



DRILL

Solid Drills

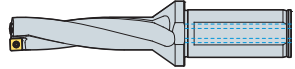
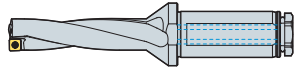

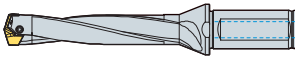
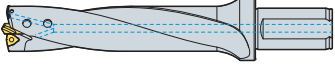

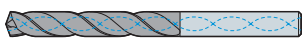


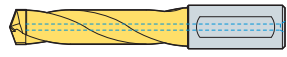
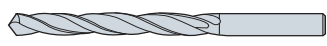
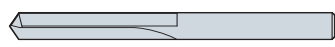

- G40** Technical Information for Mach Drill
- G44** Mach Drill
- G52** Technical Information for Mach long Drill
- G54** Mach long Drill
- G56** Technical Information for Vulcan Drill
- G57** Vulcan Drill
- G59** Technical Information for Carbide Drill
- G60** Carbide Drill



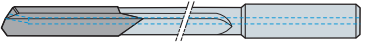
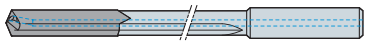





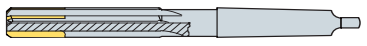



Solid Drills

- G62** Burnishing Drill
- G63** Top solid Drill
- G64** PCD Drill
- G66** Technical Information for Gun Drill
- G69** Gun Drill

Reamer


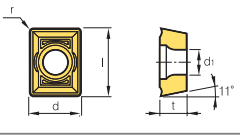

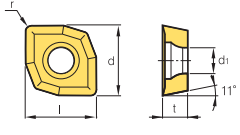

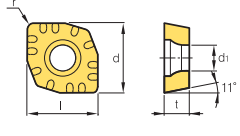

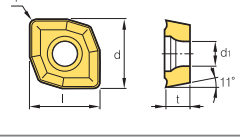

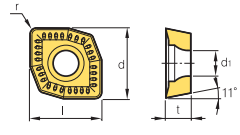

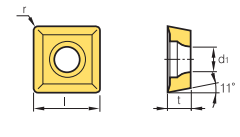

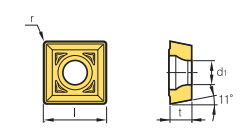

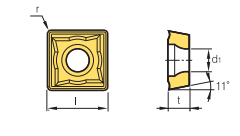

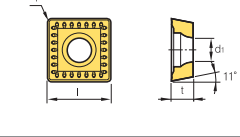

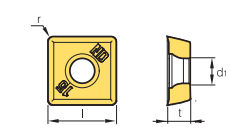
- G71** Technical Information for Indexable Reamer
- G74** Available Insert for Indexable Reamer
- G75** Indexable Reamer
- G77** Chucking / Machine Reamer
- G80** PCD Reamer
- G81** Cermet Reamer
- G82** Broach Reamer

Type	Designation	Shape	Drills Dia.	Aspect ratio	Page	
Indexable Drills	KING-DRILL <i>New</i> K□D	 Available Insert : SP T, XO T	Ø12.0~Ø60.5	2D~5D	G11 ~ G19	
	KING-DRILL HP <i>New</i> K□D..HP	 Available Insert : SP T, XO T	Ø12.0~Ø60.5	2D~5D	G22 ~ G24	
	KING-DRILL <i>New</i> (for large diameter drilling) K□D	 Available Insert : SP T, XO T	Ø61.0~Ø100.0	2D~4D	G26	
	TPDB <i>New</i> TPDB	 Available Insert : TPD B	Ø10.0~Ø32.9	3D~8D	G31 ~ G33	
	Indexable Drills & Drill with center WPDC	 Available Insert : WC T	Ø25.0~Ø80.0	5D~8D	G38 ~ G39	
Solid Drills	Mach Drill	MSD		Ø2.5~Ø20.0	3D~7D	G44 ~ G47
		MSDH		Ø2.5~Ø20.0	3D~7D	G48 ~ G51
	Mach long Drill	MLDP		Ø2.5~Ø20.0	-	G54
		MLD		Ø2.5~Ø20.0	7D~25D	G54
	Vulcan Drill	VZD		Ø12.6~Ø40.5	2.5D, 5D	G57 ~ G58
	Carbide Drill	SSD		Ø1.0~Ø15.0	-	G60 ~ G61
	Burnishing Drill	BDS		Ø4.0~Ø16.0	5D~7D	G62
		BDT		Ø4.2~Ø10.3	2D~4D	G62


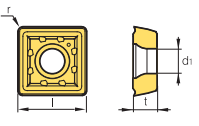

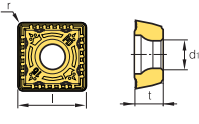

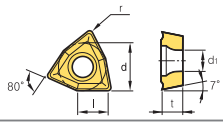

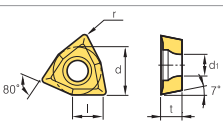

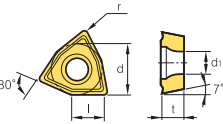

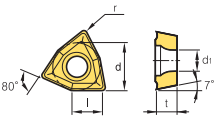

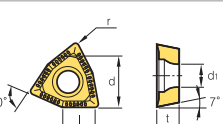

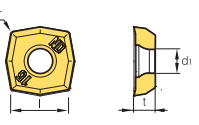

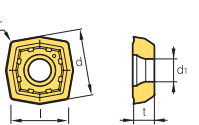

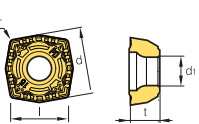
Type	Designation		Shape	Drills Dia.	Aspect ratio	Page
Solid Drills	Top solid Drill	TSDM		Ø8.0~Ø25.0	5D~8D	G63
	PCD Drill	PDD		Ø5.0~Ø12.0	5D	G64
	Gun Drill	KGDS		Ø2.0~Ø33.0	50D~100D	G69
		KGDT		Ø6.0~Ø26.5	50D~100D	G70
Reamer	Indexable Reamer	IRT	 Available Insert : RI	Ø10.0~Ø31.0	3D~5D	G75
		IRB	 Available Insert : RI	Ø10.0~Ø31.0	3D~5D	G76
	Chucking / Machine Reamer	SCRS		Ø5.0~Ø20.0	2D~3D	G78
		SCRH		Ø5.0~Ø20.0	2D~3D	G78
		TCRS		Ø7.0~Ø30.0	2D~3D	G79
		TMRS		Ø7.0~Ø30.0	3D~5D	G79
	PCD Reamer	PDR		Ø5.0~Ø20.0	3D~5D	G80
	Cermet Reamer ^{News}	KCR		Ø6.0~Ø30.0	3D~7D	G81
	Broach Reamer ^{News}	HBRE		Ø3.0~Ø25.0	3D~7D	G82



Available Insert

Picture	Designation	Coated										Uncoated		Dimensions (mm)					Geometry	
		NC3120	NC3220	NC3030	NC5330	PC5300	PC3535	PC3500	NCM325	PC9530	NCM335	PC6510	H01	G10	l	d	t	r		d _i
	040203-DF														6.2	4.7	2.4	0.3	2.3	
	222408-DA														8.3	8.2	2.5	0.8	2.8	
	252808-DA														9.3	9.2	3.3	0.8	3.4	
	293208-DA														10.3	10.2	3.3	0.8	3.4	
	334008-DA														13	12.9	3.97	0.8	4.0	
	415008-DA														15.3	15.2	4.76	0.8	4.5	
	516012-DA														18.3	18.2	5.18	1.2	5.5	
	222408-DR														8.3	8.2	2.5	0.8	2.8	
	252808-DR														9.3	9.2	3.3	0.8	3.4	
	293208-DR														10.3	10.2	3.3	0.8	3.4	
	334008-DR														13	12.9	3.97	0.8	4.0	
	415008-DR														15.3	15.2	4.76	0.8	4.5	
	516012-DR														18.3	18.2	5.18	1.2	5.5	
	222408-DM														8.3	8.2	2.5	0.8	2.8	
	252808-DM														9.3	9.2	3.3	0.8	3.4	
	293208-DM														10.3	10.2	3.3	0.8	3.4	
	334008-DM														13	12.9	3.97	0.8	4.0	
	415008-DM														15.3	15.2	4.76	0.8	4.5	
	516012-DM														18.3	18.2	5.18	1.2	5.5	
	222408-DS														8.3	8.2	2.5	0.8	2.8	
	252808-DS														9.3	9.2	3.3	0.8	3.4	
	293208-DS														10.3	10.2	3.3	0.8	3.4	
	334008-DS														13	12.9	3.97	0.8	4.0	
	415008-DS														15.3	15.2	4.76	0.8	4.5	
	516012-DS														18.3	18.2	5.18	1.2	5.5	
	050203-DA														5.3	-	2.4	0.3	2.3	
	060204-DA														6.2	-	2.5	0.4	2.5	
	070204-DA														7.2	-	2.5	0.4	2.8	
	050203-DF														5.3	-	2.4	0.3	2.3	
	060204-DF														6.2	-	2.5	0.4	2.5	
	070204-DF														7.2	-	2.5	0.4	2.8	
	050203-DM														5.3	-	2.4	0.3	2.3	
	060204-DM														6.2	-	2.5	0.4	2.5	
	070204-DM														7.2	-	2.5	0.4	2.8	
	050203-DS														5.3	-	2.4	0.3	2.3	
	060204-DS														6.2	-	2.5	0.4	2.5	
	070204-DS														7.2	-	2.5	0.4	2.8	
	040204-ND														4.7	-	2.4	0.4	2.3	
	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	

Available Insert

Picture	Designation	Coated										Uncoated		Dimensions (mm)					Geometry	
		NC3120	NC3220	NC3030	NC5330	PC5300	PC3530	PC3535	PC3500	NCM325	PC9530	NCM335	PC6510	H01	G10	l	d	t		r
	060205-LD														6.2	-	2.5	0.5	2.5	
	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	
	040204-PD														4.7	-	2.4	0.4	2.3	
	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		
	030204-C21														3.8	5.56	2.38	0.4	2.5	
	040204-C21														4.3	6.35	2.38	0.4	2.8	
	050308-C21														5.4	7.94	3.18	0.8	3.4	
	06T308-C21														6.5	9.525	3.97	0.8	4.4	
	080408-C21														8.7	12.7	4.76	0.8	5.5	
	030208-DA														3.8	5.56	2.38	0.8	2.8	
	040208-DA														4.3	6.35	2.38	0.8	3.0	
	050308-DA														5.4	7.94	3.18	0.8	3.4	
	06T308-DA														6.5	9.525	3.97	0.8	4.0	
	080408-DA														8.7	12.7	4.76	0.8	4.3	
	030208-C20														3.8	5.56	2.38	0.8	2.8	
	040208-C20														4.3	6.35	2.38	0.8	3.0	
	050308-C20														5.4	7.94	3.18	0.8	3.4	
	06T308-C20														6.5	9.525	3.97	0.8	4.0	
	080408-C20														8.7	12.7	4.76	0.8	4.3	
	080412-C20														8.7	12.7	4.76	1.2	4.3	
	030204-C21														3.8	5.56	2.38	0.4	2.5	
	040204-C21														4.3	6.35	2.38	0.4	2.8	
	040208-C21														4.3	6.35	2.38	0.8	2.8	
	050308-C21														5.4	7.94	3.18	0.8	3.4	
	06T308-C21														6.5	9.525	3.97	0.8	4.4	
	080408-C21														8.7	12.7	4.76	0.8	5.5	
	030204-DSP														3.8	5.56	2.38	0.4	2.5	
	040204-DSP														4.3	6.35	2.38	0.4	2.8	
	050308-DS														5.4	7.94	3.18	0.8	3.4	
	06T308-DS														6.5	9.525	3.97	0.8	4.0	
	080408-DS														8.7	12.7	4.76	0.8	4.3	
	080412-DS														8.7	12.7	4.76	1.2	4.3	
	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	
	180508-ND														16.5	18.9	5.5	0.8	6.0	
	060204-LD														5.8	6.6	2.5	0.4	2.5	
	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	
	040204-PD														4.3	4.9	2.4	0.4	2.3	
	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	

: Stock item

Optimized insert design for maximum drilling efficiency

KING DRILL *New*

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, Weldone F1 : Flange Shank, Whistle Notch F2 : Flange Shank, Without Side Lock S : Straight Shank, Weldone 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 of Insert

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.

Chip breaker	PD		LD	
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)	
Insert	Peripheral insert	Central insert	Peripheral insert	Central insert
Shape				
Grades for workpiece	PC3500 : P PC5300 : P, M, K, S PC6510 : K	PC5300 : P, M, K, S	PC5335 : P, M	PC5335 : P, M

3 Coolant hole system

The center coolant hole system helps prevent wear on the chip pocket of the central insert and improves chip control

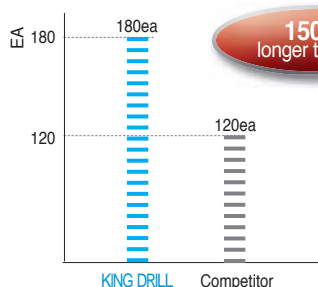


The optimized shape of the flute increases the rigidity of the drill body and improves chip evacuation

Application examples

longer tool life

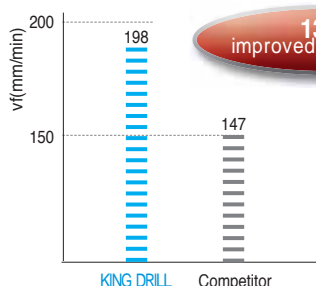
- **Workpiece** : Track link bush
- **Cutting condition** : $vc(m/min)=120$, $fn(mm/rev)=0.1$
Through coolant system
- **Tools : Applicable inserts** SPMT07T208-PD(PC3500)
XOMT07T205-PD(PC5300)
- **Holder** K5D20025-07
- **Machine** : drilling machine



- Superior surface finish and chip evacuation.
- KING DRILL: 180ea, Competitor:120ea
- 150% longer tool life.

Example of improved product

- **Workpiece** : Track link bush
- **Cutting condition** : Competitor's $vc(m/min)=125$ $fn(mm/rev)=0.1$
Korloy's $vc(m/min)=140$ $fn(mm/rev)=0.12$
- **Tools : Applicable inserts** SPMT090308-PD(PC3500)
XOMT090305-PD(PC5300)
- **Holder** K3D27032-09
- **Machine** : MCT



- KING DRILL : 95 Holes,
Competitor : 70 Holes,
135% longer tool life.
- U135% improved productivity.

Recommended cutting condition

Workpiece			Grade	vc	Feed(aspect ratio=2D, 3D, 4D)						
ISO	Workpiece	Hardness(HB)			Feed (mm/rev) depending on drill Dia.(mm)						
				m/min	12~16	17~23	24~29	30~42	43~60		
P	Carbon steel	Low carbon steel	80~180	LD	Central Peripheral PC5335	150(60~180)	0.04~0.08	0.04~0.08	0.04~0.08	0.04~0.08	0.04~0.08
				PD	Central insert Peripheral insert PC3500	190(130~250)					
		High carbon	180~280	PD	Central insert Peripheral insert PC5300 PC3500	140(80~200)	0.04~0.10	0.04~0.12	0.05~0.16	0.08~0.18	0.10~0.22
	Alloy steel	Low alloy steel	140~260	LD	Central Peripheral PC5335	150(60~180)	0.04~0.10	0.04~0.10	0.04~0.12	0.04~0.14	0.04~0.14
				PD	Central insert Peripheral insert PC5300 PC3500	150(90~200)	0.06~0.12	0.06~0.12	0.06~0.14	0.06~0.16	0.06~0.16
Low pre-hardened		200~400	PD	Central insert Peripheral insert PC5300 PC5300	100(50~150)	0.04~0.10	0.06~0.12	0.08~0.16	0.08~0.18	0.08~0.22	
	Low alloy steel	50~260	PD	Central insert Peripheral insert PC5300 PC3500	100(50~160)	0.04~0.18	0.06~0.12	0.08~0.16	0.08~0.18	0.08~0.22	
	High pre-hardened steel	220~450	PD	Central insert Peripheral insert PC5300 PC5300	70(30~120)	0.04~0.12	0.06~0.14	0.08~0.17	0.08~0.17	0.08~0.20	
M	Stainless steel	Austenite series	135~275	LD	Central Peripheral PC5335	90(40~150)	0.04~0.10	0.04~0.12	0.04~0.12	0.04~0.12	0.04~0.12
				PD	Central insert Peripheral insert PC5300 PC5300						
		Ferrite series Martensite series	135~275	LD	Central Peripheral PC5335	100(60~160)	0.04~0.10	0.04~0.12	0.04~0.12	0.04~0.12	0.04~0.12
			PD	Central insert Peripheral insert PC5300 PC5300							
K	Cast iron	Gray cast iron	150~230	PD	Central insert Peripheral insert PC5300 PC6510	190(150~250)	0.04~0.10	0.05~0.14	0.06~0.18	0.10~0.22	0.10~0.26
		Ductile cast iron	150~230	PD	Central insert Peripheral insert PC5300 PC6510	150(100~200)	0.04~0.10	0.04~0.12	0.04~0.14	0.05~0.16	0.05~0.18
S	Heat resisting alloy	Ni-heat resisting alloy	130~400	PD	PC5300	50(30~100)	0.04~0.06	0.04~0.08	0.04~0.10	0.06~0.12	0.06~0.12
		Ti-heat resisting alloy	130~400	PD	PC5300	40(30~90)	0.04~0.08	0.04~0.10	0.06~0.12	0.08~0.14	0.08~0.16
		High hardened steel	400	PD	PC5300	40(20~80)	0.04~0.08	0.06~0.12	40(20~80)	0.08~0.14	0.08~0.16

- In case of 5D, reduce 30~40% of cutting condition from the above.
- In interrupted machining part, reduce 30~50% of feed from the above machining around interrupted part.

Required machine power

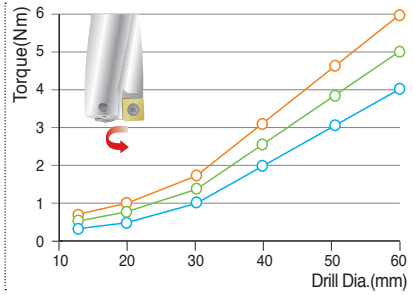
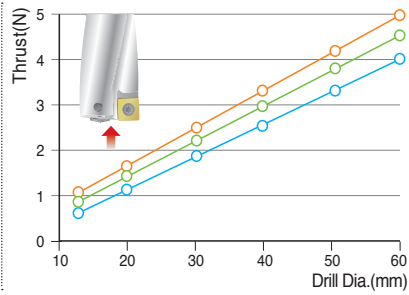
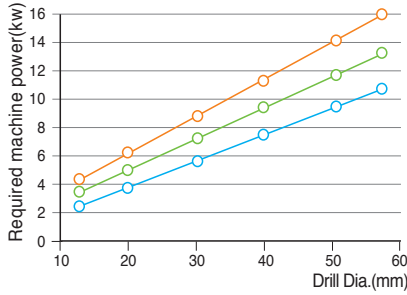
- The graphs below show the cutting force required in drilling.
- Machining with the KING DRILL and a machine with high rigidity and power.

• Workpiece : SCM440(240HB) • Cutting condition : $vc(m/min)=100$
 • Through coolant system

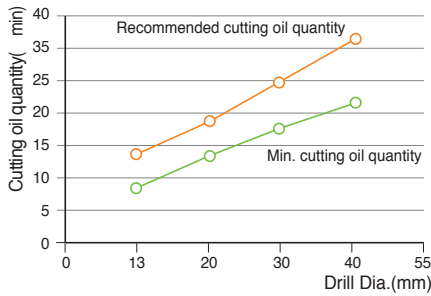
$fn(mm/rev)=0.13$

$fn(mm/rev)=0.10$

$fn(mm/rev)=0.07$



Cutting oil quantity

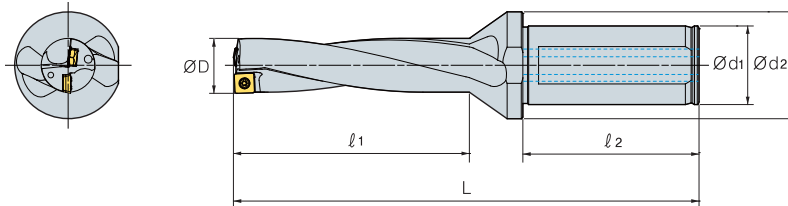


• Workpiece : SCM440(240HB)
 • Cutting condition : $vc(m/min)=100$
 • Through coolant system

- Recommended pressure of coolant : 5kg/cm² above
- The data of the graph above could be changed depending on workpiece and cutting condition.

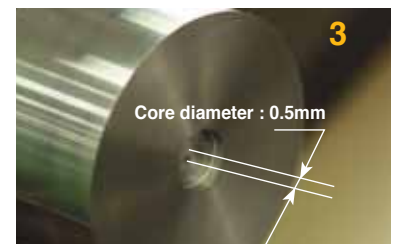
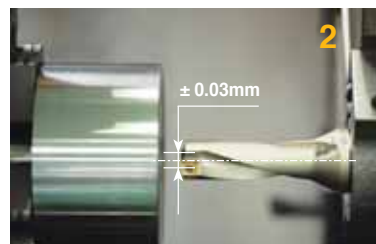
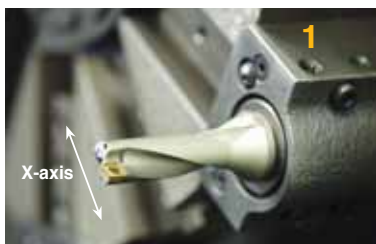


Drill tolerance and hole tolerance



Drill Dia.		(mm)		
		Ø12 ~ Ø29	Ø30 ~ Ø45	Ø46 ~ Ø60
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

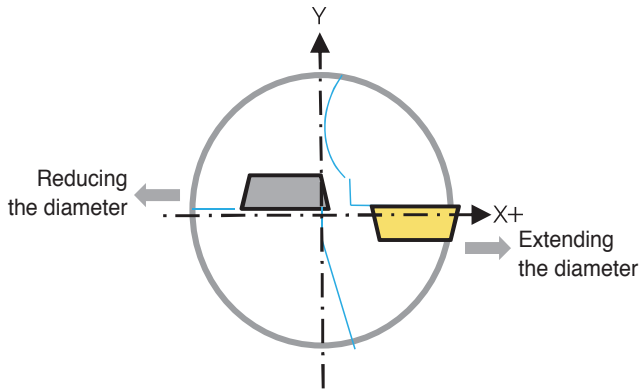
Notice for setting the drill in the lathe



- 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 with moving to 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.

Drill dia.	Range of adjusting drilling diameter(Ø)	Drill dia.	Range of adjusting drilling diameter(Ø)	Drill dia.	Range of adjusting drilling diameter(Ø)	Drill dia.	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		

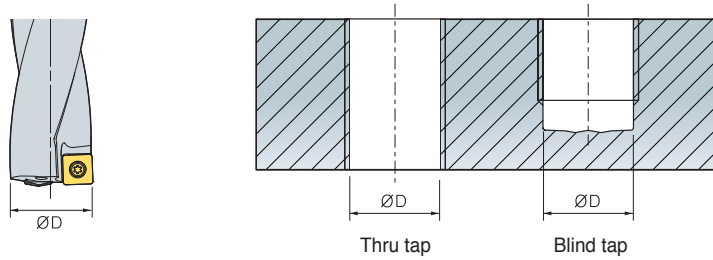
◉ Insert and parts

Drill dia.	Peripheral insert	Central insert	Screw	Wrench	Torque(Nm)
Ø12.0~Ø13.5	SPMT040204-PD	XOMT040204-PD	FTNA0204	TW06P	0.4
Ø13.6~Ø16.0	SPMT050204-PD	XOMT050204-PD	FTNA0204	TW06P	0.4
Ø16.1~Ø19.5	SPMT060205-PD	XOMT060204-PD	FTKA02206S	TW07P	0.8
Ø19.6~Ø23.5	SPMT07T208-PD	XOMT07T205-PD	FTKA02565	TW07S	0.8
Ø23.6~Ø29.5	SPMT090308-PD	XOMT090305-PD	FTKA0307	TW09S	1.2
Ø29.6~Ø35.5	SPMT11T308-PD	XOMT11T306-PD	FTKA03508	TW15S	3
Ø35.6~Ø42.5	SPMT130410-PD	XOMT130406-PD	FTKA0410	TW15S	3
Ø42.6~Ø50.5	SPMT15M510-PD	XOMT15M508-PD	FTNC04511	TW20S	5
Ø50.6~Ø60.5	SPMT180510-PD	XOMT180508-PD	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.

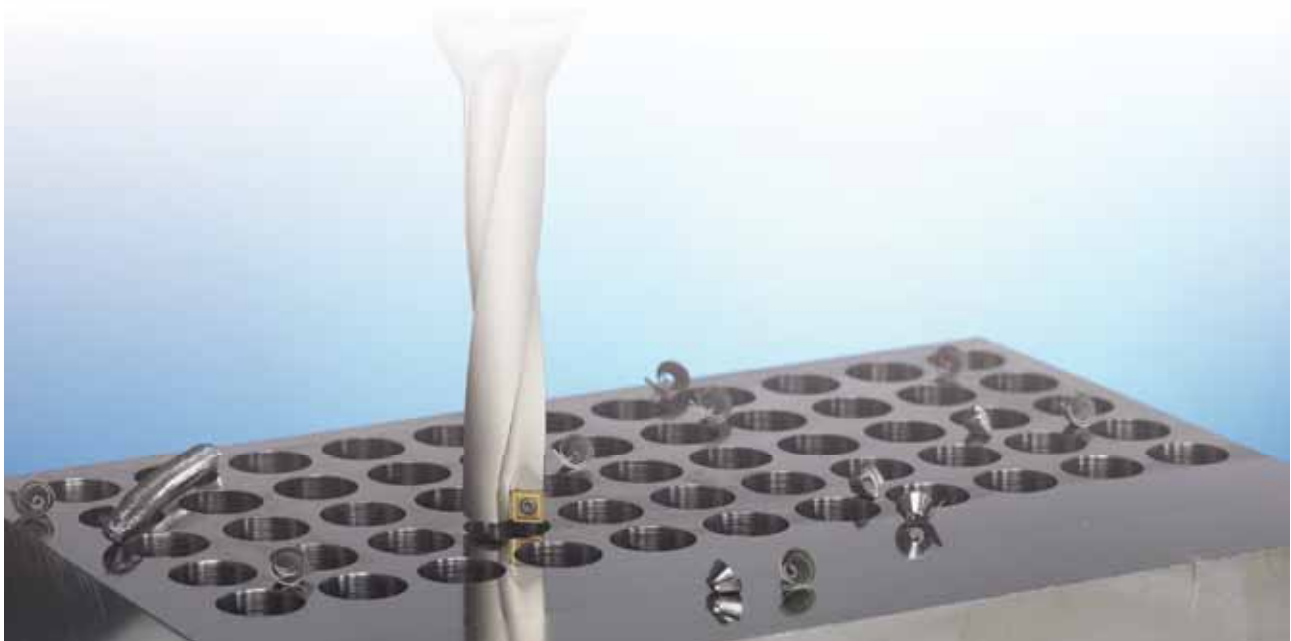
🎯 KING DRILL - for machining a tap foundation hole

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

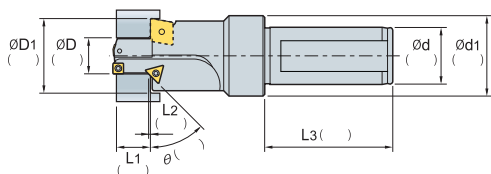


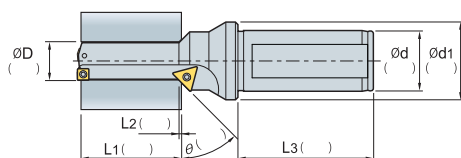
(mm)

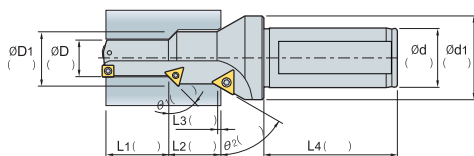
Tap type	Thread	ØD	Designation	Reference
Metric	M14 x 2.0	12.0	K3D12020-04	G12
	M16 x 2.0	14.0	K3D14020-05	G12
	M18 x 2.5	15.5	K3D15520-05	G12
	M20 x 2.5	17.5	K3D17525-06	G12
	M22 x 2.5	19.5	K3D19525-06	G12
	M24 x 3.0	21.0	K3D21025-07	G12
	M27 x 3.0	24.0	K3D24032-09	G12
	M30 x 3.5	26.5	K3D26532-09	G12
	M33 x 4.0	29.0	K3D29032-09	G12
	M36 x 4.0	32.0	K3D32032-11	G12
	M39 x 4.0	35.0	K3D35032-11	G12
	M42 x 4.5	37.5	K3D37540-13	G12
Inch	9/16-12 UNC	12.2	K3D12220-04	G12
	5/8-11 UNC	13.5	K3D13520-04	G12
	3/4-10 UNC	16.5	K3D16525-06	G12
	7/8-9 UNC	19.5	K3D19525-06	G12
	9/16-18 UNF	12.9	K3D12920-04	G12
	5/8-18 UNF	14.5	K3D14520-05	G12
	3/4-16 UNF	17.5	K3D17525-06	G12

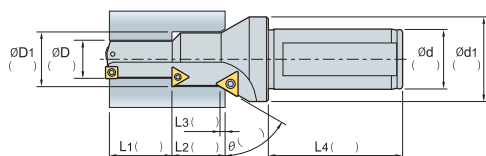


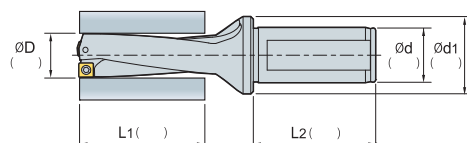
Special drill order form





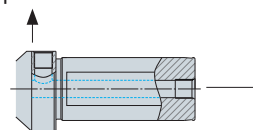






• Coolant type

- Oil hole on the plunge part
 Oil hole on the shank



• Hole type

- Blind hole
 Thru hole

• Types of shank

- Flat Type
 Weldon Type
 Whistle Notch Type

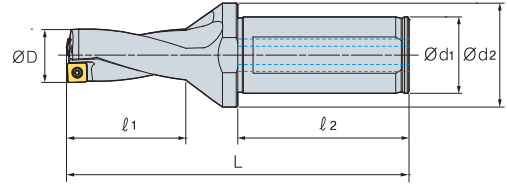
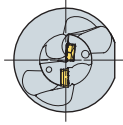
• Location of side lock

- Parallel to peripheral insert (standard)
 90° angle to peripheral insert
 150° angle to peripheral insert
 180° angle to peripheral insert

• 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 :

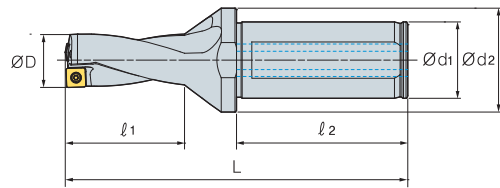
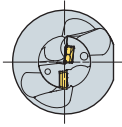
KING DRILL-2D *New*



Designation		ØD	Ød1	Ød2	1	2	L	Insert	Screw	Wrench			
K2D	12020-04	12.0	20	25	27	50	91	SPMT040204-PD XOMT040204-PD	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	SPMT050204-PD XOMT050204-PD	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	SPMT060205-PD XOMT060204-PD	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						
	19525-06	19.5	25	34	41	56	114						
	20025-07	20.0	25	34	43	56	118	SPMT07T208-PD XOMT07T205-PD	FTKA02565	TW07S			
	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						
	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				SPMT090308-PD XOMT090305-PD	FTKA0307	TW09S
	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	SPMT11T308-PD XOMT11T306-PD	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	SPMT130410-PD XOMT130406-PD	FTKA0410	TW15S				
35532-11	35.5	32	44	73	60	161							
36040-13	36.0	40	48	76	70	176							
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							

Applicable inserts G05

KING DRILL-2D *New*



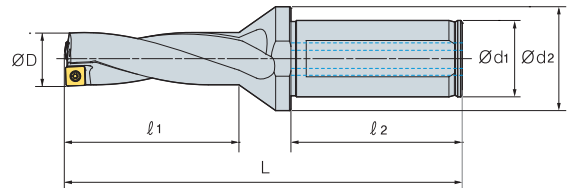
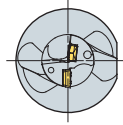
(mm)

Designation	ØD	Ød ₁	Ød ₂	1	2	L	Insert	Screw	Wrench	
K2D	38040-13	38.0	40	48	80	70	SPMT130410-PD XOMT130406-PD	FTKA0410	TW15S	
	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
	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	SPMT15M510-PD XOMT15M508-PD	FTNC04511	TW20S	
	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
	51540-18	51.5	40	68	108	70				218
	52040-18	52.0	40	68	110	70	SPMT180510-PD XOMT180508-PD	FTNA0511	TW20-100	
	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 G05



KING DRILL-3D *New*

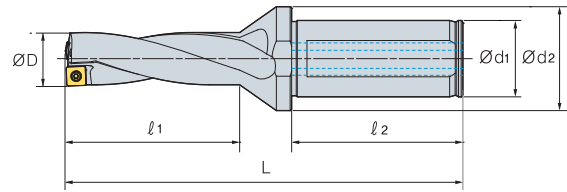
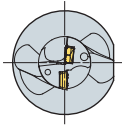


Designation		ØD	Ød1	Ød2	1	2	L	Insert	Screw	Wrench
K3D	12020-04 *	12.0	20	25	39	50	103	SPMT040204-PD XOMT040204-PD	FTNA0204	TW06P
	12220-04	12.2	20	25	39	50	103			
	12520-04	12.5	20	25	39	50	103			
	12920-04	12.9	20	25	42	50	106			
	13020-04	13.0	20	25	42	50	106			
	13520-04	13.5	20	25	42	50	106			
	14020-05 *	14.0	20	25	45	50	110	SPMT050204-PD XOMT050204-PD	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			
	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			
	19525-06 *	19.5	25	34	60	56	133			
	20025-07	20.0	25	34	63	56	138	SPMT07T208-PD XOMT07T205-PD	FTKA02565	TW07S
	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				
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	SPMT090308-PD XOMT090305-PD			
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 G05

The items marked * can machine a tap foundation hole.

KING DRILL-3D *New*

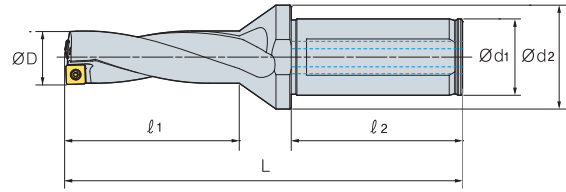
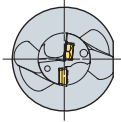


(mm)

Designation		ØD	Ød1	Ød2	1	2	L	Insert	Screw	Wrench
K3D	30032-11 *	30.0	32	44	93	60	180	SPMT11T308-PD XOMT11T306-PD	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	SPMT130410-PD XOMT130406-PD	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	SPMT15M510-PD XOMT15M508-PD	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				



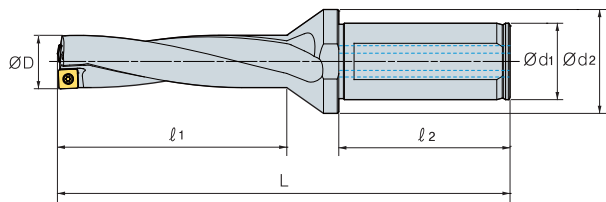
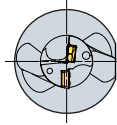
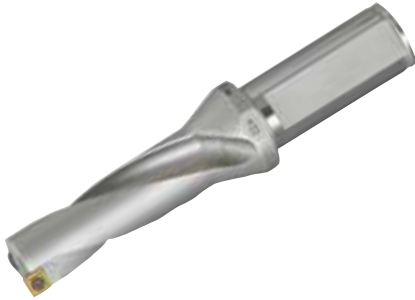
KING DRILL-3D *New*





Designation		$\varnothing D$	$\varnothing d_1$	$\varnothing d_2$	1	2	L	Insert	Screw	Wrench
K3D	51040-18	51.0	40	68	159	70	269	SPMT180510-PD XOMT180508-PD	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 G05

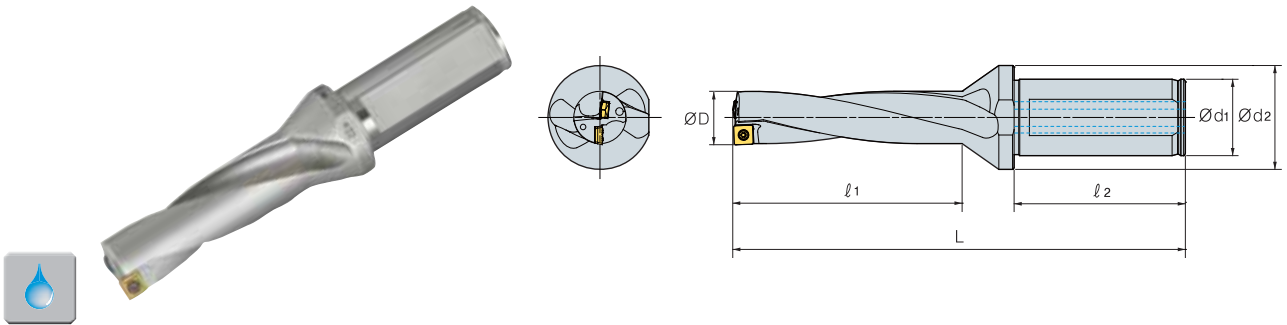
KING DRILL-4D *New*



(mm)

Designation		ØD	Ød1	Ød2	1	2	L	Insert	Screw 	Wrench 
K4D	12020-04	12.0	20	25	51	50	115	SPMT040204-PD XOMT040204-PD	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	SPMT050204-PD XOMT050204-PD	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	SPMT060205-PD XOMT060204-PD	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	SPMT07T208-PD XOMT07T205-PD	FTKA02565	TW07S
	18525-06	18.5	25	34	75	56	148			
	19025-06	19.0	25	34	79	56	152			
	19525-06	19.5	25	34	79	56	152			
	20025-07	20.0	25	34	83	56	158	SPMT090308-PD XOMT090305-PD	FTKA0307	TW09S
	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	SPMT11T308-PD XOMT11T306-PD	FTKA03508	TW15S
	22525-07	22.5	25	34	91	56	166			
	23025-07	23.0	25	34	95	56	172			
	23525-07	23.5	25	34	95	56	172			
	24032-09	24.0	32	44	99	60	181	SPMT130410-PD XOMT130406-PD	FTKA0410	TW15S
	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	SPMT130410-PD XOMT130406-PD	FTKA0410	TW15S
	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	SPMT130410-PD XOMT130406-PD	FTKA0410	TW15S
	28532-09	28.5	32	44	115	60	199			
	29032-09	29.0	32	44	119	60	203			
	29532-09	29.5	32	44	119	60	203			
	30032-11	30.0	32	44	123	60	210	SPMT130410-PD XOMT130406-PD	FTKA0410	TW15S
	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	SPMT130410-PD XOMT130406-PD	FTKA0410	TW15S	
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	SPMT130410-PD XOMT130406-PD	FTKA0410	TW15S	
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				
36040-13	36.0	40	48	148	70	248	SPMT130410-PD XOMT130406-PD	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				

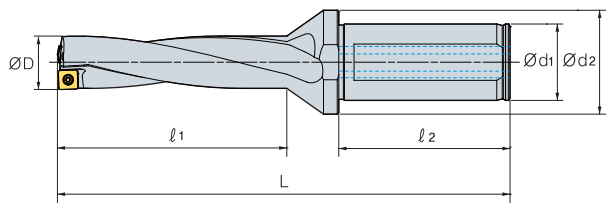
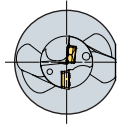
KING DRILL-4D *New*



Designation		øD	ød1	ød2	1	2	L	Insert	Screw	Wrench			
K4D	38040-13	38.0	40	48	156	70	257	SPMT130410-PD XOMT130406-PD	FTKA0410	TW15S			
	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				SPMT15M510-PD XOMT15M508-PD	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	SPMT180510-PD XOMT180508-PD	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 G05

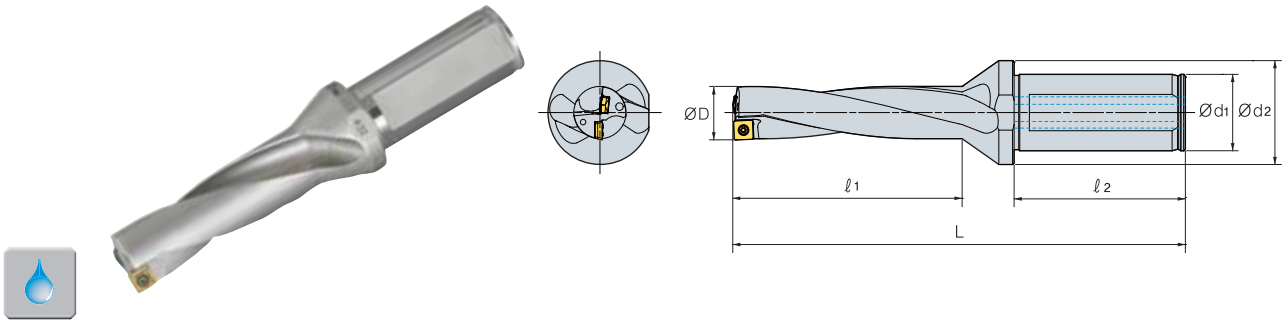
KING DRILL-5D *New*



(mm)

Designation	ØD	Ød1	Ød2	1	2	L	Insert	Screw	Wrench			
K5D	12020-04	12.0	20	25	63	50	127	SPMT040204-PD XOMT040204-PD	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	SPMT050204-PD XOMT050204-PD	FTNA0204	TW06P		
	14020-05	14.0	20	25	73	50	138					
	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					
	16525-06	16.5	25	34	83	56	155	SPMT060205-PD XOMT060204-PD	FTKA02206S	TW07P		
	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					
	19525-06	19.5	25	34	98	56	171	SPMT07T208-PD XOMT07T205-PD	FTKA02565	TW07S		
	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					
	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				SPMT090308-PD XOMT090305-PD	FTKA0307
	24532-09	24.5	32	44	123	60	205					
	25032-09	25	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					
	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	SPMT11T308-PD XOMT11T306-PD	FTKA03508	TW15S			
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	SPMT130410-PD XOMT130406-PD	FTKA0410	TW15S			
35532-11	35.5	32	44	178	60	266						
36040-13	36.0	40	48	184	70	284						
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						

KING DRILL-5D *New*



Designation		ØD	Ød ₁	Ød ₂	1	2	L	Insert	Screw	Wrench			
K5D	38040-13	38.0	40	48	194	70	295	SPMT130410-PD XOMT130406-PD	FTKA0410	TW15S			
	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				SPMT15M510-PD XOMT15M508-PD	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	SPMT180510-PD XOMT180508-PD	FTNA0511	TW20-100			
	49540-15	49.5	40	58	250	70	357						
	50040-15	50.0	40	58	255	70	362						
	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 G05

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

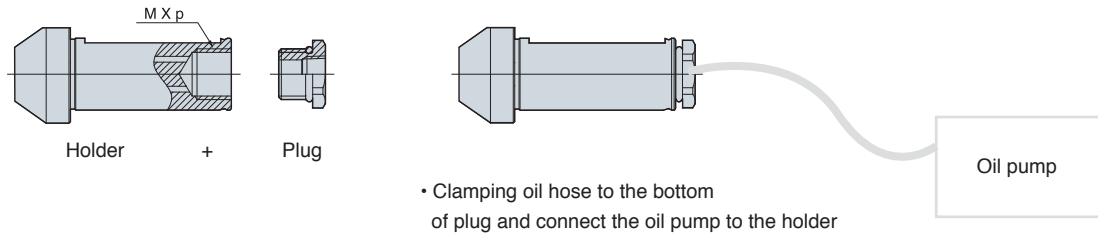
New

KING DRILL (for through coolant system with a lathe)

Through coolant system with drill holder, plug, oil-hole hose and oil-hole pump

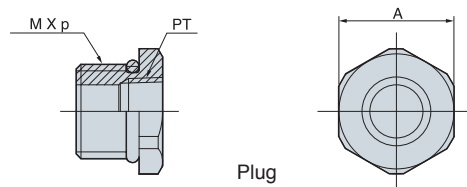
NPT TAP in the plug is combined to NPT TAP connected to oil hose.

Available to use the drill without a plug in milling machine



(mm)

Designation	Diameter	Shank Dia.	M x p	Plug
K□D120~16020HP-□□	Ø12.0 ~ Ø16.0	Ø20	M14 x 1.5	PLG14PT18
K□D161~23525HP-□□	Ø16.1 ~ Ø23.5	Ø25	M18 x 2.0	PLG18PT18
K□D236~35532HP-□□	Ø23.6 ~ Ø35.5	Ø32	M22 x 2.0	PLG22PT14
K□D356~60940HP-□□	Ø35.6 ~ Ø60.5	Ø40	M33 x 3.0	PLG33PT38

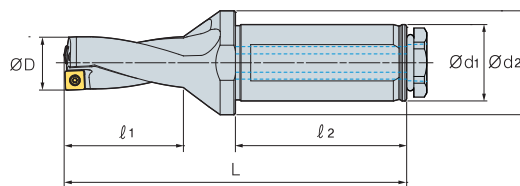
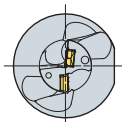


• Plug is assembled.

Plug Type	M x p	NPT Tap	A
PLG14PT18	M14 x 1.5	1/8	17
PLG18PT18	M18 x 2.0	1/8	22
PLG22PT14	M22 x 2.0	1/4	27
PLG33PT38	M33 x 3.0	3/8	36

KING DRILL (for through coolant system with a lathe)-2D

New

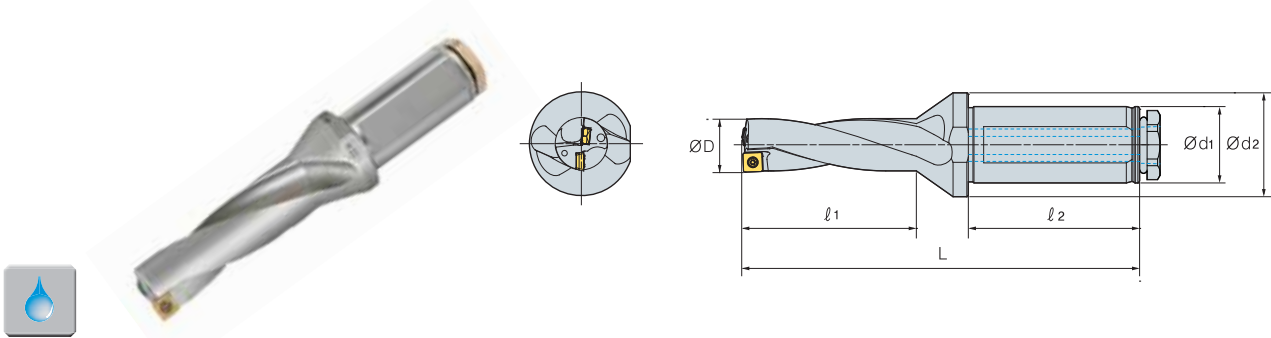


(mm)



Designation	$\varnothing D$	$\varnothing d_1$	$\varnothing d_2$	1	2	L	Insert	Screw	Wrench	
K2D	13020HP-04	13.0	20	25	29	50	93	SPMT040204-PD XOMT040204-PD	FTNA0204	TW06P
	14020HP-05	14.0	20	25	31	50	96	SPMT050204-PD XOMT050204-PD	FTNA0204	TW06P
	15020HP-05	15.0	20	25	33	50	99			
	16020HP-05	16.0	20	25	35	50	101	SPMT060205-PD XOMT060204-PD	FTKA02206S	TW07P
	17025HP-06	17.0	25	34	37	56	109			
	18025HP-06	18.0	25	34	39	56	112			
	19025HP-06	19.0	25	34	41	56	114	SPMT07T208-PD XOMT07T205-PD	FTKA02565	TW07S
	20025HP-07	20.0	25	34	43	56	118			
	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	SPMT090308-PD XOMT090305-PD	FTKA0307	TW09S
	24032HP-09	24.0	32	44	51	60	133			
	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 G05

KING DRILL(for through coolant system with a lathe)- 3D New



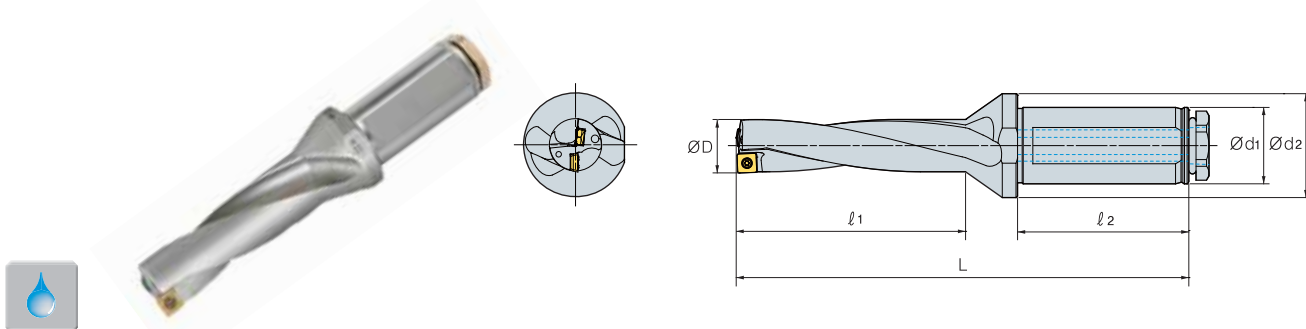
(mm)

Designation	$\varnothing D$	$\varnothing d_1$	$\varnothing d_2$	1	2	L	Insert	Screw	Wrench
									
K3D 13020HP-04	13.0	20	25	42	50	106	SPMT040204-PD XOMT040204-PD	FTNA0204	TW06P
	13.5	20	25	42	50	106			
14020HP-05	14.0	20	25	45	50	110	SPMT050204-PD XOMT050204-PD	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			
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			
19525HP-06	19.5	25	34	60	56	133			
20025HP-07	20.0	25	34	63	56	138	SPMT07T208-PD XOMT07T205-PD	FTKA02565	TW07S
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	25	34	72	56	149			
23525HP-07	23.5	25	34	72	56	149			
24032HP-09	24.0	32	44	75	60	157	SPMT090308-PD XOMT090305-PD	FTKA0307	TW09S
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 G05

KING DRILL (for through coolant system with a lathe)-4 D

New



(mm)

Designation	$\varnothing D$	$\varnothing d_1$	$\varnothing d_2$	1	2	L	Insert	Screw	Wrench	
K4D	13020HP-04	13.0	20	25	55	50	119	SPMT040204-PD XOMT040204-PD	FTNA0204	TW06P
	14020HP-05	14.0	20	25	59	50	124	SPMT050204-PD XOMT050204-PD	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	SPMT060205-PD XOMT060204-PD	FTKA02206S	TW07P
	18025HP-06	18.0	25	34	75	56	148			
	19025HP-06	19.0	25	34	79	56	152	SPMT07T208-PD XOMT07T205-PD	FTKA02565	TW07S
	20025HP-07	20.0	25	34	83	56	158			
	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			
	25032HP-09	25.0	32	44	103	60	185			
	26032HP-09	26.0	32	44	107	60	189	SPMT090308-PD XOMT090305-PD	FTKA0307	TW09S
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 G05

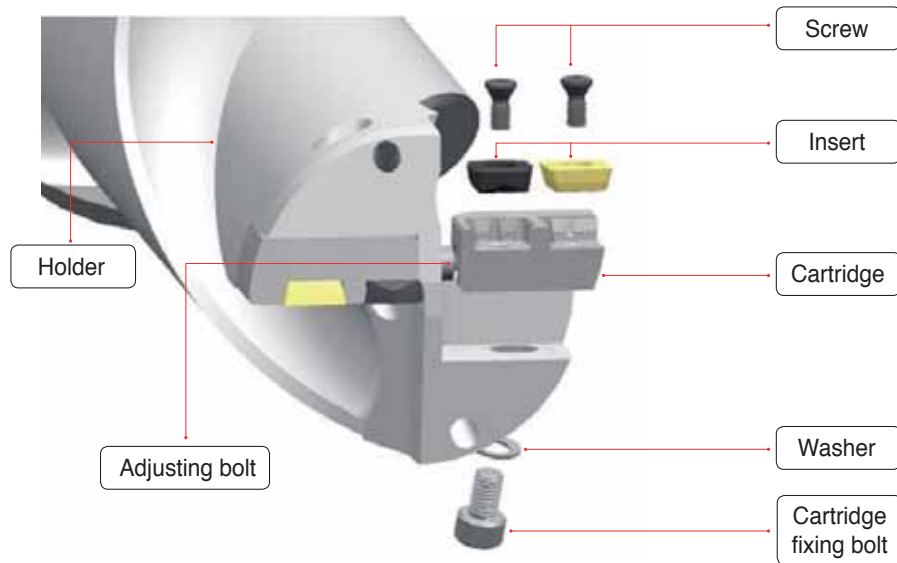
High rigidity drill produces cost efficiency due to cartridge replacement.

KING DRILL (for large diameter drilling) *New*

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

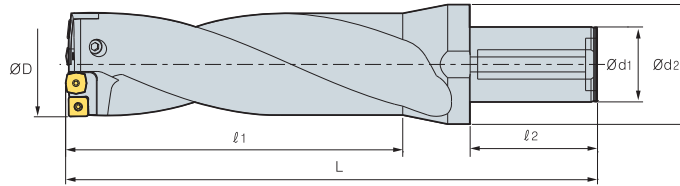
Adjustment(mm) \varnothing (mm)	Adjusting Washer	
	Designation	Width(mm)
1	WA0305	0.5
2	WA0310	1.0
3	WA0305 + WA0310	1.5
4	WA0310 x 2	2.0
5	WA0305 + WA0310 x 2	2.5

※ Adjusting washer adjusts the drilling diameter within 5mm.



KING DRILL (for large diameter drilling)

New



(mm)

Designation	øD	ød1	ød2	1	2	L	Cartridge		Screw	Wrench	
							Internal	External			
K2D	616550-11	61~65	50	80	130	85	260	KDC6165C	KDC6165P	FTKA03508	TW15S
	657050-13	65~70	50	88	140	85	270	KDC6570C	KDC6570P	FTKA0410	TW15S
	707550-13	70~75	50	88	150	85	280	KDC7075C	KDC7075P	FTKA0410	TW15S
	758050-13	75~80	50	88	160	85	290	KDC7580C	KDC7580P	FTKA0410	TW15S
	808550-15	80~85	50	88	170	85	300	KDC8085C	KDC8085P	FTNC04511	TW20S
	859050-15	85~90	50	95	180	85	310	KDC8590C	KDC8590P	FTNC04511	TW20S
	909550-15	90~95	50	95	190	85	320	KDC9095C	KDC9095P	FTNC04511	TW20S
	9510050-18	95~100	50	95	200	85	330	KDC95100C	KDC95100P	FTNA0511	TW20-100
K3D	616550-11	61~65	50	80	195	85	325	KDC6165C	KDC6165P	FTKA03508	TW15S
	657050-13	65~70	50	88	210	85	340	KDC6570C	KDC6570P	FTKA0410	TW15S
	707550-13	70~75	50	88	225	85	355	KDC7075C	KDC7075P	FTKA0410	TW15S
	758050-13	75~80	50	88	240	85	370	KDC7580C	KDC7580P	FTKA0410	TW15S
	808550-15	80~85	50	88	255	85	385	KDC8085C	KDC8085P	FTNC04511	TW20S
	859050-15	85~90	50	95	270	85	400	KDC8590C	KDC8590P	FTNC04511	TW20S
	909550-15	90~95	50	95	285	85	415	KDC9095C	KDC9095P	FTNC04511	TW20S
	9510050-18	95~100	50	95	300	85	430	KDC95100C	KDC95100P	FTNA0511	TW20-100
K4D	616550-11	61~65	50	80	260	85	390	KDC6165C	KDC6165P	FTKA03508	TW15S
	657050-13	65~70	50	88	280	85	410	KDC6570C	KDC6570P	FTKA0410	TW15S
	707550-13	70~75	50	88	300	85	430	KDC7075C	KDC7075P	FTKA0410	TW15S
	758050-13	75~80	50	88	320	85	450	KDC7580C	KDC7580P	FTKA0410	TW15S
	808550-15	80~85	50	88	340	85	470	KDC8085C	KDC8085P	FTNC04511	TW20S
	859050-15	85~90	50	95	360	85	490	KDC8590C	KDC8590P	FTNC04511	TW20S
	909550-15	90~95	50	95	380	85	510	KDC9095C	KDC9095P	FTNC04511	TW20S
	9510050-18	95~100	50	95	400	85	530	KDC95100C	KDC95100P	FTNA0511	TW20-100

Applicable inserts G05

Parts

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

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

TPDB *New*

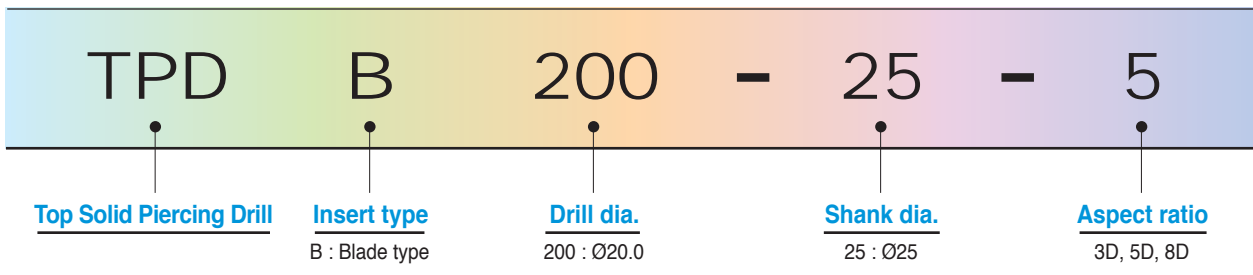
High precision clamping system - High precision grinding and superior clamping precision with auto-centering system.

Screw on clamping system - Easy clamping system of TPDB insert.

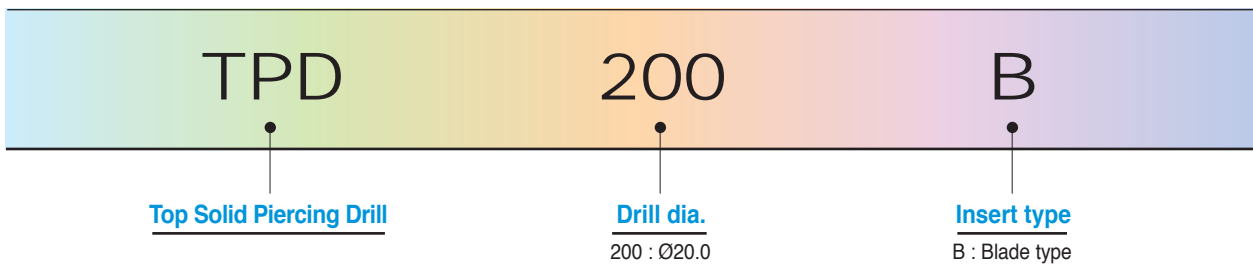
Sharp cutting edge - Improved chip evacuation, low cutting load, longer tool life with ultra-fine substrate and exclusive coating layer.

Holder with excellent durability - Holder with high rigidity and superb wear resistance due to special surface treatment.

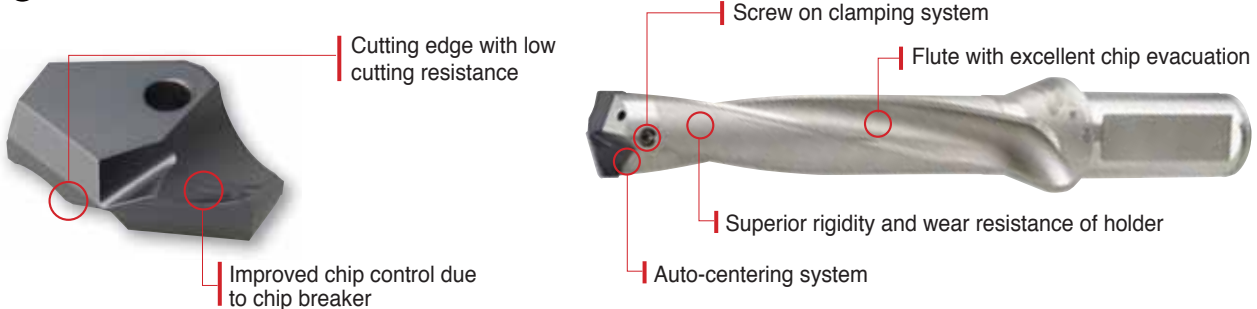
Code system of holder



Code system of Insert

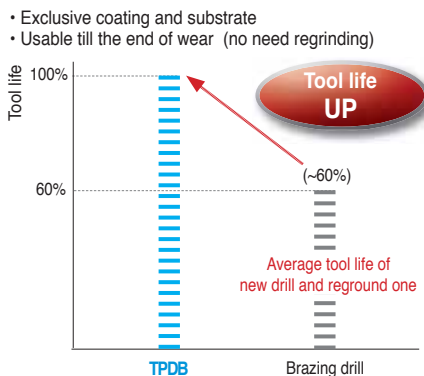


Features

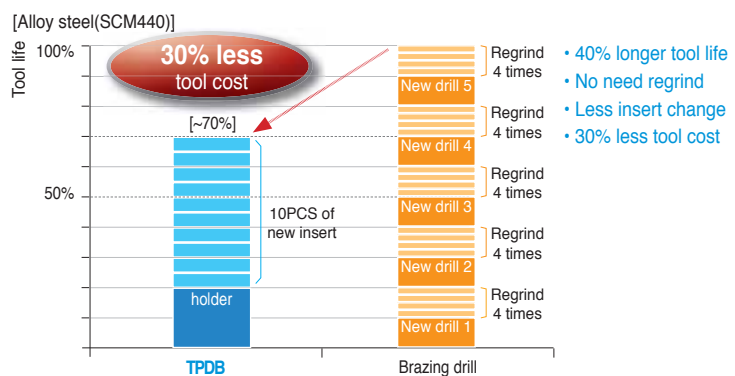


Tool Cost

Comparison of 1 insert tool life



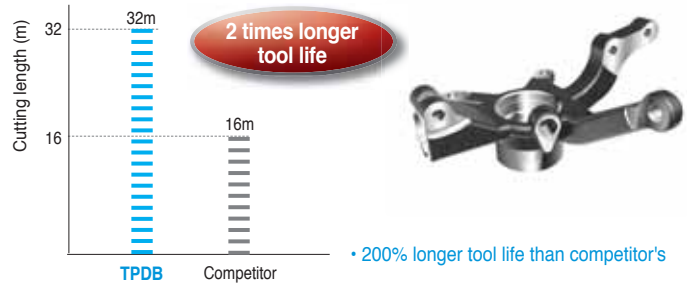
Comparison of tool cost when machining 1000PCS of workpiece



Application example

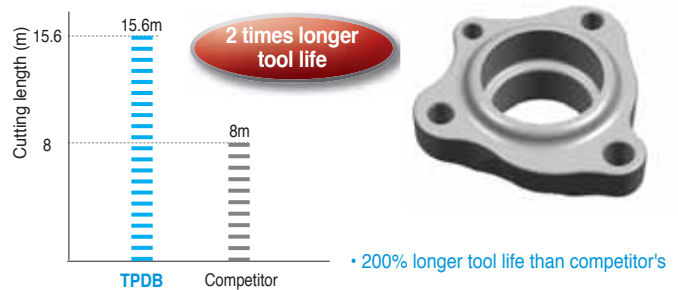
Part of automobile

- **Workpiece** : GCD 500
- **Cutting condition** : $vc(m/min)=98$ $fn(mm/rev)=0.31$,
 $ap(mm)=40$ Inner coolant system
- **Tools** : Insert TPD195B(PC5300)
Holder TPDB195-25-3
- **Machine** : MCT (vertical)



Part of heavy equipment

- **Workpiece** : Hot Forged Steel
- **Cutting condition** : $vc(m/min)=85$ $fn(mm/rev)=0.2$,
 $ap(mm)=20$ Inner coolant system
- **Tools** : Insert TPD210B(PC5300)
Holder TPDB210-25-3
- **Machine** : MCT (vertical)



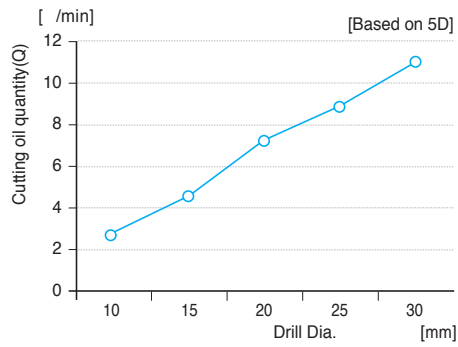
Recommended Cutting Condition

Workpiece			Grade	vc	fn(aspect ratio=3D~5D)			
ISO	Workpiece	HB			Feed(mm/rev) per drill Dia.(mm)			
				m/min	10~15.9	16~24.9	25~29.9	
P	Carbon steel	Low carbon steel	80-120	PC5300	110(80~140)	0.15~0.30	0.20~0.35	0.25~0.40
		High carbon steel	180~280	PC5300	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	50-260	PC5300	70(50~90)	0.18~0.30	0.20~0.35	0.25~0.40
		High pre-hardened steel	220~450	PC5300	60(40~80)	0.18~0.30	0.20~0.35	0.25~0.40
M	Stainless Steel	Austenite series	135-275 Ni>8%	PC5300	50(30~70)	0.13~0.25	0.15~0.30	0.17~0.33
		Ferrite series Martensite series	135-275	PC5300	55(40~70)	0.13~0.25	0.15~0.30	0.17~0.33
K	Cast Iron	Gray cast iron	150-230	PC 5300	110(80~140)	0.18~0.35	0.20~0.40	0.25~0.45
		Ductile cast iron	160~260	PC 5300	100(70~130)	0.18~0.35	0.20~0.40	0.25~0.45
S	Heat Resisting Steel	Ni pre-hardened steel	130-400	PC5300	40(20~60)	0.10~0.20	0.12~0.22	0.13~0.25
		Ti pre-hardened steel	130-400	PC5300	40(20~60)	0.10~0.20	0.12~0.22	0.13~0.25
		High hardened steel	400	PC5300	35(20~50)	0.10~0.20	0.12~0.22	0.13~0.25

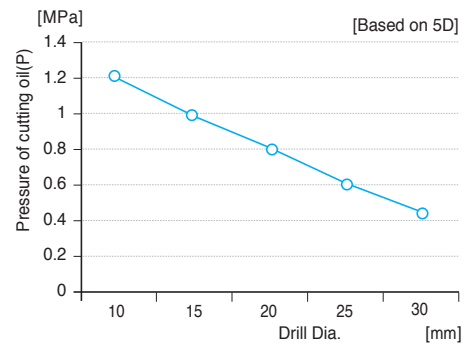
- In case of 8D, reduce the cutting conditions to 40~50% or machine the beginning of hole first.(1.5D)
- In case of interrupted machining, reduce the feed to 30~50% machining around the interrupted part.

Technical information

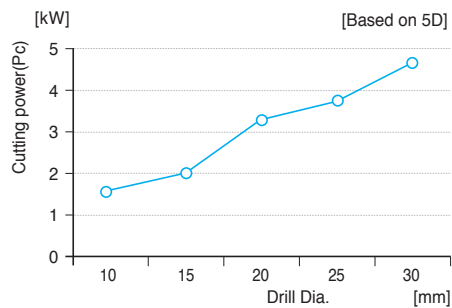
Cutting oil quantity



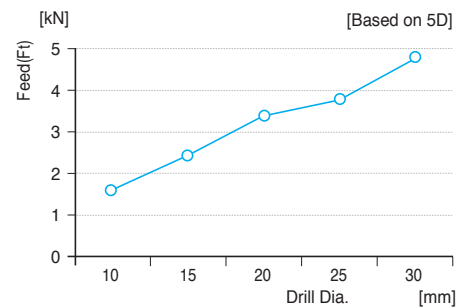
Pressure of cutting oil



Cutting power



Feed



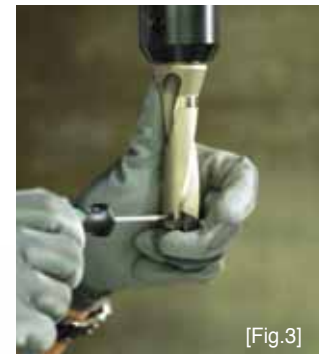
How to clamp a TPDB insert

Clamping an insert on a holder

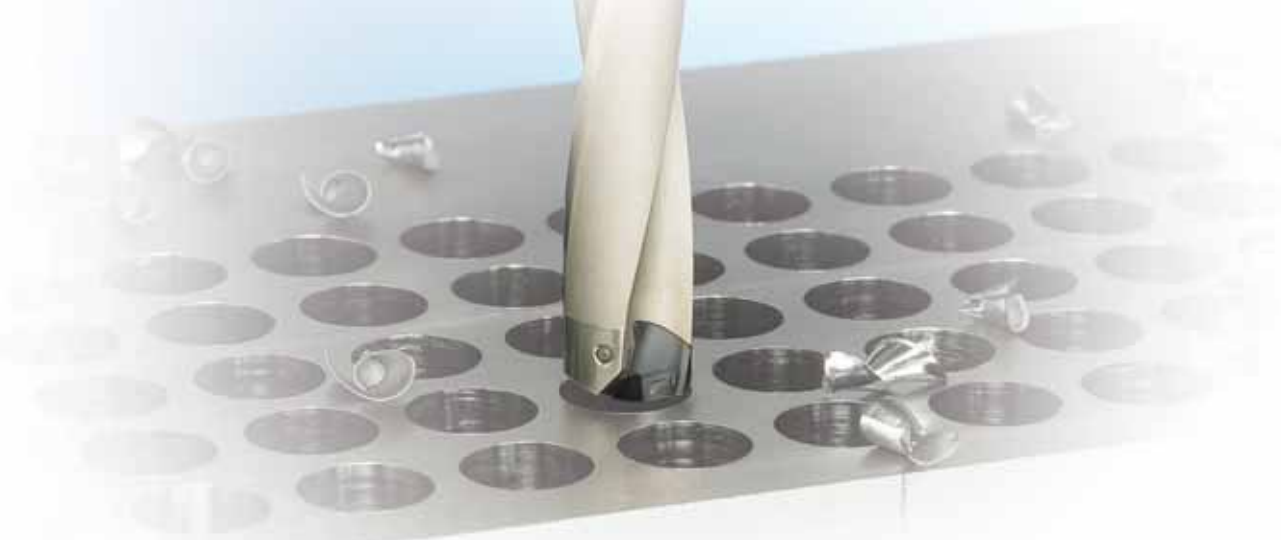


- Put an insert in the holder.
- As the Fig.1, clamp the insert while pushing it to the V shaped groove of the holder.
- Screw the insert.

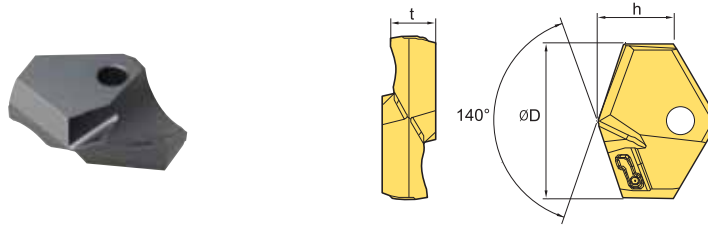
Changing an insert on the machine



- 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 *New*

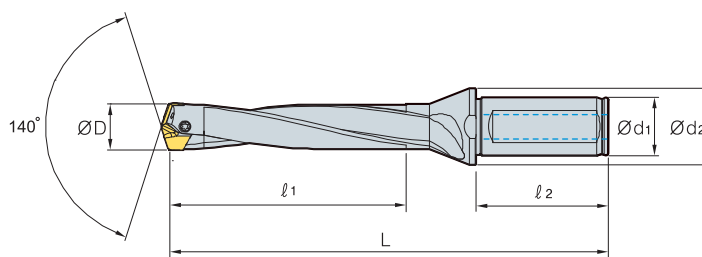


(mm)					
Designation	Grade	øD	h	t	
TPD	100B~109B	PC5300	10.0 ~ 10.9	5.5	3.5
	110B~119B	PC5300	11.0 ~ 11.9	5.8	3.5
	120B~129B	PC5300	12.0 ~ 12.9	6.3	3.5
	130B~139B	PC5300	13.0 ~ 13.9	6.5	4.0
	140B~149B	PC5300	14.0 ~ 14.9	6.8	4.0
	150B~159B	PC5300	15.0 ~ 15.9	7.0	4.0
	160B~169B	PC5300	16.0 ~ 16.9	7.7	5.5
	170B~179B	PC5300	17.0 ~ 17.9	7.9	5.5
	180B~189B	PC5300	18.0 ~ 18.9	8.1	6.0
	190B~199B	PC5300	19.0 ~ 19.9	8.3	6.0
	200B~209B	PC5300	20.0 ~ 20.9	9.7	6.5
	210B~219B	PC5300	21.0 ~ 21.9	9.4	6.5
	220B~229B	PC5300	22.0 ~ 22.9	9.6	7.0
	230B~239B	PC5300	23.0 ~ 23.9	9.8	7.0
	240B~249B	PC5300	24.0 ~ 24.9	10.7	7.5
	250B~259B	PC5300	25.0 ~ 25.9	10.9	7.5
	260B~269B	PC5300	26.0 ~ 26.9	11.0	8.5
	270B~279B	PC5300	27.0 ~ 27.9	11.8	8.5
	280B~289B	PC5300	28.0 ~ 28.9	12.6	9.5
	290B~299B	PC5300	29.0 ~ 29.9	12.9	9.5
300B~309B	PC5300	30.0 ~ 30.9	13	10	
310B~319B	PC5300	31.0 ~ 31.9	13.3	10	
320B~329B	PC5300	32.0 ~ 32.9	13.5	10	

Parts

(mm)					
Designation	Drill Dia.	Screw	Wrench	Torque (NM)	
TPD	100B~129B	10.0 ~ 12.9	FTNB0209	TW06P	0.4
	130B~149B	13.0 ~ 14.9	FTNB02512	TW07S	0.8
	150B~179B	15.0 ~ 17.9	FTNB02514	TW07S	0.8
	180B~199B	18.0 ~ 19.9	FTNB0316	TW09S	1.2
	200B~239B	20.0 ~ 23.9	FTNB0319	TW09S	1.2
	240B~259B	24.0 ~ 25.9	FTNB03522	TW15S	3
	260B~279B	26.0 ~ 27.9	FTNB03524	TW15S	3
	280B~299B	28.0 ~ 29.9	FTNB0426	TW15S	3
	300B~329B	30.0 ~ 32.9	FTNB0528	TW20S	4

TPDB-3D *New*

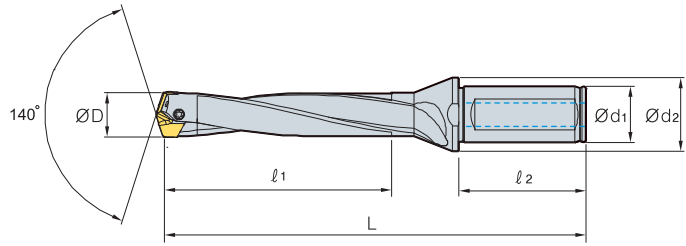


(mm)

Designation	ØD	Ød ₁	Ød ₂	1	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 G30

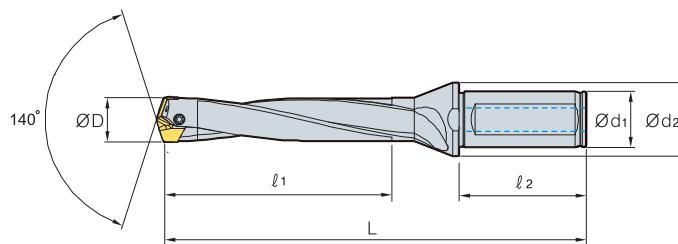
TPDB-5D *New*



Designation		ØD	Ød ₁	Ød ₂	1	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 G30

TPDB-8D *New*



(mm)

Designation	ØD	Ød1	Ød2	1	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 G30

Convenient and quickly adjustable drill height

WPDC

Indexable drill clamped with center drill

Code System for Drill

WPDC	410	40	8
<u>Type</u>	<u>Drill Dia.</u>	<u>Shank Dia.</u>	<u>Aspect ratio</u>
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
<u>Type</u>	<u>Drill Dia.</u>	<u>Classification</u>
CWP : Cartridge-WPDC	4145 : Ø41~45 450 : Ø45.0	C : Central P : Peripheral

Code System for Center Drill

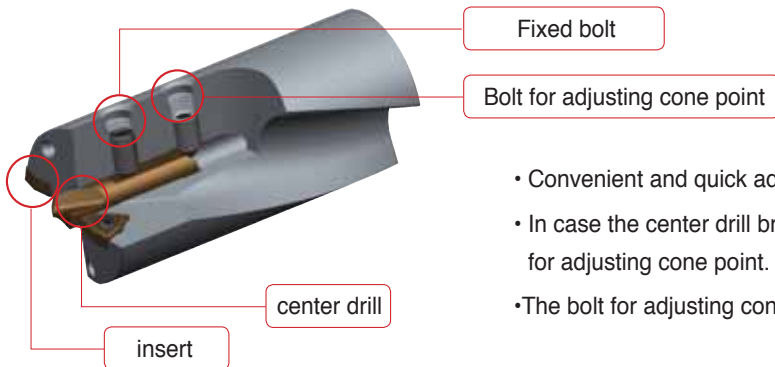
CD	H	1035
<u>Type</u>	<u>Coolant</u>	<u>Diameter × Length of Tool</u>
Center Drill	H : Coolant Unmarked : None	0630 : Ø6 X 30 0835 : Ø8 X 35 1035 : Ø10 X 35 1238 : Ø12 X 38 1645 : Ø16 X 45

Grade of Center Drill

PC	40H
<u>Product name</u>	<u>Coating layer</u>
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.

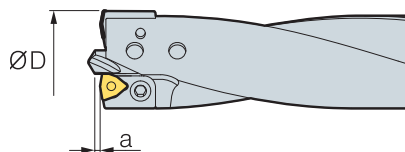
Clamping

- 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.

Caution (1) Use safety covers for your safety when clamping the center drill and insert.
 (2) When machining, be careful of the drill disk.

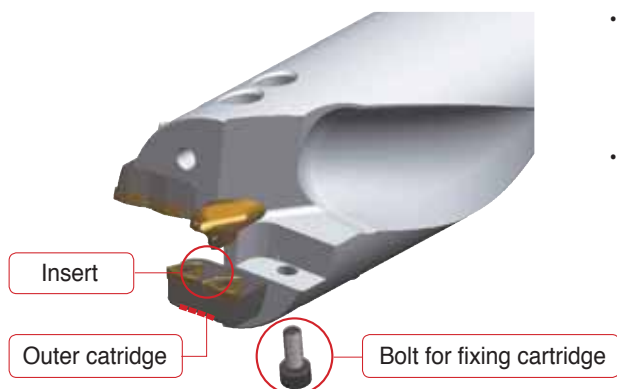
Length of the 'a' part of center drill

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



Range of adjustable drill diameter

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

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

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

- 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.

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 2.0mm. ($\varnothing 70.0 - \varnothing 66.0 = 4 \rightarrow 4 \div 2 = 2(\text{radius})$)

Recommended Cutting Condition

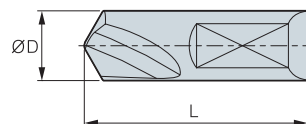
Workpiece			Chip Breaker	Grade	vc m/min	Feed(aspect ratio= 5D, 6.5D, 8D)						
ISO	Workpiece	HB				Feed (mm/rev) depending on drill Dia.(mm)						
						$\sim\varnothing 30$	$\varnothing 31\sim\varnothing 40$	$\varnothing 41\sim\varnothing 50$	$\varnothing 51\sim\varnothing 59$	$\varnothing 60\sim\varnothing 75$	$\varnothing 76\sim\varnothing 80$	
P	Carbon steel	Low carbon steel (~0.25%)	80~180	C21	PC3500	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 (0.25%~)	180~280	C21	PC3500	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	C21	PC3500	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
		Low pre-hardened	50~260	C21	PC3500	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	C21	PC3500	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	C21	PC3500	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	C21	PC3500	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	C21	PC3500	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	C21	PC3500	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	C21	PC3500	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 resisting alloy	Heat resisting alloy	130~400	C21	PC3500	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	Screw	Wrench	Center drill	fixed bolt	cone point bolt	Inner	Outer	Fixed bolt			
WPDC250-32-□	25	WC□T030204-C21	FTKA02206	TW06S	CD0630	KHA0508	KHC0510						
WPDC260~280-32-□	26~28	WC□T040204-C21	FTKA02565	TW07S		KHA0510							
WPDC290~300-32-□	29~30					KHA0610							
WPDC310~350-32-□	31~35	WC□T050308-C21	FTKA0307	TW09S	CD0835	KHA0612	KHC0610						
WPDC360~400-32-□	36~40												
WPDC410-40-□	41	WC□T06T308-C21	FTKA03508	TW15S	CDH1035	KHA0812	KHC0812				CWP410P	CWP420P	BHA0510
WPDC420-40-□	42										CWP4145C	CWP430P	
WPDC430-40-□	43										CWP440P	CWP450P	
WPDC440-40-□	44										CWP460P	CWP470P	
WPDC450-40-□	45										CWP480P	CWP490P	
WPDC460-40-□	46				KHA0815	CWP4650C	CWP480P	BHA0512					
WPDC470-40-□	47								CWP490P	CWP500P			
WPDC480-40-□	48								CWP510P	CWP520P			
WPDC490-40-□	49								CWP5155C	CWP530P	BHA0612		
WPDC500-40-□	50								CWP540P	CWP550P			
WPDC510-40-□	51	WC□T080408-C21	FTKA0411K	TW15S	CDH1238	KHA1015	KHC1016	CWP560P	CWP570P	BHA0614			
WPDC520-40-□	52							CWP580P	CWP590P				
WPDC530-40-□	53							CWP6065C	CWP6065P				
WPDC540-40-□	54							CWP6570C	CWP6570P		BHA0510		
WPDC550-40-□	55				CWP7075C	CWP7075P							
WPDC560-40-□	56				WC□T050308-C21	FTKA0307	TW09S	KHA1020	KHC1020	CWP7580C	CWP7580T	BHA0612	
WPDC570-40-□	57												
WPDC580-40-□	58												
WPDC590-40-□	59				WC□T06T308-C21	FTKA03508	TW15S	CDH1645					
WPDC6065-40-□	60~65												
WPDC6570-40-□	65~70												
WPDC7075-40-□	70~75												
WPDC7580-40-□	75~80												

Applicable inserts G05

Center drill



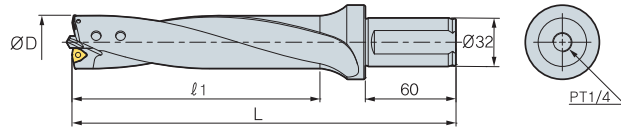
(mm)

Designation	Grade	ØD	L	Oil-hole
CD 0630	PC40H	6	30	×
CD 0835	PC40H	8	35	×
CDH 1035	PC40H	10	35	○
CDH 1238	PC40H	12	38	○
CDH 1645	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
		1	L	1	L	1	L		
WPDC 250-32-□	25	150	240	185	275	220	310	WCCT030204-C21	CD0630
260-32-□	26	150	240	185	275	220	310	WCCT040204-C21	
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	WCCT050308-C21	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		

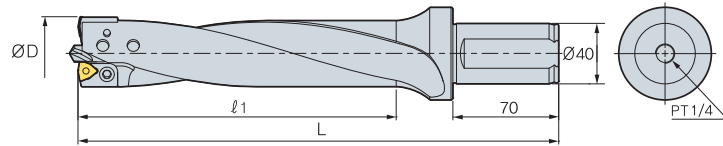
Applicable inserts G05

* 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)

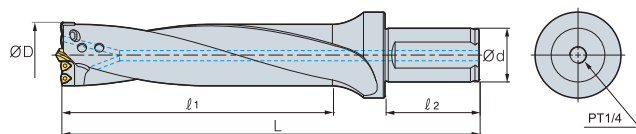
Designation	ØD	5D		6.5D		8D		Insert	Center drill	Cartridge				
		1	L	1	L	1	L			Inner	Outer			
WPDC	410-40-□	41	225	330	283	388	340	445	WC□T06T308-C21	CDH1035	CWP4145C	CWP410P		
	420-40-□	42	225	330	283	388	340	445				CWP420P		
	430-40-□	43	225	330	283	388	340	445				CWP430P		
	440-40-□	44	225	330	283	388	340	445				CWP440P		
	450-40-□	45	225	330	283	388	340	445				CWP450P		
	460-40-□	46	250	355	315	420	380	485			CWP4650C	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-C21	CDH1238	CWP5155C	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			CWP5659C	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 G05

* 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		
		1	L	1	L	1	L			Inner	Outer	
WPDC	6065-40-□	60~65	325	430	423	528	520	625	WC□T050308-C21	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-C21	CDH1645	CWP7580C	CWP7580P

Applicable inserts G05

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