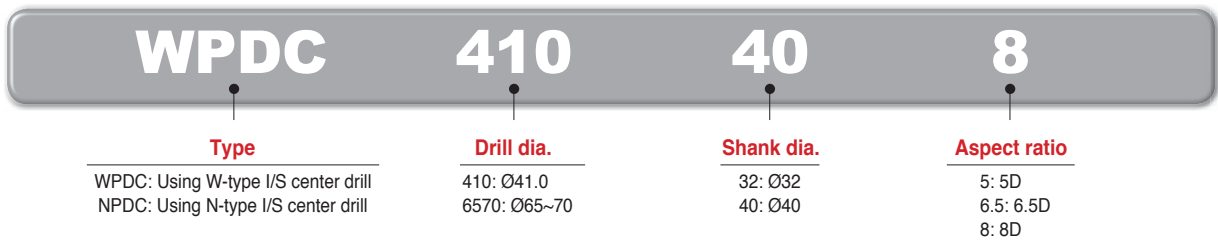


Convenient and quickly adjustable drill height

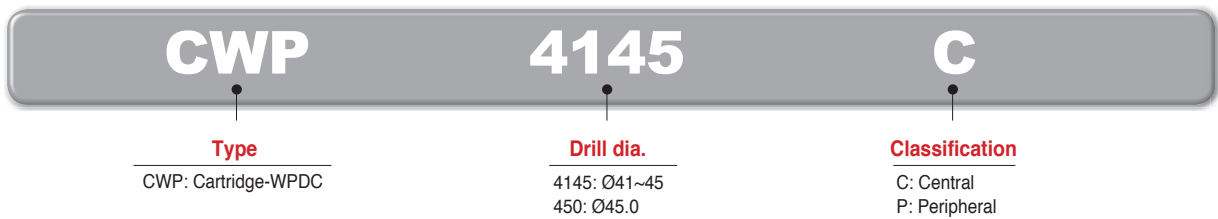
WPDC

Indexable Drill Clamped with Center Drill

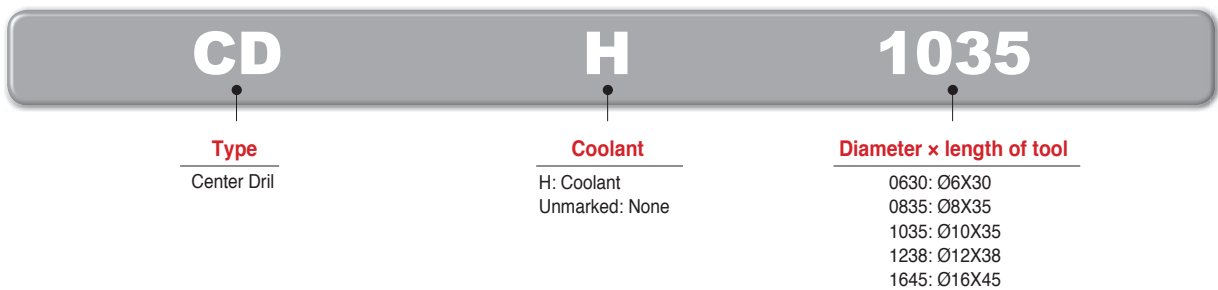
Code system for drill



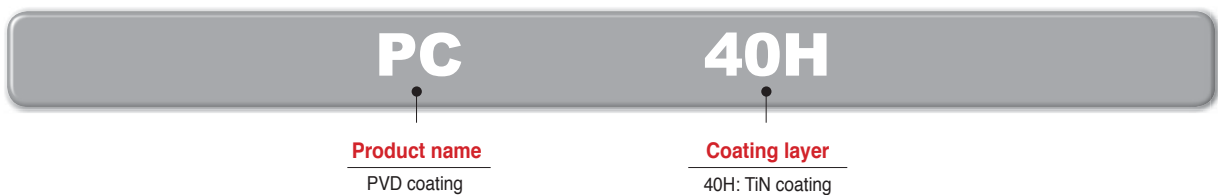
Code system for cartridge



Code system for center drill

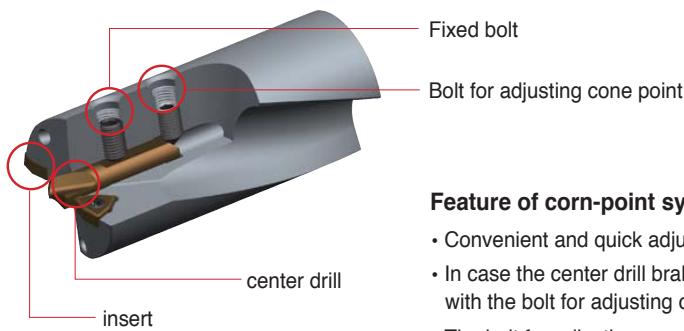


Grade of center drill



G Technical Information for WPDC

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

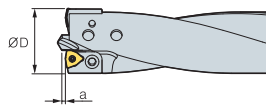
※ Use safety covers for your safety when clamping the center drill and insert

※ 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

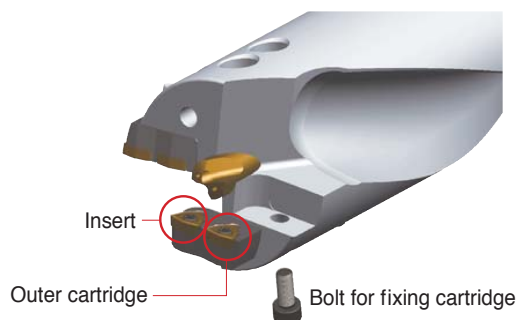


Diameter (ØD)	Length of the 'a' part of center drill		
	Steel	Alloy steel	Non-ferrous metal
25~30	1.2	1.0	1.5
31~40	1.5	1.3	1.8
41~50	1.8	1.5	2.2
51~59	2.2	1.8	2.5
60~75	2.5	2.0	2.8
76~80	3.0	2.5	3.5



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

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

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

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

\rightsquigarrow To make the drill diameter of outer cartridge to $\varnothing 66.0$, machine 2.0 mm. ($\varnothing 70.0 - \varnothing 66.0 = 4 \rightsquigarrow 4 \div 2 = 2$ (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	$\sim\varnothing 30$	$\varnothing 31\sim\varnothing 40$	$\varnothing 41\sim\varnothing 50$	$\varnothing 51\sim\varnothing 59$	$\varnothing 60\sim\varnothing 75$	$\varnothing 76\sim\varnothing 80$
P	Carbon steel	Low carbon steel (~0.25%)	80~180	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

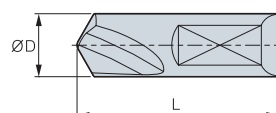
G Center Drill

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-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			
WPDC420-40-□	42							CWP420P		
WPDC430-40-□	43							CWP430P		
WPDC440-40-□	44							CWP440P		
WPDC450-40-□	45							CWP450P		
WPDC460-40-□	46							CWP460P		
WPDC470-40-□	47				CWP470P					
WPDC480-40-□	48				CWP4650C	CWP480P	BHA0512			
WPDC490-40-□	49							CWP490P		
WPDC500-40-□	50							CWP500P		
WPDC510-40-□	51							CWP510P		
WPDC520-40-□	52							CWP520P		
WPDC530-40-□	53	CWP530P								
WPDC540-40-□	54	WC□T080408-C21N	FTKA0411K	TW15S	CDH1238	KHA1015	KHC1016	CWP5155C	CWP540P	BHA0612
WPDC550-40-□	55								CWP550P	
WPDC560-40-□	56								CWP560P	
WPDC570-40-□	57								CWP570P	
WPDC580-40-□	58								CWP580P	
WPDC590-40-□	59								CWP590P	
WPDC6065-40-□	60~65	WC□T050308-C21N	FTKA0307	TW09S	KHA1020	KHA1020	CWP6065C	CWP6065P	BHA0510	
WPDC6570-40-□	65~70							CWP6570C		CWP6570P
WPDC7075-40-□	70~75							CWP7075C		CWP7075P
WPDC7580-40-□	75~80							WC□T06T308-C21N		FTKA03508

Applicable inserts G04-05

Center Drill



(mm)

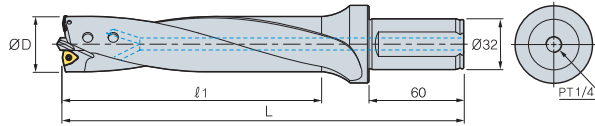
Designation	Grade	ØD	L	Oil-hole
CD0630	PC40H	6	30	×
CD0835	PC40H	8	35	×
CDH1035	PC40H	10	35	○
CDH1238	PC40H	12	38	○
CDH1645	PC40H	16	45	○

This is HSS with Tin coating



WPDC-5D/6.5D/8D

Standard type



(mm)

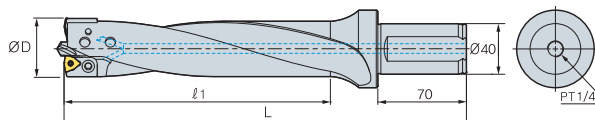
Designation	ØD	5D		6.5D		8D		Insert	Center drill	
		l ₁	L	l ₁	L	l ₁	L			
WPDC	250-32-□	25	150	240	185	275	220	310	WC□T030204-C21N	CD0630
	260-32-□	26	150	240	185	275	220	310		
	270-32-□	27	150	240	185	275	220	310		
	280-32-□	28	150	240	185	275	220	310		
	290-32-□	29	150	240	185	275	220	310		
	300-32-□	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



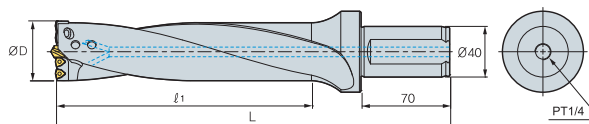
Designation	ØD	5D		6.5D		8D		Insert	Center drill	Cartridge		
		l ₁	L	l ₁	L	l ₁	L			Inner	Outer	
WPDC	410-40-□	41	225	330	283	388	340	445	WC□T06T308-C21N	CDH1035	CWP4145C	CWP410P
	420-40-□	42	225	330	283	388	340	445				CWP420P
	430-40-□	43	225	330	283	388	340	445				CWP430P
	440-40-□	44	225	330	283	388	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			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 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



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			CWP7580C	CWP7580P

Applicable inserts G06

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

