



# KTKF Series

for Small Parts Machining



Expansive Lineup of Cut-Off, Grooving, Back Turning, and Threading Tools

Large Lineup for Small Diameter Cut-Off, Grooving, Back Turning, Traversing, and Threading Operations

KTKF-JCT Jet Coolant-Through Designs Available for Excellent Chip Control

PR1725 MEGACOAT NANO PLUS Grade for Long Tool Life and Excellent Surface Finish



# KTKF Series for Small Parts Machining

Small Diameter Cut-Off, Grooving, Traversing, Back Turning, and Threading  
 Exceptional Chip Control and Tool Life

## 1 Large Tooling Lineup for Various Small Part Machining Operations

Wide range of machining processes and applications including small diameter cut-off, grooving, traversing, back turning, and threading

Full compliment of holder designs to choose from for every machining operation

**NEW** KTKF-Y  
 Y-Axis Style  
 P16, P20, P28

**KTKF-JCT**  
 Jet Coolant-Through  
 Cut-Off / Grooving / Threading  
 P12

**KTKFS / KTKF-S**  
 Sub-Spindle  
 Cut-Off  
 P10, P18

**KTKF**  
 Small Diameter  
 Cut-Off / Grooving  
 P8, P20, P28

**KTKF**  
 Back-Turning  
 Traversing  
 P20

**KTKF**  
 Threading  
 P28

**TKF / TKFS Inserts**  
 Grooving and  
 Cut-Off  
 P6-P7, P19

**NEW** **TKF-AGT Chipbreaker**  
 Grooving and  
 Traversing with  
 PCD Edge  
 P26

**NEW** **TKF-GTP Chipbreaker**  
 Grooving and  
 Traversing with  
 Molded Chipbreaker  
 P24

**TKFB-GQ Chipbreaker**  
 Back-Turning with  
 Molded Chipbreaker  
 P21

**TKFT Inserts**  
 Threading  
 P29

2

## Variety of Holder Designs Available for Every Application

### KTKF

#### Original Straight and Goose-neck Styles

Take advantage of numerous small part machining solutions using a single holder to accomplish them all

Choose from a wide range of inserts, chipbreakers, and grades for a variety of machining operations and workpiece materials

▶▶ P8, P20, P28



### KTKFS / KTKF-S / KTKF-Y

#### Various Sub-Spindle and Y-Axis Designs Available

Sub-spindle designs available for very small diameter workpieces or when clearance between main spindle and sub-spindle is too small

New Y-axis designs can be used for better chip evacuation and are great for back turning, threading, and cut-off operations

▶▶ P10, P16, P18, P20, P28



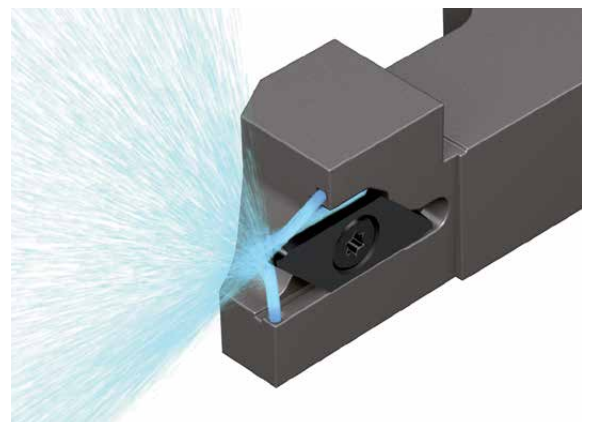
### KTKF-JCT

#### Jet Coolant-Through for Excellent Chip Control

The KTKF-JCT discharges coolant in two directions toward rake surface of insert and breaks chips into small pieces

Coolant is also directed from the flank face of the insert to supply an ample amount of coolant to the tool edge area to help further suppress insert wear

▶▶ P12



### 3 New High Performance Chipbreaker Designs for Exceptional Chip Control

# GTP Chipbreaker NEW

KTKF Insert for Small Parts Machining

Reduce Cycle Time with Grooving and Traversing Capabilities



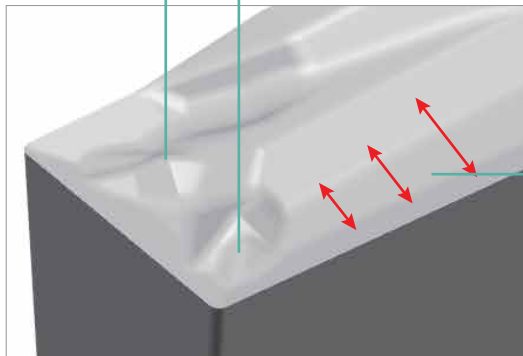
Stable Chip Control and Superior Surface Finish Quality for a Wide Range of Machining Applications

## Chipbreaker Features

Dots for Grooving

Dots for Traversing

Dots utilized for each machining application  
Maintains good chip control in small D.O.C.

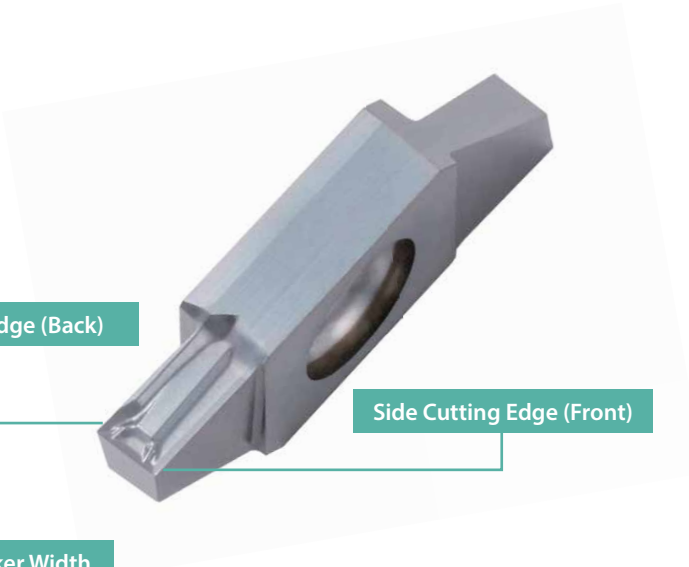


Side Cutting Edge (Back)

Side Cutting Edge (Front)

Chipbreaker Width

Width is optimized for depth of cut  
Maintains good chip control for a wide range of machining applications



# AGT Chipbreaker NEW

Molded PCD Chipbreaker for KTKF Holders

Improved Chip Control for Various Aluminum Alloy Machining Applications



Improved Chip Control

Multi-functional PCD Chipbreaker for Grooving and Traversing

Dots

**Traversing**

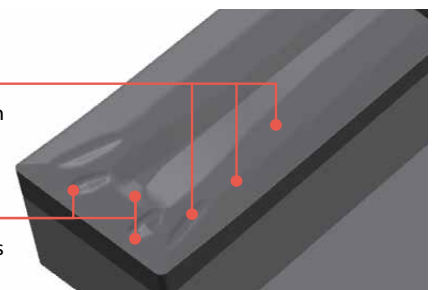
Reduces chip clogging by adjusting the width of the chipbreaker to the D.O.C.  
Dots around cutting edge for small D.O.C.

**Grooving**

Stable machining with three chipbreaker dots

**Sloped Cutting Edge**

Reduces chattering with low cutting force design  
Good surface finish with excellent chip evacuation





# PR1725

NEW

MEGACOAT NANO PLUS

1st Recommendation for Steel Machining  
Excellent Surface Finish and Long Tool Life

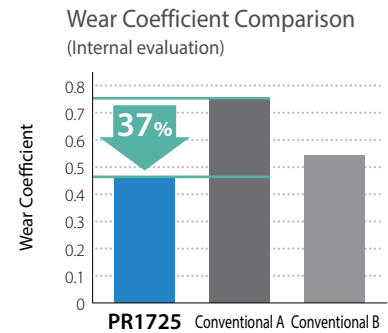
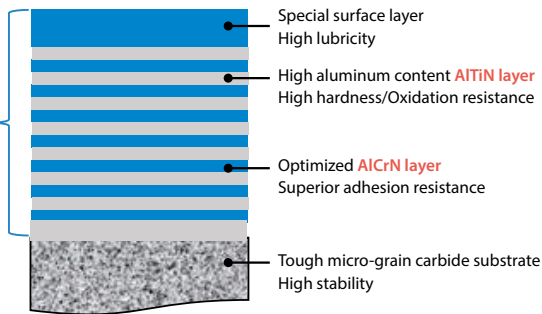
Great All-Around Performance in Small Parts Machining Applications

## MEGACOAT NANO PLUS

AlTiN/AlCrN Nano laminated film with superior wear resistance and adhesion resistance. Excellent surface finish and long tool life.

### REDUCES CRACKING

Reduces abnormal damage such as chipping because of increased lamination layer with a thinner gap than conventional coatings



**Superior Wear and Chipping Resistance**

High Strength with nano laminated film layer properties  
Internal stress optimization reduces chipping

**Excellent Surface Finish**

Special surface layer with great lubricity reduces adhesion

**Applicable to Various Workpiece Materials**

Superior high temperature properties and oxidation resistance make for great performance in steel, stainless steel and free-cutting steel

**High Machining Stability**

Tough micro-grain carbide substrate provides stable machining

# PR1535

MEGACOAT NANO PLUS

The combination of tough substrate and special nano layer coating enables long tool life and stable machining of steel, stainless steel and heat-resistant alloys

**1 Toughening with a New Cobalt Mixing Ratio**

\* Comparison with our conventional grade

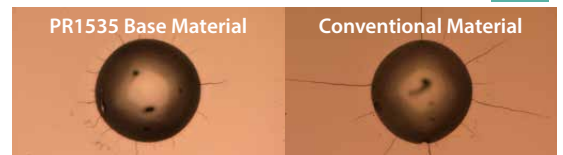


**2 Improved Stability by Optimization and Homogenization of the Particle Matrix**

**3 Long Tool Life and Stable Machining with MEGACOAT NANO**

**Cracking Comparison by Diamond Indentor**

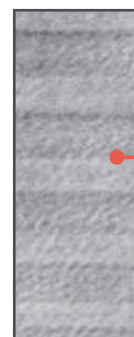
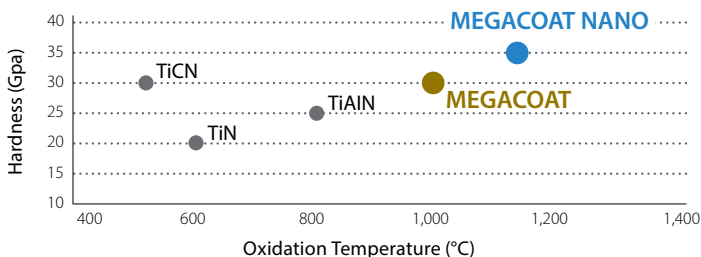
(In-house Evaluation)



Short Cracks

Long Cracks

**Coating Film Property**



Layer Structure of MEGACOAT

PR1535 is a good solution for unstable conditions such as early fracturing and variable tool life during steel machining.



NEW

| Insert<br>Right-handed Insert Shown |  | Part Number          | Dimensions (in) |      |        |       |       |       |       | Angle (°) | MEGACOAT NANO |        | MEGACOAT |        | DLC |        | Carbide |      | Ref. Page for Toolholder |   |
|-------------------------------------|--|----------------------|-----------------|------|--------|-------|-------|-------|-------|-----------|---------------|--------|----------|--------|-----|--------|---------|------|--------------------------|---|
|                                     |  |                      | CW              |      | CUTDIA | RE    | W1    | S     | D1    |           | PSIRR         | PRT725 |          | PRT225 |     | PDL025 |         | KW10 |                          |   |
|                                     |  |                      | inch            | mm   |        |       |       |       |       |           |               | R      | L        | R      | L   | R      | L       | R    |                          | L |
|                                     |  | TKF12 P% 050-S-16DR  | 0.020           | 0.50 | 0.197  | 0.001 | 0.118 | 0.343 | 0.197 | 16°       | ●             | ●      | ●        | ●      | ●   | ●      | ●       | ●    | P8                       |   |
|                                     |  | 070-S-16DR           | 0.028           | 0.70 | 0.315  | 0.001 | 0.118 | 0.343 | 0.197 | 16°       | ●             | ●      | ●        | ●      | ●   | ●      | ●       | ●    |                          |   |
|                                     |  | 100-S-16DR           | 0.039           | 1.00 | 0.472  | 0.001 | 0.118 | 0.343 | 0.197 | 16°       | ●             | ●      | ●        | ●      | ●   | ●      | ●       | ●    |                          |   |
|                                     |  | 125-S-16DR           | 0.049           | 1.25 | 0.472  | 0.001 | 0.118 | 0.343 | 0.197 | 16°       | ●             | ●      | ●        | ●      | ●   | ●      | ●       | ●    |                          |   |
|                                     |  | 150-S-16DR           | 0.059           | 1.50 | 0.472  | 0.001 | 0.118 | 0.343 | 0.197 | 16°       | ●             | ●      | ●        | ●      | ●   | ●      | ●       | ●    |                          |   |
|                                     |  | 200-S-16DR           | 0.079           | 2.00 | 0.472  | 0.001 | 0.118 | 0.343 | 0.197 | 16°       | ●             | ●      | ●        | ●      | ●   | ●      | ●       | ●    |                          |   |
|                                     |  | TKF12 P% 050-S       | 0.020           | 0.50 | 0.197  | 0.001 | 0.118 | 0.343 | 0.197 | 0°        | ●             | ●      | ●        | ●      | ●   | ●      | ●       | ●    |                          |   |
|                                     |  | 070-S                | 0.028           | 0.70 | 0.315  | 0.001 | 0.118 | 0.343 | 0.197 | 0°        | ●             | ●      | ●        | ●      | ●   | ●      | ●       | ●    |                          |   |
|                                     |  | 100-S                | 0.039           | 1.00 | 0.472  | 0.001 | 0.118 | 0.343 | 0.197 | 0°        | ●             | ●      | ●        | ●      | ●   | ●      | ●       | ●    |                          |   |
|                                     |  | 125-S                | 0.049           | 1.25 | 0.472  | 0.001 | 0.118 | 0.343 | 0.197 | 0°        | ●             | ●      | ●        | ●      | ●   | ●      | ●       | ●    |                          |   |
|                                     |  | 150-S                | 0.059           | 1.50 | 0.472  | 0.001 | 0.118 | 0.343 | 0.197 | 0°        | ●             | ●      | ●        | ●      | ●   | ●      | ●       | ●    |                          |   |
|                                     |  | 200-S                | 0.079           | 2.00 | 0.472  | 0.001 | 0.118 | 0.343 | 0.197 | 0°        | ●             | ●      | ●        | ●      | ●   | ●      | ●       | ●    |                          |   |
|                                     |  | TKF12 P% 100-T-16DR  | 0.039           | 1.00 | 0.472  | 0.003 | 0.118 | 0.343 | 0.197 | 16°       | ●             | ●      | ●        | ●      | ●   | ●      | ●       | ●    |                          |   |
|                                     |  | 150-T-16DR           | 0.059           | 1.50 | 0.472  | 0.003 | 0.118 | 0.343 | 0.197 | 16°       | ●             | ●      | ●        | ●      | ●   | ●      | ●       | ●    |                          |   |
|                                     |  | 200-T-16DR           | 0.079           | 2.00 | 0.472  | 0.003 | 0.118 | 0.343 | 0.197 | 16°       | ●             | ●      | ●        | ●      | ●   | ●      | ●       | ●    |                          |   |
|                                     |  | TKF12 P% 100-T       | 0.039           | 1.00 | 0.472  | 0.003 | 0.118 | 0.343 | 0.197 | 0°        | ●             | ●      | ●        | ●      | ●   | ●      | ●       | ●    |                          |   |
|                                     |  | 150-T                | 0.059           | 1.50 | 0.472  | 0.003 | 0.118 | 0.343 | 0.197 | 0°        | ●             | ●      | ●        | ●      | ●   | ●      | ●       | ●    |                          |   |
|                                     |  | 200-T                | 0.079           | 2.00 | 0.472  | 0.003 | 0.118 | 0.343 | 0.197 | 0°        | ●             | ●      | ●        | ●      | ●   | ●      | ●       | ●    |                          |   |
|                                     |  | TKF12 P% 050-NB-20DR | 0.020           | 0.50 | 0.197  | 0.000 | 0.118 | 0.343 | 0.197 | 20°       | ●             | ●      | ●        | ●      | ●   | ●      | ●       | ●    |                          |   |
|                                     |  | 070-NB-20DR          | 0.028           | 0.70 | 0.315  | 0.000 | 0.118 | 0.343 | 0.197 | 20°       | ●             | ●      | ●        | ●      | ●   | ●      | ●       | ●    |                          |   |
|                                     |  | 100-NB-20DR          | 0.039           | 1.00 | 0.472  | 0.000 | 0.118 | 0.343 | 0.197 | 20°       | ●             | ●      | ●        | ●      | ●   | ●      | ●       | ●    |                          |   |
|                                     |  | 150-NB-20DR          | 0.059           | 1.50 | 0.472  | 0.000 | 0.118 | 0.343 | 0.197 | 20°       | ●             | ●      | ●        | ●      | ●   | ●      | ●       | ●    |                          |   |
|                                     |  | 200-NB-20DR          | 0.079           | 2.00 | 0.472  | 0.000 | 0.118 | 0.343 | 0.197 | 20°       | ●             | ●      | ●        | ●      | ●   | ●      | ●       | ●    |                          |   |
|                                     |  | TKF12 P% 050-NB      | 0.020           | 0.50 | 0.197  | 0.000 | 0.118 | 0.343 | 0.197 | 0°        | ●             | ●      | ●        | ●      | ●   | ●      | ●       | ●    |                          |   |
|                                     |  | 070-NB               | 0.028           | 0.70 | 0.315  | 0.000 | 0.118 | 0.343 | 0.197 | 0°        | ●             | ●      | ●        | ●      | ●   | ●      | ●       | ●    |                          |   |
|                                     |  | 100-NB               | 0.039           | 1.00 | 0.472  | 0.000 | 0.118 | 0.343 | 0.197 | 0°        | ●             | ●      | ●        | ●      | ●   | ●      | ●       | ●    |                          |   |
|                                     |  | 150-NB               | 0.059           | 1.50 | 0.472  | 0.000 | 0.118 | 0.343 | 0.197 | 0°        | ●             | ●      | ●        | ●      | ●   | ●      | ●       | ●    |                          |   |
|                                     |  | 200-NB               | 0.079           | 2.00 | 0.472  | 0.000 | 0.118 | 0.343 | 0.197 | 0°        | ●             | ●      | ●        | ●      | ●   | ●      | ●       | ●    |                          |   |

- Lead angle shows the angle when installed in the toolholder.
- As Fig.1 of P9 shows, the cutting diameter of the insert is measured when the lead edge passes 0.039" past the center line of part.

● : Standard Item

Inserts Sold in 10 Piece Boxes

Recommended Cutting Conditions P11

How to Read Insert Part Number (See Table 1)

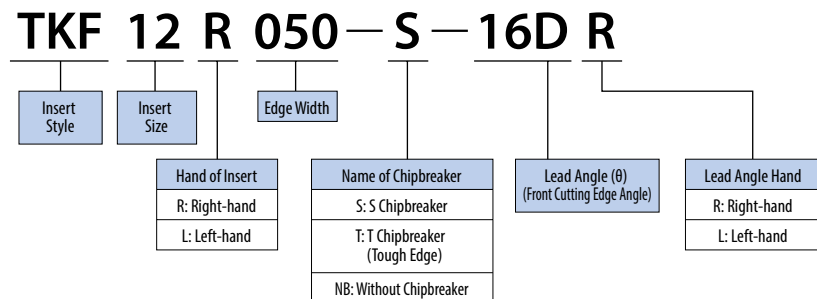


Table 1

| Toolholder         | Right-hand (R) | Toolholder         | Left-hand (L)  |
|--------------------|----------------|--------------------|----------------|
| Insert             | Right-hand (R) | Insert             | Left-hand (L)  |
| Lead Angle         | Right-hand (R) | Lead Angle         | Right-hand (R) |
|                    |                |                    |                |
| Toolholder Hand: R |                | Toolholder Hand: L |                |



|  |   |                            |   |   |   |   |   |
|--|---|----------------------------|---|---|---|---|---|
| Usage Classification<br>● : Continuous - Light Interruption / 1st Choice<br>☉ : Continuous - Light Interruption / 2nd Choice | P | Carbon Steel / Alloy Steel | ● | ☉ | ☉ |   |   |
|  | M | Stainless Steel            | ☉ | ● | ☉ |   |   |
|  | K | Cast Iron                  |   |   |   |   | ● |
|  | N | Non-ferrous Material       |   |   |   | ● | ☉ |

| Insert<br>Right-handed Insert Shown      | Part Number                    | Dimensions (in) |     |        |       |       |       |       | Angle (°) | MEGACOAT NANO |        | MEGACOAT |        | DLC |        | Carbide |      | Ref. Page for Toolholder |   |
|--|--------------------------------|-----------------|-----|--------|-------|-------|-------|-------|-----------|---------------|--------|----------|--------|-----|--------|---------|------|--------------------------|---|
|  |                                | CW              |     | CUTDIA | RE    | W1    | S     | D1    |           | PSIRR         | PR1725 |          | PR1225 |     | PDL025 |         | KW10 |                          |   |
|  |                                | inch            | mm  |        |       |       |       |       |           |               | R      | L        | R      | L   | R      | L       | R    |                          | L |
| <br>Right Lead Angle                     | TKF16 <sup>®</sup> 150-S-16DR  | 0.059           | 1.5 | 0.630  | 0.002 | 0.157 | 0.374 | 0.197 | 16°       | ●             | ●      | ●        | ●      | ●   | ●      | ●       | ●    | P8                       |   |
|  | 200-S-16DR                     | 0.079           | 2.0 | 0.630  | 0.002 | 0.157 | 0.374 | 0.197 | 16°       | ●             | ●      | ●        | ●      | ●   | ●      | ●       |      |                          |   |
| <br>Right Lead Angle                     | TKF16 <sup>®</sup> 150-S       | 0.059           | 1.5 | 0.630  | 0.002 | 0.157 | 0.374 | 0.197 | 0°        | ●             | ●      | ●        | ●      | ●   | ●      | ●       |      |                          |   |
|  | 200-S                          | 0.079           | 2.0 | 0.630  | 0.002 | 0.157 | 0.374 | 0.197 | 0°        | ●             | ●      | ●        | ●      | ●   | ●      | ●       |      |                          |   |
| <br>Right Lead Angle Tough Edge          | TKF16 <sup>®</sup> 150-T-16DR  | 0.059           | 1.5 | 0.630  | 0.003 | 0.157 | 0.374 | 0.197 | 16°       | ●             | ●      | ●        | ●      | ●   |        |         |      |                          |   |
|  | 200-T-16DR                     | 0.079           | 2.0 | 0.630  | 0.003 | 0.157 | 0.374 | 0.197 | 16°       | ●             | ●      | ●        | ●      |     |        |         |      |                          |   |
| <br>Tough Edge                           | TKF16 <sup>®</sup> 150-T       | 0.059           | 1.5 | 0.630  | 0.003 | 0.157 | 0.374 | 0.197 | 0°        | ●             | ●      | ●        | ●      | ●   |        |         |      |                          |   |
|  | 200-T                          | 0.079           | 2.0 | 0.630  | 0.003 | 0.157 | 0.374 | 0.197 | 0°        | ●             | ●      | ●        | ●      |     |        |         |      |                          |   |
| <br>Right Lead Angle Without Chipbreaker | TKF16 <sup>®</sup> 150-NB-20DR | 0.059           | 1.5 | 0.630  | 0.000 | 0.157 | 0.374 | 0.197 | 20°       | ●             | ●      | ●        | ●      |     |        | ●       | ●    |                          |   |
|  | 200-NB-20DR                    | 0.079           | 2.0 | 0.630  | 0.000 | 0.157 | 0.374 | 0.197 | 20°       | ●             | ●      | ●        | ●      |     |        | ●       | ●    |                          |   |
| <br>Without Chipbreaker                  | TKF16 <sup>®</sup> 150-NB      | 0.059           | 1.5 | 0.630  | 0.000 | 0.157 | 0.374 | 0.197 | 0°        | ●             | ●      | ●        | ●      |     |        | ●       | ●    |                          |   |
|  | 200-NB                         | 0.079           | 2.0 | 0.630  | 0.000 | 0.157 | 0.374 | 0.197 | 0°        | ●             | ●      | ●        | ●      |     |        | ●       | ●    |                          |   |

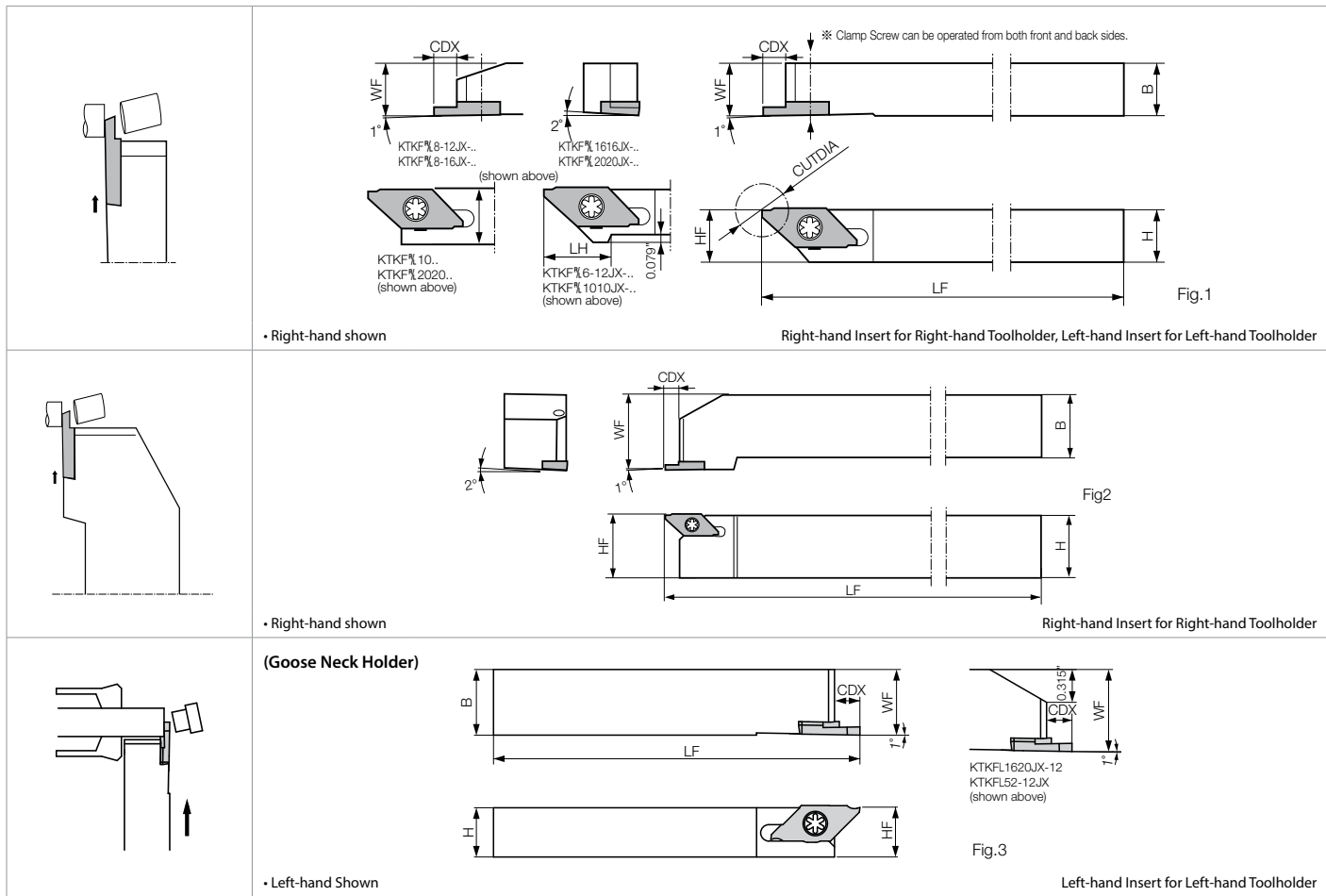
- Lead angle shows the angle when installed in the toolholder.
- As Fig.1 of P9 shows, the cutting diameter of the insert is measured when the lead edge passes 0.039" past the center line of part.

Inserts Sold in 10 Piece Boxes

Recommended Cutting Conditions P11

### Descriptions of Chipbreaker Edge Shape

| Edge Shape | S-Chipbreaker |                               | T-Chipbreaker (Tough Edge) |                           | NB Chipbreaker |                             |
|------------|---------------|-------------------------------|----------------------------|---------------------------|----------------|-----------------------------|
|            | GAN           | Part Number                   | GAN                        | Part Number               | GAN            | Part Number                 |
|            | 15°           | TKF12...-S                    | 12°                        | TKF...-T<br>TKF...-T-16DR | 0°             | TKF...-NB<br>TKF...-NB-20DR |
|            | 20°           | TKF16...-S<br>TKF16...-S-16DR |                            |                           |                |                             |
|            | 25°           | TKF12...-S-16DR               |                            |                           |                |                             |



Toolholder Dimensions

| Part Number                   | Stock |   | Unit | Dimensions |       |       |       |       |       | Drawing | Spare Parts |             | Applicable Inserts<br>P6~P7 |                          |             |             |                          |             |             |           |                          |
|-------------------------------|-------|---|------|------------|-------|-------|-------|-------|-------|---------|-------------|-------------|-----------------------------|--------------------------|-------------|-------------|--------------------------|-------------|-------------|-----------|--------------------------|
|                               | R     | L |      | H          | HF    | B     | LF    | LH    | WF    |         | CDX         | Clamp Screw |                             | Wrench                   |             |             |                          |             |             |           |                          |
| KTKF <sup>1/2</sup> 6-12JX    | ●     | ● | inch | 0.375      | 0.375 | 0.375 | 4.750 | 0.590 | 0.375 | 0.236   | Fig.1       | SB-4590TRWN | LTW-10S                     | TKF12 <sup>1/2</sup> ... |             |             |                          |             |             |           |                          |
| 8-12JX                        | ●     | ● |      | 0.500      | 0.500 | 0.500 | 4.750 | -     | 0.500 | 0.236   |             |             |                             |                          |             |             |                          |             |             |           |                          |
| 10-12JX                       | ●     | ● |      | 0.625      | 0.625 | 0.625 | 4.750 | -     | 0.625 | 0.236   |             |             |                             |                          |             |             |                          |             |             |           |                          |
| KTKF <sup>1/2</sup> 6-16JX    | ●     | ● |      | 0.375      | 0.375 | 0.375 | 4.750 | 0.787 | 0.375 | 0.315   | Fig.1       |             |                             |                          | SB-4590TRWN | LTW-10S     | TKF16 <sup>1/2</sup> ... |             |             |           |                          |
| 8-16JX                        | ●     | ● |      | 0.500      | 0.500 | 0.500 | 4.750 | -     | 0.500 | 0.315   |             |             |                             |                          |             |             |                          |             |             |           |                          |
| 10-16JX                       | ●     | ● |      | 0.625      | 0.625 | 0.625 | 4.750 | -     | 0.625 | 0.315   |             |             |                             |                          |             |             |                          |             |             |           |                          |
| KTKF <sup>1/2</sup> 1010JX-12 | ●     | ● |      | mm         | 10    | 10    | 10    | 120   | 15    | 10      | 6           |             |                             |                          |             |             |                          | Fig.1       | SB-4590TRWN | LTW-10S   | TKF12 <sup>1/2</sup> ... |
| 1212JX-12                     | ●     | ● |      |            | 12    | 12    | 12    | 120   | -     | 12      | 6           |             |                             |                          |             |             |                          |             |             |           |                          |
| 1616JX-12                     | ●     | ● |      |            | 16    | 16    | 16    | 120   | -     | 16      | 6           |             |                             |                          |             |             |                          |             |             |           |                          |
| 2020JX-12                     | ●     | ● | 20   |            | 20    | 20    | 120   | -     | 20    | 6       |             |             |                             |                          |             |             |                          |             |             |           |                          |
| KTKF <sup>1/2</sup> 1010JX-16 | ●     | ● | 10   |            | 10    | 10    | 120   | 20    | 10    | 8       | Fig.1       | SB-4590TRWN | LTW-10S                     | TKF16 <sup>1/2</sup> ... |             |             |                          |             |             |           |                          |
| 1212JX-16                     | ●     | ● | 12   | 12         | 12    | 120   | -     | 12    | 8     |         |             |             |                             |                          |             |             |                          |             |             |           |                          |
| 1616JX-16                     | ●     | ● | 16   | 16         | 16    | 120   | -     | 16    | 8     |         |             |             |                             |                          |             |             |                          |             |             |           |                          |
| 2020JX-16                     | ●     | ● | 20   | 20         | 20    | 120   | -     | 20    | 8     |         |             |             |                             |                          |             |             |                          |             |             |           |                          |
| KTKFR 1212F-12                | ●     |   | mm   | 12         | 12    | 12    | 85    | -     | 12    | 6       | Fig.1       |             |                             | SB-4590TRWN              | LTW-10S     | TKF12R...   |                          |             |             |           |                          |
| 1212F-16                      | ●     |   |      | 12         | 12    | 12    | 85    | -     | 12    | 8       |             |             |                             |                          |             | TKF16R...   |                          |             |             |           |                          |
| KTKFR 2525M-12                | ●     |   | mm   | 25         | 25    | 25    | 150   | -     | 30    | 6       | Fig.2       |             |                             |                          |             | SB-4590TRWN | LTW-10S                  | TKF12R...   |             |           |                          |
| 2525M-16                      | ●     |   |      | 25         | 25    | 25    | 150   | -     | 30    | 8       |             |             |                             |                          |             |             |                          | TKF16R...   |             |           |                          |
| KTKFL 52-12JX                 |       | ● | inch | 0.500      | 0.500 | 0.625 | 4.750 | -     | 0.625 | 0.236   | Fig.3       |             |                             |                          |             |             |                          | SB-4590TRWN | LTW-10S     | TKF12L... |                          |
| 62.5-12JX                     |       | ● |      | 0.625      | 0.625 | 0.750 | 4.750 | -     | 0.750 | 0.236   |             |             |                             |                          |             |             |                          |             |             |           |                          |
| KTKFL 1216JX-12               |       | ● | mm   | 12         | 12    | 16    | 120   | -     | 16    | 6       | Fig.3       | SB-4590TRWN | LTW-10S                     |                          |             |             |                          |             |             |           | TKF12L...                |
| 1620JX-12                     |       | ● |      | 16         | 16    | 20    | 120   | -     | 20    | 6       |             |             |                             |                          |             |             |                          |             |             |           |                          |

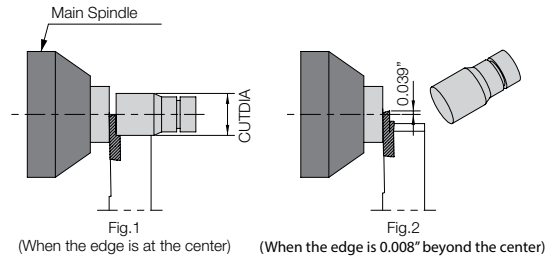
• Dimension CDX shows the distance from the toolholder to the cutting edge. ● : Standard Item  
 • See Page P6~P7 for actual cutting diameter.  
 Note : Cut-off diameter (CUTDIA) of -12 type toolholder depends on the insert grooving width. Recommended Cutting Conditions P11



How to Use

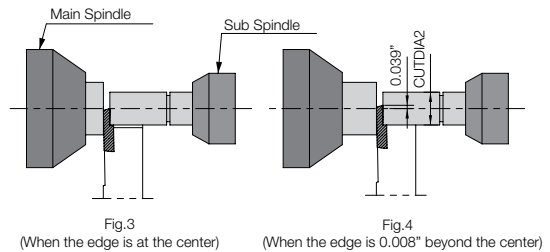
1) When using main spindle only

Workpiece maximum CUTDIA (Fig.1) = CUTDIA in toolholder table  
 Even if the cutting edge runs beyond the center line, the insert does not contact the workpiece, since the workpiece falls off.  
 (The clearance between the insert and the workpiece is 0.008")



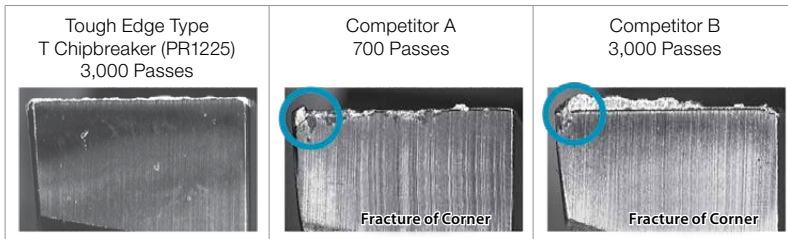
2) When using both Main and Sub spindles

In this case, when the cutting edge runs beyond the center line, the insert will contact the workpiece, since the workpiece does not fall off.  
 Therefore the programmed distance beyond the center must be considered.  
 e.g. When the cutting edge is programmed to run 1mm beyond the center.  
 Workpiece maximum, CUTDIA2 (Fig.4) = [CUTDIA - 0.039"x2] (in)  
 (The clearance between the insert and the workpiece is 0.008")

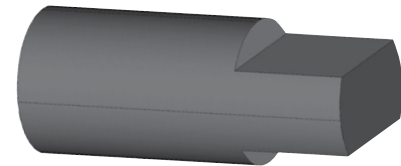


Tough Edge Type T Chipbreaker

Fracture Resistance Comparison (Interrupted Machining)



Cutting Conditions  
 Vc=250 f=0.0020ipr (Cut-Off 0.0006ipr)  
 Wet W1-9 (with flat cuts on two sides)  
 TKF12R200-T-16DR (PR1225)



Workpiece (with flat cuts on two sides)

|  | 1,000 Passes | 2,000 Passes | 3,000 Passes |
|--|--------------|--------------|--------------|
| Tough Edge Type T Chipbreaker (PR1225) | →            |              |              |
| Competitor A                           | → X          |              |              |
| Competitor B                           | → X          |              |              |

Compared to Competitor A and B, Tough Edge "T Chipbreaker" achieves superior fracture resistance during interrupted cutting.

How to Select Edge Preparation

Troubleshooting

| Problems                                    | Countermeasures              | Countermeasures    |           |            |           |                     |           |           |
|---|------------------------------|--------------------|-----------|------------|-----------|---------------------|-----------|-----------|
|   |                              | Lead Angle (PSIRR) |           | Edge Width |           | Name of Chipbreaker |           |           |
|   |                              | No (0°)            | Yes       | Narrower   | Wider     | S                   | T         | NB        |
| Insert Fracture                             | Insert Fracture Prevention   | Effective          |           |            | Effective |                     | Effective | Effective |
| Long Cutting Time                           | Cutting Time Reduction       | Effective          |           |            | Effective |                     | Effective | Effective |
| Entangled Chips                             | Chip Entanglement Prevention | Effective          |           | Effective  |           | Effective           |           |           |
| Large Boss Remains                          | Small Boss Remains           |                    | Effective | Effective  |           | Effective           |           |           |
| Ring Remains (Hollow Workpiece)             | Prevention of Ring           |                    | Effective | Effective  |           | Effective           |           |           |
| Deformation of thin walled workpiece (pipe) | Preventing Deformation       |                    | Effective | Effective  |           | Effective           |           |           |

# KTKF-S

Cut-Off Holders for Small Parts Machining and Sub-Spindle Operations

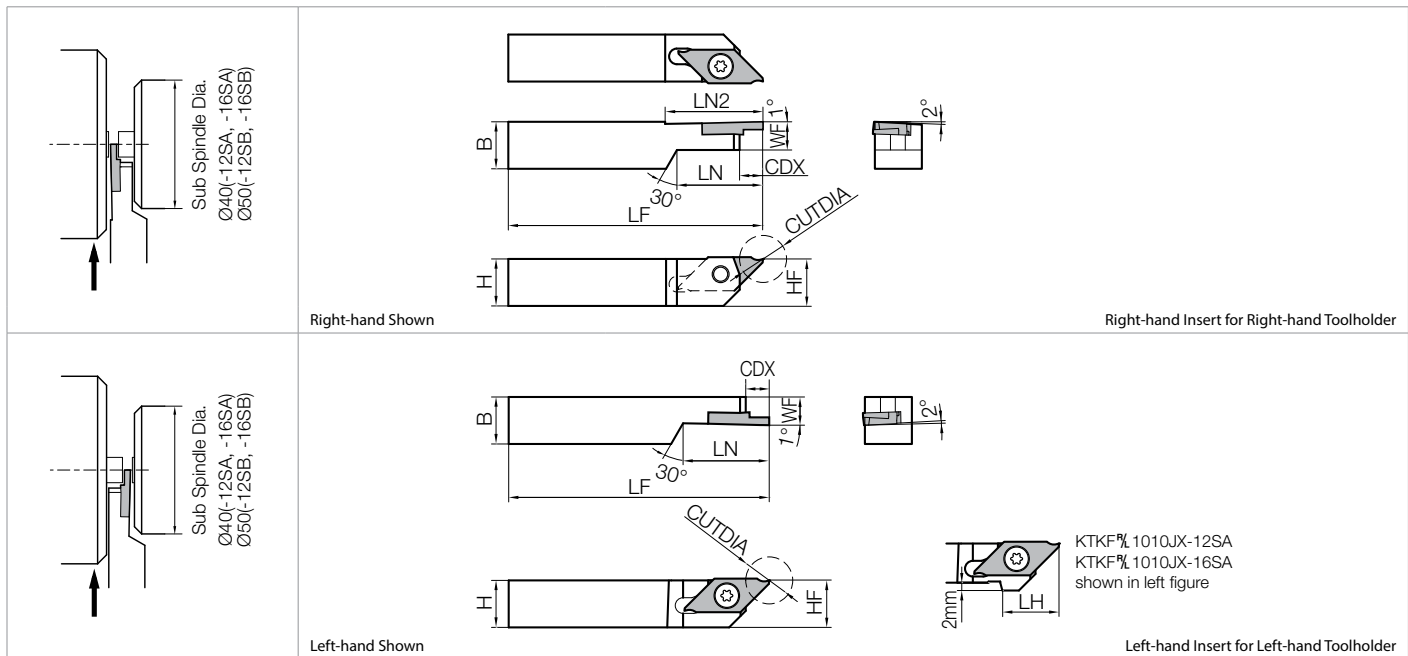
## 1 Recommended for Cut-off with Small Sub-Spindle Clearance

Thin holder head is great for when minimal clearance exists between the main spindle and sub spindle

## 2 Wide Selection of Inserts for Various Applications

Available Chipbreakers : Right lead angle, S Chipbreaker, T Chipbreaker, Without Chipbreaker

Available Insert Grades : PR1425 for Steel Machining, PR1535 for Stainless Steel Machining, and PDL025 for Aluminum Machining



### Toolholder Dimensions

| Part Number       | Stock |   | Cut-Off Dia. | Dimensions (mm) |    |    |     |     |    |    |      |    | Spare Parts |                | Applicable Inserts<br>➔ P6~P7 |             |
|-------------------|-------|---|--------------|-----------------|----|----|-----|-----|----|----|------|----|-------------|----------------|-------------------------------|-------------|
|                   | R     | L |              | CUTDIA          | H  | HF | B   | LF  | LH | LN | *LN2 | WF | CDX         | <br>SB-4570TRN |                               | <br>LTW-10S |
|                   | ●     | ● |              |                 |    |    |     |     |    |    |      |    |             |                |                               |             |
| KTKF% 1010JX-12SA | ●     | ● | 5~12         | 10              | 10 | 10 | 120 | 15  | 22 |    |      |    |             |                |                               |             |
| 1212F-12SA        | ●     | ● |              | 12              | 12 | 12 | 85  | -   |    |    |      |    |             |                |                               |             |
| KTKF% 1212JX-12SB | ●     | ● |              |                 |    |    | 120 |     | 26 |    |      |    |             |                |                               |             |
| KTKF% 1010JX-16SA | ●     | ● | 16           | 10              | 10 | 10 | 120 | 20  | 22 |    |      |    |             |                |                               |             |
| 1212F-16SA        | ●     | ● |              | 12              | 12 | 12 | 85  | -   |    |    |      |    |             |                |                               |             |
| KTKF% 1212JX-16SB | ●     | ● |              |                 |    |    |     | 120 |    | 26 |      |    |             |                |                               |             |

• Dimension CDX shows the distance from the toolholder to the cutting edge.  
 • CUTDIA dimension differs depending on insert edge width. See Page 6~7 for actual cutting diameter.  
 \*LN2 dimension only applies to right-hand toolholders

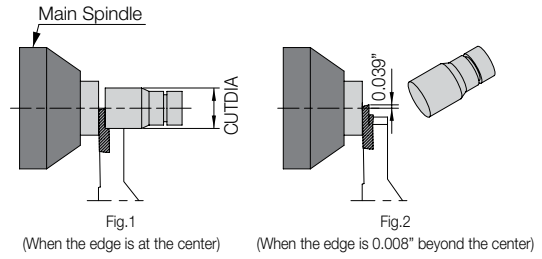
● : Standard Item

Recommended Cutting Conditions ➔ P11

How to Use

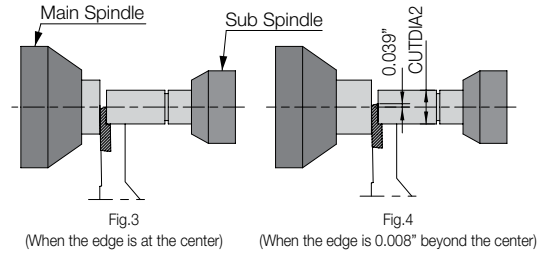
1) When using main spindle only

Workpiece maximum CUTDIA (Fig.1) = CUTDIA in toolholder table  
 Even if the cutting edge runs beyond the center line, the insert does not contact the workpiece, since the workpiece falls off.  
 (The clearance between the insert and the workpiece is 0.008")



2) When using both Main and Sub spindles

In this case, when the cutting edge runs beyond the center line, the insert will contact the workpiece, since the workpiece does not fall off.  
 Therefore, the programmed distance beyond the center must be considered.  
 e.g. When the cutting edge is programmed to run 1mm beyond the center.  
 Workpiece maximum, CUTDIA2 (Fig.4) = [CUTDIA - 0.039"×2] (in)  
 (The clearance between the insert and the workpiece is 0.008")



Recommended Cutting Conditions ★ : 1st Recommendation ☆ : 2nd Recommendation

TKF12

| Workpiece Material | Recommended Grade (Vc sfm) |                     |                     |                     |                           |            |                       | TKF12           |                 |                               |                 |                               |                               | Notes |
|--------------------|----------------------------|---------------------|---------------------|---------------------|---------------------------|------------|-----------------------|-----------------|-----------------|-------------------------------|-----------------|-------------------------------|-------------------------------|-------|
|                    | MEGACOAT NANO PLUS         | MEGACOAT NANO       |                     | MEGACOAT PR1225     | PVD Coated Carbide PR1025 | DLC PDL025 | Uncoated Carbide KW10 | Width (CW)      |                 |                               |                 |                               |                               |       |
|                    |                            | PR1725              | PR1425              |                     |                           |            |                       | PR1535          | 0.020" (0.50mm) | 0.028" (0.70mm)               | 0.039" (1.00mm) | 0.049" (1.25mm)               | 0.059" (1.50mm)               |       |
| Carbon Steel       | ★ 230~560 (160~460)        | ☆ 225~550 (175~450) | ☆ 230~500 (160~400) | ☆ 225~500 (175~400) | ☆ 200~425                 | -          | -                     | 0.0004~0.0008   | 0.0004~0.0012   | 0.0004~0.0016 (0.0004~0.0020) | 0.0004~0.0016   | 0.0004~0.0016 (0.0008~0.0039) | 0.0004~0.0016 (0.0008~0.0039) | Wet   |
| Alloy Steel        | ★ 230~560 (160~460)        | ☆ 225~550 (175~450) | ☆ 230~500 (160~400) | ☆ 225~500 (175~400) | ☆ 200~425                 | -          | -                     | 0.0004~0.0008   | 0.0004~0.0012   | 0.0004~0.0016 (0.0004~0.0020) | 0.0004~0.0016   | 0.0004~0.0016 (0.0008~0.0039) | 0.0004~0.0016 (0.0008~0.0039) |       |
| Stainless Steel    | ☆ 200~460 (130~390)        | ☆ 200~450 (125~400) | ★ 200~400 (130~330) | ☆ 200~400 (125~325) | ☆ 175~325                 | -          | -                     | 0.0002~0.0006   | 0.0004~0.0008   | 0.0004~0.0008 (0.0004~0.0012) | 0.0004~0.0008   | 0.0004~0.0008 (0.0004~0.0020) | 0.0004~0.0008 (0.0004~0.0020) |       |
| Cast Iron          | -                          | -                   | -                   | -                   | -                         | -          | ★ 175~325             | 0.0004~0.0012   | 0.0004~0.0016   | 0.0004~0.0020                 | 0.0004~0.0020   | 0.0004~0.0020                 | 0.0004~0.0020                 |       |
| Aluminum           | -                          | -                   | -                   | -                   | -                         | ★ 660~1640 | ☆ 650~1475            | 0.0004~0.0012   | 0.0004~0.0016   | 0.0004~0.0020                 | 0.0004~0.0020   | 0.0004~0.0020                 | 0.0004~0.0020                 |       |
| Brass              | -                          | -                   | -                   | -                   | -                         | -          | ★ 325~650             | 0.0004~0.0012   | 0.0004~0.0016   | 0.0004~0.0024                 | 0.0004~0.0024   | 0.0004~0.0024                 | 0.0004~0.0024                 |       |
|                    |                            |                     |                     |                     |                           |            |                       | Feed Rate (ipr) |                 |                               |                 |                               |                               |       |

Values in parentheses ( ) are cutting conditions for tough edge inserts style TKF.T..

TKF16

| Workpiece Material | Recommended Grade (Vc sfm) |                     |                     |                     |                           |            |                       | TKF16                         |                               | Notes |
|--------------------|----------------------------|---------------------|---------------------|---------------------|---------------------------|------------|-----------------------|-------------------------------|-------------------------------|-------|
|                    | MEGACOAT NANO PLUS         | MEGACOAT NANO       |                     | MEGACOAT PR1225     | PVD Coated Carbide PR1025 | DLC PDL025 | Uncoated Carbide KW10 | Width (CW)                    |                               |       |
|                    |                            | PR1725              | PR1425              |                     |                           |            |                       | PR1535                        | 0.059" (1.50mm)               |       |
| Carbon Steel       | ★ 230~560 (160~460)        | ☆ 225~550 (175~450) | ☆ 230~500 (160~400) | ☆ 225~500 (175~400) | ☆ 200~425                 | -          | -                     | 0.0008~0.0028 (0.0008~0.0039) | 0.0008~0.0028 (0.0008~0.0039) | Wet   |
| Alloy Steel        | ★ 230~560 (160~460)        | ☆ 225~550 (175~450) | ☆ 230~500 (160~400) | ☆ 225~500 (175~400) | ☆ 200~425                 | -          | -                     | 0.0008~0.0028 (0.0008~0.0039) | 0.0008~0.0028 (0.0008~0.0039) |       |
| Stainless Steel    | ☆ 200~460 (130~390)        | ☆ 200~450 (125~400) | ★ 200~400 (130~330) | ☆ 200~400 (125~325) | ☆ 175~325                 | -          | -                     | 0.0004~0.0016 (0.0004~0.0020) | 0.0004~0.0016 (0.0004~0.0020) |       |
| Cast Iron          | -                          | -                   | -                   | -                   | -                         | -          | ★ 175~325             | 0.0008~0.0032                 | 0.0008~0.0032                 |       |
| Aluminum           | -                          | -                   | -                   | -                   | -                         | ★ 660~1640 | ☆ 650~1475            | 0.0008~0.0032                 | 0.0008~0.0032                 |       |
| Brass              | -                          | -                   | -                   | -                   | -                         | -          | ★ 325~650             | 0.0008~0.0039                 | 0.0008~0.0039                 |       |
|                    |                            |                     |                     |                     |                           |            |                       | Feed Rate (ipr)               |                               |       |

Values in parentheses ( ) are cutting conditions for tough edge inserts style TKF.T..



# KTKF-JCT

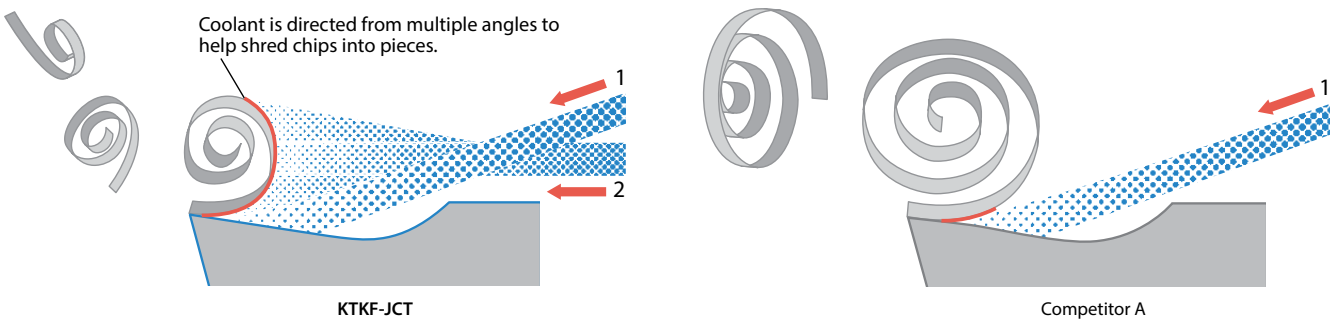
Cut-Off Holders for Small Parts Machining, Great for High Pressure Coolant

KTKF-JCT holders break chips evenly into small pieces with excellent chip control performance when machining difficult-to-cut material and stainless steel.

## 1 Excellent Chip Control Performance

The KTKF-JCT discharges coolant in two directions toward rake surface of insert and breaks chips into small pieces.

Coolant Discharge Structure Comparison

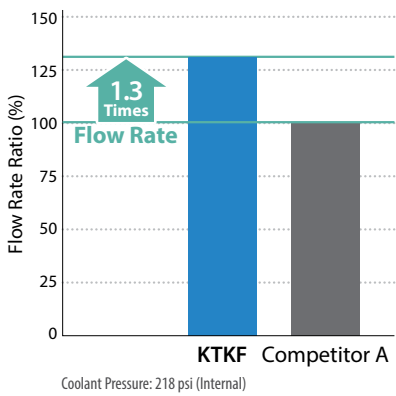


Chip Control Comparison (Internal Evaluation)

| 304          |        |        |        | Ti-6Al-4V    |        |        |        |
|--------------|--------|--------|--------|--------------|--------|--------|--------|
| f (ipr)      | 0.0004 | 0.0008 | 0.0012 | f (ipr)      | 0.0004 | 0.0008 | 0.0012 |
| KTKF-JCT     |        |        |        | KTKF-JCT     |        |        |        |
| Competitor A |        |        |        | Competitor A |        |        |        |

Cutting Conditions:  $V_c = 260$  sfm, Wet (Oil-based) Coolant Pressure: 218 psi (Internal)  
Workpiece:  $\emptyset 0.472''$

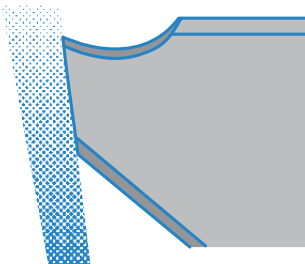
Coolant Flow Rate Comparison (Internal Evaluation)



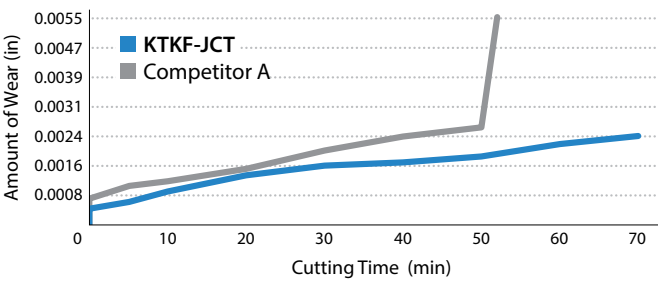
Coolant Pressure: 218 psi (Internal)

## 2 Superier Cooling Action Improves Tool Life

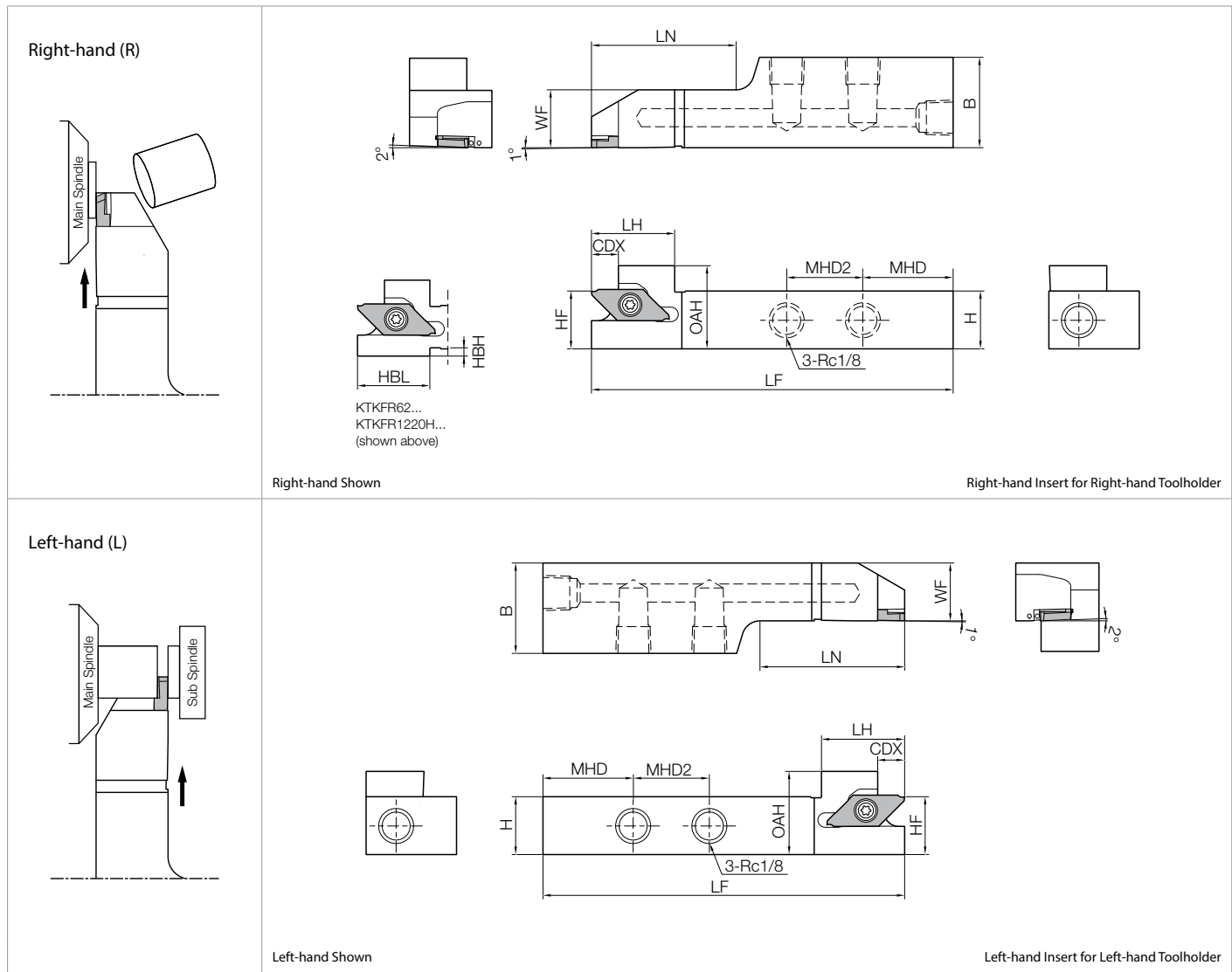
Coolant is also directed from the flank face of the insert to supply an ample amount of coolant to the tool edge area to help further suppress insert wear.



Wear Resistance Comparison (Internal Evaluation)



Cutting Conditions:  $V_c = 330$  sfm,  $f = 0.0008$  ipr, Wet (Oil-based)  
Lubricating Pressure: 218 psi (Internal) Workpiece: Ti-6Al-4v  $\emptyset 0.472''$



Toolholder Dimensions

| Part Number       | Stock |   | Unit | Dimensions |       |       |       |     |       |       |       |       |       |       | Spare Parts |             |             | Applicable Inserts<br>P6~P7 |           |           |    |
|-------------------|-------|---|------|------------|-------|-------|-------|-----|-------|-------|-------|-------|-------|-------|-------------|-------------|-------------|-----------------------------|-----------|-----------|----|
|                   | R     | L |      | H=HF       | OAH   | B     | LF    | HBH | HBL   | LH    | LN    | WF    | CDX   | MHD   | MHD2        | Clamp Screw | Wrench      |                             | Plug      |           |    |
| KTKFR 62-12JCT    | ●     |   | inch | 0.500      | 0.775 | 0.750 | 4.750 | -   | 0.783 | 0.783 | 1.110 | 0.500 | 0.295 | 1.417 | -           | SB-4590TRWN | FT-10       | GP-1                        | TKF12R... |           |    |
| 82.5-12JCT        | ●     |   |      | 0.625      | 0.900 | 1.000 |       |     | -     | -     | 0.901 | 1.582 | 0.625 | 0.295 | 0.984       |             |             |                             |           | 1.811     |    |
| KTKFR 82.5-16JCT  | ●     |   |      | 0.625      | 0.900 | 1.000 |       |     | -     | -     | 0.901 | 1.582 | 0.625 | 0.378 | 0.984       |             |             |                             |           | 1.811     |    |
| KTKFR 1220H-12JCT | ●     |   | mm   | 12         | 19    | 20    | 100   | -   | 2     | 20    | 20    | 28    | 12    |       | 35          | -           | SB-4590TRWN | FT-10                       | GP-1      | TKF12R... |    |
| KTKF% 1625H-12JCT | ●     | ● |      | 16         | 23    | 25    |       |     | -     | -     | 23    | 40    | 16    | 7.5   |             | 25          |             |                             |           |           | 46 |
| 2025H-12JCT       | ●     | ● |      | 20         | 27    | 25    |       |     |       |       |       |       | 20    |       |             |             |             |                             |           |           |    |
| KTKF% 1625H-16JCT | ●     | ● |      | 16         | 23    | 25    |       |     | 100   | -     | -     | 23    | 40    | 16    | 9.6         | 25          |             |                             |           |           | 46 |
| 2025H-16JCT       | ●     | ● | 20   | 27         | 25    |       |       | 41  |       |       |       |       |       |       |             |             | 20          |                             |           |           |    |

● : Standard Item

Recommended Cutting Conditions P11

Coolant Piping Parts P14~P15

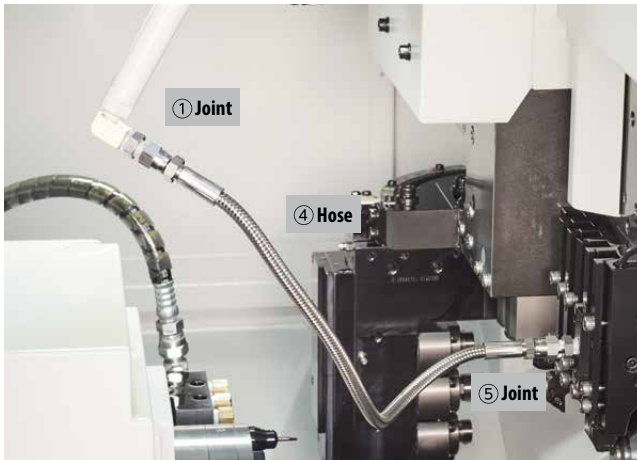
# Coolant Pipe Parts

Pipe parts will be required separately if internal coolant is used.

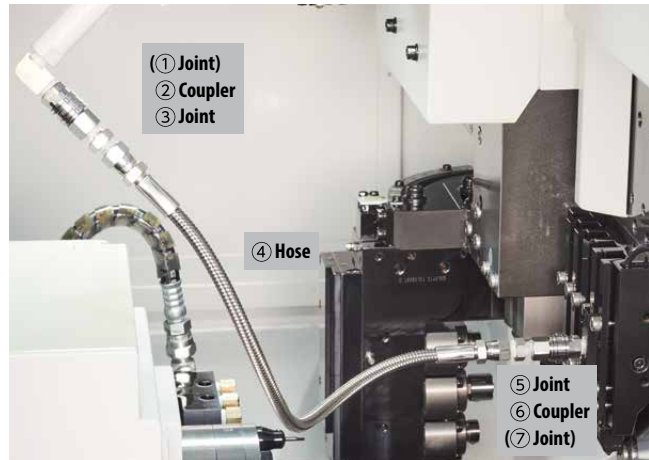
Pump Pressure: up to 2,900 psi

Pump Pressure: up to 1,088 psi if couplers are used

## Without Coupler (Pump Pressure: up to 2,900 psi)



## With Coupler (Pump Pressure: up to 1,088 psi)



### Combination Part Description Example

| Part    | Part Number      |
|---------|------------------|
| ① Joint | J-ST-R1/8-G1/8   |
| ④ Hose  | HS-G1/8-G1/8-500 |
| ⑤ Joint | J-ST-R1/8-G1/8   |

Convert the thread standards on the machine's side (Rc1/4, Rc1/8, NPT1/8, etc.) to the thread standard on the hose side (G1/8) for use.  
Use sealing agents such as seal tapes when installing piping parts.

### Combination Part Description Example

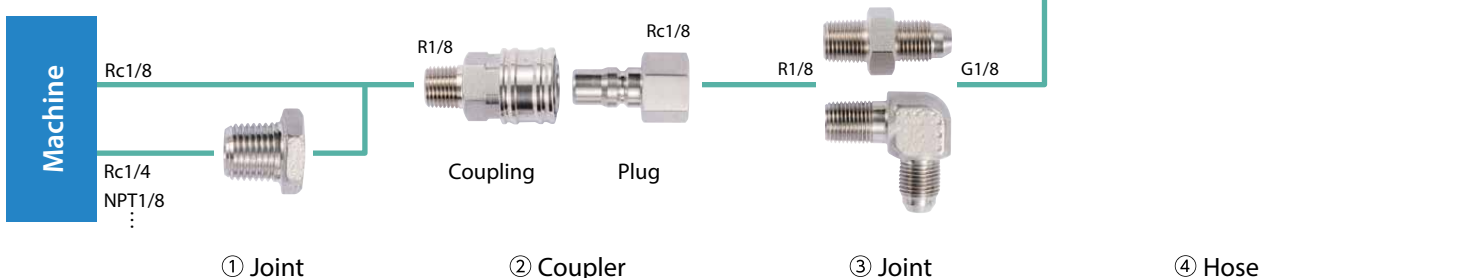
| Part      | Part Number            |
|-----------|------------------------|
| ① Joint   | -                      |
| ② Coupler | CP-ST-R1/8, P-ST-RC1/8 |
| ③ Joint   | J-ST-R1/8-G1/8         |
| ④ Hose    | HS-G1/8-G1/8-500       |
| ⑤ Joint   | J-ST-R1/8-G1/8         |
| ⑥ Coupler | P-ST-RC1/8, CP-ST-R1/8 |
| ⑦ Joint   | -                      |

Convert the thread standards on the machine's side (Rc1/4, Rc1/8, NPT1/8, etc.) to thread standards of the coupler (Rc1/8, etc.) or hose (G1/8) for use.  
Use sealing agents such as seal tapes when installing piping parts.

## Without Coupler (Pump Pressure: up to 2,900 psi)



## With Coupler (Pump Pressure: up to 1,088 psi)









# Coolant Pipe Parts

## Piping Installation Parts Description

### Joint (①③⑤⑦)



Pressure Resistance: up to 2,900 psi

| Exterior  | Part Number              | Thread Standard                   | Stock |
|---|--------------------------|-----------------------------------|-------|
|  | <b>J-ST-R1/4-G1/8</b>    | R1/4 ⇔ G1/8                       | ●     |
|   | <b>J-ST-NPT1/8-G1/8</b>  | NPT1/8 ⇔ G1/8                     | ●     |
|  | <b>J-ST-R1/8-G1/8</b>    | R1/8 ⇔ G1/8                       | ●     |
|  | <b>J-AN-R1/8-G1/8</b>    |                                   | ●     |
|  | <b>J-ST-R1/4-RC1/8</b>   | R1/4 ⇔ Rc1/8                      | ●     |
|   | <b>J-ST-NPT1/8-RC1/8</b> | NPT1/8 ⇔ Rc1/8                    | ●     |
|   | <b>J-ST-R1/8-RC1/8</b>   | Rc1/8 ⇔ R1/8<br>(Extension Joint) | ●     |

● : Standard Item

### Coupler (②⑥)


Pressure Resistance: up to 1,088 psi

| Exterior   | Part Number       | Thread Standard | Stock |
|--|-------------------|-----------------|-------|
|  | <b>CP-ST-R1/8</b> | R1/8            | ●     |
|  | <b>P-ST-RC1/8</b> | Rc1/8           | ●     |

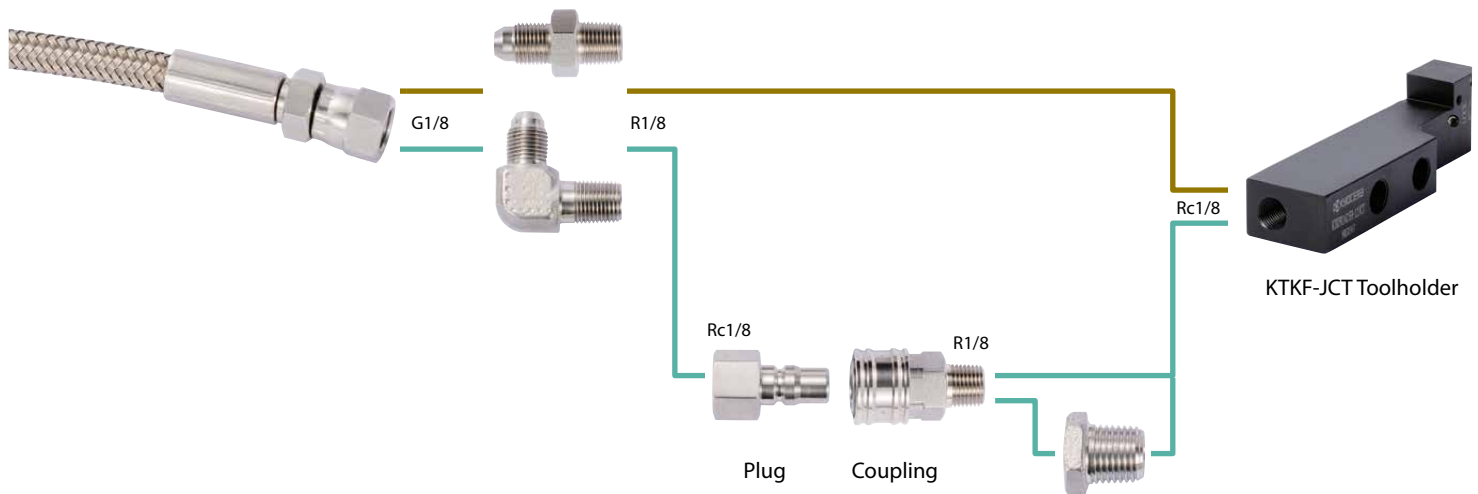
● : Standard Item

### Hose (④)

Pressure Resistance: up to 2,900 psi

| Exterior  | Part Number             | Thread Standard | Total Length (mm) | Stock |
|---|-------------------------|-----------------|-------------------|-------|
|  | <b>HS-G1/8-G1/8-200</b> | G1/8            | 200               | ●     |
|   | <b>HS-G1/8-G1/8-300</b> |                 | 300               | ●     |
|   | <b>HS-G1/8-G1/8-400</b> |                 | 400               | ●     |
|   | <b>HS-G1/8-G1/8-500</b> |                 | 500               | ●     |
|   | <b>HS-G1/8-G1/8-600</b> |                 | 600               | ●     |
|   | <b>HS-G1/8-G1/8-800</b> |                 | 800               | ●     |

● : Standard Item



④ Hose

⑤ Joint

⑥ Coupler

⑦ Joint (Extension Joint)

# Y-Axis Toolholders

NEW

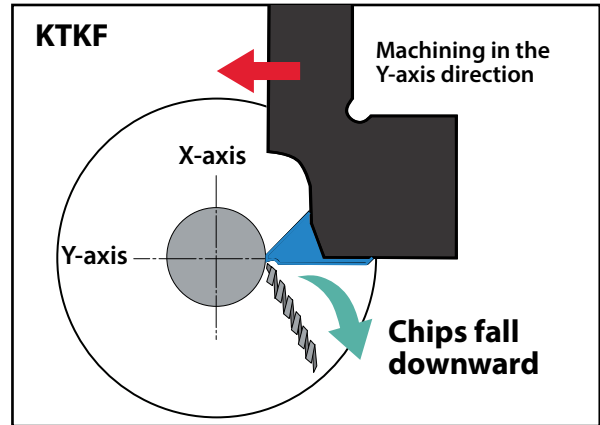
Improved Chip Control

New Toolholder Designs for Better Chip Evacuation in Small Parts Machining

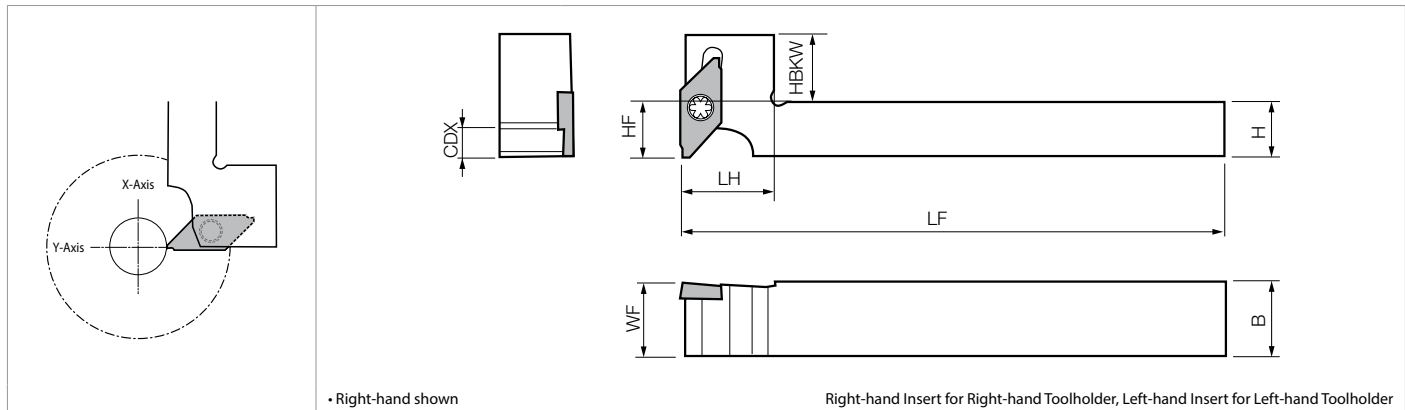


KTKFR-Y

## Controlled Chip Evacuation for Stable Machining



The Y-axis machining direction allows the chips to fall down and away from the workpiece, improving chip evacuation.



### Toolholder Dimensions

| Part Number       | Stock |   | Dimensions (mm) |    |    |     |    |    |    |      | Spare Parts |        | Applicable Inserts<br>P6~P7 |
|-------------------|-------|---|-----------------|----|----|-----|----|----|----|------|-------------|--------|-----------------------------|
|                   | R     | L | H               | HF | B  | LF  | LH | WF | LU | HBKW | Clamp Screw | Wrench |                             |
|                   |       |   |                 |    |    |     |    |    |    |      |             |        |                             |
| KTKFR 1216JX-12-Y | ●     |   | 12              | 12 | 16 | 120 | 20 | 16 | 6  | 15   | SB-4590TRWN | FT-10  | TKF12R...                   |
|                   | ●     |   | 16              | 16 | 16 |     | 25 | 16 |    | 11   |             |        |                             |

• Dimensions LU shows the distance from the toolholder to the cutting edge

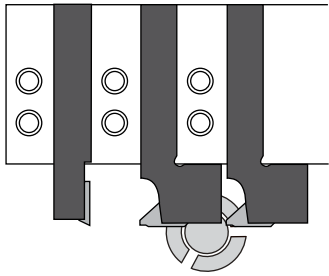
● : Standard Item

Recommended Cutting Conditions P11

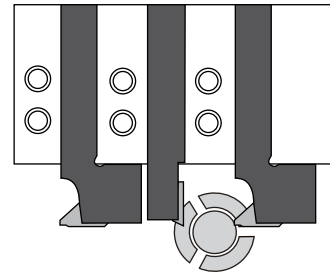
### Precautions

Do not use Y-axis toolholders side-by-side to prevent interference (Only two Y-axis holders can be used at the same time)

Interference

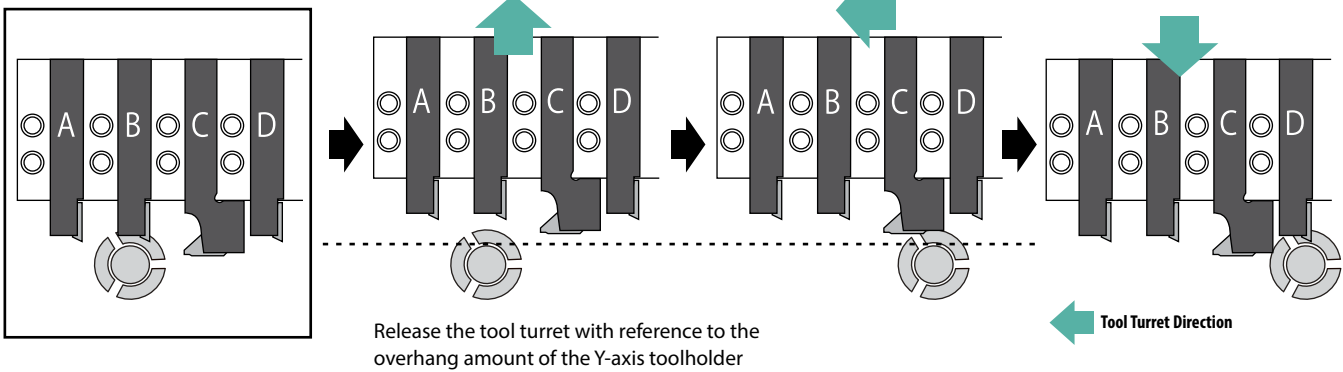


Without Interference



Standard toolholders may be mounted between two Y-axis toolholders

When changing the tool, set the retracted position with reference to the cutting edge of the Y-axis holder (When exchanging from tool B to D)

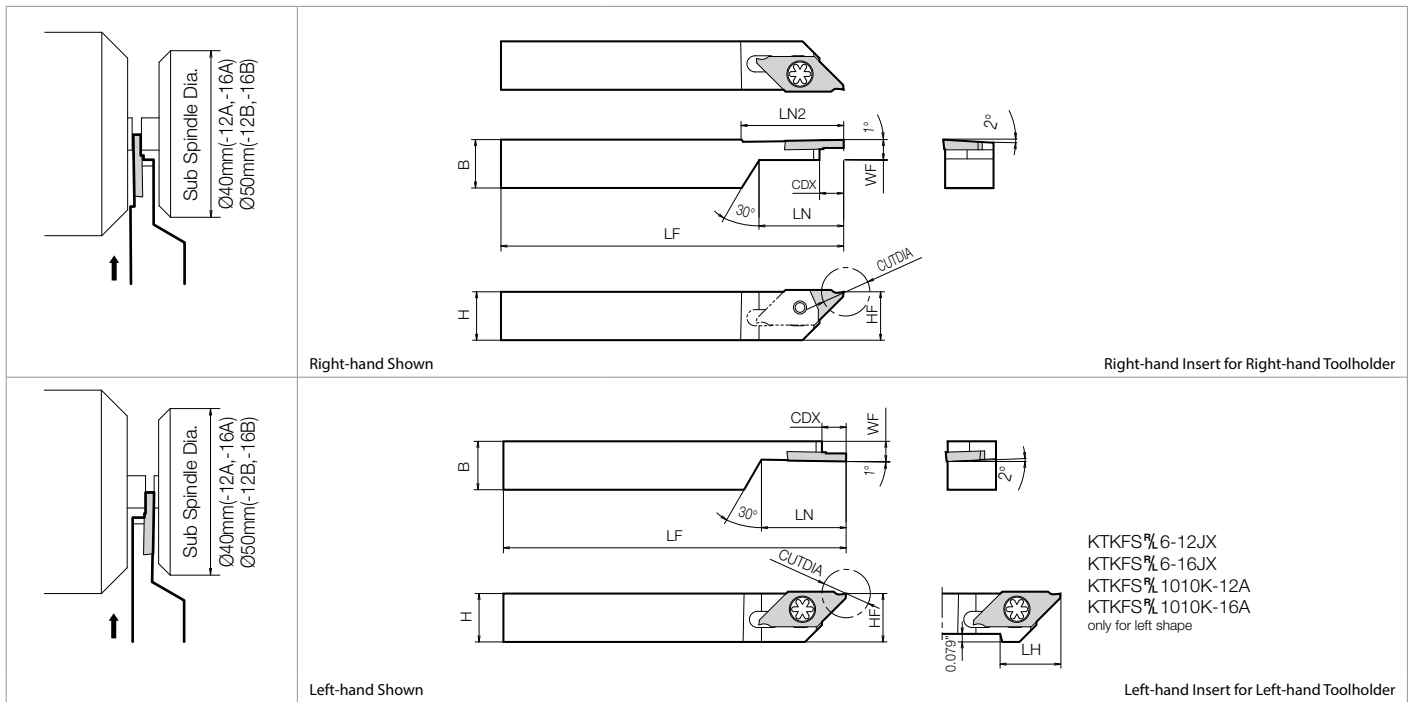


Release the tool turret with reference to the overhang amount of the Y-axis toolholder

Note that using other toolholder styles together will result in different outside diameters

(Unit: mm)

| Y-axis Toolholder Overhang | Examples | Overhang Amount : L                |                     |                     |                     |
|----------------------------|----------|------------------------------------|---------------------|---------------------|---------------------|
|                            |          | Available Outside Cutting Dia. (Ø) | 20                  | 22                  | 25                  |
| 20                         |          | A                                  | Without Restriction | Without Restriction | Without Restriction |
|                            |          | B                                  | 13.0                | 13.0                | 13.0                |
|                            |          | C                                  | Without Restriction | Without Restriction | Without Restriction |
| 25                         |          | A                                  | 38.0                | 58.0                | Without Restriction |
|                            |          | B                                  | 14.9                | 13.6                | 13.0                |
|                            |          | C                                  | 45.0                | 60.0                | Without Restriction |



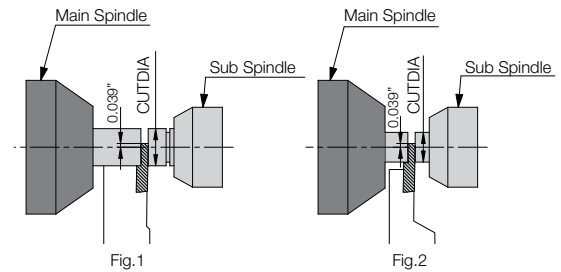
Toolholder Dimensions

| Part Number      | Stock |   | Unit | Cut-Off Dia. | Dimensions |       |       |       |       |       |       |       |       | Spare Parts |             | Applicable Inserts<br>P19 |         |
|------------------|-------|---|------|--------------|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------------|-------------|---------------------------|---------|
|                  | R     | L |      |              | CUTDIA     | H     | HF    | B     | LF    | LH    | LN    | *LN2  | WF    | CDX         | Clamp Screw |                           | Wrench  |
| KTKFS% 6-12JX    | ●     | ● | inch | 0.236~0.472  | 0.375      | 0.375 | 0.375 | 4.750 | 0.590 | 0.866 | 1.024 | 0.197 | 0.236 | SB-4050TRN  | LTW-10S     | TKFS12%                   |         |
| 8-12JX           | ●     | ● |      | 0.236~0.472  | 0.500      | 0.500 | 0.500 | 4.750 | -     | 1.024 | 1.024 | 0.197 | 0.236 |             |             |                           |         |
| KTKFS% 6-16JX    | ●     | ● |      | 0.551~0.630  | 0.375      | 0.375 | 0.375 | 4.750 | 0.787 | 0.866 | 1.181 | 0.197 | 0.315 | SB-4050TRN  | LTW-10S     |                           | TKFS16% |
| 8-16JX           | ●     | ● |      | 0.551~0.630  | 0.500      | 0.500 | 0.500 | 4.750 | -     | 1.024 | 1.181 | 0.197 | 0.315 |             |             |                           |         |
| KTKFS% 1010K-12A | △     | △ | mm   | 6~12         | 10         | 10    | 10    | 120   | 15    | 22    | 26    | 5     | 6     | SB-4050TRN  | LTW-10S     | TKFS12%                   |         |
| 1212F-12A        | △     | △ |      | 6~12         | 12         | 12    | 12    | 85    | -     | 22    | 26    | 5     | 6     |             |             |                           |         |
| 1212K-12B        | △     | △ |      | 6~12         | 12         | 12    | 12    | 120   | -     | 26    | 26    | 5     | 6     |             |             |                           |         |
| KTKFS% 1010K-16A | △     | △ |      | 14~16        | 10         | 10    | 10    | 120   | 20    | 22    | 30    | 5     | 8     | SB-4050TRN  | LTW-10S     |                           | TKFS16% |
| 1212F-16A        | △     | △ |      | 14~16        | 12         | 12    | 12    | 85    | -     | 22    | 30    | 5     | 8     |             |             |                           |         |
| 1212K-16B        | △     | △ |      | 14~16        | 12         | 12    | 12    | 120   | -     | 26    | 30    | 5     | 8     |             |             |                           |         |

- Dimension CDX shows the distance from the toolholder to the cutting edge.
- CUTDIA dimension differs depending on insert edge width. See Page P19 for actual cutting diameter.
- \*LN2 dimension only applies to right-hand toolholders
- ● : Standard Item    △ : Item is Being Phased Out

Applicable Inserts (CUTDIA)

| Insert<br>Right-handed Insert Shown | Part Number | Dimensions |        |      |       |
|-------------------------------------|-------------|------------|--------|------|-------|
|                                     |             | CW         | CUTDIA | (in) |       |
|                                     | TKFS12%     | 100-S      | 0.039  | 1.00 | 0.236 |
|                                     |             | 150-S      | 0.059  | 1.50 | 0.354 |
|                                     |             | 200-S      | 0.079  | 2.00 | 0.472 |
|                                     | TKFS16%     | 150-S      | 0.059  | 1.50 | 0.551 |
|                                     |             | 200-S      | 0.079  | 2.00 | 0.630 |

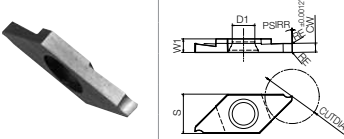


As Fig.2 shows, the cutting diameter of the insert is measured when the lead edge passes 0.039" past the center line of part.

- As Fig.1 shows, use KTKFL (Left-hand) when the distance between main spindle and sub spindle are long.
- As Fig.2 shows, KTKFS is recommended when the workpiece diameters are small and the distance between the main spindle and sub spindle are short

NEW

|  |   |                            |   |   |   |   |   |  |   |
|--|---|----------------------------|---|---|---|---|---|--|---|
| <b>Classification of Usage</b><br>● : Light Interruption / 1st Choice<br>○ : Light Interruption / 2nd Choice<br>● : Continuous / 1st Choice<br>○ : Continuous / 2nd Choice | P | Carbon Steel / Alloy Steel | ● | ○ | ○ | ○ | ○ |  |   |
|  | M | Stainless Steel            | ○ | ● | ○ | ○ | ○ |  |   |
|  | K | Cast Iron                  |   |   |   |   |   |  | ● |
|  | N | Non-ferrous Material       |   |   |   |   |   |  | ● |

| Insert<br>Right-handed Insert Shown   | Part Number           | Dimensions (in) |       |        |       |       |       |       | MEGACOAT NANO PLUS |   | MEGACOAT NANO |   | MEGACOAT |   | PVD Coated Carbide |   | Carbide |   |      |   |   |   |   |
|---|-----------------------|-----------------|-------|--------|-------|-------|-------|-------|--------------------|---|---------------|---|----------|---|--------------------|---|---------|---|------|---|---|---|---|
|   |                       | CW              |       | CUTDIA | RE    | W1    | S     | D1    | PR1725             |   | PR1535        |   | PR1425   |   | PR1225             |   | PR1025  |   | KW10 |   |   |   |   |
|   |                       | inch            | mm    |        |       |       |       |       | R                  | L | R             | L | R        | L | R                  | L | R       | L | R    | L | R | L |   |
|   |                       |                 |       |        |       |       |       |       |                    |   |               |   |          |   |                    |   |         |   |      |   |   |   |   |
|  | TKFS12 <sup>R/L</sup> | 100-S           | 0.039 | 1.0    | 0.236 | 0.002 | 0.087 | 0.343 | 0.173              | △ | △             | △ | △        | △ | △                  | △ | △       | △ | △    | △ |   |   |   |
|   |                       | 150-S           | 0.059 | 1.5    | 0.354 |       |       |       |                    | △ | △             | △ | △        | △ | △                  | △ | △       | △ | △    | △ | △ | △ | △ |
|   |                       | 200-S           | 0.079 | 2.0    | 0.472 |       |       |       |                    | △ | △             | △ | △        | △ | △                  | △ | △       | △ | △    | △ | △ | △ | △ |
|   | TKFS16 <sup>R/L</sup> | 150-S           | 0.059 | 1.5    | 0.551 | 0.002 | 0.087 | 0.374 | 0.173              | △ | △             | △ | △        | △ | △                  | △ | △       | △ | △    | △ |   |   |   |
| 200-S   | 0.079                 | 2.0             | 0.630 | △      | △     |       |       |       |                    | △ | △             | △ | △        | △ | △                  | △ | △       | △ | △    | △ |   |   |   |

● : Standard Item △ : Item is Being Phased Out  
 • Lead angle shows the angle when installed in the toolholder.  
 • As Fig.1 of P18 shows, the cutting diameter of the insert is measured when the lead edge passes 0.039" past the center line of part.  
 Inserts Sold in 10 Piece Boxes

Recommended Cutting Conditions ★ : 1st Recommendation ☆ : 2nd Recommendation

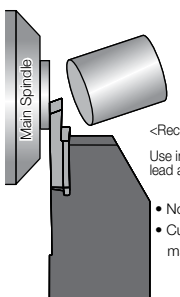
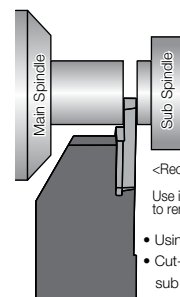
TKFS

| Workpiece Material | Recommended Grade (Vc sfm) |               |           |                  |            | TKFS12          |                |                | TKFS16          |                | Notes |
|--------------------|----------------------------|---------------|-----------|------------------|------------|-----------------|----------------|----------------|-----------------|----------------|-------|
|                    | MEGACOAT NANO PLUS         | MEGACOAT NANO | MEGACOAT  | Uncoated Carbide | KW10       | Width           |                |                | Width           |                |       |
|                    |                            |               |           |                  |            | 0.039" (1.0mm)  | 0.059" (1.5mm) | 0.079" (2.0mm) | 0.059" (1.5mm)  | 0.079" (2.0mm) |       |
|                    |                            |               |           |                  |            | Feed Rate (ipr) |                |                | Feed Rate (ipr) |                |       |
| Carbon Steel       | ★ 230~560                  | ☆ 230~490     | ☆ 225~550 | ☆ 225~500        | -          | 0.0004~0.0012   | 0.0004~0.0012  | 0.0004~0.0012  | 0.0004~0.0012   | 0.0004~0.0012  | Wet   |
| Alloy Steel        | ★ 230~560                  | ☆ 230~490     | ☆ 225~550 | ☆ 225~500        | -          | 0.0004~0.0012   | 0.0004~0.0012  | 0.0004~0.0012  | 0.0004~0.0012   | 0.0004~0.0012  |       |
| Stainless Steel    | ☆ 200~460                  | ★ 200~400     | ☆ 200~450 | ☆ 200~400        | -          | 0.0004~0.0008   | 0.0004~0.0008  | 0.0004~0.0012  | 0.0004~0.0008   | 0.0004~0.0012  |       |
| Cast Iron          | -                          | -             | -         | -                | ★ 175~325  | 0.0004~0.0012   | 0.0004~0.0012  | 0.0004~0.0012  | 0.0004~0.0012   | 0.0004~0.0012  |       |
| Aluminum           | -                          | -             | -         | -                | ★ 650~1475 | 0.0004~0.0012   | 0.0004~0.0012  | 0.0004~0.0012  | 0.0004~0.0012   | 0.0004~0.0012  |       |
| Brass              | -                          | -             | -         | -                | ★ 325~650  | 0.0004~0.0016   | 0.0004~0.0016  | 0.0004~0.0016  | 0.0004~0.0016   | 0.0004~0.0016  |       |

KTKF / KTKFS Selection Reference

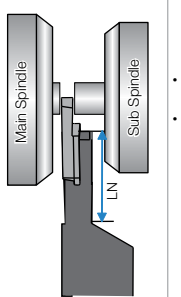
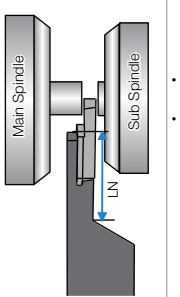
KTKF

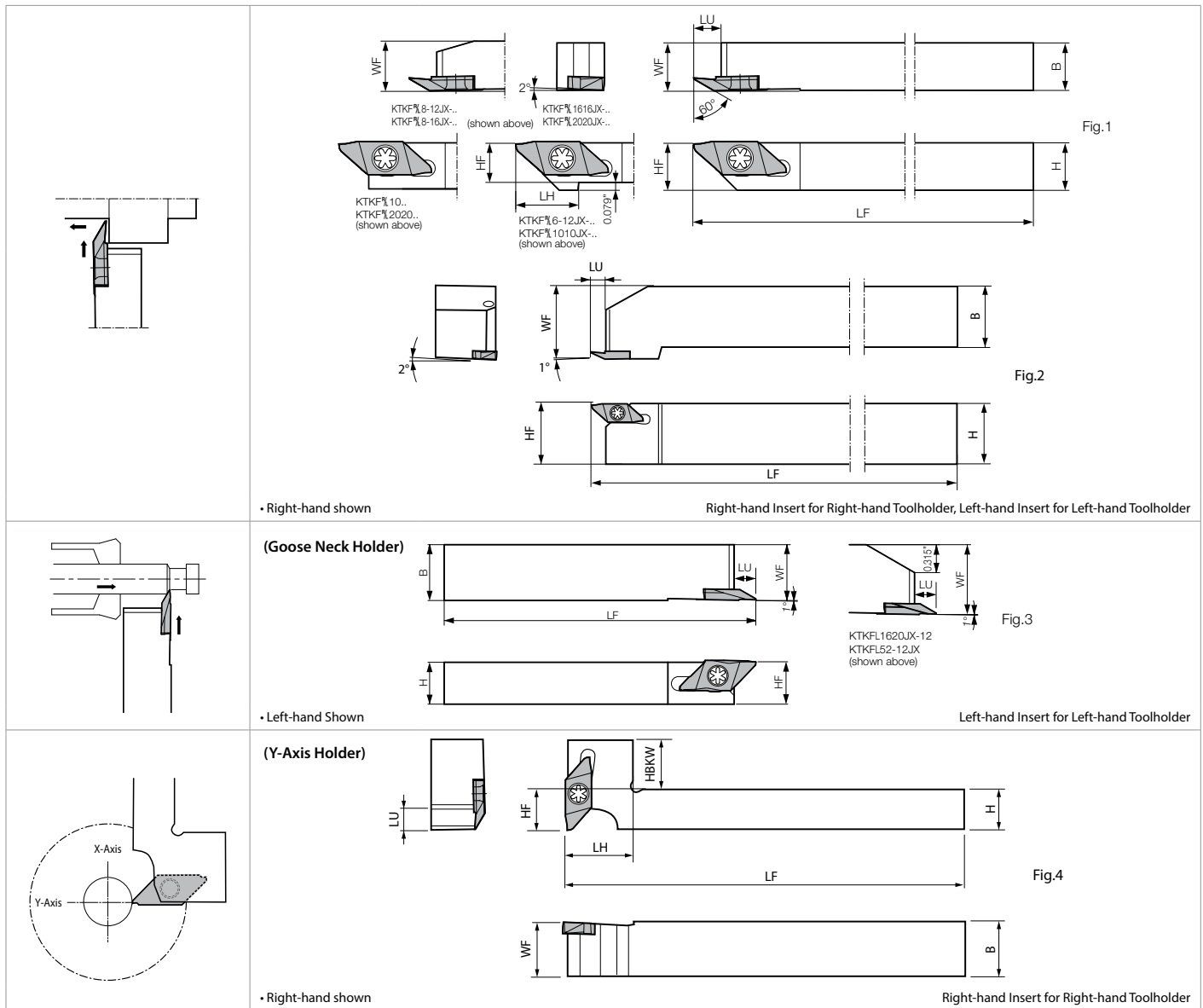
- Both Right-hand and Left-hand types are applicable to gang tool post
- Left-hand type is used during cut-off operations using sub spindle

| KTKFR<br>Right-Hand Toolholder   | KTKFL<br>Left-Hand Toolholder   |
|--|---|
|  <p>&lt;Recommendation&gt;<br/>Use insert without lead angle.</p> <ul style="list-style-type: none"> <li>Not Using Sub Spindle</li> <li>Cut-off operation near main spindle side</li> </ul> |  <p>&lt;Recommendation&gt;<br/>Use insert with lead angle to remove boss.</p> <ul style="list-style-type: none"> <li>Using Sub Spindle</li> <li>Cut-off operation near sub spindle side</li> </ul> |

KTKFS

- When machining workpiece with small diameter, use KTKFS to reduce overhang distance from the main spindle

| KTKFSR<br>Right-Hand Toolholder  | KTKFSL<br>Left-Hand Toolholder   |
|--|--|
|  <p>&lt;How to Select&gt;<br/>R-Hand</p> <ul style="list-style-type: none"> <li>Long workpiece and more rigidity</li> <li>Cut-off operation near main spindle side</li> </ul> <p>&lt;How to Select&gt;<br/>LN Dimension</p> <ul style="list-style-type: none"> <li>Sub Spindle Dia. Ø40mm/22 (A type) Ø50mm/26 (B type)</li> </ul> |  <p>&lt;How to Select&gt;<br/>L-Hand</p> <ul style="list-style-type: none"> <li>Short workpiece and less rigidity</li> <li>Cut-off operation near main spindle side</li> </ul> <p>&lt;How to Select&gt;<br/>LN Dimension</p> <ul style="list-style-type: none"> <li>Sub Spindle Dia. Ø40mm/22 (A type) Ø50mm/26 (B type)</li> </ul> |



Toolholder Dimensions

| Part Number                                | Stock |   | Unit | Dimensions |       |       |       |       |       |       | Drawing | Spare Parts |             | Applicable Inserts<br>● P21, P25, P26 |   |
|--|-------|---|------|------------|-------|-------|-------|-------|-------|-------|---------|-------------|-------------|---------------------------------------|---|
|  | R     | L |      | H          | HF    | B     | LF    | LH    | WF    | LU    |         | HBKW        | Clamp Screw |                                       | Wrench  |
| KTKF <sup>®</sup> / <sub>L</sub> 6-12JX    | ●     | ● | inch | 0.375      | 0.375 | 0.375 | 4.750 | 0.590 | 0.375 | 0.236 | -       | Fig.1       | SB-4590TRWN | LTW-10S                               | TKFB12 <sup>®</sup> / <sub>L</sub> ...<br>TKF12 <sup>®</sup> / <sub>L</sub> ... |
|  | ●     | ● |      | 0.500      | 0.500 | 0.500 | 4.750 | -     | 0.500 | 0.236 |         |             |             |                                       |   |
|  | ●     | ● |      | 0.625      | 0.625 | 0.625 | 4.750 | -     | 0.625 | 0.236 |         |             |             |                                       |   |
| KTKF <sup>®</sup> / <sub>L</sub> 6-16JX    | ●     | ● | inch | 0.375      | 0.375 | 0.375 | 4.750 | 0.787 | 0.375 | 0.315 | -       | Fig.1       | SB-4590TRWN | LTW-10S                               | TKFB16 <sup>®</sup> / <sub>L</sub> ...<br>TKF16 <sup>®</sup> / <sub>L</sub> ... |
|  | ●     | ● |      | 0.500      | 0.500 | 0.500 | 4.750 | -     | 0.500 | 0.315 |         |             |             |                                       |   |
|  | ●     | ● |      | 0.625      | 0.625 | 0.625 | 4.750 | -     | 0.625 | 0.315 |         |             |             |                                       |   |
| KTKF <sup>®</sup> / <sub>L</sub> 1010JX-12 | ●     | ● | mm   | 10         | 10    | 10    | 120   | 15    | 10    | 6     | -       | Fig.1       | SB-4590TRWN | LTW-10S                               | TKFB12 <sup>®</sup> / <sub>L</sub> ...<br>TKF12 <sup>®</sup> / <sub>L</sub> ... |
|  | ●     | ● |      | 12         | 12    | 12    | 120   | -     | 12    | 6     |         |             |             |                                       |   |
|  | ●     | ● |      | 16         | 16    | 16    | 120   | -     | 16    | 6     |         |             |             |                                       |   |
|  | ●     | ● |      | 20         | 20    | 20    | 120   | -     | 20    | 6     |         |             |             |                                       |   |
| KTKF <sup>®</sup> / <sub>L</sub> 1010JX-16 | ●     | ● | mm   | 10         | 10    | 10    | 120   | 20    | 10    | 8     | -       | Fig.1       | SB-4590TRWN | LTW-10S                               | TKFB16 <sup>®</sup> / <sub>L</sub> ...<br>TKF16 <sup>®</sup> / <sub>L</sub> ... |
|  | ●     | ● |      | 12         | 12    | 12    | 120   | -     | 12    | 8     |         |             |             |                                       |   |
|  | ●     | ● |      | 16         | 16    | 16    | 120   | -     | 16    | 8     |         |             |             |                                       |   |
|  | ●     | ● |      | 20         | 20    | 20    | 120   | -     | 20    | 8     |         |             |             |                                       |   |
| KTKFR 1212F-12                             | ●     |   |      | 12         | 12    | 12    | 85    | -     | 12    | 6     | -       | Fig.1       | SB-4590TRWN | LTW-10S                               | TKFB12R...<br>TKF12R...   |
|  | ●     |   |      | 12         | 12    | 12    | 85    | -     | 12    | 8     |         |             |             |                                       | TKFB16R...<br>TKF16R...   |

• Dimensions LU shows the distance from the toolholder to the cutting edge  
 • See Page P13 for Jet Coolant-Through styles

● : Standard Item



Toolholder Dimensions




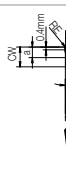
| Part Number                  | Stock |   | Unit | Dimensions |       |       |       |    |       |       |      | Drawing | Spare Parts |         | Applicable Inserts<br>P21, P25, P26                |
|------------------------------|-------|---|------|------------|-------|-------|-------|----|-------|-------|------|---------|-------------|---------|--|
|                              | R     | L |      | H          | HF    | B     | LF    | LH | WF    | LU    | HBKW |         | Clamp Screw | Wrench  |  |
| <b>NEW</b> KTKFR 2525M-12    | ●     |   | mm   | 25         | 25    | 25    | 150   | -  | 30    | 6     | -    | Fig.2   | SB-4590TRWN | LTW-10S | TKFB12R...<br>TKF12R...<br>TKFB16R...<br>TKF16R... |
|                              | ●     |   |      | 25         | 25    | 25    | 150   | -  | 30    | 8     |      |         |             |         |  |
| KTKFL 52-12JX                |       | ● | inch | 0.500      | 0.500 | 0.625 | 4.750 | -  | 0.625 | 0.236 | -    | Fig.3   | SB-4590TRWN | LTW-10S | TKFB12L...<br>TKF12L...                            |
|                              |       | ● |      | 0.625      | 0.625 | 0.750 | 4.750 | -  | 0.750 | 0.236 |      |         |             |         |  |
| KTKFL 1216JX-12              |       | ● | mm   | 12         | 12    | 16    | 120   | -  | 16    | 6     | -    | Fig.3   | SB-4590TRWN | LTW-10S | TKFB12L...<br>TKF12L...                            |
|                              |       | ● |      | 16         | 16    | 20    | 120   | -  | 20    | 6     |      |         |             |         |  |
| <b>NEW</b> KTKFR 1216JX-12-Y | ●     |   | mm   | 12         | 12    | 16    | 120   | 20 | 16    | 6     | 15   | Fig.4   | SB-4590TRWN | FT-10   | TKFB12R...<br>TKF12R...                            |
|                              | ●     |   |      | 16         | 16    | 16    |       | 25 | 16    | 11    |      |         |             |         |  |

- Dimensions LU shows the distance from the toolholder to the cutting edge
- See Page P13 for Jet Coolant-Through styles
- When using Y-axis (KTKF-Y) holders, see Page P17 for precautions

● : Standard Item

Applicable Inserts

| Classification of Usage             | P Carbon Steel / Alloy Steel |   | M Stainless Steel | K Gray Cast Iron<br>Nodular Cast Iron | N Non-ferrous Material | S Heat-resistant Alloy<br>Titanium Alloy |
|-------------------------------------|------------------------------|---|-------------------|---------------------------------------|------------------------|--|
|                                     | ●                            | ○ |                   |                                       |                        |  |
| ● : Light Interruption / 1st Choice | ●                            | ○ | ○                 | ○                                     | ○                      | ○  |
| ○ : Light Interruption / 2nd Choice | ○                            | ● | ○                 | ○                                     | ○                      | ○  |
| ● : Continuous / 1st Choice         | ○                            | ○ | ○                 | ○                                     | ○                      | ○  |
| ○ : Continuous / 2nd Choice         | ○                            | ○ | ○                 | ○                                     | ○                      | ○  |

| Insert   | Part Number   | Dimensions (in)   |       |       |       |        |       |       |       |       |        | MEGACOAT NANO PLUS | MEGACOAT NANO | MEGACOAT | PVD Coated Carbide | Carbide |        |        |        |        |      |
|--|---|-------------------|-------|-------|-------|--------|-------|-------|-------|-------|--------|--------------------|---------------|----------|--------------------|---------|--------|--------|--------|--------|------|
|  |   | CW                |       | a     | CDX   | RE     | W1    | S     | D1    | PSIRR | PR1725 |                    |               |          |                    |         | PR1535 | PR1425 | PR1225 | PR1025 | KW10 |
|  |   | inch              | mm    |       |       |        |       |       |       |       |        |                    |               |          |                    |         |        |        |        |        |      |
| <br>Right-handed insert shown  | TKFB 12R15005M  | 0.059             | 1.5   | 0.010 | 0.102 | <0.002 | 0.118 | 0.343 | 0.205 | -     | ●      | ●                  | △             | ●        | △                  | ●       |        |        |        |        |      |
|  | 12R28005M   | 0.110             | 2.8   | 0.012 | 0.181 | <0.002 | 0.118 | 0.343 | 0.205 | -     | ●      | ●                  | △             | ●        | △                  | ●       |        |        |        |        |      |
|  | 12R28010M   | 0.110             | 2.8   | 0.012 | 0.181 | <0.004 | 0.118 | 0.343 | 0.205 | -     | ●      | ●                  | △             | ●        | △                  | ●       |        |        |        |        |      |
|  | TKFB 16R38005M  | 0.150             | 3.8   | 0.012 | 0.248 | <0.002 | 0.157 | 0.374 | 0.205 | -     | ●      | ●                  | △             | ●        | △                  | ●       |        |        |        |        |      |
|  | 16R38010M   | 0.150             | 3.8   | 0.012 | 0.248 | <0.004 | 0.157 | 0.374 | 0.205 | -     | ●      | ●                  | △             | ●        | △                  | ●       |        |        |        |        |      |
|  | TKFB 12L28005MR   | 0.110             | 2.8   | 0.012 | 0.181 | <0.002 | 0.118 | 0.343 | 0.205 | -     | ○      | ○                  | ○             | ○        | ○                  | ○       |        |        |        |        |      |
| <br>Left-handed insert shown  | 12L28010MR  | 0.110             | 2.8   | 0.012 | 0.181 | <0.004 | 0.118 | 0.343 | 0.205 | -     | ○      | ○                  | ○             | ○        | ○                  | ○       |        |        |        |        |      |
|  | TKFB 16L38005MR   | 0.150             | 3.8   | 0.012 | 0.248 | <0.002 | 0.157 | 0.374 | 0.205 | -     | ○      | ○                  | ○             | ○        | ○                  | ○       |        |        |        |        |      |
|  | 16L38010MR  | 0.150             | 3.8   | 0.012 | 0.248 | <0.004 | 0.157 | 0.374 | 0.205 | -     | ○      | ○                  | ○             | ○        | ○                  | ○       |        |        |        |        |      |
|  | <br>Polished | TKFB 12R28005P-GQ | 0.110 | 2.8   | 0.059 | 0.181  | 0.002 | 0.118 | 0.343 | 0.205 | 74°    | ●                  | ●             | △        | ●                  |         |        |        |        |        |      |
|  |   | 12R28015P-GQ      | 0.110 | 2.8   | 0.059 | 0.181  | 0.006 | 0.118 | 0.343 | 0.205 | 74°    | ●                  | ●             | △        | ●                  |         |        |        |        |        |      |
|  |   | TKFB 16R38005P-GQ | 0.150 | 3.8   | 0.071 | 0.248  | 0.002 | 0.157 | 0.374 | 0.205 | 72°    | ●                  | ●             | △        | ●                  |         |        |        |        |        |      |
| 16R38015P-GQ   |   | 0.150             | 3.8   | 0.071 | 0.248 | 0.006  | 0.157 | 0.374 | 0.205 | 72°   | ●      | ●                  | △             | ●        |                    |         |        |        |        |        |      |
| <br>Right-handed insert shown | TKFB 12R28005-GQ  | 0.110             | 2.8   | 0.059 | 0.181 | 0.002  | 0.118 | 0.343 | 0.205 | 74°   | ●      | ●                  | △             | ●        |                    |         |        |        |        |        |      |
|  | 12R28015-GQ   | 0.110             | 2.8   | 0.059 | 0.181 | 0.006  | 0.118 | 0.343 | 0.205 | 74°   | ●      | ●                  | △             | ●        |                    |         |        |        |        |        |      |
|  | TKFB 16R38005-GQ  | 0.150             | 3.8   | 0.071 | 0.248 | 0.002  | 0.157 | 0.374 | 0.205 | 72°   | ●      | ●                  | △             | ●        |                    |         |        |        |        |        |      |
|  | 16R38015-GQ   | 0.150             | 3.8   | 0.071 | 0.248 | 0.006  | 0.157 | 0.374 | 0.205 | 72°   | ●      | ●                  | △             | ●        |                    |         |        |        |        |        |      |

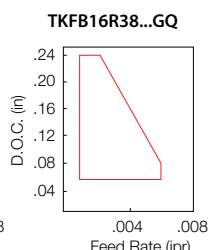
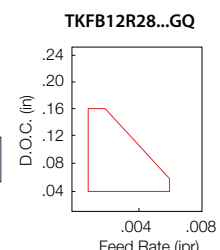
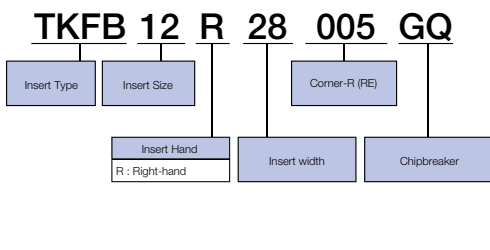
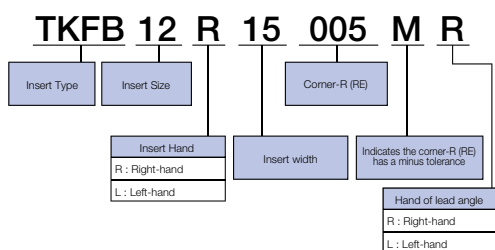
• Insert with corner R (RE) dimension expressed with less than sign (e.g. <0.002, <0.004, <0.008 etc.) indicate models with minus tolerance for corner R (RE).

● : Standard Item

Insert Identification System

Recommended Cutting Conditions P27

Inserts Sold in 10 Piece Boxes

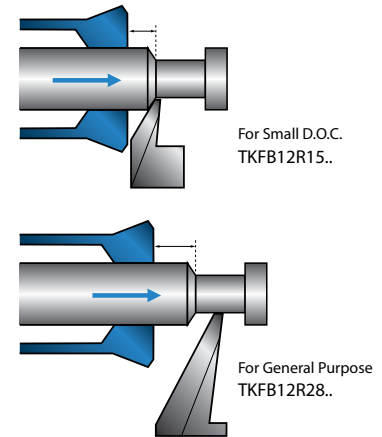


### Edge Tips Details and Selection Guide

#### Cutting Edge Shape

| For Small D.O.C.   |                       | For General Purpose                      |                       | For Large D.O.C.          |                       |
|--|-----------------------|--|-----------------------|---------------------------|-----------------------|
|  |                       |  |                       |                           |                       |
| Part Number  | Cutting Edge Length L | Part Number                              | Cutting Edge Length L | Part Number               | Cutting Edge Length L |
| TKFB12R15..  | 0.083"                | TKFB12R28..                              | 0.165"                | TKFB16R38..               | 0.228"                |
| -  | -                     | TKFB12L28..                              | 0.173"                | TKFB16L38..               | 0.244"                |
| For small diameter workpieces or short length<br>Minimum overhang length of toolholder, stable machining |                       | For general purpose<br>Good chip control |                       | D.O.C. per pass is large. |                       |

#### How to Select



In case D.O.C. is same, if insert with narrower edge width is used, overhang length from guide bushing is shorter, which enables better stability due to less workpiece vibration.

➔ High Precision Cutting

### Choosing Hand of Back Turning Toolholder

|                |   |   |
|----------------|---|---|
| (R) Right-hand |   | <p>Cutting close to guide bushing is possible</p> <p>Since TKFB12R15005M has a narrow cutting edge (width=0.059"), cutting close to guide bushing is possible</p> <p>➔ Good for small parts and high precision cutting</p>  |
| (L) Left-hand  | <p>Even if burrs occur, they will not return into the guide bush.</p> | <p>Cutting with distance from guide bushing</p> <p>Good chip control due to large space between the guide bushing and the tool.</p> <p>➔ How to improve chip control for roughing to finishing</p> <p>In case of using a left-hand toolholder in finishing, the burred portions of workpiece do not return into the guide bushing, which enables stability of external diameter.</p> <p>Also, a Left-hand toolholder prevents wear of guide bushing due to chip biting.</p> |


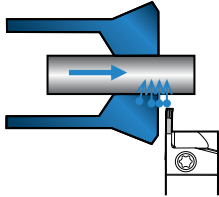
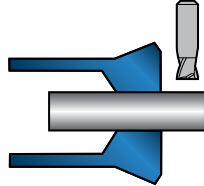
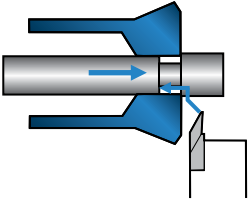
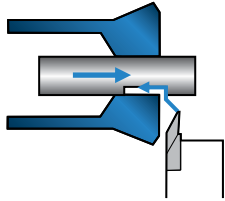
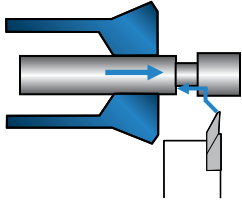
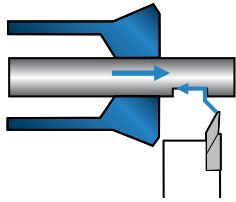
### Workpiece Material Motion & How to Select Hand of Tool

#### When Roughing, Medium, & Finishing

|                | Roughing | Workpiece position after roughing | Finishing |
|----------------|----------|-----------------------------------|-----------|
| (R) Right-hand |          |                                   |           |
| (L) Left-hand  |          |                                   |           |

3Good dimensional accuracy: If a Left-hand toolholder is used, burrs on workpiece generated during roughing do not damage the guide bushing during finishing.

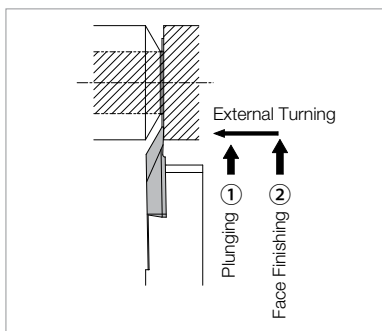
### Chip Control Improvement During Back Turning

|  | Chip control improvement by tool pass changes  | Chip control improvement by tool pass changes  |
|--|--|--|
| Roughing /<br>Pre-Stage Machining<br><br> | Roughing<br>(1) GMM2420-020MW (Grooving)<br><br>  | Pre-stage Machining is Processed with Solid End Mill<br>(1) 2FESW040-040-04 (Solid End Mill)<br><br>  |
| Finishing<br>(Countermeasure 1)<br>Use Right-Hand<br>Toolholder  | (1) When Using TKFB12R28010M (Back Turning / Right-hand)<br><br><br><br><b>Advantages :</b> Smooth Surface Finish<br><b>Disadvantages :</b> If machining pass is long, the guide bushing can not support the workiece   | (1) When Using TKFB12R28010M (Back Turning / Right-hand)<br><br><br><br><b>Advantages :</b> 1. Minimal deflection during long machining passes<br>2. Chips are broken into small pieces, though the workpiece material is elastic.<br><b>Disadvantages :</b> The pre-stage machining may cause fractures, because of interruption   |
| Finishing<br>(Countermeasure 2)<br>Use Left-Hand<br>Toolholder   | (2) When Using TKFB12L28010M (Back Turning / Left-hand)<br><br><br><br><b>Advantages :</b> 1. Smooth Surface Finish<br>2. High precision cutting if the machined portion does not contact the guide bushing<br><b>Disadvantages :</b> If machining pass is long, the guide bushing can not support the workiece | (2) When Using TKFB12L28010M (Back Turning / Left-hand)<br><br><br><br><b>Advantages :</b> 1. Minimal deflection during long machining passes<br>2. Chips are broken into small pieces, though the workpiece material is elastic<br>3. High precision cutting if the machined portion does not contact the guide bushing<br><b>Disadvantages :</b> The pre-stage machining may cause fractures, because of interruption |

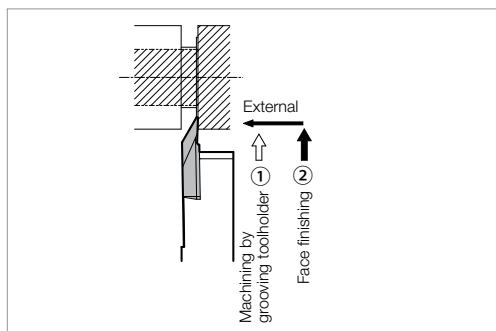
### Peeled Surface Countermeasures During Face Back Turning

When peeled surface occurs on the workpiece face, please apply the countermeasures below.

Countermeasure 1 (Face Finishing)



Countermeasure 2 (Face Finishing After Grooving)



# GTP Chipbreaker

NEW

KTKF Insert for Small Parts Machining

Reduce Cycle Time with Grooving and Traversing Capabilities

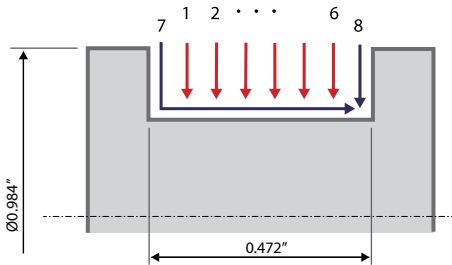


## 1 Grooving and Traversing

Cutting Time Comparison (Internal Evaluation)

### Competitor A

Multiple Grooves and a Finishing Pass  
Workpiece : 1045 (Ø0.984")

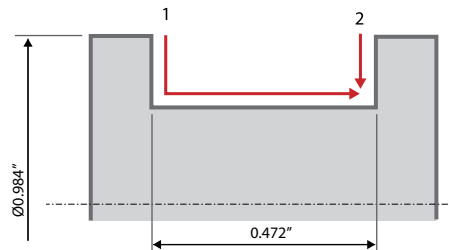


**Cutting Conditions:**  
Multiple Grooves  
Vc = 330 sfm  
D.O.C. = 0.138", f = 0.004 ipr

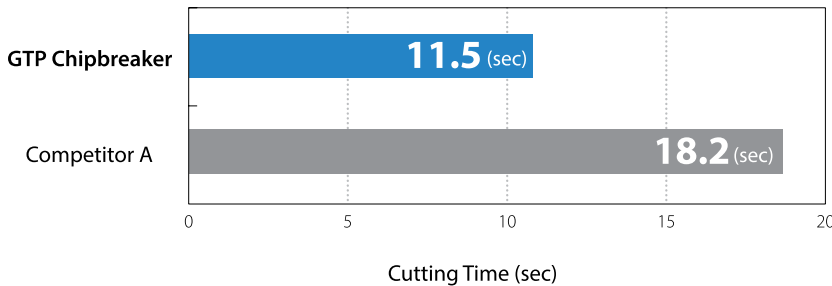
**Cutting Conditions:**  
Finishing  
Vc = 330 sfm  
D.O.C. = 0.020", f = 0.002 ipr

### TKF12R200-GTP

Grooving and Traversing  
Workpiece : 1045 (Ø0.984")



**Cutting Conditions:**  
Grooving and Traversing  
Vc = 330 sfm  
D.O.C. = 0.158", f = 0.002 ipr



GTP chipbreaker required fewer machining paths than Competitor A.

40%  
Cutting Time Reduction

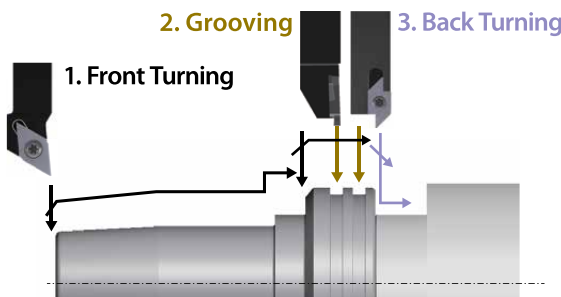
## Integrated Tooling Solution

The GTP chipbreaker can be used for external turning, grooving, and back turning operations

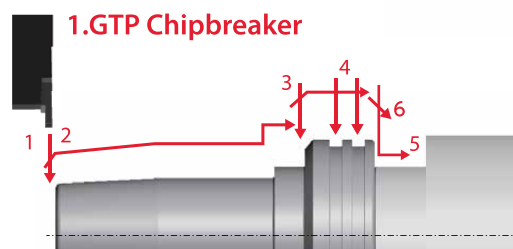


Workpiece Example

### Conventional Tools



### GTP Chipbreaker



\* Max. Grooving Width / Max. D.O.C. = TKF12R200-GTP (2.0mm / 4.0mm), TKF16R300-GTP (3.0mm / 5.5mm)

| Shape<br>Right-hand shown | Part Number    | Dimensions (in) |     |        |       |       |       |       | Angle | MEGACOAT<br>NANO PLUS | MEGACOAT<br>NANO | Applicable<br>Toolholders |
|---------------------------|----------------|-----------------|-----|--------|-------|-------|-------|-------|-------|-----------------------|------------------|---------------------------|
|                           |                | CW              |     | CUTDIA | RE    | W1    | S     | D1    |       |                       |                  |                           |
|                           |                | inch            | mm  |        |       |       |       |       |       |                       |                  |                           |
|                           | TKF12R 200-GTP | 0.079           | 2.0 | 0.181  | 0.003 | 0.118 | 0.343 | 0.197 | 0°    | ●                     | ●                | KTKFR...-12               |
|                           | TKF16R 300-GTP | 0.118           | 3.0 | 0.236  | 0.003 | 0.157 | 0.374 | 0.197 | 0°    | ●                     | ●                | KTKFR...-16               |

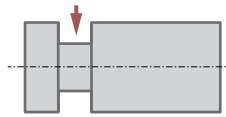
● : Standard Item

Recommended Cutting Conditions **P27** Inserts Sold in 10 Piece Boxes

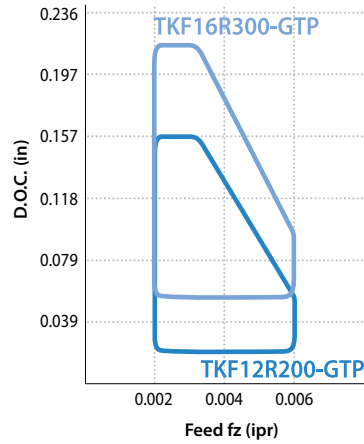
Cutting Time Comparison - Grooving (Internal Evaluation)

| f (ipr)        | 0.002 | 0.003 | 0.004 |
|----------------|-------|-------|-------|
| TKF12R 200-GTP |       |       |       |
| Competitor B   |       |       |       |

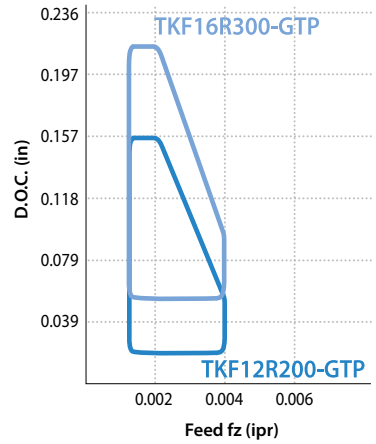
Cutting Conditions : Vc = 330 sfm, D.O.C. = 0.158"  
Workpiece : 1045 (Ø0.984")



Chipbreaker Range (Steel)

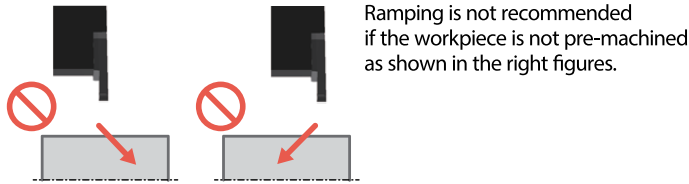


Chipbreaker Range (Stainless Steel)



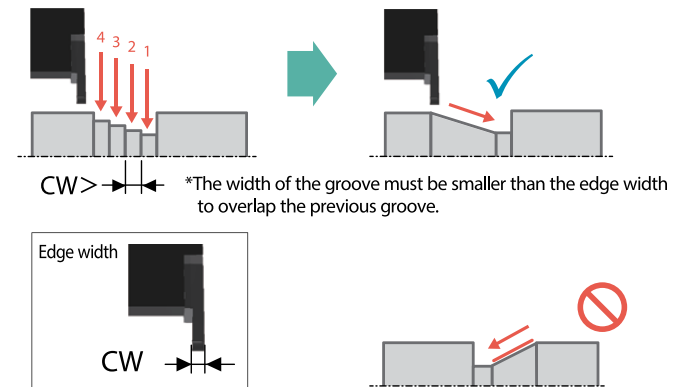
Caution

Ramping

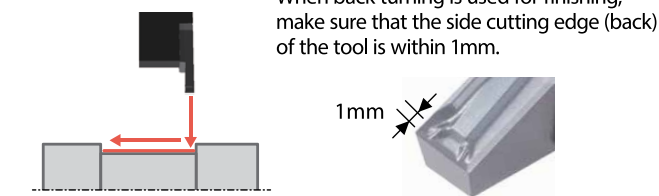


Tips for Ramping

Step grooving is required before ramping. (Refer to the figure below)



Back Turning



Case Studies

Spool Valves 4131

**GTP Chipbreaker** (2mm Edge Width)  
Vc = 390 sfm, D.O.C. = 0.098"  
f = 0.001 ipr, Wet  
TKF12R200-GTP (PR1535)

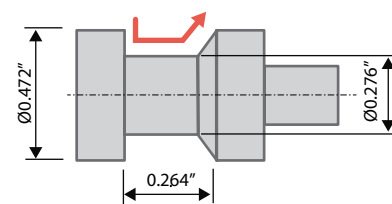


Shown good chip control without entanglement. Further machining is possible.

**Conventional Tools A** (2mm Edge Width)  
Vc = 390 sfm, D.O.C. = 0.091" : Grooving  
D.O.C. = 0.008" : Finishing  
f = 0.0016 ipr, Wet




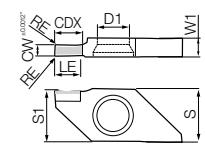

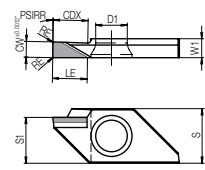

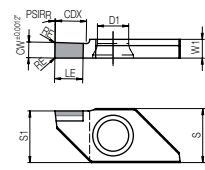
Chip entanglement occurred during traversing (finishing).



GTP Chipbreaker reduces the amount of tool paths and improves chip control

(User Evaluation)

The KTKF toolholder can be used as multi-functional tooling for non-ferrous and non-metal when combined with a TKF-AGT or TKF-AS insert (See machining example below)

| Insert   |   | Part Number    | Dimensions (in) |     |       |  |       |       |       |       |       |       | Angle  |       | PCD   |       |
|--|---|----------------|-----------------|-----|-------|--|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------|
|  |   |                | CW              |     | CDX   | RE   | W1    | S     | S1    | D1    | LE    | PSIR% | KPD001 |       |       |       |
|  |   |                | inch            | mm  |       |  |       |       |       |       |       |       | R      | L     |       |       |
| <br>Traversing / Grooving                         |  | TKF12R 200-AGT | 0.079           | 2.0 | 0.189 | $\begin{matrix} +0.000 \\ -0.002 \end{matrix}$ | 0.118 | 0.343 | 0.327 | 0.197 | 0.165 | 0°    | ●      |       |       |       |
|  |   | 250-AGT        | 0.098           | 2.5 |       |  |       |       |       |       |       |       | ●      |       |       |       |
| <br>Traversing / Grooving                         |  | TKF12R 200-AS  | 0.079           | 2.0 | 0.197 | $\begin{matrix} +0.000 \\ -0.002 \end{matrix}$ | 0.118 | 0.343 | 0.287 | 0.197 | 0.209 | 0°    | ●      |       |       |       |
|  |   | TKF16R 250-AS  | 0.098           | 2.5 |       |  |       |       |       |       |       |       | 0.315  | 0.157 | 0.374 | 0.315 |
| <br>External Grooving<br>(Traversing is Possible) |  | TKF12R 150-NB  | 0.059           | 1.5 | 0.138 | $\begin{matrix} +0.000 \\ -0.002 \end{matrix}$ | 0.118 | 0.343 | 0.327 | 0.197 | 0.079 | 0°    | ●      | ●     |       |       |
|  |   | 200-NB         | 0.079           | 2.0 |       |  |       |       |       |       | 0.157 |       | 0.118  | ●     | ●     |       |
|  |   | 250-NB         | 0.098           | 2.5 |       |  |       |       |       |       | 0.157 |       | 0.118  | ●     |       |       |
|  |   | 250-NB4.5      | 0.098           | 2.5 |       |  |       |       |       |       | 0.197 |       | 0.177  | ●     |       |       |

- Lead angle (front cutting edge angle: PSIR%) shows the angle when installed into toolholder
- TKF PCD inserts are only for turning and grooving
- Cut-off is not recommended.
- Dimension CDX shows available grooving depth

● : Standard Item

PCD Inserts Sold in 1 Piece Boxes

Recommended Cutting Conditions **P2Z**

Note) 1. The cutting edge of the TKF-AS will be 0.04" lower than the center line when attached to the KTKF toolholder (Ref. Fig.1). Adjust the height by making NC lathe parameter settings or inserting a plate.

2. If the 0.04" adjustment is not possible on your automatic lathe, use the TKF-NB (Ref. Fig.2).

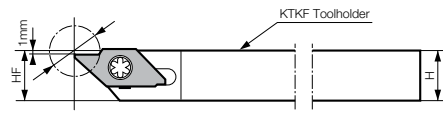


Fig.1 When a TKF-AS/-ASR insert is attached  
(The cutting edge is 0.04" lower than the center line.)

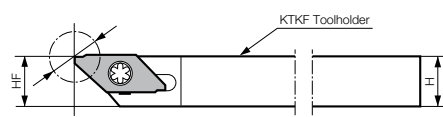
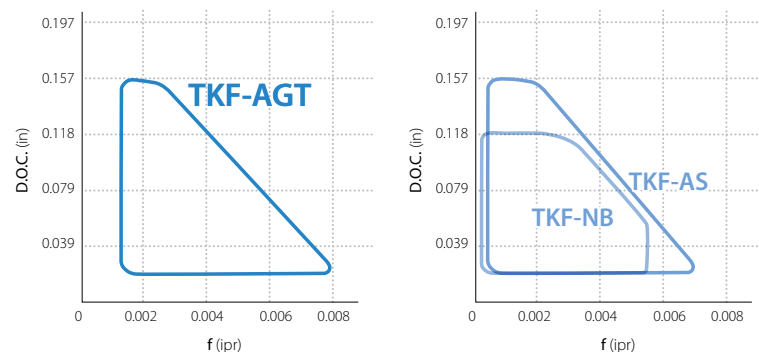


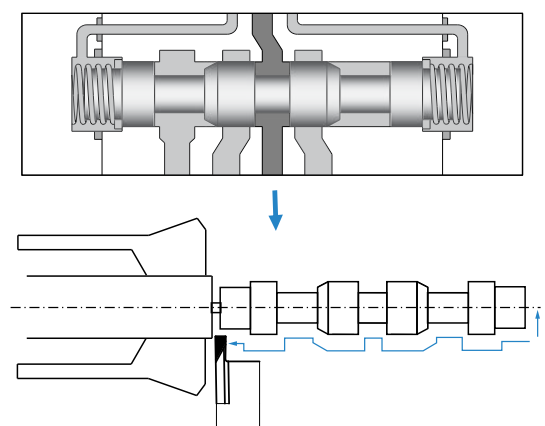
Fig.2 When a TKF-NB insert is attached

Chipbreaker Range (PCD)



- TKF PCD inserts are only for turning and grooving
- Cut-off is not recommended

Spool Machining Example



Example pass of KTKF toolholder + TKF-AS insert



KTKF

| Workpiece Material         |            | MEGACOAT NANO PLUS |                 | MEGACOAT NANO   |                 |                 |                 | MEGACOAT        |                 | Notes |
|----------------------------|------------|--------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------|
|                            |            | PR1725             |                 | PR1535          |                 | PR1425          |                 | PR1225          |                 |       |
|                            |            | Grooving           | Turning         | Grooving        | Turning         | Grooving        | Turning         | Grooving        | Turning         |       |
| Carbon Steel / Alloy Steel | Vc (sfm)   | ★ 200 ~ 660        |                 | ☆ 200 ~ 500     |                 | ☆ 250 ~ 650     |                 | ☆ 200 ~ 500     |                 | Wet   |
|                            | Feed (ipr) | 0.0004 ~ 0.0012    | 0.0008 ~ 0.0059 | 0.0004 ~ 0.0012 | 0.0008 ~ 0.0059 | 0.0004 ~ 0.0012 | 0.0008 ~ 0.0059 | 0.0004 ~ 0.0012 | 0.0008 ~ 0.0059 |       |
| Stainless Steel            | Vc (sfm)   | ☆ 200 ~ 490        |                 | ★ 200 ~ 425     |                 | ☆ 200 ~ 500     |                 | ☆ 200 ~ 425     |                 |       |
|                            | Feed (ipr) | 0.0004 ~ 0.0008    | 0.0008 ~ 0.0039 | 0.0004 ~ 0.0008 | 0.0008 ~ 0.0039 | 0.0004 ~ 0.0008 | 0.0008 ~ 0.0039 | 0.0004 ~ 0.0008 | 0.0008 ~ 0.0039 |       |

| Workpiece Material         |            | PVD Coated Carbide |                 | Carbide         |                  | PCD             |                  | Notes |
|----------------------------|------------|--------------------|-----------------|-----------------|------------------|-----------------|------------------|-------|
|                            |            | PR1025             |                 | KW10            |                  | KPD001          |                  |       |
|                            |            | Grooving           | Turning         | Grooving        | Turning          | Grooving        | Turning          |       |
| Carbon Steel / Alloy Steel | Vc (sfm)   | ☆ 200 ~ 500        |                 | -               |                  | -               |                  | Wet   |
|                            | Feed (ipr) | 0.0004 ~ 0.0012    | 0.0008 ~ 0.0059 | -               |                  | -               |                  |       |
| Stainless Steel            | Vc (sfm)   | ☆ 175 ~ 400        |                 | -               |                  | -               |                  |       |
|                            | Feed (ipr) | 0.0004 ~ 0.0008    | 0.0008 ~ 0.0039 | -               |                  | -               |                  |       |
| Cast Iron                  | Vc (sfm)   | -                  |                 | 175 ~ 325       |                  | -               |                  |       |
|                            | Feed (ipr) | -                  |                 | 0.0004 ~ 0.0012 | 0.0008 ~ 0.00395 | -               |                  |       |
| Aluminum                   | Vc (sfm)   | -                  |                 | 650 ~ 1475      |                  | 200 ~ 500       |                  |       |
|                            | Feed (ipr) | -                  |                 | 0.0004 ~ 0.0012 | 0.0008 ~ 0.00395 | 0.0004 ~ 0.0012 | 0.0008 ~ 0.00395 |       |
| Brass                      | Vc (sfm)   | -                  |                 | 325 ~ 650       |                  | 200 ~ 425       |                  |       |
|                            | Feed (ipr) | -                  |                 | 0.0004 ~ 0.0008 | 0.0008 ~ 0.0039  | 0.0004 ~ 0.0008 | 0.0008 ~ 0.0039  |       |

KTKF (GQ Chipbreaker)

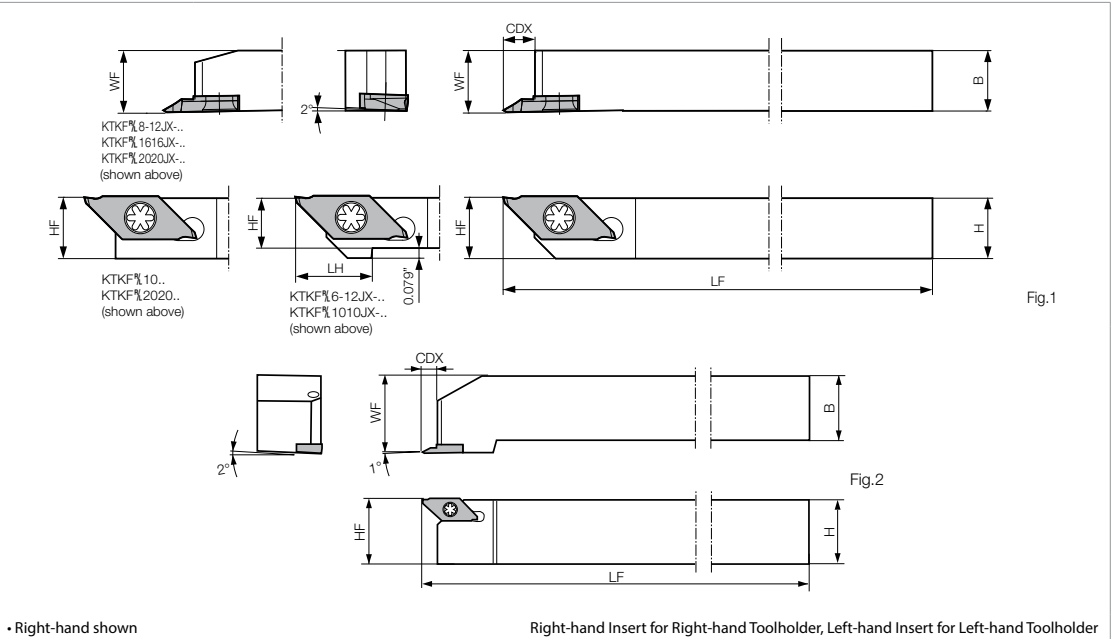
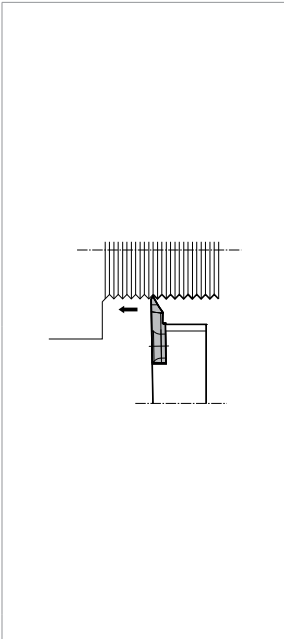
| Workpiece Material         |            | MEGACOAT NANO PLUS |                 | MEGACOAT NANO   |                 |                 |                 | MEGACOAT        |                 | Notes |
|----------------------------|------------|--------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------|
|                            |            | PR1725             |                 | PR1535          |                 | PR1425          |                 | PR1225          |                 |       |
|                            |            | Grooving           | Turning         | Grooving        | Turning         | Grooving        | Turning         | Grooving        | Turning         |       |
| Carbon Steel / Alloy Steel | Vc (sfm)   | ★ 200 ~ 660        |                 | ☆ 200 ~ 500     |                 | ☆ 250 ~ 650     |                 | ☆ 200 ~ 500     |                 | Wet   |
|                            | Feed (ipr) | 0.0004 ~ 0.0016    | 0.0008 ~ 0.0059 | 0.0004 ~ 0.0015 | 0.0008 ~ 0.0059 | 0.0004 ~ 0.0015 | 0.0008 ~ 0.0059 | 0.0004 ~ 0.0015 | 0.0008 ~ 0.0059 |       |
| Stainless Steel            | Vc (sfm)   | ☆ 200 ~ 490        |                 | ★ 200 ~ 425     |                 | ☆ 200 ~ 500     |                 | ☆ 200 ~ 425     |                 |       |
|                            | Feed (ipr) | 0.0004 ~ 0.0012    | 0.0008 ~ 0.0039 | 0.0004 ~ 0.0012 | 0.0008 ~ 0.0039 | 0.0004 ~ 0.0012 | 0.0008 ~ 0.0039 | 0.0004 ~ 0.0012 | 0.0008 ~ 0.0039 |       |

KTKF (GTP Chipbreaker)

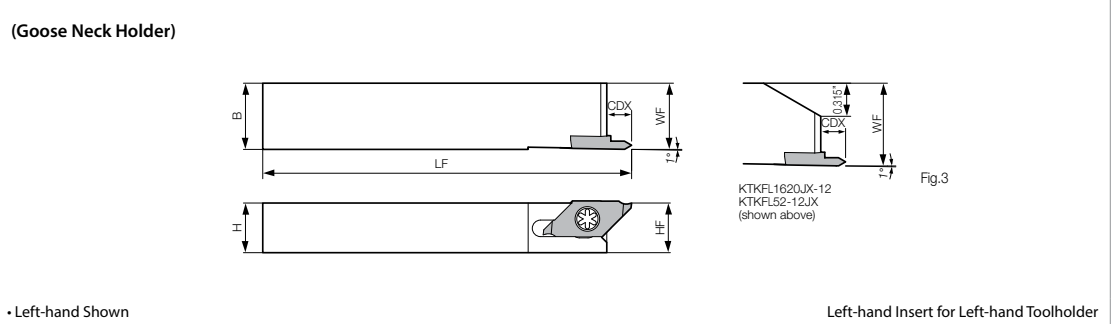
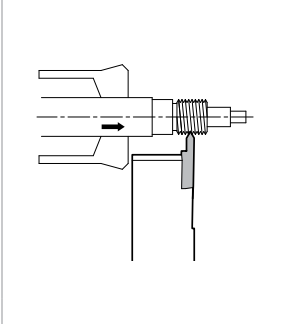
| Workpiece Material         |            | MEGACOAT NANO PLUS |               | MEGACOAT NANO |               | Notes |
|----------------------------|------------|--------------------|---------------|---------------|---------------|-------|
|                            |            | PR1725             |               | PR1535        |               |       |
|                            |            | Grooving           | Turning       | Grooving      | Turning       |       |
| Carbon Steel / Alloy Steel | Vc (sfm)   | ★ 200 ~ 660        |               | ☆ 200 ~ 490   |               | Wet   |
|                            | Feed (ipr) | 0.001 ~ 0.003      | 0.002 ~ 0.006 | 0.001 ~ 0.003 | 0.002 ~ 0.006 |       |
| Stainless Steel            | Vc (sfm)   | ☆ 200 ~ 490        |               | ★ 200 ~ 430   |               |       |
|                            | Feed (ipr) | 0.001 ~ 0.002      | 0.001 ~ 0.004 | 0.001 ~ 0.002 | 0.001 ~ 0.004 |       |

KTKF (AGT Chipbreaker)

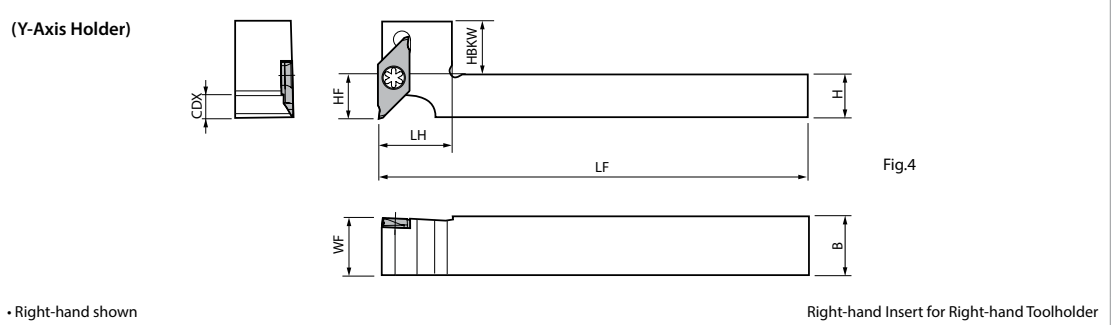
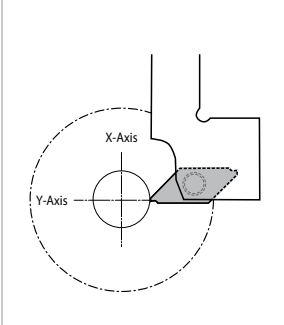
| Workpiece Material |            | PCD           |               | Notes |
|--------------------|------------|---------------|---------------|-------|
|                    |            | KPD001        |               |       |
|                    |            | Grooving      | Turning       |       |
| Aluminum           | Vc (sfm)   | 660 ~ 1,640   |               | Wet   |
|                    | Feed (ipr) | 0.001 ~ 0.006 | 0.001 ~ 0.008 |       |
| Brass              | Vc (sfm)   | 330 ~ 1,150   |               |       |
|                    | Feed (ipr) | 0.001 ~ 0.006 | 0.001 ~ 0.008 |       |



• Right-hand shown Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder





• Left-hand Shown Left-hand Insert for Left-hand Toolholder




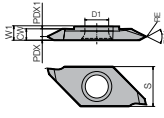
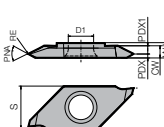
• Right-hand shown Right-hand Insert for Right-hand Toolholder

Toolholder Dimensions

| Part Number                  | Stock   |   | Unit | Dimensions |       |       |       |       |       |       |      | Drawing | Spare Parts |         | Applicable Inserts       |
|------------------------------|---|---|------|------------|-------|-------|-------|-------|-------|-------|------|---------|-------------|---------|--------------------------|
|                              | R   | L |      | H          | HF    | B     | LF    | LH    | WF    | CDX   | HBKW |         | Clamp Screw | Wrench  |                          |
|                              |   |   |      |            |       |       |       |       |       |       |      |         |             |         |                          |
| KTKF $\frac{1}{2}$ 6-12JX    | ●   | ● | inch | 0.375      | 0.375 | 0.375 | 4.750 | 0.590 | 0.375 | 0.236 | -    | Fig.1   | SB-4590TRWN | LTW-10S | TKFT12 $\frac{1}{2}$ ... |
|                              | ●   | ● |      | 0.500      | 0.500 | 0.500 | 4.750 | -     | 0.500 | 0.236 |      |         |             |         |                          |
|                              | ●   | ● |      | 0.625      | 0.625 | 0.625 | 4.750 | -     | 0.625 | 0.236 |      |         |             |         |                          |
| KTKF $\frac{1}{2}$ 1010JX-12 | ●   | ● | mm   | 10         | 10    | 10    | 120   | 15    | 10    | 6     | -    | Fig.1   | SB-4590TRWN | LTW-10S | TKFT12 $\frac{1}{2}$ ... |
|                              | ●   | ● |      | 12         | 12    | 12    | 120   | -     | 12    | 6     |      |         |             |         |                          |
|                              | ●   | ● |      | 16         | 16    | 16    | 120   | -     | 16    | 6     |      |         |             |         |                          |
|                              | ●   | ● |      | 20         | 20    | 20    | 120   | -     | 20    | 6     |      |         |             |         |                          |
| KTKFR 1212F-12               | ●   |   | mm   | 12         | 12    | 12    | 85    | -     | 12    | 6     | -    | Fig.1   | SB-4590TRWN | LTW-10S | TKFT12R...               |
| <b>NEW</b> KTKFR 2525M-12    | ●   |   | mm   | 25         | 25    | 25    | 150   | -     | 30    | 6     | -    | Fig.2   | SB-4590TRWN | LTW-10S | TKFT12R...               |
| KTKFL 52-12JX                |   | ● | inch | 0.500      | 0.500 | 0.625 | 4.750 | -     | 0.625 | 0.236 | -    | Fig.3   | SB-4590TRWN | LTW-10S | TKFT12L...               |
|                              |   | ● |      | 0.625      | 0.625 | 0.750 | 4.750 | -     | 0.750 | 0.236 |      |         |             |         |                          |
| KTKFL 1216JX-12              |   | ● | mm   | 12         | 12    | 16    | 120   | -     | 16    | 6     | -    | Fig.3   | SB-4590TRWN | LTW-10S | TKFT12L...               |
|                              |   | ● |      | 16         | 16    | 20    | 120   | -     | 20    | 6     |      |         |             |         |                          |
| <b>NEW</b> KTKFR 1216JX-12-Y | ●   |   | mm   | 12         | 12    | 16    | 120   | 20    | 16    | 6     | 15   | Fig.4   | SB-4590TRWN | FT-10   | TKFT12R...               |
|                              | ●   |   |      | 16         | 16    | 16    |       | 25    | 16    |       | 11   |         |             |         |                          |

- Dimensions CDX shows the distance from the toolholder to the cutting edge
  - See Page [P13](#) for Jet Coolant-Through styles
  - When using Y-axis (KTKF-Y) holders, see Page [P17](#) for precautions
- : Standard Item

Applicable Inserts

| Insert   | Part Number   | Applicable Thread | Dimensions (in) |       |       |       |       |       |                   |       |       |     | Angle | NEW                       |                      |                 |              |
|--|---------------|-------------------|-----------------|-------|-------|-------|-------|-------|-------------------|-------|-------|-----|-------|---------------------------|----------------------|-----------------|--------------|
|  |               |                   | Pitch           |       | W1    | CW    | S     | D1    | RE                | PDX   | PDX1  | PNA |       | MEGACOAT NANO PLUS PR1725 | MEGACOAT NANO PR1535 | MEGACOAT PR1225 | Carbide KW10 |
|  |               |                   | mm              | TPI   |       |       |       |       |                   |       |       |     |       |                           |                      |                 |              |
| <br>Right-hand Shown<br><br>Left-hand Shown<br> | TKFT 12RA6000 | M UN              | 0.20~0.60       | 64~48 | 0.118 | 0.098 | 0.343 | 0.205 | Max 0.002 or Flat | 0.016 | 0.083 | 60° | ●     | ●                         | ●                    | ●               |              |
|  | 12RB6000      |                   |                 |       | 0.118 | 0.098 | 0.343 | 0.205 |                   | 0.083 | 0.016 |     | ●     | ●                         | ●                    | ●               |              |
|  | 12RA60005     |                   | 0.50~1.25       | 48~24 | 0.118 | 0.098 | 0.343 | 0.205 | 0.002             | 0.031 | 0.067 |     | ●     | ●                         | ●                    | ●               |              |
|  | 12RB60005     |                   |                 |       | 0.118 | 0.098 | 0.343 | 0.205 |                   | 0.067 | 0.031 |     | ●     | ●                         | ●                    | ●               |              |
|  | 12RN6001      |                   | 1.00~1.50       | 24~18 | 0.118 | 0.098 | 0.343 | 0.205 | 0.004             | 0.049 | 0.049 |     | ●     | ●                         | ●                    | ●               |              |
|  | 12RA55005     |                   | G,R W           | -     | 40~16 | 0.118 | 0.098 | 0.343 | 0.205             | 0.002 | 0.031 |     | 0.067 | ●                         | ●                    | ●               | ●            |
|  | 12RB55005     | 0.118             |                 |       |       | 0.098 | 0.343 | 0.205 | 0.067             |       | 0.031 | ●   | ●     | ●                         | ●                    |                 |              |
|  | TKFT 12LA6000 | M UN              | 0.20~0.60       | 64~48 | 0.118 | 0.098 | 0.343 | 0.205 | Max 0.002 or Flat | 0.083 | 0.016 | 60° | ●     | ●                         | ●                    | ●               |              |
|  | 12LB6000      |                   |                 |       | 0.118 | 0.098 | 0.343 | 0.205 |                   | 0.016 | 0.083 |     | ●     | ●                         | ●                    | ●               |              |
|  | 12LA60005     |                   | 0.50~1.25       | 48~24 | 0.118 | 0.098 | 0.343 | 0.205 | 0.002             | 0.067 | 0.031 |     | ●     | ●                         | ●                    | ●               |              |
|  | 12LB60005     |                   |                 |       | 0.118 | 0.098 | 0.343 | 0.205 |                   | 0.031 | 0.067 |     | ●     | ●                         | ●                    | ●               |              |
|  | 12LN6001      |                   | 1.00~1.50       | 24~18 | 0.118 | 0.098 | 0.343 | 0.205 | 0.004             | 0.049 | 0.049 |     | ●     | ●                         | ●                    | ●               |              |
| 12LA55005  | G,R W         |                   | -               | 40~16 | 0.118 | 0.098 | 0.343 | 0.205 | 0.002             | 0.067 | 0.031 |     | ●     | ●                         | ●                    | ●               |              |
| 12LB55005  |               | 0.118             |                 |       | 0.098 | 0.343 | 0.205 | 0.031 |                   | 0.067 | ●     | ●   | ●     | ●                         |                      |                 |              |

● : Standard Item

Inserts Sold in 10 Piece Boxes

Recommended Cutting Conditions [P31](#)

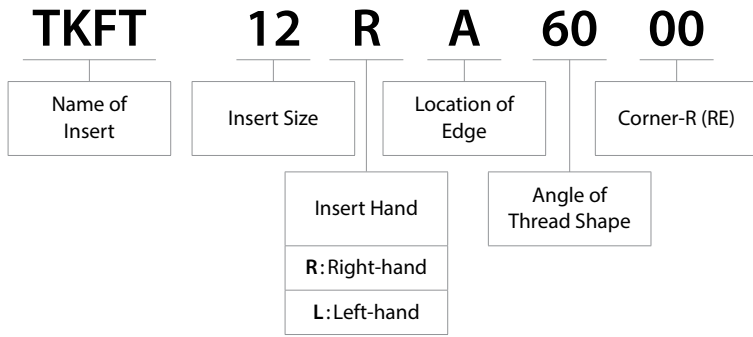


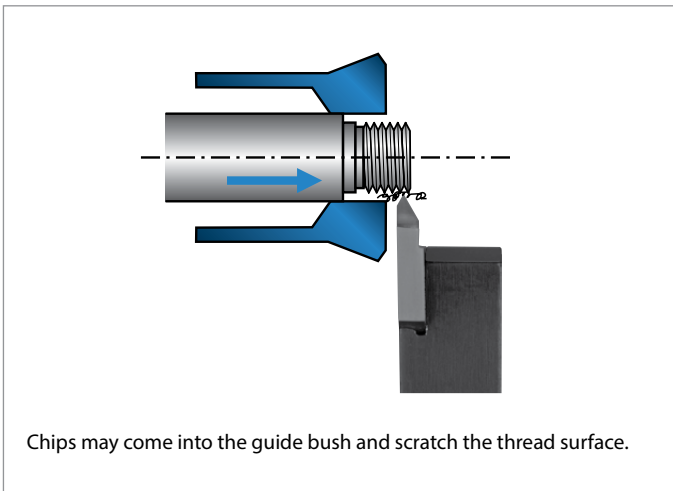
Table 1

| R-hand Inserts           |                          |                          |
|--------------------------|--------------------------|--------------------------|
| Type-A<br><br>TKFT12RA.. | Type-B<br><br>TKFT12RB.. | Type-N<br><br>TKFT12RN.. |
| L-hand Inserts           |                          |                          |
| Type-A<br><br>TKFT12LA.. | Type-B<br><br>TKFT12LB.. | Type-N<br><br>TKFT12LN.. |

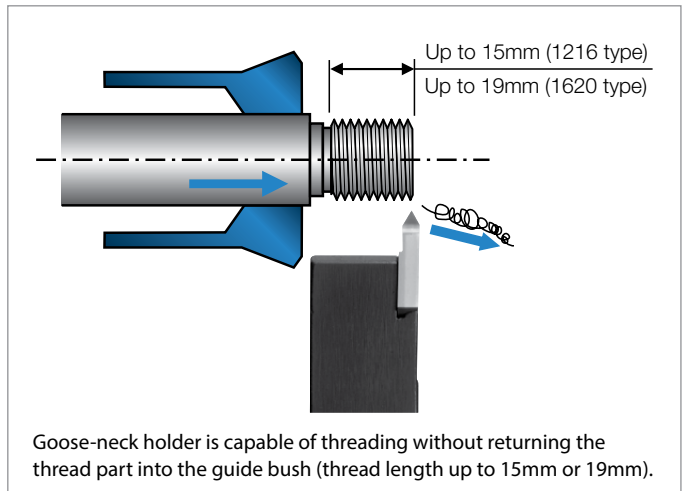
### Swiss Tool Automatic Lathe (Guide Bush System)

Goose-neck Holder is applicable to automatic lathes whose toolholder does not move in longitudinal direction (Z-axis)

Conventional Threading Tool



Goose-neck Holder (for Threading)



### Machining Precautions for Goose-neck Holder

- Be careful of interference with back spindle because offset dimension is larger than conventional toolholders
- Be careful of interference with sub-spindle - Toolholder installation position is limited
- When simultaneous machining, interference with other toolholders may occur



| Workpiece Material | Recommended Insert Grade |               |                       |               |                       |               |                       |               |                       |               |                       |
|--------------------|--------------------------|---------------|-----------------------|---------------|-----------------------|---------------|-----------------------|---------------|-----------------------|---------------|-----------------------|
|                    | MEGACOAT NANO PLUS       |               | MEGACOAT NANO         |               |                       |               | MEGACOAT              |               | PVD Coated Carbide    |               | Carbide               |
|                    | PR1725                   |               | PR1535                |               | PR1425                |               | PR1225                |               | PR1025                |               | KW10                  |
| Carbon Steel       | Vc (sfm) = 230-560       |               | Vc (sfm) = 230-560    |               | Vc (sfm) = 230-560    |               | Vc (sfm) = 230-560    |               | Vc (sfm) = 200-490    |               | -                     |
|                    | First D.O.C. (Radial)    | under 0.0079" | First D.O.C. (Radial) | under 0.0079" | First D.O.C. (Radial) | under 0.0079" | First D.O.C. (Radial) | under 0.0079" | First D.O.C. (Radial) | under 0.0079" |                       |
| Alloy Steel        | Vc (sfm) = 230-560       |               | Vc (sfm) = 230-560    |               | Vc (sfm) = 230-560    |               | Vc (sfm) = 230-560    |               | Vc (sfm) = 200-490    |               | -                     |
|                    | First D.O.C. (Radial)    | under 0.0079" | First D.O.C. (Radial) | under 0.0079" | First D.O.C. (Radial) | under 0.0079" | First D.O.C. (Radial) | under 0.0079" | First D.O.C. (Radial) | under 0.0079" |                       |
| Stainless Steel    | Vc (sfm) = 200-330       |               | Vc (sfm) = 200-330    |               | Vc (sfm) = 200-330    |               | Vc (sfm) = 200-330    |               | Vc (sfm) = 160-260    |               | -                     |
|                    | First D.O.C. (Radial)    | under 0.0079" | First D.O.C. (Radial) | under 0.0079" | First D.O.C. (Radial) | under 0.0079" | First D.O.C. (Radial) | under 0.0079" | First D.O.C. (Radial) | under 0.0079" |                       |
| Cast Iron          | -                        |               | -                     |               | -                     |               | -                     |               | -                     |               | Vc (sfm) = 330        |
|                    |                          |               |                       |               |                       |               |                       |               |                       |               | First D.O.C. (Radial) |
| Aluminum           | -                        |               | -                     |               | -                     |               | -                     |               | -                     |               | Vc (sfm) = 490-1310   |
|                    |                          |               |                       |               |                       |               |                       |               |                       |               | First D.O.C. (Radial) |
| Brass              | -                        |               | -                     |               | -                     |               | -                     |               | -                     |               | Vc (sfm) = 490-980    |
|                    |                          |               |                       |               |                       |               |                       |               |                       |               | First D.O.C. (Radial) |

- Coolant is recommended
- In case of threading stainless steel, set two to three passes more than <D.O.C. - Passes> listed above

D.O.C. & Number of Passes

60° / 55° Partial Profile

(D.O.C. shows the value of radial D.O.C.)

| Thread Type   | Pitch mm & TPI     | Part Number | RE  | Total D.O.C.  | No. of Passes | 1 Pass | 2 Pass             | 3 Pass | 4 Pass                                       | 5 Pass        | 6 Pass | 7 Pass | 8 Pass | 9 Pass | 10 Pass | 11 Pass | 12 Pass |  |  |
|---------------|--------------------|-------------|---|---------------|---------------|--------|--------------------|--------|--|---------------|--------|--------|--------|--------|---------|---------|---------|--|--|
|               |                    |             |   |               |               | Metric | External Threading | 0.20mm | TKFT 12 <sup>5</sup> / <sub>16</sub> A/B6000 | Max 0.05 Flat | 0.15   | 4      | 0.06   | 0.04   | 0.03    | 0.02    |         |  |  |
|               |                    | 0.25mm      | 0.19  | 4             | 0.07          | 0.06   | 0.04               | 0.02   |  |               |        |        |        |        |         |         |         |  |  |
|               |                    | 0.30mm      | 0.23  | 4             | 0.08          | 0.07   | 0.06               | 0.02   |  |               |        |        |        |        |         |         |         |  |  |
|               |                    | 0.35mm      | 0.27  | 5             | 0.08          | 0.07   | 0.06               | 0.04   |  |               | 0.02   |        |        |        |         |         |         |  |  |
|               |                    | 0.40mm      | 0.30  | 5             | 0.10          | 0.08   | 0.06               | 0.04   |  |               | 0.02   |        |        |        |         |         |         |  |  |
|               |                    | 0.45mm      | 0.34  | 6             | 0.10          | 0.08   | 0.06               | 0.04   |  |               | 0.04   | 0.02   |        |        |         |         |         |  |  |
|               |                    | 0.50mm      | TKFT 12 <sup>5</sup> / <sub>16</sub> A/B6000  | Max 0.05 Flat | 0.38          | 6      | 0.10               | 0.10   | 0.07   | 0.05          | 0.04   | 0.02   |        |        |         |         |         |  |  |
|               |                    |             | 12 <sup>5</sup> / <sub>16</sub> A/B60005      | 0.05          | 0.33          | 5      | 0.10               | 0.10   | 0.07   | 0.04          | 0.02   |        |        |        |         |         |         |  |  |
|               |                    | 0.60mm      | TKFT 12 <sup>5</sup> / <sub>16</sub> A/B6000  | Max 0.05 Flat | 0.45          | 7      | 0.10               | 0.10   | 0.08   | 0.06          | 0.05   | 0.04   | 0.02   |        |         |         |         |  |  |
|               |                    |             | 12 <sup>5</sup> / <sub>16</sub> A/B60005      | 0.05          | 0.40          | 6      | 0.10               | 0.10   | 0.08   | 0.06          | 0.04   | 0.02   |        |        |         |         |         |  |  |
|               |                    | 0.70mm      |   | 0.05          | 0.48          | 6      | 0.10               | 0.10   | 0.10   | 0.10          | 0.06   | 0.02   |        |        |         |         |         |  |  |
|               |                    | 0.75mm      | TKFT 12 <sup>5</sup> / <sub>16</sub> A/B60005 | 0.05          | 0.52          | 7      | 0.10               | 0.10   | 0.10   | 0.08          | 0.07   | 0.05   | 0.02   |        |         |         |         |  |  |
|               |                    | 0.80mm      |   | 0.05          | 0.56          | 7      | 0.10               | 0.10   | 0.10   | 0.10          | 0.08   | 0.06   | 0.02   |        |         |         |         |  |  |
|               |                    | 1.00mm      |   | 0.05          | 0.71          | 8      | 0.15               | 0.15   | 0.12   | 0.10          | 0.08   | 0.06   | 0.03   | 0.02   |         |         |         |  |  |
|               |                    |             | TKFT 12 <sup>5</sup> / <sub>16</sub> A/B60005 |               | 0.10          | 0.66   | 7                  | 0.18   | 0.15   | 0.12          | 0.10   | 0.06   | 0.03   | 0.02   |         |         |         |  |  |
|               |                    |             | 12 <sup>5</sup> / <sub>16</sub> N6001         | 0.05          | 0.90          | 9      | 0.20               | 0.18   | 0.13   | 0.10          | 0.10   | 0.07   | 0.05   | 0.05   | 0.02    |         |         |  |  |
|               |                    | 1.25mm      |   | 0.10          | 0.85          | 8      | 0.20               | 0.18   | 0.13   | 0.10          | 0.10   | 0.07   | 0.05   | 0.02   |         |         |         |  |  |
|               |                    | 1.50mm      | TKFT 12 <sup>5</sup> / <sub>16</sub> N6001    | 0.10          | 1.04          | 10     | 0.20               | 0.18   | 0.14   | 0.12          | 0.10   | 0.10   | 0.08   | 0.05   | 0.05    | 0.02    |         |  |  |
| Parallel Pipe | External Threading | 28 TPI      | TKFT 12 <sup>5</sup> / <sub>16</sub> A/B55005 | 0.0020        | 0.0264        | 7      | 0.007              | 0.006  | 0.005  | 0.004         | 0.002  | 0.002  | 0.001  |        |         |         |         |  |  |
|               |                    | 19 TPI      |   | 0.0020        | 0.0398        | 9      | 0.008              | 0.007  | 0.006  | 0.005         | 0.005  | 0.004  | 0.003  | 0.002  | 0.001   |         |         |  |  |
| Whitworth     | External Threading | 24 TPI      | TKFT 12 <sup>5</sup> / <sub>16</sub> A/B55005 | 0.0020        | 0.0311        | 8      | 0.007              | 0.007  | 0.005  | 0.004         | 0.003  | 0.003  | 0.002  | 0.001  |         |         |         |  |  |
|               |                    | 20 TPI      |   | 0.0020        | 0.0378        | 9      | 0.008              | 0.008  | 0.006  | 0.004         | 0.004  | 0.003  | 0.002  | 0.002  | 0.001   |         |         |  |  |
|               |                    | 18 TPI      |   | 0.0020        | 0.0421        | 10     | 0.008              | 0.007  | 0.006  | 0.005         | 0.004  | 0.004  | 0.003  | 0.003  | 0.002   | 0.001   |         |  |  |
|               |                    | 16 TPI      |   | 0.0020        | 0.0476        | 11     | 0.008              | 0.007  | 0.006  | 0.006         | 0.005  | 0.004  | 0.004  | 0.003  | 0.003   | 0.002   | 0.001   |  |  |



**KYOCERA Precision Tools**

102 Industrial Park Road  
Hendersonville, NC 28792  
Customer Service | 800.823.7284 - Option 1  
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Official Website | [www.kyoceraprecisiontools.com](http://www.kyoceraprecisiontools.com)  
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Email | [cuttingtools@kyocerapti.com](mailto:cuttingtools@kyocerapti.com)