



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-JCTM Supports Fewer Piping
Attachments with Direct Coolant Supply**

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



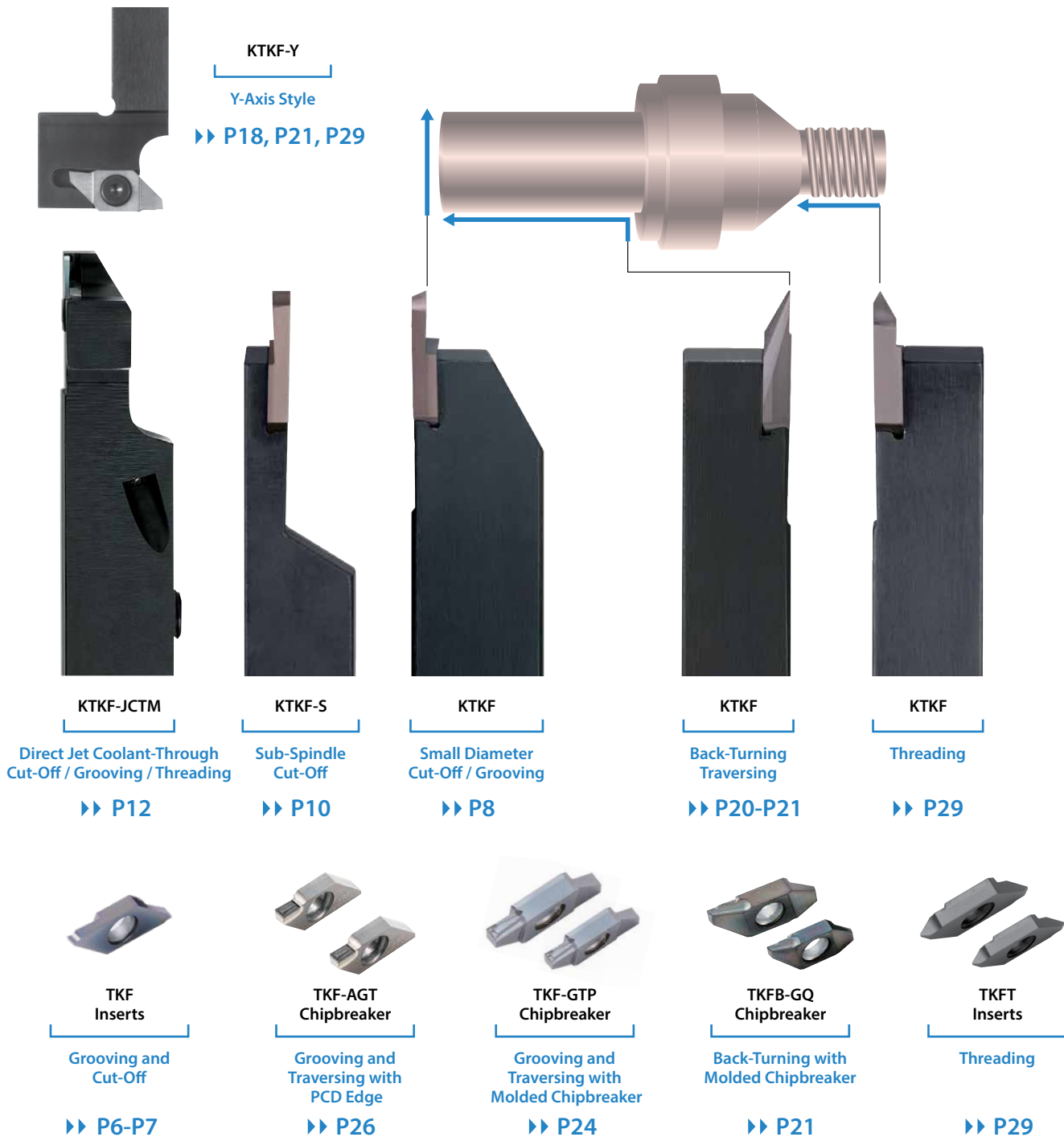
KTKF Series for Small Parts Machining

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



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



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, P18, P21, P29



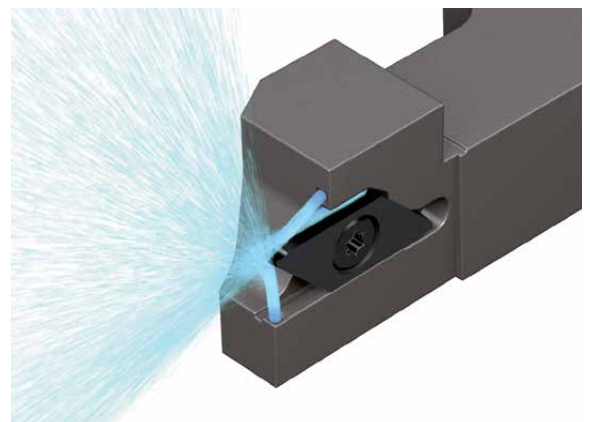
KTKF-JCTM

Jet Coolant-Through for Excellent Chip Control

The KTKF-JCTM discharges coolant in three 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



GTP Chipbreaker

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

Dots for Traversing

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

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

MEGACOAT NANO PLUS

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

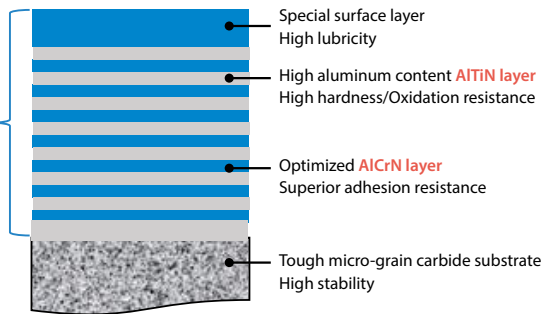
Great All-Around Performance in Small Parts Machining Applications

MEGACOAT NANO PLUS

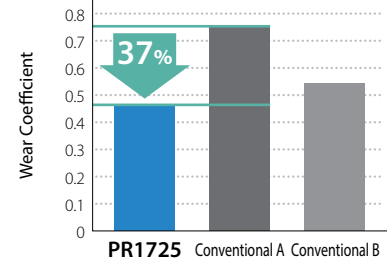
AlTiN/AlCrN Nano laminated film with superior wear resistance and adhesion resistance. Excellent surface finish and long tool life.

REDUCES CRACKING

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



Wear Coefficient Comparison
(Internal evaluation)



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

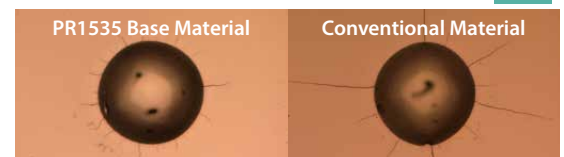
* Comparison with our conventional grade



2 Improved Stability by Optimization and Homogenization of the Particle Matrix

3 Long Tool Life and Stable Machining with MEGACOAT NANO

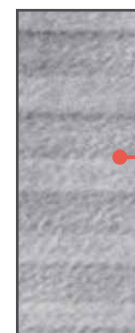
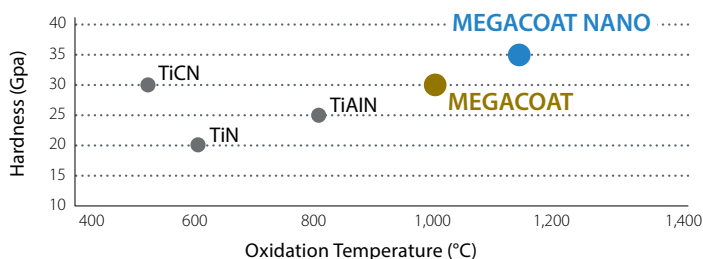
Cracking Comparison by Diamond Indenter (In-house Evaluation)



Short Cracks

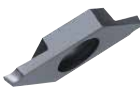
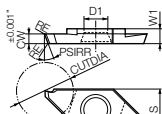
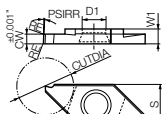
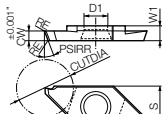
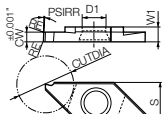
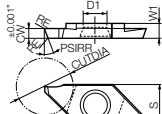
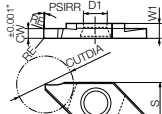
Long Cracks

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.

Insert		Part Number	Dimensions (in)								Angle (°)	MEGACOAT NANO		MEGACOAT		DLC		Carbide		Ref. Page for Toolholder			
			CW		CUTDIA	RE	W1	S	D1	PSIRR		PR1725		PR1535		PR1225		PDL025			KW10		
			inch	mm								R	L	R	L	R	L	R	L			R	L
 Right Lead Angle		TKF12% 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°	●	●	●	●	●	●	●	●	●				
 Right Lead Angle		TKF12% 050-S	0.020	0.50	0.197	0.001	0.118	0.343	0.197	0°	●	●	●	●	●	●	●	●	●	P8			
		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°	●	●	●	●	●	●	●	●	●				
 Right Lead Angle Tough Edge		TKF12% 100-T-16DR	0.039	1.00	0.472	0.003	0.118	0.343	0.197	16°	●	●	●	●	●	●	●	●	●	P8			
		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°	●	●	●	●	●	●	●	●	●				
 Tough Edge		TKF12% 100-T	0.039	1.00	0.472	0.003	0.118	0.343	0.197	0°	●	●	●	●	●	●	●	●	●	P8			
		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°	●	●	●	●	●	●	●	●	●				
 Right Lead Angle		TKF12% 050-NB-20DR	0.020	0.50	0.197	0.000	0.118	0.343	0.197	20°	●	●	●	●	●	●	●	●	●	P8			
		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°	●	●	●	●	●	●	●	●	●				
 Without Chipbreaker		TKF12% 050-NB	0.020	0.50	0.197	0.000	0.118	0.343	0.197	0°	●	●	●	●	●	●	●	●	●	P8			
		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)

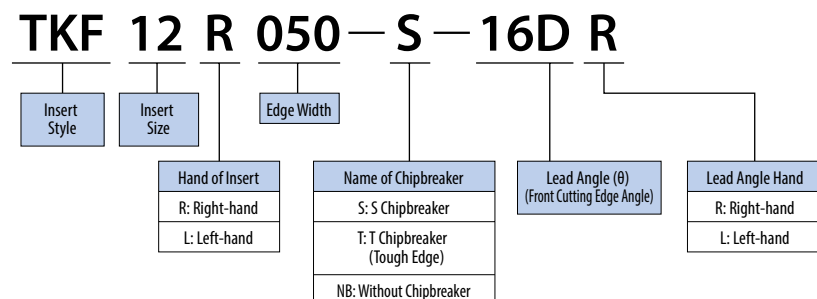
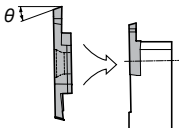
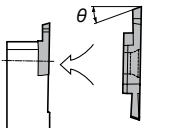
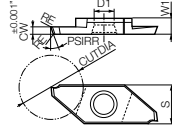
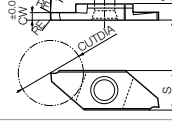
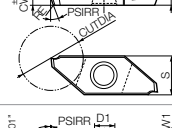
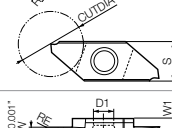
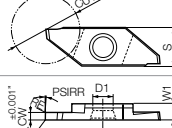


Table 1

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	

Insert 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		PR1535		PR1225		PDL025		KW10	
			inch	mm						R		L	R	L	R	L	R	L		R	L
 Right Lead Angle		TKF16% 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°	●	●	●	●	●	●	●	●	●		
 Tough Edge		TKF16% 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°	●	●	●	●	●	●	●	●	●		
 Right Lead Angle Tough Edge		TKF16% 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°	●	●	●	●	●	●	●	●	●		
 Tough Edge		TKF16% 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°	●	●	●	●	●	●	●	●	●		
 Right Lead Angle Without Chipbreaker		TKF16% 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°	●	●	●	●	●	●	●	●	●		
 Without Chipbreaker		TKF16% 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.

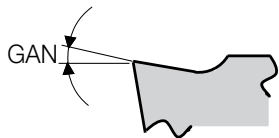
• As Fig.1 of [P9](#) shows, the cutting diameter of the insert is measured when the lead edge passes 0.039" past the center line of part.

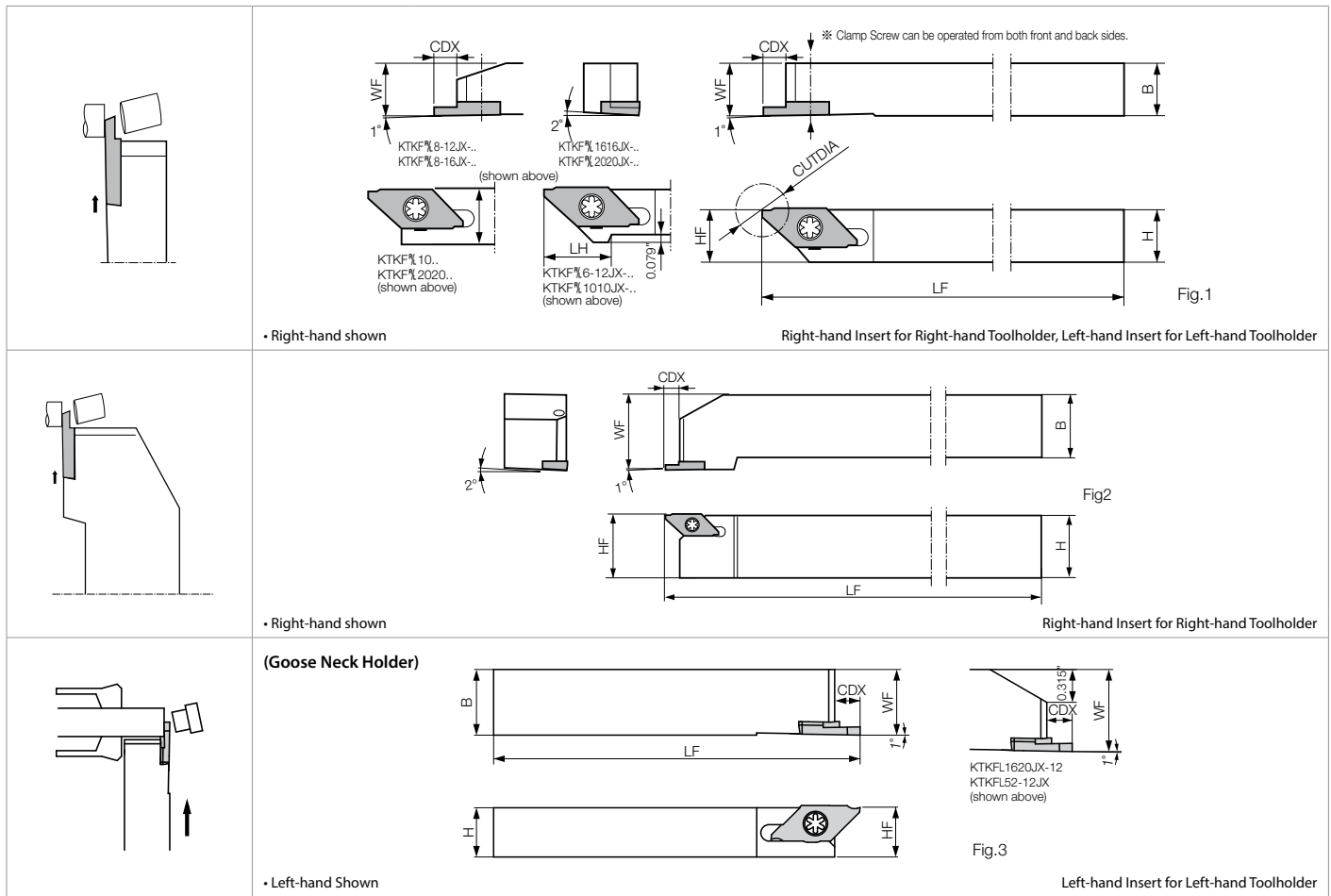
● : Standard Item

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 TKF...-T-16DR	0°	TKF...-NB TKF...-NB-20DR
	20°	TKF16...-S TKF16...-S-16DR				
	25°	TKF12...-S-16DR				



Toolholder Dimensions

Part Number	Stock		Unit	Dimensions							Drawing	Spare Parts		Applicable Inserts ➡ P6~P7
	R	L		H	HF	B	LF	LH	WF	CDX		Clamp Screw	Wrench	
														
KTKF [℞] 6-12JX	●	●	inch	0.375	0.375	0.375	4.750	0.590	0.375	0.236	Fig.1	SB-4590TRWN	LTW-10S	TKF12 [℞] ...
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 [℞] 6-16JX	●	●		0.375	0.375	0.375	4.750	0.787	0.375	0.315	Fig.1	SB-4590TRWN	LTW-10S	TKF16 [℞] ...
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 [℞] 1010JX-12	●	●	mm	10	10	10	120	15	10	6	Fig.1	SB-4590TRWN	LTW-10S	TKF12 [℞] ...
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 [℞] 1010JX-16	●	●		10	10	10	120	20	10	8	Fig.1	SB-4590TRWN	LTW-10S	TKF16 [℞] ...
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	
1620JX-12		●		16	16	20	120	-	20	6				

• Dimension CDX shows the distance from the toolholder to the cutting edge.

• See Page P6~P7 for actual cutting diameter.

Note : Cut-off diameter (CUTDIA) of -12 type toolholder depends on the insert grooving width.

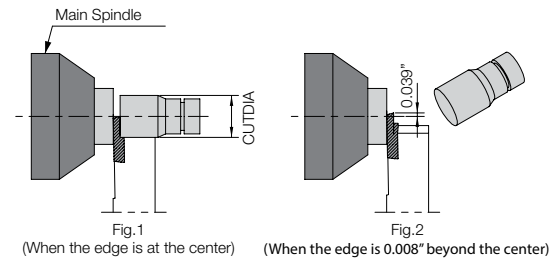
● : Standard Item

Recommended Cutting Conditions P11

How to Use

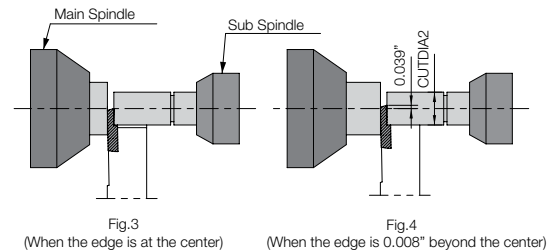
1) When using main spindle only

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) = $[CUTDIA - 0.039" \times 2]$ (in)
 (The clearance between the insert and the workpiece is 0.008")

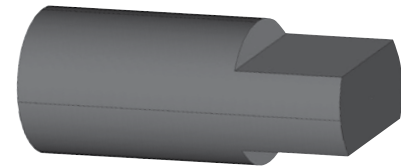


Tough Edge Type T Chipbreaker

Fracture Resistance Comparison (Interrupted Machining)

Tough Edge Type T Chipbreaker (PR1225) 3,000 Passes	Competitor A 700 Passes	Competitor B 3,000 Passes
	Fracture of Corner	Fracture of Corner

Cutting Conditions
 $V_c=250$ 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							
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

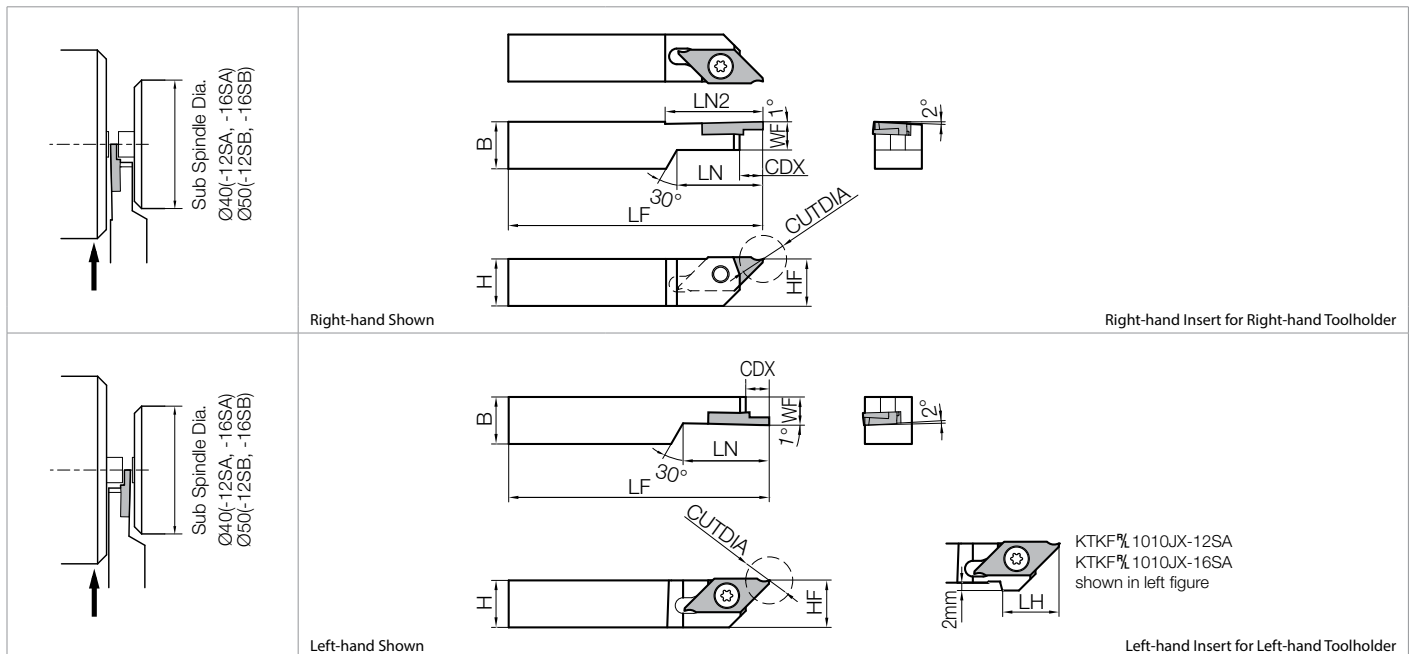
1 Recommended for Cut-off with Small Sub-Spindle Clearance

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 : PR1725 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 ➡ <u>P6~P7</u>
	R	L		CUTDIA	H	HF	B	LF	LH	LN	*LN2	WF	CDX	Clamp Screw	Wrench	
																
KTKF ^{R/L} 1010JX-12SA	●	●	5~12	10	10	10	120	15	22	26	7.2	6	SB-4570TRN	LTW-10S	TKF12 ^{R/L} ...	
1212F-12SA	●	●		12	12	12	85	-								26
KTKF ^{R/L} 1212JX-12SB	●	●					120									
KTKF ^{R/L} 1010JX-16SA	●	●	16	10	10	10	120	20	22	30	7.2	8			TKF16 ^{R/L} ...	
1212F-16SA	●	●		12	12	12	85	-								26
KTKF ^{R/L} 1212JX-16SB	●	●					120									

- 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

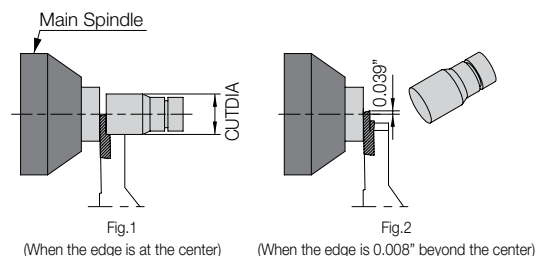
● : Standard Item

Recommended Cutting Conditions ➔ P11

How to Use

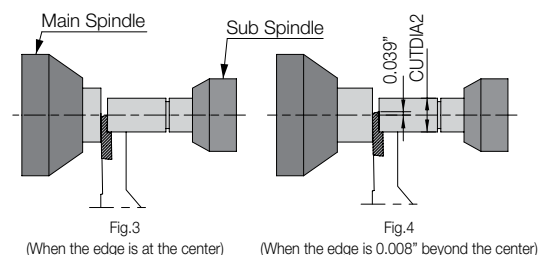
1) When using main spindle only

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
						Width (CW)						
	MEGACOAT NANO PLUS	MEGACOAT NANO	MEGACOAT	DLC	Uncoated Carbide	0.020" (0.50mm)	0.028" (0.70mm)	0.039" (1.00mm)	0.049" (1.25mm)	0.059" (1.50mm)	0.079" (2.00mm)	
	PR1725	PR1535	PR1225	PDL025	KW10	Feed Rate (ipr)						
Carbon Steel	★ 230~560 (160~460)	☆ 230~500 (160~400)	☆ 225~500 (175~400)	-	-	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)	☆ 230~500 (160~400)	☆ 225~500 (175~400)	-	-	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)	★ 200~400 (130~330)	☆ 200~400 (125~325)	-	-	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	

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

TKF16

Workpiece Material	Recommended Grade (Vc sfm)					TKF16		Notes
						Width (CW)		
	MEGACOAT NANO PLUS	MEGACOAT NANO	MEGACOAT	DLC	Uncoated Carbide	0.059" (1.50mm)	0.079" (2.00mm)	
	PR1725	PR1535	PR1225	PDL025	KW10	Feed Rate (ipr)		
Carbon Steel	★ 230~560 (160~460)	☆ 230~500 (160~400)	☆ 225~500 (175~400)	-	-	0.0008~0.0028 (0.0008~0.0039)	0.0008~0.0028 (0.0008~0.0039)	Wet
Alloy Steel	★ 230~560 (160~460)	☆ 230~500 (160~400)	☆ 225~500 (175~400)	-	-	0.0008~0.0028 (0.0008~0.0039)	0.0008~0.0028 (0.0008~0.0039)	
Stainless Steel	☆ 200~460 (130~390)	★ 200~400 (130~330)	☆ 200~400 (125~325)	-	-	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	

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

JCTM Series

Direct Coolant Holders for Small Parts Machining

Supports Internal Coolant with or without Piping Systems



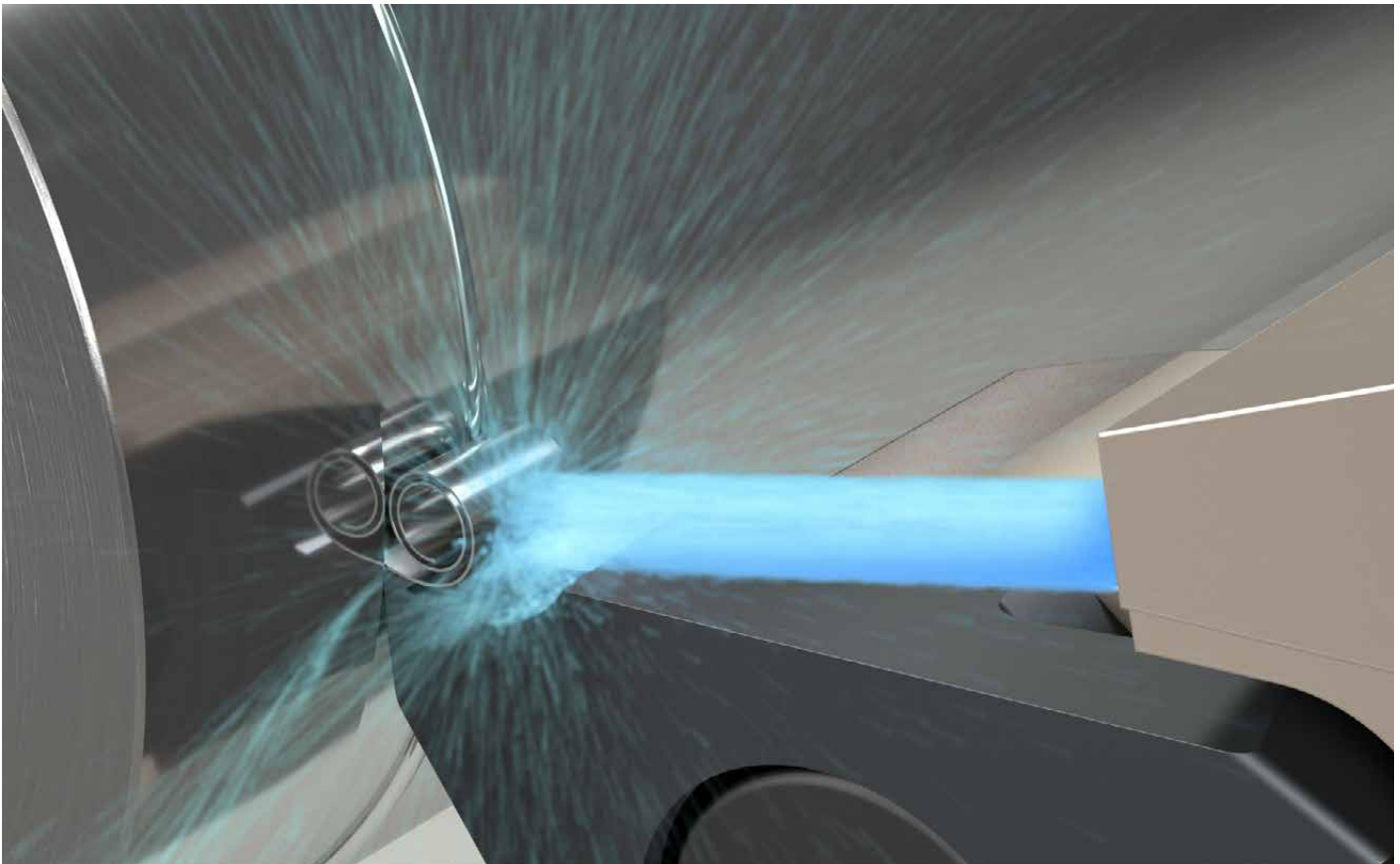
1 Using Internal Coolant to Enhance Tool Performance

Challenges

- Difficulty with automated operations due to sudden chip entanglement issues
- Insert change is not enough to extend tool life

SOLUTIONS

- The JCTM series is compatible with internal coolant in a wide range of machines and also works under normal pressure
- Reduces down time by improving chip control and reduces cost by extending tool life



Switching to internal coolant toolholder reduces chip entanglement issues

Internal Coolant (362 PSI)



External Coolant



Pin Alloy Tool Steel

Vc = 590 sfm, D.O.C. = 0.055"
f = 0.005 ipr, Wet
SDJC Holder / DCMT3251 Insert

(User Evaluation)

Internal Coolant without Piping

When the tool turret supports direct coolant*NEW**

Coolant is supplied directly from the tool turret into the holder without the need to install piping

Applicable to Wide Range of Machines

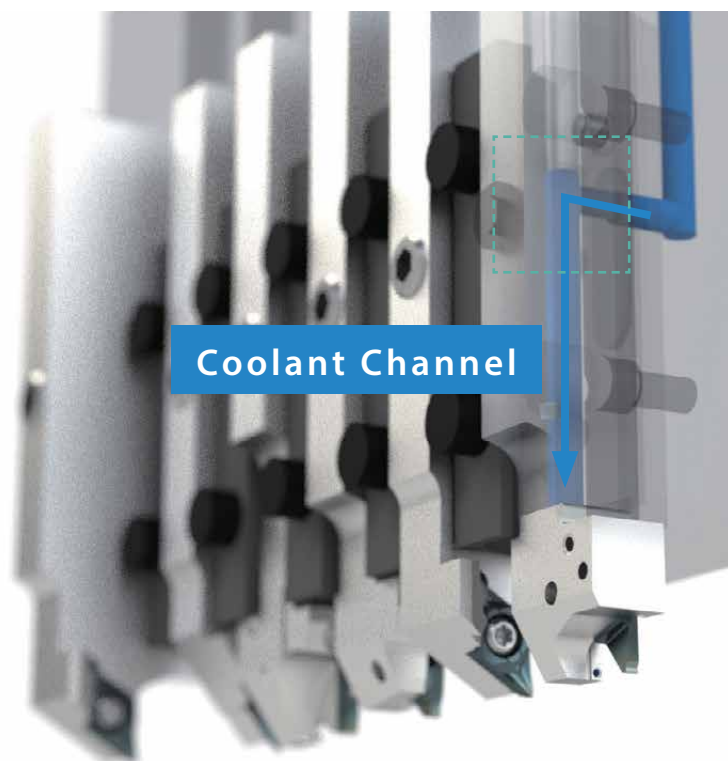
The tool turret is optional. Please contact our company sales representative for details.

CITIZEN MACHINERY CO., LTD. (L20, D25, M32)

STAR MICRONICS CO., LTD. (SB-R series, SR series, SV series)

TSUGAMI CORPORATION (S205/206-II □16 type, S205A/206A-II □16 type)

Compatible with various machine including the above. Toolholders can be customized as well.

(Random order)
Based on Kyocera Survey in January 2021

Optimized Coolant Supply

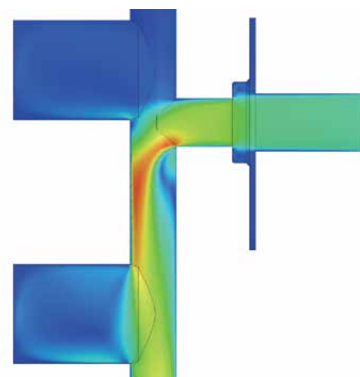
Supply hole designed to reduce energy loss based on extensive flow analysis

Analysis Image (Internal Evaluation)

High

Flow velocity

Low

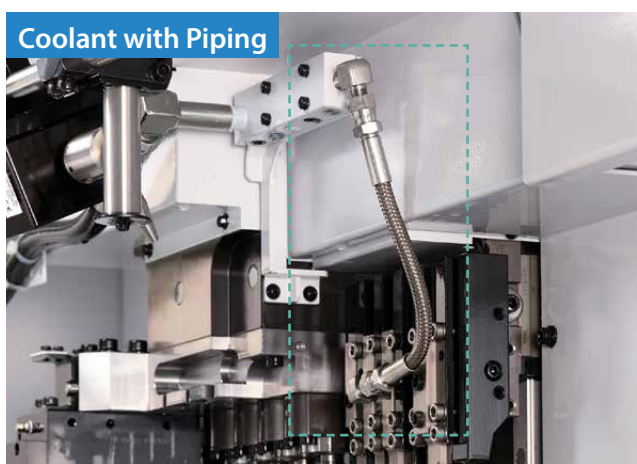


Internal Coolant with Piping

***Piping parts: See pages 16 and 17**

Compatible with internal coolant on any machine with standard piping parts

Commercial piping parts are available when using at normal pressure



KTKF-JCTM

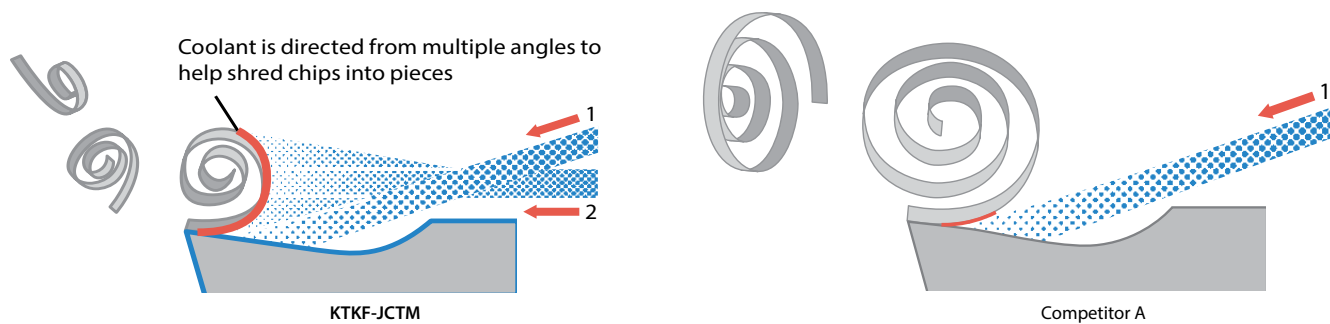
Cut-Off Holders for Small Parts Machining, Great for High Pressure Coolant

KTKF-JCTM 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-JCTM discharges coolant in three directions toward rake surface of insert and breaks chips into small pieces.

Coolant Discharge Structure Comparison

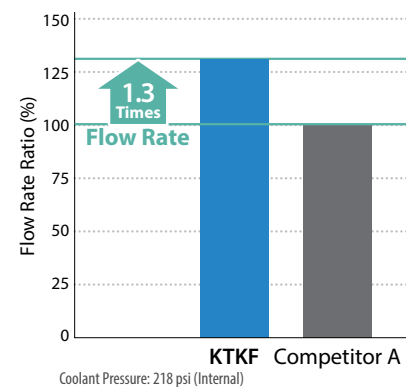


Chip Control Comparison (Internal Evaluation)

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			

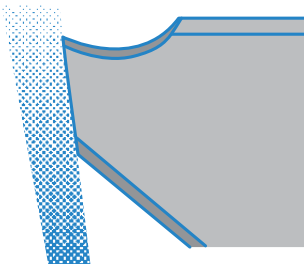
Cutting Conditions: $V_c = 260$ sfm, Wet (Oil-based) Coolant Pressure: 218 psi (Internal)
Workpiece: Ø0.472"

Coolant Flow Rate Comparison (Internal Evaluation)

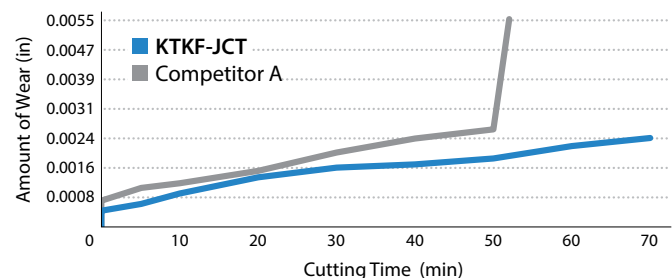


2 Superior Cooling Action Improves Tool Life

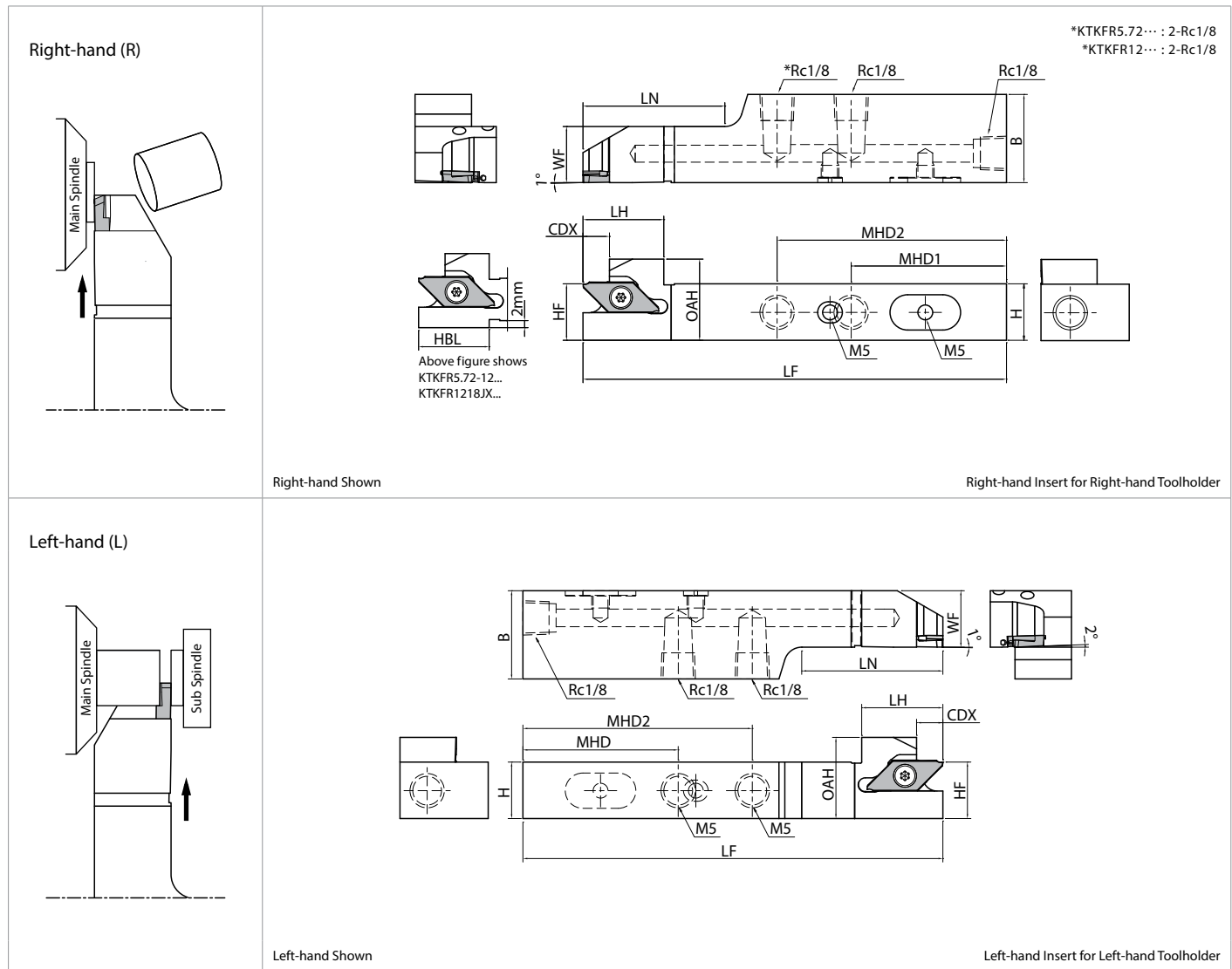
Coolant is also directed from the flank face of the insert to supply an ample amount of coolant to the tool edge area to help further suppress insert wear.



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 Ø0.472"



Toolholder Dimensions

Part Number	Stock		Unit	Dimensions												Spare Parts				Applicable Inserts Page 6-7
	R	L		H	HF	OAH	B	LF	HBL	LH	LN	WF	CDX	MHD	MHD2	Insert Screw	Wrench	Plug 1	Plug 2	
																				
KTKFR 5.72-12JCTM	●		inch	0.500	0.500	0.775	0.709	4.750	0.790	0.790	1.110	0.500	0.295	2.125	-	SB-4590TRWN	FT-10	GP-1	HS5X4LP	TKF12R... TKFT12R...
KTKF ^{R/L} 82.5-12JCTM	●	●		0.625	0.625	0.900	1.000	4.750	-	0.905	1.585	0.625	0.295	1.730	2.560					TKF12 ^{R/L} ... TKFT12 ^{R/L} ...
82.5-16JCTM	●	●											0.377							
KTKFR 1218JX-12JCTM	●		mm	12	12	19	18	120	20	20	28	12	7.5	54	-	SB-4590TRWN	FT-10	GP-1	HS5X4LP	TKF12R... TKFT12R...
KTKF ^{R/L} 1625JX-12JCTM	●	●		16	16	23	25		-	23	40	16		44	65					TKF12 ^{R/L} ... TKFT12 ^{R/L} ...
2025JX-12JCTM	●	●		20	20	27						20								
KTKF ^{R/L} 1625JX-16JCTM	●	●		16	16	23	25	120	-	23	40	16	9.6	44	65	SB-4590TRWN	FT-10	GP-1	HS5X4LP	TKF16 ^{R/L} ... TKFT16 ^{R/L} ...
2025JX-16JCTM	●	●		20	20	27						20								

● : Standard Item

Recommended Cutting Conditions [P11](#)

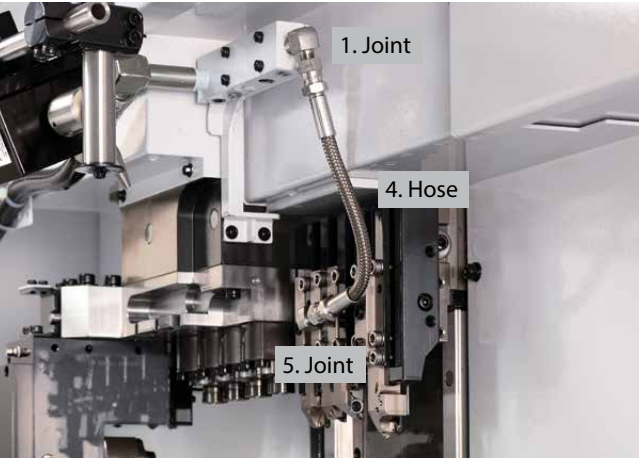
Coolant Piping Parts [P16~P17](#)

Coolant Piping Parts

Pipe parts will be required separately if internal coolant is used

Pump Pressure: up to 2,900 psi
Pump Pressure: up to 1,090 psi if couplers are used

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

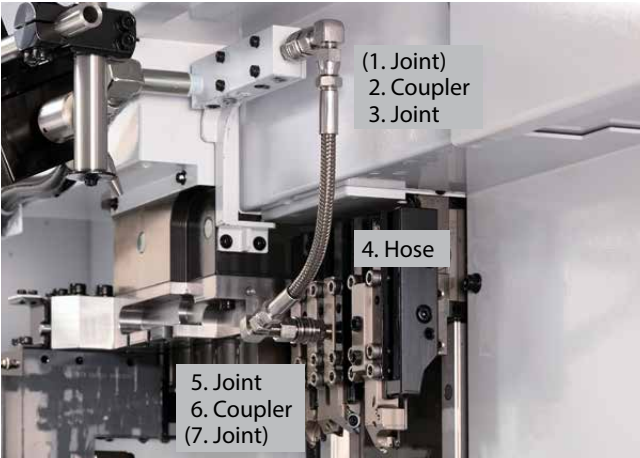


Combination Part Number (Example)

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.

With Coupler (Pump Pressure: Up to 1,090 psi)



Combination Part Number (Example)

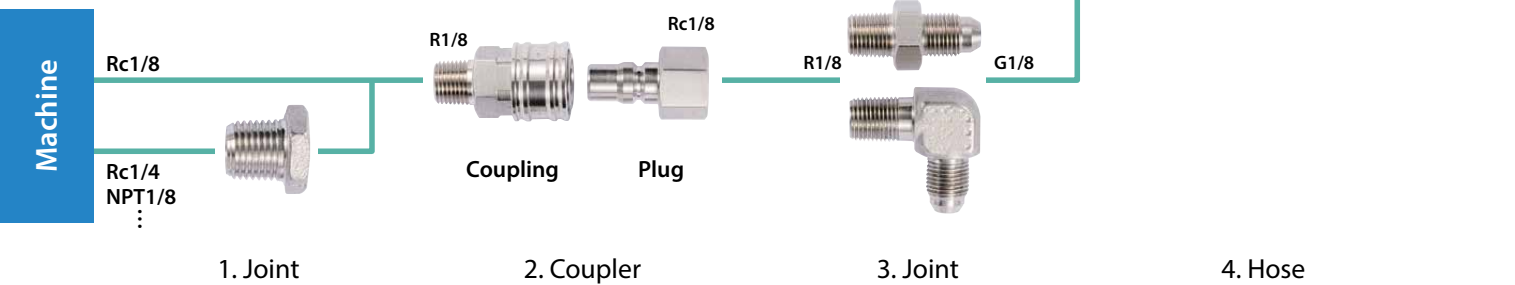
Part	Part Number
(1. Joint)	-
2. Coupler	CP-ST-R1/8, P-ST-RC1/8
3. Joint	J-AN-R1/8-G1/8
4. Hose	HS-G1/8-G1/8-200
5. Joint	J-AN-R1/8-G1/8
6. Coupler	P-ST-RC1/8, CP-ST-R1/8
(7. Joint)	-

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)



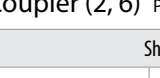
With Coupler (Pump Pressure: up to 1,090 psi)



Piping Installation Parts Description

Joint (1, 3, 5, 7) Pressure Resistance: up to 2,900 psi

(Unit: mm)

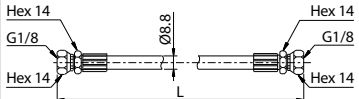
Shape	Part Number	Stock	Ød1	Ød2	L	L1	L2	T1	T2
	J-ST-R1/4-G1/8	●	5.5	4.0	34	13	13	R1/4	G1/8
	J-ST-NPT1/8-G1/8	●	3.5	3.5	29	10	13	NPT1/8	G1/8
	J-ST-R1/8-G1/8	●	4.0	4.0	29	10	13	R1/8	G1/8
	J-AN-R1/8-G1/8	●	4.0	4.0	27	14	13	R1/8	G1/8
	J-ST-R1/4-RC1/8	●	–	–	17	12	–	R1/4	Rc1/8
	J-ST-NPT1/8-RC1/8	●	3.5	–	30	10	–	NPT1/8	Rc1/8
	J-ST-R1/8-RC1/8	●	3.5	–	33	13	–	R1/8	Rc1/8

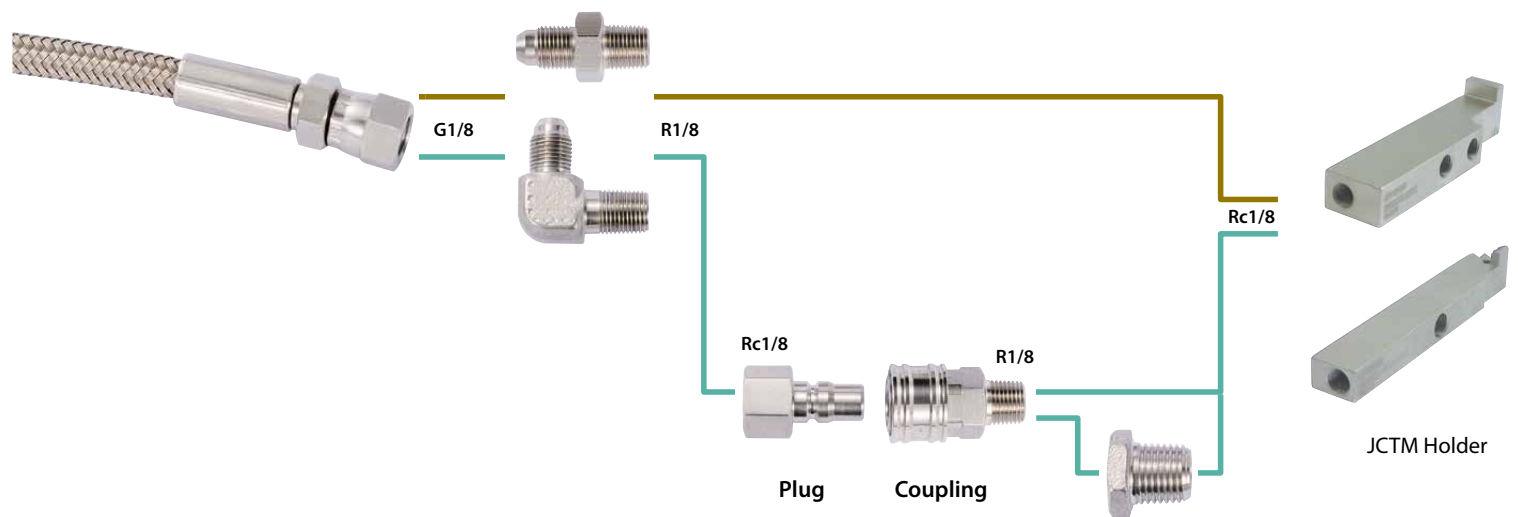
Coupler (2, 6) Pressure Resistance: up to 1,090 psi (Unit: mm)

Shape	Part Number	Stock
	CP-ST-R1/8	●
	P-ST-RC1/8	●

Hose (4) Pressure Resistance: up to 2,900 psi

(Unit: mm)

Shape	Part Number	Stock	L
	HS-G1/8-G1/8-200	●	200
	HS-G1/8-G1/8-300	●	300
	HS-G1/8-G1/8-400	●	400
	HS-G1/8-G1/8-500	●	500
	HS-G1/8-G1/8-600	●	600
	HS-G1/8-G1/8-800	●	800



4. Hose

5. Joint

6. Coupler

7. Joint (Extension Joint)

Y-Axis Toolholders

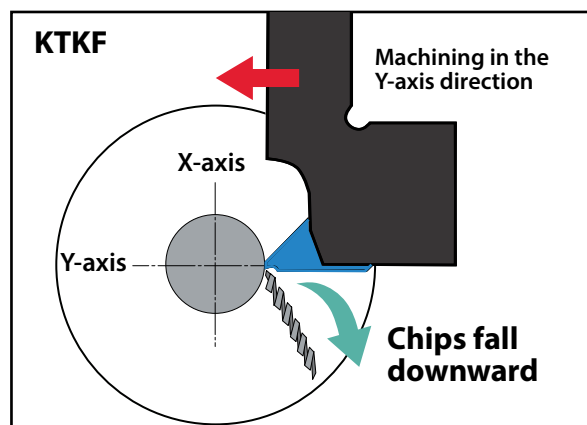
Improved Chip Control

New Toolholder Designs for Better Chip Evacuation in Small Parts Machining

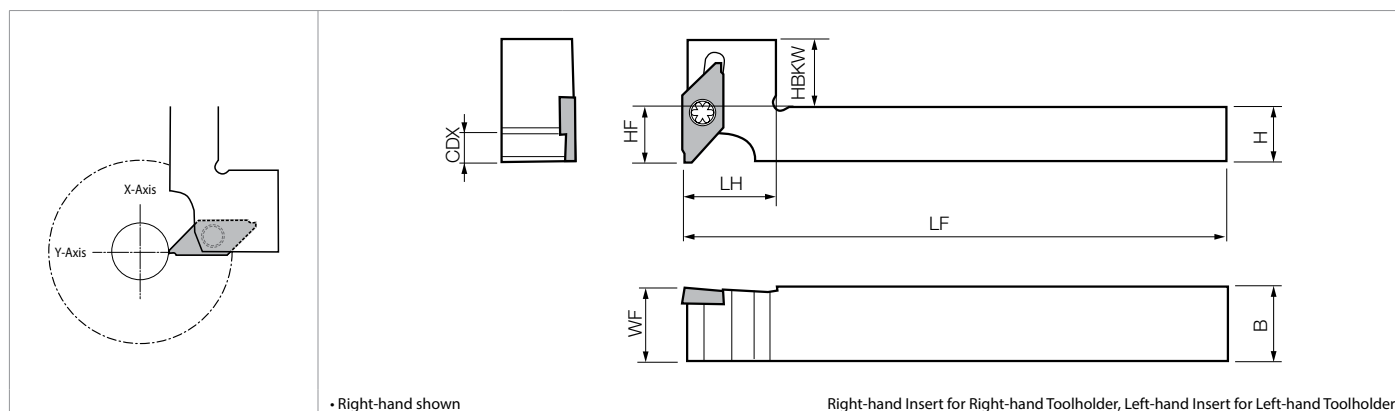


KTKFR-Y

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 ➔ P6~P7
											Clamp Screw	Wrench	
	R	L	H	HF	B	LF	LH	WF	LU	HBKW			
KTKFR 1216JX-12-Y	●		12	12	16	120	20	16	6	15	SB-4590TRWN	FT-10	TKF12R...
	●		16	16	16		25	16		11			

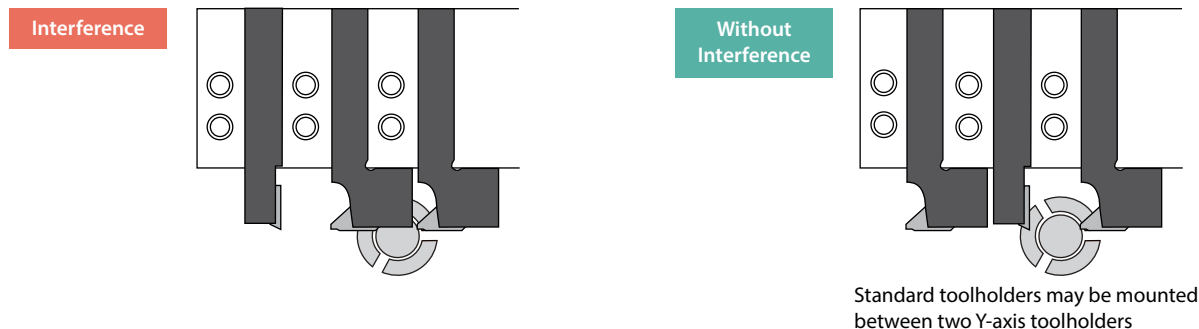
• Dimensions LU shows the distance from the toolholder to the cutting edge

● : Standard Item

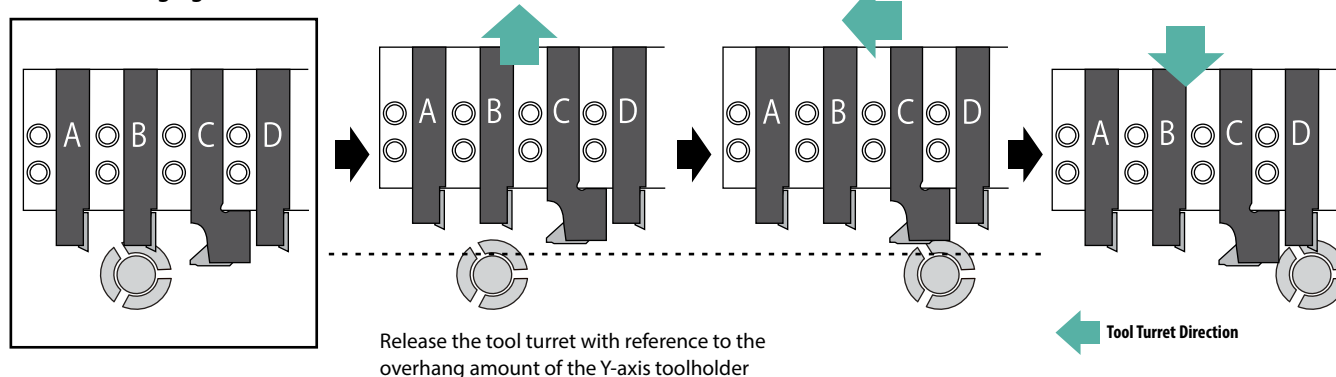
Recommended Cutting Conditions ➔ **P11**

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)



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)



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



- Dimensions LU shows the distance from the toolholder to the cutting edge
- See Page [P13](#) for Jet Coolant-Through styles

Toolholder Dimensions

Part Number	Stock		Unit	Dimensions								Drawing	Spare Parts		Applicable Inserts P21, P25, P26
	R	L		H	HF	B	LF	LH	WF	LU	HBKW		Clamp Screw	Wrench	
KTKFR 2525M-12	●		mm	25	25	25	150	-	30	6	-	Fig.2	SB-4590TRWN	LTW-10S	TKFB12R... TKF12R... TKFB16R... TKF16R...
2525M-16	●			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... 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	TKFB12L... TKF12L...
1620JX-12		●		16	16	20	120	-	20	6	-				
KTKFR 1216JX-12-Y	●		mm	12	12	16	120	20	16	6	15	Fig.4	SB-4590TRWN	FT-10	TKFB12R... TKF12R...
1616JX-12-Y	●			16	16	16		25	16	6	11				

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

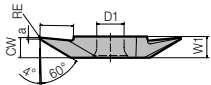
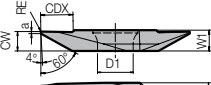
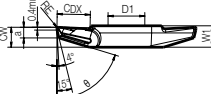
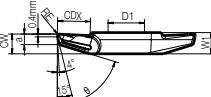
• See Page P15 for Jet Coolant-Through styles

• When using Y-axis (KTKF-Y) holders, see Page P17 for precautions

● : Standard Item

Applicable Inserts

Classification of Usage	P	M	K	N	S
	Carbon Steel / Alloy Steel	Stainless Steel	Gray Cast Iron Nodular Cast Iron	Non-ferrous Material	Heat-resistant Alloy Titanium Alloy

Insert		Part Number	Dimensions (in)									MEGACOAT NANO PLUS	MEGACOAT NANO	MEGACOAT	Carbide
			CW		a	CDX	RE	W 1	S	D 1	PSIRR	PR1725	PR1535	PR1225	KW10
			inch	mm											
	 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	-	●	●	●	●
	 Left-handed insert shown	TKFB 12L28005MR	0.110	2.8	0.012	0.181	<0.002	0.118	0.343	0.205	-		●	●	
		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	-		●	●	
Polished	 Right-handed insert shown	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°	●	●	●	
	 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°	●	●	●	

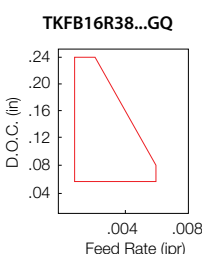
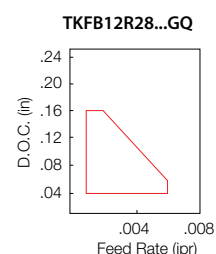
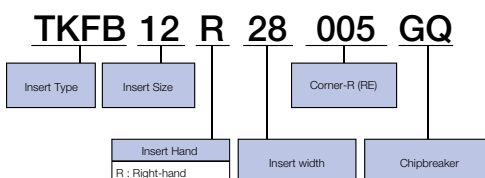
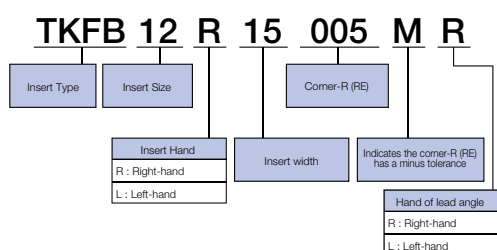
• Insert with corner R (RE) dimension expressed with less than sign (e.g. <0.002, <0.004, <0.008 etc.) indicate models with minus tolerance for corner R (RE).

● : Standard Item

Insert Identification System

Recommended Cutting Conditions P27

Inserts Sold in 10 Piece Boxes

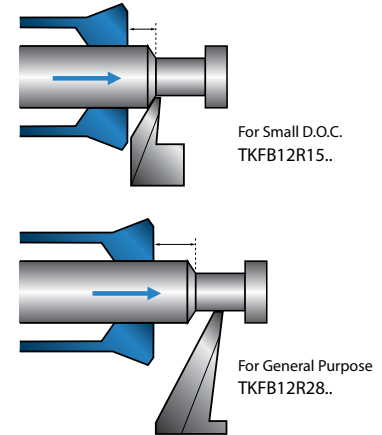


Edge Tips Details and Selection Guide

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 Minimum overhang length of toolholder, stable machining		For general purpose 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		Cutting close to guide bushing is possible Since TKFB12R15005M has a narrow cutting edge (width=0.059"), cutting close to guide bushing is possible ➔ Good for small parts and high precision cutting
(L) Left-hand	Even if burrs occur, they will not return into the guide bush.	Cutting with distance from guide bushing Good chip control due to large space between the guide bushing and the tool. ➔ How to improve chip control for roughing to finishing 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. Also, a Left-hand toolholder prevents wear of guide bushing due to chip biting.

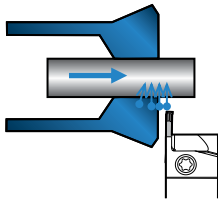
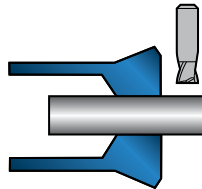
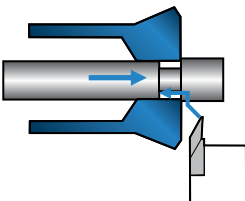
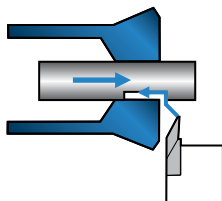
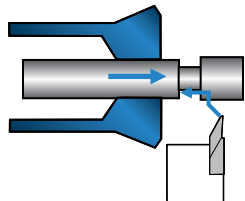
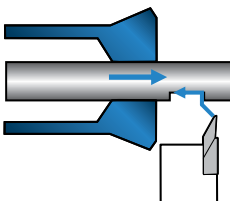
Workpiece Material Motion & How to Select Hand of Tool

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.

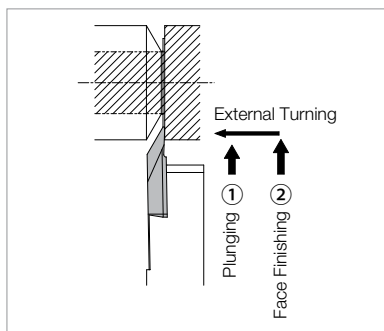
Chip Control Improvement During Back Turning

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

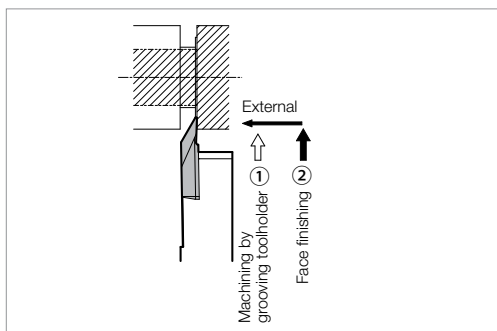
Peeled Surface Countermeasures During Face Back Turning

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

KTKF Insert for Small Parts Machining

Reduce Cycle Time with
Grooving and Traversing Capabilities



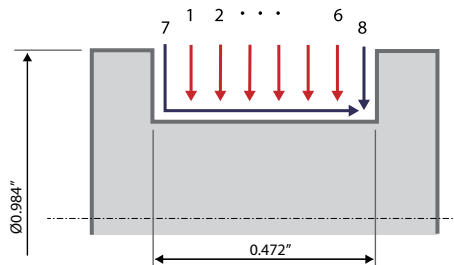
1 Grooving and Traversing

Cutting Time Comparison (Internal Evaluation)

Competitor A

Multiple Grooves and a Finishing Pass

Workpiece : 1045 (Ø0.984")



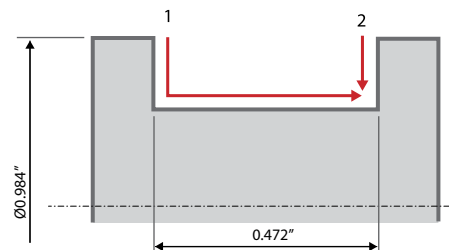
Cutting Conditions:
Multiple Grooves
Vc = 330 sfm
D.O.C. = 0.138", f = 0.004 ipr

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

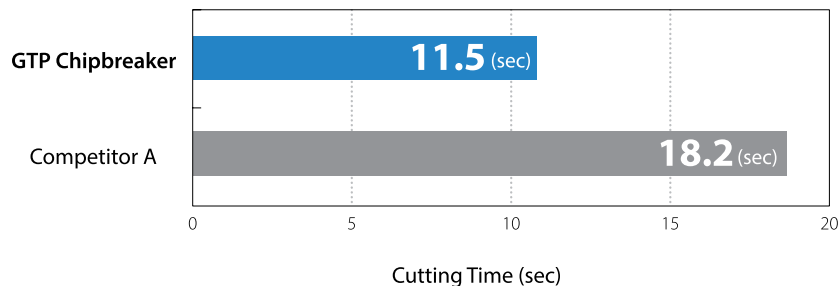
TKF12R200-GTP

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.

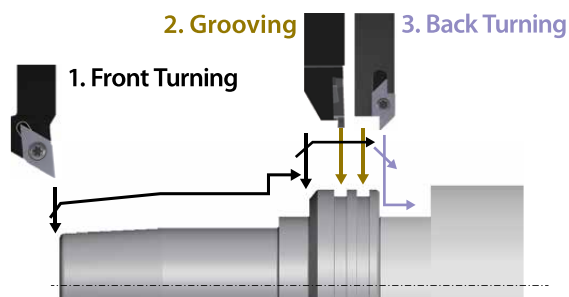
40%
Cutting Time Reduction

Integrated Tooling Solution

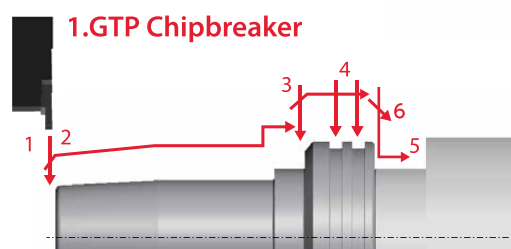
The GTP chipbreaker can be used for external turning, grooving, and back turning operations



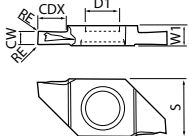
Conventional Tools



GTP Chipbreaker



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

Shape Right-hand shown		Part Number	Dimensions (in)							Angle	MEGACOAT NANO PLUS	MEGACOAT NANO	Applicable 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

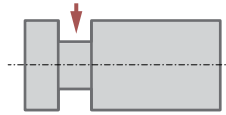
Recommended Cutting Conditions **P27**

Inserts Sold in 10 Piece Boxes

Cutting Time Comparison - Grooving (Internal Evaluation)

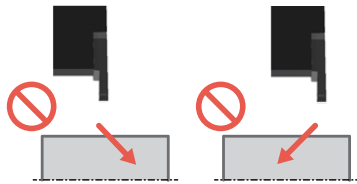
f (ipr)	0.002	0.003	0.004
TKF12R 200-GTP			
Competitor B			

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



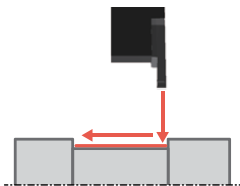
Caution

Ramping

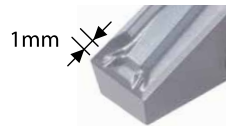


Ramping is not recommended if the workpiece is not pre-machined as shown in the right figures.

Back Turning



When back turning is used for finishing, make sure that the side cutting edge (back) of the tool is within 1mm.



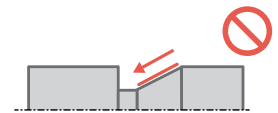
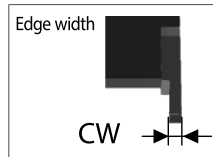
Tips for Ramping

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



CW >

*The width of the groove must be smaller than the edge width to overlap the previous groove.



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)



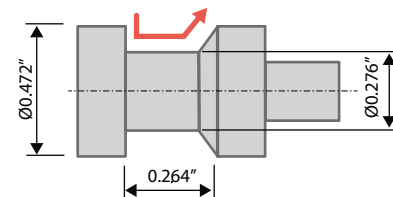
Showed good chip control without entanglement. Further machining is possible.

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)

		Classification of Usage ● : Light Interruption / 1st Choice ● : Continuous / 1st Choice	N	Non-ferrous Material (with Interruption)										
				Non-ferrous Material (without Interruption)										
				S	Titanium Alloy (with Interruption)									
					Titanium Alloy (without Interruption)									
Insert	Part Number	Dimensions (in)										Angle	PCD	
		CW		CDX	RE	W1	S	S1	D1	LE	PSIR°%	KPD001		
		inch	mm									R	L	
 Traversing / Grooving	TKF12R 200-AGT	0.079	2.0	0.189	+0.000 -0.002 0.004	0.118	0.343	0.327	0.197	0.165	0°	●		
	250-AGT	0.098	2.5									●		
 Traversing / Grooving	TKF12 ^{R/L} 200-AS	0.079	2.0	0.197	+0.000 -0.002 0.004	0.118	0.343	0.287	0.197	0.209	0°	●		
	TKF16 ^{R/L} 250-AS	0.098	2.5									0.315	0.157	0.374
 External Grooving (Traversing is Possible)	TKF12 ^{R/L} 150-NB	0.059	1.5	0.138	+0.000 -0.002 0.004	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  P27

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).

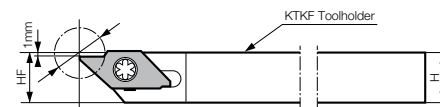


Fig.1 When a TKF-AS/-ASR insert is attached
(The cutting edge is 0.04" lower than the center line.)

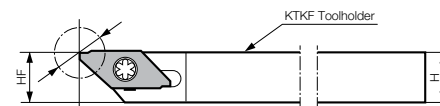
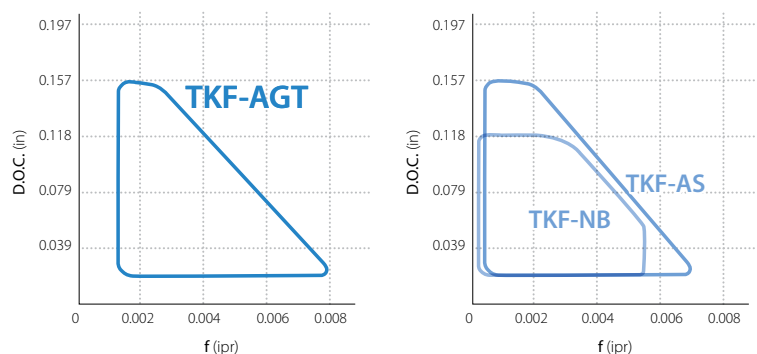
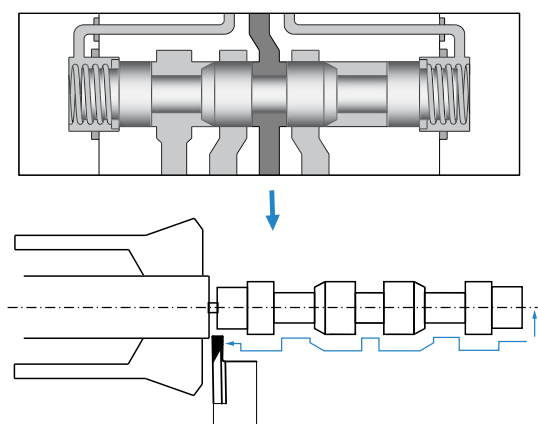


Fig.2 When a TKF-NB insert is attached

Chipbreaker Range (PCD)



Spool Machining Example



Example pass of KTKF toolholder + TKF-AS insert

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

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



Left-hand Insert for Left-hand Toolholder



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 [®] 6-12JX	●	●	inch	0.375	0.375	0.375	4.750	0.590	0.375	0.236	-	Fig.1		LTW-10S	TKFT12 [®] ...	
	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 [®] 1010JX-12	●	●	mm	10	10	10	120	15	10	6	-	Fig.1		LTW-10S	TKFT12 [®] ...	
	1212JX-12	●		●	12	12	12	120	-	12						6
	1616JX-12	●		●	16	16	16	120	-	16						6
	2020JX-12	●		●	20	20	20	120	-	20						6
KTKFR 1212F-12	●		mm	12	12	12	85	-	12	6	-	Fig.1		LTW-10S	TKFT12R...	
KTKFR 2525M-12	●		mm	25	25	25	150	-	30	6	-	Fig.2		LTW-10S	TKFT12R...	
KTKFL 52-12JX		●	inch	0.500	0.500	0.625	4.750	-	0.625	0.236	-	Fig.3		LTW-10S	TKFT12L...	
	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		LTW-10S		TKFT12R...
	1620JX-12			●	16	16	20	120	-	20						
KTKFR 1216JX-12-Y	●		mm	12	12	16	120	20	16	6	15	Fig.4		FT-10	TKFT12R...	
	1616JX-12-Y	●			16	16		16	25		16					

- Dimensions CDX shows the distance from the toolholder to the cutting edge
- See Page [P15](#) for Jet Coolant-Through styles
- When using Y-axis (KTKF-Y) holders, see Page [P19](#) for precautions

● : Standard Item

Applicable Inserts

Insert		Part Number	Applicable Thread	Dimensions (in)										Angle	NEW			
				Pitch		W1	CW	S	D1	RE	PDX	PDX1	PNA		MEGA COAT NANO PLUS	MEGA COAT NANO	MEGA COAT	Carbide
Partial Profile	Right-hand Shown	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	G,R W	1.00~1.50	24~18	0.118	0.098	0.343	0.205	0.004	0.049	0.049			○	●	○	○
		12RA55005		-	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			○	●	○	○
	Left-hand Shown	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	G,R W	1.00~1.50	24~18	0.118	0.098	0.343	0.205	0.004	0.049	0.049			○	●	○	○
		12LA55005		-	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](#)

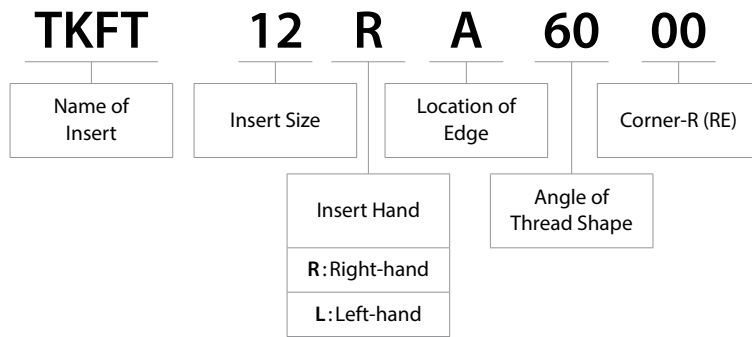


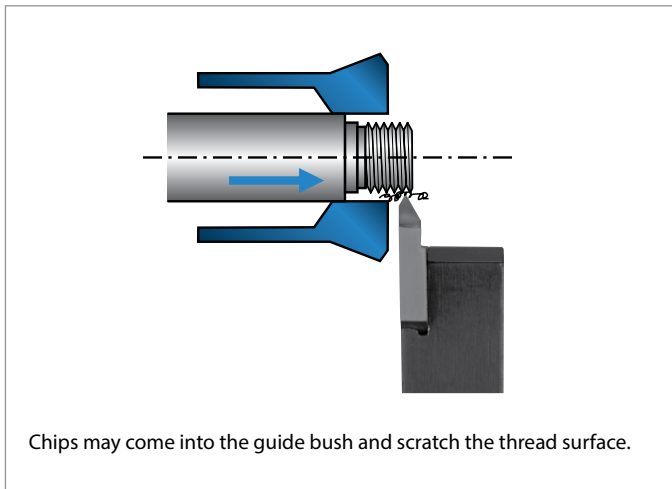
Table 1

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

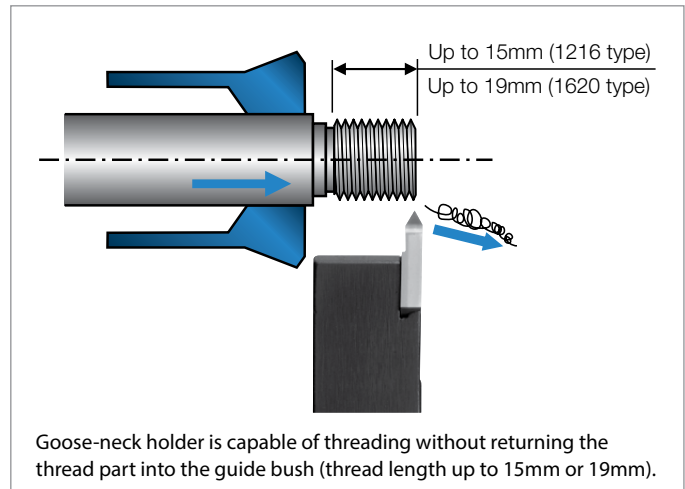
Swiss Tool Automatic Lathe (Guide Bush System)

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)	under 0.0079"
Aluminum	-		-		-		-		-		Vc (sfm) = 490-1310	
											First D.O.C. (Radial)	under 0.0079"
Brass	-		-		-		-		-		Vc (sfm) = 490-980	
											First D.O.C. (Radial)	under 0.0079"

• 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	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
		mm & TPI																
Metric	External Threading	0.20mm	TKFT 12 [°] 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 [°] A/B6000	Max 0.05 Flat	0.38	6	0.10	0.10	0.07	0.05	0.04	0.02						
			12 [°] A/B60005	0.05	0.33	5	0.10	0.10	0.07	0.04	0.02							
		0.60mm	TKFT 12 [°] A/B6000	Max 0.05 Flat	0.45	7	0.10	0.10	0.08	0.06	0.05	0.04	0.02					
			12 [°] A/B60005	0.05	0.40	6	0.10	0.10	0.08	0.06	0.04	0.02						
		0.70mm	TKFT 12 [°] A/B60005	0.05	0.48	6	0.10	0.10	0.10	0.10	0.06	0.02						
		0.75mm		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	TKFT 12 [°] A/B60005 12 [°] N6001	0.05	0.71	8	0.15	0.15	0.12	0.10	0.08	0.06	0.03	0.02				
				0.10	0.66	7	0.18	0.15	0.12	0.10	0.06	0.03	0.02					
		1.25mm		0.05	0.90	9	0.20	0.18	0.13	0.10	0.10	0.07	0.05	0.05	0.02			
				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 [°] 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 [°] 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 [°] 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	



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