

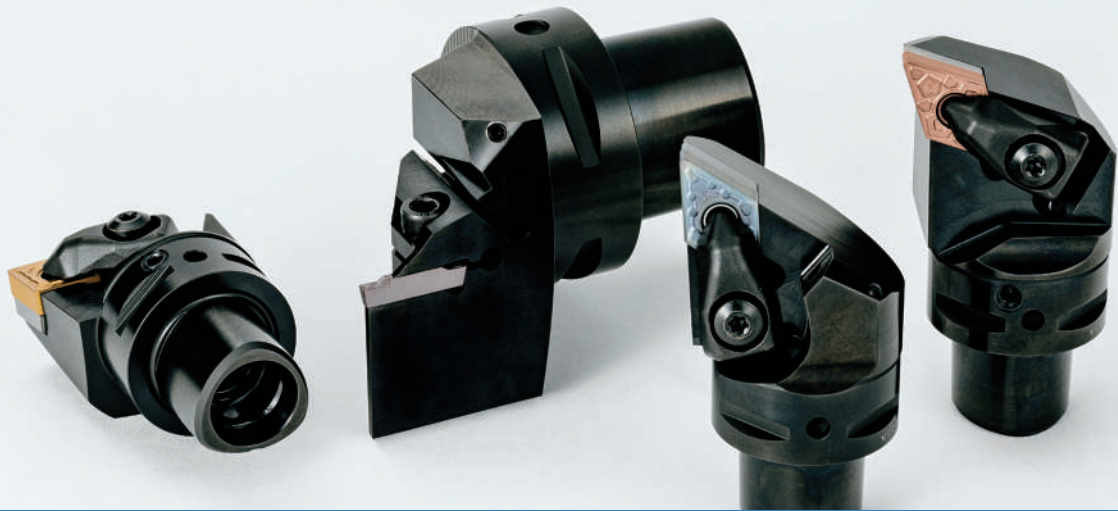
THE NEW VALUE FRONTIER



Polygon Taper Shank | **KPC Series**

Polygon Taper Shank

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

Lineup Expansion



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

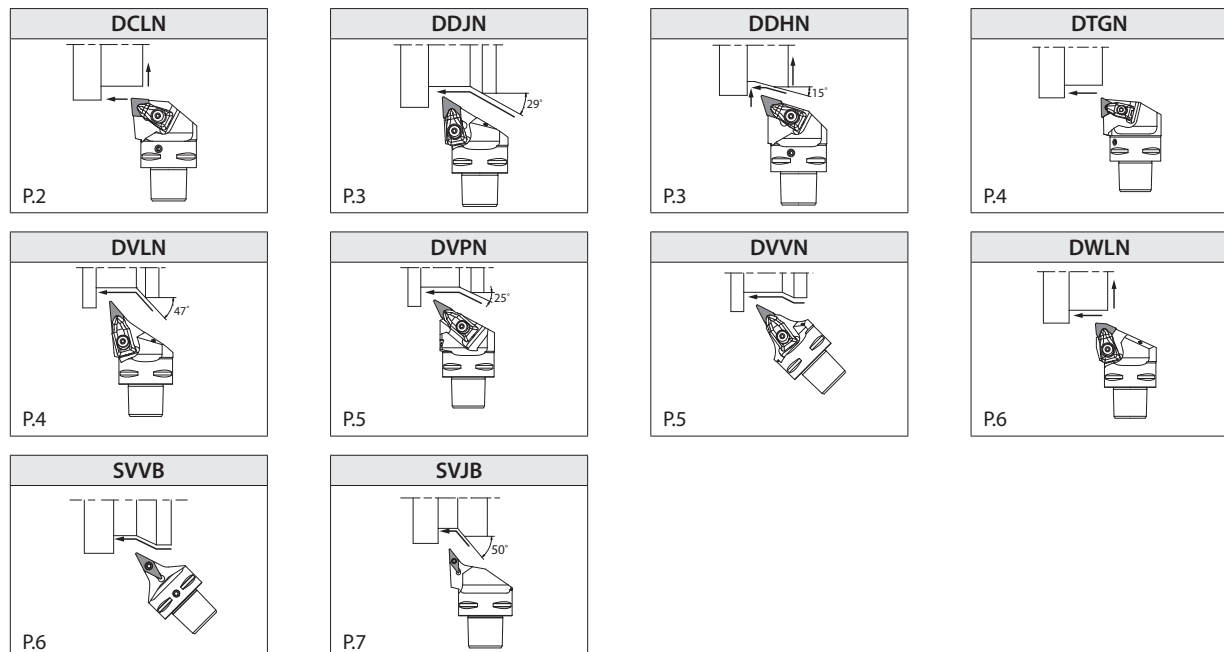
2 High Precision

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

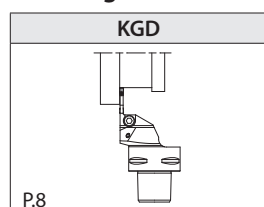
Distributes cutting forces evenly between 3 faces for enhanced rigidity and centering accuracy



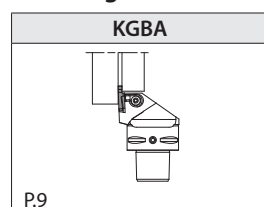
Turning



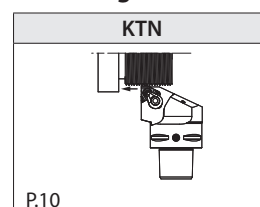
Grooving / Cut-Off



Grooving



Threading



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=32mm		D : Double Clamp	C : 80°Diamond	B : 5°	R : Right-hand	WF Dimension	LF Dimension	A : With		
KPC4 : PSC40 DCSFMS=40mm		S : Screw Only	D : 55°Diamond	N : 0°	L : Left-hand			S : Without		
KPC5 : PSC50 DCSFMS=50mm			T : Triangle		N : Neutral					
			V : 35°Diamond							
			W : 80°Trigon							
Cutting Angle						Insert Size				

DCLN (External / Facing)

Fig.1

Right-hand shown

Fig.2

Applicable Inserts

CN ☐ A

CN ☐ G

CN ☐ M

1204...

Side Rake Angle -6°

Angle of Inclination -6°

Toolholder Dimensions

Description	Stock		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 *1(SP-441P-C)	M3X8	FT-15
KPC4-DCLN R/L 27050-12A	●	●		40	50	27	110	140						DC-44 *1(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 *1(SP-441P-C)	M3X8	FT-15
KPC4-DCLN R/L 27050-12S	●	●		40	50	27	110	140						DC-44 *1(DC-44-C)	SB-4085TR	
KPC5-DCLN R/L 35060-12S	●	●		50	60	35	110	165								

• Pressure Resistance : Up to 7 MPa

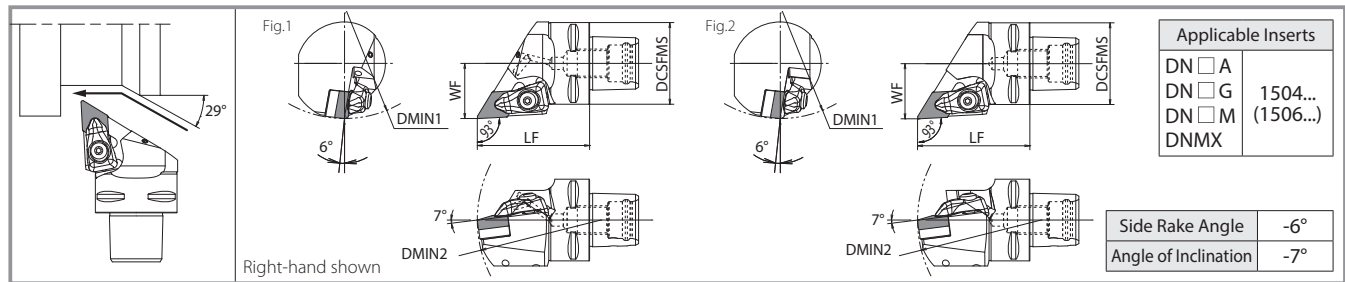
• When using inserts whose corner-R (RE) is greater than 1.2mm, additional modifications to the toolholder or shim may be necessary to prevent interfere with workpiece

• Recommended Tightening Torque 3.9 N·m

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

● : Standard Stock

DDJN (External / Copying)



Toolholder Dimensions

Description	Stock		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-DDJN ^R / _L 22050-15A	●	●	With	32	50	22	110	121	0.8	Fig.1	CP-3D-S	CS-3D-TR	SP-3D	DD-44 *1 (DD-43)	SB-4085TR	FT-15
KPC4-DDJN ^R / _L 27055-15A	●	●		40	55	27	110	145								
KPC5-DDJN ^R / _L 35060-15A	●	●		50	60	35	110	165								
KPC3-DDJN ^R / _L 22050-15S	●	●	Without	32	50	22	110	121	0.8	Fig.2	CP-3D-S	CS-3D-TR	SP-3D	DD-44 *1 (DD-43)	SB-4085TR	FT-15
KPC4-DDJN ^R / _L 27055-15S	●	●		40	55	27	110	145								
KPC5-DDJN ^R / _L 35060-15S	●	●		50	60	35	110	165								

• Pressure Resistance: Up to 7 MPa

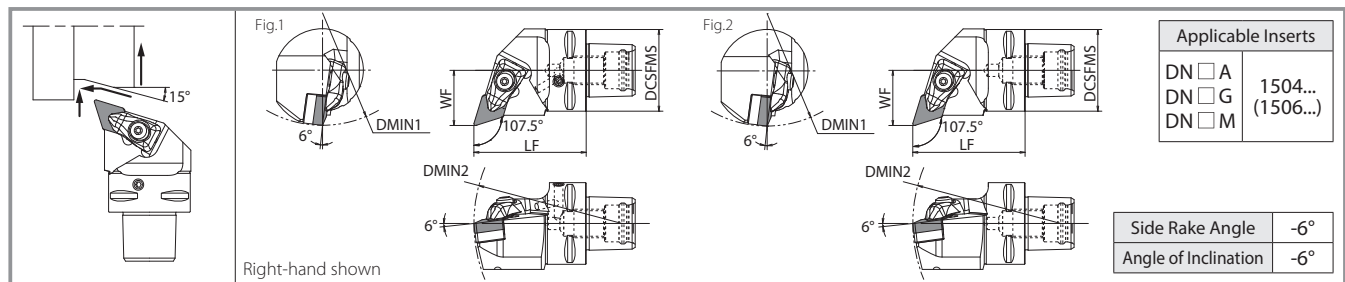
• When using inserts whose corner-R (RE) is greater than 1.2mm, additional modifications to the toolholder or shim may be necessary to prevent interfere with workpiece

• Recommended Tightening Torque 3.9 N·m

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

● : Standard Stock

DDHN (External / Facing/ Copying)



Toolholder Dimensions

Description	Stock		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-DDHN ^R / _L 22050-15A	●	●	With	32	50	22	110	121	0.8	Fig.1	CP-3D-S	CS-3D-TR	SP-3D	DD-44 *1 (DD-43)	SB-4085TR	FT-15
KPC4-DDHN ^R / _L 27055-15A	●	●		40	55	27	110	145								
KPC5-DDHN ^R / _L 35060-15A	●	●		50	60	35	110	165								
KPC3-DDHN ^R / _L 22050-15S	●	●	Without	32	50	22	110	121	0.8	Fig.2	CP-3D-S	CS-3D-TR	SP-3D	DD-44 *1 (DD-43)	SB-4085TR	FT-15
KPC4-DDHN ^R / _L 27055-15S	●	●		40	55	27	110	145								
KPC5-DDHN ^R / _L 35060-15S	●	●		50	60	35	110	165								

• Pressure Resistance: Up to 7 MPa

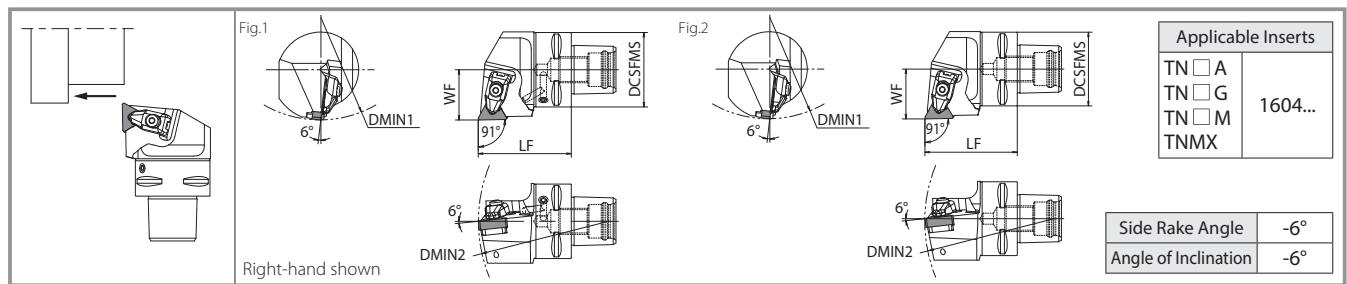
• When using inserts whose corner-R (RE) is greater than 1.2mm, additional modifications to the toolholder or shim may be necessary to prevent interfere with workpiece

• Recommended Tightening Torque 3.9 N·m

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

● : Standard Stock

DTGN (External)



Toolholder Dimensions

Description	Stock		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	Wrench (sold separately)	
																 for Clamp	 for Shim	
KPC3-DTGN R/L 22040-16A	●	●	With	32	40	22	110	116	0.8	Fig.1		CP-2D	CS-2D	SP-2D	DT-32	SB-3080TR	LW-2.5	FT-10
KPC4-DTGN R/L 27050-16A	●	●		40	50	27	110	140										
KPC5-DTGN R/L 35060-16A	●	●		50	60	35	110	165										
KPC3-DTGN R/L 22040-16S	●	●	Without	32	40	22	110	116	0.8	Fig.2		CP-2D	CS-2D	SP-2D	DT-32	SB-3080TR	LW-2.5	FT-10
KPC4-DTGN R/L 27050-16S	●	●		40	50	27	110	140										
KPC5-DTGN R/L 35060-16S	●	●		50	60	35	110	165										

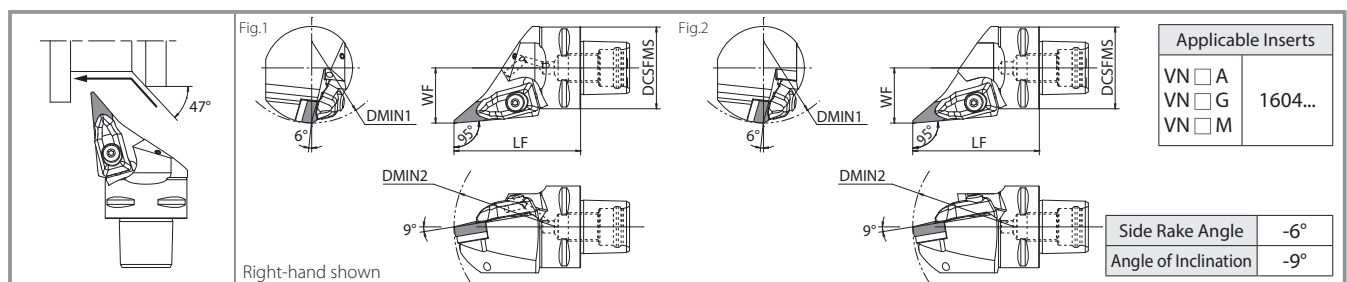
• Pressure Resistance: Up to 7 MPa

• When using inserts whose corner-R (RE) is greater than 1.6mm, additional modifications to the toolholder or shim may be necessary to prevent interfere with workpiece

• Recommended tightening torque 1.7 N·m

● : Standard Stock

DVLN (External / Copying)



Toolholder Dimensions

Description	Stock		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/L22058-16A	●	●	With	32	58	22	80	100	0.8	Fig.1	CP-5D-S	CS-3D-TR	SP-3D	DV-33	SB-4085TR	FT-15
KPC4-DVLN R/L27062-16A	●	●		40	62	27	80	100								
KPC5-DVLN R/L35065-16A	●	●		50	65	35	80	100								
KPC3-DVLN R/L22058-16S	●	●	Without	32	58	22	80	100	0.8	Fig.2	CP-5D-S	CS-3D-TR	SP-3D	DV-33	SB-4085TR	FT-15
KPC4-DVLN R/L27062-16S	●	●		40	62	27	80	100								
KPC5-DVLN R/L35065-16S	●	●		50	65	35	80	100								

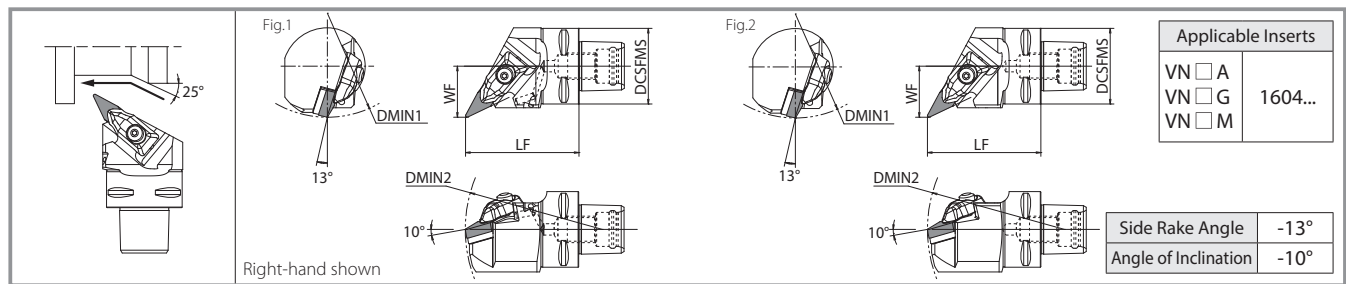
• Pressure Resistance: Up to 7 MPa

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

• Recommended tightening torque 3.9 N·m

● : Standard Stock

DVPN (External / Facing/ Copying/ Undercutting)



Toolholder Dimensions

Description	Stock		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								

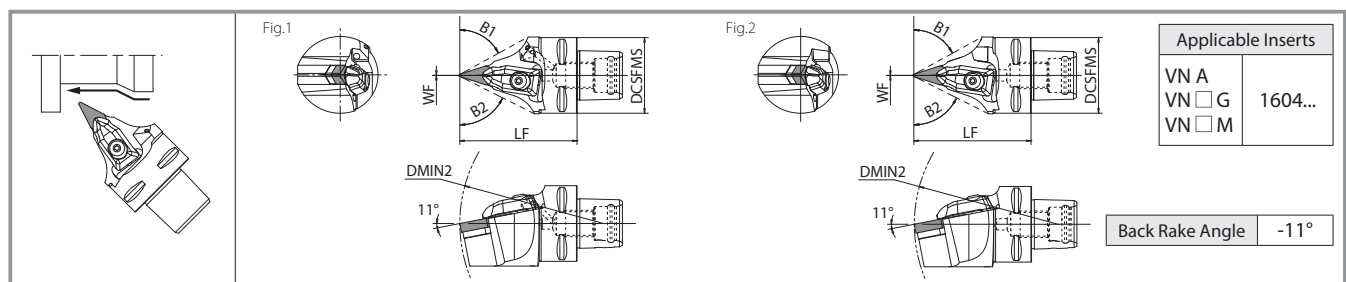
• Pressure Resistance: Up to 7 MPa

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

• Recommended Tightening Torque 3.9 N·m

● : Standard Stock

DVVN (External / Copying)



Toolholder Dimensions

Description	Stock			Coolant Hole	Dimensions (mm)						Standard Corner-R (RE)	Shape	Spare Parts						
	R	N	L		DCSFMS	LF	WF	*1 B1 (°)	*1 B2 (°)	DMIN1			DMIN2	Clamp	Screw	Spring	Shim	Shim Screw	Wrench
																			
KPC4-DVVNN00062-16A	●			With	40	62	0	61	63	-	152	0.8	Fig.1						
KPC5-DVVNN00065-16A	●				50	65	0	59	59	-	170								
KPC3-DVVNN00058-16S	●			Without	32	58	0	68	68	-	140	0.8	Fig.2						
KPC4-DVVNN00062-16S	●				40	62	0	61	63	-	152								
KPC5-DVVNN00065-16S	●				50	65	0	59	59	-	170								

• Pressure Resistance: Up to 7 MPa

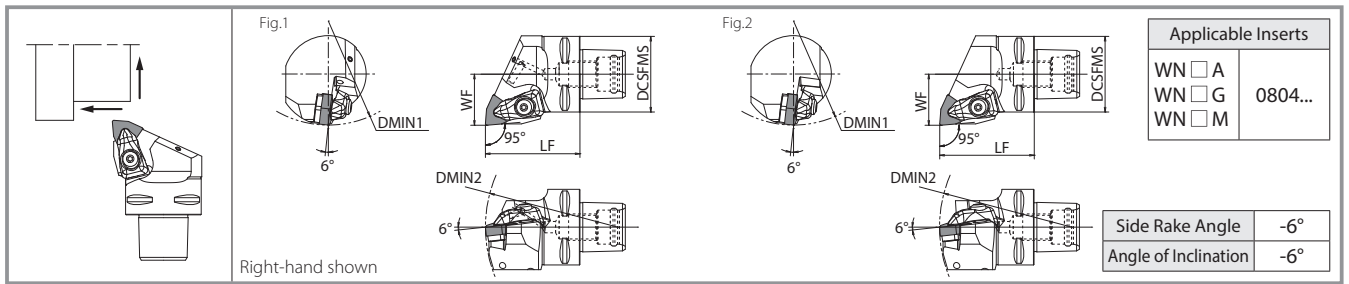
• When using inserts whose corner-R (RE) is greater than 1.2mm, it could be necessary additional modifications on the toolholder or the shim in order to prevent interfere with workpiece

• Recommended Tightening Torque 3.9 N·m

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

● : Standard Stock

DWLN (External / Facing)



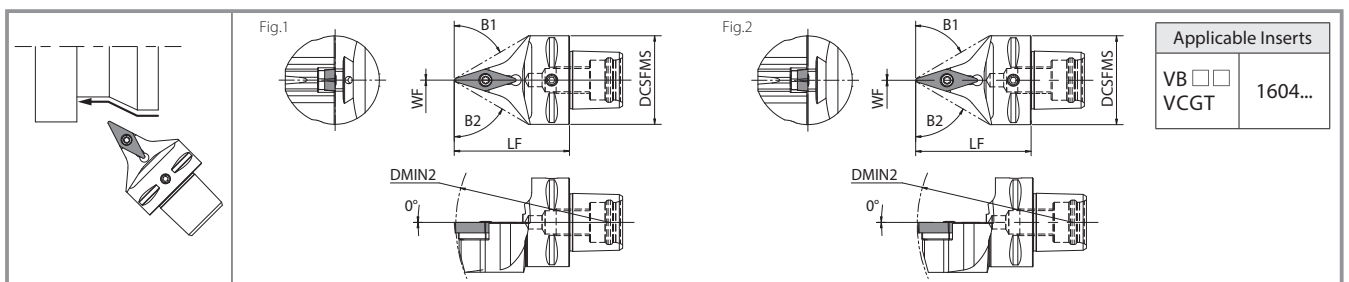
Toolholder Dimensions

Description	Stock		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-DWLN $R_{\perp}$ L22047-08A	●	●	With	32	47	22	110	121	0.8	Fig.1						
KPC4-DWLN $R_{\perp}$ L27050-08A	●	●		40	50	27	110	140								
KPC5-DWLN $R_{\perp}$ L35060-08A	●	●		50	60	35	110	165								
KPC3-DWLN $R_{\perp}$ L22047-08S	●	●	Without	32	47	22	110	121	0.8	Fig.2						
KPC4-DWLN $R_{\perp}$ L27050-08S	●	●		40	50	27	110	140								
KPC5-DWLN $R_{\perp}$ L35060-08S	●	●		50	60	35	110	165								

• Pressure Resistance: Up to 7 MPa
• Recommended Tightening Torque 3.9 N·m

● : Standard Stock

SVVB (External / Copying)

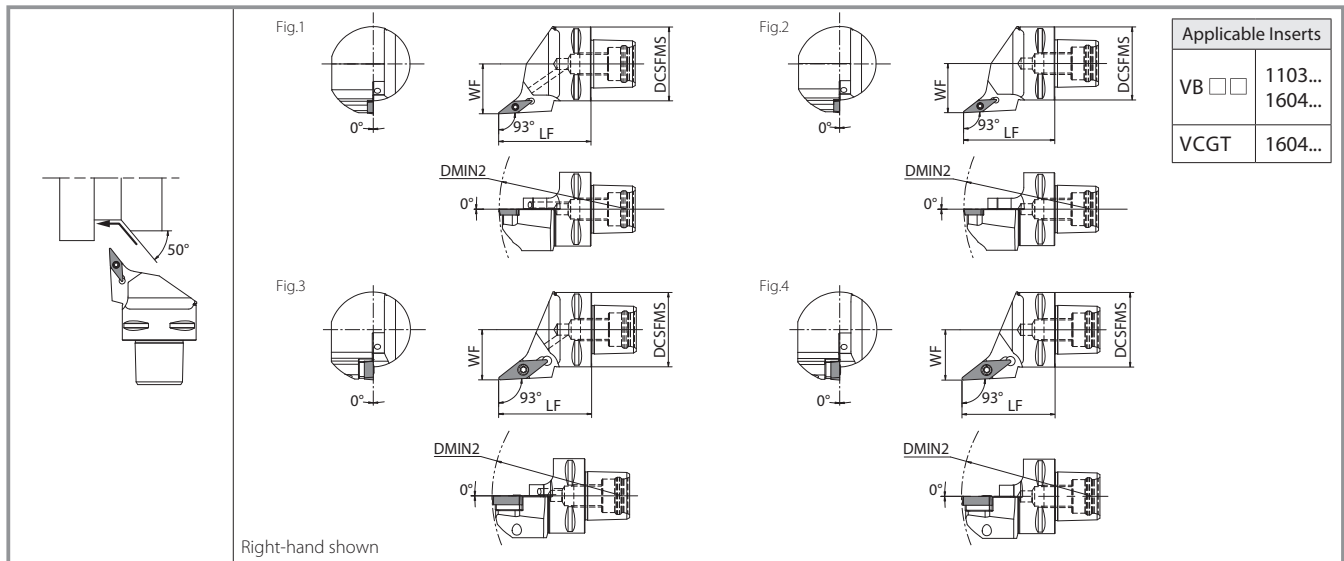


Toolholder Dimensions

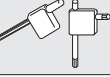
Description	Stock			Coolant Hole	Dimensions (mm)							Standard Corner-R (RE)	Shape	Spare Parts				
	R	N	L		DCSFMS	LF	WF	*2 B1 (°)	*2 B2 (°)	DMIN1	DMIN2			Clamp Screw	Wrench	Shim	Shim Screw	Wrench for Shim Screw
KPC3-SVVB00048-16A	●	●	●	With	32	48	0	62	62	-	116	0.8	Fig.1					
KPC4-SVVB00052-16A	●	●	●		40	52	0	59	59	-	140							
KPC5-SVVB00060-16A	●	●	●		50	60	0	56	56	-	165							
KPC3-SVVB00048-16S	●	●	●	Without	32	48	0	62	62	-	116	0.8	Fig.2					
KPC4-SVVB00052-16S	●	●	●		40	52	0	59	59	-	140							
KPC5-SVVB00060-16S	●	●	●		50	60	0	56	56	-	165							

• Pressure Resistance: Up to 7 MPa
• Recommended Tightening Torque 3.5 N·m
* 1 When using inserts with corner-R (RE) of 0.2mm or 0.4mm, shim in parentheses is recommended (sold separately)
* 2 Angle B1 and B2 show the area of interference between the holder and the cutting edge

● : Standard Stock



Toolholder Dimensions

Description		Stock		Coolant Hole	Dimensions (mm)					Standard Corner-R (RE)	Shape	Spare Parts				
		R	L		DCSFMS	LF	WF	DMIN1	DMIN2			Clamp Screw	Wrench	Shim	Shim Screw	Wrench for Shim Screw
																
*1	KPC3-SVJB R/L22040-11A	●	●	With	32	40	22	-	116	0.4	Fig.1	SB-2570TR	FT-8	-	-	-
*1	KPC4-SVJB R/L27050-11A	●	●		40	50	27	-	140							
*1	KPC5-SVJB R/L35060-11A	●	●		50	60	35	-	165							
*1	KPC3-SVJB R/L22040-11S	●	●	Without	32	40	22	-	116	0.4	Fig.2	SB-2570TR	FT-8	-	-	-
*1	KPC4-SVJB R/L27050-11S	●	●		40	50	27	-	140							
*1	KPC5-SVJB R/L35060-11S	●	●		50	60	35	-	165							
*2	KPC3-SVJB R/L22047-16A	●	●	With	32	47	22	-	116	0.8	Fig.3	SB-40125TRN	FT-15	SVN-32N *3 (SVN-32S)	SS-4N	LW-4
*2	KPC4-SVJB R/L27050-16A	●	●		40	50	27	-	140							
*2	KPC5-SVJB R/L35060-16A	●	●		50	60	35	-	165							
*2	KPC3-SVJB R/L22047-16S	●	●	Without	32	47	22	-	116	0.8	Fig.4	SB-40125TRN	FT-15	SVN-32N *3 (SVN-32S)	SS-4N	LW-4
*2	KPC4-SVJB R/L27050-16S	●	●		40	50	27	-	140							
*2	KPC5-SVJB R/L35060-16S	●	●		50	60	35	-	165							

• Pressure Resistance: Up to 7 MPa

• Recommended tightening torque for clamp screw VB**1103 Type: 1.2N·m VB(C)**1604 Type: 3.5N·m

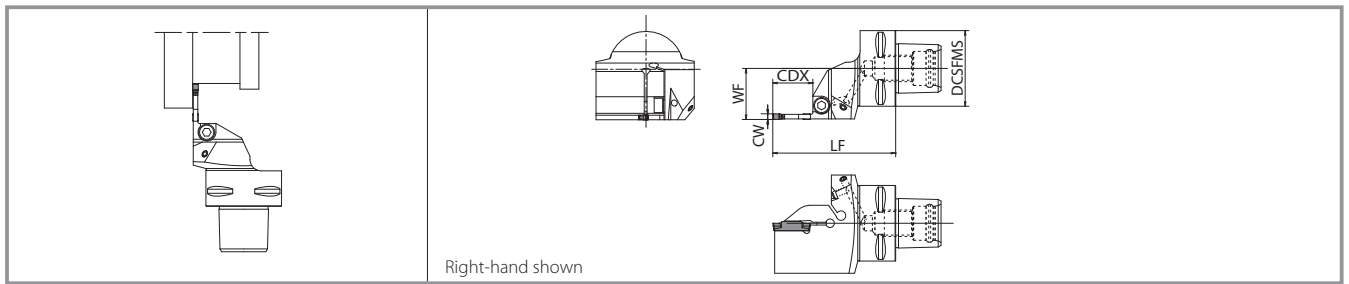
*1 When using inserts whose corner-R (RE) is greater than 0.8mm, it could be necessary additional modifications on the toolholder or the shim in order to prevent interfere with workpiece

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

*3 When using inserts with corner-R (RE) of 0.2mm or 0.4mm, shim in parentheses is recommended (sold separately)

● : Standard Stock

KGD (Grooving/Cut-off Toolholder)



Toolholder Dimensions

Groove Width CW (mm)	Available Grooving Depth CDX (mm)	Description	Stock		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	●	●	With	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	●	●	With	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	●	●	With	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	●	●	With	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	●	●	With	40	65	27	20					
		KPC5-KGD ^R / _L 35065-4T20	●	●		50	65	35						
	25	KPC4-KGD ^R / _L 27070-4T25	●	●	With	40	70	27	25					
KPC5-KGD ^R / _L 35070-4T25		●	●	50		70	35							
5	10	KPC4-KGD ^R / _L 27055-5T10	●	●	With	40	55	27	10	5.0	6.0			
		KPC5-KGD ^Y 35060-5T10	●	●		50	60	35						
	17	KPC4-KGD ^R / _L 27060-5T17	●	●	With	40	60	27	17					
		KPC5-KGD ^R / _L 35060-5T17	●	●		50	60	35						

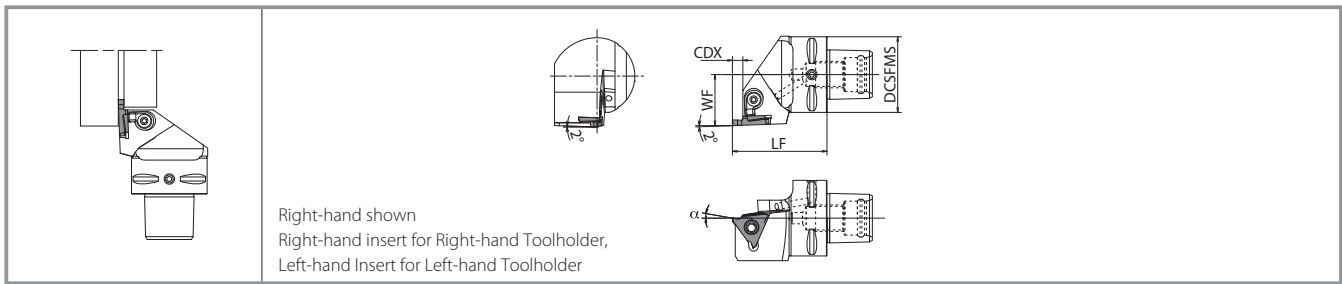
• Pressure Resistance: Up to 7 MPa

• Recommended Tightening Torque 6.5N·m

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

● : Standard Stock

KGBA (External Shallow Grooving Toolholders)



Toolholder Dimensions

Description	Stock		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	●	●	With	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	●	●	With	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	●	●	With	32	40	22	5.5										
KPC4-KGBA ^R / _L 27050-2235	●	●		40	50	27											
KPC5-KGBA ^R / _L 35060-2235	●	●		50	60	35											

• Pressure Resistance : Up to 7 MPa

• Dimension CDX shows the distance from the toolholder to the cutting edge. Available Groove Depth : "CDX" of Insert

• Clamp Set : KGBA R/L ... LGBA-○○RS for Right-hand Toolholder, and LGBA-○○LS for Left-hand Toolholder

• Rake angle (α) after mounting the insert (see below)

● : Standard Stock

Rake Angle (α) after Installment of GBA-GM

α	Insert Part Number
10°	GBA43 $R/L150-020GM$
15°	GBA43 $R/L175-020GM \sim GBA43 R/L265-030GM$
12°	GBA43 $R/L300-030GM \sim GBA43 R/L400-040GM$

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

Rake Angle (α) after Installment of GBA-MY

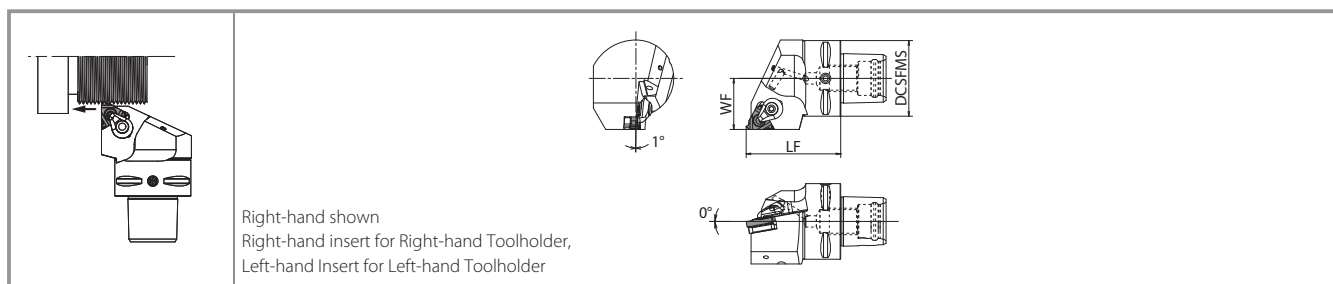
α	Insert Part Number
15°	GBA43 $R/L175-020MY \sim GBA43 R/L350-030MY$
14°	GBA43 $R/L400-040MY$

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	Full-R
10°	TN620,TN90,PV7040,PR930 PR1115,PR1215,PR1625,PR905 KPD001,KPD010	0°	KBN510,KBN525	10°	TN620,TN90,PV7040,PR930 PR1115,PR1215,PR1625,PR905	050R $\sim$ 150R
		10°	TN620,TC40N,TN90,PV7040 PR930,PR1115,PR1215,PR1625 PR905,KPD001,KPD010	14°	TN620,TN90,PV7040,PR930 PR1115,PR1215,PR1625,PR905	200R
20°	KW10	20°	KW10		KW10	050R $\sim$ 200R

KTN (External Threading Toolholder)



Toolholder Dimensions

Description	Stock		Coolant Hole	Dimensions (mm)			Spare Parts				Applicable Inserts
	R	L		DCSFMS	LF	WF	Clamp Set	Wrench	Shim	Shim Screw	
											
KPC3-KTN ^{R/L} 22040-16	●	●	With	32	40	22	CPS-5S	FT-15	TN-32	SP3X8	16E ^{R/L} Type
KPC4-KTN ^{R/L} 27050-16	●	●		40	50	27					
KPC5-KTN ^{R/L} 35060-16	●	●		50	60	35					

• Pressure Resistance: Up to 7 MPa

● : Standard Stock

ADVANCING PRODUCTIVITY

A red swoosh graphic that starts under the 'A' and ends under the 'Y', with a slight upward curve at the right end.