

THE NEW VALUE FRONTIER



Polygon taper shank | **KPC series**

KPC series



Polygon taper shank with high rigidity and high precision

Polygon taper design and dual contact between the taper and the flange face for high rigidity

Locational accuracy within $\pm 2\mu\text{m}$

Turning, grooving, cut-off and threading styles available



Polygon taper shank

KPC series

Polygon taper shank with high rigidity and high precision

PSC shank tools

JIS B 6066-1: Dual contact between polygon taper shank and the main spindle face

ISO26623-1: Polygonal taper interface with flange contact surface

1 High rigidity

Polygon taper design and dual contact between the taper and the flange face for high rigidity

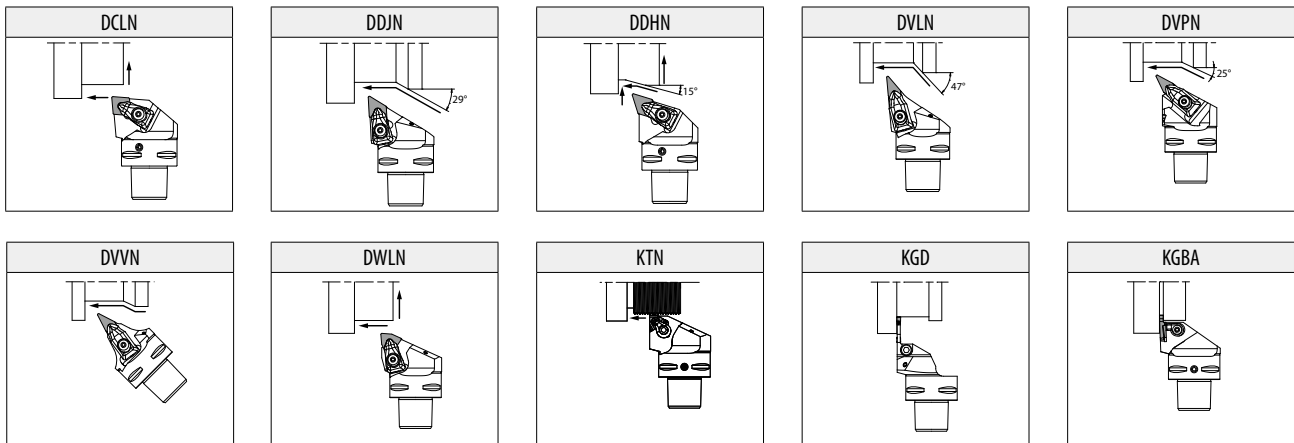
2 High precision

Locational accuracy within $\pm 2\mu\text{m}$

Distributes cutting forces evenly between 3 faces for enhanced rigidity and centering accuracy



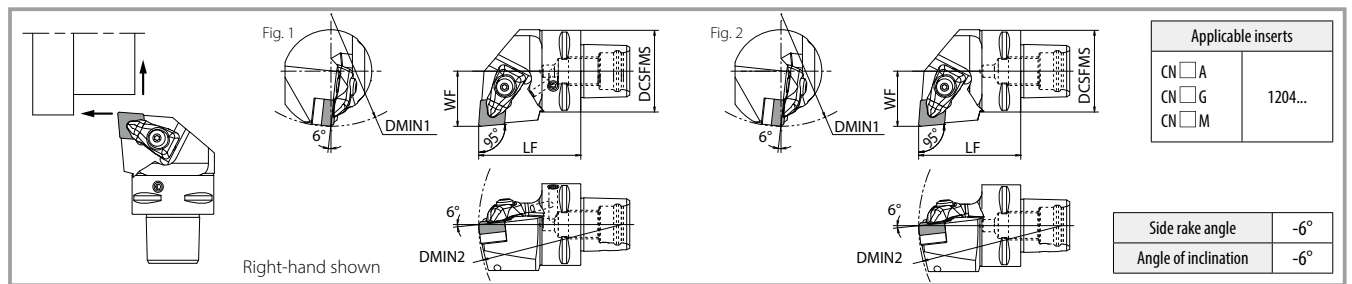
Even distribution of force between 3 faces enhances rigidity and centering



Identification system (for external)

KPC3	-	D	C	L	N	R	22	045	12	A
Interface Size	Clamping system	Insert shape	Insert relief angle	Hand of tool	Cutting edge offset	Toolholder length Length from gauge line	Coolant hole			
KPC3: PSC32 DCSFMS = 32 mm	D: Double clamp	C: 80° Diamond	N: 0°	Right-hand	WF dimension	LF dimension	A: With			
KPC4: PSC40 DCSFMS = 40 mm		D: 55° Diamond		L: Left-hand			S: Without			
KPC5: PSC50 DCSFMS = 50 mm		V: 35° Diamond		N: Neutral						
		W: 80° Trigon								
Cutting edge angle								Insert size		
L J H P V								C D V		
95° 93° 107.5° 117.5° 72.5°								L L L L L		

DCLN (External / Facing)



Toolholder dimensions

Description	Avail-ability		Coolant hole	Dimensions (mm)					Standard corner-r (re)	Shape	Spare parts					
	R	L		DCSFMS	LF	WF	DMIN1	DMIN2			Clamp	Screw	Spring	Shim	Shim screw	Wrench
																
KPC3-DCLN ^R /L 22045-12A	●	●	With	32	45	22	60	121	0.8	Fig.1	CP-3D-S	CS-3D-TR	SP-3D	SP-441P (* 3 SP-441P-C)	M3X8	FT-15
KPC4-DCLN ^R /L 27050-12A	●	●		40	50	27	110	140						DC-44 (* 3 DC-44-C)	SB-4085TR	
KPC5-DCLN ^R /L 35060-12A	●	●		50	60	35	110	165								
KPC3-DCLN ^R /L 22045-12S	●	●	Without	32	45	22	60	121	0.8	Fig.2	CP-3D-S	CS-3D-TR	SP-3D	SP-441P (* 3 SP-441P-C)	M3X8	FT-15
KPC4-DCLN ^R /L 27050-12S	●	●		40	50	27	110	140						DC-44 (* 3 DC-44-C)	SB-4085TR	
KPC5-DCLN ^R /L 35060-12S	●	●		50	60	35	110	165								

* 1 Applicable coolant pressure: Up to 7 Mpa

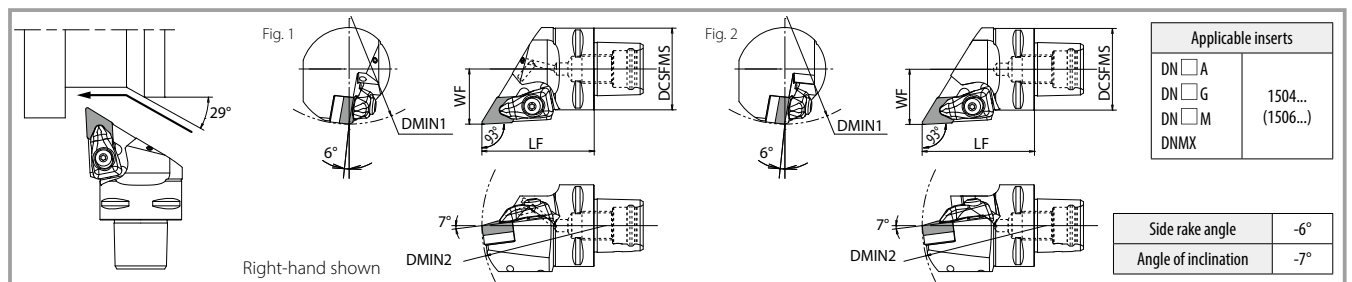
* 2 When using inserts whose corner-R (RE) is greater than 1.2 mm, additional modifications to the toolholder or shim may be necessary to prevent interfere with workpiece

* 3 SX chipbreaker inserts require a different shim (optional)

* 4 Recommended tightening torque 3.9 N·m

● : Available

DDJN (External / Copying)



Toolholder dimensions

Description	Avail-ability		Coolant hole	Dimensions (mm)					Standard corner-R (RE)	Shape	Spare parts					
	R	L		DCSFMS	LF	WF	DMIN1	DMIN2			Clamp	Screw	Spring	Shim	Shim screw	Wrench
																
KPC3-DDJNR/L 22050-15A	●	●	With	32	50	22	110	121	0.8	Fig.1						
KPC4-DDJNR/L 27055-15A	●	●		40	55	27	110	145								
KPC5-DDJNR/L 35060-15A	●	●		50	60	35	110	165								
KPC3-DDJNR/L 22050-15S	●	●	Without	32	50	22	110	121	0.8	Fig.2						
KPC4-DDJNR/L 27055-15S	●	●		40	55	27	110	145								
KPC5-DDJNR/L 35060-15S	●	●		50	60	35	110	165								

* 1 Applicable coolant pressure: Up to 7 Mpa

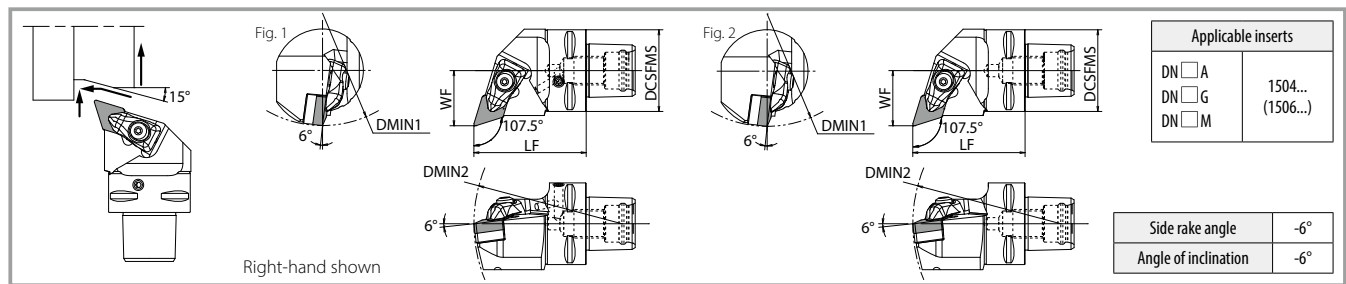
* 2 When using inserts whose corner-R (RE) is greater than 1.2 mm, additional modifications to the toolholder or shim may be necessary to prevent interfere with workpiece

* 3 Shims indicated within () are not included with the toolholder. To change insert thickness, please purchase it separately

* 4 Recommended tightening torque 3.9 N·m

● : Available

DDHN (External / Facing/ Copying)



Toolholder dimensions

Description	Availability		Coolant hole	Dimensions (mm)					Standard corner-R (RE)	Shape	Spare parts					
	R	L		DCSFMS	LF	WF	DMIN1	DMIN2			Clamp	Screw	Spring	Shim	Shim screw	Wrench
																
KPC3-DDHNR/L 22050-15A	●	●	With	32	50	22	110	121	0.8	Fig.1				DD-44 (* 3 DD-43)	SB-4085TR	FT-15
KPC4-DDHNR/L 27055-15A	●	●		40	55	27	110	145								
KPC5-DDHNR/L 35060-15A	●	●		50	60	35	110	165								
KPC3-DDHNR/L 22050-15S	●	●	Without	32	50	22	110	121	0.8	Fig.2				DD-44 (* 3 DD-43)	SB-4085TR	FT-15
KPC4-DDHNR/L 27055-15S	●	●		40	55	27	110	145								
KPC5-DDH R/L 35060-15S	●	●		50	60	35	110	165								

* 1 Applicable coolant pressure: Up to 7 Mpa

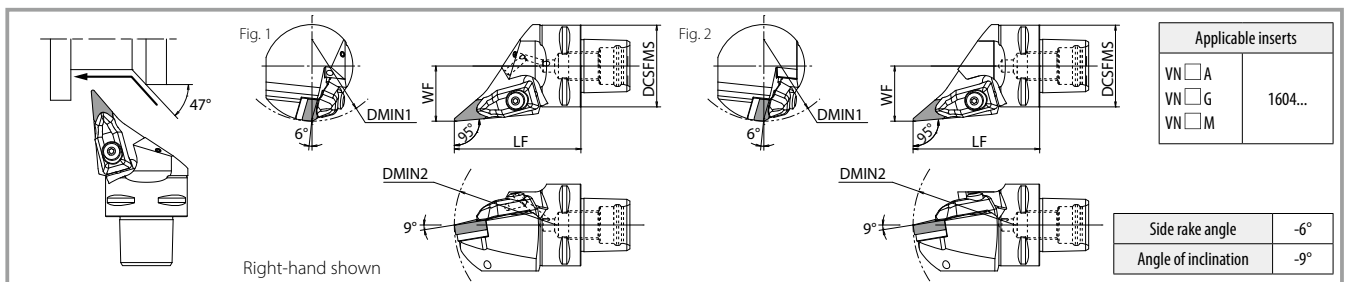
* 2 When using inserts whose corner-R (RE) is greater than 1.2 mm, additional modifications to the toolholder or shim may be necessary to prevent interfere with workpiece

* 3 Shims indicated within () are not included with the toolholder. To change insert thickness, please purchase it separately

* 4 Recommended tightening torque 3.9 N·m

● : Available

DVLN (External / Copying)



Toolholder dimensions

Description	Avail-ability		Coolant hole	Dimensions (mm)					Standard Corner-R (RE)	Shape	Spare parts					
	R	L		DCSFMS	LF	WF	DMIN1	DMIN2			Clamp	Screw	Spring	Shim	Shim screw	Wrench
																
KPC3-DVLN R/L 22058-16A	●	●	With	32	58	22	80	100	0.8	Fig.1						
KPC4-DVLN R/L 27062-16A	●	●		40	62	27	80	100								
KPC5-DVLN R/L 35065-16A	●	●		50	65	35	80	100								
KPC3-DVLN R/L 22058-16S	●	●	Without	32	58	22	80	100	0.8	Fig.2						
KPC4-DVLN R/L 27062-16S	●	●		40	62	27	80	100								
KPC5-DVLN R/L 35065-16S	●	●		50	65	35	80	100								

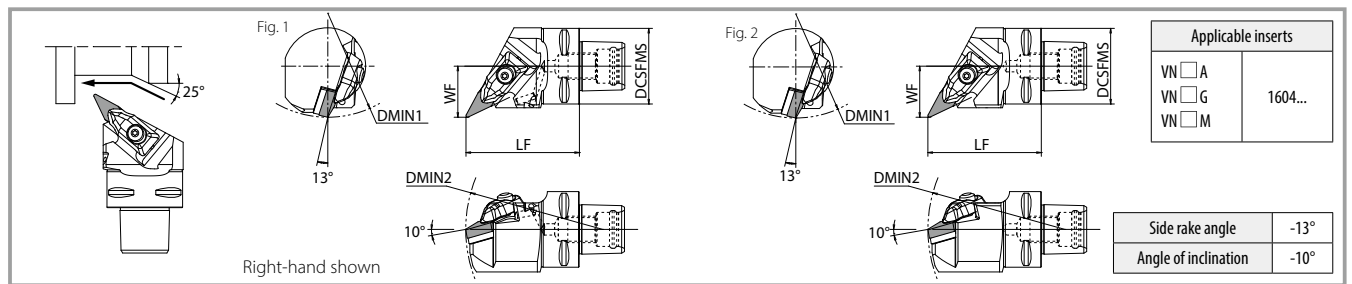
* 1 Applicable coolant pressure: Up to 7 Mpa

* 2 When using inserts whose corner-R (RE) is greater than 1.2 mm, additional modifications to the toolholder or shim may be necessary to prevent interfere with workpiece

* 3 Recommended tightening torque 3.9 N·m

● : Available

DVPN (External / Facing / Copying / Undercutting)



Toolholder dimensions

Description	Availability		Coolant hole	Dimensions (mm)					Standard corner-R (RE)	Shape	Spare parts					
	R	L		DCSFMS	LF	WF	DMIN1	DMIN2			Clamp	Screw	Spring	Shim	Shim screw	Wrench
																
KPC3-DVPN R/L 22055-16A	●	●	With	32	55	22	110	130	0.8	Fig.1						
KPC4-DVPN R/L 27060-16A	●	●		40	60	27	110	145								
KPC5-DVPN R/L 35065-16A	●	●		50	65	35	110	165								
KPC3-DVPN R/L 22055-16S	●	●	Without	32	55	22	110	130	0.8	Fig.2						
KPC4-DVPN R/L 27060-16S	●	●		40	60	27	110	145								
KPC5-DVPN R/L 35065-16S	●	●		50	65	35	110	165								

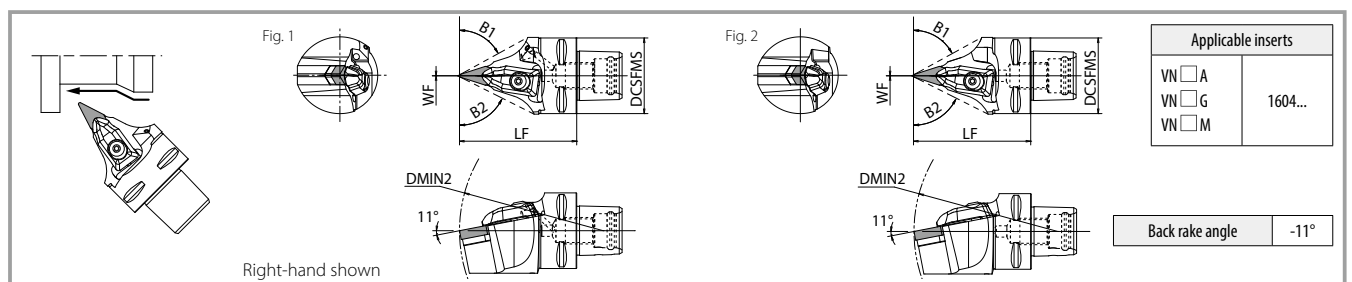
* 1 Applicable coolant pressure: Up to 7 Mpa

* 2 When using inserts whose corner-R (RE) is greater than 1.2 mm, it could be necessary additional modifications on the toolholder or the shim in order to prevent interfere with workpiece

* 3 Recommended tightening torque 3.9 N·m

● : Available

DVNN (External / Copying)



Toolholder dimensions

Description	Avail-ability			Coolant hole	Dimensions (mm)						Standard corner-R (RE)	Shape	Spare parts						
	R	N	L		DCSFMS	LF	WF	*3 B1 (°)	*3 B2 (°)	DMIN1			DMIN2	Clamp	Screw	Spring	Shim	Shim screw	Wrench
																			
KPC4-DVNN00062-16A		●		With	40	62	0	61	63	-	152	0.8	Fig.1						
KPC5-DVNN00065-16A		●			50	65	0	59	59	-	170								
KPC3-DVNN00058-16S		●		Without	32	58	0	68	68	-	140	0.8	Fig.2						
KPC4-DVNN00062-16S		●			40	62	0	61	63	-	152								
KPC5-DVNN00065-16S		●			50	65	0	59	59	-	170								

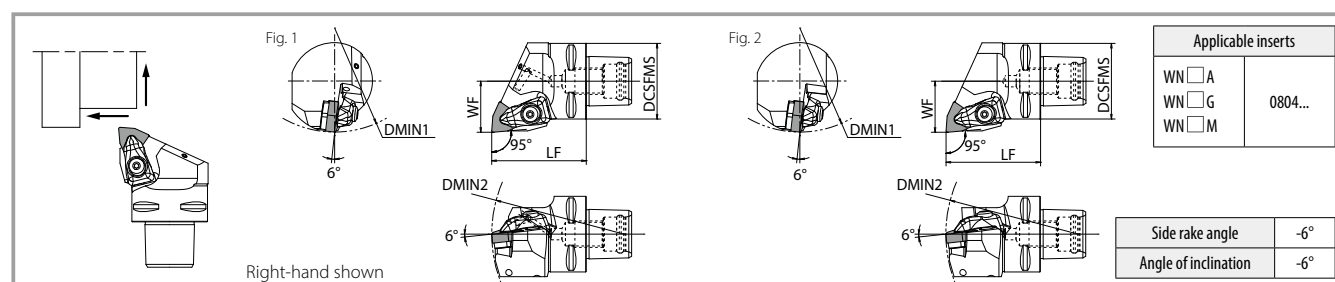
* 1 Applicable coolant pressure: Up to 7 Mpa

* 2 When using inserts whose corner-R (RE) is greater than 1.2 mm, it could be necessary additional modifications on the toolholder or the shim in order to prevent interfere with workpiece

* 3 Angle B1 and B2 show the area of interference between the holder and the cutting edge

● : Available

DWLN (External / Facing)



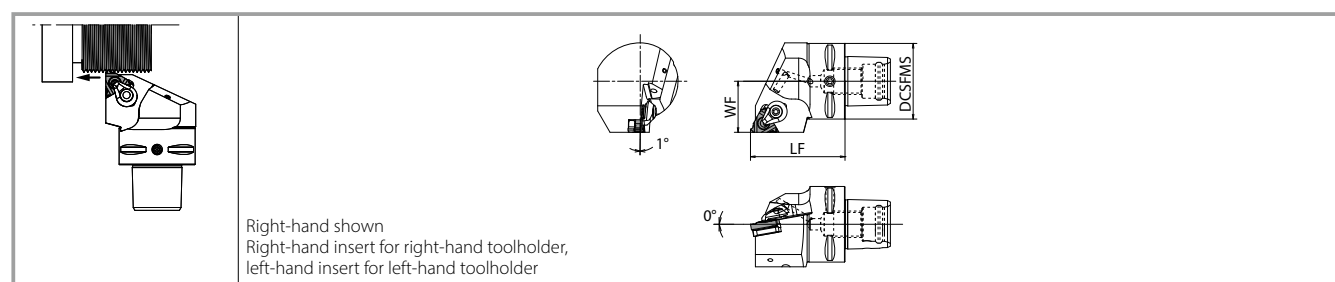
Toolholder dimensions

Description	Availability		Coolant hole	Dimensions (mm)					Standard corner-R (RE)	Shape	Spare parts					
											Clamp	Screw	Spring	Shim	Shim screw	Wrench
	R	L		DCSFMS	LF	WF	DMIN1	DMIN2								
KPC3-DWLN R/L 22047-08A	●	●	With	32	47	22	110	121	0.8	Fig.1						
KPC4-DWLN R/L 27050-08A	●	●		40	50	27	110	140								
KPC5-DWLN R/L 35060-08A	●	●		50	60	35	110	165								
KPC3-DWLN R/L 22047-08S	●	●	Without	32	47	22	110	121	0.8	Fig.2						
KPC4-DWLN R/L 27050-08S	●	●		40	50	27	110	140								
KPC5-DWLN R/L 35060-08S	●	●		50	60	35	110	165								

* 1 Applicable coolant pressure: Up to 7 Mpa
 * 2 Recommended tightening torque 3.9 N·m

● : Available

KTN (External threading toolholder)



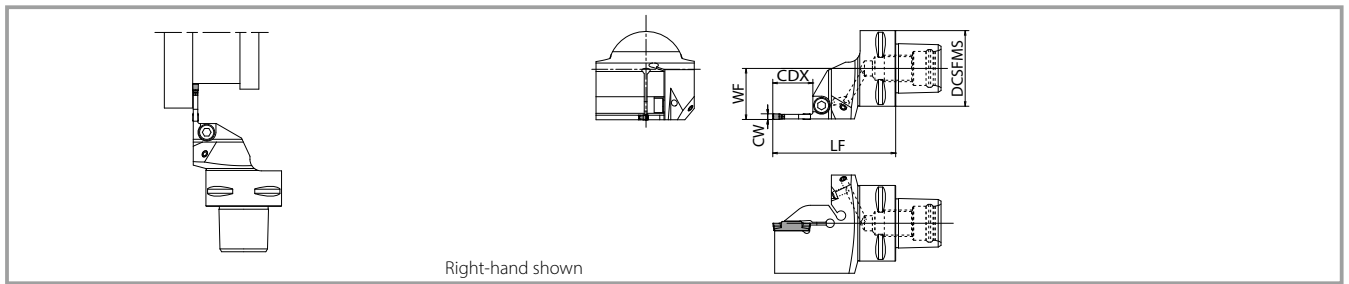
Toolholder dimensions

Description	Availability		Coolant hole	Dimensions (mm)			Spare parts				Applicable inserts
							Clamp set	Wrench	Shim	Shim screw	
	R	L		DCSFMS	LF	WF					
KPC3-KTN R/L 22040-16	●	●	With	32	40	22					16E R/L type
KPC4-KTN R/L 27050-16	●	●		40	50	27					
KPC5-KTN R/L 35060-16	●	●		50	60	35					

* 1 Applicable coolant pressure: Up to 7 Mpa

● : Available

KGD (Grooving/Cut-off toolholder)



Toolholder dimensions

Groove width CW (mm)	Available grooving depth (mm)	Description	Avail-ability		Coolant hole	Dimensions (mm)				Width W (mm)		Spare parts		Applicable inserts
			R	L		DCSFMS	LF	WF	CDX	MIN	MAX	Clamp bolt	Wrench	
														
2	10	KPC3-KGD R/L 22050-2T10	●	●	With	32	50	22	10	2.0	3.0	HH5X16	LW-4	GDM type GDG type
		KPC4-KGD R/L 27055-2T10	●	●		40	55	27						
		KPC5-KGD R/L 35060-2T10	●	●		50	60	35						
	17	KPC3-KGD R/L 22055-2T17	●	●		32	55	22	17					
		KPC4-KGD R/L 27060-2T17	●	●		40	60	27						
		KPC5-KGD R/L 35060-2T17	●	●		50	60	35						
3	10	KPC3-KGD R/L 22050-3T10	●	●		32	50	22	10	3.0	4.0			
		KPC4-KGD R/L 27055-3T10	●	●		40	55	27						
		KPC5-KGD R/L 35060-3T10	●	●		50	60	35						
	20	KPC3-KGD R/L 22060-3T20	●	●		32	60	22	20					
		KPC4-KGD R/L 27065-3T20	●	●		40	65	27						
		KPC5-KGD R/L 35065-3T20	●	●		50	65	35						
4	10	KPC3-KGD R/L 22050-4T10	●	●		32	50	22	10	4.0	5.0			
		KPC4-KGD R/L 27055-4T10	●	●		40	55	27						
		KPC5-KGD R/L 35060-4T10	●	●		50	60	35						
	20	KPC4-KGD R/L 27065-4T20	●	●		40	65	27	20					
		KPC5-KGD R/L 35065-4T20	●	●		50	65	35						
		25	KPC4-KGD R/L 27070-4T25	●		●	40	70						
	KPC5-KGD R/L 35070-4T25		●	●		50	70	35						
	5	10	KPC4-KGD R/L 27055-5T10	●		●	40	55	27					
KPC5-KGD R/L 35060-5T10			●	●		50	60	35						
17		KPC4-KGD R/L 27060-5T17	●	●		40	60	27	17					
		KPC5-KGD R/L 35060-5T17	●	●		50	60	35						

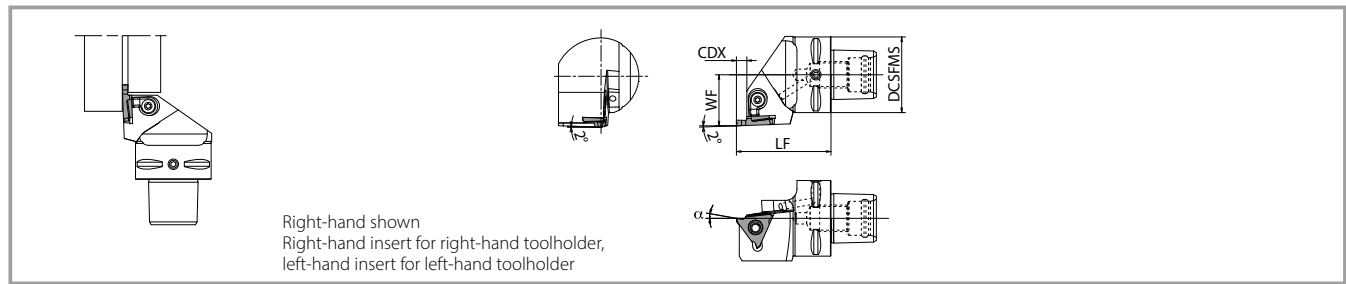
* 1 Applicable coolant pressure: Up to 7 Mpa

* 2 Recommended tightening torque 6.5 N·m

* 3 CDX dimension shows available grooving depth (When CDX dimension is 20 mm or more, maximum grooving depth with 2 corners is 18 mm)

● : Available

KGBA (External shallow grooving toolholders)



Toolholder dimensions

Description	Availability		Coolant hole	Dimensions (mm)				Spare parts		Applicable inserts
	R	L		DCSFMS	LF	WF	CDX	Clamp set	Wrench	
										
KPC3-KGBA R/L 22040-16	●	●	With	32	40	22	2.5	LGBA-16 R/L S	FT-15	GBA32 R/L type
KPC4-KGBA R/L 27050-16	●	●		40	50	27				
KPC5-KGBA R/L 35060-16	●	●		50	60	35				
KPC3-KGBA R/L 22040-2215	●	●		32	40	22	4.0	LGBA-22 R/L S		GBA43 R/L type
KPC4-KGBA R/L 27050-2215	●	●		40	50	27				
KPC5-KGBA R/L 35060-2215	●	●		50	60	35				
KPC3-KGBA R/L 22040-2225	●	●		32	40	22	5.5			
KPC4-KGBA R/L 27050-2225	●	●		40	50	27				
KPC5-KGBA R/L 35060-2225	●	●		50	60	35				
KPC3-KGBA R/L 22040-2235	●	●		32	40	22	5.5			
KPC4-KGBA R/L 27050-2235	●	●		40	50	27				
KPC5-KGBA R/L 35060-2235	●	●		50	60	35				

* 1 Applicable coolant pressure: Up to 7 Mpa

* 2 Dimension CDX shows the distance from the toolholder to the cutting edge. Available groove depth: "CDX" of insert

* 3 Clamp set: KGBA R/L ... LGBA - ○○RS for right-hand toolholder, and LGBA - ○○LS for left-hand toolholder

* 4 Rake angle (α) after mounting the insert (see below)

●: Available

Rake angle (α) after installment of GBA-GM

α	Insert part number
10°	GBA43 R/L 150-020GM
15°	GBA43 R/L 175-020GM ~ GBA43 R/L 265-030GM
12°	GBA43 R/L 300-030GM ~ GBA43 R/L 400-040GM

α shows the rake angle at the center of the edge width after mounting the insert

Rake angle (α) after installment of GBA-MY

α	Insert part number
15°	GBA43 R/L 175-020MY ~ GBA43 R/L 350-030MY
14°	GBA43 R/L 400-040MY

α shows the rake angle at the center of the edge width after mounting the insert

Rake angle (α) after installment of GBA

GBA32 R/L ○○○○-○○○		GBA43 R/L ○○○○-○○○		GBA43 R/L ○○○○-○○○ R (Full-R)	
α	Insert grade	α	Insert grade	α	Insert grade
10°	TN620, TN90, PV7040, PR930 PR1115, PR1215, PR1625, PR905 KPD001, KPD010	0°	KBN510, KBN525	10°	TN620, TN90, PV7040, PR930 PR1115, PR1215, PR1625, PR905
		10°	TN620, TC40N, TN90, PV7040 PR930, PR1115, PR1215, PR1625 PR905, KPD001, KPD010		050R ~ 150R
					200R
20°	KW10	20°	KW10		KW10
					050R ~ 200R