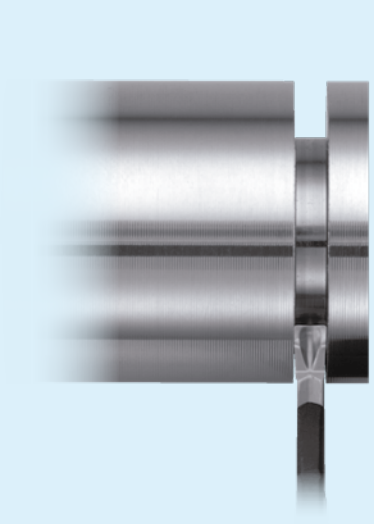
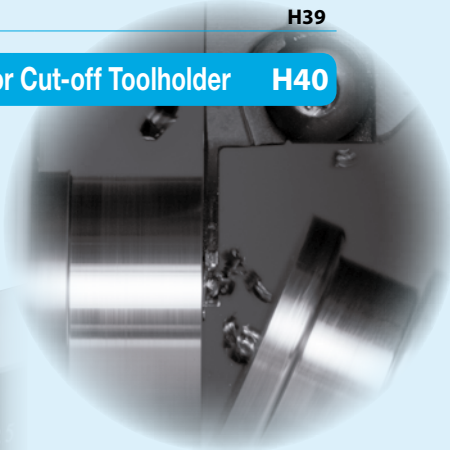
Cut-off

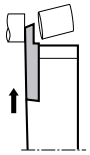
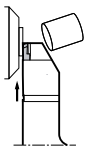
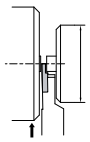
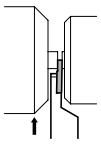
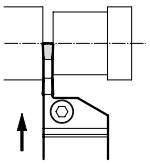
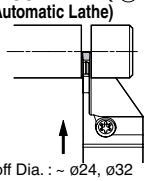
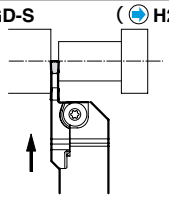
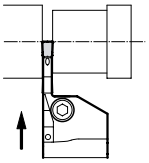
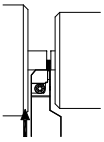
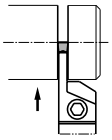
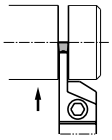
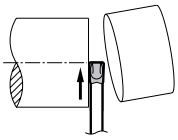
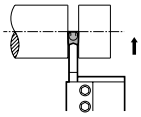
H1~H40

H





Product Lineup

Small Diameter Cut-off (for Automatic Lathe) Cut-off Dia. : ~ø16	**KTKF** (➡ H8)  Cut-off Dia. : ~ ø5, ø8, ø12, ø16 Edge Width : 0.5 ~ 2.0 mm	**KTKF-JCT** (➡ H12)  Cut-off Dia. : ~ ø5, ø8, ø12, ø16 Edge Width : 0.5 ~ 2.0 mm		For sub spindle tooling **KTKF-S** (➡ H10)  Cut-off Dia. : ~ ø5, ø8, ø12, ø16 Edge Width : 0.5 ~ 2.0 mm	**KTKFS** (➡ H16)  Cut-off Dia. : ~ ø6, ø9, ø12, ø14, ø16 Edge Width : 1.0 ~ 2.0 mm
KGD (Bolt Clamp) Cut-off Dia. : ~ ø51	**KGD** (➡ H20, H24)  Edge Width : 1.3 ~ 4.0 mm	**KGD-JCT** (➡ H22) (for Automatic Lathe)  Cut-off Dia. : ~ ø24, ø32 Edge Width : 2.0 ~ 3.0 mm	**KGD-S** (➡ H25)  Edge Width : 2.0 ~ 4.0 mm	**KGD-JCT** (➡ H26)  Edge Width : 3.0 ~ 4.0 mm	For sub spindle tooling **KGDS** (➡ H21)  Cut-off Dia. : ~ ø24 Edge Width : 1.3 ~ 3.0 mm
KGM (Bolt Clamp) Cut-off Dia. : ~ ø60	**KGM** (➡ H32)  Edge Width : 1.5 ~ 4.0 mm, 3 ~ 8 mm	**KGM-T** (➡ H33)  Edge Width : 2.0 ~ 6.0 mm			
KTKB KTKH (1-edge) Cut-off Dia. : ~ ø120	Toolholder Type Cut-off Dia. ø30 ~ ø79	**KTKH-S** (➡ H38)  Edge Width : 2.2 ~ 5.1 mm		Blade type Cut-off Dia. ø32 ~ ø120	**KTKB-S(S)** (➡ H36)  Edge Width : 1.6 ~ 9.6 mm

Cut-off Tools

Series Name	Shape	Advantage	Applications
Small Diameter Cut-off		1) Insert clamp is side screw type from lateral side 2) 2-edge insert 3) Max. Cut-off Dia. : ø16	1) Cut-off and grooving of small workpieces 2) For automatic lathe, small machine
KGD		1) Insert is clamped from top side 2) 1-edge and 2-edge inserts available 3) Integral type and separate type are available 4) Max. Cut-off Dia. : ø50	1) PM Chipbreaker ··· Cut-off 2) PH Chipbreaker ··· Cut-off (High Feed Rate) Grooving 3) PG Chipbreaker ··· Cut-off (for automatic lathe), Sharp-Cutting Oriented 4) PF Chipbreaker ··· Cut-off (for automatic lathe), Low feed 5) PQ Chipbreaker ··· Cut-off (for automatic lathe), Medium feed
KGM		1) Insert is clamped from top side 2) 1-edge and 2-edge inserts available 3) Max. Cut-off Dia. : ø60	1) For cut-off and grooving of small workpieces 2) For automatic lathe, small machine 3) TMR Chipbreaker provides stable chip control up to high feed rate ranges
KTKB KTKH		1) Self-Clamping System Tap the insert lightly with a plastic hammer to set it in the pocket 2) 1-edge insert 3) Blade type and Integral Shank type 4) Max. Cut-off Dia. : ø120	1) For cut-off and deep grooving 2) Standard chipbreaker is general cut-off type Feed rate : 0.1mm/rev or over  P Chipbreaker is for cut-off at low feed rates Feed rate : 0.03~0.08mm/rev 

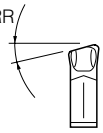
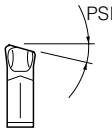
Guide for Cut-off

Tool Selection

		For Small Diameter Cut-off	KGD	KGM	KTKB / KTKH
Insert	1. Insert's Edge Number 1-edge Insert···For Larger Dia. Workpiece (Max. ø120)	-	-	-	✓
	2-edge Insert···For Smaller Dia. Workpiece Cost per corner is reduced	✓	✓	✓	-
	2. Use a neutral angle insert if there is no limit to the finished shape.	TKF...S TKF...NB TKFS...S	GDM GDMS	GMM	TKN
	3. Use an angled insert to reduce the size of the remaining boss.	TKF...DR	GDM-R/L (➡ Fig. 2)	GMM-R/L (➡ Fig. 2)	TKR/L (➡ Fig. 1)
	4. Use a sharp-cornered lead-angled insert to make the remaining boss much smaller when machining small parts and thin parts.	TKF...DR	-	GMM-R/L (➡ Fig. 2)	-
	5. Use the minimum width insert suitable for the machining.	✓	✓	✓	✓
Toolholder	1. Use a suitable toolholder (blade) for the workpiece dia.	✓	✓	✓	✓
	2. Use a more rigid toolholder (blade).	✓	✓	✓	✓
	3. Use a back clamp toolholder if there is no space for clamping tools from top side (automatic lathe).	✓	-	-	-

How to select cut-off inserts with / without lead angle (including sharp corner)

1. Use a neutral angle insert if there is no limit to the finished shape.
2. Use an angled insert to reduce the size of the remaining boss.
3. Use a sharp-cornered lead-angled insert to make the remaining boss much smaller when machining small parts and thin parts.

Hand of Lead Angle	N (Neutral)	R (Right-hand)	L (Left-hand)
			
· Angled insert can reduce the burr size when cutting off. · When using a larger lead angle, cutting force becomes smaller, but the feed rate should be reduced.			

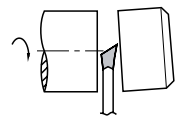
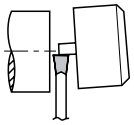
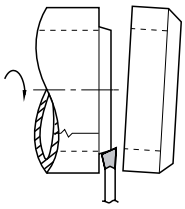
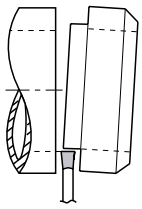
	Right-hand Lead angle	Neutral
Example : Solid Workpiece		
Example : Hollow Workpiece (Pipe)		

Fig. 1

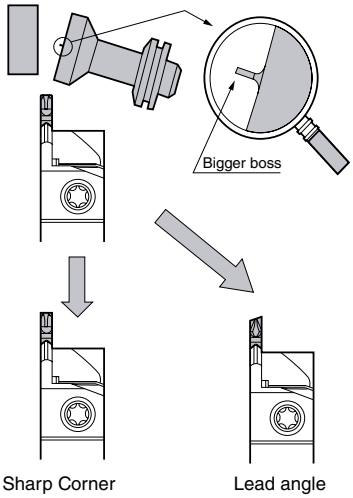


Fig. 2

Caution

1. For TKN and TKR/L, set the cutting edge height 0.1~0.2mm above the center height (Fig. 3)
   For other toolholders, set the cutting edge to the center height.
2. Be sure to perform wet processing. Supply ample coolant to the cutting edge.
3. Keep a constant rate during processing so that optimum product life will be achieved.
4. Cut off as close to the chuck as possible.
5. Lower the feed rate to 1/2 ~ 1/3 at the near center to prevent impact caused by machining.

- Overuse of insert and toolholder (blade) may cause insert breakage and toolholder (blade) damage.
- Do not rework the insert and toolholder (blade) to prevent damage.
- Clean the insert pocket well with compressed air when replacing insert.

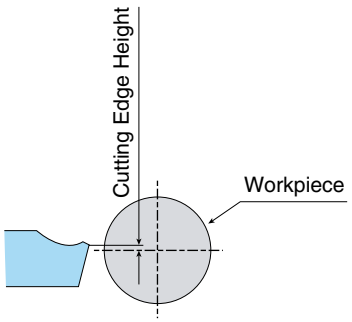
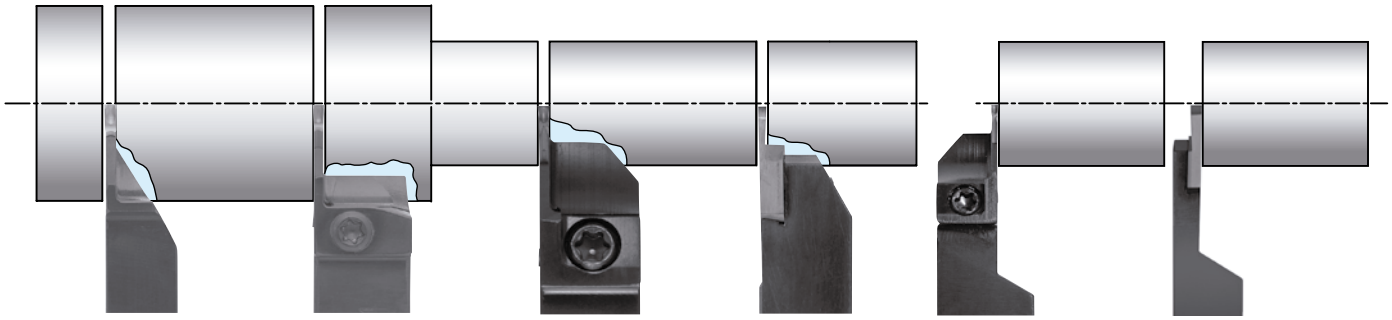


Fig. 3 (TKN, TKR/L)

Summary of Cut-off

Small Dia. Cut-off (for Automatic Lathe) ~ ø51

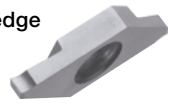
Small Shank



KTKH-S	KGM	KGD / KGD-JCT	KTKF	KGDS	KTKF-S / KTKFS
Cut-off Dia. : ~ ø45 Shank : □10 ~ 25 Edge Width : 2.2 ~ 4.1 Self Clamp	Cut-off Dia. : ~ ø32 Shank : □10 ~ 16 Edge Width : 1.5 ~ 4.0 Top Clamp	Cut-off Dia. : ~ ø51 Shank : □10 ~ 25 Edge Width : 1.3 ~ 4.0 Top Clamp	Cut-off Dia. : ~ ø16 Shank : □10 ~ 20 Edge Width : 0.5 ~ 2.0 Lateral Side Clamp	Cut-off Dia. : ~ ø24 Shank : □16 Edge Width : 1.3 ~ 3.0 Top Clamp	Cut-off Dia. : ~ ø16 Shank : □10 ~ 12 Edge Width : 0.5 ~ 2.0 (KTKF-S) 1.0 ~ 2.0 (KTKFS) Lateral Side Clamp
H38	H32	H20, H22	H8	H21	H10, H16

For KTKF / KTKF-S KTKFS

2-edge



Low cutting force

Chipbreaker for General Cut-off

Chipbreaker for Low Feed Cut-off

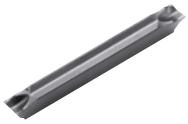
2-edge

Sharp Cutting PG Chipbreaker

Low Feed PF Chipbreaker

Medium Feed PQ Chipbreaker

(15° Lead Angle)



(15° Lead Angle)

(15° Lead Angle)

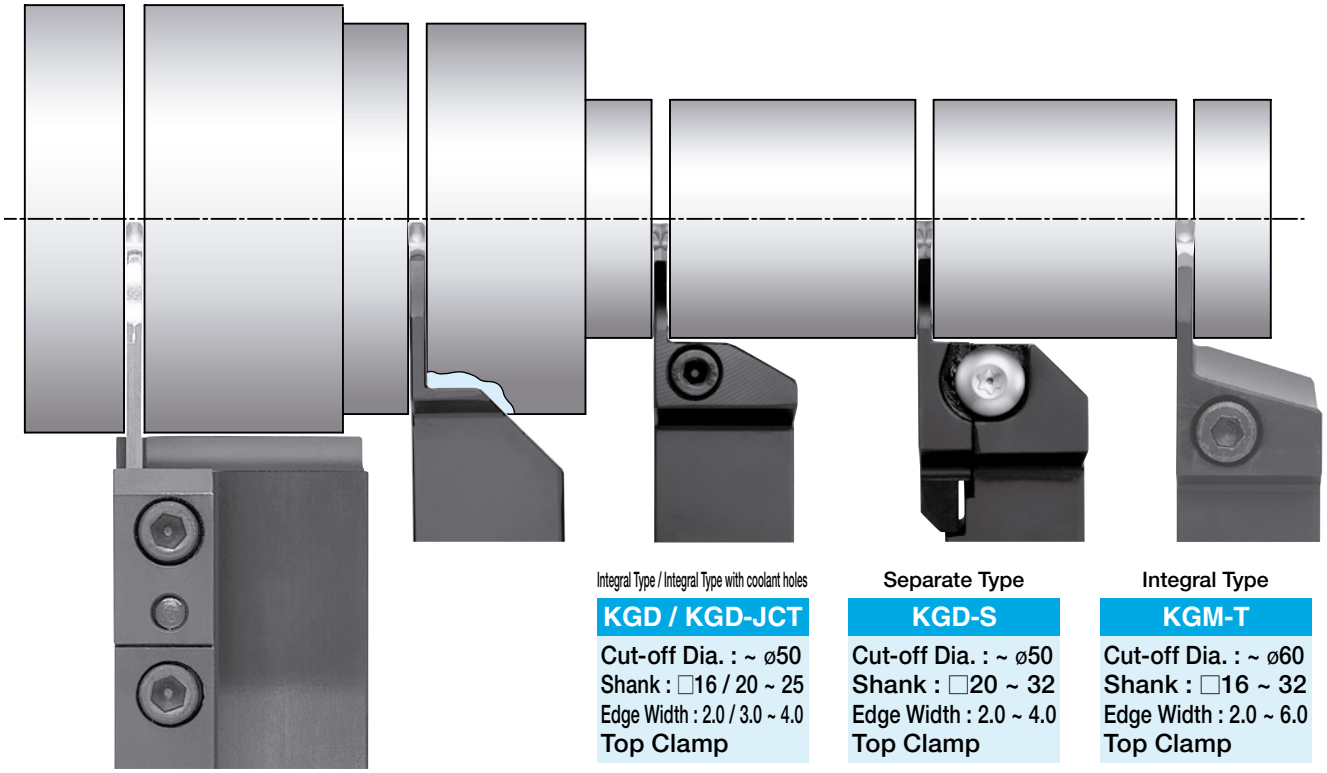
Chipbreaker edge shape	Cut-off (Self Clamp) H35		
	General Cut-off		Low Feed Cut-off
	Chamfered + R-honed	Sharp Edge	R-honed
			

KTKH-S H38
(Self Clamp)

KGD H20
(Top Clamp)

KTKF H8
(Lateral Side Clamp)

General Cut-off ~ ø120



Integral Type / Integral Type with coolant holes

KGD / KGD-JCT

Cut-off Dia. : ~ ø50
Shank : □16 / 20 ~ 25
Edge Width : 2.0 / 3.0 ~ 4.0
Top Clamp

H24 / H26

Separate Type

KGD-S

Cut-off Dia. : ~ ø50
Shank : □20 ~ 32
Edge Width : 2.0 ~ 4.0
Top Clamp

H25

Integral Type

KGM-T

Cut-off Dia. : ~ ø60
Shank : □16 ~ 32
Edge Width : 2.0 ~ 6.0
Top Clamp

H33

Blade + Toolblock

KTKB

Cut-off Dia. : ~ ø120
Shank : □16 ~ 32
Edge Width : 1.6 ~ 9.6
Self Clamp

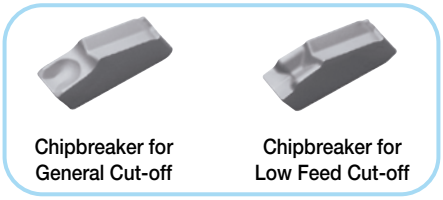
H36

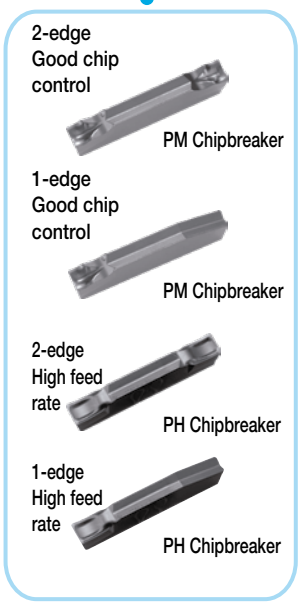
Integral Type

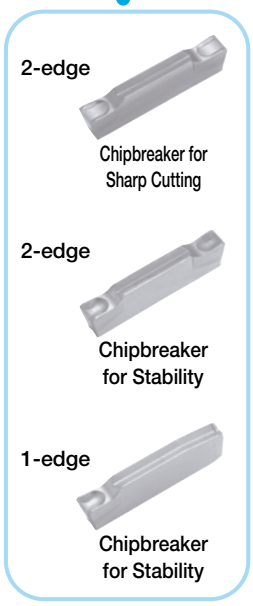
KTKH-S

Cut-off Dia. : ~ ø79
Shank : □20 ~ 25
Edge Width : 3.1 ~ 5.1
Self Clamp

H38







Blade + Toolblock	Separate Type	Integral Type		
				
KTKB H36	KGD-S H25	KTKH-S H38	KGD / KGD-JCT H24 / H26	KGM-T H32, H33

Cut-off Inserts (for small diameter)

TKF

Classification of usage										
● : Continuous~Light Interruption / 1st Choice ○ : Continuous~Light Interruption / 2nd Choice ● : Continuous / 1st Choice ○ : Continuous / 2nd Choice	P	Carbon Steel / Alloy Steel	●	○	○	○			See Page for Applicable Toolholders
	M	Stainless Steel	○	●	○	○			
	K	Cast Iron						●	
	N	Non-ferrous Metals					●	○	

Applicable Inserts (TKF12)

Insert (Handed Insert shows Right-hand)	Description	CW	CUTDIA	RE	W1	S	D1	PSIRR	MEGACOAT NANO PR1425 R	MEGACOAT NANO PR1425 L	MEGACOAT NANO PR1535 R	MEGACOAT NANO PR1535 L	MEGACOAT PR1225 R	MEGACOAT PR1225 L	PVD Coated Carbide PR1025 R	PVD Coated Carbide PR1025 L	DLC Coated Carbide PDL025 R	DLC Coated Carbide PDL025 L	Carbide KW10 R	Carbide KW10 L
 Right lead angle	TKF12R/L 050-S-16DR	0.5	5	0.03	3	8.7	5	16°	●	●	●	●	●	□	○	○			●	●
	070-S-16DR	0.7	8						●	●	●	●	●	●	○	○			●	●
	100-S-16DR	1.0	12						●	●	●	●	●	●	○	○	●	●	●	●
	125-S-16DR	1.25							●	●	●	●	●	□			●	●		
	150-S-16DR	1.5							●	●	●	●	●	●	○	○	●	●	●	●
	200-S-16DR	2.0							●	●	●	●	●	●	○	○	●	●	●	●
	TKF12R/L 050-S	0.5	5	0.03	3	8.7	5	0°	●	●	●	●	●	□	○	□	●	●	●	●
	070-S	0.7	8						●	●	●	●	●	●	○	□	●	●	●	●
	100-S	1.0	12						●	●	●	●	●	●	○	○	●	●	●	●
	125-S	1.25							●	●	●	●	●	□			●	●		
	150-S	1.5							●	●	●	●	●	●	○	○	●	●	●	●
	200-S	2.0							●	●	●	●	●	●	○	○	●	●	●	●
 Right lead angle / Tough Edge	TKF12R/L 100-T-16DR	1.0	12	0.08	3	8.7	5	16°	●	●	●	●	●	●						
	150-T-16DR	1.5							●	●	●	●	●	●						
	200-T-16DR	2.0							●	●	●	●	●	●						
 Tough Edge	TKF12R/L 100-T	1.0	12	0.08	3	8.7	5	0°	●	●	●	●	●	●						
	150-T	1.5							●	●	●	●	●	●						
	200-T	2.0							●	●	●	●	●	●						
 Right lead angle Without Chipbreaker	TKF12R/L 050-NB-20DR	0.5	5	0	3	8.7	5	20°	●	●	●	●			○				●	●
	070-NB-20DR	0.7	8						●	●	●	●			○				●	●
	100-NB-20DR	1.0	12						●	●	●	●			○	○			●	●
	150-NB-20DR	1.5							●	●	●	●			○	○			●	●
	200-NB-20DR	2.0							●	●	●	●			○	○			●	●
 Without Chipbreaker	TKF12R/L 050-NB	0.5	5	0	3	8.7	5	0°	●	●	●	●			○				●	●
	070-NB	0.7	8						●	●	●	●			○	○			●	●
	100-NB	1.0	12						●	●	●	●			○	○			●	●
	150-NB	1.5							●	●	●	●			○	○			●	●
	200-NB	2.0							●	●	●	●			○	○			●	●

H8
H10
H13

· Lead angle (PSIRR) shows the angle when installed in toolholder.
· As Fig. 1 of **H8** shows, the cut-off diameter of the insert (CUTDIA) is indicated when the top of the cut-off edge progresses 1mm from the center.

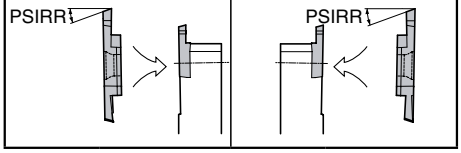
Inserts Identification System (Ref. to the Table 1)

TKF 12 R 050 – S – 16D R

- TKF — Insert Type
- 12 — Insert Size
- R — Insert Hand (R : Right-hand, L : Left-hand)
- 050 — Edge Width
- S — Name of Chipbreaker (S : S Chipbreaker, T : T Chipbreaker (Tough Edge), NB : Without Chipbreaker)
- 16D — Lead Angle (PSIRR)
- R — Hand of Lead Angle (R : Right-hand)

Table 1

Toolholder	Right-hand	Toolholder	Left-hand
Insert	Right-hand	Insert	Left-hand
Lead Angle	Right-hand	Lead Angle	Right-hand

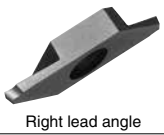
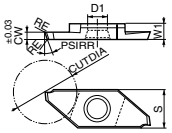
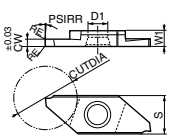
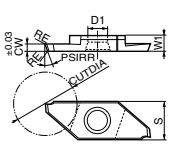
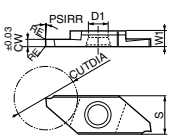
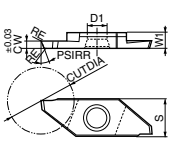
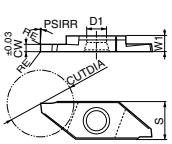


Inserts are sold in 10 piece boxes

● : Std. Item
○ : Check Availability
□ : Deleted from the next catalog

Classification of usage			P	Carbon Steel / Alloy Steel	●	◔	◔	◔			See Page for Applicable Toolholders
● : Continuous~Light Interruption / 1st Choice			M	Stainless Steel	◔	●	◔	◔			
◔ : Continuous~Light Interruption / 2nd Choice			K	Cast Iron						●	
● : Continuous / 1st Choice			N	Non-ferrous Metals					●	◔	
○ : Continuous / 2nd Choice											

Applicable Inserts (TKF16)

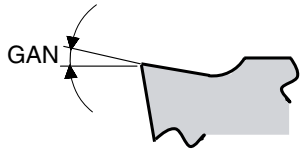
Insert (Handed Insert shows Right-hand)		Description		Dimension (mm)						Angle	MEGACOAT NANO				MEGACOAT		PVD Coated Carbide		DLC Coated Carbide		Carbide	
				CW	CUTDIA	RE	W1	S	D1	PSIRR	PR1425		PR1535		PR1225		PR1025		PDL025		KW10	
											R	L	R	L	R	L	R	L	R	L	R	L
 Right lead angle		TKF16R/L	150-S-16DR	1.5	16	0.05	4	9.5	5	16°	●	●	●	●	●	●	○	○	●	●	●	●
			200-S-16DR	2.0							●	●	●	●	●	●	○	○	●	●	●	●
		TKF16R/L	150-S	1.5	16	0.05	4	9.5	5	0°	●	●	●	●	●	●	○	○	●	●	●	●
			200-S	2.0							●	●	●	●	●	●	○	○	●	●	●	●
 Right lead angle / Tough Edge		TKF16R/L	150-T-16DR	1.5	16	0.08	4	9.5	5	16°	●	●	●	●	●	●						
			200-T-16DR	2.0							●	●	●	●	●	●						
 Tough Edge		TKF16R/L	150-T	1.5	16	0.08	4	9.5	5	0°	●	●	●	●	●	●						
			200-T	2.0							●	●	●	●	●	●						
 Right lead angle Without Chipbreaker		TKF16R/L	150-NB-20DR	1.5	16	0	4	9.5	5	20°	●	●	●	●			○	○			●	●
			200-NB-20DR	2.0							●	●	●	●			○	○			●	●
 Without Chipbreaker		TKF16R/L	150-NB	1.5	16	0	4	9.5	5	0°	●	●	●	●			○	○			●	●
			200-NB	2.0							●	●	●	●			○	○			●	●

H8
H10
H13

· Lead angle (PSIRR) shows the angle when installed in toolholder.

· As Fig. 1 of **H8** shows, the cut-off diameter of the insert (CUTDIA) is indicated when the top of the cut-off edge progresses 1mm from the center.

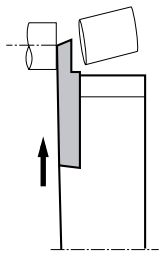
Descriptions of Chipbreaker Edge Shape

Edge Shape \ Chipbreaker	S Chipbreaker		T Chipbreaker (Tough Edge)		NB (Without Chipbreaker)	
	GAN	Description	GAN	Description	GAN	Description
	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				

● : Std. Item
○ : Check Availability

Inserts are sold in 10 piece boxes

KTKF (For small diameter cut-off)



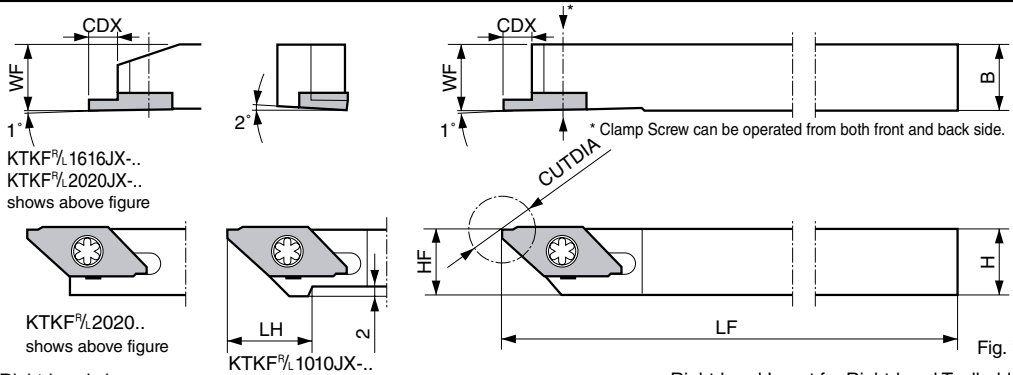
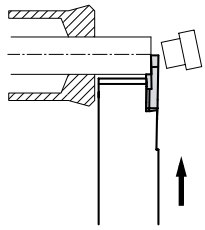


Fig. 1

• Right-hand shown

Right-hand Insert for Right-hand Toolholder.



<Goose-neck Holder>

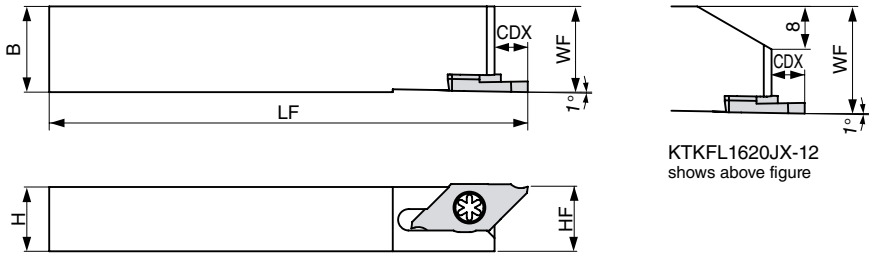


Fig. 2

• Left-hand shown

Left-hand Insert for Left-hand Toolholder.

Toolholder Dimensions

Description		Stock R	Stock L	H	HF	B	LF	LH	WF	CDX	Drawing	Spare Parts: Clamp Screw	Spare Parts: Wrench	Applicable Inserts ➡ H6, H7
KTKF R/L	1010JX-12	●	●	10	10	10	120	15	10	6	Fig. 1	SB-4590TRWN	LTW-10S	TKF12 R/L …
	1212JX-12	●	●	12	12	12		-	12					
	1616JX-12	●	●	16	16	16			16					
	2020JX-12	●	●	20	20	20			20					
KTKF R/L	1010JX-16	●	●	10	10	10	120	20	10	8		SB-4590TRWN	LTW-10S	TKF16 R/L …
	1212JX-16	●	●	12	12	12		-	12					
	1616JX-16	●	●	16	16	16			16					
	2020JX-16	●	●	20	20	20			20					
KTKF R/L	1212F-12	●	●	12	12	12	85	-	12	6		SB-4590TRWN	LTW-10S	TKF12 R/L …
	1212F-16	●	●							8				TKF16 R/L …
KTKFL	1216JX-12		●	12	12	16	120	-	16	6	Fig. 2	SB-4590TRWN	LTW-10S	TKF12L …
	1620JX-12		●	16	16	20			20					

· CDX shows the distance from the toolholder to the cutting edge. **H6**, **H7** for the actual cut-off diameter.

Recommended Cutting Conditions ➡ H39

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

How to Use

1) When using Main Spindle only

Maximum cuttinng diameter is CUTDIA
Even if the cutting edge runs beyond the center line as shown in Fig.2, the insert does not contact the workpiece, since the workpiece falls off.
(The clearance between the insert and the workpiece is 0.2mm)

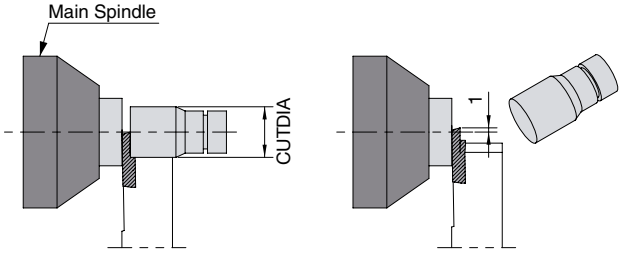


Fig. 1
(When the edge is at the center)

Fig. 2
(When the edge is 1mm beyond the center)

● : Std. Item

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 as shown in Fig.4,
Maximum cutting dimeter CUTDIA2 (Fig. 4) is CUTDIA2=[CUTDIA-1mm x 2](mm).
(The clearance between the insert and the workpiece is 0.2mm)

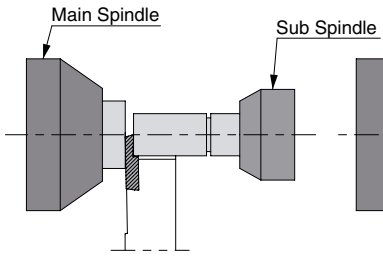


Fig. 3
(When the edge is at the center)

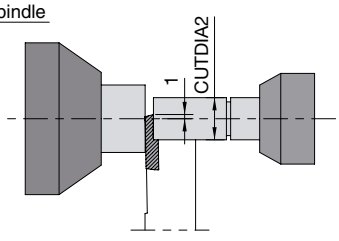
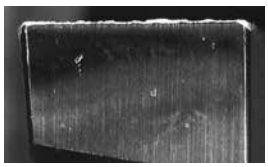
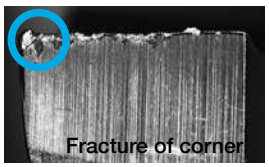
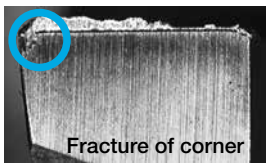


Fig. 4
(When the edge is 1mm beyond the center)

Tough Edge, T Chipbreaker

Fracture resistance comparison (Interruption) (Internal evaluation)

Cutting Edge (Front Relief Surface)

T Chipbreaker (PR1225) 3,000 passes	Competitor C 700 passes	Competitor D 3,000 passes
	 Fracture of corner	 Fracture of corner

	1,000 passes	2,000 passes	3,000 passes
Tough Edge, T Chipbreaker (PR1225)	→	→	→
Competitor C	→	×	
Competitor D	→	→	→ ×

Compared to Competitor C and D, Tough Edge "T Chipbreaker" achieves superior fracture resistance in interrupted machining.

<Cutting Conditions>

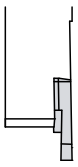
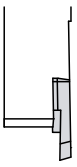
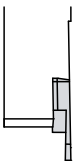
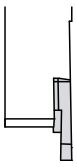
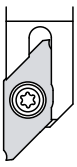
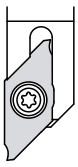
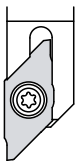
- Vc=80m/min
- f=0.05mm/rev
  (At Cut-off: 0.015mm/rev)
- Wet
- Workpiece Material : SK4

Workpiece (with flat cuts on two sides)

- TKF12R200-T-16DR (PR1225)

How to select edge prep.

Troubleshooting

Problems	Countermeasures	Countermeasures						
		Lead Angle (PSIRR)		Edge Width		Name of Chipbreaker		
		Neutral (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	Prevention of chip entanglement	Effective		Effective		Effective		
Large boss remain	Small boss remain		Effective	Effective		Effective		
Ring Remain (Hollow Workpiece)	Prevention of Ring Remain		Effective	Effective		Effective		
Deformation of Hollow Workpiece (pipe)	Preventing deformation		Effective	Effective		Effective		

Cut-off Toolholders for Automatic Lathe Available for Sub-spindle Operations

KTKF-S

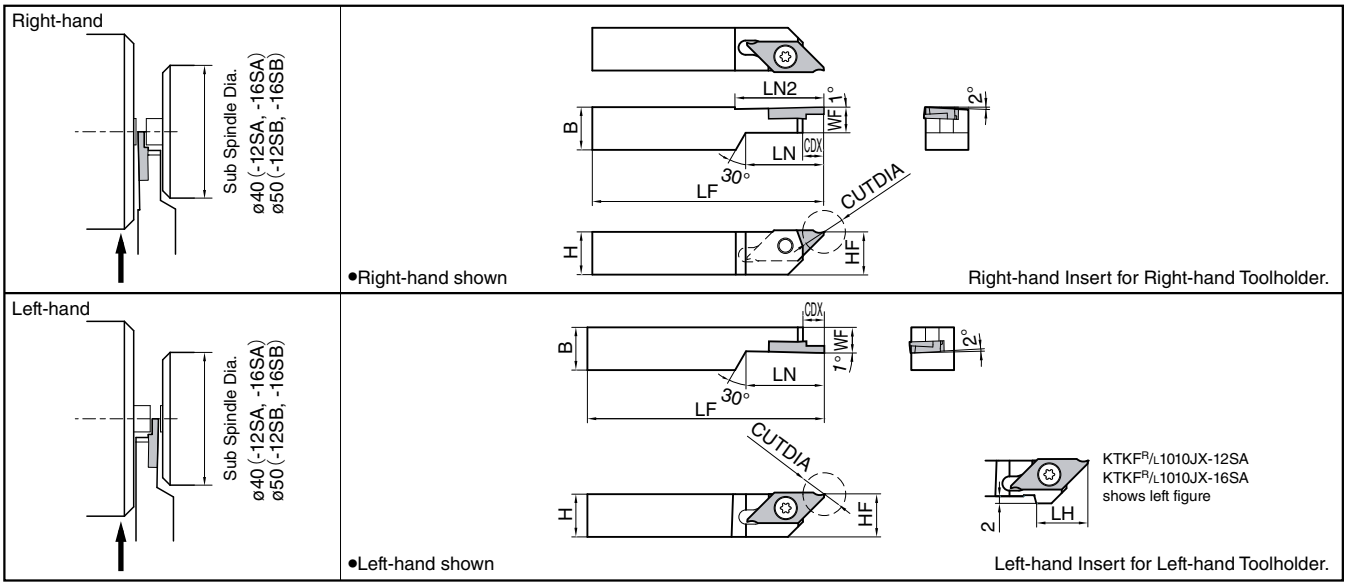
1 Suitable for Cut-off with Small Clearance Between Main and Sub-spindle

Thin toolholder head is applicable when minimal clearance exists between the main spindle and sub spindle.

2 Selectable from a wide insert lineup

Available Chipbreakers : Right lead angle, S Chipbreaker, T Chipbreaker, Without Chipbreaker
Available Insert Grades : PR1425 for Steel Machining, PR1535 for Stainless Steel Machining, PDL025 for Aluminum Machining

KTKF-S (for sub spindle tooling)



Toolholder Dimensions

Description	Stock		Cut-off Dia.	Dimension (mm)									Spare Parts		Applicable Inserts ⇒ H6, H7
	R	L	CUTDIA	H	HF	B	LF	LH	LN	*LN2	WF	CDX	Clamp Screw	Wrench	
KTKF R/L1010JX-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	-							
KTKF R/L1212JX-12SB	●	●					120		26						
KTKF R/L1010JX-16SA	●	●	16	10	10	10	120	20	22	30	7.2	8			TKF16 R/L
1212F-16SA	●	●		12	12	12	85	-							
KTKF R/L1212JX-16SB	●	●					120		26						

* CDX shows the distance from the toolholder to the cutting edge.
Cut-off diameter (CUTDIA) depends on the insert edge width.
* Only Right-hand is available for LN2 dimension.

Recommended Cutting Conditions ⇒ H39

● : Std. Item

How to Use

1) When using Main Spindle only

Maximum cuttinng diameter is CUTDIA
Even if the cutting edge runs beyond the center line as Fig. 2 on the program, the insert does not contact the fallen off workpiece.
(The clearance between the insert and the workpiece is 0.2mm)

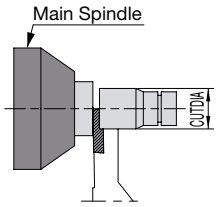


Fig. 1
(When the edge is at the center)

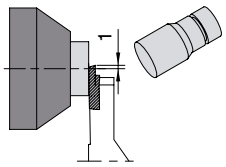


Fig. 2
(When the edge is 1mm beyond the center)

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 as shown in Fig.4, Maximum cutting dimeter CUTDIA2 (Fig. 4) is CUTDIA2=[CUTDIA-1mm x 2](mm).
(The clearance between the insert and the workpiece is 0.2mm)

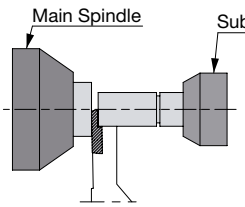


Fig. 3
(When the edge is at the center)

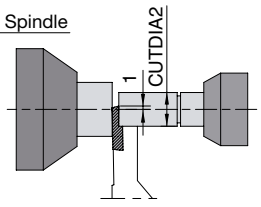


Fig. 4
(When the edge is 1mm beyond the center)

Cut-off Toolholders For Automatic Lathe　Toolholders for High Pressure Coolant

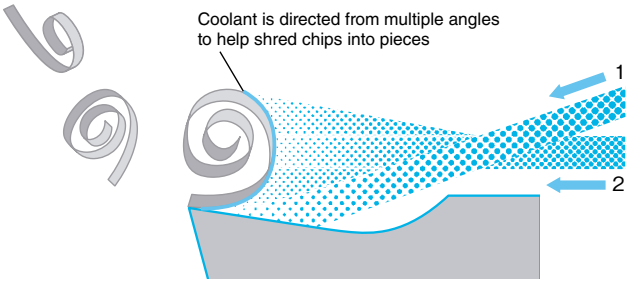
KTKF-JCT

Finely Breaks Chips into Small Pieces. Superior Chip Control Performance When Machining Difficult-to-Cut Material and Stainless Steel. Superior Cooling Action Improves Tool Life.

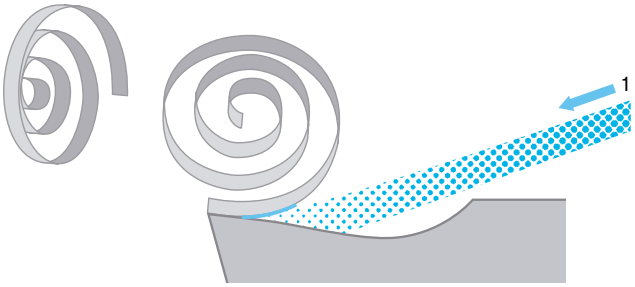
1 Excellent Chip Control

Discharges Coolant in Two Directions toward Rake Surface of Insert. Finely Breaks Chips into Small Pieces.

Coolant Discharge Structure Comparison



KTKF-JCT



Competitor A

Chip Control Comparison (Internal evaluation)

SUS304

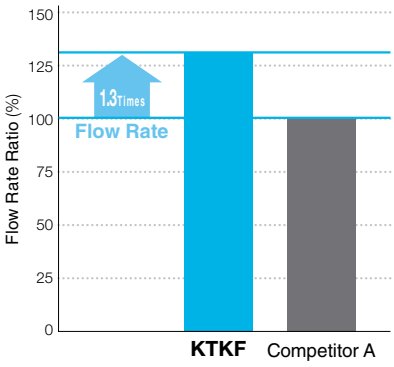
f (mm/rev)	0.01	0.02	0.03
KTKF -JCT			
Competitor A			

TAB6400(Ti-6Al-4V)

f (mm/rev)	0.01	0.02	0.03
KTKF -JCT			
Competitor A			

Cutting Conditions : Vc = 80 m/min, Wet (Oil-based)　Lubricating Pressure : 1.5 MPa (Internal)
Workpiece : ø12

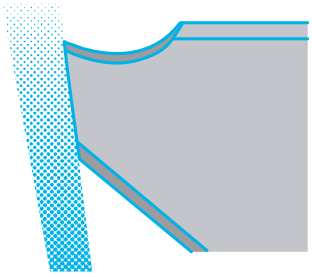
Coolant Flow Rate Comparison (Internal evaluation)



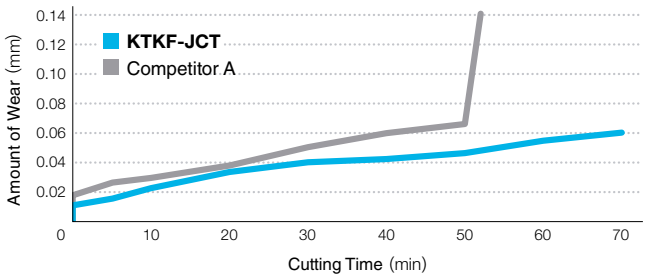
Lubricating Pressure : 1.5 MPa (Internal)

2 Superior cooling action improves tool life

Coolant is directed from the flank face of the insert as well
An ample supply of coolant to the tool edge area helps to further suppress insert wear



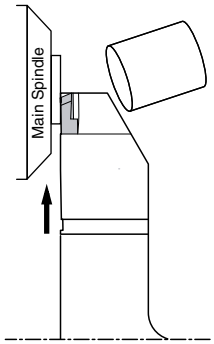
Wear Resistance Comparison (Internal evaluation)

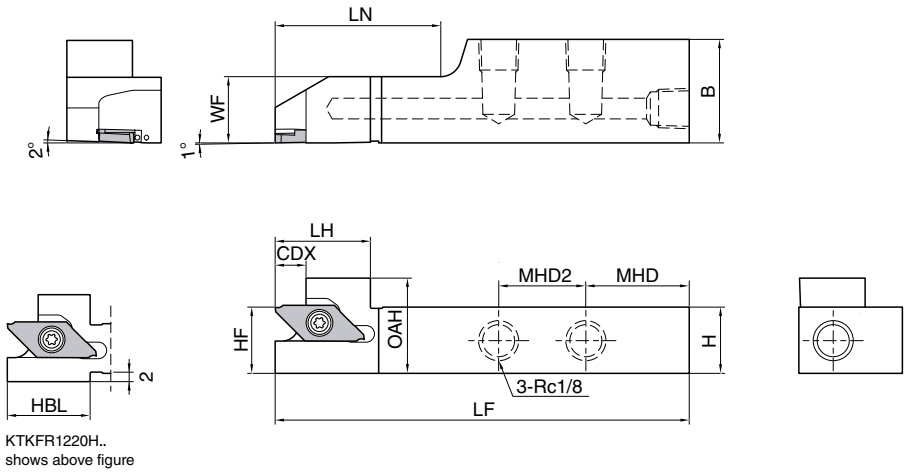


Cutting Conditions : Vc = 100 m/min, f = 0.02 mm/rev, Wet (Oil-based)
Lubricating Pressure : 1.5 MPa (Internal)　Workpiece Material : TAB6400 (Ti-6Al-4v) ø12

KTKF-JCT

Right-hand



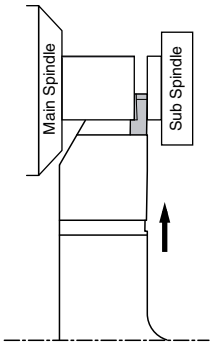


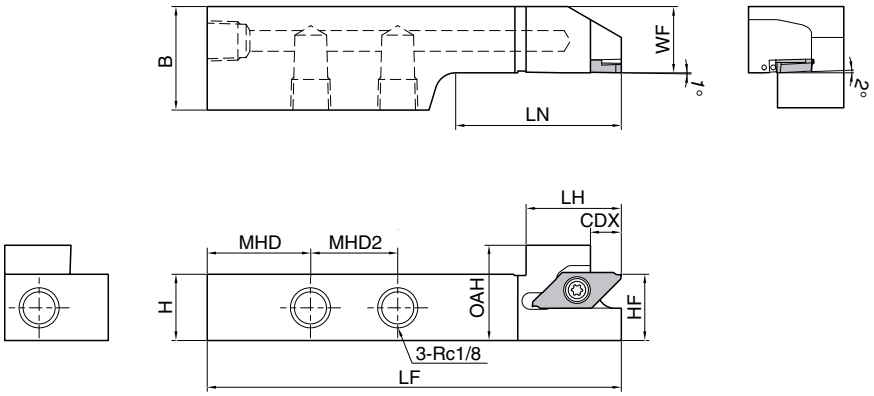
KTKFR1220H..
shows above figure

●Right-hand shown

Right-hand Insert for Right-hand Toolholder.

Left-hand





●Left-hand shown

Left-hand Insert for Left-hand Toolholder.

Toolholder Dimensions

Description	Stock		Dimension (mm)											Spare Parts			Applicable Inserts ➡ H6, H7 ➡ J24(Threading)
														Clamp Screw	Wrench	Plug	
	R	L	H	HF	OAH	B	LF	HBL	LH	LN	WF	CDX	MHD	MHD2			
KTKFR 1220H-12JCT	●		12	12	19	20	100	20	20	28	12	7.5	35	-	SB-4590 TRWN	FT-10	GP-1	TKF12R … TKFT12R …
KTKF$^{R}_{L}$ 1625H-12JCT	●	●	16	16	23	25		-	23	40	16		25	21				TKF12$^{R}_{L}$ … TKFT12$^{R}_{L}$ …
KTKF$^{R}_{L}$ 2025H-12JCT	●	●	20	20	27	25					20							
KTKF$^{R}_{L}$ 1625H-16JCT	●	●	16	16	23	25	100	-	23	40	16	9.6	25	21	SB-4590 TRWN	FT-10	GP-1	TKF16$^{R}_{L}$ …
KTKF$^{R}_{L}$ 2025H-16JCT	●	●	20	20	27	25				41	20							

Recommended Cutting Conditions ➡ H39

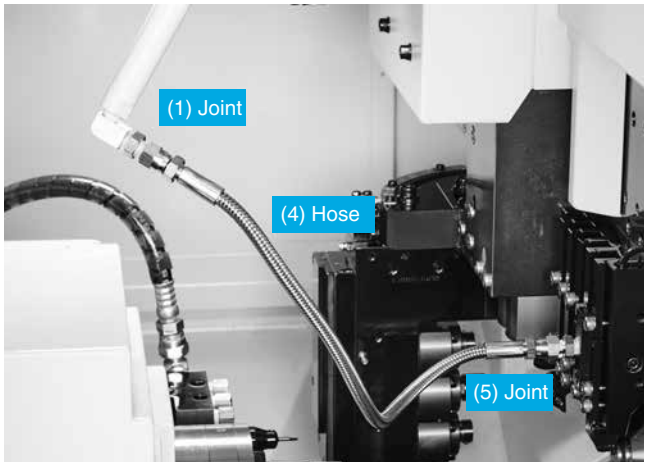
● : Std. Item

Coolant Piping Parts

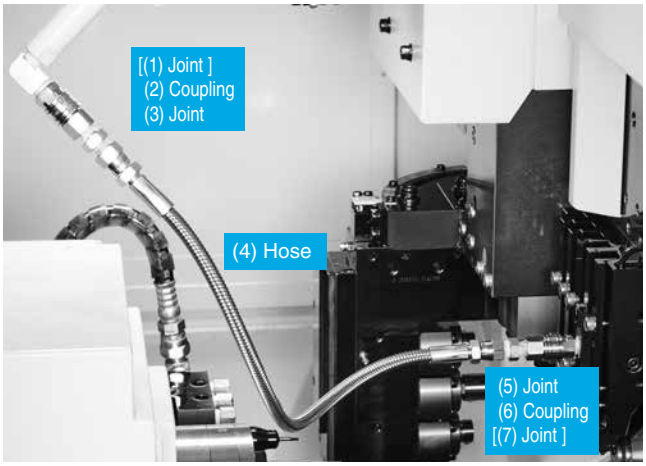
Pipe parts will be required separately if internal coolant is used

Pump Pressure : Up to 20 MPa. Pump Pressure: Up to 7.5 MPa if Coupling is used.

Without Coupling (Pump Pressure: Up to 20 MPa)



With Coupling (Pump Pressure: Up to 7.5 MPa)



Combination Part Description (Example)

Spare Parts	Description
(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.

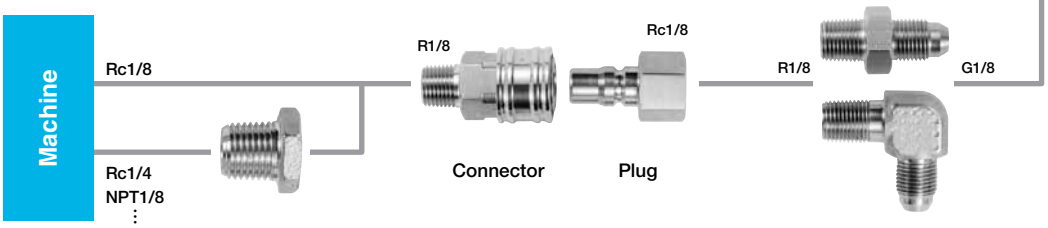
Combination Part Description (Example)

Spare Parts	Description
[(1) Joint]	**-**
(2) Coupling	**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) Coupling	**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 Coupling (Rc1/8, etc.) or hose (G1/8) for use.
Use sealing agents such as seal tapes when installing piping parts.

Without Coupling (Pump Pressure: Up to 20 MPa)

With Coupling (Pump Pressure: Up to 7.5 MPa)



(1) Joint (2) Coupling (3) Joint (4) Hose

Piping Installation Parts Description

Joint [(1)(3)(5)(7)]

Pressure Resistance : ~ 20.0MPa

Exterior	Description	Thread Standard	Stock
	**J-ST-R1/4-G1/8**	R1/4 ⇔ G1/8	●
	J-ST-NPT1/8-G1/8	NPT1/8 ⇔ G1/8	●
	**J-ST-R1/8-G1/8**	R1/8 ⇔ G1/8	●
	**J-AN-R1/8-G1/8**		●
	**J-ST-R1/4-RC1/8**	R1/4 ⇔ Rc1/8	●
	J-ST-NPT1/8-RC1/8	NPT1/8 ⇔ Rc1/8	●
	J-ST-R1/8-RC1/8	Rc1/8 ⇔ R1/8 (Extension Joint)	●

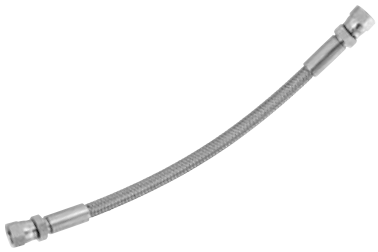
Coupling [(2)(6)]

Pressure Resistance : ~ 7.5MPa

Exterior	Description	Thread Standard	Stock
	**CP-ST-R1/8**	R1/8	●
	**P-ST-RC1/8**	Rc1/8	●

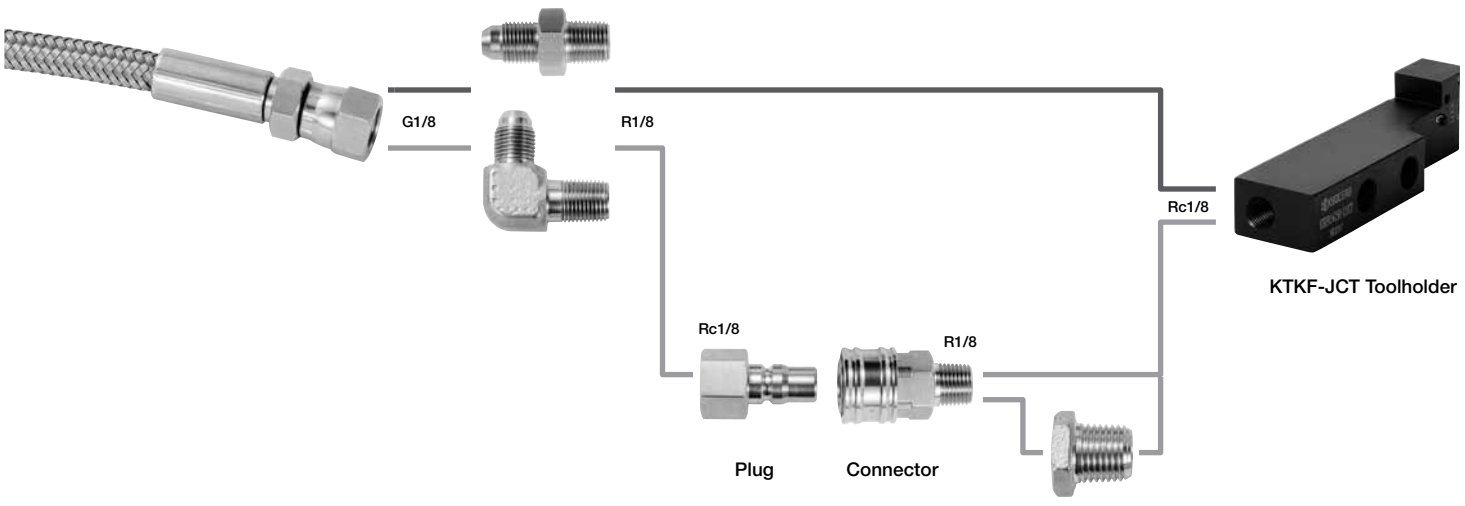
Hose (4)

Pressure Resistance : ~ 20.0MPa

Exterior	Description	Thread Standard	Overall length (mm)	Stock
	**HS-G1/8-G1/8-200**	G1/8	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	●

Cautions

1. Make sure machine door is completely closed before use of these parts.
2. Use appropriate seal for the male thread of the piping parts and make sure the connection is secure.
   Use plugs to seal off unused coolant holes.
3. Connect and fasten the coolant hose firmly.
4. The use of copper washers may cause leakage but will have no effect on the performance.
5. Commercial piping parts can be used if the thread standards are same. Check the pressure resistance before use.
6. Regularly changing the coolant filter is recommended.

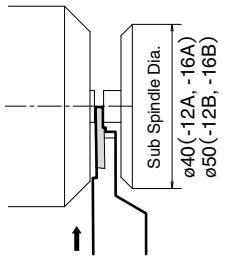


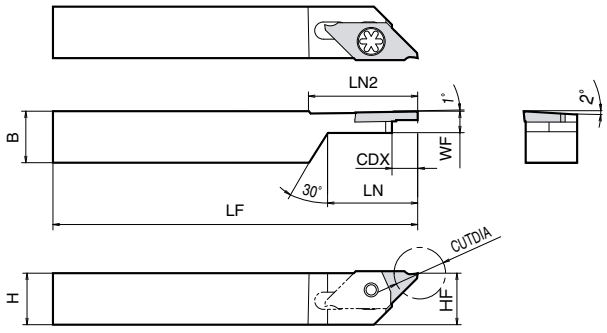
(4) Hose (5) Joint (6) Coupling (7) Joint (Extension Joint)

● : Std. Item

KTKFS (for sub spindle tooling) (Will be switched to KTKF-S ➡ H10)

Right-hand

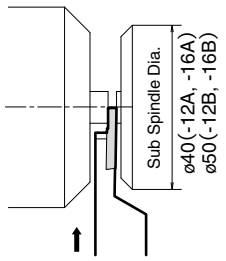


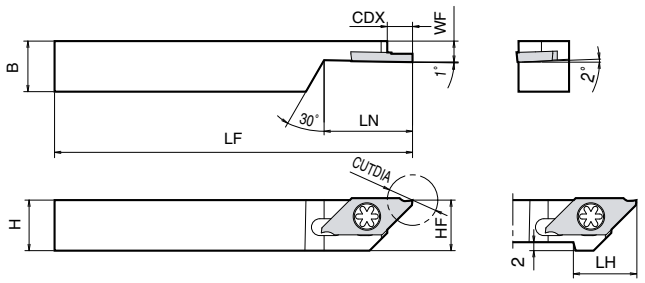


●Right-hand shown

Right-hand Insert for Right-hand Toolholder.

Left-hand





KTKFS$^{R/L}$1010K-12A
KTKFS$^{R/L}$1010K-16A
shows left figure

●Left-hand shown

Left-hand Insert for Left-hand Toolholder.

Toolholder Dimensions

Description		Stock R	Stock L	Cut-off Dia. CUTDIA	Dimension (mm) H	HF	B	LF	LH	LN	*LN2	WF	CDX	Spare Parts: Clamp Screw	Spare Parts: Wrench	Applicable Inserts ➡H17
KTKFS$^{R/L}$	1010K-12A	○	○	6 ~ 12	10	10	10	120	15	22	26	5	6	SB-4050TRN	LTW-10S	TKFS12$^{R/L}$
	1212F-12A	○	○		12	12	12	85	-							
	1212K-12B	○	○					120		26						
KTKFS$^{R/L}$	1010K-16A	○	○	14 ~ 16	10	10	10	120	20	22	30	5	8	SB-4050TRN	LTW-10S	TKFS16$^{R/L}$
	1212F-16A	○	○		12	12	12	85	-							
	1212K-16B	○	○					120		26						

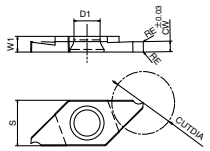
· CDX shows the distance from the toolholder to the cutting edge. Ref. to the table below for the actual cut-off diameter.

Recommended Cutting Conditions ➡ H17

· Cut-off diameter (CUTDIA) depends on the insert edge width.

* Only Right-hand is available for LN2 dimension.

TKFS (for small diameter cut-off)

Insert (Handed insert shows Left-hand)		Description		Dimension (mm) CW	CUTDIA
		TKFS12$^{R/L}$	100-S	1.0	6
			150-S	1.5	9
			200-S	2.0	12
		TKFS16$^{R/L}$	150-S	1.5	14
			200-S	2.0	16

Notes) As Fig. 2 shows, the cut-off diameter (CUTDIA) of the insert is indicated when the top of the cutting edge progresses 1mm from the center.

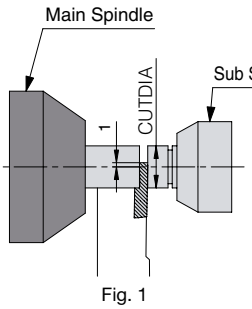


Fig. 1

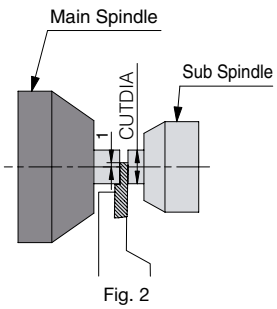


Fig. 2

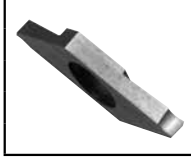
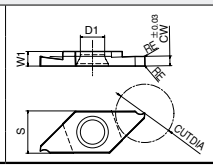
· As Fig. 1 shows, use KTKFL (Left-hand) for the distance between main spindle and sub spindle.

· As Fig. 2 shows, KTKFS is recommended for small diameters and for the short distance between the main spindle and sub spindle.

○ : Check Availability

Applicable Inserts

Classification of usage							
● : Continuous~Light Interruption / 1st Choice ◔ : Continuous~Light Interruption / 2nd Choice ● : Continuous / 1st Choice ○ : Continuous / 2nd Choice	P	Carbon Steel / Alloy Steel	●	◔	◔	◔	
	M	Stainless Steel	◔	●	◔	◔	
	K	Cast Iron					●
	N	Non-ferrous Metals					●

Insert Handed insert shows Left-hand		Description		Dimension (mm)						MEGACOAT NANO				MEGACOAT		PVD Coated Carbide		Carbide	
				CW	CUTDIA	RE	W1	S	D1	PR1425		PR1535		PR1225		PR1025		KW10	
										R	L	R	L	R	L	R	L	R	L
		TKFS12R/L	100-S	1.0	6	0.05	2.2	8.7	4.4	●	●	●	●	●	●	○	○	●	●
			150-S	1.5	9					●	●	●	●	●	●	○	○	●	●
			200-S	2.0	12					●	●	●	●	●	□	○	○	●	●
		TKFS16R/L	150-S	1.5	14	0.05	2.2	9.5	4.4	●	●	●	●	●	●	○	○	●	●
			200-S	2.0	16					●	●	●	●	●	●	○	○	●	●

· As Fig. 2 (**H16**) of shows, the cut-off diameter of the insert (CUTDIA) is indicated when the top of the cutting edge progresses 1mm from the center.

Recommended Cutting Conditions

Workpiece Material	Recommended Insert Grades (Cutting Speed Vc : m/min)					TKFS12			TKFS16		Remarks
	MEGACOAT NANO		MEGACOAT	PVD Coated Carbide	Carbide	Edge Width (mm)			Edge Width (mm)		
						1.0	1.5	2.0	1.5	2.0	
	PR1425	PR1535	PR1225	PR1025	KW10	f (mm/rev)			f (mm/rev)		
Carbon Steel	★ 70 ~ 170	☆ 70 ~ 150	☆ 70 ~ 150	☆ 60 ~ 130	-	0.01 ~ 0.03	0.01 ~ 0.03	0.01 ~ 0.03	0.01 ~ 0.03	0.01 ~ 0.03	Coolant
Alloy Steel	★ 70 ~ 170	☆ 70 ~ 150	☆ 70 ~ 150	☆ 60 ~ 130	-	0.01 ~ 0.03	0.01 ~ 0.03	0.01 ~ 0.03	0.01 ~ 0.03	0.01 ~ 0.03	
Stainless Steel	☆ 60 ~ 140	★ 60 ~ 120	☆ 60 ~ 120	☆ 50 ~ 100	-	0.01 ~ 0.02	0.01 ~ 0.02	0.01 ~ 0.03	0.01 ~ 0.02	0.01 ~ 0.03	
Cast Iron	-	-	-	-	★ 50 ~ 100	0.01 ~ 0.03	0.01 ~ 0.03	0.01 ~ 0.03	0.01 ~ 0.03	0.01 ~ 0.03	
Aluminum Alloys	-	-	-	-	★ 200 ~ 450	0.01 ~ 0.03	0.01 ~ 0.03	0.01 ~ 0.03	0.01 ~ 0.03	0.01 ~ 0.03	
Brass	-	-	-	-	★ 100 ~ 200	0.01 ~ 0.04	0.01 ~ 0.04	0.01 ~ 0.04	0.01 ~ 0.04	0.01 ~ 0.04	

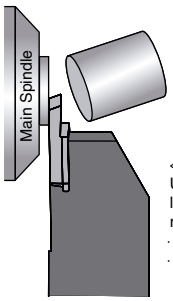
★ : 1st Recommendation ☆ : 2nd Recommendation

KTKF / KTKFS Selection Reference

KTKF

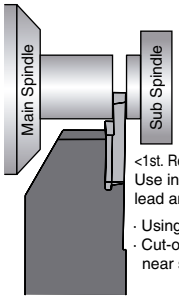
· Both Right-hand and Left-hand types are applicable to gang tool post.
· Basically Left-hand type is used for cut-off operation using a sub spindle.

KTKFR (Right-hand toolholder)



<1st. Recommendation>
Use insert with lead angle to remove boss.
· Not using sub spindle
· Cut-off operation near main spindle side

KTKFL (Left-hand toolholder)

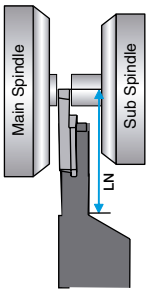


<1st. Recommendation>
Use insert without lead angle.
· Using sub spindle
· Cut-off operation near sub spindle side

KTKFS

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

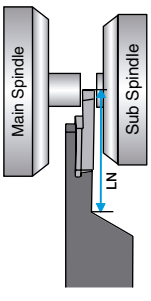
KTKFSR (Right-hand toolholder)



<How to select>
Hand of Toolholder
· Long workpiece and more rigidity
· Cut-off operation near main spindle side

<How to select>
LN dimension
· Sub Spindle Dia.
ø40 → 22(A type)
ø50 → 26(B type)

KTKFSL (Left-hand toolholder)



<How to select>
Hand of Toolholder
· Short workpiece and less rigidity
· Cut-off operation near sub spindle side

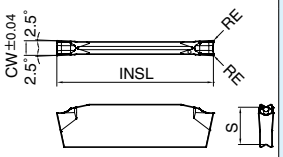
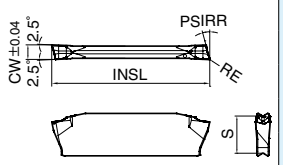
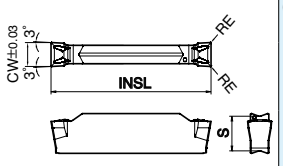
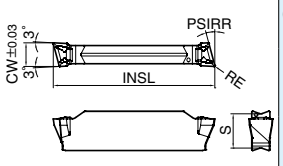
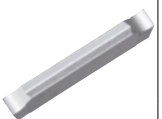
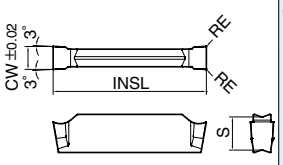
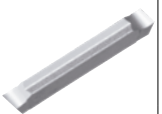
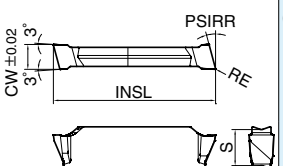
<How to select>
LN dimension
· Sub Spindle Dia.
ø40 → 22(A type)
ø50 → 26(B type)

● : Std. Item
○ : Check Availability
□ : Deleted from the next catalog

Inserts are sold in 10 piece boxes

GDM / GDG

Classification of usage							
◕ : Continuous-Light Interruption / 1st Choice ◔ : Continuous-Light Interruption / 2nd Choice ● : Continuous / 1st Choice ○ : Continuous / 2nd Choice	P	Carbon Steel / Alloy Steel	◔	◕	◔		
	M	Stainless Steel	◕	◔	◔		
	N	Non-ferrous Metals				◕	◔

Insert (Handed Insert shows Right-hand)			Description		Dimension (mm)					Angle	MEGACOAT NANO	MEGACOAT		DLC Coated Carbide	Carbide	See Page for Applicable Toolholders
					Edge Width (CW)	Tolerance	RE	INSL	S	PSIR$^{R}_{L}$	PR1535	PR1225	PR1215	PDL025	GW15	
Cut-off / Low Feed			GDM	1316N-003PF	1.3	±0.04	0.03	16	3.7	-	●	●	●			H20 ~ H21
				1316N-015PF			0.15				●	●	●			
				1516N-003PF	1.5		0.03				●	●	●			
				1516N-015PF			0.15				●	●	●			
				2020N-003PF	2.0		0.03	20	4.3		●	●	●			H20 ~ H25
				2020N-015PF			0.15				●	●	●			
				2520N-003PF	2.5		0.03				●	●	●			
				2520N-015PF			0.15				●	●	●			
				3020N-003PF	3.0		0.03				●	●	●			H20 ~ H27
				3020N-015PF			0.15				●	●	●			
	 15° Lead Angle		GDM	1316$^{R}_{L}$-003PF-15D	1.3	±0.04	0.03	16	3.7	15°	●	●	●			H20 ~ H21
				1516$^{R}_{L}$-003PF-15D	1.5						●	●	●			
				1516R-015PF-15D			0.15				R	R	R			
				2020$^{R}_{L}$-003PF-15D	2.0		0.03	20	4.3		●	●	●			H20 ~ H25
				2020R-015PF-15D			0.15				R	R	R			
				2520$^{R}_{L}$-003PF-15D	2.5		0.03				●	●	●			
				2520R-015PF-15D			0.15				R	R	R			
				3020$^{R}_{L}$-003PF-15D	3.0		0.03				●	●	●			H20 ~ H27
				3020R-015PF-15D			0.15				R	R	R			
Cut-off / Medium Feed			GDM	2020N-010PQ	2.0	±0.03	0.1	20	4.3	-	●	●	●			H20 ~ H25
				2520N-010PQ	2.5						●	●	●			
				3020N-010PQ	3.0						●	●	●			H20 ~ H27
	 15° Lead Angle		GDM	2020R-010PQ-15D	2.0	±0.03	0.1	20	4.3	15°	R	R	R			H20 ~ H25
				2520R-010PQ-15D	2.5						R	R	R			
				3020R-010PQ-15D	3.0						R	R	R			H20 ~ H27
Cut-off / Low Cutting Force			GDG	2020N-005PG	2.0	±0.02	0.05	20	4.3	-	●	●		●	●	H20 ~ H25
				2520N-005PG	2.5						●	●		●	●	
				3020N-005PG	3.0						●	●		●	●	H20 ~ H27
	 15° Lead Angle		GDG	2020R-005PG-15D	2.0	±0.02	0.05	20	4.3	15°	R	R		R	R	H20 ~ H25
				2520R-005PG-15D	2.5						R	R		R	R	
				3020R-005PG-15D	3.0						R	R		R	R	H20 ~ H27

Note) 1. Using the PF / PM chipbreaker (for cut-off) for grooving cannot create a flat bottom (Ref. to the right figure).

Groove bottom created by PF / PM chipbreaker

● : Std. Item
R : Std. Item (Right-hand Only)

Inserts are sold in 10 piece boxes

GDM / GDMS

Classification of usage					
◕ : Continuous-Light Interruption / 1st Choice ◔ : Continuous-Light Interruption / 2nd Choice ● : Continuous / 1st Choice ○ : Continuous / 2nd Choice	P	Carbon Steel / Alloy Steel	◔	◕	◔
	M	Stainless Steel	◕	◔	◔
	N	Non-ferrous Metals			

Insert (Handed Insert shows Right-hand)		Description		Dimension (mm) Edge Width (CW)	Tolerance	RE	INSL	S	Angle PSIR$^{R}_{L}$	MEGACOAT NANO PR1535	MEGACOAT PR1225	MEGACOAT PR1215	See Page for Applicable Toolholders
Cut-off / General Purpose		GDM	2020N-020PM	2.0	±0.03	0.2	20	4.3	-	●	●	●	H20 ~ H25
			2520N-020PM	2.5						●	●	●	
			3020N-025PM	3.0		0.25				●	●	●	H20 ~ H27
			4020N-030PM	4.0		0.3				●	●	●	H20 H23 ~ H27
	6° Lead Angle	GDM	2020R-020PM-6D	2.0	±0.03	0.2	20	4.3	6°	R	R	R	H20 ~ H25
			2520R-020PM-6D	2.5						R	R	R	
			3020R-025PM-6D	3.0		0.25				R	R	R	H20 ~ H27
	1-edge	GDMS	2020N-020PM	2.0	±0.03	0.2	20	4.3	-	●	●	●	H20 ~ H25
			3020N-025PM	3.0		0.25				●	●	●	H20 ~ H27
			4020N-030PM	4.0		0.3				●	●	●	H20 H23 ~ H27
	6° Lead Angle 1-edge	GDMS	2020R-020PM-6D	2.0	±0.03	0.2	20	4.3	6°	R	R	R	H20 ~ H25
			3020R-025PM-6D	3.0		0.25				R	R	R	H20 ~ H27
			4020R-030PM-6D	4.0		0.3				R	R	R	H20 H23 ~ H27
Grooving and Cut-off / High feed rate		GDM	2020N-020PH	2.0	±0.03	0.2	20	4.3	-	●	●	●	H20 ~ H25
			3020N-030PH	3.0		0.3				●	●	●	H20 ~ H27
			4020N-030PH	4.0		0.3				●	●	●	H20 H23 ~ H27
	1-edge	GDMS	2020N-020PH	2.0	±0.03	0.2	20	4.3	-	●	●	●	H20 ~ H25
			3020N-030PH	3.0		0.3				●	●	●	H20 ~ H27
			4020N-030PH	4.0		0.3				●	●	●	H20 H23 ~ H27

Note) 1. Using the PF / PM chipbreaker (for cut-off) for grooving cannot create a flat bottom (Ref. to the right figure).

Recommended Cutting Conditions ➔ H28, H29

Groove bottom created by PF / PM chipbreaker

Inserts Identification System

(1) Series	(2) Tolerance Symbol	(3) No. of edge	(4) Edge Width	(5) Insert Length	(6) Hand of Tool	(7) Corner-R(RE)	(8) Chipbreaker Symbol	(9) Lead Angle
Grooving / Cut-off GD Series	G : Ground Insert M : M Class	No Indication : 2-edge S : 1-edge	13 : 1.3 mm 25 : 2.5 mm 15 : 1.5 mm 30 : 3 mm 20 : 2 mm 40 : 4 mm	16 : 16 mm 20 : 20 mm	R : Right-hand L : Left-hand N : Neutral	003 : 0.03 mm 020 : 0.2 mm 005 : 0.05 mm 025 : 0.25 mm 010 : 0.1 mm 030 : 0.3 mm 015 : 0.15 mm	PF : Cut-off (Low Feed) PQ : Cut-off (Medium Feed) PG : Cut-off (Low cutting force) PM : Cut-off (General Purpose) PH : Grooving and Cut-off (High feed rate)	No Indication : 0° 6D : 6° 15D : 15°

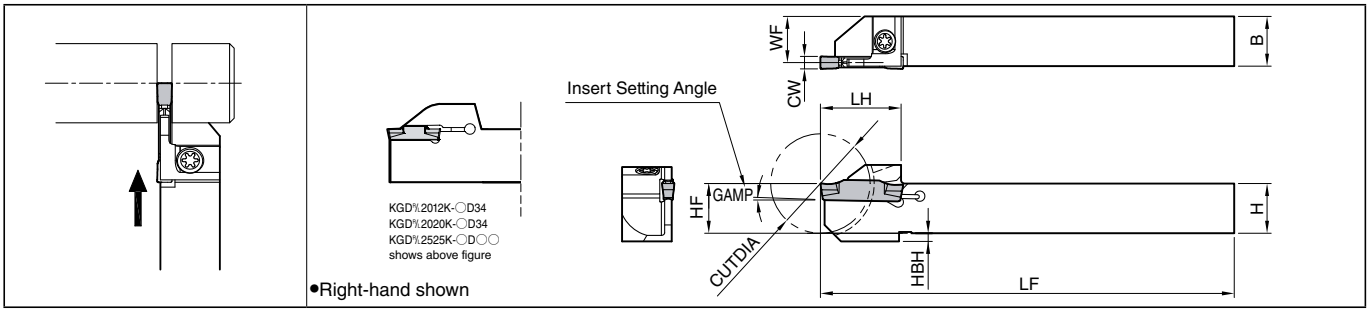
G	D	M	S	30	20	R	-	025	PM	-	6D

● : Std. Item
R : Std. Item (Right-hand Only)

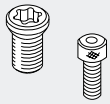
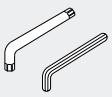
Inserts are sold in 10 piece boxes

KGD (for Automatic Lathe)

Edge Width : 1.3~4.0mm



Toolholder Dimensions

Description		Stock		Cut-off Dia.	Dimension (mm)							Angle	Edge Width CW (mm)		Spare Parts	
															Clamp Screw	Wrench
		R	L	CUTDIA	H	HF	HBH	B	LF	LH	WF	GAMP	MIN.	MAX.		
KGD□	1010JX-1.3D16	●	●	16	10	10	2	10	120	18	9.9	5°	1.3	1.3	SB-40120TR	LTW-15S
	1010JX-1.3	●	●	20							9.5					
	1212F-1.3D16	●	●	16	12	12		12	85	19.5	11.9					
	1212JX-1.3D16	●	●						120							
	1212F-1.3	●	●	24					85		11.5					
	1212JX-1.3	●	●						120							
KGD□	1010JX-1.5D16	●	●	16	10	10	2	10	120	18	9.7		1.5	1.5	SB-40120TR	LTW-15S
	1010JX-1.5	●	●	20							9.4					
	1212F-1.5D16	●	●	16	12	12		12	85	19.5	11.7					
	1212JX-1.5D16	●	●						120							
	1212F-1.5	●	●	24					85		11.4					
	1212JX-1.5	●	●						120							
KGD□	1010JX-2	●	●	20	10	10	2	10	120	18	9.2	1°	2.0	3.0	SB-40120TR	LTW-15S
	1212F-2	●	●	24	12	12		12	85	19.5	11.2					
	1212JX-2	●	●						120							
	1616JX-2	●	●	32	16	16	-	16		24.5	15.2					
	2012K-2D34	●	●	34	20	20		12	125	32.5	11.2	0°			HH5X16	LW-4
	2020K-2D34	●	●					20			19.2					
	2525K-2D34	●	●		25	25		25			24.2					
KGD□	1010JX-2.4	●	●	20	10	10	2	10	120	18	9	1°	2.4	3.0	SB-40120TR	LTW-15S
	1212F-2.4	●	●	24	12	12		12	85	19.5	11					
	1212JX-2.4	●	●						120							
	1616JX-2.4	●	●	32	16	16	-	16		24.5	15					
	2012K-2.4D34	●	●	34	20	20		12	125	32.5	11	0°			HH5X16	LW-4
	2020K-2.4D34	●	●					20			19					
	2525K-2.4D34	●	●		25	25		25			24					
KGD□	1212JX-3	●	●	24	12	12	2	12	120	19.5	10.8	1°	3.0	3.0	SB-40120TR	LTW-15S
	1616JX-3	●	●	32	16	16	-	16		24.5	14.8			4.0	SE-50125TR	LTW-20
	1616JX-3D38	●	●	38						29						
	1913K-3D38	●	●		19	19		13	125		11.8					
	2012JX-3D42	●	●	42	20	20		12	120	31	10.8					
	2012JX-3D51	●	●	51						36						
	2020JX-3D42	●	●	42				20		31	18.8					
	2020JX-3D51	●	●	51						36						
	2525K-3D51	●	●		25	25		25	125	41.5	23.8	0°			HH5X16	LW-4

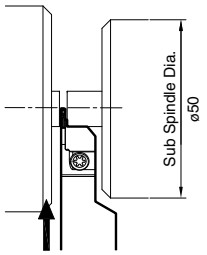
Note) 1. 4mm width insert cannot be installed in KGD□1212JX-3.
2. Recommended tightening torque of clamp screw
2.0N·m(SB-40120TR)、2.5N·m(SE-50125TR)、6.5N·m(HH5X16)
3. When machining the material greater than ø36mm with KGD□...-3D38, KGD□...-3D42 and KGD□...-3D51 toolholders, please use 1-edge inserts. Maximum cuttinng diameter for 2-edge inserts is ø36mm.

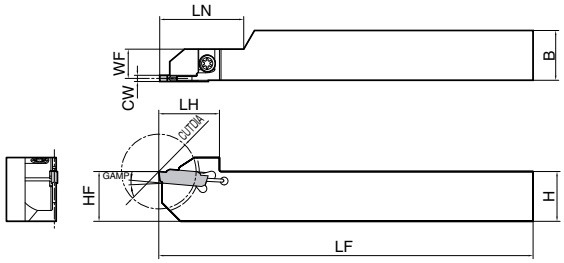
Applicable Inserts ➡ H18, H19
Recommended Cutting Conditions ➡ H28, H29

● : Std. Item

KGDS (for sub spindle tooling)

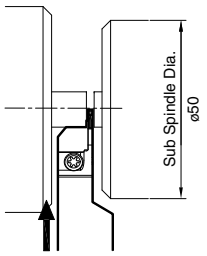
Right-hand

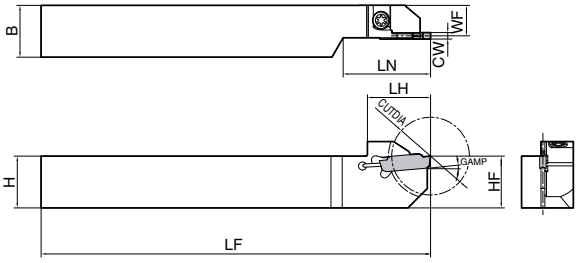




●Right-hand shown

Left-hand





●Left-hand shown

Toolholder Dimensions

Description		Stock R	Stock L	Cut-off Dia. CUTDIA	Dimension (mm) H	HF	B	LF	LH	LN	WF	Angle GAMP	Edge Width CW (mm) MIN.	Edge Width CW (mm) MAX.	Spare Parts: Clamp Screw	Spare Parts: Wrench
KGDS R/L	1616JX-1.3B	●	●	24	16	16	16	120	19.5	27	9.5	5°	1.3	1.3	SB-40120TR	LTW-15S
	1616JX-1.5B	●	●								9.4		1.5	1.5		
	1616JX-2B	●	●								9.2	1°	2.0	3.0		

Applicable Inserts ➡ H18, H19
Recommended Cutting Conditions ➡ H28, H29

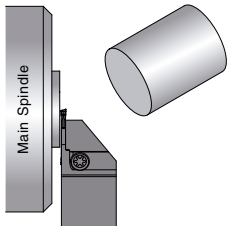
KGD / KGDS Selection Reference

KGD

Standard type

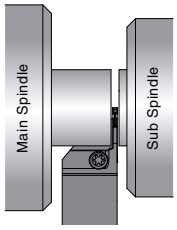
· Both Right-hand and Left-hand types are applicable to gang tool post.
· Basically Left-hand type is used for cut-off operation using a sub spindle.

KGDR (Right-hand toolholder)



<1st. Recommendation>
Use insert with lead angle to remove boss.
· Not using sub spindle
· Cut-off operation near main spindle side

KGDL (Left-hand toolholder)



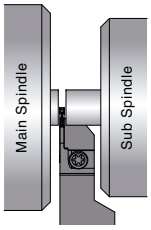
<1st. Recommendation>
Use insert without lead angle.
· Using sub spindle
· Cut-off operation near sub spindle side

KGDS

Sub spindle type

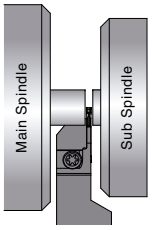
· When machining workpiece with small diameter, use KGDS to reduce overhang distance from the main spindle.

KGDSR (Right-hand toolholder)



· Long workpiece and more rigidity
· Cut-off operation near main spindle side

KGDSL (Left-hand toolholder)



· Short workpiece and less rigidity
· Cut-off operation near sub spindle side

Toolholder Identification System (for Automatic Lathe)

K G D
KGDS

R	1616	JX	-	3	D38
				1.3	B

Toolholder Hand	Shank Size	Toolholder Length	Applicable Inserts	Others
R : Right-hand L : Left-hand	16 × 16 mm	120 mm	GDM/GDMS Edge Width : 1.3mm	B : For sub spindle tooling

Applicable Inserts	Others
GDM/GDMS Edge Width : 3~4mm	D38 : CUTDIA 38mm

● : Std. Item

Great for High Pressure Coolant Cut-off Toolholders

KGD-JCT (for automatic lathe)

NEW

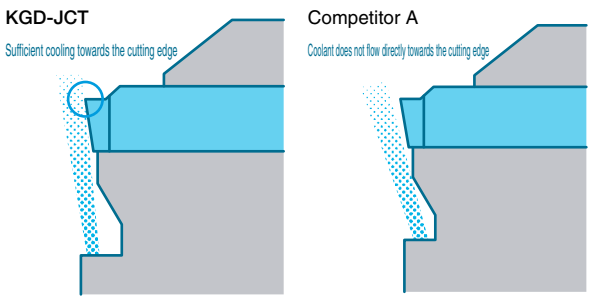
Cut-off Holders for High Pressure Coolant with Long Tool Life

The Optimized Coolant Hole Position Effectively Cools the Cutting Edge

1 Optimized Coolant Hole Position

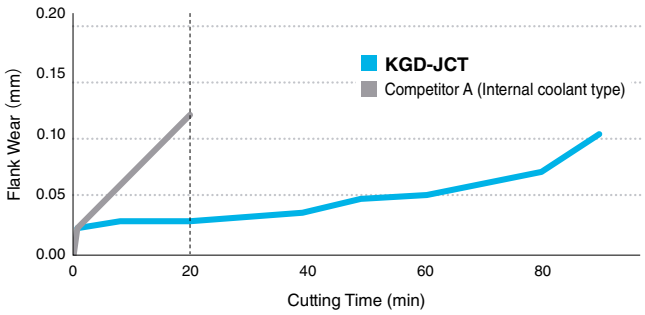
2 Discharge Coolant towards the Flank Face of the Insert

Coolant Discharging (Image)



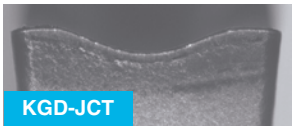
Effective Cooling of the Cutting Edge

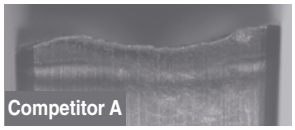
Wear Resistance Comparison (Internal evaluation)



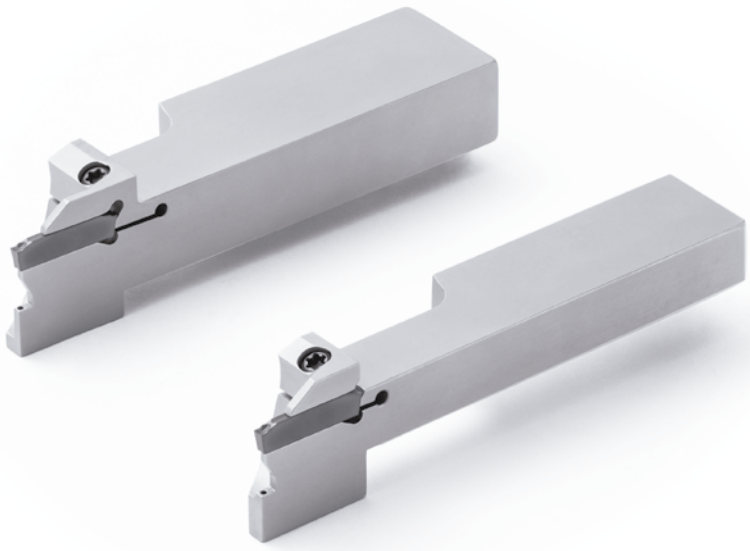
Cutting Conditions : Vc=80m/min, f=0.06mm/rev (~2mm : f=0.02mm/rev),
KGDR1625H-2JCT, GDM2020N-015PF PR1535 (Edge Width : 2.0mm)
Workpiece Material : SUS304 (ø25) Internal coolant (1.5MPa) Cut-off

Cutting edge condition (after machining 20min)

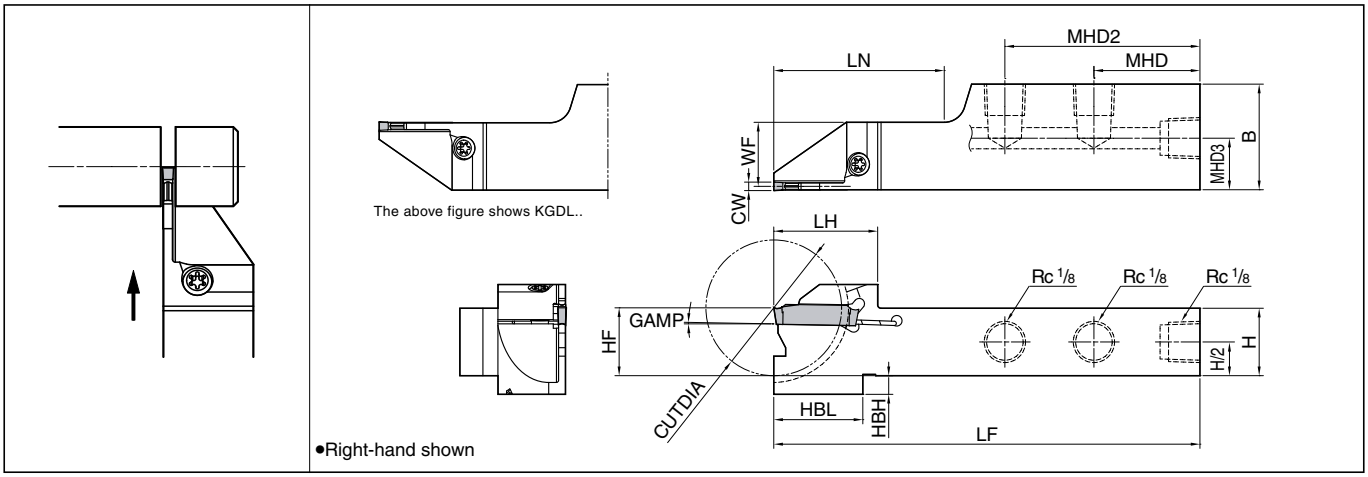




High density and high speeds coolant provides effective cooling of the cutting edge
Superior cooling action improves tool life



KGD-JCT (for automatic lathe) NEW

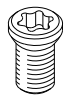
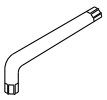


Toolholder Dimensions

Description	Stock	Cutting Dia.	Dimension (mm)											Angle	Edge Width CW (mm)		Applicable Inserts ➡H18,H19
		CUTDIA	H=HF	HBH	B	LF	LH	HBL	LN	WF	MHD	MHD2	MHD3	GAMP	MIN.	MAX.	
KGDR 1220H-2JCT	●	24	12	8.5	20	100	19.5	21	44	11.2	35	-	8.4	1°	2.0	3.0	GDM type GDG type (GDMS type) (GDGS type)
KGDL 1220H-2JCT	●							21.5					7.7				
KGDR 1625H-2JCT	●	32	16	4.5	25		24.5	21	40	15.2	25	46	12.2				
KGDL 1625H-2JCT	●												7.7				
KGDR 1220H-2.4JCT	●	24	12	8.5	20	100	19.5	21	44	11	35	-	8.4	1°	2.4	3.0	
KGDL 1220H-2.4JCT	●							21.5					7.7				
KGDR 1625H-2.4JCT	●	32	16	4.5	25		24.5	21	40	15	25	46	12.2				
KGDL 1625H-2.4JCT	●												7.7				
KGDR 1220H-3JCT	●	24	12	8.5	20	100	19.5	21	44	10.8	35	-	8.6	1°	3.0	3.0	
KGDL 1220H-3JCT	●							21.5					7.7				
KGDR 1625H-3JCT	●	32	16	4.5	25		24.5	21	40	14.8	25	46	12.2			4.0	
KGDL 1625H-3JCT	●												7.7				

Recommended Cutting Conditions ➡ H28, H29

Spare Parts

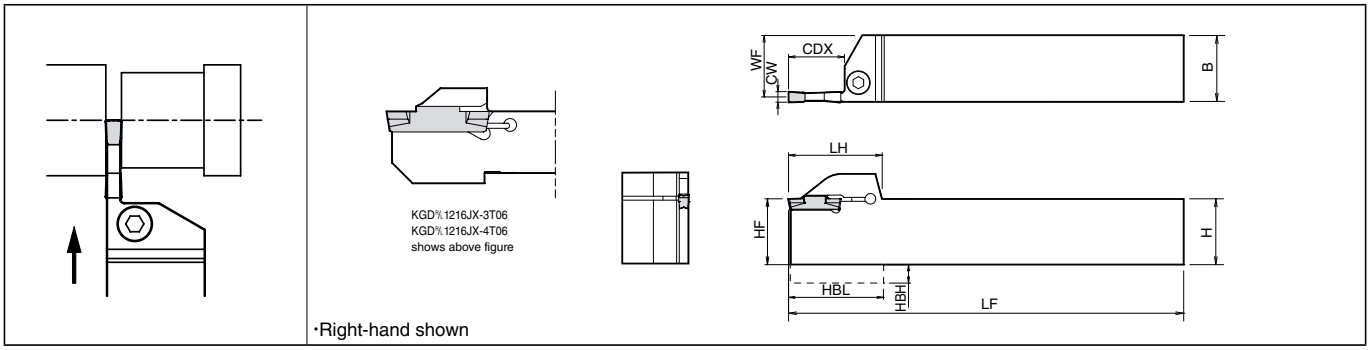
Clamp Screw	Wrench	Plug
		
SB-40120TR	LTW-15S	GP-1

Toolholder Identification System

K G D	R	1220	H	-	2	JCT
	Toolholder Hand	Shank Size	Toolholder Length		Applicable Inserts	Others
	R : Right-hand L : Left-hand	12 × 20 mm	100 mm		GDM/GDMS 2~3 mm	Coolant-through Holders

● : Std. Item

KGD (Integral Type)



•Right-hand shown

Toolholder Dimensions

Width (mm)	Max. depth of cut (mm)	Description		Stock R	Stock L	H	HF	HBH	B	LF	LH	HBL	WF	CDX	Edge Width CW (mm) MIN.	Edge Width CW (mm) MAX.	Spare Parts: Clamp Bolt	Spare Parts: Wrench
2	6	KGD□	1616H-2T06	●	●	16	16	4.0	16	100	27.7	28.0	15.2	6	2.0	3.0	HH5X16	LW-4
			2020K-2T06	●	●	20	20	-	20	125	28.0	-	19.2					
			2525M-2T06	●	●	25	25		25	150			24.2				HH5X25	
	10	KGD□	1616H-2T10	●	●	16	16	4.0	16	100	30.2	30.5	15.2	10			HH5X16	
			2020K-2T10	●	●	20	20	-	20	125	30.5	-	19.2					
			2525M-2T10	●	●	25	25		25	150			24.2				HH5X25	
	17	KGD□	1616H-2T17	●	●	16	16	4.0	16	100	31.2	31.5	15.2	17			HH5X16	
			2012K-2T17	●	●	20	20	-	12	125	32.5	-	11.2					
			2020K-2T17	●	●				20	125			19.2					
			2525M-2T17	●	●	25	25		25	150			24.2				HH5X25	
2.4	17	KGD□	2012K-2.4T17	●	●	20	20	-	12	125	32.5	-	11.0	17	2.4	3.0	HH5X16	LW-4
			2020K-2.4T17	●	●				20	125			19.0					
3	6	KGD□	1216JX-3T06	●	●	12	12	2.0	16	120	19.5	19	14.8	6	3.0	4.0	SE-50125TR	LTW-20
			1616H-3T06	●	●	16	16	4.0	16	100	27.7	28.0	14.8				HH5X16	LW-4
			2020K-3T06	●	●	20	20	-	20	125	28.0	-	18.8					
			2525M-3T06	●	●	25	25		25	150			23.8				HH5X25	
	10	KGD□	1616H-3T10	●	●	16	16	4.0	16	100	30.2	30.5	14.8	10			HH5X16	
			2020K-3T10	●	●	20	20	-	20	125	30.5	-	18.8					
			2525M-3T10	●	●	25	25		25	150			23.8				HH5X25	
	20	KGD□	1616H-3T20	●	●	16	16	4.0	16	100	34.2	34.5	14.8	20			HH5X16	
			2012K-3T20	●	●	20	20	-	12	125	34.5	-	10.8					
			2020K-3T20	●	●				20	125			18.8					
			2525M-3T20	●	●	25	25		25	150	35.5		23.8				HH5X25	
4	6	KGD□	1216JX-4T06	●	●	12	12	2.0	16	120	19.5	19	14.3	6	4.0	5.0	SE-50125TR	LTW-20
	10	KGD□	2020K-4T10	●	●	20	20	-	20	125	30.5	-	18.3	10			HH5X16	LW-4
			2525M-4T10	●	●	25	25		25	150			23.3				HH5X25	
	20	KGD□	2020K-4T20	●	●	20	20	-	20	125	34.5	-	18.3	20			HH5X16	
			2525M-4T20	●	●	25	25		25	150	35.5		23.3				HH5X25	
	25	KGD□	2525M-4T25	●	●	25	25		25	150	40.5		23.3	25				

Note) 1. CDX : Maximum depth to which processing can be made. (If the CDX is 20 mm or more, the maximum groove-depth of groove made by the 2-edge insert will be 18 mm.)
2. Recommended tightening torque of clamp bolt : 6.5N·m (HH5X○○), 2.5N·m (SE-50125TR)
3. Above toolholders are applicable to external grooving, too.

Applicable Inserts ⇒ **H18, H19**
Recommended Cutting Conditions ⇒ **H28, H29**

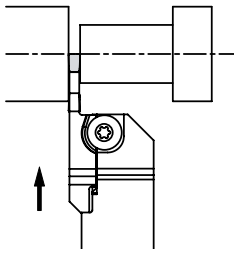
Toolholder Identification System (Integral Type)

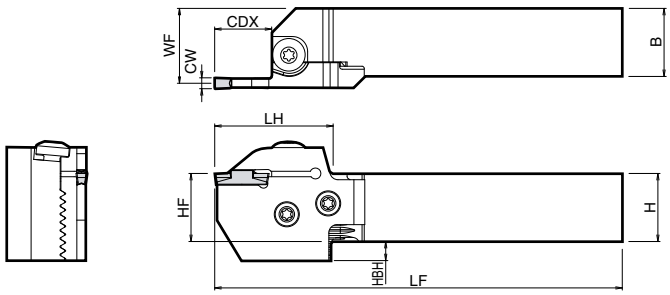
K G D R 1616 H - 2 T 06

Toolholder Hand	Shank Size	Toolholder Length	Applicable Inserts	Max. depth of cut (mm)
R : Right-hand L : Left-hand	16 × 16mm	100 mm	GDM/GDMS 2~3 mm	06 : 6 mm

● : Std. Item

KGD-S (0° Separate Type)





·Right-hand shown (Right-hand Blade and Right-hand Toolholder)

Toolholder Dimensions (Blade + Toolholder)

Shank Angle	Width (mm)	Max. depth of cut (mm)	Shank Size (mm)	Unit Description (Standard Stock Description)	Stock R	Stock L	Blade Description ➡ G32	Toolholder Description ➡ G32	Dimension (mm) H	HF	HBH	B	LF	LH	WF	CDX	Edge Width CW (mm) MIN.	MAX.
0°	2	17	□20	KGD$^{R/L}$ 2020X-2T17S	●	□	KGD$^{R/L}$-2T17-C	KGD$^{R/L}$2020-C	20	20	12	20	122		23.4			
			□25	2525X-2T17S	●	●		KGD$^{R/L}$2525-C	25	25	7	25	147	40	28.4	17	2.0	3.0
			□32	No unit description ➡				KGD$^{R/L}$3232-C	32	32	-	32	167		35.4			
	3	10	□20	KGD$^{R/L}$ 2020X-3T10S	●	□	KGD$^{R/L}$-3T10-C	KGD$^{R/L}$2020-C	20	20	12	20	115		23.0			
			□25	2525X-3T10S	●	□		KGD$^{R/L}$2525-C	25	25	7	25	140	33	28.0	10		
			□32	3232X-3T10S	□	-		KGD$^{R/L}$3232-C	32	32	-	32	160		35.0			
		20	□20	KGD$^{R/L}$ 2020X-3T20S	●	●	KGD$^{R/L}$-3T20-C	KGD$^{R/L}$2020-C	20	20	12	20	125		23.0		3.0	4.0
			□25	2525X-3T20S	●	●		KGD$^{R/L}$2525-C	25	25	7	25	150	43	28.0	20		
			□32	3232X-3T20S	●	□		KGD$^{R/L}$3232-C	32	32	-	32	170		35.0			
	4	10	□20	KGD$^{R/L}$ 2020X-4T10S	●	-	KGD$^{R/L}$-4T10-C	KGD$^{R/L}$2020-C	20	20	12	20	115		22.5			
			□25	2525X-4T10S	●	-		KGD$^{R/L}$2525-C	25	25	7	25	140	33	27.5	10		
			□32	No unit description ➡				KGD$^{R/L}$3232-C	32	32	-	32	160		34.5			
		20	□20	KGD$^{R/L}$ 2020X-4T20S	●	-	KGD$^{R/L}$-4T20-C	KGD$^{R/L}$2020-C	20	20	12	20	125		22.5			
			□25	2525X-4T20S	●	●		KGD$^{R/L}$2525-C	25	25	7	25	150	43	27.5	20	4.0	5.0
			□32	3232X-4T20S	●	□		KGD$^{R/L}$3232-C	32	32	-	32	170		34.5			
		25	□20	KGD$^{R/L}$ 2020X-4T25S	●	●	KGD$^{R/L}$-4T25-C	KGD$^{R/L}$2020-C	20	20	12	20	130		22.5			
			□25	2525X-4T25S	●	●		KGD$^{R/L}$2525-C	25	25	7	25	155	48	27.5	25		
			□32	3232X-4T25S	●	□		KGD$^{R/L}$3232-C	32	32	-	32	175		34.5			

Note) 1. When using the toolholder in normal mounting position, the lower jaw of toolholder may interfere with the tool presetter.
2. The toolholder and blade descriptions are printed on the toolholder body. (Unit description is not printed.)
KGD-S : Right-hand Blade for Right-hand Toolholder, Left-hand Blade for Left-hand Toolholder.
The toolholder is applicable for all blade with suitable hand.
3. When the unit description is not available (No unit description) and/or stock status is "-", please purchase toolholder and blade separately.
4. CDX : Maximum depth to which processing can be made. (If the CDX is 20 mm or more, the maximum depth of groove made by the 2-edge insert will be 18 mm.)
5. Recommended tightening torque of clamp bolt for insert : 6.5N·m (Groove width 2 ~ 4mm)
6. Above toolholders are applicable to external grooving, too.

Applicable Inserts ➡ **H18, H19**
Recommended Cutting Conditions ➡ **H28, H29**

Toolholder Identification System (Separate type / Unit Description)

K	G	D	R	2020	X	-	2	T	17	S
			Toolholder Hand	Shank Size	Toolholder Type		Applicable Inserts		Max. depth of cut	
			R : Right-hand L : Left-hand	20 × 20 mm	Unit Description		GDM/GDMS 2 ~ 3mm		17 : 17 mm	

Spare Parts (Common with separate types)

* The parts are included in the toolholder and unit.

Unit Description	Spare Parts: Clamp Bolt (for Insert Clamp)	Spare Parts: Clamp Screw (for Blade)	Spare Parts: Wrench
			
KGD$^{R/L}$...S	BH6X10TR	SB-60120TR	LTW-25

● : Std. Item
□ : Deleted from the next catalog

Great for High Pressure Coolant　External Grooving and Cut-off

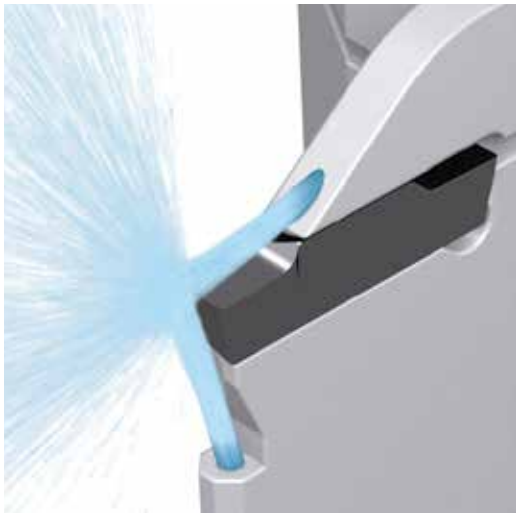
KGD-JCT

Coolant is directed from two directions towards the flank face of the insert
Improved Chip Control and Longer Tool Life for External Grooving and Cutting-off

1 Excellent Chip Control

Coolant towards the rake face

Coolant hole position and angle improve chip control



Chip Control Comparison (Internal evaluation)

KGD-JCT showed better chip control performance even at lower feed rates

f = 0.05 mm/rev (1.5MPa)

KGD-JCT

Competitor E

Competitor F

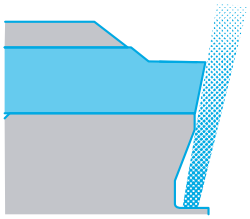
Competitor G

Cutting Conditions : Vc = 150 m/min, d = 8mm, f = 0.05 mm/rev, Wet
Edge Width 4 mm　Workpiece Material : SCM415　Grooving

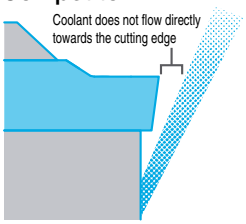
2 Cooling the Cutting Edge Leads to Longer Tool Life

Coolant towards the rake surface and the flank face of the insert
Directing coolant towards the cutting edge lengthens tool life

KGD-JCT



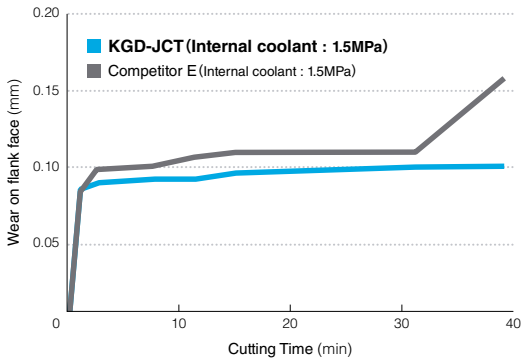
Competitor E



After Machining 39 min

Fracture

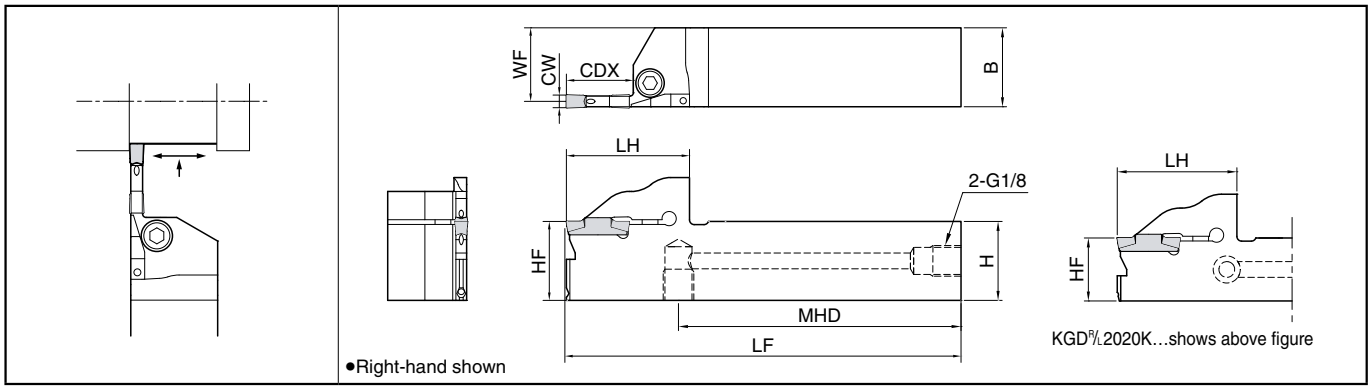
Wear Resistance Comparison (Internal evaluation)



Cutting Conditions : Vc = 180 m/min, d = 9 mm, f = 0.15 mm/rev, Wet
Edge Width 4 mm　Workpiece Material : SCM415　Grooving

KGD-JCT Minimizes Wear and Provides Longer Tool Life without Insert Fracturing

KGD-JCT (Integral type / Coolant-through Holders)



Toolholder Dimensions

Pressure Resistance：~15MPa

Width (mm)	Max. depth of cut (mm)	Description	Stock R	Stock L	H	HF	B	LF	LH	WF	CDX	MHD	Edge Width CW (mm) MIN.	Edge Width CW (mm) MAX.	Spare Parts: Clamp Bolt	Spare Parts: Wrench	Spare Parts: Plug
3	6	KGDR/L 2020K-3T06JCT	●	●	20	20	20	125	31.5	18.8	6	96.2	3.0	4.0	HH5X16	LW-4	HSG1/8X8.0
		2525K-3T06JCT	●	●	25	25	25			23.8		96.5			HH5X25		
	10	2020K-3T10JCT	●	●	20	20	20		34.0	18.8	10	94.2			HH5X16		
		2525K-3T10JCT	●	●	25	25	25			23.8		94.5			HH5X25		
	20	2020K-3T20JCT	●	●	20	20	20		38.0	18.8	20	90.2			HH5X16		
		2525K-3T20JCT	●	●	25	25	25		39.0	23.8		89.5			HH5X25		
4	10	KGDR/L 2020K-4T10JCT	●	●	20	20	20	125	34.0	18.3	10	94.2	4.0	5.0	HH5X16	LW-4	HSG1/8X8.0
		2525K-4T10JCT	●	●	25	25	25			23.3		94.5			HH5X25		
	20	KGDR/L 2020K-4T20JCT	●	●	20	20	20		38.0	18.3	20	90.2			HH5X16		
		2525K-4T20JCT	●	●	25	25	25		39.0	23.3		89.5			HH5X25		
	25	KGDR/L 2525K-4T25JCT	●	●	25	25	25		44.0	23.3	25	84.5					

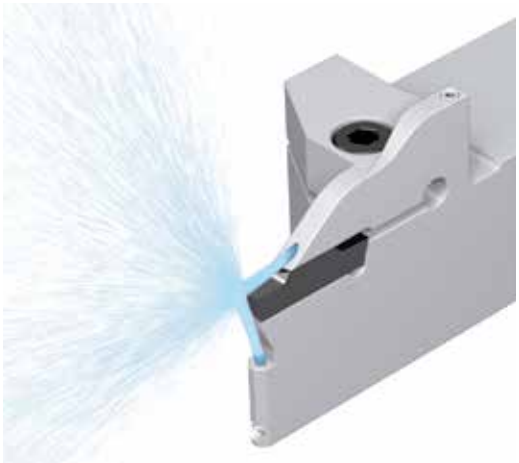
Please see page **D10** and **D11** for piping parts of coolant-through holders.

Applicable Inserts ➡ **H18, H19**
Recommended Cutting Conditions ➡ **H28, H29**

Coolant is directed from two directions

Discharges coolant in two directions toward both the rake surface and the flank face of the insert

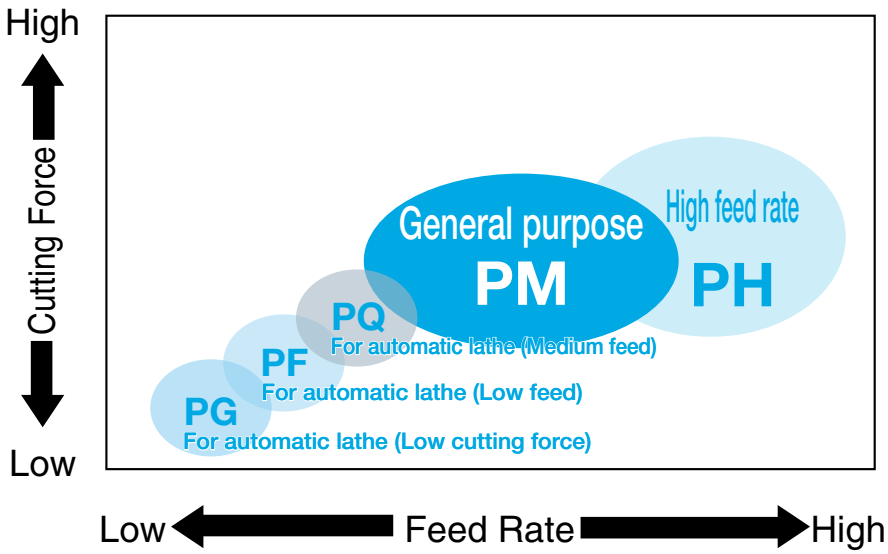
Excellent Chip Control and Long Tool Life



● : Std. Item

Application Map

Cut-off



Recommended Cutting Conditions (PF / PQ / PG Chipbreaker)

Workpiece Material	Recommended Insert Grades (Cutting Speed Vc: m/min)			f (mm/rev)						Remarks
				PF (RE = 0.03)			**PF** (RE = 0.15)			
	MEGACOAT NANO	MEGACOAT		Edge Width CW (mm)			Edge Width CW (mm)			
	PR1535	**PR1225**	**PR1215**	1.3 / 1.5	2.0	2.5 / 3.0	1.3 / 1.5	2.0	2.5 / 3.0	
Carbon Steel	☆ 70 ~ 150	★ 70 ~ 150	☆ 70 ~ 180	0.01 ~ 0.04	0.02 ~ 0.06	0.02 ~ 0.08	0.01 ~ 0.05	0.03 ~ 0.08	0.04 ~ 0.10	Coolant
Alloy Steel	☆ 70 ~ 150	★ 70 ~ 150	☆ 70 ~ 180							
Stainless Steel	★ 60 ~ 120	☆ 60 ~ 120	☆ 60 ~ 150	0.01 ~ 0.03	0.01 ~ 0.04	0.01 ~ 0.05	0.01 ~ 0.04	0.03 ~ 0.07	0.04 ~ 0.08	
Cast Iron	-	-	★ 80 ~ 200	0.01 ~ 0.05	0.02 ~ 0.07	0.03 ~ 0.08	0.01 ~ 0.06	0.03 ~ 0.09	0.04 ~ 0.10	

★ : 1st Recommendation ☆ : 2nd Recommendation

Workpiece Material	Recommended Insert Grades (Cutting Speed Vc: m/min)					f (mm/rev)				Remarks
						PQ		**PG**		
	MEGACOAT NANO	MEGACOAT		DLC Coated Carbide	Carbide	Edge Width CW (mm)		Edge Width CW (mm)		
	PR1535	**PR1225**	**PR1215**	**PDL025**	**GW15**	2.0	2.5 / 3.0	2.0	2.5 / 3.0	
Carbon Steel	☆ 70 ~ 150	★ 70 ~ 150	☆ 70 ~ 180	-	-	0.03 ~ 0.1	0.04 ~ 0.12	0.01 ~ 0.04	0.01 ~ 0.05	Coolant
Alloy Steel	☆ 70 ~ 150	★ 70 ~ 150	☆ 70 ~ 180	-	-					
Stainless Steel	★ 60 ~ 120	☆ 60 ~ 120	☆ 60 ~ 150	-	-	0.02 ~ 0.07	0.02 ~ 0.08	0.01 ~ 0.03	0.01 ~ 0.04	
Cast Iron	-	-	★ 80 ~ 200	-	☆ 50 ~ 100	0.04 ~ 0.1	0.04 ~ 0.12	0.01 ~ 0.04	0.01 ~ 0.05	
Aluminum Alloys	-	-	-	★ 200 ~ 500	☆ 200 ~ 450	-	-	0.01 ~ 0.05	0.01 ~ 0.06	
Brass	-	-	-	-	★ 100 ~ 200	-	-	0.01 ~ 0.07	0.01 ~ 0.08	

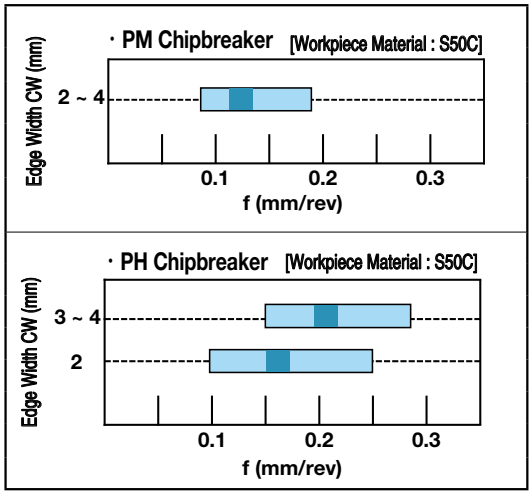
★ : 1st Recommendation ☆ : 2nd Recommendation

Recommended Cutting Conditions (PM / PH Chipbreaker)

Workpiece Material	Recommended Insert Grades (Cutting Speed Vc: m/min)			f (mm/rev)			Remarks
				PM	PH		
	MEGACOAT NANO	MEGACOAT		Edge Width CW (mm)	Edge Width CW (mm)		
	PR1535	PR1225	PR1215	2 ~ 4	2	3 ~ 4	
Carbon Steel	☆ 80 ~ 200	★ 80 ~ 200	☆ 100 ~ 200	0.08 ~ 0.18	0.10 ~ 0.25	0.15 ~ 0.28	Coolant
Alloy Steel	☆ 70 ~ 180	★ 70 ~ 180	☆ 80 ~ 180				
Stainless Steel	★ 60 ~ 150	☆ 60 ~ 150	☆ 60 ~ 150	0.06 ~ 0.12	0.05 ~ 0.12	0.08 ~ 0.15	
Cast Iron	-	-	★ 100 ~ 200	0.08 ~ 0.18	0.10 ~ 0.25	0.15 ~ 0.28	

★ : 1st Recommendation ☆ : 2nd Recommendation

Example of feed [■ In the graph below indicates the most recommended value of feed (f)]



Caution (Cut-off)

1. Be sure to perform wet processing. Apply enough coolant to the cutting edge.
2. Keep a constant rate during processing so that optimum product life will be achieved.
3. Cut-off as close to the chuck as possible.
4. Lower the feed rate to 1/2 ~ 1/3 at the near center to prevent impact caused by machining.

GMM / GMN / GM$^{R}_{L}$

(Will be switched to GDM / GDG ➡ H18, H19)

Classification of usage											
● : Continuous-Light Interruption / 1st Choice ◔ : Continuous-Light Interruption / 2nd Choice ● : Continuous / 1st Choice ○ : Continuous / 2nd Choice	P	Carbon Steel / Alloy Steel	○	◔	●	◔	●		See Page for Applicable Toolholders
	M	Stainless Steel		◔	●	◔	●		
	K	Cast Iron						●	
	N	Non-ferrous Metals						●	

Insert (Handed Insert shows Right-hand)		Description	Dimension (mm) CW	RE	INSL	S	Angle PSIR$^{R}_{L}$	Cermet TN90	CVD Coated Carbide CR9025	PVD Coated Carbide PR915	PR930	PR1115	Carbide KW10	See Page for Applicable Toolholders
Neutral														
Sharp-Cutting 2-edge		GMM 1520-MT	1.5	0 0.05	20	4.3	-			○	○		○	H32
		GMM 2020-MT	2.0	0 0.05	20	4.3	-		○	○	○		○	H32 H33
		GMM 2520-MT	2.5	0 0.05	20	4.3	-			○	○		○	H32 H33
		GMM 3020-MT	3.0	0 0.05	20	4.3	-		○	○	○		○	H32 H33
Sharp-Cutting 2-edge Without Chipbreaker		GMM 1520-NB	1.5	0	20	4.3	-				○		○	H32
		GMM 2020-NB	2.0	0	20	4.3	-				○		○	H32 H33
		GMM 2520-NB	2.5	0	20	4.3	-				○			H32 H33
		GMM 3020-NB	3.0	0	20	4.3	-						○	H32 H33
Stability Oriented 2-edge		GMM 2020-TK	2.0	0.20	20	4.3	-			○	○		○	H32 H33
		GMM 2520-TK	2.5	0.20	20	4.3	-			○	○		○	H32 H33
		GMM 3020-TK	3.0	0.25	20	4.3	-		○	○	○		○	H32 H33
High Feed Rate 2-edge		GMM 2020-TMR	2.0	0.20	20	4.3	-					○		H32 H33
		GMM 2520-TMR	2.5	0.20	20	4.3	-					○		H32 H33
		GMM 3020-TMR	3.0	0.25	20	4.3	-					○		H32 H33
Stability Oriented 1-edge		GMN 2-TK	2.0	0.20	20	4.3	-			○	○		○	H32 H33
		GMN 3-TK	3.0	0.25	20	4.3	-		○	○	○		○	H32 H33
		GMN 4-TK	4.0	0.30	20	4.3	-		○	○	○		○	H32 H33
Shows GMN2.2 Sharp-Cutting 1-edge		GMN 2.2	2.2	0.17	20	4.3	-	○	○		○		○	H32 H33
		GMN 3	3.0	0.20	20	4.3	-	○	○		○		○	H32 H33
		GMN 4	4.0	0.25	20	4.3	-	○	○		○		○	H32 H33
		GMN 5	5.0	0.80	20	4.3	-		○		○		○	H32 H33
		GMN 6	6.0	0.80	20	4.3	-		○		○		○	H32 H33
								R L	R L	R L	R L	R L	R L	
Lead Angle														
Sharp-Cutting 2-edge		GMM 1520$^{R}_{L}$-MT-15D	1.5	0 0.05	20	4.3	15°			○	○		○	H32
		GMM 2020$^{R}_{L}$-MT-15D	2.0	0 0.05	20	4.3	15°		○	○	○ ○		○	H32 H33
		GMM 2520$^{R}_{L}$-MT-15D	2.5	0 0.05	20	4.3	15°			○	○			H32 H33
		GMM 3020$^{R}_{L}$-MT-15D	3.0	0 0.05	20	4.3	15°		○	○	○ ○		○	H32 H33
Stability Oriented 2-edge		GMM 2020R-TK-8D	2.0	0.20	20	4.3	8°			○	○		○	H32 H33
		GMM 2520R-TK-8D	2.5	0.20	20	4.3	8°				○			H32 H33
		GMM 3020R-TK-8D	3.0	0.25	20	4.3	8°		○	○	○			H32 H33
High Feed Rate 2-edge		GMM 2020R-TMR-6D	2.0	0.20	20	4.3	6°					○		H32 H33
		GMM 2520R-TMR-6D	2.5	0.20	20	4.3	6°					○		H32 H33
		GMM 3020R-TMR-6D	3.0	0.25	20	4.3	6°					○		H32 H33
Stability Oriented 1-edge		GMR 2-TK-8D	2.0	0.20	20	4.3	8°				○		○	H32 H33
		GMR 3-TK-8D	3.0	0.25	20	4.3	8°			○	○		○	H32 H33
		GMR 4-TK-8D	4.0	0.30	20	4.3	8°			○	○		○	H32 H33
Shows GMR2.2-8D / 15D Sharp-Cutting 1-edge		GM$^{R}_{L}$ 2.2-8D	2.2	0.17	20	4.3	8°	○	○		○ ○		○	H32 H33
		2.2-15D	2.2	0.00	20	4.3	15°	○	○		○		○	H32 H33
		3-4D	3.0	0.20	20	4.3	4°	○	○ ○		○ ○		○	H32 H33
		4-4D	4.0	0.25	20	4.3	4°		○ ○		○			H32 H33

Inserts are sold in 10 piece boxes

○ : Check Availability

Edge Preparation

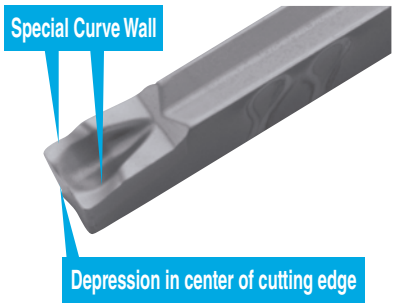
Series	MT Chipbreaker		TK Chipbreaker		TMR Chipbreaker	Without Chipbreaker (NB)	
Edge Prep.	Chamfered + R-honed	Chamfered + R-honed	Chamfered + R-honed	Sharp Edge	Chamfered + R-honed	R-honed	Sharp Edge
	Corner-R(RE) = 0.05	Sharp Corner	Corner-R(RE) = 0.2 ~ 0.3	Corner-R(RE) = 0.2 ~ 0.3	Corner-R(RE) = 0.2	Corner-R(RE) = 0.05	Sharp Corner
							
	CR9025 / PR915	**PR930 / KW10**	**CR9025 / PR915**	**PR930 / KW10**	**PR1115**	**CR9025**	**PR930 / KW10**

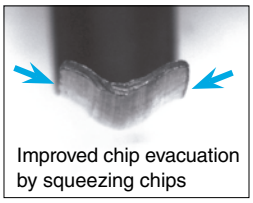
· Sharp Edge Spec. can reduce cutting force by 40% less than that of chamfer edge.

Series	Advantage
GMM MT	Specific chipbreaker for cut-off operations requiring sharp cutting performance. Minimizes the Boss.
GMM NB	Cutting edge is flat with non-chipbreaker. It works well for brass, etc.
GMM TK	Stable design with chipbreaker for cut-off and large corner-R. 2-edge for economical performance.
GMN TK	Same chipbreaker geometry as GMM TK. 1-edge. Wide application range.
GMN (Std.) (No Indication)	Mainly for deep grooving, but available for groove widening and turning due to projection near side cutting edge. 1-edge and wide application range. Available for cut-off applications.

TMR Chipbreaker

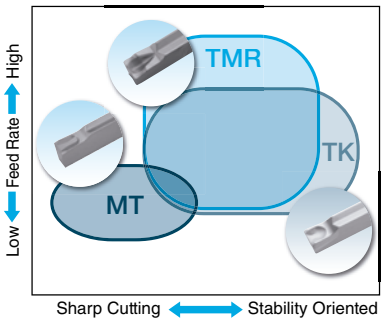
Advantages of Chipbreaker





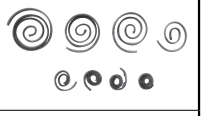
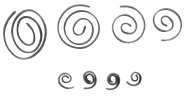
Chip width < Grooving width

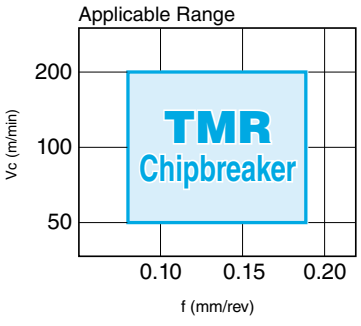
GMM Chipbreaker MAP



TMR-chipbreaker enables stable chip control also for high feed rates

Good chip control even when cutting speed (spindle revolution) is increased. (Workpiece Material: SCM415, ø30, constant spindle revolution)

Description	n=1,060min^{-1}(Vc=100m/min)		n=2,123min^{-1}(Vc=200m/min)	
	f=0.12mm/rev	f=0.18mm/rev	f=0.12mm/rev	f=0.18mm/rev
GMM 3020-TMR (Neutral)				
GMM 3020R-TMR-6D (Lead angle)				

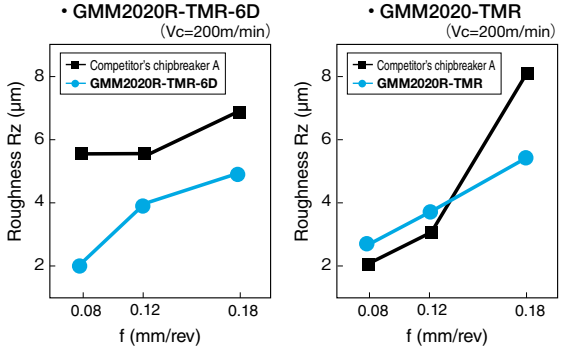


Recommended Cutting Conditions

Workpiece Material	Vc (m/min)	f (mm/rev)
Carbon Steel	60 ~ 200	0.08 ~ 0.18
Alloy Steel	60 ~ 150	
Stainless Steel	50 ~ 140	

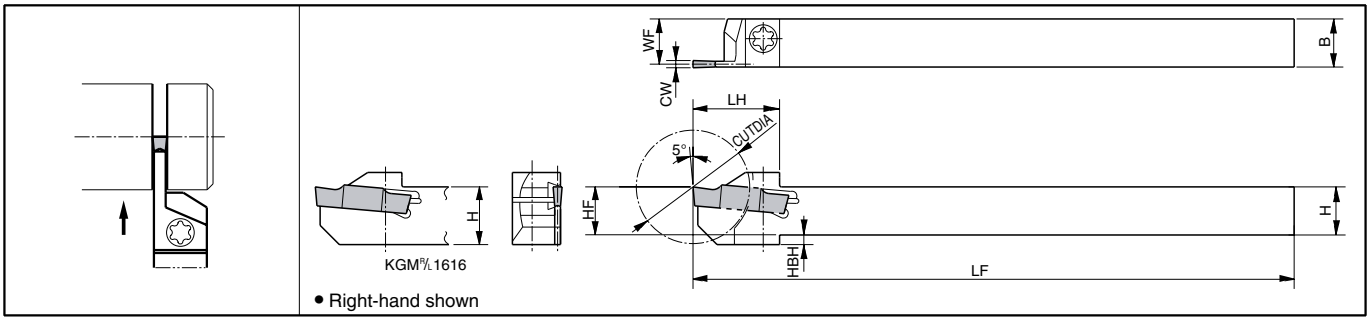
Workpiece Surface Roughness

TMR Chipbreaker provides good surface roughness on the workpiece end face at high feed rate ranges.



KGM (for Automatic Lathe) (Will be switched to KGD ➡ H20)

Edge Width : 1.5 ~ 4.0 mm



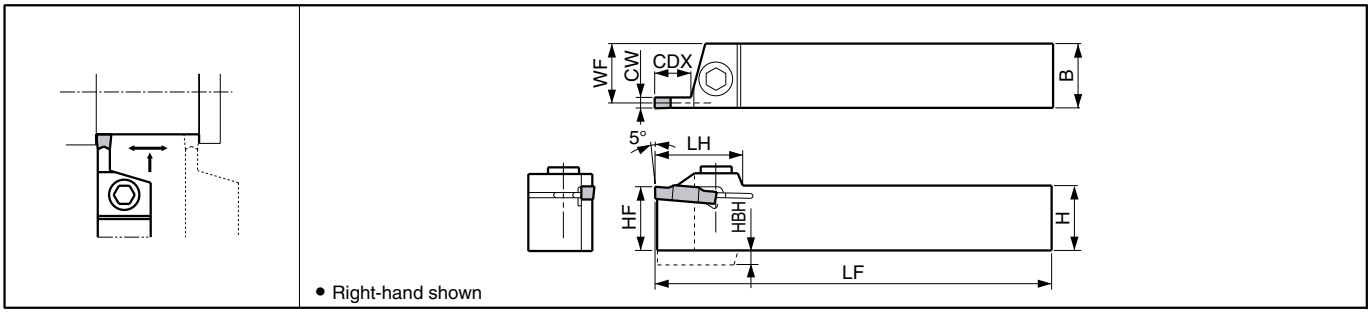
• Right-hand shown

Toolholder Dimensions

Description		Stock		Cut-off Dia.	Dimension (mm)							Edge Width CW (mm)		Spare Parts	
														Screw	Wrench
		R	L	CUTDIA	H	HF	HBH	B	LF	LH	WF	MIN.	MAX.		
KGMR/L	1010JX-1.5	○	○	20	10	10	2	10	120	18	9.4	1.5	2.0	SE-40120TR	LTW-15S
	1212JX-1.5	○	○	25	12	12		12		19	11.4				
KGMR/L	1010JX-2	○	○	20	10	10	2	10	120	18	9.15	2.0	3.0	SE-40120TR	LTW-15S
	1212JX-2	○	○	25	12	12		12		19	11.15				
	1616JX-2	○	○	32	16	16	-	16		24.5	15.15			SE-50125TR	LTW-20
KGMR/L	1212JX-2.5	○	○	25	12	12	2	12	120	19	11	2.4	3.0	SE-40120TR	LTW-15S
	1616JX-2.5	○	○	32	16	16	-	16		24.5	15			SE-50125TR	LTW-20
KGMR/L	1616JX-3	○	○	32	16	16	-	16	120	24.5	14.8	3.0	4.0	SE-50125TR	LTW-20
KGMR	1212F-1.5-85	○		25	12	12	2	12	85	19	11.4	1.5	2.0	SE-40120TR	LTW-15S
KGMR/L	1212F-2-85	○	○	25	12	12	2	12	85	19	11.15	2.0	3.0	SE-40120TR	LTW-15S
KGMR/L	1212F-2.5-85	○		25	12	12	2	12	85	19	11	2.4	3.0	SE-40120TR	LTW-15S

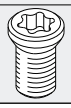
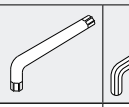
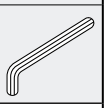
KGM (Will be switched to KGD ➡ H24)

Edge Width : 3.0 ~ 8.0 mm



• Right-hand shown

Toolholder Dimensions

Description		Stock		Dimension (mm)								Edge Width CW (mm)		Spare Parts			
														Screw		Wrench	
		R	L	H	HF	HBH	B	LF	LH	WF	CDX	MIN.	MAX.				
KGMR/L	1212H-3	○		12	12	4	12	100	27	10.8	9	3.0	3.0	SB-5TR	-	LTW-20	-
	1616H-3	○		16	16		16			14.8				-	HH5X16	-	LW-4
	2020K-3	○	○	20	20	-	20	125		18.8		3.0	4.0				
	2525M-3	○	○	25	25		25	150		23.8					HH5X25		
KGMR/L	2020K-4	○		20	20	-	20	125	27	18.3	10	4.0	5.0	-	HH5X16	-	LW-4
	2525M-4	○	○	25	25		25	150		23.3					HH5X25		
KGMR/L	2020K-5	○		20	20	-	20	125	27	17.8	10	5.0	6.0	-	HH5X16	-	LW-4
	2525M-5	○		25	25		25	150		22.8					HH5X25		
KGMR/L	2525M-8	○	○	25	25	7.5	25	150	40	22.0	25	8.0	8.0	-	HH6X25	-	LW-5

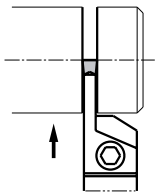
· CDX shows available grooving depth.

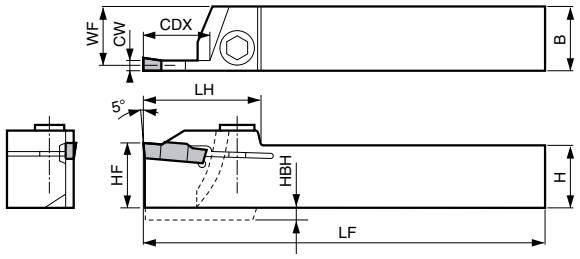
· 4mm width Insert can be installed in KGMR/L1212H-3, but is not recommended due to the toolholder's rigidity.

○ : Check Availability

KGM-T (Will be switched to KGD ➡ H24)

Edge Width : 2.0 ~ 6.0 mm





• Right-hand shown

Toolholder Dimensions

Description		Stock R	Stock L	H	HF	HBH	B	LF	LH	WF	CDX	Edge Width CW (mm) MIN.	Edge Width CW (mm) MAX.	Spare Parts: Screw	Spare Parts: Screw	Spare Parts: Wrench	Spare Parts: Wrench
KGMR/L	2012K-2T17		○	20	20	-	12	125	33	11.15	17	2.0	3.0	SB-5TR	-	LTW-20	-
	2020K-2T17	○	○	20	20		20	125		19.15				-	HH5X16	-	LW-4
	2525M-2T17	○	○	25	25		25	150		24.15					HH5X25		
KGMR/L	1616H-3T20	○		16	16	4	16	100	36	14.8	20	3.0	4.0	-	HH5X16	-	LW-4
	2012K-3T20		○	20	20	-	12	125		10.8				SB-5TR	-	LTW-20	-
	2020K-3T20	○	○				20			18.8				-	HH5X16	-	LW-4
	2525M-3T20	○	○	25	25		25	150		23.8					HH5X25		
KGMR/L	2020K-4T20	○		20	20	-	20	125	36	18.3	20	4.0	5.0	-	HH5X16	-	LW-4
	2525M-4T20	○		25	25		25	150		23.3					HH5X25		
	2525M-4T25	○	○						41		25						
KGMR/L	2525M-5T25	○	○	25	25	-	25	150	42	22.8	25	5.0	6.0	-	HH5X25	-	LW-4
	3232P-5T25	○		32	32		32	170		29.8							
KGMR/L	2525M-6T30	○		25	25	-	25	150	45	22.4	30	6.0	6.0	-	HH5X25	-	LW-4

· CDX shows the distance from the toolholder to the cutting edge. Ref. to the Table **H34** for the relationship between the available Grooving Depth and the Cutting Dia.
· When using GMG / GMM (2-edge) insert, set the groove depth under 15mm.

Applicable Inserts

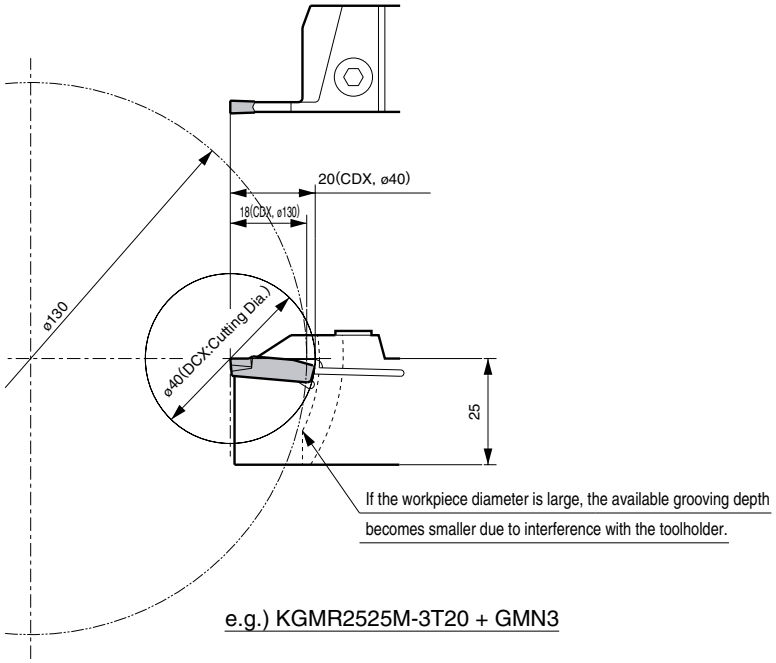
Applications	Grooving / Turning	Grooving / Turning	Grooving	Full-R / Copying	Full-R / Copying	Cut Off / Deep Grooving	Cut Off / Deep Grooving	Cut Off / Deep Grooving	Cut Off / Deep Grooving	Cut Off / Deep Grooving
See Page	G38	G38	G38	G38	G39	H30	H30	H30	H30	H30
Insert / Toolholder Description	MW	MS	MG			MT	NB	TK TMR	TK	
KGMR/L...1.5	-	-	-	-	-	GMM1520..MT GMM2020..MT GMM1520R/L..MT GMM2020R/L..MT	GMM1520..NB GMM2020..NB	GMM2020..T. GMM2020R..T.	GMN2..TK GMR2..TK	-
KGMR/L...2(T)	GMM2420..MW GMM3020..MW	GMG3020..MS GMM3020..MS	GMG2520..MG GMG3020..MG	GMG3020..R GMM3020..R	-	GMM2020..MT GMM2520..MT GMM3020..MT GMM2020R/L..MT GMM2520R/L..MT GMM3020R/L..MT	GMM2020..NB GMM2520..NB GMM3020..NB	GMM2020..T. GMM2520..T. GMM3020..T. GMM2020R..T. GMM2520R..T. GMM3020R..T.	GMN2..TK GMN3..TK GMR2..TK GMR3..TK	GMN2.2 GMN3 GMR/L2.2 GMR/L3
KGMR/L...2.5	GMM2420..MW GMM3020..MW	GMG3020..MS GMM3020..MS	GMG2520..MG GMG3020..MG	GMG3020..R GMM3020..R	-	GMM2520..MT GMM3020..MT GMM2520R/L..MT GMM3020R/L..MT	GMM2520..NB GMM3020..NB	GMM2520..T. GMM3020..T. GMM2520R..T. GMM3020R..T.	GMN3..TK GMR3..TK	GMN3 GMR/L3
KGMR/L...3(T)	GMM3020..MW GMM4020..MW	GMG3020..MS GMM3020..MS GMG4020..MS GMM4020..MS	GMG3020..MG GMG3520..MG GMG4020..MG	GMG3020..R GMM3020..R GMG4020..R GMM4020..R	-	GMM3020..MT GMM3020R/L..MT	GMM3020..NB	GMM3020..T. GMM3020R..T.	GMN3..TK GMN4..TK GMR3..TK GMR4..TK	GMN3 GMN4 GMR/L3 GMR/L4
KGMR/L...4(T)	GMM4020..MW GMM5020..MW	GMG4020..MS GMM4020..MS GMG5020..MS GMM5020..MS	GMG4020..MG GMG5020..MG	GMG4020..R GMM4020..R GMG5020..R GMM5020..R	-	-	-	-	GMN4..TK GMR4..TK	GMN4 GMN5 GMR/L4
KGMR/L...5T	GMM5020..MW GMM6020..MW	GMG5020..MS GMM5020..MS GMG6020..MS GMM6020..MS	GMG5020..MG GMG6020..MG	GMG5020..R GMM5020..R GMG6020..R GMM6020..R	GMGA6020..R	-	-	-	-	GMN5 GMN6
KGMR/L...6T	GMM6020..MW	GMG6020..MS GMM6020..MS	GMG6020..MG	GMG6020..R GMM6020..R	GMGA6020..R	-	-	-	-	GMN6
KGMR/L...8	GMM8030..MW	-	GMG8030..MG	-	GMGA8030..R	-	-	-	-	-

Recommended Cutting Conditions ➡ H39

○ : Check Availability

Possible cutting diameter of **KGM / KGM-T**

There is a limit to available grooving depth depending on the workpiece diameter.



e.g.) KGMR2525M-3T20 + GMN3

KGM (for Automatic Lathe) Possible Cutting Dia. Table

Toolholder Description		DCX (Cutting Dia.)																
KGMR/L	**0810K-1.5-125**	-	-	-	-	-	-	-	-	-	-	-	-	10	14	16	32	∞
	1010□-1.5...	-	-	-	-	-	-	-	20	25	32	40	60	∞	∞	∞	∞	
	1212□-1.5...	-	-	-	-	25	26	28	32	36	40	60	100					
	0810K-2-125	-	-	-	-	-	-	-	-	-	-	-	-	10	14	16	32	
	1010□-2...	-	-	-	-	-	-	-	20	25	32	40	60	∞	∞	∞	∞	
	1212□-2...	-	-	-	-	25	26	28	50	∞	∞	∞	∞					
	1616□-2...	32	40	50	60	80	100	∞	∞									
	1010□-2.5...	-	-	-	-	-	-	-	20	25	32	40	60					
	1212□-2.5...	-	-	-	-	25	26	28	32	36	40	60	100					
	1616□-2.5...	32	40	50	60	80	100	∞	∞	∞	∞	∞	∞					
	1616□-3...	32	40	50	60	80	100											
Available Grooving Depth CDX (mm)		16	15	14	13	12.5	12	11	10	9	8	7	6	5	4	3	2	1

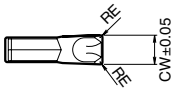
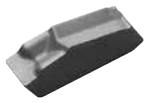
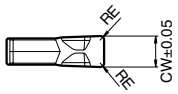
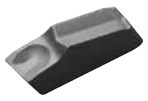
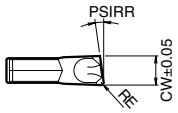
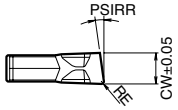
KGM-T Possible Cutting Dia. Table (GMN, GMR/L when using 1-edge insert)

Toolholder Description		DCX (Cutting Dia.)												
KGMR/L	**2012K-2T17**	-	-	-	-	-	-	-	-	66	80	130	260	∞
	2020K-2T17	-	-	-	-	-	-	-	-	66	80	130	260	
	2525M-2T17	-	-	-	-	-	-	-	-	66	80	130	260	
	1616H-3T20	-	-	-	-	-	40	54	70	100	180	∞	∞	
	2012K-3T20	-	-	-	-	-	40	90	130	240	∞			
	2020K-3T20	-	-	-	-	-	40	90	130	240				
	2525M-3T20	-	-	-	-	-	40	90	130	240				
	2020K-4T20	-	-	-	-	-	40	90	130	240				
	2525M-4T20	-	-	-	-	-	40	90	130	240				
	2525M-4T25	-	-	50	140	240	∞	∞	∞	∞				
	2525M-5T25	-	-	50	140	240								
	3232P-5T25	-	-	50	280	600								
	2525M-6T30	100	300	∞	∞	∞								
Available Grooving Depth CDX (mm)		30	27	25	23	22	20	19	18	17	16	15	14	13 or under

Cut-off Inserts

TKN / TK$^{R}/_{L}$

Classification of usage											
● : Continuous~Light Interruption / 1st Choice ◔ : Continuous~Light Interruption / 2nd Choice ● : Continuous / 1st Choice ○ : Continuous / 2nd Choice	P	Carbon Steel / Alloy Steel	○		●		○			
	M	Stainless Steel			◔	●	○			
	K	Cast Iron						●		
	N	Non-ferrous Metals						●		

Insert (Handed Insert shows Right-hand)		Description		Dimension (mm) CW	RE	Angle PSIR$^{R}/_{L}$	Cermet TN620	Cermet TN90	CVD Coated Carbide CR9025	MEGACOAT NANO PR1535	PVD Coated Carbide PR930	Carbide KW10	See Page for Applicable Toolholders
Neutral	 	TKN	1.6	1.6	0.15	-		●	●	●	●	●	H36
			2	2.2	0.20		●	●	●	●	●	●	
			2.4	2.4	0.20		●	●	●	●	●	●	
			3	3.1	0.25		●	●	●	●	●	●	H36
			4	4.1	0.30		●	●	●	●	●	●	H38
			4.8	4.8	0.30				●	●			
			5	5.1	0.30				●	●	●	●	
			6	6.4	0.35				●	●		●	
			8	8.0	0.40				●	●			
			9	9.6	0.45				●	●			H36
	 Low Feed		TKN	1.6-P	1.6	0.20	-		●	●		●	
			2-P	2.2	0.20		●	●	●	●	●	●	H36
			3-P	3.1	0.25		●		●	●	●	●	H38
							R L	R L	R L	R L	R L	R L	
Lead Angle			TK$^{R}/_{L}$	1.6	1.6	0.15	8°		● ●	● ●	●	● ●	H36
			2	2.2	0.20		●	●	● ●	● ●	●	● ●	
			2.4	2.4	0.20				● ●	● ●	●	● ●	
			3	3.1	0.25		●	●	● ●	● ●	● ●	● ●	
			4	4.1	0.30		●	●	● ●	● ●		● ●	H36
			5	5.1	0.30				●	● ●		●	H38
	 Low Feed		TK$^{R}/_{L}$	1.6-P	1.6	0.20	8°			●			
			2-P	2.2	0.20				●	● ●	●	●	
			3-P	3.1	0.25		●	●	●	● ●	●	●	

Recommended Cutting Conditions ➡ H39

Cut-off Tools

Cutting Range	Chipbreaker		Advantage
General Cut-off	Standard (No Indication)		General cut-off type for feed rates 0.1mm/rev or over Superior chip evacuation
Low feed Cut-off	P		Chipbreaker specially designed for low feed machining on automatic lathes, etc. Chips are controlled at feed rate 0.03~0.08mm/rev

Inserts Edge Prep.

	Chamfered + R-honed	Sharp Edge	R-honed
Edge Prep.			
Std. Chipbreaker	TN90 / PR1535 CR9025 / PR660	PR930 / KW10	-
P Chipbreaker	-	-	TN620 / TN90 / CR9025 / PR1535 PR660 / PR930 / KW10

· Sharp Edge Spec. can reduce cutting force by 40% less than that of chamfer edge.

Set Up (TKN / TK$^{R}/_{L}$)

1. Tap the insert lightly with a plastic hammer to push it into the extent that it cannot be removed by hand. (Fig. 1)
   (Pull it to the point where it does not fall out when picked up lightly with fingers)
2. Remove the insert with the supplied wrench. (Fig. 2)

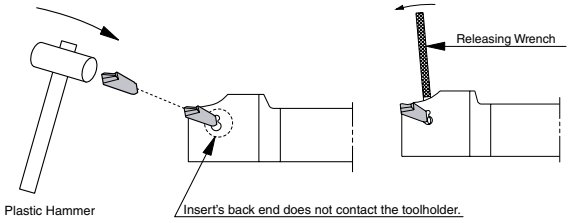
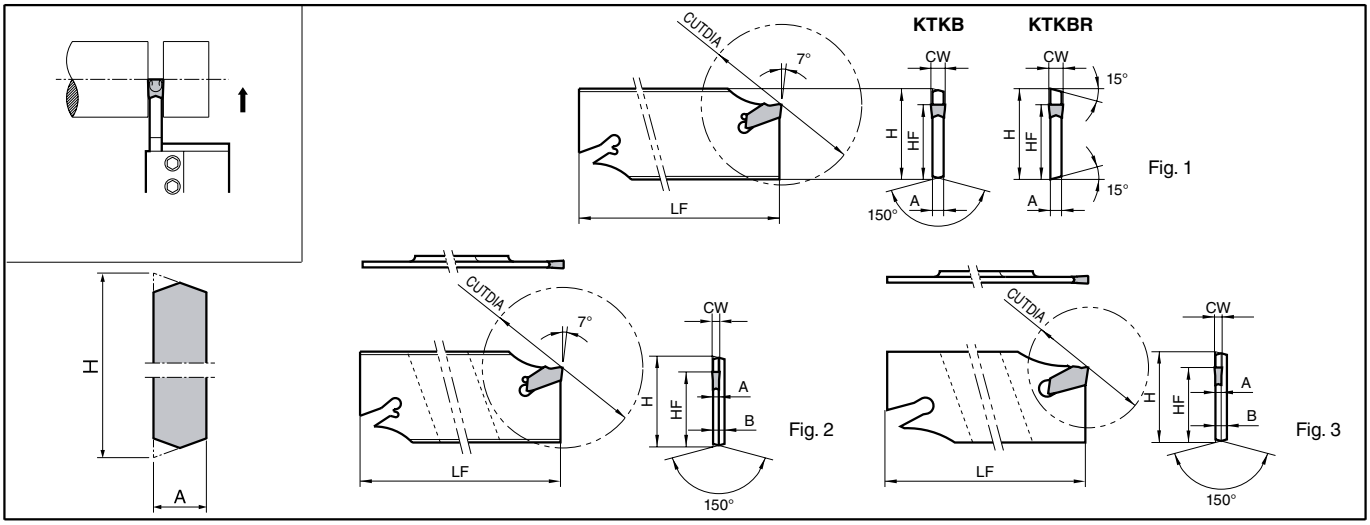


Fig. 1 How to attach inserts Fig. 2 How to detach inserts

● : Std. Item

Inserts are sold in 10 piece boxes

KTKB-SS / KTKB-S



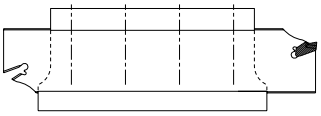
Blade Dimensions

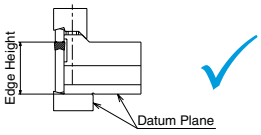
Description		Stock	Cut-off Dia.	Dimension (mm)					Edge Width (mm)	Drawing	Applicable Inserts ➡ H35				Applicable Blocks ➡ H37	
			CUTDIA	*H	HF	B	LF	A	CW			Low Feed	Lead Angle	Low Feed / Lead Angle		
KTKB	**19-1SS**	●	32	19	15.7	2.4	86	1.2	1.6	Fig. 3	TKN1.6	TKN1.6-P	TK$^{R/L}$1.6	TK$^{R/L}$1.6-P	KTKTB	16-19 20-19
KTKB	**26-1SS**	●	35	26	21.4	2.4	110	1.2	1.6	Fig. 3	TKN1.6	TKN1.6-P	TK$^{R/L}$1.6	TK$^{R/L}$1.6-P	KTKTB	16-26 20-26
KTKB	**32-1SS**	●	35	32	25	2.4	150	1.2	1.6	Fig. 3	TKN1.6	TKN1.6-P	TK$^{R/L}$1.6	TK$^{R/L}$1.6-P	KTKTB KTKTBF	20-32 25-32 32-32 25-32 32-32
KTKB	**19-2S**	●	40	19	15.7	-	86	1.8	2.2 2.4	Fig. 1	TKN2 TKN2.4	TKN2-P	TK$^{R/L}$2 TK$^{R/L}$2.4	TK$^{R/L}$2-P	KTKTB	16-19 20-19
KTKB	**26-2S**	●	50	26	21.4	-	110	1.8	2.2 2.4		TKN2 TKN2.4	TKN2-P	TK$^{R/L}$2 TK$^{R/L}$2.4	TK$^{R/L}$2-P	KTKTB	16-26 20-26
	26-3S	●	75					2.6	3.1		TKN3	TKN3-P	TK$^{R/L}$3	TK$^{R/L}$3-P		
	26-4S	●	80					3.4	4.1		TKN4	-	TK$^{R/L}$4	-		
	26-5S	●	80					4.2	4.8 5.1		TKN4.8 TKN5	-	TK$^{R/L}$5	-		
KTKB	**32-2S**	●	50	32	25	2.6	150	1.8	2.2 2.4	Fig. 2	TKN2 TKN2.4	TKN2-P	TK$^{R/L}$2 TK$^{R/L}$2.4	TK$^{R/L}$2-P	KTKTB KTKTBF	20-32 25-32 32-32 25-32 32-32
	32-3S	●	100			-		2.6	3.1	Fig. 1	TKN3	TKN3-P	TK$^{R/L}$3	TK$^{R/L}$3-P		
	32-4S	●	100					3.4	4.1		TKN4	-	TK$^{R/L}$4	-		
	32-5S	●	120					4.2	4.8 5.1		TKN4.8 TKN5	-	TK$^{R/L}$5	-		
	32-6S	●	120					5.4	6.4		TKN6	-	-	-		
KTKB$^{R/L}$	**32-8S**	●	120	32	25	-	150	6.8	8.0	Fig. 1	TKN8	-	-	-		
	32-9S	R	120					8.0	9.6		TKN9	-	-	-		

Note) 1. Suffix "-SS" means silver coating.
2. Releasing wrench is "LTK-5".
3. How to attach inserts, See Page **H35**.
* Dimension H shows virtual apex distance.

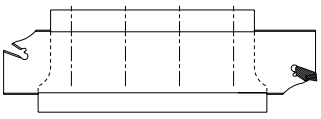
How to install toolblock and blade

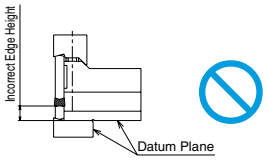
●Correct way



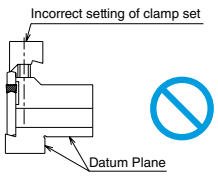


●Incorrect way





●Incorrect setting of clamp set

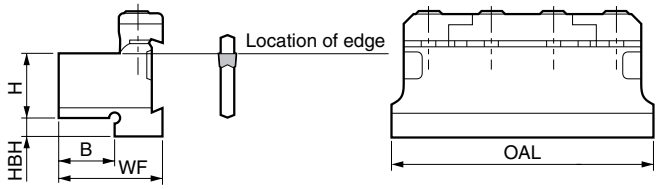


If the clamp set is mounted backward, a large gap will occur between the clamp and the toolblock, and the blade may come off during machining. Be careful when installing the clamp for safety.

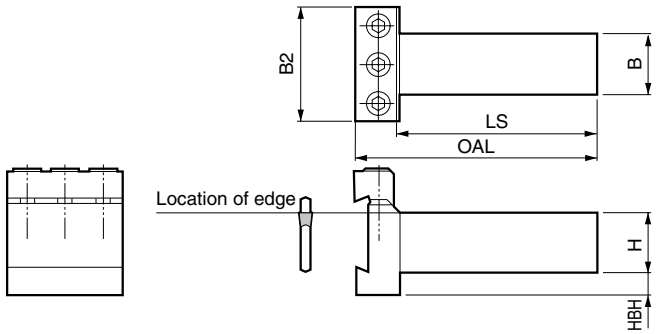
● : Std. Item
R : Std. Item (Right-hand Only)

Toolblocks (for Holding Blade)

KTKTB (Separate type)



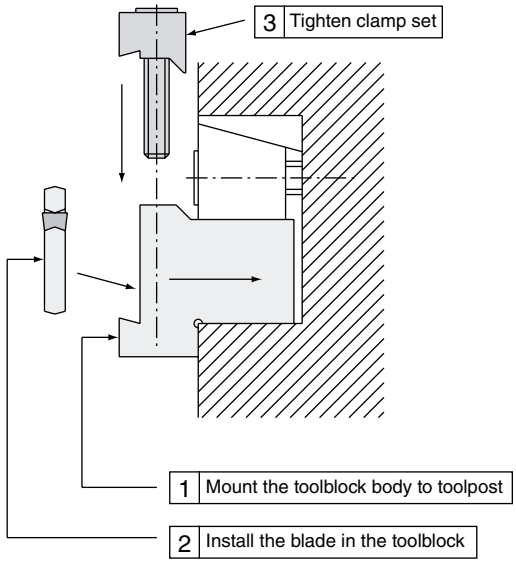
KTKTBF (Separate / Perpendicular type)

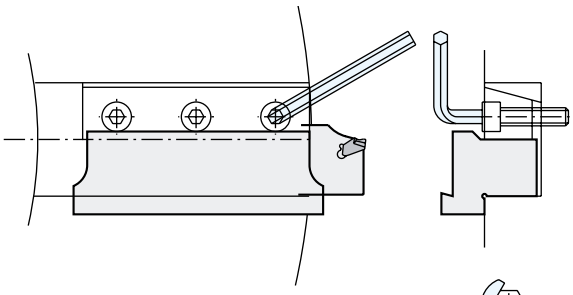


Toolblock Dimensions

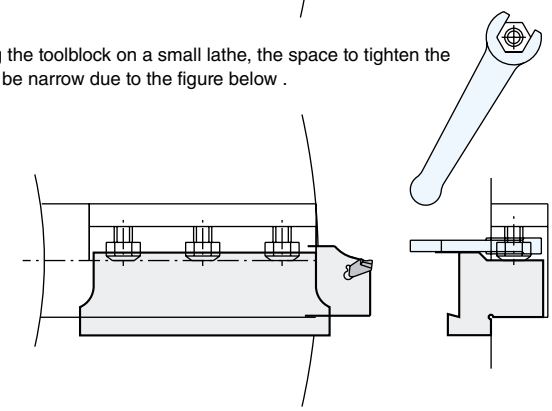
Description		Stock	Dimension (mm)						Spare Parts				Applicable Blade	
									Clamp Set		Screw	Wrench	Cut-off	Face Grooving
			H	HBH	B	WF B2	OAL	LS	Separate Type	Integral Type			H36	G109
KTKTB	16-19	●	16	4	15.5	29.5	76	-	-	BCS-1	HH5X25	LW-4	KTKB19-○S KTKB19-1SS	-
	20-19	●	20		19	34								
	16-26	●	16	13	15.5	31.5	86	-	BCS-2	-	HH6X30	LW-5	KTKB26-○S KTKB26-1SS	-
	20-26	●	20	9	19	36								
	20-32	●	20	13	19	38	100	-	BCS-3	-	HH6X30	LW-5	KTKB32-○S KTKB32-1SS KTKB$^{R}/_{L}$32-○S	KFTB$^{R}/_{L}$○○○○○-4S KFTB$^{R}/_{L}$○○○○○-5S
	25-32	●	25	8	23	42	110		BCS-4					
	32-32	●	32	5	29	48								
KTKTBF	25-32	●	25	9.5	25	48	102	84.5	-	BCS-5	HH6X30	LW-5	KTKB32-○S KTKB32-1SS KTKB$^{R}/_{L}$32-○S	KFTB$^{R}/_{L}$○○○○○-4S KFTB$^{R}/_{L}$○○○○○-5S
	32-32	●	32	2.5	32		117	99.5						

How to mount the Toolblock





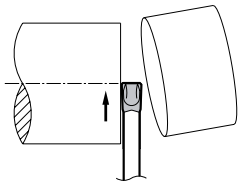
When mounting the toolblock on a small lathe, the space to tighten the clamp bolt may be narrow due to the figure below .



● : Std. Item

Cut-off Toolholders (Integral Type)

KTKH-S



For General Cut-off (Self Clamp)

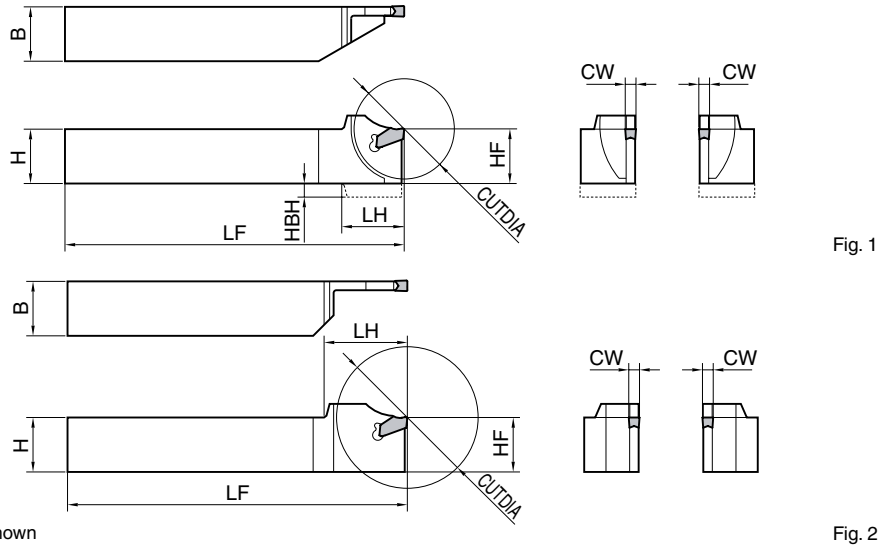


Fig. 1

• Right-hand shown

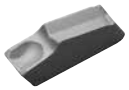
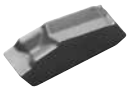
Fig. 2

Toolholder Dimensions

Description		Stock R	Stock L	Cut-off Dia. (mm) CUTDIA	Dimension (mm) H	HF	HBH	B	LF	LH	Edge Width (mm) CW	Drawing	Spare Parts: Releasing Wrench	See Page for Recommended Cutting Conditions
KTKH$^{R/L}$	1010F-2S	●	●	28	10	10	5	10	80	18.6	2.2 2.4	Fig. 1	LTK-5	H39
	1212H-2S	●	●	31	12	12	4	12	100	19.8				
	1612H-2S	●	●	31	16	16	-	12	100	19.8				
	1616H-2S	●	●	31	16	16	-	16	100	19.8				
	2012K-2S	●	●	36	20	20	-	12	125	22.8				
	2020K-2S	●	●	36	20	20	-	20	125	22.8				
	1612H-3S	●	●	35	16	16	4	12	100	21.7	3.1	Fig. 1		
	1616H-3S	●	●	35	16	16	4	16	100	21.7				
	2012K-3S	●	●	40	20	20	-	12	125	25.3				
	2020K-3S	●	●	51	20	20	-	20	125	31.0		Fig. 2		
	2525M-3S	●	●	52	25	25	-	25	150	31.5				
	2012K-4S	●	●	43	20	20	-	12	125	26.3	4.1	Fig. 1		
	2020K-4S	●	●	59	20	20	-	20	125	35.0		Fig. 2		
	2525M-4S	●	●	66	25	25	-	25	150	38.0				
	2525M-5S	●	●	77	25	25	-	25	150	43.5	4.8, 5.1	Fig. 2		
KTKH$^{R/L}$	2020K-3T17S	●	●	33	20	20	-	20	125	21.8	3.1	Fig. 1	LTK-5	H39
	2525M-3T22S	●	●	43	25	25	-	25	150	26.8				
	2020K-4T22S	●	●	44	20	20	-	20	125	26.8	4.1			
	2525M-4T22S	●	●	44	25	25	-	25	150	26.8				

· How to attach inserts, See Page **H35**.

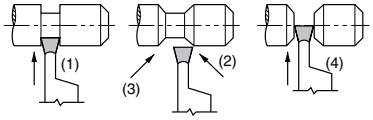
Applicable Inserts

See Page / Insert / Toolholder Description		 Low Feed	 Lead Angle	 Low Feed / Lead Angle
	➡ H35			
KTKH$^{R/L}$ ...-2...	TKN2 TKN2.4	TKN2-P	TK$^{R/L}$2 TK$^{R/L}$2.4	TK$^{R/L}$2-P
KTKH$^{R/L}$ ...-3...	TKN3	TKN3-P	TK$^{R/L}$3	TK$^{R/L}$3-P
KTKH$^{R/L}$ ...-4...	TKN4	-	TK$^{R/L}$4	-
KTKH$^{R/L}$ ...-5...	TKN4.8 TKN5	-	TK$^{R/L}$5	-

Application Example of Cut-off

1. Cut-off after Chamfering

(1) Grooving (2)(3) Chamfering (4) Cut-off

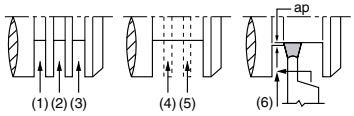


2. Wide Grooving

(1)~(5) Groove Widening

(6) Finishing

(Value of "ap" shall be under the value of Corner-R)



(In order to prevent both corners' unequal wear)

● : Std. Item

Recommended Cutting Conditions

TKF12/16

Workpiece Material	Recommended Insert Grades (Cutting Speed Vc: m/min)						TKF12 Edge Width CW (mm)						TKF16 Edge Width CW (mm)		Remarks
	MEGACOAT NANO		MEGACOAT	PVD Coated Carbide	DLC Coated Carbide	Carbide	0.5	0.7	1.0	1.25	1.5	2.0	1.5	2.0	
	PR1425	PR1535	PR1225	PR1025	PDL025	KW10	f (mm/rev)						f (mm/rev)		
Carbon Steel	★ 70 ~ 170 (50 ~ 140)	☆ 70 ~ 150 (50 ~ 120)	☆ 70 ~ 150 (50 ~ 120)	☆ 60 ~ 130	-	-	0.01 ~ 0.02	0.01 ~ 0.03	0.01 ~ 0.04 (0.01 ~ 0.05)	0.01 ~ 0.04	0.01 ~ 0.04 (0.02 ~ 0.1)	0.01 ~ 0.04 (0.02 ~ 0.1)	0.02 ~ 0.07 (0.02 ~ 0.1)	0.02 ~ 0.07 (0.02 ~ 0.1)	Coolant
Alloy Steel	★ 70 ~ 170 (50 ~ 140)	☆ 70 ~ 150 (50 ~ 120)	☆ 70 ~ 150 (50 ~ 120)	☆ 60 ~ 130	-	-	0.01 ~ 0.02	0.01 ~ 0.03	0.01 ~ 0.04 (0.01 ~ 0.05)	0.01 ~ 0.04	0.01 ~ 0.04 (0.02 ~ 0.1)	0.01 ~ 0.04 (0.02 ~ 0.1)	0.02 ~ 0.07 (0.02 ~ 0.1)	0.02 ~ 0.07 (0.02 ~ 0.1)	
Stainless Steel	☆ 60 ~ 140 (40 ~ 120)	★ 60 ~ 120 (40 ~ 100)	☆ 60 ~ 120 (40 ~ 100)	☆ 50 ~ 100	-	-	0.005 ~ 0.015	0.01 ~ 0.02	0.01 ~ 0.02 (0.01 ~ 0.03)	0.01 ~ 0.02	0.01 ~ 0.02 (0.01 ~ 0.05)	0.01 ~ 0.02 (0.01 ~ 0.05)	0.01 ~ 0.04 (0.01 ~ 0.05)	0.01 ~ 0.04 (0.01 ~ 0.05)	
Cast Iron	-	-	-	-	-	★ 50 ~ 100	0.01 ~ 0.03	0.01 ~ 0.04	0.01 ~ 0.05	0.01 ~ 0.05	0.01 ~ 0.05	0.01 ~ 0.05	0.02 ~ 0.08	0.02 ~ 0.08	
Aluminum Alloys	-	-	-	-	★ 200 ~ 500	☆ 200 ~ 450	0.01 ~ 0.03	0.01 ~ 0.04	0.01 ~ 0.05	0.01 ~ 0.05	0.01 ~ 0.05	0.01 ~ 0.05	0.02 ~ 0.08	0.02 ~ 0.08	
Brass	-	-	-	-	-	★ 100 ~ 200	0.01 ~ 0.03	0.01 ~ 0.04	0.01 ~ 0.06	0.01 ~ 0.06	0.01 ~ 0.06	0.01 ~ 0.06	0.02 ~ 0.1	0.02 ~ 0.1	

*( ) : Tough edge type (TKF..T..)

★ : 1st Recommendation ☆ : 2nd Recommendation

In case of using GMM-MT, GMM-TK, GMM-NB inserts

Workpiece Material	Recommended Insert Grades (Cutting Speed Vc: m/min)				Edge Width CW (mm)				Remarks
	CVD Coated Carbide	PVD Coated Carbide		Carbide	1.5	2.0/2.5	3.0	4.0	
	CR9025	PR915	PR930	KW10	f (mm/rev)				
Carbon Steel	☆ 80 ~ 180	★ 60 ~ 150	☆ 60 ~ 130	-	0.01 ~ 0.04	0.02 ~ 0.15	0.03 ~ 0.20	0.08 ~ 0.30	Coolant
Alloy Steel	☆ 70 ~ 150	★ 60 ~ 150	☆ 60 ~ 130	-	0.01 ~ 0.04	0.02 ~ 0.15	0.03 ~ 0.20	0.08 ~ 0.30	
Stainless Steel	☆ 60 ~ 140	★ 50 ~ 140	☆ 50 ~ 120	-	0.01 ~ 0.03	0.02 ~ 0.10	0.03 ~ 0.15	0.08 ~ 0.25	
Cast Iron	-	-	-	★ 50 ~ 100	0.01 ~ 0.05	0.05 ~ 0.12	0.10 ~ 0.25	0.10 ~ 0.30	
Aluminum Alloys	-	-	-	★ 200 ~ 450	0.01 ~ 0.05	0.05 ~ 0.10	0.05 ~ 0.20	0.05 ~ 0.25	
Brass	-	-	-	★ 100 ~ 200	0.01 ~ 0.05	0.05 ~ 0.10	0.05 ~ 0.15	0.05 ~ 0.20	

· When machining Steel and Stainless Steel by Insert of PR930, decrease the Feed Rate by 20%.

★ : 1st Recommendation ☆ : 2nd Recommendation

In case of using TKN, TK$^{R}/_{L}$ inserts

Workpiece Material	Recommended Insert Grades (Cutting Speed Vc: m/min)						Edge Width CW (mm)					Remarks
	Cermet		CVD Coated Carbide	MEGACOAT NANO	PVD Coated Carbide	Carbide	1.6	2.2/2.4	3.1	4.1	4.8 ~ 9.6	
	TN620	TN90	CR9025	PR1535	PR930	KW10	f (mm/rev)					
Carbon Steel	☆ 60 ~ 200	☆ 120 ~ 200	★ 80 ~ 180	☆ 60 ~ 150	☆ 60 ~ 130	-	0.02 ~ 0.08	0.04 ~ 0.18	0.05 ~ 0.25	0.08 ~ 0.30	0.15 ~ 0.40	Coolant
Alloy Steel	☆ 60 ~ 160	☆ 100 ~ 160	★ 70 ~ 150	☆ 60 ~ 150	☆ 60 ~ 130	-	0.02 ~ 0.08	0.04 ~ 0.18	0.05 ~ 0.25	0.08 ~ 0.30	0.15 ~ 0.40	
Stainless Steel	☆ 60 ~ 150	☆ 80 ~ 150	☆ 60 ~ 140	★ 50 ~ 120	☆ 60 ~ 140	-	0.02 ~ 0.06	0.04 ~ 0.12	0.05 ~ 0.18	0.08 ~ 0.25	0.10 ~ 0.30	
Cast Iron	-	-	-	-	-	★ 50 ~ 100	0.02 ~ 0.08	0.05 ~ 0.12	0.10 ~ 0.25	0.10 ~ 0.30	0.15 ~ 0.35	
Aluminum Alloys	-	-	-	-	-	★ 100 ~ 450	0.02 ~ 0.10	0.05 ~ 0.10	0.05 ~ 0.20	0.05 ~ 0.25	0.10 ~ 0.25	
Brass	-	-	-	-	-	★ 100 ~ 200	0.02 ~ 0.10	0.05 ~ 0.10	0.05 ~ 0.15	0.05 ~ 0.20	0.10 ~ 0.25	

★ : 1st Recommendation ☆ : 2nd Recommendation

In case of using GMM-TMR inserts

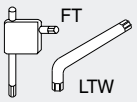
Workpiece Material	Vc (m/min)	f (mm/rev)	Remarks
Carbon Steel	60 ~ 200	0.08 ~ 0.18	Coolant
Alloy Steel	60 ~ 150		
Stainless Steel	50 ~ 140		

Alternative Toolholder Reference Table for Cut-off Toolholder（KTKF / KGM）

Conventional Toolholder						Alternative Toolholder			
Description	Overall length (mm)	Spare Parts: Clamp Screw	Spare Parts: Wrench	Spare Parts:	See Page	Description	Overall length (mm)	Remarks	See Page
									
KTKF R/L 1010K-12	125	SB-4590TRWN	LTW-10S		H8	KTKF R/L 1010JX-12	120		H8
KTKF R/L 1212M-12	150					KTKF R/L 1212JX-12	120		
KTKF R/L 1616M-12	150					KTKF R/L 1616JX-12	120		
KTKF R/L 1010K-16	125					KTKF R/L 1010JX-16	120		
KTKF R/L 1212M-16	150					KTKF R/L 1212JX-16	120		
KTKF R/L 1616M-16	150					KTKF R/L 1616JX-16	120		
KGM R/L 0810K-1.5-125	125	SE-40120TR	LTW-15S		H32	-	-	No Alternative	H32
KGM R/L 1010K-1.5-125	125					KGM R/L 1010JX-1.5	120		
KGM R/L 1212M-1.5-150	150					KGM R/L 1212JX-1.5	120		
KGM R/L 0810K-2-125	125	SE-40120TR	LTW-15S			-	-	No Alternative	
KGM R/L 1010K-2-125	125					KGM R/L 1010JX-2	120		
KGM R/L 1212M-2-150	150					KGM R/L 1212JX-2	120		
KGM R/L 1616M-2-150	150	SE-50125TR	LTW-20			KGM R/L 1616JX-2	120		
KGM R/L 1010K-2.5-125	125	SE-40120TR	LTW-15S			-	-	No Alternative	
KGM R/L 1212M-2.5-150	150					KGM R/L 1212JX-2.5	120		
KGM R/L 1616M-2.5-150	150	SE-50125TR	LTW-20			KGM R/L 1616JX-2.5	120		
KGM R/L 1616M-3-150	150	SE-50125TR	LTW-20			KGM R/L 1616JX-3	120		

Note) The corresponding alternative toolholder may be different from the conventional toolholder in insert clamping system or insert size. Make sure of their specifications by referring to the catalog or other documents.

Alternative Toolholder Reference Table for Cut-off Toolholder（KTKH-B / KTKH-S）

Conventional Toolholder						Alternative Toolholder			
Description	Cut-off Dia.	Spare Parts: Releasing Wrench	Spare Parts: Clamp Screw	Spare Parts: Wrench	See Page	Description	Cut-off Dia.	Remarks	See Page
									
KTKH R/L 0808K-1.6-125B	ø10	-	SE-40120TR	FT-15	H32	-	-	No Alternative	H32
KTKH R/L 1010K-1.6-125B	ø20					KGM R/L 1010JX-1.5	ø20		
KTKH R/L 1212M-1.6-150B	ø25					KGM R/L 1212JX-1.5	ø25		
KTKH R/L 1414M-1.6-150B	ø26					-	-	No Alternative	
KTKH R/L 1010K-2-125B	ø20	-	SE-40120TR	FT-15		KGM R/L 1010JX-2	ø20		
KTKH R/L 1212M-2-150B	ø25					KGM R/L 1212JX-2	ø25		
KTKH R/L 1616M-2-150B	ø32	-	SE-50125TR	LTW-20		KGM R/L 1616JX-2	ø32		
KTKH R/L 1616M-3-150B	ø32					KGM R/L 1616JX-3	ø32		
KTKHR 1010K-2-125S	ø30	LTK-5	-	-		KGMR 1010JX-2	ø20	Processing dia. is small.	
KTKH R/L 1212M-2-150S	ø30					KGM R/L 1212JX-2	ø25	Processing dia. is small.	
KTKH R/L 1616M-2-150S	ø36					KGM R/L 1616JX-2	ø32	Processing dia. is small.	
KTKH R/L 1616M-3-150S	ø45					KGM R/L 1616JX-3	ø32	Processing dia. is small.	

Note) The corresponding alternative toolholder may be different from the conventional toolholder in processing diameter or insert size. Make sure of their specifications by referring to the catalog or other documents.