

Cut-off

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KGM Integral Toolholder **H20**

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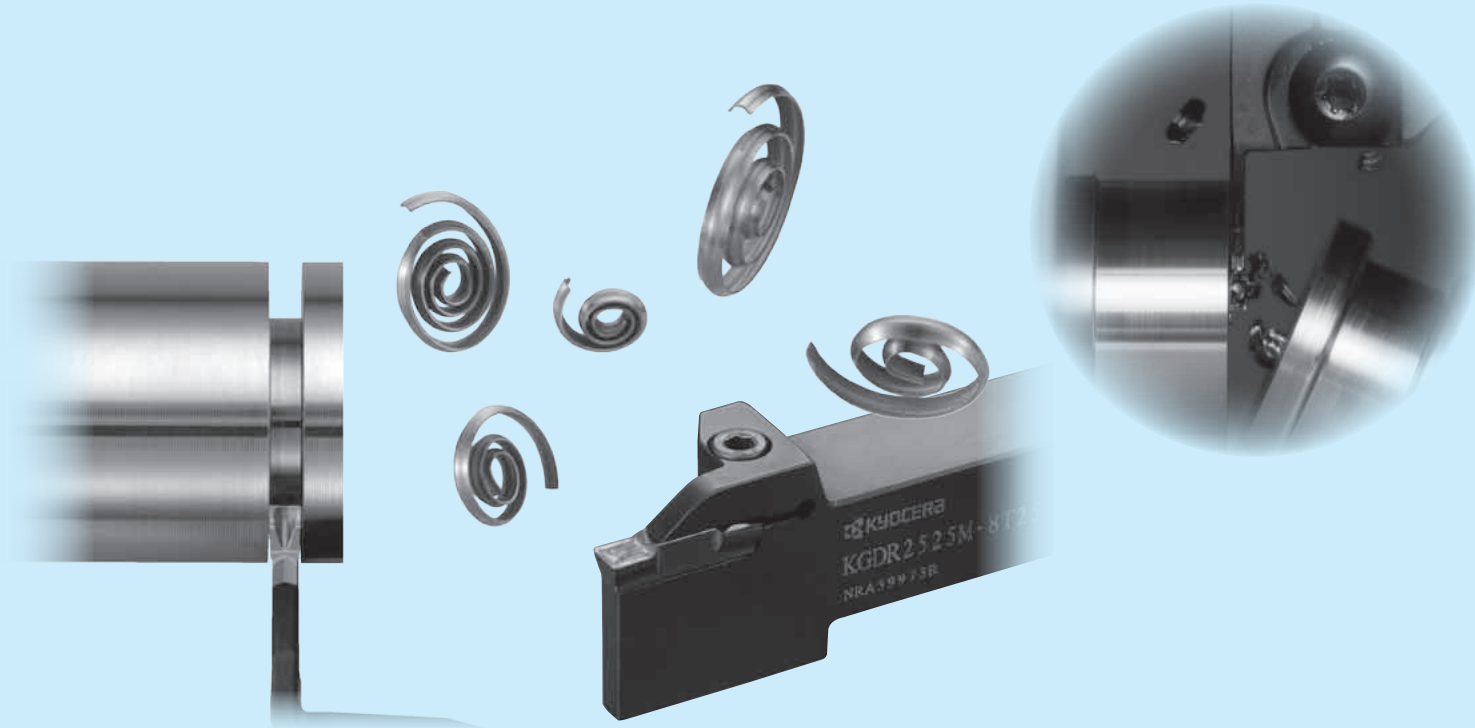
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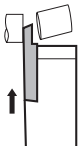
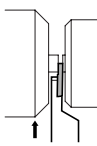
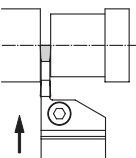
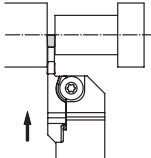
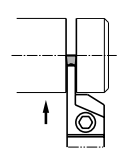
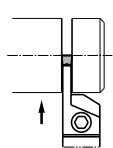
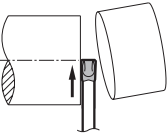
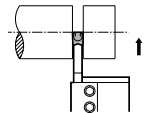
Alternative Toolholder Reference Table for Cut-off Toolholder **H28**

H

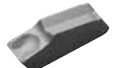


Product Lineup

Product Lineup

For Small Diameter Cut-Off	Long Shank for automatic lathe Cut-Off Dia. $\phi 5 \sim \phi 12 \sim \phi 16$	KTKF (H8)  Width: 0.5~2.0mm		For sub spindle tooling Cut-Off Dia. $\phi 6 \sim \phi 12 \phi 14 \sim \phi 16$	KTKFS (H10)  Width: 1.0~2.0mm
KGD	Bolt Clamp Cut-Off Dia. $\phi 12 \sim \phi 50$	KGD (H15)  Width: 1.3~4.0mm	KGD-S (H17)  Width: 2.0~4.0mm		
CERACUT Plunge&Turn (2-edge)	Bolt Clamp Cut-Off Dia. $\phi 18 \sim \phi 60$	KGM (H20)  Width: 1.5~4.0mm, 3~8mm	KGM-T (H21)  Width: 2.0~6.0mm		
CERACUT Cut-Off (1-edge)	Toolholder Type Cut-Off Dia. $\phi 30 \sim \phi 79$	KTKH-S (H26)  Width: 2.2~5.1mm		Blade type Cut-Off Dia. $\phi 32 \sim \phi 120$	KTKB-S(S) (H24)  Width: 1.6~9.6mm

Cut-Off Tools

Series Name	Shape	Advantage	Applications
For Small Diameter Cut-Off		1) Insert clamp is side screw type from lateral side 2) 2-edge insert 3) Max. Cutting Dia.: $\phi 16$	1) For cut-off and grooving of small workpieces 2) For automatic lathe, small machine
KGD		1) Insert is clamped from top side 2) 1-edge and 2-edge inserts available 3) Integral type and separate type are available. 4) Max. Cutting Dia.: $\phi 50$	1) PM Chipbreaker ... For Cut-Off 2) PH Chipbreaker ... For Cut-Off (High Feed Rate) For Grooving 3) PG Chipbreaker ... For Cut-Off (for automatic lathe) Sharp-Cutting Oriented 4) PF Chipbreaker ... For Cut-Off (for automatic lathe) Low feed 5) PQ Chipbreaker ... For Cut-Off (for automatic lathe) Medium feed
CERACUT Plunge&Turn		1) Insert is clamped from top side 2) 1-edge and 2-edge inserts available 3) Max. Cutting Dia.: $\phi 60$	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.
CERACUT Cut-Off		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. Cutting Dia.: $\phi 120$	1) For cut-off and deep grooving 2) Standard chipbreaker is general cut-off type. Feed rate: over 0.1mm/rev P-Chipbreaker is for cut-off at low feed rates Feed rate: 0.03~0.08mm/rev  

Guide for Cut-Off

■ Tool Selection

Tool Selection		For Small Diameter Cut-Off	KGD	CERACUT Plunge&Turn	CERACUT Cut-Off
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} / GDMS-R-6D ( 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 edge)

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.

	N (No Hand)	R (Right-hand)	L (Left-hand)
Hand of Lead Angle			
	·Angled (θ) insert can reduce the burr size when cutting off. ·When using a larger lead angle (θ), cutting force becomes smaller, but the feed rate should be reduced.		

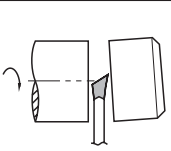
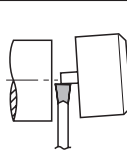
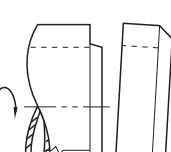
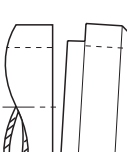
	Right-hand Lead	Neutral
Example: Solid Workpiece		
Example: Hollow Workpiece (Pipe)		

Fig. 1

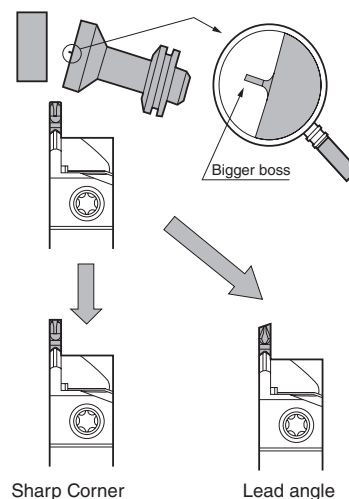


Fig.2

■ Caution

1. Set the cutting edge height 0.1-0.2mm above the center height. (Fig.3)
 2. Be sure to perform wet processing. Apply enough 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 to 1/3 at the near center to prevent impact caused by cutting.
- 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.

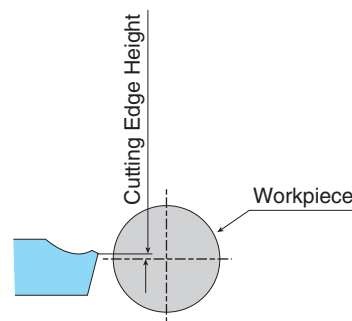
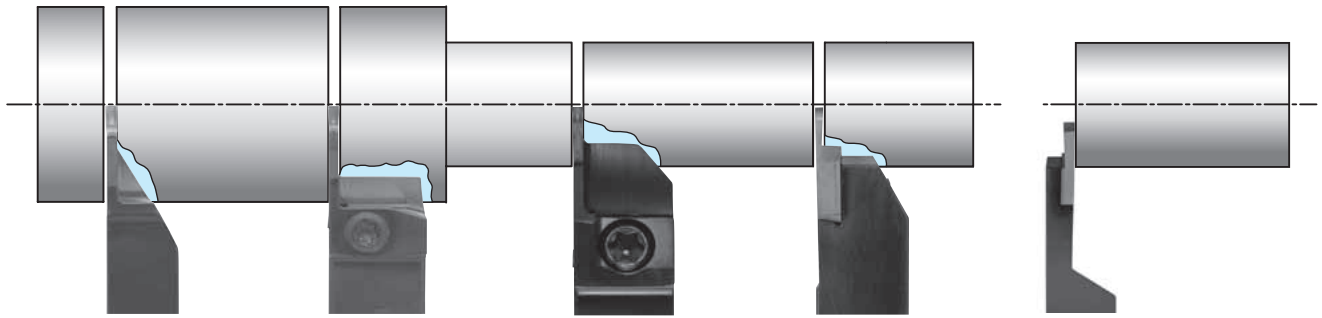


Fig.3

Summary of Cut-Off

Small Dia. Cut-off $\sim \phi 45$

Small Shank



KTKHS
Cutting Dia.: $\sim \phi 45$
Shank: $\square 10 \sim 25$
Edge Width: 2.2~4.1
Self Clamp

H26

KGM
Cutting Dia.: $\sim \phi 32$
Shank: $\square 10 \sim 16$
Edge Width: 1.5~4.0
Top Clamp

H20

KGD
Cutting Dia.: $\sim \phi 42$
Shank: $\square 10 \sim 20$
Edge Width: 1.3~4.0
Top Clamp

H15

KTKF
Cutting Dia.: $\sim \phi 16$
Shank: $\square 10 \sim 16$
Edge Width: 0.5~2.0
Lateral Side Clamp

H8

KTKFS
Cutting Dia.: $\sim \phi 16$
Shank: $\square 10 \sim 12$
Edge Width: 1.0~2.0
Lateral Side Clamp

H10

H



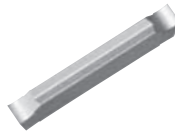
Cut-off

**KTKF
KTKFS**
2-edge
Low cutting force
cut-off Chipbreaker

Chipbreaker for
General Cut-Off

Chipbreaker for
Low Feed Cut-Off

2-edge



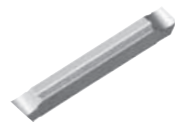
Sharp Cutting
PG Chipbreaker



Low feed
PF Chipbreaker



Medium feed
PQ Chipbreaker



(15° Lead Angle)



(15° Lead Angle)



(15° Lead Angle)

Chipbreaker edge shape	CERACUT Cut-Off H23		
	General cut-off		Low feed Cut-off
	Chamfer + hone	Sharp Edge	Hone



CERACUT Cut-Off H26
(Self Clamp)

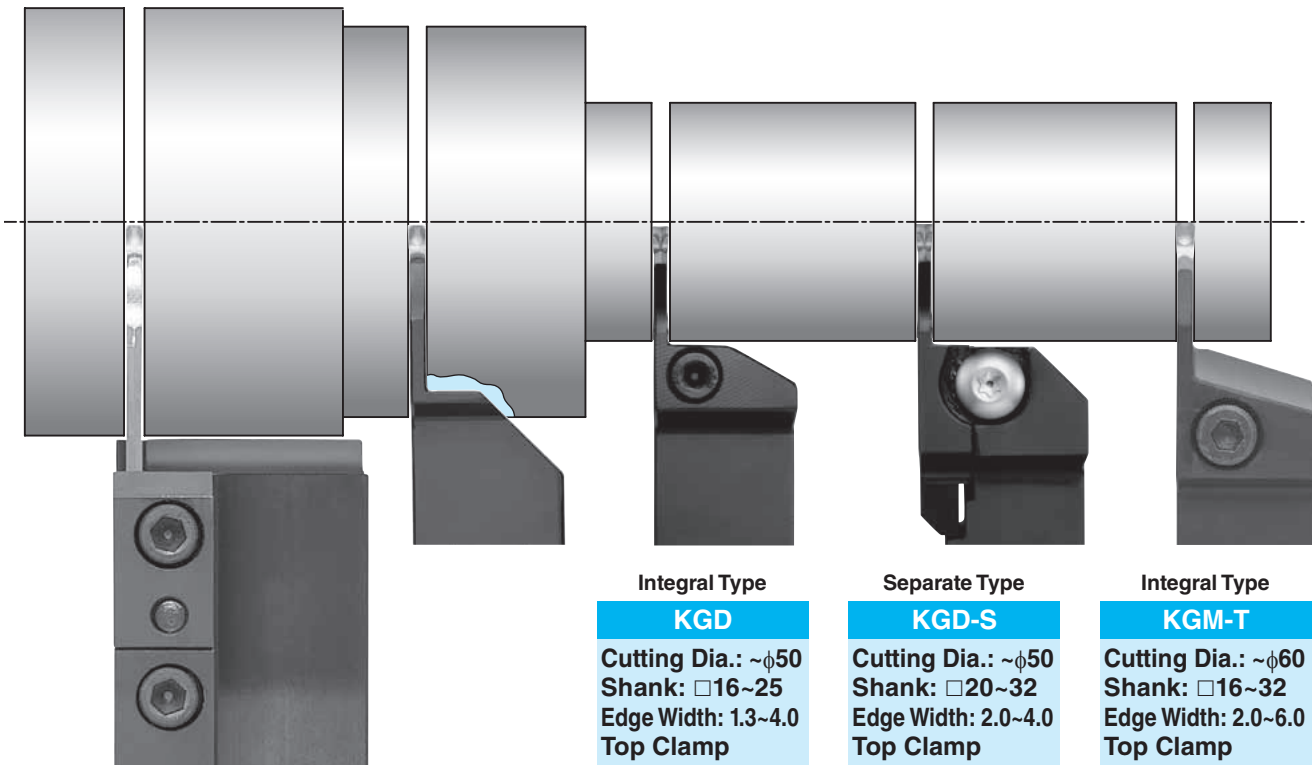


KGD H15
(Top Clamp)



For Small Diameter Cut-Off H8
(Lateral Side Clamp)

■ General Cut-Off $\sim \phi 120$



**Blade
+
Toolblock**

KTKB

Cutting Dia.: $\sim \phi 120$
Shank: $\square 16 \sim 32$
Edge Width: 1.6~9.6
Self Clamp

Integral Type

KTKH-S

Cutting Dia.: $\sim \phi 79$
Shank: $\square 10 \sim 25$
Edge Width: 2.2~5.1
Self Clamp

 H24

 H26

Chipbreaker for General Cut-Off

Chipbreaker for Low Feed Cut-Off

H16

➡ H17

 H21

**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		
 CERACUT Cut-Off  H24	 KGD-S  H17	 CERACUT Cut-Off  H26	 KGD  H16	 CERACUT Plunge&Turn  H20

H



Cut-off

Cut-Off Toolholders (for small diameter)

TKF

Applicable Inserts (TKF12)

Classification of usage		P	Carbon Steel / Alloy Steel					Ref. Page for Applicable Toolholders								
 : Continuous-Light Interruption / 1st Choice		M	Stainless Steel													
 : Continuous-Light Interruption / 2nd Choice		K	Cast Iron													
 : Continuous / 1st Choice		N	Non-ferrous Metals													
 : Continuous / 2nd Choice																
Description	Dimension (mm)						Angle (°)	MEGACOAT MEGACOAT NANO				PVD Coated Carbide		Carbide		
	W	φD max	rε	T	H	φd	θ	PR1425		PR1225		PR1025		KW10		
								R	L	R	L	R	L	R	L	
 ^{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							●	●	●	●	●	●	●	
	150-S-16DR	1.5							●	●	●	●	●	●	●	
	200-S-16DR	2.0							●	●	●	●	●	●	●	
 050-S	0.5	5	0.03	3	8.7	5	0°	●	●	●	●	●	●	●	●	
	070-S	0.7						8	●	●	●	●	●	●	●	●
	100-S	1.0						12	●	●	●	●	●	●	●	●
	125-S	1.25							●	●	●	●	●	●	●	
	150-S	1.5							●	●	●	●	●	●	●	
	200-S	2.0							●	●	●	●	●	●	●	
 100-T-16DR	1.0	12	0.08	3	8.7	5	16°	●	●	●	●				H8	
	150-T-16DR							1.5	●	●	●	●				
	200-T-16DR							2.0	●	●	●	●				
 100-T	1.0	12	0.08	3	8.7	5	0°	●	●	●	●					
	150-T							1.5	●	●	●	●				
	200-T							2.0	●	●	●	●				
 050-NB-20DR	0.5	5	0	3	8.7	5	20°	●	●			●	●	●	●	
	070-NB-20DR	0.7						8	●	●			●	●	●	●
	100-NB-20DR	1.0						12	●	●			●	●	●	●
	150-NB-20DR	1.5							●	●			●	●	●	●
	200-NB-20DR	2.0							●	●			●	●	●	●
 050-NB	0.5	5	0	3	8.7	5	0°	●	●			●	●	●	●	
	070-NB	0.7						8	●	●			●	●	●	●
	100-NB	1.0						12	●	●			●	●	●	●
	150-NB	1.5							●	●			●	●	●	●
	200-NB	2.0							●	●			●	●	●	●

· Lead angle shows the angle when installed in toolholder.

· As Fig.1 of H8 shows, the cutting diameter of the insert is indicated when the top of the cutting edge progresses 1mm from the center.

Inserts Identification System (Ref. to Table.1)

TKF 12 R 050—S—16D R

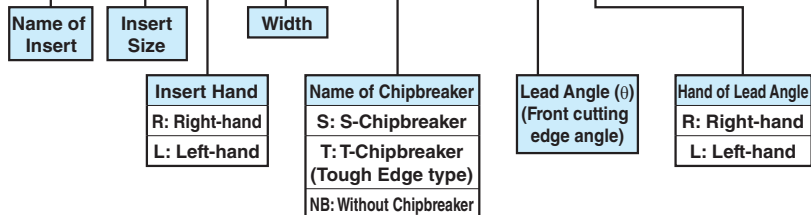
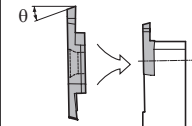
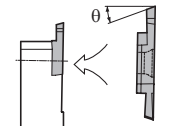
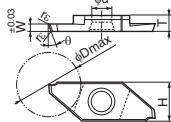
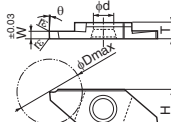
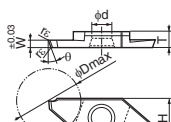
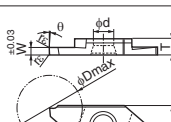
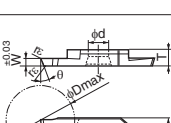
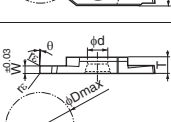


Table 1

Toolholder	Right-hand	Toolholder	Left-hand
Insert	Right-hand	Insert	Left-hand
Lead angle	Right-hand	Lead angle	Right-hand
			

● : Std. Item

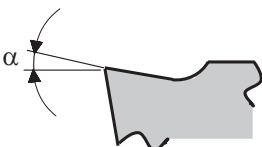
● Applicable Inserts (TKF16)

●Applicable Inserts (TKF16)		Classification of usage		P	Carbon Steel / Alloy Steel					Ref. Page for Applicable Toolholders							
				M	Stainless Steel												
				K	Cast Iron												
				N	Non-ferrous Metals												
Insert Handed Insert shows Right-hand		Description	Dimension (mm)						Angle (°)	MEGACOAT MEGACOAT NANO		PVD Coated Carbide		Carbide			
			W	φD max	rε	T	H	φd	θ	PR1425		PR1225		PR1025		KW10	
										R	L	R	L	R	L	R	L
 Right lead angle		TKF16 ^R /L 150-S-16DR	1.5	16	0.05	4	9.5	5	16°	●	●	●	●	●	●	●	●
		200-S-16DR	2.0							●	●	●	●	●	●	●	●
 Right lead angle		TKF16 ^R /L 150-S	1.5	16	0.05	4	9.5	5	0°	●	●	●	●	●	●	●	●
		200-S	2.0							●	●	●	●	●	●	●	●
 Right lead angle Tough Edge		TKF16 ^R /L 150-T-16DR	1.5	16	0.08	4	9.5	5	16°	●	●	●	●				
		200-T-16DR	2.0							●	●	●	●				
 Tough Edge		TKF16 ^R /L 150-T	1.5	16	0.08	4	9.5	5	0°	●	●	●	●				
		200-T	2.0							●	●	●	●				
 Right lead angle Without Chipbreaker		TKF16 ^R /L 150-NB-20DR	1.5	16	0	4	9.5	5	20°	●	●			●	●	●	●
		200-NB-20DR	2.0							●	●			●	●	●	●
 Without Chipbreaker		TKF16 ^R /L 150-NB	1.5	16	0	4	9.5	5	0°	●	●			●	●	●	●
		200-NB	2.0							●	●			●	●	●	●

· Lead angle shows the angle when installed in toolholder.

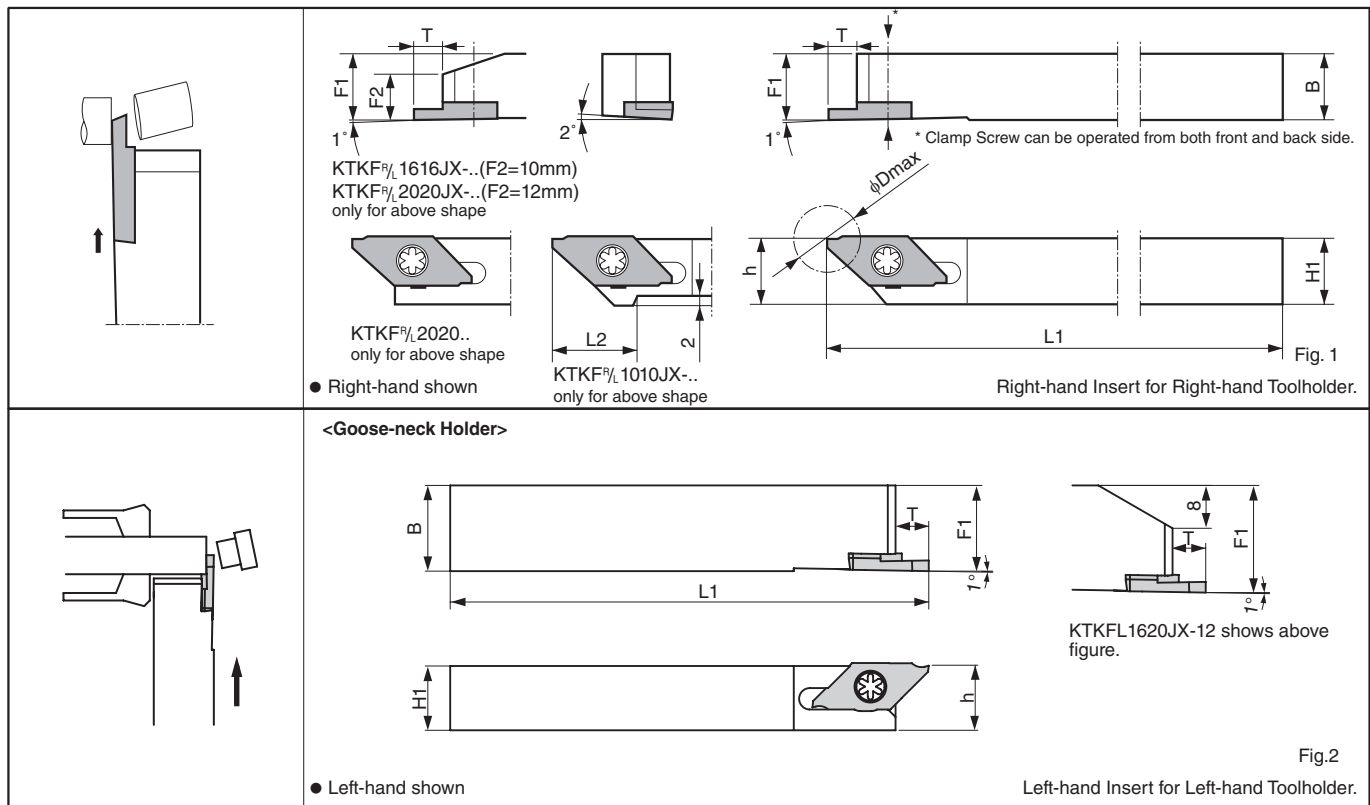
· As Fig.1 of H8 shows, the cutting diameter of the insert is indicated when the top of the cutting edge progresses 1mm from the center.

● Descriptions of Chipbreaker Edge Shape

Edge Shape	S-Chipbreaker		T-Chipbreaker (Tough Edge type)		NB-Chipbreaker	
	α	Description	α	Description	α	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				

Cut-Off Toolholders (for small diameter)

KTKF (For small diameter cut-off)



Toolholder Dimensions

Description		Std.		Dimension (mm)						Drawing	Spare Parts		Applicable Inserts ⚙️ H6, H7		
		R	L	H1=h	B	L1	L2	F1	T		Clamp Screw	Wrench			
															
KTKF ^{R/L} 	1010JX-12	●	●	10	10	120	15	10	6	Fig. 1	SB-4590TRWN	LTW-10S	TKF12 ^{R/L} ...		
	1212JX-12	●	●	12	12		-	12							
	1616JX-12	●	●	16	16		-	16							
	2020JX-12	●	●	20	20		-	20							
KTKF ^{R/L} 	1010JX-16	●	●	10	10	120	20	10	8		Fig. 1	SB-4590TRWN	LTW-10S	TKF16 ^{R/L} ...	
	1212JX-16	●	●	12	12		-	12							
	1616JX-16	●	●	16	16		-	16							
	2020JX-16	●	●	20	20		-	20							
KTKF ^{R/L}	1212F-12	●	●	12	12	85	-	12	6	Fig. 2		SB-4590TRWN	LTW-10S	TKF12 ^{R/L} ...	
	1212F-16	●	●					12	8					TKF16 ^{R/L} ...	
KTKFL	1216JX-12		●	12	16	120	-	16	6			Fig. 2	SB-4590TRWN	LTW-10S	TKF12L ...
	1620JX-12		●	16	20			20							

Dimension T shows the distance from the Toolholder to the cutting edge. H6, H7 for the actual cutting diameter.

Note: Cutting diameter of -12 type toolholder (ϕD_{max}) depends on the insert grooving width.

Recommended Cutting Conditions H27

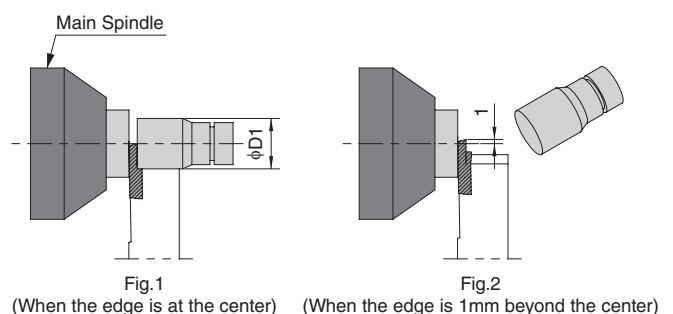
How to Use

1) When using Main Spindle only

Workpiece maximum $\phi D1$ (Fig.1)= ϕD_{max}

Even if the cutting edge runs beyond the center line, the insert does not contact the workpiece, since the workpiece falls off.

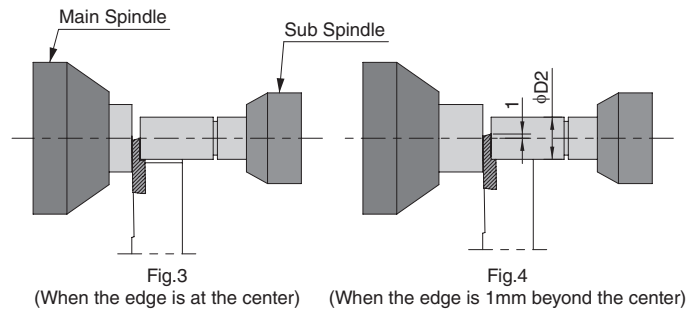
(The clearance between the insert and the workpiece is 0.2mm)



● : 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.
e.g.) When the cutting edge is programmed to run 1mm beyond the center.
Workpiece maximum, $\phi D2$ (Fig.4) [$\phi D_{max} - 1\text{mm} \times 2$] (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)

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

	1,000 Passes	2,000 Passes	3,000 Passes
Tough Edge, T Chipbreaker (PR1225)			
Competitor C		X	
Competitor D			X

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

<Cutting Conditions>

- $V_c = 80\text{m/min}$
- $f = 0.05\text{mm/rev}$ (At Cut-off: 0.015mm/rev)
- Coolant
- Workpiece material: SK4



Workpiece (with flat cuts on two sides)
· TKF12R200-T-16DR (PR1225)

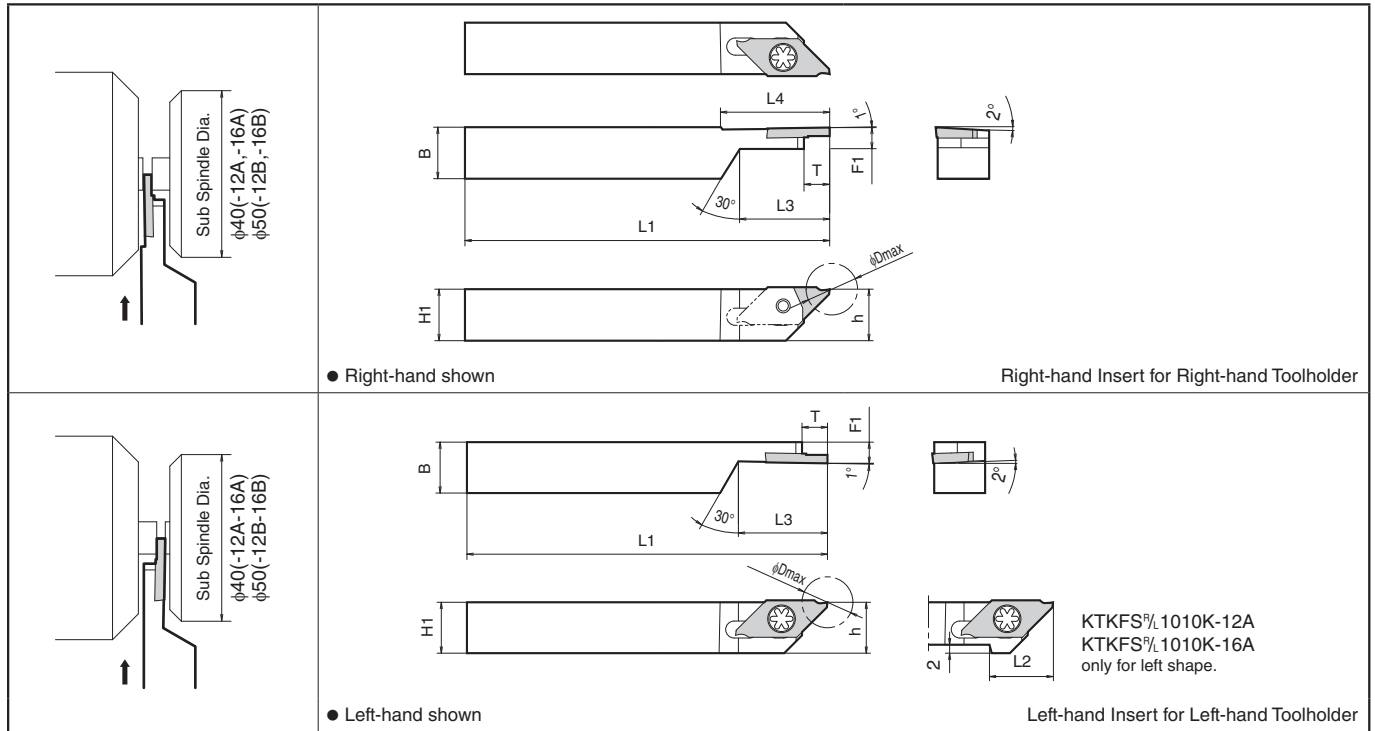
How to select edge prep.

Troubleshooting

Problems	Countermeasures	Countermeasures						
		Lead Angle (θ)		Edge Width		Name of Chipbreaker		
		No (0°)	Yes	Narrower	Wider	S	T	NB
Insert Fracture	Insert Fracture Prevention	Effective			Effective		Effective	Effective
Long cutting time	Cutting time reduction	Effective			Effective		Effective	Effective
Entangled chips	Prevention of chip entanglement	Effective		Effective		Effective		
Large boss remain	Small boss remain		Effective	Effective		Effective		
Ring Remain (Hollow Workpiece)	Prevention of Ring Remain		Effective	Effective		Effective		
Deformation of Hollow Workpiece (pipe)	Preventing deformation		Effective	Effective		Effective		

Cut-Off Toolholders (for sub spindle tooling)

KTKFS (For small diameter cut-off)



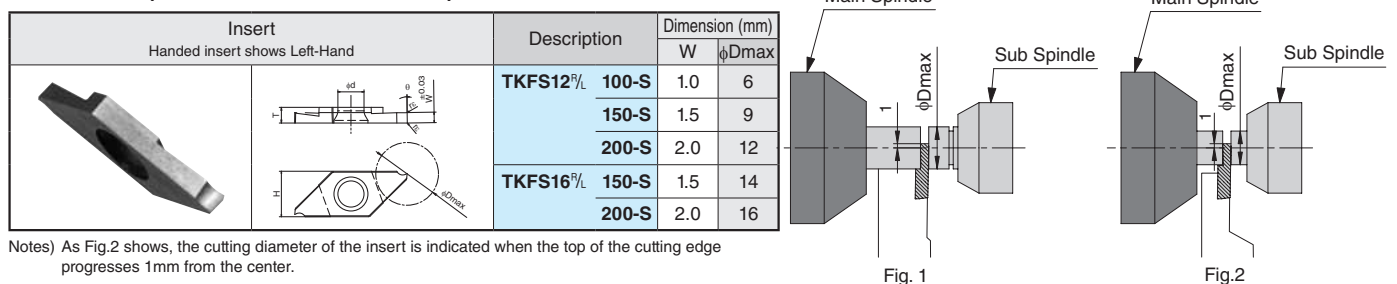
Toolholder Dimensions

Description	Std.		Cut-Off Dia.	Dimension (mm)								Spare Parts		Applicable Inserts H11
	R	L		H1-h	B	L1	L2	L3	*L4	F1	T	Clamp Screw	Wrench	
KTKFS ^{R/L} 1010K-12A 1212F-12A 1212K-12B	●	●	6~12	10	10	120	15	22	26	5	6	SB-4050TRN	LTW-10S	TKFS12 ^{R/L}
	●	●		12	12	85	-	26						
	●	●		12	12	120	-	26						
KTKFS ^{R/L} 1010K-16A 1212F-16A 1212K-16B	●	●	14~16	10	10	120	20	22	30	5	8	SB-4050TRN	LTW-10S	TKFS16 ^{R/L}
	●	●		12	12	85	-	26						
	●	●		12	12	120	-	26						

· Dimension T shows the distance from the Toolholder to the cutting edge. H10 for the actual cutting diameter.
· Cutting diameter (φDmax) depends on the insert grooving width.
* Only Right-hand is available for L4 dimension.

Recommended Cutting Conditions H11

TKFS (For small diameter cut-off)

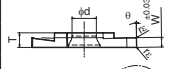


- As Fig.1 shows, use KTKFL (Left-hand) for the distance between main spindle and sub spindle.
- As Fig.2 shows, KTKFS is recommended for small diameters and for the short distance between the main spindle and sub spindle.

● : Std. Item

● Applicable Inserts

● 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		Description	Dimension (mm)							Angle (°)	MEGACOAT		PVD		Carbide	
											MEGACOAT NANO	Coated Carbide				
			W	φD max	rε	T	H	φd	θ	PR1425	PR1225	PR1025	KW10			
Handed insert shows Left-Hand																
		TKFS12 ^{R/L} 100-S	1.0	6	0.05	2.2	8.7	4.4	0°							
		150-S	1.5	9												
		200-S	2.0	12												
		TKFS16 ^{R/L} 150-S	1.5	14	0.05	2.2	9.5	4.4	0°							
		200-S	2.0	16												

· As Fig.2 of H10 shows, the cutting diameter of the insert is indicated when the top of the cutting edge progresses 1mm from the center.

* Lead angle shows the angle when installed in toolholder.

◆ Recommended Cutting Conditions

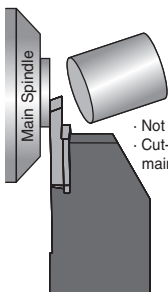
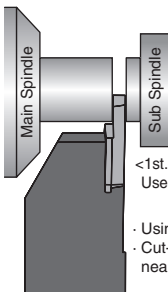
Workpiece Material	Recommended Insert Grades (Cutting Speed Vc: m/min)				TKFS12			TKFS16		Remarks
	MEGACOAT NANO	MEGACOAT	PVD Coated Carbide	Carbide	Edge Width (mm)			Edge Width (mm)		
					1.0	1.5	2.0	1.5	2.0	
	PR1425	PR1225	PR1025	KW10	f (mm/rev)			f (mm/rev)		
Carbon Steel	★ 70 ~ 170	☆ 70 ~ 150	☆ 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	☆ 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	☆ 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

■ How to use small diameter cut-off tool

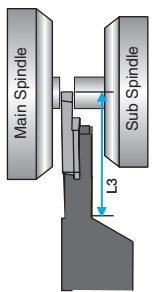
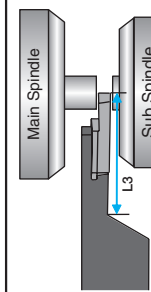
● KTKF

- 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 type (Right-hand toolholder)	KTKFL type (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

● KTKFS

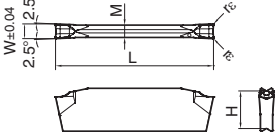
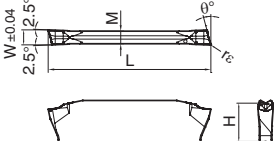
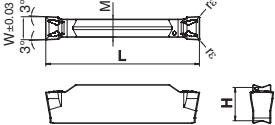
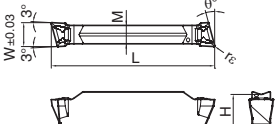
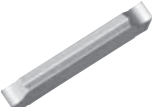
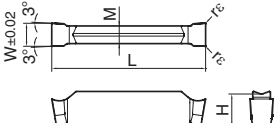
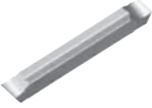
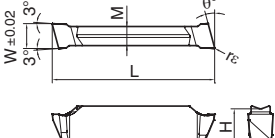
- When machining workpiece with small diameter, use KTKFS to reduce overhang distance from the main spindle.

KTKFSR type (Right-hand toolholder)	KTKFSL type (Left-hand toolholder)
 <How to select> Hand of Toolholder - Long workpiece and more rigidity - Cut-off operation near main spindle side <How to select> L3 dimension - Sub Spindle Dia. φ40→22(A type) φ50→26(B type)	 <How to select> Hand of Toolholder - Short workpiece and less rigidity - Cut-off operation near sub spindle side <How to select> L3 dimension - Sub Spindle Dia. φ40→22(A type) φ50→26(B type)

Cut-Off Inserts

GDM/GDG

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

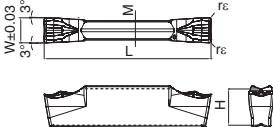
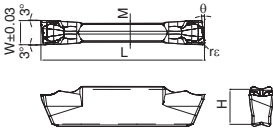
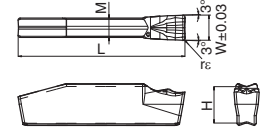
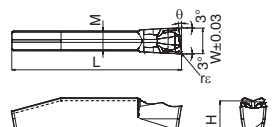
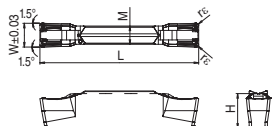
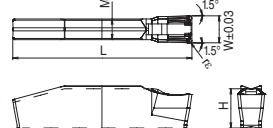
Insert			Description	Dimension (mm)					Angle (°)	MEGACOAT			Carbide	Ref. Page for Application
				W	r _ε	M	L	H	θ	PR1225	PR1215	GW15		
													Tolerance	
Handed Insert shows Right-hand														
Cut-off	 Low feed 2-edge		GDM 1316N-003PF	1.3	±0.04	0.03	1.0	16	3.7	-	●	●		H15
			1316N-015PF			0.15						●	●	
			1516N-003PF	1.5		0.03	1.2		●		●			
			1516N-015PF			0.15			●		●			
			2020N-003PF	2.0		0.03	1.7	20	4.3		●	●		H15
			2520N-003PF	2.5			2.1				●	●		H16
			3020N-003PF	3.0			2.3				●	●		H17
	 15° Lead Angle Low feed 2-edge		GDM 1316°L-003PF-15D	1.3	±0.04	0.03	1.0	16	3.7	15°	●	●		H15
			1516°L-003PF-15D	1.5			1.2				●	●		
			2020°L-003PF-15D	2.0			1.7	20	4.3		●	●		
			2520°L-003PF-15D	2.5			2.1				●	●		
			3020°L-003PF-15D	3.0			2.3				●	●		
	 Medium feed 2-edge		GDM 2020N-010PQ	2.0	±0.03	0.1	1.7	20	4.3	-	●	●		H15 H16 H17
			2520N-010PQ	2.5			2.1				●	●		
			3020N-010PQ	3.0			2.3				●	●		
	 15° Lead Angle Medium feed 2-edge		GDM 2020R-010PQ-15D	2.0	±0.03	0.1	1.7	20	4.3	15°	●	●		
			2520R-010PQ-15D	2.5			2.1				●	●		
			3020R-010PQ-15D	3.0			2.3				●	●		
	 Low cutting force 2-edge		GDG 2020N-005PG	2.0	±0.02	0.05	1.7	20	4.3	-			●	
			2520N-005PG	2.5			2.1						●	
			3020N-005PG	3.0			2.3						●	
	 15° Lead Angle Low cutting force 2-edge		GDG 2020R-005PG-15D	2.0	±0.02	0.05	1.7	20	4.3	15°			●	
			2520R-005PG-15D	2.5			2.1						●	
			3020R-005PG-15D	3.0			2.3						●	

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

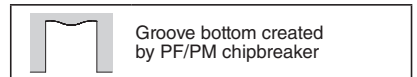


GDM/GDMS

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				
○ : Continuous / 2nd Choice				

Insert			Description		Dimension (mm)					Angle (°)	MEGACOAT		Ref. Page for Toolholder
					W	r _ε	M	L	H	θ	PR1225	PR1215	
Handed Insert shows Right-hand													
Cut-off	 2-edge		GDM 2020N-020PM	2.0	±0.03	0.2	1.5	20	4.3	-	●	●	H15 H16 H17
			2520N-020PM	2.5		0.2	1.95				●	●	
			3020N-025PM	3.0		0.25	2.3				●	●	
			4020N-030PM	4.0		0.3	3.3				●	●	
	 2-edge		GDM 2020R-020PM-6D	2.0	±0.03	0.2	1.5	20		6°	●	●	
			2520R-020PM-6D	2.5		0.2	1.95				●	●	
			3020R-025PM-6D	3.0		0.25	2.3				●	●	
	 1-edge		GDMS 2020N-020PM	2.0	±0.03	0.2	1.5	20		-	●	●	
			3020N-025PM	3.0		0.25	2.3				●	●	
			4020N-030PM	4.0		0.3	3.3				●	●	
	 1-edge		GDMS 2020R-020PM-6D	2.0	±0.03	0.2	1.5	20		6°	●	●	
			3020R-025PM-6D	3.0		0.25	2.3				●	●	
4020R-030PM-6D			4.0	0.3		3.3	●		●				
Grooving and Cut-off	 High Feed Rate 2-edge		GDM 2020N-020PH	2.0	±0.03	0.2	1.5	20	4.3	-	●	●	
			3020N-030PH	3.0		0.3	2.3				●	●	
			4020N-030PH	4.0		0.3	3.3				●	●	
	 High Feed Rate 1-edge		GDMS 2020N-020PH	2.0	±0.03	0.2	1.5	20		-	●	●	
			3020N-030PH	3.0		0.3	2.3				●	●	
			4020N-030PH	4.0		0.3	3.3				●	●	

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



Inserts Identification System

(2) Accuracy G:Ground Insert M: Class M		(4) Width 13:1.3mm 25:2.5mm 15:1.5mm 30:3mm 20:2mm 40:4mm		(6) Hand of Tool R : Right-hand L : Left-hand N: Neutral		(8) Chipbreaker Symbol PF:Cut-Off (Low feed) PM:Cut-Off (General Purpose) PQ:Cut-Off (Medium feed) PH:Groove and Cut-off PG:Cut-Off (Low cutting force) (High feed rate)				
G	D	M	S	30	20	R	- 025	PM	-	6D
(1) Series Newly grooving GD Series		(3) No. of edge (blank): 2-edge S: 1-edge		(5) Insert Length 16:16mm 20:20mm		(7) Corner-R (r _ε) 003:0.03mm 020:0.2mm 005:0.05mm 025:0.25mm 010:0.1mm 030:0.3mm 015:0.15mm		(9) Lead Angle Without Indication: 0° 6D: 6° 15D: 15°		

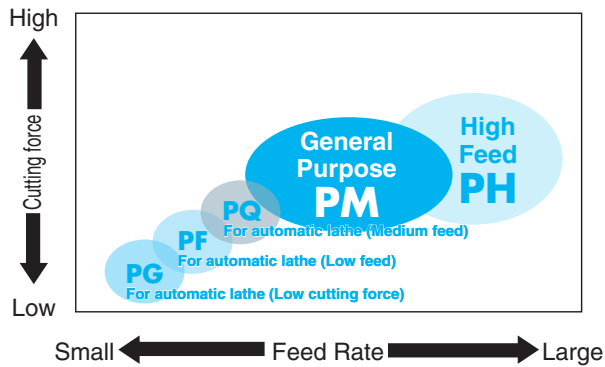
● : Std. Item

Inserts are sold in 10 piece boxes

Cut-Off Inserts

Application Map

Cut-off



Recommended Cutting Conditions (PF/PQ/PG Chipbreaker)

				f (mm/rev)							Remarks
Workpiece Material	Recommended Insert Grades (Cutting Speed Vc: m/min)			PF			PQ		PG		
	MEGACOAT		Carbide	Width W (mm)			Width W (mm)		Width W (mm)		
	PR1225	PR1215	GW15	1.3/1.5	2.0	2.5/3.0	2.0	2.5/3.0	2.0	2.5/3.0	
Carbon Steel	★ 70~150	☆ 70~180	-	0.01~0.04	0.02~0.06	0.02~0.08	0.03~0.1	0.04~0.12	-	-	Coolant
Alloy Steel	★ 70~150	☆ 70~180	-								
Stainless Steel	★ 60~120	☆ 60~150	-	0.01~0.03	0.01~0.04	0.01~0.05	0.02~0.07	0.02~0.08	-	-	
Cast Iron	-	★ 80~200	☆ 50~100	0.01~0.05	0.02~0.07	0.03~0.08	0.04~0.1	0.04~0.12	0.01~0.04	0.01~0.05	
Aluminium Alloys	-	-	★ 200~450	-	-	-	-	-	0.01~0.05	0.01~0.06	
Brass	-	-	★ 100~200	-	-	-	-	-	0.01~0.07	0.01~0.08	

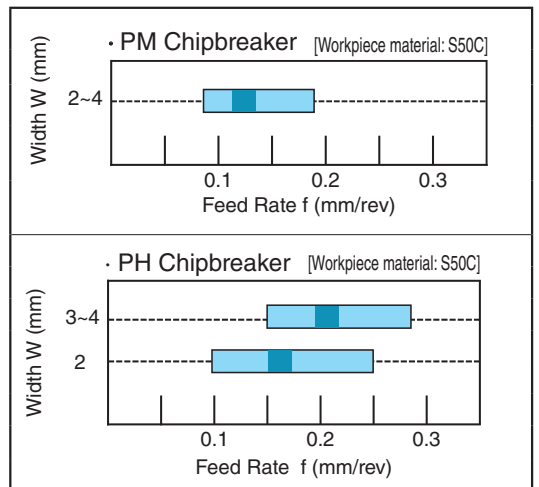
★: 1st Recommendation ☆: 2nd Recommendation

Recommended Cutting Conditions (PM/PH Chipbreaker)

Workpiece Material	Recommended Insert Grades (Cutting Speed Vc: m/min)		f (mm/rev)			Remarks
			PM Chipbreaker	PH Chipbreaker		
	MEGACOAT		Width W (mm)	Width W (mm)		
	PR1225	PR1215	2~4	2	3~4	
Carbon Steel	★ 80~200	☆ 100~200	0.08~0.18	0.10~0.25	0.15~0.28	Coolant
Alloy Steel	★ 70~180	☆ 80~180				
Stainless Steel	★ 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

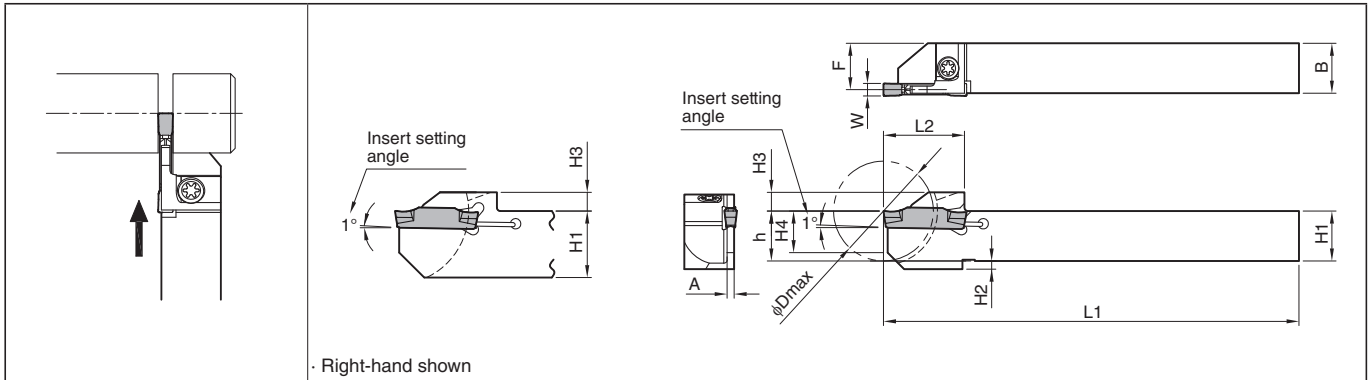


Caution (Cut-Off)

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 to 1/3 at the near center to prevent impact caused by cutting.

■ KGD (For automatic lathe)

Width: 1.3~4.0mm

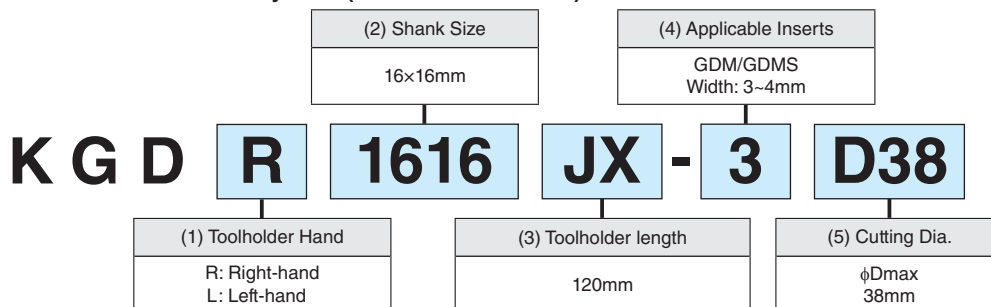


● Toolholder Dimensions

Description	Std.		Cut-Off Dia.	Dimension (mm)										Width W (mm)		Spare Parts	
	R	L	φDmax	H1=h	H2	H3	H4	B	L1	L2	F	A	MIN.	MAX.	Screw	Wrench	
																	
KGD^{R/L} 1010JX-1.3	●	●	20	10	2	4.5	8	10	120	18	9.5	1.0	1.3	1.3	SB-40120TR	LTW-15S	
1212JX-1.3	●	●	24	12			10	12		19.5	11.5						
KGD^{R/L} 1010JX-1.5	●	●	20	10	2		8	10	120	18	9.4	1.2	1.5	1.5			
1212JX-1.5	●	●	24	12			10	12		19.5	11.4						
KGD^{R/L} 1212F-1.3	●	●	24	12	2		10	12	85	19.5	11.5	1.0	1.3	1.3			
1212F-1.5	●	●									11.4	1.2	1.5	1.5			
KGD^{R/L} 1010JX-2	●	●	20	10	2	4.5	8	10	120	18	9.15	1.7	2.0	3.0	SB-40120TR	LTW-15S	
1212JX-2	●	●	24	12			10	12		19.5	11.15						
1616JX-2	●	●	32	16	-		10	16		24.5	15.15						
KGD^{R/L} 1010JX-2.4	●	●	20	10	2		8	10	120	18	9	2.0	2.4	3.0	SB-40120TR	LTW-15S	
1212JX-2.4	●	●	24	12			10	12		19.5	11						
1616JX-2.4	●	●	32	16			-	10		16	24.5						15
KGD^{R/L} 1212JX-3	●	●	24	12	2		10	12	120	19.5	10.8	2.4	3.0	3.0 4.0	SB-40120TR	LTW-15S	
1616JX-3	●	●	32	16	-		10	16		24.5	14.8						
KGD^{R/L} 1212F-2	●	●	24	12	2		10	12	85	19.5	11.15	1.7	2.0	3.0	SB-40120TR	LTW-15S	
1212F-2.4	●	●									11	2.0	2.4				
KGD^{R/L} 1616JX-3D38	●	●	38	16	-	6	10	16	120	29	14.8	2.4	3.0	4.0	SE-50125TR	LTW-20	
2012JX-3D42	●	●	42	20	-		14	12		31	10.8						
2020JX-3D42	●	●						20		18.8							

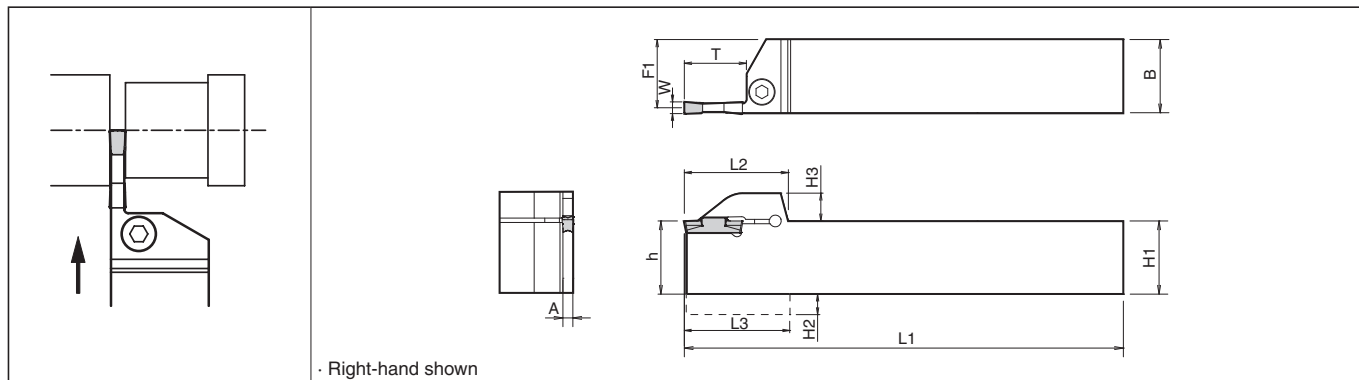
· 4mm width Insert can be installed in KGD^{R/L} 1212JX-3, but is not recommended due to the toolholder's rigidity.

● Toolholder Identification System (For automatic lathe)



Grooving / Cut-Off

KGD (Integral Type)



Toolholder Dimensions

Width (mm)	Max. depth of cut (mm)	Description		Std.		Dimension (mm)										Width W (mm)		Spare Parts										
				R	L	H1=h	H2	H3	B	L1	L2	L3	F1	A	T	MIN.	MAX.											
2	6	KGD ^{R/L}	1616H-2T06	●	●	16	4.0	9.5	16	100	27.7	28.0	15.2	1.7	6	2.0	3.0	HH5X16	LW-4									
			2020K-2T06	●	●	20	-		20	125	28.0	-	19.2					HH5X25										
			2525M-2T06	●	●	25	-		25	150	28.0	-	24.2					HH5X16										
	10	KGD ^{R/L}	1616H-2T10	●	●	16	4.0		16	100	30.2	30.5	15.2		1.7			10		2.0	3.0	HH5X16	LW-4					
			2020K-2T10	●	●	20	-		20	125	30.5	-	19.2									HH5X25						
			2525M-2T10	●	●	25	-		25	150	30.5	-	24.2									HH5X16						
	17	KGD ^{R/L}	1616H-2T17	●	●	16	4.0		16	100	31.2	31.5	15.2					1.7				17		2.0	3.0	HH5X16	LW-4	
			2012K-2T17	●	●	20	-		12	125	-	-	11.2													HH5X25		
			2020K-2T17	●	●	20	-		20	125	32.5	-	19.2													HH5X16		
			2525M-2T17	●	●	25	-		25	150	-	-	24.2													HH5X25		
2.4	17	KGD ^{R/L}	2012K-2.4T17	●	●	20	-		12	125	32.5	-	11.0	2.0		17	2.4		3.0			HH5X16				LW-4		
			2020K-2.4T17	●	●	20	-		20	125	32.5	-	19.0															
3	6	KGD ^{R/L}	1616H-3T06	●	●	16	4.0		9.5	16	100	27.7	28.0	14.8		2.4	6		3.0			4.0				HH5X16		LW-4
			2020K-3T06	●	●	20	-			20	125	28.0	-	18.8	HH5X25													
			2525M-3T06	●	●	25	-			25	150	28.0	-	23.8	HH5X16													
	10	KGD ^{R/L}	1616H-3T10	●	●	16	4.0			16	100	30.2	30.5	14.8	2.4		10			3.0	4.0		HH5X16			LW-4		
			2020K-3T10	●	●	20	-			20	125	30.5	-	18.8				HH5X25										
			2525M-3T10	●	●	25	-			25	150	30.5	-	23.8				HH5X16										
	20	KGD ^{R/L}	1616H-3T20	●	●	16	4.0			16	100	34.2	34.5	14.8			2.4	20					3.0	4.0	HH5X16		LW-4	
			2012K-3T20	●	●	20	-			12	125	34.5	-	10.8											HH5X25			
			2020K-3T20	●	●	20	-			20	125	-	-	18.8											HH5X16			
			2525M-3T20	●	●	25	-			25	150	35.5	-	23.8											HH5X25			
4	10	KGD ^{R/L}	2020K-4T10	●	●	20	-			20	125	30.5	-	18.3		3.4		10	4.0			5.0			HH5X16			LW-4
			2525M-4T10	●	●	25	-			25	150	30.5	-	23.3											HH5X25			
	20	KGD ^{R/L}	2020K-4T20	●	●	20	-			20	125	34.5	-	18.3				20							HH5X16			
			2525M-4T20	●	●	25	-			25	150	35.5	-	23.3														
	25	KGD ^{R/L}	2525M-4T25	●	●	25	-			25	150	40.5	-	23.3	25			HH5X25										

Note) 1. Dimension T shows the distance from the Toolholder to the cutting edge.

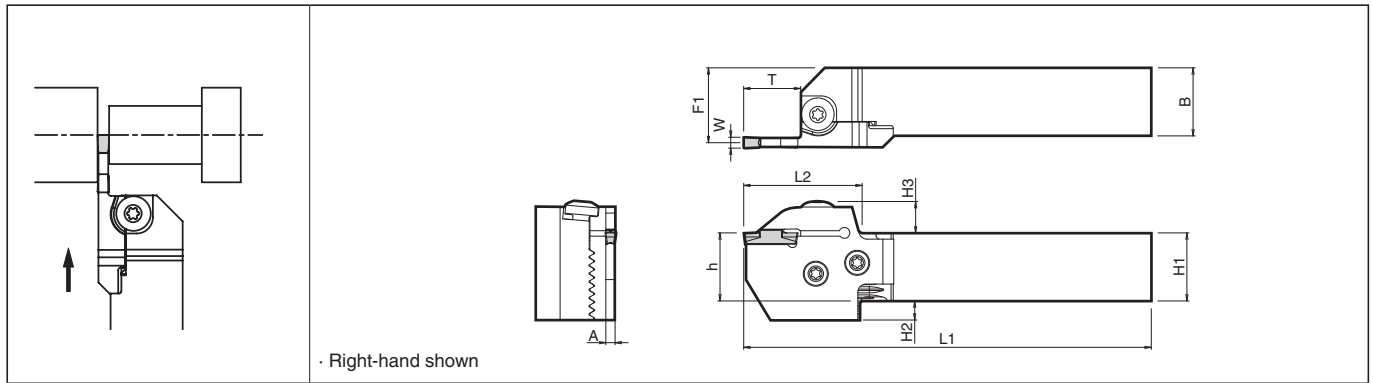
(If the dimension T is 20 mm or more, the maximum depth of groove made by the 2-edge insert will be 18 mm.)

2. Recommended tightening torque of clamp bolt for insert: 6.5N·m (Groove width 2 - 4mm)

Recommended Cutting Conditions **H14**

● : Std. Item

KGD-S (0° separate type)



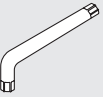
Toolholder Dimensions (Toolholder+Blade)

Shank Angle	Width (mm)	Max. depth of cut (mm)	Shank Size (mm)	Blade Description H8	Toolholder Description G27	Unit Description (Standard Stock Description)	Std.	Dimension (mm)												Width W (mm)	
								R	L	H1=h	H2	H3	B	L1	L2	L3	F1	A	T	MIN.	MAX.
0°	2	17	□20	KGD [®] /L-2T17-C	KGD [®] /L 2020-C	KGD [®] /L 2020X-2T17S	● ●	20	12	11.6	-	20	122	40	23.4	1.7	17	2.0	3.0		
			□25		KGD [®] /L 2525-C	KGD [®] /L 2525X-2T17S	● ●	25	7												
			□32		KGD [®] /L 3232-C	-	-	-	32												
	3	10	□20	KGD [®] /L-3T10-C	KGD [®] /L 2020-C	KGD [®] /L 2020X-3T10S	● ●	20	12												
			□25		KGD [®] /L 2525-C	KGD [®] /L 2525X-3T10S	● ●	25	7												
			□32		KGD [®] /L 3232-C	KGD [®] /L 3232X-3T10S	● ●	32	-												
		20	□20	KGD [®] /L-3T20-C	KGD [®] /L 2020-C	KGD [®] /L 2020X-3T20S	● ●	20	12												
			□25		KGD [®] /L 2525-C	KGD [®] /L 2525X-3T20S	● ●	25	7												
			□32		KGD [®] /L 3232-C	KGD [®] /L 3232X-3T20S	● ●	32	-												
	4	10	□20	KGD [®] /L-4T10-C	KGD [®] /L 2020-C	KGD [®] /L 2020X-4T10S	● ●	20	12												
			□25		KGD [®] /L 2525-C	KGD [®] /L 2525X-4T10S	● ●	25	7												
			□32		KGD [®] /L 3232-C	KGD [®] /L 3232X-4T10S	● ●	32	-												
		20	□20	KGD [®] /L-4T20-C	KGD [®] /L 2020-C	KGD [®] /L 2020X-4T20S	● ●	20	12												
			□25		KGD [®] /L 2525-C	KGD [®] /L 2525X-4T20S	● ●	25	7												
			□32		KGD [®] /L 3232-C	KGD [®] /L 3232X-4T20S	● ●	32	-												
		25	□20	KGD [®] /L-4T25-C	KGD [®] /L 2020-C	KGD [®] /L 2020X-4T25S	● ●	20	12												
			□25		KGD [®] /L 2525-C	KGD [®] /L 2525X-4T25S	● ●	25	7												
			□32		KGD [®] /L 3232-C	KGD [®] /L 3232X-4T25S	● ●	32	-												

- Notes) 1. In case of normal mounting position, the toolholder body 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.
Combination of the optional toolholder (KGD..-C) and blade (KGD..T..-C) (both separately sold) can make up the corresponding assembly part.
Make sure of the "hand of toolholder" and "hand of blade".
 3. Dimension T shows the distance from the Toolholder to the cutting edge. (If the dimension T is 20 mm or more, the maximum depth of groove made by the 2-edge insert will be 18 mm.)
 4. Recommended tightening torque of clamp bolt for insert: 6.5N·m (Groove width 2 - 4mm)

Spare Parts (Common with separate types)

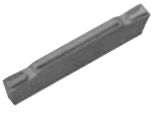
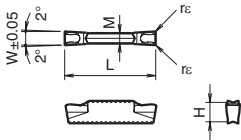
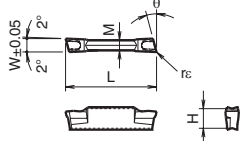
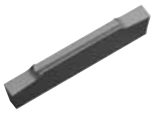
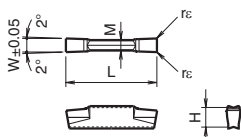
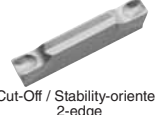
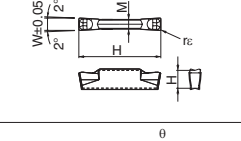
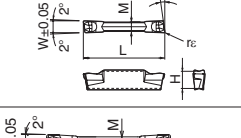
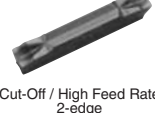
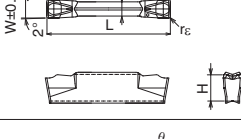
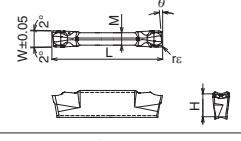
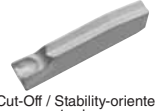
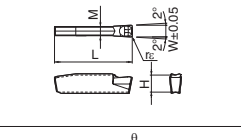
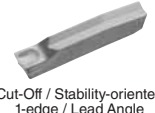
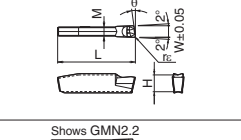
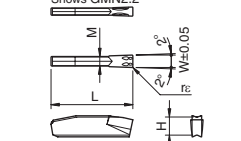
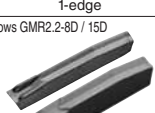
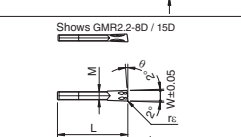
* The parts are included in the toolholder and unit.

Unit Description	Spare Parts		
	Clamp Bolt (For insert)	Fixing bolt (For Blade)	Wrench
			
KGD [®] /L.....S	BH6X10TR	SB-60120TR	LTW-25

Cut-Off Inserts

GMM / GMN / GM^{R/L}

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		Description	Dimension (mm)					Angle(°)	PVD Coated Carbide					Ref. Page for Applicable
			W	r _ε	L	H	M		TN90	CR9025	PR915	PR930	PR1115	
Handed Insert shows Right-hand														
 Cut-Off / Sharp-Cutting 2-edge		GMM 1520-MT	1.5	0.05	20	4.3	1.2	-						H20
		2020-MT	2.0	0.05			1.5							H20 H21
		2520-MT	2.5	0.05			1.9							
		3020-MT	3.0	0.05			2.3							
 Cut-Off / Sharp-Cutting 2-edge / Lead Angle		GMM 1520 ^{R/L} -MT-15D	1.5	0.05	20	4.3	1.2	15°						H20
		2020 ^{R/L} -MT-15D	2.0	0.05			1.5							H20 H21
		2520 ^{R/L} -MT-15D	2.5	0.05			1.9							
		3020 ^{R/L} -MT-15D	3.0	0.05			2.3							
 Cut-Off / Sharp-Cutting 2-edge / Without Chipbreaker		GMM 1520-NB	1.5	0.05	20	4.3	1.2	-						H20
		2020-NB	2.0	0.05			1.5							
		2520-NB	2.5	0.05			1.9							
		3020-NB	3.0	0.05			2.3							
 Cut-Off / Stability-oriented 2-edge		GMM 2020-TK	2.0	0.20	20	4.3	1.5	-						H20 H21
		2520-TK	2.5	0.20			1.9							
		3020-TK	3.0	0.25			2.3							
 Cut-Off / Stability-oriented 2-edge / Lead Angle		GMM 2020 ^{R/L} -TK-8D	2.0	0.20	20	4.3	1.5	8°						
		2520 ^{R/L} -TK-8D	2.5	0.20			1.9							
		3020 ^{R/L} -TK-8D	3.0	0.25			2.3							
 Cut-Off / High Feed Rate 2-edge		GMM 2020-TMR	2.0	0.20	20	4.3	1.5	-						
		2520-TMR	2.5	0.20			1.9							
		3020-TMR	3.0	0.25			2.3							
 Cut-Off / High Feed Rate 2-edge / Lead Angle		GMM 2020 ^{R/L} -TMR-6D	2.0	0.20	20	4.3	1.5	6°						
		2520 ^{R/L} -TMR-6D	2.5	0.20			1.9							
		3020 ^{R/L} -TMR-6D	3.0	0.25			2.3							
 Cut-Off / Stability-oriented 1-edge		GMN 2-TK	2.0	0.20	20	4.3	1.5	-						
		3-TK	3.0	0.25			2.3							
		4-TK	4.0	0.30			3.3							
 Cut-Off / Stability-oriented 1-edge / Lead Angle		GM ^{R/L} 2-TK-8D	2.0	0.20	20	4.3	1.5	8°						
		3-TK-8D	3.0	0.25			2.3							
		4-TK-8D	4.0	0.30			3.3							
 Shows GMN2.2 Cut-Off / Sharp-Cutting 1-edge		GMN 2.2	2.2	0.17	20	4.3	1.8	-						
		3	3.0	0.20			2.3							
		4	4.0	0.25			3.3							
		5	5.0	0.80			4.2							
		6	6.0	0.80			5.2							
 Shows GMR2.2-8D / 15D Cut-Off / Sharp-Cutting 1-edge / Lead Angle		GM ^{R/L} 2.2-8D	2.2	0.17	20	4.3	1.8	8°						
		2.2-15D	2.2	0.00			1.8							
		3-4D	3.0	0.20			2.3							
		4-4D	4.0	0.25			3.3							

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

Edge Preparation

Series	MT-Chipbreaker		TK-Chipbreaker		TMR-Chipbreaker	Without Chipbreaker (NB)	
Edge Specification	Chamfer + hone	Chamfer + hone	Chamfer + hone	Sharp Edge	Chamfer + hone	Hone	Sharp Edge
	Corner-R0.05	Sharp Corner	Corner-R0.2-0.3	Corner-R0.2-0.3	Corner-R0.2	Corner-R0.05	Sharp Corner
							
	CR9025/PR915	PR930/KW10	CR9025/PR915	PR930/KW10	PR1115	CR9025	PR930/KW10

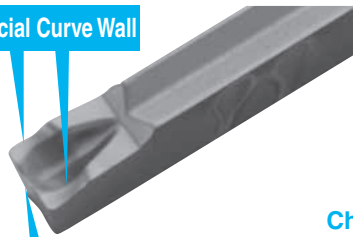
· Sharp Edge Spec. can reduce cutting force by 40% less than that of chamfer edge.

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. Good performance for brass, etc.
GMM-TK	Stable design with chipbreaker for cut-off. 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.

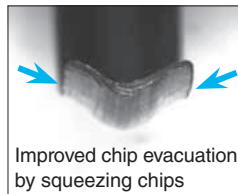
TMR-Chipbreaker

Chipbreaker Advantages

Special Curve Wall

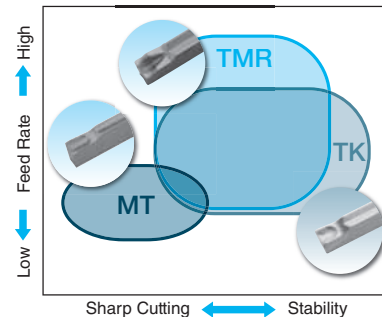


Depression in center of cutting edge.



Chip width < grooving width

GMM Chipbreaker MAP

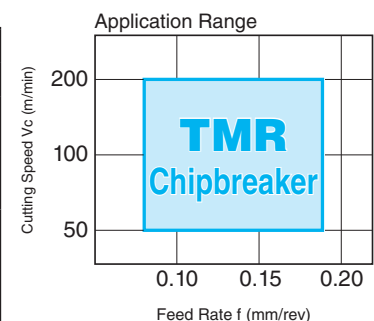


TMR-chipbreaker enables stable chip control also for high feed rates.

Good chip control even when cutting speed (spindle revolution) is increased.

(Cutting Condition: SCM415, $\phi 30$, constant spindle revolution)

Description	$n=1,060\text{min}^{-1}$ ($V_c=100\text{m/min}$)		$n=2,123\text{min}^{-1}$ ($V_c=200\text{m/min}$)	
	$f=0.12\text{mm/rev}$	$f=0.18\text{mm/rev}$	$f=0.12\text{mm/rev}$	$f=0.18\text{mm/rev}$
GMM 3020-TMR (No Hand)				
GMM 3020R-TMR-6D (Right-hand)				

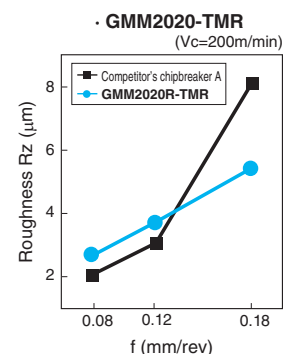
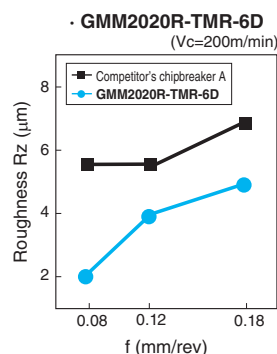


Recommended Cutting Conditions

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

Workpiece Surface Roughness

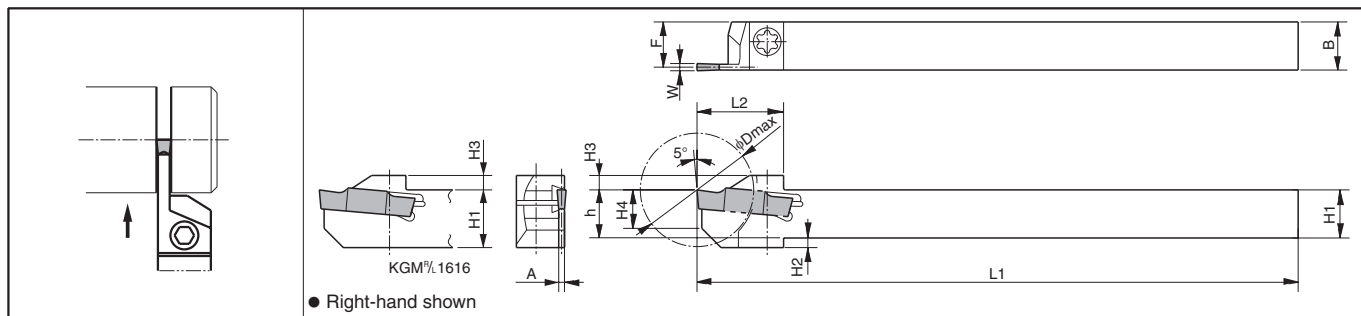
TMR-Chipbreaker provides good surface roughness on the workpiece end face at high feed rate ranges.



Cut-Off Toolholders

KGM (For automatic lathe)

Width: 1.5~4.0mm



Toolholder Dimensions

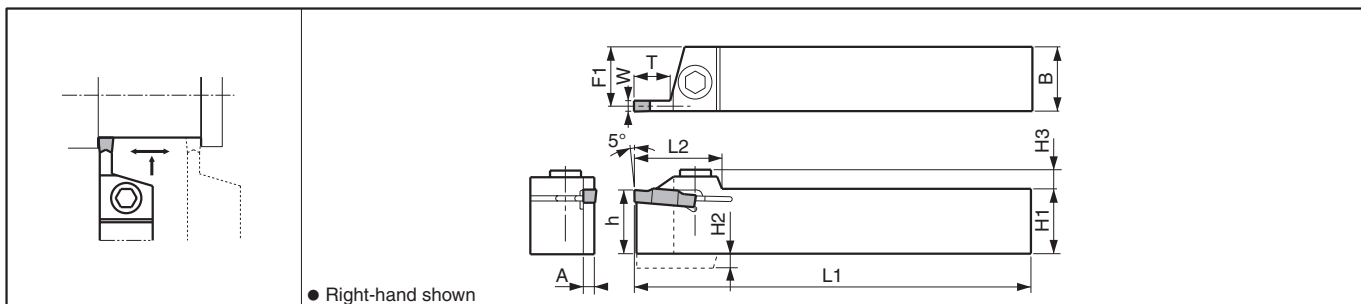
Description	Std.		Cut-Off Dia. ϕD_{max}	Dimension (mm)										Width W(mm)		Spare Parts	
	R	L		H1=h	H2	H3	H4	B	L1	L2	F	A	MIN.	MAX.		Screw	Wrench
KGM^{R/L} 1010JX-1.5	●	●	20	10	2	3	8	10	120	18	9.4	1.2	1.5	2.0		SE-40120TR	LTW-15S
1212JX-1.5	●	●	25	12		4	10	12		20.5	11.4						
KGM^{R/L} 1010JX-2	●	●	20	10	2	3	8	10	120	18	9.15	1.7	2.0	3.0		SE-40120TR	LTW-15S
1212JX-2	●	●	25	12		4	10	12		19	11.15						
1616JX-2	●	●	32	16	-		9	16		24.5	15.15					SE-50125TR	LTW-20
KGM^{R/L} 1010JX-2.5	●	●	20	10	2	3	8	10	120	18	9	2.0	2.4	3.0		SE-40120TR	LTW-15S
1212JX-2.5	●	●	25	12		4	10	12		20.5	11						
1616JX-2.5	●	●	32	16	-		9	16		25.5	15					SE-50125TR	LTW-20
KGM^{R/L} 1616JX-3	●	●	32	16	-	4	9	16	120	25.5	14.8	2.4	3.0	4.0		SE-50125TR	LTW-20
KGM^{R/L} 1212F-1.5-85	●		25	12	2	4	10	12	85	19	11.4	1.2	1.5	2.0		SE-40120TR	LTW-15S
KGM^{R/L} 1212F-2-85	●	●	25	12	2	4	10	12	85	19	11.15	1.7	2.0	3.0		SE-40120TR	LTW-15S
KGM^{R/L} 1212F-2.5-85	●	●	25	12	2	4	10	12	85	19	11	2.0	2.4	3.0		SE-40120TR	LTW-15S

H

Cut-off

KGM

Width: 3.0~8.0mm



Toolholder Dimensions

Description	Std.		Dimension (mm)										Width W(mm)		Spare Parts			
	R	L	H1=h	H2	H3	B	L1	L2	F1	A	T		MIN.	MAX.		Screw	Wrench	
KGM^{R/L} 1212H-3	●	●	12	4	6	12	100	27	10.8	2.4	9		3.0	3.0		SB-5TR	-	LTW-20
1616H-3	●	●	16		7	16			14.8									
2020K-3	●	●	20	-	7	20	125	27	18.8	3.4	10		3.0	4.0		-	HH5X16	-
2525M-3	●	●	25		7	25	150		23.8								HH5X25	LTW-4
KGM^{R/L} 2020K-4	●	●	20	-	7	20	125	27	18.3	4.4	10		4.0	5.0		-	HH5X16	-
2525M-4	●	●	25		7	25	150		23.3								HH5X25	LTW-4
KGM^{R/L} 2020K-5	●	●	20	-	7	20	125	27	17.8	6.0	25		5.0	6.0		-	HH5X16	-
2525M-5	●	●	25		7	25	150		22.8								HH5X25	LTW-4
3232P-5	●	●	32			32	170		29.8									
KGM^{R/L} 2525M-8	●	●	25	7.5	10.5	25	150	40	22.0	6.0	25		8.0	8.0		-	HH6X25	-
3232P-8	●	●	32	-		32	170		29.0									LTW-5

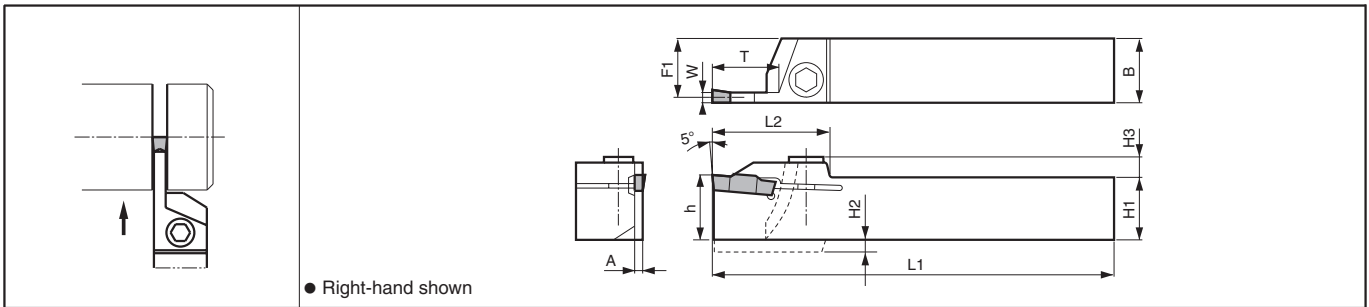
- Dimension T shows the distance from the Toolholder to the cutting edge.

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

● : Std. Item

KGM-T

Width: 2.0~6.0mm



Toolholder Dimensions

Description	Std.	Dimension (mm)											Width W(mm)		Spare Parts			
		R	L	H1=h	H2	H3	B	L1	L2	F1	A	T	MIN.	MAX.	Screw		Wrench	
KGM ^{R/L} 2012K-2T17	●●	20					12	125		11.15					SB-5TR	-	LTW-20	-
	●●	20		-	7		20	125	33	19.15	1.7	17	2.0	3.0	-	HH5X16	-	LW-4
	●●	25					25	150		24.15					-	HH5X25	-	LW-4
KGM ^{R/L} 1616H-3T20	●●	16	4				16	100		14.8					SB-5TR	-	LTW-20	-
	●●	20		-	7		12	125	36	10.8	2.4	20	3.0	4.0	-	HH5X16	-	LW-4
	●●	20					20	125		18.8					-	HH5X25	-	LW-4
	●●	25					25	150		23.8					-	HH5X25	-	LW-4
KGM ^{R/L} 2020K-4T20	●●	20		-	7.5		20	125	36	18.3		20	4.0	5.0	-	HH5X16	-	LW-4
	●●	25					25	150	41	23.3	3.4	25			-	HH5X25	-	LW-4
	●●	25					25	150		23.3					-	HH5X25	-	LW-4
KGM ^{R/L} 2525M-5T25	●●	25		-	8.5		25	150	42	22.8	4.4	25	5.0	6.0	-	HH5X25	-	LW-4
	●●	32					32	170		29.8					-	HH5X25	-	LW-4
KGM ^{R/L} 2525M-6T30	●●	25		-	9.5		25	150	45	22.4	5.2	30	6.0	6.0	-	HH5X25	-	LW-4

· Dimension T shows the distance from the Toolholder to the cutting edge. Ref. to the Table H22 for the relationship between the Grooving Depth and the Cutting Dia.

· When using GMG / GMM type (2-edge) Insert, set the groove depth under 15mm.

Applicable Inserts

Applications	Grooving / Turning	Grooving / Turning	Grooving	Full-R / Copying	Full-R / Copying	Cut Off / Deep Grooving	Cut Off / Deep Grooving	Cut Off / Deep Grooving	Cut Off / Deep Grooving	Cut Off / Deep Grooving
Ref. Page	G32	G32	G32	G32	G33	H18	H18	H18	H18	H18
Insert	MW	MS	MG			MT	NB	TK	TK	
Toolholder Description								TMR		
KGM ^{R/L} ...1.5	-	-	-	-	-	GMM1520..MT GMM2020..MT GMM1520%...MT GMM2020%...MT	GMM1520..NB GMM2020..NB	GMM2020..T GMM2020%...T	GMN2..TK GM%2..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 GMM2020%...T GMM2520%...T GMM3020%...T	GMN2..TK GMN3..TK GM%2..TK GM%3..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 GMM2520%...T GMM3020%...T	GMN3..TK GM%3..TK	GMN3 GM%3
KGM ^{R/L} ...3(T)	GMM3020..MW GMM4020..MW	GMG3020..MS GMM3020..MS GMG4020..MS GMM4020..MS	GMG3020..MG GMG3520..MG GMG4020..MG	GMG3020..R GMM3020..R GMG4020..R GMM4020..R	-	GMM3020..MT GMM3020%...MT	GMM3020..NB	GMM3020..T GMM3020%...T	GMN3..TK GMN4..TK GM%3..TK GM%4..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 GMG5020..MG	GMG4020..R GMM4020..R GMG5020..R GMM5020..R	-	-	-	-	GMN4..TK GM%4..TK	GMN4 GMN5 GM%4
KGM ^{R/L} ...5T	GMM5020..MW GMM6020..MW	GMG5020..MS GMM5020..MS GMG6020..MS GMM6020..MS	GMG5020..MG GMG6020..MG	GMG5020..R GMM5020..R GMG6020..R GMM6020..R	GMGA6020..R	-	-	-	-	GMN5 GMN6
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	-	-	-	-	-

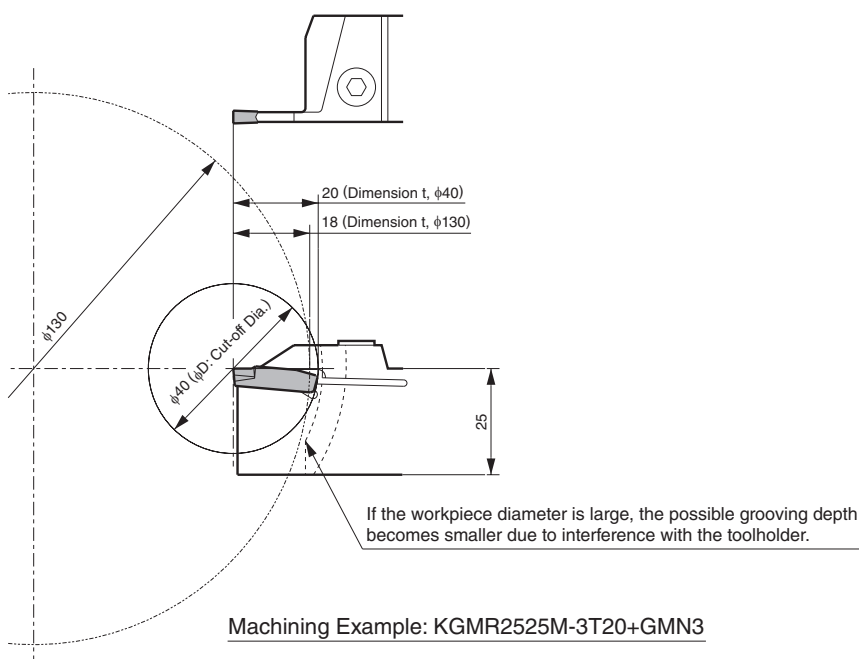
Recommended Cutting Conditions H22

● : Std. Item

Cut-Off Toolholders

Possible cut-off diameter of KGM / KGM-T type

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



H

Cut-off

◆ KGM (For Automatic Lathe) Possible Cutting Dia.

Toolholder Description		φD (Cutting Dia.)																				
KGM ^{R/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																
Grooving Depth t (mm)		16	15	14	13	12.5	12	11	10	9	8	7	6	5	4	3	2	1				

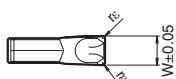
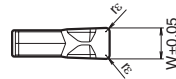
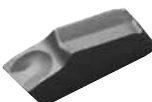
◆ KGM-T Possible Cutting Dia. Table (GMN, GM^{R/L} type When using 1-edge inserts)

Toolholder Description		φD (Cutting Dia.)													
KGM ^{R/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	∞	∞	∞									
Grooving Depth t (mm)		30	27	25	23	22	20	19	18	17	16	15	14	Under 13	

Cut-Off Inserts

TKN / TK^{R/L}

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		Description	Dimension (mm)		Angle (°)	Cermet	CVD Coated Carbide	PVD Coated Carbide		Carbide	Ref. Page for Applicable
			W	rε	θ	TN90	CR9025	PR660	PR930	KW10	
Handed Insert shows Right-hand											
		TKN 1.6	1.6	0.15	-	●	●	●	○	●	H24 H26
		2	2.2	0.20		●	●	●	○	●	
		2.4	2.4	0.20		●	●	●	○	●	
		3	3.1	0.25		●	●	●	○	●	
		4	4.1	0.30		●	●	●	○	●	
		4.8	4.8	0.30		●	●	○	●		
		5	5.1	0.30		●	●	○	●		
		6	6.4	0.35			●	●		●	
		TKN 1.6-P	1.6	0.20	-	●	●	●	○	●	H24
		2-P	2.2	0.20		●	●	●	○	●	
		3-P	3.1	0.25		●	●	●	○	●	
		TKR/L 1.6	1.6	0.15	8°	R	R	●	R	●	H24 H26
		2	2.2	0.20		●	●	●	R	●	
		2.4	2.4	0.20		●	●	●	R	●	
		3	3.1	0.25		●	●	●	○	●	
		4	4.1	0.30		R	●	●	●	●	
		TKR/L 1.6-P	1.6	0.20	8°			R			H24 H26
		2-P	2.2	0.20		R	R	●	R	R	
		3-P	3.1	0.25		R	R	●	R	R	

Recommended Cutting Conditions **H27**

Cut-Off Tools

Cutting Range	Chipbreaker	Advantages
General cut-off	Standard (No Indication) 	General cut-off type for feed rates over 0.1mm/rev. 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 Shape (CERACUT Cut-Off)

Edge Specification	Chamfer + hone	Sharp Edge	Hone
			
Std. Chipbreaker	TN90 CR9025 / PR660	PR930 / KW10	-
P-Chipbreaker	-	-	TN90 / CR9025 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 in to the extent that it can not be removed by hand. (Fig.1)
(Pull it to the point where it does not fall out when picked up lightly with a finger)
- Remove the insert with the supplied wrench. (Fig.2)

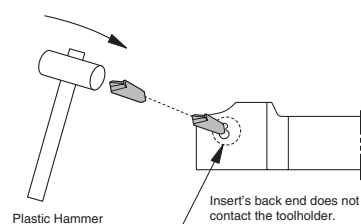


Fig. 1 How to attach inserts

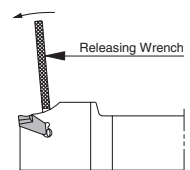


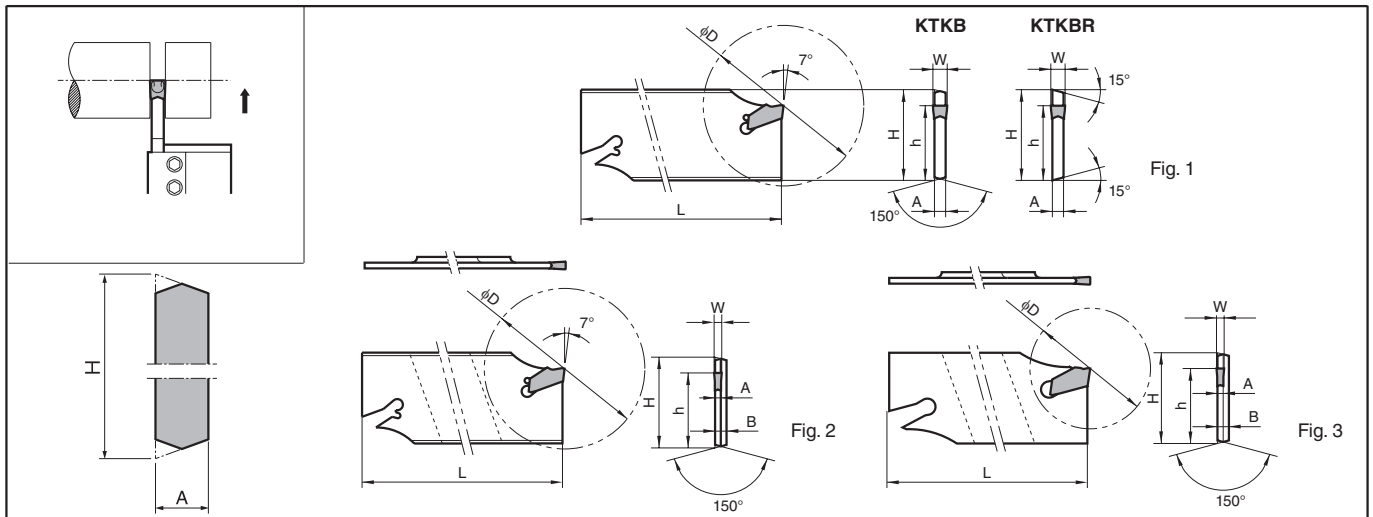
Fig. 2 How to detach inserts

- : Std. Item
- : Check Availability
- R : Std. Item (Right-hand Only)

Inserts are sold in 10 piece boxes

Cut-Off Blades

KTKB-S / KTKB-SS



Blade Dimensions

Description	Std.	Cut-Off Dia. ϕD_{max}	Dimension (mm)						Width	Drawing	Applicable Inserts H23				Applicable Blocks H25
			*H	h	B	L	A	W							
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
26-3S	●	75					2.6	3.1			TKN3	TKN3-P	TK ^{R/L} 3	TK ^{R/L} 3-P	
26-4S	●	80					3.4	4.1			TKN4	-	TK ^{R/L} 4	-	
26-5S	●	80					4.2	4.8 5.1			TKN4.8 TKN5	-	TK ^{R/L} 5	-	
KTKB 32-2S	●	50	32	25	-	150	1.8	2.2 2.4	Fig. 2		TKN2 TKN2.4	TKN2-P	TK ^{R/L} 2 TK ^{R/L} 2.4	TK ^{R/L} 2-P	KTKTB 20-32 25-32 32-32 KTKTBF 25-32 32-32
32-3S	●	100					2.6	3.1	Fig. 1		TKN3	TKN3-P	TK ^{R/L} 3	TK ^{R/L} 3-P	
32-4S	●	100					3.4	4.1			TKN4	-	TK ^{R/L} 4	-	
32-5S	●	120					4.2	4.8 5.1			TKN4.8 TKN5	-	TK ^{R/L} 5	-	
32-6S	●	120					5.4	6.4			TKN6	-	-	-	
KTKB^{R/L} 32-8S	●	120					6.8	8.0	Fig. 1		TKN8	-	-	-	
32-9S	R	120	32	25	-	150	8.0	9.6	Fig. 1		TKN9	-	-	-	

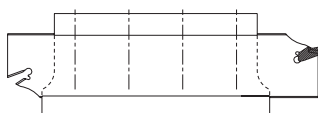
Note) 1. Suffix "-SS" means silver coating.

2. Releasing wrench is "LTK-5".

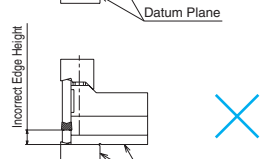
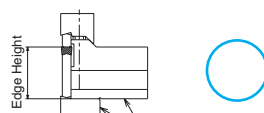
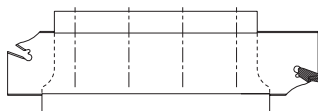
* Dimension H shows virtual apex distance.

How to install toolblock and blade.

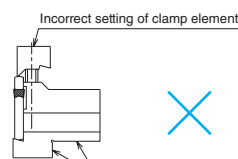
Correct way



Incorrect way



Incorrect setting of clamp element

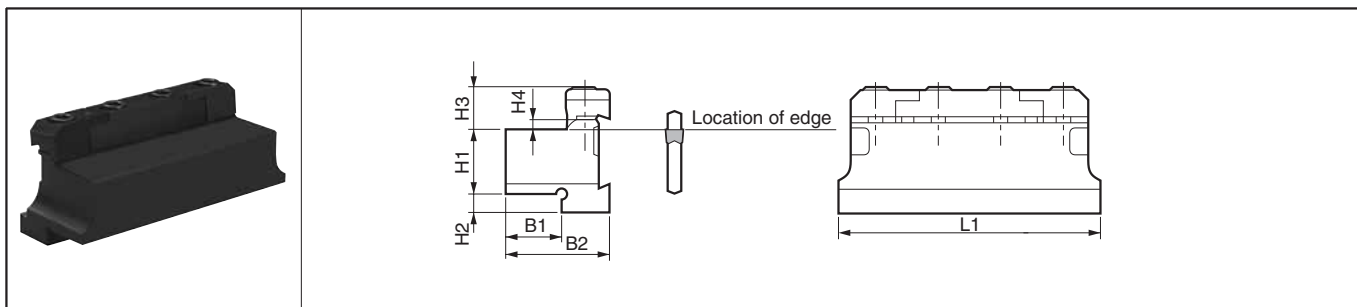


If the clamp element is mounted backward, a large gap will occur between the clamp and the toolblock, and the blade may come off during cutting. Be careful when installing the clamp for safety.

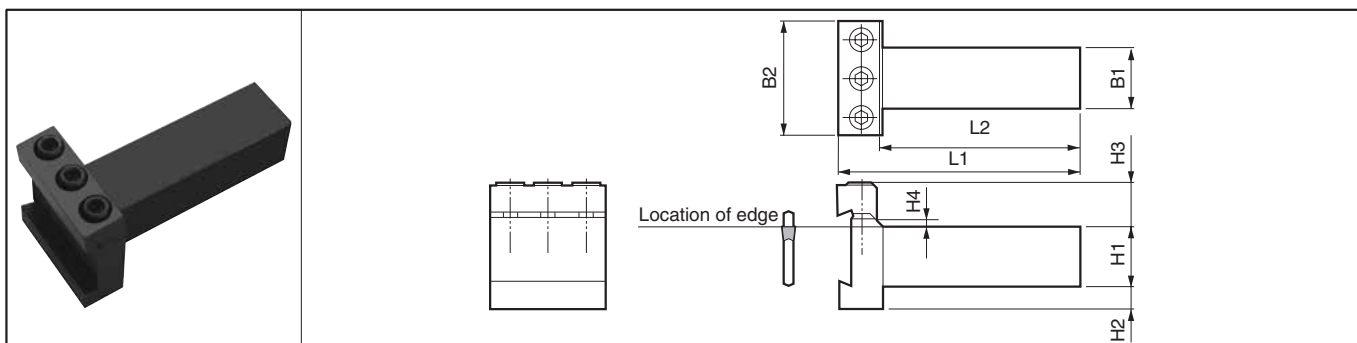
● : Std. Item

R : Std. Item (Right-hand Only)

KTKTB (Separate type)



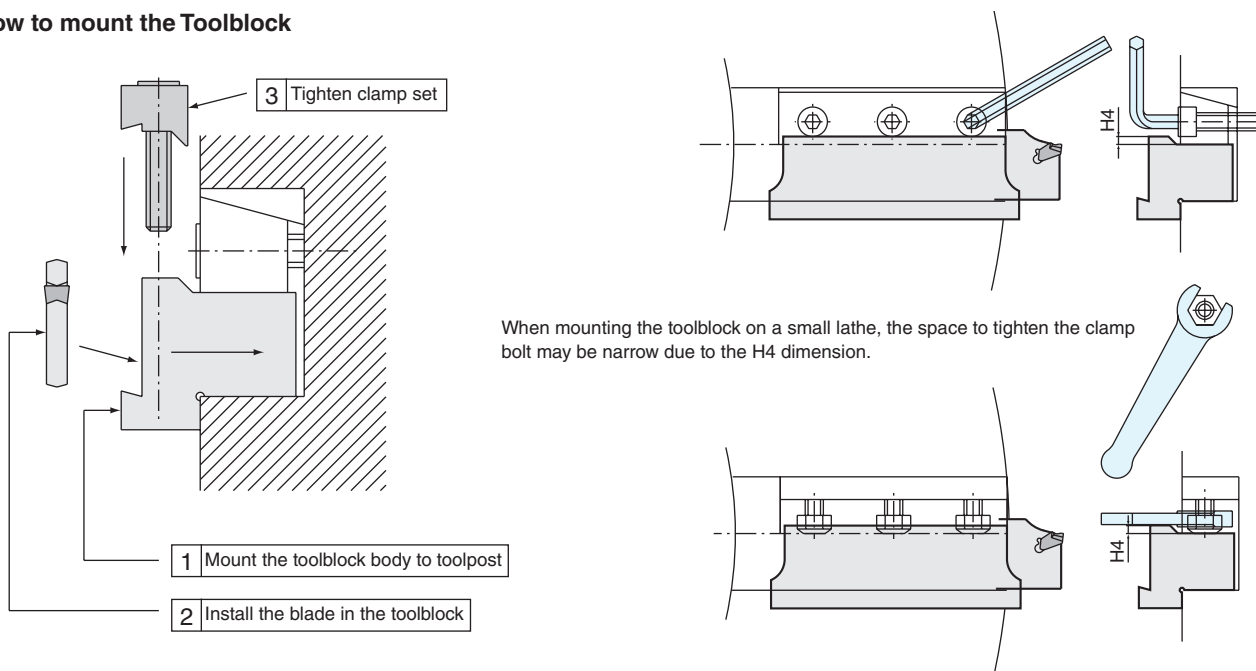
KTKTBF (Separate / Perpendicular type)



Toolblock Dimensions

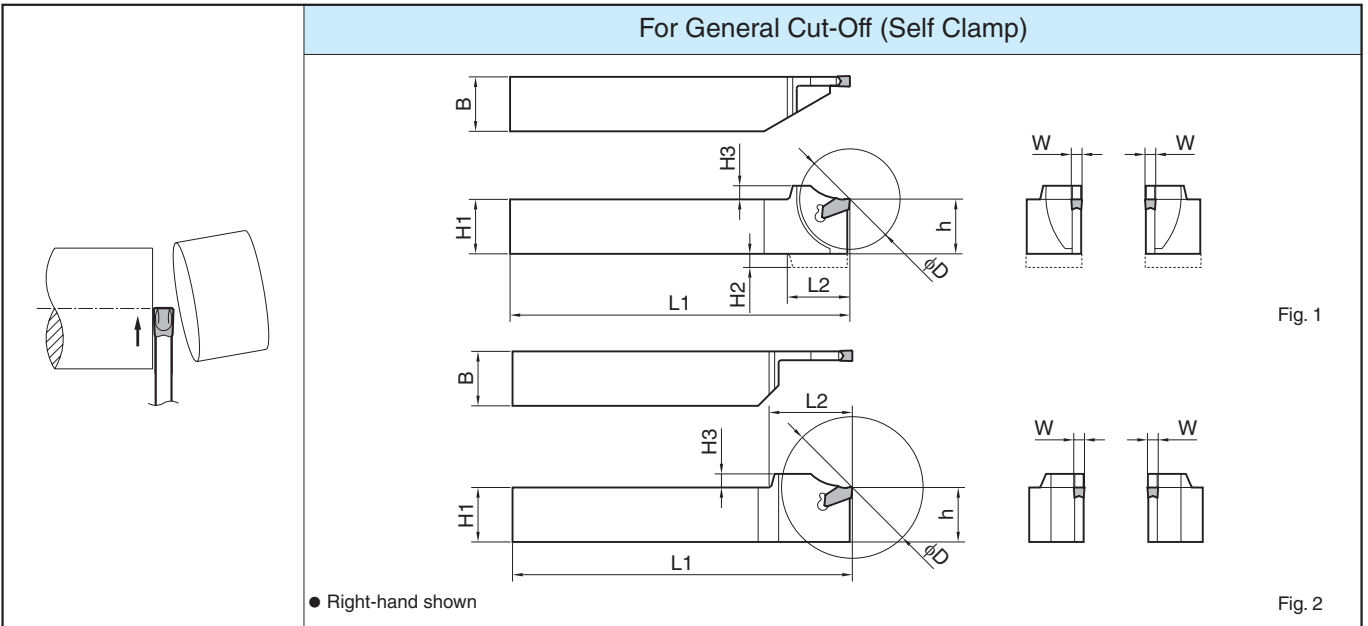
Description		Std.	Dimension (mm)								Spare Parts				Applicable Blade	
											Clamp Set		Screw	Wrench	Cut-off	Face Grooving
			H1	H2	H3	H4	B1	B2	L1	L2					 H24	 G97
KTKTB	16-19	●	16	4	12	2	15.5	29.5	76	-	-	BCS-1	HH5X25	LW-4	KTKB19-○S	-
	20-19	●	20				19	34							KTKB19-1SS	
	16-26	●	16	13	14	2.5	15.5	31.5	86	-	BCS-2	-	HH6X30	LW-5	KTKB26-○S	-
	20-26	●	20	9			19	36							KTKB26-1SS	
	20-32	●	20	13	17	3.5	19	38	100	-	BCS-3	-	HH6X30	LW-5	KTKB32-○S	KFTB%L○○○○-4S KFTB%L○○○○-5S
	25-32	●	25	8			23	42	110		BCS-4				KTKB32-1SS	
	32-32	●	32	5			29	48			KTKB%L32-○S					
KTKTBF	25-32	●	25	9.5	17	3.5	25	48	102	84.5	-	BCS-5	HH6X30	LW-5	KTKB32-○S	KFTB%L○○○○-4S KFTB%L○○○○-5S
	32-32	●	32	2.5			32	48	117	99.5					KTKB32-1SS KTKB%L32-○S	

How to mount the Toolblock

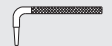
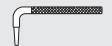
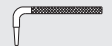
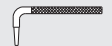
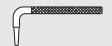


Cut-Off Toolholders (Integral type)

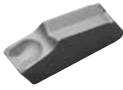
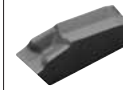
KTKH-S



Toolholder Dimensions

Description		Std.		Cut-Off Dia.	Dimension (mm)						Width	Drawing	Spare Parts	Ref. Page for Recommended Cutting Conditions							
		R	L		φDmax	H1=h	H2	H3	B	L1	L2		W		Releasing Wrench						
																					
KTKH ^{R/L}	1010F-2S	●	●	30	10	5	4	10	80	18.6	2.2 2.4	Fig. 1		LTK-5	H27						
	1212H-2S	●	●	33	12	4	5	12	100	19.8											
	1612H-2S	●	●	33	16	-	3	12	100	19.8											
	1616H-2S	●	●	33	16	-	3	16	100	19.8											
	2012K-2S	●	●	38	20	-	4	12	125	22.8											
	2020K-2S	●	●	38	20	-	4	20	125	22.8											
KTKH ^{R/L}	1612H-3S	●	●	36	16	4	4	12	100	21.7	3.1	Fig. 1					LTK-5	H27			
	1616H-3S	●	●	36	16	4	4	16	100	21.7											
	2012K-3S	●	●	41	20	-	5	12	125	25.3											
	2020K-3S	●	●	52	20	-	5	20	125	31.0		Fig. 2									
	2525M-3S	●	●	53	25	-	5	25	150	31.5											
KTKH ^{R/L}	2012K-4S	●	●	44	20	-	5	12	125	26.3	4.1	Fig. 1								LTK-5	H27
	2020K-4S	●	●	62	20	-	5	20	125	35.0											
	2525M-4S	●	●	68	25	-	5	25	150	38.0		4.8, 5.1									
	2525M-5S	●	●	79	25	-	5	25	150	43.5											
KTKH ^{R/L}	2020K-3T17S	●	●	35	20	-	5	20	125	21.8	3.1 4.1	Fig. 1		LTK-5	H27						
	2525M-3T22S	●	●	45	25	-	5	25	150	26.8											
	2020K-4T22S	●	●	45	20	-	5	20	125	26.8											
	2525M-4T22S	●	●	45	25	-	5	25	150	26.8											

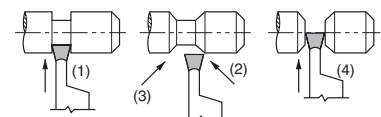
Applicable Inserts

Ref. Page	H23			
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 CERACUT Cut-Off

1. Cut-Off after Chamfering

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

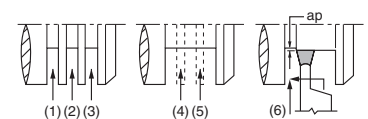


2. Wide Grooving

(1)~(5) Groove Widening

(6) Longitudinal 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 Recommended Cutting Conditions

Workpiece Material	Recommended Insert Grades (Cutting Speed Vc: m/min)				TKF12						TKF16		Remarks
					Width W (mm)						Width W (mm)		
	MEGACOAT NANO	MEGACOAT	PVD Coated Carbide	Carbide	0.5	0.7	1.0	1.25	1.5	2.0	1.5	2.0	
	PR1425	PR1225	PR1025	KW10	f (mm/rev)						f (mm/rev)		
Carbon Steel	★ 70~170 (50~140)	☆ 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)	☆ 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)	☆ 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	-	-	-	★ 200~450	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

Recommended Cutting Conditions (In case of using GMM-MT, GMM-TK, GMM-NB inserts)

Workpiece Material	Recommended Insert Grades (Cutting Speed Vc: m/min)					Width W (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 4mm width Insert of PR930, decrease the Feed Rate by 20%.

★: 1st Recommendation ☆: 2nd Recommendation

Recommended Cutting Conditions (TKN, TK^{R/L} type Inserts)

Workpiece Material	Recommended Insert Grades (Cutting Speed Vc: m/min)					Width W (mm)					Remarks
	Cermet	CVD Coated Carbide	PVD Coated Carbide		Carbide	1.6	2.2/2.4	3.1	4.1	4.8~9.6	
	TN90	CR9025	PR660	PR930	KW10	f (mm/rev)					
Carbon Steel	☆ 120~200	★ 80~180	☆ 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	☆ 100~160	★ 70~150	☆ 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	☆ 80~150	☆ 60~140	★ 50~120	☆ 60~140		0.02~0.06	0.04~0.12	0.05~ 0.18	0.08~0.25	0.10~0.30	
Cast Iron	-	-	-	-	★ 50~100	0.02~0.08	0.05~0.12	0.10~0.25	0.10~0.30	0.15~0.35	
Aluminum Alloys	-	-	-	-	★ 100~450	0.02~0.10	0.05~0.10	0.05~0.20	0.05~0.25	0.10~0.25	
Brass	-	-	-	-	★ 100~200	0.02~0.10	0.05~0.10	0.05~0.15	0.05~0.20	0.10~0.25	

★: 1st Recommendation ☆: 2nd Recommendation

Recommended Cutting Conditions (In case of using GMM-TMR type 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		

H



Cut-off

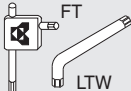
Alternative Toolholder Reference Table for Cut-off Toolholder

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	Ref. 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 replacement	H20
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 replacement	
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	Ref. Page
		Releasing Wrench	Clamp Bolt	Wrench				
								
KTKH [®] /L 0808K-1.6-125B	φ10	-	SE-40120TR	FT-15	-	-	No replacement	H20
KTKH [®] /L 1010K-1.6-125B	φ20				KGM [®] /L 1010JX-1.5	φ20		
KTKH [®] /L 1212M-1.6-150B	φ25				KGM [®] /L 1212JX-1.5	φ25		
KTKH [®] /L 1414M-1.6-150B	φ26				-	-	No replacement	
KTKH [®] /L 1010K-2-125B	φ20	-	SE-40120TR	FT-15	KGM [®] /L 1010JX-2	φ20		
KTKH [®] /L 1212M-2-150B	φ25				KGM [®] /L 1212JX-2	φ25		
KTKH [®] /L 1616M-2-150B	φ32				KGM [®] /L 1616JX-2	φ32		
KTKH [®] /L 1616M-3-150B	φ32	-	SE-50125TR	LTW-20	KGM [®] /L 1616JX-3	φ32		
KTKHR 1010K-2-125S	φ30	LTK-5	-	-	KGMR 1010JX-2	φ20	Processing diameter is small.	
KTKH [®] /L 1212M-2-150S	φ30				KGM [®] /L 1212JX-2	φ25	Processing diameter is small.	
KTKH [®] /L 1616M-2-150S	φ36				KGM [®] /L 1616JX-2	φ32	Processing diameter is small.	
KTKH [®] /L 1616M-3-150S	φ45				KGM [®] /L 1616JX-3	φ32	Processing diameter is small.	

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