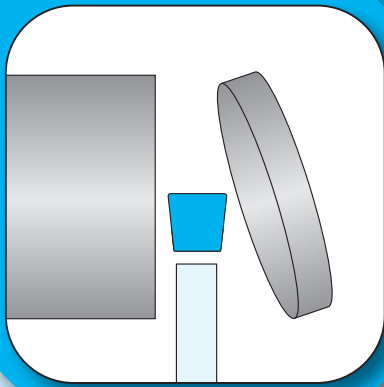


Cut-off

H1~H38



H

Product Lineup **H2**

Guide for Cut-off **H3**

Summary of Cut-off **H4~H5**

Cut-off Toolholders (for small diameter Cut-off) **H6~H17**



KTKF	Lateral side screw clamp toolholder	H8
KTKF-S(for sub spindle tooling)	Lateral side screw clamp toolholder	H10
KTKF-JCT(for High Pressure Coolant)	Lateral side screw clamp toolholder	H12
KTKFS(for sub spindle tooling)	Lateral side screw clamp toolholder	H16

Cut-off Toolholders (for 2-edge insert , KGD) **H18~H27**



KGD(for Automatic Lathe)	Integral Toolholder	H20
KGDS(for sub spindle tooling)	Integral Toolholder	H21
KGD	Integral Toolholder	H22
KGD-JCT(for High Pressure Coolant)	Integral Toolholder	H23
KGD-S	Separate Toolholder	H25

Cut-off Toolholders (for 2-edge insert , KGM) **H28~H32**



KGM(for Automatic Lathe)	Integral Toolholder	H30
KGM	Integral Toolholder	H30
KGM-T	Integral Toolholder	H31

Cut-off Toolholders (for 1-edge insert) **H33~H36**



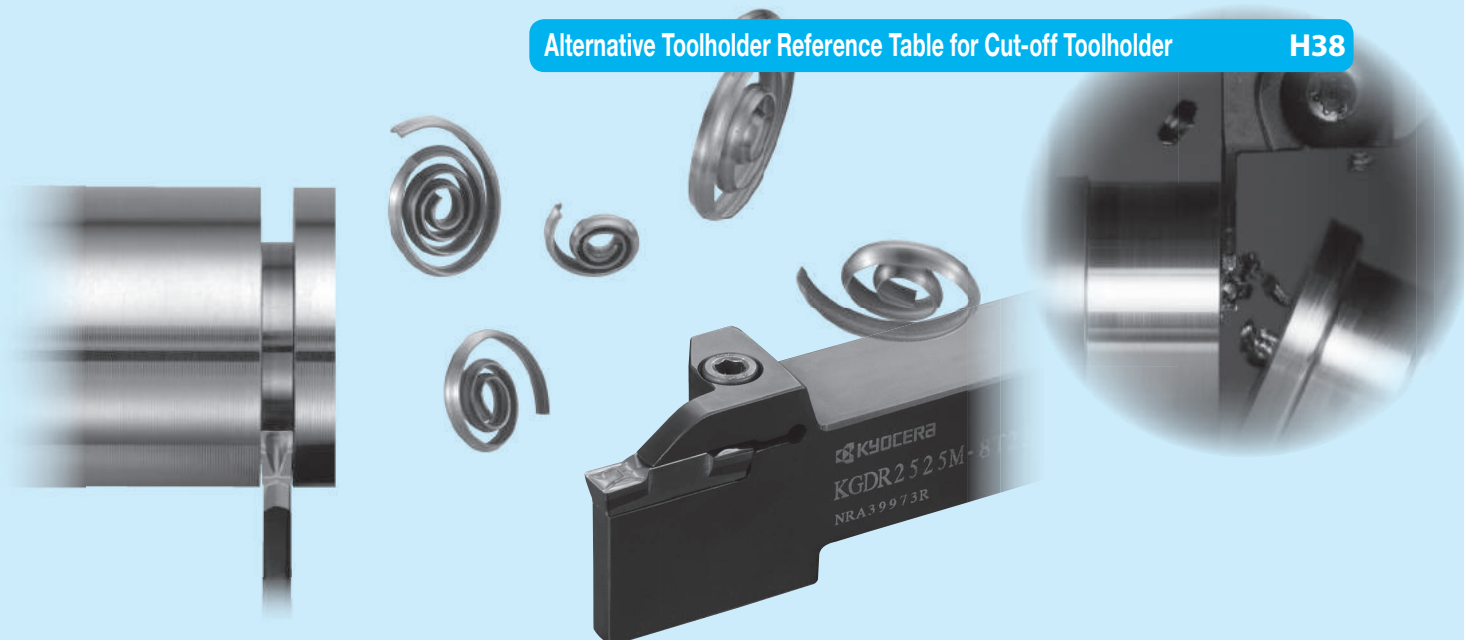
KTKB-SS / KTKB-S	Blade	H34
KTKTB / KTKTBF	Toolblock	H35
KTKH-S	Integral Toolholder	H36

Technical Information **H37**

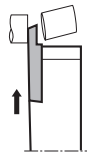
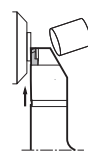
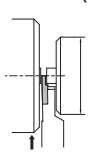
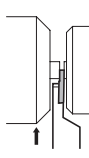
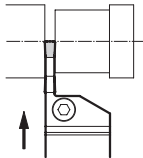
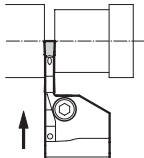
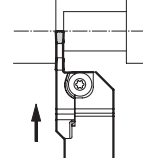
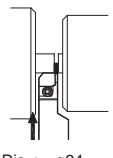
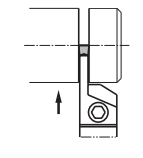
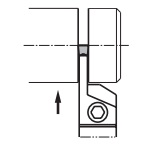
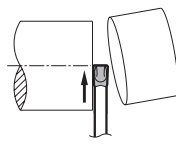
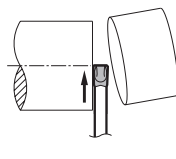
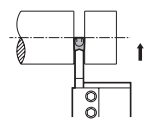


Recommended Cutting Conditions **H37**

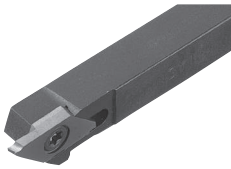




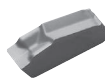
Alternative Toolholder Reference Table for Cut-off Toolholder **H38**



Product Lineup

<p>Small Diameter Cut-off (for Automatic Lathe) Cut-off Dia. : ~ϕ16</p>	<p>KTKF (H8)</p>  <p>Cut-off Dia. : ~ ϕ5, ϕ8, ϕ12, ϕ16 Edge Width : 0.5 ~ 2.0 mm</p>	<p>KTKF-JCT (H12)</p>  <p>Cut-off Dia. : ~ ϕ5, ϕ8, ϕ12, ϕ16 Edge Width : 0.5 ~ 2.0 mm</p>		<p>KTKF-S (H10)</p>  <p>For sub spindle tooling Cut-off Dia. : ~ ϕ5, ϕ8, ϕ12, ϕ16 Edge Width : 0.5 ~ 2.0 mm</p>	<p>KTKFS (H16)</p>  <p>Cut-off Dia. : ~ ϕ6, ϕ9, ϕ12, ϕ14, ϕ16 Edge Width : 1.0 ~ 2.0 mm</p>
<p>KGD (Bolt Clamp) Cut-off Dia. : ~ϕ51</p>	<p>KGD (H20, H22)</p>  <p>Edge Width : 1.3 ~ 4.0 mm</p>	<p>KGD-JCT (H23)</p>  <p>Edge Width : 3.0 ~ 4.0 mm</p>	<p>KGD-S (H25)</p>  <p>Edge Width : 2.0 ~ 4.0 mm</p>	<p>KGDS (H21)</p>  <p>For sub spindle tooling Cut-off Dia. : ~ ϕ24 Edge Width : 1.3 ~ 3.0 mm</p>	
<p>KGM (Bolt Clamp) Cut-off Dia. : ~ϕ60</p>	<p>KGM (H30)</p>  <p>Edge Width : 1.5 ~ 4.0 mm, 3 ~ 8 mm</p>	<p>KGM-T (H31)</p>  <p>Edge Width : 2.0 ~ 6.0 mm</p>			
<p>KTKB KTKH (1-edge) Cut-off Dia. : ~ϕ120</p>	<p>Toolholder Type Cut-off Dia. ϕ30 ~ ϕ79</p>  <p>Edge Width : 2.2 ~ 5.1 mm</p>	<p>KTKH-S (H36)</p>  <p>Edge Width : 2.2 ~ 5.1 mm</p>		<p>Blade type Cut-off Dia. ϕ32 ~ ϕ120</p>	<p>KTKB-S(S) (H34)</p>  <p>Edge Width : 1.6 ~ 9.6 mm</p>

Cut-off Tools


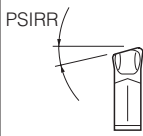
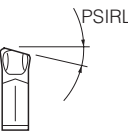
Series Name	Shape	Advantage	Applications
Small Diameter Cut-off		<ol style="list-style-type: none"> 1) Insert clamp is side screw type from lateral side 2) 2-edge insert 3) Max. Cut-off Dia. : ϕ16 	<ol style="list-style-type: none"> 1) Cut-off and grooving of small workpieces 2) Automatic lathe, small machine
KGD		<ol style="list-style-type: none"> 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. : ϕ50 	<ol style="list-style-type: none"> 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		<ol style="list-style-type: none"> 1) Insert is clamped from top side 2) 1-edge and 2-edge inserts available 3) Max. Cut-off Dia. : ϕ60 	<ol style="list-style-type: none"> 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		<ol style="list-style-type: none"> 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. : ϕ120 	<ol style="list-style-type: none"> 1) For cut-off and deep grooving 2) Standard chipbreaker is general cut-off type Feed rate : 0.1mm/rev or over <p>P Chipbreaker is for cut-off at low feed rates Feed rate : 0.03~0.08mm/rev</p>  

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. $\phi 120$) 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)	TK ^{R/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.			

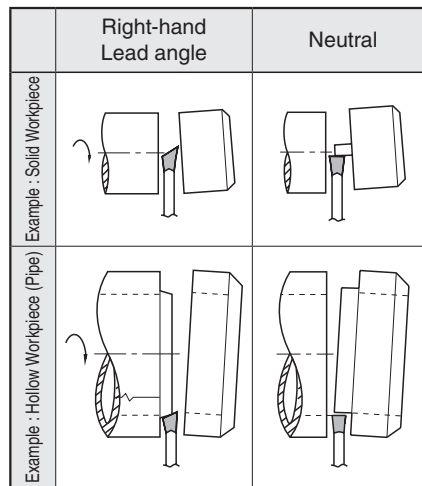


Fig. 1

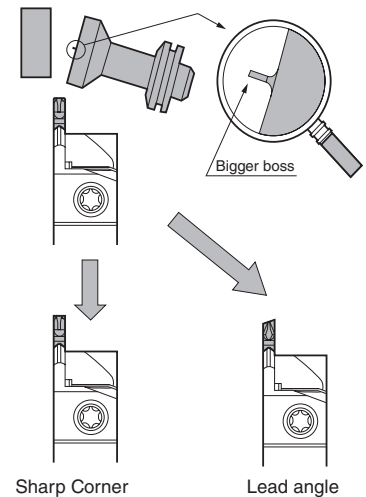


Fig. 2

Caution

1. For TKN and TK^{R/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.

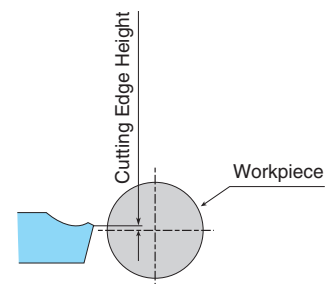
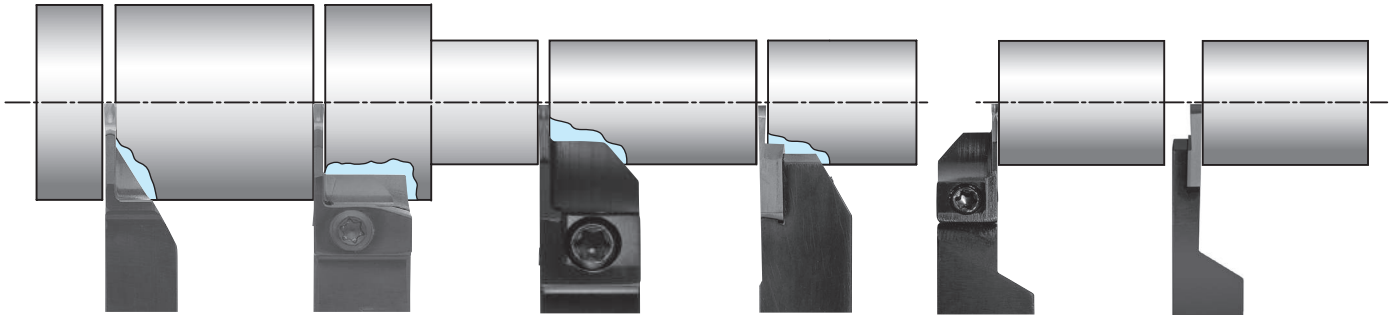


Fig. 3 (TKN,TK^{R/L})

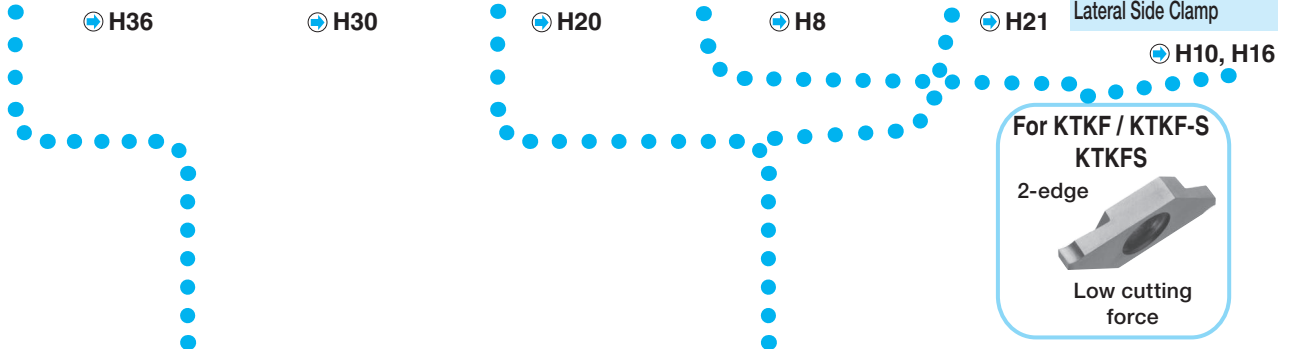
Summary of Cut-off

Small Dia. Cut-off ~ $\phi 51$

Small Shank



KTKH-S	KGM	KGD	KTKF	KGDS	KTKF-S / KTKFS
Cut-off Dia. : ~ $\phi 45$ Shank : □10 ~ 25 Edge Width : 2.2 ~ 4.1 Self Clamp	Cut-off Dia. : ~ $\phi 32$ Shank : □10 ~ 16 Edge Width : 1.5 ~ 4.0 Top Clamp	Cut-off Dia. : ~ $\phi 51$ Shank : □10 ~ 20 Edge Width : 1.3 ~ 4.0 Top Clamp	Cut-off Dia. : ~ $\phi 16$ Shank : □10 ~ 20 Edge Width : 0.5 ~ 2.0 Lateral Side Clamp	Cut-off Dia. : ~ $\phi 24$ Shank : □16 Edge Width : 1.3 ~ 3.0 Top Clamp	Cut-off Dia. : ~ $\phi 16$ Shank : □10 ~ 12 Edge Width : 0.5 ~ 2.0 (KTKF-S) 1.0 ~ 2.0 (KTKFS) Lateral Side Clamp

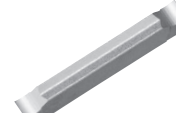


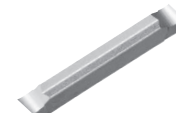





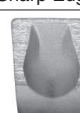

For KTKF / KTKF-S / KTKFS
2-edge

Low cutting force

Chipbreaker for General Cut-off
Chipbreaker for Low Feed Cut-off

2-edge

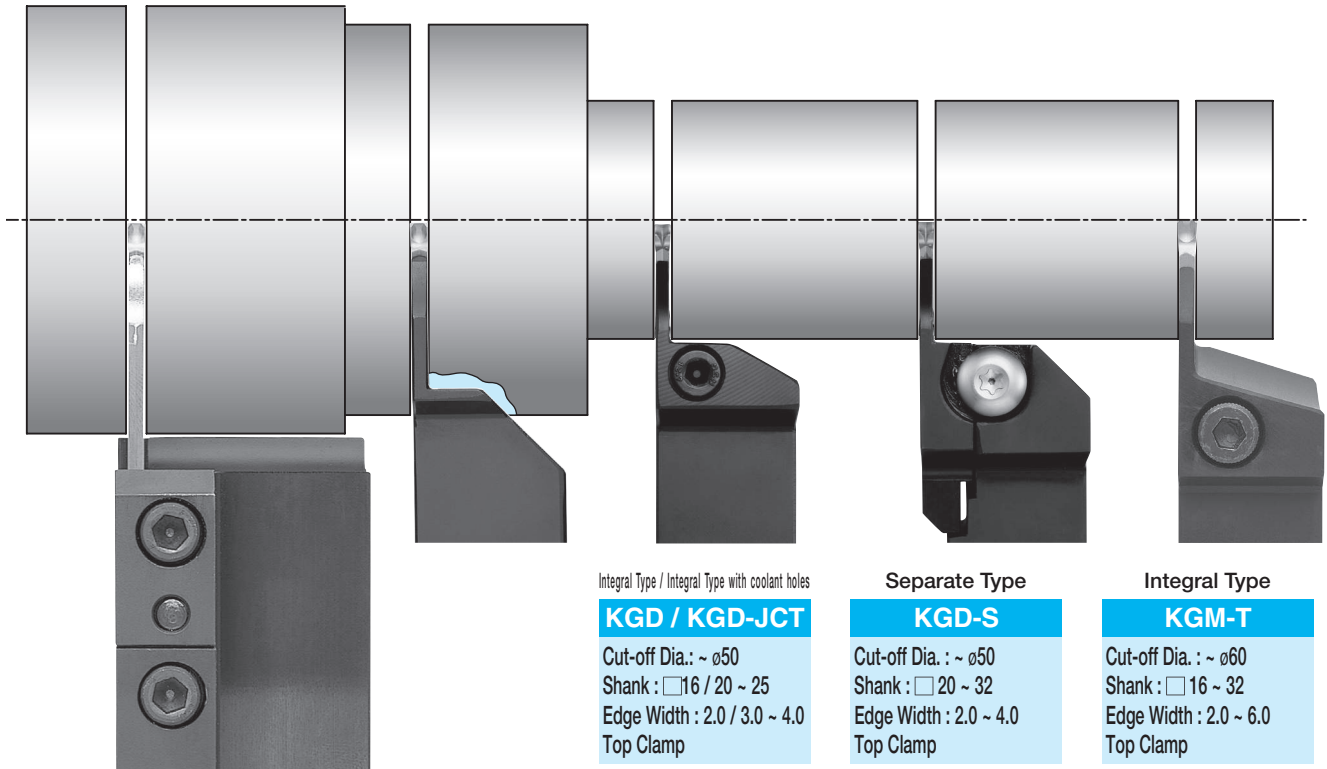
		
Sharp Cutting PG Chipbreaker	Low Feed PF Chipbreaker	Medium Feed PQ Chipbreaker
		
(15° Lead Angle)	(15° Lead Angle)	(15° Lead Angle)

Chipbreaker edge shape	Cut-off (Self Clamp) H33		
	General Cut-off		Low Feed Cut-off
	Chamfered + R-honed	Sharp Edge	R-honed
			

		
KTKH-S H36 (Self Clamp)	KGD H20 (Top Clamp)	KTKF H8 (Lateral Side Clamp)

H
Cut-off

General Cut-off ~ $\phi 120$



Integral Type / Integral Type with coolant holes

KGD / KGD-JCT

Cut-off Dia.: ~ $\phi 50$
 Shank : □16 / 20 ~ 25
 Edge Width : 2.0 / 3.0 ~ 4.0
 Top Clamp

Separate Type

KGD-S

Cut-off Dia.: ~ $\phi 50$
 Shank : □20 ~ 32
 Edge Width : 2.0 ~ 4.0
 Top Clamp

Integral Type

KGM-T

Cut-off Dia.: ~ $\phi 60$
 Shank : □16 ~ 32
 Edge Width : 2.0 ~ 6.0
 Top Clamp

Blade + Toolblock

KTKB

Cut-off Dia. : ~ $\phi 120$
 Shank : □16 ~ 32
 Edge Width : 1.6 ~ 9.6
 Self Clamp

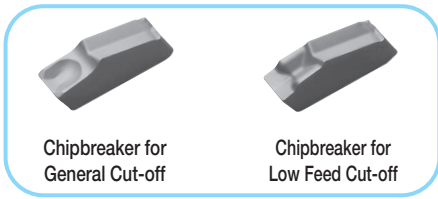
Integral Type

KTKH-S

Cut-off Dia. : ~ $\phi 79$
 Shank : □20 ~ 25
 Edge Width : 3.1 ~ 5.1
 Self Clamp

H34

H36

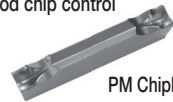


H22 / H23

H25

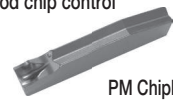
H31

2-edge
Good chip control



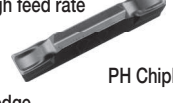
PM Chipbreaker

1-edge
Good chip control



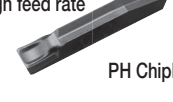
PM Chipbreaker

2-edge
High feed rate



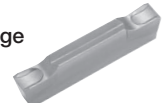
PH Chipbreaker

1-edge
High feed rate



PH Chipbreaker

2-edge



Chipbreaker for Sharp Cutting

2-edge



Chipbreaker for Stability

1-edge



Chipbreaker for Stability

Blade + Toolblock	Separate Type	Integral Type		
 KTKB H34	 KGD-S H25	 KTKH-S H36	 KGD / KGD-JCT H22 / H23	 KGM-T H30, H31

Cut-off Inserts (for small diameter)

TKF

Applicable Inserts (TKF12)

Classification of usage		P	Carbon steel / Alloy steel						
	M	Stainless Steel							
	K	Cast Iron							
	N	Non-ferrous Metals							

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				
 Right lead angle	TKF12 ^{R/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	12						●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	150-S-16DR	1.5	12						●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	200-S-16DR	2.0	12						●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
 0°	TKF12 ^{R/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	12						●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	150-S	1.5	12						●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	200-S	2.0	12						●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
 Right lead angle / Tough Edge	TKF12 ^{R/L} 100-T-16DR	1.0	12	0.08	3	8.7	5	16°	●	●	●	●	●	●	●	●	●	●					
	150-T-16DR	1.5	12						●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	200-T-16DR	2.0	12						●	●	●	●	●	●	●	●	●	●	●	●	●	●	
 Tough Edge	TKF12 ^{R/L} 100-T	1.0	12	0.08	3	8.7	5	0°	●	●	●	●	●	●	●	●	●	●					
	150-T	1.5	12						●	●	●	●	●	●	●	●	●	●	●	●	●		
	200-T	2.0	12						●	●	●	●	●	●	●	●	●	●	●	●	●	●	
 Right lead angle Without Chipbreaker	TKF12 ^{R/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	12						●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	200-NB-20DR	2.0	12						●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
 Without Chipbreaker	TKF12 ^{R/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	12						●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	200-NB	2.0	12						●	●	●	●	●	●	●	●	●	●	●	●	●	●	

See Page for Applicable Toolholders

H8

· 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 Table 1)

TKF 12 R 050 — S — 16D R

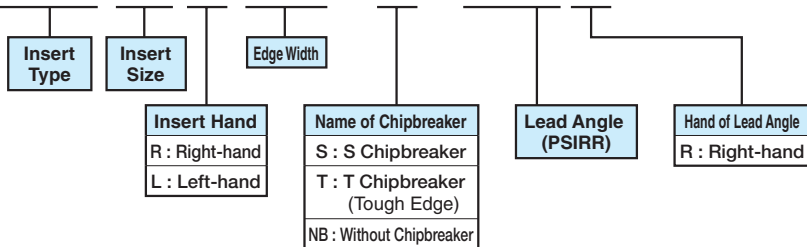


Table 1

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

● Applicable Inserts (TKF16)

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

Insert Handed Insert shows Right-hand	Description	Dimension (mm)							Angle	MEGACOAT NANO		MEGACOAT		PVD Coated Carbide		DLC Coated Carbide		Carbide		See Page for Applicable Toolholders		
		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	R	L	R	L		R	L
 Right lead angle	TKF16 ^{R/L} 150-S-16DR	1.5							●	●	●	●	●	●	●	●	●	●	●	●	H8	
	200-S-16DR	2.0	16	0.05	4	9.5	5	16°	●	●	●	●	●	●	●	●	●	●	●	●		
 Right lead angle	TKF16 ^{R/L} 150-S	1.5							●	●	●	●	●	●	●	●	●	●	●	●	H8	
	200-S	2.0	16	0.05	4	9.5	5	0°	●	●	●	●	●	●	●	●	●	●	●	●		
 Right lead angle / Tough Edge	TKF16 ^{R/L} 150-T-16DR	1.5							●	●	●	●	●	●	●	●	●	●	●	●	H8	
	200-T-16DR	2.0	16	0.08	4	9.5	5	16°	●	●	●	●	●	●	●	●	●	●	●	●		
 Tough Edge	TKF16 ^{R/L} 150-T	1.5							●	●	●	●	●	●	●	●	●	●	●	●	H8	
	200-T	2.0	16	0.08	4	9.5	5	0°	●	●	●	●	●	●	●	●	●	●	●	●		
 Right lead angle Without Chipbreaker	TKF16 ^{R/L} 150-NB-20DR	1.5							●	●	●	●	●	●	●	●	●	●	●	●	H8	
	200-NB-20DR	2.0	16	0	4	9.5	5	20°	●	●	●	●	●	●	●	●	●	●	●	●		
 Without Chipbreaker	TKF16 ^{R/L} 150-NB	1.5							●	●	●	●	●	●	●	●	●	●	●	●	H8	
	200-NB	2.0	16	0	4	9.5	5	0°	●	●	●	●	●	●	●	●	●	●	●	●		

· 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

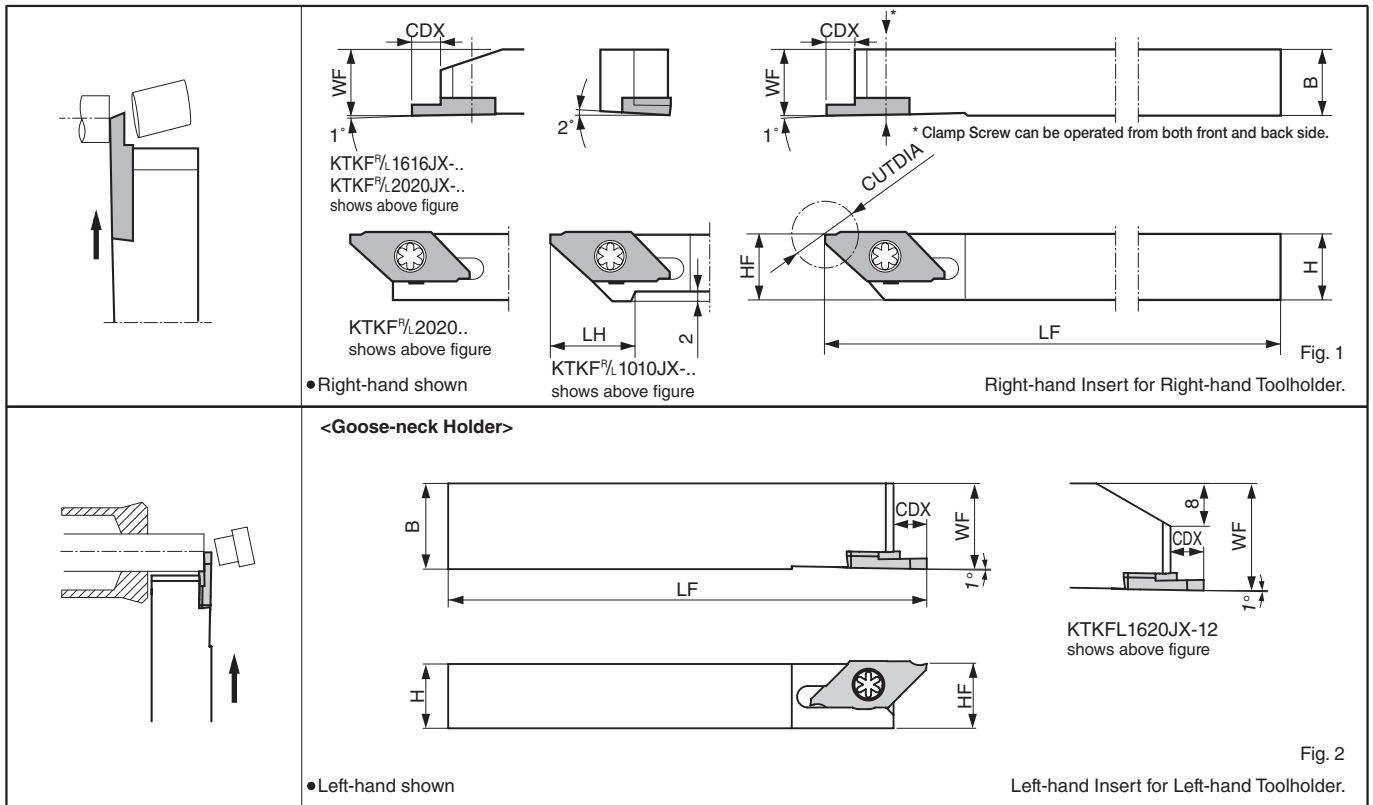
Chipbreaker Edge Shape	S Chipbreaker		T Chipbreaker (Tough Edge)		NB (Without Chipbreaker)	
	GAN	Description	GAN	Description	GAN	Description
	15°	TKF12...-S	12°	TKF...-T TKF...-T-16DR	0°	TKF...-NB TKF...-NB-20DR
	20°	TKF16...-S TKF16...-S-16DR				
	25°	TKF12...-S-16DR				

● : Std. Item

Inserts are sold in 10 piece boxes

Cut-off Toolholders (for small diameter)

KTKF (For small diameter cut-off)



Toolholder Dimensions

Description	Stock		Dimension (mm)							Drawing	Spare Parts		Applicable Inserts ● H6, H7
	R	L	H	HF	B	LF	LH	WF	CDX		Clamp Screw	Wrench	
KTKF ^{R/L} 1010JX-12	●	●	10	10	10	120	15	10	6	Fig. 1	SB-4590TRWN	LTW-10S	TKF12 ^{R/L} ...
	●	●	12	12	12		-	12					
	●	●	16	16	16		-	16					
	●	●	20	20	20		-	20					
KTKF ^{R/L} 1010JX-16	●	●	10	10	10	120	20	10	8	Fig. 1	SB-4590TRWN	LTW-10S	TKF16 ^{R/L} ...
	●	●	12	12	12		-	12					
	●	●	16	16	16		-	16					
	●	●	20	20	20		-	20					
KTKF ^{R/L} 1212F-12	●	●	12	12	12	85	-	12	6	Fig. 1	SB-4590TRWN	LTW-10S	TKF12 ^{R/L} ...
	●	●					-	8	8				TKF16 ^{R/L} ...
KTKFL 1216JX-12		●	12	12	16	120	-	16	6	Fig. 2	SB-4590TRWN	LTW-10S	TKF12L ...
		●	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 ● H37

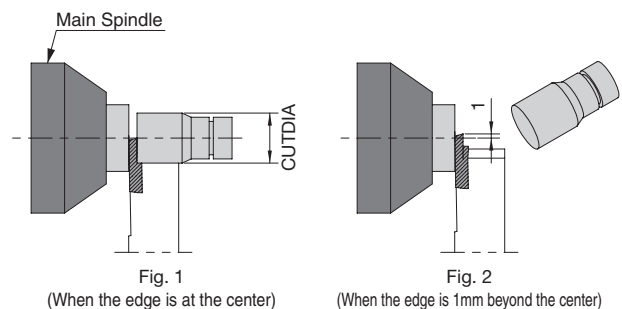
Note : Cut-off diameter of -12 type toolholder (CUTDIA) depends on the insert width.

How to Use

1) When using Main Spindle only

Maximum cutting 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)



● : Std. Item

2) When using both Main and Sub spindles

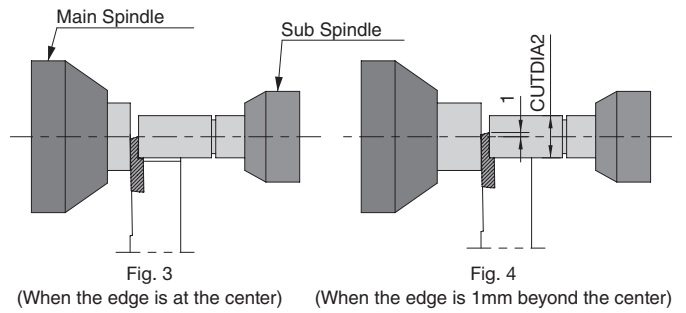
In this case, when the cutting edge runs beyond the center line, the insert will contact the workpiece, since the workpiece does not fall off. Therefore the programmed distance beyond the center must be considered.

e.g.) When the cutting edge is programmed to run 1mm beyond the center as shown in Fig.4,

Maximum cutting diameter CUTDIA2 (Fig.4) is

$$\text{CUTDIA2} = [\text{CUTDIA} - 1\text{mm} \times 2](\text{mm}).$$

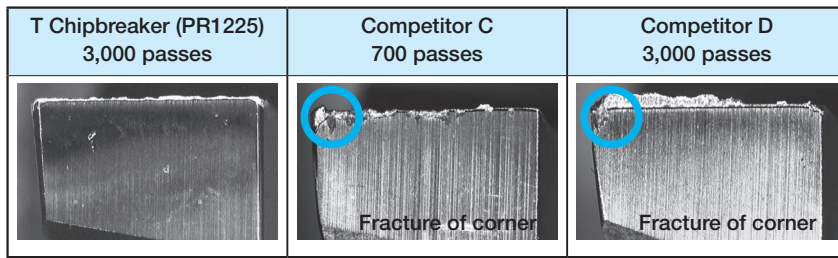
(The clearance between the insert and the workpiece is 0.2mm)



Tough Edge, T Chipbreaker

Fracture resistance comparison (Interruption)

Cutting Edge (Front Relief Surface)



<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)

	1,000 passes	2,000 passes	3,000 passes
Tough Edge, T Chipbreaker	→		
Competitor C	→ X		
Competitor D	→ X		

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

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 Toolholder (for sub spindle tooling)

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

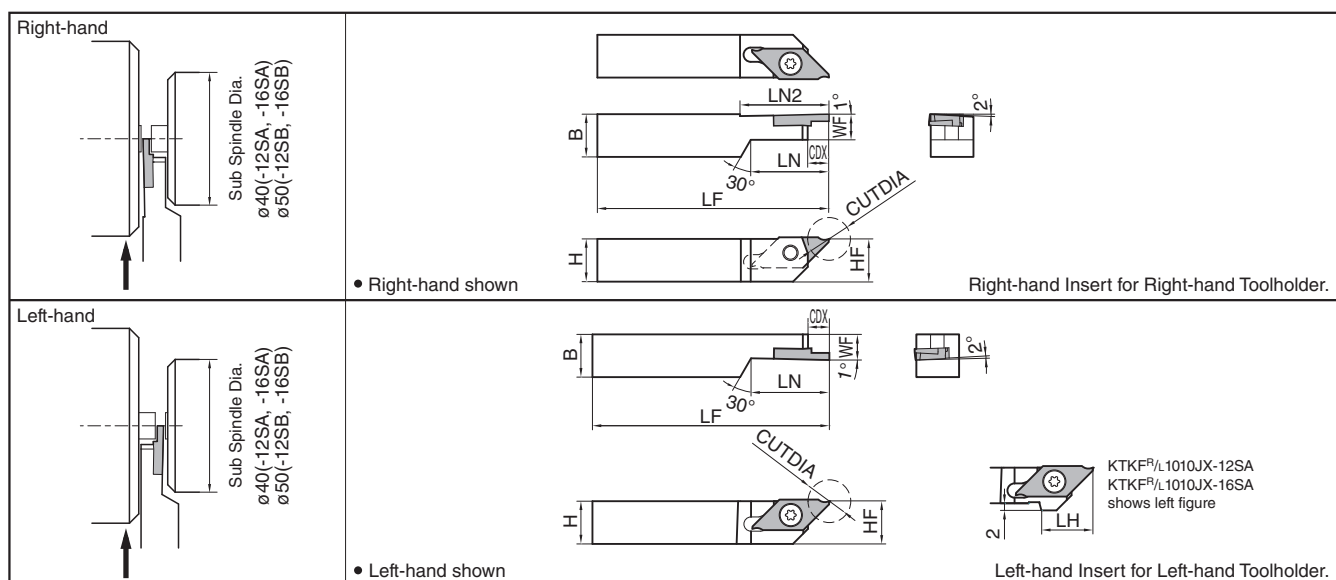
Thin toolholder head is applicable when minimal clearance exists between the main spindle and sub spindle.

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. CUTDIA	Dimension (mm)									Spare Parts		Applicable Inserts H6, H7			
	R	L		H	HF	B	LF	LH	LN	*LN2	WF	CDX	Clamp Screw	Wrench				
KTKF ^{R/L} 1010JX-12SA	●	●	5~12	10	10	10	120	15	22	26	7.2	6	SB-4570TRN	LTW-10S	TKF12 ^{R/L}			
1212F-12SA	●	●		12	12	12	85	-										
KTKF ^{R/L} 1212JX-12SB	●	●		12	12	12	120	26										
KTKF ^{R/L} 1010JX-16SA	●	●	16	10	10	10	120	20	22	30	7.2	8				SB-4570TRN	LTW-10S	TKF16 ^{R/L}
1212F-16SA	●	●		12	12	12	85	-										
KTKF ^{R/L} 1212JX-16SB	●	●		12	12	12	120	26										

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

• Cut-off Dia. (CUTDIA) depends on the insert edge width.

* Only Right-hand is available for LN2 dimension.

● : Std. Item

How to Use

1) When using Main Spindle only

Maximum cutting 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)

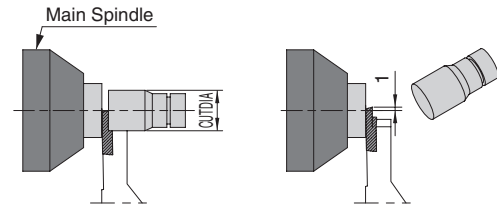


Fig. 1 (When the edge is at the center) Fig. 2 (When the edge is 1mm beyond the center)

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.

Maximum cutting diameter CUTDIA2 (Fig. 4) is

$CUTDIA2 = [CUTDIA - 1 \text{ mm} \times 2] (\text{mm})$.

(The clearance between the insert and maximum machining diameter is kept at 0.2mm radius)

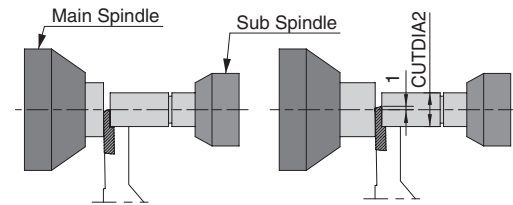


Fig. 3 (When the edge is at the center) Fig. 4 (When the edge is 1mm beyond the center)

Insert Grades	A
Turning Indexable Inserts	B
CBN & PCBN Tools	C
External	D
Small Parts Machining	E
Boring	F
Grooving	G
Cut-off	H
Threading	J
Drilling	K
Solid Tools	L
Milling	M
Tools for Turning Mill	N
Spare Parts	P
Technical Information	R
Index	T

Cut-off Toolholders (for High Pressure Coolant)

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

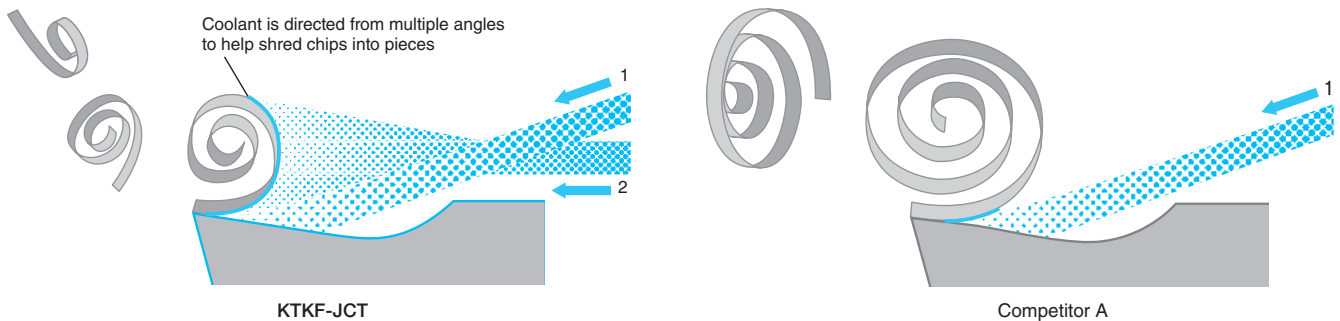
KTKF-JCT

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



Chip Control Comparison (Internal evaluation)

SUS304

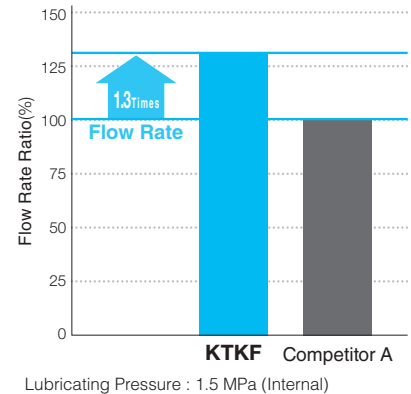
f (mm/rev)	0.01	0.02	0.03
KTKF-JCT			
Competitor A			

TAB6400(Ti-6Al-4V)

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

Cutting Conditions : $V_c = 80$ m/min, Wet (Oil-based) Lubricating Pressure : 1.5 MPa (Internal)
Workpiece : $\phi 12$

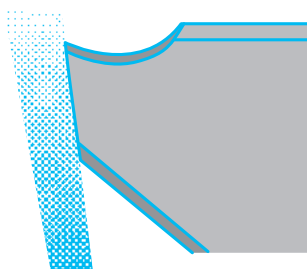
Coolant Flow Rate Comparison (Internal evaluation)



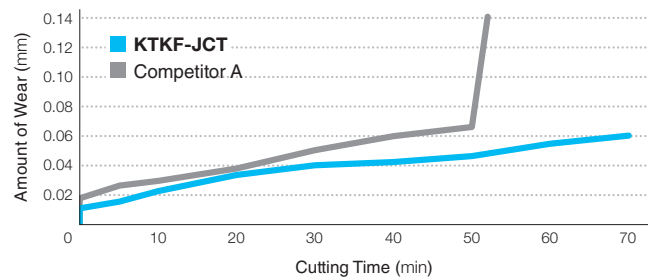
2 Superior cooling action improves tool life

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



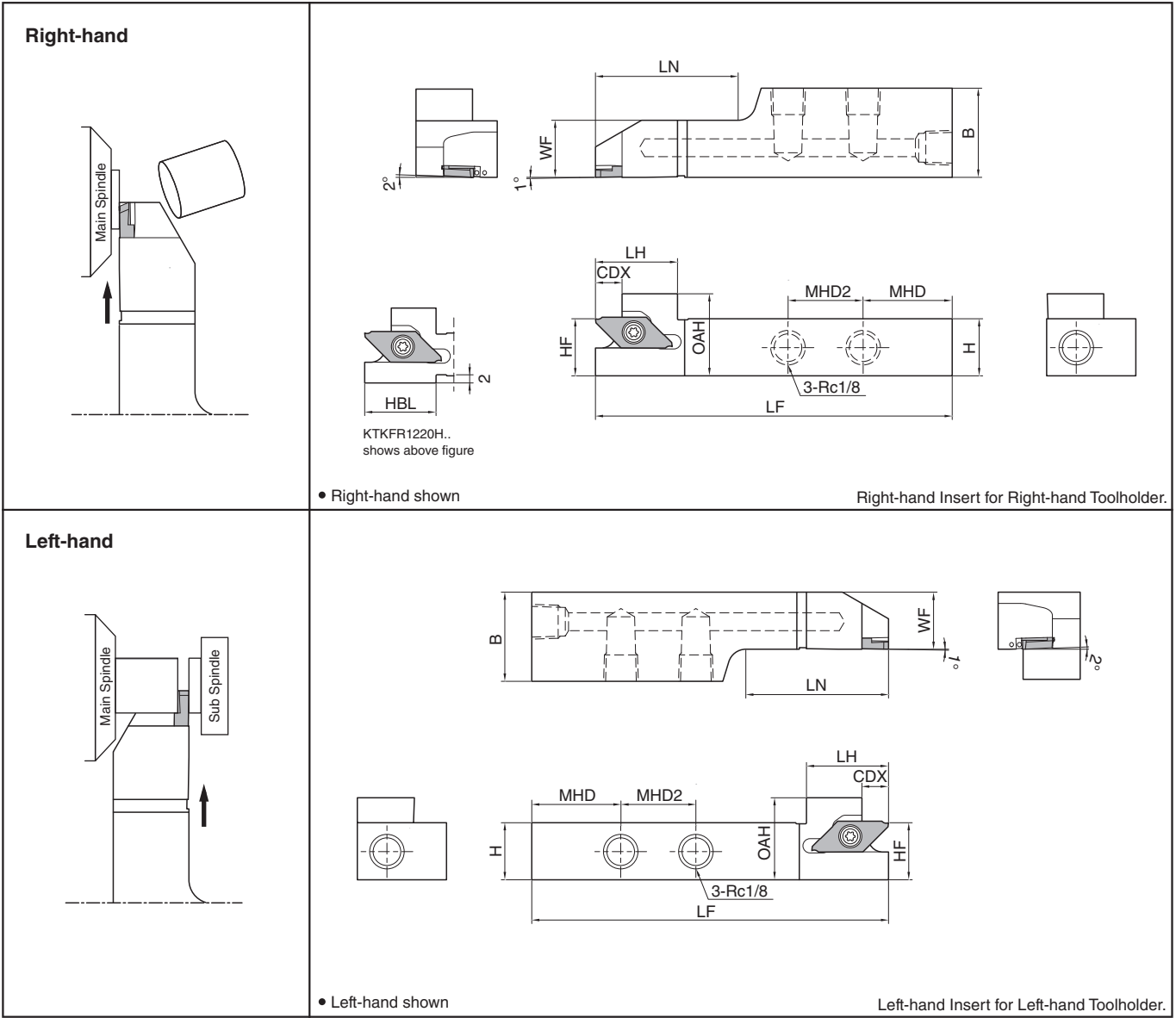
Wear Resistance Comparison (Internal evaluation)



Cutting Conditions : $V_c = 100$ m/min, $f = 0.02$ mm/rev, Wet (Oil-based)
Lubricating Pressure : 1.5 MPa (Internal) Workpiece Material : TAB6400 (Ti-6Al-4v) $\phi 12$

KTKF-JCT NEW

Insert Grades
A
Turning
B
Indexable Inserts
C
CNC & PCD Tools
D
External
E
Small Parts
Machining
F
Boring
G
Grooving
H
Cut-off
J
Threading
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Drilling
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Toolholder Dimensions

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

Recommended Cutting Conditions ●H37

● : Std. Item

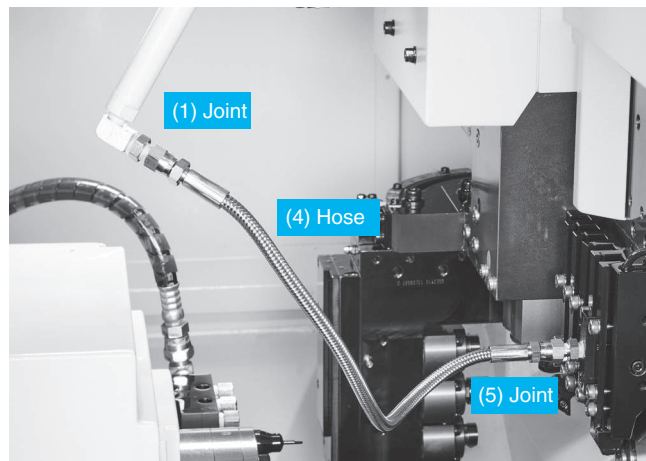
Cut-off Toolholders (for High Pressure Coolant)

Coolant Piping Parts

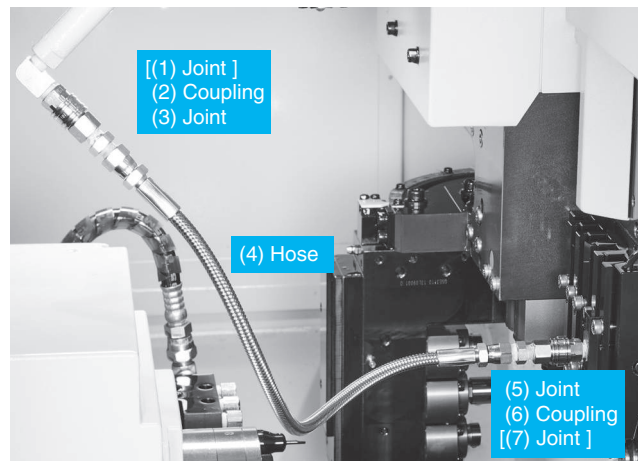
Pipe parts will be required separately if internal coolant is used

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)

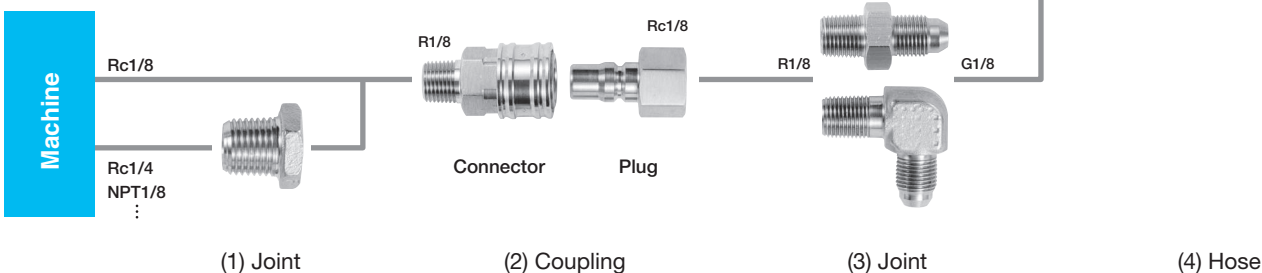
Spare Parts	Description
[(1) Joint]	-
(2) Coupling	CP-ST-R1/8, P-ST-RC1/8
(3) Joint	J-ST-R1/8-G1/8
(4) Hose	HS-G1/8-G1/8-500
(5) Joint	J-ST-R1/8-G1/8
(6) Coupling	P-ST-RC1/8, CP-ST-R1/8
[(7) Joint]	-

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)



H
Cut-off

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)]

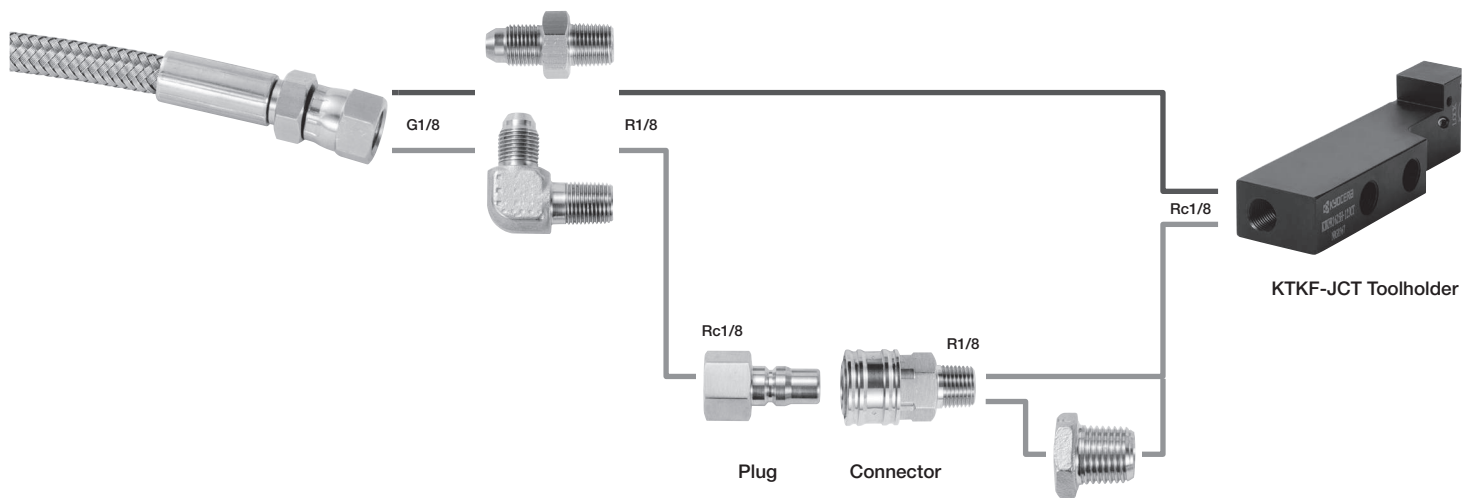
Pressure Resistance : ~ 7.5MPa

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	●



(4) Hose

(5) Joint

(6) Coupling

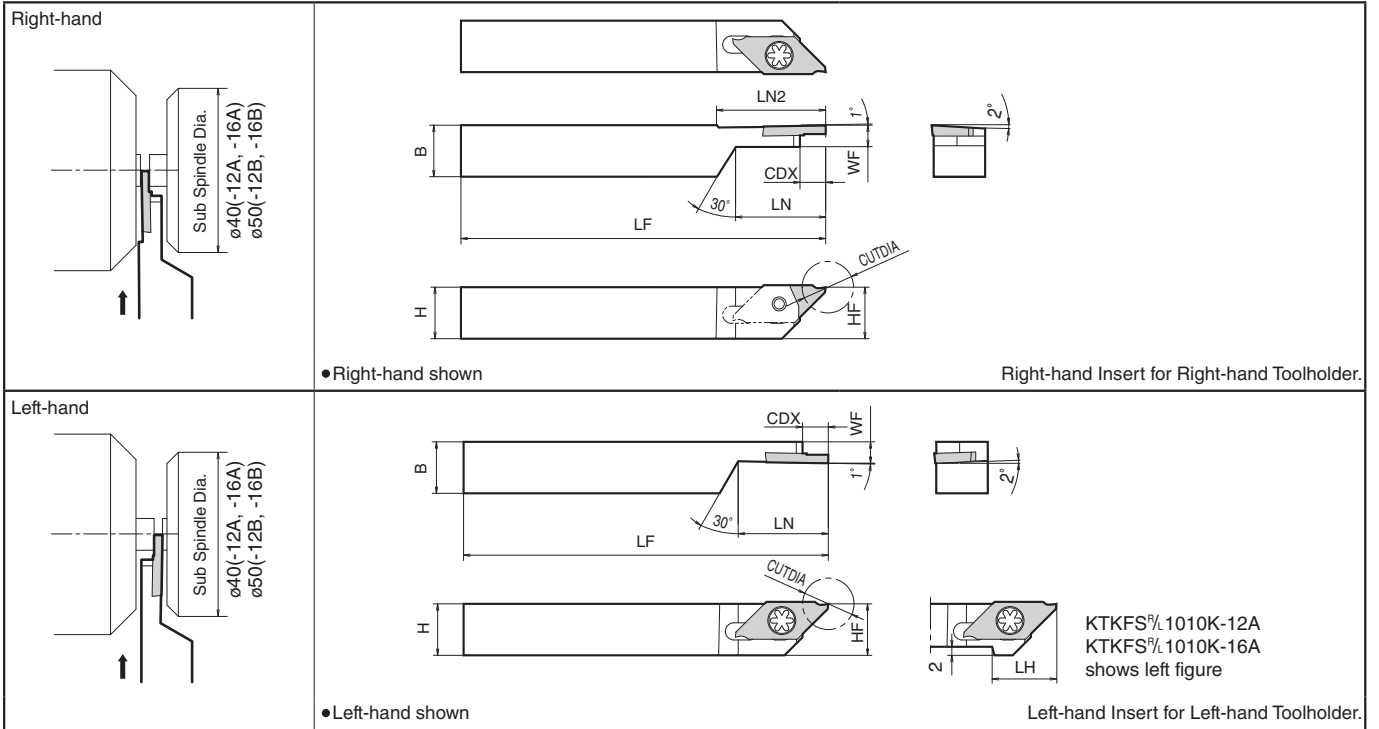
(7) Joint (Extension Joint)

● : Std. Item

Insert Grades
A
Turnings
B
Indexable Inserts
C
CNC & PC Tools
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Small Parts
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Cut-off Toolholders (for sub spindle tooling)

KTKFS (for sub spindle tooling)



Toolholder Dimensions

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

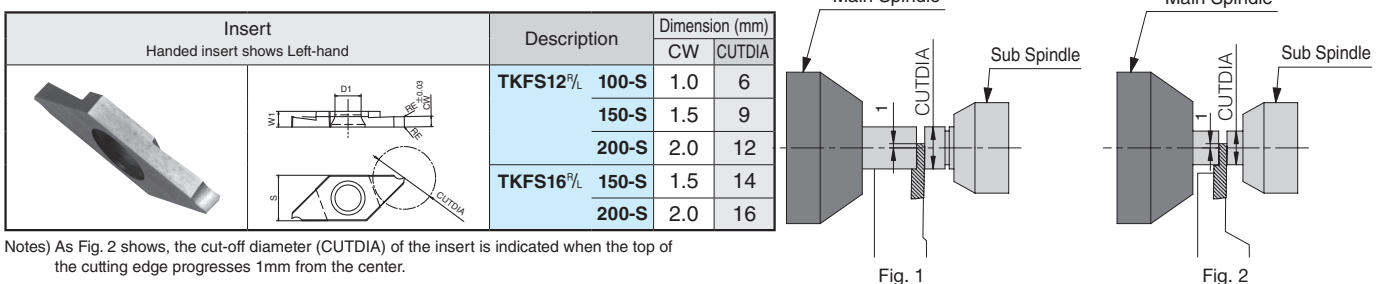
CDX shows the distance from the toolholder to the cutting edge. Ref. to the table below for the actual cut-off diameter.

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)



(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.

● : Std. Item

● Applicable Inserts

Classification of usage		P	Carbon steel / Alloy steel	●	☺	☺	☺	☺
●	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							

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
	TKFS12^{R/L} 100-S	1.0	6	0.05	2.2	8.7	4.4	●	●	●	●	●	●	●	●	●	
		1.5	9					●	●	●	●	●	●	●	●	●	●
		2.0	12					●	●	●	●	●	●	●	●	●	●
	TKFS16^{R/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

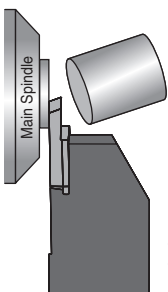
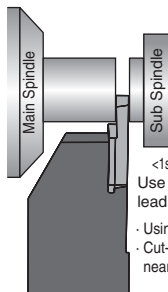
Workpiece Material	Recommended Insert Grades (Cutting Speed Vc: m/min)					TKFS12			TKFS16		Remarks
	MEGACOAT NANO		MEGACOAT	PVD Coated Carbide	Carbide	Edge Width (mm)			Edge Width (mm)		
	PR1425	PR1535	PR1225	PR1025	KW10	1.0	1.5	2.0	1.5	2.0	
						f (mm/rev)			f (mm/rev)		
Carbon Steel	70 ~ 170 ★	70 ~ 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

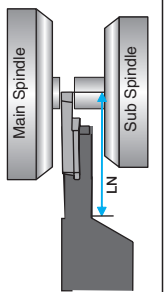
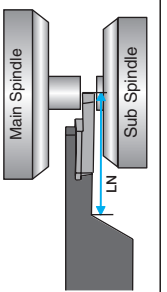
● KTKF

- 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)	KTKFL (Left-hand toolholder)
 <p><1st. Recommendation> Use insert with lead angle to remove boss.</p> <ul style="list-style-type: none"> Not using sub spindle Cut-off operation near main spindle side 	 <p><1st. Recommendation> Use insert without lead angle.</p> <ul style="list-style-type: none"> 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.

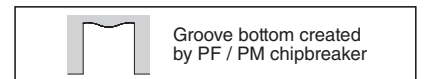
KTKFSR (Right-hand toolholder)	KTKFSL (Left-hand toolholder)
 <p><How to select> Hand of Toolholder</p> <ul style="list-style-type: none"> Long workpiece and more rigidity Cut-off operation near main spindle side <p><How to select> LN dimension</p> <ul style="list-style-type: none"> Sub Spindle Dia. ø40~22(A type) ø50~26(B type) 	 <p><How to select> Hand of Toolholder</p> <ul style="list-style-type: none"> Short workpiece and less rigidity Cut-off operation near sub spindle side <p><How to select> LN dimension</p> <ul style="list-style-type: none"> Sub Spindle Dia. ø40~22(A type) ø50~26(B type)

Cut-off Inserts



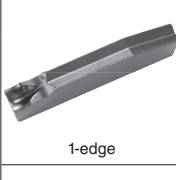
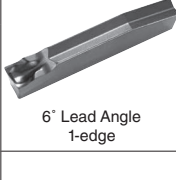

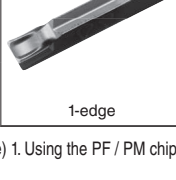
GDM / GDG

Insert		Description	Dimension (mm)				Angle	MEGACOAT NANO	MEGACOAT	DLC Coated Carbide	Carbide	See Page for Applicable Toolholders				
			Edge Width (CW)		RE	INSL	S	PSIR ^{R/L}	PR1595	PR1225	PR1215		PDL025	GW15		
			Tolerance													
Cut-off / Low Feed		GDM 1316N-003PF	1.3	±0.04	0.03	16	3.7	-	●	●	●					
		1316N-015PF	1.5		0.15										H20	
		1516N-003PF	1.5		0.03										H21	
		1516N-015PF	2.0	0.15								H20				
		2020N-003PF	2.0	0.03	20	4.3	●		●	●			H21			
		2020N-015PF	2.5	0.15			●		●	●			H22			
		2520N-003PF	2.5	0.03			●		●	●			H25			
		2520N-015PF	3.0	0.15	●	●	●					H20				
		3020N-003PF	3.0	0.03	●	●	●					H25				
		3020N-015PF	3.0	0.15	●	●	●					H25				
Cut-off / Medium Feed		GDM 1316 ^{R/L} -003PF-15D	1.3	±0.04	0.03	16	3.7	15°	●	●	●				H20	
		1516 ^{R/L} -003PF-15D	1.5		0.15				R	R	R				H21	
		1516R-015PF-15D	2.0		0.03				●	●	●				H20	
		2020 ^{R/L} -003PF-15D	2.0		0.15				R	R	R				H21	
		2020R-015PF-15D	2.5		0.03				●	●	●				H22	
		2520 ^{R/L} -003PF-15D	2.5		0.15				R	R	R				H25	
		2520R-015PF-15D	3.0		0.03				●	●	●				H20	
		3020 ^{R/L} -003PF-15D	3.0		0.15				R	R	R				H25	
Cut-off / Medium Feed		GDM 2020N-010PQ	2.0	±0.03	0.1	20	4.3	-	●	●	●				H20	
		2520N-010PQ	2.5						●	●	●				H21	
		3020N-010PQ	3.0						●	●	●				H22	
Cut-off / Medium Feed		GDM 2020R-010PQ-15D	2.0	±0.03	0.1	20	4.3	15°	R	R	R				H20	
		2520R-010PQ-15D	2.5						R	R	R				H21	
		3020R-010PQ-15D	3.0						R	R	R				H22	
Cut-off / Low Cutting Force		GDG 2020N-005PG	2.0	±0.02	0.05	20	4.3	-	●	●		●	●		H20	
		2520N-005PG	2.5						●	●		●	●		H21	
		3020N-005PG	3.0						●	●		●	●		H22	
	Cut-off / Low Cutting Force		GDG 2020R-005PG-15D	2.0	±0.02	0.05	20	4.3	15°	R	R		R	R		H20
			2520R-005PG-15D	2.5						R	R		R	R		H21
			3020R-005PG-15D	3.0						R	R		R	R		H22

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



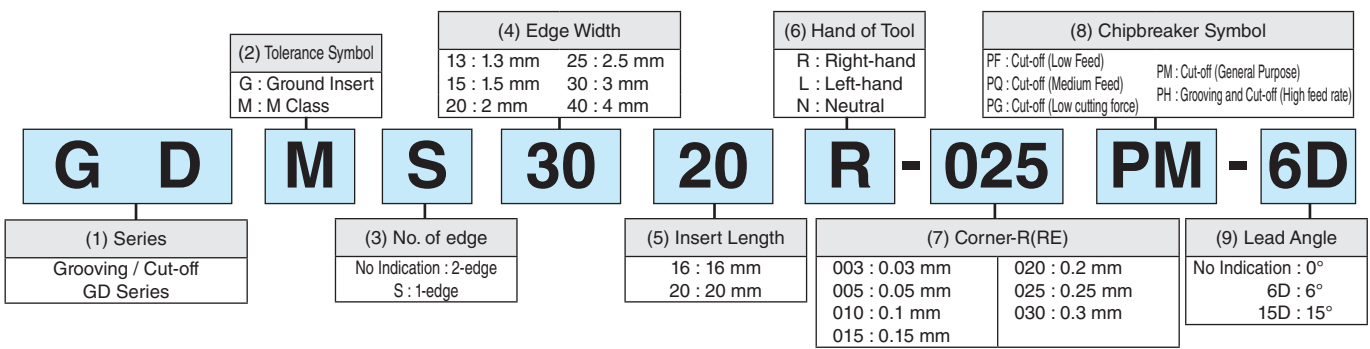
GDM / GDMS

Insert	Description	Dimension (mm)				Angle	MEGACOAT			See Page for Applicable Toolholders		
		Edge Width (CW)		RE	INSL	S	PSIR ^{R/L}	PR1535	PR1225		PR1215	
		Tolerance										
Cut-off / General Purpose	Handed Insert shows Right-hand 	GDM 2020N-020PM	2.0	±0.03	0.2	20	4.3	-	●	●	●	H20 H21 H22 H25
		2520N-020PM	2.5						●	●	●	
		3020N-025PM	3.0						●	●	●	
		4020N-030PM	4.0						●	●	●	
	6° Lead Angle 	GDM 2020R-020PM-6D	2.0	±0.03	0.2	20	4.3	6°	R	R	R	H20 H21 H22 H25
		2520R-020PM-6D	2.5						R	R	R	
		3020R-025PM-6D	3.0						R	R	R	
	1-edge 	GDMS 2020N-020PM	2.0	±0.03	0.2	20	4.3	-	●	●	●	H20 H21 H22 H25
		3020N-025PM	3.0						●	●	●	
		4020N-030PM	4.0						●	●	●	
	6° Lead Angle 1-edge 	GDMS 2020R-020PM-6D	2.0	±0.03	0.2	20	4.3	6°	R	R	R	H20 H21 H22 H25
		3020R-025PM-6D	3.0						R	R	R	
4020R-030PM-6D		4.0	R						R	R		
Grooving and Cut-off / High feed rate	GDM 	2020N-020PH	2.0	±0.03	0.3	20	4.3	-	●	●	●	H20 H21 H22 H25
		3020N-030PH	3.0						●	●	●	
		4020N-030PH	4.0						●	●	●	
	GDMS 	2020N-020PH	2.0	±0.03	0.2	20	4.3	-	●	●	●	H20 H21 H22 H25
		3020N-030PH	3.0						●	●	●	
		4020N-030PH	4.0						●	●	●	

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 **H26, H27**

Inserts Identification System



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

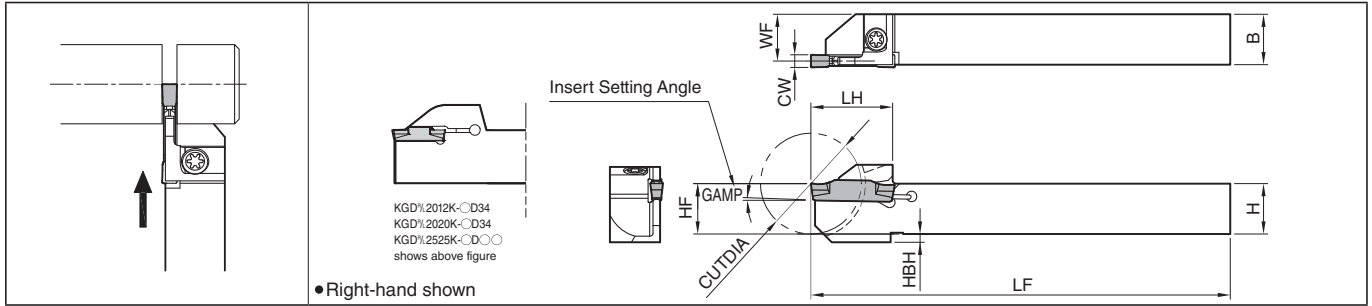
Inserts are sold in 10 piece boxes

Insert Grades
Turnable
Indexable Inserts
CN & PCD Tools
External
Small Parts
Machining
Boring
Grooving
Cut-off
Threading
Drilling
Solid Tools
Milling
Tools for
Turning Mill
Spare Parts
Technical
Information
Index

Cut-off Toolholders

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	
	R	L		CUTDIA	H	HF	HBH	B	LF	LH		WF	GAMP	MIN.	MAX.
KGD% 1010JX-1.3D16 1010JX-1.3 1212F-1.3D16 1212JX-1.3D16 1212F-1.3 1212JX-1.3	●	●	16	10	10	2	10	120	18	9.9	5°	1.3	1.3	SB-40120TR	LTW-15S
	●	●	20												
	●	●	16	12	12		12	85	11.5						
	●	●	24							12		12	12		
	●	●	16	12	12		12	85	11.4						
	●	●	24							12		12	12		
KGD% 1010JX-1.5D16 1010JX-1.5 1212F-1.5D16 1212JX-1.5D16 1212F-1.5 1212JX-1.5	●	●	16	10	10	2	10	120	18		9.7			5°	1.5
	●	●	20							12		12	12		
	●	●	16	12	12		12	85	11.4						
	●	●	24							12	12	12	120		11.4
	●	●	16	12	12		12	85	11.4						
	●	●	24							12	12	12	120		11.4
KGD% 1010JX-2 1212F-2 1212JX-2 1616JX-2 2012K-2D34 2020K-2D34 2525K-2D34	●	●	20	10	10	2	10	120	18					9.2	
	●	●	24							12	12	12	85		19.5
	●	●	32	16	16		16	24.5	15.2						
	●	●	34			20				20	-	20	125	32.5	19.2
	●	●	25	25	25		25	24.2	24.2						
	●	●	34			25				25	25	24.2	24.2		
	KGD% 1010JX-2.4 1212F-2.4 1212JX-2.4 1616JX-2.4 2012K-2.4D34 2020K-2.4D34 2525K-2.4D34	●	●	20	10		10	2	10					120	18
●		●	24	12		12				12	85	19.5	11		
●		●	32		16		16		16					24.5	15
●		●	34	20		20		-		20	125	32.5	19		
●		●	25		25		25		25					24	24
●		●	34	25		25		25		24	24				
KGD% 1212JX-3 1616JX-3 1616JX-3D38 1913K-3D38 2012JX-3D42 2012JX-3D51 2020JX-3D42 2020JX-3D51 2525K-3D51		●	●		24		12		12			2	12	120	19.5
	●	●	32	16	16	16		24.5		14.8					
	●	●	38				19		19		13		125	29	11.8
	●	●	42	20	20	-		12		120		31			
	●	●	51				20		20		20		36	18.8	
	●	●	42	25	25	25		41.5		23.8					
	●	●	51				25		25		25	41.5	23.8		

Note) 1. 4mm width insert cannot be installed in KGD% 1212JX-3.

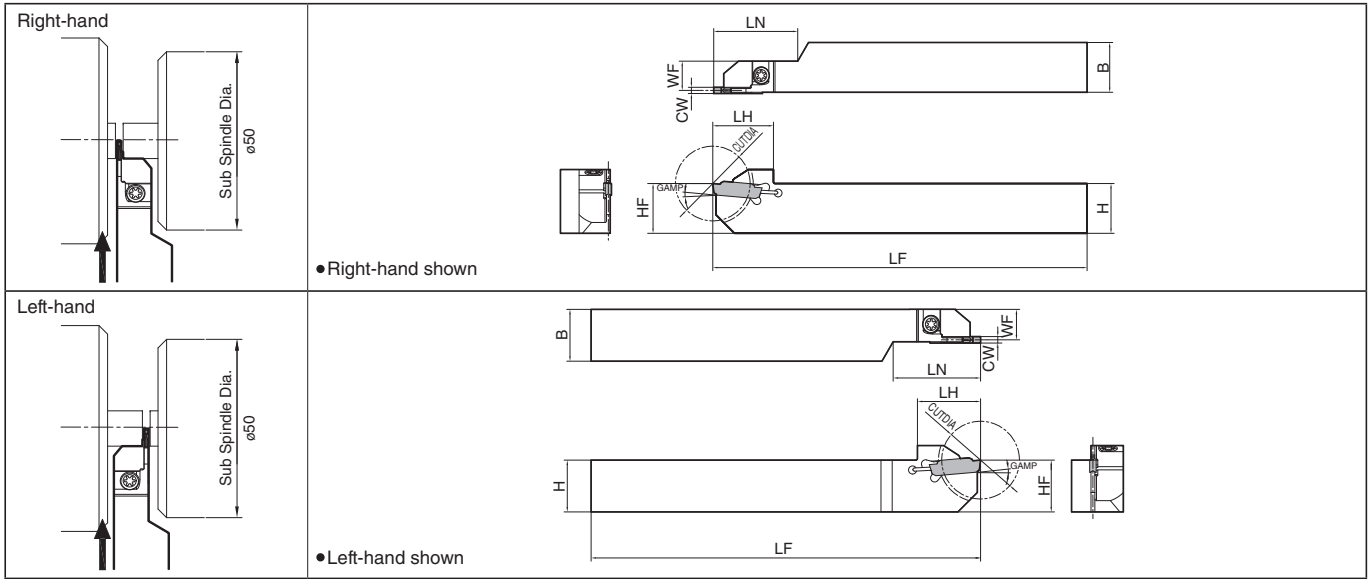
2. Recommended tightening torque of clamp screw
2.0N·m(SB-40120TR), 2.5N·m(SE-50125TR), 6.5N·m(HH5X16)

3. When machining the material greater than ø36mm with KGD%L...-3D38, KGD%L...-3D42 and KGD%L...-3D51 toolholders, please use 1-edge inserts.
Maximum cutting diameter for 2-edge inserts is ø36mm.

Recommended Cutting Conditions H26, H27

● : Std. Item

KGDS (for sub spindle tooling)



Toolholder Dimensions

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

Recommended Cutting Conditions ● H26, H27

KG D / KGDS Selection Reference

KG D

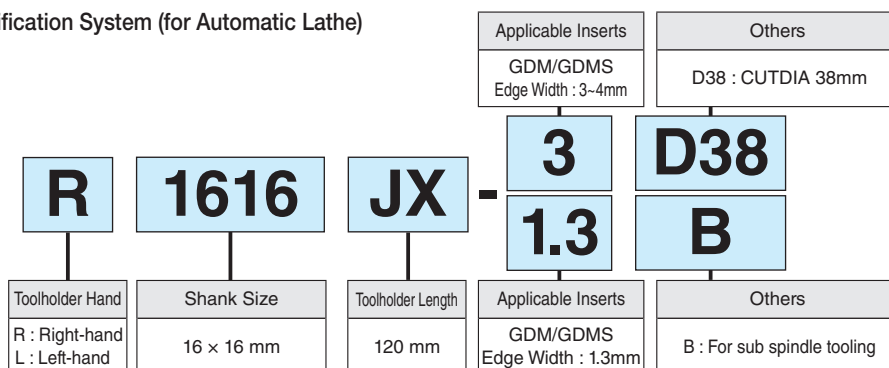
Standard type	
<ul style="list-style-type: none"> Both Right-hand and Left-hand types are applicable to gang tool post. Basically Left-hand type is used for cut-off operation using a sub spindle. 	
KGDR (Right-hand toolholder)	KGDL (Left-hand toolholder)
<1st. Recommendation> Use insert with lead angle to remove boss. · Not using sub spindle · Cut-off operation near main spindle side	<1st. Recommendation> Use insert without lead angle. · Using sub spindle · Cut-off operation near sub spindle side

KGDS

Sub spindle type	
<ul style="list-style-type: none"> When machining workpiece with small diameter, use KGDS to reduce overhang distance from the main spindle. 	
KGDSR (Right-hand toolholder)	KGDSL (Left-hand toolholder)
<ul style="list-style-type: none"> Long workpiece and more rigidity Cut-off operation near main spindle side 	<ul style="list-style-type: none"> Short workpiece and less rigidity Cut-off operation near sub spindle side

Toolholder Identification System (for Automatic Lathe)

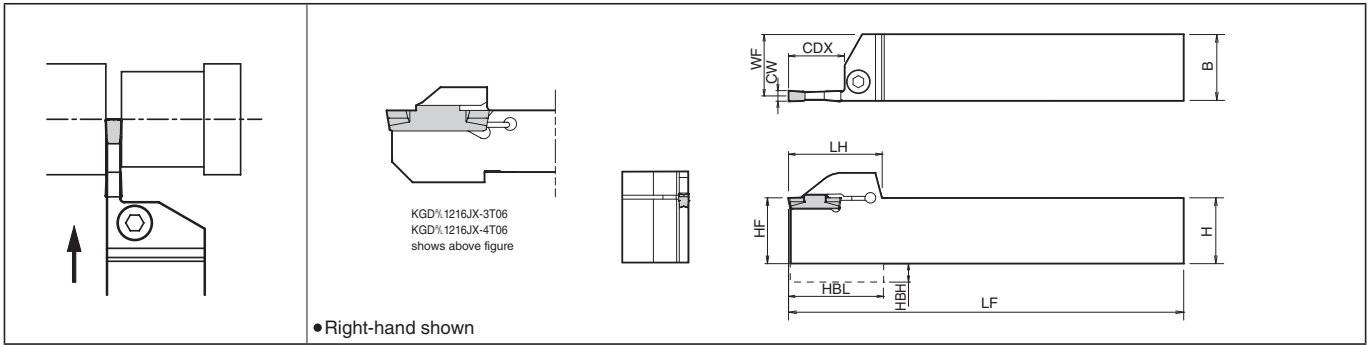
KG D
KGDS



● : Std. Item

Grooving / Cut-off Toolholders

KGD (Integral Type)



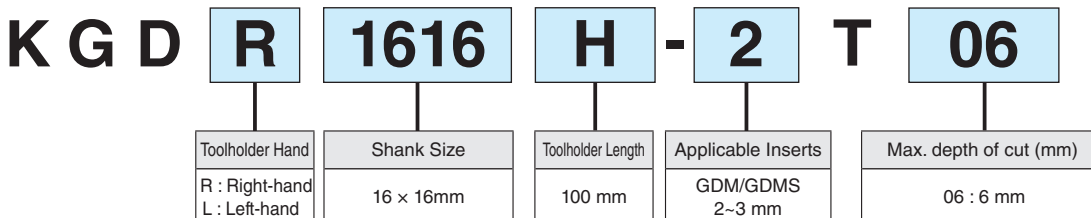
Toolholder Dimensions

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

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.

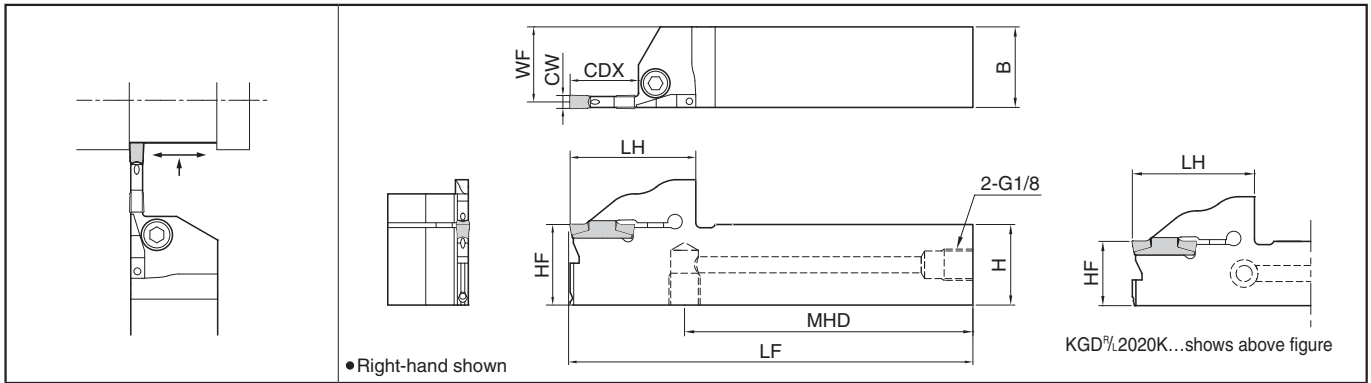
Recommended Cutting Conditions ● H26, H27

Toolholder Identification System (Integral Type)



● : Std. Item

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



Toolholder Dimensions

Pressure Resistance: ~15MPa

Width (mm)	Max. depth of cut (mm)	Description	Stock		Dimension (mm)							Edge Width CW (mm)		Spare Parts				
			R	L	H	HF	B	LF	LH	WF	CDX	MHD	MIN.	MAX.	Clamp Bolt	Wrench	Plug	
3	6	KGD%/. 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
4	10	KGD%/. 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	KGD%/. 2020K-4T20JCT	●	●	20	20	20		38.0	18.3	20	90.2			HH5X16			
		2525K-4T20JCT	●	●	25	25	25			39.0					23.3			89.5
		25	KGD%/. 2525K-4T25JCT	●	●	25	25		25	44.0	23.3	25			84.5			HH5X25

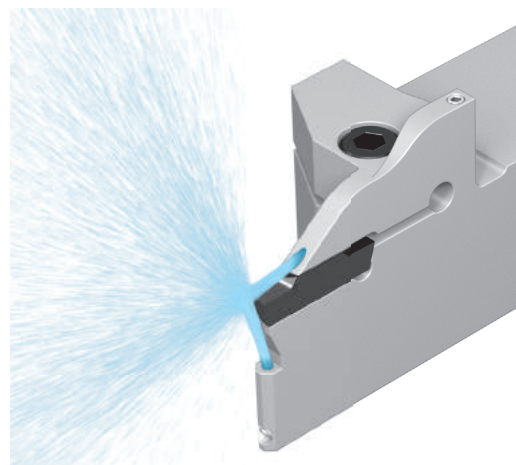
Please see D11 for piping parts of coolant-through holders.

Recommended Cutting Conditions ● H26, H27

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

Insert Grades
Turnable Inserts
CN & PCD Tools
External
Small Parts
Machining
Boring
Grooving
Cut-off
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Great for High Pressure Coolant External Grooving and Cut-off

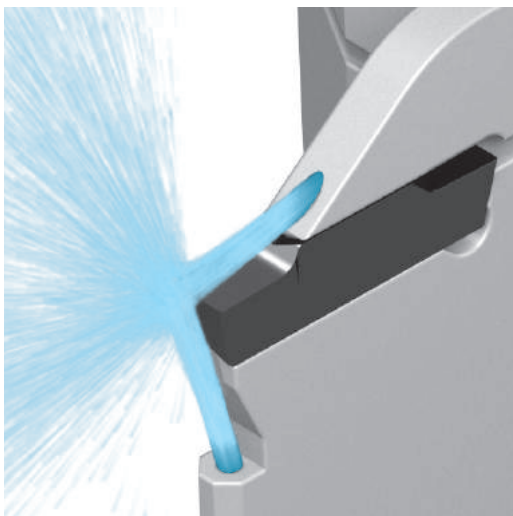
KGD-JCT H23

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

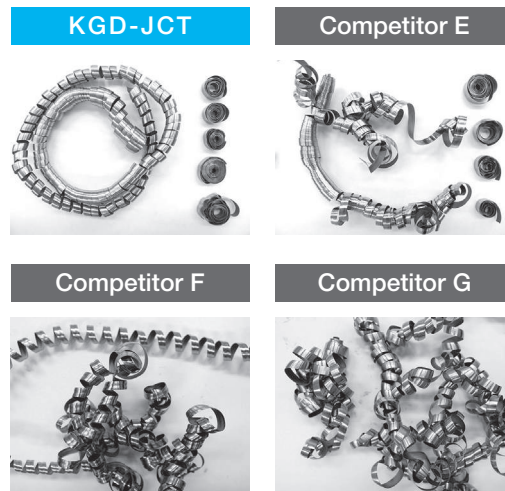
Coolant hole position and angle improve chip control



Chip Control Comparison (Internal evaluation)

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

$f = 0.05 \text{ mm/rev}$ (1.5MPa)



Cutting Conditions: $V_c = 150 \text{ m/min}$, $f = 0.05 \text{ mm/rev}$, $d = 8 \text{ mm}$, Wet Edge Width 4 mm Workpiece Material : SCM415 Grooving

2 Cooling the Cutting Edge Leads to Longer Tool Life

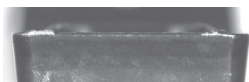
Coolant towards the rake surface and the flank face of the insert

Directing coolant towards the cutting edge lengthens tool life

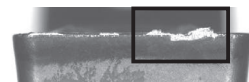
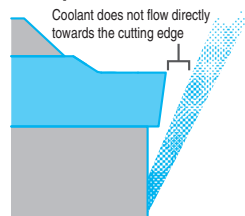
KGD-JCT



After Machining 39 min

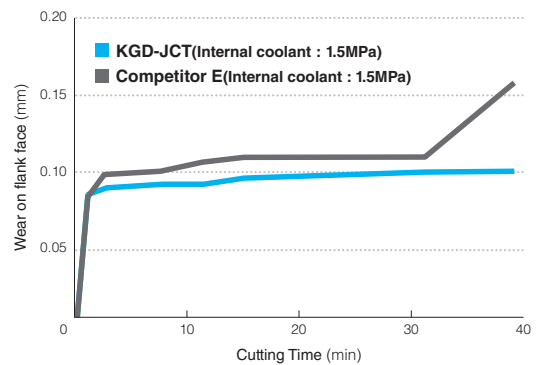


Competitor E



Fracture

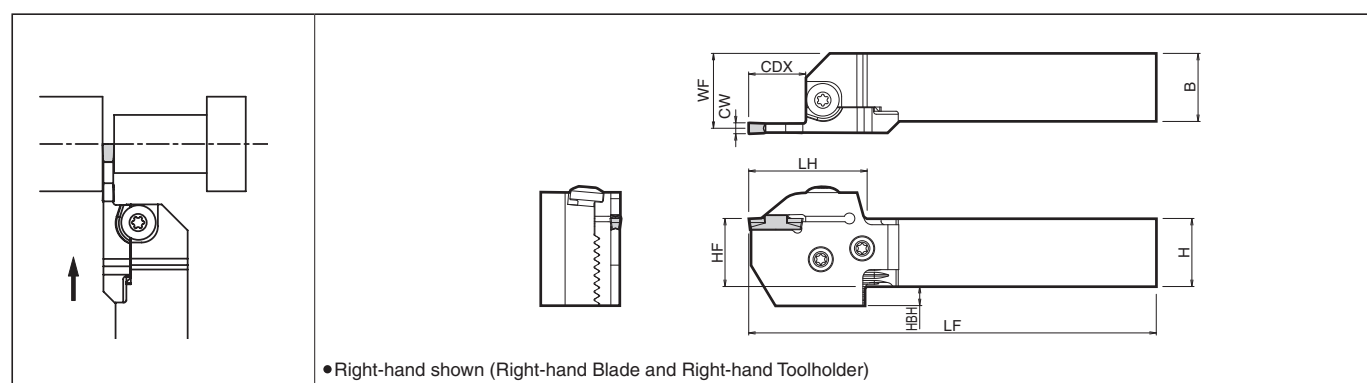
Wear Resistance Comparison (Internal evaluation)



Cutting Conditions: $V_c = 180 \text{ m/min}$, $f = 0.15 \text{ mm/rev}$, $d = 9 \text{ mm}$, Wet Edge Width 4 mm Workpiece Material : SCM415 Grooving

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

KGD-S (0° Separate Type)



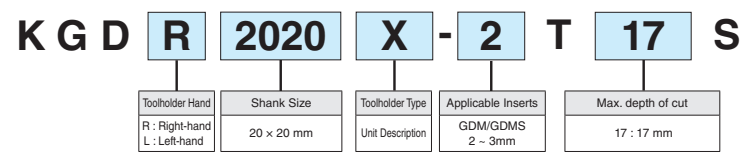
Toolholder Dimensions (Blade + Toolholder)

Shank Angle	Width (mm)	Max. depth of cut (mm)	Shank Size (mm)	Unit Description (Standard Stock Description)	Stock		Blade Description G31	Toolholder Description G31	Dimension (mm)							Edge Width CW (mm)			
					R	L			H	HF	HBH	B	LF	LH	WF	CDX	MIN.	MAX.	
0°	2	17	<input type="checkbox"/> 20	KGD%L 2020X-2T17S	●	●	KGD%L-2T17-C	KGD%L 2020-C	20	20	12	20	122	40	23.4	17	2.0	3.0	
			<input type="checkbox"/> 25	2525X-2T17S	●	●		KGD%L 2525-C	25	25	7	25	147		28.4				
			<input type="checkbox"/> 32	No unit description →		●		□	KGD%L 3232-C	32	32	-	32		167				35.4
	3	10	10	<input type="checkbox"/> 20	KGD%L 2020X-3T10S	●	●	KGD%L-3T10-C	KGD%L 2020-C	20	20	12	20	115	33	23.0	10	3.0	4.0
				<input type="checkbox"/> 25	2525X-3T10S	●	●		KGD%L 2525-C	25	25	7	25	140		28.0			
				<input type="checkbox"/> 32	3232X-3T10S	●	□		KGD%L 3232-C	32	32	-	32	160		35.0			
	3	20	20	<input type="checkbox"/> 20	KGD%L 2020X-3T20S	●	●	KGD%L-3T20-C	KGD%L 2020-C	20	20	12	20	125	43	23.0	20	3.0	4.0
				<input type="checkbox"/> 25	2525X-3T20S	●	●		KGD%L 2525-C	25	25	7	25	150		28.0			
				<input type="checkbox"/> 32	3232X-3T20S	●	●		KGD%L 3232-C	32	32	-	32	170		35.0			
	4	10	10	<input type="checkbox"/> 20	KGD%L 2020X-4T10S	●	□	KGD%L-4T10-C	KGD%L 2020-C	20	20	12	20	115	33	22.5	10	4.0	5.0
				<input type="checkbox"/> 25	2525X-4T10S	●	□		KGD%L 2525-C	25	25	7	25	140		27.5			
				<input type="checkbox"/> 32	3232X-4T10S	□	□		KGD%L 3232-C	32	32	-	32	160		34.5			
4		20	20	<input type="checkbox"/> 20	KGD%L 2020X-4T20S	●	□	KGD%L-4T20-C	KGD%L 2020-C	20	20	12	20	125	43	22.5	20	4.0	5.0
				<input type="checkbox"/> 25	2525X-4T20S	●	●		KGD%L 2525-C	25	25	7	25	150		27.5			
				<input type="checkbox"/> 32	3232X-4T20S	●	●		KGD%L 3232-C	32	32	-	32	170		34.5			
4	25	25	<input type="checkbox"/> 20	KGD%L 2020X-4T25S	●	●	KGD%L-4T25-C	KGD%L 2020-C	20	20	12	20	130	48	22.5	25	4.0	5.0	
			<input type="checkbox"/> 25	2525X-4T25S	●	●		KGD%L 2525-C	25	25	7	25	155		27.5				
			<input type="checkbox"/> 32	3232X-4T25S	●	●		KGD%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. In case the unit description is not available (No unit description), 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.

Recommended Cutting Conditions ● H26, H27

Toolholder Identification System (Separate type / Unit Description)



Spare Parts (Common with separate types)

* The parts are included in the toolholder and unit.

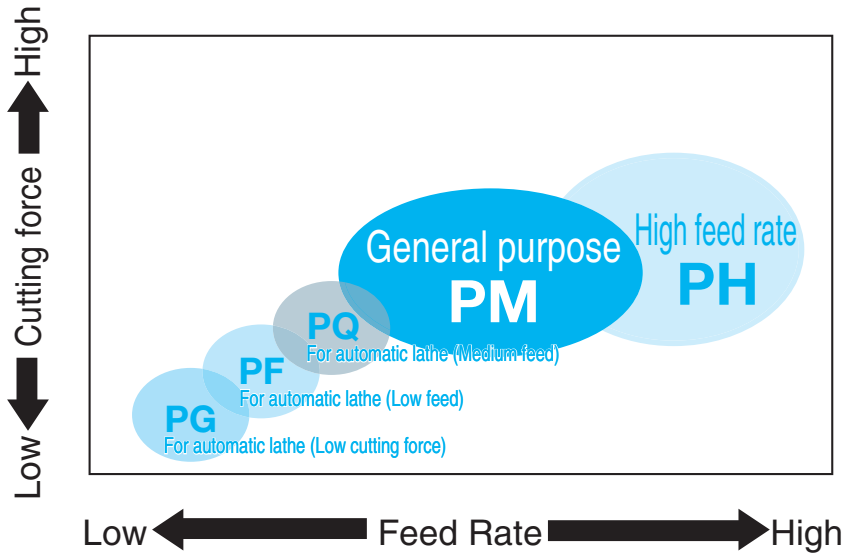
Unit Description	Spare Parts		
	Clamp Bolt (for Insert Clamp)	Clamp Screw (for Blade)	Wrench
KGD%...S	BH6X10TR	SB-60120TR	LTW-25

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

KGD Recommended Cutting Conditions

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	
Alloy Steel	☆ 70 ~ 150	★ 70 ~ 150	☆ 70 ~ 180							
Stainless Steel	★ 60 ~ 120	☆ 60 ~ 120	☆ 60 ~ 150							
Cast Iron	-	-	★ 80 ~ 200							

★ : 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	
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	

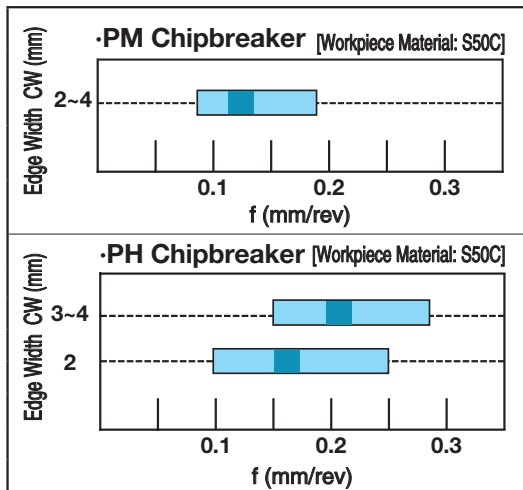
★ : 1st Recommendation ☆ : 2nd Recommendation

Recommended Cutting Conditions (PM / PH Chipbreaker)

Workpiece Material	Recommended Insert Grades (Cutting Speed Vc: m/min)			f (mm/rev)			Remarks
	MEGACOAT NANO	MEGACOAT		PM	PH		
		PR1535	PR1225	PR1215	Edge Width CW (mm)	Edge Width CW (mm)	
				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.

Cut-off Inserts

GMM / GMN / GM^{R/L}
(Will be switched to GDM / GDG H18, H19)

Classification of usage	P	Carbon Steel / Alloy Steel						
	M	Stainless Steel						
	K	Cast Iron						
	N	Non-ferrous Metals						

: Continuous-Light Interruption / 1st Choice
 : Continuous-Light Interruption / 2nd Choice
 : Continuous / 1st Choice
 : Continuous / 2nd Choice

Insert	Description	Dimension (mm)				Angle	Cement		CVD Coated Carbide		PVD Coated Carbide			Carbide	See Page for Applicable Toolholders
		CW	RE	INSL	S		PSIR ^{R/L}	TN90	CR9025	PR915	PR930	PR1115	KW10		
Neutral	Sharp-Cutting 2-edge 	GMM 1520-MT	1.5	0 0.05	20	4.3	-							H30	
		2020-MT	2.0	0 0.05										H30	
		2520-MT	2.5	0 0.05										H31	
		3020-MT	3.0	0 0.05										H31	
	Sharp-Cutting 2-edge Without Chipbreaker 	GMM 1520-NB	1.5	0 0.05	20	4.3	-							H30	
		2020-NB	2.0	0 0.05										H31	
		2520-NB	2.5	0 0.05										H31	
		3020-NB	3.0	0 0.05										H31	
	Stability Oriented 2-edge 	GMM 2020-TK	2.0	0.20	20	4.3	-							H31	
		2520-TK	2.5	0.20										H31	
		3020-TK	3.0	0.25										H31	
	High Feed Rate 2-edge 	GMM 2020-TMR	2.0	0.20	20	4.3	-							H31	
2520-TMR		2.5	0.20										H31		
3020-TMR		3.0	0.25										H31		
Stability Oriented 1-edge 	GMN 2-TK	2.0	0.20	20	4.3	-							H31		
	3-TK	3.0	0.25										H31		
	4-TK	4.0	0.30										H31		
Shows GMN2.2 	GMN 2.2	2.2	0.17	20	4.3	-							H31		
	3	3.0	0.20										H31		
	4	4.0	0.25										H31		
	5	5.0	0.80										H31		
	6	6.0	0.80										H31		
Lead Angle	Sharp-Cutting 2-edge 	GMM 1520 ^{R/L} -MT-15D	1.5	0 0.05	20	4.3	15°							H30	
		2020 ^{R/L} -MT-15D	2.0	0 0.05										H31	
		2520 ^{R/L} -MT-15D	2.5	0 0.05										H31	
		3020 ^{R/L} -MT-15D	3.0	0 0.05										H31	
	Stability Oriented 2-edge 	GMM 2020R-TK-8D	2.0	0.20	20	4.3	8°							H31	
		2520R-TK-8D	2.5	0.20										H31	
		3020R-TK-8D	3.0	0.25										H31	
	High Feed Rate 2-edge 	GMM 2020R-TMR-6D	2.0	0.20	20	4.3	6°							H31	
		2520R-TMR-6D	2.5	0.20										H31	
		3020R-TMR-6D	3.0	0.25										H31	
	Stability Oriented 1-edge 	GMR 2-TK-8D	2.0	0.20	20	4.3	8°							H31	
		3-TK-8D	3.0	0.25										H31	
		4-TK-8D	4.0	0.30										H31	
	Shows GMR2.2-8D / 15D 	GM ^{R/L} 2.2-8D	2.2	0.17	20	4.3	8°							H31	
		2.2-15D	2.2	0.00			15°							H31	
		3-4D	3.0	0.20			4°							H31	
		4-4D	4.0	0.25			4°							H31	

: Check Availability
 : Deleted from the next catalog

Edge Preparation

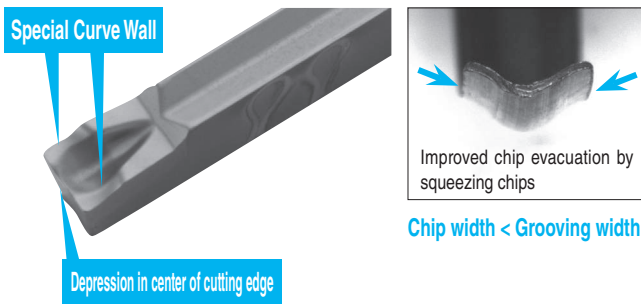
Series	MT Chipbreaker		TK Chipbreaker		TMR Chipbreaker	Without Chipbreaker (NB)	
Edge Prep.	Chamfered + R-honed	Chamfered + R-honed	Chamfered + R-honed	Sharp Edge	Chamfered + R-honed	R-honed	Sharp Edge
	Corner-R(RE) = 0.05	Sharp Corner	Corner-R(RE) = 0.2 ~ 0.3	Corner-R(RE) = 0.2 ~ 0.3	Corner-R(RE) = 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.

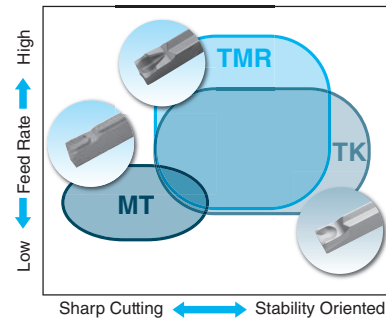
Series	Advantage
GMM MT	Specific chipbreaker for cut-off operations requiring sharp cutting performance. Minimizes the Boss.
GMM NB	Cutting edge is flat with non-chipbreaker. It works well for brass, etc.
GMM TK	Stable design with chipbreaker for cut-off and large corner-R. 2-edge for economical performance.
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



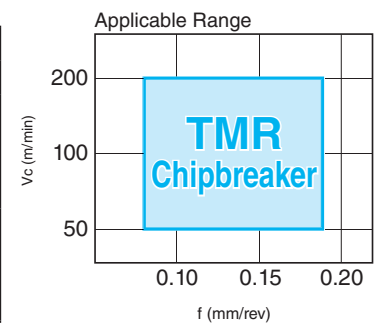
GMM Chipbreaker MAP



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)				

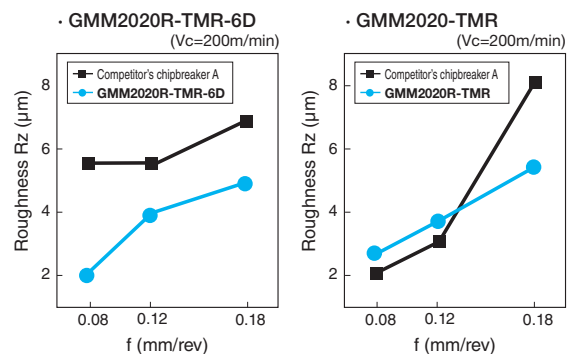


Recommended Cutting Conditions

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.



Insert Grades
Indexable Inserts
Turning
CNC & CDD Tools

External

Small Parts
Machining

Boring

Grooving

Cut-off

Threading

Drilling

Solid Tools

Milling

Tools for

Spare Parts

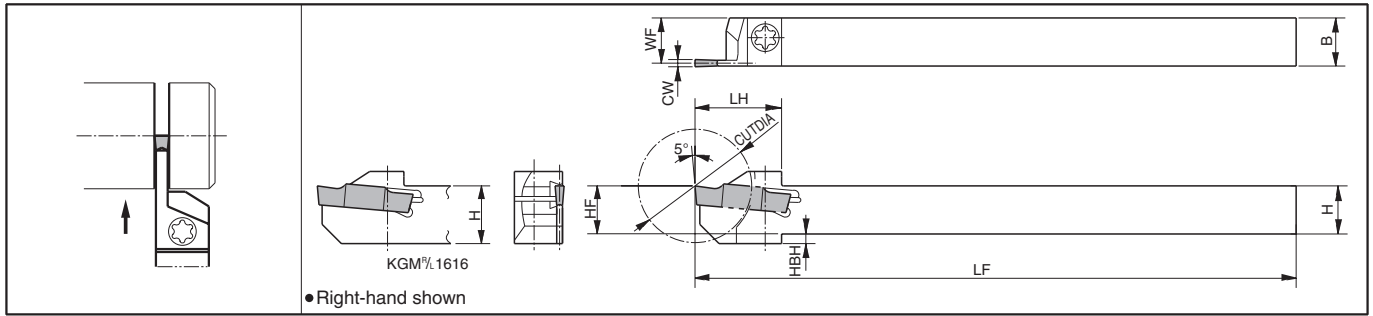
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Cut-off Toolholders

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

Edge Width : 1.5 ~ 4.0 mm

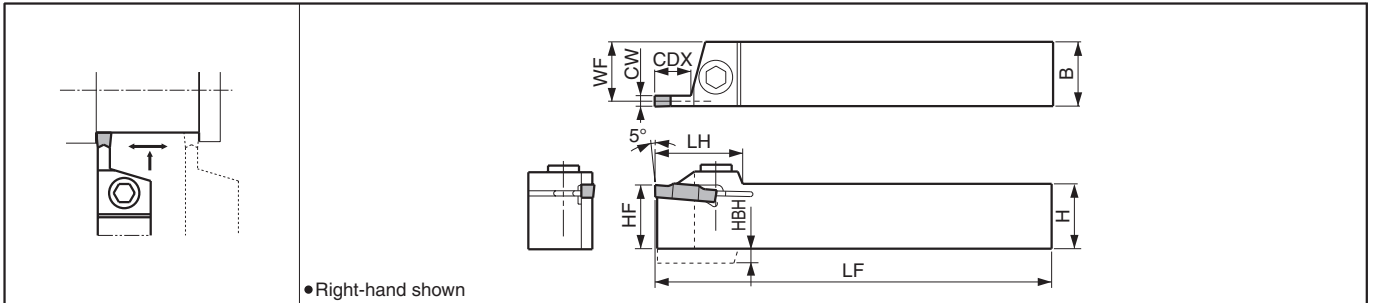


● Toolholder Dimensions

Description	Stock		Cut-off Dia. CUTDIA	Dimension (mm)							Edge Width CW (mm)		Spare Parts	
	R	L		H	HF	HBH	B	LF	LH	WF	MIN.	MAX.	Screw	Wrench
KGM^{R/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				
KGM^{R/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
KGM^{R/L} 1010JX-2.5	□	□	20	10	10	2	10	120	18	9	2.4	3.0	SE-40120TR	LTW-15S
1212JX-2.5	○	○	25	12	12		12		19	11				
1616JX-2.5	○	○	32	16	16	-	16		24.5	15			SE-50125TR	LTW-20
KGM^{R/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
KGM^{R/L} 1212F-2-85	○	○	25	12	12	2	12	85	19	11.15	2.0	3.0	SE-40120TR	LTW-15S
KGM^{R/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 \rightarrow H22)

Edge Width : 3.0 ~ 8.0 mm



● Toolholder Dimensions

Description	Stock		Dimension (mm)								Edge Width CW (mm)		Spare Parts			
	R	L	H	HF	HBH	B	LF	LH	WF	CDX	MIN.	MAX.	Screw	Screw	Wrench	Wrench
KGM^{R/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							
2020K-3	○	○	20	20	-	20	125	18.8	3.0	4.0	-	4.0	-	HH5X16	-	LW-4
2525M-3	○	○	25	25	-	25	150	23.8	4.0	5.0	-	5.0	-	HH5X25	-	LW-4
KGM^{R/L} 2020K-4	○	□	20	20	-	20	125	18.3	10	4.0	5.0	5.0	-	HH5X16	-	LW-4
2525M-4	○	○	25	25		25	150	23.3								
KGM^{R/L} 2020K-5	○	□	20	20	-	20	125	17.8	10	5.0	6.0	6.0	-	HH5X16	-	LW-4
2525M-5	○	□	25	25		25	150	22.8								
3232P-5	□	□	32	32	-	32	170	29.8						HH5X25	-	LW-4
KGM^{R/L} 2525M-8	○	○	25	25	7.5	25	150	22.0	25	8.0	8.0	8.0	-	HH6X25	-	LW-5
3232P-8	□	□	32	32	-	32	170	29.0								

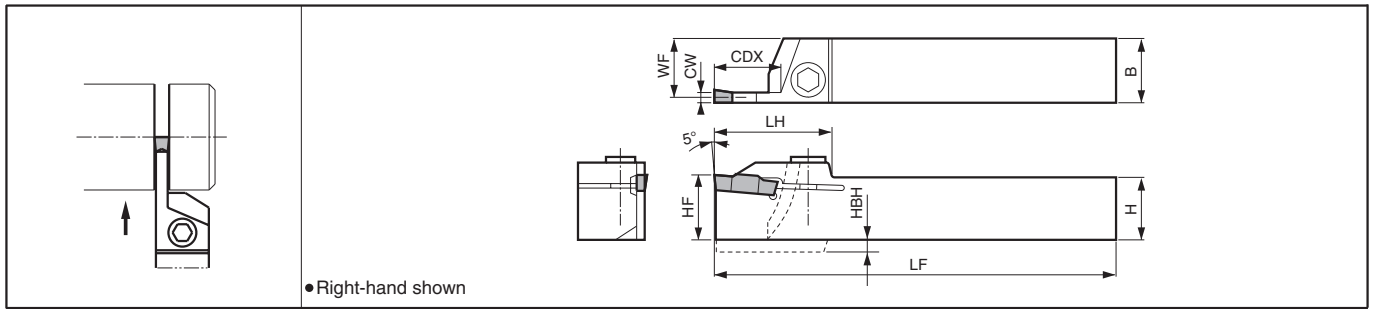
• CDX shows available grooving depth.

• 4mm width Insert can be installed in KGM^{R/L}1212H-3, but is not recommended due to the toolholder's rigidity.

○ : Check Availability
□ : Deleted from the next catalog

KGM-T (Will be switched to KGD H22)

Edge Width: 2.0 ~ 6.0 mm



Toolholder Dimensions

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

• CDX shows the distance from the toolholder to the cutting edge. Ref. to the Table H32 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	G36	G36	G36	G36	G37	H28	H28	H28	H28	H28
See Page	G36	G36	G36	G36	G37	H28	H28	H28	H28	H28
Insert										
Toolholder Description										
KGM ^{R/L} ...1.5	-	-	-	-	-	GMM1520..MT GMM2020..MT GMM1520%..MT GMM2020%..MT	GMM1520..NB GMM2020..NB	GMM2020..T GMM2020R..T	GMN2..TK GMR2..TK	-
KGM ^{R/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 GMM2020%..MT GMM2520%..MT GMM3020%..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 GM%2.2 GM%3
KGM ^{R/L} ...2.5	GMM2420..MW GMM3020..MW	GMG3020..MS GMM3020..MS	GMG2520..MG GMG3020..MG	GMG3020..R GMM3020..R	-	GMM2520..MT GMM3020..MT GMM2520%..MT GMM3020%..MT	GMM2520..NB GMM3020..NB	GMM2520..T GMM3020..T GMM2520R..T GMM3020R..T	GMN3..TK GMR3..TK	GMN3 GM%3
KGM ^{R/L} ...3(T)	GMM3020..MW GMM4020..MW	GMG3020..MS GMM3020..MS GMG4020..MS GMM4020..MS	GMG3020..MG GMM3020..MG GMG3520..MG GMM4020..MG	GMG3020..R GMM3020..R GMG4020..R GMM4020..R	-	GMM3020..MT GMM3020%..MT	GMM3020..NB	GMM3020..T GMM3020R..T	GMN3..TK GMN4..TK GMR3..TK GMR4..TK	GMN3 GMN4 GM%3 GM%4
KGM ^{R/L} ...4(T)	GMM4020..MW GMM5020..MW	GMG4020..MS GMM4020..MS GMG5020..MS GMM5020..MS	GMG4020..MG GMM4020..MG GMG5020..MG GMM5020..MG	GMG4020..R GMM4020..R GMG5020..R GMM5020..R	-	-	-	-	GMN4..TK GMR4..TK	GMN4 GMN5 GM%4
KGM ^{R/L} ...5T	GMM5020..MW GMM6020..MW	GMG5020..MS GMM5020..MS GMG6020..MS GMM6020..MS	GMG5020..MG GMM5020..MG GMG6020..MG GMM6020..MG	GMG5020..R GMM5020..R GMG6020..R GMM6020..R	GMGA6020..R	-	-	-	-	GMN5 GMN6
KGM ^{R/L} ...6T	GMM6020..MW	GMG6020..MS GMM6020..MS	GMG6020..MG	GMG6020..R GMM6020..R	GMGA6020..R	-	-	-	-	GMN6
KGM ^{R/L} ...8	GMM8030..MW	-	GMG8030..MG	-	GMGA8030..R	-	-	-	-	-

Recommended Cutting Conditions H37

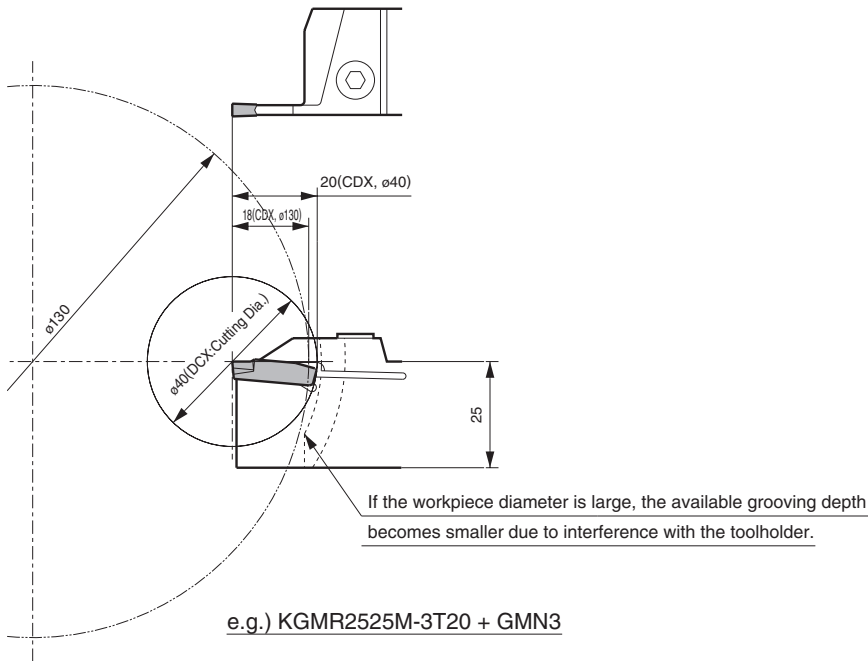
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 Cut-off
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Cut-off Toolholders

Possible cutting diameter of KGM / KGM-T

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



H
Cut-off

◆ KGM (for Automatic Lathe) Possible Cutting Dia. Table

Toolholder Description		DCX (Cutting Dia.)																				
KGM ^{®/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, GM^{®/L} when using 1-edge insert)

Toolholder Description		DCX (Cutting Dia.)												
KGM ^{®/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

Cut-off Inserts

TKN / TK^{R/L}

Insert		Description	Dimension (mm)		Angle	Cermet		CVD Coated Carbide	MEGACOAT NANO	PVD Coated Carbide	Carbide	See Page for Applicable Toolholders				
			CW	RE		TN620	TN90	CR9025	PR1535	PR930	KW10					
Handed Insert shows Right-hand																
Neutral		TKN	1.6	1.6	0.15		●	●	●	●	●	●	H34			
			2	2.2	0.20	●	●	●	●	●	●	●	H34 H36			
			2.4	2.4	0.20	●	●	●	●	●	●	●				
			3	3.1	0.25	●	●	●	●	●	●	●	H34 H36			
			4	4.1	0.30	●	●	●	●	●	●	●				
			4.8	4.8	0.30			●	●	●	●	●	H34			
			5	5.1	0.30			●	●	●	●	●				
			6	6.4	0.35			●	●	●	●	●	H34			
			8	8.0	0.40			●	●	●	●	●				
9	9.6	0.45			●	●	●	●	●							
Low Feed		TKN	1.6-P	1.6	0.20			●	●		●	H34				
			2-P	2.2	0.20	●	●	●	●	●	●	H36				
			3-P	3.1	0.25	●		●	●	●	●	●				
								R	L	R	L	R	L	R	L	
							8°	●	●	●	●	●	●	●	●	H34 H36
							8°	●	●	●	●	●	●	●	●	
Low Feed		TK^{R/L}	1.6	1.6	0.15			●	●	●	●	●	H34			
			2	2.2	0.20	●	●	●	●	●	●	●	H34 H36			
			2.4	2.4	0.20	●	●	●	●	●	●	●				
			3	3.1	0.25	●	●	●	●	●	●	●	H34 H36			
			4	4.1	0.30	●	●	●	●	●	●	●				
			5	5.1	0.30			●	□	●	●	●	●			
				8°	●	●	●	●	●	●	●	●				
				8°	●	●	●	●	●	●	●	●				

Recommended Cutting Conditions **H37**

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.

Edge Prep.	Chamfered + R-honed	Sharp Edge	R-honed
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})

- 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)
- Remove the insert with the supplied wrench. (Fig. 2)

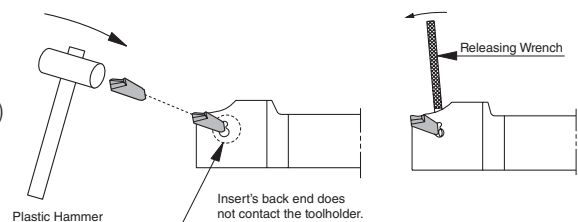


Fig. 1 How to attach inserts

Fig. 2 How to detach inserts

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Inserts are sold in 10 piece boxes

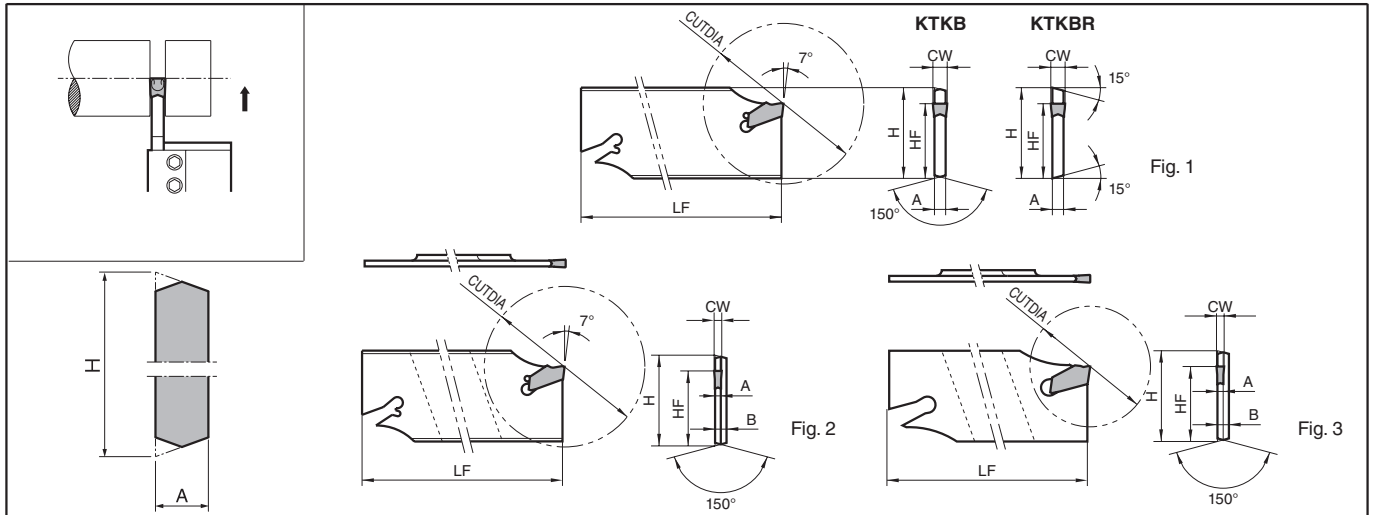
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Cut-off Blades

KTKB-SS / KTKB-S



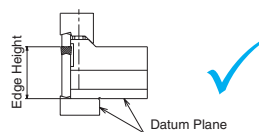
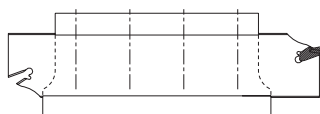
Blade Dimensions

Description	Stock	Cut-off Dia. CUTDIA	Dimension (mm)					Edge Width (mm)	Drawing	Applicable Inserts H33				Applicable Blocks H35
			H	HF	B	LF	A			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 20-32 25-32 32-32 KTKTBF 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
KTKB 26-3S	●	75					2.6	3.1		TKN3	TKN3-P	TK ^{R/L} 3	TK ^{R/L} 3-P	
KTKB 26-4S	●	80					3.4	4.1		TKN4	-	TK ^{R/L} 4	-	
KTKB 26-5S	●	80					4.2	4.8 5.1		TKN4.8 TKN5	-	TK ^{R/L} 5	-	
KTKB 32-2S	●	50					32	25	-	150	1.8	2.2 2.4	TKN2 TKN2.4	
KTKB 32-3S	●	100	2.6	3.1	TKN3	TKN3-P					TK ^{R/L} 3	TK ^{R/L} 3-P		
KTKB 32-4S	●	100	3.4	4.1	TKN4	-					TK ^{R/L} 4	-		
KTKB 32-5S	●	120	4.2	4.8 5.1	TKN4.8 TKN5	-					TK ^{R/L} 5	-		
KTKB 32-6S	●	120	5.4	6.4	TKN6	-					-	-		
KTKB^{R/L} 32-8S	●	120	6.8	8.0	TKN8	-					-	-		
KTKB^{R/L} 32-9S	R	120	8.0	9.6	TKN9	-	-	-						

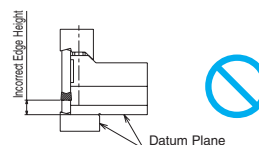
Note) 1. Suffix "-SS" means silver coating.
2. Releasing wrench is "LTK-5".
3. How to attach inserts, See Page **H33**.
* Dimension H shows virtual apex distance.

How to install toolblock and blade.

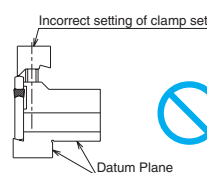
Correct way



Incorrect way



Incorrect setting of clamp set

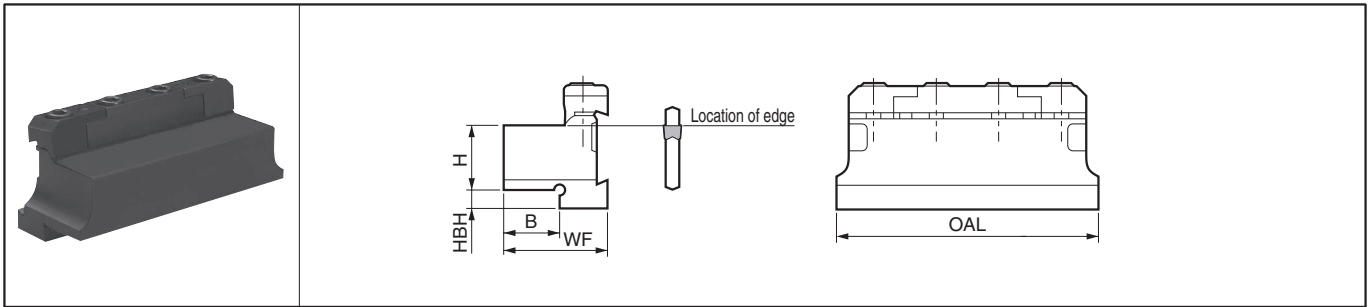


If the clamp set is mounted backward, a large gap will occur between the clamp and the toolblock, and the blade may come off during machining. Be careful when installing the clamp for safety.

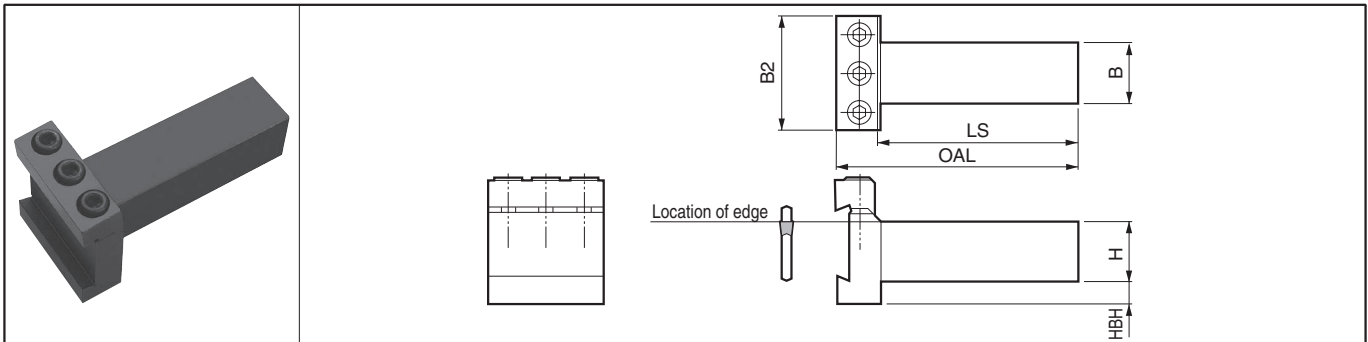
● : Std. Item
R : Std. Item (Right-hand Only)

Toolblocks (for Holding Blade)

KTKTB (Separate type)



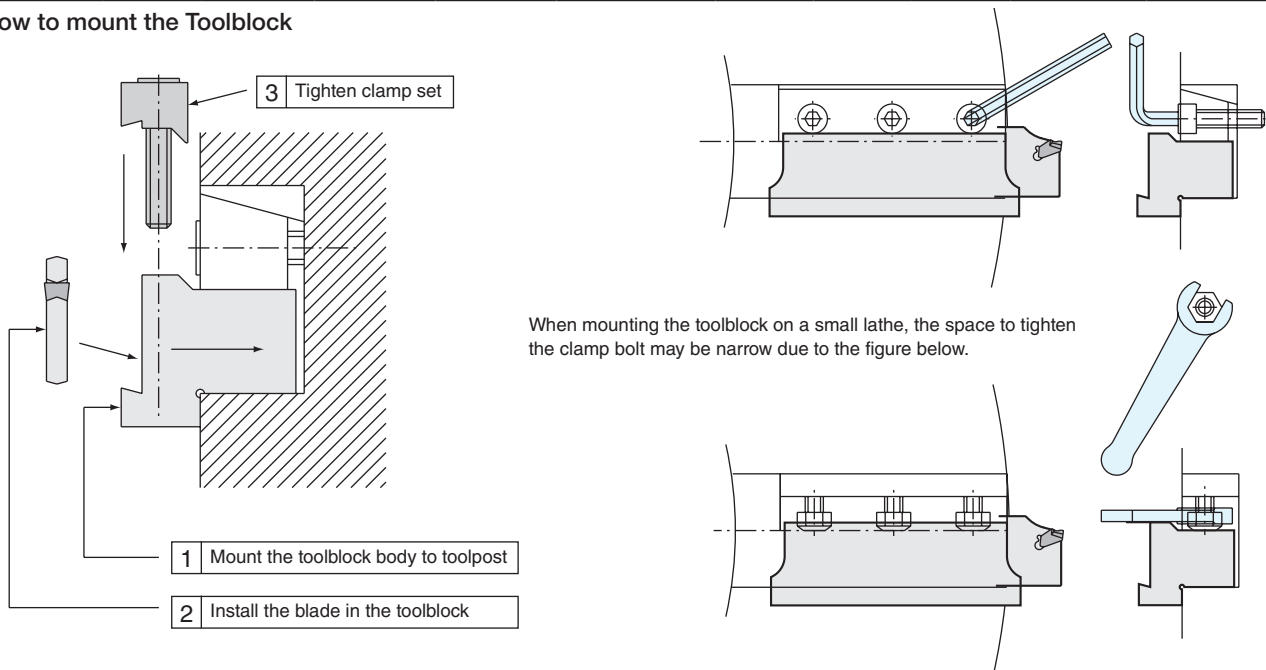
KTKTBF (Separate / Perpendicular type)



Toolblock Dimensions

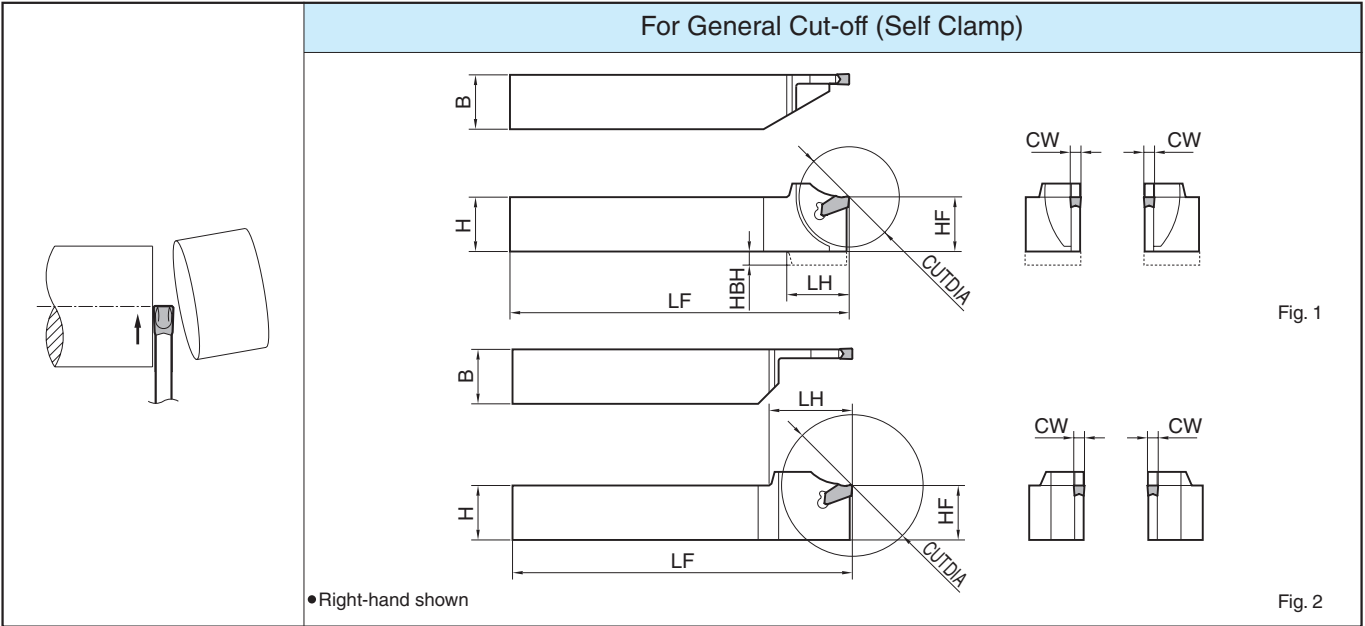
Description	Stock	Dimension (mm)						Spare Parts				Applicable Blade		
		H	HBH	B	WF B2	OAL	LS	Clamp Set		Screw	Wrench	Cut-off H34	Face Grooving G105	
								Separate Type	Integral					
KTKTB	16-19	●	16		15.5	29.5	76	-	-	BCS-1	HH5X25	LW-4	KTKB19-OS	-
	20-19	●	20	4	19	34								
	16-26	●	16	13	15.5	31.5	86	-	BCS-2	-	HH6X30	LW-5	KTKB26-OS	-
	20-26	●	20	9	19	36								
	20-32	●	20	13	19	38	100	-	BCS-3	-	HH6X30	LW-5	KTKB32-OS	KFTB%000000-4S
	25-32	●	25	8	23	42								
32-32	●	32	5	29	48	110	-	BCS-4	-	HH6X30	LW-5	KTKB%32-OS	KFTB%000000-5S	
KTKTBF	25-32	●	25	9.5	25	48	102	84.5	-	BCS-5	HH6X30	LW-5	KTKB32-OS	KFTB%000000-4S
	32-32	●	32	2.5	32		117	99.5					KTKB%32-OS	

How to mount the Toolblock



Cut-off Toolholders (Integral Type)

KTKH-S



Toolholder Dimensions

Description	Stock		Cut-off Dia. (mm)	Dimension (mm)						Edge Width (mm)	Drawing	Spare Parts	See Page for Recommended Cutting Conditions	
	R	L		CUTDIA	H	HF	HBH	B	LF			LH		CW
KTKH ^{R/L}	1010F-2S	●	●	30	10	10	5	10	80	18.6	2.2 2.4	Fig. 1	LTK-5	H37
	1212H-2S	●	●	33	12	12	4	12	100	19.8				
	1612H-2S	●	●	33	16	16	-	12	100	19.8				
	1616H-2S	●	●	33	16	16	-	16	100	19.8				
	2012K-2S	●	●	38	20	20	-	12	125	22.8				
	2020K-2S	●	●	38	20	20	-	20	125	22.8				
	1612H-3S	●	●	36	16	16	4	12	100	21.7	3.1	Fig. 1		
	1616H-3S	●	●	36	16	16	4	16	100	21.7				
	2012K-3S	●	●	41	20	20	-	12	125	25.3				
	2020K-3S	●	●	52	20	20	-	20	125	31.0	4.1	Fig. 2		
	2525M-3S	●	●	53	25	25	-	25	150	31.5				
	2012K-4S	●	●	44	20	20	-	12	125	26.3				
2020K-4S	●	●	62	20	20	-	20	125	35.0	4.8, 5.1	Fig. 2			
2525M-4S	●	●	68	25	25	-	25	150	38.0					
2525M-5S	●	●	79	25	25	-	25	150	43.5					
KTKH ^{R/L}	2020K-3T17S	●	●	35	20	20	-	20	125	21.8	3.1	Fig. 1	LTK-5	H37
	2525M-3T22S	●	●	45	25	25	-	25	150	26.8				
	2020K-4T22S	●	●	45	20	20	-	20	125	26.8	4.1			
	2525M-4T22S	●	●	45	25	25	-	25	150	26.8				

• How to attach inserts, See Page H33.

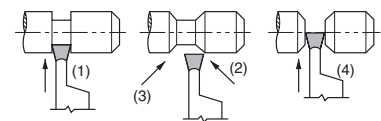
Applicable Inserts

See Page	H33			
Insert				
Toolholder Description	Low Feed	Lead Angle	Low Feed / Lead Angle	
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

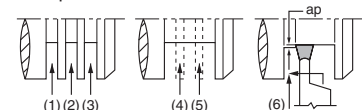


2. Wide Grooving

(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						TKF16		Remarks
	MEGACOAT NANO		MEGACOAT	PVD Coated Carbide	DLC Coated Carbide	Carbide	Edge Width CW (mm)						Edge Width CW (mm)		
	PR1425	PR1535	PR1225	PR1025	PDL025	KW10	0.5	0.7	1.0	1.25	1.5	2.0	1.5	2.0	
							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
	Cermet	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	PR660	PR930	KW10	f (mm/rev)					
Carbon Steel	☆ 60 ~ 200	☆ 120 ~ 200	★ 80 ~ 180	☆ 60 ~ 150	☆ 60 ~ 130	☆ 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	☆ 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	☆ 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		

Insert Grades
 Turnable
 Indexable Inserts
 CN & PCD Tools
 External
 Small Parts
 Boring
 Grooving
 Cut-off
 Threading
 Drilling
 Solid Tools
 Milling
 Tools for
 Spare Parts
 Technical
 Index



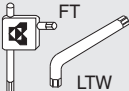
Alternative Toolholder Reference Table for Cut-off Toolholder

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

Conventional Toolholder					Alternative Toolholder				
Description	Overall length (mm)	Spare Parts			Description	Overall length (mm)	Remarks	See Page	
		Clamp Screw 	Wrench 						
KTKF ^{®/L} 1010K-12	125	SB-4590TRWN	LTW-10S		KTKF ^{®/L} 1010JX-12	120		H8	
KTKF ^{®/L} 1212M-12	150					KTKF ^{®/L} 1212JX-12	120		
KTKF ^{®/L} 1616M-12	150					KTKF ^{®/L} 1616JX-12	120		
KTKF ^{®/L} 1010K-16	125					KTKF ^{®/L} 1010JX-16	120		
KTKF ^{®/L} 1212M-16	150					KTKF ^{®/L} 1212JX-16	120		
KTKF ^{®/L} 1616M-16	150					KTKF ^{®/L} 1616JX-16	120		
KGM ^{®/L} 0810K-1.5-125	125	SE-40120TR	LTW-15S		-	-	No Alternative	H30	
KGM ^{®/L} 1010K-1.5-125	125					KGM ^{®/L} 1010JX-1.5	120		
KGM ^{®/L} 1212M-1.5-150	150					KGM ^{®/L} 1212JX-1.5	120		
KGM ^{®/L} 0810K-2-125	125	SE-40120TR	LTW-15S		-	-	No Alternative		
KGM ^{®/L} 1010K-2-125	125					KGM ^{®/L} 1010JX-2	120		
KGM ^{®/L} 1212M-2-150	150			KGM ^{®/L} 1212JX-2	120				
KGM ^{®/L} 1616M-2-150	150	SE-50125TR	LTW-20		KGM ^{®/L} 1616JX-2	120			
KGM ^{®/L} 1010K-2.5-125	125	SE-40120TR	LTW-15S		KGM ^{®/L} 1010JX-2.5	120			
KGM ^{®/L} 1212M-2.5-150	150					KGM ^{®/L} 1212JX-2.5	120		
KGM ^{®/L} 1616M-2.5-150	150	SE-50125TR	LTW-20		KGM ^{®/L} 1616JX-2.5	120			
KGM ^{®/L} 1616M-3-150	150	SE-50125TR	LTW-20		KGM ^{®/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			Description	Cut-off Dia.	Remarks	See Page		
		Releasing Wrench 	Clamp Screw 	Wrench 						
KTKH ^{®/L} 0808K-1.6-125B	ø10	-	SE-40120TR	FT-15	-	-	No Alternative	H30		
KTKH ^{®/L} 1010K-1.6-125B	ø20						KGM ^{®/L} 1010JX-1.5		ø20	
KTKH ^{®/L} 1212M-1.6-150B	ø25						KGM ^{®/L} 1212JX-1.5		ø25	
KTKH ^{®/L} 1414M-1.6-150B	ø26						-		-	No Alternative
KTKH ^{®/L} 1010K-2-125B	ø20	-	SE-40120TR	FT-15	KGM ^{®/L} 1010JX-2	ø20				
KTKH ^{®/L} 1212M-2-150B	ø25						KGM ^{®/L} 1212JX-2		ø25	
KTKH ^{®/L} 1616M-2-150B	ø32	-	SE-50125TR	LTW-20	KGM ^{®/L} 1616JX-2	ø32				
KTKH ^{®/L} 1616M-3-150B	ø32						KGM ^{®/L} 1616JX-3		ø32	
KTKHR 1010K-2-125S	ø30	LTK-5	-	-	KGMR 1010JX-2	ø20	Processing dia. is small.			
KTKH ^{®/L} 1212M-2-150S	ø30						KGM ^{®/L} 1212JX-2	ø25	Processing dia. is small.	
KTKH ^{®/L} 1616M-2-150S	ø36						KGM ^{®/L} 1616JX-2	ø32	Processing dia. is small.	
KTKH ^{®/L} 1616M-3-150S	ø45						KGM ^{®/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.