

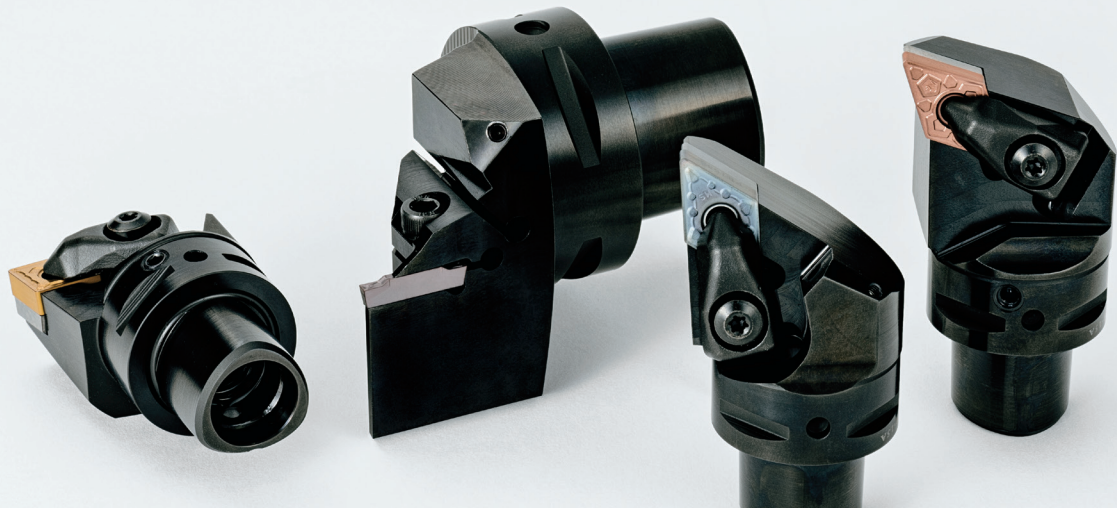
THE NEW VALUE FRONTIER



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



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

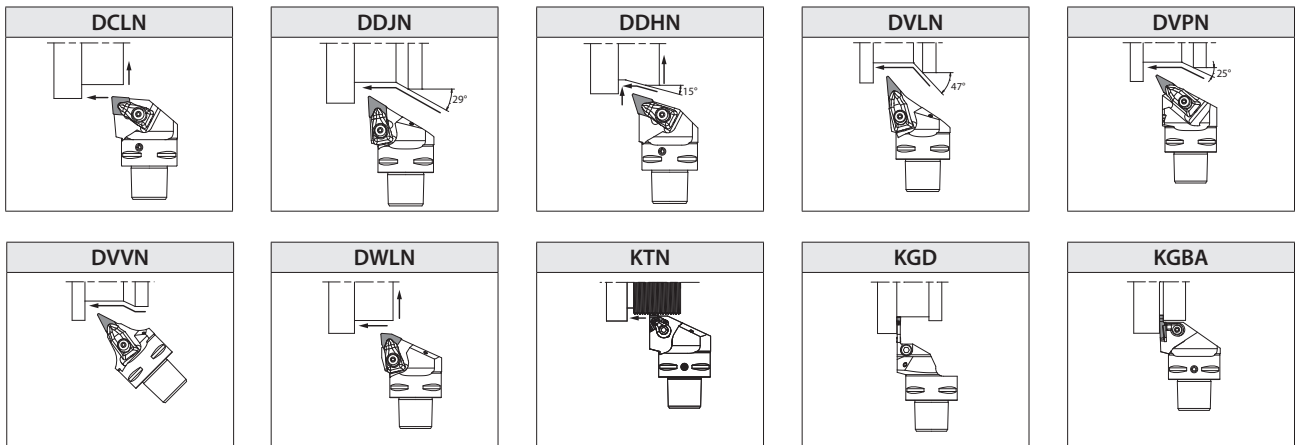
2 High Precision

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

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



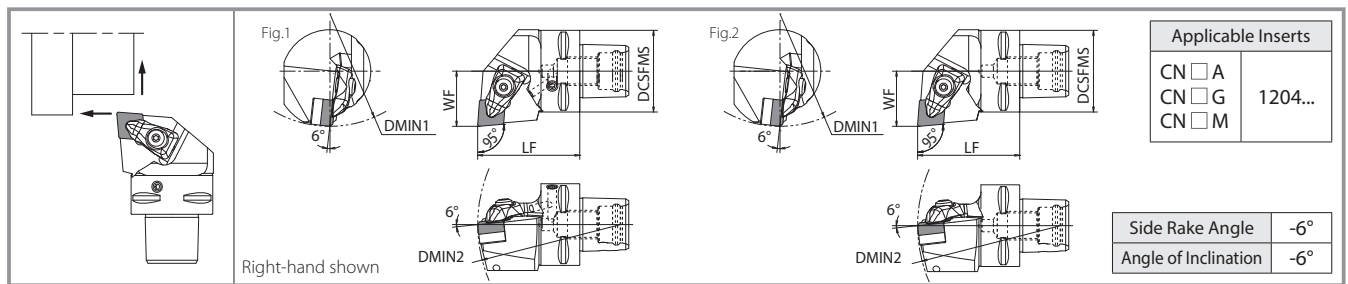
Even distribution of force between 3 faces enhances rigidity and centering



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 = 32mm KPC4 : PSC40 DCSFMS = 40mm KPC5 : PSC50 DCSFMS = 50mm	D : Double Clamp	C : 80°Diamond D : 55°Diamond V : 35°Diamond W : 80°Trigon	N : 0°	R : Right-hand L : Left-hand N : Neutral	WF Dimension	LF Dimension	A : With S : Without													
Cutting Edge Angle																				
<table border="1"> <tr> <td>L</td> <td>J</td> <td>H</td> <td>P</td> <td>V</td> </tr> <tr> <td>95°</td> <td>93°</td> <td>107.5°</td> <td>117.5°</td> <td>72.5°</td> </tr> </table>											L	J	H	P	V	95°	93°	107.5°	117.5°	72.5°
L	J	H	P	V																
95°	93°	107.5°	117.5°	72.5°																
Insert Size																				
<table border="1"> <tr> <td>C</td> <td>D</td> <td>V</td> </tr> <tr> <td>L</td> <td>L</td> <td>L</td> </tr> </table>											C	D	V	L	L	L				
C	D	V																		
L	L	L																		

DCLN (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-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 Pressure Resistance : Up to 7 Mpa

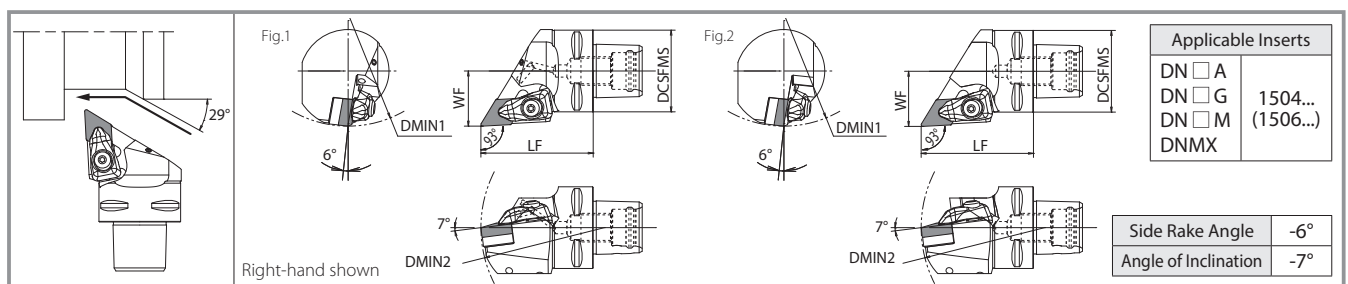
● : Standard Stock

*2 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

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

*4 Recommended Tightening Torque 3.9 N·m

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 (*3 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 (*3 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								

*1 Pressure Resistance : Up to 7 Mpa

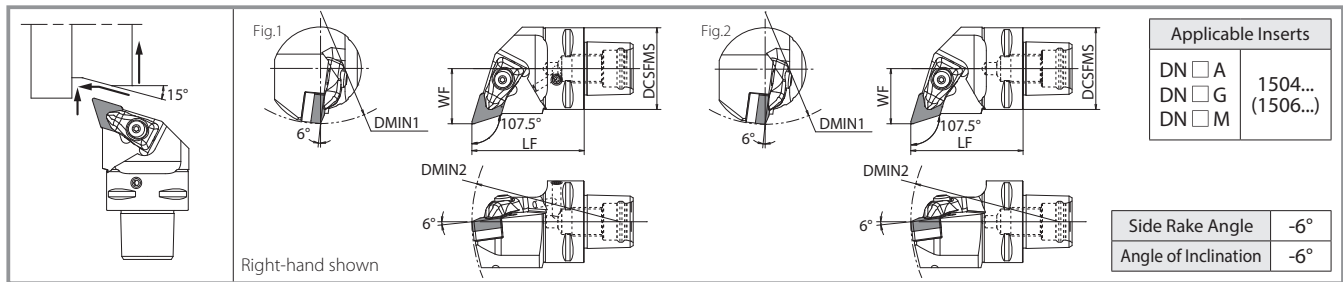
● : Standard Stock

*2 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

*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

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 (*3 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 (*3 DD-43)	SB-4085TR	FT-15
KPC4-DDHN R/L 27055-15S	●	●		40	55	27	110	145								
KPC5-DDH R/L 35060-15S	●	●		50	60	35	110	165								

* 1 Pressure Resistance : Up to 7 Mpa

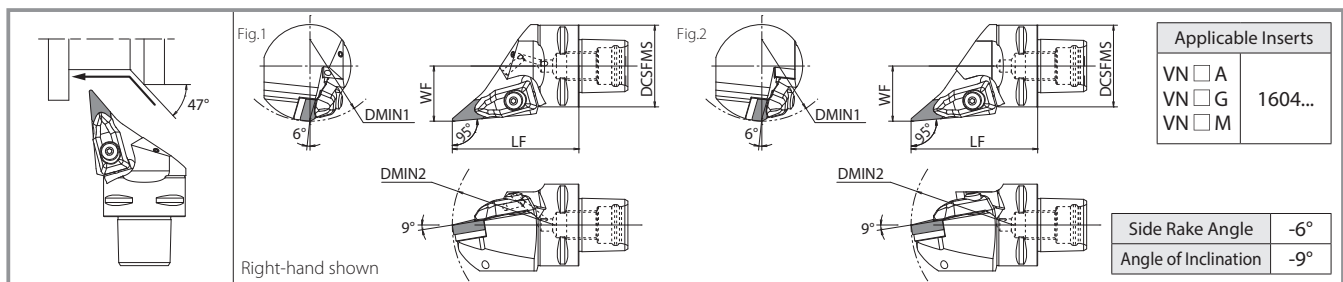
* 2 When using inserts whose corner-R (RE) is greater than 1.2mm, additional modifications to the toolholder or shim may be necessary to prevent interfere with workpiece

* 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

● : 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/L 22058-16A	●	●	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/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	CP-5D-S	CS-3D-TR	SP-3D	DV-33	SB-4085TR	FT-15
KPC4-DVLN R/L 27062-16S	●	●		40	62	27	80	100								
KPC5-DVLN R/L 35065-16S	●	●		50	65	35	80	100								

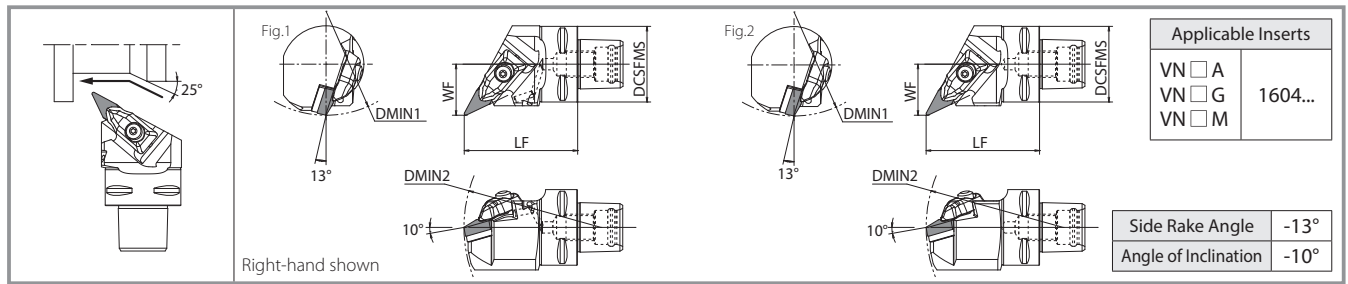
* 1 Pressure Resistance : Up to 7 Mpa

* 2 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

* 3 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	CP-5D-S	CS-3D-TR	SP-3D	DV-33			SB-4085TR	FT-15	
KPC5-DVPN ^{R/L} 35065-16A	●	●	50	65		35	110	165	CP-5D-S	CS-3D-TR	SP-3D	DV-33			SB-4085TR	FT-15	
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			CP-5D-S	CS-3D-TR	SP-3D	DV-33	SB-4085TR	FT-15	
KPC5-DVPN ^{R/L} 35065-16S	●	●		50	65	35	110	165			CP-5D-S	CS-3D-TR	SP-3D	DV-33	SB-4085TR	FT-15	

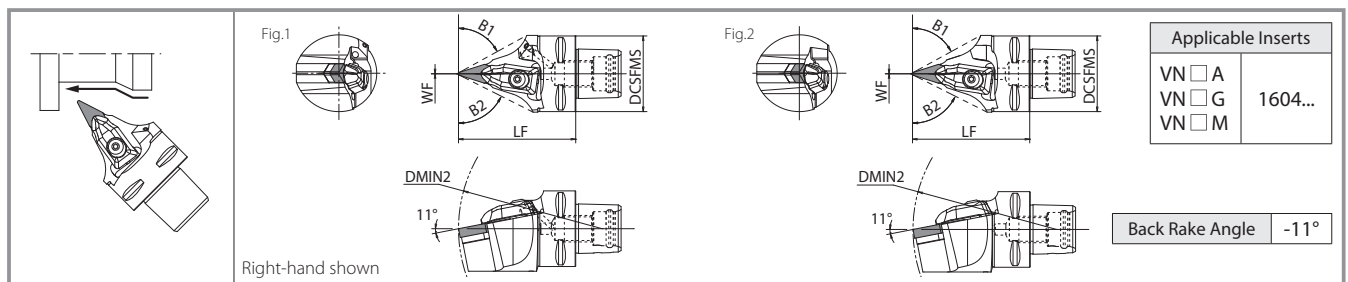
*1 Pressure Resistance : Up to 7 Mpa

*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 Recommended Tightening Torque 3.9 N·m

● Standard Stock

DVNN (External / Copying)



Toolholder Dimensions

Description	Stock			Coolant Hole	Dimensions (mm)						Standard Corner-R (RE)	Shape	Spare Parts						
	R	N	L		DCSFMS	LF	WF	$\frac{B1}{^\circ}$	$\frac{B2}{^\circ}$	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	CP-5D-S	CS-3D-TR	SP-3D	DV-33			SB-4085TR	FT-15
KPC3-DVVNN00058-16S	●	●	●	Without	32	58	0	68	68	-	140	0.8	Fig.2						
KPC4-DVVNN00062-16S	●	●	●		40	62	0	61	63	-	152			CP-5D-S	CS-3D-TR	SP-3D	DV-33	SB-4085TR	FT-15
KPC5-DVVNN00065-16S	●	●	●		50	65	0	59	59	-	170			CP-5D-S	CS-3D-TR	SP-3D	DV-33	SB-4085TR	FT-15

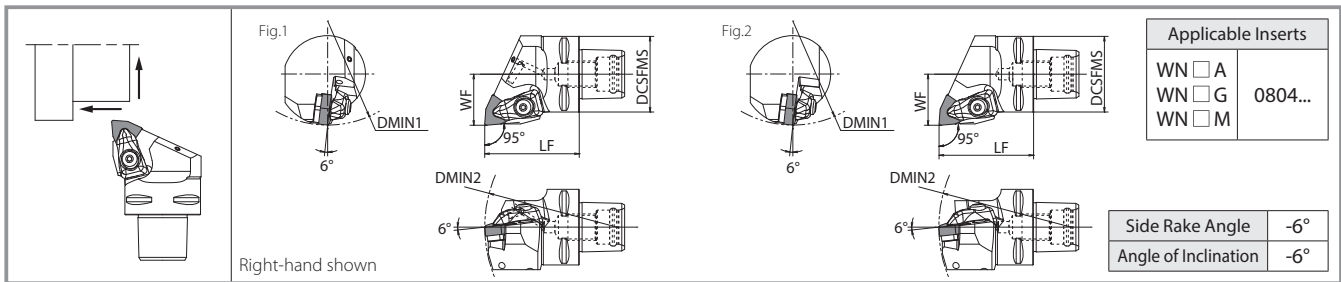
*1 Pressure Resistance : Up to 7 Mpa

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

● Standard Stock

DWLN (External / Facing)



Toolholder Dimensions

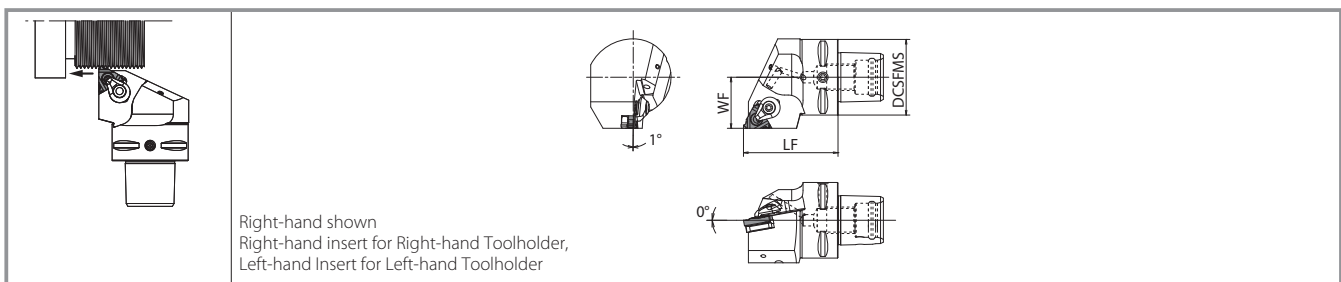
Description	Stock		Coolant Hole	Dimensions (mm)					Standard Corner-R (RE)	Shape	Spare Parts					
	R	L		DCSFMS	LF	WF	DMIN1	DMIN2			Clamp	Screw	Spring	Shim	Shim Screw	Wrench
KPC3-DWLN ^{R/L} 22047-08A	●	●	With	32	47	22	110	121	0.8	Fig.1						
KPC4-DWLN ^{R/L} 27050-08A	●	●		40	50	27	110	140								
KPC5-DWLN ^{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 Pressure Resistance: Up to 7 Mpa

* 2 Recommended Tightening Torque 3.9 N·m

● : Standard Stock

KTN (External Threading Toolholder)



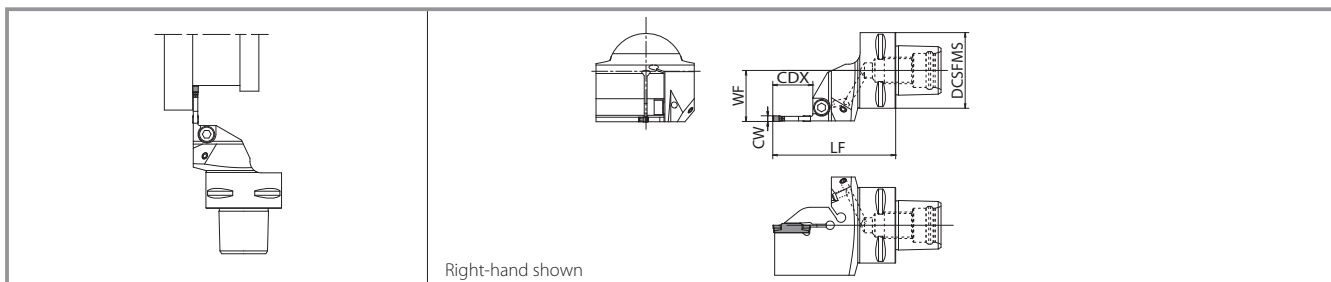
Toolholder Dimensions

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				16E ^{R/L} Type
KPC4-KTN ^{R/L} 27050-16	●	●		40	50	27					
KPC5-KTN ^{R/L} 35060-16	●	●		50	60	35					

* 1 Pressure Resistance: Up to 7 Mpa

● : Standard Stock

KGD (Grooving/Cut-off Toolholder)



Toolholder Dimensions

Groove Width CW (mm)	Available Grooving Depth (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 ^{R/L} 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						

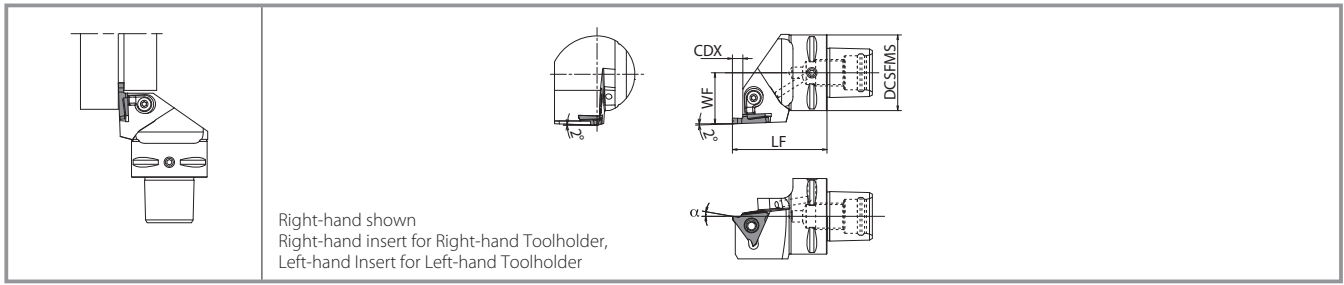
*1 Pressure Resistance : Up to 7 Mpa

*2 Recommended Tightening Torque 6.5N·m

*3 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		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	FT-15	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	LGBA-22 ^R / _L S	FT-15	GBA43 ^R / _L Type
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	LGBA-22 ^R / _L S	FT-15	GBA43 ^R / _L Type
KPC4-KGBA ^R / _L 27050-2235	●	●		40	50	27				
KPC5-KGBA ^R / _L 35060-2235	●	●		50	60	35				

* 1 Pressure Resistance : 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)

● : Standard Stock

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	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 ~ 150R
		10°	TN620,TC40N,TN90,PV7040 PR930,PR1115,PR1215,PR1625 PR905,KPD001,KPD010		TN620,TN90,PV7040,PR930 PR1115,PR1215,PR1625,PR905	200R
20°	KW10	20°	KW10		KW10	050R ~ 200R