High-Performance Cut-Off Solutions

KPK Series

Unique Design for Superior Performance in Cut-Off Operations

Easy Insert Replacement

Strong Clamping Mechanism for Added Safety and Security

Long Tool Life and Stable Machining with Unique Chipbreaker Designs

Jet Coolant-Through Styles Available (JCT)

Toolholder (Blade Type, Shank Type) and Insert Lineup Expansion

High-Performance Cut-Off Solutions

KPK Series

Easy Insert Replacement Reduces Downtime
High Performance, Long Tool Life and Stable Machining with Strong Clamping Mechanism

CUT-OFF SOLUTION

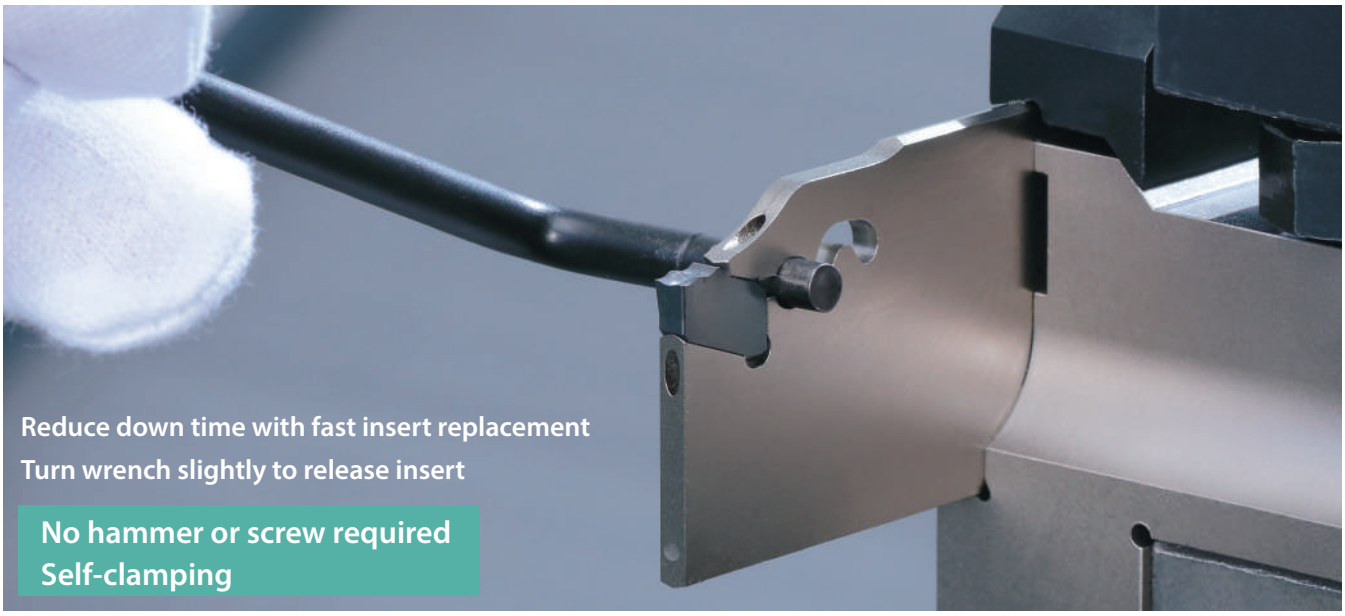
During cut-off operations, insert cutting widths of only a few millimeters are used to cut to the center of the workpiece.

Cut-off is often used on bottlenecks of a workpiece or during the final process, requiring a trouble-free machining environment.

Challenges	The shape of the workpiece can be difficult to secure, thus creating rigidity and chattering issues.
SOLUTION	The KPK Series features new insert, blade, toolholder and tool block designs for rigid, safe, and secure cut-off operations.

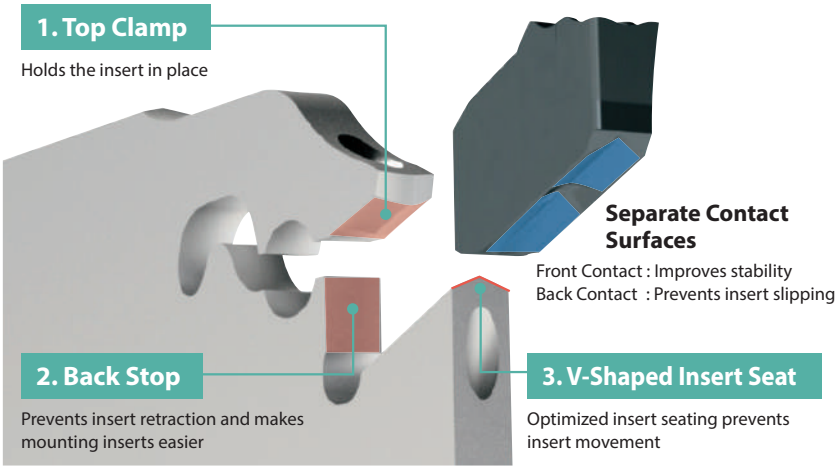
CG Image

1 Easy Insert Replacement

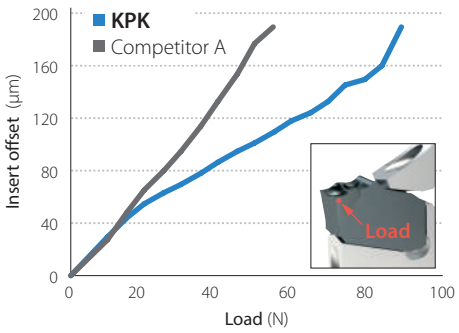


2 Firm Insert Clamp Ensures Added Safety and Security

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

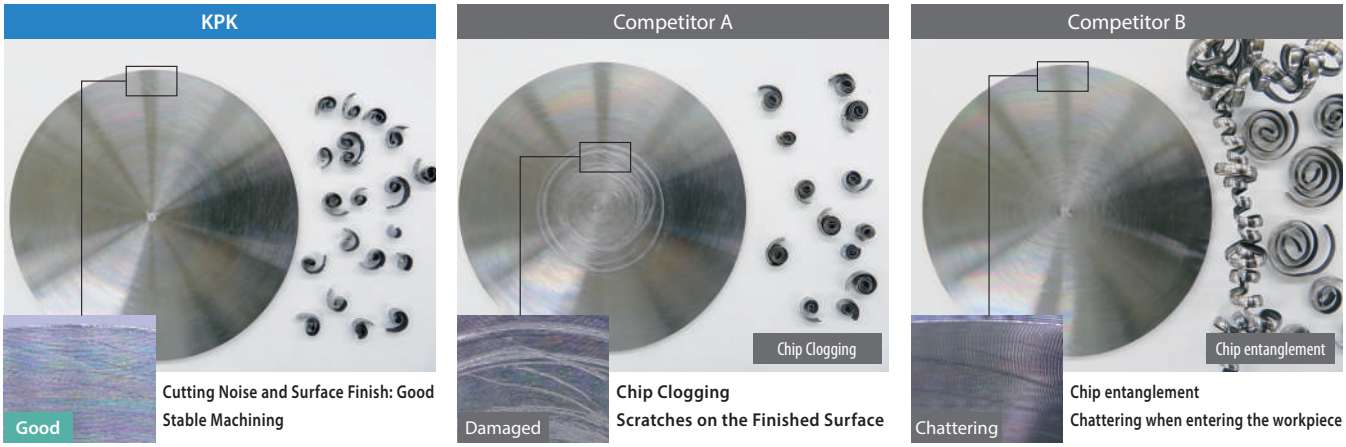


Insert Deviation Comparison (Internal evaluation)



Measured tool : KPKB32-3 PKM30N-025PM

Cutting Performance Comparison (Internal evaluation)



Cutting Conditions : n = 320 min^{-1} (constant) , Vc = ~ 100 m/min , f = 0.12 mm/rev , Wet (External coolant) Workpiece : SCM 435 (ø 100) Edge width : 3 mm (PM Chipbreaker)

3 Unique Chipbreaker for Long Tool Life and Stable Machining

Advanced chipbreaker technology inherited from KGD lineup provides excellent chip control

General use
PM Chipbreaker

Insert grade

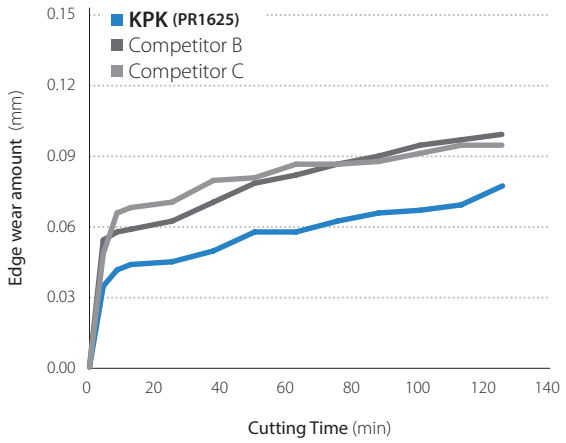
For Steel : **PR1625**
For Stainless steel : **PR1535**
For Cast Iron and Aluminum : **GW15**

For Tough edge and High-feed machining
PH Chipbreaker

Insert grade

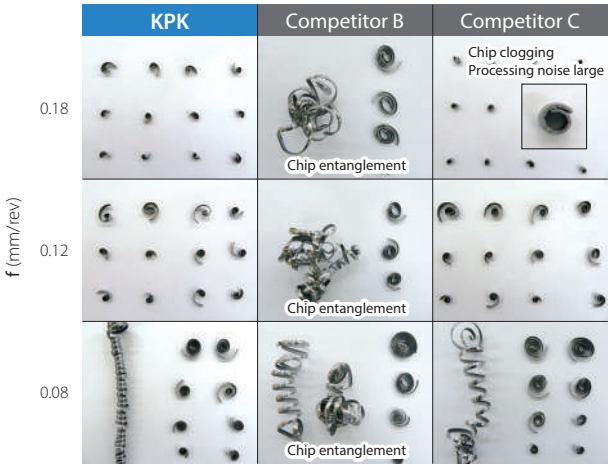
For Steel : **PR1625**
For Stainless steel : **PR1535**

Wear Resistance Comparison (Internal Evaluation)



Cutting Conditions : n = 955 min^{-1} (constant), Vc = ~ 150 m/min
f = 0.12 mm/rev (~ ø 10 : f = 0.05 mm/rev) Wet (External Coolant)
Workpiece : SCM 415 (ø 50) Edge width : 3 mm (PM Chipbreaker)

Chip Control Comparison (Internal evaluation)

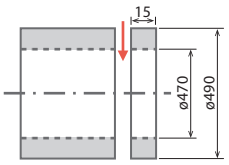


Cutting Conditions : n = 780 min^{-1} (constant) , Vc = ~ 120 m/min , Wet (External Coolant)
Workpiece : SCM 415 (ø 50) Blade width : 3 mm (PM Chipbreaker)

SOLUTION 1 Tool Life x 1.3 Stable chip curl

Rings
(SUJ2)

External Coolant



KPK **34 pcs/corner**

Competitor D **25 pcs/corner**

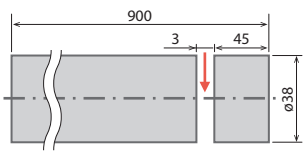
Cutting Conditions : n = 90 min^{-1} (Constant) , Vc = ~ 140 m/min , f = 0.06 mm/rev ,
Wet (External Coolant) KPKB32-3 PKM30N-025PM PR1625

(User evaluation)

SOLUTION 2 Machining efficiency double in Stainless steel Achievement of stable machining

Adaptor
(SUS316)

External Coolant



KPK

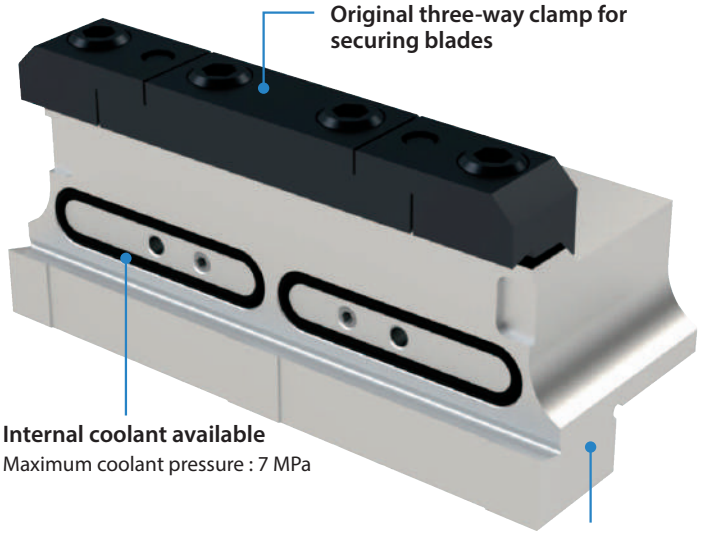
Competitor E

Cutting Conditions : n = 1,450 min^{-1} (Constant) , Vc = ~ 173 m/min , f = 0.05 mm/rev (Inching: 1 mm)
Wet (External coolant) KPKB32-3 PKM30N-025PM PR1535

(User evaluation)

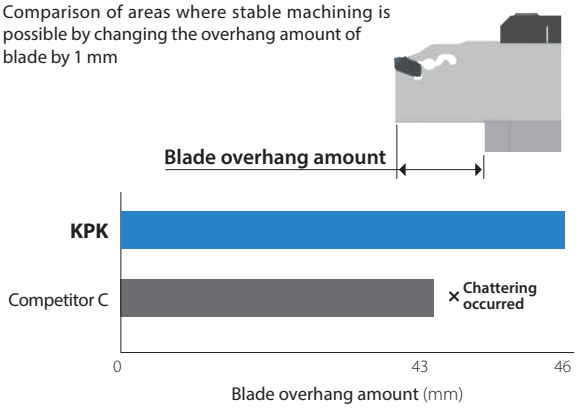
4 Rigid Tool Holder Block Prevents Chattering and Provides Internal Coolant

KPKTB-JCT



Chatter Resistance Comparison (Internal evaluation)

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

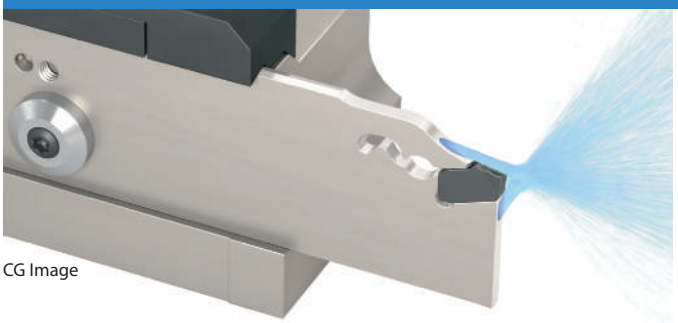


Cutting Conditions : n = 650 min^{-1} (Constant), Vc = ~ 100 m/min, f = 0.12 mm/rev
Wet (Internal Coolant : Normal pressure) Workpiece : SCM 435 (ø 50), Blade width : 3 mm (PM Chipbreaker)

Note **KTKTB type is compatible with internal coolant with an optional internal connector. (~ 1 MPa)**

*Refer to page 11 for the supply method (Type C).

JCT series supports internal coolant. Improved tool life under normal pressure

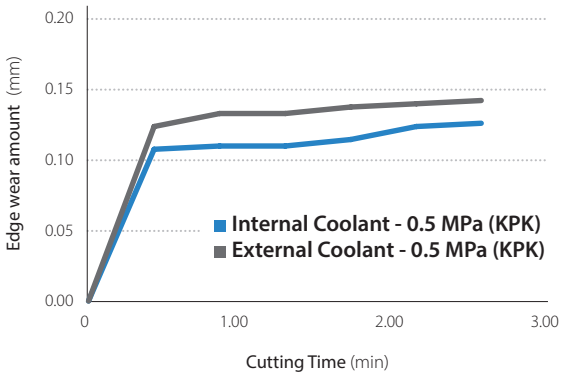


CG Image

KPKB-JCT maximum overhang length while using internal coolant is as follows :
Size 26 : 40 mm Size 32 : 59 mm

Coolant is supplied directly to the rake and the flank face of the cutting edge for increased tool life and improved chip control

Wear Resistance Comparison (Internal evaluation)

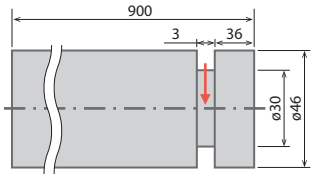


Cutting Conditions : Vc = 30 m/min (Constant), f = 0.1 mm/rev,
Machining depth : 10 mm, Wet
Workpiece : Inconel 718 (ø 100) Blade width: 3 mm (PM Chipbreaker)

SOLUTION 3 **Double tool life Reduce fracturing**

Machine part
(SUS304)

Internal Coolant



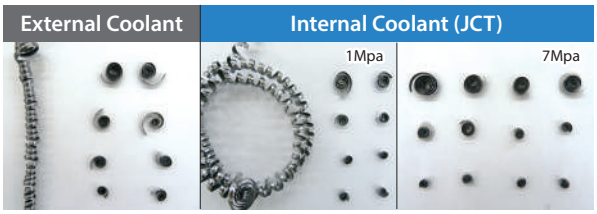
KPK **60 pcs/corner (Stable)**

Competitor F **30 pcs/corner (Unstable)**

Cutting conditions : Vc = 65 m/min (Constant), f = 0.06 mm/rev,
Wet (Internal coolant 3.5MPa) KPKB32-3JCT PKM30N-025PM PR1535

(User evaluation)

Chip Control Comparison (Internal evaluation)



Cutting conditions : n = 780 min^{-1} (Constant), Vc = 120 m/min, f = 0.08 mm/rev,
Wet Workpiece : SCM 415 (ø 50) Blade width : 3 mm (PM Chipbreaker)

Blades

KPKB-JCT With coolant holes

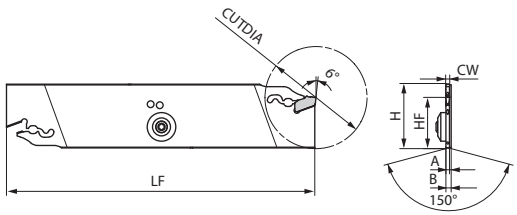


Fig.1

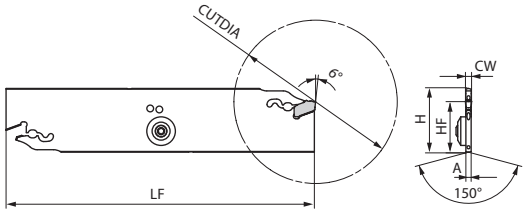


Fig.2

Blade dimensions

Pressure Resistance : ~7 MPa

Description		Stock	Cutting Dia.	Dimensions (mm)					Edge Width (mm)	Drawing	Parts				Applicable Inserts	Applicable Tool Holder Block
											Insert Wrench	Coolant Plug	Screw	Wrench		
			CUTDIA	*H	HF	B	LF	A	CW							
NEW	KPKB 26-1JCT	●	35	26	21.4	2.6	110	1.4	1.6	Fig. 1	LPW-5	CCP-4	SB-4065TR	FT-15	PKM16…	KPKTB○○-26JCT KTKTB○○-26
	26-2JCT	●	50					1.8	2.0 2.4						PKM20… PKM24…	
	26-3JCT	●	75			-		2.6	3.0	Fig. 2					PKM30…	
	26-4JCT	●	80					3.4	4.0						PKM40…	
NEW	26-5JCT	●	80					4.2	4.8 5.0						PKM48… PKM50…	
NEW	KPKB 32-1JCT	●	35	32	25.0	2.6	150	1.4	1.6	Fig. 1					PKM16…	KPKTB○○-32JCT KTKTB○○-32 KTKTBF○○-32
	32-2JCT	●	50					1.8	2.0 2.4						PKM20… PKM24…	
	32-3JCT	●	100			-		2.6	3.0	Fig. 2					PKM30…	
	32-4JCT	●	100					3.4	4.0						PKM40…	
NEW	32-5JCT	●	120					4.2	4.8 5.0						PKM48… PKM50…	
NEW	32-6JCT	●	120					5.4	6.0						PKM60…	

Coolant Plug Screw Tightening Torque 3.0 N · m

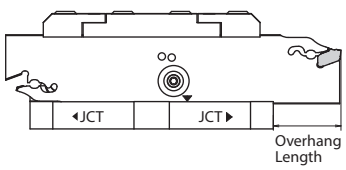
See page 14 for how to attach insert.

● : Standard Stock

When using internal coolant with KTKTB, KTKTBF type tool holder blocks, coolant supply piping (**CCN -5**) sold separately.

*H : Length between virtual vertices

Minimum /maximum overhang length while using internal coolant



Description		Overhang Length	
Blade	Tool Holder Block	Min.	Max.
KPKB26-1JCT	KPKTB20-26JCT	15	34.5
KPKB26-2/3/4JCT		20	40
KPKB26-5JCT		23	43
KPKB32-1JCT	KPKTB20-32JCT	18	49
	KPKTB25-32JCT	13	
	KPKTB32-32JCT		
KPKB32-2/3/4JCT	KPKTB20-32JCT	27.5	59
	KPKTB25-32JCT	22.5	
	KPKTB32-32JCT		
KPKB32-5/6JCT	KPKTB20-32JCT	31.5	63
	KPKTB25-32JCT	26.5	
	KPKTB32-32JCT		

Blades

KPKB Without coolant hole

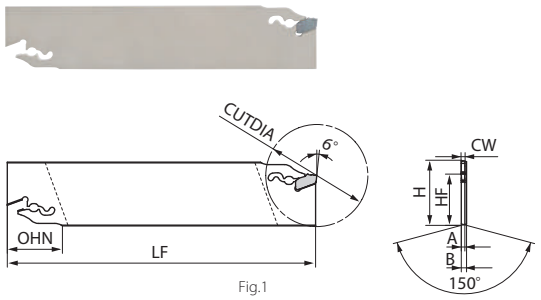


Fig.1

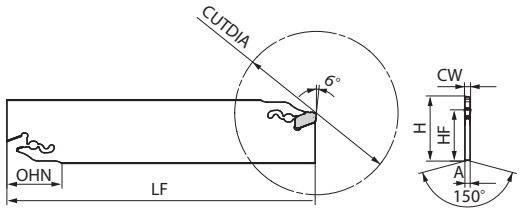


Fig.2

Blade dimensions

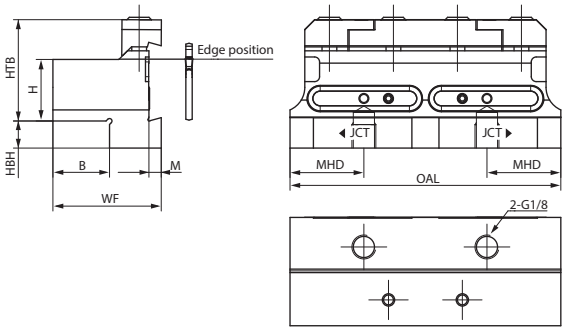
Description	Stock	Cutting Dia.	Dimensions (mm)					Edge Width (mm)	Drawing	Parts Insert Wrench	Applicable Inserts	Applicable Tool Holder Block
		CUTDIA	*H	HF	B	LF	A	CW				
NEW KPKB 19-1	●	32	19	15.7	2.6	86	1.4	1.6	Fig.1	LPW-5	PKM16…	KTKTB○○-19
NEW 19-2	●	40			-		1.8	2.0 2.4	Fig.2		PKM20… PKM24…	
NEW KPKB 26-1	●	35	26	21.4	2.6	110	1.4	1.6	Fig.1		PKM16…	KPKTB○○-26JCT KTKTB○○-26
26-2	●	50			-		1.8	2.0 2.4	Fig.2		PKM20… PKM24…	
26-3	●	75					2.6	3.0			PKM30…	
26-4	●	80					3.4	4.0			PKM40…	
NEW 26-5	●	80					4.2	4.8 5.0			PKM48… PKM50…	
NEW KPKB 32-1	●	35	32	25.0	2.6	150	1.4	1.6	Fig.1		PKM16…	KPKTB○○-32JCT KTKTB○○-32 KTKTBF○○-32
32-2	●	50					1.8	2.0 2.4			PKM20… PKM24…	
32-3	●	100			-		2.6	3.0	Fig.2		PKM30…	
32-4	●	100					3.4	4.0			PKM40…	
NEW 32-5	●	120					4.2	4.8 5.0			PKM48… PKM50…	
NEW 32-6	●	120					5.4	6.0			PKM60…	

See page 14 for how to attach insert.
*H : Length between virtual vertices

● : Standard Stock

Tool holder block

KPKTB-JCT With coolant holes



Tool holder block dimensions

Pressure Resistance : ~7 MPa

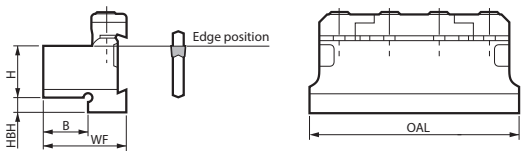
Description		Stock	Dimensions (mm)								Parts						Applicable blade
											Clamp set	Screw	Wrench	O-ring	Plug 1	Plug 2	
			H	HTB	HBH	B	WF	M	MHD	OAL	Switchblade type						
KPKTB	20-26JCT	●	20	33	12.4	19	39	4	23.5	86	BCS-2	HH6x16	LW-5	GR-020	HS3x4	HSG1/8X8.0	KPKB26-◯JCT KTKB26-◯
	20-32JCT	●	20	41	16		40	5	25	100	BCS-3			GR-026	HS4x4		KPKB32-◯JCT KTKB32-◯
	25-32JCT	●	25		11	23	44		30	110	BCS-4			GR-029			
	32-32JCT	●	32		5	29	50										

Includes only one HSG1/8X8.0 plug.
KPKTB-JCT type block is also compatible with conventional KTKB type blades.
See page 13 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.)

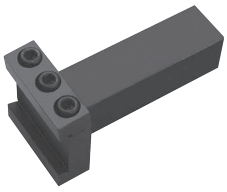
● : Standard Stock

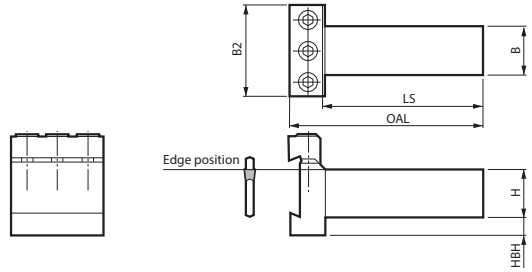
KTKTB / KTKTBF Without coolant hole

KTKTB



KTKTBF
(Square type)





Tool holder block dimensions

Description		Stock	Dimensions (mm)						Parts				Applicable blade
									Clamp set		Screw	Wrench	
			H	HBH	B	WF B2	OAL	LS	Switchblade type	Integral type			
KTKTB	16-19	●	16	4	15.5	29.5	76	–	–	BCS-1	HH5X25	LW-4	KPKB19-◯
	20-19	●	20		19	34							
	16-26	●	16	13	15.5	31.5	86	–	BCS-2	–	HH6X30	LW-5	KPKB26-◯ KPKB26-◯JCT
	20-26	●	20	9	19	36							
	20-32	●	20	13	19	38	100	–	BCS-3	–	HH6X30	LW-5	KPKB32-◯ KPKB32-◯JCT
	25-32	●	25	8	23	42	110		BCS-4				
	32-32	●	32	5	29	48							
KTKTBF	25-32	●	25	9.5	25	48	102	84.5	–	BCS-5	HH6X30	LW-5	KPKB32-◯ KPKB32-◯JCT
	32-32	●	32	2.5	32		117	99.5					

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

● : Standard Stock

Toolholder

KPKH - JCT With coolant holes

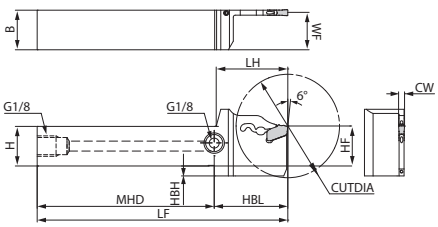
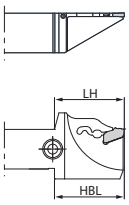


Fig.1

Right-hand shown



*KPKH R/L 2020K-2JCT··· shows above figure

Fig.2

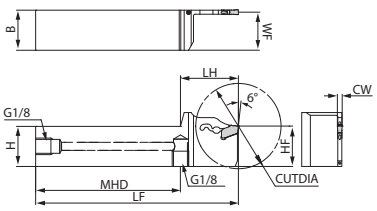


Fig.3

Toolholder Dimensions

Pressure Resistance : ~15 MPa

Description		Stock		Cutting Dia.	Dimensions (mm)									Edge Width (mm)	Drawing	Parts		Applicable Inserts
																Insert Wrench	Plug	
		R	L	CUTDIA	H	HF	HBH	B	LF	LH	WF	HBL	MHD	CW				
KPKH R/L	2020K-2JCT	●	●	38	20	20	5	20	125	35.1	19.15	35.1	89	2 2.4	Fig.2	LPW-5	HSG1/8X8.0	PKM20… PKM24…
	2020K-3JCT	●	●	52						36	18.75	37	88	3.0	Fig.1			PKM30…
	2525K-3JCT	●	●	53	25	25	-	25			23.75	-	89		Fig.3			
	2020K-4JCT	●	●	62	20	20	5	20		42.5	18.35	42	83	4.0	Fig.1			PKM40…
	2525K-4JCT	●	●	68	25	25	-	25			23.35	-	82		Fig.3			

See page 14 for how to attach insert.
See page 13 for coolant piping parts.

● : Standard Stock

KPKH Without coolant hole

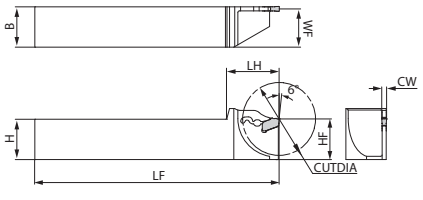
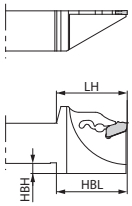


Fig.1

Right-hand shown



*KPKH R/L 2020K-2··· shows above figure

Fig.2

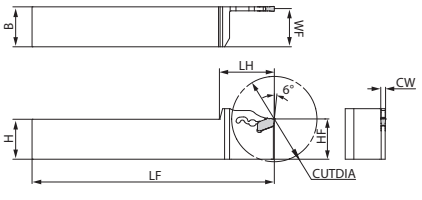


Fig.3

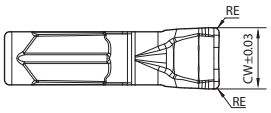
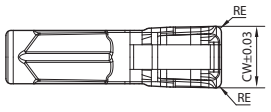
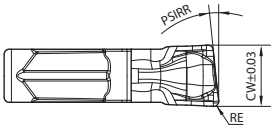
Toolholder Dimensions

Description		Stock		Cutting Dia.	Dimensions (mm)								Edge Width (mm)	Drawing	Parts	Applicable Inserts
															Insert Wrench	
		R	L	CUTDIA	H	HF	HBH	B	LF	LH	WF	HBL	CW			
KPKH R/L	2020K-2	●	●	38	20	20	5	20	125	33.1	19.15	33.1	2.0 2.4	Fig.2	LPW-5	PKM20… PKM24…
	2020K-3	●	●	52						34	18.75		3.0	Fig.3		PKM30…
	2525M-3	●	●	53	25	25		25	150		23.75					
	2020K-4	●	●	62	20	20	-	20	125	40.5	18.35	-	4.0			PKM40…
	2525M-4	●	●	68	25	25		25	150		23.35					
NEW	2525M-5	●	●	79						45.9	22.95		4.8 5.0			PKM48… PKM50…
KPKH R/L	2020K-3D35	●	●	35	20	20		20	125	32.5	18.75		3.0	Fig.1		PKM30…
	2525M-3D45	●	●	45	25	25	-	25	150		23.75	-				
	2020K-4D45	●	●	45	20	20		20	125	35	18.35		4.0			PKM40…
	2525M-4D45	●	●	45	25	25		25	150		23.35					

See page 14 for how to attach insert.

● : Standard Stock

Applicable Inserts

Shape (Right-hand Shown)			Description		Dimensions (mm) CW	Dimensions (mm) RE	Angle PSIR R/L	MEGACOAT NANO PR1625	MEGACOAT NANO PR1535	Carbide GW15
Without lead angle	 General use		NEW	PKM 16N-015PM	1.6	0.15	–	●	●	●
				20N-020PM	2.0	0.20		●	●	●
			NEW	24N-020PM	2.4	0.20		●	●	●
				30N-025PM	3.0	0.25		●	●	●
				40N-030PM	4.0	0.30		●	●	●
			NEW	48N-030PM	4.8	0.30		●	●	●
			NEW	50N-030PM	5.0	0.30		●	●	●
			NEW	60N-035PM	6.0	0.35		●	●	●
	 Tough Edge			PKM 20N-020PH	2.0	0.20	–	●	●	
				30N-030PH	3.0	0.30		●	●	
				40N-030PH	4.0	0.30		●	●	
			NEW	50N-030PH	5.0	0.30		●	●	
			NEW	60N-040PH	6.0	0.40		●	●	
								R L	R L	R L
With lead angle			NEW	PKM 16 R/L-015PM-6D	1.6	0.15	6 °	● ●	● ●	● ●
				20 R/L-020PM-6D	2.0	0.20		● ●	● ●	● ●
			NEW	24 R/L-020PM-6D	2.4	0.20		● ●	● ●	● ●
				30 R/L-025PM-6D	3.0	0.25		● ●	● ●	● ●
				40 R/L-030PM-6D	4.0	0.30		● ●	● ●	● ●
			NEW	50 R/L-030PM-6D	5.0	0.30		● ●	● ●	● ●

● : Standard Stock

Recommended Cutting Conditions ★1st recommendation ☆2nd recommendation

PM Chipbreaker

Workpiece	Cutting speed Vc (m/min) MEGACOAT NANO PR1625	Cutting speed Vc (m/min) MEGACOAT NANO PR1535	Cutting speed Vc (m/min) Carbide GW15	Feed f (mm/rev) Edge Width CW (mm) 1.6	Feed f (mm/rev) Edge Width CW (mm) 2 ~ 4	Feed f (mm/rev) Edge Width CW (mm) 4.8 ~ 6	Remarks
Carbon Steel (SxxC, etc.)	★ 80 – 220	☆ 80 – 220	—	0.03 – 0.12	0.08 – 0.18	0.10 – 0.22	Wet
Alloy Steel (SCM etc.)	★ 70 – 200	☆ 70 – 200	—				
Stainless steel (SUS304, etc.)	☆ 60 – 150	★ 60 – 150	—	0.03 – 0.08	0.06 – 0.12	0.08 – 0.15	
Cast Iron (FC, FCD, etc.)	—	—	★ 50 – 100	0.03 – 0.08	0.08 – 0.18	0.10 – 0.22	
Aluminum alloy	—	—	★ 200 – 450	0.03 – 0.08	0.08 – 0.18	0.10 – 0.22	
Brass	—	—	★ 100 – 200				

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

PH Chipbreaker

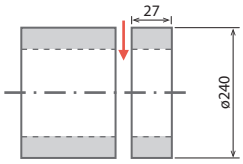
Workpiece	Cutting speed Vc (m/min) MEGACOAT NANO PR1625	Cutting speed Vc (m/min) MEGACOAT NANO PR1535	Cutting speed Vc (m/min) Carbide GW15	Feed f (mm/rev) Edge Width CW (mm) 2	Feed f (mm/rev) Edge Width CW (mm) 3 ~ 4	Feed f (mm/rev) Edge Width CW (mm) 5 ~ 6	Remarks
Carbon Steel (SxxC, etc.)	★ 80 – 220	☆ 80 – 220	—	0.10 – 0.22	0.15 – 0.28	0.15 – 0.35	Wet
Alloy Steel (SCM etc.)	★ 70 – 200	☆ 70 – 200	—				
Stainless steel (SUS304, etc.)	☆ 60 – 150	★ 60 – 150	—	0.05 – 0.12	0.08 – 0.15	0.08 – 0.18	
Cast Iron (FC, FCD, etc.)	—	—	—	—	—	—	
Aluminum alloy	—	—	—	—	—	—	
Brass	—	—	—				

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

Case Studies

Rings Forging

Vc = 90 m/min
f = 0.18 mm/rev
Wet (External coolant)
Overhang length : 70 mm
KPKB32-3 PKM30N-025PM PR1535



Machining Efficiency

KPK **f = 0.18 mm/rev**

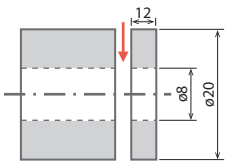
Competitor G **f = 0.09 mm/rev**

Chip control
Surface finish
Good
Machining Efficiency
x 2.0

KPK showed good chip control and finished surface with increased feed rates.
The machining efficiency ratio was doubled. KPK improves insert mounting speeds.
(User evaluation)

Machine part SNCM20

n = 1,530 min^{-1} (Constant)
Vc = ~ 100 m/min
f = 0.09 mm/rev
Wet (External coolant)
Overhang length : 22 mm
KPKB26 -3 PKM30N-025PM PR1625



Tool life

KPK **1,500 pcs/corner (Stable)**

Competitor H **800 pcs/corner (Unstable)**

Tool life
x 1.8

Competitor H was unstable with a sudden fracture. KPK increased tool life by 1.8 times that of competitor H. Stable machining with good cutting edge.
(User evaluation)

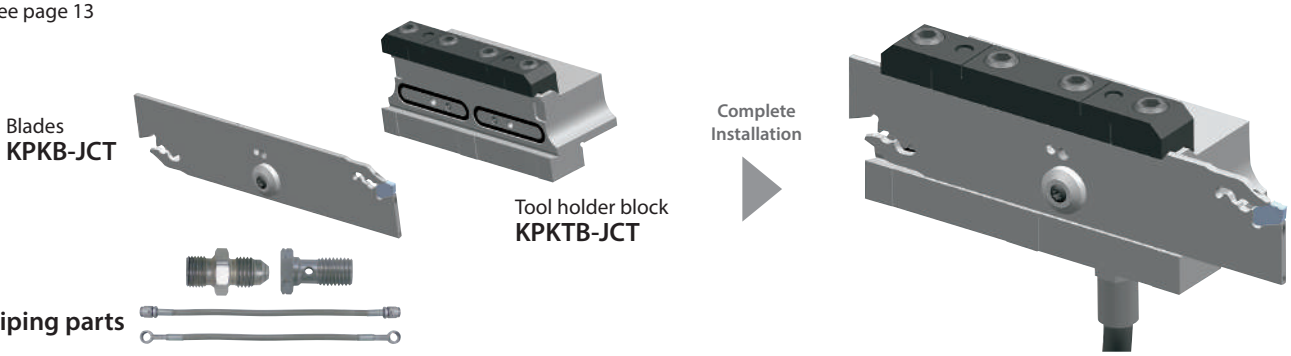
Internal coolant supply method (Blade type)

Supplies according to machine specifications and requirements

A : Coolant Hose Assembly

Maximum coolant pressure : 7 MPa

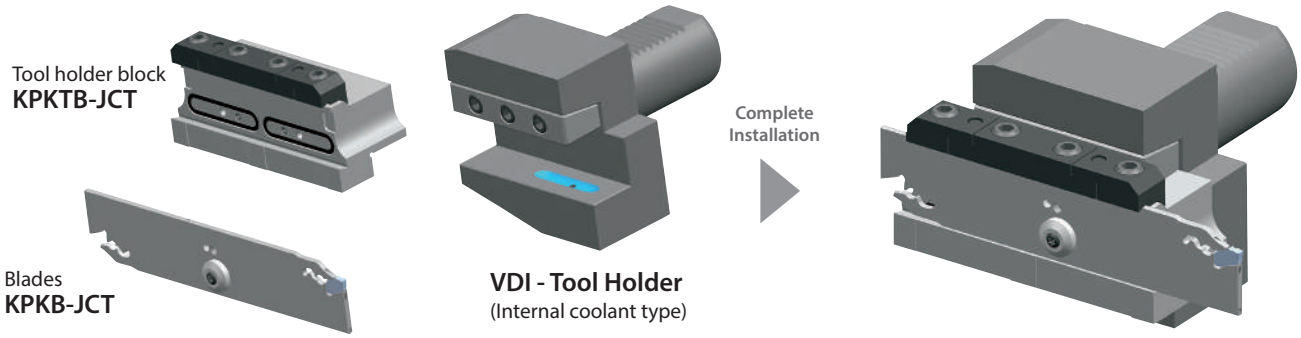
See page 13



B : VDI Holder Assembly

(Internal coolant type)

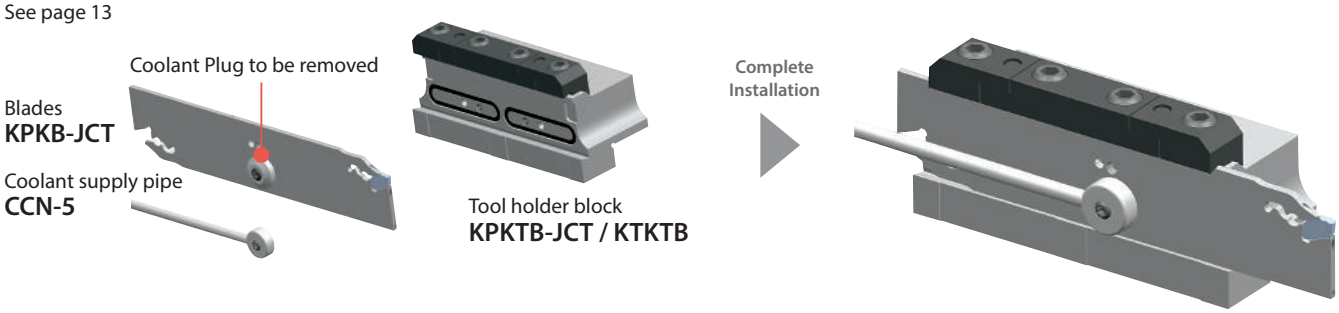
Maximum coolant pressure : 7 MPa



C : Coolant Pipe Assembly

Maximum coolant pressure : 1 MPa

See page 13

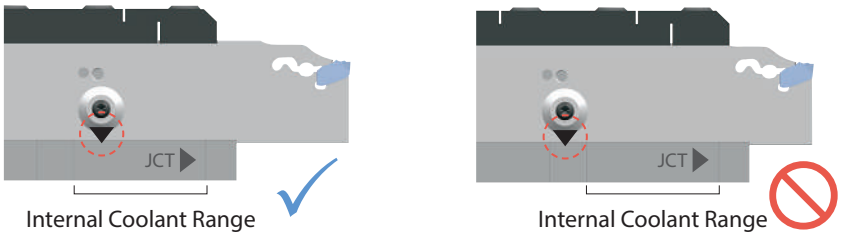


Coolant supply pipe mounting method

Attach to the blade with the supplied screw
Form pipe to the required shape and connect it to the piping of the machine.

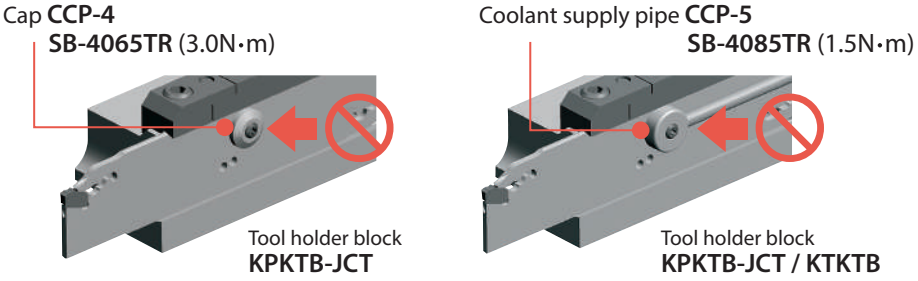
When mounting KPKB-JCT blade

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



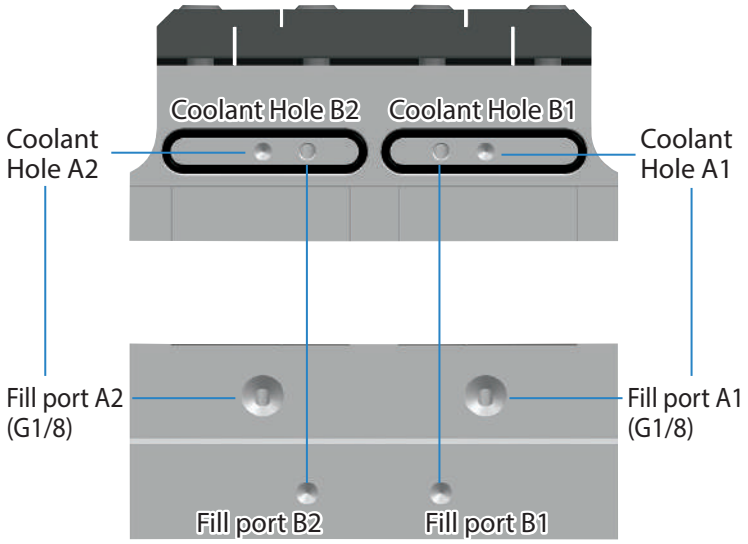
When the cap and coolant supply pipe are mounted

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



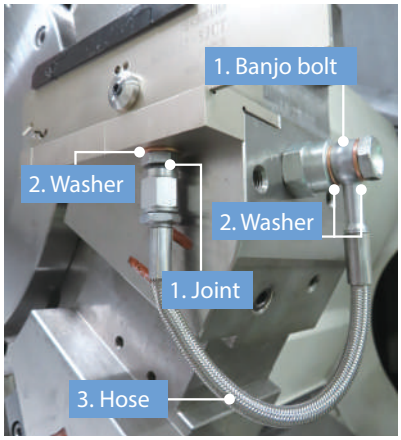
When using a tool holder block

When using the discharge port B1 (B2), use a sealant for the filler cap (**HSG 1/8 X 8.0**) provided as an accessory and attach it to the coolant supply port A1 (A2).



A : Coolant Hose Assembly

Connection method and piping parts

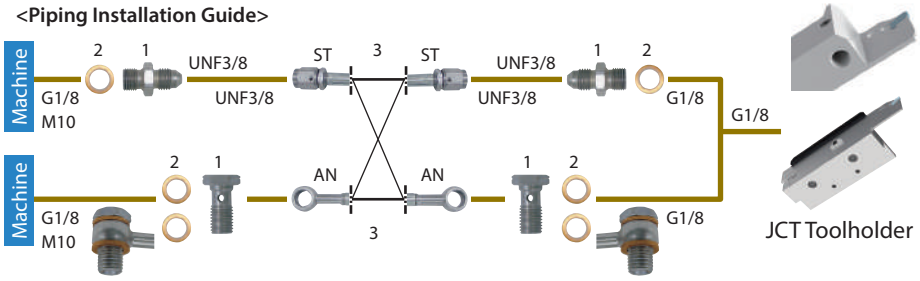


Easy to use with high-pressure hose and joint

Can be used for internal coolant at normal pressure without a high pressure pump unit

Banjo bolts (for angled hoses) are also available

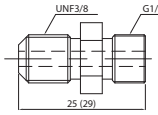
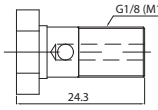
<Piping Installation Guide>



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)

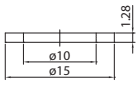
Pressure Resistance : ~ 30 MPa

Shape		Description	Stock	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

●: Standard Stock

2.Washer (Sold separately)

Pressure Resistance : ~ 30 MPa

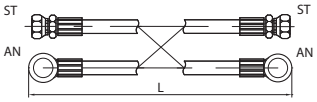
Shape		Description	Stock
		WS-10	●

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

●: Standard Stock

3.Hose (Sold separately)

Pressure Resistance : ~ 30 MPa

Shape		Description	Stock	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	– (Banjo bolt)	200
		HS-ST-AN-250	●			250
Angled/Angled 		HS-AN-AN-200	●	– (Banjo bolt)	– (Banjo bolt)	200
		HS-AN-AN-250	●			250

●: Standard Stock

Precautions

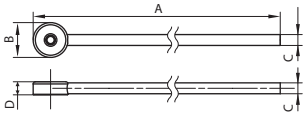
1. Make sure machine door is completely closed before use of these parts.
2. Use appropriate seal for the male thread of the piping parts and make sure the connection is secure. Use plugs to seal off unused coolant holes.
3. Connect and fasten the coolant hose firmly.
4. The use of copper washers may 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)

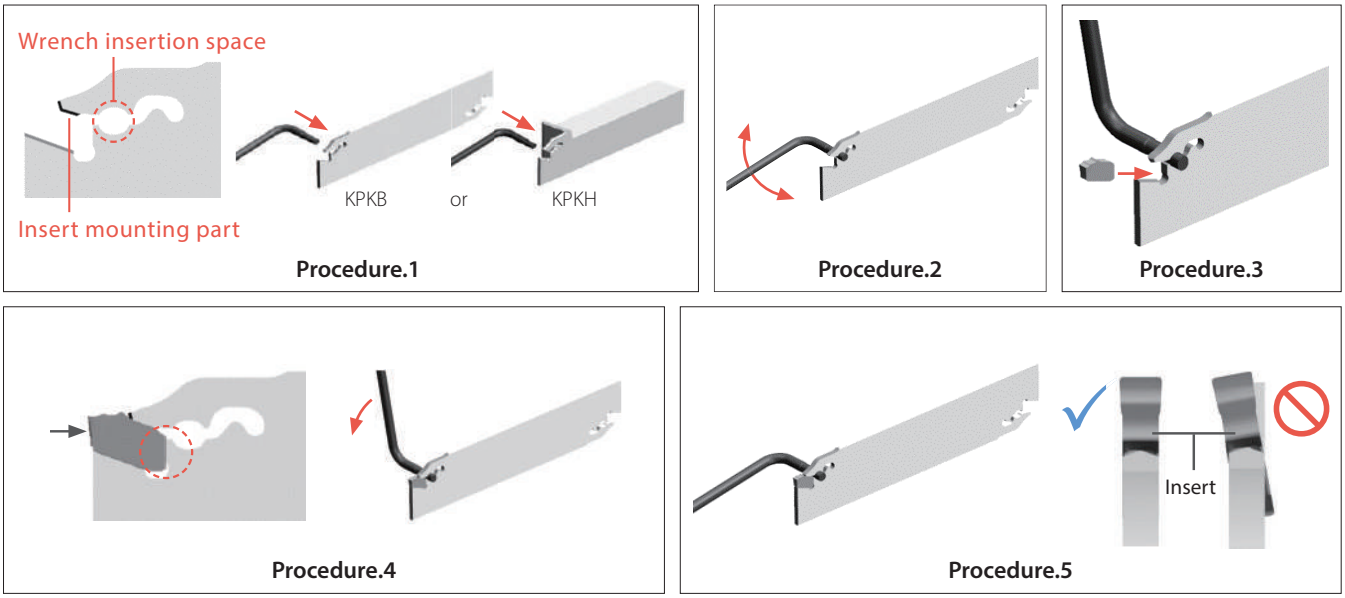
Pressure Resistance : ~1 MPa

Shape		Description	Stock	Dimension				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 Stock

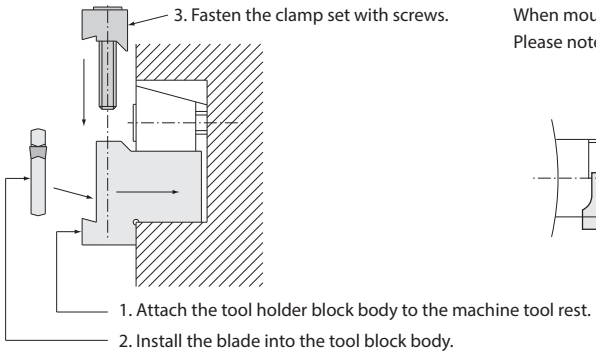
How to attach insert



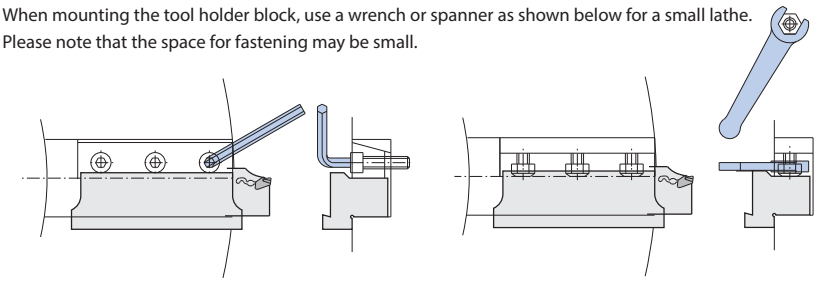
Procedure

1. Use compressed air or other measures to remove chips from the insert mounting part and wrench insertion space and put in the wrench.
2. Turn the wrench.
3. Put in the insert into insert mounting part. (When removing the insert, follow the same procedure and remove it at step 3.)
4. Please clamp it while gently pressing it makes contact with the back end of blade's surface.
5. Make sure that the insert is set straight.

Installation Guide

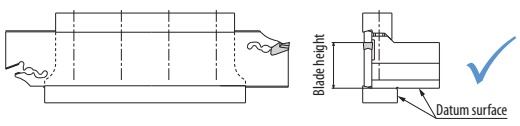


When mounting the tool holder block, use a wrench or spanner as shown below for a small lathe.
Please note that the space for fastening may be small.

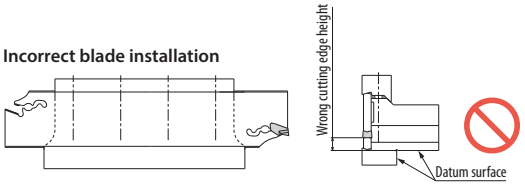


How to install the tool holder block and blade

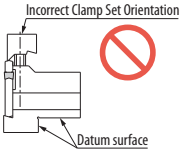
Correct blade installation



Incorrect blade installation



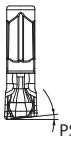
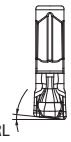
Incorrect Clamp Set Orientation

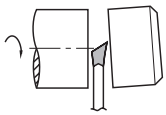
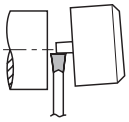


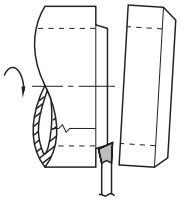
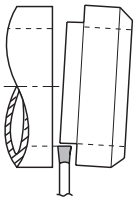
If the clamp set is mounted in the reverse direction, a large gap is created between the tool holder block main body and the clamp set as shown in the left figure.
If you continue to use the product, the blade may break off.
Reinstall in the correct orientation.

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.

Handed insert with lead angle	N (Neutral)	R (Right hand)	L (Left hand)
		 PSIRR	 PSIRL
	· 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.		

Solid Workpiece	Right hand (R) Lead Neutral	Neutral
		

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

Machining Precautions

1. Set cutting edge height 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.