

G

DRILL

Korloy drills provide a total solution for hole making, based on tooling know-how as well as extensive research and development for our tools.



Technical Information for Drills

- G02 KORLOY Drills
- G04 Available Insert

Indexable Drills

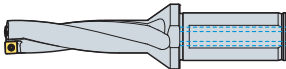
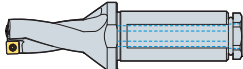
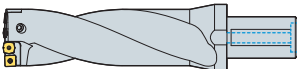
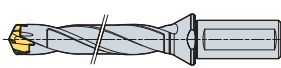
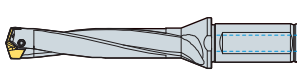
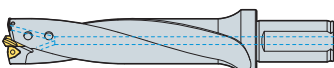
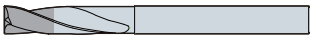
- G06 Technical Information for King Drill
- G12 King Drill
- G21 Technical information of King Drill
(for through coolant system with a lathe)
- G22 King Drill (for through coolant system with a lathe)
- G25 Technical Information for King Drill
(for large diameter drilling)
- G26 King Drill (for large diameter drilling)
- G27 Technical Information for TPDC
- G31 TPDC
- G32 Technical Information for TPDB
- G36 TPDB
- G39 Technical Information for WPDC
- G42 Center Drill
- G43 WPDC

Solid Drills

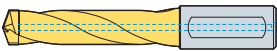
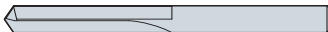
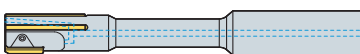
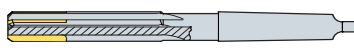
- G45 Technical Information for Mach Solid Drill Plus
- G47 Mach Solid Drill Plus
- G52 Technical Information for Mach Solid Drill plus CFRP
- G54 Mach Solid Drill Plus CFRP
- G55 Technical Information for Mach Solid Drill
- G59 Mach Solid Drill
- G67 Technical Information for Mach Solid Flat Drill
- G70 Mach Solid Flat Drill
- G74 Technical Information for Mach long Drill Plus
- G76 Mach long Drill Plus
- G79 Technical Information for Mach long Drill
- G81 Mach long Drill
- G82 Mach step Drills Order Form
- G83 Technical Information for Vulcan Drill
- G84 Vulcan Drill
- G86 Technical Information for Carbide Drill (SSDP)
- G87 Carbide Drill (SSDP)
- G89 Burnishing Drill
- G90 Top Solid Drill
- G91 PCD Drill
- G92 Technical Information for Gun Drill
- G96 Gun Drill

Reamer

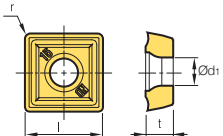
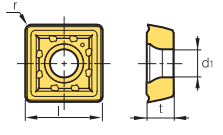
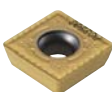
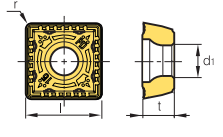
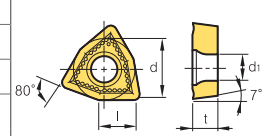
- G98 Technical Information for Indexable Reamer
- G101 Available Insert for Indexable Reamer
- G102 Indexable Reamer
- G104 Chucking/Machine Reamer
- G107 PCD Reamer
- G108 Cermet Reamer
- G109 Broach Reamer

Type	Designation		Shape	Drills dia.	Aspect ratio	Page
Indexable Drills	King Drill	K□D	 Available insert: SP□T, XO□T	Ø12.0~Ø60.5	2D~5D	G12~G20
	King Drill HP	K□D..HP	 Available insert: SP□T, XO□T	Ø12.0~Ø60.5	2D~4D	G22~G24
	King Drill (for large diameter drilling)	K□D	 Available insert: SP□T, XO□T	Ø61.0~Ø100.0	2D~4D	G26
	TPDC ^{new}	TPDC	 Available insert: TPD□□□□CP	Ø12.0~Ø25.99	3D~8D	G31
	TPDB	TPDB	 Available insert: TPD□□□B	Ø10.0~Ø32.9	3D~8D	G36~G38
	Indexable Drills & Drill with center	WPDC	 Available insert: WC□T	Ø25.0~Ø80.0	5D~8D	G43~G44
Solid Drills	Mach Solid Drill Plus ^{new}	MSDP		Ø1.0~Ø20.0	3D~7D	G47~G51
		MSDPH		Ø2.5~Ø20.0	3D~7D	G48~G51
	Mach Solid Drill Plus CFRP ^{new}	MSDP-C		Ø3.0~Ø12.7	5D	G54
	Mach Solid Drill	MSD		Ø2.5~Ø20.0	3D~7D	G59~G62
		MSDH		Ø2.5~Ø20.0	3D~7D	G63~G66
	Mach Solid Flat Drill ^{new}	MSFD		Ø2.5~Ø12.0	2D	G70~G71
		MSFDH		Ø2.5~Ø12.0	3D	G72~G73
	Mach Long Drill Plus ^{new}	MLD□□□□N		Ø3.0~Ø10.0	10D~25D	G76~G78
	Mach Long Drill	MLDP		Ø3.0~Ø10.0	-	G81
		MLD		Ø3.0~Ø10.0	10D~25D	G81



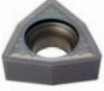
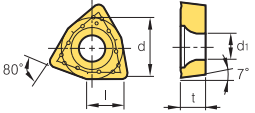
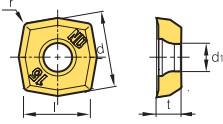
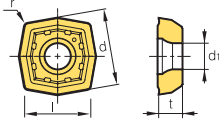
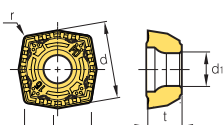
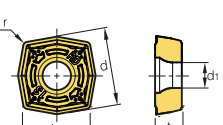
Type	Designation		Shape	Drills dia.	Aspect ratio	Page
Solid Drills	Vulcan Drill	VZD		Ø12.6~Ø40.5	-	G84~G85
	Carbide Drill ^{new}	SSDP		Ø1.0~Ø15.0	-	G87~G88
	Burnishing Drill	BDS		Ø4.0~Ø16.0	5D~7D	G89
		BDT		Ø4.2~Ø10.3	2D~4D	G89
	Top solid Drill	TSDM		Ø8.0~Ø25.0	5D~8D	G90
	PCD Drill	PDD		Ø5.0~Ø12.0	5D	G91
	Gun Drill	KGDS		Ø2.0~Ø33.0	50D~100D	G96
		KGDT		Ø6.0~Ø26.5	50D~100D	G97
Reamer	Indexable Reamer	IRT		Ø10.0~Ø31.0	3D~5D	G102
		IRB	 Available Insert: RI	Ø10.0~Ø31.0	3D~5D	G103
	Chucking/Machine Reamer	SCRS	 Available Insert: RI	Ø5.0~Ø20.0	2D~3D	G105
		SCRH		Ø5.0~Ø20.0	2D~3D	G105
		TCRS		Ø7.0~Ø30.0	2D~3D	G106
		TMRS		Ø7.0~Ø30.0	3D~5D	G106
	PCD Reamer	PDR		Ø5.0~Ø20.0	3D~5D	G107
	Cermet Reamer	KCR		Ø6.0~Ø30.0	3D~7D	G108
	Broach Reamer	HBRE		Ø3.0~Ø25.0	3D~7D	G109

Available insert

Picture	Designation	Coated						Uncoated	Dimensions (mm)					Configuration	Page
		NC5330	NC3500	NC3600	PC9530	PC6510	PC5300		l	d	t	r	d ₁		
 SPET-ND	040204-ND							●	4.7	-	2.4	0.4	2.3		G12~G24
	050204-ND							●	5.1	-	2.4	0.4	2.3		
	060205-ND							●	6.2	-	2.5	0.5	2.5		
	07T208-ND							●	7.5	-	2.8	0.7	2.8		
	090308-ND							●	9.2	-	3.3	0.8	3.4		
	11T308-ND							●	11.0	-	4.0	0.8	4.0		
	130410-ND							●	13.0	-	4.5	1.0	4.5		
	15M510-ND							●	15.2	-	5.0	1.0	5.5		
	180510-ND							●	18.2	-	5.5	1.0	6.0		
 SPMT-LD	060205-LD								6.2	-	2.5	0.5	2.5		G12~G24
	07T208-LD								7.5	-	2.8	0.7	2.8		
	090308-LD								9.2	-	3.3	0.8	3.4		
	11T308-LD								11.0	-	4.0	0.8	4.0		
	130410-LD								13.0	-	4.5	1.0	4.5		
	15M510-LD								15.2	-	5.0	1.0	5.5		
	180510-LD								18.2	-	5.5	1.0	6.0		
 SPMT-PD	040204-PD	●				●	●		4.7	-	2.4	0.4	2.3		G12~G24
	050204-PD	●				●	●		5.1	-	2.4	0.4	2.3		
	060205-PD	●				●	●		6.2	-	2.5	0.5	2.5		
	07T208-PD	●				●	●		7.5	-	2.8	0.7	2.8		
	090308-PD	●				●	●		9.2	-	3.3	0.8	3.4		
	11T308-PD	●				●	●		11.0	-	4.0	0.8	4.0		
	130410-PD	●				●	●		13.0	-	4.5	1.0	4.5		
	15M510-PD	●				●	●		15.2	-	5.0	1.0	5.5		
	180510-PD	●				●	●		18.2	-	5.5	1.0	6.0		
 WCMT-C20N	030208-C20N							●	3.8	5.56	2.38	0.8	2.8		-
	040208-C20N							●	4.3	6.35	2.38	0.8	3.0		
	050308-C20N							●	5.4	7.94	3.18	0.8	3.4		
	06T308-C20N							●	6.5	9.525	3.97	0.8	3.7		
	080408-C20N							●	8.7	12.7	4.76	0.8	4.3		
	080412-C20N							●	8.7	12.7	4.76	1.2	4.3		

●: Stock Item

Available insert

Picture	Designation	Coated						Uncoated H01	Dimensions (mm)					Configuration	Page
		NC5330	NC3500	NC3600	PC9530	PC6510	PC5300	PC5400	l	d	t	r	d ₁		
 WCMT-C21N	030204-C21N								3.8	5.56	2.38	0.4	2.55	 G43 G44	
	040204-C21N								4.3	6.35	2.38	0.4	2.8		
	040208-C21N								4.3	6.35	2.38	0.8	2.8		
	050308-C21N								5.4	7.94	3.18	0.8	3.4		
	06T308-C21N								6.5	9.525	3.97	0.8	4.4		
	080408-C21N								8.7	12.7	4.76	0.8	5.5		
 XOET-ND	040204-ND							●	4.3	4.9	2.4	0.4	2.3	 -	
	050204-ND							●	4.8	5.4	2.4	0.4	2.3		
	060204-ND							●	5.8	6.6	2.5	0.4	2.5		
	07T205-ND							●	6.9	7.8	2.8	0.5	2.8		
	090305-ND							●	8.4	9.6	3.3	0.5	3.4		
	11T306-ND							●	10.0	11.4	4.0	0.6	4.0		
	130406-ND							●	11.9	13.6	4.5	0.6	4.5		
	15M508-ND							●	13.9	15.9	5.0	0.8	5.5		
 XOMT-LD	060204-LD								5.8	6.6	2.5	0.4	2.5	 G12~ G24	
	07T205-LD								6.9	7.8	2.8	0.5	2.8		
	090305-LD								8.4	9.6	3.3	0.5	3.4		
	11T306-LD								10.0	11.4	4.0	0.6	4.0		
	130406-LD								11.9	13.6	4.5	0.6	4.5		
	15M508-LD								13.9	15.9	5.0	0.8	5.5		
	180508-LD								16.5	18.9	5.5	0.8	6.0		
 XOMT-PD	040204-PD						●		4.3	4.9	2.4	0.4	2.3	 G12~ G24	
	050204-PD						●		4.8	5.4	2.4	0.4	2.3		
	060204-PD						●		5.8	6.6	2.5	0.4	2.5		
	07T205-PD						●		6.9	7.8	2.8	0.5	2.8		
	090305-PD						●		8.4	9.6	3.3	0.5	3.4		
	11T306-PD						●		10.0	11.4	4.0	0.6	4.0		
	130406-PD						●		11.9	13.6	4.5	0.6	4.5		
	15M508-PD						●		13.9	15.9	5.0	0.8	5.5		
	180508-PD						●		16.5	18.9	5.5	0.8	6.0		
 XOMT-RD	07T207-RD						●		6.9	7.8	2.8	0.7	2.8	 G12~ G24	
	090308-RD						●		8.4	9.6	3.3	0.8	3.4		
	11T309-RD						●		10.0	11.4	4.0	0.9	4.0		
	130410-RD						●		11.9	13.6	4.5	1.0	4.5		
	15M511-RD						●		13.9	15.9	5.0	1.1	5.5		
	180512-RD						●		16.5	18.9	5.5	1.2	6.0		
 XOMT-RD															

● : Stock Item

Optimized insert design for maximum drilling efficiency

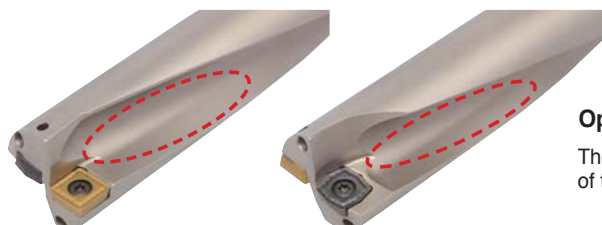
King Drill

Code system of holder

K	5D	200	25		—	07
KING/KORLOY	Aspect ratio (L/D)	Drill Dia.	One decimal place marked	Shank shape		Inscribed circle of insert
	2D, 2.5D, 3D, 3.5D, 4D, 4.5D, 5D	Ø20.0 (One decimal place marked)	Ø20, Ø25 Ø32, Ø40	No mark: Flange Shank, Weldon HP: Flange Shank, Weldon, PT Tap F1: Flange Shank, Whistle Notch F2: Flange Shank, Without Side Lock S: Straight Shank, Weldon S1: Straight Shank, Whistle Notch S2: Straight Shank, Without Side Lock M0, M1, M2, M3...: MT0, MT1, MT2, MT3... H63, H100: HSK63, HSK100 B30, B40, B50: BT30, BT40, BT50		05, 06, 07, 09 11 13, 15, 18

Features

- Optimized design of inserts for maximum drilling efficiency
- Excellent cutting performance and chip control due to the optimized geometry and chip breaker of both inserts, central & peripheral
- Different inserts, optimized for the central and peripheral insert locations in order to maximize cutting tool life



Optimized flute system - 2 coolant holes applied

The optimized shape of the flute increases the rigidity of the drill body and improves chip evacuation

Features of chip breaker

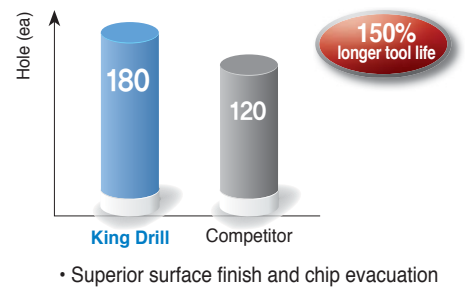
Chip breaker	PD		LD		ND		RD
Features	- Universal - At medium speed and medium feed		- Superior chip control for machining mild steel and stainless steel - Light cutting (at low ~ medium speed and low feed)		- Sharp cutting edge for aluminum machining - Insert surface buffed for high quality result - E Class Tolerance		- Improved chipping resistance - Excellent performance in case of frequent fracture and chipping on the cutting edge
Insert	Peripheral insert	Central insert	Peripheral insert	Central insert	Peripheral insert	Central insert	Central insert
Shape							
Grades for workpiece	NC5330: P, M, K PC3500: P PC5300: P, M, K, S PC6510: K		PC5335: P, M		H01: N		PC5300: P, M, K, S

Application examples

- **Use** Track link bush
- **Cutting conditions** vc (m/min) = 120, fn (mm/rev) = 0.1
Through coolant system
- **Tools** **inserts** SPMT07T208-PD (PC3500)
XOMT07T205-PD (PC5300)
Holder K5D20025-07
- **Machine** Drilling machine



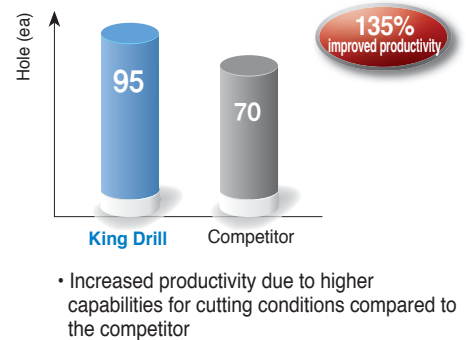
Test result



- **Use** Track link bush
- **Workpiece** SCM415H
- **Cutting conditions** King Drill: vc (m/min) = 140, fn (mm/rev) = 0.12
Competitor: vc (m/min) = 125, fn (mm/rev) = 0.1
- **Tools** **inserts** SPMT090308-PD (PC3500)
XOMT090305-PD (PC3500)
Holder K3D27032-09
- **Machine** MCT



Test result



Recommended cutting condition

Workpiece				Insert			vc (m/min)	Depth of cut = 2D, 3D, 4D Feed rate (mm/rev) per drill dia. (mm)								
ISO	Workpiece	Hardness (HB)	Chip breaker	Grade		Ø12~Ø16		Ø17~Ø23	Ø24~Ø29	Ø30~Ø42	Ø43~Ø60					
				Central	Peripheral											
P	Carbon steel	Low carbon steel	80~180	LD	PC5335	PC5335	120 (60~170)	0.04~0.08	0.04~0.08	0.04~0.08	0.04~0.08	0.04~0.08				
				PD/ RD	PC5300	PC3500	150 (120~180)						180 (140~220)			
		High carbon steel	180~280	PD	PC5300	PC3500	120 (90~150)	0.04~0.10	0.04~0.12	0.05~0.16	0.06~0.16	0.06~0.18				
						NC5330	150 (110~190)	0.04~0.06	0.04~0.07	0.04~0.08	0.04~0.08	0.04~0.08				
	Alloy steel	Low alloy steel	140~260	LD	PC5335	PC5335	120 (60~160)	0.06~0.10	0.06~0.10	0.06~0.12	0.06~0.14	0.06~0.14				
				PD	PC5300	PC3500	150 (120~170)	0.06~0.12	0.06~0.12	0.06~0.14	0.06~0.16	0.06~0.16				
		Hardened low alloy steel	200~400	PD	PC5300	NC5330	180 (140~210)	0.06~0.08	0.06~0.08	0.06~0.10	0.06~0.12	0.06~0.12				
						PC5300	PC5300	100 (50~150)	0.04~0.10	0.06~0.10	0.06~0.12	0.06~0.14	0.06~0.14			
						High alloy steel	260~320	PD	PC5300	PC3500	100 (50~160)	0.05~0.11	0.05~0.11	0.05~0.13	0.05~0.15	0.05~0.15
						Hardened high alloy steel	300~450	PD	PC5300	PC5300	70 (30~120)	0.04~0.08	0.06~0.08	0.06~0.10	0.06~0.12	0.06~0.12
M	Stainless steel	Stainless steel	135-275	LD	PD5335	PC5335	120 (80~140)	0.04~0.07	0.04~0.07	0.04~0.07	0.04~0.08	0.04~0.08				
				PD	PC5300	PC5300	130 (100~160)	0.04~0.07	0.04~0.07	0.04~0.07	0.04~0.08	0.04~0.08				
K	Cast iron	Gray cast iron	150~230	PD	PC5300	PC6510	190 (150~250)	0.04~0.12	0.05~0.14	0.06~0.18	0.10~0.22	0.10~0.26				
		Ductile cast iron	150~230	PD	PC5300	PC6510	130 (100~160)	0.04~0.07	0.04~0.08	0.04~0.10	0.05~0.12	0.05~0.12				
S	Heat resisting alloy	Ni-heat resisting alloy	130~400	PD	PC5300	PC5300	50 (30~100)	0.04~0.10	0.04~0.10	0.04~0.10	0.04~0.10	0.04~0.10				
		Ti-heat resisting alloy	130~400	LD	PC5335	PC5335	60 (40~80)	0.04~0.08	0.04~0.10	0.06~0.12	0.06~0.14	0.06~0.16				
				PD	PC5300	PC5300	60 (40~80)	0.04~0.08	0.04~0.10	0.06~0.12	0.06~0.14	0.06~0.16				
		High hardened steel	over 400	PD	PC5300	PC5300	40 (20~80)	0.04~0.05	0.04~0.06	0.04~0.08	0.04~0.08	0.04~0.08				
N	Aluminium	Aluminium	30~150	ND	H01	H01	300 (250~400)	0.05~0.14	0.06~0.16	0.10~0.20	0.10~0.22	0.12~0.25				
		Alloyed copper	150-160	ND	H01	H01	250 (200~300)	0.05~0.14	0.06~0.16	0.10~0.20	0.10~0.22	0.12~0.25				

- The Max. feed of 5D holders is 70%~80% of the max. conditions of 2D/3D/4D holders
- In interrupted machining part, reduce 30~50% of feed from the above machining around interrupted part

Required machine power

- The graphs below show the cutting force required in drilling
- Machining with the King Drill and a machine with high rigidity and power

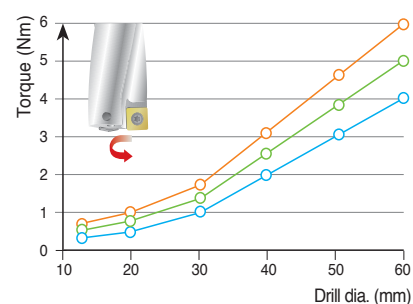
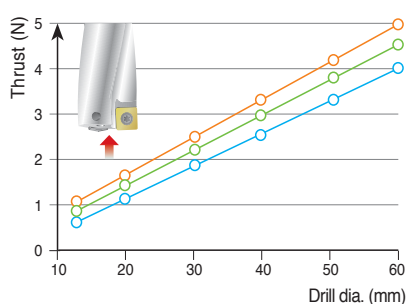
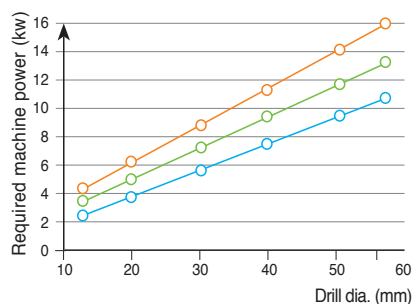
■ **Workpiece** SCM440 (240HB)

■ **Cutting conditions** vc (m/min) = 100, Through coolant system

f_n (mm/rev) = 0.13

f_n (mm/rev) = 0.10

f_n (mm/rev) = 0.07

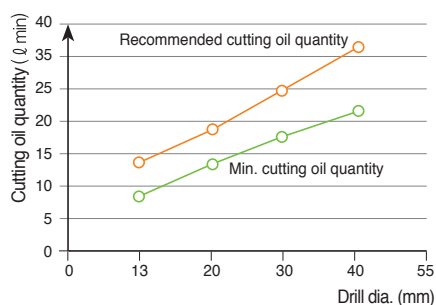


Cutting oil quantity

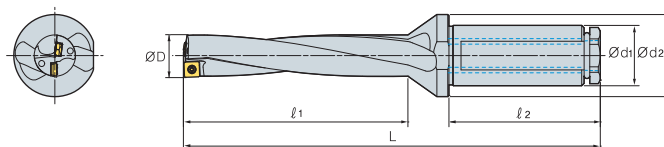
■ **Workpiece** SCM440 (240HB)

■ **Cutting conditions** vc (m/min) = 100, Through coolant system

- The data of the graph above could be changed depending on workpiece and cutting condition



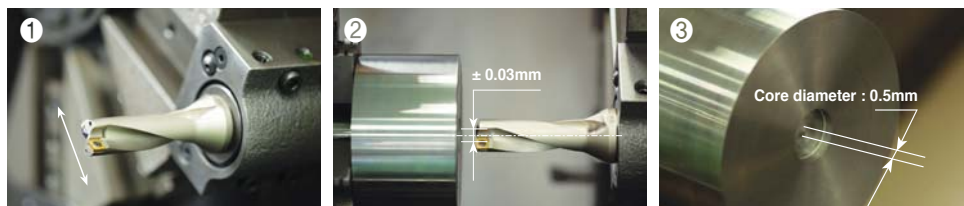
Drill tolerance and hole tolerance



(mm)

Drill dia.		Ø12~Ø29	Ø30~Ø45	Ø46~Ø60.5
2D~3D	Drill tolerance (ØD)	0~-0.15	0~-0.15	0~-0.15
	Hole tolerance	+0.2~-0.1	+0.25~-0.1	+0.28~-0.1
4D~5D	Drill tolerance (ØD)	0~-0.15	0~-0.15	0~-0.15
	Hole tolerance	+0.25~-0.05	+0.3~-0.05	+0.33~-0.05

Notice for setting the drill in the lathe

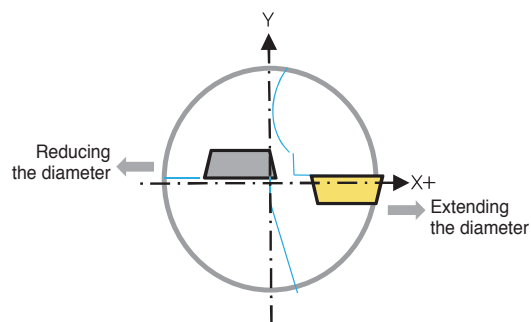


- Set the peripheral insert parallel to the X axis. (based on the side lock)
- If the machined core is 0.5mm after machining 5mm, that is the proper setting

※ Please make sure that the location of the side lock could be different depending on manufacturers of machine

Range of adjusting machining diameter in the lathe

- In machining in the lathe, the King Drill can extend and reduce the machining diameter by adjusting the x-axis. Please refer to the table showing the range of adjusting drilling diameter below
- The more the drilling diameter is extended or reduced, the more the drill loses drilling balance. In this case, reduce the feed or cutting speed in machining
- Reducing the machining diameter excessively could damage the holder



								(mm)
Drill dia. (Ø)	Range of adjusting drilling diameter (Ø)	Drill dia. (Ø)	Range of adjusting drilling diameter (Ø)	Drill dia. (Ø)	Range of adjusting drilling diameter (Ø)	Drill dia. (Ø)	Range of adjusting drilling diameter (Ø)	
12.0	11.7~12.4	24.5	23.9~25.1	37.0	36.3~37.7	49.5	48.7~50.2	
12.5	12.2~12.9	25.0	24.4~25.6	37.5	36.8~38.2	50.0	49.2~50.7	
13.0	12.7~13.4	25.5	24.9~26.1	38.0	37.3~38.7	50.5	49.7~51.2	
13.5	13.2~13.9	26.0	25.4~26.6	38.5	37.8~39.2	51.0	50.2~51.7	
14.0	13.6~14.5	26.5	25.9~27.1	39.0	38.3~39.7	51.5	50.7~52.2	
14.5	14.1~15.0	27.0	26.4~27.6	39.5	38.8~40.2	52.0	51.2~52.7	
15.0	14.6~15.5	27.5	26.9~28.1	40.0	39.3~40.7	52.5	51.7~53.2	
15.5	15.1~16.0	27.8	27.4~28.6	40.5	39.8~41.2	53.0	52.2~53.7	
16.0	15.6~16.5	28.5	27.9~29.1	41.0	40.3~41.7	53.5	52.7~54.2	
16.5	16.0~17.0	29.0	28.4~29.6	41.5	40.8~42.2	54.0	53.2~54.7	
17.0	16.5~17.5	29.5	28.9~30.1	42.0	41.3~42.7	54.5	53.7~55.2	
17.5	17.0~18.0	30.0	29.3~30.7	42.5	41.8~43.2	55.0	54.2~55.7	
18.0	17.5~18.5	30.5	29.8~31.2	43.0	42.2~43.7	55.5	54.7~56.2	
18.5	18.0~19.0	31.0	30.3~31.7	43.5	42.7~44.2	56.0	55.2~56.7	
19.0	18.5~19.5	31.5	30.8~32.2	44.0	43.2~44.7	56.5	55.7~57.2	
19.5	19.0~20.0	32.0	31.3~32.7	44.5	43.7~45.2	57.0	56.2~57.7	
20.0	19.4~20.6	32.5	31.8~33.2	45.0	44.2~45.7	57.5	56.7~58.2	
20.5	19.9~21.1	33.0	32.3~33.7	45.5	44.7~46.2	58.0	57.2~58.7	
21.0	20.4~21.6	33.5	32.8~34.2	46.0	45.2~46.7	58.5	57.7~59.2	
21.5	20.9~22.1	34.0	33.3~34.7	46.5	45.7~47.2	59.0	58.2~59.7	
22.0	21.4~22.6	34.5	33.8~35.2	47.0	46.2~47.7	59.5	58.7~60.2	
22.5	21.9~23.1	35.0	34.3~35.7	47.5	46.7~48.2	60.0	59.2~60.7	
23.0	22.4~23.6	35.5	34.8~36.2	48.0	47.2~48.7	60.5	59.7~61.2	
23.5	22.9~24.1	36.0	35.3~36.7	48.5	47.7~49.2			
24.0	23.4~24.6	36.5	35.8~37.2	49.0	48.2~49.7			

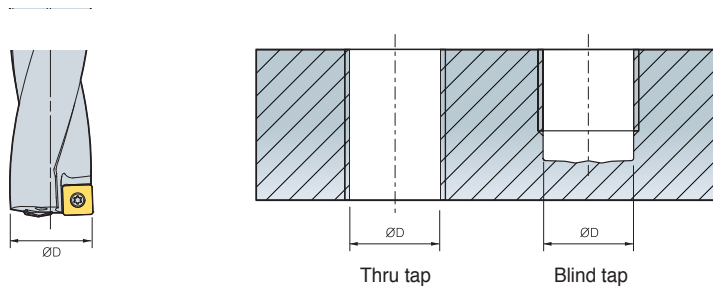
Insert and parts

Drill dia. (mm)	Peripheral insert	Central insert	Screw	Wrench	Torque (Nm)
Ø12.0~Ø13.5	SP□T040204-□□	XO□T040204-□□	FTNA0204	TW06P	0.4
Ø13.6~Ø16.0	SP□T050204-□□	XO□T050204-□□	FTNA0204	TW06P	0.4
Ø16.1~Ø19.5	SP□T060205-□□	XO□T060204-□□	FTKA02206S	TW07P	0.8
Ø19.6~Ø23.5	SP□T07T208-□□	XO□T07T205-□□	FTKA02565	TW07S	0.8
Ø23.6~Ø29.5	SP□T090308-□□	XO□T090305-□□	FTKA0307	TW09S	1.2
Ø29.6~Ø35.5	SP□T11T308-□□	XO□T11T306-□□	FTKA03508	TW15S	3
Ø35.6~Ø42.5	SP□T130410-□□	XO□T130406-□□	FTKA0410	TW15S	3
Ø42.6~Ø50.5	SP□T15M510-□□	XO□T15M508-□□	FTNC04511	TW20S	5
Ø50.6~Ø60.5	SP□T180510-□□	XO□T180508-□□	FTNA0511	TW20-100	5

- In clamping an insert, please clean the tip seat and apply CASMOLY1000 on the screw
- Please make sure to use a Korloy-produced wrench and screw only

King Drill - for machining a tap foundation hole

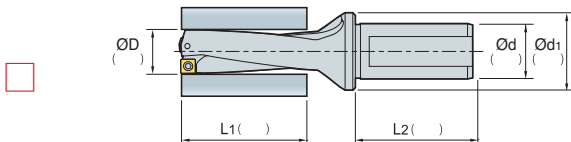
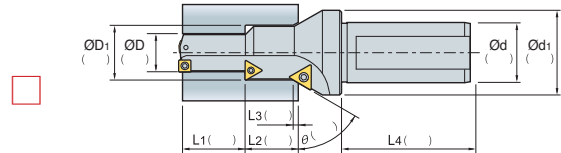
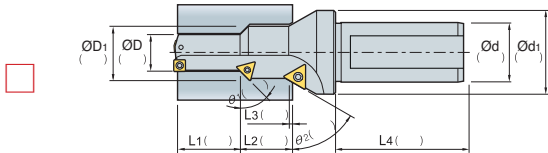
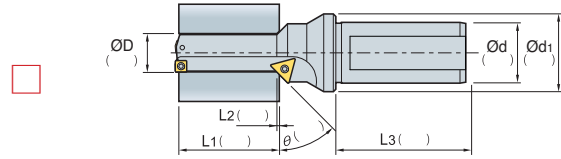
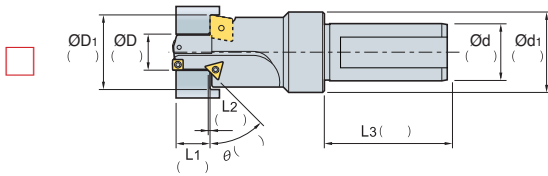
- There are two types of specifications of tap, metric and inch. The King Drill is available for machining both thru tap and blind tap



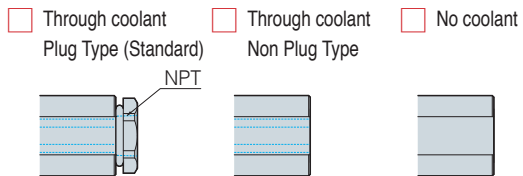
(mm)

Tap type	Thread	ØD	Designation	Reference
Metric	M14 x 2.0	12.0	K3D12020-04	G14
	M16 x 2.0	14.0	K3D14020-05	G14
	M18 x 2.5	15.5	K3D15520-05	G14
	M20 x 2.5	17.5	K3D17525-06	G14
	M22 x 2.5	19.5	K3D19525-06	G14
	M24 x 3.0	21.0	K3D21025-07	G14
	M27 x 3.0	24.0	K3D24032-09	G14
	M30 x 3.5	26.5	K3D26532-09	G14
	M33 x 4.0	29.0	K3D29032-09	G14
	M36 x 4.0	32.0	K3D32032-11	G15
	M39 x 4.0	35.0	K3D35032-11	G15
	M42 x 4.5	37.5	K3D37540-13	G15
Inch	9/16-12 UNC	12.2	K3D12220-04	G14
	5/8-11 UNC	13.5	K3D13520-04	G14
	3/4-10 UNC	16.5	K3D16525-06	G14
	7/8-9 UNC	19.5	K3D19525-06	G14
	9/16-18 UNF	12.9	K3D12920-04	G14
	5/8-18 UNF	14.5	K3D14520-05	G14
	3/4-16 UNF	17.5	K3D17525-06	G14

Special drill order form



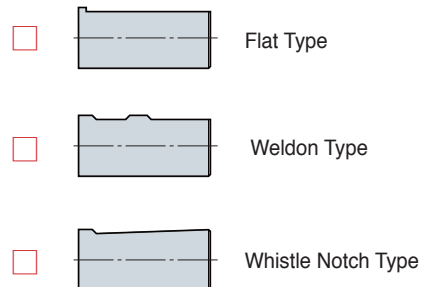
■ Coolant type



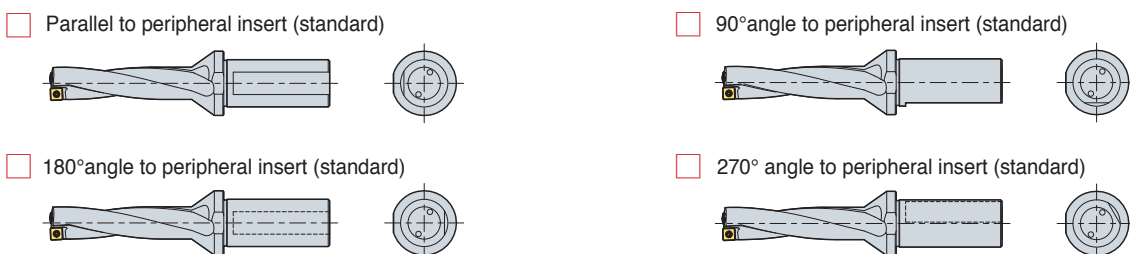
■ Hole type



■ Types of shank



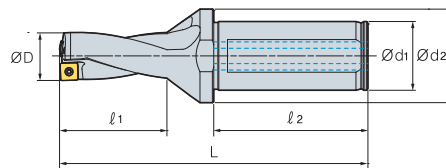
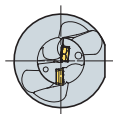
■ Location of side lock



■ Note

- Currently using tool:
- Current cutting condition
 - RPM or vc (m/min):
 - vf (mm/min) or fn (mm/rev):
 - Depth of cut (mm):
- Standard of measuring tool life:
- Currently using machine
 - Machining center:
 - General lathe:
 - CNC lathe:

King Drill-2D



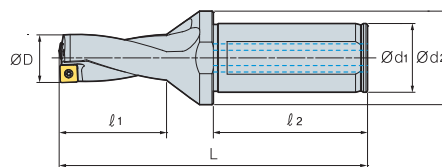
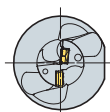
(mm)

Designation	ØD	Ød ₁	Ød ₂	l ₁	l ₂	L	Insert	Screw 	Wrench 
K2D									
12020-04	12.0	20	25	27	50	91	SP□T040204-□□ XO□T040204-□□	FTNA0204	TW06P
12520-04	12.5	20	25	27	50	91			
13020-04	13.0	20	25	29	50	93			
13520-04	13.5	20	25	29	50	93			
14020-05	14.0	20	25	31	50	96	SP□T050204-□□ XO□T050204-□□	FTNA0204	TW06P
14520-05	14.5	20	25	31	50	96			
15020-05	15.0	20	25	33	50	99			
15520-05	15.5	20	25	33	50	99			
16020-05	16.0	20	25	35	50	101	SP□T060205-□□ XO□T060204-□□	FTKA02206S	TW07P
16525-06	16.5	25	34	35	56	107			
17025-06	17.0	25	34	37	56	109			
17525-06	17.5	25	34	37	56	109			
18025-06	18.0	25	34	39	56	112			
18525-06	18.5	25	34	39	56	112			
19025-06	19.0	25	34	41	56	114	SP□T07T208-□□ XO□T07T205-□□	FTKA02565	TW07S
19525-06	19.5	25	34	41	56	114			
20025-07	20.0	25	34	43	56	118			
20525-07	20.5	25	34	43	56	118			
21025-07	21.0	25	34	45	56	120			
21525-07	21.5	25	34	45	56	120			
22025-07	22.0	25	34	47	56	122	SP□T090308-□□ XO□T090305-□□	FTKA0307	TW09S
22525-07	22.5	25	34	47	56	122			
23025-07	23.0	25	34	49	56	126			
23525-07	23.5	25	34	49	56	126			
24032-09	24.0	32	44	51	60	133			
24532-09	24.5	32	44	51	60	133			
25032-09	25.0	32	44	53	60	135			
25532-09	25.5	32	44	53	60	135			
26032-09	26.0	32	44	55	60	137			
26532-09	26.5	32	44	55	60	137			
27032-09	27.0	32	44	57	60	140			
27532-09	27.5	32	44	57	60	140			
28032-09	28.0	32	44	59	60	143			
28532-09	28.5	32	44	59	60	143			
29032-09	29.0	32	44	61	60	145			
29532-09	29.5	32	44	61	60	145			
30032-11	30.0	32	44	63	60	150	SP□T11T308-□□ XO□T11T306-□□	FTKA03508	TW15S
30532-11	30.5	32	44	63	60	150			
31032-11	31.0	32	44	65	60	152			
31532-11	31.5	32	44	65	60	152			
32032-11	32.0	32	44	67	60	154			
32532-11	32.5	32	44	67	60	154			
33032-11	33.0	32	44	69	60	157			
33532-11	33.5	32	44	69	60	157			
34032-11	34.0	32	44	71	60	159			
34532-11	34.5	32	44	71	60	159			
35032-11	35.0	32	44	73	60	161			
35532-11	35.5	32	44	73	60	161			

Applicable inserts G04~05



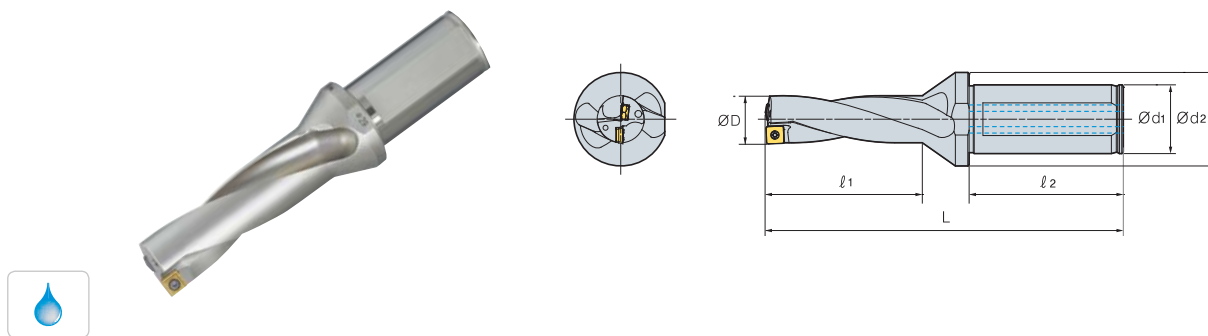
King Drill-2D



								(mm)	
Designation	ØD	Ød ₁	Ød ₂	l ₁	l ₂	L	Insert	Screw	Wrench
K2D									
36040-13	36.0	40	48	76	70	176	SP□T130410-□□ XO□T130406-□□	FTKA0410	TW15S
36540-13	36.5	40	48	76	70	176			
37040-13	37.0	40	48	78	70	178			
37540-13	37.5	40	48	78	70	178			
38040-13	38.0	40	48	80	70	181			
38540-13	38.5	40	48	80	70	181			
39040-13	39.0	40	48	82	70	183			
39540-13	39.5	40	48	82	70	183			
40040-13	40.0	40	48	84	70	186			
40540-13	40.5	40	48	84	70	186			
41040-13	41.0	40	48	86	70	188			
41540-13	41.5	40	48	86	70	188			
42040-13	42.0	40	48	88	70	191			
42540-13	42.5	40	48	88	70	191			
43040-15	43.0	40	58	91	70	196	SP□T15M510-□□ XO□T15M508-□□	FTNC04511	TW20S
43540-15	43.5	40	58	91	70	196			
44040-15	44.0	40	58	93	70	198			
44540-15	44.5	40	58	93	70	198			
45040-15	45.0	40	58	95	70	201			
45540-15	45.5	40	58	95	70	201			
46040-15	46.0	40	58	97	70	203			
46540-15	46.5	40	58	97	70	203			
47040-15	47.0	40	58	99	70	206			
47540-15	47.5	40	58	99	70	206			
48040-15	48.0	40	58	101	70	208			
48540-15	48.5	40	58	101	70	208			
49040-15	49.0	40	58	103	70	210			
49540-15	49.5	40	58	103	70	210			
50040-15	50.0	40	58	105	70	212			
50540-15	50.5	40	58	105	70	212			
51040-18	51.0	40	68	108	70	218	SP□T180510-□□ XO□T180508-□□	FTNA0511	TW20-100
51540-18	51.5	40	68	108	70	218			
52040-18	52.0	40	68	110	70	220			
52540-18	52.5	40	68	110	70	220			
53040-18	53.0	40	68	112	70	222			
53540-18	53.5	40	68	112	70	222			
54040-18	54.0	40	68	114	70	224			
54540-18	54.5	40	68	114	70	224			
55040-18	55.0	40	68	116	70	226			
55540-18	55.5	40	68	116	70	226			
56040-18	56.0	40	68	118	70	230			
56540-18	56.5	40	68	118	70	230			
57040-18	57.0	40	68	121	70	233			
57540-18	57.5	40	68	121	70	233			
58040-18	58.0	40	68	124	70	236			
58540-18	58.5	40	68	124	70	236			
59040-18	59.0	40	68	127	70	239			
59540-18	59.5	40	68	127	70	239			
60040-18	60.0	40	68	130	70	242			
60540-18	60.5	40	68	130	70	242			

Applicable inserts G04-05

King Drill-3D



(mm)

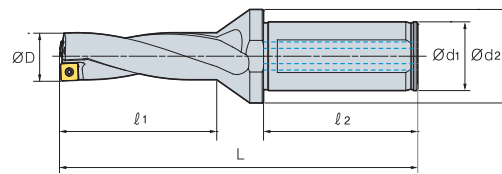
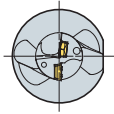
Designation		ØD	Ød ₁	Ød ₂	l ₁	l ₂	L	Insert	Screw 	Wrench 
K3D	12020-04 *	12.0	20	25	39	50	103	SP□T040204-□□ XO□T040204-□□	FTNA0204	TW06P
	12220-04	12.2	20	25	39	50	103			
	12520-04	12.5	20	25	39	50	103			
	12920-04	12.9	20	25	42	50	106			
	13020-04	13.0	20	25	42	50	106			
	13520-04	13.5	20	25	42	50	106			
	14020-05 *	14.0	20	25	45	50	110	SP□T050204-□□ XO□T050204-□□	FTNA0204	TW06P
	14520-05	14.5	20	25	45	50	110			
	15020-05	15.0	20	25	48	50	114			
	15520-05 *	15.5	20	25	48	50	114			
	16020-05	16.0	20	25	51	50	117			
	16525-06	16.5	25	34	51	56	123	SP□T060205-□□ XO□T060204-□□	FTKA02206S	TW07P
	17025-06	17.0	25	34	54	56	126			
	17525-06 *	17.5	25	34	54	56	126			
	18025-06	18.0	25	34	57	56	130			
	18525-06	18.5	25	34	57	56	130			
	19025-06	19.0	25	34	60	56	133	SP□T07T208-□□ XO□T07T205-□□	FTKA02565	TW07S
	19525-06 *	19.5	25	34	60	56	133			
	20025-07	20.0	25	34	63	56	138			
	20525-07	20.5	25	34	63	56	138			
	21025-07 *	21.0	25	34	66	56	141			
	21525-07	21.5	25	34	66	56	141			
	22025-07	22.0	25	34	69	56	144	SP□T090308-□□ XO□T090305-□□	FTKA0307	TW09S
	22525-07	22.5	25	34	69	56	144			
	23025-07	23	25	34	72	56	149			
	23525-07	23.5	25	34	72	56	149			
	24032-09 *	24.0	32	44	75	60	157			
	24532-09	24.5	32	44	75	60	157			
	25032-09	25.0	32	44	78	60	160			
	25532-09	25.5	32	44	78	60	160			
	26032-09	26.0	32	44	81	60	163			
	26532-09 *	26.5	32	44	81	60	163			
	27032-09	27.0	32	44	84	60	167			
	27532-09	27.5	32	44	84	60	167			
	28032-09	28.0	32	44	87	60	171			
	28532-09	28.5	32	44	87	60	171			
	29032-09 *	29.0	32	44	90	60	174			
	29532-09	29.5	32	44	90	60	174			

Applicable inserts G04~05

The items marked * can machine a tap foundation hole



King Drill-3D

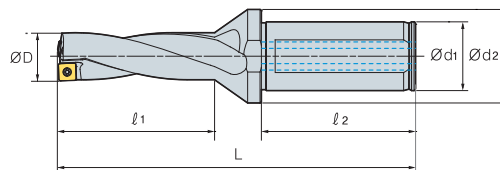
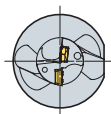


								(mm)	
Designation	ØD	Ød ₁	Ød ₂	l ₁	l ₂	L	Insert	Screw 	Wrench 
K3D									
30032-11 *	30.0	32	44	93	60	180	SP□T11T308-□□ XO□T11T306-□□	FTKA03508	TW15S
30532-11	30.5	32	44	93	60	180			
31032-11	31.0	32	44	96	60	183			
31532-11	31.5	32	44	96	60	183			
32032-11	32.0	32	44	99	60	186			
32532-11	32.5	32	44	99	60	186			
33032-11	33.0	32	44	102	60	190			
33532-11	33.5	32	44	102	60	190			
34032-11	34.0	32	44	105	60	193			
34532-11	34.5	32	44	105	60	193			
35032-11 *	35.0	32	44	108	60	196			
35532-11	35.5	32	44	108	60	196			
36040-13	36.0	40	48	112	70	212	SP□T130410-□□ XO□T130406-□□	FTKA0410	TW15S
36540-13	36.5	40	48	112	70	212			
37040-13	37.0	40	48	115	70	215			
37540-13	37.5	40	48	115	70	215			
38040-13	38.0	40	48	118	70	219			
38540-13	38.5	40	48	118	70	219			
39040-13	39.0	40	48	121	70	222			
39540-13	39.5	40	48	121	70	222			
40040-13	40.0	40	48	124	70	226			
40540-13	40.5	40	48	124	70	226			
41040-13	41.0	40	48	127	70	229			
41540-13	41.5	40	48	127	70	229			
42040-13	42.0	40	48	130	70	233	SP□T15M510-□□ XO□T15M508-□□	FTNC04511	TW20S
42540-13	42.5	40	48	130	70	233			
43040-15	43.0	40	58	134	70	239			
43540-15	43.5	40	58	134	70	239			
44040-15	44.0	40	58	137	70	242			
44540-15	44.5	40	58	137	70	242			
45040-15	45.0	40	58	140	70	246			
45540-15	45.5	40	58	140	70	246			
46040-15	46.0	40	58	143	70	249			
46540-15	46.5	40	58	143	70	249			
47040-15	47.0	40	58	146	70	253			
47540-15	47.5	40	58	146	70	253			
48040-15	48.0	40	58	149	70	256			
48540-15	48.5	40	58	149	70	256			
49040-15	49.0	40	58	152	70	259			
49540-15	49.5	40	58	152	70	259			
50040-15	50.0	40	58	155	70	262			
50540-15	50.5	40	58	155	70	262			

→ Applicable inserts G04~05

The items marked * can machine a tap foundation hole

King Drill-3D

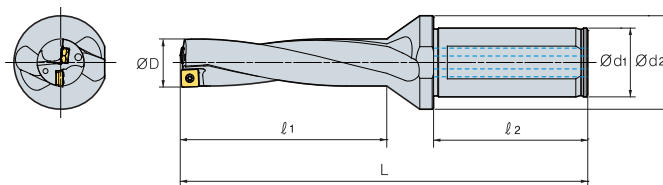


(mm)

Designation		ØD	Ød ₁	Ød ₂	l ₁	l ₂	L	Insert	Screw 	Wrench 
K3D	51040-18	51.0	40	68	159	70	269	SP□T180510-□□ XO□T180508-□□	FTNA0511	TW20-100
	51540-18	51.5	40	68	159	70	269			
	52040-18	52.0	40	68	162	70	272			
	52540-18	52.5	40	68	162	70	272			
	53040-18	53.0	40	68	165	70	275			
	53540-18	53.5	40	68	165	70	275			
	54040-18	54.0	40	68	168	70	278			
	54540-18	54.5	40	68	168	70	278			
	55040-18	55.0	40	68	171	70	281			
	55540-18	55.5	40	68	171	70	281			
	56040-18	56.0	40	68	174	70	286			
	56540-18	56.5	40	68	174	70	286			
	57040-18	57.0	40	68	178	70	290			
	57540-18	57.5	40	68	178	70	290			
	58040-18	58.0	40	68	182	70	294			
	58540-18	58.5	40	68	182	70	294			
	59040-18	59.0	40	68	186	70	298			
	59540-18	59.5	40	68	186	70	298			
	60040-18	60.0	40	68	190	70	302			
	60540-18	60.5	40	68	190	70	302			

➔ Applicable inserts G04~05

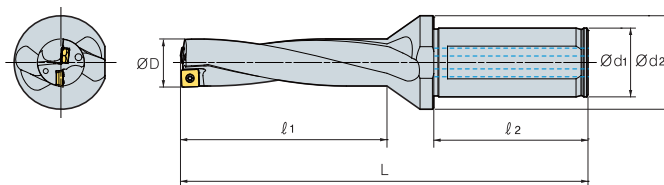
King Drill-4D



							(mm)		
Designation	ØD	Ød ₁	Ød ₂	l ₁	l ₂	L	Insert	Screw	Wrench
K4D	12020-04	12.0	20	25	51	50	115	SP□T040204-□□ XO□T040204-□□	FTNA0204 TW06P
	12520-04	12.5	20	25	51	50	115		
	13020-04	13.0	20	25	55	50	119		
	13520-04	13.5	20	25	55	50	119		
	14020-05	14.0	20	25	59	50	124	SP□T050204-□□ XO□T050204-□□	FTNA0204 TW06P
	14520-05	14.5	20	25	59	50	124		
	15020-05	15.0	20	25	63	50	129		
	15520-05	15.5	20	25	63	50	129		
	16020-05	16.0	20	25	67	50	133	SP□T060205-□□ XO□T060204-□□	FTKA02206S TW07P
	16525-06	16.5	25	34	67	56	139		
	17025-06	17.0	25	34	71	56	143		
	17525-06	17.5	25	34	71	56	143		
	18025-06	18.0	25	34	75	56	148		
	18525-06	18.5	25	34	75	56	148		
	19025-06	19.0	25	34	79	56	152	SP□T07T208-□□ XO□T07T205-□□	FTKA02565 TW07S
	19525-06	19.5	25	34	79	56	152		
	20025-07	20.0	25	34	83	56	158		
	20525-07	20.5	25	34	83	56	158		
	21025-07	21.0	25	34	87	56	162		
	21525-07	21.5	25	34	87	56	162		
	22025-07	22.0	25	34	91	56	166		
	22525-07	22.5	25	34	91	56	166		
	23025-07	23.0	25	34	95	56	172	SP□T090308-□□ XO□T090305-□□	FTKA0307 TW09S
	23525-07	23.5	25	34	95	56	172		
	24032-09	24.0	32	44	99	60	181		
	24532-09	24.5	32	44	99	60	181		
	25032-09	25.0	32	44	103	60	185		
	25532-09	25.5	32	44	103	60	185		
	26032-09	26.0	32	44	107	60	189		
	26532-09	26.5	32	44	107	60	189		
	27032-09	27.0	32	44	111	60	194		
	27532-09	27.5	32	44	111	60	194		
	28032-09	28.0	32	44	115	60	199		
	28532-09	28.5	32	44	115	60	199		
	29032-09	29.0	32	44	119	60	203	SP□T11T308-□□ XO□T11T306-□□	FTKA03508 TW15S
	29532-09	29.5	32	44	119	60	203		
	30032-11	30.0	32	44	123	60	210		
	30532-11	30.5	32	44	123	60	210		
	31032-11	31.0	32	44	127	60	214		
	31532-11	31.5	32	44	127	60	214		
	32032-11	32.0	32	44	131	60	218		
	32532-11	32.5	32	44	131	60	218		
	33032-11	33.0	32	44	135	60	223		
	33532-11	33.5	32	44	135	60	223		
	34032-11	34.0	32	44	139	60	227		
	34532-11	34.5	32	44	139	60	227		
	35032-11	35.0	32	44	143	60	231		
	35532-11	35.5	32	44	143	60	231		

→ Applicable inserts G04~05

King Drill-4D



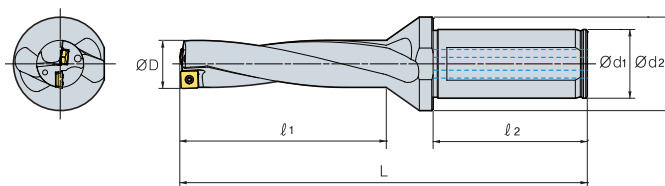
(mm)

Designation		ØD	Ød ₁	Ød ₂	l ₁	l ₂	L	Insert	Screw	Wrench
K4D	36040-13	36.0	40	48	148	70	248	SP□T130410-□□ XO□T130406-□□	FTKA0410	TW15S
	36540-13	36.5	40	48	148	70	248			
	37040-13	37.0	40	48	152	70	252			
	37540-13	37.5	40	48	152	70	252			
	38040-13	38.0	40	48	156	70	257			
	38540-13	38.5	40	48	156	70	257			
	39040-13	39.0	40	48	160	70	261			
	39540-13	39.5	40	48	160	70	261			
	40040-13	40.0	40	48	164	70	266			
	40540-13	40.5	40	48	164	70	266			
	41040-13	41.0	40	48	168	70	270			
	41540-13	41.5	40	48	168	70	270			
	42040-13	42.0	40	48	172	70	275			
	42540-13	42.5	40	48	172	70	275			
	43040-15	43.0	40	58	177	70	282	SP□T15M510-□□ XO□T15M508-□□	FTNC04511	TW20S
	43540-15	43.5	40	58	177	70	282			
	44040-15	44.0	40	58	181	70	286			
	44540-15	44.5	40	58	181	70	286			
	45040-15	45.0	40	58	185	70	291			
	45540-15	45.5	40	58	185	70	291			
	46040-15	46.0	40	58	189	70	295			
	46540-15	46.5	40	58	189	70	295			
	47040-15	47.0	40	58	193	70	300			
	47540-15	47.5	40	58	193	70	300			
	48040-15	48.0	40	58	197	70	304			
	48540-15	48.5	40	58	197	70	304			
	49040-15	49.0	40	58	201	70	308			
	49540-15	49.5	40	58	201	70	308			
	50040-15	50.0	40	58	205	70	312			
	50540-15	50.5	40	58	205	70	312			
	51040-18	51.0	40	68	210	70	320	SP□T180510-□□ XO□T180508-□□	FTNA0511	TW20-100
	51540-18	51.5	40	68	210	70	320			
	52040-18	52.0	40	68	214	70	324			
	52540-18	52.5	40	68	214	70	324			
	53040-18	53.0	40	68	218	70	328			
	53540-18	53.5	40	68	218	70	328			
	54040-18	54.0	40	68	222	70	332			
	54540-18	54.5	40	68	222	70	332			
	55040-18	55.0	40	68	226	70	336			
	55540-18	55.5	40	68	226	70	336			
	56040-18	56.0	40	68	230	70	342			
	56540-18	56.5	40	68	230	70	342			
	57040-18	57.0	40	68	235	70	347			
	57540-18	57.5	40	68	235	70	347			
	58040-18	58.0	40	68	240	70	352			
	58540-18	58.5	40	68	240	70	352			
	59040-18	59.0	40	68	245	70	357			
	59540-18	59.5	40	68	245	70	357			
	60040-18	60.0	40	68	250	70	362			
	60540-18	60.5	40	68	250	70	362			

Applicable inserts G04~05



King Drill-5D

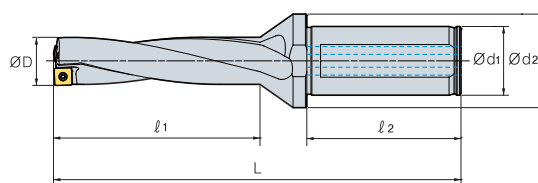
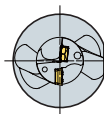


(mm)

Designation		ØD	Ød ₁	Ød ₂	ℓ ₁	ℓ ₂	L	Insert	 Screw	 Wrench
K5D	12020-04	12.0	20	25	63	50	127	SP□T040204-□□ XO□T040204-□□	FTNA0204	TW06P
	12520-04	12.5	20	25	63	50	127			
	13020-04	13.0	20	25	68	50	132			
	13520-04	13.5	20	25	68	50	132			
	14020-05	14.0	20	25	73	50	138	SP□T050204-□□ XO□T050204-□□	FTNA0204	TW06P
	14520-05	14.5	20	25	73	50	138			
	15020-05	15.0	20	25	78	50	144			
	15520-05	15.5	20	25	78	50	144			
	16020-05	16.0	20	25	83	50	149	SP□T060205-□□ XO□T060204-□□	FTKA02206S	TW07P
	16525-06	16.5	25	34	83	56	155			
	17025-06	17.0	25	34	88	56	160			
	17525-06	17.5	25	34	88	56	160			
	18025-06	18.0	25	34	93	56	166			
	18525-06	18.5	25	34	93	56	166			
	19025-06	19.0	25	34	98	56	171	SP□T07T208-□□ XO□T07T205-□□	FTKA02565	TW07S
	19525-06	19.5	25	34	98	56	171			
	20025-07	20.0	25	34	103	56	178			
	20525-07	20.5	25	34	103	56	178			
	21025-07	21.0	25	34	108	56	183			
	21525-07	21.5	25	34	108	56	183			
	22025-07	22.0	25	34	113	56	188	SP□T090308-□□ XO□T090305-□□	FTKA0307	TW09S
	22525-07	22.5	25	34	113	56	188			
	23025-07	23.0	25	34	118	56	195			
	23525-07	23.5	25	34	118	56	195			
	24032-09	24.0	32	44	123	60	205			
	24532-09	24.5	32	44	123	60	205			
	25032-09	25.0	32	44	128	60	210			
	25532-09	25.5	32	44	128	60	210			
	26032-09	26.0	32	44	133	60	215			
	26532-09	26.5	32	44	133	60	215			
	27032-09	27.0	32	44	138	60	221			
	27532-09	27.5	32	44	138	60	221	SP□T11T308-□□ XO□T11T306-□□	FTKA03508	TW15S
	28032-09	28.0	32	44	143	60	227			
	28532-09	28.5	32	44	143	60	227			
	29032-09	29.0	32	44	148	60	232			
	29532-09	29.5	32	44	148	60	232			
	30032-11	30.0	32	44	153	60	240			
	30532-11	30.5	32	44	153	60	240			
	31032-11	31.0	32	44	158	60	245			
	31532-11	31.5	32	44	158	60	245			
	32032-11	32.0	32	44	163	60	250			
	32532-11	32.5	32	44	163	60	250			
	33032-11	33.0	32	44	168	60	256			
	33532-11	33.5	32	44	168	60	256			
	34032-11	34.0	32	44	173	60	261			
	34532-11	34.5	32	44	173	60	261			
	35032-11	35.0	32	44	178	60	266			
	35532-11	35.5	32	44	178	60	266			

→ Applicable inserts **G04~05**

King Drill-5D



(mm)

Designation	ØD	Ød ₁	Ød ₂	l ₁	l ₂	L	Insert	Screw	Wrench
K5D									
36040-13	36.0	40	48	184	70	284	SP□T130410-□□ XO□T130406-□□	FTKA0410	TW15S
36540-13	36.5	40	48	184	70	284			
37040-13	37.0	40	48	189	70	289			
37540-13	37.5	40	48	189	70	289			
38040-13	38.0	40	48	194	70	295			
38540-13	38.5	40	48	194	70	295			
39040-13	39.0	40	48	199	70	300			
39540-13	39.5	40	48	199	70	300			
40040-13	40.0	40	48	204	70	306			
40540-13	40.5	40	48	204	70	306			
41040-13	41.0	40	48	209	70	311			
41540-13	41.5	40	48	209	70	311			
42040-13	42.0	40	48	214	70	317			
42540-13	42.5	40	48	214	70	317			
43040-15	43.0	40	58	220	70	325	SP□T15M510-□□ XO□T15M508-□□	FTNC04511	TW20S
43540-15	43.5	40	58	221	70	326			
44040-15	44.0	40	58	225	70	330			
44540-15	44.5	40	58	225	70	330			
45040-15	45.0	40	58	230	70	336			
45540-15	45.5	40	58	230	70	336			
46040-15	46.0	40	58	235	70	341			
46540-15	46.5	40	58	235	70	341			
47040-15	47.0	40	58	240	70	347			
47540-15	47.5	40	58	240	70	347			
48040-15	48.0	40	58	245	70	352			
48540-15	48.5	40	58	245	70	352			
49040-15	49.0	40	58	250	70	357			
49540-15	49.5	40	58	250	70	357			
50040-15	50.0	40	58	255	70	362	SP□T180510-□□ XO□T180508-□□	FTNA0511	TW20-100
50540-15	50.5	40	58	255	70	362			
51040-18	51.0	40	68	261	70	371			
51540-18	51.5	40	68	261	70	371			
52040-18	52.0	40	68	266	70	376			
52540-18	52.5	40	68	266	70	376			
53040-18	53.0	40	68	271	70	381			
53540-18	53.5	40	68	271	70	381			
54040-18	54.0	40	68	276	70	386			
54540-18	54.5	40	68	276	70	386			
55040-18	55.0	40	68	281	70	391			
55540-18	55.5	40	68	281	70	391			
56040-18	56.0	40	68	286	70	398			
56540-18	56.5	40	68	286	70	398			
57040-18	57.0	40	68	292	70	404			
57540-18	57.5	40	68	292	70	404			
58040-18	58.0	40	68	298	70	410			
58540-18	58.5	40	68	298	70	410			
59040-18	59.0	40	68	304	70	416			
59540-18	59.5	40	68	304	70	416			
60040-18	60.0	40	68	310	70	422			
60540-18	60.5	40	68	310	70	422			

Applicable inserts G04~05



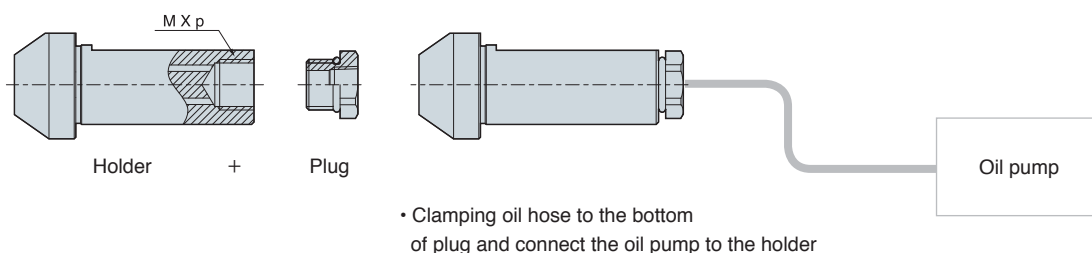
G

Drills

Drill with through coolant system for general lathe and
CNC lathe without through coolant system

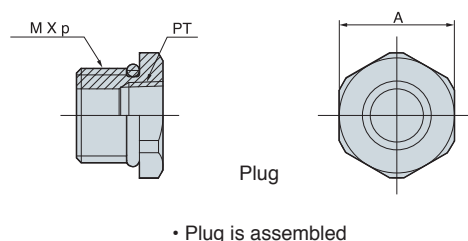
King Drill (For through coolant system with a lathe)

- Through coolant system with drill holder, plug, oil-hole hose and oil-hole pump
- PT TAP in the plug is combined to PT TAP connected to oil hose
- Available to use the drill without a plug in milling machine



(mm)

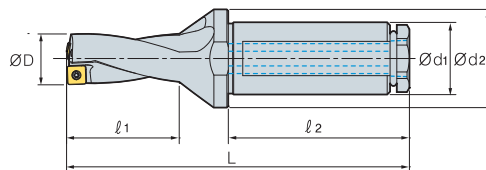
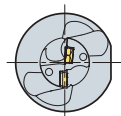
Tap type	Diameter	Shank dia.	M x p	Plug
K□D120~16020HP-□□	Ø12.0~Ø16.0	Ø20	M12x1.5	PLG12PT18
K□D161~23525HP-□□	Ø16.1~Ø23.5	Ø25	M16x1.5	PLG16PT18
K□D236~35532HP-□□	Ø23.6~Ø35.5	Ø32	M20x2.0	PLG20PT14
K□D356~60940HP-□□	Ø35.6~Ø60.5	Ø40	M27x2.0	PLG27PT38



Plug type	M x p	PT tap	A
PLG12PT18	M12x1.5	1/8	16
PLG16PT18	M16x1.5	1/8	19
PLG20PT14	M20x2.0	1/4	26
PLG27PT38	M27x2.0	3/8	35

King Drill-2D

For through coolant system with a lathe



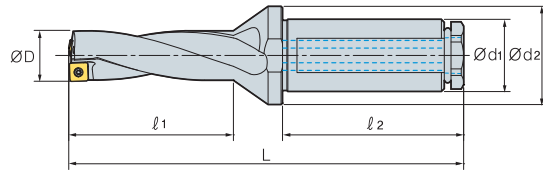
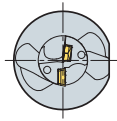
(mm)

Designation		ØD	Ød ₁	Ød ₂	l ₁	l ₂	L	Insert	Screw 	Wrench 
K2D	13020HP-04	13.0	20	25	29	50	93	SP□T040204-□□ XO□T040204-□□	FTNA0204	TW06P
	13520HP-04	13.5	20	25	29	50	93			
	14020HP-05	14.0	20	25	31	50	96	SP□T050204-□□ XO□T050204-□□	FTNA0204	TW06P
	15020HP-05	15.0	20	25	33	50	99			
	16020HP-05	16.0	20	25	35	50	101			
	17025HP-06	17.0	25	34	37	56	109	SP□T060205-□□ XO□T060204-□□	FTKA02206S	TW07P
	18025HP-06	18.0	25	34	39	56	112			
	19025HP-06	19.0	25	34	41	56	114			
	20025HP-07	20.0	25	34	43	56	118	SP□T07T208-□□ XO□T07T205-□□	FTKA02565	TW07S
	21025HP-07	21.0	25	34	45	56	120			
	22025HP-07	22.0	25	34	47	56	122			
	23025HP-07	23.0	25	34	49	56	126			
	24032HP-09	24.0	32	44	51	60	133	SP□T090308-□□ XO□T090305-□□	FTKA0307	TW09S
	25032HP-09	25.0	32	44	53	60	135			
	26032HP-09	26.0	32	44	55	60	137			
	27032HP-09	27.0	32	44	57	60	140			
	28032HP-09	28.0	32	44	59	60	143			
	29032HP-09	29.0	32	44	61	60	145			

 Applicable inserts G04~05

King Drill-3D

For through coolant system with a lathe



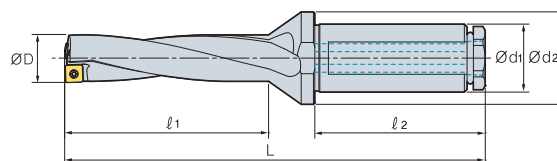
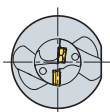
(mm)

Designation		ØD	Ød ₁	Ød ₂	l ₁	l ₂	L	Insert	Screw	Wrench
K3D	13020HP-04	13.0	20	25	42	50	106	SP□T040204-□□ XO□T040204-□□	FTNA0204	TW06P
	13520HP-04	13.5	20	25	42	50	106			
	14020HP-05	14.0	20	25	45	50	110	SP□T050204-□□ XO□T050204-□□	FTNA0204	TW06P
	14520HP-05	14.5	20	25	45	50	110			
	15020HP-05	15.0	20	25	48	50	114			
	15520HP-05	15.5	20	25	48	50	114			
	16020HP-05	16.0	20	25	51	50	117	SP□T060205-□□ XO□T060204-□□	FTKA02206S	TW07P
	16525HP-06	16.5	25	34	51	56	123			
	17025HP-06	17.0	25	34	54	56	126			
	17525HP-06	17.5	25	34	54	56	126			
	18025HP-06	18.0	25	34	57	56	130			
	18525HP-06	18.5	25	34	57	56	130			
	19025HP-06	19.0	25	34	60	56	133	SP□T07T208-□□ XO□T07T205-□□	FTKA02565	TW07S
	19525HP-06	19.5	25	34	60	56	133			
	20025HP-07	20.0	25	34	63	56	138			
	20525HP-07	20.5	25	34	63	56	138			
	21025HP-07	21.0	25	34	66	56	141			
	21525HP-07	21.5	25	34	66	56	141			
	22025HP-07	22.0	25	34	69	56	144			
	22525HP-07	22.5	25	34	69	56	144			
	23025HP-07	23.0	25	34	72	56	149	SP□T090308-□□ XO□T090305-□□	FTKA0307	TW09S
	23525HP-07	23.5	25	34	72	56	149			
	24032HP-09	24.0	32	44	75	60	157			
	24532HP-09	24.5	32	44	75	60	157			
	25032HP-09	25.0	32	44	78	60	160			
	25532HP-09	25.5	32	44	78	60	160			
	26032HP-09	26.0	32	44	81	60	163			
	26532HP-09	26.5	32	44	81	60	163			
	27032HP-09	27.0	32	44	84	60	167			
	27532HP-09	27.5	32	44	84	60	167			
	28032HP-09	28.0	32	44	87	60	171			
	28532HP-09	28.5	32	44	87	60	171			
	29032HP-09	29.0	32	44	90	60	174			
	29532HP-09	29.5	32	44	90	60	174			

➔ Applicable inserts **G04-05**

King Drill-4D

For through coolant system with a lathe



(mm)

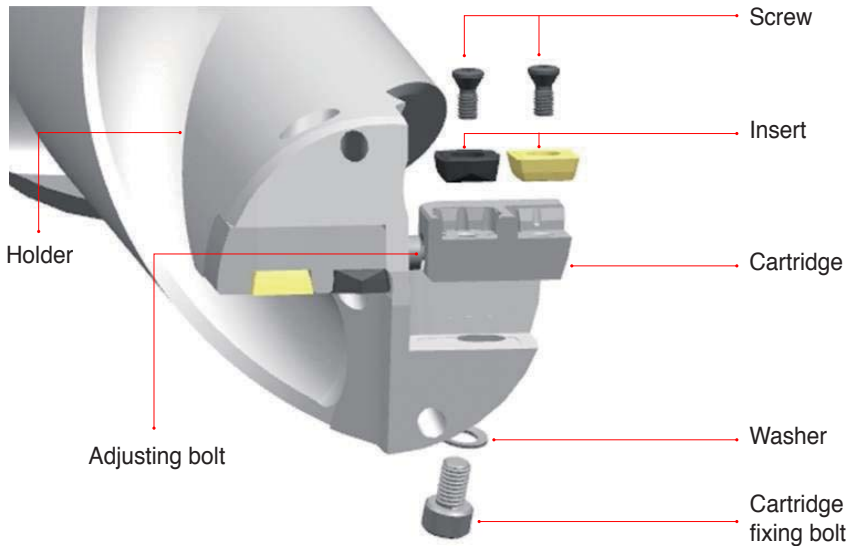
Designation		ØD	Ød ₁	Ød ₂	l ₁	l ₂	L	Insert	Screw 	Wrench 
K 4D	13020HP-04	13.0	20	25	29	50	93	SP□T040204-□□ XO□T040204-□□	FTNA0204	TW06P
	13520HP-04	13.5	20	25	29	50	93			
	14020HP-05	14.0	20	25	59	50	124	SP□T050204-□□ XO□T050204-□□	FTNA0204	TW06P
	15020HP-05	15.0	20	25	63	50	129			
	16020HP-05	16.0	20	25	67	50	133			
	17025HP-06	17.0	25	34	71	56	143	SP□T060205-□□ XO□T060204-□□	FTKA02206S	TW07P
	18025HP-06	18.0	25	34	75	56	148			
	19025HP-06	19.0	25	34	79	56	152			
	20025HP-07	20.0	25	34	83	56	158	SP□T07T208-□□ XO□T07T205-□□	FTKA02565	TW07S
	21025HP-07	21.0	25	34	87	56	162			
	22025HP-07	22.0	25	34	91	56	166			
	23025HP-07	23.0	25	34	95	56	172			
	24032HP-09	24.0	32	44	99	60	181	SP□T090308-□□ XO□T090305-□□	FTKA0307	TW09S
	25032HP-09	25.0	32	44	103	60	185			
	26032HP-09	26.0	32	44	107	60	189			
	27032HP-09	27.0	32	44	111	60	194			
	28032HP-09	28.0	32	44	115	60	199			
	29032HP-09	29.0	32	44	119	60	203			

➔ Applicable inserts G04~05

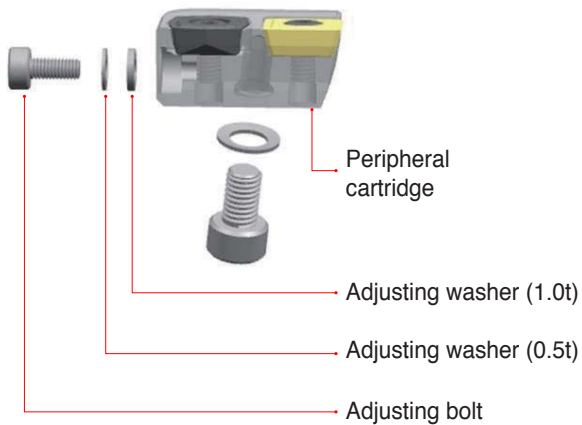
High rigidity drill produces cost efficiency due to cartridge replacement

King Drill (For large diameter drilling)

- Cartridge type for $\varnothing 61 \sim \varnothing 100$ drilling
- Peripheral cartridge can adjust the drilling diameter within 5mm
- Easy to adjust drilling diameter with adjusting bolt



Adjustment of drill diameter

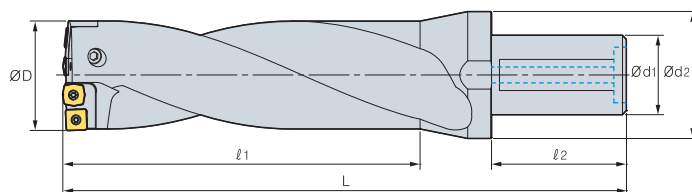


Adjustment $\varnothing$ (mm)	Adjusting washer	
	Designation	Width (mm)
1	WA0305	0.5
2	WA0310	1.0
3	WA0305+WA0310	1.5
4	WA0310x2	2.0
5	WA0305+WA0310x2	2.5

※ Adjusting washer adjusts the drilling diameter within 5 mm

King Drill

For large diameter drilling



(mm)

Designation		ØD	Ød ₁	Ød ₂	ℓ ₁	ℓ ₂	L	Cartridge		Screw 	Wrench 
								Internal	External		
K2D	616550-11	61~65	50	80	130	80	255	KDC6165C	KDC6165P	FTKA03508	TW15S
	657050-13	65~70	50	88	140	80	265	KDC6570C	KDC6570P	FTKA0410	TW15S
	707550-13	70~75	50	88	150	80	275	KDC7075C	KDC7075P	FTKA0410	TW15S
	758050-13	75~80	50	88	160	80	285	KDC7580C	KDC7580P	FTKA0410	TW15S
	808550-15	80~85	50	88	170	80	295	KDC8085C	KDC8085P	FTNC04511	TW20S
	859050-15	85~90	50	95	180	80	305	KDC8590C	KDC8590P	FTNC04511	TW20S
	909550-15	90~95	50	95	190	80	315	KDC9095C	KDC9095P	FTNC04511	TW20S
	9510050-18	95~100	50	95	200	80	325	KDC95100C	KDC95100P	FTNA0511	TW20-100
K3D	616550-11	61~65	50	80	195	80	320	KDC6165C	KDC6165P	FTKA03508	TW15S
	657050-13	65~70	50	88	210	80	335	KDC6570C	KDC6570P	FTKA0410	TW15S
	707550-13	70~75	50	88	225	80	350	KDC7075C	KDC7075P	FTKA0410	TW15S
	758050-13	75~80	50	88	240	80	365	KDC7580C	KDC7580P	FTKA0410	TW15S
	808550-15	80~85	50	88	255	80	380	KDC8085C	KDC8085P	FTNC04511	TW20S
	859050-15	85~90	50	95	270	80	395	KDC8590C	KDC8590P	FTNC04511	TW20S
	909550-15	90~95	50	95	285	80	410	KDC9095C	KDC9095P	FTNC04511	TW20S
	9510050-18	95~100	50	95	300	80	425	KDC95100C	KDC95100P	FTNA0511	TW20-100
K4D	616550-11	61~65	50	80	260	80	385	KDC6165C	KDC6165P	FTKA03508	TW15S
	657050-13	65~70	50	88	280	80	405	KDC6570C	KDC6570P	FTKA0410	TW15S
	707550-13	70~75	50	88	300	80	425	KDC7075C	KDC7075P	FTKA0410	TW15S
	758050-13	75~80	50	88	320	80	445	KDC7580C	KDC7580P	FTKA0410	TW15S
	808550-15	80~85	50	88	340	80	465	KDC8085C	KDC8085P	FTNC04511	TW20S
	859050-15	85~90	50	95	360	80	485	KDC8590C	KDC8590P	FTNC04511	TW20S
	909550-15	90~95	50	95	380	80	505	KDC9095C	KDC9095P	FTNC04511	TW20S
	9510050-18	95~100	50	95	400	80	525	KDC95100C	KDC95100P	FTNA0511	TW20-100

Applicable inserts G04~05

Parts

Cartridge		Range (Ø)	Insert				Screw	Wrench
Internal	External		Designation	Quantity	Designation	Quantity		
KDC6165C	KDC6165P	61 ~ 65	XO□T11T306-□□	2	SP□T11T308-□□	2	FTKA03508	TW15S
KDC6570C	KDC6570P	65 ~ 70	XO□T130406-□□	2	SP□T130410-□□	2	FTKA0410	TW15S
KDC7075C	KDC7075P	70 ~ 75	XO□T130406-□□	2	SP□T130410-□□	2	FTKA0410	TW15S
KDC7580C	KDC7580P	75 ~ 80	XO□T130406-□□	2	SP□T130410-□□	2	FTKA0410	TW15S
KDC8085C	KDC8085P	80 ~ 85	XO□T15M508-□□	2	SP□T15M510-□□	2	FTNC04511	TW20S
KDC8590C	KDC8590P	85 ~ 90	XO□T15M508-□□	2	SP□T15M510-□□	2	FTNC04511	TW20S
KDC9095C	KDC9095P	90 ~ 95	XO□T15M508-□□	2	SP□T15M510-□□	2	FTNC04511	TW20S
KDC95100C	KDC95100P	95 ~ 100	XO□T180508-□□	2	SP□T180510-□□	2	FTNA0511	TW20-100

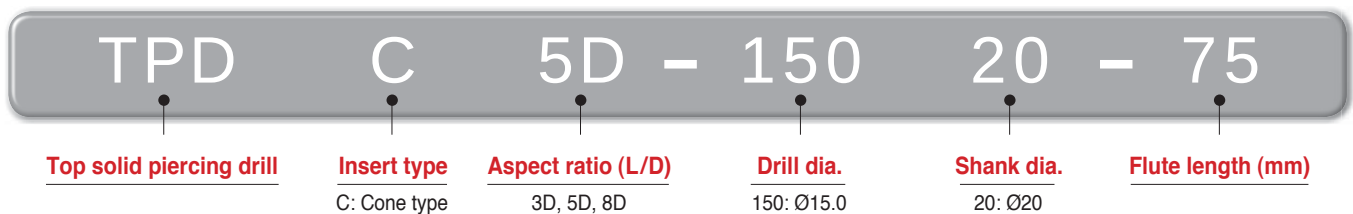


Cone shaped head indexable drill

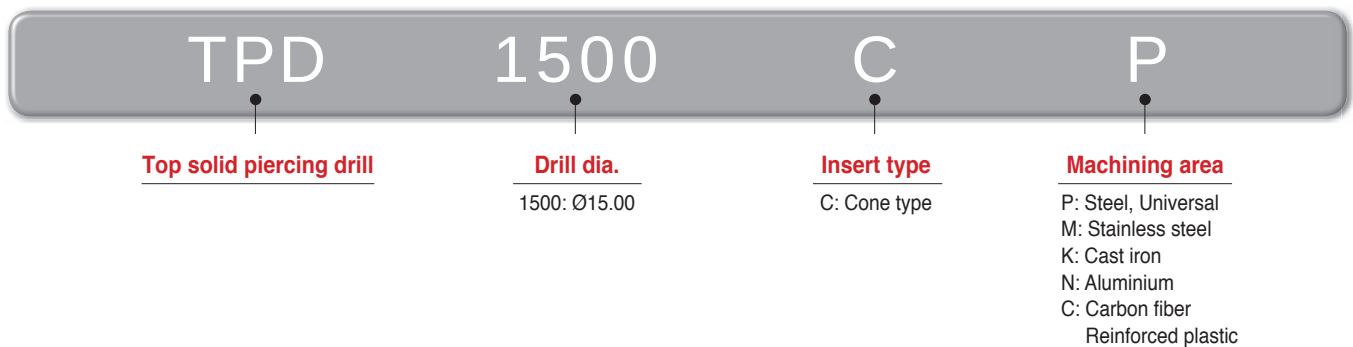
TPDC **new**

- Clamping design
 - One step clamp system → Increased stability
 - Clamping system allowing to change inserts while the holder is attached on the machine → Shortened setting time
- Optimized blade design
 - Excellent chip control → Possibility to use for various types of workpieces
- Helical shaped coolant hole system
 - Wide chip pocket area secured → Better lubrication + chip flow improved
- Material technology
 - Ultra-fine substrate + Multi-layer coating applied → Excellent anti chipping & wear resistance

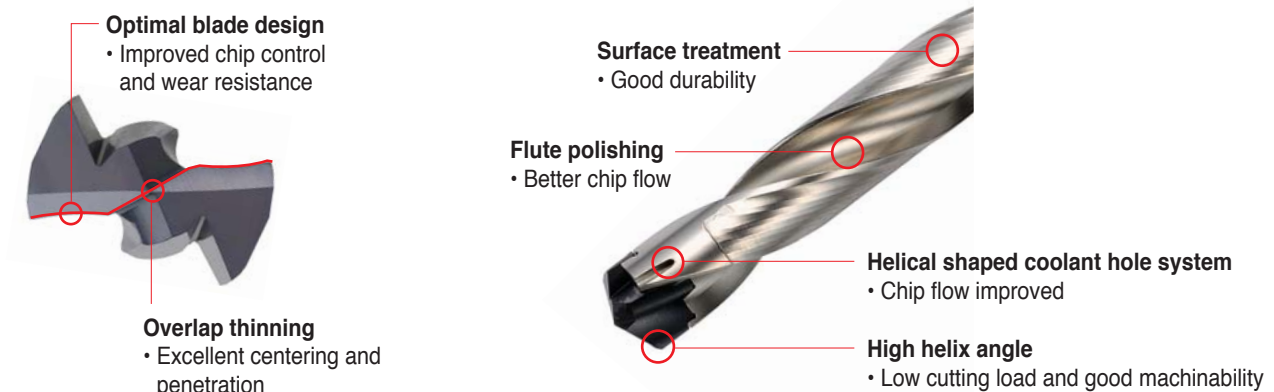
Code system of holder



Code system of insert

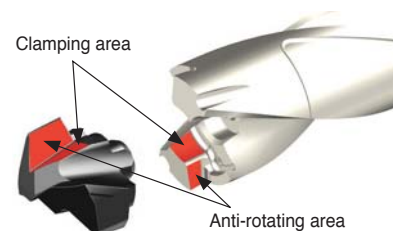


Features



Features of clamping system

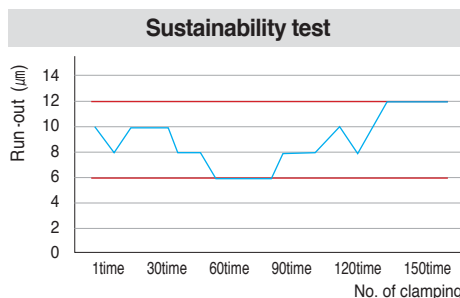
- One Step Clamp System → Easy and quick tool change with good repeatability
 - Clamping area: Easy and fast tool change
 - Anti-rotating area: Performs as a stopper
 - Clamping and anti-rotating area make an acute angle to prevent insert rotation while machining



Performance evaluation

Durability test	
■ Workpiece	SCM440 (HRC22)
■ Cutting conditions	Drill dia.(mm) = Ø15.0 vc (m/min) = 90, fn (mm/rev) = 0.25 ap (mm) = 60, Wet
■ Tools	Inserts TPD1500CP (PC5335) Holder TPDC5D-15020-75

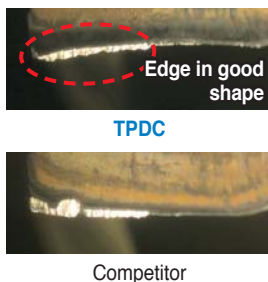
After using 40 inserts, the setting run-out remains below 15 μ m



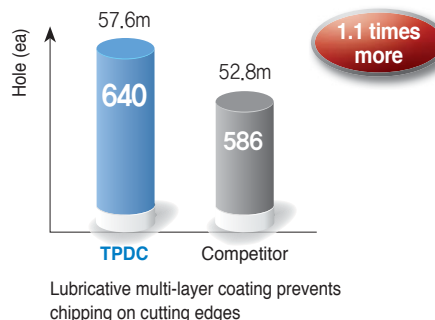
After clamping 150 times, the drill run-out remains

Application examples

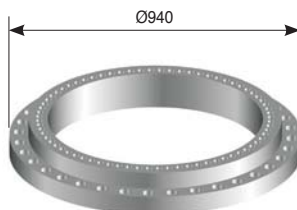
- **Use** Part of machine
- **Workpiece** Alloy steel (SCM440, HRC22)
- **Cutting conditions** Drill dia.(mm) = Ø19.0
vc (m/min) = 100
fn (mm/rev) = 0.3
ap (mm) = 90, Wet
- **Tools** **Inserts** TPD1900CP (PC5335)
Holder TPDC5D-19025-95



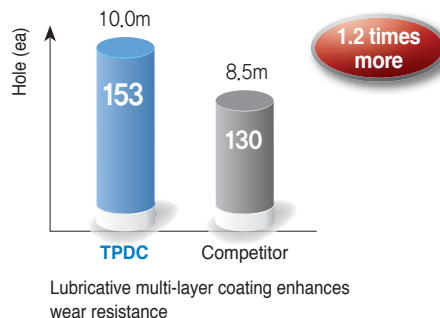
Test result



- **Use** Part of machine
- **Workpiece** Carbon steel (SM45, HRC40)
- **Cutting conditions** Drill dia.(mm) = Ø18.0
vc (m/min) = 60
fn (mm/rev) = 0.15
ap (mm) = 65, Wet
- **Tools** **Inserts** TPD1800CP (PC5335)
Holder TPDC5D-18025-90



Test result

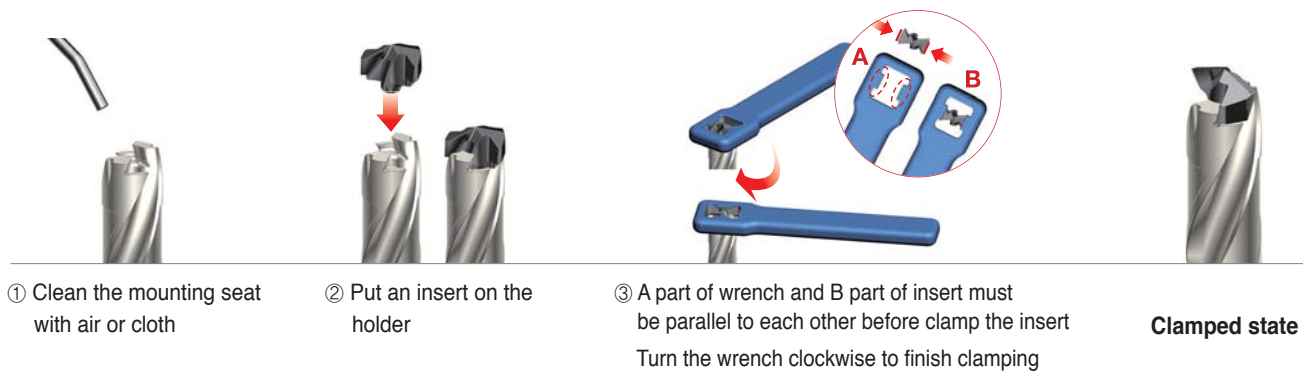


Recommended cutting condition

Workpiece			Grade	vc	Depth of cut = 3D, 5D Feed rate (mm/rev) per drill dia. (mm)	
ISO	Workpiece	HB			Ø12.00~Ø15.99	Ø16.00~Ø25.99
P	Carbon steel	Low carbon steel	PC5335	110 (80~140)	0.15~0.30	0.20~0.35
		High carbon steel	PC5335	100 (70~130)	0.15~0.30	0.20~0.35
	Alloy steel	Low alloy steel	PC5335	110 (80~140)	0.18~0.35	0.23~0.38
		Low pre-hardened steel	PC5335	75 (50~100)	0.18~0.35	0.23~0.38
		High alloy steel	PC5335	70 (50~90)	0.18~0.30	0.20~0.35
		High pre-hardened steel	PC5335	60 (40~80)	0.18~0.30	0.20~0.35

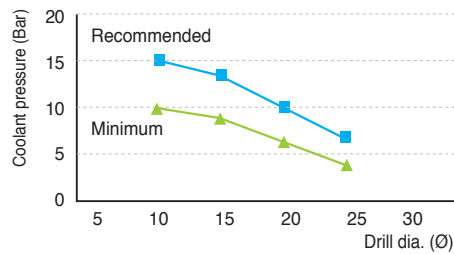
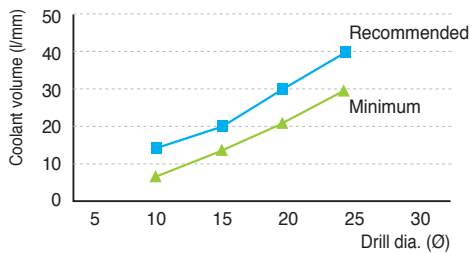
- In case of 8D, reduce the cutting condition 40~50% lower than above after machining the beginning of hole(1.5D)
- In case of interrupted machining, reduce the feed to 0.1~0.15 around the interrupted part

How to make good insert clamping

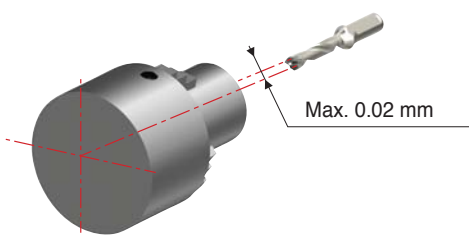


Coolant tip

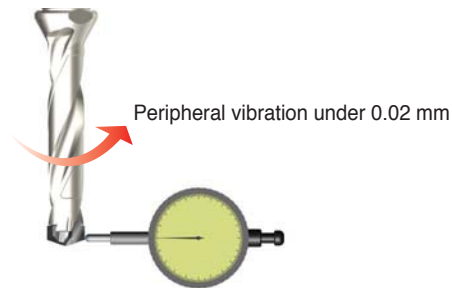
- **Workpiece** SCM440 (HRC22)
- **Cutting conditions** vc (m/min) = 100, Wet



Precautions when setting



Setting of the horizontal equipment

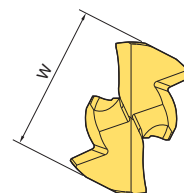
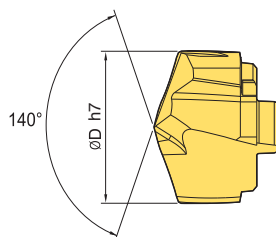
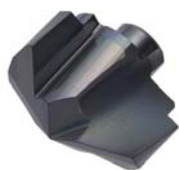


Setting of the vertical equipment

Precautions when drilling

Ramping	Overlapped	Plunging	Boring
1. A slope inclined more than 6° is not allowed 2. When entering, reduce the feed to 30~50%	1. Space between panels affects chip evacuation problem 2. Do not make space between panels	Not allowed	Not allowed

TPDC Insert new



(mm)

	Designation	Drill dia. (ØD)	W	Grade	Holder	Wrench
TPD	1200CP	12.0	11.4	PC5335	TPDC(3, 5, 8)D-12016-(36, 60, 96)	TPDC-W12
	1220CP	12.2			TPDC(3, 5, 8)D-12516-(38, 63, 100)	
	1250CP	12.5				
	1260CP	12.6				
	1300CP	13.0	12.3	PC5335	TPDC(3, 5, 8)D-13016-(39, 65, 104)	TPDC-W13
	1350CP	13.5			TPDC(3, 5, 8)D-13516-(41, 68, 108)	
	1400CP	14.0	13.4	PC5335	TPDC(3, 5, 8)D-14016-(42, 70, 112)	TPDC-W14
	1420CP	14.2			TPDC(3, 5, 8)D-14516-(44, 73, 116)	
	1430CP	14.3				
	1450CP	14.5				
	1500CP	15.0	14.3	PC5335	TPDC(3, 5, 8)D-15020-(45, 75, 120)	TPDC-W15
	1550CP	15.5				
	1600CP	16.0	15.3	PC5335	TPDC(3, 5, 8)D-16020-(48, 80, 128)	TPDC-W16
	1630CP	16.3				
	1650CP	16.5				
	1670CP	16.7				
	1700CP	17.0	16.3	PC5335	TPDC(3, 5, 8)D-17020-(51, 85, 136)	TPDC-W17
	1750CP	17.5				
	1770CP	17.7				
	1800CP	18.0				
	1810CP	18.1	17.3	PC5335	TPDC(3, 5, 8)D-18025-(54, 90, 144)	TPDC-W18
	1850CP	18.5				
	1860CP	18.6				
	1870CP	18.7				
	1900CP	19.0	18.3	PC5335	TPDC(3, 5, 8)D-19025-(57, 95, 152)	TPDC-W19
	1920CP	19.2				
	1950CP	19.5				
	1970CP	19.7				
	2000CP	20.0	19.2	PC5335	TPDC(3,5,8)D-20025-(60,100,160)	TPDC-W20
	2050CP	20.5				
	2100CP	21.0	20.1	PC5335	TPDC(3,5,8)D-21025-(63,105,168)	TPDC-W21
	2150CP	21.5				
	2200CP	22.0	21	PC5335	TPDC(3,5,8)D-22025-(66,110,176)	TPDC-W22
	2260CP	22.6				
	2270CP	22.7				
	2250CP	22.5				
	2300CP	23.0	21.9	PC5335	TPDC(3,5,8)D-23025-(69,115,184)	TPDC-W23
	2350CP	23.5				
	2400CP	24.0	22.9	PC5335	TPDC(3,5,8)D-24032-(72,120,192)	TPDC-W24
	2450CP	24.5				
	2500CP	25.0	23.9	PC5335	TPDC(3,5,8)D-25032-(75,125,200)	TPDC-W25
	2530CP	25.3				
	2550CP	25.5				
	2580CP	25.8				
	2590CP	25.9				

※ Order made items available

Parts (Recommended torque per wrench)

(mm)

Designation	Drill dia. (ØD)	Torque (Nm)
TPDC-W12	12.00~12.99	2.5
TPDC-W13	13.00~13.99	2.5
TPDC-W14	14.00~14.99	2.5
TPDC-W15	15.00~15.99	2.5
TPDC-W16	16.00~16.99	2.5
TPDC-W17	17.00~17.99	3.5
TPDC-W18	18.00~18.99	3.5

Designation	Drill dia. (ØD)	Torque (Nm)
TPDC-W19	19.00~19.99	3.5
TPDC-W20	20.00~20.99	3.5
TPDC-W21	21.00~21.99	3.5
TPDC-W22	22.00~22.99	3.5
TPDC-W23	23.00~23.99	3.5
TPDC-W24	24.00~24.99	3.5
TPDC-W25	25.00~25.99	3.5



TPDC3D/5D/8D **new**

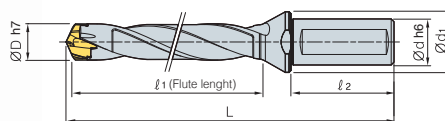


Fig.1

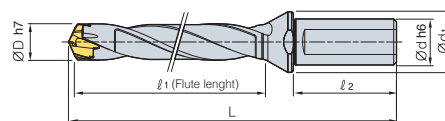


Fig.2



(mm)

	Designation	ØD	Ød	Ød ₁	ℓ ₁	ℓ ₂	L	Insert	Fig.
TPDC	3D-12016-36	12.00~12.49	16	20	36	48	99	TPD1200C□-1249C□	1
	3D-12516-38	12.50~12.99	16	20	38	48	101	TPD1250C□-1299C□	1
	3D-13016-39	13.00~13.49	16	20	39	48	103	TPD1300C□-1349C□	1
	3D-13516-41	13.50~13.99	16	20	41	48	105	TPD1350C□-1399C□	1
	3D-14016-42	14.00~14.49	16	20	42	48	106	TPD1400C□-1449C□	1
	3D-14516-44	14.50~14.99	16	20	44	48	107	TPD1450C□-1499C□	1
	3D-15020-45	15.00~15.99	20	25	45	50	113	TPD1500C□-1599C□	2
	3D-16020-48	16.00~16.99	20	25	48	50	117	TPD1600C□-1699C□	2
	3D-17020-51	17.00~17.99	20	25	51	50	120	TPD1700C□-1799C□	2
	3D-18025-54	18.00~18.99	25	33	54	56	132	TPD1800C□-1899C□	2
	3D-19025-57	19.00~19.99	25	33	57	56	135	TPD1900C□-1999C□	2
	3D-20025-60	20.00~20.99	25	33	60	56	138	TPD2000C□-2099C□	2
	3D-21025-63	21.00~21.99	25	33	63	56	141	TPD2100C□-2199C□	2
	3D-22025-66	22.00~22.99	25	33	66	56	145	TPD2200C□-2299C□	2
	3D-23025-69	23.00~23.99	25	33	69	56	149	TPD2300C□-2399C□	2
	3D-24032-72	24.00~24.99	32	43	72	60	159	TPD2400C□-2499C□	2
	3D-25032-75	25.00~25.99	32	43	75	60	162	TPD2500C□-2599C□	2
	5D-12016-60	12.00~12.49	16	20	60	48	123	TPD1200C□-1249C□	1
	5D-12516-63	12.50~12.99	16	20	63	48	126	TPD1250C□-1299C□	1
	5D-13016-65	13.00~13.49	16	20	65	48	129	TPD1300C□-1349C□	1
	5D-13516-68	13.50~13.99	16	20	68	48	132	TPD1350C□-1399C□	1
	5D-14016-70	14.00~14.49	16	20	70	48	134	TPD1400C□-1449C□	1
	5D-14516-73	14.50~14.99	16	20	73	48	136	TPD1450C□-1499C□	1
	5D-15020-75	15.00~15.99	20	25	75	50	143	TPD1500C□-1599C□	2
	5D-16020-80	16.00~16.99	20	25	80	50	149	TPD1600C□-1699C□	2
	5D-17020-85	17.00~17.99	20	25	85	50	154	TPD1700C□-1799C□	2
	5D-18025-90	18.00~18.99	25	33	90	56	168	TPD1800C□-1899C□	2
	5D-19025-95	19.00~19.99	25	33	95	56	173	TPD1900C□-1999C□	2
	5D-20025-100	20.00~20.99	25	33	100	56	178	TPD2000C□-2099C□	2
	5D-21025-105	21.00~21.99	25	33	105	56	183	TPD2100C□-2199C□	2
	5D-22025-110	22.00~22.99	25	33	110	56	189	TPD2200C□-2299C□	2
	5D-23025-115	23.00~23.99	25	33	115	56	195	TPD2300C□-2399C□	2
	5D-24032-120	24.00~24.99	32	43	120	60	207	TPD2400C□-2499C□	2
	5D-25032-125	25.00~25.99	32	43	125	60	212	TPD2500C□-2599C□	2
	8D-12016-96	12.00~12.49	16	20	96	48	159	TPD1200C□-1249C□	1
	8D-12516-100	12.50~12.99	16	20	100	48	163	TPD1250C□-1299C□	1
	8D-13016-104	13.00~13.49	16	20	104	48	168	TPD1300C□-1349C□	1
	8D-13516-108	13.50~13.99	16	20	108	48	173	TPD1350C□-1399C□	1
	8D-14016-112	14.00~14.49	16	20	112	48	176	TPD1400C□-1449C□	1
	8D-14516-116	14.50~14.99	16	20	116	48	180	TPD1450C□-1499C□	1
	8D-15020-120	15.00~15.99	20	25	120	50	188	TPD1500C□-1599C□	2
	8D-16020-128	16.00~16.99	20	25	128	50	197	TPD1600C□-1699C□	2
	8D-17020-136	17.00~17.99	20	25	136	50	205	TPD1700C□-1799C□	2
	8D-18025-144	18.00~18.99	25	33	144	56	222	TPD1800C□-1899C□	2
	8D-19025-152	19.00~19.99	25	33	152	56	230	TPD1900C□-1999C□	2
	8D-20025-160	20.00~20.99	25	33	160	56	238	TPD2000C□-2099C□	2
	8D-21025-168	21.00~21.99	25	33	168	56	246	TPD2100C□-2199C□	2
	8D-22025-176	22.00~22.99	25	33	176	56	255	TPD2200C□-2299C□	2
	8D-23025-184	23.00~23.99	25	33	184	56	264	TPD2300C□-2399C□	2
	8D-24032-192	24.00~24.99	32	43	192	60	279	TPD2400C□-2499C□	2
	8D-25032-200	25.00~25.99	32	43	200	60	287	TPD2500C□-2599C□	2

※ The shank is based on DIN6535 and ISO9677

High precision grinding and superior clamping precision with auto-centering system

TPDB

- High precision clamping system - High precision grinding and superior clamping precision with auto-centering system
- Screw on clamping system - Easy clamping system of TPDB insert
- Sharp cutting edge - Improved chip evacuation, low cutting load, longer tool life with ultra-fine substrate and exclusive coating layer
- Holder with excellent durability - Holder with high rigidity and superb wear resistance due to special surface treatment

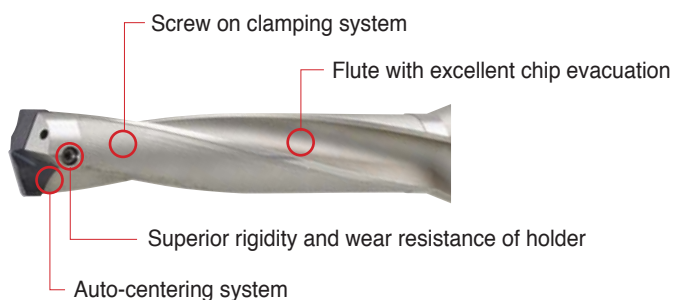
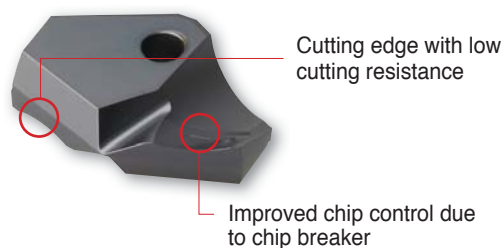
Code system of holder



Code system of insert



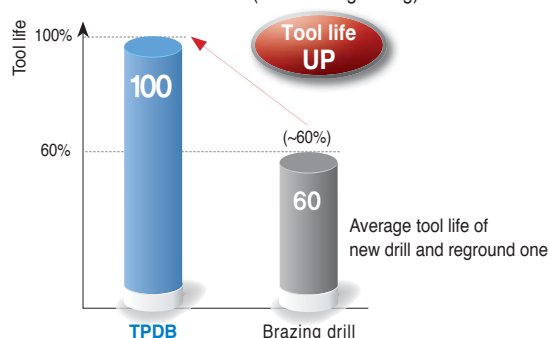
Features



Tool cost

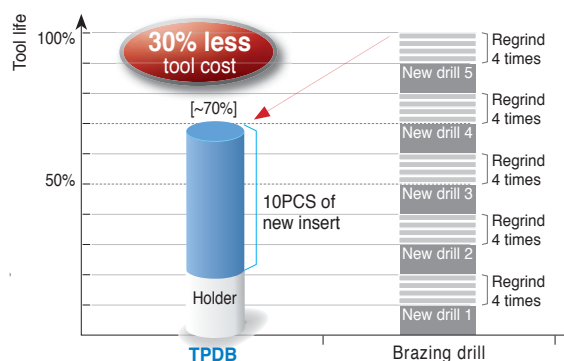
Comparison of 1 insert tool life

- Exclusive coating and substrate
- Usable till the end of wear (no need regrinding)



Comparison of tool cost when machining 1000PCS of workpiece

- 40% longer tool life
- No need regrind
- Less insert change
- 30% less tool cost

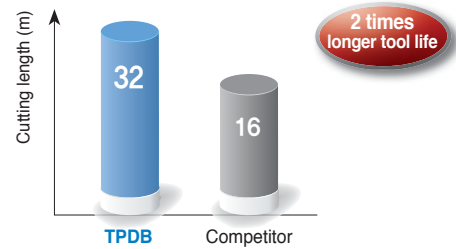


Application example

- **Use** Part of Automobile
- **Workpiece** GDC500
- **Cutting conditions** vc (m/min) = 98, f_n (mm/rev) = 0.31
 ap (mm) = 40, Inner coolant system
- **Tools** **Inserts** TPD195B (PC5300)
Holder TPDB195-25-3
- **Machine** MCT (Vertical)



Test result

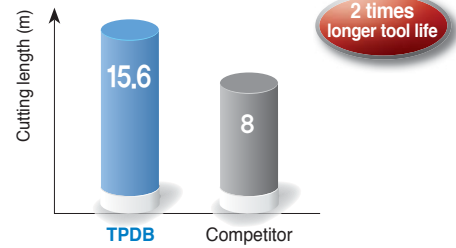


• 200% longer tool life than competitor's

- **Use** Part of Heavy Equipment
- **Workpiece** Hot Forged steel
- **Cutting conditions** vc (m/min) = 85, f_n (mm/rev) = 0.2
 ap (mm) = 20, Inner coolant system
- **Tools** **Inserts** TPD210B (PC5300)
Holder TPDB210-25-3
- **Machine** MCT (Vertical)



Test result



• 200% longer tool life than competitor's

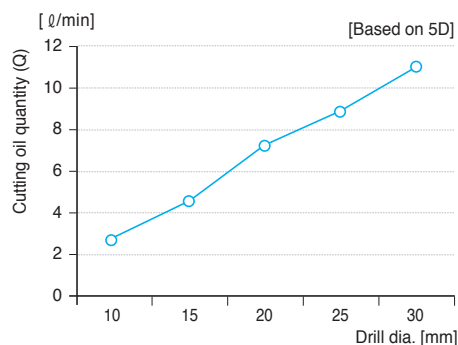
Recommended cutting condition

Workpiece				Grade	vc	Depth of cut = 3D~5D Feed rate (mm/rev) per drill dia. (mm)		
ISO	Workpiece	HB	m/min		10~15.9	16~24.9	25~32.9	
P	Carbon steel	Low carbon steel	80~120	PC5300, PC5335	110 (80~140)	0.15~0.30	0.20~0.35	0.25~0.40
		High carbon steel	180~280	PC5300, PC5335	100 (70~130)	0.15~0.30	0.20~0.35	0.25~0.40
	Alloy steel	Low alloy steel	140~260	PC5300	110 (80~140)	0.18~0.35	0.23~0.38	0.28~0.43
		Low pre-hardened steel	200~400	PC5300	75 (50~100)	0.18~0.35	0.23~0.38	0.28~0.43
		High alloy steel	260~320	PC5300	70 (50~90)	0.18~0.30	0.20~0.35	0.25~0.40
		High pre-hardened steel	300~450	PC5300	60 (40~80)	0.18~0.30	0.20~0.35	0.25~0.40
M	Stainless steel	Austenite series	135~275	PC5300	50 (30~70)	0.13~0.25	0.15~0.30	0.17~0.33
		Ferrite series Martensite series	13~275	PC5300	55 (40~70)	0.13~0.25	0.15~0.30	0.17~0.33
K	Cast iron	Gray cast iron	150~230	PC5300	110 (80~140)	0.18~0.35	0.20~0.40	0.25~0.45
		Ductile cast iron	160~260	PC5300	100 (70~130)	0.18~0.35	0.20~0.40	0.25~0.45
S	Heat resisting steel	Ni-heat resisting alloy	130~400	PC5300	40 (20~60)	0.10~0.20	0.12~0.22	0.13~0.25
		Ti-heat resisting alloy	130~400	PC5300	40 (20~60)	0.10~0.20	0.12~0.22	0.13~0.25
		High-hardened steel	Over 400	PC5300	35 (20~50)	0.10~0.20	0.12~0.22	0.13~0.25

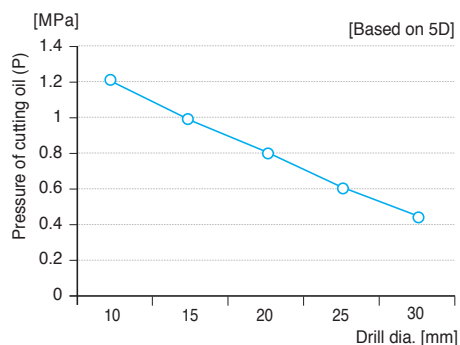
- In case of 8D, reduce the cutting conditions to 40~50% or machine the beginning of hole first.(1.5D)
- In case of interrupted machining, reduce the feed to 30~50% machining around the interrupted part

Technical information

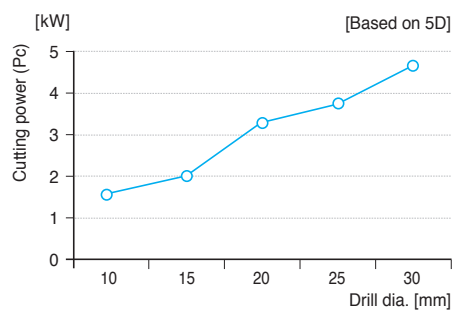
Cutting oil quantity



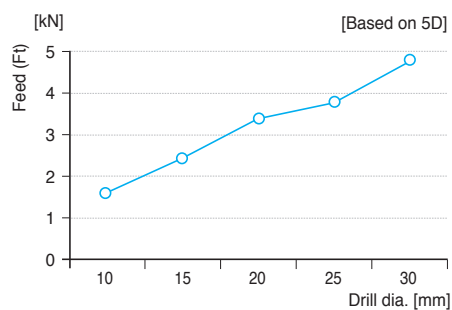
Pressure of cutting oil



Cutting power



Feed



How to clamp a TPDB insert



Clamping an insert on a holder

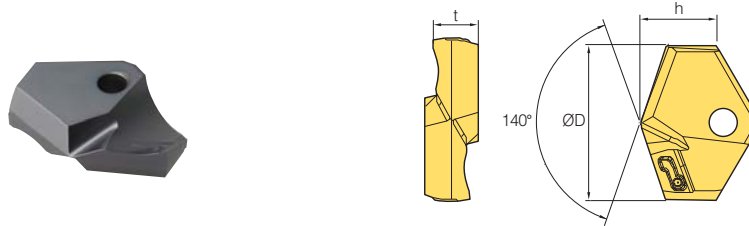
- Put an insert in the holder
- As the Fig.1, clamp the insert while pushing it to the V shaped groove of the holder
- Screw the insert



Changing an insert on the machine

- Separate the insert from the holder
- As the Fig.2, clean the insert seat
- Place the insert to the mounting seat
- As the Fig.3, clamp the insert while pushing it to the V shaped groove of the holder

TPDB Insert



(mm)

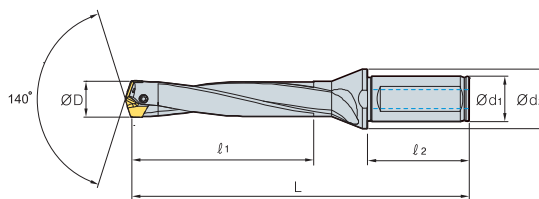
Designation	Grade	ØD	h	t
TPD	100B~109B	PC5300, PC5335	10.0~10.9	5.5
	110B~119B	PC5300, PC5335	11.0~11.9	5.8
	120B~129B	PC5300, PC5335	12.0~12.9	6.3
	130B~139B	PC5300, PC5335	13.0~13.9	6.5
	140B~149B	PC5300, PC5335	14.0~14.9	6.8
	150B~159B	PC5300, PC5335	15.0~15.9	7.0
	160B~169B	PC5300, PC5335	16.0~16.9	7.7
	170B~179B	PC5300, PC5335	17.0~17.9	7.9
	180B~189B	PC5300, PC5335	18.0~18.9	8.1
	190B~199B	PC5300, PC5335	19.0~19.9	8.3
	200B~209B	PC5300, PC5335	20.0~20.9	9.7
	210B~219B	PC5300, PC5335	21.0~21.9	9.4
	220B~229B	PC5300, PC5335	22.0~22.9	9.6
	230B~239B	PC5300, PC5335	23.0~23.9	9.8
	240B~249B	PC5300, PC5335	24.0~24.9	10.7
	250B~259B	PC5300, PC5335	25.0~25.9	10.9
	260B~269B	PC5300, PC5335	26.0~26.9	11.0
	270B~279B	PC5300, PC5335	27.0~27.9	11.8
	280B~289B	PC5300, PC5335	28.0~28.9	12.6
	290B~299B	PC5300, PC5335	29.0~29.9	12.9
	300B~309B	PC5300, PC5335	30.0~30.9	13
	310B~319B	PC5300, PC5335	31.0~31.9	13.3
	320B~329B	PC5300, PC5335	32.0~32.9	13.5

Parts

(mm)

Designation	Drill dia. (ØD)	Screw	Wrench	Torque (NM)
TPD	100B~129B	FTNB0209	TW06P	0.4
	130B~149B	FTNB02512	TW07S	0.8
	150B~179B	FTNB02514	TW07S	0.8
	180B~199B	FTNB0316	TW09S	1.2
	200B~239B	FTNB0319	TW09S	1.2
	240B~259B	FTNB03522	TW15S	3
	260B~279B	FTNB03524	TW15S	3
	280B~299B	FTNB0426	TW15S	3
	300B~329B	FTNB0528	TW20-100	4

TPDB-3D

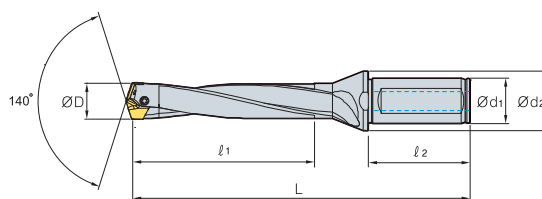


(mm)

Designation		ØD	Ød ₁	Ød ₂	ℓ ₁	ℓ ₂	L	Insert
TPDB	100-16-3	10.0~10.4	16	20	30.0	48	95	TPD100B~104B
	105-16-3	10.5~10.9	16	20	31.5	48	96	TPD105B~109B
	110-16-3	11.0~11.4	16	20	33.0	48	98	TPD110B~114B
	115-16-3	11.5~11.9	16	20	34.5	48	99	TPD115B~119B
	120-16-3	12.0~12.4	16	20	36.0	48	102	TPD120B~124B
	125-16-3	12.5~12.9	16	20	37.5	48	104	TPD125B~129B
	130-16-3	13.0~13.4	16	20	39.0	48	107	TPD130B~134B
	135-16-3	13.5~13.9	16	20	40.5	48	109	TPD135B~139B
	140-16-3	14.0~14.4	16	20	42.0	48	111	TPD140B~144B
	145-16-3	14.5~14.9	16	20	43.5	48	114	TPD145B~149B
	150-20-3	15.0~15.4	20	25	45.0	50	118	TPD150B~154B
	155-20-3	15.5~15.9	20	25	46.5	50	120	TPD155B~159B
	160-20-3	16.0~16.4	20	25	48.0	50	122	TPD160B~164B
	165-20-3	16.5~16.9	20	25	49.5	50	124	TPD165B~169B
	170-20-3	17.0~17.4	20	25	51.0	50	127	TPD170B~174B
	175-20-3	17.5~17.9	20	25	52.5	50	129	TPD175B~179B
	180-25-3	18.0~18.4	25	33	54.0	56	137	TPD180B~184B
	185-25-3	18.5~18.9	25	33	55.5	56	139	TPD185B~189B
	190-25-3	19.0~19.4	25	33	57.0	56	142	TPD190B~194B
	195-25-3	19.5~19.9	25	33	58.5	56	144	TPD195B~199B
	200-25-3	20.0~20.4	25	33	60.0	56	146	TPD200B~204B
	205-25-3	20.5~20.9	25	33	61.5	56	148	TPD205B~209B
	210-25-3	21.0~21.4	25	33	63.0	60	151	TPD210B~214B
	215-25-3	21.5~21.9	25	33	64.5	60	153	TPD215B~219B
	220-25-3	22.0~22.4	25	33	66.0	60	155	TPD220B~224B
	225-25-3	22.5~22.9	25	33	67.5	60	157	TPD225B~229B
	230-25-3	23.0~23.4	25	33	69.0	60	160	TPD230B~234B
	235-25-3	23.5~23.9	25	33	70.5	60	162	TPD235B~239B
	240-32-3	24.0~24.4	32	43	72.0	60	168	TPD240B~244B
	245-32-3	24.5~24.9	32	43	73.5	60	170	TPD245B~249B
	250-32-3	25.0~25.4	32	43	75.0	60	173	TPD250B~254B
	255-32-3	25.5~25.9	32	43	76.5	60	175	TPD255B~259B
260-32-3	26.0~26.9	32	43	78.0	60	177	TPD260B~269B	
270-32-3	27.0~27.9	32	43	81.0	60	182	TPD270B~279B	
280-32-3	28.0~28.9	32	43	84.0	60	186	TPD280B~289B	
290-32-3	29.0~29.9	32	43	87.0	60	191	TPD290B~299B	
300-32-3	30.0~30.9	32	43	90.0	60	194	TPD300B~309B	
310-32-3	31.0~31.9	32	43	93.0	60	199	TPD310B~319B	
320-32-3	32.0~32.9	32	43	96.0	60	201	TPD320B~329B	

↻ Applicable inserts **G35**



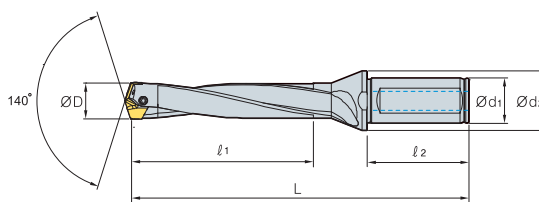
TPDB-5D

(mm)

Designation		ØD	Ød ₁	Ød ₂	ℓ ₁	ℓ ₂	L	Insert
TPDB	100-16-5	10.0~10.4	16	20	50.0	48	115	TPD100B~104B
	105-16-5	10.5~10.9	16	20	52.5	48	117	TPD105B~109B
	110-16-5	11.0~11.4	16	20	55.0	48	120	TPD110B~114B
	115-16-5	11.5~11.9	16	20	57.5	48	123	TPD115B~119B
	120-16-5	12.0~12.4	16	20	60.0	48	126	TPD120B~124B
	125-16-5	12.5~12.9	16	20	62.5	48	129	TPD125B~129B
	130-16-5	13.0~13.4	16	20	65.0	48	133	TPD130B~134B
	135-16-5	13.5~13.9	16	20	67.5	48	136	TPD135B~139B
	140-16-5	14.0~14.4	16	20	70.0	48	139	TPD140B~144B
	145-16-5	14.5~14.9	16	20	72.5	48	143	TPD145B~149B
	150-20-5	15.0~15.4	20	25	75.0	50	148	TPD150B~154B
	155-20-5	15.5~15.9	20	25	77.5	50	151	TPD155B~159B
	160-20-5	16.0~16.4	20	25	80.0	50	154	TPD160B~164B
	165-20-5	16.5~16.9	20	25	82.5	50	157	TPD165B~169B
	170-20-5	17.0~17.4	20	25	85.0	50	161	TPD170B~174B
	175-20-5	17.5~17.9	20	25	87.5	50	164	TPD175B~179B
	180-25-5	18.0~18.4	25	33	90.0	56	173	TPD180B~184B
	185-25-5	18.5~18.9	25	33	92.5	56	176	TPD185B~189B
	190-25-5	19.0~19.4	25	33	95.0	56	180	TPD190B~194B
	195-25-5	19.5~19.9	25	33	97.5	56	183	TPD195B~199B
	200-25-5	20.0~20.4	25	33	100.0	56	186	TPD200B~204B
	205-25-5	20.5~20.9	25	33	102.5	56	189	TPD205B~209B
	210-25-5	21.0~21.4	25	33	105.0	60	193	TPD210B~214B
	215-25-5	21.5~21.9	25	33	107.5	60	196	TPD215B~219B
	220-25-5	22.0~22.4	25	33	110.0	60	199	TPD220B~224B
	225-25-5	22.5~22.9	25	33	112.5	60	202	TPD225B~229B
	230-25-5	23.0~23.4	25	33	115.0	60	206	TPD230B~234B
	235-25-5	23.5~23.9	25	33	117.5	60	209	TPD235B~239B
	240-32-5	24.0~24.4	32	43	120.0	60	216	TPD240B~244B
	245-32-5	24.5~24.9	32	43	122.5	60	219	TPD245B~249B
	250-32-5	25.0~25.4	32	43	125.0	60	223	TPD250B~254B
	255-32-5	25.5~25.9	32	43	127.5	60	226	TPD255B~259B
260-32-5	26.0~26.9	32	43	130.0	60	229	TPD260B~269B	
270-32-5	27.0~27.9	32	43	135.0	60	236	TPD270B~279B	
280-32-5	28.0~28.9	32	43	140.0	60	242	TPD280B~289B	
290-32-5	29.0~29.9	32	43	145.0	60	249	TPD290B~299B	
300-32-5	30.0~30.9	32	43	150.0	60	254	TPD300B~309B	
310-32-5	31.0~31.9	32	43	155.0	60	261	TPD310B~319B	
320-32-5	32.0~32.9	32	43	160.0	60	265	TPD320B~329B	

 Applicable inserts **G35**

TPDB-8D



(mm)

Designation		ØD	Ød ₁	Ød ₂	l ₁	l ₂	L	Insert
TPDB	100-16-8	10.0~10.4	16	20	80	48	145.0	TPD100B~104B
	105-16-8	10.5~10.9	16	20	84	48	149.0	TPD105B~109B
	110-16-8	11.0~11.4	16	20	88	48	153.0	TPD110B~114B
	115-16-8	11.5~11.9	16	20	92	48	157.0	TPD115B~119B
	120-16-8	12.0~12.4	16	20	96	48	162.0	TPD120B~124B
	125-16-8	12.5~12.9	16	20	100	48	166.5	TPD125B~129B
	130-16-8	13.0~13.4	16	20	104	48	172.0	TPD130B~134B
	135-16-8	13.5~13.9	16	20	108	48	176.5	TPD135B~139B
	140-16-8	14.0~14.4	16	20	112	48	181.0	TPD140B~144B
	145-16-8	14.5~14.9	16	20	116	48	186.5	TPD145B~149B
	150-20-8	15.0~15.4	20	25	120	50	193.0	TPD150B~154B
	155-20-8	15.5~15.9	20	25	124	50	197.5	TPD155B~159B
	160-20-8	16.0~16.4	20	25	128	50	202.0	TPD160B~164B
	165-20-8	16.5~16.9	20	25	132	50	206.5	TPD165B~169B
	170-20-8	17.0~17.4	20	25	136	50	212.0	TPD170B~174B
	175-20-8	17.5~17.9	20	25	140	50	216.5	TPD175B~179B
	180-25-8	18.0~18.4	25	33	144	56	227.0	TPD180B~184B
	185-25-8	18.5~18.9	25	33	148	56	231.5	TPD185B~189B
	190-25-8	19.0~19.4	25	33	152	56	237.0	TPD190B~194B
	195-25-8	19.5~19.9	25	33	156	56	241.5	TPD195B~199B
	200-25-8	20.0~20.4	25	33	160	56	246.0	TPD200B~204B
	205-25-8	20.5~20.9	25	33	164	56	250.5	TPD205B~209B
	210-25-8	21.0~21.4	25	33	168	60	256.0	TPD210B~214B
	215-25-8	21.5~21.9	25	33	172	60	260.5	TPD215B~219B
	220-25-8	22.0~22.4	25	33	176	60	265.0	TPD220B~224B
	225-25-8	22.5~22.9	25	33	180	60	269.5	TPD225B~229B
	230-25-8	23.0~23.4	25	33	184	60	275.0	TPD230B~234B
	235-25-8	23.5~23.9	25	33	188	60	279.5	TPD235B~239B
	240-32-8	24.0~24.4	32	43	192	60	288.0	TPD240B~244B
	245-32-8	24.5~24.9	32	43	196	60	292.5	TPD245B~249B
	250-32-8	25.0~25.4	32	43	200	60	298.0	TPD250B~254B
	255-32-8	25.5~25.9	32	43	204	60	302.5	TPD255B~259B
	260-32-8	26.0~26.9	32	43	208	60	307.0	TPD260B~269B
	270-32-8	27.0~27.9	32	43	216	60	317.0	TPD270B~279B
	280-32-8	28.0~28.9	32	43	224	60	326.0	TPD280B~289B
	290-32-8	29.0~29.9	32	43	232	60	336.0	TPD290B~299B
	300-32-8	30.0~30.9	32	43	240	60	344.0	TPD300B~309B
	310-32-8	31.0~31.9	32	43	248	60	354.0	TPD310B~319B
	320-32-8	32.0~32.9	32	43	256	60	361.0	TPD320B~329B

↻ Applicable inserts **G35**



Convenient and quickly adjustable drill height

WPDC

Indexable Drill Clamped with Center Drill

Code system for drill

WPDC	410	40	8
Type	Drill dia.	Shank dia.	Aspect ratio
WPDC: Using W-type I/S center drill NPDC: Using N-type I/S center drill	410: Ø41.0 6570: Ø65~70	32: Ø32 40: Ø40	5: 5D 6.5: 6.5D 8: 8D

Code system for cartridge

CWP	4145	C
Type	Drill dia.	Classification
CWP: Cartridge-WPDC	4145: Ø41~45 450: Ø45.0	C: Central P: Peripheral

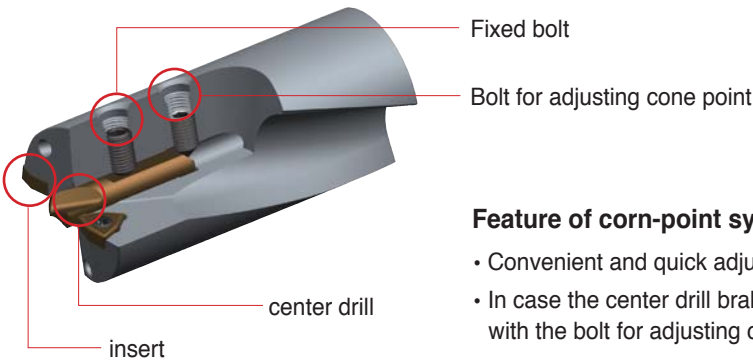
Code system for center drill

CD	H	1035
Type	Coolant	Diameter × length of tool
Center Drill	H: Coolant Unmarked: None	0630: Ø6X30 0835: Ø8X35 1035: Ø10X35 1238: Ø12X38 1645: Ø16X45

Grade of center drill

PC	40H
Product name	Coating layer
PVD coating	40H: TiN coating

How to clamp the drills



- Feature of corn-point system**
- Convenient and quick adjustable heights when inserting the center drill
 - In case the center drill brakes while in usage, it can be replaced with the bolt for adjusting cone point
 - The bolt for adjusting cone point prevents chattering on the center drill

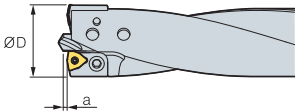
Clamping

1	2	3	4	5
				
Place a center drill	Clamp insert and cartridge	Adjust the center drill with the bolt for adjusting cone point	Clamp the center drill firmly with fixing bolt	Reassure the clamp with bolt for adjusting cone point

- ※ Use safety covers for your safety when clamping the center drill and insert
- ※ When machining, be careful of the drill disk

Length of the ‘a’ part of center drill

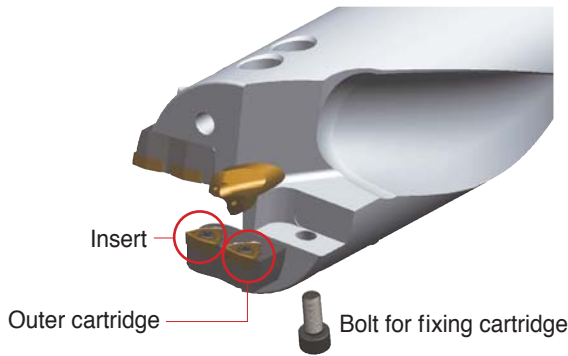
The length of ‘a’ being too short can cause bad surface finish or high cutting load
On the other hand, the length of ‘a’ being too long can make tool failure and chattering while drilling



Diameter (ØD)	Length of the ‘a’ part of center drill		
	Steel	Alloy steel	Non-ferrous metal
25~30	1.2	1.0	1.5
31~40	1.5	1.3	1.8
41~50	1.8	1.5	2.2
51~59	2.2	1.8	2.5
60~75	2.5	2.0	2.8
76~80	3.0	2.5	3.5

Adjusting diameter of cartridge type drill

- Disassemble a cartridge from the holder by loosening the bolt fixed for outer cartridge
- Machine after calculating the hole size on the side of the outer cartridge
- Trim the sharp part after machining
- Clamp the bolt for fixing cartridge without any gap in between the holder and the machined outer cartridge



• Range of adjustable drill diameter

1. Single cartridge type (Drill diameter $\varnothing 41 \sim \varnothing 59$) $\rightarrow -1.0$ mm
2. Dual cartridge type (Drill diameter $\varnothing 60 \sim \varnothing 80$) $\rightarrow -5.0$ mm

• Diameter of the standard drills is provided with maximum size of standards

Ex) WPDC6570-40-6.5 $\rightarrow$ Drill diameter 70.0 mm

Ex) How to adjust drill diameter to $\varnothing 66.0$ machining with WPDC6570-40-8

$\rightarrow$ To make the drill diameter of outer cartridge to $\varnothing 66.0$, machine 2.0 mm. ($\varnothing 70.0 - \varnothing 66.0 = 4 \rightarrow 4 \div 2 = 2$ (radius))

Recommended cutting condition

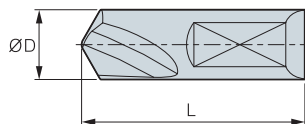
Workpiece			Chip breaker	Grade	vc	Depth of cut = 5D, 6.5D, 8D Feed rate (mm/rev) per drill dia. (mm)						
ISO	Workpiece	HB				m/min	~Ø30	Ø31~Ø40	Ø41~Ø50	Ø51~Ø59	Ø60~Ø75	Ø76~Ø80
P	Carbon steel	Low carbon steel (~0.25%)	80~180	C21N	PC5335	190 (160~220)	0.07~0.11	0.08~0.12	0.10~0.14	0.12~0.16	0.12~0.16	0.12~0.16
		High carbon steel (0.25%~)	180~280	C21N	PC5335	140 (110~170)	0.07~0.11	0.08~0.12	0.10~0.14	0.12~0.16	0.12~0.16	0.12~0.16
	Alloy steel	Low alloy steel	140~260	C21N	PC5335	130 (100~160)	0.08~0.12	0.08~0.12	0.10~0.14	0.12~0.18	0.12~0.18	0.12~0.18
		High alloy steel	50~260	C21N	PC5335	100 (70~130)	0.06~0.10	0.08~0.12	0.08~0.12	0.10~0.16	0.10~0.16	0.10~0.16
M	Stainless steel	Stainless steel	135~275	C21N	PC5335	100 (70~130)	0.06~0.10	0.08~0.12	0.10~0.12	0.12~0.14	0.12~0.14	0.12~0.14
K	Cast iron	Gray cast iron	150~220	C21N	PC5335	160 (130~190)	0.09~0.15	0.10~0.16	0.12~0.2	0.14~0.22	0.14~0.22	0.14~0.22
		Ductile cast iron	200~300	C21N	PC5335	140 (170~110)	0.09~0.15	0.10~0.16	0.12~0.2	0.14~0.22	0.14~0.22	0.14~0.22
		Malleable cast iron	130~230	C21N	PC5335	150 (180~120)	0.09~0.15	0.10~0.16	0.12~0.2	0.14~0.22	0.14~0.22	0.14~0.22
N	Alloyed aluminum	Alloyed aluminum	30~150	C21N	PC5335	300 (250~350)	0.08~0.12	0.10~0.14	0.12~0.16	0.14~0.18	0.14~0.18	0.14~0.18
	Alloyed copper	Alloyed copper	150~160	C21N	PC5335	250 (200~300)	0.08~0.12	0.10~0.14	0.12~0.16	0.14~0.18	0.14~0.18	0.14~0.18
S	Heat resistant alloy	Heat resistant alloy	130~400	C21N	PC5335	50 (70~30)	0.05~0.08	0.05~0.08	0.06~0.10	0.06~0.10	0.06~0.10	0.06~0.10

Parts of WPDC type indexable drills

Designation	ØD	Insert			Center drill			Cartridge		
		Insert						Inner	Outer	Fixed bolt
WPDC250-32-□	25	WC□T030204-C21N	FTKA02206	TW06S	CD0630	KHA0508	KHC0510			
WPDC260~280-32-□	26~28	WC□T040204-C21N	FTNA02555	TW07S		KHA0510				
WPDC290~300-32-□	29~30					WC□T050308-C21N	FTKA0307			
WPDC310~350-32-□	31~35				KHA0612					
WPDC360~400-32-□	36~40									
WPDC410-40-□	41	WC□T06T308-C21N	FTKA03508	TW15S	CDH1035	KHA0812	KHC0812	CWP4145C	CWP410P	BHA0510
WPDC420-40-□	42								CWP420P	
WPDC430-40-□	43								CWP430P	
WPDC440-40-□	44								CWP440P	
WPDC450-40-□	45								CWP450P	
WPDC460-40-□	46					KHA0815		CWP4650C	CWP460P	BHA0512
WPDC470-40-□	47								CWP470P	
WPDC480-40-□	48								CWP480P	
WPDC490-40-□	49								CWP490P	
WPDC500-40-□	50								CWP500P	
WPDC510-40-□	51	WC□T080408-C21N	FTKA0411K	TW15S	CDH1238	KHA1015	KHC1016	CWP5155C	CWP510P	BHA0612
WPDC520-40-□	52								CWP520P	
WPDC530-40-□	53								CWP530P	
WPDC540-40-□	54								CWP540P	
WPDC550-40-□	55								CWP550P	
WPDC560-40-□	56							CWP5659C	CWP560P	BHA0614
WPDC570-40-□	57								CWP570P	
WPDC580-40-□	58								CWP580P	
WPDC590-40-□	59								CWP590P	
WPDC6065-40-□	60~65					WC□T050308-C21N	FTKA0307	TW09S	CDH1645	KHA1020
WPDC6570-40-□	65~70	CWP6570C	CWP6570P							
WPDC7075-40-□	70~75	CWP7075C	CWP7075P							
WPDC7580-40-□	75~80	WC□T06T308-C21N	FTKA03508	TW15S			CWP7580C	CWP7580T		

Applicable inserts G04~05

Center Drill



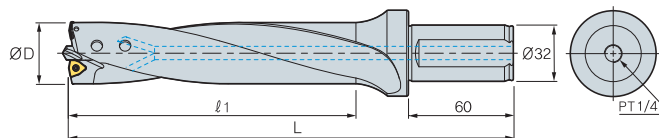
(mm)

Designation	Grade	ØD	L	Oil-hole
CD0630	PC40H	6	30	×
CD0835	PC40H	8	35	×
CDH1035	PC40H	10	35	○
CDH1238	PC40H	12	38	○
CDH1645	PC40H	16	45	○

• This is HSS with Tin coating

WPDC-5D/6.5D/8D

Standard type



(mm)

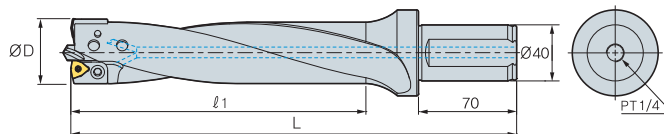
Designation	ØD	5D		6.5D		8D		Insert	Center drill	
		ℓ ₁	L	ℓ ₁	L	ℓ ₁	L			
WPDC	250-32-□	25	150	240	185	275	220	310	WC□T030204-C21N	CD0630
	260-32-□	26	150	240	185	275	220	310	WC□T040204-C21N	
	270-32-□	27	150	240	185	275	220	310		
	280-32-□	28	150	240	185	275	220	310		
	290-32-□	29	150	240	185	275	220	310		
	300-32-□	30	150	240	185	275	220	310		
	310-32-□	31	175	265	218	308	260	350	WC□T050308-C21N	CD0835
	320-32-□	32	175	265	218	308	260	350		
	330-32-□	33	175	265	218	308	260	350		
	340-32-□	34	175	265	218	308	260	350		
	350-32-□	35	175	265	218	308	260	350		
	360-32-□	36	200	290	250	340	300	390		
	370-32-□	37	200	290	250	340	300	390		
	380-32-□	38	200	290	250	340	300	390		
	390-32-□	39	200	290	250	340	300	390		
	400-32-□	40	200	290	250	340	300	390		

Applicable inserts **G04-05**

* We can provide if you order exact diameter
Ex) machining hole 32.5mm • 6.5D → WPDC325-32-6.5

WPDC-5D/6.5D/8D

Single insert cartridge type



(mm)

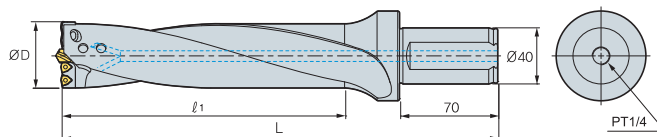
Designation	ØD	5D		6.5D		8D		Insert	Center drill	Cartridge	
		l ₁	L	l ₁	L	l ₁	L			Inner	Outer
WPDC	410-40-□	41	225	330	283	388	340	445	WC□T06T308-C21N	CDH1035	CWP410P
	420-40-□	42	225	330	283	388	340	445			CWP420P
	430-40-□	43	225	330	283	388	340	445			CWP430P
	440-40-□	44	225	330	283	388	340	445			CWP440P
	450-40-□	45	225	330	283	388	340	445			CWP450P
	460-40-□	46	250	355	315	420	380	485			CWP460P
	470-40-□	47	250	355	315	420	380	485			CWP470P
	480-40-□	48	250	355	315	420	380	485			CWP480P
	490-40-□	49	250	355	315	420	380	485			CWP490P
	500-40-□	50	250	355	315	420	380	485			CWP500P
	510-40-□	51	275	380	348	453	420	525	WC□T080408-C21N	CDH1238	CWP510P
	520-40-□	52	275	380	348	453	420	525			CWP520P
	530-40-□	53	275	380	348	453	420	525			CWP530P
	540-40-□	54	275	380	348	453	420	525			CWP540P
	550-40-□	55	275	380	348	453	420	525			CWP550P
	560-40-□	56	300	405	380	485	460	565			CWP560P
	570-40-□	57	300	405	380	485	460	565			CWP570P
	580-40-□	58	300	405	380	485	460	565			CWP580P
	590-40-□	59	300	405	380	485	460	565			CWP590P

Applicable inserts G04~05

* We can provide if you order exact diameter
Ex) machining hole 47.5mm * 5D -> WPDC475-40-5

WPDC-5D/6.5D/8D

Dual insert cartridge type



(mm)

Designation		ØD	5D		6.5D		8D		Insert	Center drill	Cartridge	
			ℓ ₁	L	ℓ ₁	L	ℓ ₁	L			Inner	Outer
WPDC	6065-40-□	60~65	325	430	423	528	520	625	WC□T050308-C21N	CDH1238	CWP6065C	CWP6065P
	6570-40-□	65~70	350	455	455	560	560	665			CWP6570C	CWP6570P
	7075-40-□	70~75	375	480	488	593	600	705			CWP7075C	CWP7075P
	7580-40-□	75~80	400	505	520	625	640	745	WC□T06T308-C21N	CDH1645	CWP7580C	CWP7580P

Applicable inserts G06

* We can provide if you order exact diameter
Ex) machining hole 70.5mm * 6.5D -> WPDC705-40-6.5