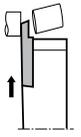
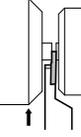
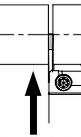
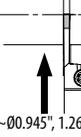
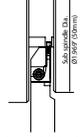
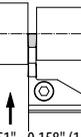
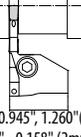
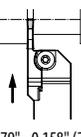
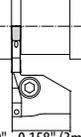
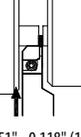
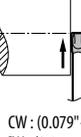
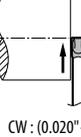




Overview		H2~H5
KTKF (Small Diameter)		H6~H19
Inserts	TKF	H6
Toolholders	KTKF	H9
	KTKF (Goose-Neck)	H10
	KTKF (Y-Axis)	H12
	KTKF-JCTM (Coolant-Through)	H14
	KTKF-S (Sub-Spindle)	H18
KGZ (Small Diameter)		H20~H31
Inserts	GZM / GZG / GZMS	H22
Toolholders	KGZ-JCTM (Coolant-Through)	H24
	KGZ (Standard)	H26
	KGZS (Sub-Spindle)	H28
KGD		H32~H49
Inserts	GDM / GDG / GDMS	H32
Toolholders	KGD (for Small Parts)	H34
	KGDS (Sub-Spindle)	H36
	KGD-JCTM (for Small Parts, Coolant-Through)	H39
	KGD (Integral Type)	H41
	KGD-S (0° SwitchBlade Type)	H43
	KGD-JCT (Coolant-Through)	H46
KPK		H50~H62
Inserts	PKM	H52
Blades	KPKB-JCT (Coolant-Through Blades)	H54
	KPKB (Blades)	H55
Tool Blocks	KPKTB-JCT (Coolant-Through Tool Blocks)	H56
	KTKTB / KTKTBF (Tool Blocks)	H57
Shank Type Toolholders	KPKH-JCT (Coolant-Through Toolholders)	H61
	KPKH (Standard Toolholders)	H62
KTK		H63~H69
Inserts	TKN / TK	H64
Blades	KTKB-SS / KTKB-S	H66
Shank Type Toolholders	KTKH (for Small Parts, Long Shank)	H67
	KTKH (Standard Toolholders)	H68

Product Lineup

<p>Small Diameter Cut-Off</p> <p>CUTDIA Ø0.197"~Ø0.630" (Ø5mm~Ø16mm)</p>	<p>KTKF </p>  <p>CW : (0.020"~0.079") CW : (0.5mm~2.0mm)</p>	<p>KTKF-JCTM </p>  <p>CW : (0.020"~0.079") CW : (0.5mm~2.0mm)</p>		<p>Sub Spindle Tooling</p> <p>KTKF-S </p>  <p>CW : (0.039"~0.079") CW : (1.0mm~2.0mm)</p>	
<p>KGZ (Screw Clamp)</p> <p>CUTDIA Ø0.472"~Ø2.008" (Ø12mm~Ø51mm)</p>	<p>KGZ </p>  <p>CW : 0.051"~0.118" (1.3~3mm)</p>	<p>KGZ-JCTM </p>  <p>CUTDIA : ~Ø0.945", 1.260" (~Ø24, Ø32) CW : 0.051"~0.118" (1.3~3mm)</p>			<p>Sub Spindle Tooling</p> <p>KGZS </p>  <p>CW : 0.051"~0.118" (1.3~3mm)</p>
<p>KGD (Bolt Clamp)</p> <p>CUTDIA Ø0.472"~Ø1.575" (Ø12mm~Ø50mm)</p>	<p>KGD </p>  <p>CW : 0.051"~0.158" (1.3mm~4mm)</p>	<p>KGD-JCTM (Small Diameter) </p>  <p>CUTDIA : ~Ø0.945", 1.260" (~Ø24, Ø32) CW : 0.079"~0.158" (2mm~4mm)</p>	<p>KGD-S </p>  <p>CW : 0.079"~0.158" (2mm~4mm)</p>	<p>KGD-JCT </p>  <p>CW : 0.079"~0.158" (3mm~4mm)</p>	<p>Sub Spindle Tooling</p> <p>KGDS </p>  <p>CW : 0.051"~0.118" (1.3~3mm)</p>
<p>KPK (1-edge Insert)</p> <p>CUTDIA ~Ø4.724" (~Ø120mm)</p>	<p>Toolholder Type</p> <p>CUTDIA Ø1.378"~Ø2.441" (Ø35mm~Ø79mm)</p>	<p>KPKH (-JCT) </p>  <p>CW : (0.079"~0.197") CW : (2.0mm~5.0mm)</p>		<p>Blade Type</p> <p>CUTDIA Ø1.378"~Ø2.441" (Ø32mm~Ø120mm)</p>	<p>KPKB (-JCT) </p>  <p>CW : (0.063"~0.378") CW : (1.6mm~9.6mm)</p>
<p>KTKB KTKH (1-edge Insert)</p> <p>CUTDIA ~Ø4.724" (~Ø120mm)</p>	<p>Toolholder Type</p> <p>CUTDIA Ø1.181"~Ø2.441" (Ø30mm~Ø79mm)</p>	<p>KTKH-S </p>  <p>CW : (0.020"~0.079") CW : (2.2mm~5.1mm)</p>		<p>Blade Type</p> <p>CUTDIA Ø1.378"~Ø2.441" (Ø32mm~Ø120mm)</p>	<p>KTKB-S(S) </p>  <p>CW : (0.063"~0.378") CW : (1.6mm~9.6mm)</p>

H CUT-OFF

Cut-Off Tools

Series Name	Shape	Advantage	Applications
KTKF		<ol style="list-style-type: none"> 1) Insert clamp is side screw type from the side 2) 2-edge insert 3) Max. Cut-Off Dia. : Ø0.630" (Ø16mm) 	<ol style="list-style-type: none"> 1) For cut-off and grooving of small workpieces 2) For small parts machining
KGZ		<ol style="list-style-type: none"> 1) Insert is clamped from top side 2) 1-edge and 2-edge inserts available 3) Max. Cut-Off Dia. : Ø1.260" (Ø32mm) 4) JCTM jet coolant-through styles available 	<ol style="list-style-type: none"> 1) PF Chipbreaker ... For low feed cut-off / grooving 2) PM Chipbreaker ... For medium feed cut-off / grooving 3) PH Chipbreaker ... For high feed cut-off / grooving 4) PG Chipbreaker ... Sharp edge for low cutting force cut-off / grooving
KGD		<ol style="list-style-type: none"> 1) Insert is clamped from top side 2) 1-edge and 2-edge inserts available 3) Integral Type and separate type are available 4) Max. Cut-Off Dia. : Ø1.969" (Ø50mm) 5) JCT / JCTM jet coolant-through styles available 	<ol style="list-style-type: none"> 1) PM Chipbreaker ... For Cut-Off 2) PH Chipbreaker ... For Cut-Off (High Feed Rate) / For Grooving 3) PG Chipbreaker ... For Cut-Off (for Small Parts Machining) / Sharp-Cutting Oriented 4) PF Chipbreaker ... For Cut-Off (for Small Parts Machining) / Low Feed 5) PQ Chipbreaker ... For Cut-Off (for Small Parts Machining) / Medium Feed
KPK		<ol style="list-style-type: none"> 1) Self-clamping system that opens/closes with key wrench 2) 1-edge insert 3) Molded chipbreaker 4) Blade Type, 5) Max. Cut-Off Dia. : Ø4.724" (Ø120mm) 	<ol style="list-style-type: none"> 1) For cut-off and deep grooving 2) PM Chipbreaker ... General Purpose Cut-Off (Lead angle styles available) 3) PH Chipbreaker ... Tough Edge / High Feed Rate
KTKB KTKH		<ol style="list-style-type: none"> 1) Self-Clamping System Tap the insert lightly with a plastic hammer to set it in the pocket 2) 1-edge insert 3) Blade type and Integral Shank type 4) Max. Cut-Off Dia. : Ø4.724" (Ø120mm) 	<ol style="list-style-type: none"> 1) For cut-off and deep grooving 2) Standard chipbreaker is general cut-off type Feed rate: over 0.004ipr P Chipbreaker is for cut-off at low feed rates Feed rate: 0.001~0.003ipr 

Tool Selection

		Small Diameter Cut-Off	KGZ	KGD	KPK	KTKB / KTKH
Insert	1. Insert's Edge Number	-	-	-	✓	✓
	1-edge Insert--- For Larger Dia. Workpiece (Max. 4.724" / Ø120mm)	✓	✓	✓	η	-
	2-edge Insert--- For Smaller Dia. Workpiece Cost per corner is reduced	TKF...S TKF...NB TKFS...S	GZM GZMS	GDM GDMS	PKM	TKN
	2. Use a neutral angle insert if there is no restriction to the size of boss left on part. (See Fig.3 Below)	TKF...DR	GZM-% (Fig. 2)	GDM-% (Fig. 2)	PKM-% (Fig. 1)	TK-% (Fig. 1)
	3. Use an angled insert to reduce the size of the remaining boss.	TKF...DR	-	-	GMM-S (Fig. 2)	-
4. Use a sharp-cornered lead-angled insert to make the remaining boss much smaller when machining small parts and thin parts.	✓	✓	✓	✓	✓	
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 side screw or self clamp toolholder if there is no space for clamping tools from top side (for small tools).	✓	-	-	-	-

How to select cut-off inserts with / without lead angle

- 1) Use a neutral angle insert, when remaining boss is not a concern
- 2) Use an angled insert to reduce the remaining boss. (See Fig.2)
- 3) Use a sharp-edged insert with lead angle to minimize the remaining boss when cutting small parts and thin parts. (See Fig.3)

Lead Angle Hand	N (Neutral)	R (Right-Hand)	L (Left-Hand)
	<ul style="list-style-type: none"> - Angled insert can reduce burr when cutting off. - When using a larger lead angle, cutting resistance becomes smaller. The feed rate should be reduced. 		

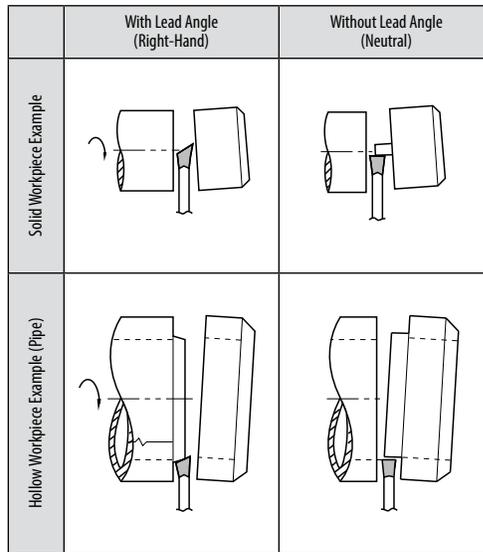


Fig.1

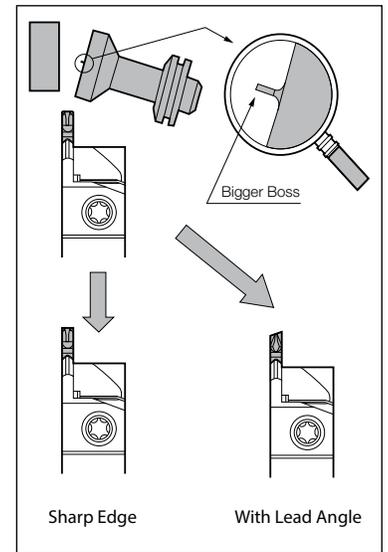


Fig.2

Caution

- 1) For PKM, PKM-%, TKN, and TN-%, set the cutting edge height 0.004"-0.008" (0.1-0.2mm) above the center height (Fig.3)
For other toolholders, set the cutting edge to the center height
- 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 when diameter is same as cut-off width

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

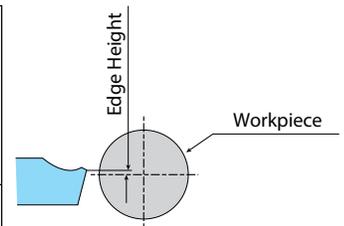
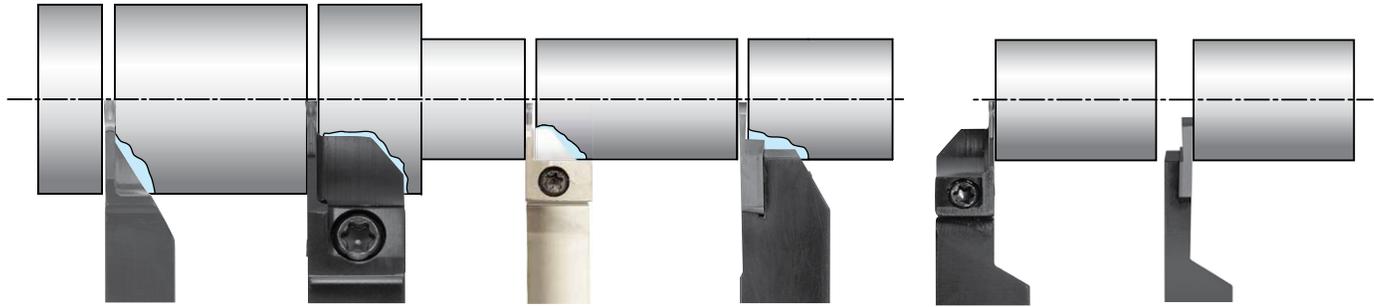


Fig.3 (PKM, PKM-%, TKN, and TN-%)

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

Small Diameter Cut-Off ~Ø2.008" / ~51mm

Small Shank



KPKH / KTKH-S	KGD / KGD-JCTM	KGZ / KGZ-JCTM	KTKF / KTKF-JCTM	KGZS / KGDS	KTKF-S
CUTDIA ~Ø1.300" (~Ø45mm) Shank: 0.375"~0.500" (10mm~25mm) CW: 0.063"~0.094" (2.2mm~4.1mm) Self Clamp	CUTDIA ~Ø1.653" / ~Ø42mm Shank: 0.0.375"~0.750" 10mm~20mm CW: 0.059"~0.157" 1.3mm~4.0mm Top Clamp	CUTDIA ~Ø2.008" / ~Ø51mm Shank: 0.375"~0.750" 10mm~25mm CW: 0.051"~0.118" 1.3mm~3.0mm Top Clamp	CUTDIA ~Ø0.625" / ~Ø16mm Shank: 0.375"~0.625" 10mm~25mm CW: 0.020"~0.079" 0.5mm~2.0mm Side Screw Clamp	CUTDIA ~Ø24mm Shank: 16mm CW: 1.3mm~3.0mm Top Clamp	CUTDIA ~Ø0.630" / ~Ø16mm Shank: 0.375"~0.500" 10mm~12mm CW: 0.5mm~2.0mm (KTKF-S) 0.059"~0.098" (KTKFS) 1.0mm~2.0mm (KTKFS) Side Screw Clamp

➔ H61
H62
H67

➔ H34~H35
H39~H40

➔ H24~H27

➔ H9, H10, H12, H15

➔ H28
H36

➔ H18

For KGZ



For KTKF / KTKF-S



For KPKH



For KTKH-S



For KGD



KTKH-S
(Self Clamp)

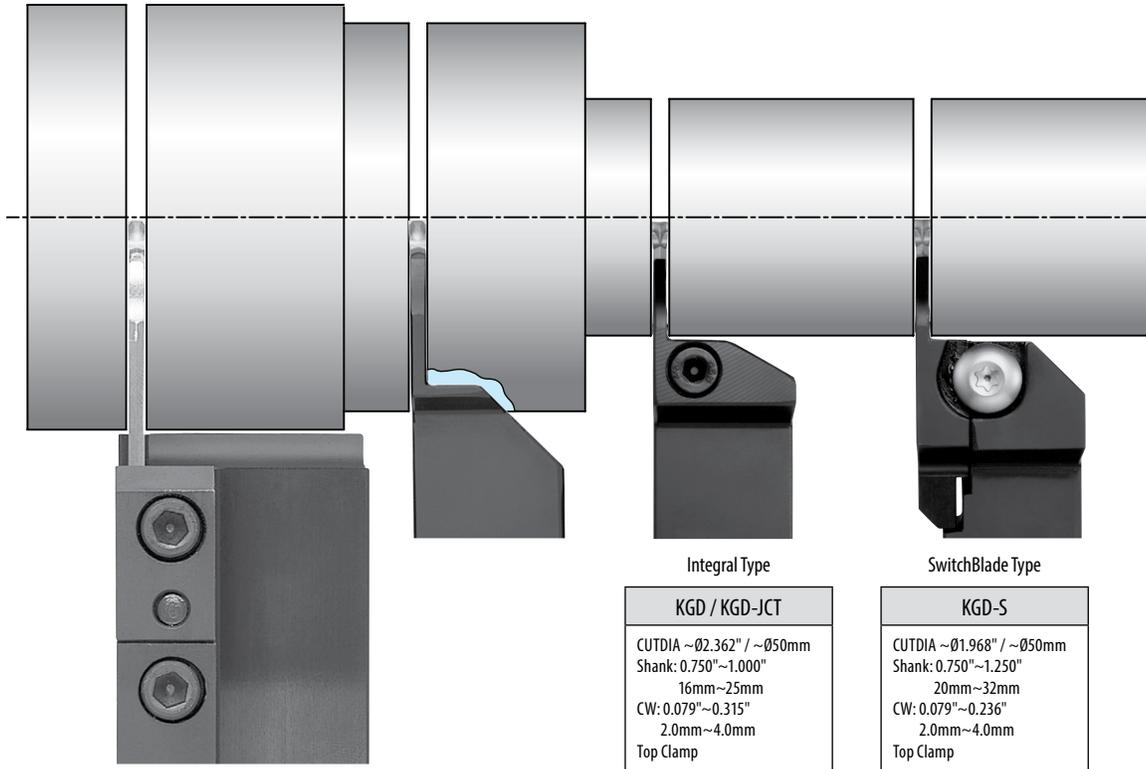
KGZ
(Top Clamp)

KGD
(Top Clamp)

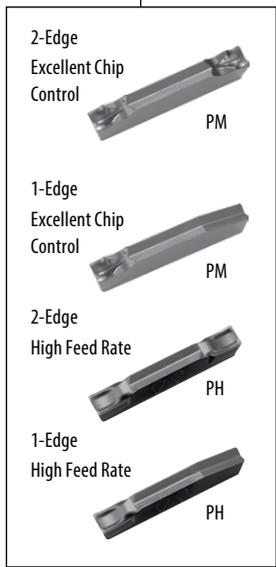
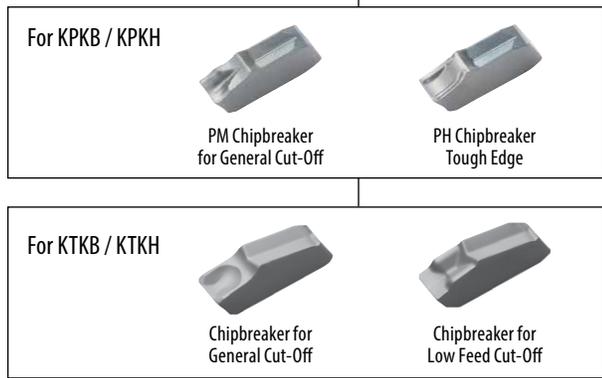
KTKF
(Side Screw Clamp)

H
CUT-OFF

General Cut-Off ~Ø3.100" / ~120mm



<p>Blade + Toolblock</p> <p>KPKB / KTKB</p> <p>CUTDIA ~Ø120mm Toolblock: 16mm~32mm CW: 0.063"~0.236" (KPKB) 1.6mm~6.0mm (KPKB) 0.063"~0.378" (KTKB) 1.6mm~9.6mm (KTKB) Self Clamp</p> <p>➡ H54, H55, H66</p>	<p>Integral Type</p> <p>KPKH / KTKH-S</p> <p>CUTDIA ~Ø3.100" / ~Ø79mm Shank: 0.750"~1.000" 20mm~25mm CW: 0.079"~0.197" (KPKH) 2mm~5mm (KPKH) 0.087"~0.201" (KTKH-S) 3.1mm~5.1mm (KTKH-S) Self Clamp</p> <p>➡ H61, H62, H67</p>	<p>Integral Type</p> <p>KGD / KGD-JCT</p> <p>CUTDIA ~Ø2.362" / ~Ø50mm Shank: 0.750"~1.000" 16mm~25mm CW: 0.079"~0.315" 2.0mm~4.0mm Top Clamp</p> <p>➡ H41, H42, H46</p>	<p>SwitchBlade Type</p> <p>KGD-S</p> <p>CUTDIA ~Ø1.968" / ~Ø50mm Shank: 0.750"~1.250" 20mm~32mm CW: 0.079"~0.236" 2.0mm~4.0mm Top Clamp</p> <p>➡ H43, H44</p>
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Blade + Toolblock		SwitchBlade Type	Integral Type		
KPKB	KTKB	KGD-S	KPKH	KTKH-S	KGD / KGD-JCT

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

TKF12

		Carbon Steel / Alloy Steel											P							
		Stainless Steel											M							
		Cast Iron											K							
		Non-Ferrous Metals											N							
Insert	Part Number	No. of Edges	Dimensions (mm)						Angle (°)	Tolerance (mm)		Carbide					Applicable Toolholder H9, H10 H12, H15 H18			
			CW		S	D1	RE	W1		CUTDIA	PSIRR	CW min.	CW max.							
			in	mm										DIC	PVD	-		PD1025	PR1725	PR1535
	TKF12R 050-S	2	0.020	0.5	8.7	5	0.03	3	5	0	-0.03	+0.03	●	●	●	●	●	KTKFR...-12 KTKFR...-12-Y KTKFR-12JCTM KTKFR...-12SA KTKFR...-12SB		
	TKF12R 070-S		0.028	0.7									8	●	●	●	●		●	
	TKF12R 100-S		0.039	1									12	●	●	●	●		●	
	TKF12R 125-S		0.049	1.25									12	●	●	●	●		●	
	TKF12R 150-S		0.059	1.5									12	●	●	●	●		●	
	TKF12R 200-S		0.079	2									12	●	●	●	●		●	
	TKF12L 050-S	0.020	0.5	8.7	5	0.03	3	5	0	-0.03	+0.03	●	●	●	●	●	KTKFL...-12 KTKFL-12JCTM KTKFL...-12SA KTKFL...-12SB			
	TKF12L 070-S	0.028	0.7									8	●	●	●	●		●		
	TKF12L 100-S	0.039	1									12	●	●	●	●		●		
	TKF12L 125-S	0.049	1.25									12	●	●	●	●		●		
TKF12L 150-S	0.059	1.5	12									●	●	●	●	●				
TKF12L 200-S	0.079	2	12									●	●	●	●	●				
	TKF12R 100-T	2	0.039	1	8.7	5	0.08	3	12	0	-0.03	+0.03	●	●	●	●	KTKFR...-12 KTKFR...-12-Y KTKFR-12JCTM KTKFR...-12SA KTKFR...-12SB			
	TKF12R 150-T		0.059	1.5									●	●	●	●		●		
	TKF12R 200-T		0.079	2									●	●	●	●		●		
	TKF12L 100-T		0.039	1									●	●	●	●		●	KTKFL...-12 KTKFL-12JCTM KTKFL...-12SA KTKFL...-12SB	
	TKF12L 150-T		0.059	1.5									●	●	●	●		●		
	TKF12L 200-T		0.079	2									●	●	●	●		●		
		TKF12R 050-S-16DR	2	0.020	0.5	8.7	5	0.03	3	5	16	-0.03	+0.03	●	●	●	●	KTKFR...-12 KTKFR...-12-Y KTKFR-12JCTM KTKFR...-12SA KTKFR...-12SB		
		TKF12R 070-S-16DR		0.028	0.7									8	●	●	●		●	●
		TKF12R 100-S-16DR		0.039	1									12	●	●	●		●	●
		TKF12R 125-S-16DR		0.049	1.25									12	●	●	●		●	●
TKF12R 150-S-16DR		0.059		1.5	12									●	●	●	●		●	
TKF12R 200-S-16DR		0.079		2	12									●	●	●	●		●	
TKF12L 050-S-16DR		0.020	0.5	8.7	5	0.03	3	5	16	-0.03	+0.03	●	●	●	●	KTKFL...-12 KTKFL-12JCTM KTKFL...-12SA KTKFL...-12SB				
TKF12L 070-S-16DR		0.028	0.7									8	●	●	●		●	●		
TKF12L 100-S-16DR		0.039	1									12	●	●	●		●	●		
TKF12L 125-S-16DR		0.049	1.25									12	●	●	●		●	●		
TKF12L 150-S-16DR	0.059	1.5	12									●	●	●	●		●			
TKF12L 200-S-16DR	0.079	2	12									●	●	●	●		●			
	TKF12R 100-T-16DR	2	0.039	1	8.7	5	0.08	3	12	16	-0.03	+0.03	●	●	●	●	KTKFR...-12 KTKFR...-12-Y KTKFR-12JCTM KTKFR...-12SA KTKFR...-12SB			
	TKF12R 150-T-16DR		0.059	1.5									●	●	●	●		●		
	TKF12R 200-T-16DR		0.079	2									●	●	●	●		●		
	TKF12L 100-T-16DR		0.039	1									●	●	●	●		●	KTKFL...-12 KTKFL-12JCTM KTKFL...-12SA KTKFL...-12SB	
	TKF12L 150-T-16DR		0.059	1.5									●	●	●	●		●		
	TKF12L 200-T-16DR		0.079	2									●	●	●	●		●		
		TKF12R 050-NB	2	0.020	0.5	8.7	5	0	3	5	0	-0.03	+0.03	●	●	●	●	KTKFR...-12 KTKFR...-12-Y KTKFR-12JCTM KTKFR...-12SA KTKFR...-12SB		
		TKF12R 070-NB		0.028	0.7									8	●	●	●		●	●
		TKF12R 100-NB		0.039	1									12	●	●	●		●	●
		TKF12R 150-NB		0.059	1.5									12	●	●	●		●	●
TKF12R 200-NB		0.079		2	12									●	●	●	●		●	
TKF12L 050-NB		0.020		0.5	8.7									5	0	3	5		0	-0.03
TKF12L 070-NB		0.028	0.7	8		●	●	●	●	●										
TKF12L 100-NB		0.039	1	12		●	●	●	●	●										
TKF12L 150-NB		0.059	1.5	12		●	●	●	●	●										
TKF12L 200-NB		0.079	2	12		●	●	●	●	●										

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

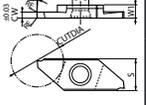
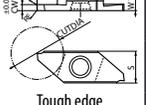
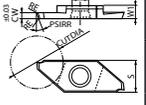
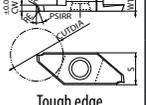
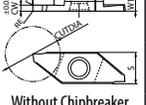
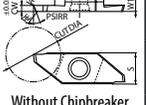
As Fig. 1 of H11 shows, the cut-off diameter of the insert (CUTDIA) is indicated when the top of the cut-off edge progresses 0.039" (1mm) from the center.

Right-hand shown

● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)

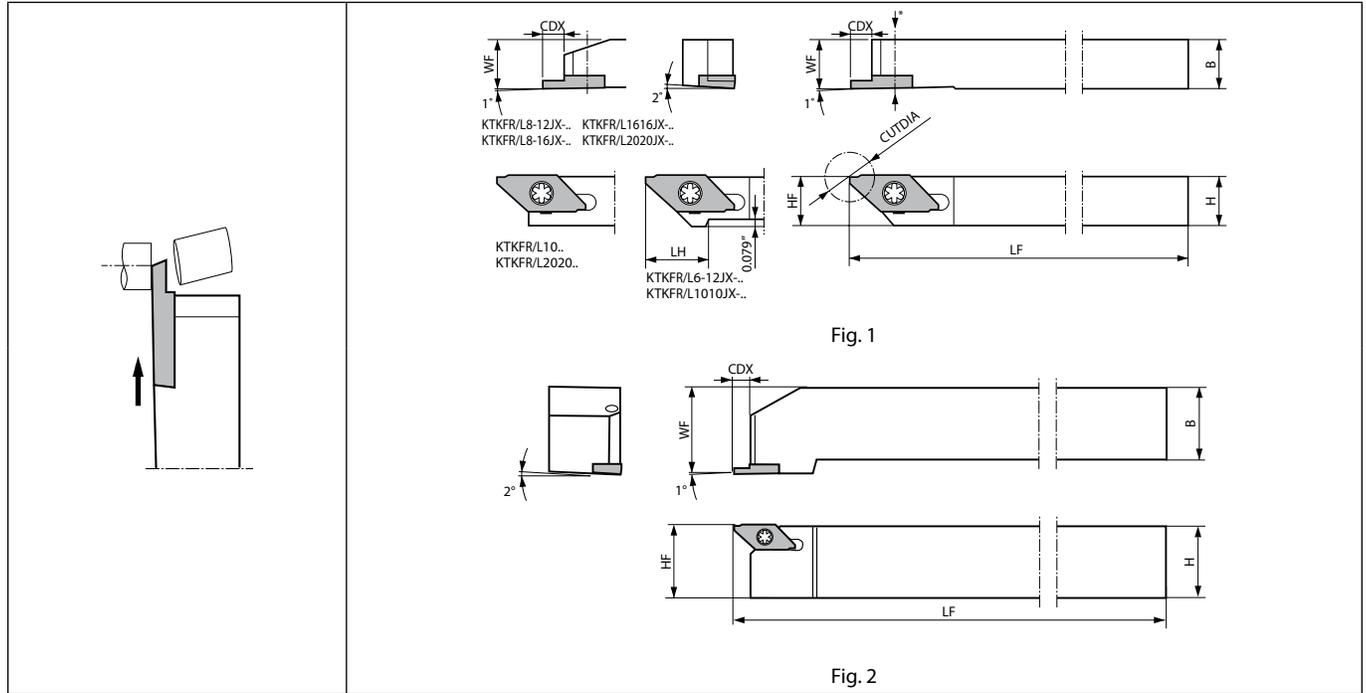
Contact your local Kyocera sales engineer to upgrade old products to new technology

TKF16

Insert		Part Number		No. of Edges		Dimensions (mm)							Angle (°)	Tolerance (mm)		Carbide				Applicable Toolholder H9, H15 H18
						CW		S	D1	RE	W1	CUTDIA		PSIRR	CW min.	CW max.	DLC	PVD	-	
						in	mm													
						PD1025	PR1725	PR1535	PR1725	KW10										
		TKF16R 150-S	200-S	2	0.059	1.5	9.5	5	0.05	4	16	0	-0.03	+0.03	●	●	●	●	KTKFR...-16 KTKFR-16JCTM KTKFR...-16SA KTKFR...-16SB	
		TKF16L 150-S	200-S		0.079	2									●	●	●	●		
		TKF16R 150-T	200-T	2	0.059	1.5	9.5	5	0.08	4	16	0	-0.03	+0.03	●	●	●	●	KTKFR...-16 KTKFR-16JCTM KTKFR...-16SA KTKFR...-16SB	
		TKF16L 150-T	200-T		0.079	2									●	●	●	●		
		TKF16R 150-S-16DR	200-S-16DR	2	0.059	1.5	9.5	5	0.05	4	16	16	-0.03	+0.03	●	●	●	●	KTKFR...-16 KTKFR-16JCTM KTKFR...-16SA KTKFR...-16SB	
		TKF16L 150-S-16DR	200-S-16DR		0.079	2									●	●	●	●		
		TKF16R 150-T-16DR	200-T-16DR	2	0.059	1.5	9.5	5	0.08	4	16	16	-0.03	+0.03	●	●	●	●	KTKFR...-16 KTKFR-16JCTM KTKFR...-16SA KTKFR...-16SB	
		TKF16L 150-T-16DR	200-T-16DR		0.079	2									●	●	●	●		
		TKF16R 150-NB	200-NB	2	0.059	1.5	9.5	5	0	4	16	0	-0.03	+0.03	●	●	●	●	KTKFR...-16 KTKFR-16JCTM KTKFR...-16SA KTKFR...-16SB	
		TKF16L 150-NB	200-NB		0.079	2									●	●	●	●		
		TKF16R 150-NB-20DR	200-NB-20DR	2	0.059	1.5	9.5	5	0	4	16	20	-0.03	+0.03	●	●	●	●	KTKFR...-16 KTKFR-16JCTM KTKFR...-16SA KTKFR...-16SB	
		TKF16L 150-NB-20DR	200-NB-20DR		0.079	2									●	●	●	●		

Lead angle (PSIRR) shows the angle when installed in toolholder.
 As Fig. 1 of H11 shows, the cut-off diameter of the insert (CUTDIA) is indicated when the top of the cut-off edge progresses 0.039" (1mm) from the center.
 Right-hand shown

KTKF



Right-hand shown | Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder.

Toolholder Dimensions

Unit	Part Number	Std. Item		Dimensions							Fig.	Spare Parts		Applicable Inserts H6~H8	
		R	L	CDX	H	B	LH	HF	LF	WF		Screw	Wrench		
Inch	KTKF% 6-12JX	●	●	0.236	0.375	0.375	0.590	0.375	4.750	0.375	1	SB-4590TRWN	FT-10	TKF12% ...	
	KTKF% 8-12JX	●	●		0.500	0.500	-	0.500		0.500					
	KTKF% 10-12JX	●	●		0.625	0.625	-	0.625		0.625					
	KTKF% 6-16JX	●	●	0.315	0.375	0.375	0.787	0.375	4.750	0.375					
	KTKF% 8-16JX	●	●		0.500	0.500	-	0.500		0.500					
	KTKF% 10-16JX	●	●		0.625	0.625	-	0.625		0.625					
mm	KTKF% 1010JX-12	●	●	6	10	10	15	10	120	10	1	SB-4590TRWN	FT-10	TKF12% ...	
	KTKF% 1212F-12	●	●		12	12	-	12	85	12					
	KTKF% 1212JX-12	●	●		16	16	-	16	120	16					
	KTKF% 1616JX-12	●	●		20	20	-	20	20	20					
	KTKF% 2020JX-12	●	●		25	25	-	25	150	30					2
	KTKF% 2525M-12	●													
	KTKF% 1010JX-16	●	●	8	10	10	20	10	120	10	1	SB-4590TRWN	FT-10	TKF16% ...	
	KTKF% 1212F-16	●	●		12	12	-	12	85	12					
	KTKF% 1212JX-16	●	●		16	16	-	16	120	16					
	KTKF% 1616JX-16	●	●		20	20	-	20	20	20					
	KTKF% 2020JX-16	●	●		25	25	-	25	150	30					2
	KTKF% 2525M-16	●													

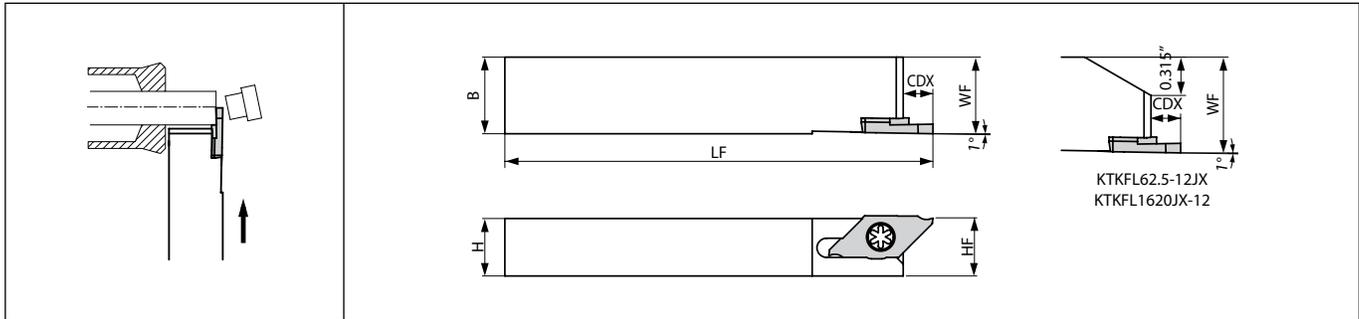
CDX shows the distance from the toolholder to the cutting edge.

Recommended Cutting Conditions H19

● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

KTKF (Goose-Neck Toolholder)



Left-hand shown | Left-hand Insert for Left-hand Toolholder.

Toolholder Dimensions

Unit	Part Number	Std. Item	Dimensions						Spare Parts		Applicable Inserts ● H6, H7	
			L	CDX	H	B	HF	LF	WF	Screw		Wrench
Inch	KTKFL 52-12JX 62.5-12JX	●	0.236	0.500	0.625	0.500	4.750	0.625	SB-4590TRWN	FT-10	TKF12L...	
		●		0.625	0.750	0.625		0.750				
mm	KTKFL 1216JX-12 1620JX-12	●	6	12	16	12	120	16	SB-4590TRWN	FT-10	TKF12L...	
		●		16	20	16		20				

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

Recommended Cutting Conditions ● H19

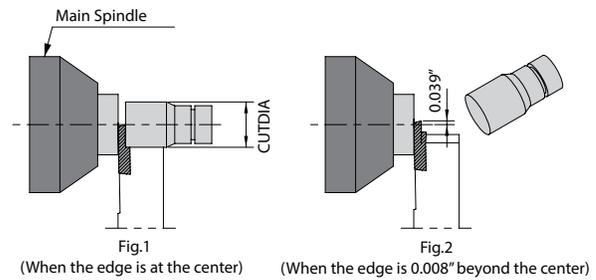
H
CUT-OFF

How to Use

1) When using main spindle only

Workpiece maximum CUTDIA (Fig.1) = CUTDIA in toolholder table

Even if the cutting edge runs beyond the center line (Fig.2), the insert does not contact the workpiece, since the workpiece falls off. (The clearance between the insert and the workpiece is 0.008")



2) When using both Main and Sub spindles

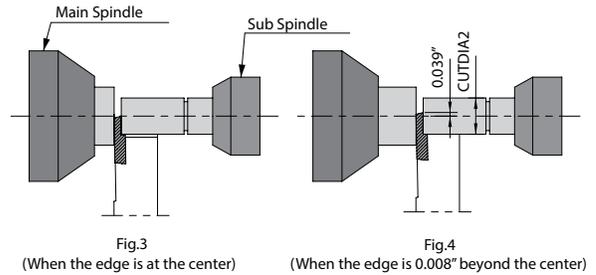
In this case, when the cutting edge runs beyond the center line, the insert will contact the workpiece, since the workpiece does not fall off.

Therefore the programmed distance beyond the center must be considered.

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

Workpiece maximum, CUTDIA2 (Fig.4) = [CUTDIA - 0.039"×2] (in)

(The clearance between the insert and the workpiece is 0.008")



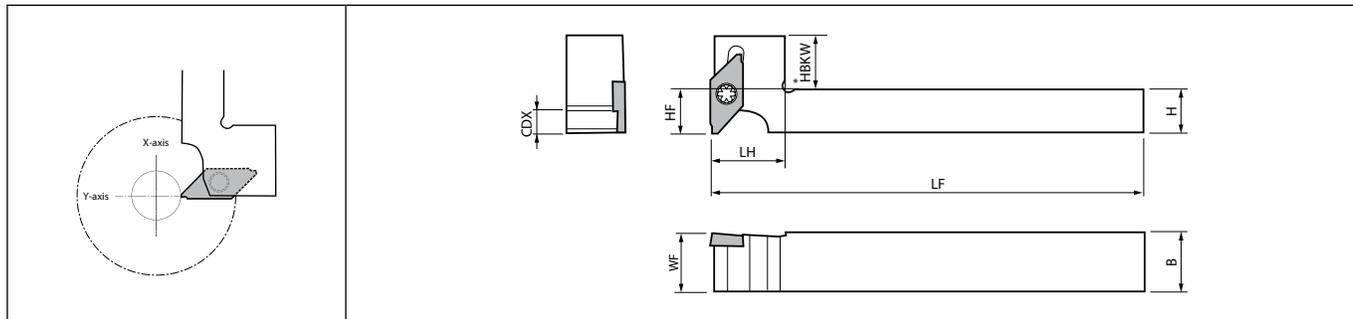
How to Select Edge Preparation

Troubleshooting

Problems	Countermeasures	Countermeasures						
		Lead Angle (PSIRR)		Edge Width		Name of Chipbreaker		
		No (0°)	Yes	Narrower	Wider	S	T	NB
Insert Fracture	Insert Fracture Prevention	Effective			Effective		Effective	Effective
Long Cutting Time	Cutting Time Reduction	Effective			Effective		Effective	Effective
Entangled Chips	Chip Entanglement Prevention	Effective		Effective		Effective		
Large Boss Remains	Small Boss Remains		Effective	Effective		Effective		
Ring Remains (Hollow Workpiece)	Prevention of Ring		Effective	Effective		Effective		
Deformation of thin walled workpiece (pipe)	Preventing Deformation		Effective	Effective		Effective		

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

KTKF (Y-Sxis Toolholder)



Right-hand shown | Right-hand Insert for Right-hand Toolholder.

Toolholder Dimensions

Unit	Part Number	Std. Item	Dimensions								Spare Parts		Applicable Inserts ➔ H6, H7	
			R	CDX	H	B	LH	HF	HBKW	LF	WF	Screw		Wrench
														
mm	KTKFR 1216JX-12-Y 1616JX-12-Y	●	6	12 16	16	20 25	12 16	15 11	120	16	SB-4590TRWN	FT-10	TKF12R...	

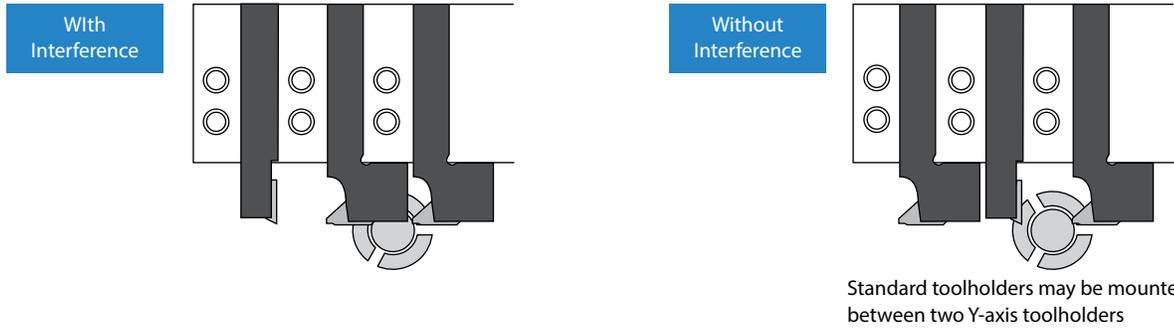
CDX shows the distance from the toolholder to the cutting edge.

Recommended Cutting Conditions ➔ H19

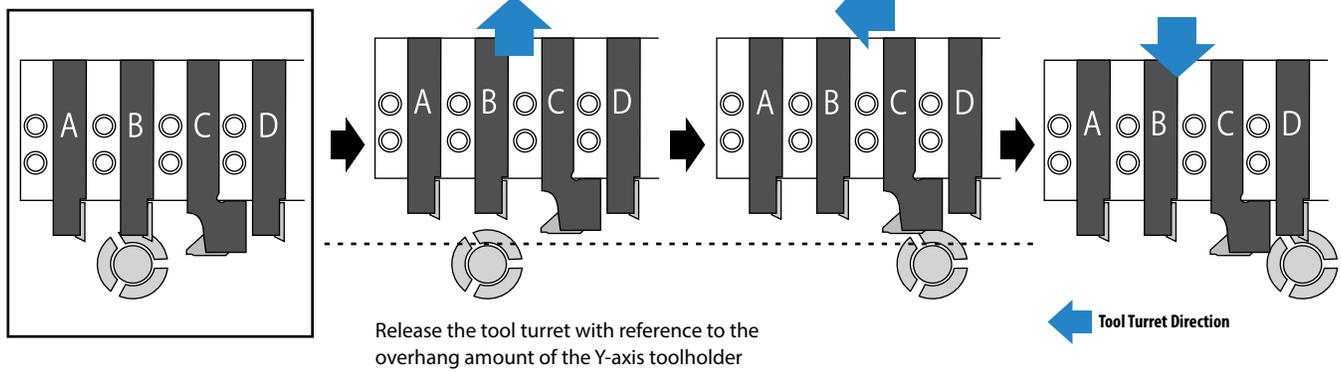
H CUT-OFF

Precautions for Using Y-Axis Toolholders

Do not use Y-axis toolholders side-by-side to prevent interference (Only two Y-axis holders can be used at the same time)



When changing the tool, set the retracted position with reference to the cutting edge of the Y-axis holder (When exchanging from tool B to D)



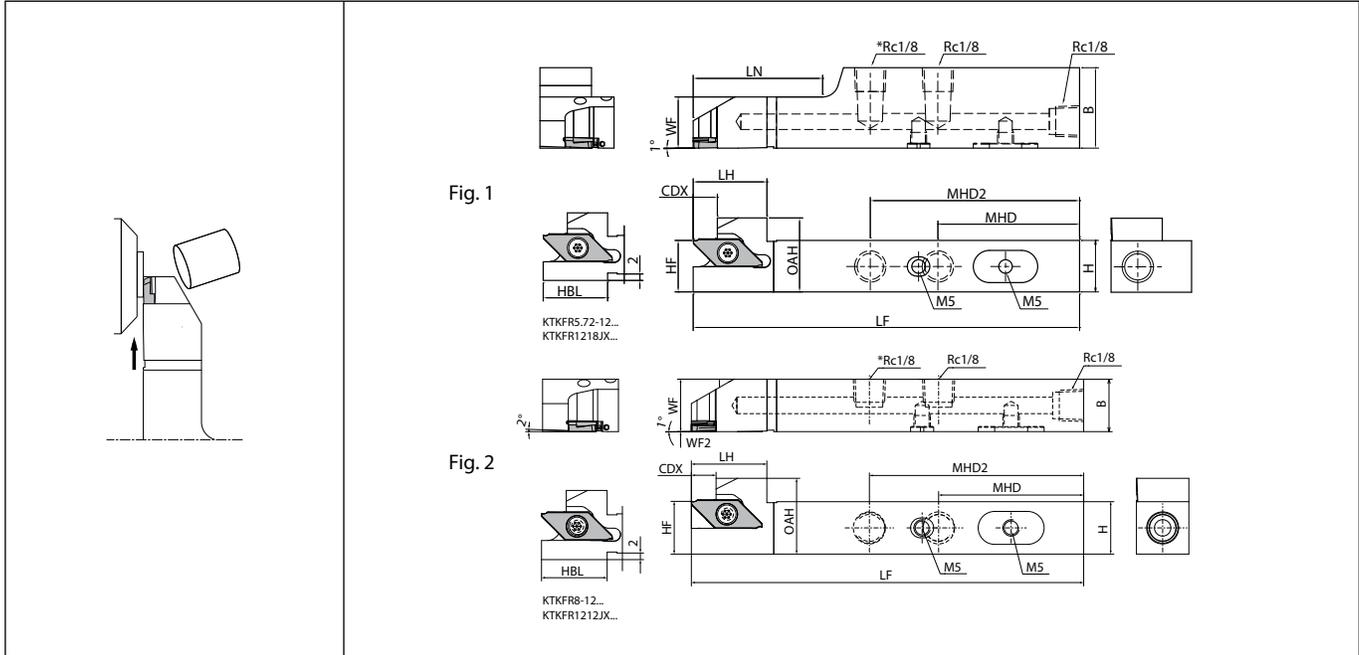
Note that using other toolholder styles together will result in different outside diameters

(Unit: mm)

Y-axis Toolholder Overhang	Examples	Overhang Amount : L			
		Available Outside Cutting Dia. (Ø)	20	22	25
20		A	Without Restriction	Without Restriction	Without Restriction
		B	13.0	13.0	13.0
		C	Without Restriction	Without Restriction	Without Restriction
25		A	38.0	58.0	Without Restriction
		B	14.9	13.6	13.0
		C	45.0	60.0	Without Restriction

- INSERT GRADES **A**
- TURNING INSERTS **B**
- CBN/PCD INSERTS **C**
- TURNING HOLDERS **D**
- SMALL TOOLS **E**
- BORING **F**
- GROOVING **G**
- CUT-OFF **H**
- THREADING **J**
- DRILLING **K**
- MILLING **M**
- QUICK CHANGE TOOLING **N**
- SPARE PARTS **P**
- TECHNICAL **R**
- INDEX **T**

KTKFR-JCTM (Coolant-Through Toolholders / Right-Hand(R))



Right-hand shown | Right-hand Insert for Right-hand Toolholder.

KTKFR5.72-..., KTKFR8-... : 2-Rc1/8

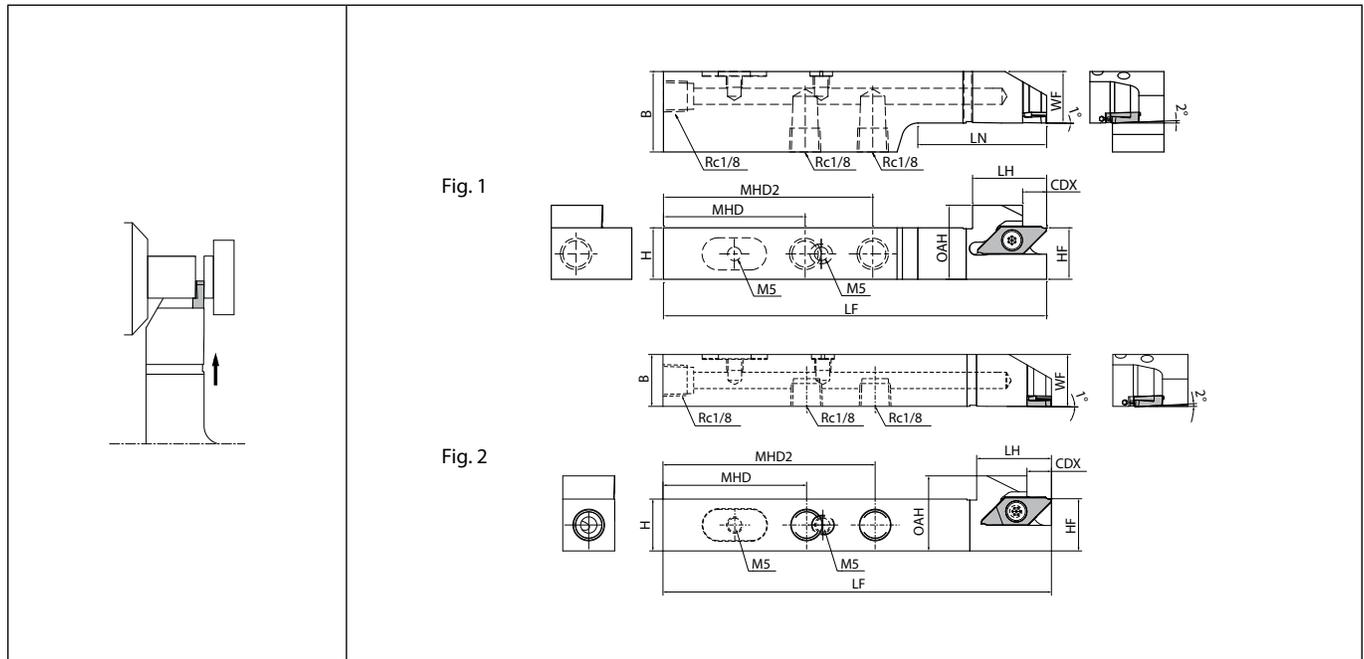
KTKFR1218-..., KTKFR1212-... : 2-Rc1/8

Toolholder Dimensions

Unit	Part Number	Std. Item	Dimensions											Fig.	Coolant Hole	Spare Parts				Applicable Inserts ● H6~H8	
			R	CDX	H	B	LH	OAH	MHD	MHD2	HF	HBL	LF			LN	WF	Plug	Plug		Screw
Inch	KTKFR 5.72-12JCTM	●	0.295	0.500	0.709	0.787	0.776	2.126	-	0.500	0.787	4.750	1.110	0.500	1	Yes	GP-1	HSSX4LP	SB-4590TRWN	FT-10	TKF12R...
	82.5-12JCTM	●		0.625	1.000	0.906	0.901	1.732	2.559	0.625	-		1.585	0.625				TKF16R...			
	KTKFR 82.5-16JCTM	●	0.378	0.625	1.000	0.906	0.901	1.732	2.559	0.625	-	4.750	1.585	0.625	2	Yes	GP-1	HSSX4LP	SB-4590TRWN	FT-10	TKF12R...
	KTKFR 8-12JCTM	●	0.295	0.500	0.500	0.787	0.776	2.323	-	0.500	0.787	-	0.500	TKF16R...							
	10-12JCTM	●		0.625	0.625	0.906	0.901	1.732	2.559	0.625	-	0.625	TKF12R...								
	12-12JCTM	●	0.750	0.750	0.906	1.026	1.732	2.559	0.750	-	0.750	TKF16R...									
KTKFR 10-16JCTM	●	0.378	0.625	0.625	0.906	0.901	1.732	2.559	0.625	-	4.750		-	0.625	2	Yes	GP-1	HSSX4LP	SB-4590TRWN	FT-10	TKF16R...
12-16JCTM	●		0.750	0.750	0.906	1.026	1.732	2.559	0.750	-	0.750	TKF12R...									
mm	KTKFR 1218JX-12JCTM	●	7.5	12	18	20	19	54	-	12	20	120	28	12	1	Yes	GP-1	HSSX4LP	SB-4590TRWN	FT-10	TKF12R...
	1625JX-12JCTM	●		16	25	23	23	44	65	16	-		40	16				TKF16R...			
	2025JX-12JCTM	●		20	25	23	27	44	65	20	-		40	20				TKF12R...			
	KTKFR 1625JX-16JCTM	●	9.6	16	25	23	23	44	65	16	-	120	40	16	2	Yes	GP-1	HSSX4LP	SB-4590TRWN	FT-10	TKF16R...
	2025JX-16JCTM	●		20		27	20		41	20		TKF12R...									
	KTKFR 1212JX-12JCTM	●	7.5	12	12	20	19	59	-	12	20	120	-	12	2	Yes	GP-1	HSSX4LP	SB-4590TRWN	FT-10	TKF12R...
	1616JX-12JCTM	●		16	16	23	23	44	65	16	-		16	TKF16R...							
	2020JX-12JCTM	●		20	20	23	27	44	65	20	-		20	TKF12R...							
	KTKFR 1616JX-16JCTM	●	9.6	16	16	23	23	44	65	16	-	120	-	16	2	Yes	GP-1	HSSX4LP	SB-4590TRWN	FT-10	TKF16R...
2020JX-16JCTM	●	20		20	23	27	44		65	20		-	20	TKF12R...							

Recommended Cutting Conditions ● H19

KTKFL-JCTM (Coolant-Through Toolholders / Left-Hand(L))



Left-hand shown | Left-hand Insert for Left-hand Toolholder.

Toolholder Dimensions

Unit	Part Number	Std. Item	Dimensions											Fig.	Coolant Hole	Spare Parts				Applicable Inserts H6~H8	
			L	CDX	H	B	LH	OAH	MHD	MHD2	HF	LF	LN			WF	Plug	Plug	Screw		Wrench
Inch	KTKFL 82.5-12JCTM	●	0.295	0.625	1.000	0.906	0.901	1.732	2.559	0.625	4.750	1.585	0.625	1	Yes	GP-1	HSSX4LP	SB-4590TRWN	FT-10	TKF12L...	
	KTKFL 82.5-16JCTM	●	0.378	0.625	1.000	0.906	0.901	1.732	2.559	0.625	4.750	1.585	0.625	1	Yes	GP-1	HSSX4LP	SB-4590TRWN	FT-10	TKF16L...	
	KTKFL 10-12JCTM	●	0.295	0.625	0.625	0.906	0.901	1.732	2.559	0.625	4.750	-	0.625	2	Yes	GP-1	HSSX4LP	SB-4590TRWN	FT-10	TKF12L...	
	KTKFL 12-12JCTM	●		0.750	0.750		1.026			0.750			0.750								
KTKFL 10-16JCTM	●	0.378	0.625	0.625	0.906	0.901	1.732	2.559	0.625	4.750	-	0.625	2	Yes	GP-1	HSSX4LP	SB-4590TRWN	FT-10	TKF16L...		
KTKFL 12-16JCTM	●		0.750	0.750		1.026			0.750			0.750									
mm	KTKFL 1625JX-12JCTM	●	7.5	16	25	23	23	44	65	16	120	40	16	1	Yes	GP-1	HSSX4LP	SB-4590TRWN	FT-10	TKF12L...	
	KTKFL 2025JX-12JCTM	●		20		27	20			20											
	KTKFL 1625JX-16JCTM	●	9.6	16	25	23	23	44	65	16	120	40	16	1	Yes	GP-1	HSSX4LP	SB-4590TRWN	FT-10	TKF16L...	
	KTKFL 2025JX-16JCTM	●		20		27	20			41		20									
	KTKFL 1616JX-12JCTM	●	7.5	16	16	23	23	44	65	16	120	-	16	2	Yes	GP-1	HSSX4LP	SB-4590TRWN	FT-10	TKF12L...	
KTKFL 2020JX-12JCTM	●	20		20	27		20			20											
KTKFL 1616JX-16JCTM	●	9.6	16	16	23	23	44	65	16	120	-	16	2	Yes	GP-1	HSSX4LP	SB-4590TRWN	FT-10	TKF16L...		
KTKFL 2020JX-16JCTM	●		20	20		27			20			20									

Recommended Cutting Conditions H19

● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)
 Contact your local Kyocera sales engineer to upgrade old products to new technology

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

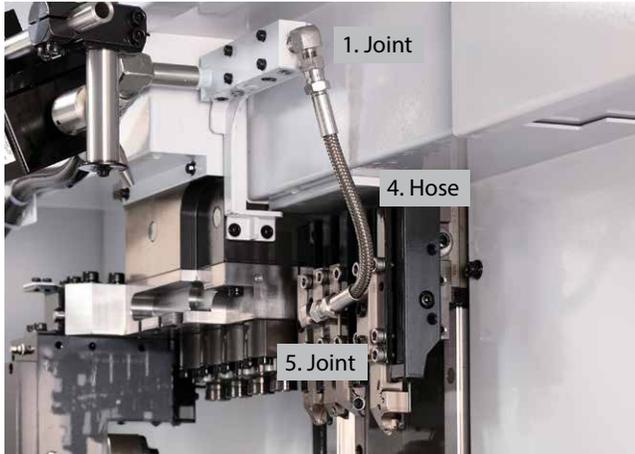
Coolant Piping Parts

Pipe parts will be required separately if internal coolant is used

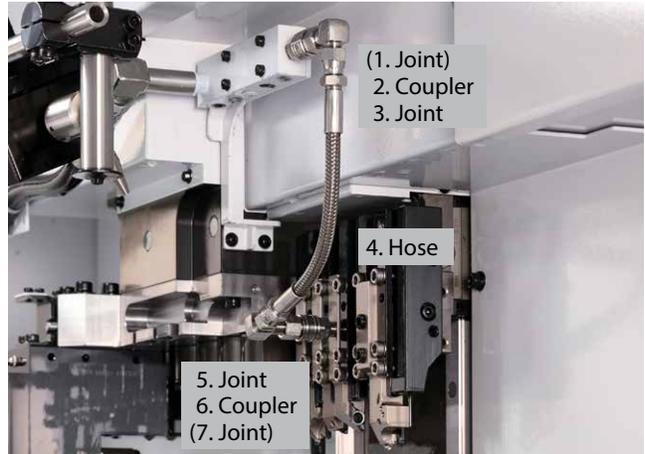
Pump Pressure: up to 2,900 psi

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

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



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



Combination Part Number (Example)

Part	Part Number
1. Joint	J-ST-R1/8-G1/8
4. Hose	HS-G1/8-G1/8-500
5. Joint	J-ST-R1/8-G1/8

Convert the thread standards on the machine's side (Rc1/4, Rc1/8, NPT1/8, etc.) to the thread standard on the hose side (G1/8) for use.

Use sealing agents such as seal tapes when installing piping parts.

Combination Part Number (Example)

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

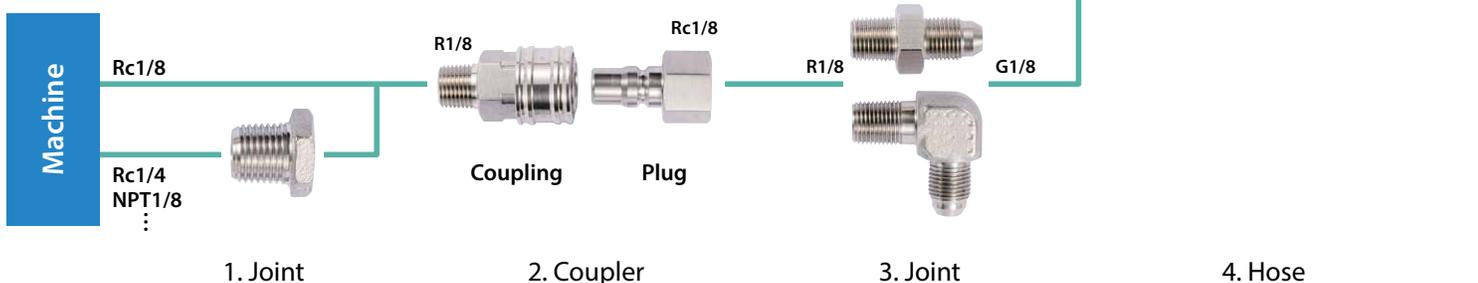
Convert the thread standards on the machine's side (Rc1/4, Rc1/8, NPT1/8, etc.) to thread standards of the coupler (Rc1/8, etc.) or hose (G1/8) for use.

Use sealing agents such as seal tapes when installing piping parts.

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



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



1. Joint

2. Coupler

3. Joint

4. Hose

● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)
 Contact your local Kyocera sales engineer to upgrade old products to new technology

H CUT-OFF

Piping Installation Parts Part Number

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

Pressure Resistance: up to 2,900 psi

Shape	Part Number	Thread Standard	Std. Item
	J-ST-R1/4-G1/8	R1/4 ⇔ G1/8	●
	J-ST-NPT1/8-G1/8	NPT1/8 ⇔ G1/8	●
	J-ST-R1/8-G1/8	R1/8 ⇔ G1/8	●
	J-ST-R1/8-G1/8-L		●
	J-AN-R1/8-G1/8	R1/8 ⇔ G1/8	●
	J-AN-R1/8-G1/8-L		●
	J-ST-R1/4-RC1/8	R1/4 ⇔ Rc1/8	●
	J-ST-NPT1/8-RC1/8	NPT1/8 ⇔ Rc1/8	●
	J-ST-R1/8-RC1/8	Rc1/8 ⇔ R1/8 (Extension Joint)	●

Elbow piping (J-AN-R1/8-G1/8) is recommended.

Coupler [(2)(6)]

Pressure Resistance: up to 1,090 psi

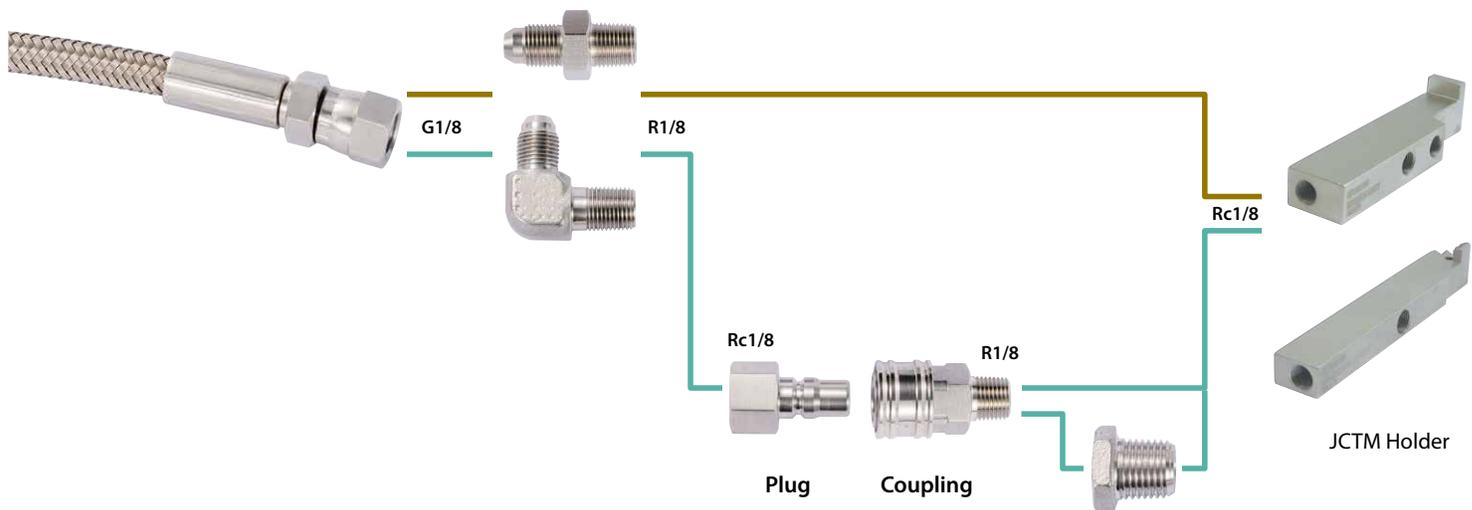
Shape	Part Number	Thread Standard	Std. Item
	CP-ST-R1/8	R1/8	●
	P-ST-RC1/8	Rc1/8	●

Hose (4)

Pressure Resistance: up to 2,900 psi

Shape	Part Number	Thread Standard	Total Length (mm)	Std. Item
	HS-G1/8-G1/8-200	G1/8	200	●
	HS-G1/8-G1/8-300		300	●
	HS-G1/8-G1/8-400		400	●
	HS-G1/8-G1/8-500		500	●
	HS-G1/8-G1/8-600		600	●
	HS-G1/8-G1/8-800		800	●

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



4. Hose

5. Joint

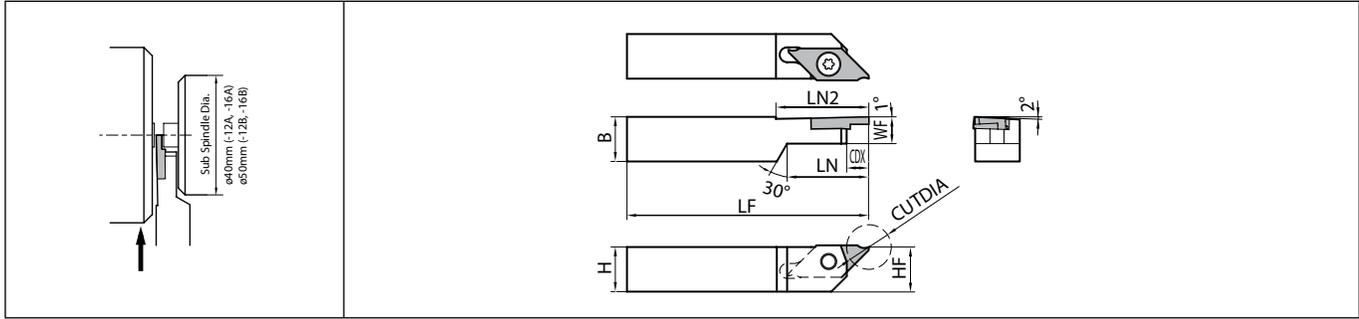
6. Coupler

7. Joint (Extension Joint)

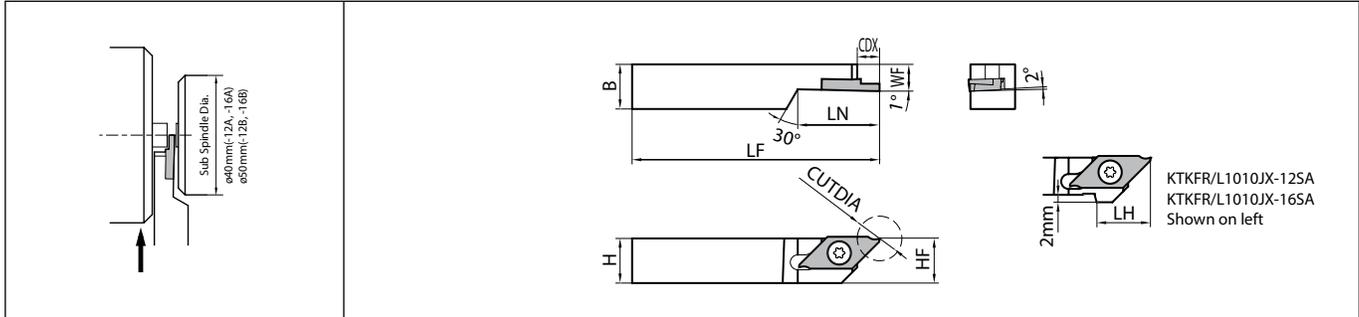
● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)
 Contact your local Kyocera sales engineer to upgrade old products to new technology

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

KTKF-S (Cut-Off / for Sub-Spindle Tooling)



Right-hand shown | Right-hand Insert for Right-hand Toolholder.



Left-hand shown | Left-hand Insert for Left-hand Toolholder.

Toolholder Dimensions

Unit	Part Number	Std. Item		Dimensions										Spare Parts		Applicable Inserts ● H6~H8
		R	L	CDX	H	B	LH	HF	LF	LN	LN2	WF	Screw	Wrench		
		●	●													
mm	KTKF% 1010JX-12SA	●	●	6	10	10	15	10	120	22	26	7.2	SB-4570TRN	FT-10	TKF12%...	
	KTKF% 1212F-12SA	●	●		12	12	-	12	85							
	KTKF% 1212JX-12SB	●	●	8	10	10	20	10	120	22	30	7.2	SB-4570TRN	FT-10		TKF16%...
	KTKF% 1010JX-16SA	●	●		12	12	-	12	85							
KTKF% 1212F-16SA	●	●														
KTKF% 1212JX-16SB	●	●														

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

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

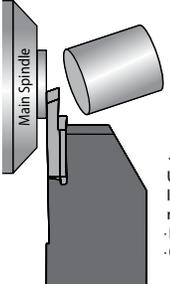
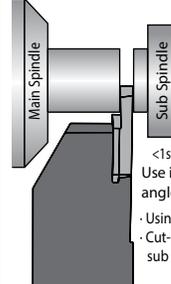
LN2 dimensions only apply to right-hand toolholders.

Recommended Cutting Conditions ● H19

KTKF / KTKF-S Selection Reference

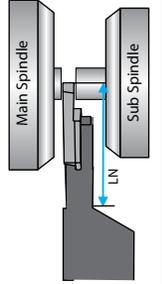
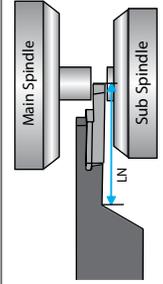
KTKF

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

KTKFR (Right-hand toolholder)	KTKFL (Left-hand toolholder)
 <p><1st. Recommendation> Use insert with lead angle to remove boss. · Not using sub spindle · Cut-off operation near main spindle side</p>	 <p><1st. Recommendation> Use insert without lead angle. · Using sub spindle · Cut-off operation near sub spindle side</p>

KTKF-S

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

KTKFR-SA/B (Right-hand toolholder)	KTKFL-SA/B (Left-hand toolholder)
 <p><How to select> Hand of Toolholder · Long workpiece and more rigidity · Cut-Off operation near main spindle side <How to select> LN dimension · Sub Spindle Dia. ø40→22 (SA type) ø50→26 (SB type)</p>	 <p><How to select> Hand of Toolholder · Short workpiece and less rigidity · Cut-Off operation near sub spindle side <How to select> LN dimension · Sub Spindle Dia. ø40→22 (SA type) ø50→26 (SB type)</p>

Recommended Cutting Conditions

TKF12

Workpiece Material	Recommended Grade (Vc sfm)					TKF12						Notes
						Width (CW)						
	MEGACOAT NANO		MEGACOAT	DLC	Carbide	0.020" (0.50mm)	0.028" (0.70mm)	0.039" (1.00mm)	0.049" (1.25mm)	0.059" (1.50mm)	0.079" (2.00mm)	
	PR1725	PR1535	PR1225	PDL025	KW10	Feed Rate (ipr)						
Carbon Steel	★ 230~560 (160~460)	☆ 230~500 (160~400)	☆ 225~500 (175~400)	-	-	0.0004~0.0008	0.0004~0.0012	0.0004~0.0016 (0.0004~0.0020)	0.0004~0.0016	0.0004~0.0016 (0.0008~0.0039)	0.0004~0.0016 (0.0008~0.0039)	Wet
Alloy Steel	★ 230~560 (160~460)	☆ 230~500 (160~400)	☆ 225~500 (175~400)	-	-	0.0004~0.0008	0.0004~0.0012	0.0004~0.0016 (0.0004~0.0020)	0.0004~0.0016	0.0004~0.0016 (0.0008~0.0039)	0.0004~0.0016 (0.0008~0.0039)	
Stainless Steel	☆ 200~460 (130~390)	★ 200~400 (130~330)	☆ 200~400 (125~325)	-	-	0.0002~0.0006	0.0004~0.0008	0.0004~0.0008 (0.0004~0.0012)	0.0004~0.0008	0.0004~0.0008 (0.0004~0.0020)	0.0004~0.0008 (0.0004~0.0020)	
Cast Iron	-	-	-	-	★ 175~325	0.0004~0.0012	0.0004~0.0016	0.0004~0.0020	0.0004~0.0020	0.0004~0.0020	0.0004~0.0020	
Aluminum	-	-	-	★ 660~1640	☆ 650~1475	0.0004~0.0012	0.0004~0.0016	0.0004~0.0020	0.0004~0.0020	0.0004~0.0020	0.0004~0.0020	
Brass	-	-	-	-	★ 325~650	0.0004~0.0012	0.0004~0.0016	0.0004~0.0024	0.0004~0.0024	0.0004~0.0024	0.0004~0.0024	

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

★ : 1st Recommendation ☆ : 2nd Recommendation

TKF16

Workpiece Material	Recommended Grade (Vc sfm)					TKF16		Notes
						Width (CW)		
	MEGACOAT NANO		MEGACOAT	DLC	Carbide	0.059" (1.50mm)	0.079" (2.00mm)	
	PR1725	PR1535	PR1225	PDL025	KW10	Feed Rate (ipr)		
Carbon Steel	★ 230~560 (160~460)	☆ 230~500 (160~400)	☆ 225~500 (175~400)	-	-	0.0008~0.0028 (0.0008~0.0039)	0.0008~0.0028 (0.0008~0.0039)	Wet
Alloy Steel	★ 230~560 (160~460)	☆ 230~500 (160~400)	☆ 225~500 (175~400)	-	-	0.0008~0.0028 (0.0008~0.0039)	0.0008~0.0028 (0.0008~0.0039)	
Stainless Steel	☆ 200~460 (130~390)	★ 200~400 (130~330)	☆ 200~400 (125~325)	-	-	0.0004~0.0016 (0.0004~0.0020)	0.0004~0.0016 (0.0004~0.0020)	
Cast Iron	-	-	-	-	★ 175~325	0.0008~0.0032	0.0008~0.0032	
Aluminum	-	-	-	★ 660~1640	☆ 650~1475	0.0008~0.0032	0.0008~0.0032	
Brass	-	-	-	-	★ 325~650	0.0008~0.0039	0.0008~0.0039	

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

★ : 1st Recommendation ☆ : 2nd Recommendation

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

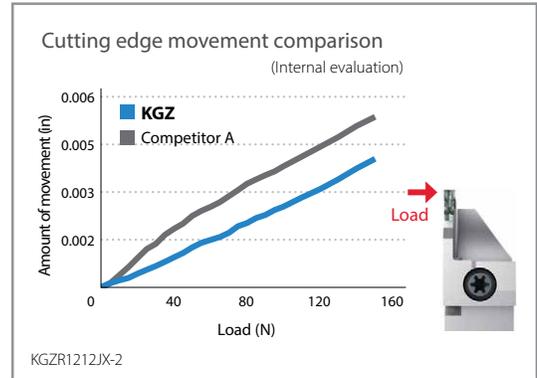
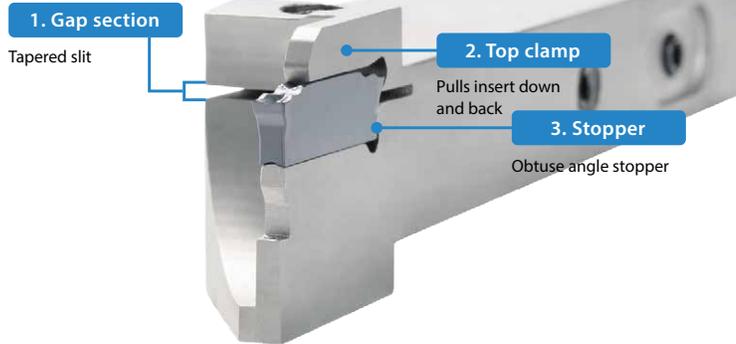
KGZ

Grooving and Cut-Off Solutions for Small Parts Machining

Provides stable machining and is easy to use with unique clamp design
 New coating PR20 series provides longer tool life and supports a wide range of applications

1 Achieve stable machining with newly developed clamp structure

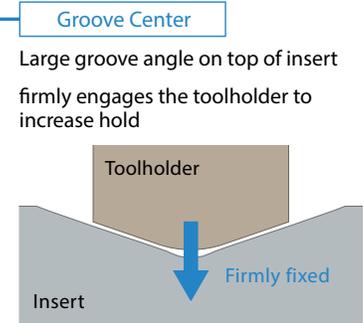
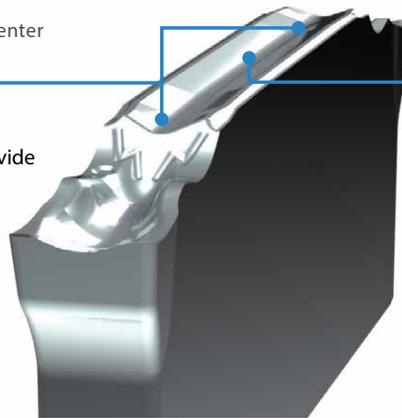
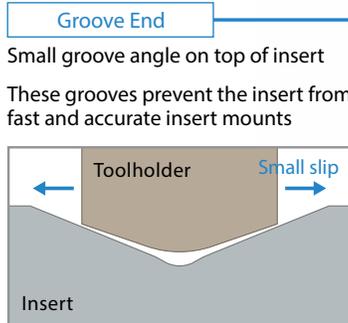
Toolholder Sturdy clamp design



H CUT-OFF

Insert Ease insert installation

Top V Shape Different groove angles at ends and center



Excellent chatter resistance

Machined surface comparison (Internal evaluation)



Cutting conditions : Vc = ~ 200 sfm, f = 0.005 ipt
 Workpiece : 303 (ø0.551") Wet (External coolant) KGZR1212JX-2
 Edge width 0.079" (2mm) (PM Chipbreaker)

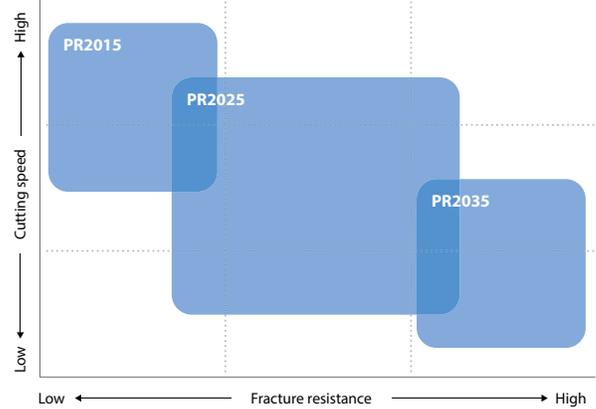
2 New insert grades PR20 series with MEGACOAT NANO EX coating technology provides longer tool life

PR20 Series

PR2015 1st recommendation for cast iron
Also available for steel and stainless steel

PR2025 1st recommendation for steel
Also available for stainless steel

PR2035 1st recommendation for stainless steel
Also available for steel

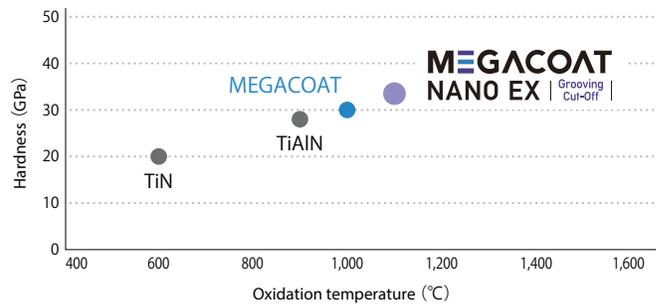


New coating for grooving and cut-off machining



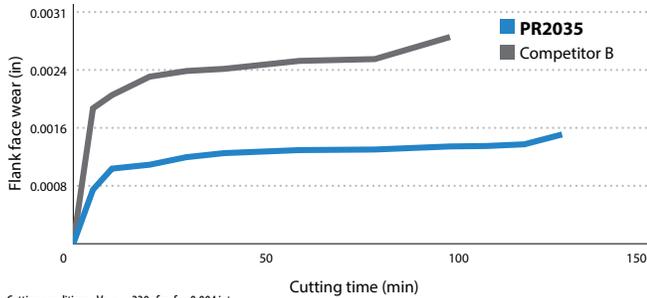
Achieve long tool life and high stability with the combination of high content aluminum nano coating layer

Coating characteristics (Internal evaluation)



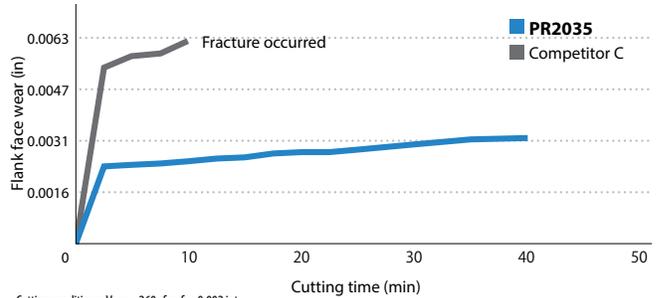
Cutting Performance

1045 Wear resistance comparison (Internal evaluation)



Cutting conditions: $V_c \approx 330$ sfm, $f = 0.004$ ipt
Workpiece: 1045 ($\phi 0.787$ ") Wet (External coolant) GZM2020N-020PM

304 Wear resistance comparison (Internal evaluation)



Cutting conditions: $V_c \approx 260$ sfm, $f = 0.002$ ipt
Workpiece: 304 ($\phi 0.787$ ") Wet (External coolant) GZM2020N-020PM

3 Large variety of insert and chipbreaker combinations for a wide range of applications

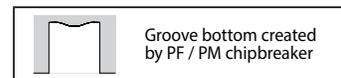
Insert	Cut-off (H22)	Low feed PF 	Medium feed PM 	High feed PH 	Low cutting force PG 	Grades	PVD coating P M K	
	Grooving (G28)	General purpose GM 	Low feed GL 	High feed PH 	Copying CM 		Low cutting force GS 	PCD NB
Tool holder	Internal coolant JCTM Series for direct coolant 						External coolant Standard type / for Sub-spindle tooling	Cermet P
								DLC coating N
							TN620	
							PDL025	
							Non-coated carbide K N	
							GW15	
							PCD N	
							KPD001	

- INSERT GRADES **A**
- TURNING INSERTS **B**
- CBN/PCD INSERTS **C**
- TURNING HOLDERS **D**
- SMALL TOOLS **E**
- BORING **F**
- GROOVING **G**
- CUT-OFF **H**
- THREADING **J**
- DRILLING **K**
- MILLING **M**
- QUICK CHANGE TOOLING **N**
- SPARE PARTS **P**
- TECHNICAL **R**
- INDEX **T**

GZM/GZG

		Carbon Steel / Alloy Steel										P							
		Stainless Steel										M							
		Cast Iron										K							
		Non-Ferrous Metals										N							
Insert	Part Number	No. of Edges	Dimensions (mm)					Angle (°)	Tolerance (mm)		Carbide					Applicable Toolholder H24~H28			
			CW		S	RE	INSL		PSIR %	CW min.	CW max.	DLC	PVD	-					
			in	mm															
 <p>Low Feed</p>	GZM 1316N-003PF	2	0.051	1.3	4.4	0.03	-	-0.04	+0.04	●●●●●	●●●●●	●●●●●	●●●●●	KGZ %L ...1.3(D16) KGZS %L ...1.3A/B					
	GZM 1316N-015PF														0.059	1.5	0.03	16	
	GZM 1516N-003PF		0.079	2	5.9	0.03													20
	GZM 1516N-015PF														0.098	2.5	0.15	20	
	GZM 2020N-003PF																		
GZM 2020N-015PF																			
 <p>Low Feed</p>	GZM 1316R-003PF-15D	2	0.051	1.3	4.4	0.03	15	-0.04	+0.04	●●●●●	●●●●●	●●●●●	●●●●●	KGZ %L ...1.3(D16) KGZS %L ...1.3A/B					
	GZM 1316L-003PF-15D														0.059	1.5	0.03	16	
	GZM 1516R-003PF-15D		0.079	2	5.9	0.03													20
	GZM 1516L-003PF-15D														0.098	2.5	0.03	20	
	GZM 1516R-015PF-15D																		
	GZM 2020R-003PF-15D																		
	GZM 2020L-003PF-15D																		
	GZM 2020R-015PF-15D																		
	GZM 2520R-003PF-15D																		
	GZM 2520L-003PF-15D																		
GZM 2520R-015PF-15D																			
 <p>Low Cutting Force</p>	GZG 2020N-005PG	2	0.079	2	5.9	0.05	20	-	-0.02	+0.02	●●●●●	●●●●●	●●●●●	●●●●●	KGZ %L ...-2(...) KGZS %L ...-2A/B				
	GZG 2520N-005PG															0.098	2.5	0.03	20
	GZG 3020N-005PG		0.118	3															
 <p>Low Cutting Force</p>	GZG 2020R-005PG-15D	2			0.079	2	5.9	0.05	20	15°	-0.02	+0.02	●●●●●	●●●●●	●●●●●	●●●●●	KGZ %L ...-2(...) KGZS %L ...-2A/B		
	GZG 2520R-005PG-15D		0.098	2.5														0.03	20
	GZG 3020R-005PG-15D				0.118	3													

Handed insert shows Right-hand
Using the PF / PM chipbreaker (for cut-off) for grooving cannot create a flat bottom (Ref. to the right figure).
GZM and GZG inserts cannot be used in KGM or KGD holders.

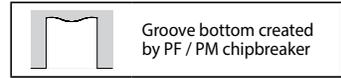


Recommended Cutting Conditions H30

GZM/GZMS

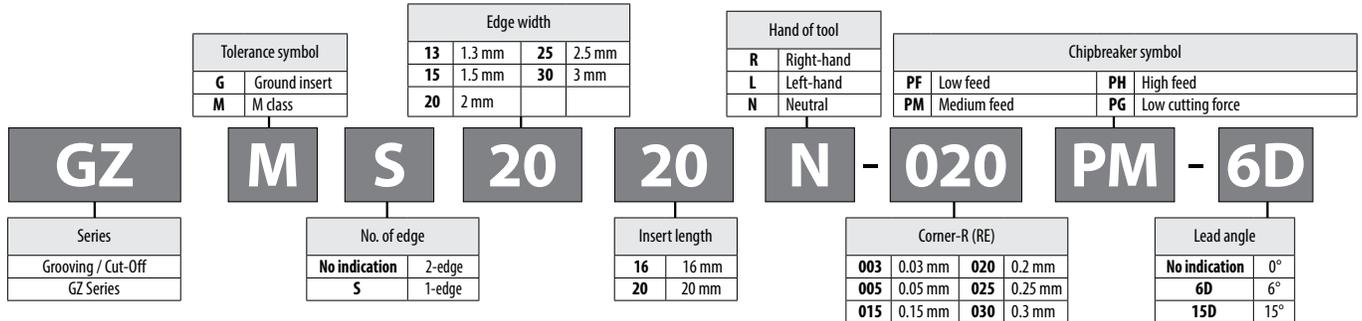
		Carbon Steel / Alloy Steel		Stainless Steel		Cast Iron		Non-Ferrous Metals		P		M		K		N	
Insert	Part Number	No. of Edges	Dimensions (mm)					Angle (°)	Tolerance (mm)		Carbide			Applicable Toolholder H24~H28			
			CW		S	RE	INSL		PSIR %	CW min.	CW max.	PVD					
			in	mm								PR2015	PR2025		PR2035		
 CW:0.012" INSL RE Medium Feed	GZM 2020N-020PM	2	0.079	2	5.9	0.2	20	-	-0.03	+0.03	●	●	●	●	●	●	KGZ [®] /L ...-2(...) KGZS [®] /L ...-2A/B
	GZM 2520N-020PM		0.098	2.5							●	●	●	●	●	KGZ [®] /L ...-2(...), KGZ [®] /L ...-2.4(...) KGZS [®] /L ...-2A/B	
	GZM 3020N-025PM		0.118	3							●	●	●	●	●	KGZ [®] /L ...-2(...), KGZ [®] /L ...-2.4(...) KGZ [®] /L ...-3(...), KGZS [®] /L ...-2A/B	
 CW:0.012" INSL RE Medium Feed	GZM 2020R-020PM-6D	2	0.079	2	5.9	0.2	6	-	-0.03	+0.03	●	●	●	●	●	KGZ [®] /L ...-2(...) KGZS [®] /L ...-2A/B	
	GZM 2520R-020PM-6D		0.098	2.5							●	●	●	●	●	KGZ [®] /L ...-2(...), KGZ [®] /L ...-2.4(...) KGZS [®] /L ...-2A/B	
	GZM 3020R-025PM-6D		0.118	3							●	●	●	●	●	KGZ [®] /L ...-2(...), KGZ [®] /L ...-2.4(...) KGZ [®] /L ...-3(...), KGZS [®] /L ...-2A/B	
 CW:0.012" INSL RE High Feed	GZM 2020N-020PH	2	0.079	2	5.9	0.2	20	-	-0.03	+0.03	●	●	●	●	●	KGZ [®] /L ...-2(...) KGZS [®] /L ...-2A/B	
	GZM 2520N-020PH		0.098	2.5							●	●	●	●	●	KGZ [®] /L ...-2(...) KGZ [®] /L ...-2.4(...) KGZS [®] /L ...-2A/B	
	GZM 3020N-030PH		0.118	3							●	●	●	●	●	KGZ [®] /L ...-2(...), KGZ [®] /L ...-2.4(...) KGZ [®] /L ...-3(...), KGZS [®] /L ...-2A/B	
 CW:0.012" INSL RE 1-edge / High Feed	GZMS 2020N-020PH	1	0.079	2	5.9	0.2	20	-	-0.03	+0.03	●	●	●	●	●	KGZ [®] /L ...-2(...) KGZS [®] /L ...-2A/B	
	GZMS 3020N-030PH		0.118	3							●	●	●	●	●	KGZ [®] /L ...-2(...), KGZ [®] /L ...-2.4(...) KGZ [®] /L ...-3(...), KGZS [®] /L ...-2A/B	

Handed insert shows Right-hand
 Using the PF / PM chipbreaker (for cut-off) for grooving cannot create a flat bottom (Ref. to the right figure).
 GZM and GZG inserts cannot be used in KGM or KGD holders.



Recommended Cutting Conditions H30

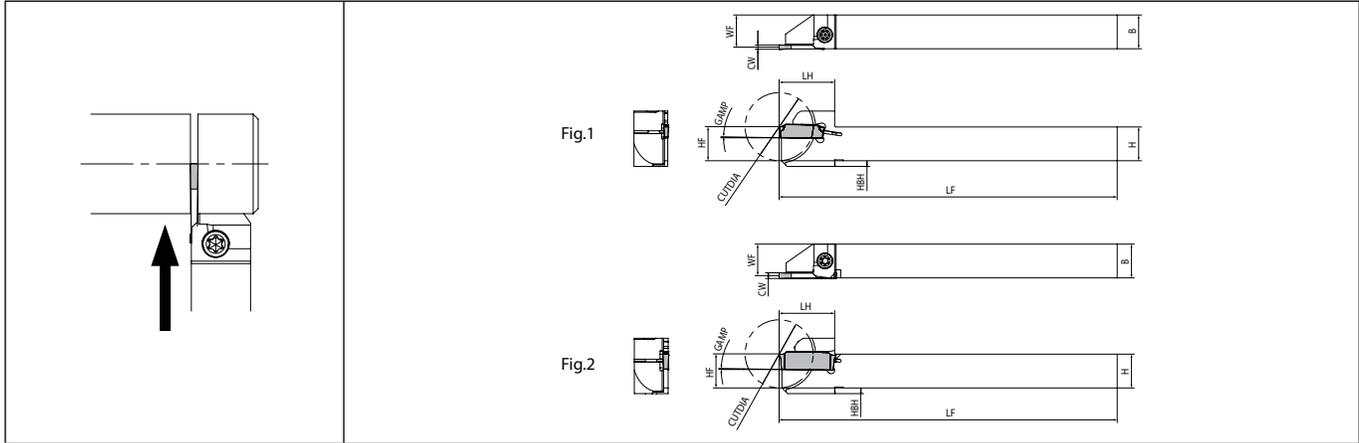
Inserts Identification System



● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)
 Contact your local Kyocera sales engineer to upgrade old products to new technology

- INSERT GRADES **A**
- TURNING INSERTS **B**
- CBN / PCD INSERTS **C**
- TURNING HOLDERS **D**
- SMALL TOOLS **E**
- BORING **F**
- GROOVING **G**
- CUT-OFF **H**
- THREADING **J**
- DRILLING **K**
- MILLING **M**
- QUICK CHANGE TOOLING **N**
- SPARE PARTS **P**
- TECHNICAL **R**
- INDEX **T**

KGZ (Standard Toolholders)



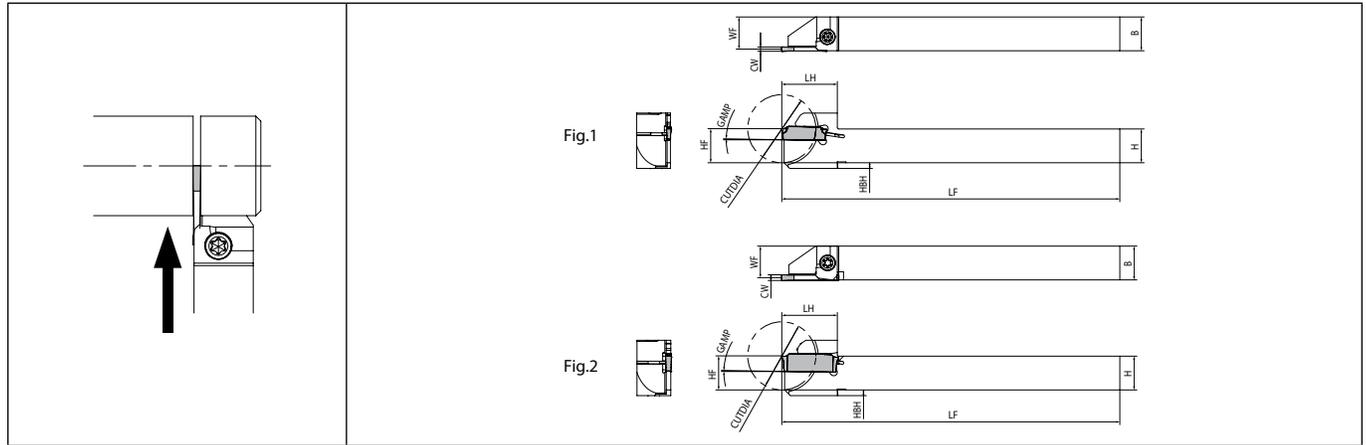
Right-hand shown

Toolholder Dimensions

Unit	Part Number	Std. Item		Dimensions										Angle	Spare Parts			Applicable Inserts H22 H23				
		R	L	CUTDIA	H	B	LH	HF	HBH	LF	WF	CW min.	CW max.		GAMP (°)	Fig.	Screw		Screw	Wrench		
Inch	KGZ 6-1.3JX	●	●	0.787	0.375	0.375	0.736	0.375	0.101	4.750	0.356	0.051" (1.3mm)	0.051" (1.3mm)	1	1	SB-40120TR	-	LTW-15S	GZ...1316...			
	8-1.3JX	●	●	0.945	0.500	0.500	0.780	0.500	0.055		0.481											
	KGZ 6-1.5JX	●	●	0.787	0.375	0.375	0.736	0.375	0.101	4.750	0.352	0.059" (1.5mm)	0.059" (1.5mm)	1	1	SB-40120TR	-	LTW-15S	GZ...1516...			
	8-1.5JX	●	●	0.945	0.500	0.500	0.780	0.500	0.055		0.477											
	KGZ 6-2JX	●	●	0.787	0.375	0.375	0.736	0.375	0.101	4.750	0.344	0.079" (2mm)	0.118" (3mm)	2	2	SB-40120TR	-	LTW-15S	GZ...2020... GZ...2220... GZ...2420... GZ...2520... GZ...3020...			
	8-2JX	●	●	0.945	0.500	0.500	0.780	0.500	0.055		0.469											
	10-2JX	●	●	1.260	0.625	0.625	0.976	0.625	-		0.594											
	KGZ 6-2.4JX	●	●	0.787	0.375	0.375	0.736	0.375	0.101	4.750	0.336	0.095" (2.4mm)	0.118" (3mm)	2	2	SB-40120TR	-	LTW-15S	GZ...2420... GZ...2520... GZ...3020...			
	8-2.4JX	●	●	0.945	0.500	0.500	0.780	0.500	0.055		0.461											
	10-2.4JX	●	●	1.260	0.625	0.625	0.976	0.625	-		0.586											
	KGZ 8-3JX	●	●	0.945	0.500	0.500	0.780	0.500	0.055	4.750	0.453	0.118" (3mm)	0.118" (3mm)	1	1	SB-40120TR	-	LTW-15S	GZ...3020...			
	10-3JX	●	●	1.260	0.625	0.625	0.976	0.625	-		0.578											
	10-3D38JX	●	●	1.496	0.625	0.625	1.134	0.625	-		0.578											
	12-3D42JX	●	●	1.654	0.750	0.750	1.217	0.750	-		0.703											
	43-3D42JX	●	●	1.654	0.750	0.750	1.217	0.750	-		0.453											

Recommended tightening torque : 2.0N · m (SB-40120TR), 2.5N · m (SE-50125TR)
 When machining large cutting dia. (over 1.417" (36mm)) with KGZ R/L...-3D38 or KGZ R/L...-3D42, please follow the instructions below
 · Use 1-edge inserts
 · Maximum workpiece diameter for 2-edge inserts is ø1.417" (36mm)
 KGM* and GD* inserts cannot be installed in the KGZ holder (GMM, GMG, GMN, GMR/L, GDM, GDG, GDGS, GOMS).

KGZ (Standard Toolholders)



Right-hand shown

Toolholder Dimensions

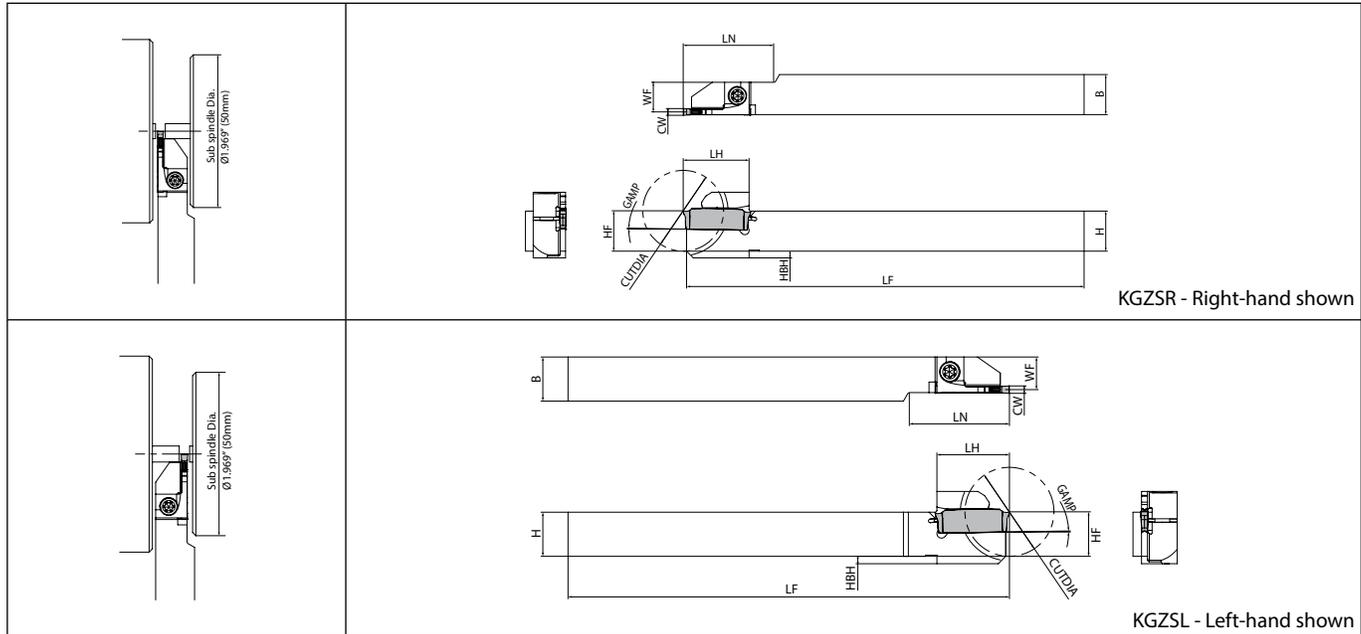
Unit	Part Number	Std. Item	Dimensions													Angle	Spare Parts					Applicable Inserts H22 H23	
			R		CUTDIA	H	B	LH	HF	HBH	LF	WF	CW min.	CW max.	GAMP (°)		Fig.	Clamp Bolt	Screw	Screw	Wrench		Wrench
			L	L																			
mm	KGZ% 1010JX-1.3D16	●	●	16	10	10	17.8	10		120	9.5	0.051" (1.3mm)	0.051" (1.3mm)	1	1	-	SB-40120TR	-	-	LTW-15S	GZM1316...		
	1010JX-1.3	●	●	20			18.7			85													
	1212F-1.3D16	●	●	16			17.8	2.1		120	11.5												
	1212JX-1.3D16	●	●	12	12		12			85													
	1212F-1.3	●	●	24			19.8			120													
	1212JX-1.3	●	●																				
	KGZ% 1010JX-1.5D16	●	●	16	10	10	17.8	10		120	9.4	0.059" (1.5mm)	0.059" (1.5mm)	1	1	-	SB-40120TR	-	-	LTW-15S	GZM1516...		
	1010JX-1.5	●	●	20			18.7			85													
	1212F-1.5D16	●	●	16			17.8	2.1		120	11.4												
	1212JX-1.5D16	●	●	12	12		12			85													
	1212F-1.5	●	●	24			19.8			120													
	1212JX-1.5	●	●																				
	KGZ% 1010JX-2	●	●	20	10	10	18.7	10		120	9.2	0.079" (2mm)	0.118" (3mm)	2	1	-	SB-40120TR	-	-	LTW-15S	GZ...2020... GZ...2220... GZ...2420... GZ...2520... GZ...3020...		
	1212F-2	●	●	24	12	12	19.8	2.1		85	11.2												
	1212JX-2	●	●	12	12		12			120	15.2												
	1616JX-2	●	●	32	16	16	24.8	16		120	15.2												
	2012K-2D34	●	●	20	12	26.8	20			11.2	19.2												
	2020K-2D34	●	●	34	20					125	19.2												
	2525K-2D34	●	●	25	25	32.7	25			24.2													
	KGZ% 1010JX-2.4	●	●	20	10	10	18.7	10		120	9	0.094" (2.4mm)	0.118" (3mm)	1	2	-	SB-40120TR	-	-	LTW-15S	GZ...2420... GZ...2520... GZ...3020...		
	1212F-2.4	●	●	24	12	12	19.8	2.1		85	11												
	1212JX-2.4	●	●	12	12		12			120	15												
	1616JX-2.4	●	●	32	16	16	24.6	16		120	15												
	2012K-2.4D34	●	●	20	12	26.6	20			11	19												
2020K-2.4D34	●	●	34	20					125	19													
2525K-2.4D34	●	●	25	25	32.7	25			24														
KGZ% 1212JX-3	●	●	24	12	12	19.8	12	2.1		10.8	0.118" (3mm)	0.118" (3mm)	1	1	-	SB-40120TR	-	-	LTW-15S	GZ...3020...			
1616JX-3	●	●	32			24.6			120	14.8													
1616JX-3D38	●	●	16	16		16			125	11.8													
1913K-3D38	●	●	38	19	13	28.6	19																
2012JX-3D42	●	●	42			30.7			10.8														
2012JX-3D51	●	●	51			35.2			120														
2020JX-3D42	●	●	42	20		30.7				18.8													
2020JX-3D51	●	●	51			35.2																	
2525K-3D51	●	●	25	25	41.7	25			125	23.8													

Recommended tightening torque : 2.0N · m (SB-40120TR), 2.5N · m (SE-50125TR)
 When machining large cutting dia. (over 1.417" (36mm)) with KGZ^{R/L}...-3D38 or KGZ^{R/L}...-3D42, please follow the instructions below
 · Use 1-edge inserts
 · Maximum workpiece diameter for 2-edge inserts is ø1.417" (36mm)
 KGZ* and GD* inserts cannot be installed in the KGZ holder (GMM, GMG, GMN, GMR/L, GDM, GDG, GDGS, GDMS).

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INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

KGZS (Cut-Off / for Sub-Spindle Tooling)

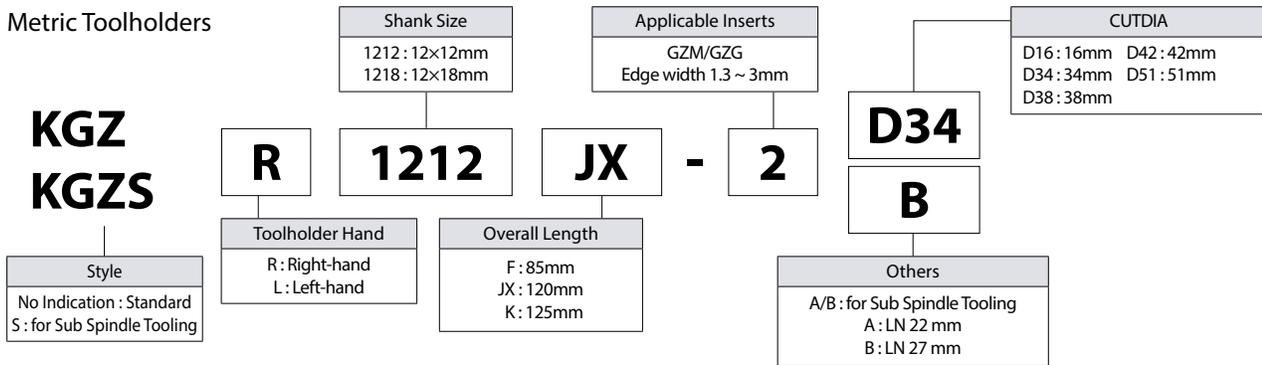
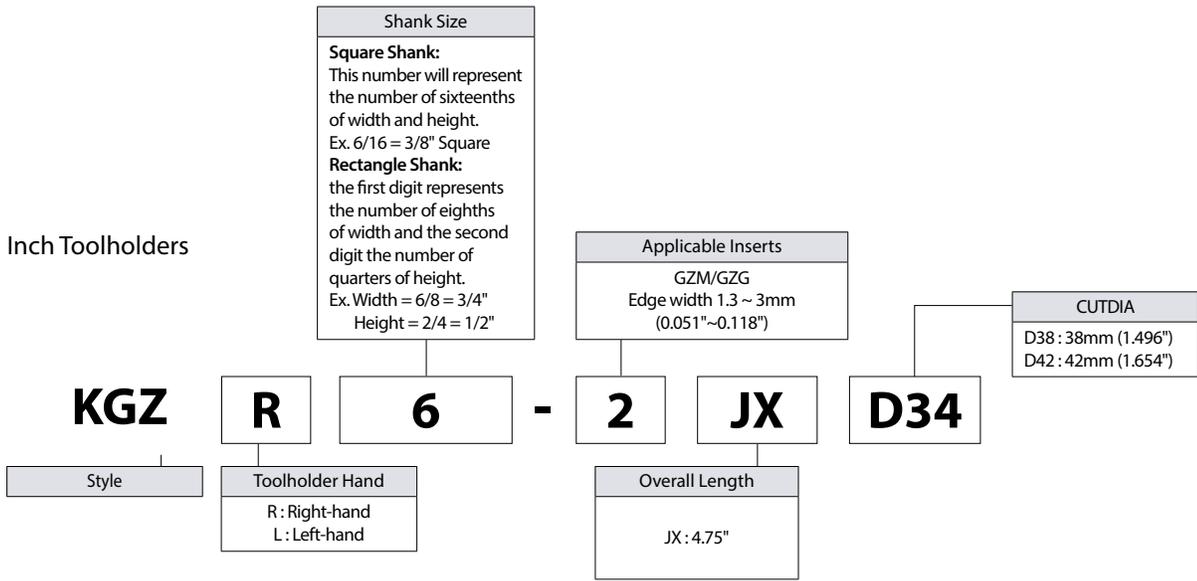


Toolholder Dimensions

Unit	Part Number	Std. Item		Dimensions										Angle	Spare Parts		Applicable Inserts H22 H23							
		R	L	CUTDIA	H	B	LH	HF	HBH	LF	LN	WF	CW min.		CW max.	GAMP (°)		Screw	Wrench					
mm	KGZS%	1212F-1.3A	●	●	24	12	12	19.8	12	2.1	85	22	8.4	0.051" (1.3mm)	0.051" (1.3mm)	1	SB-40120TR	LTW-155	GZ...1316...					
	1212JX-1.3B	●	●	16																16	16	-	120	27
	1616JX-1.3B	●	●	16																16	16	-	120	27
	1212F-1.5A	●	●	12																12	12	2.1	85	22
	1212JX-1.5B	●	●	16																16	16	-	120	27
	1616JX-1.5B	●	●	16																16	16	-	120	27
	1212F-2A	●	●	12																12	12	2.1	85	22
	1212JX-2B	●	●	16																16	16	-	120	27
1616JX-2B	●	●	16	16	16	-	120	27	8.7	0.079" (2mm)	0.118" (3mm)	GZ...2020... GZ...2520... GZ...3020...												

● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

Toolholder Identification System



INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
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GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

KGZ Recommended Cutting Conditions

PF Chipbreaker

Workpiece Material	Recommended Insert Grade (Vc : sfm)					f (ipr)						Notes
						MEGACOAT NANO EX			DLC	Carbide	PF (RE = 0.0012")	
	PR2015	PR2025	PR2035	PDL025	GW15	CW						
						0.051"~0.059" (1.3mm~1.5mm)	0.079" (2mm)	0.098"~0.118" (2.5mm~3.0mm)	0.051~0.059 (1.3mm~1.5mm)	0.079" (2mm)	0.098"~0.118" (2.5mm~3.0mm)	
Carbon Steel	☆ 230~590	★ 230~590	☆ 230~490	-	-	0.0004~0.0016	0.0008~0.0024	0.0008~0.0031	0.0004~0.002	0.0012~0.0031	0.0016~0.0031	
Alloy Steel	☆ 230~590	★ 230~590	☆ 230~490	-	-							
Stainless Steel	☆ 200~490	☆ 200~390	★ 200~390	-	-	0.0004~0.0012	0.0004~0.0016	0.0004~0.0020	0.0004~0.0016	0.0012~0.0028	0.0016~0.0031	
Cast Iron	★ 260~660	-	-	-	☆ 160~330	0.0004~0.0020	0.001~0.0028	0.0012~0.0031	0.0004~0.0024	0.0012~0.0035	0.0016~0.0039	
Aluminum Alloy	-	-	-	★ 660~1640	☆ 660~1480	-	-	-	-	-	-	
Brass	-	-	-	-	★ 330~660	-	-	-	-	-	-	

★:1st Recommendation ☆:2nd Recommendation

PM / PH / PG Chipbreaker

Workpiece Material	Recommended Insert Grade (Vc : sfm)					f (ipr)				Notes
						PM	PH	PG		
	PR2015	PR2025	PR2035	PDL025	GW15	CW				
						0.079~0.118" (2mm~3mm)	0.079~0.118" (2mm~3mm)	0.079" (2mm)	0.098"~0.118" (2.5mm~3.0mm)	
Carbon Steel	☆ 230~590	★ 230~590	☆ 230~490	-	-	0.0020~0.0059	0.0039~0.0079	0.0004~0.0016	0.0004~0.002	
Alloy Steel	☆ 230~590	★ 230~590	☆ 230~490	-	-					
Stainless Steel	☆ 200~490	☆ 200~390	★ 200~390	-	-	0.0016~0.0047	0.0031~0.0063	0.0004~0.0012	0.0004~0.0016	
Cast Iron	★ 260~660	-	-	-	☆ 160~330	0.002~0.0059	0.0039~0.0079	0.0004~0.0016	0.0004~0.002	
Aluminum Alloy	-	-	-	★ 660~1640	☆ 660~1480	-	-	0.0004~0.0020	0.0004~0.0024	
Brass	-	-	-	-	★ 330~660	-	-	0.0004~0.0028	0.0004~0.0031	

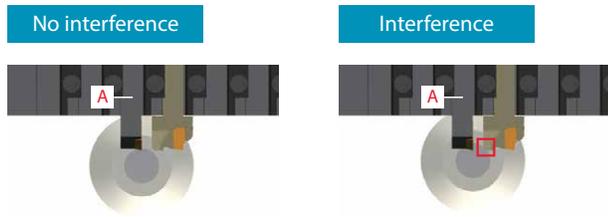
★:1st Recommendation ☆:2nd Recommendation

H CUT-OFF

Precautions

Maximum D.O.C. of the next tool (indicated as tool A) and holder interference

When using JCTM holder 1218/1212, note maximum D.O.C. of the next tool to avoid interference.



Estimated maximum D.O.C. of tool A (mm)

Workpiece Dia.	ø12mm	ø16mm	ø20mm
JCTM Part Number			
KGZ R/L 1218JX-*JCTM	2.4	2.0	1.7
KGZ R/L 1212JX-*JCTM	-	-	3.8

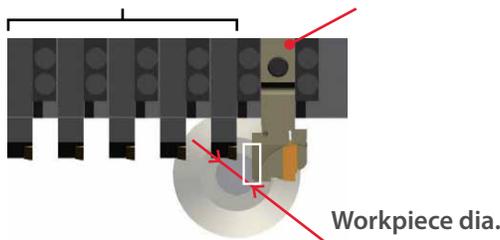
When using the JCTM holder 1218/1625/1616 for T01 on the following models, please check the workpiece diameter in advance to avoid interference.

<Target Models>

T01: Machines where both □16mm (or Spacer plate +□12mm) holders can be mounted

Non-T01: Machines where only □12mm holders can be mounted

Non-T01: □12mm T01 : □16mm (or Spacer plate +□12mm)



KGZ Compatibility

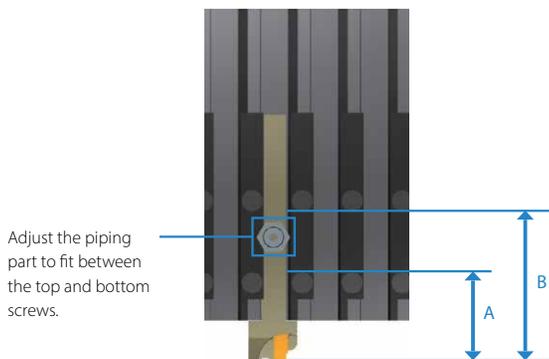
Workpiece Dia.	ø14mm or smaller	ø14mm or larger
JCTM Part Number		
KGZ R/L 1218JX-*JCTM	Compatible	Please use KGZ R/L 1212JX-*JCTM or KGZ R/L 1616JX*D26JCTM
KGZ R/L 1625JX-*JCTM		
KGZ R/L 1616JX-*JCTM		

Piping part interference avoidance

Rectangular shank are recommended for use with piping parts connected to JCTM holders.

When connecting the J-**-R1/8-G1/8-L piping parts to the rectangular shank, please check for any potential interference with the machine in advance.

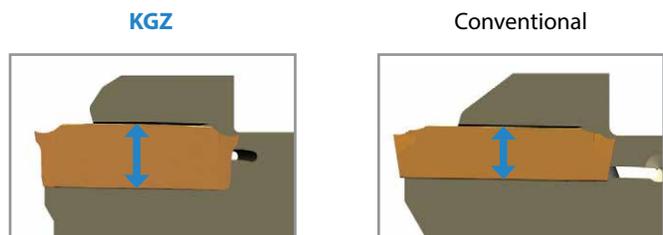
When connecting piping parts to the JCTM square shank, check the lengths of A and B below to avoid interference with the screws of the tool turret.



Shank Size	Square Shank Use
□0.500" □12mm	"A" shorter than 51.5mm and "B" longer than 68.5mm → Available Other than the above conditions → Use J-**-R1/8-G1/8-L or a rectangular shank
□0.625" □16mm	Available

Compatibility with Conventional Tools

KGZ is not compatible with the conventional tools (KGD/KGM)



INSERT GRADES **A**

TURNING INSERTS **B**

CBN/PCD INSERTS **C**

TURNING HOLDERS **D**

SMALL TOOLS **E**

BORING **F**

GROOVING **G**

CUT-OFF **H**

THREADING **J**

DRILLING **K**

MILLING **M**

QUICK CHANGE TOOLING **N**

SPARE PARTS **P**

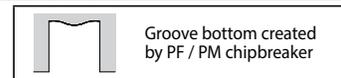
TECHNICAL **R**

INDEX **T**

GDM/GDMS/GDG

		Carbon Steel / Alloy Steel										P				
		Stainless Steel										M				
		Cast Iron										K				
		Non-Ferrous Metals										N				
Insert	Part Number	No. of Edges	Dimensions (mm)					Angle (°)	Tolerance (mm)		Carbide					Applicable Toolholder H34~H36, H39~H44 H46
			CW		S	RE	INSL		PSIR%	CW min.	CW max.	DLC	PVD	-		
			in	mm												
	GDM 1316N-003PF 1316N-015PF	2	0.051	1.3	3.7	0.03 0.15	16	-	-0.04	+0.04	●	●	●	●	KGD %L ...-1.3(D16) KGDS %L ...-1.3B	
	GDM 1516N-003PF 1516N-015PF										●	●	●	●	KGD %L ...-1.5(D16) KGDS %L ...-1.5B	
	GDM 2020N-003PF 2020N-015PF		●	●	●	●	KGD %L ...-2(...) KGDS %L ...-2B									
	GDM 2520N-003PF 2520N-015PF		●	●	●	●	KGD %L ...-2(...), KGD %L ...-2.4(...) KGDS %L ...-2B									
	GDM 3020N-003PF 3020N-015PF		●	●	●	●	KGD %L ...-2(...), KGD %L ...-2.4(...) KGD %L ...-3(...), KGDS %L ...-2B									
	GDM 1316R-003PF-15D 1316L-003PF-15D	2	0.051	1.3	3.7	0.03 0.03	16	15	-0.04	+0.04	●	●	●	●	KGD %L ...-1.3(D16) KGDS %L ...-1.3B	
	GDM 1516R-003PF-15D 1516L-003PF-15D 1516R-015PF-15D										●	●	●	●	KGD %L ...-1.5(D16) KGDS %L ...-1.5B	
	GDM 2020R-003PF-15D 2020L-003PF-15D 2020R-015PF-15D		●	●	●	●	KGD %L ...-2(...) KGDS %L ...-2B									
	GDM 2520R-003PF-15D 2520L-003PF-15D 2520R-015PF-15D		●	●	●	●	KGD %L ...-2(...), KGD %L ...-2.4(...) KGDS %L ...-2B									
	GDM 3020R-003PF-15D 3020L-003PF-15D 3020R-015PF-15D		●	●	●	●	KGD %L ...-2(...), KGD %L ...-2.4(...) KGD %L ...-3(...), KGDS %L ...-2B									
	GDM 2020N-010PQ	2	0.079	2	4.3	0.1	20	-	-0.03	+0.03	●	●	●	●	KGD %L ...-2(...) KGDS %L ...-2B	
	GDM 2520N-010PQ		0.098	2.5							●	●	●	●	KGD %L ...-2(...), KGD %L ...-2.4(...) KGDS %L ...-2B	
	GDM 3020N-010PQ		0.118	3							●	●	●	●	KGD %L ...-2(...), KGD %L ...-2.4(...) KGD %L ...-3(...), KGDS %L ...-2B	
	GDM 2020R-010PQ-15D	2	0.079	2	4.3	0.1	20	15	-0.03	+0.03	●	●	●	●	KGD %L ...-2(...) KGDS %L ...-2B	
	GDM 2520R-010PQ-15D		0.098	2.5							●	●	●	●	KGD %L ...-2(...), KGD %L ...-2.4(...) KGDS %L ...-2B	
	GDM 3020R-010PQ-15D		0.118	3							●	●	●	●	KGD %L ...-2(...), KGD %L ...-2.4(...) KGD %L ...-3(...), KGDS %L ...-2B	
	GDG 2020N-005PG	2	0.079	2	4.3	0.05	20	-	-0.02	+0.02	●	●	●	●	KGD %L ...-2(...) KGDS %L ...-2B	
	GDG 2520N-005PG		0.098	2.5							●	●	●	●	KGD %L ...-2(...), KGD %L ...-2.4(...) KGDS %L ...-2B	
	GDG 3020N-005PG		0.118	3							●	●	●	●	KGD %L ...-2(...), KGD %L ...-2.4(...) KGD %L ...-3(...), KGDS %L ...-2B	
	GDG 2020R-005PG-15D	2	0.079	2	4.3	0.05	20	15	-0.02	+0.02	●	●	●	●	KGD %L ...-2(...) KGDS %L ...-2B	
	GDG 2520R-005PG-15D		0.098	2.5							●	●	●	●	KGD %L ...-2(...), KGD %L ...-2.4(...) KGDS %L ...-2B	
	GDG 3020R-005PG-15D		0.118	3							●	●	●	●	KGD %L ...-2(...), KGD %L ...-2.4(...) KGD %L ...-3(...), KGDS %L ...-2B	

Handed insert shows Right-hand
Using the PF / PM chipbreaker (for cut-off) for grooving cannot create a flat bottom (Ref. to the right figure).



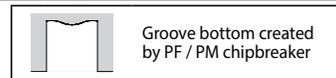
Recommended Cutting Conditions H48~H49

GDM/GDMS/GDG

		Carbon Steel / Alloy Steel		Stainless Steel		Cast Iron		Non-Ferrous Metals		P		M		K		N	
Insert	Part Number	No. of Edges	Dimensions (mm)					Angle (°)	Tolerance (mm)		Carbide		Applicable Toolholder H34~H36, H39~H44 H46				
			CW		S	RE	INSL		PSIR %	CW min.	CW max.	PVD					
			in	mm								PR1215					PR1225
	GDM 2020N-020PM	2	0.079	2	4.3	0.2	20	-	-0.03	+0.03	●●●	●●●	KGD %L ...-2(...) KGD %L ...-2B				
	GDM 2520N-020PM		0.098	2.5							●●●	●●●	KGD %L ...-2(...), KGD %L ...-2.4(...) KGD %L ...-2B				
	GDM 3020N-025PM		0.118	3							●●●	●●●	KGD %L ...-2(...), KGD %L ...-2.4(...) KGD %L ...-3(...), KGD %L ...-2B				
	GDM 4020N-030PM		0.157	4							●●●	●●●	KGD %L ...-3(...), KGD %L ...-3... KGD %L ...-4T...				
	GDM 2020R-020PM-6D	2	0.079	2	4.3	0.2	20	6	-0.03	+0.03	●●●	●●●	KGD %L ...-2(...) KGD %L ...-2B				
	GDM 2520R-020PM-6D		0.098	2.5							●●●	●●●	KGD %L ...-2(...), KGD %L ...-2.4(...) KGD %L ...-2B				
	GDM 3020R-025PM-6D		0.118	3							●●●	●●●	KGD %L ...-2(...), KGD %L ...-2.4(...) KGD %L ...-3(...), KGD %L ...-2B				
	GDMS 2020N-020PM	1	0.079	2	4.3	0.25	20	-	-0.03	+0.03	●●●	●●●	KGD %L ...-2(...) KGD %L ...-2B				
	GDMS 3020N-025PM		0.118	3							●●●	●●●	KGD %L ...-2(...), KGD %L ...-2.4(...) KGD %L ...-3(...), KGD %L ...-2B				
	GDMS 4020N-030PM		0.157	4							●●●	●●●	KGD %L ...-3(...), KGD %L ...-3... KGD %L ...-4T...				
	GDMS 2020R-020PM-6D	1	0.079	2	4.3	0.25	20	6	-0.03	+0.03	●●●	●●●	KGD %L ...-2(...) KGD %L ...-2B				
	GDMS 3020R-025PM-6D		0.118	3							●●●	●●●	KGD %L ...-2(...), KGD %L ...-2.4(...) KGD %L ...-3(...), KGD %L ...-2B				
	GDMS 4020R-030PM-6D		0.157	4							●●●	●●●	KGD %L ...-3(...), KGD %L ...-3... KGD %L ...-4T...				
	GDM 2020N-020PH	2	0.079	2	4.3	0.3	20	-	-0.03	+0.03	●●●	●●●	KGD %L ...-2(...) KGD %L ...-2B				
	GDM 3020N-030PH		0.118	3							●●●	●●●	KGD %L ...-2(...), KGD %L ...-2.4(...) KGD %L ...-3(...), KGD %L ...-2B				
	GDM 4020N-030PH		0.157	4							●●●	●●●	KGD %L ...-3(...), KGD %L ...-3... KGD %L ...-4T...				
	GDMS 2020N-020PH	1	0.079	2	4.3	0.3	20	-	-0.03	+0.03	●●●	●●●	KGD %L ...-2(...) KGD %L ...-2B				
	GDMS 3020N-030PH		0.118	3							●●●	●●●	KGD %L ...-2(...), KGD %L ...-2.4(...) KGD %L ...-3(...), KGD %L ...-2B				
	GDMS 4020N-030PH		0.157	4							●●●	●●●	KGD %L ...-3(...), KGD %L ...-3... KGD %L ...-4T...				

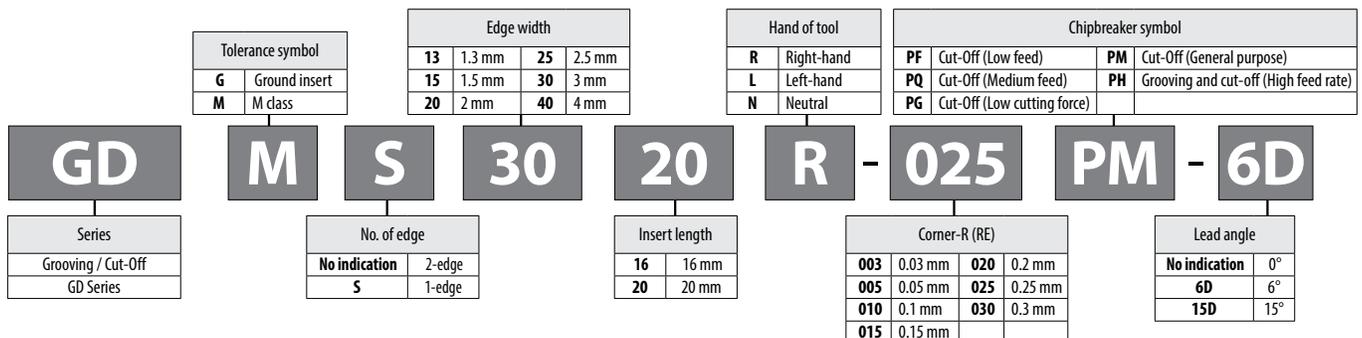
Handed insert shows Right-hand

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



Inserts Identification System

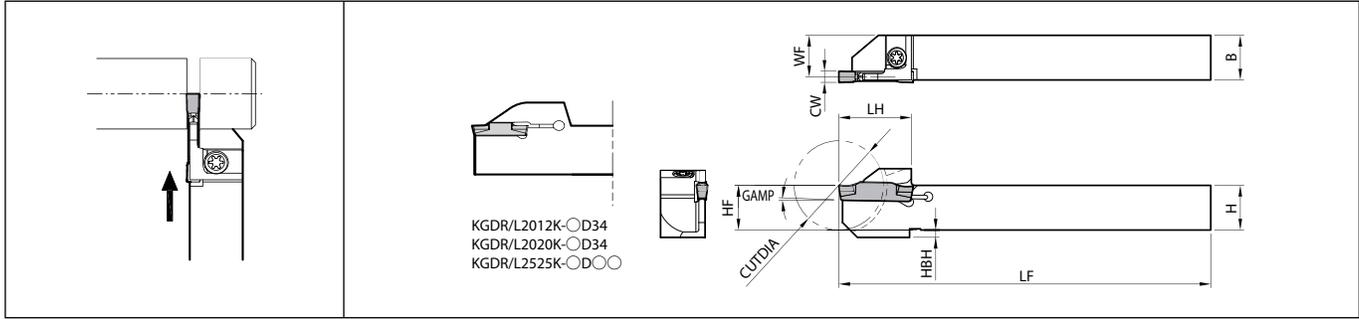
Recommended Cutting Conditions H48~H49



● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

- INSERT GRADES **A**
- TURNING INSERTS **B**
- CBN / PCD INSERTS **C**
- TURNING HOLDERS **D**
- SMALL TOOLS **E**
- BORING **F**
- GROOVING **G**
- CUT-OFF **H**
- THREADING **J**
- DRILLING **K**
- MILLING **M**
- QUICK CHANGE TOOLING **N**
- SPARE PARTS **P**
- TECHNICAL **R**
- INDEX **T**

KGD (for Small Part Machining)



KGDR/L2012K-○D34
 KGDR/L2020K-○D34
 KGDR/L2525K-○D○○

Right-hand shown

Toolholder Dimensions

Unit	Part Number	Std. Item	Dimensions										Angle	Screw	Screw	Wrench	Applicable Inserts ● H32, H33		
			R	L	CUTDIA	H	B	LH	HF	HBH	LF	WF						CW min.	CW max.
Inch	KGDR/L 6-1.3JX	● ●	0.787	0.375	0.375	0.709	0.375	0.098	4.75	0.356	0.051"	0.051"	1	SB-40120TR	-	LTW-15S	GDM1316...		
	8-1.3JX	● ●	0.944	0.500	0.500	0.768	0.500	0.051		0.481	(1.3mm)	(1.3mm)							
	KGDR/L 6-1.5JX	● ●	0.787	0.375	0.375	0.709	0.375	0.098	4.75	0.351	0.059"	0.059"	1	SB-40120TR	-	LTW-15S	GDM1516...		
	8-1.5JX	● ●	0.944	0.500	0.500	0.768	0.500	0.051		0.476	(1.5mm)	(1.5mm)							
	KGDR/L 6-2JX	● ●	0.787	0.375	0.375	0.709	0.375	0.098	4.75	0.342	0.079"	0.118"	1	SB-40120TR	-	LTW-15S	GDG2020..., GDM2020... GDM3020..., GDM3020...		
	8-2JX	● ●	0.944	0.500	0.500	0.768	0.500	0.051		0.467								(2mm)	(3mm)
	10-2JX	● ●	1.259	0.625	0.625	0.965	0.625	-		0.592									
	KGDR/L 6-2.4JX	● ●	0.787	0.375	0.375	0.709	0.375	0.098	4.75	0.336	0.094"	0.118"	1	SB-40120TR	-	LTW-15S	GDG2520..., GDM2520... GDM3020..., GDM3020... GDM3020...		
	8-2.4JX	● ●	0.944	0.500	0.500	0.768	0.500	0.051		0.461								(2.4mm)	(3mm)
	10-2.4JX	● ●	1.259	0.625	0.625	0.965	0.625	-		0.586									
	KGDR/L 8-3JX	● ●	0.944	0.500	0.500	0.768	0.500	0.051	4.75	0.453	0.118"	0.118"	1	SB-40120TR	-	LTW-15S	GDG3020... GDM3020... GDM3020...		
	KGDR/L 10-3JX	● ●	1.259	0.625	0.625	0.965	1.142	0.625	-	4.75	0.578	0.118"	0.157"	1	SB-40120TR	-	LTW-15S	GDG3020... GDM3020... GDM3020... GDM4020... GDM4020...	
10-3D38JX	● ●	1.496	0.703								(3mm)								(4mm)
12-3D42JX	● ●	1.653	0.750	0.500	1.220	0.750	-	-	-	0.453			0	-	SE-50125TR	LTW-20			
43-3D42JX	● ●																		

0.157" (4mm) width insert cannot be installed in KGDR/L 8-3JX or KGDR/L 1212JX-3

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

When machining the material greater than ø1.417" (ø36mm) with KGDR/L ...-3D38, KGDR/L ...-3D42 and KGDR/L ...-3D51 toolholders, please use 1-edge inserts.

Maximum cutting diameter for 2-edge inserts is ø36mm.

Toolholder Identification System

Inch Size KGD / KGDS
(for small parts)

KGD

R

6

3

1.3

JX

D38

B

Toolholder hand	
R	Right-hand
L	Left-hand

Applicable Inserts	
GDM/GDMS	Edge width: 3~4 mm
GDM/GDMS	Edge width: 1.3 mm

Overall Length	
4.75"	

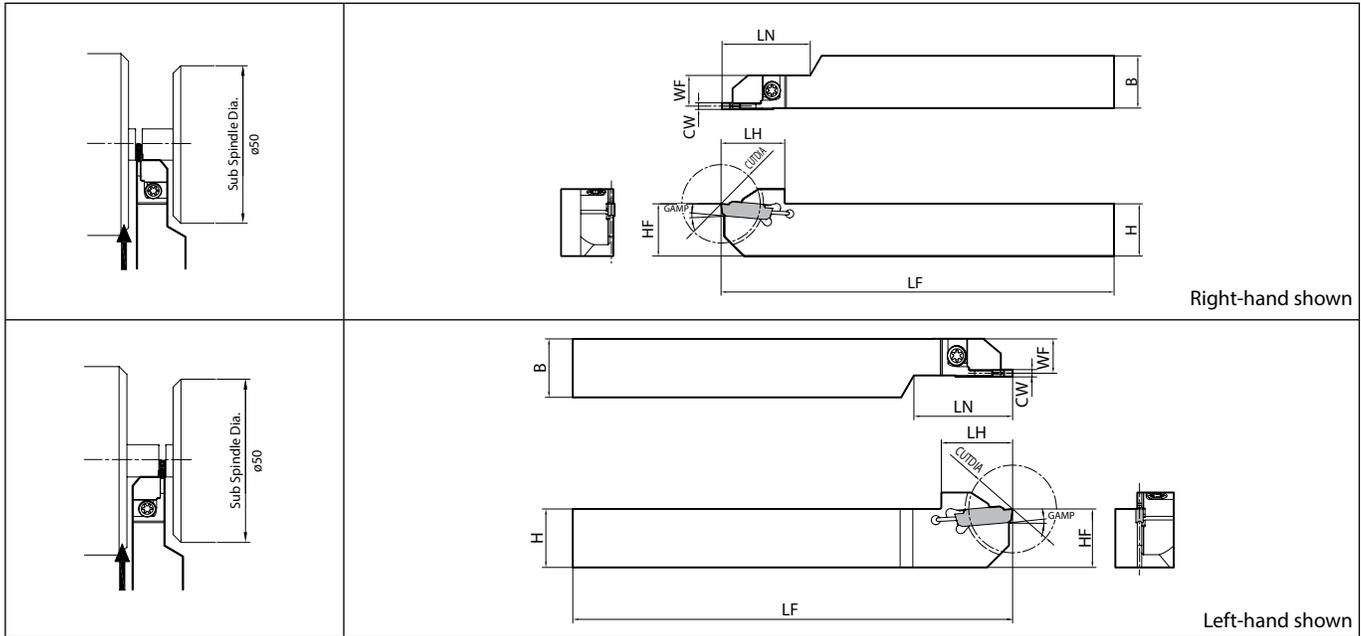
Others	
B	For Sub-Spindle Tooling

Shank size
Square Shank:
 This number will represent the number of sixteenths of width and height.
 Ex. 6/16 = 3/8" Square
Rectangle Shank:
 the first digit represents the number of eighths of width and the second digit the number of quarters of height.
 Ex. Width = 6/8 = 3/4"
 Height = 2/4 = 1/2"

Applicable Inserts	
GDM/GDMS	Edge width: 3~4 mm

Others	
D38	CUTDIA 38 mm

KGDS (Cut-Off / for Sub-Spindle Tooling)



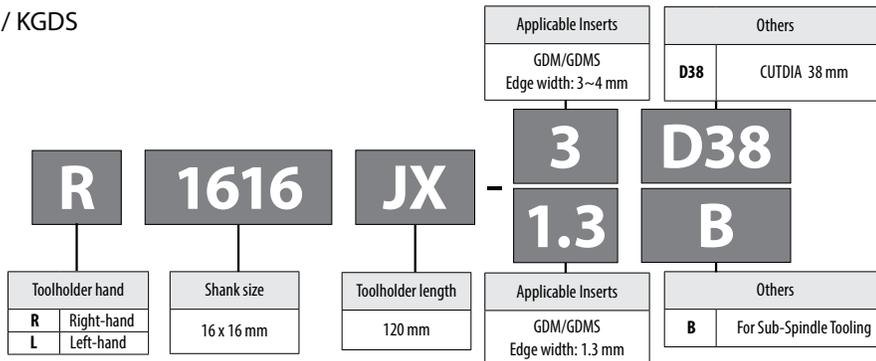
Toolholder Dimensions

Unit	Part Number	Std. Item		Dimensions										Angle	Spare Parts		Applicable Inserts ● H32, H33			
		R	L	CUTDIA	H	B	LH	HF	LF	LN	WF	CW min.	CW max.		GAMP (°)	Screw		Wrench		
mm	KGDS% 1616JX-1.3B	●	●												9.5	1.3	1.3	SB-40120TR	LTW-15S	GDM1316...
	1616JX-1.5B	●	●	24	16	16	19.5	16	120	27	9.4	1.5	1.5	5			GDM1516...			
	1616JX-2B	●	●									9.2	2	3	1					GDG2020..., GDM2020..., GDMS2020..., GDG2520..., GDM2520..., GDG3020..., GDM3020..., GDMS3020...

Toolholder Identification System

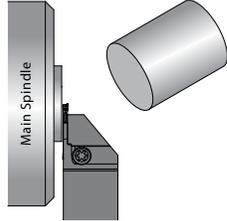
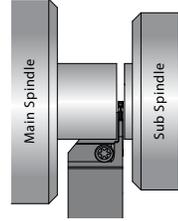
Metric Size KGD / KGDS
(for Small Parts)

KGD
KGDS

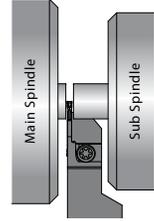
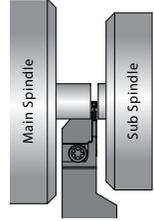


KGD / KGDS Selection Reference

KGD

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

KGDS

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

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

KGD-JCTM

Direct Coolant-Through Cut-Off Toolholders for Small Parts Machining

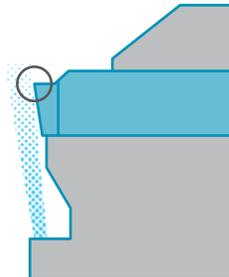
1 Optimized coolant hole position

2 Discharges coolant towards the flank face of the insert

Coolant Discharge

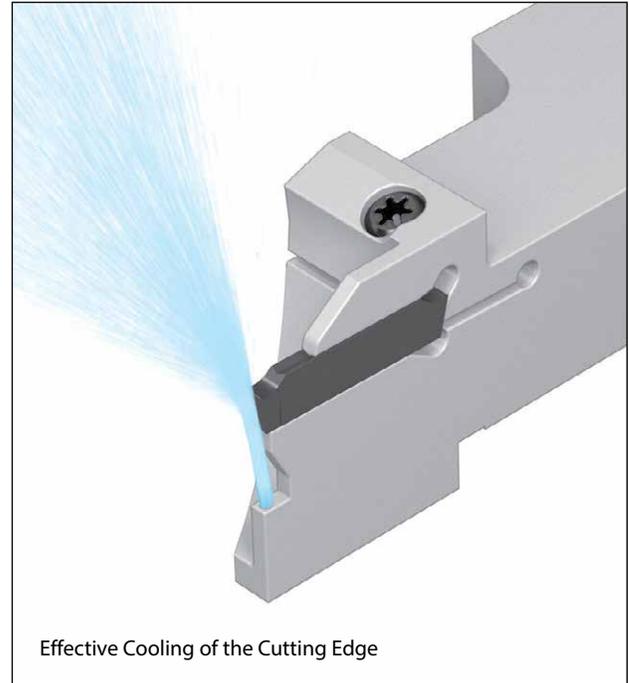
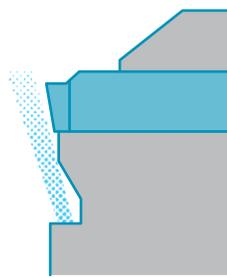
KGD-JCTM

Sufficient cooling towards the cutting edge



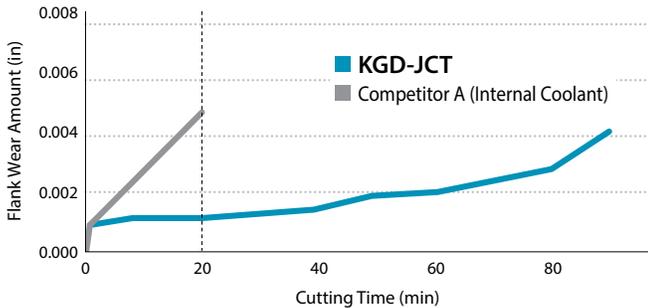
Competitor A

Coolant does not flow directly towards the cutting edge



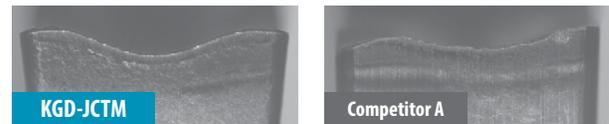
Effective Cooling of the Cutting Edge

Wear Resistance Comparison (Internal Evaluation)



Cutting Conditions : $V_c = 260$ sfm, $f = 0.0024$ ipr (at $\sim \varnothing 0.079''$: $f = 0.0007$ (ipr)
 KGDR1625H-2JCT, GDM2020N-015PF PR1535 (Insert Width : 0.079") Workpiece : 304 ($\varnothing 0.984''$)
 Internal Coolant(218 psi) Cut-off

Cutting Edge (After Machining 20 min)

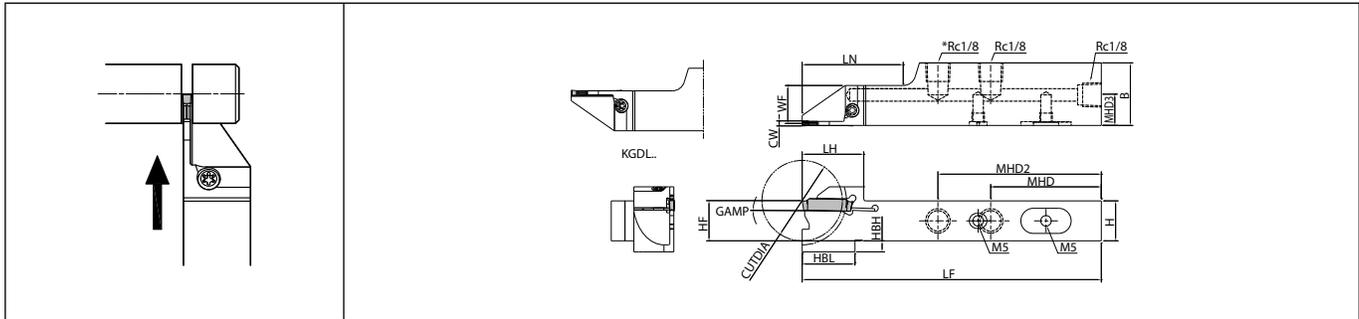


High density and high speeds coolant provides effective cooling of the cutting edge

Superior cooling action improves tool life

H CUT-OFF

KGD-JCTM (Coolant-Through Toolholders)



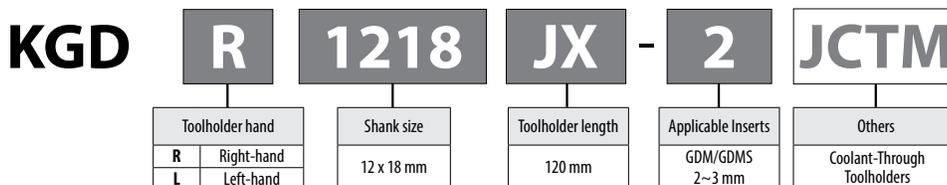
Right-hand shown | KGD% 12...-JCTM : 2-Rc1/8

Toolholder Dimensions

Unit	Part Number	Std. Item		Dimensions															Angle	Coolant Hole	Spare Parts				Applicable Inserts ● H32, H33												
		R	L	CUTDIA	H	B	LH	MHD	MHD2	MHD3	HF	HBH	HBL	LF	LN	WF	CW min.	CW max.			GAMP (°)	Plug	Plug	Screw		Wrench											
mm	KGDR 1218JX-2JCTM	●		24	12	18	19.5	54	-	8.4	12	8.5	21	44	11.2	0.079" (2mm)	0.118" (3mm)	1	Yes					GDG2020... GDM2020... GDMS2020... GDG2520... GDM2520... GDG3020... GDM3020... GDMS3020...													
	KGDL 1218JX-2JCTM		●							7.7			21.5																								
	KGDR 1625JX-2JCTM	●		32	16	25	24.5	44	65	12.2	16	4.5	21	40	15.2																						
	KGDL 1625JX-2JCTM		●							7.7																											
	KGDR 1218JX-2.4JCTM	●		24	12	18	19.5	54	-	8.4	12	8.5	21	44	11	0.094" (2.4mm)	0.118" (3mm)	1	Yes					GP-1	HS5X4LP	SB-40120TR	LTW-15S	GDG2520... GDM2520... GDG3020... GDM3020... GDMS3020...									
	KGDL 1218JX-2.4JCTM		●							7.7			21.5																								
	KGDR 1625JX-2.4JCTM	●		32	16	25	24.5	44	65	12.2	16	4.5	21	40	15																						
	KGDL 1625JX-2.4JCTM		●							7.7																											
	KGDR 1218JX-3JCTM	●		24	12	18	19.5	54	-	8.6	12	8.5	21	44	10.8	0.118" (3mm)	0.118" (3mm)	1	Yes													GDG3020... GDM3020... GDMS3020...					
	KGDL 1218JX-3JCTM		●							7.7			21.5																								
	KGDR 1625JX-3JCTM	●		32	16	25	24.5	44	65	12.2	16	4.5	21	40	14.8	0.118" (3mm)	0.157" (4mm)	1	Yes																		GDG3020... GDM3020... GDMS3020... GDM4020... GDMS4020...
	KGDL 1625JX-3JCTM		●							7.7																											

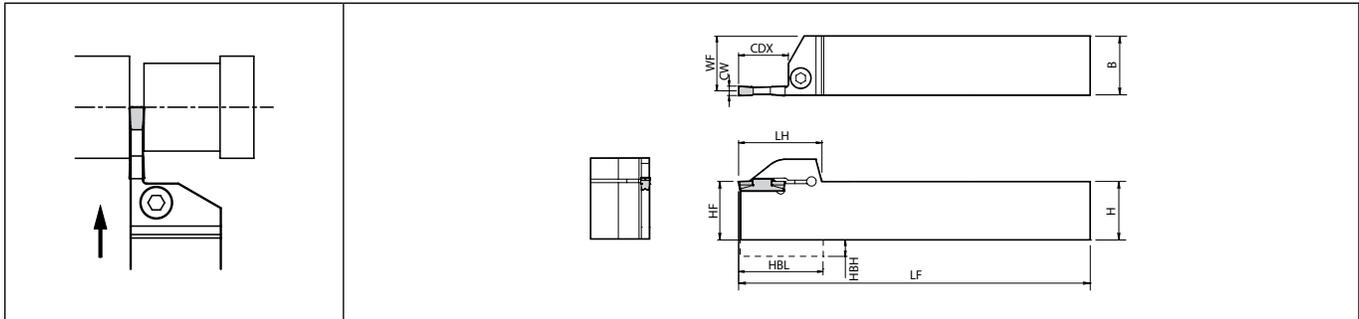
Toolholder Identification System

Metric Size KGD-JCTM (Coolant-Through Toolholders)



● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

KGD (Integral Type)



Right-hand shown

Toolholder Dimensions

Unit	Part Number	Std. Item		Dimensions												Spare Parts				Applicable Inserts H32, H33
		R	L	CDX	H	B	LH	HF	HBH	HBL	LF	WF	CW min.	CW max.	Clamp Bolt	Screw	Wrench	Wrench		
Inch	KGD% 12-2T17 16-2T17	●	●	0.669	0.75	0.75	1.28	0.75	-	-	4.92	0.71	0.079" (2mm)	0.118" (3mm)	HH5X16	-	LW-4	-	GDG2020..., GDM2020... GDMS2020..., GDG2520... GDM2520..., GDG3020... GDM3020..., GDMS3020...	
		●	●		1.00	1.00		1.00	-	-	5.90	0.96			HH5X25					
	KGD% 12-3T10 12-3T20 12-3T254 16-3T10 16-3T20 16-3T254	●	●	0.393	0.75	0.75	1.20	0.75	-	-	4.92	0.70	0.118" (3mm)	0.157" (4mm)	HH5X16	-	LW-4	-	GDG3020... GDM3020... GDMS3020... GDM4020... GDMS4020...	
		●	●	0.787			1.35													
		●	●	1.000			1.52													
		●	●	0.393			1.20													
		●	●	0.787			1.39													
	KGD% 12-4T10 12-4T20 16-4T10 16-4T20 16-4T25	●	●	0.393	0.75	0.75	1.20	0.75	-	-	4.92	0.68	0.157" (4mm)	0.197" (5mm)	HH5X16	-	LW-4	-	GDM4020... GDMS4020...	
		●	●	0.787			1.35													
		●	●	0.393			1.20													
		●	●	0.787			1.39													
		●	●	1.000			1.52													
		●	●	0.984			1.59													

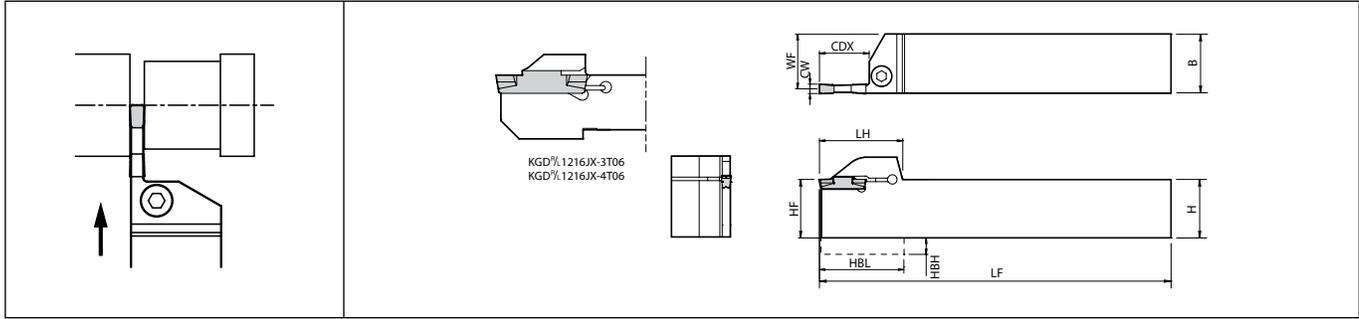
CDX: Maximum grooving depth. (If the CDX is 0.0787" (20mm) or more, the maximum groove depth made by a 2-edge insert will be 0.709" (18 mm).

Recommended tightening torque of clamp bolt: 6.5N-m (HH5X00), 8.0N-m (HH6X25), 2.5N-m (SE-50125TR)

Above toolholders are applicable to external grooving, too.

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

KGD (Integral Type)



Right-hand shown

Toolholder Dimensions

Unit	Part Number	Std. Item		Dimensions											Spare Parts				Applicable Inserts ● H32, H33		
		R	L	CDX	H	B	LH	HF	HBH	HBL	LF	WF	CW min.	CW max.	Clamp Bolt	Screw	Wrench	Wrench			
mm	KGD% 1616H-2T06	●	●	6	16	16	27.7	16	4	28	100	15.2	0.079" (2mm)	0.118" (3mm)	HH5X16	-	LW-4	-	GDG2020... GDM2020... GDG2520... GDM2520... GDG3020... GDM3020... GDM53020...		
	KGD% 1616H-2T10	●	●	10			30.2													30.5	
	KGD% 1616H-2T17	●	●	17			31.2													31.5	
	2012K-2T17	●	●	17	12	32.5	20	20	-	-	125	11.2	-	-	-	-	-				
	2020K-2T06	●	●	6	28	19.2															
	2020K-2T10	●	●	10	30.5	19.2															
	2020K-2T17	●	●	17	32.5	19.2	25	25	25	-	150	24.2	-	-	-	-	-				
	2525M-2T06	●	●	6	28	24.2															
	2525M-2T10	●	●	10	30.5	24.2															
	2525M-2T17	●	●	17	32.5	24.2	12	20	-	-	125	11	0.094" (2.4mm)	0.118" (3mm)	HH5X16	-	LW-4	-	GDG2520..., GDM2520..., GDG3020... GDM3020..., GDM53020...		
	KGD% 2012K-2.4T17	●	●	17	12	32.5															
	2020K-2.4T17	●	●	17	20	19															
	KGD% 1216JX-3T06	●	●	6	12	16	19.5	12	2	19	120	14.8	0.118" (3mm)	0.157" (4mm)	HH5X16	-	SE-50125TR	-	LW-4	-	GDG3020... GDM3020... GDM53020... GDM4020... GDM54020...
	1616H-3T06	●	●	6	16	27.7	28														
	1616H-3T10	●	●	10	16	30.2	30.5														
	1616H-3T20	●	●	20	16	34.2	34.5	20	20	20	125	10.8	-	-	-	-	-	-			
	2012K-3T20	●	●	20	12	34.5	18.8														
	2020K-3T06	●	●	6	20	28	18.8														
2020K-3T10	●	●	10	20	30.5	23.8	25	25	-	-	150	23.8	-	-	-	-	-				
2020K-3T20	●	●	20	20	34.5	23.8															
2525M-3T06	●	●	6	25	28	23.8															
2525M-3T10	●	●	10	25	30.5	23.8	25	25	-	-	150	23.3	0.157" (4mm)	0.197" (5mm)	HH5X16	-	LW-4	-	GDM4020... GDM54020...		
2525M-3T20	●	●	20	25	35.5	23.3															
KGD% 1216JX-4T06	●	●	6	12	16	19.5														12	2
2020K-4T10	●	●	10	20	20	30.5	20	-	-	125	18.3	0.157" (4mm)	0.197" (5mm)	HH5X16	-	LW-4	-				
2020K-4T20	●	●	20	20	34.5	18.3	0.157" (4mm)	0.197" (5mm)	HH5X16	-	LW-4	-									
2525M-4T10	●	●	10	25	30.5	23.3	0.157" (4mm)	0.197" (5mm)	HH5X25	-	LW-4	-									
2525M-4T20	●	●	20	25	35.5	23.3	0.157" (4mm)	0.197" (5mm)	HH5X25	-	LW-4	-									
2525M-4T25	●	●	25	25	40.5	23.3	0.157" (4mm)	0.197" (5mm)	HH5X25	-	LW-4	-									

CDX : Maximum grooving depth. (If the CDX is 0.0787" (20mm) or more, the maximum groove depth made by a 2-edge insert will be 0.709" (18 mm).

Recommended tightening torque of clamp bolt : 6.5N·m (HH5X00), 8.0N·m (HH6X25), 2.5N·m (SE-50125TR)

Above toolholders are applicable to external grooving, too.

Toolholder Identification System

Metric KGD (Integral Type)

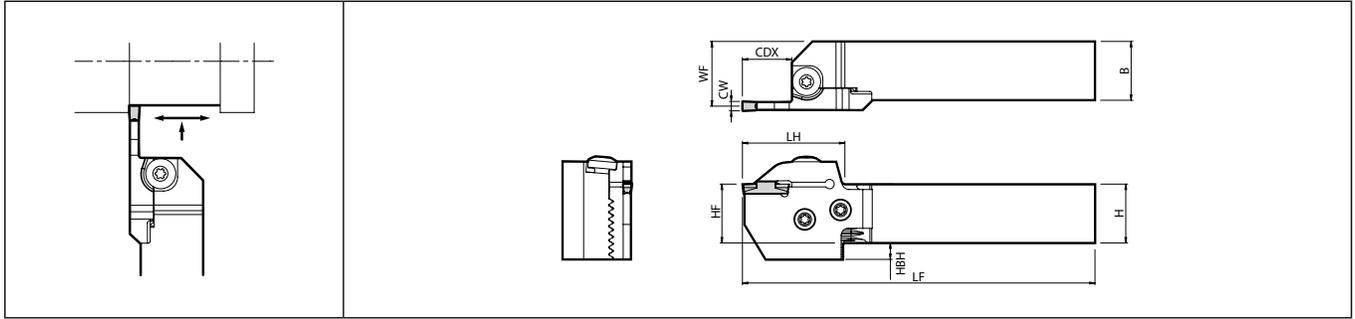
KGD **R** **1616** **H** - **2** **T** **06**

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

● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)

Contact your local Kyocera sales engineer to upgrade old products to new technology

KGD-S (0° SwitchBlade Type)



Right-hand shown (Right-hand blade and right-hand toolholder)

Toolholder Dimensions (Blade and Toolholder)

Unit	Shank angle	Width (in)	Max. depth of cut (in)	Shank size (in)	Unit Part Number	Std. Item		Blade Part Number G56	Toolholder Part Number G56	Dimensions										Spare Parts						
						R	L			CDX	H	B	LH	HF	HBH	LF	WF	CW min.	CW max.	Clamp Screw (for insert clamp)	Screw (for blade)	Wrench				
Inch	0°	0.079" (2mm)	0.669" (17mm)	<input type="checkbox"/> 0.75	KGD% 12X-2T17S	●	●	KGD% -2T17-C	KGD% 12-C	0.669	0.75	0.75	1.57	0.75	0.472	4.80	0.88	0.079" (2mm)	0.118" (3mm)	BH6X10TR	SB-60120TR	LTW-25				
				<input type="checkbox"/> 1.00	16X-2T17S	●	●		KGD% 16-C		1.00	1.00	1.57	1.00	0.276	5.78	1.13									
				<input type="checkbox"/> 1.25	No unit description ⇔				KGD% 20-C		1.25	1.25	1.57	1.25	-	6.58	1.38									
				<input type="checkbox"/> 0.75	KGD% 12X-3T10S	●	●		KGD% -3T10-C		KGD% 12-C	0.394	0.75	0.75	1.29	0.75	0.472						4.52	0.86		
				<input type="checkbox"/> 1.00	16X-3T10S	●	●				KGD% 16-C		1.00	1.00	1.29	1.00	0.276						5.51	1.11		
				<input type="checkbox"/> 1.25	No unit description ⇔						KGD% 20-C		1.25	1.25	1.29	1.25	-						6.30	1.37		
				0.118" (3mm)	0.394" (10mm)	<input type="checkbox"/> 0.75	KGD% 12X-3T20S		●		●	KGD% -3T20-C	KGD% 12-C	0.787	0.75	0.75	1.68						0.75	0.472	4.92	0.86
						<input type="checkbox"/> 1.00	16X-3T20S		●		●		KGD% 16-C		1.00	1.00	1.68						1.00	0.276	5.90	1.11
						<input type="checkbox"/> 1.25	No unit description ⇔						KGD% 20-C		1.25	1.25	1.68						1.25	-	6.70	1.37
		<input type="checkbox"/> 0.75	KGD% 12X-4T10S			●	●	KGD% -4T10-C	KGD% 12-C	0.394	0.75		0.75		1.29	0.75	0.472	4.52	0.84							
		<input type="checkbox"/> 1.00	16X-4T10S			●	●		KGD% 16-C		1.00		1.00		1.29	1.00	0.276	5.51	1.09							
		<input type="checkbox"/> 1.25	No unit description ⇔						KGD% 20-C		1.25		1.25		1.29	1.25	-	6.30	1.35							
		0.157" (4mm)	0.787" (20mm)			<input type="checkbox"/> 0.75	KGD% 12X-4T20S	●	●	KGD% -4T20-C	KGD% 12-C		0.787		0.75	0.75	1.68	0.75	0.472	4.92	0.84					
						<input type="checkbox"/> 1.00	16X-4T20S	●	●		KGD% 16-C				1.00	1.00	1.68	1.00	0.276	5.90	1.09					
						<input type="checkbox"/> 1.25	No unit description ⇔				KGD% 20-C				1.25	1.25	1.68	1.25	-	6.70	1.35					
				<input type="checkbox"/> 0.75	KGD% 12X-4T25S	●	●	KGD% -4T25-C	KGD% 12-C		0.984	0.75		0.75	1.88	0.75	0.472	5.11	0.84							
				<input type="checkbox"/> 1.00	16X-4T25S	●	●		KGD% 16-C			1.00		1.00	1.88	1.00	0.276	6.10	1.09							
				<input type="checkbox"/> 1.25	No unit description ⇔				KGD% 20-C			1.25		1.25	1.88	1.25	-	6.89	1.35							

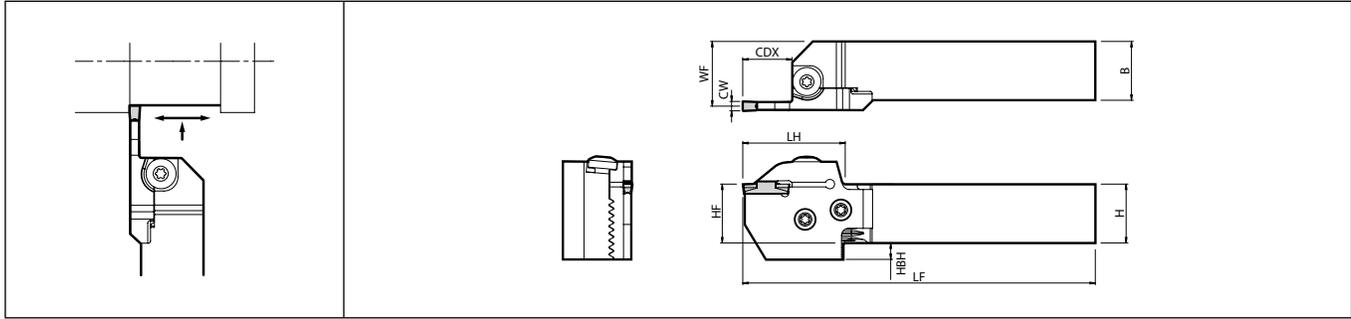
- When using the toolholder in normal mounting position, the lower jaw of the toolholder may interfere with the tool presetter.
- The toolholder and blade descriptions are printed on the toolholder body. (Unit Part Number is not printed.)
KGD-S: Right-hand blade for right-hand toolholder, left-hand blade for left-hand toolholder.
 The toolholder is applicable for all blade with suitable hand.
- If the unit description is not listed ("No unit description"), please purchase toolholder and blade separately.
- CDX: Maximum grooving depth. (If the CDX is 0.787" (20mm) or more, the maximum groove-depth of groove made by a 2-edge insert will be 0.709" (18mm).)
- Recommended tightening torque for insert clamp screw : 6.5 Nm (Groove width 0.079" ~ 0.157" (2 ~ 4mm))
- Above toolholders are applicable to external grooving, too.

Choose an insert with a width that falls within the CW min. and CW max. parameters shown in table above.

Applicable Inserts ● H32~H33

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

KGD-S (0° SwitchBlade Type)



Right-hand shown (Right-hand blade and right-hand toolholder)

Toolholder Dimensions (Blade and Toolholder)

Unit	Shank angle	Width (mm)	Max. depth of cut (mm)	Shank size (mm)	Unit Part Number	Std. Item		Blade Part Number G56	Toolholder Part Number G56	Dimensions										Spare Parts														
						R	L			CDX	H	B	LH	HF	HBH	LF	WF	CW min.	CW max.	Clamp Screw (for insert clamp)	Screw (for blade)	Wrench												
mm	0°	2	17	□20	KGD% 2020X-2T17S	●		KGD% -2T17-C	KGD% 2020-C	17	20	20		20	12	122	23.4	0.079" (2mm)	0.118" (3mm)	BH6X10TR	SB-60120TR	LTW-25												
				□25	2525X-2T17S	●	●		KGD% 2525-C		25	25	40	25	7	147	28.4																	
				□32	No unit description ⇨							KGD% 3232-C	32	32		32	-						167	35.4										
				3	10	□20	KGDR 2020X-3T10S		●			KGD% -3T10-C	KGD% 2020-C	10	20	20							20	12	115	23	0.118" (3mm)	0.157" (4mm)						
						□25	2525X-3T10S		●		●		KGD% 2525-C		25	25	33						25	7	140	28								
						□32	No unit description ⇨								KGD% 3232-C	32	32							32	-	160			35					
						20	20		□20		KGD% 2020X-3T20S		●		●	KGD% -3T20-C	KGD% 2020-C						20	20	20				20	12	125	23	0.157" (4mm)	0.197" (5mm)
									□25		2525X-3T20S		●		●		KGD% 2525-C							25	25	43			25	7	150	28		
									□32		3232X-3T20S		●				KGD% 3232-C							32	32				32	-	170	35		
		4	10					□20	KGDR 2020X-4T10S	●			KGD% -4T10-C		KGD% 2020-C		10	20	20						20	12			115	22.5	0.157" (4mm)	0.197" (5mm)		
								□25	2525X-4T10S	●	●				KGD% 2525-C			25	25					33	25	7			140	27.5				
								□32	No unit description ⇨										KGD% 3232-C					32	32				32	-				
				20	20			□20	KGD% 2020X-4T20S	●		KGD% -4T20-C		KGD% 2020-C	20			20	20						20	12	125	22.5	0.157" (4mm)	0.197" (5mm)				
								□25	2525X-4T20S	●	●			KGD% 2525-C				25	25					43	25	7	150	27.5						
								□32	3232X-4T20S	●				KGD% 3232-C				32	32						32	-	170	34.5						
						25	25	□20	KGD% 2020X-4T25S	●	●			KGD% -4T25-C		KGD% 2020-C		25	20				20		20	12	130	22.5					0.157" (4mm)	0.197" (5mm)
								□25	2525X-4T25S	●	●					KGD% 2525-C			25				25	48	25	7	155	27.5						
								□32	3232X-4T25S	●						KGD% 3232-C			32				32		32	-	175	34.5						

- When using the toolholder in normal mounting position, the lower jaw of the toolholder may interfere with the tool presetter.
- The toolholder and blade descriptions are printed on the toolholder body. (Unit Part Number is not printed.)
KGD-S: Right-hand blade for right-hand toolholder, left-hand blade for left-hand toolholder.
 The toolholder is applicable for all blade with suitable hand.
- If the unit description is not listed ("No unit description"), please purchase toolholder and blade separately.
- CDX: Maximum grooving depth. (If the CDX is 0.787" (20mm) or more, the maximum groove-depth of groove made by a 2-edge insert will be 0.709" (18mm).)
- Recommended tightening torque for insert clamp screw : 6.5 Nm (Groove width 0.079" ~ 0.157" (2 ~ 4mm))
- Above toolholders are applicable to external grooving, too.

Choose an insert with a width that falls within the CW min. and CW max. parameters shown in table above.

Applicable Inserts ● H32~H33

KGD-JCT

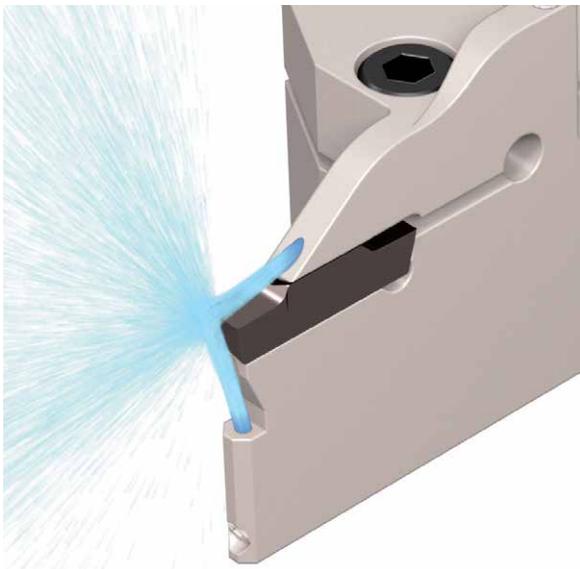
Coolant-Through Holders for External Grooving and Cut-Off

Coolant is directed from the rake surface and the flank face of the insert
Improved chip control and longer tool life for external grooving and cut-off

1 Excellent Chip Control

Coolant towards the rake face

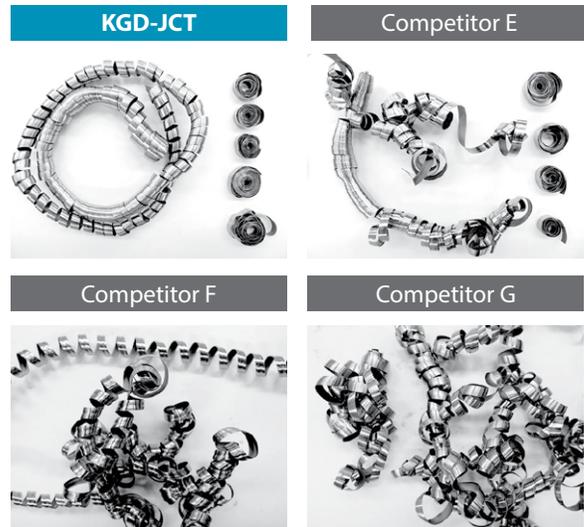
Coolant Hole position and angle improve chip control



Chip Control Comparison (Internal Evaluation)

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

f = 0.002 ipr (218 psi)



Cutting Conditions: Vc = 490 sfm, f = 0.002 ipr, d = 0.315", Wet
Edge Width 4 mm (0.157") Workpiece: 4131 Grooving

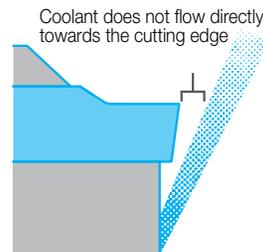
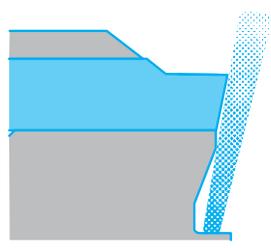
2 Keeps the Cutting Edge Cool for Longer Tool Life

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

Directing coolant towards the cutting edge lengthens tool life

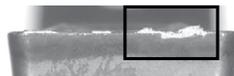
KGD-JCT

Competitor E

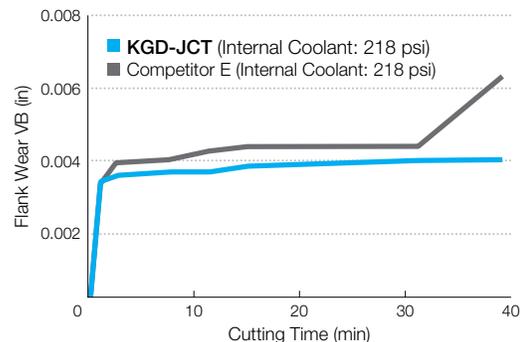


After Machining 39 min

Defect



Wear Resistance Comparison (Internal Evaluation)

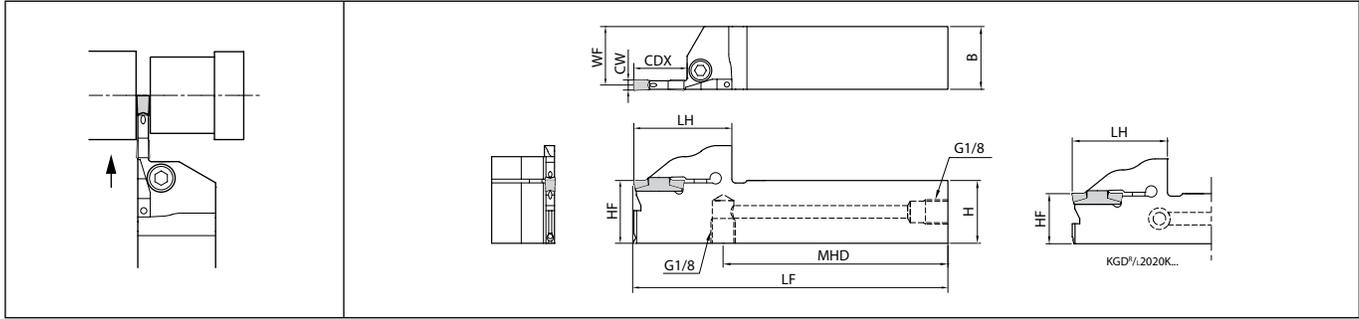


Cutting Conditions: Vc = 590 sfm, f = 0.006 ipr, d = 0.354", Wet
Edge Width 0.158" Workpiece: 4131 Grooving

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

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

KGD-JCT (Coolant-Through Toolholders)



Right-hand shown | Pressure Resistance : ~2,175 psi

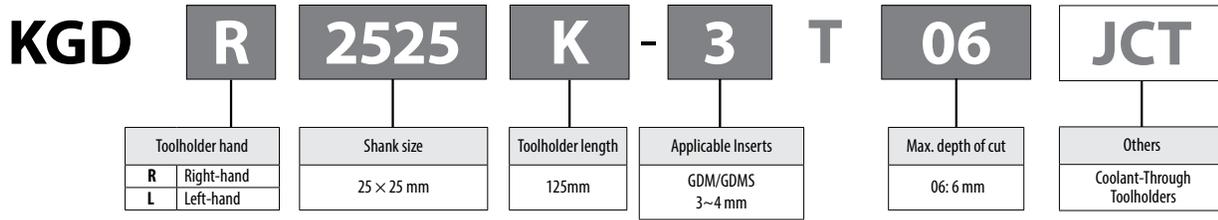
Toolholder Dimensions

Unit	Part Number	Std. Item		Dimensions										Coolant Hole	Spare Parts			Applicable Inserts H32, H33	
		R	L	CDX	H	B	LH	MHD	HF	LF	WF	CW min.	CW max.		Clamp Screw	Plug	Wrench		
Inch	KGD% 12-3T20JCT	●	●	0.787	0.750	0.750	1.496	3.590	0.750	5.000	0.702	0.118" (3mm)	0.157" (4mm)	Yes	HH5X16	HSG1/8X8.0	LW-4	GDG3020..., GDM3020... GDMS3020..., GDM4020... GDMS4020...	
	16-3T20JCT	●	●		1.000	1.000	1.535	3.551	1.000		0.952				HH5X25				
	KGD% 12-4T20JCT	●	●	0.787	0.750	0.750	1.496	3.590	0.750	5.000	0.683	0.157" (4mm)	0.197" (5mm)	Yes	HH5X16	HSG1/8X8.0	LW-4		
	16-4T20JCT	●	●		1.000	1.000	1.535	3.551	1.000		0.933				HH5X25				
	16-4T25.4JCT	●	●	1.000	1.000	1.000	1.732	3.354	1.000	5.000	0.933								GDMS4020...
	mm	KGD% 2020K-3T06JCT	●	●	6	20	20	31.5	96.2	20	125	18.8	0.118" (3mm)	0.157" (4mm)	Yes	HH5X16	HSG1/8X8.0		LW-4
2020K-3T10JCT		●	●	10	34			94.2											
2020K-3T20JCT		●	●	20	38			90.2											
2525K-3T06JCT		●	●	6	25	25	31.5	96.5	25	125	23.8				HH5X25	HSG1/8X8.0	LW-4		
2525K-3T10JCT		●	●	10			34	94.5											
2525K-3T20JCT		●	●	20			39	89.5											
KGD% 2020K-4T10JCT		●	●	10	20	20	34	94.2	20	125	18.3	0.157" (4mm)	0.197" (5mm)	Yes	HH5X16	HSG1/8X8.0	LW-4	GDM4020... GDMS4020...	
2020K-4T20JCT		●	●	20			38	90.2											
2525K-4T10JCT		●	●	10			34	94.5											
2525K-4T20JCT		●	●	20	25	25	39	89.5	25	125	23.3				HH5X25	HSG1/8X8.0	LW-4		
2525K-4T25JCT		●	●	25			44	84.5											

H CUT-OFF

Toolholder Identification System

Metric KGD (Integral Type)



INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

KGD Recommended Cutting Conditions (Cut-Off)

PF Chipbreaker

Workpiece Material	Recommended Insert Grade (Vc : sfm)				Feed Rate (f : ipr)						Notes
					PF Corner-R (RE) = 0.001			PF Corner-R (RE) = 0.006			
	MEGACOAT NANO	MEGACOAT		Carbide	Insert Width CW			Insert Width CW			
		PR1535	PR1225		PR1215	GW15	0.051" - 0.059" 1.3mm - 1.5mm	0.079" 2.0mm	0.098" - 0.118" 2.5mm - 3.0mm	0.051" - 0.059" 1.3mm - 1.5mm	
Carbon Steel	☆ 230 - 490	★ 230 - 490	☆ 230 - 590	-	0.0004 - 0.0016	0.0008 - 0.0024	0.0008 - 0.0031	0.0004 - 0.0020	0.0012 - 0.0031	0.0016 - 0.0039	
Alloy Steel	☆ 230 - 490	★ 230 - 490	☆ 230 - 590	-							
Stainless Steel	★ 200 - 390	☆ 200 - 390	☆ 200 - 490	-	0.0004 - 0.0012	0.0004 - 0.0016	0.0004 - 0.0020	0.0004 - 0.0016	0.0012 - 0.0028	0.0016 - 0.0031	
Cast Iron	-	-	★ 260 - 660	☆ 160 - 330	0.0004 - 0.0020	0.0008 - 0.0028	0.0012 - 0.0031	0.0004 - 0.0024	0.0012 - 0.0035	0.0016 - 0.0039	

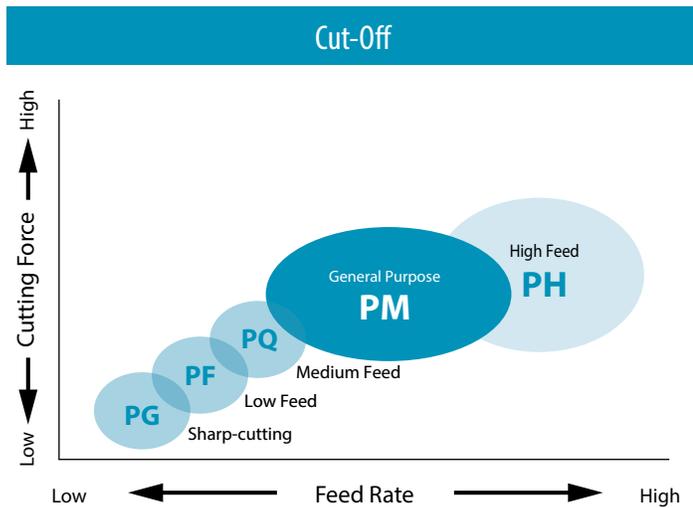
★:1st Recommendation ☆:2nd Recommendation

PQ / PG Chipbreaker

Workpiece Material	Recommended Insert Grade (Vc : sfm)					Feed Rate (f : ipr)				Notes
						PQ		PG		
	MEGACOAT NANO	MEGACOAT		DLC Coated Carbide	Carbide	Insert Width CW		Insert Width CW		
		PR1535	PR1225			PR1215	PDL025	GW15	0.079" 2.0mm	
Carbon Steel	☆ 230 - 490	★ 230 - 490	☆ 230 - 590	-	-	0.0012 - 0.0039	0.0016 - 0.0047	0.0004 - 0.0016	0.0004 - 0.0020	
Alloy Steel	☆ 230 - 490	★ 230 - 490	☆ 230 - 590	-	-					
Stainless Steel	★ 200 - 390	☆ 200 - 390	☆ 200 - 490	-	-	0.0008 - 0.0028	0.0008 - 0.0031	0.0004 - 0.0012	0.0004 - 0.0016	
Cast Iron	-	-	☆ 260 - 660	-	☆ 160 - 330	0.0016 - 0.0039	0.0016 - 0.0047	0.0004 - 0.0016	0.0004 - 0.0020	
Aluminum Alloy	-	-	-	★ 660 - 1,640	☆ 660 - 1,480	-	-	0.0004 - 0.0020	0.0004 - 0.0024	
Brass	-	-	-	-	★ 330 - 660	-	-	0.0004 - 0.0028	0.0004 - 0.0031	

★:1st Recommendation ☆:2nd Recommendation

Application Map



KGD Recommended Cutting Conditions (Cut-Off)

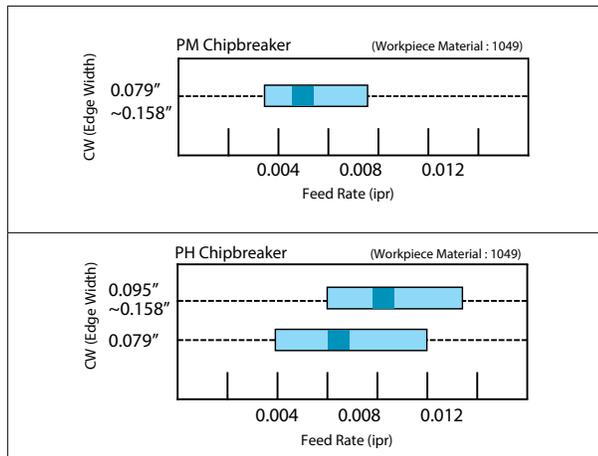
PM / PH Chipbreaker

Workpiece Material	Cutting Conditions (Vc : sfm)			Feed Rate (f : ipr)			Notes
	Recommended Insert Grade			PM	PH		
	MEGACOAT NANO	MEGACOAT		Insert Width CW	Insert Width CW		
	PR1535	PR1225	PR1215	0.079" - 0.158" 2.0mm - 4.0mm	0.079" 2.0mm	0.095" - 0.158" 3.0mm - 4.0mm	
Carbon Steel	☆ 260 - 660	★ 260 - 660	☆ 330 - 660	0.0031 - 0.0071	0.0039 - 0.0098	0.0059 - 0.0110	Coolant
Alloy Steel	☆ 230 - 590	★ 230 - 590	☆ 260 - 590				
Stainless Steel	★ 200 - 490	☆ 200 - 490	☆ 200 - 490	0.0024 - 0.0047	0.0020 - 0.0047	0.0031 - 0.0059	
Cast Iron	-	-	★ 330 - 660	0.0031 - 0.0071	0.0039 - 0.0098	0.0059 - 0.0110	

★:1st Recommendation ☆:2nd Recommendation

Feed Examples

■ : Recommended Feed (f)



Caution During Cut-Off

1. Flood coolant is recommended. Apply enough coolant to the cutting edge
2. Keep spindle revolution constant during processing to achieve longer tool life
3. Cut off as close to the chuck as possible
4. Reduce feed rate by 30-50% when diameter is same as cut-off insert width to prevent impact

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

KPK Series

High Performance Cut-Off Solutions

Easy Insert Replacement Reduces Downtime

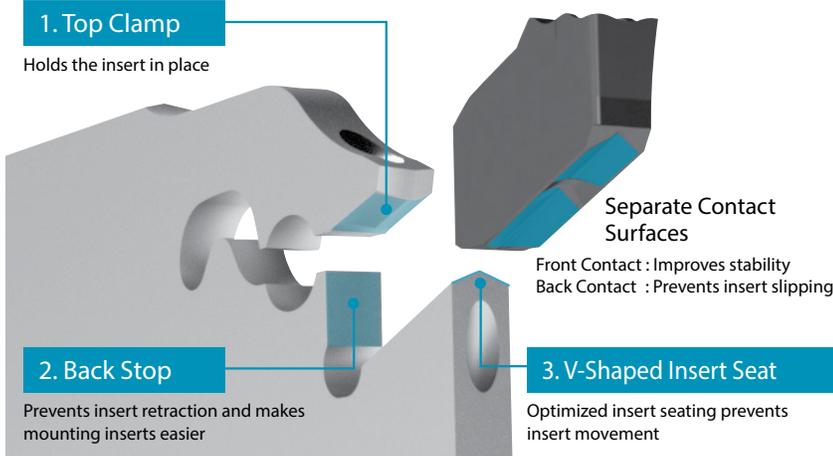
High-Performance, Long Tool Life and Stable Machining with Strong Clamping Mechanism

1 Easy Insert Replacement

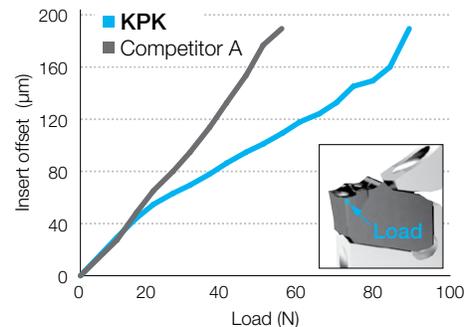


2 Firm Insert Clamp Ensures Added Safety and Security

The firmly secured insert uses three contact surfaces to eliminate sliding or chattering

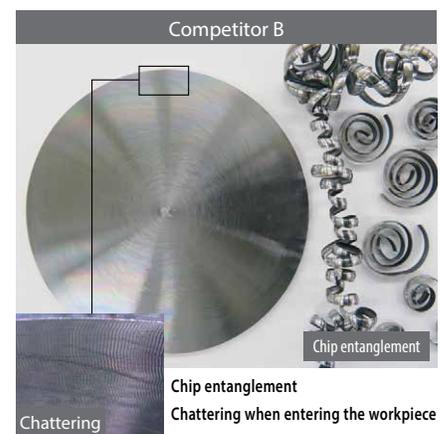
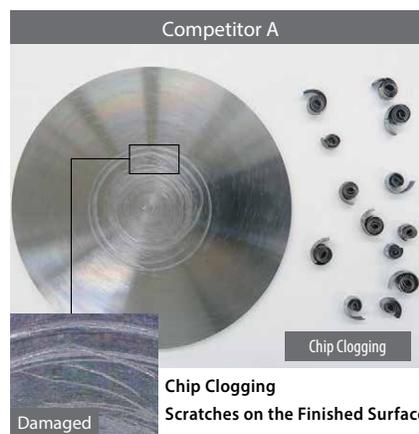


Insert Deviation Comparison (Internal Evaluation)



Measured tool : KPKB32-3 PKM30N-025PM

Cutting Performance Comparison (Internal Evaluation)



Cutting Conditions : n = 320 RPM (constant) , Vc = ~ 330 sfm, f = 0.005 ipr, Wet (External coolant) Workpiece : 4137 (ø 3.937") Cutting Edge Width : 0.118" (3mm), PM Chipbreaker

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

3 Unique Chipbreaker Designs for Long Tool Life and Stable Machining

Advanced chipbreaker technology inherited from KGD lineup provides excellent chip control



PM Chipbreaker
General Purpose

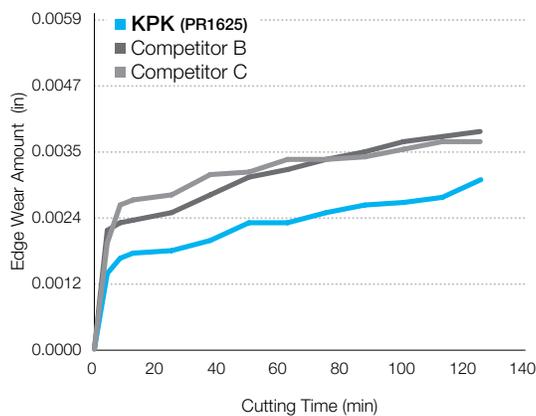
Insert Grades
 Steel : PR1625
 Stainless Steel : PR1535
 Cast Iron and Aluminum : GW15



PH Chipbreaker
Tough Edge
High-Feed

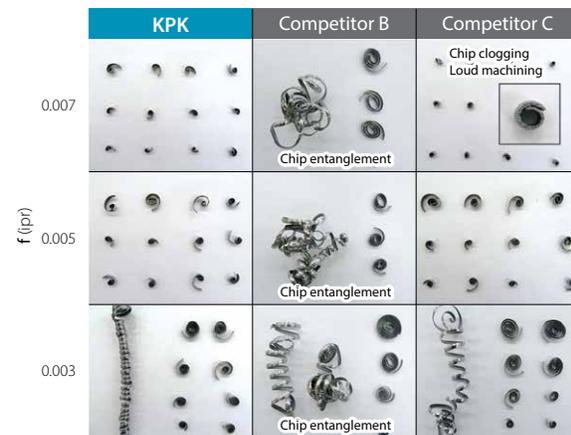
Insert Grades
 Steel : PR1625
 Stainless Steel : PR1535

Wear Resistance Comparison (Internal Evaluation)



Cutting Conditions : n = 955 RPM (constant), Vc = ~ 490 sfm
 f = 0.005 ipr (~ 0.394" : f = 0.002 ipr) Wet (External Coolant)
 Workpiece : 4131 (ø1.969") Cutting Width : 0.118" (3mm), PM Chipbreaker

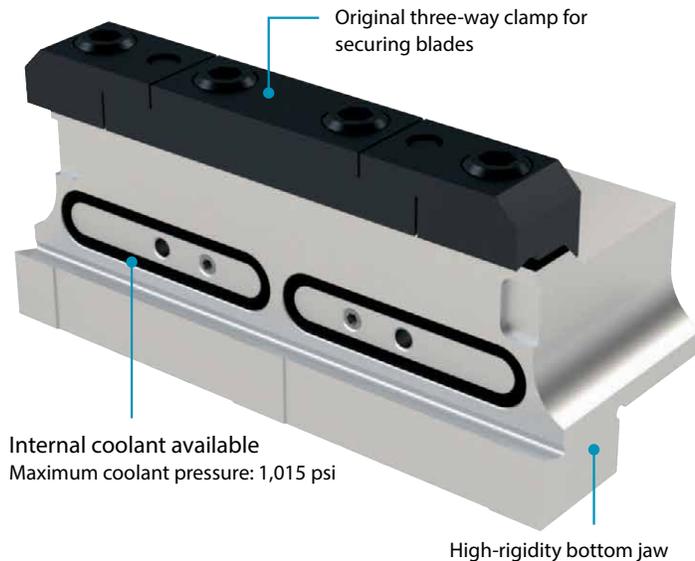
Chip Control Comparison (Internal Evaluation)



Cutting Conditions : n = RPM (constant), Vc = ~ 390 sfm, Wet (External Coolant)
 Workpiece : 4131 (ø1.969") Cutting Width : 0.118" (3mm), PM Chipbreaker

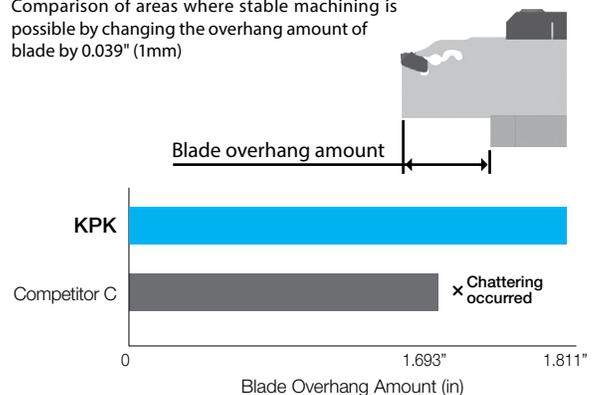
4 Rigid Tool Holder Block Prevents Chattering and Provides Internal Coolant

KPKTB-JCT



Chatter Resistance Comparison (Internal evaluation)

Comparison of areas where stable machining is possible by changing the overhang amount of blade by 0.039" (1mm)

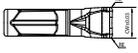
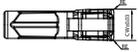


Cutting Conditions : n = 650 RPM (Constant), Vc = ~ 330 sfm, f = 0.005 ipr
 Wet (Internal Coolant : Normal Pressure), Workpiece : 4137 (ø1.969")
 Cutting Width : 0.118" (3mm), PM Chipbreaker

KTKTB block is compatible with internal coolant with an optional internal connector. (~145 psi)

See Coolant Supply Method (Type C) page H59

PKM

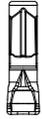
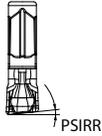
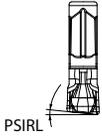
		Carbon Steel / Alloy Steel		Stainless Steel		Cast Iron		Non-Ferrous Metals		P		M		K		N		
Insert	Part Number	No. of Edges	Dimensions (mm)		Angle (°)	Tolerance (mm)		Carbide		Applicable Toolholder H54~H55, H61~H62								
			CW			PSIR %	CW min.	CW max.	PVD									
			in	mm					RE									PR1535
  <p>General purpose</p>	PKM 16N-015PM	1	0.063	1.6	0.15	-	-0.03	+0.03	●	●	KPKB19-1, KPKB26-1(JCT) KPKB32-1(JCT)							
	PKM 20N-020PM		0.079	2	0.2				●	●	KPKB19-2, KPKB26-2(JCT) KPKB32-2(JCT), KPKH % 2020K-2(JCT)							
	PKM 24N-020PM		0.094	2.4	0.2				●	●	KPKB19-2, KPKB26-2(JCT) KPKB32-2(JCT), KPKH % 2020K-2(JCT)							
	PKM 30N-025PM		0.118	3	0.25				●	●	KPKB26-3(JCT), KPKB32-3(JCT) KPKH % ...-3(JCT), KPKH % ...-3D45							
	PKM 40N-030PM		0.157	4	0.3				●	●	KPKB26-4(JCT), KPKB32-4(JCT) KPKH % ...-4(JCT), KPKH % ...-4D45							
	PKM 48N-030PM		0.189	4.8	0.3				●	●	KPKB26-5(JCT), KPKB32-5(JCT) KPKH % 2525M-5							
	PKM 50N-030PM		0.197	5	0.3				●	●	KPKB26-5(JCT), KPKB32-5(JCT) KPKH % 2525M-5							
	PKM 60N-035PM		0.236	6	0.35				●	●	KPKB32-6(JCT)							
  <p>High feed</p>	PKM 20N-020PH	1	0.079	2	0.2	-	-0.03	+0.03	●	●	KPKB19-2, KPKB26-2(JCT) KPKB32-2(JCT), KPKH % 2020K-2(JCT)							
	PKM 30N-030PH		0.118	3	0.3				●	●	KPKB26-3(JCT), KPKB32-3(JCT) KPKH % ...-3(JCT), KPKH % ...-3D45							
	PKM 40N-030PH		0.157	4	0.3				●	●	KPKB26-4(JCT), KPKB32-4(JCT) KPKH % ...-4(JCT), KPKH % ...-4D45							
	PKM 50N-030PH		0.197	5	0.3				●	●	KPKB26-5(JCT), KPKB32-5(JCT) KPKH % 2525M-5							
	PKM 60N-040PH		0.236	6	0.4				●	●	KPKB32-6(JCT)							
  <p>General purpose with lead angle</p>	PKM 16R-015PM-6D 16L-015PM-6D	1	0.063	1.6	0.15	6	-0.03	+0.03	●	●	KB19-1, KPKB26-1(JCT) KPKB32-1(JCT)							
	PKM 20R-020PM-6D 20L-020PM-6D		0.079	2	0.2				●	●	KPKB19-2, KPKB26-2(JCT) KPKB32-2(JCT), KPKH % 2020K-2(JCT)							
	PKM 24R-020PM-6D 24L-020PM-6D		0.094	2.4	0.2				●	●	KPKB19-2, KPKB26-2(JCT) KPKB32-2(JCT), KPKH % 2020K-2(JCT)							
	PKM 30R-025PM-6D 30L-025PM-6D		0.118	3	0.25				●	●	KPKB26-3(JCT), KPKB32-3(JCT) KPKH % ...-3(JCT), KPKH % ...-3D45							
	PKM 40R-030PM-6D 40L-030PM-6D		0.157	4	0.3				●	●	KPKB26-4(JCT), KPKB32-4(JCT) KPKH % ...-4(JCT), KPKH % ...-4D45							
	PKM 50R-030PM-6D 50L-030PM-6D		0.197	5	0.3				●	●	KPKB26-5(JCT), KPKB32-5(JCT) KPKH % 2525M-5							
										●	●	KPKH % 2525M-5						

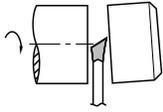
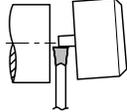
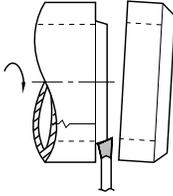
Handed insert shows Right-hand

Recommended Cutting Conditions H63

Lead Angle Direction and Usage

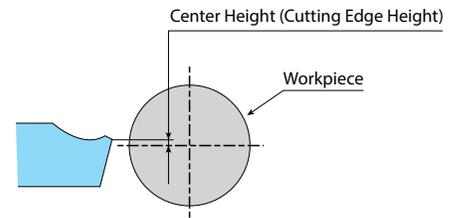
1. If there is no restriction on the finished shape, use an insert without lead angle.
2. Insert with lead angle is recommended to prevent remaining boss.
3. If you want to make the remaining boss smaller when machining small or thin parts, use insert with lead angle.

	N (Neutral)	R (Right hand)	L (Left hand)
Handed insert with lead angle			
	· Inserts with lead angle (PSIR ^{R/L}) reduce burrs at cut-off machining. · The larger the lead angle (PSIR ^{R/L}), the smaller the cutting force. The feed also needs to be smaller.		

	Right hand (R) Lead Neutral	Neutral	Right hand (R) Lead Neutral	Neutral
Solid Workpiece			Hollow Workpiece (Pipe)	

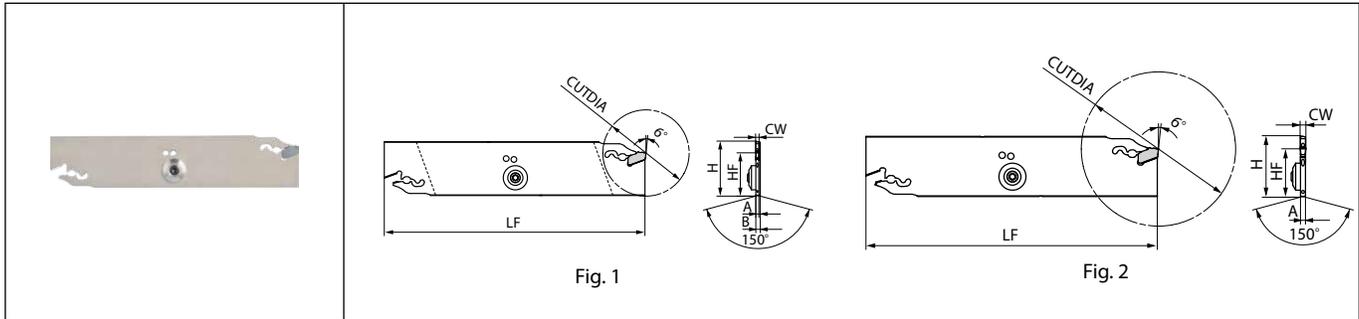
Machining Precautions

1. Set cutting edge height 0.004" (0.1mm) above core height.
 2. Machining with ample supply of coolant is recommended
 3. Machine at constant speeds to gain stable tool life
 4. Make the cut-off as close as possible to the chuck
 5. To prevent impacts, reduce feed rate by 1/2 ~ 1/3 when nearing the center of the workpiece
- Excessive use of the insert may cause chipping or damage to the holder



INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

KPKB-JCT (Coolant-Through Blades)



with coolant supply | Applicable Pressure : ~7MPa

Toolholder Dimensions

Unit	Part Number	Std. Item	Dimensions							Coolant Hole	Fig.	Spare Parts				Applicable Inserts H52	Applicable Tool Block H56, H57
			CUTDIA	A	B	H	HF	LF	CW			Coolant Cap	Insert Wrench	Screw	Wrench		
mm	KPKB 26-1JCT	●	35	1.4	2.6	26	21.4	110	1.6	1	CCP-4	LPW-5	SB-4065TR	FT-15	PKM16...	KPKTB..-26JCT KTKTB..-26	
	KPKB 26-2JCT	●	50	1.8					2								2.4
	KPKB 26-3JCT	●	75	2.6	3	4	2	Coolant cap screw Tightening torque 3.0 N·m	PKM30...	PKM40...							
	KPKB 26-4JCT	●	80	3.4	4	4.8											
	KPKB 26-5JCT	●	80	4.2	5	5											
	KPKB 32-1JCT	●	35	1.4	2.6	32	25	150	1.6	1							CCP-4
	KPKB 32-2JCT	●	50	1.8					2		2.4						
	KPKB 32-3JCT	●	100	2.6	3	4	2	Coolant cap screw Tightening torque 3.0 N·m	PKM30...	PKM40...							
	KPKB 32-4JCT	●	100	3.4	4	4.8											
	KPKB 32-5JCT	●	120	4.2	5	5											
	KPKB 32-6JCT	●	120	5.4	6	6											

See page H58 for insert mounting and removal instructions

When using internal coolant with KTKTB, KTKTBF type toolblocks, coolant supply piping (CCN -5) sold separately.

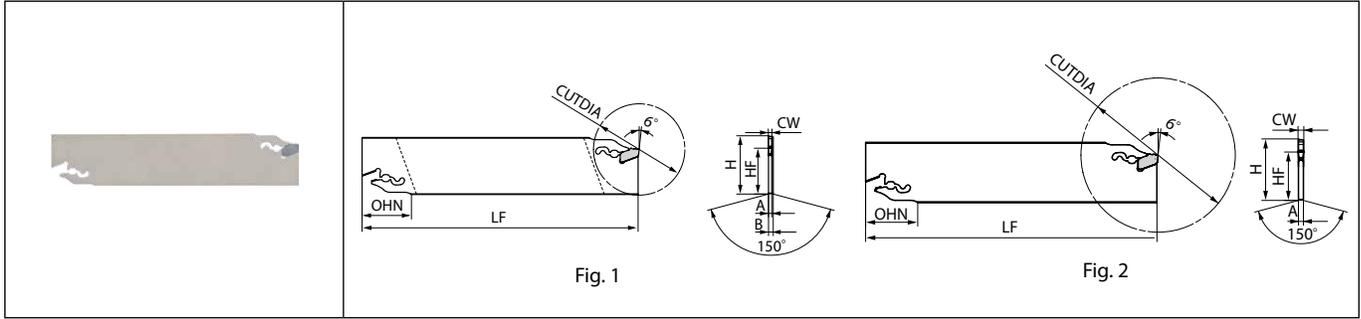
H: Length between virtual vertices

Recommended Cutting Conditions H63

Minimum / Maximum Overhang Length while using Internal Coolant

	Part Number		Overhang Length (mm)	
	Blade	Toolblocks	min.	max.
	KPKB26-1JCT	KPKTB20-26JCT	15	34.5
KPKB26-2/3/4JCT	20		40	
KPKB26-5JCT	23		43	
KPKB32-1JCT	KPKTB20-32JCT	13	49	
	KPKTB25-32JCT			
	KPKTB32-32JCT			
KPKB32-2/3/4JCT	KPKTB20-32JCT	27.5	59	
	KPKTB25-32JCT			
	KPKTB32-32JCT			
KPKB32-5/6JCT	KPKTB20-32JCT	31.5	63	
	KPKTB25-32JCT			
	KPKTB32-32JCT			

KPKB



Toolholder Dimensions

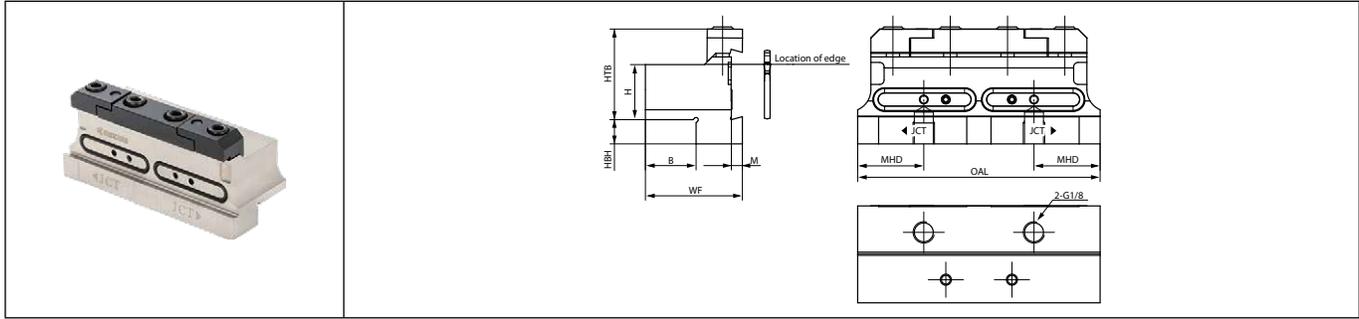
Unit	Part Number	Std. Item	Dimensions							Coolant Hole	Fig.	Spare Parts Insert Wrench	Applicable Inserts ➔ H52	Applicable Tool Block ➔ H56, H57
			CUTDIA	A	B	H	HF	LF	CW					
mm	KPKB 19-1	●	32	1.4	2.6	19	15.7	86	1.6	No	1	LPW-5	PKM16...	KTKTB...-19
	KPKB 19-2	●	40	1.8	-				2				2.4	
	KPKB 26-1	●	35	1.4	2.6	26	21.4	110	1.6	No	2	LPW-5	PKM16...	KPKTB...-26JCT KTKTB...-26
	KPKB 26-2	●	50	1.8	-				2				2.4	
	KPKB 26-3	●	75	2.6	-				3				4	
	KPKB 26-4	●	80	3.4	-				4				5	
	KPKB 26-5	●	80	4.2	-				4.8				5	
	KPKB 32-1	●	35	1.4	2.6	32	25	150	1.6	No	1	LPW-5	PKM16...	KPKTB...-32JCT KTKTB...-32 KTKTFB...-32
	KPKB 32-2	●	50	1.8	-				2				2.4	
	KPKB 32-3	●	100	2.6	-				3				4	
	KPKB 32-4	●	100	3.4	-				4				5	
	KPKB 32-5	●	120	4.2	-				4.8				5	
5														
KPKB 32-6	●	120	5.4	-	6	6								

See page H58 for insert mounting and removal instructions
H: Length between virtual vertices

Recommended Cutting Conditions ➔ H63

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

KPKTB-JCT (Coolant-Through Type)



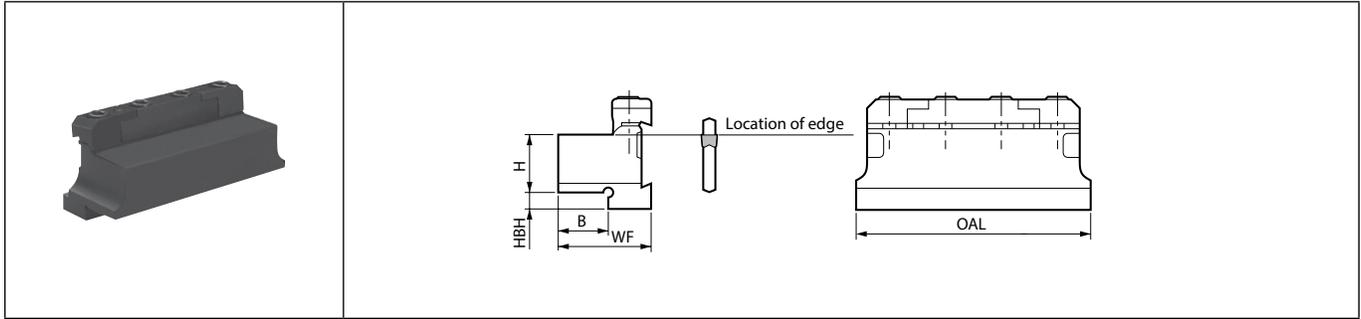
Toolholder Dimensions

Unit	Part Number	Std. Item	Dimensions								Coolant Hole	Spare Parts						Applicable Blade ● H54 ● H55 ● H66 ● G152
			H	B	HBH	HTB	M	MHD	OAL	WF		Clamp Bolt	Clamp Set (separate type)	O-ring	Plug	Screw	Wrench	
Inch	KPKTB 19-26JCT	●	0.75	0.720	0.525	1.260	0.157	0.925	3.386	1.508	Yes	HH6x16	BCS-2	GR-020	HSG1/8X8.0	HS3x4	LW-5	KPKB26- _JCT, KTKB26- _
	KPKTB 19-32JCT	●			0.667	1.299	0.197	0.984	3.937	1.547			BCS-3	GR-026		HS4x4		KPKB32- _JCT KTKB32- _ KFTB%...-4S KFTB%...-5S
	KPKTB 25.4-32JCT	●	1.00	0.906	0.417	1.614	0.197	1.181	4.331	BCS-4			GR-029	HS4x4				
	KPKTB 31.8-32JCT	●	1.25	1.142	0.207	1.850				1.732			1.969					
mm	KPKTB 20-26JCT	●	20	19	12.4	33	4	23.5	86	39	Yes	HH6X16	BCS-2	GR-020	HSG1/8X8.0	HS3X4	LW-5	KPKB26- _JCT, KTKB26- _
	KPKTB 20-32JCT	●			16	41	5	25	100	40			BCS-3	GR-026		HS4X4		KPKB32- _JCT KTKB32- _ KFTB%...-4S KFTB%...-5S
	KPKTB 25-32JCT	●	25	23	11			30	110	44			BCS-4	GR-029				
	KPKTB 32-32JCT	●	32	29	5			50										

Includes only one HSG1/8X8.0 plug.
 KPKTB-JCT type block is also compatible with conventional KTKB type blades.
 See page H60 for coolant piping parts.
 When using internal coolant, the coolant may appear to leak slightly, but this should not affect machining performance.
 (If the O-ring is damaged, order separately.)

H CUT-OFF

KTKTB

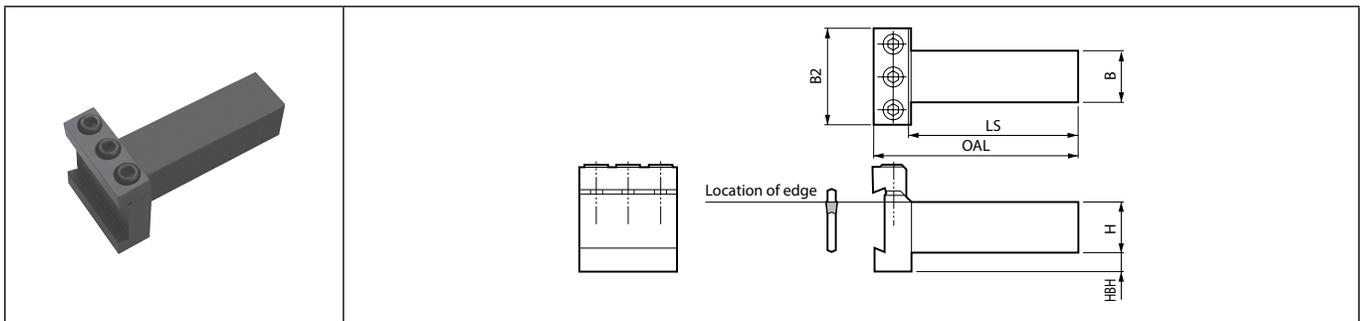


Toolholder Dimensions

Unit	Part Number	Std. Item	Dimensions					Spare Parts				Applicable Blade			
			H	B	HBH	OAL	WF	Clamp Bolt	Clamp Set (integral type)	Clamp Set (separate type)	Wrench	Cut-Off	Face Grooving		
														Applicable Blade	
Inch	KTKTB 19-26	●	0.75	0.720	0.39	3.39	1.39	HH6x30	-	BCS-2	LW-5	KPKB26-_(JCT) KTKB26-1SS, KTKB26-_S	-		
	25.4-32	●	1.00	0.905	0.30	4.33	1.65					BCS-4	KPKB32-_(JCT) KTKB32-1SS, KTKB32-_ KTKB%32-_S	KFTB%...-4S KFTB%...-5S	
mm	KTKTB 16-19	●	16	15.5	4	76	29.5	HH5X25	BCS-1	-	LW-4	KPKB19-_ KTKB19-1SS, KTKB19-2S	-		
	KTKTB 20-19	●	20	19										34	
	KTKTB 16-26	20-26	●	16	15.5	13	86	31.5	HH6X30	-	BCS-2	LW-5	KPKB26-_(JCT) KTKB26-1SS, KTKB26-_S	-	
			●	20	19										9
	KTKTB 20-32	25-32	32-32	●	20	19	13	100	38	HH6X30	-	BCS-3	LW-5	KPKB32-_(JCT) KTKB32-1SS, KTKB32-_ KTKB%32-_S	KFTB%...-4S KFTB%...-5S
				●	25	23	8	42							
●				32	29	5	110	48							

Can be used with internal coolant by utilizing compatible coolant piping (CCN-5).

KTKTBF



Toolholder Dimensions

Unit	Part Number	Std. Item	Dimensions						Spare Parts			Applicable Blade	
			H	B	B2	HBH	LS	OAL	Clamp Bolt	Clamp Set (integral type)	Wrench	Cut-Off	Face Grooving
mm	KTKTBF 25-32	●	25	25	48	9.5	84.5	102	HH6X30	BCS-5	LW-5	KPKB32-_(JCT) KTKB32-1SS, KTKB32-_ KTKB%32-_S	KFTB%...-4S KFTB%...-5S
	32-32	●	32	32		2.5	99.5	117					

Can be used with internal coolant by utilizing compatible coolant piping (CCN-5).

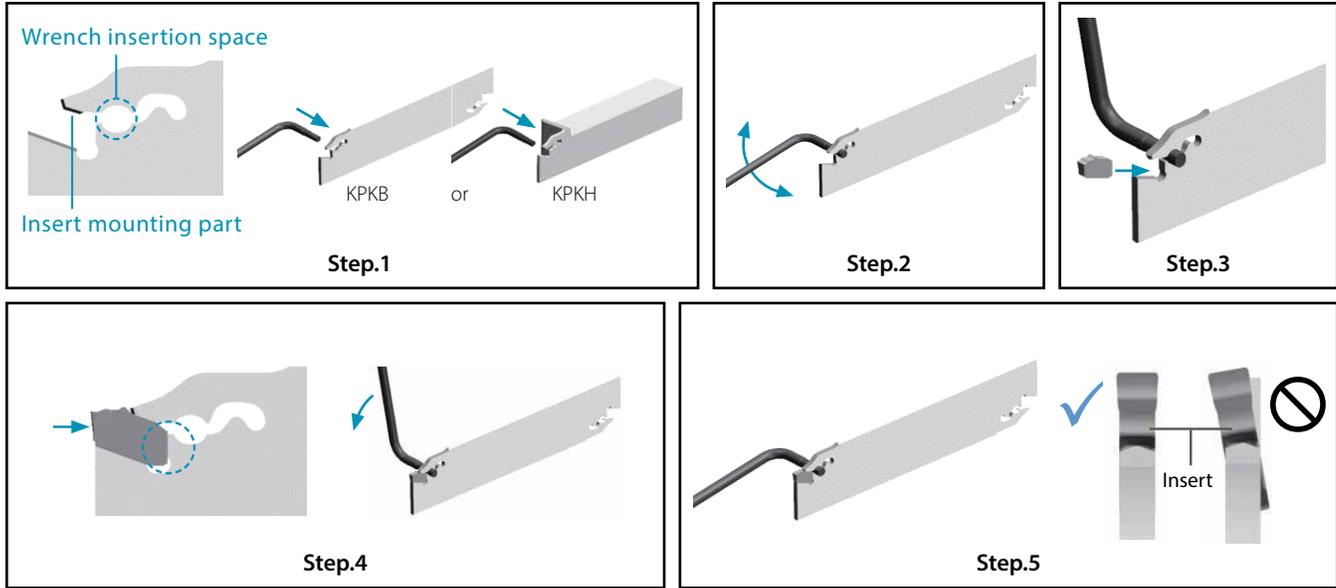
● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)

Contact your local Kyocera sales engineer to upgrade old products to new technology

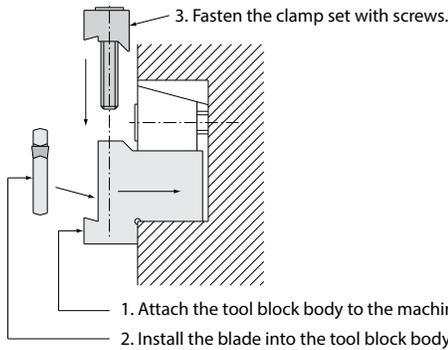
INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

How to Mount and Remove Inserts from Holder or Blade

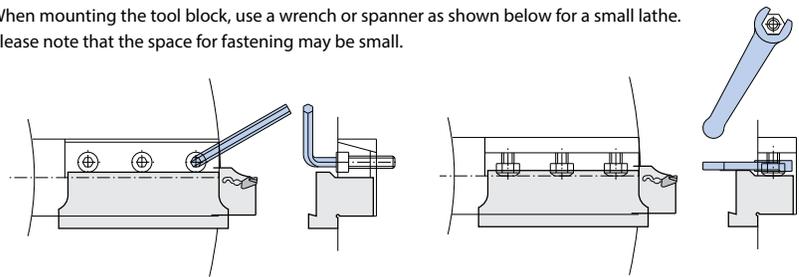
1. Use compressed air or other measures to remove chips from the insert mounting area and slide wrench into hole shown.
2. Turn the wrench.
3. Slide the insert into the insert pocket. (When removing the insert, follow the same procedure and remove it at step 3.)
4. Push insert in until the back of the insert contacts the blade's back stop surface.
5. Make sure that the insert is set straight.



Tool Block and Blade Installation Guide

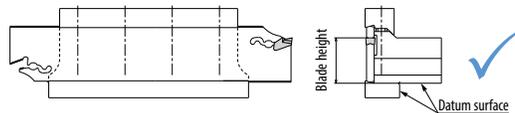


When mounting the tool block, use a wrench or spanner as shown below for a small lathe. Please note that the space for fastening may be small.

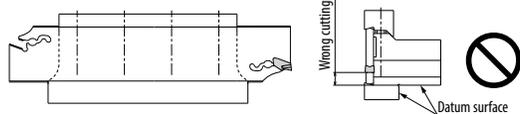


How to Install the Tool Block and Blade

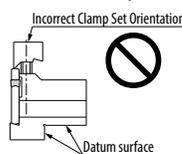
Correct blade installation



Incorrect blade installation



Incorrect Clamp Set Orientation



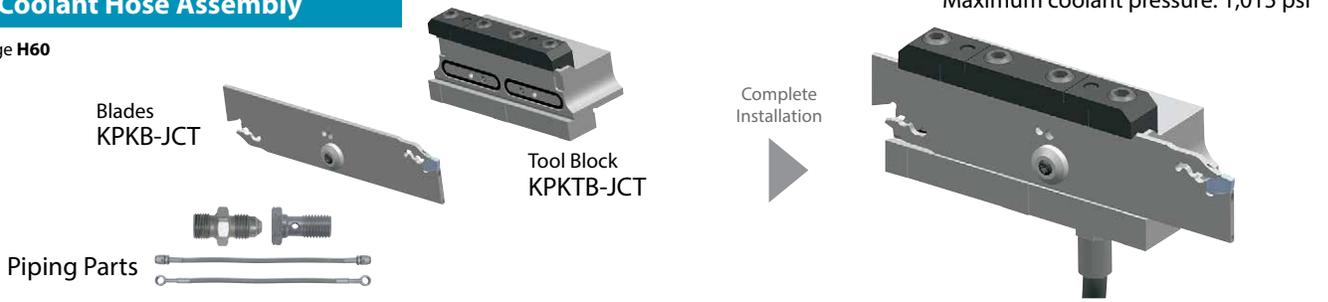
If the clamp set is mounted in the reverse direction, a large gap is created between the tool block main body and the clamp set as shown in the left figure. If you continue to use the product, the blade may break off. Reinstall in the correct orientation.

Internal Coolant Connection Methods (Method will be determined by machine specifications and requirements)

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

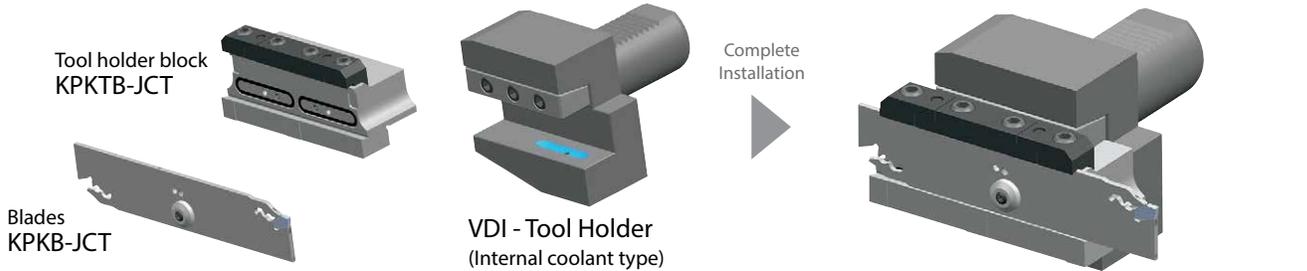
A : Coolant Hose Assembly

See Page H60



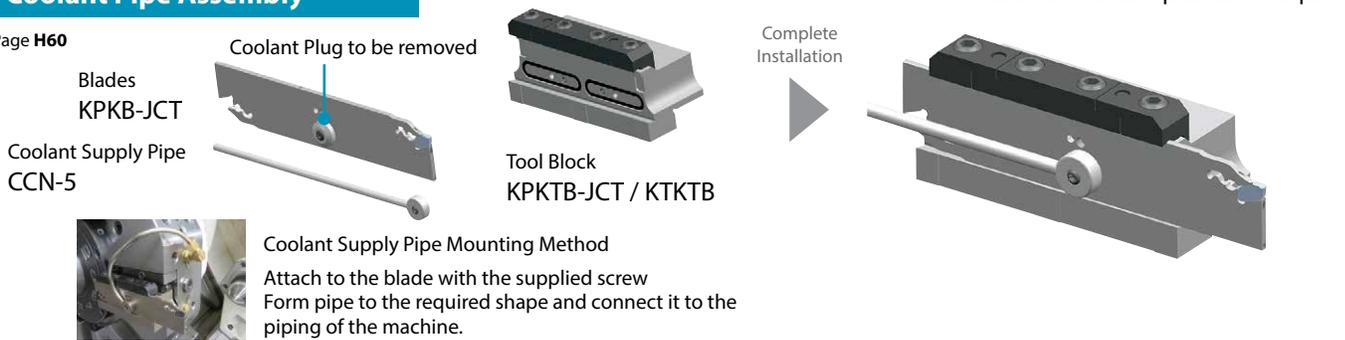
B : VDI Holder Assembly

(Internal coolant type)



C: Coolant Pipe Assembly

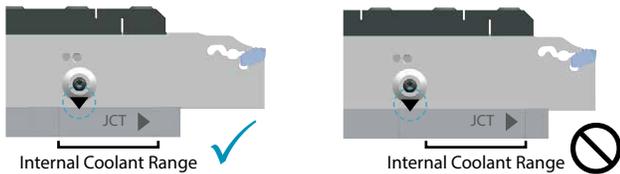
See Page H60



Precautions

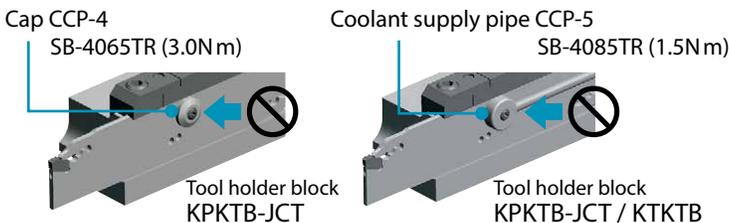
When mounting KPKB-JCT blade

When using internal coolant, keep the arrow (▼) on the blade within the range marked on the tool holder block.



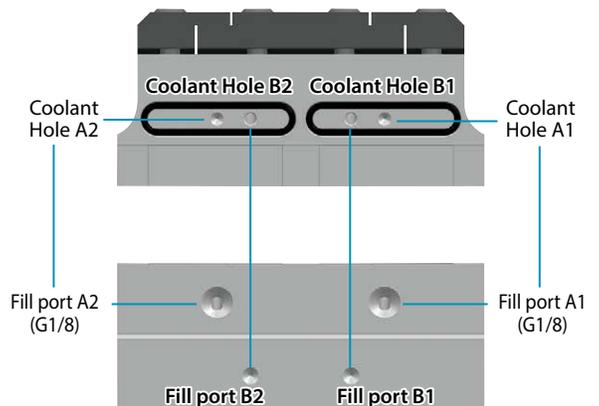
When the cap and coolant supply pipe are mounted

Coolant cannot be supplied correctly if it is mounted in the wrong position.



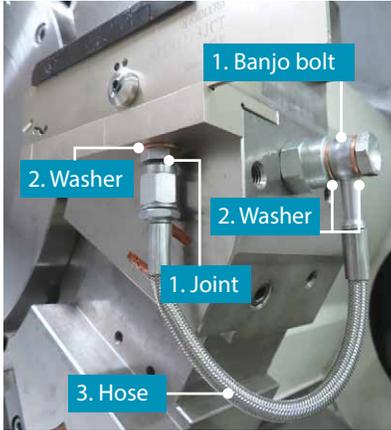
When using a tool block

When using the discharge port B1 (B2), use a sealant for the filler cap (HSG 1/8 X 8.0) of the accessory part of the coolant supply port A1 (A2).



A : Coolant Hose Assembly

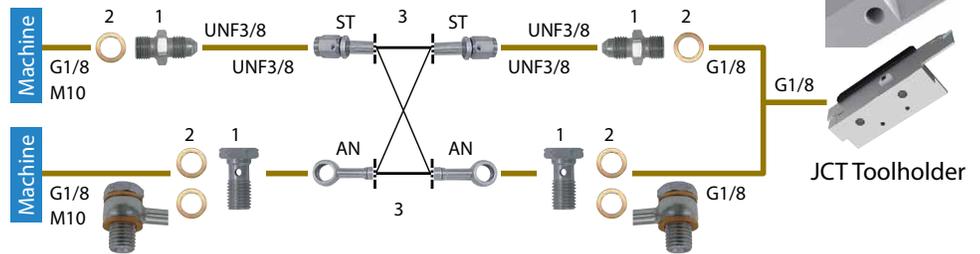
Connection Method and Piping Parts



Easy to use with high-pressure hose and joint

Can be used for internal coolant at normal pressure without a high pressure pump unit
Banjo bolts (for angled hoses) are also available.

<Piping Installation Guide>



Depending on machine specifications and piping methods, 1.Joint/Banjo bolt x2 2.Washer x2-4 3.Hose x1

1. Joint / Banjo Bolt (Sold Separately)

Pressure Resistance: ~ 4,350 psi

Shape	Part Number	Std. Item	Thread Standard	
			Toolholder	Machine Connection Side
	J-G1/8-UNF3/8	●	G1/8	
	J-M10X1.5-UNF3/8	●	M10X1.5	
Banjo Bolt (for Angled Hoses)	BB-G1/8	●	G1/8	
	BB-M10X1.5	●	M10X1.5	

2. Washer (Sold Separately) Pressure Resistance: ~ 4,350 psi

Shape	Part Number	Std. Item
	WS-10	●

*If you are using a banjo bolt, two washers are needed.

3. Hose (Sold Separately)

Pressure Resistance: ~ 4,350 psi

Shape	Part Number	Std. Item	Thread Standard		Dimensions (mm)
					L
Straight/Straight	HS-ST-ST-200	●	UNF3/8	UNF3/8	200
	HS-ST-ST-250	●			250
Straight/Angled	HS-ST-AN-200	●	UNF3/8	-	200
	HS-ST-AN-250	●			(Banjo Bolt)
Angled/Angled	HS-AN-AN-200	●	-	-	200
	HS-AN-AN-250	●			(Banjo Bolt)

Precautions

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

C: Coolant Pipe Assembly

Piping Parts

Coolant Supply Pipe (Sold Separately)

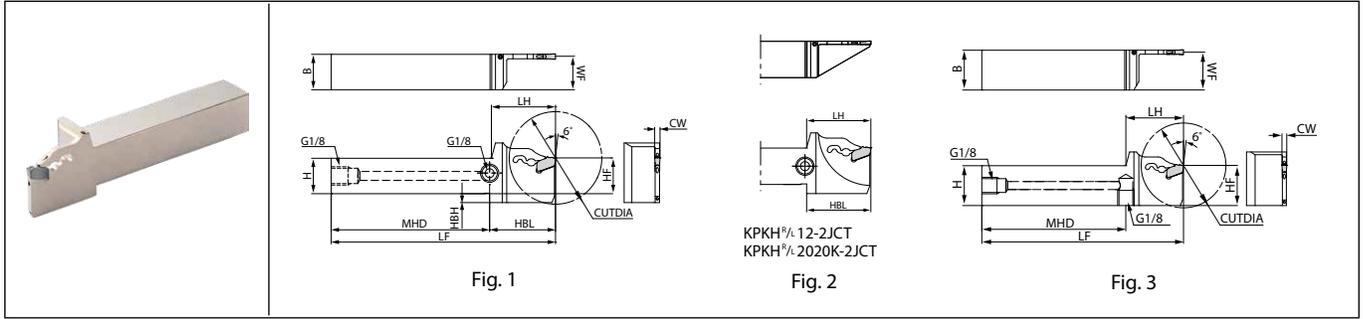
Pressure Resistance: 145 psi

Shape	Part Number	Std. Item	Dimensions (mm)				Spare Parts (Screw)
			A	B	C	D	
	CCN-5	●	190	16	5	6	SB-4085TR

Use wrench (FT-15) supplied with the blade when connecting.

● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

KPKH-JCT (Coolant-Through Toolholders)



Right-hand shown

Toolholder Dimensions

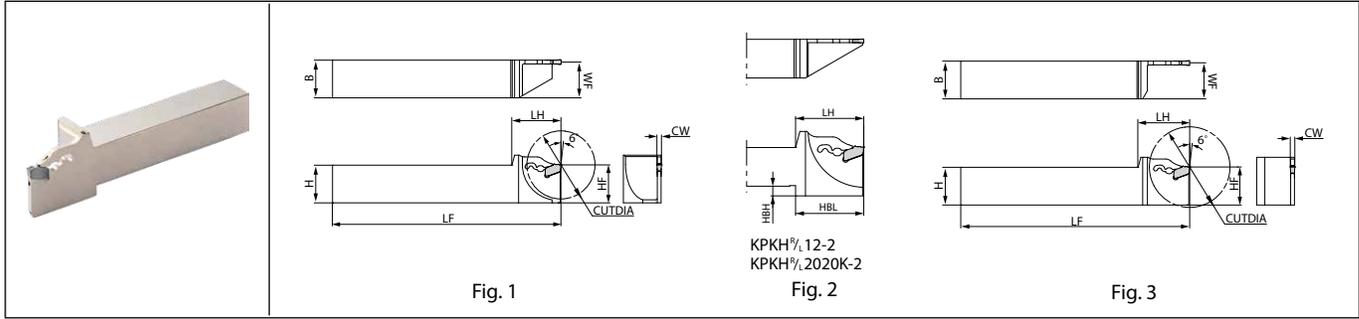
Unit	Part Number	Std. Item		Dimensions											Coolant Hole	Fig.	Spare Parts		Applicable Inserts H52
		R	L	CUTDIA	H	B	LH	MHD	HF	HBH	HBL	LF	WF	CW			Plug	Insert Wrench	
Inch	KPKH% 12-2JCT	●	●	1.500	0.750	0.750	1.382	3.583	0.750	0.234	1.358	5.000	0.717	0.079 0.094	Yes	2	HSG1/8X8.0	LPW-5	PKM20... PKM24...
	KPKH% 12-3JCT	●	●	2.000	0.750	0.750	1.417	3.543	0.750	0.234	1.433	5.000	0.701	0.118	Yes	1 3	HSG1/8X8.0	LPW-5	PKM30...
	16-3JCT	●	●	2.100	1.000	1.000	1.417	3.583	1.000	-	-		0.951						
	KPKH% 12-4JCT	●	●	2.400	0.750	0.750	1.673	3.346	0.750	0.234	1.630	5.000	0.685	0.157	Yes	1 3	HSG1/8X8.0	LPW-5	PKM40...
16-4JCT	●	●	2.600	1.000	1.000	3.346		1.000	-	-	0.935								
mm	KPKH% 2020K-2JCT	●	●	38	20	20	35.1	89	20	5	35.1	125	19.15	2 2.4	Yes	2	HSG1/8X8.0	LPW-5	PKM20... PKM24...
	KPKH% 2020K-3JCT	●	●	52	20	20	36	88	20	5	37	125	18.75	3	Yes	1 3	HSG1/8X8.0	LPW-5	PKM30...
	2525K-3JCT	●	●	53	25	25		89	25	-	-		23.75						
	KPKH% 2020K-4JCT	●	●	62	20	20	42.5	83	20	5	42	125	18.35	4	Yes	1 3	HSG1/8X8.0	LPW-5	PKM40...
2525K-4JCT	●	●	68	25	25	82		25	-	-	23.35								

See page H58 for insert mounting and removal instructions
See page H60 for coolant piping parts.

Recommended Cutting Conditions H63

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

KPKH



Toolholder Dimensions

Unit	Part Number	Std. Item		Dimensions										Coolant Hole	Fig.	Spare Parts	Applicable Inserts ➔ H52				
		R	L	CUTDIA	H	B	LH	HF	HBH	HBL	LF	WF	CW			Insert Wrench					
Inch	KPKH% 12-2	●	●	1.500	0.750	0.750	1.303	0.750	0.234	1.303	5.000	0.717	0.079 0.094	No	2	LPW-5	PKM20... PKM24...				
	KPKH% 12-3	●	●	2.000	0.750	0.750	1.339	0.750	-	-	5.000	0.701	0.118	No	3		PKM30...				
	16-3	●	●	2.100	1.000	1.000		6.000			0.951	0.157		No			PKM40...				
	KPKH% 12-4	●	●	2.400	0.750	0.750	1.594	0.750			5.000		0.685	0.189 0.197			No	3	PKM48... PKM50...		
	16-4	●	●	2.600	1.000	1.000		6.000			0.935	0.189 0.197	No				PKM40...				
KPKH% 16-5	●	●	3.100	1.000	1.000	1.807	1.000	6.000			0.919		0.189 0.197	No		2	PKM20... PKM24...				
mm	KPKH% 2020K-2	●	●	38	20	20	33.1	20	5	33.1	125	19.15	2 2.4	No	2	LPW-5	PKM20... PKM24...				
	KPKH% 2020K-3	●	●	52	20	20	34	20	-	-	125	18.75	3	No	3		PKM30...				
	2525M-3	●	●	53	25	25		25			150	23.75		4			No	PKM40...			
	KPKH% 2020K-4	●	●	62	20	20	40.5	20			125	18.35	4.8 5				No	1	LPW-5	PKM48... PKM50...	
	2525M-4	●	●	68	25	25		25			150	23.35		3			No			PKM30...	
	KPKH% 2525M-5	●	●	79	25	25	45.9	25			150	22.95	4.8 5				No			PKM40...	
	KPKH% 2020K-3D35	●	●	35	20	20	32.5	20			-	-	125	18.75			3			No	1
2525M-3D45	●	●	45	25	25	25		150					23.75	4		No				PKM40...	
KPKH% 2020K-4D45	●	●	45	20	20	35	20	125	18.35	4			No		1	LPW-5	PKM40...				
2525M-4D45	●	●	45	25	25		25	150	23.35				4	No			PKM40...				

See page H58 for insert mounting and removal instructions

Recommended Cutting Conditions ➔ H63

Recommended Cutting Conditions

PM Chipbreaker

Workpiece Material	Recommended Insert Grades Vc (sfm)			Feed f (ipr)			Notes
	MEGACOAT NANO		Carbide	Edge Width CW (mm)			
	PR1625	PR1535	GW15	1.6	2 ~ 4	4.8 ~ 6	
Carbon Steel	★ 260 - 720	☆ 260 - 720	-	0.001 - 0.005	0.003 - 0.007	0.004 - 0.009	Coolant
Alloy Steel	★ 230 - 660	☆ 230 - 660	-				
Stainless Steel	☆ 200 - 490	★ 200 - 490	-	0.001 - 0.003	0.002 - 0.005	0.003 - 0.006	
Cast Iron	-	-	★ 160 - 330	0.001 - 0.003	0.003 - 0.007	0.004 - 0.009	
Aluminum Alloy	-	-	★ 660 - 1480	0.001 - 0.003	0.003 - 0.007	0.004 - 0.009	
Brass	-	-	★ 330 - 660				

Reduce feed to 1/2 ~ 1/3 at the center of the workpiece.

★: 1st Recommendation ☆: 2nd Recommendation

PH Chipbreaker

Workpiece Material	Recommended Insert Grades Vc (sfm)			Feed f (ipr)			Notes
	MEGACOAT NANO		Carbide	Edge Width CW (mm)			
	PR1625	PR1535	GW15	2	3 ~ 4	5 ~ 6	
Carbon Steel	★ 260 - 720	☆ 260 - 720	-	0.004 - 0.009	0.006 - 0.011	0.006 - 0.014	Coolant
Alloy Steel	★ 230 - 660	☆ 230 - 660	-				
Stainless Steel	☆ 200 - 490	★ 200 - 490	-	0.002 - 0.005	0.003 - 0.006	0.003 - 0.007	
Cast Iron	-	-	-	-	-	-	
Aluminum Alloy	-	-	-	-	-	-	
Brass	-	-	-				

Reduce feed to 1/2 ~ 1/3 at the center of the workpiece.

★: 1st Recommendation ☆: 2nd Recommendation

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

TKN/TK

		Carbon Steel / Alloy Steel		●	○	○	P						
		Stainless Steel		●	○	○	M						
		Cast Iron		●	○	○	K						
		Non-Ferrous Metals		●	○	○	N						
Insert	Part Number	No. of Edges	Dimensions (mm)		Angle (°)	Tolerance (mm)		Carbide		Cermets	Applicable Toolholder H66~H68		
			CW			PSIR%	CW min.	CW max.	CVD			PVD	
			in	mm									RE
	TKN 1.6	1	0.063	1.6	0.15				●	●	●	●	TKTB..-1SS
	TKN 2	1	0.087	2.2	0.2				●	●	●	●	TKTB19-2S, KTKB26-2S, KTKB32-2S, KTKH%...-2S
	TKN 2.4	1	0.094	2.4	0.2				●	●	●	●	
	TKN 3	1	0.122	3.1	0.25				●	●	●	●	TKTB26-3S, KTKB32-3S, KTKH%...-3S, KTKH%...-3T..S
	TKN 4	1	0.161	4.1	0.3				●	●	●	●	
	TKN 4.8	1	0.189	4.8	0.3				●	●	●	●	TKTB26-4S, KTKB32-4S, KTKH%...-4S, KTKH%...-4T2S
	TKN 5	1	0.201	5.1	0.3				●	●	●	●	
	TKN 6	1	0.252	6.4	0.35				●	●	●	●	TKTB32-6S
	TKN 8	1	0.315	8	0.4				●	●	●	●	TKTB% 32-8S
TKN 9	1	0.378	9.6	0.45				●	●	●	●	TKTB% 32-9S	
	TKN 1.6-P	1	0.063	1.6	0.2				●	●	●	●	TKTB..-1SS
	TKN 2-P	1	0.087	2.2	0.2				●	●	●	●	TKTB19-2S, KTKB26-2S, KTKB32-2S, KTKH%...-2S
	TKN 3-P	1	0.122	3.1	0.25				●	●	●	●	
	TKR 1.6 TKL 1.6	1	0.063	1.6	0.15	8	-0.05	+0.05	●	●	●	●	TKTB..-1SS
	TKR 2 TKL 2	1	0.087	2.2	0.2	8	-0.05	+0.05	●	●	●	●	TKTB19-2S, KTKB26-2S, KTKB32-2S, KTKH%...-2S
	TKR 2.4 TKL 2.4	1	0.094	2.4	0.2	8	-0.05	+0.05	●	●	●	●	
	TKR 3 TKL 3	1	0.122	3.1	0.25	8	-0.05	+0.05	●	●	●	●	TKTB26-3S, KTKB32-3S, KTKH%...-3S, KTKH%...-3T..S
	TKR 4 TKL 4	1	0.161	4.1	0.3	8	-0.05	+0.05	●	●	●	●	
	TKR 5 TKL 5	1	0.201	5.1	0.3	8	-0.05	+0.05	●	●	●	●	TKTB26-4S, KTKB32-4S, KTKH%...-4S, KTKH%...-4T2S
	TKR 1.6-P TKL 1.6-P	1	0.063	1.6	0.2	8	-0.05	+0.05	●	●	●	●	TKTB..-1SS
	TKR 2-P TKL 2-P	1	0.087	2.2	0.2	8	-0.05	+0.05	●	●	●	●	TKTB19-2S, KTKB26-2S, KTKB32-2S, KTKH%...-2S
	TKR 3-P TKL 3-P	1	0.122	3.1	0.25	8	-0.05	+0.05	●	●	●	●	

Handed insert shows Right-hand

Cut-Off Tools

Name	Chipbreaker	Advantages
General Cut-Off	Standard (No Indication)	General cut-off type for feed rates over 0.004ipr Superior chip evacuation
Low Feed Cut-Off	P	Chipbreaker specially designed for low feed machining on automatic lathes, etc. Chips are controlled at feed rates between 0.0012~0.0032ipr

Insert's Edge Shape (CERACUT Cut-Off)

Edge Preparation	Chamfered + Honed	Sharp Edge	Honed Cutting Edge
Standard Chipbreaker	TN90 / PR1535 / CR9025 / PR660	PR930 / KW10	-
P-Chipbreaker	-	-	TN620 / TN90 / CR9025 / PR1535 PR660 / PR930 / KW10

Sharp edge can reduce cutting resistance by 40%, compared with chamfered edge.

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

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

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

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

Fig.1

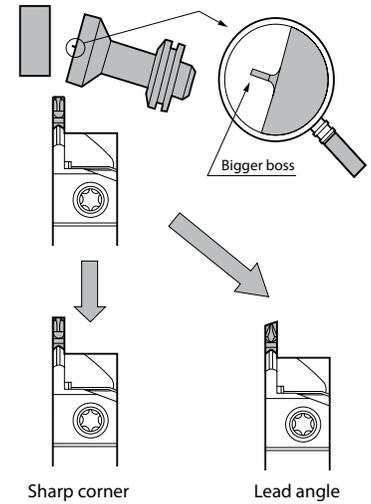


Fig.2

Caution

1. For TKN and TK^{R/L}, set the cutting edge height 0.1~0.2 mm above the center height (Fig. 3)
- For other toolholders, set the cutting edge to the center height.
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 machining.

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

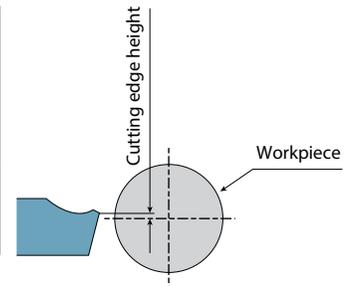


Fig. 3 (TKN, TK^{R/L})

Set up (TKN / TK^{R/L})

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

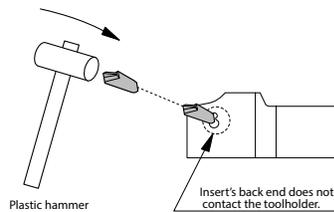


Fig.1: How to attach inserts

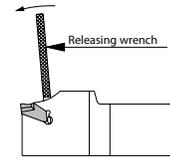
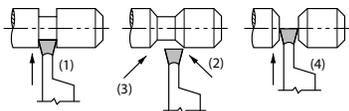


Fig.2: How to detach inserts

Application example of cut-off

1. Cut-off after chamfering

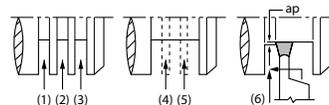
- (1) Grooving (2)(3) Chamfering (4) Cut-off



2. Wide grooving

- (1)~(5) Groove widening
- (6) Finishing

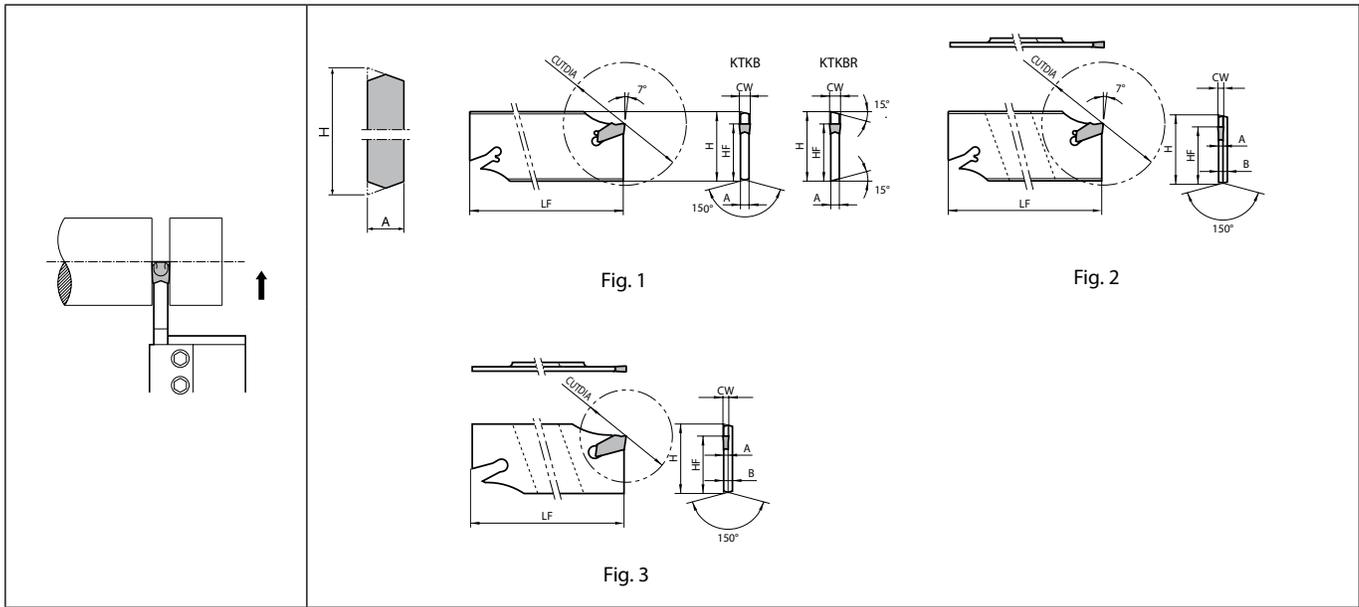
(Value of "ap" shall be under the value of Corner-R)



(In order to prevent both corners' unequal wear)

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

KTKB

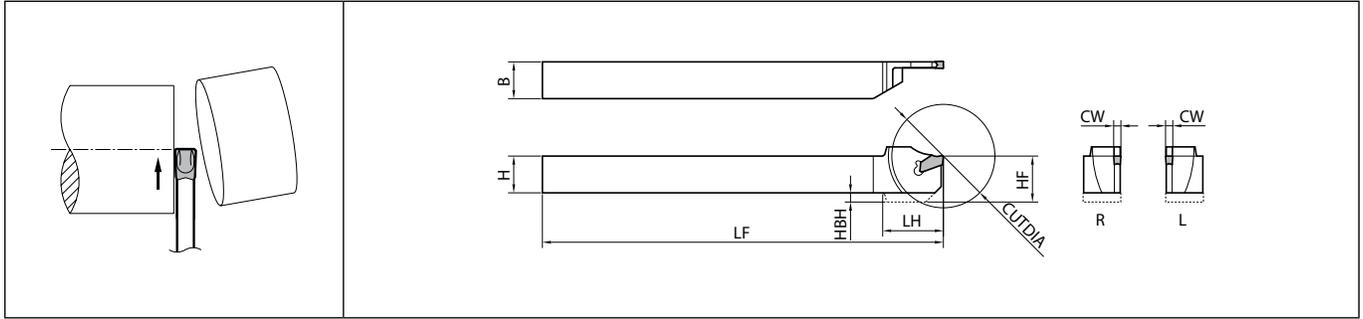


Toolholder Dimensions

Unit	Part Number	Std. Item	Dimensions							Fig.	Spare Parts	Applicable Inserts H64	Applicable Tool Block H56, H57
			CUTDIA	A	B	H	HF	LF	CW		Insert Wrench		
mm	KTKB 19-1SS	●	32			19	15.7	86		3	LTK-5	TKN1.6, TKN1.6-P TK% 1.6, TKR1.6-P	KTKTB16-19, KTKTB20-19 KTKTB16-26, KTKTB20-26, KPKT B20-26JCT KTKTB20-32, KTKTB25-32, KTKTB32-32 KTKTBF25-32, KTKTBF32-32, KPKT B20-32JCT KPKT B25-32JCT, KPKT B32-32JCT
	KTKB 26-1SS	●		1.2	2.4	26	21.4	110					
	KTKB 32-1SS	●	35			32	25	150					
	KTKB 19-2S	●	40	1.8	-	19	15.7	86	2.2 2.4	1	LTK-5	TKN2, TKN2-P TK% 2, TK% 2-P TKN2.4, TK% 2.4	KTKTB16-19, KTKTB20-19
	KTKB 26-2S	●	50	1.8					2.2 2.4	1			
	KTKB 26-3S	●	75	2.6		26	21.4	110	3.1				
	KTKB 26-4S	●		3.4					4.1				
	KTKB 26-5S	●	80	4.2					4.8 5.1				
	KTKB 32-2S	●	50	1.8	2.6				2.2 2.4	2	LTK-5	TKN2, TKN2-P, TK% 2, TK% 2-P TKN2.4, TK% 2.4	KTKTB20-32 KTKTB25-32 KTKTB32-32 KTKTBF32-32 KPKT B20-32JCT KPKT B25-32JCT KPKT B32-32JCT
	KTKB 32-3S	●		2.6					3.1				
	KTKB 32-4S	●	100	3.4		32	25	150	4.1				
	KTKB 32-5S	●		4.2					4.8 5.1				
	KTKB 32-6S	●	120	5.4					6.4				
	KTKBR 32-8S	●	120	6.8	-	32	25	150	8	1	LTK-5	TKN8	
	KTKBL 32-8S	●											
KTKBR 32-9S	●	120	8	-	32	25	150	9.6	1	LTK-5	TKN9		

Suffix "-SS" means hard coating.
 Insert wrench is "LTK-5".
 How to mount inserts, See Page H65.
 Dimension H shows virtual apex distance.

KTKH (for Small Parts - Long Shank)



Right-hand shown

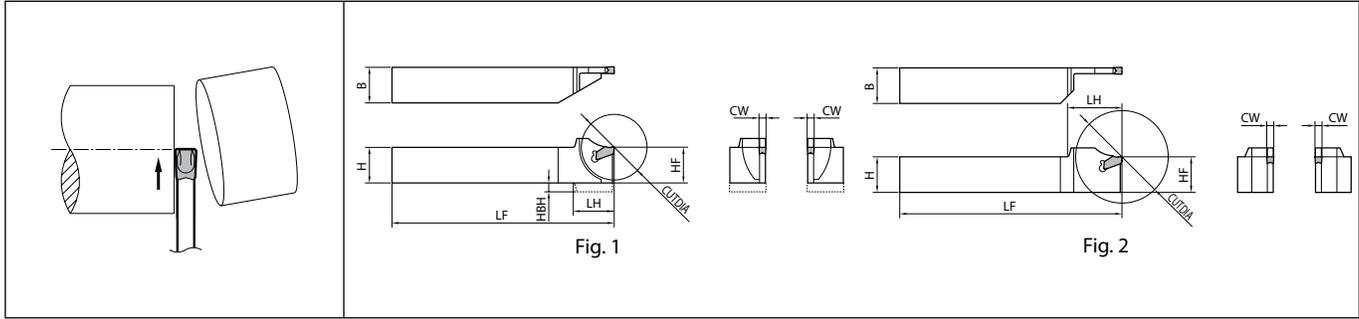
Toolholder Dimensions

Unit	Part Number	Std. Item		Dimensions								Spare Parts	Applicable Inserts ➔ H64
		R	L	CUTDIA	H	B	LH	HF	HBH	LF	CW	Insert Wrench 	
Inch	KTKHR 12-2S	●		1.100	0.500	0.500	0.670	0.500	0.000	6.000	0.063	LTK-5	TKN1.6, TKN1.6-P, TK% 1.6, TK% 1.6-P
	KTKH% 12-3S	●	●	1.100	0.375	0.375	0.690	0.375	0.200	5.000	0.087		TKN2, TKN2-P, TK% 2, TK% 2-P, TKN2.4, TK% 2.4
	16-3S	●		1.100	0.500	0.500	0.700	0.500	0.160	6.000	0.094		

How to mount inserts, See Page H65.

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

KTKH (General cut-off)



Right-hand shown

Toolholder Dimensions

Unit	Part Number	Std. Item		Dimensions								Fig.	Spare Parts	Applicable Inserts H64	
		R	L	CUTDIA	H	B	LH	HF	HBH	LF	CW		Insert Wrench		
Inch	KTKHR 12-2S	●		1.400	0.750	0.750	0.870	0.750	0.000	5.000	0.087 0.094	1	LTK-5	TKN2, TKN2-P, TK% 2, TK% 2-P, TKN2.4, TK% 2.4	
	KTKH% 12-3S	●	●	2.000	0.750	0.750	1.190	0.750		5.000	0.122	2		TKN3, TKN3-P, TK% 3, TK% 3-P	
	16-3S	●		2.000	1.000	1.000	1.210	1.000		6.000	0.122				
	KTKHR 12-4S	●		2.300	0.750	0.750	1.350	0.750		5.000	0.161	2		TKN4 TK% 4	
	16-4S	●		2.600	1.000	1.000	1.360	1.000		6.000	0.161				
KTKHR 16-5S	●		3.000	1.000	1.000	1.560	1.000		6.000	0.189 0.201	2	TKN5 TK% 5			
mm	KTKH% 1010F-2S	●	●	28	10	10	18.6	10	5	80	2.2 2.4	1	LTK-5	TKN2 TKN2-P TK% 2 TK% 2-P TKN2.4 TK% 2.4	
	1212H-2S	●	●		12		12	4							
	1612H-2S	●	●	31	16		19.8	16		100	3.1	1	LTK-5	TKN3 TKN3-P TK% 3 TK% 3-P	
	1616H-2S	●	●		16		16								
	2012K-2S	●	●		12		22.8	20		125	4.1	2	LTK-5	TKN4 TK% 4	
	2020K-2S	●	●	36	20		20								
	KTKH% 1612H-3S	●	●	35	16		12	21.7	16	4	100	4.8 5.1	2	LTK-5	TKN5 TK% 5
	1616H-3S	●	●		16		16								
	2012K-3S	●	●	40	20		12	25.3	20		125	3.1	1	LTK-5	TKN3, TKN3-P TK% 3, TK% 3-P
	2020K-3S	●	●	51	20		20	31							
	2525M-3S	●	●	52	25	25	31.5	25			150	4.1	2	LTK-5	TKN4 TK% 4
	KTKH% 2012K-4S	●	●	43	20		12	26.3	20		125				
	2020K-4S	●	●	59	20		20	35			150	4.1	2	LTK-5	TKN5 TK% 5
	2525M-4S	●	●	66	25	25	38	25							
	KTKH% 2525M-5S	●	●	77	25	25	43.5	25			150	3.1	1	LTK-5	TKN3, TKN3-P TK% 3, TK% 3-P
KTKH% 2020K-3T17S	●	●	33	20	20	21.8	20			125					
2525M-3T22S	●	●	43	25	25	26.8	25			150	4.1	2	LTK-5	TKN4 TK% 4	
KTKH% 2020K-4T22S	●	●	44	20	20	26.8	20			125					
2525M-4T22S	●	●		25	25		25			150					

How to mount inserts, See Page H65.

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

Workpiece Material	Recommended Insert Grades (Vc: sfm)					Edge Width CW (mm)					Notes	
	Cermet		CVD coated carbide	MEGACOAT NANO	PVD coated carbide	Carbide	1.6	2.2 / 2.4	3.1	4.1		4.8 ~ 9.6
	TN620	TN90	CR9025	PR1535	PR930	KW10	f (ipr)					
Carbon Steel	☆ 200~660	☆ 400~650	★ 250~600	☆ 200~490	☆ 200~425	-	0.0008~0.0032	0.0016~0.0071	0.0020~0.0098	0.0032~0.0118	0.0059~0.0157	Coolant
Alloy Steel	☆ 200~530	☆ 325~525	★ 225~500	☆ 200~490	☆ 200~425	-	0.0008~0.0032	0.0016~0.0071	0.0020~0.0098	0.0032~0.0118	0.0059~0.0157	
Stainless Steel	☆ 200~490	☆ 250~500	☆ 200~450	★ 160~390	☆ 200~450	-	0.0008~0.0012	0.0016~0.0047	0.0020~0.0071	0.0032~0.0098	0.0039~0.0118	
Cast Iron			-			★ 175~325	0.0008~0.0032	0.0020~0.0047	0.0039~0.0098	0.0039~0.0118	0.0059~0.0138	
Aluminum alloys			-			★ 325~1475	0.0008~0.0039	0.0020~0.0039	0.0020~0.0079	0.0020~0.0098	0.0039~0.0787	
Brass			-			★ 325~650	0.0008~0.0039	0.0020~0.0039	0.0020~0.0059	0.0020~0.0079	0.0039~0.0787	

★: 1st Recommendation ☆: 2nd Recommendation

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H
CUT-OFF