

Cut-off

H1~H26

Product Lineup H2

Guide for Cut-Off H3

Summary of Cut-Off H4~H5

Cut-Off Toolholders (for small diameter cut-off) H6~H11

KTKF	Lateral side screw clamp holder	H8
KTKFS (For sub spindle tooling)	Lateral side screw clamp holder	H10

Cut-Off Toolholders (for 2-edge insert) H12~H15

KGD	Integral Toolholder	H14
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Cut-Off Toolholders (for 2-edge insert) Grooving / Plunge & Turn H16~H20

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KGM	Integral Toolholder	H19
KGM-T	Integral Toolholder	H19

Cut-Off Toolholders (for 1-edge insert) Cut-Off H21~H24

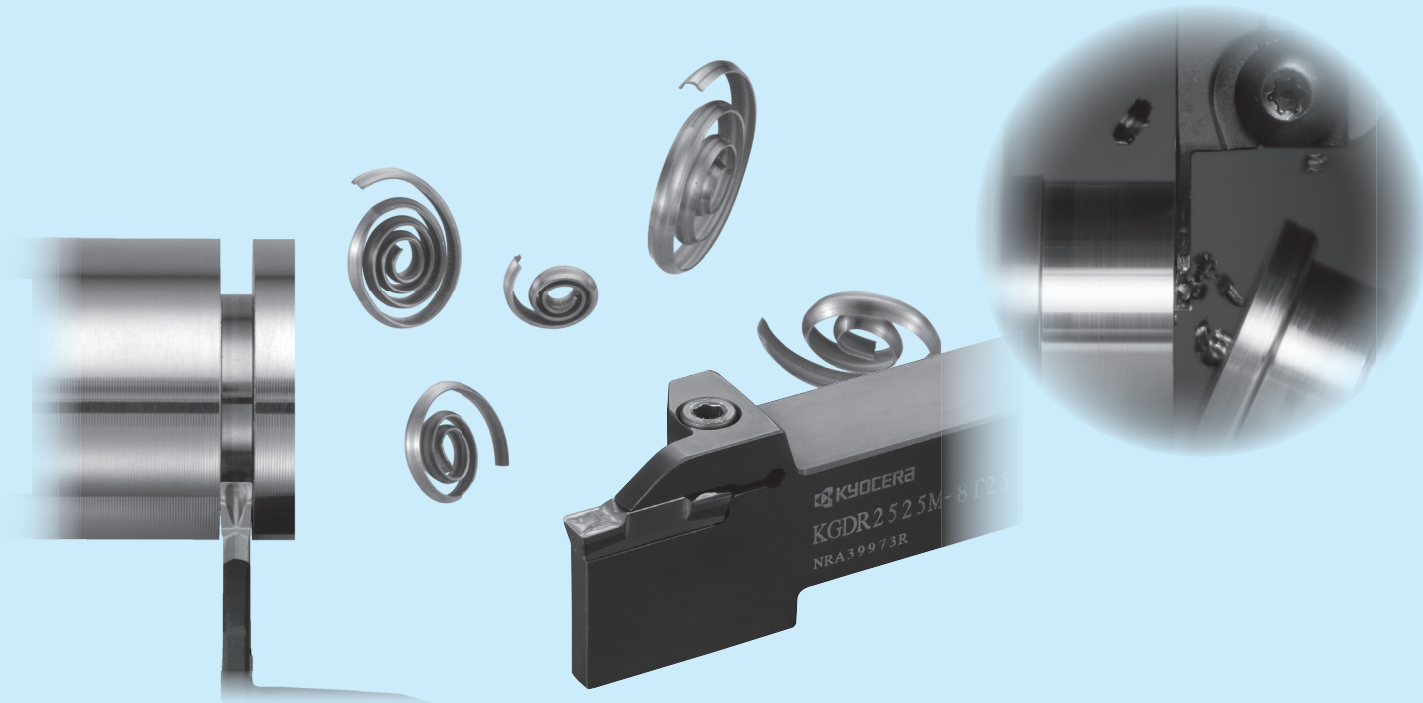
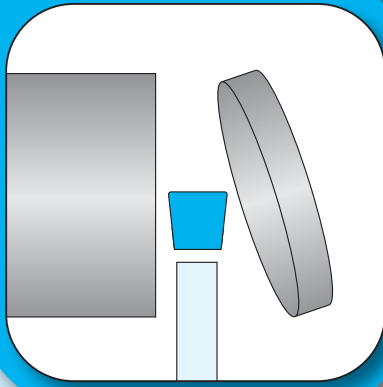
KTKB-SS / KTKB-S	Blade	H22
KTKTB / KTKTBF	Toolblock	H23
KTKH-S	Integral Toolholder	H24

Technical Information H25~H26

Recommended Cutting Conditions H25

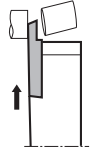
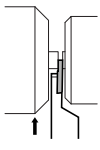
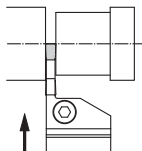
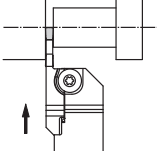
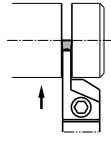
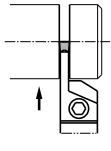
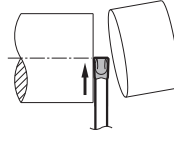
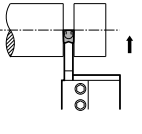
Alternative Toolholder Reference Table for Cut-off Toolholder H26

H



Product Lineup





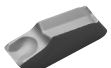
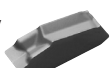
Product Lineup

For Small Diameter Cut-Off	Toolholder (Long Shank for automatic lathe) Cut-Off Dia. ø5~ø12 ~ø16	KTKF (H8)  Width: 0.5~2.0 mm		For sub spindle tooling Cut-Off Dia. ø6~ø12 ø14~ø16	KTKFS (H10)  Width: 1.0~2.0 mm
KGD	Bolt Clamp Cut-Off Dia. ø12~ø50	KGD (H14)  Width: 2.0~4.0mm	KGD-S (H15)  Width: 2.0~4.0mm		
CERACUT / Plunge & Turn (2-edge)	Bolt Clamp Cut-Off Dia. ø18~ø60	KGM (H18~H19)  Width: 1.5~4.0mm, 3~8mm	KGM-T (H19)  Width: 2.0~6.0mm		
CERACUT Cut-Off (1-edge)	Toolholder Type Cut-Off Dia. ø30~ø79	KTKH-S (H24)  Width: 2.2~5.1mm		Blade type Cut-Off Dia. ø32~ø120	KTKB-S(S) (H22)  Width: 1.6~9.6mm

H

Cut-off

Cut-Off Tools

Series Name	Shape	Advantage	Application
For 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) Cut-off Diameter is prepared for two sizes from ø5~ø12 and max.ø16. 	<ol style="list-style-type: none"> 1) For cut-off and grooving of small workpieces 2) For 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. Cutting Dia.: ø50 	<ol style="list-style-type: none"> 1) PM Chipbreaker...For Cut-Off 2) PH Chipbreaker...For Cut-Off (High Feed) For Grooving
CERACUT / Plunge & Turn		<ol style="list-style-type: none"> 1) Insert is clamped from top side 2) 1-edge and 2-edge inserts available 3) Max. Cutting Dia.: ø60 	<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.
CERACUT Cut-Off		<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. Cutting Dia.: ø120 	<ol style="list-style-type: none"> 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

		For Small Dia. Cut-Off	KGD	CERACUT / Plunge & Turn	CERACUT Cut-Off
Insert	1. Insert 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 angled insert to reduce the size of the remaining boss.	TKF...DR	GDM-R-6D GDMS-R-6D (\rightarrow Fig.2)	GMM- $^R/L$ (\rightarrow Fig.2)	TK $^R/L$ (\rightarrow Fig.1)
	4. Use sharp-cornered lead-angled Insert to make the remaining boss much smaller when machining small parts and thin parts.	TKF...DR	-	GMM- $^R/L$ (\rightarrow Fig.2)	-
	5. Use the minimum width insert suitable for the machining operation.			○	○
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).	○	-	-	-

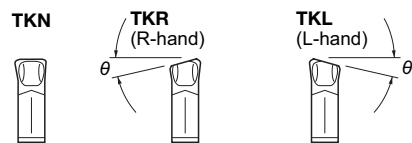
How to Set Up (TKN / TK $^R/L$)

1. Tap the insert lightly with a plastic hammer to push it in to the extent that it can not be removed by hand.	-	-	-	○ (\rightarrow Fig.3)
2. Remove the insert by using the supplied wrench.	-	-	-	○ (\rightarrow Fig.4)

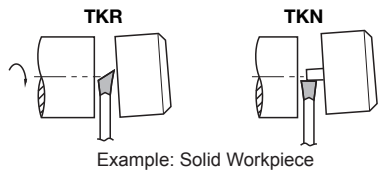
Caution

1. Set the cutting edge height 0.1-0.2mm above the center height.	○ (\rightarrow Fig.5)	○ (\rightarrow Fig.5)	○ (\rightarrow Fig.5)	○ (\rightarrow Fig.5)
2. Always apply sufficient coolant to the cutting edge.	○	○	○	○
3. Constant spindle revolution is recommended to obtain stable tool life.	○	○	○	○
4. Cut-off as close to the chuck as possible	○	○	○	○
5. Decrease the feed rate from 1/2 to 1/3 at the near center to prevent chipping.	○	○	○	○
• 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.	○	○	○	○

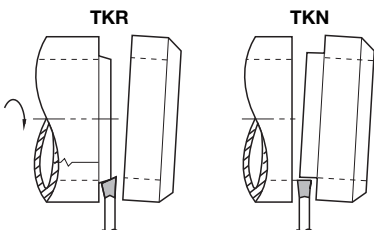
○: Applicable —: Not Applicable



- Angled (θ) insert can reduce the burr size when cutting off.
- When using a larger lead angle (θ), cutting resistance becomes smaller, but the feed rate should be reduced.



Example: Solid Workpiece



Example: Hollow Workpiece (Pipe)

Fig.1

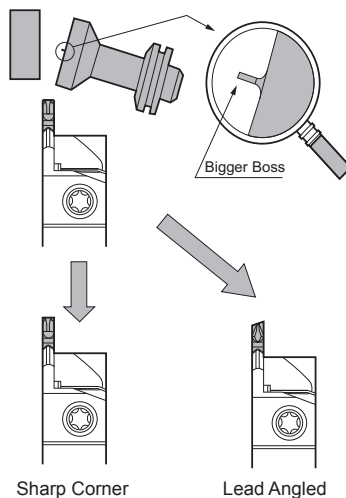


Fig.2

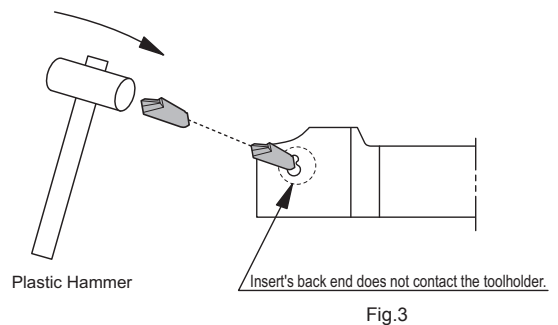


Fig.3

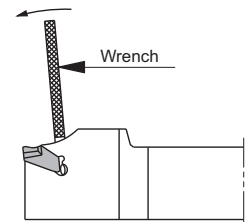


Fig.4

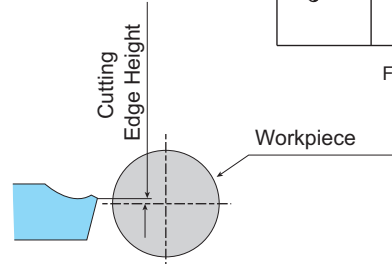
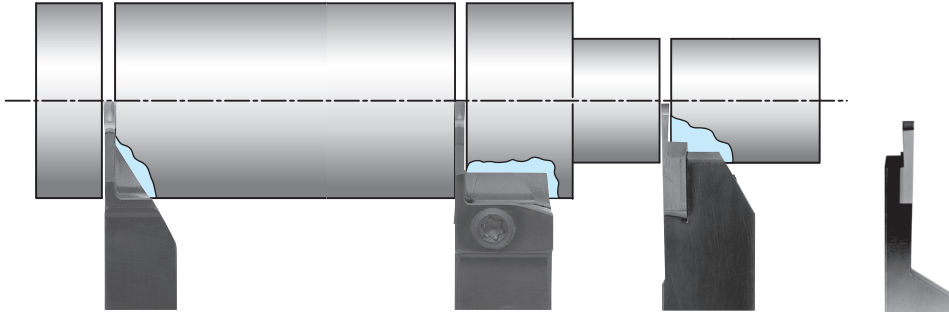


Fig.5

Summary of Cut-Off

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

Small Shank



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

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

KTKF
Cutting Dia: $\sim\phi 16$
Shank: $\square 10\sim 16\times 20$
Edge Width: 0.5~2.0
Lateral Side Clamp

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

H24

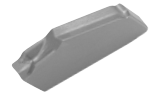
H18

H8

H10



Chipbreaker for General Cut-Off



Chipbreaker for Low Feed Cut-Off



2-edge
Chipbreaker for Sharp Cutting



**KTKF
KTKFS**
2-edge
Low resistance cut-off
Chipbreaker



2-edge
Chipbreaker for Stability



1-edge
Chipbreaker for Stability

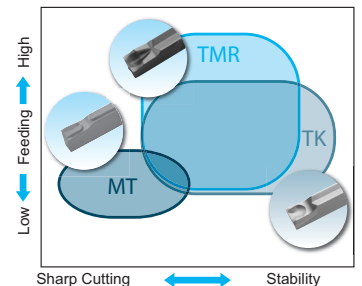


2-edge
Chipbreaker for Productivity

Chipbreaker edge shape	CERACUT Cut-Off H21		
	General Cut-Off		Low Feed Cut-Off
	Chamfer + hone	Sharp Edge	Hone

Chipbreaker edge shape	Grooving / Plunge&Turn H16				
	Sharp Cutting (MT-Chipbreaker)		Stable Cutting (TK-Chipbreaker)		Productivity Oriented (TMR-Chipbreaker)
	Chamfer + hone Corner-R 0.05	Chamfer + hone Sharp Corner	Chamfer + hone Corner-R 0.2-0.3	Sharp Edge Corner-R 0.2-0.3	Chamfer + hone Corner-R 0.2

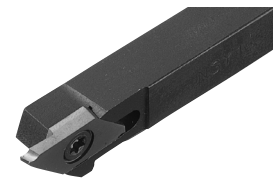
GMM Chipbreaker MAP



CERACUT Cut-Off
H24 (Self Clamp)

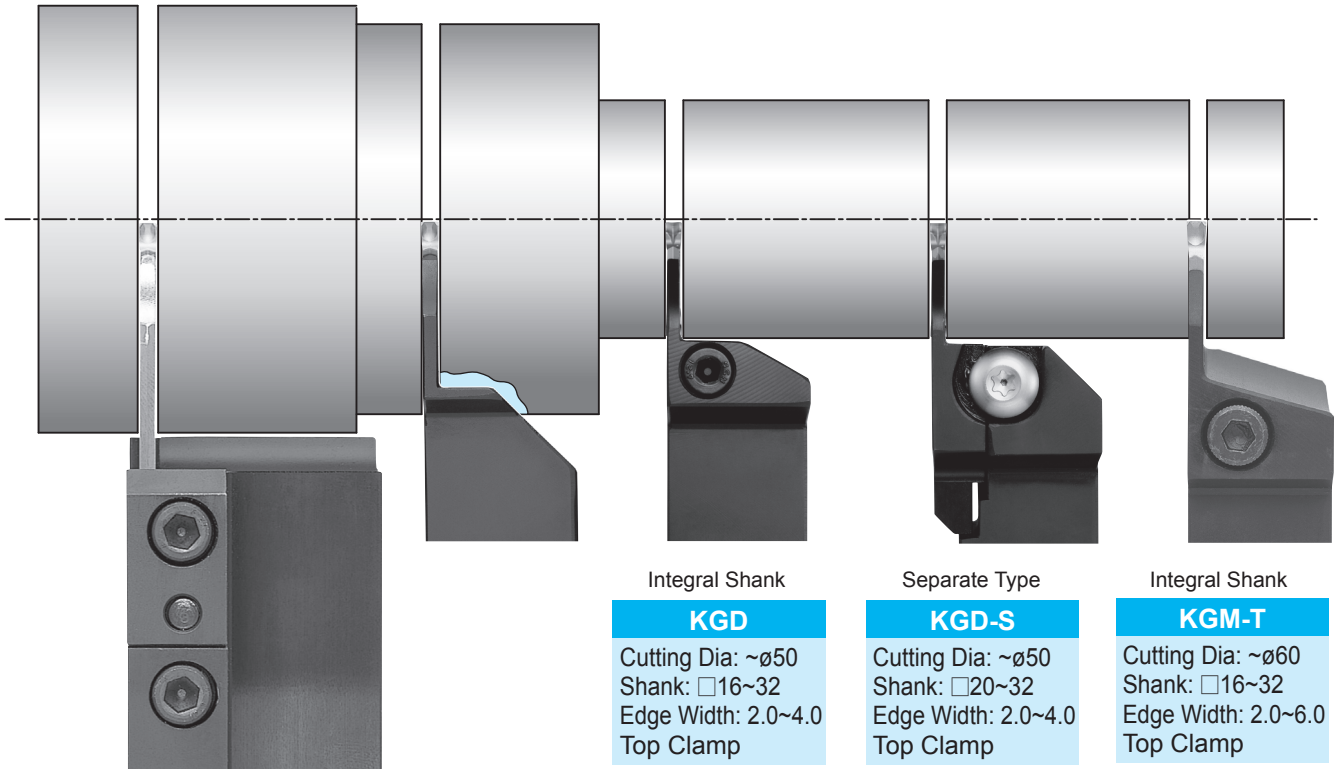


CERACUT / Plunge & Turn
H18 (Top Clamp)



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

General Cut-Off ~ø120

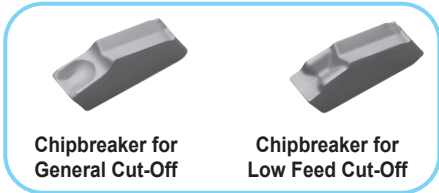


Blade + Toolblock
KTKB
 Cutting Dia: ~ø120
 Shank: □16~32
 Edge Width: 1.6~9.6
 Self Clamp

H22

Integral Shank
KTKH
 Cutting Dia: ~ø79
 Shank: □20~25
 Edge Width: 3.1~5.1
 Self Clamp

H24



Integral Shank
KGD
 Cutting Dia: ~ø50
 Shank: □16~32
 Edge Width: 2.0~4.0
 Top Clamp

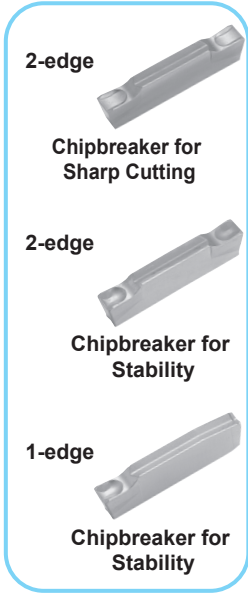
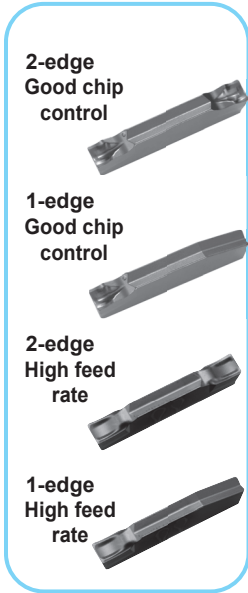
H14

Separate Type
KGD-S
 Cutting Dia: ~ø50
 Shank: □20~32
 Edge Width: 2.0~4.0
 Top Clamp

H15

Integral Shank
KGM-T
 Cutting Dia: ~ø60
 Shank: □16~32
 Edge Width: 2.0~6.0
 Top Clamp

H19




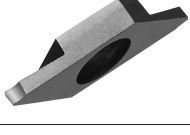
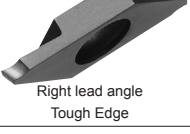
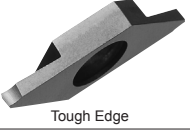
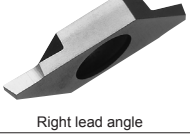

Blade + Toolblock	Separate Type	Integral Shank		
				
CERACUT Cut-Off H22	KGD-S H15	CERACUT Cut-Off H24	KGD H14	CERACUT / Plunge & Turn H18

Cut-Off Toolholders (for small diameter)

TKF

● Applicable Inserts (TKF12)

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

Insert Handed Insert shows Right-hand	Description	Dimension (mm)							Angle (°)	MEGA COAT		PVD Coated Carbide		Carbide		Ref. Page for Toolholder
		W	øD _{max}	rε	T	H	ød	θ		PR1225		PR1025		KW10		
										R	L	R	L	R	L	
 Right lead angle	TKF12 ^{R/L} 050-S-16DR	0.5	5	0.03	3	8.7	5	16°	●		●	●	●	●	●	H8
	070-S-16DR	0.7	8						●		●	●	●	●	●	
	100-S-16DR	1.0	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°	●		●	●	●	●	●	H8
	070-S	0.7	8						●		●	●	●	●	●	
	100-S	1.0	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°	●	●					H8	
	150-T-16DR	1.5							●	●						
	200-T-16DR	2.0							●	●						
 Tough Edge	TKF12 ^{R/L} 100-T	1.0	12	0.08	3	8.7	5	0°	●	●					H8	
	150-T	1.5							●	●						
	200-T	2.0							●	●						
 Right lead angle	TKF12 ^{R/L} 050-NB-20DR	0.5	5	0	3	8.7	5	20°			●	●	●	●	H8	
	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°			●	●	●	●	H8	
	070-NB	0.7	8						●	●	●	●	●			
	100-NB	1.0	12						●	●	●	●	●	●		
	150-NB	1.5	12						●	●	●	●	●	●		
	200-NB	2.0	12						●	●	●	●	●	●		

• 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.

◆ Identification of Description (See Table.1)

TKF 12 R 050—S—16D R

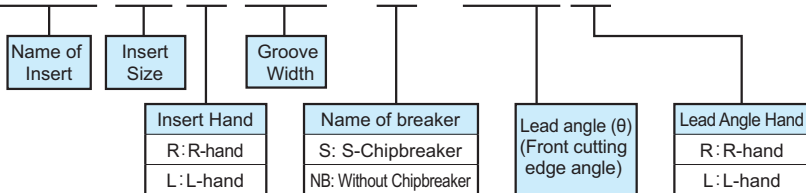
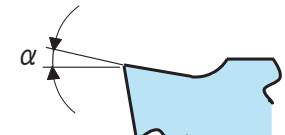


Table1

Toolholder	R-hand (R)	Toolholder	L-hand (L)
Insert	R-hand (R)	Insert	L-hand (L)
Lead Angle	R-hand (R)	Lead Angle	R-hand (R)

● Descriptions of Chipbreaker Edge Shape





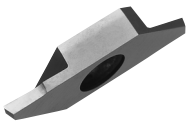
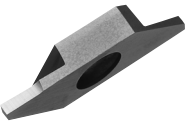
Edge Shape	S-Chipbreaker		T-Chipbreaker (Tough Edge)		NB-Chipbreaker	
	α	Description	α	Description	α	Description
	15°	TKF12...-S	12°	TKF...-T TKF...-T-16DR	0°	TKF...-NB TKF...-NB-20DR
	20°	TKF16...-S TKF16...-S-16DR				
	25°	TKF12...-S-16DR				

Inserts are sold in 10 piece boxes.

● : Std. Item □ : Check Availability

● Applicable Inserts (TKF16)

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

Insert Handed Insert shows Right-hand	Description	Dimension (mm)						Angle (°)	MEGA COAT		PVD Coated Carbide		Carbide		Ref. Page for Toolholder
		W	øD _{max}	rε	T	H	ød		PR1225		PR1025		KW10		
									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°	●	●	●	●	●	●	H8
	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.

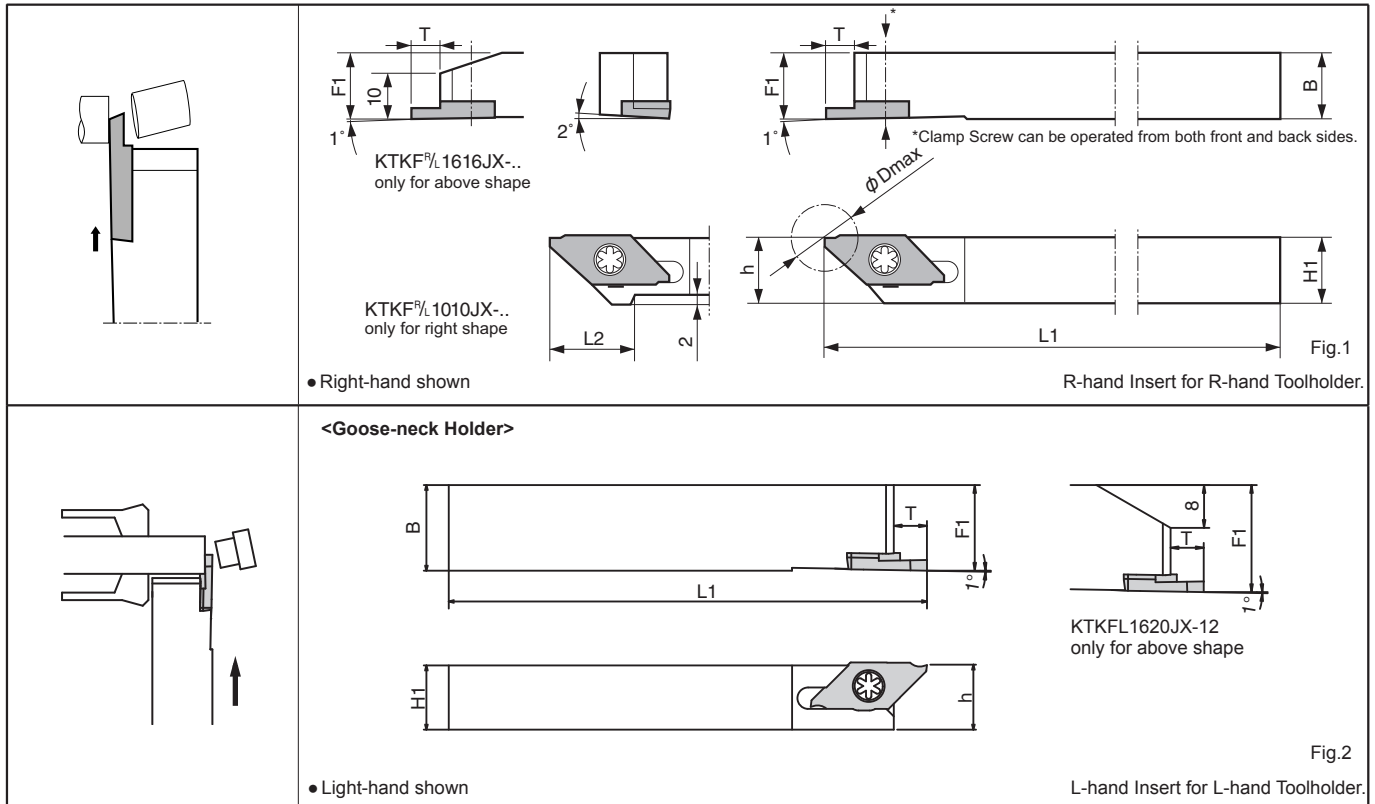
● : Std. Item

Inserts are sold in 10 piece boxes.



Cut-Off Toolholders (for small diameter)

KTKF (For small diameter cut-off)



Toolholder Dimensions

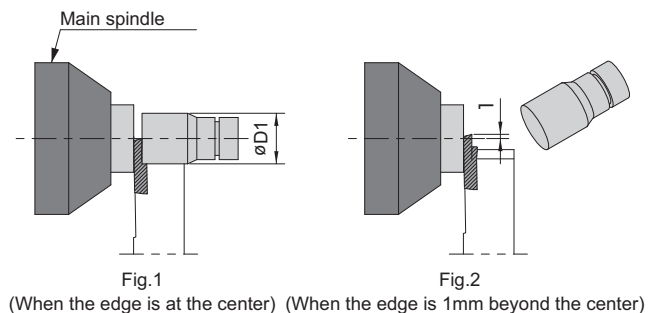
Description	Std.		Dimension (mm)						Insert	Spare Parts		Applicable Inserts ● H6, H7
	R	L	H1=h	B	L1	L2	F1	T		Clamp Screw	Wrench	
KTKF ^{R/L} 1010JX-12 1212JX-12 1616JX-12	●	●	10	10	120	15	10	6	Fig.1	SB-4590TRWN	LTW-10S	TKF12 ^{R/L} ...
	●	●	12	12		-	12					
	●	●	16	16		-	16					
KTKF ^{R/L} 1010JX-16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

* Dimension T shows the distance from the Toolholder to the cutting edge. ● H6, H7 for the actual cutting diameter. For recommended cutting conditions, see page ● H25
 Note: Cutting diameter of -12 type toolholder (ϕD_{max}) depends on the insert grooving width.

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.

Therefore the programmed distance beyond the center must be considered.

e.g. When the cutting edge is programmed to run 1mm beyond the center.

Workpiece maximum, $\phi D2$ (Fig.4) = $[\phi D_{max} - 1mm \times 2]$ (mm)

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

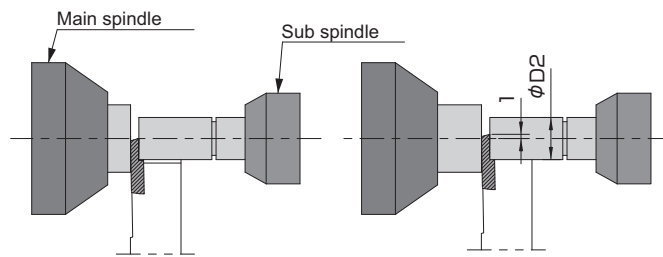


Fig.3 (When the edge is at the center) Fig.4 (When the edge is 1mm beyond the center)

When using TKF-AS type

The KTKF holder can be used as a multi-functional tool for non-ferrous metals and non metals when combined with a TKF-AS insert (See Fig.5).

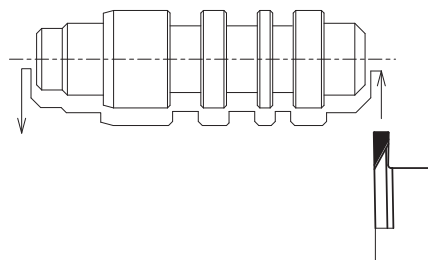


Fig.5 Example of the pass of KTKF toolholder + TKF-AS insert

Longitudinal Turning / Grooving (1-Edge insert)

Edge Preparation				Classification of usage										Applicable Toolholder		
PCD all models		Sharp Edge		● : Continuous-Low Interruption / 1st Choice ○ : Continuous-Low Interruption / 2nd Choice ● : Continuous / 1st Choice ○ : Continuous / 2nd Choice										PCD		
Insert	Description	Dimension (mm)										Angle (°)	No. of Corners	KPD001		Applicable Toolholder
		W	ϕD_{max}	$r\epsilon$	T	H	A	ϕd	S	θ^*	R			L		
Traversing / Grooving Handed Insert shows R-hand.	TKF12 ^{R/L} 200-AS	2.0	10	0.1 ^{+0.05}	3	8.7	7.7	5	5.0	0°	1	●	●	H8		
	TKF12 ^{R/L} 250-AS	2.5	10									●	●			
TKF16 ^{R/L} 250-AS	2.5	16	●	●												
Grooving (Traversing is possible)	TKF12 ^{R/L} 150-NB	1.5	7	0.1 ^{+0.05}	3	8.7	-	5	2.0	0°	1	●	●			
	TKF12 ^{R/L} 200-NB	2.0	8									●	●			
	TKF12 ^{R/L} 250-NB	2.5	8									●	●			
	TKF12 ^{R/L} 250-NB4.5	2.5	10									●	●			

*Lead angle shows the angle when installed in toolholder.

*Please use PCD Insert for traverse machining.

Note1) The cutting edge of the TKF.-AS will be 1 mm lower than the center line when attached to the KTKF toolholder (See Fig.6). Adjust the height by making NC lathe parameter settings or inserting a plate.

2) If the 1 mm adjustment is not possible, use the TKF. . -NB (See Fig.7).

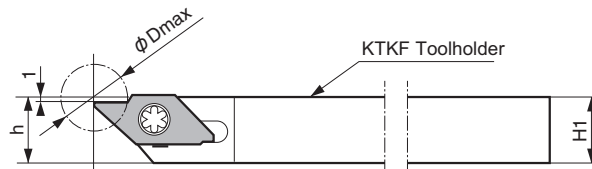


Fig.6 When a TKF-AS insert is attached (The cutting edge is 1 mm lower than the center line.)

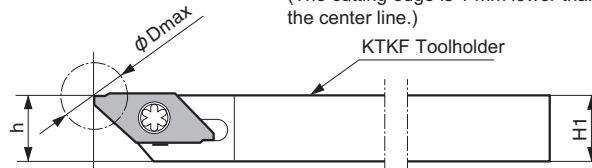


Fig.7 When a TKF-NB insert is attached

● : Std. Item

CBN & PCD Tools are sold in 1 piece boxes.

H



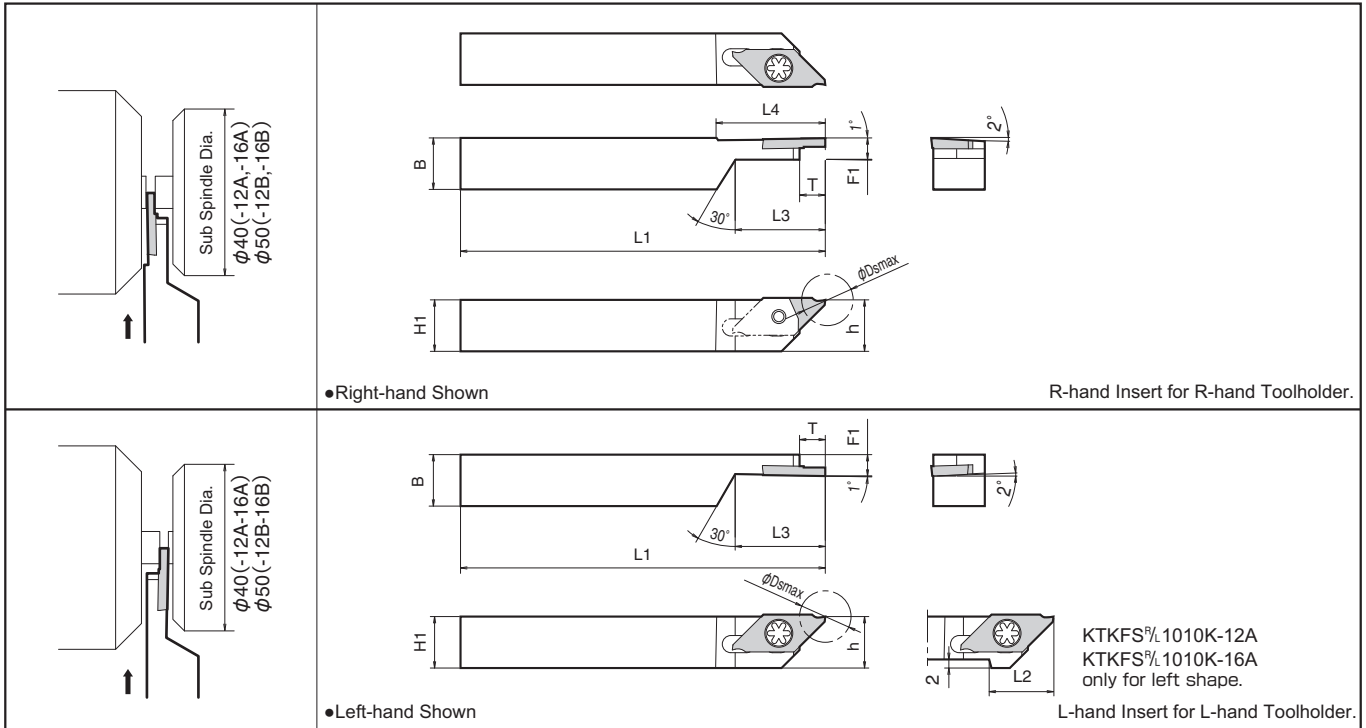
Cut-off



H9

Cut-Off Toolholders (for sub spindle tooling)

KTKFS (For Small diameter cut-off)



Toolholder Dimensions

Description	Std.		Cutting Dia.	Dimension (mm)									Spare Parts		Applicable Inserts ● H9
	R	L		φD _{smax}	H1=h	B	L1	L2	L3	L4	F1	T	Clamp Screw 	Wrench 	
	●	●	6~12		10	10	120	15	22	26	5	6			SB-4050TRN
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							
	●	●		120											
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							
	●	●		120											

* Dimension T shows the distance from the Toolholder to the cutting edge. ● H8 for the actual cutting diameter.

* Cutting diameter (φD_{smax}) depends on the insert grooving width.

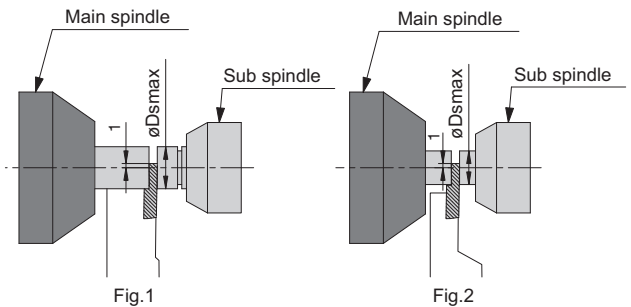
* Only R-hand is available for L4 dimension.

For recommended cutting conditions, see page ● H11

TKFS (φD_{smax})

Insert Handed insert indicates Left-hand	Description	Dimension (mm)	
		W	φD _{smax}
	TKFS12 ^{R/L} 100-S	1.0	6
	150-S	1.5	9
	200-S	2.0	12
	TKFS16 ^{R/L} 150-S	1.5	14
	200-S	2.0	16

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



- As Fig.1 shows, use KTKFL (L-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.

● Applicable Inserts

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

Insert Handed insert indicates Left-hand	Description	Dimension (mm)						Angle (°)	PVD Coated Carbide	Carbide	PCD	Applicable Toolholder	
		W	∅Ds max	rε	T	H	∅d						
				PR1025		KW10		KPD001					
	TKFS12^{R/L}	100-S	1.0	6	0.05	2.2	8.7	4.4	0°	●	●	●	KTKFS^{R/L} ---- 12
		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 H8 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 (For TKFS12)

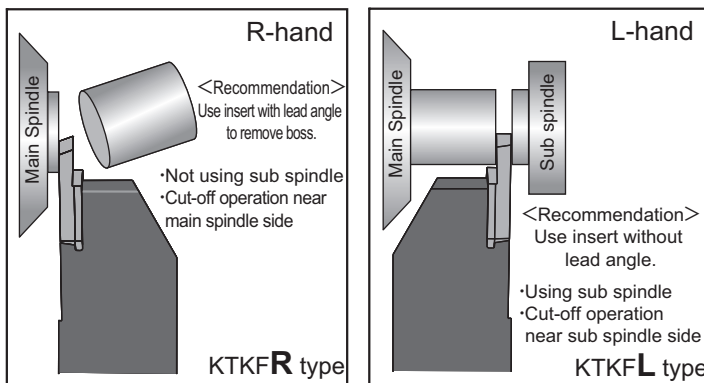
Workpiece Material	Recommended Insert Grade (Vc: m/min)		Width (mm)			Remarks
	PVD Coated Carbide	Carbide	1.0	1.5	2.0	
	PR1025	KW10	f (mm/rev)			
Carbon Steel	60~130	-	0.01~0.03	0.01~0.03	0.01~0.03	Coolant
Alloy Steel	60~130	-	0.01~0.03	0.01~0.03	0.01~0.03	
Stainless Steel	50~100	-	0.01~0.02	0.01~0.02	0.01~0.03	
Cast Iron	-	50~100	0.01~0.03	0.01~0.03	0.01~0.03	
Non-ferrous Metals	-	200~450	0.01~0.03	0.01~0.03	0.01~0.03	

◆ Recommended Cutting Conditions (For TKFS16)

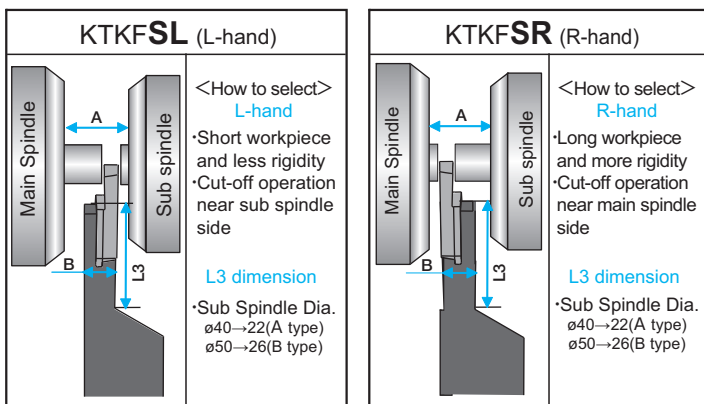
Workpiece Material	Recommended Insert Grade (Vc: m/min)		Width (mm)		Remarks
	PVD Coated Carbide	Carbide	1.5	2.0	
	PR1025	KW10	f (mm/rev)		
Carbon Steel	60~130	-	0.01~0.03	0.01~0.03	Coolant
Alloy Steel	60~130	-	0.01~0.03	0.01~0.03	
Stainless Steel	50~100	-	0.01~0.02	0.01~0.03	
Cast Iron	-	50~100	0.01~0.03	0.01~0.03	
Non-ferrous Metals	-	200~450	0.01~0.03	0.01~0.03	

■ How to use small diameter cut-off tool

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



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




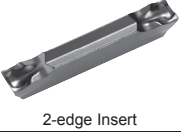
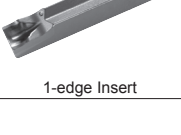

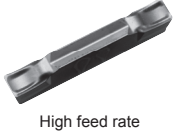
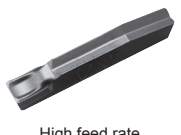
● : Std. Item □ : Check Availability

Inserts are sold in 10 piece boxes.

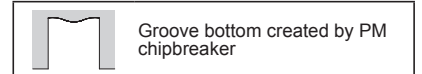
Cut-Off Inserts

GDM / GDMS

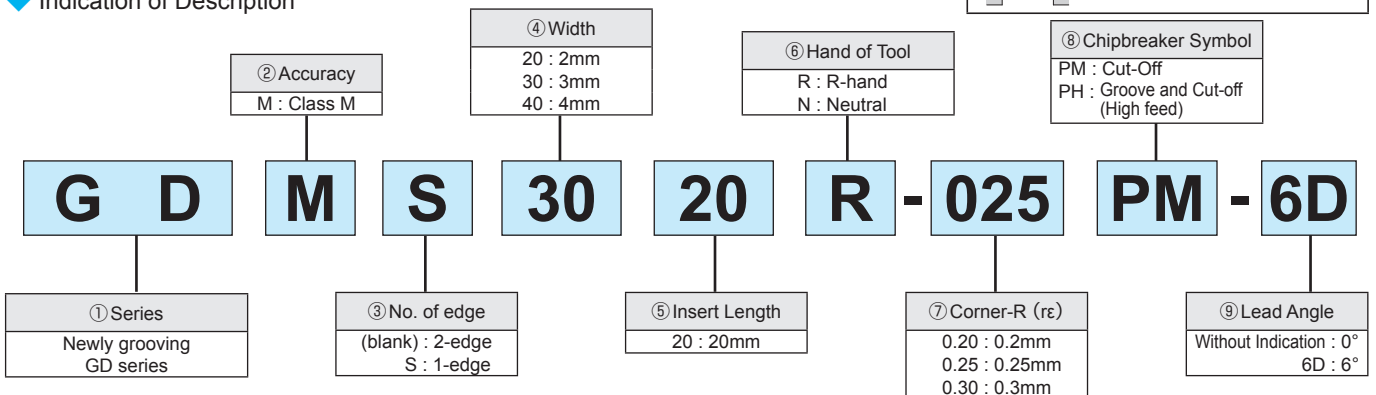
Classification of usage	P	Carbon steel / Alloy steel	●	☺
● : Continuous-Low Interruption / 1st Choice	M	Stainless Steel	●	☺
☺ : Continuous-Low Interruption / 2nd Choice	K	Cast Iron	●	☺
● : Continuous / 1st Choice				
☺ : Continuous / 2nd Choice				

Shape	Description	Dimension (mm)					Angle (°)	MEGACOAT		Ref. Page for Toolholder	
		W	rε	M	L	H		θ	PR1225		PR1215
									Tolerance		
Cut-off	2-edge Insert 	GDM 2020N-020PM	2.0	±0.03	0.2	1.5	20	-	●	●	H14 H15
		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 Insert 	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 Insert 	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 Insert 	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 Insert 	GDM 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					
	High feed rate 1-edge Insert 	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 PM chipbreaker (for cut-off) for grooving cannot create a flat bottom (See the right figure).



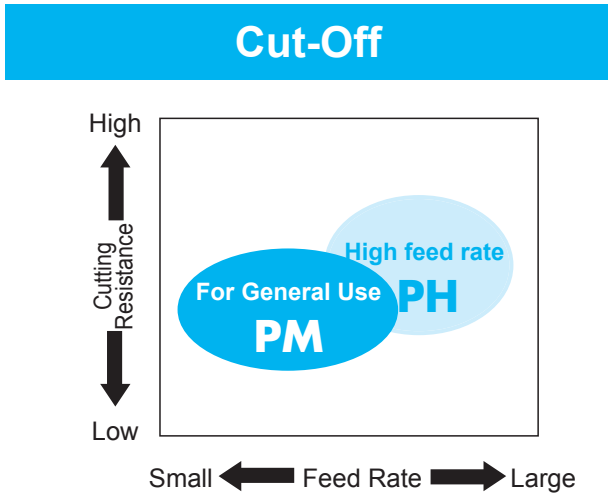
◆ Indication of Description



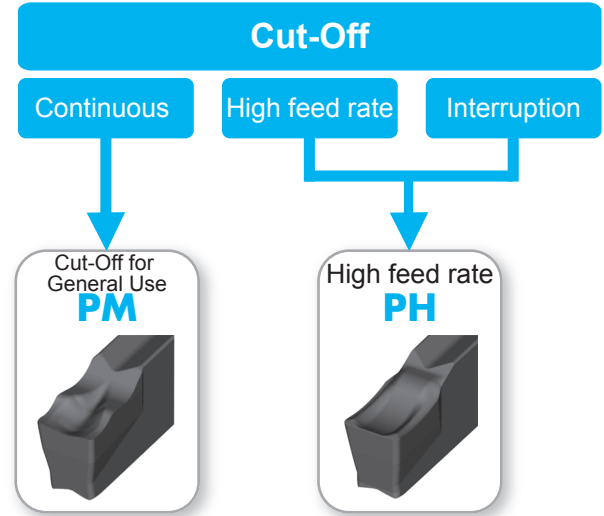
Inserts are sold in 10 piece boxes.

● : Std. Item

● Application Map



● Chipbreaker Selection



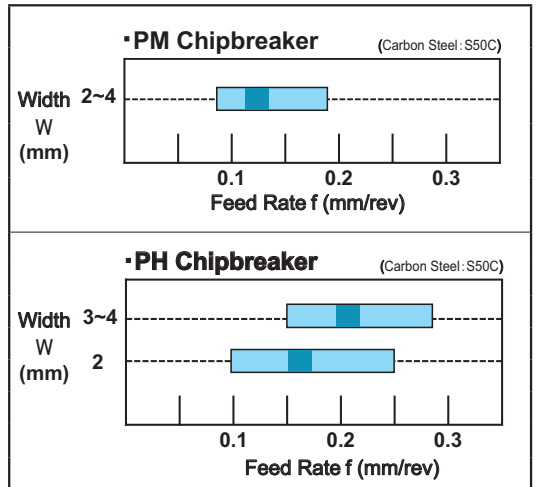
● Recommended Cutting Conditions

Workpiece Material	Recommended Insert Grade (Vc: m/min)		Feed Rate (mm/rev)			Remarks
	MEGACOAT		PM-Chipbreaker	PH-Chipbreaker		
	PR1225	PR1215	Width W (mm)	Width W (mm)		
Carbon Steel (SxxC)	★ 80~200	☆ 100~200	0.08~0.18	0.10~0.25	0.15~0.28	Coolant
Alloy Steel (SCM)	★ 70~180	☆ 80~180				
Stainless Steel (SUS304)	★ 60~150	☆ 60~150	0.06~0.12	0.05~0.12	0.08~0.15	
Cast Iron (FC, FCD)	-	★ 100~200	0.08~0.18	0.10~0.25	0.15~0.28	

★:1st Recommendation ☆:2nd Recommendation

◆ Example of feed

[■] in the graph indicates the center 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 optimal 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.

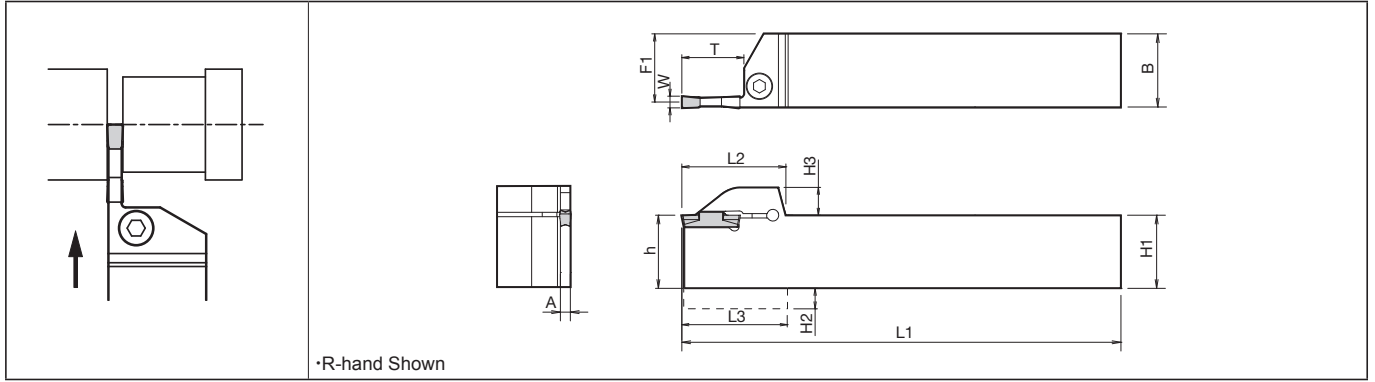
■ Case Studies (Cut-Off)

C45 (S45CF)		(Result)
<ul style="list-style-type: none"> •Sleeve •Vc=103 m/min •f=0.12 mm/rev •WET •GDM3020N-025PM (PR1225) •KGD2525X-3T20S 		<p>•The cutting edge of KGD Cut-off PM Chipbreaker (PR1225) shows good condition even after processing the same number of workpiece as Competitor L.</p> <p>•Longer product life can be expected. (Competitor L suffered from chipping of cutting blade).</p> <p>(Evaluation by the user)</p>
PM Chipbreaker (PR1225)	250 pcs/edge Can be extended	
Competitor L (PVD Coated Carbide)	250 pcs/edge Chipping occurred	



Grooving / Cut-Off

KGD (Integral Type)



*R-hand Shown

Toolholder Dimensions

Width (mm)	Available Grooving Depth (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	Clamp Bolt	Wrench						
2	6	KGD% 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	-	24.2													
	10	KGD% 1616H-2T10	●	●	16	4.0		16	100	30.2	30.5	15.2							10	2.0	3.0	HH5X16	LW-4	
		2020K-2T10	●	●	20	-		20	125	30.5	-	19.2												HH5X25
		2525M-2T10	●	●	25	-		25	150	-	24.2													
	17	KGD% 1616H-2T17	●	●	16	4.0		16	100	31.2	31.5	15.2		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					
	3	6	KGD% 1616H-3T06	●	●	16		4.0	9.5	16	100	27.7		28.0	14.8	2.4	10	3.0	4.0	HH5X16	LW-4			
			2020K-3T06	●	●	20		-		20	125	28.0		-	18.8							HH5X25		
			2525M-3T06	●	●	25		-		25	150	-		23.8										
10		KGD% 1616H-3T10	●	●	16	4.0	16	100		30.2	30.5	14.8	10	3.0	4.0							HH5X16	LW-4	
		2020K-3T10	●	●	20	-	20	125		30.5	-	18.8												HH5X25
		2525M-3T10	●	●	25	-	25	150		-	23.8													
20		KGD% 1616H-3T20	●	●	16	4.0	16	100		34.2	34.5	14.8	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													
4		10	KGD% 2020K-4T10	●	●	20	-	20		125	30.5	-	18.3	3.4	10		4.0	5.0	HH5X16	LW-4				
			2525M-4T10	●	●	25	-	25		150	-	23.3												
		20	KGD% 2020K-4T20	●	●	20	-	20		125	34.5	-	18.3		20						4.0	5.0	HH5X16	LW-4
	2525M-4T20		●	●	25	-	25	150	35.5	-	23.3													
	25	KGD% 2525M-4T25	●	●	25	-	25	150	40.5	-	23.3	25	4.0		5.0	HH5X25					LW-4			
			●	●	25	-	25	150	40.5	-	23.3													
5	10	KGD% 2020K-5T10	●	●	20	-	20	125	30.5	-	17.8	4.4	10	5.0		6.0	HH5X16	LW-4						
		2525M-5T10	●	●	25	-	25	150	-	22.8														
	17	KGD% 2020K-5T17	●	●	20	-	20	125	37.5	-	17.8		17						5.0	6.0		HH5X25	LW-4	
		2525M-5T17	●	●	25	-	25	150	-	22.8														
	25	KGD% 2525M-5T25	●	●	25	-	25	150	40.5	-	22.8		25		5.0				6.0		HH5X25	LW-4		
			●	●	25	-	25	150	40.5	-	22.8													
6	15	KGD% 2525M-6T15	●	●	25	-	25	150	32.5	-	22.4	5.3	15	6.0	6.0	HH5X25	LW-4							
	30	KGD% 2525M-6T30	●	●	25	-	25	150	45.5	-	22.4													
8	25	KGD% 2525M-8T25	●	●	25	7.0	25	150	43.3	44.2	22.0	6.0	25	8.0	8.0	HH6X25	LW-5							
		3232P-8T25	●	●	32	-	32	170	-	29.0														

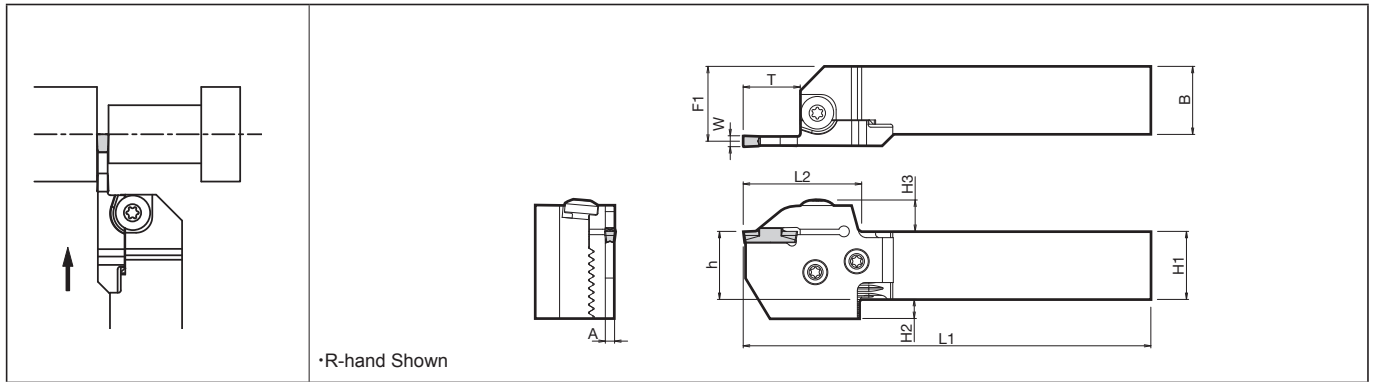
Note)1. Dimension T : Maximum depth to which processing can be made. (If the dimension T is 20 mm or more, the maximum groove-depth made by the 2-edged insert will be 18 mm.)

2. Recommended tightening torque of clamp bolt: 6.5N·m (Groove width 2 - 6 mm), 8.0N·m (Groove width 8 mm)

Recommended Cutting Conditions **H13**

● : Std. Item
□ : Check Availability

KGD-S (Straight : 0°, Separate Type)



•R-hand Shown

● Toolholder Dimensions (Toolholder+Blade)

Shank Angle	Width (mm)	Available Grooving Depth (mm)	Assembly Number (Standard Stock Number)	Std.		Description ● G28	Blade Description ● G28	Dimension(mm)										Width w (mm)					
				R	L			H1=h	H2	H3	B	L1	L2	L3	F1	A	T	MIN	MAX				
0°	2	17	KGD [®] /L 2020X-2T17S	●	●	KGD [®] /L 2020-C	KGD [®] /L-2T17-C	20	12	-	20	122	39.9	-	-	-	-	23.4	1.7	17	2.0	3.0	
			2525X-2T17S	●	●	KGD [®] /L 2525-C		25	7		25	147											28.4
	3	10	KGD [®] /L 2020X-3T10S	●	●	KGD [®] /L 2020-C	KGD [®] /L-3T10-C	20	12	-	20	115	32.9	-	-	-	-	23.0	2.4	10	3.0	4.0	
			2525X-3T10S	●	●	KGD [®] /L 2525-C		25	7		25	140											28.0
			3232X-3T10S	●	●	KGD [®] /L 3232-C		32	-		32	160											33.0
		20	KGD [®] /L 2020X-3T20S	●	●	KGD [®] /L 2020-C	KGD [®] /L-3T20-C	20	12	11.6	20	125	42.9	-	-	-	-	23.0	2.4	20	3.0	4.0	
			2525X-3T20S	●	●	KGD [®] /L 2525-C		25	7		25	150											28.0
			3232X-3T20S	●	●	KGD [®] /L 3232-C		32	-		32	170											33.0
	4	10	KGD [®] /L 2020X-4T10S	●	●	KGD [®] /L 2020-C	KGD [®] /L-4T10-C	20	12	11.6	20	115	32.9	-	-	-	-	22.5	3.4	10	4.0	5.0	
			2525X-4T10S	●	●	KGD [®] /L 2525-C		25	7		25	140											27.5
			3232X-4T10S	●	●	KGD [®] /L 3232-C		32	-		32	160											32.5
		20	KGD [®] /L 2020X-4T20S	●	●	KGD [®] /L 2020-C	KGD [®] /L-4T20-C	20	12	11.6	20	125	42.9	-	-	-	-	22.5	3.4	20	4.0	5.0	
			2525X-4T20S	●	●	KGD [®] /L 2525-C		25	7		25	150											27.5
			3232X-4T20S	●	●	KGD [®] /L 3232-C		32	-		32	170											32.5
		25	KGD [®] /L 2020X-4T25S	●	●	KGD [®] /L 2020-C	KGD [®] /L-4T25-C	20	12	11.6	20	130	47.9	-	-	-	-	22.5	3.4	25	4.0	5.0	
			2525X-4T25S	●	●	KGD [®] /L 2525-C		25	7		25	155											27.5
			3232X-4T25S	●	●	KGD [®] /L 3232-C		32	-		32	175											32.5
	5	10	KGD [®] /L 2020X-5T10S	●	●	KGD [®] /L 2020-C	KGD [®] /L-5T10-C	20	12	11.6	20	115	32.9	-	-	-	-	22.0	4.4	10	5.0	6.0	
			2525X-5T10S	●	●	KGD [®] /L 2525-C		25	7		25	140											27.0
			3232X-5T10S	●	●	KGD [®] /L 3232-C		32	-		32	160											32.0
		25	KGD [®] /L 2020X-5T25S	●	●	KGD [®] /L 2020-C	KGD [®] /L-5T25-C	20	12	11.6	20	130	47.9	-	-	-	-	22.0	4.4	25	5.0	6.0	
			2525X-5T25S	●	●	KGD [®] /L 2525-C		25	7		25	155											27.0
			3232X-5T25S	●	●	KGD [®] /L 3232-C		32	-		32	175											32.0

Note) 1. In case of normal mounting position, the toolholder body may interfere with the tool presetter.

Recommended Cutting Conditions ● H13

2. Toolholder description and blade description are printed on the toolholder body. (Unit description is not indicated.)

KGD-S : R-hand Blade for R-hand Toolholder, L-hand Blade for L-hand Toolholder.

Combination of the optional toolholder (KGD..-C) and blade (KGD..-C) (both separately sold) can make up the corresponding assembly part.

Make sure of the "hand of toolholder" and "hand of blade".


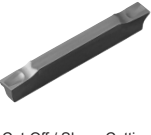
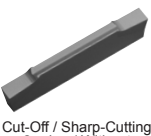
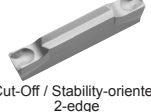



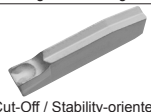
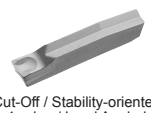


3. Dimension T: Maximum depth to which processing can be made. (If the dimension T is 20 mm or more, the maximum depth of groove made by the 2-edge insert will be 18 mm.)

4. Recommended tightening torque of clamp bolt for insert: 6.5N·m (Groove width 2 - 6 mm)

Cut-Off Inserts

GMM / GMN / GM^{R/L}

Classification of usage	P	Carbon Steel / Alloy Steel	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> : Continuous-Low Interruption / 1st Choice	M	Stainless Steel	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> : Continuous-Low Interruption / 2nd Choice	K	Cast Iron	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> : Continuous / 1st Choice	N	Non-ferrous Metals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> : Continuous / 2nd Choice			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Insert	Description	Dimension (mm)					Angle (°)	Cement	CVD Coated Carbide	PVD Coated Carbide			Carbide	Ref. Page for Applicable Toolholder	
		W	r _e	L	H	M				TN90	CR9025	PR915			PR930
 <p>Cut-Off / Sharp-Cutting 2-edge</p>	GMM 1520-MT	1.5	0.0 0.05	20	4.3	1.2	-								
	2020-MT	2.0	0.0 0.05			1.5									
	2520-MT	2.5	0.0 0.05			1.9									
	3020-MT	3.0	0.0 0.05			2.3									
 <p>Cut-Off / Sharp-Cutting 2-edge / Lead Angled</p>	GMM 1520 ^{R/L} -MT-15D	1.5	0.0 0.05	20	4.3	1.2	15°								
	2020 ^{R/L} -MT-15D	2.0	0.0 0.05			1.5									
	2520 ^{R/L} -MT-15D	2.5	0.0 0.05			1.9									
	3020 ^{R/L} -MT-15D	3.0	0.0 0.05			2.3									
 <p>Cut-Off / Sharp-Cutting 2-edge / Without Chipbreaker</p>	GMM 1520-NB	1.5	0.0 0.05	20	4.3	1.2	-								
	2020-NB	2.0	0.0 0.05			1.5									
	2520-NB	2.5	0.0 0.05			1.9									
	3020-NB	3.0	0.0 0.05			2.3									
 <p>Cut-Off / Stability-oriented 2-edge</p>	GMM 2020-TK	2.0	0.20	20	4.3	1.5	-								
	2520-TK	2.5	0.20			1.9									
	3020-TK	3.0	0.25			2.3									
 <p>Cut-Off / Stability-oriented 2-edge / Lead Angled</p>	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									
 <p>Cut-Off / High Feed 2-edge</p>	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									
 <p>Cut-Off / High Feed 2-edge / Lead Angled</p>	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									
 <p>Cut-Off / Stability-oriented 1-edge</p>	GMN 2-TK	2.0	0.20	20	4.3	1.8	-								
	3-TK	3.0	0.25			2.3									
	4-TK	4.0	0.30			3.3									
 <p>Cut-Off / Stability-oriented 1-edge / Lead Angled</p>	GM^{R/L} 2-TK-8D	2.0	0.20	20	4.3	1.8	8°								
	3-TK-8D	3.0	0.25			2.3									
	4-TK-8D	4.0	0.30			3.3									
 <p>Cut-Off / Sharp-Cutting 1-edge</p>	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									
 <p>Cut-Off / Sharp-Cutting 1-edge / Lead Angled</p>	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									15°
	3-4D	3.0	0.20			2.3									4°
	3-15D	3.0	0.20			2.3									15°
	4-4D	4.0	0.25			3.3									4°








H
Cut-off

**H18
H19**

H16 Inserts are sold in 10 piece boxes.

● : Std. Item □ : Check Availability R : Std. Item (R-hand Only) L : Std. Item (L-hand Only)

Edge Preparation

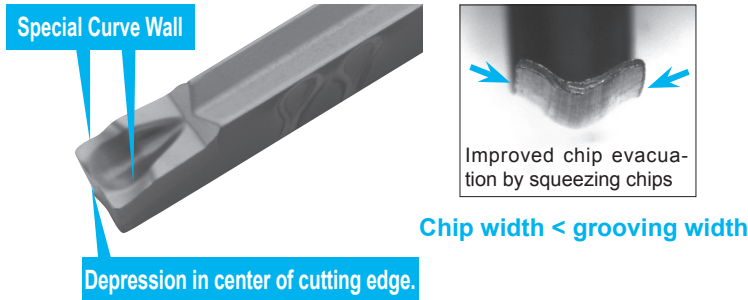
Series	MT-Chipbreaker		TK-Chipbreaker		TMR-Chipbreaker	Without Chipbreaker (NB)	
Edge Specification	Chamfer + hone	Chamfer + hone	Chamfer + hone	Sharp Edge	Chamfer + hone	Hone	Sharp Edge
	Corner-R0.05	Sharp Corner	Corner-R0.2-0.3	Corner-R0.2-0.3	Corner-R0.2	Corner-R0.05	Sharp Corner
							
	CR9025 /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

* Sharp Edge Spec. can reduce cutting resistance by 40% compared to chamfer edge.

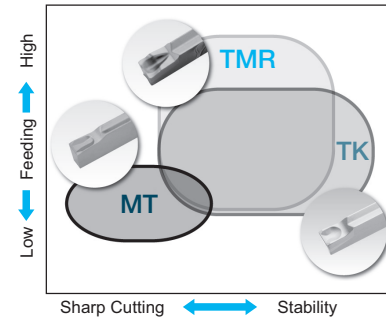
Series	Advantage
GMM-MT	Specific chipbreaker for cut-off operations requiring sharp cutting performance. Minimizes the Boss.
GMM-NB	Cutting edge is flat with no chipbreaker. Good performance for brass, etc.
GMM-TK	Stable design with chipbreaker for cut-off. Large corner-R. 2-edge for economical performance.
GMN-TK	Same chipbreaker geometry as GMM-TK. 1-edge. Wide application range.
GMN (Std.)	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



GMM Chipbreaker MAP

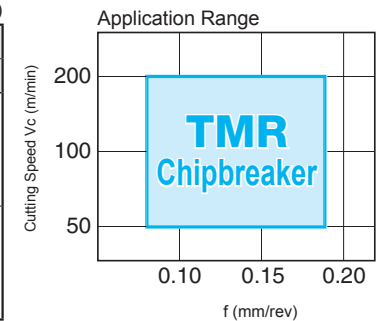


TMR-Chipbreaker enables stable chip control also for high feed rates.

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

(Cutting Condition: 15CrMo4 (SCM415), ø30, constant spindle revolution)

Description	n=1060min ⁻¹ (Vc=100m/min)		n=2123min ⁻¹ (Vc=200m/min)	
	f=0.12mm/rev	f=0.18mm/rev	f=0.12mm/rev	f=0.18mm/rev
GMM 3020-TMR (Without Hand)				
GMM 3020R-TMR-6D (R-hand)				

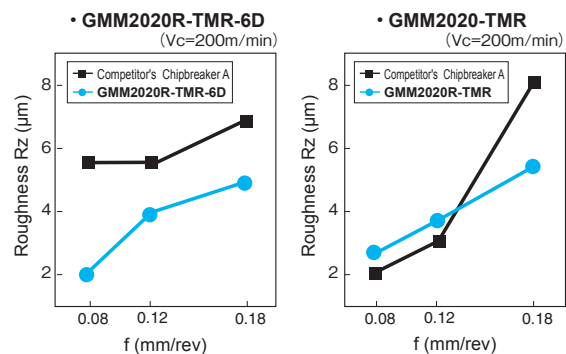


Recommended Cutting Conditions

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

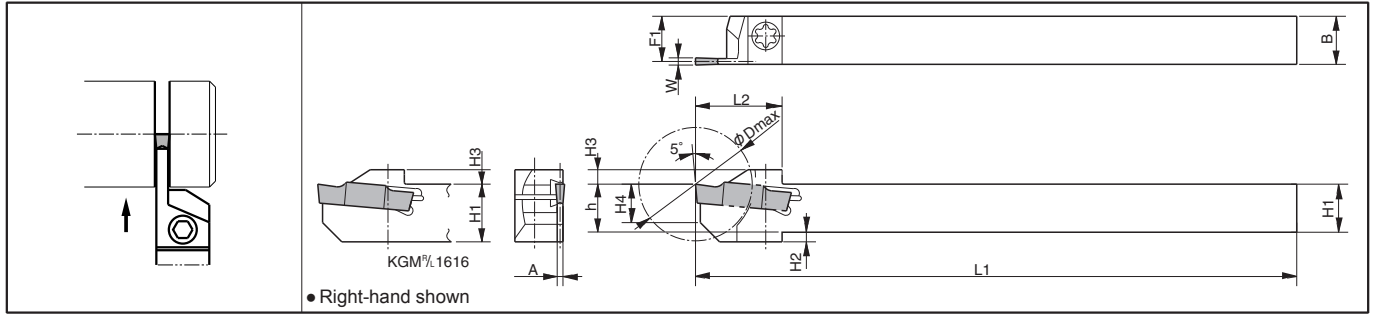
TMR-Chipbreaker provides good surface roughness on the workpiece end face at high feed rate ranges.



Cut-Off Toolholders

KGM (For automatic lathe)

Edge Width: 1.5~4.0mm

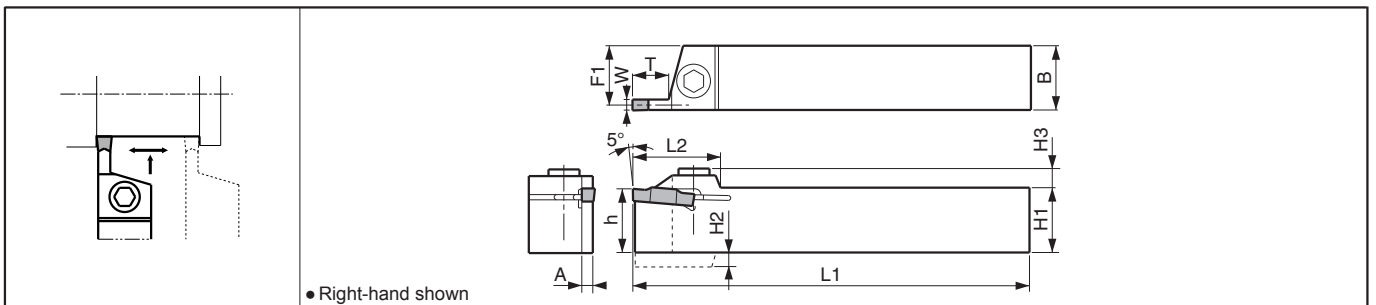


● Toolholder Dimensions

Description	Std.		Cutting Dia. øDmax	Dimension (mm)									Width W (mm)		Spare Parts	
	R	L		H1=h	H2	H3	H4	B	L1	L2	F1	A	MIN.	MAX.	Screw	Wrench
KGM^{β/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	2	4	10	12	120	20.5	11.4	1.2	1.5	2.0	SE-40120TR	LTW-15S
KGM^{β/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	2	4	10	12	120	19	11.15	1.7	2.0	3.0	SE-40120TR	LTW-15S
1616JX-2	●	●	32	16	-	4	9	16	120	24.5	15.15	2.4	3.0	3.0	SE-50125TR	LTW-20
KGM^{β/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	2	4	10	12	120	20.5	11	2.0	2.4	3.0	SE-40120TR	LTW-15S
1616JX-2.5	●	●	32	16	-	4	9	16	120	25.5	15	2.4	3.0	3.0	SE-50125TR	LTW-20
KGM^{β/L} 1616JX-3	●	●	32	16	-	4	9	16	120	25.5	14.8	2.4	3.0	4.0	SE-50125TR	LTW-20
KGM^{β/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^{β/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^{β/L} 1212F-2.5-85	●	●	25	12	2	4	10	12	85	19	11	2.0	2.4	3.0	SE-40120TR	LTW-15S

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	Screw	Wrench	Wrench	
KGM^{β/L} 1212H-3	●	●	12	4	6	12	100		10.8			3.0	3.0	SB-5TR	-	LTW-20	-	
1616H-3	●	●	16		7	16	100		14.8			3.0	4.0	-	HH5X16	-	LW-4	
2020K-3	●	●	20		7	20	125	27	18.8	2.4	9	3.0	4.0	-	HH5X16	-	LW-4	
2525M-3	●	●	25		7	25	150		23.8			3.0	4.0	-	HH5X25	-	LW-4	
2020K-4	●	●	20		7	20	125	27	18.3	3.4	10	4.0	5.0	-	HH5X16	-	LW-4	
2525M-4	●	●	25		7	25	150		23.3			4.0	5.0	-	HH5X25	-	LW-4	
2020K-5	●	●	20		7	20	125		17.8			4.0	5.0	-	HH5X16	-	LW-4	
2525M-5	●	●	25		7	25	150	27	22.8	4.4	10	5.0	6.0	-	HH5X25	-	LW-4	
3232P-5	●	●	32			32	170		29.8			5.0	6.0	-	HH5X25	-	LW-4	
2525M-8	●	●	25	7.5		25	150		22.0			5.0	6.0	-	HH5X25	-	LW-4	
3232P-8	●	●	32		10.5	32	170	40	29.0	6.0	25	8.0	8.0	-	HH6X25	-	LW-5	

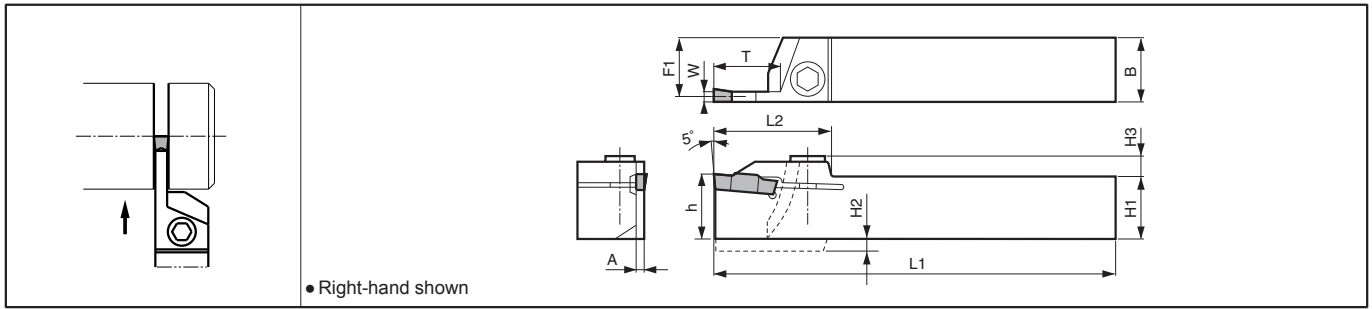
* Dimension T shows the distance from the Toolholder to the cutting edge.

* 4.0mm width Insert can be installed in KGM^{β/L} 1212H-3, but is not recommended due to the toolholder's rigidity.

● : Std. Item □ : Check Availability

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^β/L	2012K-2T17	●	●	20			12	125		11.15				2.0	3.0	SB-5TR	-	LTW-20	-
	2020K-2T17	●	●	20	-	7	20	125	33	19.15	1.7	17				-	HH5X16	-	LW-4
	2525M-2T17	●	●	25			25	150		24.15						-	HH5X25	-	LW-4
	1616H-3T20	●	●	16	4		16	100		14.8						-	HH5X16	-	LW-4
	2012K-3T20	●	●	20		7	12	125	36	10.8	2.4	20		3.0	4.0	SB-5TR	-	LTW-20	-
	2020K-3T20	●	●	20			20	125		18.8						-	HH5X16	-	LW-4
	2525M-3T20	●	●	25			25	150		23.8						-	HH5X25	-	LW-4
	2020K-4T20	●	●	20			20	125	36	18.3		20				-	HH5X16	-	LW-4
	2525M-4T20	●	●	25		7.5	25	150	36	23.3	3.4	20		4.0	5.0	-	HH5X25	-	LW-4
	2525M-4T25	●	●	25			25	150	41	23.3		25				-	HH5X25	-	LW-4
	2525M-5T25	●	●	25		8.5	25	150	42	22.8	4.4	25		5.0	6.0	-	HH5X25	-	LW-4
	3232P-5T25	●	●	32			32	170	42	29.8		25				-	HH5X25	-	LW-4
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. See the Table (H20) for the relationship between the Grooving Depth and the Cutting Dia.
 • When using GMG / GMM type (2-edge) Insert, set the grooving depth under 15mm.

Applicable Inserts

Applications	Grooving / Turning	Grooving / Turning	Grooving	Full-R / Copying	Full-R / Copying	Cut-Off	Cut-Off	Cut-Off	Cut-Off	Cut-Off
Ref. Page	G32	G32	G32	G32	G33	H16	H16	H16	H16	H16
Insert										
Toolholder								TMR		
KGM^β/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^β/L...2(T)	GMM2420..MW GMM3020..MW	GMG3020..MS GMM3020..MS	GMG2520..MG GMM3020..MG	GMM3020..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 GMN2.2 GMN3 GM%2.2 GM%3
KGM^β/L...2.5	GMM2420..MW GMM3020..MW	GMG3020..MS GMM3020..MS	GMG2520..MG GMM3020..MG	GMM3020..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^β/L...3(T)	GMM3020..MW GMM4020..MW	GMG3020..MS GMM3020..MS GMM4020..MS	GMM3020..MG GMM3520..MG GMM4020..MG	GMM3020..R GMM3020..R GMM4020..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^β/L...4(T)	GMM4020..MW GMM5020..MW	GMM4020..MS GMM4020..MS GMM5020..MS GMM5020..MS	GMM4020..MG GMM5020..MG	GMM4020..R GMM4020..R GMM5020..R GMM5020..R	-	-	-	-	GMN4..TK GM%4..TK	GMN4 GMN5 GM%4
KGM^β/L...5T	GMM5020..MW GMM6020..MW	GMM5020..MS GMM5020..MS GMM6020..MS GMM6020..MS	GMM5020..MG GMM6020..MG	GMM5020..R GMM5020..R GMM6020..R GMM6020..R	GMGA6020..R	-	-	-	-	GMN5 GMN6
KGM^β/L...6T	GMM6020..MW	GMM6020..MS GMM6020..MS	GMM6020..MG	GMM6020..R GMM6020..R	GMGA6020..R	-	-	-	-	GMN6
KGM^β/L...8	GMM8030..MW	-	GMM8030..MG	-	GMGA8030..R	-	-	-	-	-

For recommended cutting conditions, see page H25

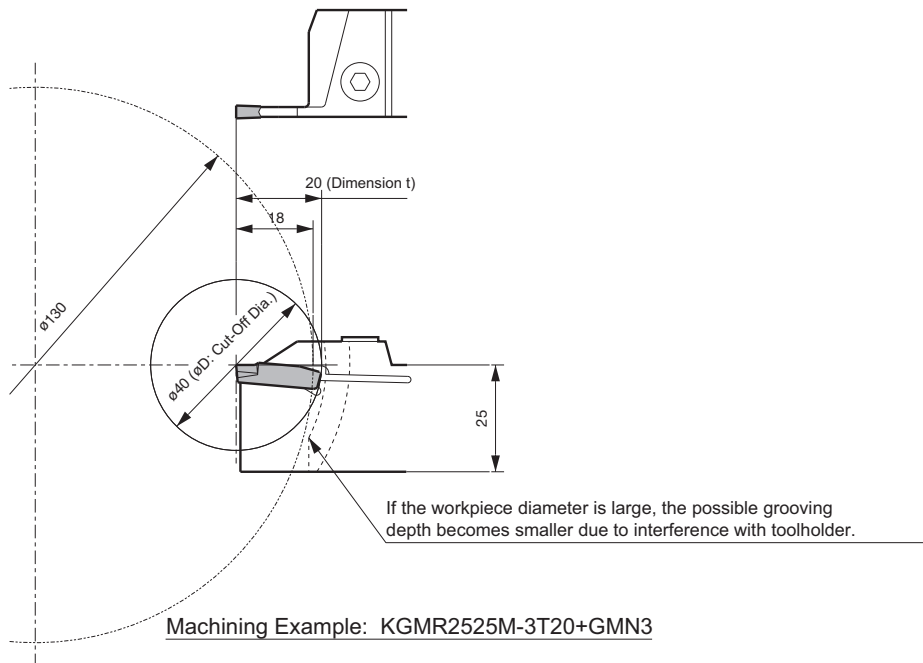
● : Std. Item □ : Check Availability



Cut-Off Toolholders

Possible cut-off diameter for 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. Table

Toolholder		øD (Cut-Off 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	∞	∞	∞	∞	∞	∞	∞	∞	∞	∞		
Grooving Depth t (mm)		16	15	14	13	12.5	12	11	10	9	8	7	6	5	4	3	2	1

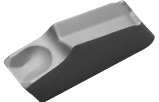
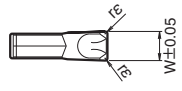
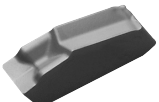
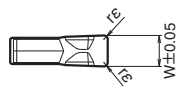
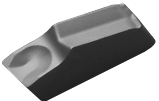
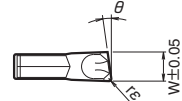
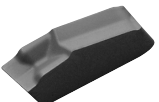
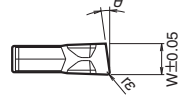
◆ KGM-T Possible Cutting Dia. Table (GMN, GM[®]/L type When using 1-edge inserts)

Toolholder		øD (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	∞	∞	∞	∞	∞	∞	∞	∞	∞	∞	
Grooving Depth t (mm)		30	27	25	23	22	20	19	18	17	16	15	14	under 13

Cut-Off Inserts

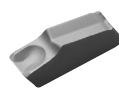
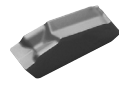
TKN / TK^{R/L}

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

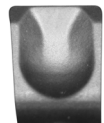
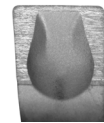
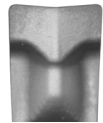
Insert	Description	Dimension (mm)		Angle (°)	Cermet	CVD Coated Carbide	PVD Coated Carbide		Carbide	Ref. Page for Applicable Toolholder						
		W	rε	θ			TN90	CR9025			PR660	PR930	KW10			
 Handed Insert shows Right-hand		TKN 1.6	1.6	0.15	-	●	●	●	●	●	H22 H24					
		TKN 2	2.2	0.20								●	●	●	●	●
		TKN 2.4	2.4	0.20								●	●	●	●	●
		TKN 3	3.1	0.25								●	●	●	●	●
		TKN 4	4.1	0.30								●	●	●	●	●
		TKN 4.8	4.8	0.30								●	●	●	●	●
		TKN 5	5.1	0.30								●	●	●	●	●
		TKN 6	6.4	0.35								●	●	●	●	●
		TKN 8	8.0	0.40								●	●	●	●	●
TKN 9	9.6	0.45	●	●	●	●	●									
 Low Feed		TKN 1.6-P	1.6	0.20	-	●	●	●	●	H22 H24						
		TKN 2-P	2.2	0.20							●	●	●	●	●	
		TKN 3-P	3.1	0.25							●	●	●	●	●	
 Lead Angle		TK ^{R/L} 1.6	1.6	0.15	8°	R	●	●	R	●	H22 H24					
		TK ^{R/L} 2	2.2	0.20								●	●	●	●	●
		TK ^{R/L} 2.4	2.4	0.20								●	●	●	●	●
		TK ^{R/L} 3	3.1	0.25								●	●	●	●	●
		TK ^{R/L} 4	4.1	0.30								●	●	●	●	●
 Low Feed / Lead-Angled		TK ^{R/L} 1.6-P	1.6	0.20	8°	R	●	●	R	H22 H24						
		TK ^{R/L} 2-P	2.2	0.20							●	●	●	●	●	
		TK ^{R/L} 3-P	3.1	0.25							●	●	●	●	●	
		TK ^{R/L} 4-P	4.1	0.30							●	●	●	●	●	

For recommended cutting conditions, see page [H25](#)

Cut-Off Tools

Cutting Range	Chipbreaker	Advantage
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.

Insert's Edge Shape (CERACUT Cut-Off)

Edge Shape	Chamfer + hone	Sharp Edge	Hone
			
Std. Chipbreaker	TN90 CR9025 / PR660	PR930 / KW10	-
P-Chipbreaker	-	-	TN90 / CR9025 PR660 / PR930 / KW10

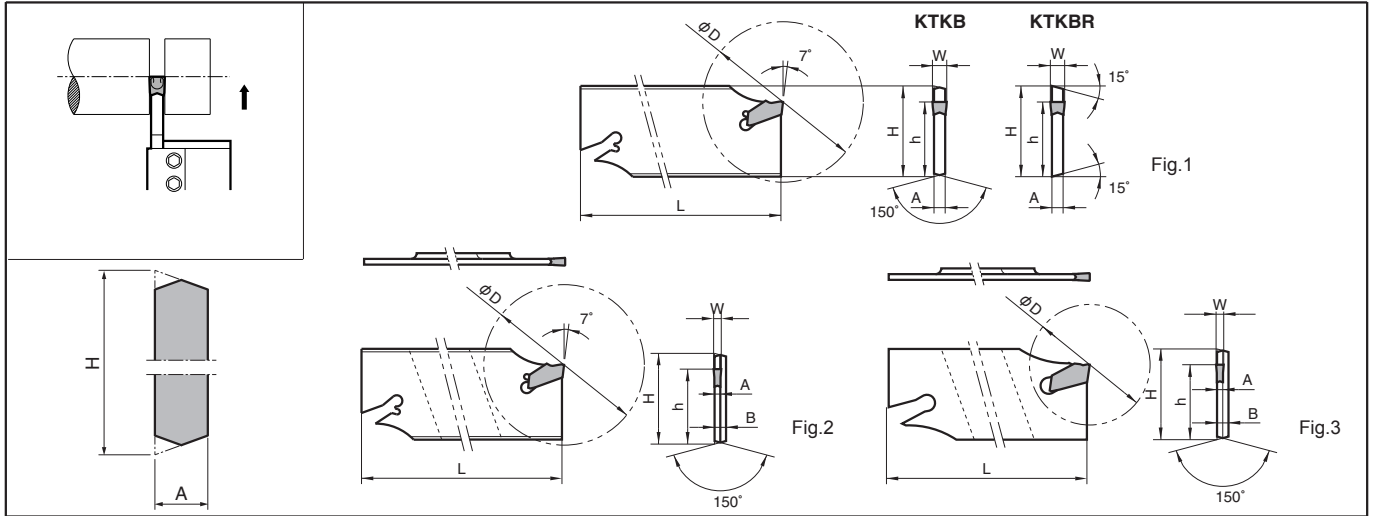
* Sharp Edge Spec. can reduce cutting resistance 40% less than that of chamfer edge.

● : Std. Item □ : Check Availability R : Std. Item (R-hand Only) L : Std. Item (L-hand Only)

Inserts are sold in 10 piece boxes

Cut-Off Blades

KTKB-S / KTKB-SS



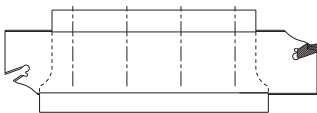
Blade Dimensions

Description	Std.	Cutting Dia. ϕD_{max}	Dimension (mm)					Width (mm)	Drawing	Applicable Inserts \bullet H21				Applicable Block \bullet H23
			H	h	B	L	A			TKN	TKN-P	TK β /L	TK β /L-P	
KTKB 19-1SS	\bullet	32	19	15.7	2.4	86	1.2	1.6	Fig.3	TKN1.6	TKN1.6-P	TK β /L1.6	TK β /L1.6-P	KTKTB 16-19 20-19
KTKB 26-1SS	\bullet	35	26	21.4	2.4	110	1.2	1.6	Fig.3	TKN1.6	TKN1.6-P	TK β /L1.6	TK β /L1.6-P	KTKTB 16-26 20-26
KTKB 32-1SS	\bullet	35	32	25	2.4	150	1.2	1.6	Fig.3	TKN1.6	TKN1.6-P	TK β /L1.6	TK β /L1.6-P	KTKTB 20-32 25-32 32-32 KTKTBF 25-32 32-32
KTKB 19-2S	\bullet	40	19	15.7	-	86	1.8	2.2 2.4	Fig.1	TKN2 TKN2.4	TKN2-P	TK β /L2 TK β /L2.4	TK β /L2-P	KTKTB 16-19 20-19
KTKB 26-2S	\bullet	50	26	21.4	-	110	1.8	2.2 2.4		TKN2 TKN2.4	TKN2-P	TK β /L2 TK β /L2.4	TK β /L2-P	KTKTB 16-26 20-26
KTKB 26-3S	\bullet	75					2.6	3.1		TKN3	TKN3-P	TK β /L3	TK β /L3-P	
KTKB 26-4S	\bullet	80					3.4	4.1		TKN4	-	TK β /L4	-	
KTKB 26-5S	\bullet	80					4.2	4.8 5.1		TKN4.8 TKN5	-	TK β /L5	-	
KTKB 32-2S	\bullet	50					32	25	-	150	1.8	2.2 2.4	TKN2 TKN2.4	
KTKB 32-3S	\bullet	100	2.6	3.1	TKN3	TKN3-P					TK β /L3	TK β /L3-P		
KTKB 32-4S	\bullet	100	3.4	4.1	TKN4	-					TK β /L4	-		
KTKB 32-5S	\bullet	120	4.2	4.8 5.1	TKN4.8 TKN5	-					TK β /L5	-		
KTKB 32-6S	\bullet	120	5.4	6.4	TKN6	-					-	-		
KTKB β /L 32-8S	\bullet	120	32	25	-	150	6.8	8.0	TKN8	-	-	-		
KTKB β /L 32-9S	R	120					8.0	9.6	TKN9	-	-	-		

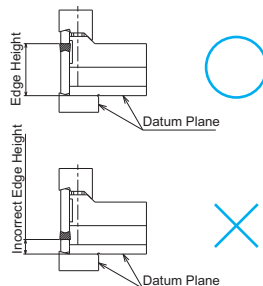
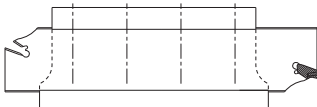
Note) 1. Suffix "-SS" means silver coating.
2. Releasing wrench is "LTK-5".
* Dimension H shows virtual apex distance.

How to install toolblock and blade.

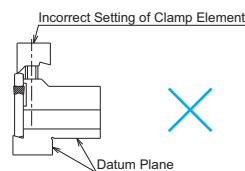
Correct way



Incorrect way

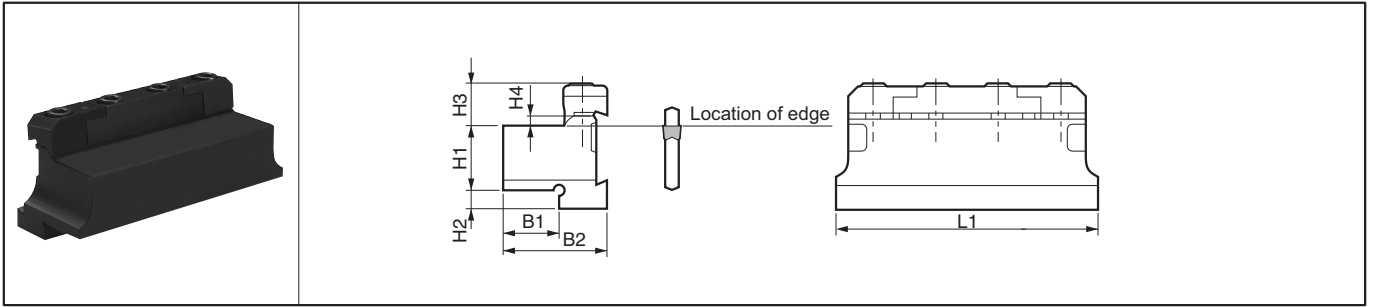


Incorrect Setting of Clamp Element

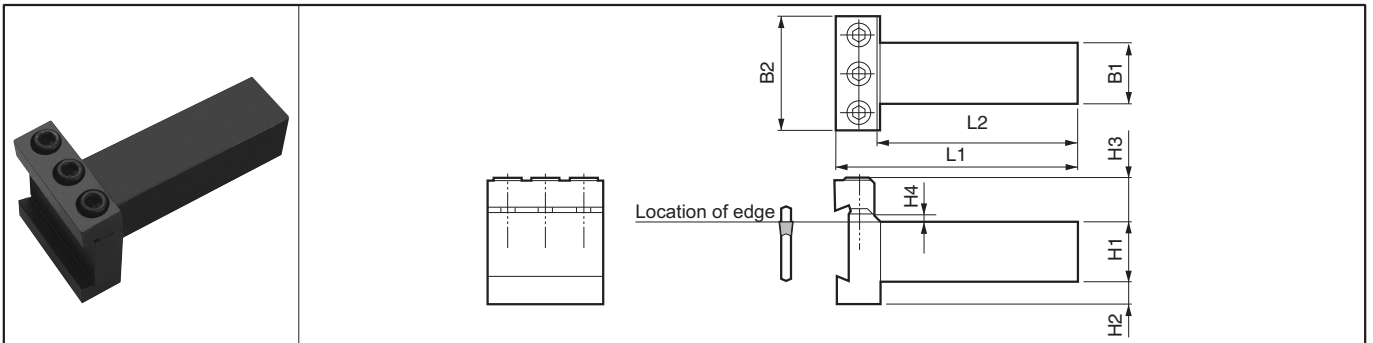


If the clamp element is mounted backwards, a large gap will occur between the clamp and the toolblock and the blade may come off during cutting. Be careful when installing the clamp for safety reasons.

KTKTB (Separate type)



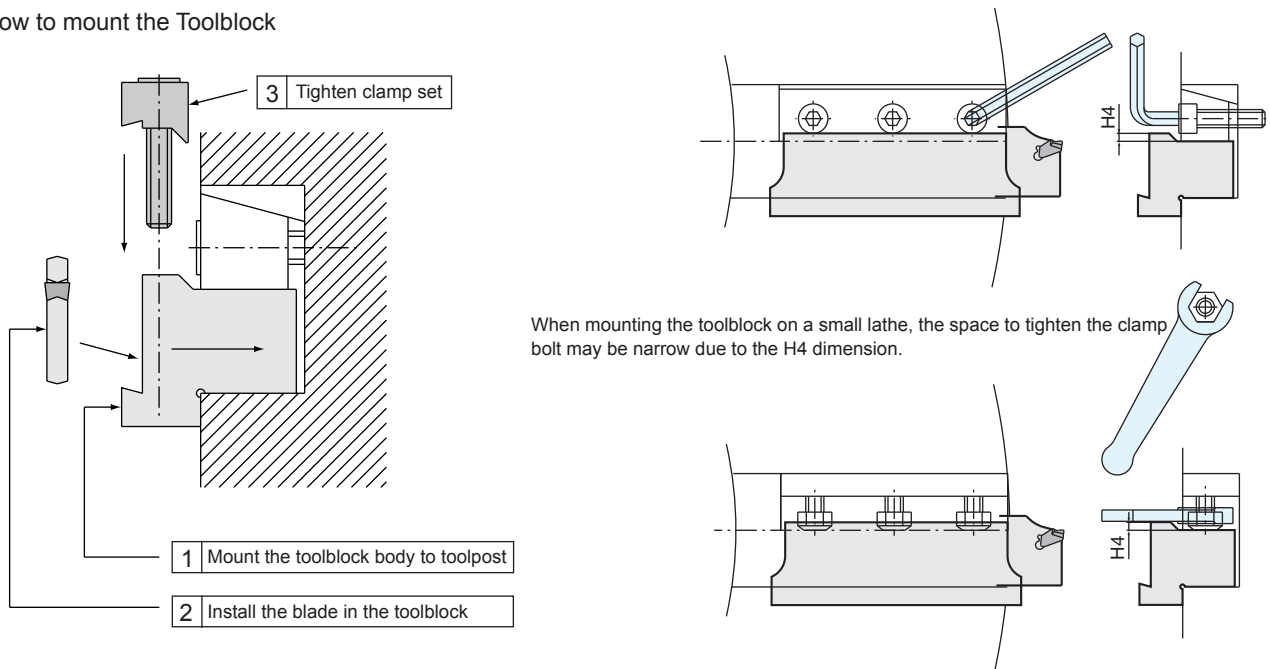
KTKTBF (Separate / Perpendicular type)



Toolblock Dimensions

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

How to mount the Toolblock

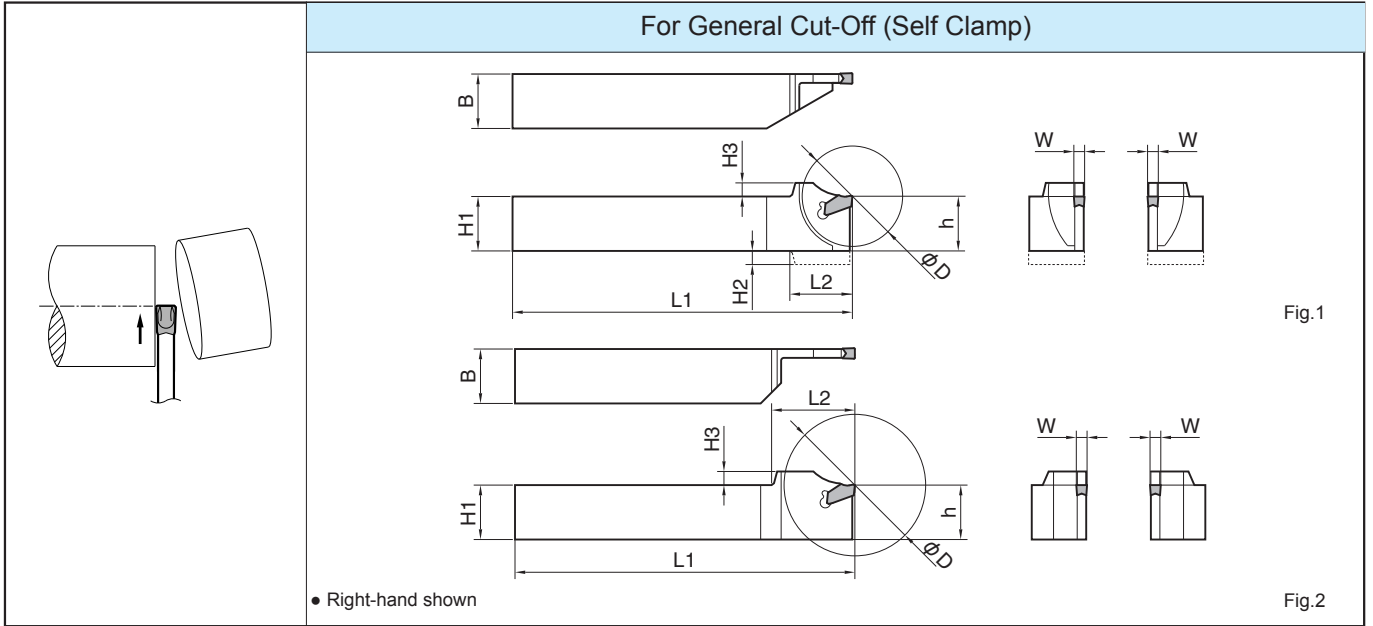


● : Std. Item □ : Check Availability R : Std. Item (R-hand Only) L : Std. Item (L-hand Only)



Cut-Off Toolholders (Integral Shank)

KTKH-S



Toolholder Dimensions

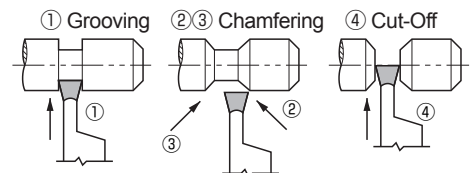
Description	Std.		Cut-Off Dia. ØDmax	Dimension (mm)						Width (mm) W	Drawing	Spare Parts Releasing Wrench 	Ref. Page for Recommended Cutting Conditions
	R	L		H1=h	H2	H3	B	L1	L2				
KTKH^{R/L} 1010F-2S	●	●	30	10	5	4	10	80	18.6	2.2 2.4	Fig. 1	LTK-5	H25
1212H-2S	●	●	33	12	4	5	12	100	19.8				
1612H-2S	●	●	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				
1612H-3S	●	●	36	16	4	4	12	100	21.7	3.1	Fig. 1		
1616H-3S	●	●	36	16	4	4	16	100	21.7		Fig. 1		
2012K-3S	●	●	41	20	-	5	12	125	25.3		Fig. 2		
2020K-3S	●	●	52	20	-	5	20	125	31.0	4.1	Fig. 1		
2525M-3S	●	●	53	25	-	5	25	150	31.5		Fig. 2		
2012K-4S	●	●	44	20	-	5	12	125	26.3		Fig. 1		
2020K-4S	●	●	62	20	-	5	20	125	35.0	4.8, 5.1	Fig. 2		
2525M-4S	●	●	68	25	-	5	25	150	38.0		Fig. 2		
2525M-5S	●	●	79	25	-	5	25	150	43.5	3.1	Fig. 1		
KTKH^{R/L} 2020K-3T17S	●	●	35	20	-	5	20	125	21.8				
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	H21			
Insert				
Toolholder	TKN2 TKN2.4	TKN2-P	TK ^{R/L} 2 TK ^{R/L} 2.4	TK ^{R/L} 2-P
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

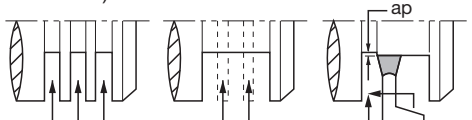


2. Wide Grooving

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 □ : Check Availability

Recommended Cutting Conditions

TKF12/16 Recommended Cutting Conditions

Workpiece Material	Recommended Grade (Vc m/min)			TKF12					TKF16		Remarks
	MEGACOAT	PVD Coated Carbide	Carbide	Width W (mm)					Width W (mm)		
	PR1225	PR1025	KW10	0.5	0.7	1.0	1.5	2.0	1.5	2.0	
				Feed Rate (mm/rev)					Feed Rate (mm/rev)		
Carbon Steel (SxxC)	★ 70 ~ 150	☆ 60 ~ 130	-	0.01 ~ 0.02	0.01 ~ 0.03	0.01 ~ 0.04 (0.01 ~ 0.05)	0.01 ~ 0.04 (0.01 ~ 0.07)	0.01 ~ 0.04 (0.01 ~ 0.07)	0.02 ~ 0.07 (0.02 ~ 0.1)	0.02 ~ 0.07 (0.02 ~ 0.1)	Coolant
Alloy Steel (SCM)	★ 70 ~ 150	☆ 60 ~ 130	-	0.01 ~ 0.02	0.01 ~ 0.03	0.01 ~ 0.04 (0.01 ~ 0.05)	0.01 ~ 0.04 (0.01 ~ 0.07)	0.01 ~ 0.04 (0.01 ~ 0.07)	0.02 ~ 0.07 (0.02 ~ 0.1)	0.02 ~ 0.07 (0.02 ~ 0.1)	
Stainless Steel (SUS304)	★ 60 ~ 120	☆ 50 ~ 100	-	0.005 ~ 0.015	0.01 ~ 0.02	0.01 ~ 0.02 (0.01 ~ 0.03)	0.01 ~ 0.02 (0.01 ~ 0.03)	0.01 ~ 0.02 (0.01 ~ 0.03)	0.01 ~ 0.04 (0.02 ~ 0.04)	0.01 ~ 0.04 (0.02 ~ 0.04)	
Cast Iron (FC/FCD)	-	-	★ 50 ~ 100	0.01 ~ 0.03	0.01 ~ 0.04	0.01 ~ 0.05	0.01 ~ 0.05	0.01 ~ 0.05	0.02 ~ 0.08	0.02 ~ 0.08	
Aluminium	-	-	★ 200 ~ 450	0.01 ~ 0.03	0.01 ~ 0.04	0.01 ~ 0.05	0.01 ~ 0.05	0.01 ~ 0.05	0.02 ~ 0.08	0.02 ~ 0.08	

※ (): Tough edge type (TKF..T..)

★ : 1st Recommendation

☆ : 2nd Recommendation

Workpiece Material	Vc (m/min)	PCD		Remarks
		KPD001		
		Grooving	Traversing	
Aluminium	200 ~ 500			Coolant
	Feed Rate (mm/rev)	0.01 ~ 0.03	0.02 ~ 0.12	
Brass	100 ~ 350			
	Feed Rate (mm/rev)	0.01 ~ 0.05	0.02 ~ 0.15	

H



Cut-off



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

Workpiece Material	Recommended Insert Grade (Vc: m/min)				Dimension (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	
Non-ferrous Metals	-	-	-	-	★ 200~450	0.01~0.05	0.05~0.10	0.05~0.20	0.05~0.25	

• 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^{1/2} type Insert)

Workpiece Material	Recommended Insert Grade (Vc: m/min)				Dimension (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	☆ 60~40	★ 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	
Non-ferrous Metals	-	-	-	-	★ 100~450	0.02~0.10	0.05~0.10	0.05~0.20	0.05~0.25	0.10~0.25	



★ : 1st Recommendation ☆ : 2nd Recommendation

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

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



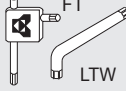
Alternative Toolholder Reference Table for Cut-off Toolholder

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	H18
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 Diameter	Spare Parts			Description	Cut-Off Diameter	Remarks	Ref. Page	
		Supplied wrench	Clamp Bolt	Wrench					
									
KTKH [®] /L 0808K-1.6-125B	φ 10				-	-	No replacement	H18	
KTKH [®] /L 1010K-1.6-125B	φ 20	-	SE-40120TR	FT-15	KGM [®] /L 1010JX-1.5	φ 20			
KTKH [®] /L 1212M-1.6-150B	φ 25				KGM [®] /L 1212JX-1.5	φ 25			
KTKH [®] /L 1414M-1.6-150B	φ 26				-	-	No replacement		
KTKH [®] /L 1010K-2-125B	φ 20	-	SE-40120TR	FT-15	KGM [®] /L 1010JX-2	φ 20			
KTKH [®] /L 1212M-2-150B	φ 25				KGM [®] /L 1212JX-2	φ 25			
KTKH [®] /L 1616M-2-150B	φ 32				SE-50125TR	LTW-20	KGM [®] /L 1616JX-2		φ 32
KTKH [®] /L 1616M-3-150B	φ 32	KGM [®] /L 1616JX-3	φ 32						
KTKHR 1010K-2-125S	φ 30	LTK-5			KGMR 1010JX-2	φ 20	Processing diameter is small.		
KTKH [®] /L 1212M-2-150S	φ 30					KGM [®] /L 1212JX-2	φ 25		Processing diameter is small.
KTKH [®] /L 1616M-2-150S	φ 36					KGM [®] /L 1616JX-2	φ 32		Processing diameter is small.
KTKH [®] /L 1616M-3-150S	φ 45					KGM [®] /L 1616JX-3	φ 32		Processing diameter 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.