | SS | UNI | UNE / IHA | UNS | GOST  | Brands |     |  |
|           |     | <b>N</b>    |               | <b>VDI 3323 26</b> |    | Material Description<br>Copper and Copper Alloys<br>(Bronze / Brass) |    |     |           |     | Composition / Structure / Heat Treatment<br>Cutting alloys, PB>1% |        | 110 |  |
| 2.0375    |     | CuZn36Pb3   |               |                    |    |  |    |     |           |     |   | LS60-2 |     |  |
| 2.1090    |     | G-CuSn75pb  | C93200        |                    |    | U-E7Z5pb4  |    |     |           |     |   |        |     |  |
| 2.1096    |     | G-CuSn5ZnPB | c83600        | LG2                |    |  |    |     |           |     |   |        |     |  |
| 2.1098    |     | G-CuSn2Znpb | C83600        |                    |    |  |    |     |           |     |   |        |     |  |
| 2.1182    |     | G-CuPb15Sn  | C23000        | LB1                |    | U-pb15E8   |    |     |           |     |   |        |     |  |

| Mat'l No. | JIS   | DIN         | AISI/ASTM/SAE | BS                 | EN | Composition / Structure / Heat Treatment                             |    |       |           |     | HB   | HRc     |    |  |
|-----------|-------|-------------|---------------|--------------------|----|--|----|-------|-----------|-----|--|---------|----|--|
|           |       |             |               |                    |    | AFNOR  | SS | UNI   | UNE / IHA | UNS | GOST   | Brands  |    |  |
|           |       | <b>N</b>    |               | <b>VDI 3323 27</b> |    | Material Description<br>Copper and copper alloys<br>(Bronze / Brass) |    |       |           |     | Composition / Structure / Heat Treatment<br>CuZn, CuSnZn (Brass) |         | 90 |  |
| 2.0240    | C2300 | CuZn15      |               |                    |    |  |    |       |           |     |  | L90     |    |  |
| 2.0321    |       | CuZn37      | C27200        | cz108              |    | CuZn36,CuZn37  |    | C2700 |           |     |  | L63     |    |  |
| 2.0590    |       | G-CuZn40Fe  |               |                    |    |  |    |       |           |     |  |         |    |  |
| 2.0592    |       | G-CuZn35Al1 | C86500        | U-Z36N3            |    | HTB1   |    |       |           |     |  |         |    |  |
| 2.0596    |       | G-CuZn34Al2 | C86200        | HTB1               |    | U-Z36N3  |    |       |           |     |  | LTs23AD |    |  |
| 2.1293    |       | CuCrZr      | C18200        | CC102              |    | U-Cr0-8Zr  |    |       |           |     |  |         |    |  |

| Mat'l No. | JIS | DIN          | AISI/ASTM/SAE | BS                 | EN | Composition / Structure / Heat Treatment                             |    |     |           |     | HB   | HRc    |     |  |
|-----------|-----|--------------|---------------|--------------------|----|--|----|-----|-----------|-----|--|--------|-----|--|
|           |     |              |               |                    |    | AFNOR  | SS | UNI | UNE / IHA | UNS | GOST   | Brands |     |  |
|           |     | <b>N</b>     |               | <b>VDI 3323 28</b> |    | Material Description<br>Copper and copper alloys<br>(Bronze / Brass) |    |     |           |     | Composition / Structure / Heat Treatment<br>CuSn, lead-free copper and electrolytic copper |        | 100 |  |
| 2.0060    |     | E-Cu57       |               |                    |    |  |    |     |           |     |  |        |     |  |
| 2.0966    |     | CuAl10Ni5Fe4 | C63000        | Ca104              |    | U-A10N   |    |     |           |     |  | BrAD   |     |  |
| 2.0975    |     | G-CuAl10Ni   | B-148-52      |                    |    |  |    |     |           |     |  |        |     |  |
| 2.1050    |     | G-CuSn10     | c90700        | CT1                |    |  |    |     |           |     |  |        |     |  |
| 2.1052    |     | G-CuSn12     | C90800        | pb2                |    | UE12P  |    |     |           |     |  |        |     |  |
| 2.1292    |     | G-CuCrF35    | C81500        | CC1-FF             |    |  |    |     |           |     |  |        |     |  |

## Technical Information

# Material Groups

TURNING

PARTING &amp; GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

| Mat'l No.  | JIS       | DIN              | Material Description |        |    | Composition / Structure / Heat Treatment |      |              |           |     | HB     | HRc    |
|--|-----------|------------------|----------------------|--------|----|--|------|--------------|-----------|-----|--------|--------|
|  |           |                  | AISI/ASTM/SAE        | BS     | EN | Fe Based, Annealed                       |      |              |           |     | 200    | 15     |
| <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="font-size: 2em; font-weight: bold; color: #e67e22;">S</div> <div style="text-align: center;"> <div style="font-size: 1.2em; font-weight: bold; color: #e67e22;">VDI 3323</div> <div style="font-size: 2em; font-weight: bold; color: #e67e22;">31</div> </div> <div style="text-align: center;"> <div style="font-size: 0.8em; font-weight: bold; color: #e67e22;">Material Description</div> <div style="font-weight: bold; color: #e67e22;">Heat resistant super alloys</div> </div> <div style="text-align: center;"> <div style="font-size: 0.8em; font-weight: bold; color: #e67e22;">Composition / Structure / Heat Treatment</div> <div style="font-weight: bold; color: #e67e22;">Fe Based, Annealed</div> </div> <div style="text-align: center;"> <div style="font-size: 0.8em; font-weight: bold; color: #e67e22;">HB</div> <div style="font-weight: bold; color: #e67e22;">200</div> </div> <div style="text-align: center;"> <div style="font-size: 0.8em; font-weight: bold; color: #e67e22;">HRc</div> <div style="font-weight: bold; color: #e67e22;">15</div> </div> </div> |           |                  |                      |        |    |  |      |              |           |     |        |        |
| Mat'l No.  | JIS       | DIN              | AISI/ASTM/SAE        | BS     | EN | AFNOR                                    | SS   | UNI          | UNE / IHA | UNS | GOST   | Brands |
| 1.4558   | NCF 800TB | X2NiCrAlTi3220   | N08800               | NA15   |    |  |      |              |           |     |        |        |
| 1.4562   |           | X1NiCrMoCu32287  | N08031               |        |    |  |      |              |           |     |        |        |
| 1.4563   |           | X1NiCrMoCuN31274 | N08028               |        |    | Z1NCU31-27-03                            | 2584 |              |           |     | EK77   |        |
| 1.4864   | SUH330    | X12NiCrSi36-16   | 330                  | NA17   |    | Z12NCS37-18                              |      |              |           |     | N08330 |        |
| 1.4865   | SCH15     | GX40NiCrSi38-18  |                      | 330C40 |    |  |      | XG50NiCr3919 |           |     | J94605 |        |
| 1.4958   |           | X5NiCrAlTi3120   |                      |        |    |  |      |              |           |     |        |        |

| Mat'l No.  | JIS | DIN           | Material Description |    |    | Composition / Structure / Heat Treatment |    |     |           |     | HB   | HRc    |
|--|-----|---------------|----------------------|----|----|--|----|-----|-----------|-----|------|--------|
|  |     |               | AISI/ASTM/SAE        | BS | EN | Fe Based, Aged                           |    |     |           |     | 280  | 30     |
| <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="font-size: 2em; font-weight: bold; color: #e67e22;">S</div> <div style="text-align: center;"> <div style="font-size: 1.2em; font-weight: bold; color: #e67e22;">VDI 3323</div> <div style="font-size: 2em; font-weight: bold; color: #e67e22;">32</div> </div> <div style="text-align: center;"> <div style="font-size: 0.8em; font-weight: bold; color: #e67e22;">Material Description</div> <div style="font-weight: bold; color: #e67e22;">Heat resistant super alloys</div> </div> <div style="text-align: center;"> <div style="font-size: 0.8em; font-weight: bold; color: #e67e22;">Composition / Structure / Heat Treatment</div> <div style="font-weight: bold; color: #e67e22;">Fe Based, Aged</div> </div> <div style="text-align: center;"> <div style="font-size: 0.8em; font-weight: bold; color: #e67e22;">HB</div> <div style="font-weight: bold; color: #e67e22;">280</div> </div> <div style="text-align: center;"> <div style="font-size: 0.8em; font-weight: bold; color: #e67e22;">HRc</div> <div style="font-weight: bold; color: #e67e22;">30</div> </div> </div> |     |               |                      |    |    |  |    |     |           |     |      |        |
| Mat'l No.  | JIS | DIN           | AISI/ASTM/SAE        | BS | EN | AFNOR                                    | SS | UNI | UNE / IHA | UNS | GOST | Brands |
| 1.4977   |     | X40CoCrNi2020 |                      |    |    | Z42CNKDWNb                               |    |     |           |     |      |        |

| Mat'l No.  | JIS     | DIN          | Material Description |           |    | Composition / Structure / Heat Treatment |    |     |           |        | HB        | HRc            |
|--|---------|--------------|----------------------|-----------|----|--|----|-----|-----------|--------|-----------|----------------|
|  |         |              | AISI/ASTM/SAE        | BS        | EN | Ni or Co Based, Annealed                 |    |     |           |        | 250       | 25             |
| <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="font-size: 2em; font-weight: bold; color: #e67e22;">S</div> <div style="text-align: center;"> <div style="font-size: 1.2em; font-weight: bold; color: #e67e22;">VDI 3323</div> <div style="font-size: 2em; font-weight: bold; color: #e67e22;">33</div> </div> <div style="text-align: center;"> <div style="font-size: 0.8em; font-weight: bold; color: #e67e22;">Material Description</div> <div style="font-weight: bold; color: #e67e22;">Heat resistant super alloys</div> </div> <div style="text-align: center;"> <div style="font-size: 0.8em; font-weight: bold; color: #e67e22;">Composition / Structure / Heat Treatment</div> <div style="font-weight: bold; color: #e67e22;">Ni or Co Based, Annealed</div> </div> <div style="text-align: center;"> <div style="font-size: 0.8em; font-weight: bold; color: #e67e22;">HB</div> <div style="font-weight: bold; color: #e67e22;">250</div> </div> <div style="text-align: center;"> <div style="font-size: 0.8em; font-weight: bold; color: #e67e22;">HRc</div> <div style="font-weight: bold; color: #e67e22;">25</div> </div> </div> |         |              |                      |           |    |  |    |     |           |        |           |                |
| Mat'l No.  | JIS     | DIN          | AISI/ASTM/SAE        | BS        | EN | AFNOR                                    | SS | UNI | UNE / IHA | UNS    | GOST      | Brands         |
| 2.4360   |         | NiCu30Fe     |                      | NA13      |    | NU30                                     |    |     |           | N04400 |           | Monel400       |
| 2.4603   |         | NiCr 30 FeMo | 5390A                |           |    | NC22FeD                                  |    |     |           |        |           | Hastelloy G-30 |
| 2.4610   |         | NiMo16Cr16Ti |                      |           |    |  |    |     |           | N26455 |           | HastelloyC-4   |
| 2.4630   |         | NiCr20Ti     |                      | HR5,203-4 |    | NC20T                                    |    |     |           | N06075 |           | Nimonic75      |
| 2.4631   | NCF 80A | NiCr20TiAl   |                      | HR40      |    | NC20TA                                   |    |     |           | N07080 | KHN77TYuR | Nimonic 80A    |
| 2.4642   | NCF 690 | NiCr29Fe     |                      |           |    | Nnc30Fe                                  |    |     |           | N06690 |           | Inconel 690    |
| 2.4856   |         | NiCr22Mo9Nb  |                      | NA21      |    | NC22FeDNb                                |    |     |           | N06625 |           | Inconel 625    |
| 2.4858   |         | NiCr21Mo     |                      | NA16      |    | NC21FeDU                                 |    |     |           | N08825 | KHN38VT   | Incoloy 825    |

| Mat'l No.  | JIS | DIN              | Material Description |        |    | Composition / Structure / Heat Treatment |    |     |           |        | HB   | HRc          |
|--|-----|------------------|----------------------|--------|----|--|----|-----|-----------|--------|------|--------------|
|  |     |                  | AISI/ASTM/SAE        | BS     | EN | Ni or Co Based, Aged                     |    |     |           |        | 350  | 38           |
| <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="font-size: 2em; font-weight: bold; color: #e67e22;">S</div> <div style="text-align: center;"> <div style="font-size: 1.2em; font-weight: bold; color: #e67e22;">VDI 3323</div> <div style="font-size: 2em; font-weight: bold; color: #e67e22;">34</div> </div> <div style="text-align: center;"> <div style="font-size: 0.8em; font-weight: bold; color: #e67e22;">Material Description</div> <div style="font-weight: bold; color: #e67e22;">Heat resistant super alloys</div> </div> <div style="text-align: center;"> <div style="font-size: 0.8em; font-weight: bold; color: #e67e22;">Composition / Structure / Heat Treatment</div> <div style="font-weight: bold; color: #e67e22;">Ni or Co Based, Aged</div> </div> <div style="text-align: center;"> <div style="font-size: 0.8em; font-weight: bold; color: #e67e22;">HB</div> <div style="font-weight: bold; color: #e67e22;">350</div> </div> <div style="text-align: center;"> <div style="font-size: 0.8em; font-weight: bold; color: #e67e22;">HRc</div> <div style="font-weight: bold; color: #e67e22;">38</div> </div> </div> |     |                  |                      |        |    |  |    |     |           |        |      |              |
| Mat'l No.  | JIS | DIN              | AISI/ASTM/SAE        | BS     | EN | AFNOR                                    | SS | UNI | UNE / IHA | UNS    | GOST | Brands       |
| 2.4375   |     | NiCu30Al         | 4676                 | NA18   |    | NU30AT                                   |    |     |           | N05500 |      | MonelK500    |
| 2.4662   |     | NiFe35Cr14MoTi   | 5660                 |        |    | ZSNCDT42                                 |    |     |           | N09901 |      | Incoloy 901  |
| 2.4668   |     | NiCr19Fe19NbMo   | 5383                 | HR8    |    | NC19eNB                                  |    |     |           | N07718 |      | Inconel 718  |
| 2.4670   |     | S-NiCr13Al16MoNb | 5391                 | Mar-46 |    | NC12AD                                   |    |     |           |        |      | Nimocast 713 |
| 2.4694   |     | NiCr16Fe7TiAl    |                      |        |    |  |    |     |           | N07751 |      | Inconel 751  |
| 2.4955   |     | NiFe25Cr20NbTi   |                      |        |    |  |    |     |           |        |      |              |
| 2.4964   |     | CoCr20W15Ni      | 5772                 |        |    | KC20WN                                   |    |     |           |        |      | Haynes 25    |
|  |     | CoCr22W14Ni      | AMS 5772             |        |    | KC22WN                                   |    |     |           |        |      |              |

# Technical Information

## Material Groups

| <b>S</b>  |     | <b>VDI 3323<br/>35</b> |               | Material Description        |    |          | Composition / Structure / Heat Treatment |     |           |        |        | HB           | HRC |
|-----------|-----|------------------------|---------------|-----------------------------|----|----------|--|-----|-----------|--------|--------|--------------|-----|
|           |     |                        |               | Heat resistant super alloys |    |          | Ni or Co Based, Cast                     |     |           |        |        | 320          | 34  |
| Mat'l No. | JIS | DIN                    | AISI/ASTM/SAE | BS                          | EN | AFNOR    | SS                                       | UNI | UNE / IHA | UNS    | GOST   | Brands       |     |
| 2.4669    |     | NiCr15Fe7TiAl          |               |                             |    | NC15TNbA |  |     |           | N07750 |        | Inconel X750 |     |
| 2.4685    |     | G-NiMo28               |               |                             |    |          |  |     |           | N10665 |        | Hastelloy B  |     |
| 2.4810    |     | G-NiMo30               |               |                             |    |          |  |     |           |        |        | Hastelloy C  |     |
| 2.4973    |     | NiCr19Co11MoTi         | AMS 5399      |                             |    | NC19KDT  |  |     |           |        | VT5-1  |              |     |
| 3.7115    |     | TiAl5Sn2               |               |                             |    |          |  |     |           | R54520 | VT1-00 | ATI Grade 6  |     |

| <b>S</b>  |     | <b>VDI 3323<br/>36</b> |               | Material Description |    |       | Composition / Structure / Heat Treatment |     |           |        |      | HB             | HRC |
|-----------|-----|------------------------|---------------|----------------------|----|-------|--|-----|-----------|--------|------|----------------|-----|
|           |     |                        |               | Titanium alloys      |    |       | Pure Titanium                            |     |           |        |      | 400 Rm         |     |
| Mat'l No. | JIS | DIN                    | AISI/ASTM/SAE | BS                   | EN | AFNOR | SS                                       | UNI | UNE / IHA | UNS    | GOST | Brands         |     |
| 2.4674    |     | NiCo15Cr10MoAlTi       | AMS 5397      |                      |    |       |  |     |           | N13100 |      | IN 100         |     |
| 3.7025    |     | Ti1                    | R50250        | 2TA1                 |    |       |  |     |           | R50250 |      | ATI 30 CP Gr.1 |     |
| 3.7225    |     | Ti1pd                  | R52250        | TP1                  |    |       |  |     |           | R52250 |      |                |     |

| <b>S</b>  |     | <b>VDI 3323<br/>37</b> |               | Material Description |    |       | Composition / Structure / Heat Treatment |     |           |        |      | HB        | HRC |
|-----------|-----|------------------------|---------------|----------------------|----|-------|--|-----|-----------|--------|------|-----------|-----|
|           |     |                        |               | Titanium alloys      |    |       | Alpha + Beta Alloys, Hardened            |     |           |        |      | 1050 Rm   |     |
| Mat'l No. | JIS | DIN                    | AISI/ASTM/SAE | BS                   | EN | AFNOR | SS                                       | UNI | UNE / IHA | UNS    | GOST | Brands    |     |
| 3.7124    |     | TiCu2                  |               | 2TA21-24             |    |       |  |     |           |        |      |           |     |
| 3.7145    |     | TiAl6Sn2Zr4Mo2Si       | R54620        |                      |    |       |  |     |           | R54620 |      |           |     |
| 3.7165    |     | TiAl6V4                | AMS R56400    | TA10-13              |    | T-A6V |  |     |           |        | VT6  |           |     |
| 3.7185    |     | TiAl4Mo4Sn2            |               | TA45-51              |    |       |  |     |           |        |      |           |     |
| 3.7195    |     | TiAl3V2.5              |               |                      |    |       |  |     |           | R56320 |      | ATI 3-2.5 |     |
|           |     | TiAl4Mo4Sn4Si0.5       |               |                      |    |       |  |     |           |        |      |           |     |
|           |     | TiAl5Sn2.5             | AMS R54520    | TA14/17              |    | T-A5E |  |     |           |        |      |           |     |
|           |     | Ti6Al4VELI             | AMS R56401    | TA11                 |    |       |  |     |           |        |      |           |     |

## Technical Information

# Material Groups

TURNING

PARTING &amp; GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

| <b>H</b>  |           | VDI 3323<br><b>38</b> | Material Description |         |             | Composition / Structure / Heat Treatment |      |            |           |     | HB      | HRC     |
|-----------|-----------|-----------------------|----------------------|---------|-------------|--|------|------------|-----------|-----|---------|---------|
|           |           |                       | Hardened steel       |         |             | Hardened                                 |      |            |           |     | 550     | 55      |
| Mat'l No. | JIS       | DIN                   | AISI/ASTM/SAE        | BS      | EN          | AFNOR                                    | SS   | UNI        | UNE / IHA | UNS | GOST    | Brands  |
| 1.1231    | S70 C-CSP | Ck67                  | 1070                 | 060 A67 | C675        | XC68                                     | 1770 | C70        | F5103     |     | 70      |         |
| 1.1248    | C75       | Ck75                  | 1078, 1080           | 060 A78 | C75S        | XC75                                     | 1774 | C75        | F5107     |     | 75      |         |
| 1.1274    | SUP4      | Ck101                 | 1095                 | 060 A96 | C100S       | XC100                                    | 1870 | C100       | F5117     |     |         |         |
| 1.1545    | SK3       | C105W1                | W1                   | BW2     | C105U       | Y1105                                    | 1880 | C100KU     | F5118     |     | U10A    |         |
| 1.2762    |           | 75CrMoNiW67           | -                    | -       | -           | -  | -    | -          | -         |     |         |         |
| 1.3401    | SCMnH1    | GX120Mn12             | A128(A)              |         |             | Z120M12                                  | 2183 | GX120Mn12  | F8251     |     | 110G13L |         |
| 1.4021    | SUS420J1  | X20Cr13               | 420                  | 420S37  | X20Cr13     | Z20C13                                   | 2303 | X20Cr13    | F5261     |     | 20KH13  | ATI420  |
| 1.4109    | SUS440A   | X65CrMo14             | 440A                 | -       | X70CrMo15   | Z70D14                                   | -    | -          |           |     |         | ATI440A |
| 1.4112    | SUS440B   | X90CrMoV18            | 440B                 | 409S19  | X90CrMoV18  | Z2CND1805                                | 2327 | XCrTi12    |           |     |         |         |
| 1.4125    | SUS440C   | X105CrMo17            | 440C                 | -       | X105CrMo17  | Z100CD17                                 | -    | X105CrMo17 |           |     | 95KH18  | ATI440C |
| 1.6746    |           | 32NiCrMo14-5          | -                    | 832M31  | 32NiCrMo145 | 35NCD14                                  | -    | -          |           |     |         |         |
| 1.7176    | SUP9(A)   | 55Cr3                 | 5155                 | 527A60  | 48          | 55C3                                     | 2253 | 55Cr3      |           |     |         |         |
| 1.7225    | SCM440(H) | 42CrMo4               | 4140                 | 708M40  | 42CrMo4     | 42CD4                                    | 2244 | 42CrMo4    | F1252     |     | 38HM    |         |

| <b>H</b>  |        | VDI 3323<br><b>40</b> | Material Description |           |               | Composition / Structure / Heat Treatment |      |     |           |        | HB         | HRC           |
|-----------|--------|-----------------------|----------------------|-----------|---------------|--|------|-----|-----------|--------|------------|---------------|
|           |        |                       | Chilled cast iron    |           |               | Cast                                     |      |     |           |        | 400        | 42            |
| Mat'l No. | JIS    | DIN                   | AISI/ASTM/SAE        | BS        | EN            | AFNOR                                    | SS   | UNI | UNE / IHA | UNS    | GOST       | Brands        |
| 0.9620    |        | GX260NiCr42           | A532IB               | Grade 2 A | GJN-HV520     | FBNi4Cr2BC                               | 0512 | -   |           | F45001 |            | Ni-Hard2      |
| 0.9625    |        | GX330NiCr42           | A532IA               | Grade 2 B | GJN-HV550     | FBNi4Cr2HC                               | 0513 | -   |           | F45000 |            | Ni-Hard1      |
| 0.9630    |        | GX300CrNiSi952        | A532ID               | Grade 2 C | GJN-HV600     | FBCr9Ni5                                 | 0457 | -   |           | F45003 |            | Ni-Hard4      |
| 0.9640    |        | GX300CrMoNi1521       | -                    | -         | -             | -  | -    | -   |           | F45005 |            |               |
| 0.9650    |        | GX260Cr27             | -                    | Grade 3 D | -             | -  | 0466 | -   |           |        |            |               |
| 0.9655    |        | GX300CrNiMo271        | -                    | Grade 3 E | -             | -  | -    | -   |           |        | 20C25N20S2 |               |
| 1.4841    | SUH310 | X15CrNiSi25-20        | 310                  | 314S31    | X15CrNiSi2520 | Z15CNS25-20                              | -    | -   |           | S31400 |            | Cronifer 2520 |

| <b>H</b>  |     | VDI 3323<br><b>41</b> | Material Description |    |    | Composition / Structure / Heat Treatment |    |     |           |        | HB   | HRC    |
|-----------|-----|-----------------------|----------------------|----|----|--|----|-----|-----------|--------|------|--------|
|           |     |                       | Hardened cast iron   |    |    | Hardened                                 |    |     |           |        | 550  | 55     |
| Mat'l No. | JIS | DIN                   | AISI/ASTM/SAE        | BS | EN | AFNOR                                    | SS | UNI | UNE / IHA | UNS    | GOST | Brands |
| 0.9635    |     | GX300CrMo153          | -                    | -  | -  | -  | -  | -   |           |        |      |        |
| 0.9645    |     | GX260CrMoNi2021       | -                    | -  | -  | -  | -  | -   |           | F45007 |      |        |

# X-Drill(SYMX) Offset Value & Hole Tolerance

## Metric

| ØDC  | Offset |
|------|--------|
| 14.0 | 0.55   |
| 14.5 | 0.45   |
| 15.0 | 0.40   |
| 15.5 | 0.30   |
| 16.0 | 0.25   |
| 16.5 | 0.15   |
| 17.0 | 0.70   |
| 17.5 | 0.65   |
| 18.0 | 0.45   |
| 18.5 | 0.40   |
| 19.0 | 0.30   |
| 19.5 | 0.25   |
| 20.0 | 0.15   |
| 20.5 | 0.05   |
| 21.0 | 0.60   |
| 21.5 | 0.55   |
| 22.0 | 0.45   |
| 22.5 | 0.40   |
| 23.0 | 0.30   |
| 23.5 | 0.25   |
| 24.0 | 0.95   |
| 24.5 | 0.85   |
| 25.0 | 0.80   |
| 25.5 | 0.70   |
| 26.0 | 0.65   |
| 26.5 | 0.55   |
| 27.0 | 0.45   |
| 27.5 | 0.40   |
| 28.0 | 0.30   |
| 28.5 | 0.25   |
| 29.0 | 0.80   |
| 29.5 | 0.70   |
| 30.0 | 0.65   |
| 30.5 | 0.55   |
| 31.0 | 0.45   |
| 31.5 | 0.40   |
| 32.0 | 0.30   |
| 32.5 | 0.25   |
| 33.0 | 0.15   |
| 33.5 | 0.05   |
| 34.0 | 1.05   |
| 35.0 | 0.80   |
| 36.0 | 0.65   |
| 37.0 | 0.45   |
| 38.0 | 0.30   |
| 39.0 | 0.80   |

## Metric

| ØDC  | Offset |
|------|--------|
| 40.0 | 0.65   |
| 41.0 | 0.45   |
| 42.0 | 0.40   |
| 43.0 | 0.25   |
| 44.0 | 0.15   |
| 45.0 | 1.75   |
| 46.0 | 1.50   |
| 47.0 | 1.25   |
| 48.0 | 1.05   |
| 49.0 | 0.70   |
| 50.0 | 0.40   |

## Inch

| ØDC  | Offset |
|------|--------|
| .563 | .48    |
| .594 | .40    |
| .625 | .24    |
| .656 | .08    |
| .689 | .64    |
| .703 | .56    |
| .719 | .48    |
| .734 | .40    |
| .750 | .32    |
| .781 | .16    |
| .813 | .08    |
| .843 | .56    |
| .875 | .48    |
| .906 | .32    |
| .937 | .96    |
| .969 | .88    |

## Inch

| ØDC   | Offset |
|-------|--------|
| .984  | .80    |
| 1.000 | .72    |
| 1.031 | .64    |
| 1.063 | .48    |
| 1.094 | .36    |
| 1.125 | .24    |
| 1.156 | .72    |
| 1.187 | .64    |
| 1.219 | .48    |
| 1.250 | .40    |
| 1.281 | .24    |
| 1.312 | .08    |
| 1.343 | 1.04   |
| 1.375 | .80    |
| 1.406 | .72    |
| 1.437 | .64    |
| 1.469 | .48    |
| 1.500 | .32    |
| 1.513 | .16    |
| 1.531 | .80    |
| 1.562 | .72    |
| 1.594 | .56    |
| 1.625 | .48    |
| 1.687 | .24    |
| 1.719 | .32    |
| 1.750 | .08    |
| 1.781 | 1.76   |
| 1.813 | 1.52   |
| 1.875 | 1.36   |
| 1.937 | .72    |
| 1.969 | .40    |
| 2.000 | .24    |

## X-Drill(SYMX) Hole Tolerance

| Unit   | L/D    | ØDC             | Hole Tolerance   |
|--------|--------|-----------------|------------------|
| Metric | 2 – 3D | Ø14 – 28        | -0.1 – +0.25     |
|        |        | Ø29 – 50        | -0.1 – +0.30     |
|        | 4 – 5D | Ø14 – 28        | -0.1 – +0.35     |
|        |        | Ø29 – 50        | -0.1 – +0.40     |
| Inch   | 2 – 3D | Ø0.563 – 1.125" | -0.004 – +0.010" |
|        |        | Ø1.156 – 2.000" | -0.004 – +0.012" |
|        | 4 – 5D | Ø0.563 – 1.125" | -0.004 – +0.014" |
|        |        | Ø1.156 – 2.000" | -0.004 – +0.016" |

| ISO         | ANSI         |
|-------------|--------------|
| CC.. 060201 | CC.. 21.50   |
| CC.. 060202 | CC.. 21.50.5 |
| CC.. 060204 | CC.. 21.51   |
| CC.. 060208 | CC.. 21.52   |
| CC.. 09T301 | CC.. 32.50   |
| CC.. 09T302 | CC.. 32.50.5 |
| CC.. 09T304 | CC.. 32.51   |
| CC.. 09T308 | CC.. 32.52   |
| CC.. 120402 | CC.. 430.5   |
| CC.. 120404 | CC.. 431     |
| CC.. 120408 | CC.. 432     |
| CC.. 120412 | CC.. 433     |
| CN.. 090308 | CN.. 322     |
| CN.. 090312 | CN.. 323     |
| CN.. 090408 | CN.. 332     |
| CN.. 090412 | CN.. 333     |
| CN.. 120401 | CN.. 430     |
| CN.. 120402 | CN.. 430.5   |
| CN.. 120404 | CN.. 431     |
| CN.. 120408 | CN.. 432     |
| CN.. 120412 | CN.. 433     |
| CN.. 120416 | CN.. 434     |
| CN.. 160608 | CN.. 542     |
| CN.. 160612 | CN.. 543     |
| CN.. 160616 | CN.. 544     |
| CN.. 190608 | CN.. 642     |
| CN.. 190612 | CN.. 643     |
| CN.. 190616 | CN.. 644     |
| CN.. 190624 | CN.. 646     |
| CN.. 250924 | CN.. 866     |
| DC.. 070202 | DC.. 21.50.5 |
| DC.. 070204 | DC.. 21.51   |
| DC.. 070208 | DC.. 21.52   |
| DC.. 11T301 | DC.. 32.50   |

| ISO         | ANSI         |
|-------------|--------------|
| DC.. 11T302 | DC.. 32.50.5 |
| DC.. 11T304 | DC.. 32.51   |
| DC.. 11T308 | DC.. 32.52   |
| DC.. 11T312 | DC.. 32.53   |
| DN.. 110404 | DN.. 331     |
| DN.. 110408 | DN.. 332     |
| DN.. 150404 | DN.. 431     |
| DN.. 150408 | DN.. 432     |
| DN.. 150412 | DN.. 433     |
| DN.. 150604 | DN.. 441     |
| DN.. 150608 | DN.. 442     |
| DN.. 150612 | DN.. 443     |
| SC.. 09T304 | SC.. 32.51   |
| SC.. 09T308 | SC.. 32.52   |
| SC.. 120408 | SC.. 432     |
| SD.. 1203   | SD.. 42      |
| SC.. 120412 | SC.. 433     |
| SD.. 120420 | SD.. 435     |
| SD.. 1504   | SD.. 53      |
| SE.. 1203   | SE.. 42      |
| SN.. 090304 | SN.. 321     |
| SN.. 090308 | SN.. 322     |
| SN.. 120404 | SN.. 431     |
| SN.. 120408 | SN.. 432     |
| SN.. 120412 | SN.. 433     |
| SN.. 120416 | SN.. 434     |
| SN.. 150612 | SN.. 543     |
| SN.. 190612 | SN.. 643     |
| SN.. 190616 | SN.. 644     |
| SN.. 190624 | SN.. 646     |
| SN.. 250724 | SN.. 856     |
| SN.. 250924 | SN.. 866     |
| SP.. 1203   | SP.. 42      |
| SP.. 120308 | SP.. 422     |

| ISO         | ANSI         |
|-------------|--------------|
| SP. 1504    | SP. 53       |
| TC.. 110204 | TC.. 21.51   |
| TC.. 110208 | TC.. 21.52   |
| TC.. 16T302 | TC.. 32.50.5 |
| TC.. 16T304 | TC.. 32.51   |
| TC.. 16T308 | TC.. 32.52   |
| TN.. 160404 | TN.. 331     |
| TN.. 160408 | TN.. 332     |
| TN.. 160412 | TN.. 333     |
| TN.. 220404 | TN.. 431     |
| TN.. 220408 | TN.. 432     |
| TN.. 220412 | TN.. 433     |
| TN.. 220416 | TN.. 434     |
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| TP.. 160308 | TP.. 322     |
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| VB.. 160402 | VB.. 330.5   |
| VB.. 160404 | VB.. 331     |
| VB.. 160408 | VB.. 332     |
| VC.. 110301 | VC.. 220     |
| VC.. 110302 | VC.. 220.5   |
| VC.. 110304 | VC.. 221     |
| VC.. 110308 | VC.. 222     |
| VC.. 160402 | VC.. 330.5   |
| VC.. 160404 | VC.. 331     |
| VC.. 160408 | VC.. 332     |
| VN.. 160404 | VN.. 331     |
| VN.. 160408 | VN.. 332     |
| VN.. 160412 | VN.. 333     |
| WN.. 060404 | WN.. 331     |

| ISO         | ANSI     |
|-------------|----------|
| WN.. 060408 | WN.. 332 |
| WN.. 060412 | WN.. 333 |
| WN.. 080404 | WN.. 431 |
| WN.. 080408 | WN.. 432 |
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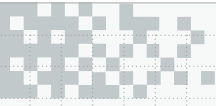
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MEMO



A large grid of small squares, typical of graph paper, covering the majority of the page. The grid is composed of light gray lines on a white background, forming a uniform pattern of small squares.

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