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Vol. 2.0

WIDIN DRILL SERIES

Power Max Drill Drill for High Speed Cutting~HRC50

NEW **New Dynamic Power Drill** Drills for General Speed Cutting
(N-Dolphin Drill)

Solid Spiral Drill Drills for Multi-purpose

Centering Tools Centering Tools



SELECTION GUIDE

EDP. NO	APPEARANCE	FLUTE	FEATURE		LENGTH					INTERNAL COOLANT	STANDARD RANGE (Ø)		PAGE
			RELIEF	FACET	3xD	5xD	8xD	10xD	20xD		MIN	MAX	

Power Max Drill Series (~HRC50) ··· Drill for High Speed Cutting (Alloy steel, Cast Iron, Stainless Steel, Pre-Hardened Steel)

PF503	◆◆		2		○	○						2	20	4
PF505	◆◆		2		○		○					3	20	4
HP503	◇		2		○	○						3	16	16
HPI 503	◆◆		2		○	○				○		3	20	22
HPI 505	◆◆		2		○		○			○		3	20	22
HPI 508N	◆◆		2		○		○			○		3	20	22
SF503	◆◆		2		○	○				○		3	20	38
SF505	◆◆		2		○		○			○		3	20	38
SF508	◆◆		2		○		○			○		3	20	38
SF510	◇		2		○			○		○		3	11.5	38
SF520	◇		2		○				○	○		3.97	10	38

New Dynamic Power Drill (N-Dolphin Drill) ··· Drills for General Speed Cutting (Carbon Steel, Alloy Steel, Cast Iron)

NDPR	◇		2		○	○						1	20	61
NDPL	◇		2		○		○					3	20	61

Solid Spiral Drill Series ··· Drills for Multi-Purpose & Aluminum (Non-ferrous & Aluminum)

SSD	◇		2		○		○					1	13	72
SSDL	◇		2		○		○					3	10	74
SSTD	◇		2		○	○						0.5	13	75
APF505	◆◆		3		○		○					3	16	78

Centering Tools

LDA	◆		2									3/32	1/2	82
LDS	◇		2									3	20	84

APPLICABLE WORKING MATERIAL

CARBON STEELS LOW (1010, 1018)	CARBON STEELS MED (1025, 1045)	CARBON STEELS HIGH (1065)	ALLOY STEELS (4140, 4340)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
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○ : GOOD ◎ : BEST

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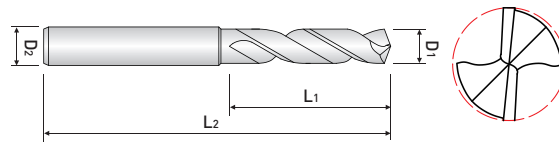
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PF503, PF505 SERIES

3xD & 5xD

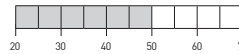
DRILLS / 2 FLUTES / 3xD & 5xD / SOLID CARBIDE / SINGLE MARGIN / TiAlN-HH COATING



TOLERANCE (Metric)

D1 = +0 / -0.014 (D1 ≤ 3)
D1 = +0 / -0.018 (D1 = 3.1 to 6)
D1 = +0 / -0.022 (D1 = 6.1 to 10)
D1 = +0 / -0.027 (D1 = 10.1 to 18)
D1 = +0 / -0.033 (D1 > 18)
D2 = h6

HARDNESS (HRc)



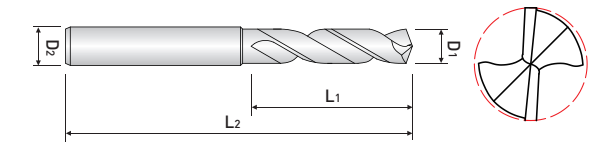
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PF503, PF505 SERIES

3xD & 5xD

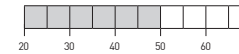
DRILLS / 2 FLUTES / 3xD & 5xD / SOLID CARBIDE / SINGLE MARGIN / TiAlN-HH COATING



TOLERANCE (Metric)

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D1 = +0 / -0.018 (D1 = 3.1 to 6)
D1 = +0 / -0.022 (D1 = 6.1 to 10)
D1 = +0 / -0.027 (D1 = 10.1 to 18)
D1 = +0 / -0.033 (D1 > 18)
D2 = h6

HARDNESS (HRc)



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EDP NO.	Cutting Diameter		Cutting Length	Overall Length	Shank Diameter		
						2 Flute	
						TiAlN-HH	
						Helix 30°	
3xD	5xD	D1			L1	L2	D2
PF503	PF505	Decimal	Fraction	Metric			
PF503020	-	0.0787"	-	2.000	14.00	50.00	3.00
PF503021	-	0.0827"	-	2.100	14.00	50.00	3.00
PF503022	-	0.0866"	-	2.200	14.00	50.00	3.00
PF503023	-	0.0906"	-	2.300	14.00	50.00	3.00
PF503024	-	0.0945"	-	2.400	14.00	50.00	3.00
PF503025	-	0.0984"	-	2.500	14.00	50.00	3.00
PF503026	-	0.1024"	-	2.600	14.00	50.00	3.00
PF503027	-	0.1063"	-	2.700	14.00	50.00	3.00
PF503028	-	0.1102"	-	2.800	14.00	50.00	3.00
PF503029	-	0.1142"	-	2.900	14.00	50.00	3.00
PF503030	-	0.1181"	-	3.000	18.00	60.00	3.00
-	PF505030	0.1181"	-	3.000	25.00	60.00	3.00
PF503031	-	0.1220"	-	3.100	20.00	60.00	4.00
-	PF505031	0.1220"	-	3.100	27.00	60.00	4.00
PF50303175	-	0.1250"	1/8"	3.175	20.00	60.00	4.00
-	PF50503175	0.1250"	1/8"	3.175	27.00	60.00	4.00
PF503032	-	0.1260"	-	3.200	20.00	60.00	4.00
-	PF505032	0.1260"	-	3.200	27.00	60.00	4.00
PF50303264	-	0.1285"	#30	3.264	20.00	60.00	4.00
-	PF50503264	0.1285"	#30	3.264	27.00	60.00	4.00
PF503033	-	0.1299"	-	3.300	20.00	60.00	4.00
-	PF505033	0.1299"	-	3.300	27.00	60.00	4.00
PF503034	-	0.1339"	-	3.400	22.00	60.00	4.00
-	PF505034	0.1339"	-	3.400	30.00	65.00	4.00
PF503035	-	0.1378"	-	3.500	22.00	60.00	4.00
-	PF505035	0.1378"	-	3.500	30.00	65.00	4.00
PF50303572	-	0.1406"	9/64"	3.572	22.00	60.00	4.00
-	PF50503572	0.1406"	9/64"	3.572	30.00	65.00	4.00
PF503036	-	0.1417"	-	3.600	22.00	60.00	4.00
-	PF505036	0.1417"	-	3.600	30.00	65.00	4.00
PF503037	-	0.1457"	-	3.700	22.00	60.00	4.00
-	PF505037	0.1457"	-	3.700	30.00	65.00	4.00
PF503038	-	0.1496"	-	3.800	24.00	60.00	4.00
-	PF505038	0.1496"	-	3.800	33.00	71.00	4.00

Applicable Working Material

SERIES	CARBON STEELS LOW (100-100)	CARBON STEELS MED (100-100)	CARBON STEELS HIGH (100)	ALLOY STEELS (40-40)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME	
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

○:GOOD ◎:BEST

EDP NO.	Cutting Diameter		Cutting Length	Overall Length	Shank Diameter		
						2 Flute	
						TiAlN-HH	
						Helix 30°	
3xD	5xD	D1			L1	L2	D2
PF503	PF505	Decimal	Fraction	Metric			
PF503039	-	0.1535"	-	3.900	24.00	60.00	4.00
-	PF505039	0.1535"	-	3.900	33.00	71.00	4.00
PF503040	-	0.1575"	-	4.000	24.00	60.00	4.00
-	PF505040	0.1575"	-	4.000	33.00	71.00	4.00
PF50304039	-	0.1590"	#21	4.039	24.00	60.00	4.00
-	PF50504039	0.1590"	#21	4.039	33.00	71.00	5.00
PF503041	-	0.1614"	-	4.100	24.00	60.00	4.00
-	PF505041	0.1614"	-	4.100	33.00	71.00	5.00
PF503042	-	0.1654"	-	4.200	26.00	62.00	5.00
-	PF505042	0.1654"	-	4.200	33.00	71.00	5.00
PF503043	-	0.1693"	-	4.300	26.00	62.00	5.00
-	PF505043	0.1693"	-	4.300	36.00	71.00	5.00
PF503044	-	0.1732"	-	4.400	26.00	62.00	5.00
-	PF505044	0.1732"	-	4.400	36.00	71.00	5.00
PF503045	-	0.1772"	-	4.500	26.00	62.00	5.00
-	PF505045	0.1772"	-	4.500	36.00	71.00	5.00
PF503046	-	0.1811"	-	4.600	26.00	62.00	5.00
-	PF505046	0.1811"	-	4.600	36.00	71.00	5.00
PF503047	-	0.1850"	-	4.700	26.00	62.00	5.00
-	PF505047	0.1850"	-	4.700	36.00	71.00	5.00
PF50304763	-	0.1875"	3/16"	4.763	26.00	62.00	5.00
-	PF50504763	0.1875"	3/16"	4.763	39.00	71.00	5.00
PF503048	-	0.1890"	-	4.800	26.00	62.00	5.00
-	PF505048	0.1890"	-	4.800	39.00	71.00	5.00
PF503049	-	0.1929"	-	4.900	26.00	62.00	5.00
-	PF505049	0.1929"	-	4.900	39.00	71.00	5.00
PF503050	-	0.1969"	-	5.000	26.00	62.00	5.00
-	PF505050	0.1969"	-	5.000	39.00	71.00	5.00
PF503051	-	0.2008"	-	5.100	26.00	62.00	5.00
-	PF505051	0.2008"	-	5.100	39.00	83.00	6.00
PF50305159	-	0.2031"	13/64"	5.159	28.00	66.00	6.00
-	PF50505159	0.2031"	13/64"	5.159	39.00	83.00	6.00
PF503052	-	0.2047"	-	5.200	28.00	66.00	6.00
-	PF505052	0.2047"	-	5.200	39.00	83.00	6.00

Applicable Working Material

SERIES	CARBON STEELS LOW (100-100)	CARBON STEELS MED (100-100)	CARBON STEELS HIGH (100)	ALLOY STEELS (40-40)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME	
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

○:GOOD ◎:BEST



PF503, PF505 SERIES

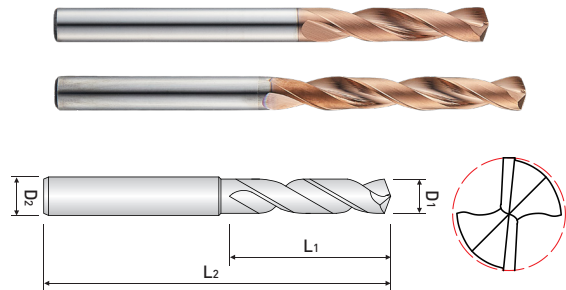
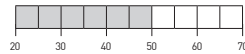
3xD & 5xD

DRILLS / 2 FLUTES / 3xD & 5xD / SOLID CARBIDE / SINGLE MARGIN / TiAlN-HH COATING

TOLERANCE (Metric)

D1 = +0 / -0.014 (D1 ≤ 3)
D1 = +0 / -0.018 (D1 = 3.1 to 6)
D1 = +0 / -0.022 (D1 = 6.1 to 10)
D1 = +0 / -0.027 (D1 = 10.1 to 18)
D1 = +0 / -0.033 (D1 > 18)
D2 = h6

HARDNESS (HRc)



>>Continue

EDP NO.		Cutting Diameter			Cutting Length	Overall Length	Shank Diameter
2 Flute		D1					
TiAlN-HH					L1	L2	D2
Helix 30°							
3xD	5xD	Decimal	Fraction	Metric			
PF503	PF505						
PF503053	-	0.2087"	-	5.300	28.00	66.00	6.00
-	PF505053	0.2087"	-	5.300	39.00	83.00	6.00
PF503054	-	0.2126"	-	5.400	28.00	66.00	6.00
-	PF505054	0.2126"	-	5.400	43.00	83.00	6.00
PF503055	-	0.2165"	-	5.500	28.00	66.00	6.00
-	PF505055	0.2165"	-	5.500	43.00	83.00	6.00
PF50305558	-	0.2188"	7/32"	5.558	30.00	66.00	6.00
-	PF50505558	0.2188"	7/32"	5.558	43.00	83.00	6.00
PF503056	-	0.2205"	-	5.600	30.00	66.00	6.00
-	PF505056	0.2205"	-	5.600	43.00	83.00	6.00
PF503057	-	0.2244"	-	5.700	30.00	66.00	6.00
-	PF505057	0.2244"	-	5.700	43.00	83.00	6.00
PF503058	-	0.2283"	-	5.800	30.00	66.00	6.00
-	PF505058	0.2283"	-	5.800	43.00	83.00	6.00
PF503059	-	0.2323"	-	5.900	30.00	66.00	6.00
-	PF505059	0.2323"	-	5.900	43.00	83.00	6.00
PF50305953	-	0.2344"	15/64"	5.953	30.00	66.00	6.00
-	PF50505953	0.2344"	15/64"	5.953	43.00	83.00	6.00
PF503060	-	0.2362"	-	6.000	30.00	66.00	6.00
-	PF505060	0.2362"	-	6.000	43.00	83.00	6.00
PF503061	-	0.2402"	-	6.100	30.00	66.00	6.00
-	PF505061	0.2402"	-	6.100	47.00	87.00	7.00
PF503062	-	0.2441"	-	6.200	34.00	74.00	7.00
-	PF505062	0.2441"	-	6.200	47.00	87.00	7.00
PF503063	-	0.2480"	-	6.300	34.00	74.00	7.00
-	PF505063	0.2480"	-	6.300	47.00	87.00	7.00
PF5030635	-	0.2500"	1/4"	6.350	34.00	74.00	7.00
-	PF5050635	0.2500"	-	6.350	47.00	87.00	7.00
PF503064	-	0.2520"	-	6.400	34.00	74.00	7.00
-	PF505064	0.2520"	-	6.400	47.00	87.00	7.00
PF503065	-	0.2559"	-	6.500	34.00	74.00	7.00
-	PF505065	0.2559"	-	6.500	47.00	87.00	7.00
PF503066	-	0.2598"	-	6.600	34.00	74.00	7.00
-	PF505066	0.2598"	-	6.600	47.00	87.00	7.00

Applicable Working Material

SERIES	CARBON STEELS LOW (HRC 10-18)	CARBON STEELS MED (HRC 18-28)	CARBON STEELS HIGH (HRC 28-40)	ALLOY STEELS (HRC 40-50)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (B01, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (B414V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

○:GOOD ◎:BEST



PF503, PF505 SERIES

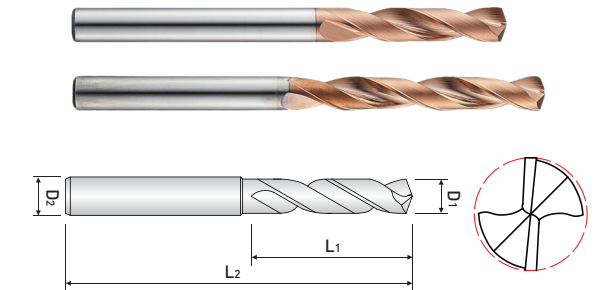
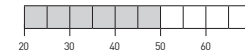
3xD & 5xD

DRILLS / 2 FLUTES / 3xD & 5xD / SOLID CARBIDE / SINGLE MARGIN / TiAlN-HH COATING

TOLERANCE (Metric)

D1 = +0 / -0.014 (D1 ≤ 3)
D1 = +0 / -0.018 (D1 = 3.1 to 6)
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D1 = +0 / -0.027 (D1 = 10.1 to 18)
D1 = +0 / -0.033 (D1 > 18)
D2 = h6

HARDNESS (HRc)



>>Continue

EDP NO.		Cutting Diameter			Cutting Length	Overall Length	Shank Diameter
2 Flute		D1					
TiAlN-HH					L1	L2	D2
Helix 30°							
3xD	5xD	Decimal	Fraction	Metric			
PF503	PF505						
PF503067	-	0.2638"	-	6.700	37.00	74.00	7.00
-	PF505067	0.2638"	-	6.700	47.00	87.00	7.00
PF50306747	-	0.2656"	17/64"	6.747	37.00	74.00	7.00
-	PF50506747	0.2656"	17/64"	6.747	47.00	87.00	7.00
PF503068	-	0.2677"	-	6.800	37.00	74.00	7.00
-	PF505068	0.2677"	-	6.800	47.00	87.00	7.00
PF503069	-	0.2717"	-	6.900	37.00	74.00	7.00
-	PF505069	0.2717"	-	6.900	47.00	87.00	7.00
PF503070	-	0.2756"	-	7.000	37.00	74.00	7.00
-	PF505070	0.2756"	-	7.000	47.00	87.00	7.00
PF503071	-	0.2795"	-	7.100	37.00	74.00	7.00
-	PF505071	0.2795"	-	7.100	52.00	92.00	8.00
PF50307145	-	0.2813"	9/32"	7.145	40.00	79.00	8.00
-	PF50507145	0.2813"	9/32"	7.145	52.00	92.00	8.00
PF503072	-	0.2835"	-	7.200	40.00	79.00	8.00
-	PF505072	0.2835"	-	7.200	52.00	92.00	8.00
PF503073	-	0.2874"	-	7.300	40.00	79.00	8.00
-	PF505073	0.2874"	-	7.300	52.00	92.00	8.00
PF503074	-	0.2913"	-	7.400	40.00	79.00	8.00
-	PF505074	0.2913"	-	7.400	52.00	92.00	8.00
PF503075	-	0.2953"	-	7.500	40.00	79.00	8.00
-	PF505075	0.2953"	-	7.500	52.00	92.00	8.00
PF50307541	-	0.2969"	19/64"	7.541	40.00	79.00	8.00
-	PF50507541	0.2969"	19/64"	7.541	52.00	92.00	8.00
PF503076	-	0.2992"	-	7.600	40.00	79.00	8.00
-	PF505076	0.2992"	-	7.600	52.00	92.00	8.00
PF503077	-	0.3031"	-	7.700	40.00	79.00	8.00
-	PF505077	0.3031"	-	7.700	52.00	92.00	8.00
PF503078	-	0.3071"	-	7.800	40.00	79.00	8.00
-	PF505078	0.3071"	-	7.800	52.00	92.00	8.00
PF503079	-	0.3110"	-	7.900	40.00	79.00	8.00
-	PF505079	0.3110"	-	7.900	52.00	92.00	8.00
PF50307938	-	0.3125"	5/16"	7.938	40.00	79.00	8.00
-	PF50507938	0.3125"	5/16"	7.938	52.00	92.00	8.00

Applicable Working Material

SERIES	CARBON STEELS LOW (HRC 10-18)	CARBON STEELS MED (HRC 18-28)	CARBON STEELS HIGH (HRC 28-40)	ALLOY STEELS (HRC 40-50)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (B01, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (B414V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

○:GOOD ◎:BEST



PF503, PF505 SERIES

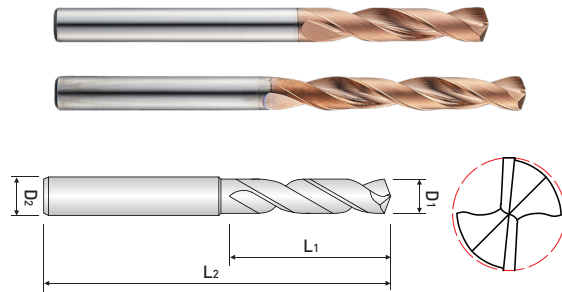
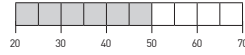
3xD & 5xD

DRILLS / 2 FLUTES / 3xD & 5xD / SOLID CARBIDE / SINGLE MARGIN / TiAlN-HH COATING

TOLERANCE (Metric)

D1 = +0 / -0.014 (D1 ≤ 3)
D1 = +0 / -0.018 (D1 = 3.1 to 6)
D1 = +0 / -0.022 (D1 = 6.1 to 10)
D1 = +0 / -0.027 (D1 = 10.1 to 18)
D1 = +0 / -0.033 (D1 > 18)
D2 = h6

HARDNESS (HRc)



>>Continue



PF503, PF505 SERIES

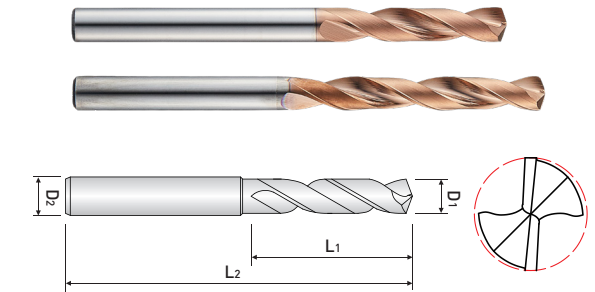
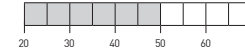
3xD & 5xD

DRILLS / 2 FLUTES / 3xD & 5xD / SOLID CARBIDE / SINGLE MARGIN / TiAlN-HH COATING

TOLERANCE (Metric)

D1 = +0 / -0.014 (D1 ≤ 3)
D1 = +0 / -0.018 (D1 = 3.1 to 6)
D1 = +0 / -0.022 (D1 = 6.1 to 10)
D1 = +0 / -0.027 (D1 = 10.1 to 18)
D1 = +0 / -0.033 (D1 > 18)
D2 = h6

HARDNESS (HRc)



>>Continue

Power Max Drill Series	EDP NO.		Cutting Diameter			Cutting Length	Overall Length	Shank Diameter
	2 Flute							
	TiAlN-HH							
	Helix 30°							
	3xD	5xD	D1			L1	L2	D2
	PF503	PF505	Decimal	Fraction	Metric			
	PF503080	-	0.3150"	-	8.000	40.00	79.00	8.00
	-	PF505080	0.3150"	-	8.000	52.00	92.00	8.00
	PF503081	-	0.3189"	-	8.100	40.00	79.00	8.00
	-	PF505081	0.3189"	-	8.100	56.00	96.00	9.00
	PF503082	-	0.3228"	-	8.200	43.00	84.00	9.00
	-	PF505082	0.3228"	-	8.200	56.00	96.00	9.00
	PF503083	-	0.3268"	-	8.300	43.00	84.00	9.00
	-	PF505083	0.3268"	-	8.300	56.00	96.00	9.00
	PF50308334	-	0.3281"	21/64"	8.334	43.00	84.00	9.00
	-	PF50508334	0.3281"	21/64"	8.334	56.00	96.00	9.00
	PF503084	-	0.3307"	-	8.400	43.00	84.00	9.00
	-	PF505084	0.3307"	-	8.400	56.00	96.00	9.00
	PF503085	-	0.3346"	-	8.500	43.00	84.00	9.00
	-	PF505085	0.3346"	-	8.500	56.00	96.00	9.00
	PF503086	-	0.3386"	-	8.600	43.00	84.00	9.00
	-	PF505086	0.3386"	-	8.600	56.00	96.00	9.00
	PF503087	-	0.3425"	-	8.700	43.00	84.00	9.00
	-	PF505087	0.3425"	-	8.700	56.00	96.00	9.00
	PF50308733	-	0.3438"	11/32"	8.733	43.00	84.00	9.00
	-	PF50508733	0.3438"	11/32"	8.733	56.00	96.00	9.00
	PF503088	-	0.3465"	-	8.800	43.00	84.00	9.00
	-	PF505088	0.3465"	-	8.800	56.00	96.00	9.00
	PF503089	-	0.3504"	-	8.900	43.00	84.00	9.00
	-	PF505089	0.3504"	-	8.900	56.00	96.00	9.00
	PF503090	-	0.3543"	-	9.000	43.00	84.00	9.00
	-	PF505090	0.3543"	-	9.000	56.00	96.00	9.00
	PF503091	-	0.3583"	-	9.100	43.00	84.00	9.00
	-	PF505091	0.3583"	-	9.100	62.00	105.00	10.00
	PF50309129	-	0.3594"	23/64"	9.129	47.00	89.00	10.00
	-	PF50509129	0.3594"	23/64"	9.129	62.00	105.00	10.00
	PF503092	-	0.3622"	-	9.200	47.00	89.00	10.00
	-	PF505092	0.3622"	-	9.200	62.00	105.00	10.00
	PF503093	-	0.3661"	-	9.300	47.00	89.00	10.00
	-	PF505093	0.3661"	-	9.300	62.00	105.00	10.00

Applicable Working Material

ALL	CARBON STEELS LOW (HRC 10-20)	CARBON STEELS MED (HRC 20-30)	CARBON STEELS HIGH (HRC 30-40)	ALLOY STEELS (HRC 40-60)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
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○:GOOD ◎:BEST

New Dynamic Power Drill Series	EDP NO.		Cutting Diameter			Cutting Length	Overall Length	Shank Diameter
	2 Flute							
	TiAlN-HH							
	Helix 30°							
	3xD	5xD	D1			L1	L2	D2
	PF503	PF505	Decimal	Fraction	Metric			
	PF50309347	-	0.3680"	-	9.347	47.00	89.00	10.00
	PF503094	-	0.3701"	-	9.400	47.00	89.00	10.00
	-	PF505094	0.3701"	-	9.400	62.00	105.00	10.00
	PF503095	-	0.3740"	-	9.500	47.00	89.00	10.00
	-	PF505095	0.3740"	-	9.500	62.00	105.00	10.00
	PF50309525	-	0.3750"	3/8"	9.525	47.00	89.00	10.00
	-	PF50509525	0.3750"	3/8"	9.525	62.00	105.00	10.00
	PF503096	-	0.3780"	-	9.600	47.00	89.00	10.00
	-	PF505096	0.3780"	-	9.600	62.00	105.00	10.00
	PF503097	-	0.3819"	-	9.700	47.00	89.00	10.00
	-	PF505097	0.3819"	-	9.700	62.00	105.00	10.00
	PF503098	-	0.3858"	-	9.800	47.00	89.00	10.00
	-	PF505098	0.3858"	-	9.800	62.00	105.00	10.00
	PF503099	-	0.3898"	-	9.900	47.00	89.00	10.00
	-	PF505099	0.3898"	-	9.900	62.00	105.00	10.00
	-	PF50509921	0.3906"	25/64"	9.921	62.00	105.00	10.00
	PF50309921	-	0.3906"	25/64"	9.921	47.00	89.00	10.00
	PF503100	-	0.3937"	-	10.000	47.00	89.00	10.00
	-	PF505100	0.3937"	-	10.000	62.00	105.00	10.00
	PF503101	-	0.3976"	-	10.100	47.00	89.00	10.00
	-	PF505101	0.3976"	-	10.100	68.00	115.00	11.00
	PF503102	-	0.4016"	-	10.200	51.00	95.00	11.00
	-	PF505102	0.4016"	-	10.200	68.00	115.00	11.00
	PF503103	-	0.4055"	-	10.300	51.00	95.00	11.00
	-	PF505103	0.4055"	-	10.300	68.00	115.00	11.00
	PF5031032	-	0.4063"	13/32"	10.320	51.00	95.00	11.00
	-	PF5051032	0.4063"	13/32"	10.320	68.00	115.00	11.00
	PF503104	-	0.4094"	-	10.400	51.00	95.00	11.00
	-	PF505104	0.4094"	-	10.400	68.00	115.00	11.00
	PF503105	-	0.4134"	-	10.500	51.00	95.00	11.00
	-	PF505105	0.4134"	-	10.500	68.00	115.00	11.00
	PF503106	-	0.4173"	-	10.600	51.00	95.00	11.00
	-	PF505106	0.4173"	-	10.600	68.00	115.00	11.00
	PF503107	-	0.4213"	-	10.700	51.00	95.00	11.00

Applicable Working Material

ALL	CARBON STEELS LOW (HRC 10-20)	CARBON STEELS MED (HRC 20-30)	CARBON STEELS HIGH (HRC 30-40)	ALLOY STEELS (HRC 40-60)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
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○:GOOD ◎:BEST

PF503, PF505 SERIES

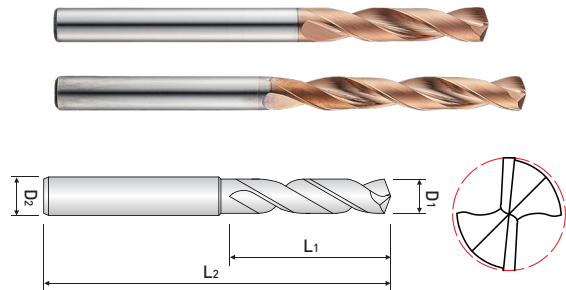
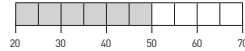
3xD & 5xD

DRILLS / 2 FLUTES / 3xD & 5xD / SOLID CARBIDE / SINGLE MARGIN / TiAlN-HH COATING

TOLERANCE (Metric)

D1 = +0 / -0.014 (D1 ≤ 3)
D1 = +0 / -0.018 (D1 = 3.1 to 6)
D1 = +0 / -0.022 (D1 = 6.1 to 10)
D1 = +0 / -0.027 (D1 = 10.1 to 18)
D1 = +0 / -0.033 (D1 > 18)
D2 = h6

HARDNESS (HRc)



>>Continue

EDP NO.		Cutting Diameter			Cutting Length	Overall Length	Shank Diameter
2 Flute		D1			L1	L2	D2
TiAlN-HH		D1					
Helix 30°		D1			L1	L2	D2
3xD	5xD	Decimal	Fraction	Metric			
-	PF505107	0.4213"	-	10.700	68.00	115.00	11.00
PF50310716	-	0.4219"	27/64"	10.716	51.00	95.00	11.00
-	PF50510716	0.4219"	27/64"	10.716	68.00	115.00	11.00
PF503108	-	0.4252"	-	10.800	51.00	95.00	11.00
-	PF505108	0.4252"	-	10.800	68.00	115.00	11.00
PF503109	-	0.4291"	-	10.900	51.00	95.00	11.00
-	PF505109	0.4291"	-	10.900	68.00	115.00	11.00
PF503110	-	0.4331"	-	11.000	51.00	95.00	11.00
-	PF505110	0.4331"	-	11.000	68.00	115.00	11.00
PF503111	-	0.4370"	-	11.100	51.00	95.00	11.00
-	PF505111	0.4370"	-	11.100	71.00	121.00	12.00
PF50311113	-	0.4375"	7/16"	11.113	54.00	102.00	12.00
-	PF50511113	0.4375"	7/16"	11.113	71.00	121.00	12.00
PF503112	-	0.4409"	-	11.200	54.00	102.00	12.00
-	PF505112	0.4409"	-	11.200	71.00	121.00	12.00
PF503113	-	0.4449"	-	11.300	54.00	102.00	12.00
-	PF505113	0.4449"	-	11.300	71.00	121.00	12.00
PF503114	-	0.4488"	-	11.400	54.00	102.00	12.00
-	PF505114	0.4488"	-	11.400	71.00	121.00	12.00
PF503115	-	0.4528"	-	11.500	54.00	102.00	12.00
-	PF505115	0.4528"	-	11.500	71.00	121.00	12.00
PF503116	-	0.4567"	-	11.600	54.00	102.00	12.00
-	PF505116	0.4567"	-	11.600	71.00	121.00	12.00
PF503117	-	0.4606"	-	11.700	54.00	102.00	12.00
-	PF505117	0.4606"	-	11.700	71.00	121.00	12.00
PF503118	-	0.4646"	-	11.800	54.00	102.00	12.00
-	PF505118	0.4646"	-	11.800	71.00	121.00	12.00
PF503119	-	0.4685"	-	11.900	54.00	102.00	12.00
-	PF505119	0.4685"	-	11.900	71.00	121.00	12.00
PF50311908	-	0.4688"	15/32"	11.908	54.00	102.00	12.00
-	PF50511908	0.4688"	15/32"	11.908	71.00	121.00	12.00
PF503120	-	0.4724"	-	12.000	54.00	102.00	12.00
-	PF505120	0.4724"	-	12.000	71.00	121.00	12.00
PF503121	-	0.4764"	-	12.100	54.00	102.00	12.00

Applicable Working Material

○:GOOD ◎:BEST

SERIES	CARBON STEELS LOW (100-100)	CARBON STEELS MED (100-100)	CARBON STEELS HIGH (100)	ALLOY STEELS (40-60)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

PF503, PF505 SERIES

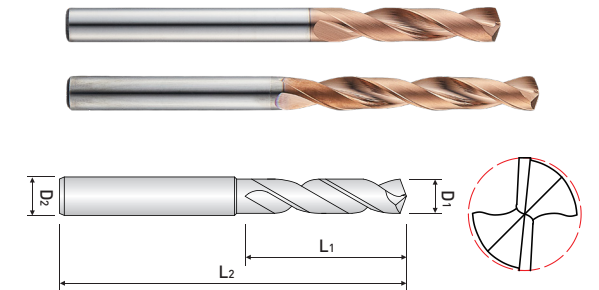
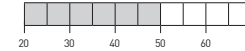
3xD & 5xD

DRILLS / 2 FLUTES / 3xD & 5xD / SOLID CARBIDE / SINGLE MARGIN / TiAlN-HH COATING

TOLERANCE (Metric)

D1 = +0 / -0.014 (D1 ≤ 3)
D1 = +0 / -0.018 (D1 = 3.1 to 6)
D1 = +0 / -0.022 (D1 = 6.1 to 10)
D1 = +0 / -0.027 (D1 = 10.1 to 18)
D1 = +0 / -0.033 (D1 > 18)
D2 = h6

HARDNESS (HRc)



>>Continue

EDP NO.		Cutting Diameter			Cutting Length	Overall Length	Shank Diameter
2 Flute		D1			L1	L2	D2
TiAlN-HH		D1					
Helix 30°		D1			L1	L2	D2
3xD	5xD	Decimal	Fraction	Metric			
-	PF505121	0.4764"	-	12.100	75.00	125.00	13.00
PF503122	-	0.4803"	-	12.200	57.00	102.00	13.00
-	PF505122	0.4803"	-	12.200	75.00	125.00	13.00
PF503123	-	0.4843"	-	12.300	57.00	102.00	13.00
-	PF505123	0.4843"	-	12.300	75.00	125.00	13.00
PF50312304	-	0.4844"	31/64"	12.304	57.00	102.00	13.00
-	PF50512304	0.4844"	31/64"	12.304	75.00	125.00	13.00
PF503124	-	0.4882"	-	12.400	57.00	102.00	13.00
-	PF505124	0.4882"	-	12.400	75.00	125.00	13.00
PF503125	-	0.4921"	-	12.500	57.00	102.00	13.00
-	PF505125	0.4921"	-	12.500	75.00	125.00	13.00
PF503126	-	0.4961"	-	12.600	57.00	102.00	13.00
-	PF505126	0.4961"	-	12.600	75.00	125.00	13.00
PF503127	-	0.5000"	1/2"	12.700	57.00	102.00	13.00
-	PF505127	0.5000"	1/2"	12.700	75.00	125.00	13.00
PF503128	-	0.5039"	-	12.800	57.00	102.00	13.00
-	PF505128	0.5039"	-	12.800	75.00	125.00	13.00
PF503129	-	0.5079"	-	12.900	57.00	102.00	13.00
-	PF505129	0.5079"	-	12.900	75.00	125.00	13.00
PF503130	-	0.5118"	-	13.000	57.00	102.00	13.00
-	PF505130	0.5118"	-	13.000	75.00	125.00	13.00
PF50313096	-	0.5156"	33/64"	13.096	57.00	102.00	13.00
-	PF50513096	0.5156"	33/64"	13.096	80.00	134.00	14.00
PF503131	-	0.5157"	-	13.100	57.00	102.00	13.00
-	PF505131	0.5157"	-	13.100	80.00	134.00	14.00
PF503132	-	0.5197"	-	13.200	60.00	107.00	14.00
-	PF505132	0.5197"	-	13.200	80.00	134.00	14.00
PF503133	-	0.5236"	-	13.300	60.00	107.00	14.00
-	PF505133	0.5236"	-	13.300	80.00	134.00	14.00
PF503134	-	0.5276"	-	13.400	60.00	107.00	14.00
-	PF505134	0.5276"	-	13.400	80.00	134.00	14.00
PF50313494	-	0.5313"	17/32"	13.494	60.00	107.00	14.00
-	PF50513494	0.5313"	17/32"	13.494	80.00	134.00	14.00
PF503135	-	0.5315"	-	13.500	60.00	107.00	14.00

Applicable Working Material

○:GOOD ◎:BEST

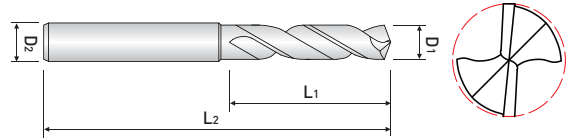
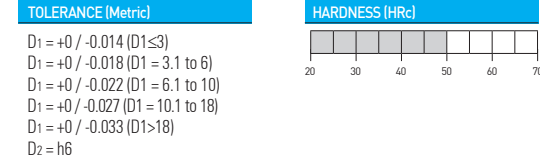
SERIES	CARBON STEELS LOW (100-100)	CARBON STEELS MED (100-100)	CARBON STEELS HIGH (100)	ALLOY STEELS (40-60)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



PF503, PF505 SERIES

3xD & 5xD

DRILLS / 2 FLUTES / 3xD & 5xD / SOLID CARBIDE / SINGLE MARGIN / TiAlN-HH COATING



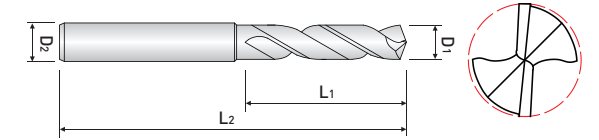
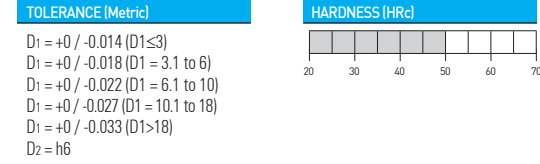
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PF503, PF505 SERIES

3xD & 5xD

DRILLS / 2 FLUTES / 3xD & 5xD / SOLID CARBIDE / SINGLE MARGIN / TiAlN-HH COATING



>>Continue

Power Max Drill Series	EDP NO.		Cutting Diameter	Cutting Length	Overall Length	Shank Diameter	
	2 Flute						
	TiAlN-HH						
	Helix 30°						
3xD	5xD	D1			L1	L2	D2
PF503	PF505	Decimal	Fraction	Metric			
-	PF505135	0.5315"	-	13.500	80.00	134.00	14.00
PF503136	-	0.5354"	-	13.600	60.00	107.00	14.00
-	PF505136	0.5354"	-	13.600	80.00	134.00	14.00
PF503137	-	0.5394"	-	13.700	60.00	107.00	14.00
-	PF505137	0.5394"	-	13.700	80.00	134.00	14.00
PF503138	-	0.5433"	-	13.800	60.00	107.00	14.00
-	PF505138	0.5433"	-	13.800	80.00	134.00	14.00
PF50313891	-	0.5469"	35/64"	13.891	60.00	107.00	14.00
-	PF50513891	0.5469"	35/64"	13.891	80.00	134.00	14.00
PF503139	-	0.5472"	-	13.900	60.00	107.00	14.00
-	PF505139	0.5472"	-	13.900	80.00	134.00	14.00
PF503140	-	0.5512"	-	14.000	60.00	107.00	14.00
-	PF505140	0.5512"	-	14.000	80.00	134.00	14.00
PF503141	-	0.5551"	-	14.100	60.00	107.00	14.00
-	PF505141	0.5551"	-	14.100	83.00	143.00	15.00
PF503142	-	0.5591"	-	14.200	62.00	111.00	15.00
-	PF505142	0.5591"	-	14.200	83.00	143.00	15.00
PF50314288	-	0.5625"	9/16"	14.288	62.00	111.00	15.00
-	PF50514288	0.5625"	9/16"	14.288	83.00	143.00	15.00
PF503143	-	0.5630"	-	14.300	62.00	111.00	15.00
-	PF505143	0.5630"	-	14.300	83.00	143.00	15.00
PF503144	-	0.5669"	-	14.400	62.00	111.00	15.00
-	PF505144	0.5669"	-	14.400	83.00	143.00	15.00
PF503145	-	0.5709"	-	14.500	62.00	111.00	15.00
-	PF505145	0.5709"	-	14.500	83.00	143.00	15.00
PF503146	-	0.5748"	-	14.600	62.00	111.00	15.00
-	PF505146	0.5748"	-	14.600	83.00	143.00	15.00
PF503147	-	0.5787"	-	14.700	62.00	111.00	15.00
-	PF505147	0.5787"	-	14.700	83.00	143.00	15.00
PF503148	-	0.5827"	-	14.800	62.00	111.00	15.00
-	PF505148	0.5827"	-	14.800	83.00	143.00	15.00
PF503149	-	0.5866"	-	14.900	62.00	111.00	15.00
-	PF505149	0.5866"	-	14.900	83.00	143.00	15.00
PF503150	-	0.5906"	-	15.000	62.00	111.00	15.00

Applicable Working Material ○:GOOD ◎:BEST

SERIES	CARBON STEELS LOW (100-170)	CARBON STEELS MED (170-200)	CARBON STEELS HIGH (200)	ALLOY STEELS (40-60)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

New Dynamic Power Drill Series	EDP NO.		Cutting Diameter	Cutting Length	Overall Length	Shank Diameter	
	2 Flute						
	TiAlN-HH						
	Helix 30°						
3xD	5xD	D1			L1	L2	D2
PF503	PF505	Decimal	Fraction	Metric			
-	PF505150	0.5906"	-	15.000	83.00	143.00	15.00
PF50315081	-	0.5937"	19/32"	15.081	62.00	111.00	15.00
-	PF50515081	0.5937"	19/32"	15.081	90.00	152.00	16.00
PF503151	-	0.5945"	-	15.100	62.00	111.00	15.00
-	PF505151	0.5945"	-	15.100	90.00	152.00	16.00
PF503152	-	0.5984"	-	15.200	64.00	115.00	16.00
-	PF505152	0.5984"	-	15.200	90.00	152.00	16.00
PF503153	-	0.6024"	-	15.300	64.00	115.00	16.00
PF503154	-	0.6063"	-	15.400	64.00	115.00	16.00
-	PF505154	0.6063"	-	15.400	90.00	152.00	16.00
PF503155	-	0.6102"	-	15.500	64.00	115.00	16.00
-	PF505155	0.6102"	-	15.500	90.00	152.00	16.00
PF503156	-	0.6142"	-	15.600	64.00	115.00	16.00
-	PF505156	0.6142"	-	15.600	90.00	152.00	16.00
PF503157	-	0.6181"	-	15.700	64.00	115.00	16.00
-	PF505157	0.6181"	-	15.700	90.00	152.00	16.00
PF503158	-	0.6220"	-	15.800	64.00	115.00	16.00
-	PF505158	0.6220"	-	15.800	90.00	152.00	16.00
PF50315875	-	0.6250"	5/8"	15.875	64.00	115.00	16.00
-	PF50515875	0.6250"	5/8"	15.875	90.00	152.00	16.00
PF503160	-	0.6299"	-	16.000	64.00	115.00	16.00
-	PF505160	0.6299"	-	16.000	90.00	152.00	16.00
PF503161	-	0.6339"	-	16.100	64.00	115.00	16.00
-	PF505161	0.6339"	-	16.100	95.00	155.00	17.00
PF503163	-	0.6417"	-	16.300	66.00	119.00	17.00
-	PF505163	0.6417"	-	16.300	95.00	155.00	17.00
PF503165	-	0.6496"	-	16.500	66.00	119.00	17.00
-	PF505165	0.6496"	-	16.500	95.00	155.00	17.00
PF50316667	-	0.6562"	21/32"	16.667	66.00	119.00	17.00
-	PF50516667	0.6562"	21/32"	16.667	95.00	155.00	17.00
PF503170	-	0.6693"	-	17.000	66.00	119.00	17.00
-	PF505170	0.6693"	-	17.000	95.00	155.00	17.00
PF503171	-	0.6732"	-	17.100	66.00	119.00	17.00
-	PF505171	0.6732"	-	17.100	100.00	157.00	18.00

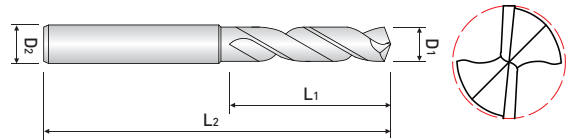
Applicable Working Material ○:GOOD ◎:BEST

SERIES	CARBON STEELS LOW (100-170)	CARBON STEELS MED (170-200)	CARBON STEELS HIGH (200)	ALLOY STEELS (40-60)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

PF503, PF505 SERIES

3xD & 5xD

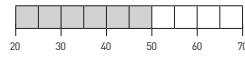
DRILLS / 2 FLUTES / 3xD & 5xD / SOLID CARBIDE / SINGLE MARGIN / TiAlN-HH COATING



TOLERANCE (Metric)

D1 = +0 / -0.014 (D1 ≤ 3)
D1 = +0 / -0.018 (D1 = 3.1 to 6)
D1 = +0 / -0.022 (D1 = 6.1 to 10)
D1 = +0 / -0.027 (D1 = 10.1 to 18)
D1 = +0 / -0.033 (D1 > 18)
D2 = h6

HARDNESS (HRc)



EDP NO.		Cutting Diameter	Cutting Length	Overall Length	Shank Diameter		
2 Flute							
TiAlN-HH							
Helix 30°							
3xD	5xD	D1			L1	L2	D2
PF503	PF505	Decimal	Fraction	Metric			
PF503172	-	0.6772"	-	17.200	66.00	123.00	18.00
-	PF505172	0.6772"	-	17.200	100.00	157.00	18.00
PF50317463	-	0.6875"	11/16"	17.463	66.00	123.00	18.00
-	PF50517463	0.6875"	11/16"	17.463	100.00	157.00	18.00
PF503175	-	0.6890"	-	17.500	66.00	123.00	18.00
-	PF505175	0.6890"	-	17.500	100.00	157.00	18.00
PF503177	-	0.6969"	-	17.700	66.00	123.00	18.00
-	PF505177	0.6969"	-	17.700	100.00	157.00	18.00
PF503178	-	0.7008"	-	17.800	66.00	123.00	18.00
-	PF505178	0.7008"	-	17.800	100.00	157.00	18.00
PF503180	-	0.7087"	-	18.000	66.00	123.00	18.00
-	PF505180	0.7087"	-	18.000	100.00	157.00	18.00
PF503181	-	0.7126"	-	18.100	66.00	123.00	18.00
-	PF505181	0.7126"	-	18.100	105.00	160.00	19.00
PF503182	-	0.7165"	-	18.200	70.00	127.00	19.00
-	PF505182	0.7165"	-	18.200	105.00	160.00	19.00
PF503185	-	0.7283"	-	18.500	70.00	127.00	19.00
-	PF505185	0.7283"	-	18.500	105.00	160.00	19.00
PF503190	-	0.7480"	-	19.000	70.00	127.00	19.00
-	PF505190	0.7480"	-	19.000	105.00	160.00	19.00
PF503191	-	0.7520"	-	19.100	70.00	127.00	19.00
-	PF505191	0.7520"	-	19.100	110.00	163.00	20.00
PF503195	-	0.7677"	-	19.500	70.00	131.00	20.00
-	PF505195	0.7677"	-	19.500	110.00	163.00	20.00
PF503197	-	0.7756"	-	19.700	70.00	131.00	20.00
-	PF505197	0.7756"	-	19.700	110.00	163.00	20.00
PF503200	-	0.7874"	-	20.000	70.00	131.00	20.00
-	PF505200	0.7874"	-	20.000	110.00	163.00	20.00

Applicable Working Material

SERIES	CARBON STEELS LOW (HRC 10-20)	CARBON STEELS MED (HRC 20-30)	CARBON STEELS HIGH (HRC 30-40)	ALLOY STEELS (HRC 40-60)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (B01, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (B14V)	HARDENED STEELS 35 HRc	HARDENED STEELS 35-45 HRc	HARDENED STEELS 45-50 HRc	HARDENED STEELS 50-70 HRc	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

○:GOOD ◎:BEST

PF503, PF505 SERIES

Work Material	Carbon Steels (C<0.3%) Alloy Steels < HB240, GG25			Carbon Steels (C≥0.3%) Alloy Steel < HB300, GG40			52100-AISI440			Hardened Steels 34 ~ 43 HRc		
	RPM (rev/min)	FEED (mm/rev)	IPR (inch/rev)	RPM (rev/min)	FEED (mm/rev)	IPR (inch/rev)	RPM (rev/min)	FEED (mm/rev)	IPR (inch/rev)	RPM (rev/min)	FEED (mm/rev)	IPR (inch/rev)
Drilling Speed (V)	80-125m/min			80-125m/min			63-80m/min			40-63m/min		
Cutting Diameter (metric)	2	3	4	5	6	8	10	12	14	16	18	20
2	12,000	0.06-0.08	0.003	12,000	0.06-0.08	0.003	11,000	0.06-0.08	0.003	8,000	0.06-0.08	0.003
3	9,600	0.09-0.12	0.004	9,600	0.09-0.12	0.004	7,500	0.09-0.12	0.004	5,300	0.09-0.12	0.004
4	8,000	0.10-0.15	0.005	8,000	0.10-0.15	0.005	5,650	0.10-0.15	0.005	4,000	0.10-0.15	0.005
5	6,400	0.12-0.18	0.006	6,400	0.12-0.18	0.006	4,550	0.12-0.18	0.006	3,300	0.12-0.18	0.006
6	5,300	0.14-0.20	0.007	5,300	0.14-0.20	0.007	3,800	0.14-0.20	0.007	2,750	0.14-0.20	0.007
8	4,000	0.16-0.24	0.008	4,000	0.16-0.24	0.008	2,850	0.16-0.24	0.008	2,100	0.16-0.24	0.008
10	3,200	0.18-0.27	0.009	3,200	0.18-0.27	0.009	2,250	0.18-0.27	0.009	1,700	0.18-0.27	0.009
12	2,650	0.20-0.30	0.010	2,650	0.20-0.30	0.010	1,900	0.20-0.30	0.010	1,400	0.20-0.30	0.010
14	2,300	0.22-0.35	0.011	2,300	0.22-0.35	0.011	1,600	0.22-0.35	0.011	1,200	0.22-0.35	0.011
16	2,000	0.25-0.36	0.012	2,000	0.25-0.36	0.012	1,400	0.25-0.36	0.012	1,050	0.25-0.36	0.012
18	1,800	0.28-0.38	0.013	1,800	0.28-0.38	0.013	1,250	0.28-0.38	0.013	920	0.28-0.38	0.013
20	1,600	0.30-0.40	0.014	1,600	0.30-0.40	0.014	1,150	0.30-0.40	0.014	850	0.30-0.40	0.014
Work Material	Hardened Steels 43 ~ 48 HRc			Hardened Steels 48 ~ 53 HRc			Cast Iron 250 ~ 350 N/mm2			Cast Iron-Ductile 400 ~ 500 N/mm2		
Drilling Speed (V)	32-45m/min			25-36m/min			80-125m/min			63-90m/min		
Cutting Diameter (metric)	2	3	4	5	6	8	10	12	14	16	18	20
2	6,000	0.05-0.07	0.002	4,500	0.03-0.06	0.002	15,000	0.06-0.08	0.003	11,000	0.06-0.08	0.003
3	4,000	0.07-0.11	0.004	3,200	0.05-0.09	0.003	10,000	0.09-0.12	0.004	7,600	0.09-0.12	0.004
4	3,000	0.08-0.13	0.004	2,600	0.06-0.10	0.003	8,000	0.10-0.15	0.005	6,000	0.10-0.15	0.005
5	2,400	0.10-0.15	0.005	2,000	0.08-0.12	0.004	6,400	0.12-0.18	0.006	4,800	0.12-0.18	0.006
6	2,000	0.12-0.18	0.006	1,700	0.09-0.15	0.005	5,300	0.14-0.20	0.007	4,000	0.14-0.20	0.007
8	1,500	0.14-0.22	0.007	1,300	0.12-0.20	0.006	4,000	0.16-0.24	0.008	3,000	0.16-0.24	0.008
10	1,200	0.15-0.25	0.008	1,000	0.13-0.23	0.007	3,200	0.18-0.27	0.009	2,400	0.18-0.27	0.009
12	1,000	0.17-0.26	0.008	850	0.14-0.24	0.007	2,700	0.20-0.30	0.010	2,000	0.20-0.30	0.010
14	860	0.18-0.30	0.009	730	0.15-0.26	0.008	2,300	0.22-0.35	0.011	1,700	0.22-0.35	0.011
16	760	0.20-0.32	0.010	640	0.16-0.26	0.008	2,000	0.25-0.36	0.012	1,500	0.25-0.36	0.012
18	670	0.23-0.33	0.011	570	0.18-0.28	0.009	1,800	0.28-0.38	0.013	1,350	0.28-0.38	0.013
20	600	0.25-0.35	0.012	500	0.20-0.30	0.010	1,600	0.30-0.40	0.014	1,200	0.30-0.40	0.014

RPM=rev./min.
FEED=mm/rev.
IPR=inch/rev.



Drill for High Speed cutting
POWER MAX DRILL

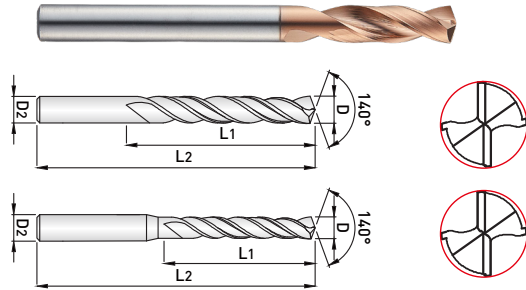


HP503 SERIES

>>Continue

3xD

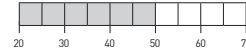
DRILLS / 2 FLUTES / 3xD / SOLID CARBIDE / DOUBLE MARGIN / TiAlN-HH COATING



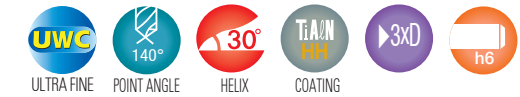
TOLERANCE (Metric)

D₁ = +0.012 / 0.002 (D₁ ≤ 3)
 D₁ = +0.016 / 0.004 (D₁ = 3.1 to 6)
 D₁ = +0.021 / 0.006 (D₁ = 6.1 to 10)
 D₁ = +0.025 / 0.007 (D₁ ≥ 10.1)
 D₂ = h6

HARDNESS (HRC)



Drill for High Speed cutting
POWER MAX DRILL

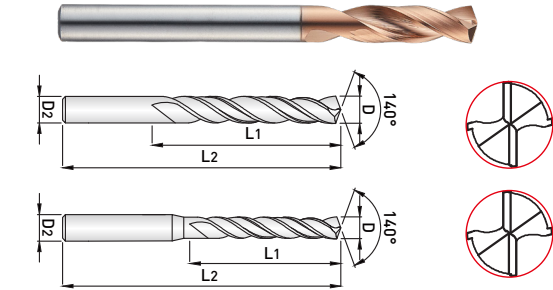


HP503 SERIES

>>Continue

3xD

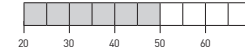
DRILLS / 2 FLUTES / 3xD / SOLID CARBIDE / DOUBLE MARGIN / TiAlN-HH COATING



TOLERANCE (Metric)

D₁ = +0.012 / 0.002 (D₁ ≤ 3)
 D₁ = +0.016 / 0.004 (D₁ = 3.1 to 6)
 D₁ = +0.021 / 0.006 (D₁ = 6.1 to 10)
 D₁ = +0.025 / 0.007 (D₁ ≥ 10.1)
 D₂ = h6

HARDNESS (HRC)



EDP NO.	Cutting Diameter		Effective Cutting Length	Cutting Length	Overall Length	Shank Diameter			
							2 Flute	TiAlN-HH	Helix 30°
							3xD	D1	
HP503	Decimal	Metric	L1	L2	L3	D2			
HP503030	0.1181"	3.00	14.00	20.00	62.00	6.00			
HP503031	0.1220"	3.10	14.00	20.00	62.00	6.00			
HP503032	0.1260"	3.20	14.00	20.00	62.00	6.00			
HP503033	0.1299"	3.30	14.00	20.00	62.00	6.00			
HP503034	0.1339"	3.40	14.00	20.00	62.00	6.00			
HP503035	0.1378"	3.50	14.00	20.00	62.00	6.00			
HP503036	0.1417"	3.60	14.00	20.00	62.00	6.00			
HP503037	0.1457"	3.70	14.00	20.00	62.00	6.00			
HP503038	0.1496"	3.80	17.00	24.00	66.00	6.00			
HP503039	0.1535"	3.90	17.00	24.00	66.00	6.00			
HP503040	0.1575"	4.00	17.00	24.00	66.00	6.00			
HP503041	0.1614"	4.10	17.00	24.00	66.00	6.00			
HP503042	0.1654"	4.20	17.00	24.00	66.00	6.00			
HP503043	0.1693"	4.30	17.00	24.00	66.00	6.00			
HP503044	0.1732"	4.40	17.00	24.00	66.00	6.00			
HP503045	0.1772"	4.50	17.00	24.00	66.00	6.00			
HP503046	0.1811"	4.60	17.00	24.00	66.00	6.00			
HP503047	0.1850"	4.70	17.00	24.00	66.00	6.00			
HP503048	0.1890"	4.80	20.00	28.00	66.00	6.00			
HP503049	0.1929"	4.90	20.00	28.00	66.00	6.00			
HP503050	0.1969"	5.00	20.00	28.00	66.00	6.00			
HP503051	0.2008"	5.10	20.00	28.00	66.00	6.00			
HP503052	0.2047"	5.20	20.00	28.00	66.00	6.00			
HP503053	0.2087"	5.30	20.00	28.00	66.00	6.00			
HP503054	0.2126"	5.40	20.00	28.00	66.00	6.00			
HP503055	0.2165"	5.50	20.00	28.00	66.00	6.00			
HP503056	0.2205"	5.60	20.00	28.00	66.00	6.00			
HP503057	0.2244"	5.70	20.00	28.00	66.00	6.00			
HP503058	0.2283"	5.80	20.00	28.00	66.00	6.00			
HP503059	0.2323"	5.90	20.00	28.00	66.00	6.00			
HP503060	0.2362"	6.00	20.00	28.00	66.00	6.00			
HP503061	0.2402"	6.10	24.00	34.00	79.00	8.00			

Applicable Working Material

○:GOOD ◎:BEST

SERIES	CARBON STEELS LOW (10-17HB)	CARBON STEELS MED (18-30HB)	CARBON STEELS HIGH (31-55HB)	ALLOY STEELS (40-45HRC)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
HP503	○	○	○	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎

EDP NO.	Cutting Diameter		Effective Cutting Length	Cutting Length	Overall Length	Shank Diameter			
							2 Flute	TiAlN-HH	Helix 30°
							3xD	D1	
HP503	Decimal	Metric	L1	L2	L3	D2			
HP503062	0.2441"	6.20	24.00	34.00	79.00	8.00			
HP503063	0.2480"	6.30	24.00	34.00	79.00	8.00			
HP503064	0.2520"	6.40	24.00	34.00	79.00	8.00			
HP503065	0.2559"	6.50	24.00	34.00	79.00	8.00			
HP503066	0.2598"	6.60	24.00	34.00	79.00	8.00			
HP503067	0.2638"	6.70	24.00	34.00	79.00	8.00			
HP503068	0.2677"	6.80	24.00	34.00	79.00	8.00			
HP503069	0.2717"	6.90	24.00	34.00	79.00	8.00			
HP503070	0.2756"	7.00	24.00	34.00	79.00	8.00			
HP503071	0.2795"	7.10	29.00	41.00	79.00	8.00			
HP503072	0.2835"	7.20	29.00	41.00	79.00	8.00			
HP503073	0.2874"	7.30	29.00	41.00	79.00	8.00			
HP503074	0.2913"	7.40	29.00	41.00	79.00	8.00			
HP503075	0.2953"	7.50	29.00	41.00	79.00	8.00			
HP503076	0.2992"	7.60	29.00	41.00	79.00	8.00			
HP503077	0.3031"	7.70	29.00	41.00	79.00	8.00			
HP503078	0.3071"	7.80	29.00	41.00	79.00	8.00			
HP503079	0.3110"	7.90	29.00	41.00	79.00	8.00			
HP503080	0.3150"	8.00	29.00	41.00	79.00	8.00			
HP503081	0.3189"	8.10	35.00	47.00	89.00	10.00			
HP503082	0.3228"	8.20	35.00	47.00	89.00	10.00			
HP503083	0.3268"	8.30	35.00	47.00	89.00	10.00			
HP503084	0.3307"	8.40	35.00	47.00	89.00	10.00			
HP503085	0.3346"	8.50	35.00	47.00	89.00	10.00			
HP503086	0.3386"	8.60	35.00	47.00	89.00	10.00			
HP503087	0.3425"	8.70	35.00	47.00	89.00	10.00			
HP503088	0.3465"	8.80	35.00	47.00	89.00	10.00			
HP503089	0.3504"	8.90	35.00	47.00	89.00	10.00			
HP503090	0.3543"	9.00	35.00	47.00	89.00	10.00			
HP503091	0.3583"	9.10	35.00	47.00	89.00	10.00			
HP503092	0.3622"	9.20	35.00	47.00	89.00	10.00			
HP503093	0.3661"	9.30	35.00	47.00	89.00	10.00			

Applicable Working Material

○:GOOD ◎:BEST

SERIES	CARBON STEELS LOW (10-17HB)	CARBON STEELS MED (18-30HB)	CARBON STEELS HIGH (31-55HB)	ALLOY STEELS (40-45HRC)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
HP503	○	○	○	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎

HP503 SERIES

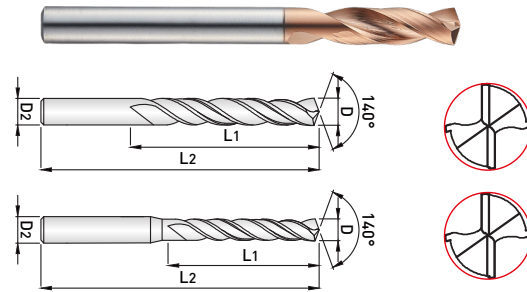
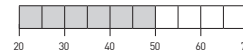
3xD

DRILLS / 2 FLUTES / 3xD / SOLID CARBIDE / DOUBLE MARGIN / TiAlN-HH COATING

TOLERANCE (Metric)

D1 = +0.012 / 0.002 (D1 ≤ 3)
D1 = +0.016 / 0.004 (D1 = 3.1 to 6)
D1 = +0.021 / 0.006 (D1 = 6.1 to 10)
D1 = +0.025 / 0.007 (D1 ≥ 10.1)
D2 = h6

HARDNESS (HRC)



>>Continue

HP503 SERIES

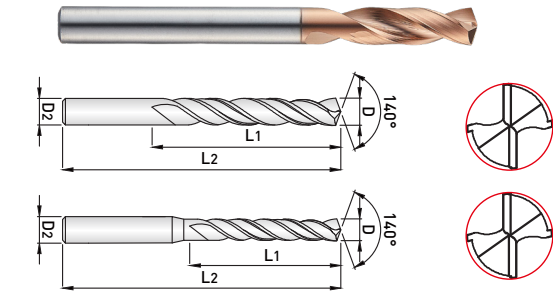
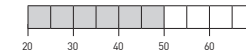
3xD

DRILLS / 2 FLUTES / 3xD / SOLID CARBIDE / DOUBLE MARGIN / TiAlN-HH COATING

TOLERANCE (Metric)

D1 = +0.012 / 0.002 (D1 ≤ 3)
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D1 = +0.021 / 0.006 (D1 = 6.1 to 10)
D1 = +0.025 / 0.007 (D1 ≥ 10.1)
D2 = h6

HARDNESS (HRC)



EDP NO.	Cutting Diameter		Effective Cutting Length	Cutting Length	Overall Length	Shank Diameter		
							2 Flute	
							TiAlN-HH	
							Helix 30°	
3xD	D1		L1	L2	L3	D2		
HP503	Decimal	Metric						
HP503094	0.3701"	9.40	35.00	47.00	89.00	10.00		
HP503095	0.3740"	9.50	35.00	47.00	89.00	10.00		
HP503096	0.3780"	9.60	35.00	47.00	89.00	10.00		
HP503097	0.3819"	9.70	35.00	47.00	89.00	10.00		
HP503098	0.3858"	9.80	35.00	47.00	89.00	10.00		
HP503099	0.3898"	9.90	35.00	47.00	89.00	10.00		
HP503100	0.3937"	10.00	35.00	47.00	89.00	10.00		
HP503101	0.3976"	10.10	40.00	55.00	102.00	12.00		
HP503102	0.4016"	10.20	40.00	55.00	102.00	12.00		
HP503103	0.4055"	10.30	40.00	55.00	102.00	12.00		
HP503104	0.4094"	10.40	40.00	55.00	102.00	12.00		
HP503105	0.4134"	10.50	40.00	55.00	102.00	12.00		
HP503106	0.4173"	10.60	40.00	55.00	102.00	12.00		
HP503107	0.4213"	10.70	40.00	55.00	102.00	12.00		
HP503108	0.4252"	10.80	40.00	55.00	102.00	12.00		
HP503109	0.4291"	10.90	40.00	55.00	102.00	12.00		
HP503110	0.4331"	11.00	40.00	55.00	102.00	12.00		
HP503111	0.4370"	11.10	40.00	55.00	102.00	12.00		
HP503112	0.4409"	11.20	40.00	55.00	102.00	12.00		
HP503113	0.4449"	11.30	40.00	55.00	102.00	12.00		
HP503114	0.4488"	11.40	40.00	55.00	102.00	12.00		
HP503115	0.4528"	11.50	40.00	55.00	102.00	12.00		
HP503116	0.4567"	11.60	40.00	55.00	102.00	12.00		
HP503117	0.4606"	11.70	40.00	55.00	102.00	12.00		
HP503118	0.4646"	11.80	40.00	55.00	102.00	12.00		
HP503119	0.4685"	11.90	40.00	55.00	102.00	12.00		
HP503120	0.4724"	12.00	40.00	55.00	102.00	12.00		
HP503121	0.4764"	12.10	43.00	60.00	107.00	14.00		
HP503122	0.4803"	12.20	43.00	60.00	107.00	14.00		
HP503123	0.4843"	12.30	43.00	60.00	107.00	14.00		
HP503124	0.4882"	12.40	43.00	60.00	107.00	14.00		
HP503125	0.4921"	12.50	43.00	60.00	107.00	14.00		

Applicable Working Material

SERIES	CARBON STEELS LOW (10-170)	CARBON STEELS MED (170-300)	CARBON STEELS HIGH (300-450)	ALLOY STEELS (40-420)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
HP503	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

○:GOOD ◎:BEST

EDP NO.	Cutting Diameter		Effective Cutting Length	Cutting Length	Overall Length	Shank Diameter		
							2 Flute	
							TiAlN-HH	
							Helix 30°	
3xD	D1		L1	L2	L3	D2		
HP503	Decimal	Metric						
HP503126	0.4961"	12.60	43.00	60.00	107.00	14.00		
HP503127	0.5000"	12.70	43.00	60.00	107.00	14.00		
HP503128	0.5039"	12.80	43.00	60.00	107.00	14.00		
HP503129	0.5079"	12.90	43.00	60.00	107.00	14.00		
HP503130	0.5118"	13.00	43.00	60.00	107.00	14.00		
HP503131	0.5157"	13.10	43.00	60.00	107.00	14.00		
HP503132	0.5197"	13.20	43.00	60.00	107.00	14.00		
HP503133	0.5236"	13.30	43.00	60.00	107.00	14.00		
HP503135	0.5315"	13.50	43.00	60.00	107.00	14.00		
HP503137	0.5394"	13.70	43.00	60.00	107.00	14.00		
HP503140	0.5512"	14.00	43.00	60.00	107.00	14.00		
HP503142	0.5591"	14.20	45.00	65.00	115.00	16.00		
HP503143	0.5630"	14.30	45.00	65.00	115.00	16.00		
HP503145	0.5709"	14.50	45.00	65.00	115.00	16.00		
HP503146	0.5748"	14.60	45.00	65.00	115.00	16.00		
HP503148	0.5827"	14.80	45.00	65.00	115.00	16.00		
HP503150	0.5906"	15.00	45.00	65.00	115.00	16.00		
HP503155	0.6102"	15.50	45.00	65.00	115.00	16.00		
HP503157	0.6181"	15.70	45.00	65.00	115.00	16.00		
HP503160	0.6299"	16.00	45.00	65.00	115.00	16.00		

Applicable Working Material

SERIES	CARBON STEELS LOW (10-170)	CARBON STEELS MED (170-300)	CARBON STEELS HIGH (300-450)	ALLOY STEELS (40-420)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
HP503	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

○:GOOD ◎:BEST

HP503 SERIES

INCH
METRIC

Power Max Drill Series

New Dynamic Power Drill Series

Solid Spiral Drill Series

Centering Tools

RPM=rev./min.
FEED=min/rev.
IPR=inch/rev.

Work Material	Carbon Steels (C<0.3%) Alloy Steels < HB240, GG25			Carbon Steels (C≥0.3%) Alloy Steel < HB300, GG40			52100-AISI440			Hardened Steels 34 ~ 43 HRc		
	80~125m/min			80~125m/min			63~80m/min			40~63m/min		
Drilling Speed (V)												
Cutting Diameter (metric)	RPM (rev/min)	FEED (mm/rev)	IPR (inch/rev)	RPM (rev/min)	FEED (mm/rev)	IPR (inch/rev)	RPM (rev/min)	FEED (mm/rev)	IPR (inch/rev)	RPM (rev/min)	FEED (mm/rev)	IPR (inch/rev)
2	12,000	0.06-0.08	0.003	12,000	0.06-0.08	0.003	11,000	0.06-0.08	0.003	8,000	0.06-0.08	0.003
3	9,600	0.09-0.12	0.004	9,600	0.09-0.12	0.004	7,500	0.09-0.12	0.004	5,300	0.09-0.12	0.004
4	8,000	0.10-0.15	0.005	8,000	0.10-0.15	0.005	5,650	0.10-0.15	0.005	4,000	0.10-0.15	0.005
5	6,400	0.12-0.18	0.006	6,400	0.12-0.18	0.006	4,550	0.12-0.18	0.006	3,300	0.12-0.18	0.006
6	5,300	0.14-0.20	0.007	5,300	0.14-0.20	0.007	3,800	0.14-0.20	0.007	2,750	0.14-0.20	0.007
8	4,000	0.16-0.24	0.008	4,000	0.16-0.24	0.008	2,850	0.16-0.24	0.008	2,100	0.16-0.24	0.008
10	3,200	0.18-0.27	0.009	3,200	0.18-0.27	0.009	2,250	0.18-0.27	0.009	1,700	0.18-0.27	0.009
12	2,650	0.20-0.30	0.010	2,650	0.20-0.30	0.010	1,900	0.20-0.30	0.010	1,400	0.20-0.30	0.010
14	2,300	0.22-0.35	0.011	2,300	0.22-0.35	0.011	1,600	0.22-0.35	0.011	1,200	0.22-0.35	0.011
16	2,000	0.25-0.36	0.012	2,000	0.25-0.36	0.012	1,400	0.25-0.36	0.012	1,050	0.25-0.36	0.012
18	1,800	0.28-0.38	0.013	1,800	0.28-0.38	0.013	1,250	0.28-0.38	0.013	920	0.28-0.38	0.013
20	1,600	0.30-0.40	0.014	1,600	0.30-0.40	0.014	1,150	0.30-0.40	0.014	850	0.30-0.40	0.014
Work Material	Hardened Steels 43 ~ 48 HRc			Hardened Steels 48 ~ 53 HRc			Cast Iron 250 ~ 350 N/mm2			Cast Iron-Ductile 400 ~ 500 N/mm2		
Drilling Speed (V)	32~45m/min			25~36m/min			80~125m/min			63~90m/min		
Cutting Diameter (metric)	RPM (rev/min)	FEED (mm/rev)	IPR (inch/rev)	RPM (rev/min)	FEED (mm/rev)	IPR (inch/rev)	RPM (rev/min)	FEED (mm/rev)	IPR (inch/rev)	RPM (rev/min)	FEED (mm/rev)	IPR (inch/rev)
2	6,000	0.05-0.07	0.002	4,500	0.03-0.06	0.002	15,000	0.06-0.08	0.003	11,000	0.06-0.08	0.003
3	4,000	0.07-0.11	0.004	3,200	0.05-0.09	0.003	10,000	0.09-0.12	0.004	7,600	0.09-0.12	0.004
4	3,000	0.08-0.13	0.004	2,600	0.06-0.10	0.003	8,000	0.10-0.15	0.005	6,000	0.10-0.15	0.005
5	2,400	0.10-0.15	0.005	2,000	0.08-0.12	0.004	6,400	0.12-0.18	0.006	4,800	0.12-0.18	0.006
6	2,000	0.12-0.18	0.006	1,700	0.09-0.15	0.005	5,300	0.14-0.20	0.007	4,000	0.14-0.20	0.007
8	1,500	0.14-0.22	0.007	1,300	0.12-0.20	0.006	4,000	0.16-0.24	0.008	3,000	0.16-0.24	0.008
10	1,200	0.15-0.25	0.008	1,000	0.13-0.23	0.007	3,200	0.18-0.27	0.009	2,400	0.18-0.27	0.009
12	1,000	0.17-0.26	0.008	850	0.14-0.24	0.007	2,700	0.20-0.30	0.010	2,000	0.20-0.30	0.010
14	860	0.18-0.30	0.009	730	0.15-0.26	0.008	2,300	0.22-0.35	0.011	1,700	0.22-0.35	0.011
16	760	0.20-0.32	0.010	640	0.16-0.26	0.008	2,000	0.25-0.36	0.012	1,500	0.25-0.36	0.012
18	670	0.23-0.33	0.011	570	0.18-0.28	0.009	1,800	0.28-0.38	0.013	1,350	0.28-0.38	0.013
20	600	0.25-0.35	0.012	500	0.20-0.30	0.010	1,600	0.30-0.40	0.014	1,200	0.30-0.40	0.014

HPI, SF SERIES (HPI DRILL SHOWN)

General Features

1 Flat and narrow margins

Reduces friction and heat
Increases hole wall quality (HPI Series)
Increases number of holes (SF Series)

2 Shank

DIN 6535 HA

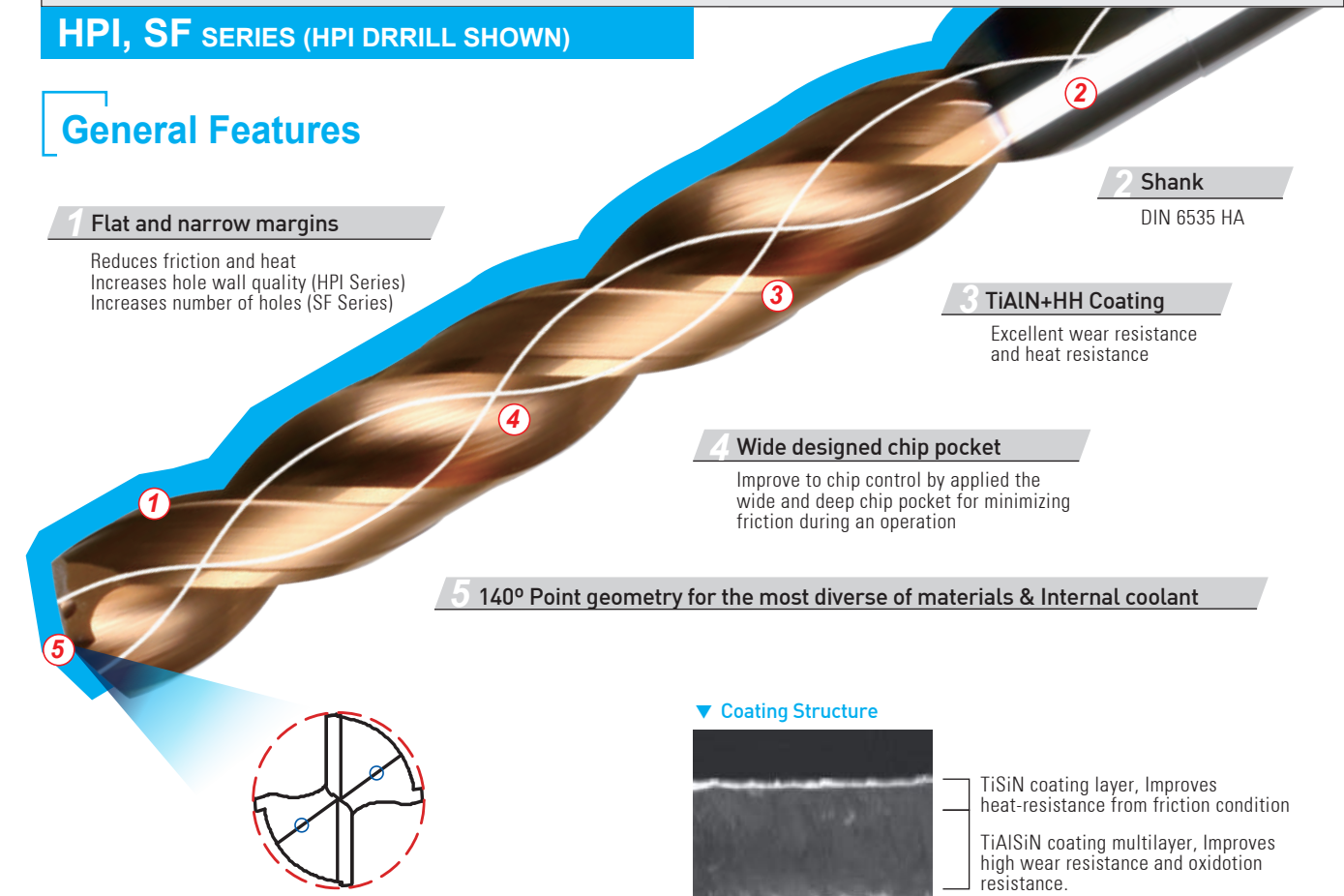
3 TiAlN+HH Coating

Excellent wear resistance
and heat resistance

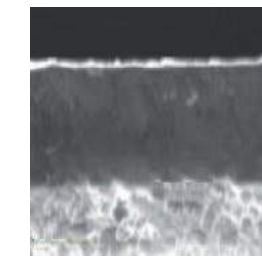
4 Wide designed chip pocket

Improve to chip control by applied the
wide and deep chip pocket for minimizing
friction during an operation

5 140° Point geometry for the most diverse of materials & Internal coolant



Coating Structure



TiSiN coating layer, Improves
heat-resistance from friction condition
TiAlSiN coating multilayer, Improves
high wear resistance and oxidation
resistance.
Substrate

Advantages

- Flute design for superior chip evacuation
- Applied special thinning to minimize cutting resistance
- Wide product line from 3xD to 20xD
- Tool life improvement & Suitable for high speed application with up to date coating
- Realize precision hole tolerance
- Adoped double margin to minimize vibration and chattering
- Stable materials and latest coating provides improved heat resistance and wear resistance at increased speeds

Specification Line-up

※ Various choices as per aspect ratio



HPI Series - Internal Coolant

- HPI503 - Possible to drill to 3XD ▶ Ø3 ~ Ø20
- HPI505 - Possible to drill to 5XD ▶ Ø3 ~ Ø20
- HPI508 - Possible to drill to 8XD ▶ Ø3 ~ Ø20



SF Series - Internal Coolant

- SF503 - Possible to drill to 3XD ▶ Ø3 ~ Ø20
- SF505 - Possible to drill to 5XD ▶ Ø3 ~ Ø20
- SF508 - Possible to drill to 8XD ▶ Ø3 ~ Ø20
- SF510 - Possible to drill to 10XD ▶ Ø3 ~ Ø11.5
- SF520 - Possible to drill to 20XD ▶ Ø3.97 ~ Ø10

INCH
METRIC

Power Max Drill Series

New Dynamic Power Drill Series

Solid Spiral Drill Series

Centering Tools



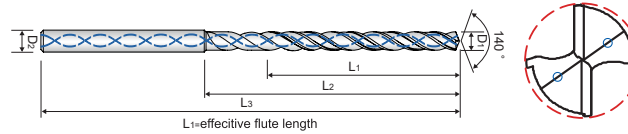
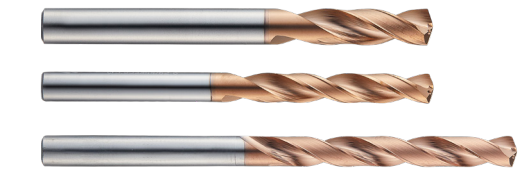
Drill for High Speed cutting
POWER MAX DRILL



HPI503, HPI505, HPI508N SERIES

3xD, 5xD & 8xD

DRILLS / 2 FLUTES / 3xD, 5xD & 8xD / INTERNAL COOLANT / DOUBLE MARGIN / TiAlN-HH COATING

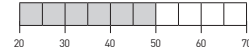


>>Continue

TOLERANCE (Metric)

HARDNESS (HRc)

D1 = +0.016 / 0.004 (D1 ≤ 6)
D1 = +0.021 / 0.006 (D1 = 6.1 to 10)
D1 = +0.025 / 0.007 (D1 = 10.1 to 18)
D1 = +0.029 / 0.008 (D1 > 18)
Dz = h6



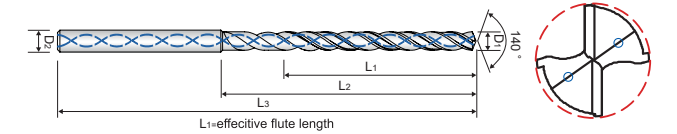
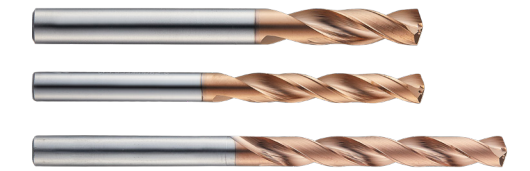
Drill for High Speed cutting
POWER MAX DRILL



HPI503, HPI505, HPI508N SERIES

3xD, 5xD & 8xD

DRILLS / 2 FLUTES / 3xD, 5xD & 8xD / INTERNAL COOLANT / DOUBLE MARGIN / TiAlN-HH COATING



>>Continue

TOLERANCE (Metric)

HARDNESS (HRc)

D1 = +0.016 / 0.004 (D1 ≤ 6)
D1 = +0.021 / 0.006 (D1 = 6.1 to 10)
D1 = +0.025 / 0.007 (D1 = 10.1 to 18)
D1 = +0.029 / 0.008 (D1 > 18)
Dz = h6



EDP NO.		Cutting Diameter	Effective Cutting Length	Cutting Length	Overall Length	Shank Diameter			
2 Flute									
TiAlN-HH									
Helix 30°									
3xD	5xD	8xD	D1			L1	L2	L3	D2
HPI503	HPI505	HPI508N	Decimal	Fraction	Metric				
HPI503030	-	-	.1181"	-	3	14	20	62	6
-	HPI505030	-	.1181"	-	3	24	30	66	6
-	-	HPI508030N	.1181"	-	3	37	43	80	6
HPI503031	-	-	.1220"	-	3.1	14	20	62	6
-	HPI505031	-	.1220"	-	3.1	24	30	66	6
-	-	HPI508031N	.1220"	-	3.1	37	43	80	6
HPI50303175	-	-	.1250"	1/8"	3.175	14	20	62	6
-	HPI50503175	-	.1250"	1/8"	3.175	24	30	66	6
-	-	HPI50803175N	.1250"	1/8"	3.175	37	43	80	6
HPI503032	-	-	.1260"	-	3.2	14	20	62	6
-	HPI505032	-	.1260"	-	3.2	24	30	66	6
-	-	HPI508032N	.1260"	-	3.2	37	43	80	6
HPI50303264	-	-	.1285"	#30	3.264	14	20	62	6
-	HPI50503264	-	.1285"	#30	3.264	24	30	66	6
-	-	HPI50803264N	.1285"	#30	3.264	37	43	80	6
HPI503033	-	-	.1299"	-	3.3	14	20	62	6
-	HPI505033	-	.1299"	-	3.3	24	30	66	6
-	-	HPI508033N	.1299"	-	3.3	37	43	80	6
HPI503034	-	-	.1339"	-	3.4	14	20	62	6
-	HPI505034	-	.1339"	-	3.4	24	30	66	6
-	-	HPI508034N	.1339"	-	3.4	37	43	80	6
HPI503035	-	-	.1378"	-	3.5	14	20	62	6
-	HPI505035	-	.1378"	-	3.5	24	30	66	6
-	-	HPI508035N	.1378"	-	3.5	37	43	80	6
HPI50303572	-	-	.1406"	9/64"	3.572	14	20	62	6
-	HPI50503572	-	.1406"	9/64"	3.572	24	30	66	6
-	-	HPI50803572N	.1406"	9/64"	3.572	37	43	80	6
HPI503036	-	-	.1417"	-	3.6	14	20	62	6
-	HPI505036	-	.1417"	-	3.6	24	30	66	6
-	-	HPI508036N	.1417"	-	3.6	37	43	80	6
HPI503037	-	-	.1457"	-	3.7	14	20	62	6
-	HPI505037	-	.1457"	-	3.7	24	30	66	6
-	-	HPI508037N	.1457"	-	3.7	37	43	80	6
HPI503038	-	-	.1496"	-	3.8	17	24	66	6
-	HPI505038	-	.1496"	-	3.8	29	36	74	6
-	-	HPI508038N	.1496"	-	3.8	41	49	87	6

Applicable Working Material

⊙:GOOD ⊙:BEST

SERIES	CARBON STEELS LOW (90-100)	CARBON STEELS MED (100-130)	CARBON STEELS HIGH (130-160)	ALLOY STEELS (40, 42, 48)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35-45 HRc	HARDENED STEELS 45-50 HRc	HARDENED STEELS 50-70 HRc	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
All	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙

EDP NO.		Cutting Diameter	Effective Cutting Length	Cutting Length	Overall Length	Shank Diameter			
2 Flute									
TiAlN-HH									
Helix 30°									
3xD	5xD	8xD	D1			L1	L2	L3	D2
HPI503	HPI505	HPI508N	Decimal	Fraction	Metric				
HPI503039	-	-	.1535"	-	3.9	17	24	66	6
-	HPI505039	-	.1535"	-	3.9	29	36	74	6
-	-	HPI508039N	.1535"	-	3.9	41	49	87	6
HPI5030397	-	-	.1563"	5/32"	3.97	17	24	66	6
-	HPI5050397	-	.1563"	5/32"	3.97	29	36	74	6
-	-	HPI5080397N	.1563"	5/32"	3.97	41	49	87	6
HPI503040	-	-	.1575"	-	4	17	24	66	6
-	HPI505040	-	.1575"	-	4	29	36	74	6
-	-	HPI508040N	.1575"	-	4	41	49	87	6
HPI50304039	-	-	.1590"	#21	4.039	17	24	66	6
-	HPI50504039	-	.1590"	#21	4.039	29	36	74	6
-	-	HPI50804039N	.1590"	#21	4.039	41	49	87	6
HPI503041	-	-	.1614"	-	4.1	17	24	66	6
-	HPI505041	-	.1614"	-	4.1	29	36	74	6
-	-	HPI508041N	.1614"	-	4.1	41	49	87	6
HPI503042	-	-	.1654"	-	4.2	17	24	66	6
-	HPI505042	-	.1654"	-	4.2	29	36	74	6
-	-	HPI508042N	.1654"	-	4.2	41	49	87	6
HPI503043	-	-	.1693"	-	4.3	17	24	66	6
-	HPI505043	-	.1693"	-	4.3	29	36	74	6
-	-	HPI508043N	.1693"	-	4.3	41	49	87	6
HPI50304366	-	-	.1719"	11/64"	4.336	17	24	66	6
-	HPI5050404366	-	.1719"	11/64"	4.336	29	36	74	6
-	-	HPI50804366N	.1719"	11/64"	4.336	41	49	87	6
HPI503044	-	-	.1732"	-	4.4	17	24	66	6
-	HPI505044	-	.1732"	-	4.4	29	36	74	6
-	-	HPI508044N	.1732"	-	4.4	41	49	87	6
HPI503045	-	-	.1772"	-	4.5	17	24	66	6
-	HPI505045	-	.1772"	-	4.5	29	36	74	6
-	-	HPI508045N	.1772"	-	4.5	41	49	87	6
HPI5030458	-	-	.1803"	-	4.58	17	24	66	6
-	HPI5050458	-	.1803"	-	4.58	29	36	74	6
-	-	HPI5080458N	.1803"	-	4.58	41	49	87	6
HPI503046	-	-	.1811"	-	4.6	17	24	66	6
-	HPI505046	-	.1811"	-	4.6	29	36	74	6
-	-	HPI508046N	.1811"	-	4.6	41	49	87	6
HPI503047	-	-	.1820"	-	4.623	29	36	74	6
-	HPI50504623	-	.1820"	-	4.7	17	24	66	6
-	-	-	.1850"	-	4.7	29	36	74	6

Applicable Working Material

⊙:GOOD ⊙:BEST

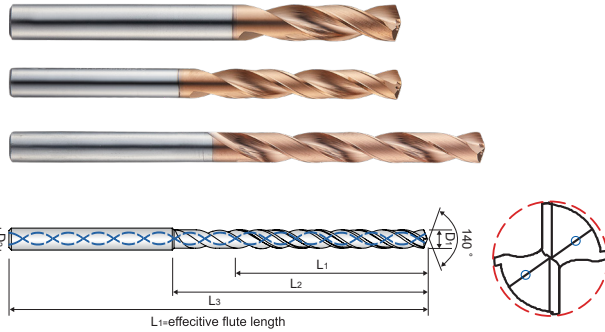
SERIES	CARBON STEELS LOW (90-100)	CARBON STEELS MED (100-130)	CARBON STEELS HIGH (130-160)	ALLOY STEELS (40, 42, 48)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35-45 HRc	HARDENED STEELS 45-50 HRc	HARDENED STEELS 50-70 HRc	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
All	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙



HPI503, HPI505, HPI508N SERIES

3xD, 5xD & 8xD

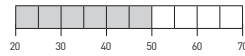
DRILLS / 2 FLUTES / 3xD, 5xD & 8xD / INTERNAL COOLANT / DOUBLE MARGIN / TiAlN-HH COATING



TOLERANCE (Metric)

D1 = +0.016 / 0.004 (D1 ≤ 6)
D1 = +0.021 / 0.006 (D1 = 6.1 to 10)
D1 = +0.025 / 0.007 (D1 = 10.1 to 18)
D1 = +0.029 / 0.008 (D1 > 18)
D2 = h6

HARDNESS (HRC)



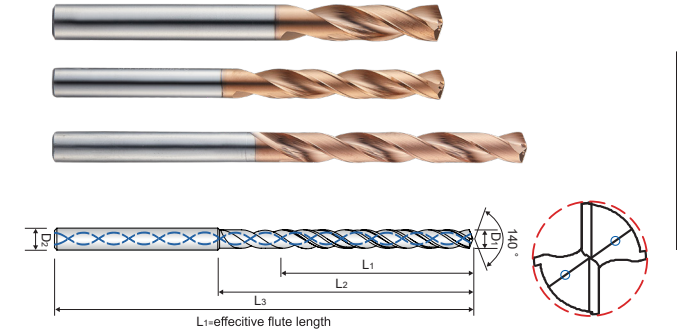
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HPI503, HPI505, HPI508N SERIES

3xD, 5xD & 8xD

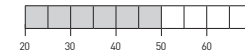
DRILLS / 2 FLUTES / 3xD, 5xD & 8xD / INTERNAL COOLANT / DOUBLE MARGIN / TiAlN-HH COATING



TOLERANCE (Metric)

D1 = +0.016 / 0.004 (D1 ≤ 6)
D1 = +0.021 / 0.006 (D1 = 6.1 to 10)
D1 = +0.025 / 0.007 (D1 = 10.1 to 18)
D1 = +0.029 / 0.008 (D1 > 18)
D2 = h6

HARDNESS (HRC)



>>Continue

	EDP NO.			Cutting Diameter	Effective Cutting Length	Cutting Length	Overall Length	Shank Diameter			
	2 Flute										
	TiAlN-HH										
	Helix 30°										
	3xD	5xD	8xD	D1			L1	L2	L3	D2	
	HPI503	HPI505	HPI508N	Decimal	Fraction	Metric					
			HPI508047N	.1850"	-	4.7	41	49	87	6	
HPI50304763			-	.1875"	3/16"	4.763	20	28	66	6	
		HPI50504763	-	.1875"	3/16"	4.763	35	44	82	6	
			HPI50804763N	.1875"	3/16"	4.763	48	56	94	6	
HPI503048			-	.1890"	-	4.8	20	28	66	6	
		HPI505048	-	.1890"	-	4.8	35	44	82	6	
			HPI508048N	.1890"	-	4.8	48	56	94	6	
HPI503049			-	.1929"	-	4.9	20	28	66	6	
		HPI505049	-	.1929"	-	4.9	35	44	82	6	
			HPI508049N	.1929"	-	4.9	48	56	94	6	
HPI503050			-	.1969"	-	5	20	28	66	6	
		HPI505050	-	.1969"	-	5	35	44	82	6	
			HPI508050N	.1969"	-	5	48	56	94	6	
HPI503051			-	.2008"	-	5.1	20	28	66	6	
		HPI505051	-	.2008"	-	5.1	35	44	82	6	
			HPI508051N	.2008"	-	5.1	48	56	94	6	
HPI50305159			-	.2031"	13/64"	5.159	20	28	66	6	
		HPI50505159	-	.2031"	13/64"	5.159	35	44	82	6	
			HPI50805159N	.2031"	13/64"	5.159	48	56	94	6	
HPI503052			-	.2047"	-	5.2	20	28	66	6	
		HPI505052	-	.2047"	-	5.2	35	44	82	6	
			HPI508052N	.2047"	-	5.2	48	56	94	6	
HPI503053			-	.2087"	-	5.3	20	28	66	6	
		HPI505053	-	.2087"	-	5.3	35	44	82	6	
			HPI508053N	.2087"	-	5.3	48	56	94	6	
HPI503054			-	.2126"	-	5.4	20	28	66	6	
		HPI505054	-	.2126"	-	5.4	35	44	82	6	
			HPI508054N	.2126"	-	5.4	48	56	94	6	
HPI503055			-	.2130"	-	5.41	35	44	82	6	
		HPI505055	-	.2165"	-	5.5	20	28	66	6	
			HPI508055N	.2165"	-	5.5	35	44	82	6	
HPI50305558			-	.2188"	7/32"	5.558	20	28	66	6	
		HPI50505558	-	.2188"	7/32"	5.558	35	44	82	6	
			HPI50805558N	.2188"	7/32"	5.558	48	56	94	6	
HPI503056			-	.2205"	-	5.6	20	28	66	6	

Applicable Working Material

○:GOOD ◎:BEST

SERIES	CARBON STEELS LOW (100L-70L)	CARBON STEELS MED (100L-100L)	CARBON STEELS HIGH (100L)	ALLOY STEELS (60L-60L)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

	EDP NO.			Cutting Diameter	Effective Cutting Length	Cutting Length	Overall Length	Shank Diameter			
	2 Flute										
	TiAlN-HH										
	Helix 30°										
	3xD	5xD	8xD	D1			L1	L2	L3	D2	
	HPI503	HPI505	HPI508N	Decimal	Fraction	Metric					
			-	.2205"	-	5.6	35	44	82	6	
		HPI505056	-	.2205"	-	5.6	48	56	94	6	
HPI503057			-	.2244"	-	5.7	20	28	66	6	
		HPI505057	-	.2244"	-	5.7	35	44	82	6	
			HPI508057N	.2244"	-	5.7	48	56	94	6	
HPI503058			-	.2283"	-	5.8	20	28	66	6	
		HPI505058	-	.2283"	-	5.8	35	44	82	6	
			HPI508058N	.2283"	-	5.8	48	56	94	6	
HPI503059			-	.2323"	-	5.9	20	28	66	6	
		HPI505059	-	.2323"	-	5.9	35	44	82	6	
			HPI508059N	.2323"	-	5.9	48	56	94	6	
HPI50305953			-	.2344"	15/64"	5.953	20	28	66	6	
		HPI50505953	-	.2344"	15/64"	5.953	35	44	82	6	
			HPI50805953N	.2344"	15/64"	5.953	48	56	94	6	
HPI503060			-	.2362"	-	6	20	28	66	6	
		HPI505060	-	.2362"	-	6	35	44	82	6	
			HPI508060N	.2362"	-	6	48	56	94	6	
HPI503061			-	.2402"	-	6.1	24	34	79	8	
		HPI505061	-	.2402"	-	6.1	43	53	91	8	
			HPI508061N	.2402"	-	6.1	57	67	105	8	
HPI503062			-	.2441"	-	6.2	24	34	79	8	
		HPI505062	-	.2441"	-	6.2	43	53	91	8	
			HPI508062N	.2441"	-	6.2	57	67	105	8	
HPI503063			-	.2480"	-	6.3	24	34	79	8	
		HPI505063	-	.2480"	-	6.3	43	53	91	8	
			HPI508063N	.2480"	-	6.3	57	67	105	8	
HPI5030635			-	.2500"	1/4"	6.35	24	34	79	8	
		HPI5050635	-	.2500"	1/4"	6.35	43	53	91	8	
			HPI5080635N	.2500"	1/4"	6.35	57	67	105	8	
HPI503064			-	.2520"	-	6.4	24	34	79	8	
		HPI505064	-	.2520"	-	6.4	43	53	91	8	
			HPI508064N	.2520"	-	6.4	57	67	105	8	
HPI503065			-	.2559"	-	6.5	24	34	79	8	
		HPI505065	-	.2559"	-	6.5	43	53	91	8	
			HPI508065N	.2559"	-	6.5	57	67	105	8	
HPI50306528			-	.2570"	F	6.528	43	53	91	8	

Applicable Working Material

○:GOOD ◎:BEST

SERIES	CARBON STEELS LOW (100L-70L)	CARBON STEELS MED (100L-100L)	CARBON STEELS HIGH (100L)	ALLOY STEELS (60L-60L)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



Drill for High Speed cutting
POWER MAX DRILL

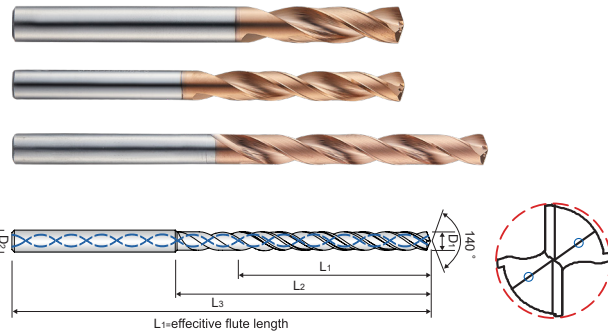


HPI503, HPI505, HPI508N SERIES

>>Continue

3xD, 5xD & 8xD

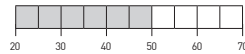
DRILLS / 2 FLUTES / 3xD, 5xD & 8xD / INTERNAL COOLANT / DOUBLE MARGIN / TiAlN-HH COATING



TOLERANCE (Metric)

D1 = +0.016 / 0.004 (D1 ≤ 6)
D1 = +0.021 / 0.006 (D1 = 6.1 to 10)
D1 = +0.025 / 0.007 (D1 = 10.1 to 18)
D1 = +0.029 / 0.008 (D1 > 18)
D2 = h6

HARDNESS (HRc)



Drill for High Speed cutting
POWER MAX DRILL

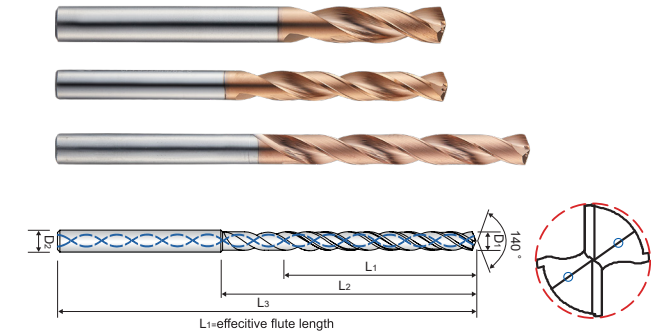


HPI503, HPI505, HPI508N SERIES

>>Continue

3xD, 5xD & 8xD

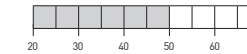
DRILLS / 2 FLUTES / 3xD, 5xD & 8xD / INTERNAL COOLANT / DOUBLE MARGIN / TiAlN-HH COATING



TOLERANCE (Metric)

D1 = +0.016 / 0.004 (D1 ≤ 6)
D1 = +0.021 / 0.006 (D1 = 6.1 to 10)
D1 = +0.025 / 0.007 (D1 = 10.1 to 18)
D1 = +0.029 / 0.008 (D1 > 18)
D2 = h6

HARDNESS (HRc)



EDP NO.			Cutting Diameter		Effective Cutting Length			Cutting Length		Overall Length		Shank Diameter	
2 Flute													
TiAlN-HH													
Helix 30°													
3xD	5xD	8xD	D1			L1	L2	L3	D2				
HPI503	HPI505	HPI508N	Decimal	Fraction	Metric								
HPI503066	-	-	.2598"	-	6.6	24	34	79	8				
	HPI505066	-	.2598"	-	6.6	43	53	91	8				
		HPI508066N	.2598"	-	6.6	57	67	105	8				
HPI503067	-	-	.2638"	-	6.7	24	34	79	8				
	HPI505067	-	.2638"	-	6.7	43	53	91	8				
		HPI508067N	.2638"	-	6.7	57	67	105	8				
HPI50306747	-	-	.2656"	17/64"	6.747	24	34	79	8				
	HPI50506747	-	.2656"	17/64"	6.747	43	53	91	8				
		HPI50806747N	.2656"	17/64"	6.747	57	67	105	8				
HPI503068	-	-	.2677"	-	6.8	24	34	79	8				
	HPI505068	-	.2677"	-	6.8	43	53	91	8				
		HPI508068N	.2677"	-	6.8	57	67	105	8				
HPI503069	-	-	.2717"	-	6.9	24	34	79	8				
	HPI505069	-	.2717"	-	6.9	43	53	91	8				
		HPI508069N	.2717"	-	6.9	57	67	105	8				
HPI503070	-	-	.2756"	-	7	24	34	79	8				
	HPI505070	-	.2756"	-	7	43	53	91	8				
		HPI508070N	.2756"	-	7	65	76	116	8				
HPI503071	-	-	.2795"	-	7.1	29	41	79	8				
	HPI505071	-	.2795"	-	7.1	43	53	91	8				
		HPI508071N	.2795"	-	7.1	65	76	116	8				
HPI50307145	-	-	.2813"	9/32"	7.145	29	41	79	8				
	HPI50507145	-	.2813"	9/32"	7.145	43	53	91	8				
		HPI50807145N	.2813"	9/32"	7.145	65	76	116	8				
HPI503072	-	-	.2835"	-	7.2	29	41	79	8				
	HPI505072	-	.2835"	-	7.2	43	53	91	8				
		HPI508072N	.2835"	-	7.2	65	76	116	8				
HPI503073	-	-	.2874"	-	7.3	29	41	79	8				
	HPI505073	-	.2874"	-	7.3	43	53	91	8				
		HPI508073N	.2874"	-	7.3	65	76	116	8				
HPI503074	-	-	.2913"	-	7.4	29	41	79	8				
	HPI505074	-	.2913"	-	7.4	43	53	91	8				
		HPI508074N	.2913"	-	7.4	65	76	116	8				
HPI503075	-	-	.2953"	-	7.5	29	41	79	8				
	HPI505075	-	.2953"	-	7.5	43	53	91	8				

Applicable Working Material

SERIES	CARBON STEELS LOW (1045-1048)	CARBON STEELS MED (1045-1052)	CARBON STEELS HIGH (1045-1060)	ALLOY STEELS (4140-640)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME	
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

○:GOOD ●:BEST

EDP NO.			Cutting Diameter		Effective Cutting Length			Cutting Length		Overall Length		Shank Diameter	
2 Flute													
TiAlN-HH													
Helix 30°													
3xD	5xD	8xD	D1			L1	L2	L3	D2				
HPI503	HPI505	HPI508N	Decimal	Fraction	Metric								
HPI50307541	-	HPI508075N	.2953"	-	7.5	65	76	116	8				
	HPI50507541	-	.2969"	19/64"	7.541	29	41	79	8				
		HPI50807541N	.2969"	19/64"	7.541	43	53	91	8				
HPI503076	-	-	.2992"	-	7.6	29	41	79	8				
	HPI505076	-	.2992"	-	7.6	43	53	91	8				
		HPI508076N	.2992"	-	7.6	65	76	116	8				
HPI503077	-	-	.3031"	-	7.7	29	41	79	8				
	HPI505077	-	.3031"	-	7.7	43	53	91	8				
		HPI508077N	.3031"	-	7.7	65	76	116	8				
HPI503078	-	-	.3071"	-	7.8	29	41	79	8				
	HPI505078	-	.3071"	-	7.8	43	53	91	8				
		HPI508078N	.3071"	-	7.8	65	76	116	8				
HPI503079	-	-	.3110"	"	7.9	29	41	79	8				
	HPI505079	-	.3110"	"	7.9	43	53	91	8				
		HPI508079N	.3110"	"	7.9	65	76	116	8				
HPI50307938	-	-	.3125"	5/16"	7.938	29	41	79	8				
	HPI50507938	-	.3125"	5/16"	7.938	43	53	91	8				
		HPI50807938N	.3125"	5/16"	7.938	65	76	116	8				
HPI503080	-	-	.3150"	-	8	29	41	79	8				
	HPI505080	-	.3150"	-	8	43	53	91	8				
		HPI508080N	.3150"	-	8	65	76	116	8				
HPI503081	-	-	.3189"	-	8.1	35	47	89	10				
	HPI505081	-	.3189"	-	8.1	49	61	103	10				
		HPI508081N	.3189"	-	8.1	74	87	131	10				
HPI503082	-	-	.3228"	-	8.2	35	47	89	10				
	HPI505082	-	.3228"	-	8.2	49	61	103	10				
		HPI508082N	.3228"	-	8.2	74	87	131	10				
HPI503083	-	-	.3268"	-	8.3	35	47	89	10				
	HPI505083	-	.3268"	-	8.3	49	61	103	10				
		HPI508083N	.3268"	-	8.3	74	87	131	10				
HPI50308334	-	-	.3281"	21/64"	8.334	35	47	89	10				
	HPI50508334	-	.3281"	21/64"	8.334	49	61	103	10				
		HPI50808334N	.3281"	21/64"	8.334	74	87	131	10				
HPI503084	-	-	.3307"	-	8.4	35	47	89	10				
	HPI505084	-	.3307"	-	8.4	49	61	103	10				

Applicable Working Material

SERIES	CARBON STEELS LOW (1045-1048)	CARBON STEELS MED (1045-1052)	CARBON STEELS HIGH (1045-1060)	ALLOY STEELS (4140-640)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME	
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

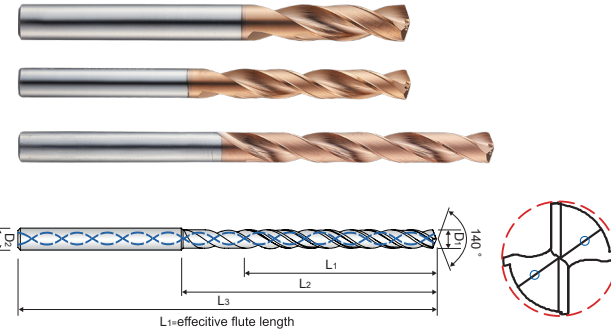
○:GOOD ●:BEST

HPI503, HPI505, HPI508N SERIES

>>Continue

3xD, 5xD & 8xD

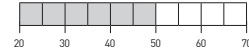
DRILLS / 2 FLUTES / 3xD, 5xD & 8xD / INTERNAL COOLANT / DOUBLE MARGIN / TiAlN-HH COATING



TOLERANCE (Metric)

D1 = +0.016 / 0.004 (D1 ≤ 6)
D1 = +0.021 / 0.006 (D1 = 6.1 to 10)
D1 = +0.025 / 0.007 (D1 = 10.1 to 18)
D1 = +0.029 / 0.008 (D1 > 18)
D2 = h6

HARDNESS (HRC)



EDP NO.			Cutting Diameter	Effective Cutting Length	Cutting Length	Overall Length	Shank Diameter			
2 Flute										
TiAlN-HH										
Helix 30°										
3xD	5xD	8xD	D1			L1	L2	L3	D2	
HPI503	HPI505	HPI508N	Decimal	Fraction	Metric					
		HPI508084N	.3307"	-	8.4	74	87	131	10	
	HPI50508433	-	.3320"	0	8.433	49	61	103	10	
HPI503085		-	.3346"	-	8.5	35	47	89	10	
	HPI505085	-	.3346"	-	8.5	49	61	103	10	
		HPI508085N	.3346"	-	8.5	74	87	131	10	
HPI503086		-	.3386"	-	8.6	35	47	89	10	
	HPI505086	-	.3386"	-	8.6	49	61	103	10	
		HPI508086N	.3386"	-	8.6	74	87	131	10	
HPI503087		-	.3425"	-	8.7	35	47	89	10	
	HPI505087	-	.3425"	-	8.7	49	61	103	10	
		HPI508087N	.3425"	-	8.7	74	87	131	10	
HPI50308733		-	.3438"	11/32"	8.733	35	47	89	10	
	HPI50508733	-	.3438"	11/32"	8.733	49	61	103	10	
		HPI50808733N	.3438"	11/32"	8.733	74	87	131	10	
HPI503088		-	.3465"	-	8.8	35	47	89	10	
	HPI505088	-	.3465"	-	8.8	49	61	103	10	
		HPI508088N	.3465"	-	8.8	74	87	131	10	
HPI503089		-	.3504"	-	8.9	35	47	89	10	
	HPI505089	-	.3504"	-	8.9	49	61	103	10	
		HPI508089N	.3504"	-	8.9	74	87	131	10	
HPI503090		-	.3543"	-	9	35	47	89	10	
	HPI505090	-	.3543"	-	9	49	61	103	10	
		HPI508090N	.3543"	-	9	74	87	131	10	
HPI503091		-	.3583"	-	9.1	35	47	89	10	
	HPI505091	-	.3583"	-	9.1	49	61	103	10	
		HPI508091N	.3583"	-	9.1	81	95	139	10	
HPI50309129		-	.3594"	23/64"	9.129	35	47	89	10	
	HPI50509129	-	.3594"	23/64"	9.129	49	61	103	10	
		HPI50809129N	.3594"	23/64"	9.129	81	95	139	10	
HPI503092		-	.3622"	-	9.2	35	47	89	10	
	HPI505092	-	.3622"	-	9.2	49	61	103	10	
		HPI508092N	.3622"	-	9.2	81	95	139	10	
HPI503093		-	.3661"	-	9.3	35	47	89	10	
	HPI505093	-	.3661"	-	9.3	49	61	103	10	
		HPI508093N	.3661"	-	9.3	81	95	139	10	
	HPI50509347	-	.3680"	U	9.347	49	61	103	10	

Applicable Working Material

○:GOOD ●:BEST

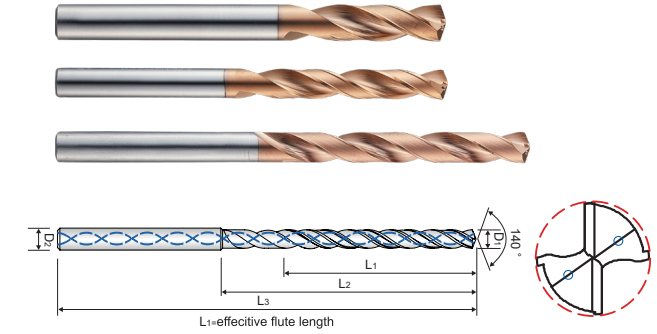
SERIES	CARBON STEELS LOW (1045, 1048)	CARBON STEELS MED (1048, 1049)	CARBON STEELS HIGH (1048, 1049)	ALLOY STEELS (4140, 4340)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME	
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

HPI503, HPI505, HPI508N SERIES

>>Continue

3xD, 5xD & 8xD

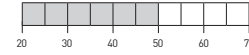
DRILLS / 2 FLUTES / 3xD, 5xD & 8xD / INTERNAL COOLANT / DOUBLE MARGIN / TiAlN-HH COATING



TOLERANCE (Metric)

D1 = +0.016 / 0.004 (D1 ≤ 6)
D1 = +0.021 / 0.006 (D1 = 6.1 to 10)
D1 = +0.025 / 0.007 (D1 = 10.1 to 18)
D1 = +0.029 / 0.008 (D1 > 18)
D2 = h6

HARDNESS (HRC)



EDP NO.			Cutting Diameter	Effective Cutting Length	Cutting Length	Overall Length	Shank Diameter			
2 Flute										
TiAlN-HH										
Helix 30°										
3xD	5xD	8xD	D1			L1	L2	L3	D2	
HPI503	HPI505	HPI508N	Decimal	Fraction	Metric					
HPI503094		-	.3701"	-	9.4	35	47	89	10	
	HPI505094	-	.3701"	-	9.4	49	61	103	10	
		HPI508094N	.3701"	-	9.4	81	95	139	10	
HPI503095		-	.3740"	-	9.5	35	47	89	10	
	HPI505095	-	.3740"	-	9.5	49	61	103	10	
		HPI508095N	.3740"	-	9.5	81	95	139	10	
HPI50309525		-	.3750"	3/8"	9.525	35	47	89	10	
	HPI50509525	-	.3750"	3/8"	9.525	49	61	103	10	
		HPI50809525N	.3750"	3/8"	9.525	81	95	139	10	
HPI503096		-	.3780"	-	9.6	35	47	89	10	
	HPI505096	-	.3780"	-	9.6	49	61	103	10	
		HPI508096N	.3780"	-	9.6	81	95	139	10	
HPI503097		-	.3819"	-	9.7	35	47	89	10	
	HPI505097	-	.3819"	-	9.7	49	61	103	10	
		HPI508097N	.3819"	-	9.7	81	95	139	10	
	HPI50509703	-	.3820"	-	9.703	49	61	103	10	
HPI503098		HPI50509746	.3837"	-	9.746	49	61	103	10	
		-	.3858"	-	9.8	35	47	89	10	
	HPI505098	-	.3858"	-	9.8	49	61	103	10	
		HPI508098N	.3858"	-	9.8	81	95	139	10	
HPI503099		-	.3898"	-	9.9	35	47	89	10	
	HPI505099	-	.3898"	-	9.9	49	61	103	10	
		HPI508099N	.3898"	-	9.9	81	95	139	10	
HPI50309921		-	.3906"	25/64"	9.921	35	47	89	10	
	HPI50509921	-	.3906"	25/64"	9.921	49	61	103	10	
		HPI50809921N	.3906"	25/64"	9.921	81	95	139	10	
HPI503100		-	.3937"	-	10	35	47	89	10	
	HPI505100	-	.3937"	-	10	49	61	103	10	
		HPI508100N	.3937"	-	10	81	95	139	10	
HPI503101		-	.3976"	-	10.1	40	55	105	12	
	HPI505101	-	.3976"	-	10.1	56	71	118	12	
		HPI508101N	.3976"	-	10.1	90	106	155	12	
HPI503102		-	.4016"	-	10.2	40	55	105	12	
	HPI505102	-	.4016"	-	10.2	56	71	118	12	
		HPI508102N	.4016"	-	10.2	90	106	155	12	
HPI503103		-	.4055"	-	10.3	40	55	105	12	

Applicable Working Material

○:GOOD ●:BEST

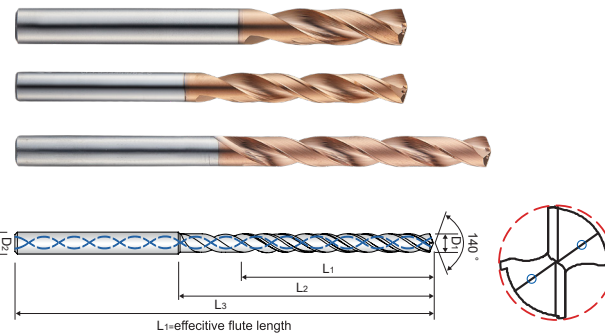
SERIES	CARBON STEELS LOW (1045, 1048)	CARBON STEELS MED (1048, 1049)	CARBON STEELS HIGH (1048, 1049)	ALLOY STEELS (4140, 4340)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME	
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



HPI503, HPI505, HPI508N SERIES

3xD, 5xD & 8xD

DRILLS / 2 FLUTES / 3xD, 5xD & 8xD / INTERNAL COOLANT / DOUBLE MARGIN / TiAlN-HH COATING



TOLERANCE (Metric)
D1 = +0.016 / 0.004 (D1 ≤ 6)
D1 = +0.021 / 0.006 (D1 = 6.1 to 10)
D1 = +0.025 / 0.007 (D1 = 10.1 to 18)
D1 = +0.029 / 0.008 (D1 > 18)
D2 = h6



>>Continue

EDP NO.			Cutting Diameter		Effective Cutting Length	Cutting Length	Overall Length	Shank Diameter	
2 Flute			D1						
TiAlN-HH					L1	L2	L3	D2	
Helix 30°									
3xD	5xD	8xD	Decimal	Fraction	Metric				
HPI503	HPI505103	-	.4055"	-	10.3	56	71	118	12
		HPI508103N	.4055"	-	10.3	90	106	155	12
HPI5031032		-	.4063"	13/32"	10.32	40	55	105	12
	HPI5051032	-	.4063"	13/32"	10.32	56	71	118	12
		HPI5081032N	.4063"	13/32"	10.32	90	106	155	12
HPI503104		-	.4094"	-	10.4	40	55	105	12
	HPI505104	-	.4094"	-	10.4	56	71	118	12
		HPI508104N	.4094"	-	10.4	90	106	155	12
HPI503105		-	.4134"	-	10.5	40	55	105	12
	HPI505105	-	.4134"	-	10.5	56	71	118	12
		HPI508105N	.4134"	-	10.5	90	106	155	12
HPI503106		-	.4173"	"	10.6	40	55	105	12
	HPI505106	-	.4173"	"	10.6	56	71	118	12
HPI503107		-	.4213"	-	10.7	40	55	105	12
	HPI505107	-	.4213"	-	10.7	56	71	118	12
		HPI508107N	.4213"	-	10.7	90	106	155	12
HPI50310716		-	.4219"	27/64"	10.716	40	55	105	12
	HPI50510716	-	.4219"	27/64"	10.716	56	71	118	12
		HPI50810716N	.4219"	27/64"	10.716	90	106	155	12
HPI503108		-	.4252"	-	10.8	40	55	105	12
	HPI505108	-	.4252"	-	10.8	56	71	118	12
		HPI508108N	.4252"	-	10.8	90	106	155	12
HPI503109		-	.4291"	-	10.9	40	55	105	12
	HPI505109	-	.4291"	-	10.9	56	71	118	12
		HPI508109N	.4291"	-	10.9	90	106	155	12
HPI503110		-	.4331"	-	11	40	55	105	12
	HPI505110	-	.4331"	-	11	56	71	118	12
		HPI508110N	.4331"	-	11	90	106	155	12
HPI503111		-	.4370"	-	11.1	40	55	105	12
	HPI505111	-	.4370"	-	11.1	56	71	118	12
		HPI508111N	.4370"	-	11.1	97	114	163	12
HPI50311113		-	.4375"	7/16"	11.113	40	55	105	12
	HPI50511113	-	.4375"	7/16"	11.113	56	71	118	12
		HPI50811113N	.4375"	7/16"	11.113	97	114	163	12
HPI503112		-	.4409"	-	11.2	40	55	105	12
	HPI505112	-	.4409"	-	11.2	56	71	118	12

Applicable Working Material

SERIES	CARBON STEELS LOW (1001-1008)	CARBON STEELS MED (1009-1016)	CARBON STEELS HIGH (1017-1024)	ALLOY STEELS (4140, 4340)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRc	HARDENED STEELS 35-45 HRc	HARDENED STEELS 45-50 HRc	HARDENED STEELS 50-70 HRc	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME	
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

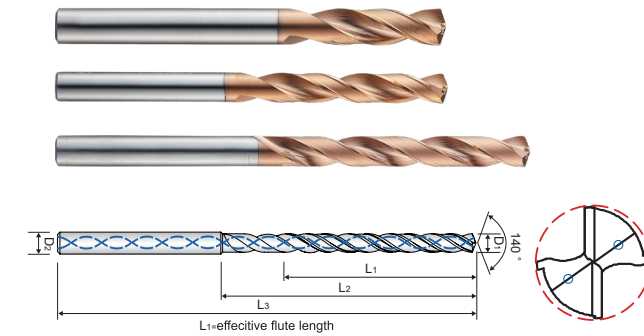
○:GOOD ◎:BEST



HPI503, HPI505, HPI508N SERIES

3xD, 5xD & 8xD

DRILLS / 2 FLUTES / 3xD, 5xD & 8xD / INTERNAL COOLANT / DOUBLE MARGIN / TiAlN-HH COATING



TOLERANCE (Metric)
D1 = +0.016 / 0.004 (D1 ≤ 6)
D1 = +0.021 / 0.006 (D1 = 6.1 to 10)
D1 = +0.025 / 0.007 (D1 = 10.1 to 18)
D1 = +0.029 / 0.008 (D1 > 18)
D2 = h6



>>Continue

EDP NO.			Cutting Diameter		Effective Cutting Length	Cutting Length	Overall Length	Shank Diameter	
2 Flute			D1						
TiAlN-HH					L1	L2	L3	D2	
Helix 30°									
3xD	5xD	8xD	Decimal	Fraction	Metric				
HPI503		HPI508112N	.4409"	-	11.2	97	114	163	12
HPI503113		-	.4449"	-	11.3	40	55	105	12
	HPI505113	-	.4449"	-	11.3	56	71	118	12
		HPI508113N	.4449"	-	11.3	97	114	163	12
HPI503114		-	.4488"	-	11.4	40	55	105	12
	HPI505114	-	.4488"	-	11.4	56	71	118	12
		HPI508114N	.4488"	-	11.4	97	114	163	12
HPI503115		-	.4528"	-	11.5	40	55	105	12
	HPI505115	-	.4528"	-	11.5	56	71	118	12
		HPI508115N	.4528"	-	11.5	97	114	163	12
HPI50311509		-	.4531"	29/64"	11.509	40	55	105	12
	HPI50511509	-	.4531"	29/64"	11.509	56	71	118	12
		HPI50811509N	.4531"	29/64"	11.509	97	114	163	12
HPI503116		-	.4567"	-	11.6	40	55	105	12
	HPI505116	-	.4567"	-	11.6	56	71	118	12
		HPI508116N	.4567"	-	11.6	97	114	163	12
HPI503117		-	.4606"	-	11.7	40	55	105	12
	HPI505117	-	.4606"	-	11.7	56	71	118	12
		HPI508117N	.4606"	-	11.7	97	114	163	12
HPI503118		-	.4646"	-	11.8	40	55	105	12
	HPI505118	-	.4646"	-	11.8	56	71	118	12
		HPI508118N	.4646"	-	11.8	97	114	163	12
HPI503119		-	.4685"	-	11.9	40	55	105	12
	HPI505119	-	.4685"	-	11.9	56	71	118	12
		HPI508119N	.4685"	-	11.9	97	114	163	12
HPI50311908		-	.4688"	15/32"	11.908	40	55	105	12
	HPI50511908	-	.4688"	15/32"	11.908	56	71	118	12
		HPI50811908N	.4688"	15/32"	11.908	97	114	163	12
HPI503120		-	.4724"	-	12	40	55	105	12
	HPI505120	-	.4724"	-	12	56	71	118	12
		HPI508120N	.4724"	-	12	97	114	163	12
HPI503121		-	.4764"	-	12.1	43	60	107	14
	HPI505121	-	.4764"	-	12.1	60	77	124	14
HPI503122		-	.4803"	-	12.2	43	60	107	14
	HPI505122	-	.4803"	-	12.2	60	77	124	14
HPI503123		-	.4843"	-	12.3	43	60	107	14

Applicable Working Material

SERIES	CARBON STEELS LOW (1001-1008)	CARBON STEELS MED (1009-1016)	CARBON STEELS HIGH (1017-1024)	ALLOY STEELS (4140, 4340)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRc	HARDENED STEELS 35-45 HRc	HARDENED STEELS 45-50 HRc	HARDENED STEELS 50-70 HRc	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME	
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

○:GOOD ◎:BEST



HPI503, HPI505, HPI508N SERIES

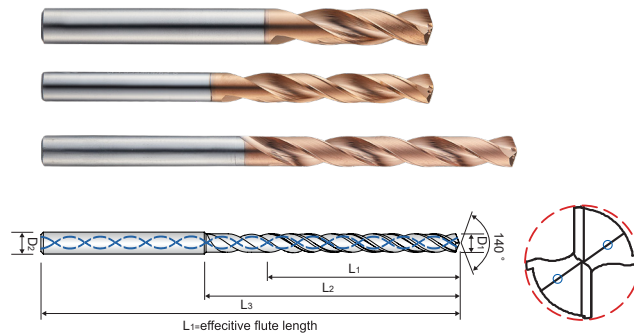
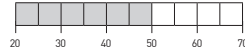
3xD, 5xD & 8xD

DRILLS / 2 FLUTES / 3xD, 5xD & 8xD / INTERNAL COOLANT / DOUBLE MARGIN / TiAlN-HH COATING

TOLERANCE (Metric)

D1 = +0.016 / 0.004 (D1 ≤ 6)
D1 = +0.021 / 0.006 (D1 = 6.1 to 10)
D1 = +0.025 / 0.007 (D1 = 10.1 to 18)
D1 = +0.029 / 0.008 (D1 > 18)
D2 = h6

HARDNESS (HRC)



>>Continue

EDP NO.			Cutting Diameter	Effective Cutting Length	Cutting Length	Overall Length	Shank Diameter		
2 Flute									
TiAlN-HH									
Helix 30°									
3xD	5xD	8xD	D1			L1	L2	L3	D2
HPI503	HPI505	HPI508N	Decimal	Fraction	Metric				
	HPI505123	-	.4843"	-	12.3	60	77	124	14
HPI50312304		-	.4844"	31/64"	12.304	43	60	107	14
	HPI50512304	-	.4844"	31/64"	12.304	60	77	124	14
		HPI50812304N	.4844"	31/64"	12.304	113	133	182	14
	HPI505124	-	.4882"	-	12.4	60	77	124	14
HPI503125		-	.4921"	-	12.5	43	60	107	14
	HPI505125	-	.4921"	-	12.5	60	77	124	14
		HPI508125N	.4921"	-	12.5	113	133	182	14
HPI503126		-	.4961"	-	12.6	43	60	107	14
	HPI505126	-	.4961"	-	12.6	60	77	124	14
HPI503127		-	.5000"	1/2"	12.7	43	60	107	14
	HPI505127	-	.5000"	1/2"	12.7	60	77	124	14
		HPI508127N	.5000"	1/2"	12.7	113	133	182	14
HPI503128		-	.5039"	-	12.8	43	60	107	14
	HPI505128	-	.5039"	-	12.8	60	77	124	14
		HPI508128N	.5039"	-	12.8	113	133	182	14
HPI503129		-	.5079"	-	12.9	43	60	107	14
	HPI505129	-	.5079"	-	12.9	60	77	124	14
	HPI50512903	-	.5080"	-	12.903	60	77	124	14
HPI503130		-	.5118"	-	13	43	60	107	14
	HPI505130	-	.5118"	-	13	60	77	124	14
		HPI508130N	.5118"	-	13	113	133	182	14
	HPI50513096	-	.5156"	33/64"	13.096	60	77	124	14
	HPI505131	-	.5157"	-	13.1	60	77	124	14
HPI503132		-	.5197"	-	13.2	43	60	107	14
	HPI505132	-	.5197"	-	13.2	60	77	124	14
HPI503133		-	.5236"	-	13.3	43	60	107	14
	HPI505133	-	.5236"	-	13.3	60	77	124	14
	HPI505134	-	.5276"	-	13.4	60	77	124	14
HPI50313494		-	.5313"	17/32"	13.494	43	60	107	14
	HPI50513494	-	.5313"	17/32"	13.494	60	77	124	14
		HPI50813494N	.5313"	17/32"	13.494	113	133	182	14

Applicable Working Material

Series	Carbon Steels Low (100-170)	Carbon Steels Med (170-200)	Carbon Steels High (180)	Alloy Steels (40-60)	Die Steels	Stainless Steels 300	Stainless Steels 400	Stainless Steels 17-4 PH	Cast Iron	Aluminum (6061, 7075)	Aluminum Castings	Nickel Alloys (Inconel)	Titanium (6Al4V)	Hardened Steels 35 HRC	Hardened Steels 35-45 HRC	Hardened Steels 45-50 HRC	Hardened Steels 50-70 HRC	Magnesium	Brass Bronze	Graphite	Cobalt Chrome
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



HPI503, HPI505, HPI508N SERIES

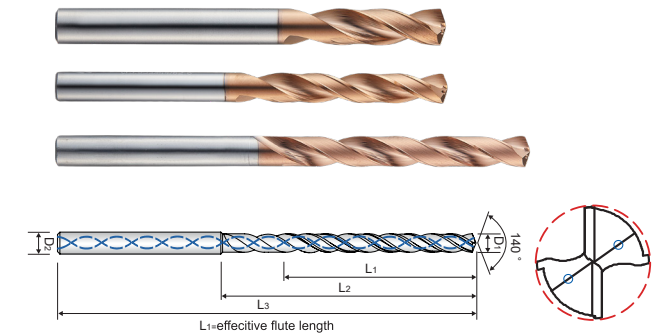
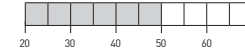
3xD, 5xD & 8xD

DRILLS / 2 FLUTES / 3xD, 5xD & 8xD / INTERNAL COOLANT / DOUBLE MARGIN / TiAlN-HH COATING

TOLERANCE (Metric)

D1 = +0.016 / 0.004 (D1 ≤ 6)
D1 = +0.021 / 0.006 (D1 = 6.1 to 10)
D1 = +0.025 / 0.007 (D1 = 10.1 to 18)
D1 = +0.029 / 0.008 (D1 > 18)
D2 = h6

HARDNESS (HRC)



>>Continue

EDP NO.			Cutting Diameter	Effective Cutting Length	Cutting Length	Overall Length	Shank Diameter		
2 Flute									
TiAlN-HH									
Helix 30°									
3xD	5xD	8xD	D1			L1	L2	L3	D2
HPI503	HPI505	HPI508N	Decimal	Fraction	Metric				
HPI503135		-	.5315"	-	13.5	43	60	107	14
	HPI505135	-	.5315"	-	13.5	60	77	124	14
		HPI508135N	.5315"	-	13.5	113	133	182	14
HPI503137		-	.5394"	-	13.7	43	60	107	14
	HPI505137	-	.5394"	-	13.7	60	77	124	14
	HPI505138	-	.5433"	-	13.8	60	77	124	14
HPI50313891		-	.5469"	35/64"	13.891	43	60	107	14
	HPI50513891	-	.5469"	35/64"	13.891	60	77	124	14
HPI503140		-	.5512"	-	14	43	60	107	14
	HPI505140	-	.5512"	-	14	60	77	124	14
		HPI508140N	.5512"	-	14	113	133	182	14
HPI503141		-	.5551"	-	14.1	45	65	115	16
	HPI505141	-	.5551"	-	14.1	63	83	133	16
HPI503142		-	.5591"	-	14.2	45	65	115	16
	HPI505142	-	.5591"	-	14.2	63	83	133	16
HPI50314288		-	.5625"	9/16"	14.288	45	65	115	16
	HPI50514288	-	.5625"	9/16"	14.288	63	83	133	16
		HPI50814288N	.5625"	9/16"	14.288	129	152	204	16
HPI503145		-	.5709"	-	14.5	45	65	115	16
	HPI505145	-	.5709"	-	14.5	63	83	133	16
		HPI508145N	.5709"	-	14.5	129	152	204	16
HPI503146		-	.5748"	-	14.6	45	65	115	16
	HPI505146	-	.5748"	-	14.6	63	83	133	16
HPI503147		-	.5787"	-	14.7	45	65	115	16
	HPI505147	-	.5787"	-	14.7	63	83	133	16
	HPI505148	-	.5787"	-	14.7	63	83	133	16
	HPI505149	-	.5866"	-	14.9	63	83	133	16
HPI503150		-	.5906"	-	15	45	65	115	16
	HPI505150	-	.5906"	-	15	63	83	133	16
		HPI508150N	.5906"	-	15	129	152	204	16
HPI50315081		-	.5937"	19/32"	15.081	45	65	115	16
	HPI50515081	-	.5937"	19/32"	15.081	63	83	133	16

Applicable Working Material

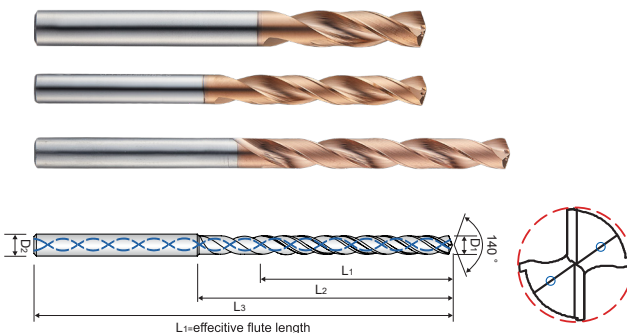
Series	Carbon Steels Low (100-170)	Carbon Steels Med (170-200)	Carbon Steels High (180)	Alloy Steels (40-60)	Die Steels	Stainless Steels 300	Stainless Steels 400	Stainless Steels 17-4 PH	Cast Iron	Aluminum (6061, 7075)	Aluminum Castings	Nickel Alloys (Inconel)	Titanium (6Al4V)	Hardened Steels 35 HRC	Hardened Steels 35-45 HRC	Hardened Steels 45-50 HRC	Hardened Steels 50-70 HRC	Magnesium	Brass Bronze	Graphite	Cobalt Chrome
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



HPI503, HPI505, HPI508N SERIES

3xD, 5xD & 8xD

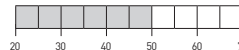
DRILLS / 2 FLUTES / 3xD, 5xD & 8xD / INTERNAL COOLANT / DOUBLE MARGIN / TiAlN-HH COATING



TOLERANCE (Metric)

D1 = +0.016 / 0.004 (D1 ≤ 6)
D1 = +0.021 / 0.006 (D1 = 6.1 to 10)
D1 = +0.025 / 0.007 (D1 = 10.1 to 18)
D1 = +0.029 / 0.008 (D1 > 18)
D2 = h6

HARDNESS (HRC)



EDP NO.			Cutting Diameter	Effective Cutting Length	Cutting Length	Overall Length	Shank Diameter		
2 Flute									
TiAlN-HH									
Helix 30°									
3xD	5xD	8xD	D1			L1	L2	L3	D2
HPI503	HPI505	HPI508N	Decimal	Fraction	Metric				
	HPI505190	-	.7480"	-	19	77	101	153	20
		HPI508190N	.7480"	-	19	162	191	244	20
HPI5031905		-	.7500"	3/4"	19.05	55	79	131	20
	HPI5051905	-	.7500"	3/4"	19.05	77	101	153	20
		HPI5081905N	.7500"	3/4"	19.05	162	191	244	20
	HPI505192	-	.7559"	-	19.2	77	101	153	20
	HPI50519253	-	.7580"	-	19.253	77	101	153	20
		HPI50819253N	.7580"	-	19.253	162	191	244	20
	HPI50519446	-	.7656"	49/64"	19.446	77	101	153	20
	HPI505195	-	.7677"	-	19.5	77	101	153	20
	HPI505197	-	.7756"	-	19.7	77	101	153	20
		HPI508198N	.7795"	-	19.8	162	191	244	20
	HPI50519844	-	.7813"	-	19.844	77	101	153	20
HPI503200		-	.7874"	-	20	55	79	131	20
	HPI505200	-	.7874"	-	20	77	101	153	20
		HPI508200N	.7874"	-	20	162	191	244	20

HPI503, HPI505, HPI508N SERIES

RPM=rev./min.
FEED=mm/rev.
IPR=inch/rev.

Work Material	Non-Alloyed Steels			Alloy Steels			Soft Cast Iron			Strong Cast Iron		
	~ HRC 20			HRC 20 ~			~ 240 BHN			300 BHN ~		
Strength	RPM (rev/min)	FEED (mm/rev)	IPR (inch/rev)	RPM (rev/min)	FEED (mm/rev)	IPR (inch/rev)	RPM (rev/min)	FEED (mm/rev)	IPR (inch/rev)	RPM (rev/min)	FEED (mm/rev)	IPR (inch/rev)
3	16,000	0.16	0.006	14,500	0.16	0.006	26,000	0.16	0.006	17,000	0.16	0.006
4	12,000	0.17	0.007	11,000	0.17	0.007	20,000	0.17	0.007	13,000	0.17	0.007
5	9,550	0.18	0.007	8,600	0.18	0.007	16,000	0.18	0.007	10,000	0.18	0.007
6	8,000	0.20	0.008	7,200	0.20	0.008	13,000	0.20	0.008	8,500	0.20	0.008
7	6,800	0.22	0.009	6,100	0.22	0.009	11,500	0.22	0.009	7,300	0.22	0.009
8	6,000	0.24	0.009	5,400	0.24	0.009	9,900	0.24	0.009	6,400	0.24	0.009
9	5,300	0.27	0.011	4,800	0.27	0.011	8,800	0.27	0.011	5,700	0.27	0.011
10	4,800	0.30	0.012	4,300	0.30	0.012	8,000	0.30	0.012	5,100	0.30	0.012
12	4,000	0.33	0.013	3,600	0.33	0.013	6,600	0.33	0.013	4,250	0.33	0.013
14	3,400	0.36	0.014	3,050	0.36	0.014	5,700	0.36	0.014	3,650	0.36	0.014
16	3,000	0.39	0.015	2,700	0.39	0.015	5,000	0.39	0.015	3,200	0.39	0.015
18	2,650	0.42	0.017	2,400	0.42	0.017	4,400	0.42	0.017	2,850	0.42	0.017
20	2,400	0.45	0.018	2,150	0.45	0.018	4,000	0.45	0.018	2,550	0.45	0.018

- HPI503(3xD) : FEED 100%
- HPI505(5xD) : FEED 90%
- HPI508N(8xD) : FEED 70~80%

Applicable Working Material

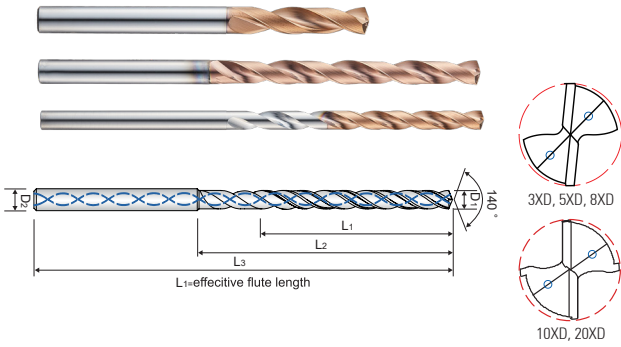
○:GOOD ◎:BEST

SERIES	CARBON STEELS LOW (H01L, H02)	CARBON STEELS MED (H02, H03)	CARBON STEELS HIGH (H03, H04, H05)	ALLOY STEELS (H04, H05)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (H01, H05)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (H014V)	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

SF503, SF505, SF508, SF510 & SF520 SERIES

3xD, 5xD, 8xD, 10xD & 20xD

DRILLS / 2 FLUTES / 3xD, 5xD, 8xD, 10xD & 20xD / INTERNAL COOLANT / SINGLE & DOUBLE MARGIN / TiAlN-HH COATING AICrN COATING (8XD ONLY)



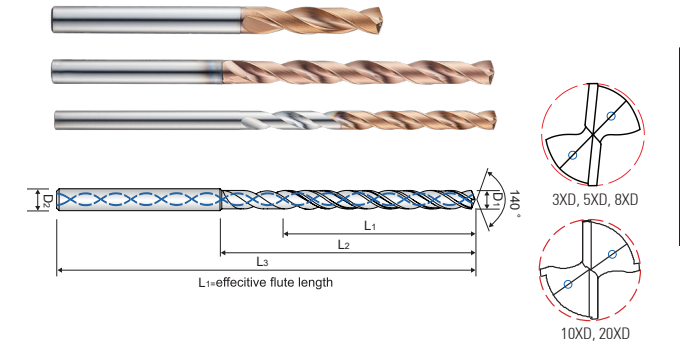
TOLERANCE (Metric)	HARDNESS (HRc)
D1 = +0 / -0.014 (D1 ≤ 3)	
D1 = +0 / -0.018 (D1 = 3.1 to 6)	
D1 = +0 / -0.022 (D1 = 6.1 to 10)	
D1 = +0 / -0.027 (D1 = 10.1 to 18)	
D1 = +0 / -0.033 (D1 > 18)	
D2 = h6	

>>Continue

SF503, SF505, SF508, SF510 & SF520 SERIES

3xD, 5xD, 8xD, 10xD & 20xD

DRILLS / 2 FLUTES / 3xD, 5xD, 8xD, 10xD & 20xD / INTERNAL COOLANT / SINGLE & DOUBLE MARGIN / TiAlN-HH COATING AICrN COATING (8XD ONLY)



TOLERANCE (Metric)	HARDNESS (HRc)
D1 = +0 / -0.014 (D1 ≤ 3)	
D1 = +0 / -0.018 (D1 = 3.1 to 6)	
D1 = +0 / -0.022 (D1 = 6.1 to 10)	
D1 = +0 / -0.027 (D1 = 10.1 to 18)	
D1 = +0 / -0.033 (D1 > 18)	
D2 = h6	

>>Continue

EDP NO.					Cutting Diameter	Effective Cutting Length	Cutting Length	Overall Length	Shank Diameter		
2 Flute											
TiAlN-HH COAT / AICrN COAT (8XD ONLY)											
Helix 30°											
3xD	5xD	8xD	10xD	20xD	D1			L1	L2	L3	D2
SF503	SF505	SF508	SF510	SF520	Decimal	Fraction	Metric				
SF503054	-	-	-	-	0.2126"	-	5.400	-	28.00	66.00	6.00
-	SF505054	-	-	-	0.2126"	-	5.400	-	43.00	87.00	6.00
-	-	SF508054	-	-	0.2126"	-	5.400	-	56.00	94.00	6.00
-	-	-	SF510054	-	0.2126"	-	5.400	43.000	72.00	123.00	6.00
-	-	-	-	SF520054	0.2126"	-	5.400	43.000	127.00	178.00	6.00
-	-	SF5080541	-	-	0.2130"	#3	5.410	-	56.00	94.00	6.00
SF503055	-	-	-	-	0.2165"	-	5.500	-	28.00	66.00	6.00
-	SF505055	-	-	-	0.2165"	-	5.500	-	43.00	87.00	6.00
-	-	SF508055	-	-	0.2165"	-	5.500	-	56.00	94.00	6.00
-	-	-	SF510055	-	0.2165"	-	5.500	43.000	72.00	123.00	6.00
-	-	-	-	SF520055	0.2165"	-	5.500	43.000	127.00	178.00	6.00
SF50305558	-	-	-	-	0.2188"	7/32"	5.558	-	28.00	66.00	6.00
-	SF50505558	-	-	-	0.2188"	7/32"	5.558	-	43.00	87.00	6.00
-	-	SF50805558	-	-	0.2188"	7/32"	5.558	-	56.00	94.00	6.00
SF503056	-	-	-	-	0.2205"	-	5.600	-	30.00	66.00	6.00
-	SF505056	-	-	-	0.2205"	-	5.600	-	43.00	87.00	6.00
-	-	SF508056	-	-	0.2205"	-	5.600	-	56.00	94.00	6.00
-	-	-	SF510056	-	0.2205"	-	5.600	43.000	79.00	130.00	6.00
-	-	-	-	SF520056	0.2205"	-	5.600	43.000	139.00	190.00	6.00
SF503057	-	-	-	-	0.2244"	-	5.700	-	30.00	66.00	6.00
-	SF505057	-	-	-	0.2244"	-	5.700	-	43.00	87.00	6.00
-	-	SF508057	-	-	0.2244"	-	5.700	-	56.00	94.00	6.00
-	-	-	SF510057	-	0.2244"	-	5.700	43.000	79.00	130.00	6.00
-	-	-	-	SF520057	0.2244"	-	5.700	43.000	139.00	190.00	6.00
SF503058	-	-	-	-	0.2283"	-	5.800	-	30.00	66.00	6.00
-	SF505058	-	-	-	0.2283"	-	5.800	-	43.00	87.00	6.00
-	-	SF508058	-	-	0.2283"	-	5.800	-	56.00	94.00	6.00
-	-	-	SF510058	-	0.2283"	-	5.800	43.000	79.00	130.00	6.00
-	-	-	-	SF520058	0.2283"	-	5.800	43.000	139.00	190.00	6.00
SF503059	-	-	-	-	0.2323"	-	5.900	-	30.00	66.00	6.00
-	SF505059	-	-	-	0.2323"	-	5.900	-	43.00	87.00	6.00
-	-	SF508059	-	-	0.2323"	-	5.900	-	56.00	94.00	6.00

Applicable Working Material

SERIES	CARBON STEELS LOW (1018-1045)	CARBON STEELS MED (1045-1090)	CARBON STEELS HIGH (1090-1345)	ALLOY STEELS (4140, 4340)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRc	HARDENED STEELS 35-45 HRc	HARDENED STEELS 45-50 HRc	HARDENED STEELS 50-70 HRc	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

○:GOOD ●:BEST

Applicable Working Material

SERIES	CARBON STEELS LOW (1018-1045)	CARBON STEELS MED (1045-1090)	CARBON STEELS HIGH (1090-1345)	ALLOY STEELS (4140, 4340)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRc	HARDENED STEELS 35-45 HRc	HARDENED STEELS 45-50 HRc	HARDENED STEELS 50-70 HRc	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

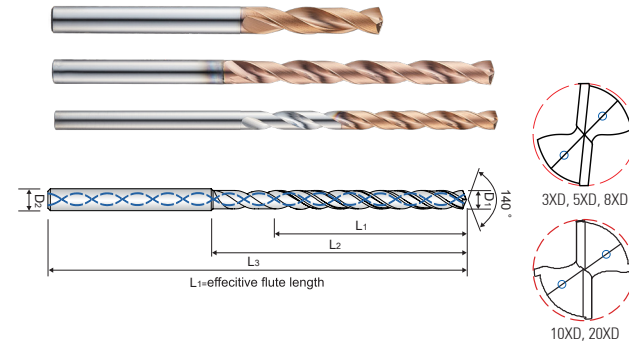
○:GOOD ●:BEST



SF503, SF505, SF508, SF510 & SF520 SERIES

3xD, 5xD, 8xD, 10xD & 20xD

DRILLS / 2 FLUTES / 3xD, 5xD, 8xD, 10xD & 20xD / INTERNAL COOLANT / SINGLE & DOUBLE MARGIN / TiAlN-HH COATING AlCrN COATING (8XD ONLY)



TOLERANCE (Metric)	HARDNESS (HRc)
D1 = +0 / -0.014 (D1 ≤ 3)	
D1 = +0 / -0.018 (D1 = 3.1 to 6)	
D1 = +0 / -0.022 (D1 = 6.1 to 10)	
D1 = +0 / -0.027 (D1 = 10.1 to 18)	
D1 = +0 / -0.033 (D1 > 18)	
D2 = h6	

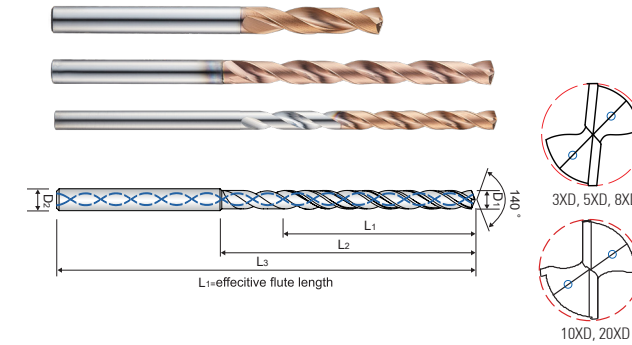
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SF503, SF505, SF508, SF510 & SF520 SERIES

3xD, 5xD, 8xD, 10xD & 20xD

DRILLS / 2 FLUTES / 3xD, 5xD, 8xD, 10xD & 20xD / INTERNAL COOLANT / SINGLE & DOUBLE MARGIN / TiAlN-HH COATING AlCrN COATING (8XD ONLY)



TOLERANCE (Metric)	HARDNESS (HRc)
D1 = +0 / -0.014 (D1 ≤ 3)	
D1 = +0 / -0.018 (D1 = 3.1 to 6)	
D1 = +0 / -0.022 (D1 = 6.1 to 10)	
D1 = +0 / -0.027 (D1 = 10.1 to 18)	
D1 = +0 / -0.033 (D1 > 18)	
D2 = h6	

>>Continue

INCH
METRIC

Power Max Drill Series

New Dynamic Power Drill Series

Solid Spiral Drill Series

Centering Tools

EDP NO.					Cutting Diameter	Effective Cutting Length	Cutting Length	Overall Length	Shank Diameter		
2 Flute											
TiAlN-HH COAT / AlCrN COAT (8XD ONLY)											
Helix 30°											
3xD	5xD	8xD	10xD	20xD	D1			L1	L2	L3	D2
SF503	SF505	SF508	SF510	SF520	Decimal	Fraction	Metric				
-	-	-	-	SF520064	0.2520"	-	6.400	47.000	150.00	203.00	7.00
SF503065	-	-	-	-	0.2559"	-	6.500	-	34.00	74.00	7.00
-	SF505065	-	-	-	0.2559"	-	6.500	-	47.00	95.00	7.00
-	-	SF508065	-	-	0.2559"	-	6.500	-	67.00	105.00	7.00
-	-	-	SF510065	-	0.2559"	-	6.500	47.000	85.00	138.00	7.00
-	-	-	-	SF520065	0.2559"	-	6.500	47.000	150.00	203.00	7.00
-	-	SF50806528	-	-	0.2570"	LTR F	6.528	-	67.00	105.00	7.00
SF503066	-	-	-	-	0.2598"	-	6.600	-	34.00	74.00	7.00
-	SF505066	-	-	-	0.2598"	-	6.600	-	47.00	95.00	7.00
-	-	SF508066	-	-	0.2598"	-	6.600	-	67.00	105.00	7.00
-	-	-	SF510066	-	0.2598"	-	6.600	47.000	92.00	145.00	7.00
-	-	-	-	SF520066	0.2598"	-	6.600	47.000	162.00	215.00	7.00
SF503067	-	-	-	-	0.2638"	-	6.700	-	37.00	74.00	7.00
-	SF505067	-	-	-	0.2638"	-	6.700	-	47.00	95.00	7.00
-	-	SF508067	-	-	0.2638"	-	6.700	-	67.00	105.00	7.00
-	-	-	SF510067	-	0.2638"	-	6.700	47.000	92.00	145.00	7.00
-	-	-	-	SF520067	0.2638"	-	6.700	47.000	162.00	215.00	7.00
SF50306747	-	-	-	-	0.2656"	17/64"	6.747	-	37.00	74.00	7.00
-	SF50506747	-	-	-	0.2656"	17/64"	6.747	-	47.00	95.00	7.00
-	-	SF50806747	-	-	0.2656"	17/64"	6.747	-	67.00	105.00	7.00
SF503068	-	-	-	-	0.2677"	-	6.800	-	37.00	74.00	7.00
-	SF505068	-	-	-	0.2677"	-	6.800	-	47.00	95.00	7.00
-	-	SF508068	-	-	0.2677"	-	6.800	-	67.00	105.00	7.00
-	-	-	SF510068	-	0.2677"	-	6.800	47.000	92.00	145.00	7.00
-	-	-	-	SF520068	0.2677"	-	6.800	47.000	162.00	215.00	7.00
SF503069	-	-	-	-	0.2717"	-	6.900	-	37.00	74.00	7.00
-	SF505069	-	-	-	0.2717"	-	6.900	-	47.00	95.00	7.00
-	-	SF508069	-	-	0.2717"	-	6.900	-	67.00	105.00	7.00
-	-	-	SF510069	-	0.2717"	-	6.900	47.000	92.00	145.00	7.00
-	-	-	-	SF520069	0.2717"	-	6.900	47.000	162.00	215.00	7.00
SF503070	-	-	-	-	0.2756"	-	7.000	-	37.00	74.00	7.00
-	SF505070	-	-	-	0.2756"	-	7.000	-	47.00	95.00	7.00

Applicable Working Material

SERIES	CARBON STEELS LOW (100-170)	CARBON STEELS MED (170-200)	CARBON STEELS HIGH (200)	ALLOY STEELS (40-60)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (B414)	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME	
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

○:GOOD ◎:BEST

INCH
METRIC

Power Max Drill Series

New Dynamic Power Drill Series

Solid Spiral Drill Series

Centering Tools

Applicable Working Material

SERIES	CARBON STEELS LOW (100-170)	CARBON STEELS MED (170-200)	CARBON STEELS HIGH (200)	ALLOY STEELS (40-60)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (B414)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME	
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

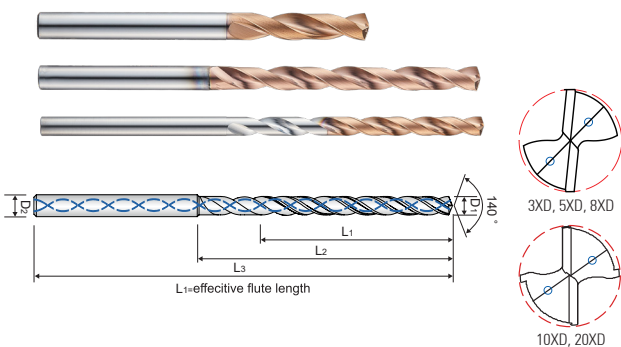
○:GOOD ◎:BEST

SF503, SF505, SF508, SF510 & SF520 SERIES

>>Continue

3xD, 5xD, 8xD, 10xD & 20xD

DRILLS / 2 FLUTES / 3xD, 5xD, 8xD, 10xD & 20xD / INTERNAL COOLANT / SINGLE & DOUBLE MARGIN / TiAlN-HH COATING AlCrN COATING (8XD ONLY)



TOLERANCE (Metric)

D1 = +0 / -0.014 (D1 ≤ 3)
D1 = +0 / -0.018 (D1 = 3.1 to 6)
D1 = +0 / -0.022 (D1 = 6.1 to 10)
D1 = +0 / -0.027 (D1 = 10.1 to 18)
D1 = +0 / -0.033 (D1 > 18)
D2 = h6

HARDNESS (HRC)

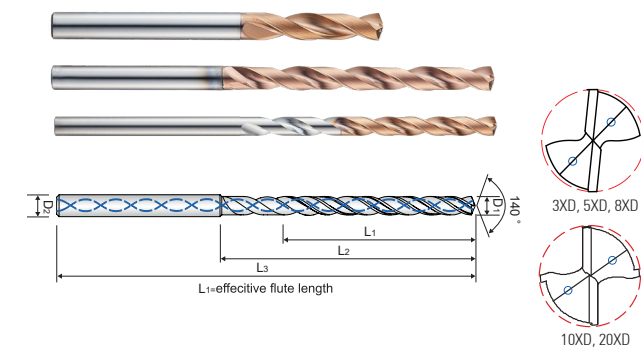


SF503, SF505, SF508, SF510 & SF520 SERIES

>>Continue

3xD, 5xD, 8xD, 10xD & 20xD

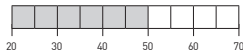
DRILLS / 2 FLUTES / 3xD, 5xD, 8xD, 10xD & 20xD / INTERNAL COOLANT / SINGLE & DOUBLE MARGIN / TiAlN-HH COATING AlCrN COATING (8XD ONLY)



TOLERANCE (Metric)

D1 = +0 / -0.014 (D1 ≤ 3)
D1 = +0 / -0.018 (D1 = 3.1 to 6)
D1 = +0 / -0.022 (D1 = 6.1 to 10)
D1 = +0 / -0.027 (D1 = 10.1 to 18)
D1 = +0 / -0.033 (D1 > 18)
D2 = h6

HARDNESS (HRC)



EDP NO.		Cutting Diameter		Effective Cutting Length	Cutting Length	Overall Length	Shank Diameter				
2 Flute		TiAlN-HH COAT / AlCrN COAT (8XD ONLY)		L1	L2	L3	D2				
Helix 30°		D1									
3xD	5xD	8xD	10xD	20xD	Decimal	Fraction	Metric	L1	L2	L3	D2
SF503	SF505	SF508	SF510	SF520	0.2969"	19/64"	7.541	-	52.00	103.00	8.00
-	SF50507541	-	-	-	0.2969"	19/64"	7.541	-	76.00	116.00	8.00
-	-	SF50807541	-	-	0.2969"	19/64"	7.541	-	76.00	116.00	8.00
SF503076	-	-	-	-	0.2992"	-	7.600	-	40.00	79.00	8.00
-	SF505076	-	-	-	0.2992"	-	7.600	-	52.00	103.00	8.00
-	-	-	SF510076	-	0.2992"	-	7.600	52.000	105.00	160.00	8.00
-	-	-	-	SF520076	0.2992"	-	7.600	52.000	185.00	240.00	8.00
SF503077	-	-	-	-	0.3031"	-	7.700	-	40.00	79.00	8.00
-	SF505077	-	-	-	0.3031"	-	7.700	-	52.00	103.00	8.00
-	-	-	SF510077	-	0.3031"	-	7.700	52.000	105.00	160.00	8.00
-	-	-	-	SF520077	0.3031"	-	7.700	52.000	185.00	240.00	8.00
SF503078	-	-	-	-	0.3071"	-	7.800	-	40.00	79.00	8.00
-	SF505078	-	-	-	0.3071"	-	7.800	-	52.00	103.00	8.00
-	-	SF508078	-	-	0.3071"	-	7.800	-	76.00	116.00	8.00
-	-	-	SF510078	-	0.3071"	-	7.800	52.000	105.00	160.00	8.00
-	-	-	-	SF520078	0.3071"	-	7.800	52.000	185.00	240.00	8.00
SF503079	-	-	-	-	0.3110"	-	7.900	-	40.00	79.00	8.00
-	SF505079	-	-	-	0.3110"	-	7.900	-	52.00	103.00	8.00
-	-	SF508079	-	-	0.3110"	-	7.900	-	76.00	116.00	8.00
-	-	-	SF510079	-	0.3110"	-	7.900	52.000	105.00	160.00	8.00
-	-	-	-	SF520079	0.3110"	-	7.900	52.000	185.00	240.00	8.00
SF50307938	-	-	-	-	0.3125"	5/16"	7.938	-	40.00	79.00	8.00
-	SF50507938	-	-	-	0.3125"	5/16"	7.938	-	52.00	103.00	8.00
-	-	SF50807938	-	-	0.3125"	5/16"	7.938	-	76.00	116.00	8.00
SF503080	-	-	-	-	0.3150"	-	8.000	-	40.00	79.00	8.00
-	SF505080	-	-	-	0.3150"	-	8.000	-	52.00	103.00	8.00
-	-	SF508080	-	-	0.3150"	-	8.000	-	76.00	116.00	8.00
-	-	-	SF510080	-	0.3150"	-	8.000	52.000	105.00	160.00	8.00
-	-	-	-	SF520080	0.3150"	-	8.000	52.000	185.00	240.00	8.00
SF503081	-	-	-	-	0.3189"	-	8.100	-	43.00	84.00	9.00
-	SF505081	-	-	-	0.3189"	-	8.100	-	56.00	105.00	9.00
-	-	SF508081	-	-	0.3189"	-	8.100	-	87.00	131.00	9.00
-	-	-	SF510081	-	0.3189"	-	8.100	56.000	111.00	166.00	9.00

Applicable Working Material

○:GOOD ◎:BEST

SERIES	CARBON STEELS LOW (1018, 1008)	CARBON STEELS MED (1020, 1045)	CARBON STEELS HIGH (1045, 1045)	ALLOY STEELS (4140, 6440)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

Applicable Working Material

○:GOOD ◎:BEST

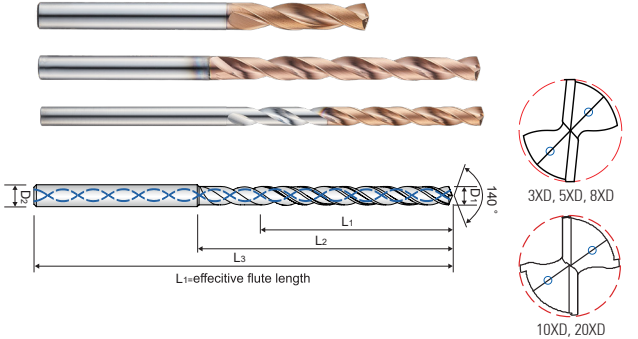
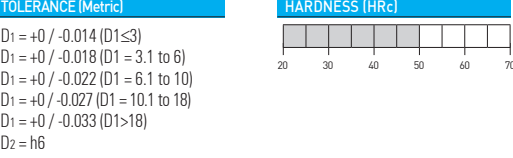
SERIES	CARBON STEELS LOW (1018, 1008)	CARBON STEELS MED (1020, 1045)	CARBON STEELS HIGH (1045, 1045)	ALLOY STEELS (4140, 6440)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

SF503, SF505, SF508, SF510 & SF520 SERIES

>>Continue

3xD, 5xD, 8xD, 10xD & 20xD

DRILLS / 2 FLUTES / 3xD, 5xD, 8xD, 10xD & 20xD / INTERNAL COOLANT / SINGLE & DOUBLE MARGIN / TiAlN-HH COATING A/CrN COATING (8XD ONLY)



EDP NO.					Cutting Diameter	Effective Cutting Length	Cutting Length	Overall Length	Shank Diameter		
2 Flute											
TiAlN-HH COAT / A/CrN COAT (8XD ONLY)											
Helix 30°											
3xD	5xD	8xD	10xD	20xD	D1			L1	L2	L3	D2
SF503	SF505	SF508	SF510	SF520	Decimal	Fraction	Metric				
-	-	SF508087	-	-	0.3425"	-	8.700	-	87.00	131.00	9.00
-	-	-	SF510087	-	0.3425"	-	8.700	56.000	118.00	173.00	9.00
-	-	-	-	SF520087	0.3425"	-	8.700	56.000	208.00	263.00	9.00
SF50308733	-	-	-	-	0.3438"	11/32"	8.733	-	43.00	84.00	9.00
-	SF50508733	-	-	-	0.3438"	11/32"	8.733	-	56.00	105.00	9.00
-	-	SF50808733	-	-	0.3438"	11/32"	8.733	-	87.00	131.00	9.00
SF503088	-	-	-	-	0.3465"	-	8.800	-	43.00	84.00	9.00
-	SF505088	-	-	-	0.3465"	-	8.800	-	56.00	105.00	9.00
-	-	SF508088	-	-	0.3465"	-	8.800	-	87.00	131.00	9.00
-	-	-	SF510088	-	0.3465"	-	8.800	56.000	118.00	173.00	9.00
-	-	-	-	SF520088	0.3465"	-	8.800	56.000	208.00	263.00	9.00
SF503089	-	-	-	-	0.3504"	-	8.900	-	43.00	84.00	9.00
-	SF505089	-	-	-	0.3504"	-	8.900	-	56.00	105.00	9.00
-	-	SF508089	-	-	0.3504"	-	8.900	-	87.00	131.00	9.00
-	-	-	SF510089	-	0.3504"	-	8.900	56.000	118.00	173.00	9.00
-	-	-	-	SF520089	0.3504"	-	8.900	56.000	208.00	263.00	9.00
SF503090	-	-	-	-	0.3543"	-	9.000	-	43.00	84.00	9.00
-	SF505090	-	-	-	0.3543"	-	9.000	-	56.00	105.00	9.00
-	-	SF508090	-	-	0.3543"	-	9.000	-	87.00	131.00	9.00
-	-	-	SF510090	-	0.3543"	-	9.000	56.000	118.00	173.00	9.00
-	-	-	-	SF520090	0.3543"	-	9.000	56.000	208.00	263.00	9.00
SF503091	-	-	-	-	0.3583"	-	9.100	-	47.00	89.00	10.00
-	SF505091	-	-	-	0.3583"	-	9.100	-	62.00	108.00	10.00
-	-	SF508091	-	-	0.3583"	-	9.100	-	95.00	139.00	10.00
-	-	-	SF510091	-	0.3583"	-	9.100	62.000	124.00	179.00	10.00
-	-	-	-	SF520091	0.3583"	-	9.100	62.000	219.00	274.00	10.00
SF50309129	-	-	-	-	0.3594"	23/64"	9.129	-	47.00	89.00	10.00
-	SF50509129	-	-	-	0.3594"	23/64"	9.129	-	62.00	108.00	10.00
-	-	SF50809129	-	-	0.3594"	23/64"	9.129	-	95.00	139.00	10.00
SF503092	-	-	-	-	0.3622"	-	9.200	-	47.00	89.00	10.00
-	SF505092	-	-	-	0.3622"	-	9.200	-	62.00	108.00	10.00
-	-	SF508092	-	-	0.3622"	-	9.200	-	95.00	139.00	10.00

Applicable Working Material ○:GOOD ●:BEST

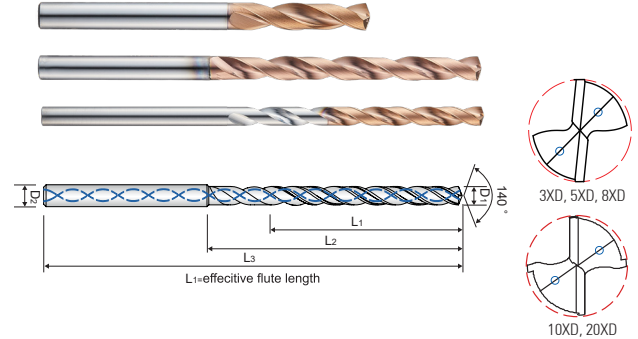
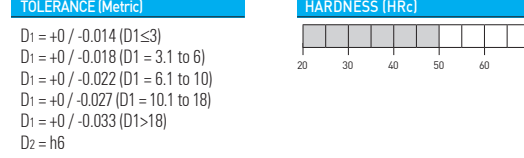
SERIES	CARBON STEELS LOW (100-170)	CARBON STEELS MED (180-200)	CARBON STEELS HIGH (200)	ALLOY STEELS (4140, 4340)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME	
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

SF503, SF505, SF508, SF510 & SF520 SERIES

>>Continue

3xD, 5xD, 8xD, 10xD & 20xD

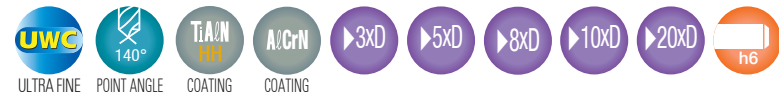
DRILLS / 2 FLUTES / 3xD, 5xD, 8xD, 10xD & 20xD / INTERNAL COOLANT / SINGLE & DOUBLE MARGIN / TiAlN-HH COATING A/CrN COATING (8XD ONLY)



EDP NO.					Cutting Diameter	Effective Cutting Length	Cutting Length	Overall Length	Shank Diameter		
2 Flute											
TiAlN-HH COAT / A/CrN COAT (8XD ONLY)											
Helix 30°											
3xD	5xD	8xD	10xD	20xD	D1			L1	L2	L3	D2
SF503	SF505	SF508	SF510	SF520	Decimal	Fraction	Metric				
-	-	-	SF510092	-	0.3622"	-	9.200	62.000	124.00	179.00	10.00
-	-	-	-	SF520092	0.3622"	-	9.200	62.000	219.00	274.00	10.00
SF503093	-	-	-	-	0.3661"	-	9.300	-	47.00	89.00	10.00
-	SF505093	-	-	-	0.3661"	-	9.300	-	62.00	108.00	10.00
-	-	SF508093	-	-	0.3661"	-	9.300	-	95.00	139.00	10.00
-	-	-	SF510093	-	0.3661"	-	9.300	62.000	124.00	179.00	10.00
-	-	-	-	SF520093	0.3661"	-	9.300	62.000	219.00	274.00	10.00
SF503094	-	-	-	-	0.3701"	-	9.400	-	47.00	89.00	10.00
-	SF505094	-	-	-	0.3701"	-	9.400	-	62.00	108.00	10.00
-	-	SF508094	-	-	0.3701"	-	9.400	-	95.00	139.00	10.00
-	-	-	SF510094	-	0.3701"	-	9.400	62.000	124.00	179.00	10.00
-	-	-	-	SF520094	0.3701"	-	9.400	62.000	219.00	274.00	10.00
SF503095	-	-	-	-	0.3740"	-	9.500	-	47.00	89.00	10.00
-	SF505095	-	-	-	0.3740"	-	9.500	-	62.00	108.00	10.00
-	-	SF508095	-	-	0.3740"	-	9.500	-	95.00	139.00	10.00
-	-	-	SF510095	-	0.3740"	-	9.500	62.000	124.00	179.00	10.00
-	-	-	-	SF520095	0.3740"	-	9.500	62.000	219.00	274.00	10.00
SF50309525	-	-	-	-	0.3750"	3/8"	9.525	-	47.00	89.00	10.00
-	SF50509525	-	-	-	0.3750"	3/8"	9.525	-	62.00	108.00	10.00
-	-	SF50809525	-	-	0.3750"	3/8"	9.525	-	95.00	139.00	10.00
SF503096	-	-	-	-	0.3780"	-	9.600	-	47.00	89.00	10.00
-	SF505096	-	-	-	0.3780"	-	9.600	-	62.00	108.00	10.00
-	-	SF508096	-	-	0.3780"	-	9.600	-	95.00	139.00	10.00
-	-	-	SF510096	-	0.3780"	-	9.600	62.000	131.00	186.00	10.00
-	-	-	-	SF520096	0.3780"	-	9.600	62.000	231.00	286.00	10.00
SF503097	-	-	-	-	0.3819"	-	9.700	-	47.00	89.00	10.00
-	SF505097	-	-	-	0.3819"	-	9.700	-	62.00	108.00	10.00
-	-	SF508097	-	-	0.3819"	-	9.700	-	95.00	139.00	10.00
-	-	-	SF510097	-	0.3819"	-	9.700	62.000	131.00	186.00	10.00
-	-	-	-	SF520097	0.3819"	-	9.700	62.000	231.00	286.00	10.00
SF503098	-	-	-	-	0.3858"	-	9.800	-	47.00	89.00	10.00
-	SF505098	-	-	-	0.3858"	-	9.800	-	62.00	108.00	10.00

Applicable Working Material ○:GOOD ●:BEST

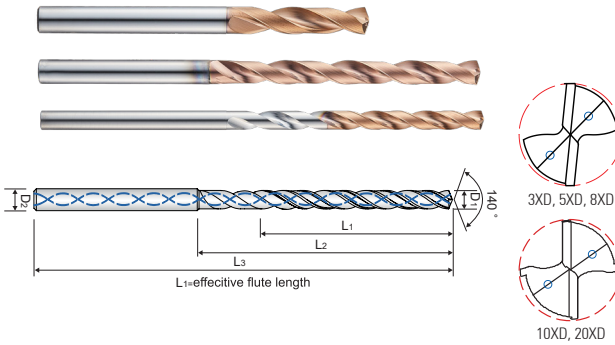
SERIES	CARBON STEELS LOW (100-170)	CARBON STEELS MED (180-200)	CARBON STEELS HIGH (200)	ALLOY STEELS (4140, 4340)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME	
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



SF503, SF505, SF508, SF510 & SF520 SERIES

3xD, 5xD, 8xD, 10xD & 20xD

DRILLS / 2 FLUTES / 3xD, 5xD, 8xD, 10xD & 20xD / INTERNAL COOLANT / SINGLE & DOUBLE MARGIN / TiAlN-HH COATING AlCrN COATING (8XD ONLY)



TOLERANCE (Metric)	HARDNESS (HRc)
D1 = +0 / -0.014 (D1 ≤ 3)	
D1 = +0 / -0.018 (D1 = 3.1 to 6)	
D1 = +0 / -0.022 (D1 = 6.1 to 10)	
D1 = +0 / -0.027 (D1 = 10.1 to 18)	
D1 = +0 / -0.033 (D1 > 18)	
D2 = h6	

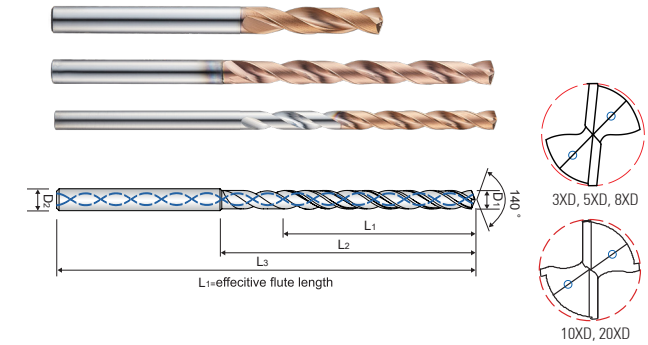
>>Continue



SF503, SF505, SF508, SF510 & SF520 SERIES

3xD, 5xD, 8xD, 10xD & 20xD

DRILLS / 2 FLUTES / 3xD, 5xD, 8xD, 10xD & 20xD / INTERNAL COOLANT / SINGLE & DOUBLE MARGIN / TiAlN-HH COATING AlCrN COATING (8XD ONLY)



TOLERANCE (Metric)	HARDNESS (HRc)
D1 = +0 / -0.014 (D1 ≤ 3)	
D1 = +0 / -0.018 (D1 = 3.1 to 6)	
D1 = +0 / -0.022 (D1 = 6.1 to 10)	
D1 = +0 / -0.027 (D1 = 10.1 to 18)	
D1 = +0 / -0.033 (D1 > 18)	
D2 = h6	

>>Continue

EDP NO.					Cutting Diameter	Effective Cutting Length	Cutting Length	Overall Length	Shank Diameter		
2 Flute											
TiAlN-HH COAT / AlCrN COAT (8XD ONLY)											
Helix 30°											
3xD	5xD	8xD	10xD	20xD	D1			L1	L2	L3	D2
SF503	SF505	SF508	SF510	SF520	Decimal	Fraction	Metric				
-	-	SF508110	-	-	0.4331"	-	11.000	-	106.00	155.00	11.00
-	-	-	SF510110	-	0.4331"	-	11.000	68.000	144.00	205.00	11.00
SF503111	-	-	-	-	0.4370"	-	11.100	-	54.00	102.00	12.00
-	SF505111	-	-	-	0.4370"	-	11.100	-	71.00	133.00	12.00
-	-	SF508111	-	-	0.4370"	-	11.100	-	114.00	163.00	12.00
-	-	-	SF510111	-	0.4370"	-	11.100	71.000	151.00	212.00	12.00
SF50311113	-	-	-	-	0.4375"	7/16"	11.113	-	54.00	102.00	12.00
-	SF50511113	-	-	-	0.4375"	7/16"	11.113	-	71.00	133.00	12.00
-	-	SF50811113	-	-	0.4375"	7/16"	11.113	-	114.00	163.00	12.00
SF503112	-	-	-	-	0.4409"	-	11.200	-	54.00	102.00	12.00
-	SF505112	-	-	-	0.4409"	-	11.200	-	71.00	133.00	12.00
-	-	SF508112	-	-	0.4409"	-	11.200	-	114.00	163.00	12.00
-	-	-	SF510112	-	0.4409"	-	11.200	71.000	151.00	212.00	12.00
SF503113	-	-	-	-	0.4449"	-	11.300	-	54.00	102.00	12.00
-	SF505113	-	-	-	0.4449"	-	11.300	-	71.00	133.00	12.00
-	-	SF508113	-	-	0.4449"	-	11.300	-	114.00	163.00	12.00
-	-	-	SF510113	-	0.4449"	-	11.300	71.000	151.00	212.00	12.00
SF503114	-	-	-	-	0.4488"	-	11.400	-	54.00	102.00	12.00
-	SF505114	-	-	-	0.4488"	-	11.400	-	71.00	133.00	12.00
-	-	SF508114	-	-	0.4488"	-	11.400	-	114.00	163.00	12.00
-	-	-	SF510114	-	0.4488"	-	11.400	71.000	151.00	212.00	12.00
SF503115	-	-	-	-	0.4528"	-	11.500	-	54.00	102.00	12.00
-	SF505115	-	-	-	0.4528"	-	11.500	-	71.00	133.00	12.00
-	-	SF508115	-	-	0.4528"	-	11.500	-	114.00	163.00	12.00
-	-	-	SF510115	-	0.4528"	-	11.500	71.000	151.00	212.00	12.00
-	-	SF50811509	-	-	0.4531"	29/64"	11.509	-	114.00	163.00	12.00
SF503116	-	-	-	-	0.4567"	-	11.600	-	54.00	102.00	12.00
-	SF505116	-	-	-	0.4567"	-	11.600	-	71.00	133.00	12.00
-	-	SF508116	-	-	0.4567"	-	11.600	-	114.00	163.00	12.00
-	-	-	SF510116	-	0.4567"	-	11.600	71.000	157.00	218.00	12.00
SF503117	-	-	-	-	0.4606"	-	11.700	-	54.00	102.00	12.00
-	SF505117	-	-	-	0.4606"	-	11.700	-	71.00	133.00	12.00

Applicable Working Material

SERIES	CARBON STEELS LOW (100-170)	CARBON STEELS MED (170-200)	CARBON STEELS HIGH (180)	ALLOY STEELS (4140, 4340)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRc	HARDENED STEELS 35-45 HRc	HARDENED STEELS 45-50 HRc	HARDENED STEELS 50-70 HRc	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME	
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

○:GOOD ◎:BEST

Applicable Working Material

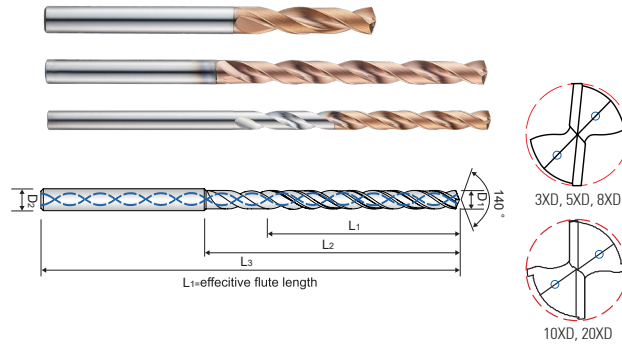
SERIES	CARBON STEELS LOW (100-170)	CARBON STEELS MED (170-200)	CARBON STEELS HIGH (180)	ALLOY STEELS (4140, 4340)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRc	HARDENED STEELS 35-45 HRc	HARDENED STEELS 45-50 HRc	HARDENED STEELS 50-70 HRc	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME	
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

○:GOOD ◎:BEST

SF503, SF505, SF508, SF510 & SF520 SERIES

3xD, 5xD, 8xD, 10xD & 20xD

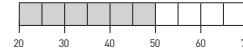
DRILLS / 2 FLUTES / 3xD, 5xD, 8xD, 10xD & 20xD / INTERNAL COOLANT / SINGLE & DOUBLE MARGIN / TiAlN-HH COATING AlCrN COATING (8XD ONLY)



TOLERANCE (Metric)

- D1 = +0 / -0.014 (D1 ≤ 3)
- D1 = +0 / -0.018 (D1 = 3.1 to 6)
- D1 = +0 / -0.022 (D1 = 6.1 to 10)
- D1 = +0 / -0.027 (D1 = 10.1 to 18)
- D1 = +0 / -0.033 (D1 > 18)
- D2 = h6

HARDNESS (HRC)

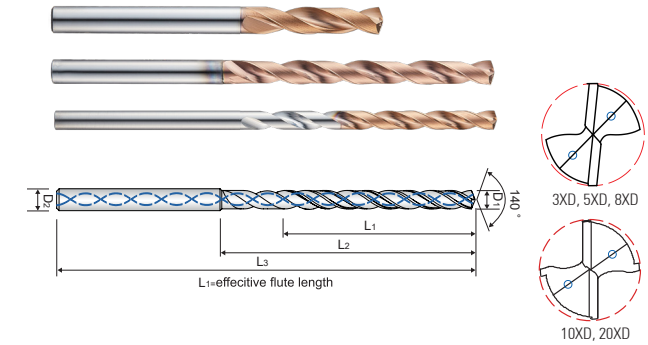


>>Continue

SF503, SF505, SF508, SF510 & SF520 SERIES

3xD, 5xD, 8xD, 10xD & 20xD

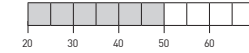
DRILLS / 2 FLUTES / 3xD, 5xD, 8xD, 10xD & 20xD / INTERNAL COOLANT / SINGLE & DOUBLE MARGIN / TiAlN-HH COATING AlCrN COATING (8XD ONLY)



TOLERANCE (Metric)

- D1 = +0 / -0.014 (D1 ≤ 3)
- D1 = +0 / -0.018 (D1 = 3.1 to 6)
- D1 = +0 / -0.022 (D1 = 6.1 to 10)
- D1 = +0 / -0.027 (D1 = 10.1 to 18)
- D1 = +0 / -0.033 (D1 > 18)
- D2 = h6

HARDNESS (HRC)



>>Continue

INCH
METRIC
Power Max Drill Series
New Dynamic Power Drill Series
Solid Spiral Drill Series
Centering Tools

EDP NO.					Cutting Diameter	Effective Cutting Length	Cutting Length	Overall Length	Shank Diameter		
2 Flute											
TiAlN-HH COAT / AlCrN COAT (8XD ONLY)											
Helix 30°											
3xD	5xD	8xD	10xD	20xD	D1			L1	L2	L3	D2
SF503	SF505	SF508	SF510	SF520	Decimal	Fraction	Metric				
SF503124	-	-	-	-	0.4882"	-	12.400	-	57.00	102.00	13.00
-	SF505124	-	-	-	0.4882"	-	12.400	-	75.00	137.00	13.00
-	-	-	SF510124	-	0.4882"	-	12.400	75.000	164.00	225.00	13.00
SF503125	-	-	-	-	0.4921"	-	12.500	-	57.00	102.00	13.00
-	SF505125	-	-	-	0.4921"	-	12.500	-	75.00	137.00	13.00
-	-	SF508125	-	-	0.4921"	-	12.500	-	133.00	182.00	13.00
-	-	-	SF510125	-	0.4921"	-	12.500	75.000	164.00	225.00	13.00
SF503126	-	-	-	-	0.4961"	-	12.600	-	57.00	102.00	13.00
-	SF505126	-	-	-	0.4961"	-	12.600	-	75.00	137.00	13.00
-	-	SF508126	-	-	0.4961"	-	12.600	-	133.00	182.00	13.00
-	-	-	SF510126	-	0.4961"	-	12.600	75.000	170.00	236.00	13.00
SF503127	-	-	-	-	0.5000"	1/2"	12.700	-	57.00	102.00	13.00
-	SF505127	-	-	-	0.5000"	1/2"	12.700	-	75.00	137.00	13.00
-	-	SF508127	-	-	0.5000"	1/2"	12.700	-	133.00	182.00	13.00
-	-	-	SF510127	-	0.5000"	1/2"	12.700	75.000	170.00	236.00	13.00
SF503128	-	-	-	-	0.5039"	-	12.800	-	57.00	102.00	13.00
-	SF505128	-	-	-	0.5039"	-	12.800	-	75.00	137.00	13.00
-	-	SF508128	-	-	0.5039"	-	12.800	-	133.00	182.00	13.00
-	-	-	SF510128	-	0.5039"	-	12.800	75.000	170.00	236.00	13.00
SF503129	-	-	-	-	0.5079"	-	12.900	-	57.00	102.00	13.00
-	SF505129	-	-	-	0.5079"	-	12.900	-	75.00	137.00	13.00
-	-	SF508129	-	-	0.5079"	-	12.900	-	133.00	182.00	13.00
-	-	-	SF510129	-	0.5079"	-	12.900	75.000	170.00	236.00	13.00
SF503130	-	-	-	-	0.5118"	-	13.000	-	57.00	102.00	13.00
-	SF505130	-	-	-	0.5118"	-	13.000	-	75.00	137.00	13.00
-	-	SF508130	-	-	0.5118"	-	13.000	-	133.00	182.00	13.00
-	-	-	SF510130	-	0.5118"	-	13.000	75.000	170.00	236.00	13.00
SF50313096	-	-	-	-	0.5156"	33/64"	13.096	-	60.00	107.00	14.00
-	SF50513096	-	-	-	0.5156"	33/64"	13.096	-	80.00	142.00	14.00
SF503131	-	-	-	-	0.5157"	-	13.100	-	60.00	107.00	14.00
-	SF505131	-	-	-	0.5157"	-	13.100	-	80.00	142.00	14.00
-	-	SF508131	-	-	0.5157"	-	13.100	-	133.00	182.00	14.00

Applicable Working Material

SERIES	CARBON STEELS LOW (H40, H42)	CARBON STEELS MED (H42, H44)	CARBON STEELS HIGH (H44, H46)	ALLOY STEELS (B41, B42)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (B41, B42)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME	
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

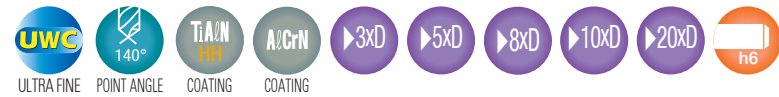
○:GOOD ●:BEST

Applicable Working Material

SERIES	CARBON STEELS LOW (H40, H42)	CARBON STEELS MED (H42, H44)	CARBON STEELS HIGH (H44, H46)	ALLOY STEELS (B41, B42)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (B41, B42)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME	
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

○:GOOD ●:BEST

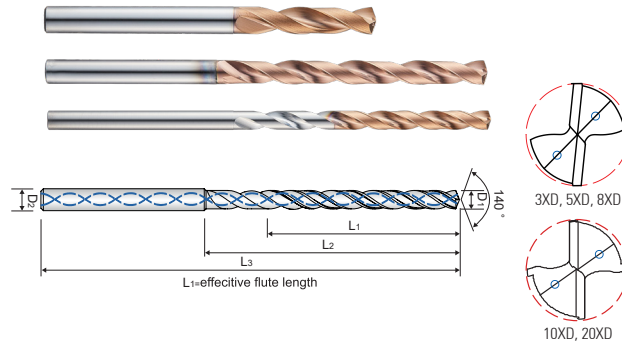
INCH
METRIC
Power Max Drill Series
New Dynamic Power Drill Series
Solid Spiral Drill Series
Centering Tools



SF503, SF505, SF508, SF510 & SF520 SERIES

3xD, 5xD, 8xD, 10xD & 20xD

DRILLS / 2 FLUTES / 3xD, 5xD, 8xD, 10xD & 20xD / INTERNAL COOLANT / SINGLE & DOUBLE MARGIN / TiAlN-HH COATING AlCrN COATING (8XD ONLY)



TOLERANCE (Metric)	HARDNESS (HRc)
D1 = +0 / -0.014 (D1 ≤ 3)	
D1 = +0 / -0.018 (D1 = 3.1 to 6)	
D1 = +0 / -0.022 (D1 = 6.1 to 10)	
D1 = +0 / -0.027 (D1 = 10.1 to 18)	
D1 = +0 / -0.033 (D1 > 18)	
D2 = h6	

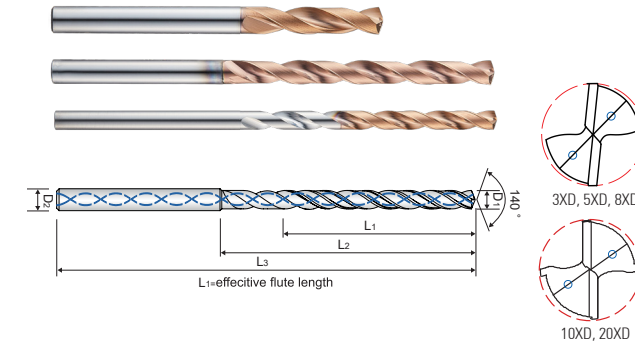
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SF503, SF505, SF508, SF510 & SF520 SERIES

3xD, 5xD, 8xD, 10xD & 20xD

DRILLS / 2 FLUTES / 3xD, 5xD, 8xD, 10xD & 20xD / INTERNAL COOLANT / SINGLE & DOUBLE MARGIN / TiAlN-HH COATING AlCrN COATING (8XD ONLY)



TOLERANCE (Metric)	HARDNESS (HRc)
D1 = +0 / -0.014 (D1 ≤ 3)	
D1 = +0 / -0.018 (D1 = 3.1 to 6)	
D1 = +0 / -0.022 (D1 = 6.1 to 10)	
D1 = +0 / -0.027 (D1 = 10.1 to 18)	
D1 = +0 / -0.033 (D1 > 18)	
D2 = h6	

>>Continue

EDP NO.					Cutting Diameter	Effective Cutting Length	Cutting Length	Overall Length	Shank Diameter		
2 Flute											
TiAlN-HH COAT / AlCrN COAT (8XD ONLY)											
Helix 30°											
3xD	5xD	8xD	10xD	20xD	D1			L1	L2	L3	D2
SF503	SF505	SF508	SF510	SF520	Decimal	Fraction	Metric				
-	SF505142	-	-	-	0.5591"	-	14.200	-	83.00	148.00	15.00
SF50314288	-	-	-	-	0.5625"	9/16"	14.288	-	62.00	111.00	15.00
-	SF50514288	-	-	-	0.5625"	9/16"	14.288	-	83.00	148.00	15.00
-	-	SF50814288	-	-	0.5625"	9/16"	14.288	-	152.00	204.00	15.00
SF503143	-	-	-	-	0.5630"	-	14.300	-	62.00	111.00	15.00
-	SF505143	-	-	-	0.5630"	-	14.300	-	83.00	148.00	15.00
SF503144	-	-	-	-	0.5669"	-	14.400	-	62.00	111.00	15.00
-	SF505144	-	-	-	0.5669"	-	14.400	-	83.00	148.00	15.00
SF503145	-	-	-	-	0.5709"	-	14.500	-	62.00	111.00	15.00
-	SF505145	-	-	-	0.5709"	-	14.500	-	83.00	148.00	15.00
-	-	SF508145	-	-	0.5709"	-	14.500	-	152.00	204.00	15.00
SF503146	-	-	-	-	0.5748"	-	14.600	-	62.00	111.00	15.00
-	SF505146	-	-	-	0.5748"	-	14.600	-	83.00	148.00	15.00
-	-	SF50814683	-	-	0.5781"	37/64"	14.683	-	152.00	204.00	15.00
SF503147	-	-	-	-	0.5787"	-	14.700	-	62.00	111.00	15.00
-	SF505147	-	-	-	0.5787"	-	14.700	-	83.00	148.00	15.00
-	-	SF508147	-	-	0.5787"	-	14.700	-	152.00	204.00	15.00
SF503148	-	-	-	-	0.5827"	-	14.800	-	62.00	111.00	15.00
-	SF505148	-	-	-	0.5827"	-	14.800	-	83.00	148.00	15.00
SF503149	-	-	-	-	0.5866"	-	14.900	-	62.00	111.00	15.00
-	SF505149	-	-	-	0.5866"	-	14.900	-	83.00	148.00	15.00
SF503150	-	-	-	-	0.5906"	-	15.000	-	62.00	111.00	15.00
-	SF505150	-	-	-	0.5906"	-	15.000	-	83.00	148.00	15.00
-	-	SF508150	-	-	0.5906"	-	15.000	-	152.00	204.00	15.00
SF50315081	-	-	-	-	0.5937"	19/32"	15.081	-	64.00	115.00	16.00
-	SF50515081	-	-	-	0.5937"	19/32"	15.081	-	90.00	152.00	16.00
-	-	SF50815081	-	-	0.5937"	19/32"	15.081	-	152.00	204.00	16.00
SF503151	-	-	-	-	0.5945"	-	15.100	-	64.00	115.00	16.00
-	SF505151	-	-	-	0.5945"	-	15.100	-	90.00	152.00	16.00
SF503152	-	-	-	-	0.5984"	-	15.200	-	64.00	115.00	16.00
-	SF505152	-	-	-	0.5984"	-	15.200	-	90.00	152.00	16.00
SF503154	-	-	-	-	0.6063"	-	15.400	-	64.00	115.00	16.00

Applicable Working Material

SERIES	CARBON STEELS LOW (100-170)	CARBON STEELS MED (170-200)	CARBON STEELS HIGH (200)	ALLOY STEELS (4140, 4340)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRc	HARDENED STEELS 35-45 HRc	HARDENED STEELS 45-50 HRc	HARDENED STEELS 50-70 HRc	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

○:GOOD ◎:BEST

Applicable Working Material

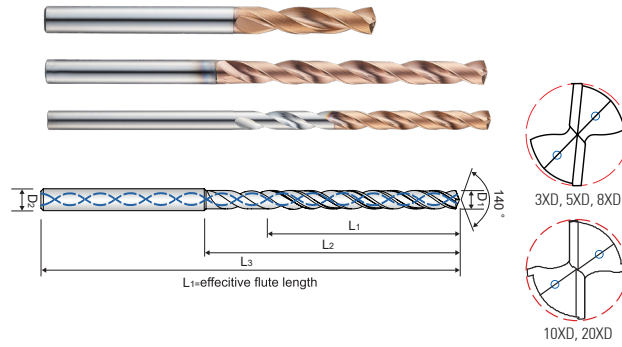
SERIES	CARBON STEELS LOW (100-170)	CARBON STEELS MED (170-200)	CARBON STEELS HIGH (200)	ALLOY STEELS (4140, 4340)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRc	HARDENED STEELS 35-45 HRc	HARDENED STEELS 45-50 HRc	HARDENED STEELS 50-70 HRc	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

○:GOOD ◎:BEST

SF503, SF505, SF508, SF510 & SF520 SERIES

3xD, 5xD, 8xD, 10xD & 20xD

DRILLS / 2 FLUTES / 3xD, 5xD, 8xD, 10xD & 20xD / INTERNAL COOLANT / SINGLE & DOUBLE MARGIN / TiAlN-HH COATING AlCrN COATING (8XD ONLY)



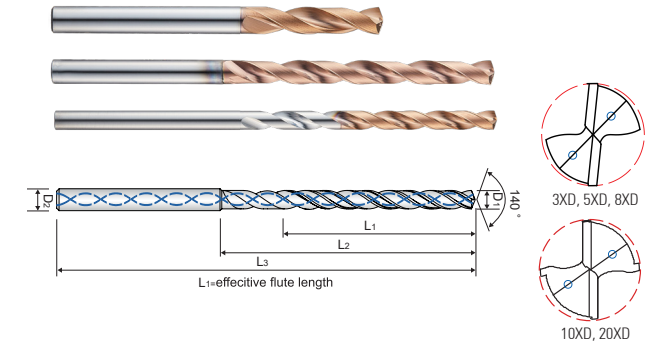
TOLERANCE (Metric)	HARDNESS (HRC)
D1 = +0 / -0.014 (D1 ≤ 3)	
D1 = +0 / -0.018 (D1 = 3.1 to 6)	
D1 = +0 / -0.022 (D1 = 6.1 to 10)	
D1 = +0 / -0.027 (D1 = 10.1 to 18)	
D1 = +0 / -0.033 (D1 > 18)	
D2 = h6	

>>Continue

SF503, SF505, SF508, SF510 & SF520 SERIES

3xD, 5xD, 8xD, 10xD & 20xD

DRILLS / 2 FLUTES / 3xD, 5xD, 8xD, 10xD & 20xD / INTERNAL COOLANT / SINGLE & DOUBLE MARGIN / TiAlN-HH COATING AlCrN COATING (8XD ONLY)



TOLERANCE (Metric)	HARDNESS (HRC)
D1 = +0 / -0.014 (D1 ≤ 3)	
D1 = +0 / -0.018 (D1 = 3.1 to 6)	
D1 = +0 / -0.022 (D1 = 6.1 to 10)	
D1 = +0 / -0.027 (D1 = 10.1 to 18)	
D1 = +0 / -0.033 (D1 > 18)	
D2 = h6	

EDP NO.					Cutting Diameter	Effective Cutting Length	Cutting Length	Overall Length	Shank Diameter		
2 Flute											
TiAlN-HH COAT / AlCrN COAT (8XD ONLY)											
Helix 30°											
3xD	5xD	8xD	10xD	20xD	D1			L1	L2	L3	D2
SF503	SF505	SF508	SF510	SF520	Decimal	Fraction	Metric				
SF503172	-	-	-	-	0.6772"	-	17.200	-	66.00	123.00	18.00
-	SF505172	-	-	-	0.6772"	-	17.200	-	100.00	157.00	18.00
SF50317463	-	-	-	-	0.6875"	11/16"	17.463	-	66.00	123.00	18.00
-	SF50517463	-	-	-	0.6875"	11/16"	17.463	-	100.00	157.00	18.00
-	-	SF50817463	-	-	0.6875"	11/16"	17.463	-	171.00	223.00	18.00
SF503175	-	-	-	-	0.6890"	-	17.500	-	66.00	123.00	18.00
-	SF505175	-	-	-	0.6890"	-	17.500	-	100.00	157.00	18.00
-	-	SF508175	-	-	0.6890"	-	17.500	-	171.00	223.00	18.00
SF503177	-	-	-	-	0.6969"	-	17.700	-	66.00	123.00	18.00
-	SF505177	-	-	-	0.6969"	-	17.700	-	100.00	157.00	18.00
SF503178	-	-	-	-	0.7008"	-	17.800	-	66.00	123.00	18.00
-	SF505178	-	-	-	0.7008"	-	17.800	-	100.00	157.00	18.00
SF503180	-	-	-	-	0.7087"	-	18.000	-	66.00	123.00	18.00
-	SF505180	-	-	-	0.7087"	-	18.000	-	100.00	157.00	18.00
-	-	SF508180	-	-	0.7087"	-	18.000	-	171.00	223.00	18.00
SF503181	-	-	-	-	0.7126"	-	18.100	-	70.00	127.00	19.00
-	SF505181	-	-	-	0.7126"	-	18.100	-	105.00	160.00	19.00
SF503182	-	-	-	-	0.7165"	-	18.200	-	70.00	127.00	19.00
-	SF505182	-	-	-	0.7165"	-	18.200	-	105.00	160.00	19.00
SF503185	-	-	-	-	0.7283"	-	18.500	-	70.00	127.00	19.00
-	SF505185	-	-	-	0.7283"	-	18.500	-	105.00	160.00	19.00
-	-	SF508185	-	-	0.7283"	-	18.500	-	191.00	244.00	19.00
SF503190	-	-	-	-	0.7480"	-	19.000	-	70.00	127.00	19.00
-	SF505190	-	-	-	0.7480"	-	19.000	-	105.00	160.00	19.00
-	-	SF508190	-	-	0.7480"	-	19.000	-	191.00	244.00	19.00
-	-	SF5081905	-	-	0.7500"	3/4"	19.050	-	191.00	244.00	20.00
SF503191	-	-	-	-	0.7520"	-	19.100	-	70.00	131.00	20.00
-	SF505191	-	-	-	0.7520"	-	19.100	-	110.00	163.00	20.00
-	-	SF50819446	-	-	0.7656"	49/64"	19.446	-	191.00	244.00	20.00
SF503195	-	-	-	-	0.7677"	-	19.500	-	70.00	131.00	20.00
-	SF505195	-	-	-	0.7677"	-	19.500	-	110.00	163.00	20.00
-	-	SF508195	-	-	0.7677"	-	19.500	-	191.00	244.00	20.00

Applicable Working Material

SERIES	CARBON STEELS LOW (1045, 1045)	CARBON STEELS MED (1045, 1045)	CARBON STEELS HIGH (1045, 1045)	ALLOY STEELS (4140, 4140)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

○:GOOD ◎:BEST

EDP NO.					Cutting Diameter	Effective Cutting Length	Cutting Length	Overall Length	Shank Diameter		
2 Flute											
TiAlN-HH COAT / AlCrN COAT (8XD ONLY)											
Helix 30°											
3xD	5xD	8xD	10xD	20xD	D1			L1	L2	L3	D2
SF503	SF505	SF508	SF510	SF520	Decimal	Fraction	Metric				
SF503197	-	-	-	-	0.7756"	-	19.700	-	70.00	131.00	20.00
-	SF505197	-	-	-	0.7756"	-	19.700	-	110.00	163.00	20.00
SF503200	-	-	-	-	0.7874"	-	20.000	-	70.00	131.00	20.00
-	SF505200	-	-	-	0.7874"	-	20.000	-	110.00	163.00	20.00
-	-	SF508200	-	-	0.7874"	-	20.000	-	191.00	244.00	20.00

Applicable Working Material

SERIES	CARBON STEELS LOW (1045, 1045)	CARBON STEELS MED (1045, 1045)	CARBON STEELS HIGH (1045, 1045)	ALLOY STEELS (4140, 4140)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

○:GOOD ◎:BEST

SF503, SF505, SF508 SERIES

RPM=rev./min.
FEED=mm/rev.
IPR=inch/rev.

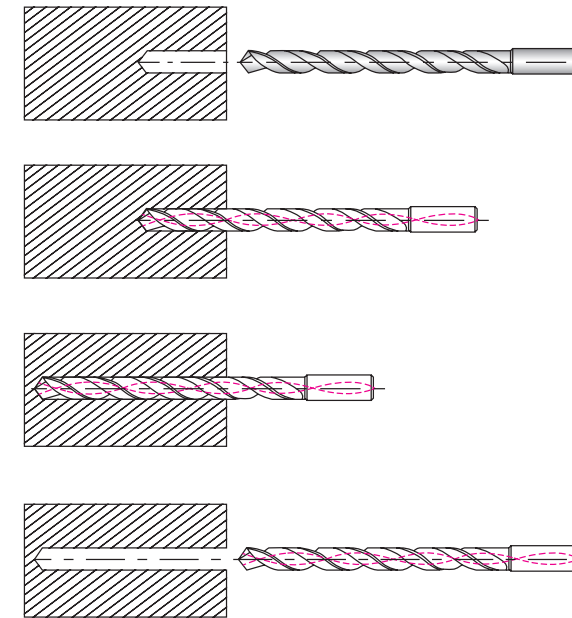
Work Material	Carbon Steels (C<0.3%) Alloy Steel < HB240, GG25			Carbon Steels (C≥0.3%) Alloy Steel < HB300, GG40			52100-AISI440			Hardened Steels 34 ~ 43 HRc		
	80~150m/min			80~150m/min			63~100m/min			40~70m/min		
Drilling Speed (V)												
Cutting Diameter (metric)	RPM (rev/min)	FEED (mm/rev)	IPR (inch/rev)	RPM (rev/min)	FEED (mm/rev)	IPR (inch/rev)	RPM (rev/min)	FEED (mm/rev)	IPR (inch/rev)	RPM (rev/min)	FEED (mm/rev)	IPR (inch/rev)
3	12,000	0.09-0.12	0.004	13,000	0.09-0.12	0.004	7,600	0.09-0.12	0.004	6,400	0.09-0.12	0.004
4	9,500	0.10-0.15	0.005	10,000	0.10-0.15	0.005	5,700	0.10-0.15	0.005	4,800	0.10-0.15	0.005
5	7,600	0.12-0.18	0.006	8,000	0.12-0.18	0.006	4,600	0.12-0.18	0.006	3,800	0.12-0.18	0.006
6	6,400	0.14-0.20	0.007	6,600	0.14-0.20	0.007	3,800	0.14-0.20	0.007	3,200	0.14-0.20	0.007
8	4,800	0.16-0.24	0.008	5,000	0.16-0.24	0.008	2,900	0.16-0.24	0.008	2,400	0.16-0.24	0.008
10	3,800	0.18-0.27	0.009	4,000	0.18-0.27	0.009	2,300	0.18-0.27	0.009	1,900	0.18-0.27	0.009
12	3,200	0.20-0.30	0.010	3,300	0.20-0.30	0.010	1,900	0.20-0.30	0.010	1,600	0.20-0.30	0.010
14	2,700	0.22-0.35	0.011	2,800	0.22-0.35	0.011	1,600	0.22-0.35	0.011	1,350	0.22-0.35	0.011
16	2,400	0.25-0.36	0.012	2,500	0.25-0.36	0.012	1,400	0.25-0.36	0.012	1,200	0.25-0.36	0.012
18	2,100	0.28-0.38	0.013	2,200	0.28-0.38	0.013	1,300	0.28-0.38	0.013	1,100	0.28-0.38	0.013
20	1,900	0.30-0.40	0.014	2,000	0.30-0.40	0.014	1,150	0.30-0.40	0.014	1,000	0.30-0.40	0.014
Work Material	Hardened Steels 43 ~ 48 HRc			Hardened Steels 48 ~ 53 HRc			Cast Iron 250 ~ 350 N/mm2			Cast Iron-Ductile 400 ~ 500 N/mm2		
Drilling Speed (V)	32-50m/min			25-40m/min			80-150m/min			63-100m/min		
Cutting Diameter (metric)	RPM (rev/min)	FEED (mm/rev)	IPR (inch/rev)	RPM (rev/min)	FEED (mm/rev)	IPR (inch/rev)	RPM (rev/min)	FEED (mm/rev)	IPR (inch/rev)	RPM (rev/min)	FEED (mm/rev)	IPR (inch/rev)
3	5,300	0.07-0.11	0.004	3,800	0.05-0.09	0.003	12,000	0.09-0.12	0.004	8,500	0.09-0.12	0.004
4	4,000	0.08-0.13	0.004	2,950	0.06-0.10	0.003	9,000	0.10-0.15	0.005	6,350	0.10-0.15	0.005
5	3,200	0.10-0.15	0.005	2,300	0.08-0.12	0.004	7,600	0.12-0.18	0.006	5,100	0.12-0.18	0.006
6	2,650	0.12-0.18	0.006	1,900	0.09-0.15	0.005	6,400	0.14-0.20	0.007	4,250	0.14-0.20	0.007
8	2,000	0.14-0.22	0.007	1,450	0.12-0.20	0.006	4,800	0.16-0.24	0.008	3,200	0.16-0.24	0.008
10	1,600	0.15-0.25	0.008	1,150	0.13-0.23	0.007	3,800	0.18-0.27	0.009	2,550	0.18-0.27	0.009
12	1,300	0.17-0.26	0.008	950	0.14-0.24	0.007	3,200	0.20-0.30	0.010	2,100	0.20-0.30	0.010
14	1,150	0.18-0.30	0.009	800	0.15-0.26	0.008	2,700	0.22-0.35	0.011	1,800	0.22-0.35	0.011
16	1,000	0.20-0.32	0.010	700	0.16-0.27	0.008	2,400	0.25-0.36	0.012	1,600	0.25-0.36	0.012
18	900	0.23-0.33	0.011	650	0.18-0.28	0.009	2,100	0.28-0.38	0.013	1,400	0.28-0.38	0.013
20	800	0.25-0.35	0.012	600	0.20-0.30	0.010	1,900	0.30-0.40	0.014	1,250	0.30-0.40	0.014

- HPI503(3xD) : FEED 100%
- HPI505(5xD) : FEED 90%
- HPI508N(8xD) : FEED 70~80%

SF510, SF520 SERIES

RPM=rev./min.
FEED=mm/rev.
IPR=inch/rev.

Work Material	Carbon Steels (C≥0.3%) Alloy Steel < HB300, GG40			Cast Iron 250-350N/mm ²			Ductile Cast Iron 400-500N/mm ²		
	63~125m/min			63~125m/min			60~80m/min		
Drilling Speed (V)									
Cutting Diameter (metric)	RPM (rev/min)	FEED (mm/rev)	IPR (inch/rev)	RPM (rev/min)	FEED (mm/rev)	IPR (inch/rev)	RPM (rev/min)	FEED (mm/rev)	IPR (inch/rev)
3	7,500	0.06 ~ 0.12	0.004	7,500	0.06 ~ 0.12	0.004	7,500	0.06 ~ 0.12	0.004
4	6,400	0.08 ~ 0.16	0.005	6,400	0.08 ~ 0.16	0.005	5,600	0.08 ~ 0.16	0.005
5	5,800	0.10 ~ 0.20	0.006	5,800	0.10 ~ 0.20	0.006	4,500	0.10 ~ 0.20	0.006
6	4,800	0.12 ~ 0.24	0.007	4,800	0.12 ~ 0.24	0.007	3,800	0.12 ~ 0.24	0.007
8	3,600	0.16 ~ 0.28	0.009	3,600	0.16 ~ 0.28	0.009	2,800	0.16 ~ 0.28	0.009
10	2,900	0.20 ~ 0.35	0.011	2,900	0.20 ~ 0.35	0.011	2,300	0.20 ~ 0.35	0.011
12	2,900	0.24 ~ 0.42	0.013	2,400	0.24 ~ 0.42	0.013	1,900	0.24 ~ 0.42	0.013
14	2,050	0.28 ~ 0.46	0.015	2,050	0.28 ~ 0.46	0.015	1,600	0.28 ~ 0.46	0.015



1. Guide Drilling should be OD +0.1 and 3XD ~ 5XD
2. For Main Drilling, Entering low speed into Guide drilling parts (RPM 300, FEED 400mm/min)
3. Just before the end of Guide drilling parts, Stop feed and increase RPM (see the above table)
4. Main drilling increasing Feed without step
5. When tool takes back after main drilling, decreasing RPM to 300 and Feed to 1,000mm/min from the entrance of Guide drilling parts
6. Reduce Feed by 50 % When it was completely over

NDP SERIES

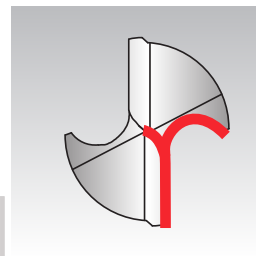
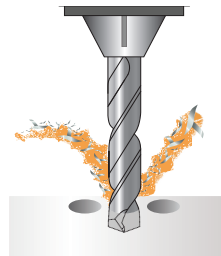
- Provides practical and universal and stable machinability for a variety of workpieces by widening the choice of processing depth.
- It is a New Dynamic Power Drill (NDP) that has stable and excellent workability by improving the chip handling ability compared to the existing Power Drill.

- 1 Upgrade version of PDS, PDM series.
- 2 Chip pocket shape upgrade
- 3 Increase tool life with coating upgrade

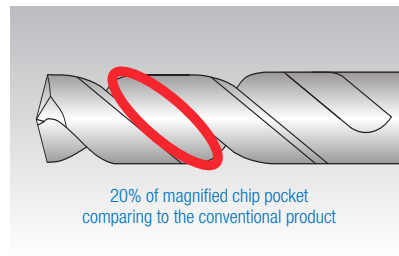


General Features

- Improvement of chip evacuation with wider chip pockets comparing to the conventional products
- Decrease of frictional resistance and heat with optimum margin and back taper
- Responding to various uses by securing products of various specifications



Improvement of chip curling by applying new γ -Flute concept

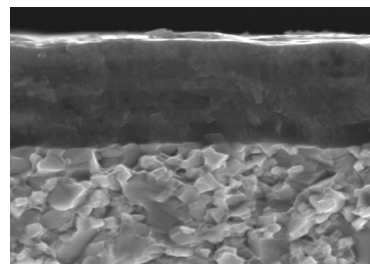


20% of magnified chip pocket comparing to the conventional product

Improvement of minimum friction and chip emission with the optimum margin, back-taper and bigger chip pockets

- Adopted nano multilayer thin film with improved wear resistance and chipping resistance and gold gloss color.
- Own surface treatment technique improves the surface roughness of the product, improving chip evacuation and improving lifespan.

Optimal material for general-purpose processing and application of new PVD coating



Adoption of high-hardness nano multilayer thin film technology with improved wear resistance, chipping resistance and lubricity

Secure processability by applying a material that combines optimum wear resistance and strength.



NDPR, NDPL SERIES

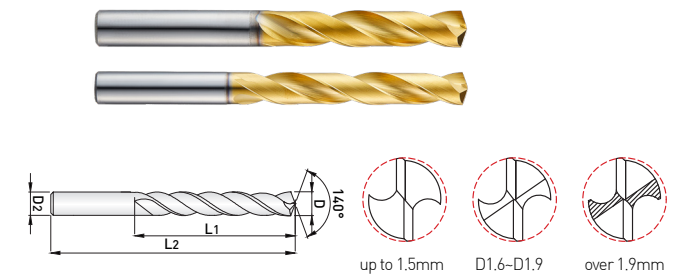
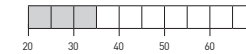
4xD & 6xD

DRILLS / 2 FLUTES / 4xD & 6xD / SOLID CARBIDE
AITiN COATING

TOLERANCE [Metric]

D1 = +0 / -0.01 (D1 ≤ 3)
D1 = +0 / -0.012 (D1 = 3.1 to 6)
D1 = +0 / -0.015 (D1 = 6.1 to 10)
D1 = +0 / -0.018 (D1 = 10.1 to 18)
D1 = +0 / -0.021 (D1 > 18)
D2 = h6 / -0.0014, 0.018

HARDNESS [HRc]



EDP NO.		Cutting Diameter	Cutting Length	Overall Length	Shank Diameter
2 Flute					
AITiN					
Helix 30°		D1	L1	L2	D2
4xD	6xD				
NDPR	NDPL				
NDPR010	-	1.00	8.00	38.00	3.00
NDPR011	-	1.10	9.00	42.00	3.00
NDPR012	-	1.20	10.00	42.00	3.00
NDPR013	-	1.30	10.00	42.00	3.00
NDPR014	-	1.40	11.00	42.00	3.00
NDPR015	-	1.50	11.00	42.00	3.00
NDPR016	-	1.60	12.00	42.00	3.00
NDPR017	-	1.70	12.00	42.00	3.00
NDPR018	-	1.80	13.00	42.00	3.00
NDPR019	-	1.90	13.00	42.00	3.00
NDPR020	-	2.00	18.00	50.00	3.00
NDPR021	-	2.10	18.00	50.00	3.00
NDPR022	-	2.20	18.00	50.00	3.00
NDPR023	-	2.30	18.00	50.00	3.00
NDPR024	-	2.40	18.00	50.00	3.00
NDPR025	-	2.50	18.00	50.00	3.00
NDPR026	-	2.60	18.00	50.00	3.00
NDPR027	-	2.70	18.00	50.00	3.00
NDPR028	-	2.80	18.00	50.00	3.00
NDPR029	-	2.90	18.00	50.00	3.00
NDPR030	-	3.00	20.00	55.00	3.00
-	NDPL030	3.00	45.00	80.00	3.00
NDPR031	-	3.10	20.00	55.00	4.00
-	NDPL031	3.10	45.00	80.00	4.00
NDPR032	-	3.20	20.00	55.00	4.00
-	NDPL032	3.20	45.00	80.00	4.00
NDPR033	-	3.30	20.00	55.00	4.00
-	NDPL033	3.30	45.00	80.00	4.00
NDPR034	-	3.40	20.00	55.00	4.00
-	NDPL034	3.40	45.00	80.00	4.00
NDPR035	-	3.50	20.00	55.00	4.00
-	NDPL035	3.50	45.00	80.00	4.00
NDPR036	-	3.60	25.00	55.00	4.00
-	NDPL036	3.60	45.00	80.00	4.00

Applicable Working Material

SERIES	CARBON STEELS LOW TENSILE	CARBON STEELS MED TENSILE	CARBON STEELS HIGH TENSILE	ALLOY STEELS (A1-A4)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (B414)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

○:GOOD ◎:BEST



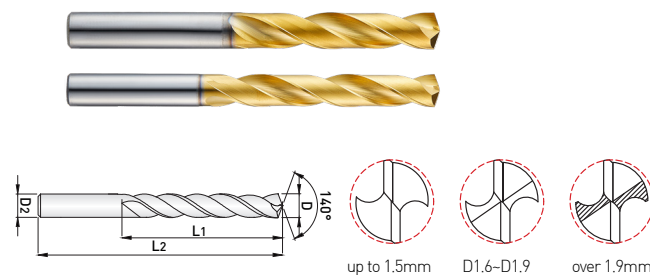
Drills for general speed cutting
NEW DYNAMIC POWER DRILL (N-DOLPHIN DRILL)



NDPR, NDPL SERIES

4xD & 6xD

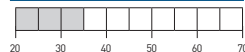
DRILLS / 2 FLUTES / 4xD & 6xD / SOLID CARBIDE
AITiN COATING



TOLERANCE (Metric)

D1 = +0 / -0.01 (D1 ≤ 3)
D1 = +0 / -0.012 (D1 = 3.1 to 6)
D1 = +0 / -0.015 (D1 = 6.1 to 10)
D1 = +0 / -0.018 (D1 = 10.1 to 18)
D1 = +0 / -0.021 (D1 > 18)
D2 = h6 / -0.0014, 0.018

HARDNESS (HRC)



EDP NO.		Cutting Diameter	Cutting Length	Overall Length	Shank Diameter
2 Flute					
AITiN					
Helix 30°					
4xD	6xD	D1	L1	L2	D2
NDPR	NDPL				
NDPR037	-	3.70	25.00	55.00	4.00
-	NDPL037	3.70	45.00	80.00	4.00
NDPR038	-	3.80	25.00	55.00	4.00
-	NDPL038	3.80	45.00	80.00	4.00
NDPR039	-	3.90	25.00	55.00	4.00
-	NDPL039	3.90	45.00	80.00	4.00
NDPR040	-	4.00	25.00	55.00	4.00
-	NDPL040	4.00	45.00	80.00	4.00
NDPR041	-	4.10	25.00	55.00	5.00
-	NDPL041	4.10	45.00	80.00	5.00
NDPR042	-	4.20	33.00	63.00	5.00
-	NDPL042	4.20	45.00	80.00	5.00
NDPR043	-	4.30	33.00	63.00	5.00
-	NDPL043	4.30	45.00	80.00	5.00
NDPR044	-	4.40	33.00	63.00	5.00
-	NDPL044	4.40	45.00	80.00	5.00
NDPR045	-	4.50	33.00	63.00	5.00
-	NDPL045	4.50	45.00	80.00	5.00
NDPR046	-	4.60	33.00	63.00	5.00
-	NDPL046	4.60	45.00	80.00	5.00
NDPR047	-	4.70	33.00	63.00	5.00
-	NDPL047	4.70	45.00	80.00	5.00
NDPR048	-	4.80	33.00	63.00	5.00
-	NDPL048	4.80	45.00	80.00	5.00
NDPR049	-	4.90	33.00	63.00	5.00
-	NDPL049	4.90	45.00	80.00	5.00
NDPR050	-	5.00	33.00	63.00	5.00
-	NDPL050	5.00	45.00	80.00	5.00
NDPR051	-	5.10	33.00	63.00	6.00
-	NDPL051	5.10	45.00	80.00	6.00
NDPR052	-	5.20	36.00	66.00	6.00
-	NDPL052	5.20	50.00	83.00	6.00
NDPR053	-	5.30	36.00	66.00	6.00
-	NDPL053	5.30	50.00	83.00	6.00

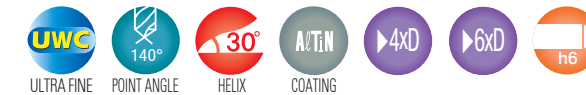
Applicable Working Material

ALL	CARBON STEELS LOW (100-170)	CARBON STEELS MED (170-200)	CARBON STEELS HIGH (200)	ALLOY STEELS (4140, 4340)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

○:GOOD ◎:BEST



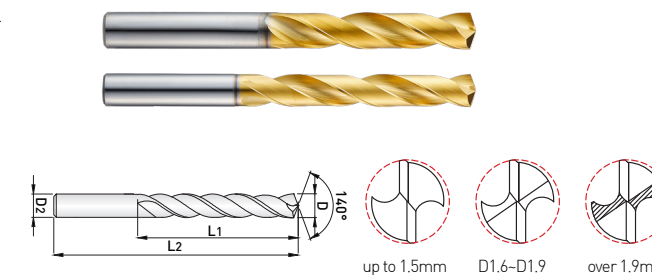
Drills for general speed cutting
NEW DYNAMIC POWER DRILL (N-DOLPHIN DRILL)



NDPR, NDPL SERIES

4xD & 6xD

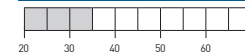
DRILLS / 2 FLUTES / 4xD & 6xD / SOLID CARBIDE
AITiN COATING



TOLERANCE (Metric)

D1 = +0 / -0.01 (D1 ≤ 3)
D1 = +0 / -0.012 (D1 = 3.1 to 6)
D1 = +0 / -0.015 (D1 = 6.1 to 10)
D1 = +0 / -0.018 (D1 = 10.1 to 18)
D1 = +0 / -0.021 (D1 > 18)
D2 = h6 / -0.0014, 0.018

HARDNESS (HRC)



EDP NO.		Cutting Diameter	Cutting Length	Overall Length	Shank Diameter
2 Flute					
AITiN					
Helix 30°					
4xD	6xD	D1	L1	L2	D2
NDPR	NDPL				
NDPR054	-	5.40	36.00	66.00	6.00
-	NDPL054	5.40	50.00	83.00	6.00
NDPR055	-	5.50	36.00	66.00	6.00
-	NDPL055	5.50	50.00	83.00	6.00
NDPR056	-	5.60	36.00	66.00	6.00
-	NDPL056	5.60	50.00	83.00	6.00
NDPR057	-	5.70	36.00	66.00	6.00
-	NDPL057	5.70	50.00	83.00	6.00
NDPR058	-	5.80	36.00	66.00	6.00
-	NDPL058	5.80	50.00	83.00	6.00
NDPR059	-	5.90	36.00	66.00	6.00
-	NDPL059	5.90	50.00	83.00	6.00
NDPR060	-	6.00	36.00	66.00	6.00
-	NDPL060	6.00	50.00	83.00	6.00
NDPR061	-	6.10	36.00	66.00	7.00
-	NDPL061	6.10	50.00	83.00	7.00
NDPR062	-	6.20	42.00	75.00	7.00
-	NDPL062	6.20	53.00	85.00	7.00
NDPR063	-	6.30	42.00	75.00	7.00
-	NDPL063	6.30	53.00	85.00	7.00
NDPR064	-	6.40	42.00	75.00	7.00
-	NDPL064	6.40	53.00	85.00	7.00
NDPR065	-	6.50	42.00	75.00	7.00
-	NDPL065	6.50	53.00	85.00	7.00
NDPR066	-	6.60	42.00	75.00	7.00
-	NDPL066	6.60	53.00	85.00	7.00
NDPR067	-	6.70	42.00	75.00	7.00
-	NDPL067	6.70	53.00	85.00	7.00
NDPR068	-	6.80	42.00	75.00	7.00
-	NDPL068	6.80	53.00	85.00	7.00
NDPR069	-	6.90	42.00	75.00	7.00
-	NDPL069	6.90	53.00	85.00	7.00
NDPR070	-	7.00	42.00	75.00	7.00
-	NDPL070	7.00	53.00	85.00	7.00

Applicable Working Material

ALL	CARBON STEELS LOW (100-170)	CARBON STEELS MED (170-200)	CARBON STEELS HIGH (200)	ALLOY STEELS (4140, 4340)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

○:GOOD ◎:BEST



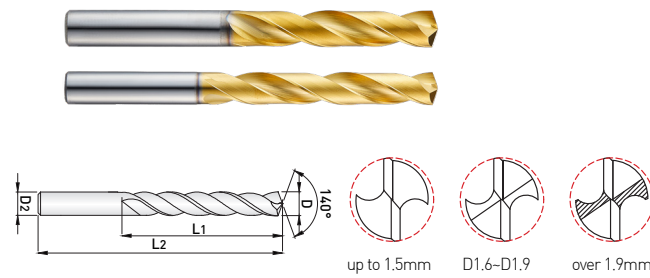
Drills for general speed cutting
NEW DYNAMIC POWER DRILL (N-DOLPHIN DRILL)



NDPR, NDPL SERIES

4xD & 6xD

DRILLS / 2 FLUTES / 4xD & 6xD / SOLID CARBIDE
AITiN COATING



TOLERANCE [Metric]

D1 = +0 / -0.01 (D1 ≤ 3)
D1 = +0 / -0.012 (D1 = 3.1 to 6)
D1 = +0 / -0.015 (D1 = 6.1 to 10)
D1 = +0 / -0.018 (D1 = 10.1 to 18)
D1 = +0 / -0.021 (D1 > 18)
D2 = h6 / -0.0014, 0.018

HARDNESS [HRc]



up to 1.5mm D1.6-D1.9 over 1.9mm

EDP NO.		Cutting Diameter	Cutting Length	Overall Length	Shank Diameter
2 Flute					
AITiN					
Helix 30°					
4xD	6xD	D1	L1	L2	D2
NDPR	NDPL				
NDPR071	-	7.10	42.00	75.00	8.00
-	NDPL071	7.10	53.00	85.00	8.00
NDPR072	-	7.20	46.00	80.00	8.00
-	NDPL072	7.20	58.00	90.00	8.00
NDPR073	-	7.30	46.00	80.00	8.00
-	NDPL073	7.30	58.00	90.00	8.00
NDPR074	-	7.40	46.00	80.00	8.00
-	NDPL074	7.40	58.00	90.00	8.00
NDPR075	-	7.50	46.00	80.00	8.00
-	NDPL075	7.50	58.00	90.00	8.00
NDPR076	-	7.60	46.00	80.00	8.00
-	NDPL076	7.60	58.00	90.00	8.00
NDPR077	-	7.70	46.00	80.00	8.00
-	NDPL077	7.70	58.00	90.00	8.00
NDPR078	-	7.80	46.00	80.00	8.00
-	NDPL078	7.80	58.00	90.00	8.00
NDPR079	-	7.90	46.00	80.00	8.00
-	NDPL079	7.90	58.00	90.00	8.00
NDPR080	-	8.00	46.00	80.00	8.00
-	NDPL080	8.00	58.00	90.00	8.00
NDPR081	-	8.10	46.00	80.00	9.00
-	NDPL081	8.10	58.00	90.00	9.00
NDPR082	-	8.20	50.00	85.00	9.00
-	NDPL082	8.20	64.00	98.00	9.00
NDPR083	-	8.30	50.00	85.00	9.00
-	NDPL083	8.30	64.00	98.00	9.00
NDPR084	-	8.40	50.00	85.00	9.00
-	NDPL084	8.40	64.00	98.00	9.00
NDPR085	-	8.50	50.00	85.00	9.00
-	NDPL085	8.50	64.00	98.00	9.00
NDPR086	-	8.60	50.00	85.00	9.00
-	NDPL086	8.60	64.00	98.00	9.00
NDPR087	-	8.70	50.00	85.00	9.00
-	NDPL087	8.70	64.00	98.00	9.00

Applicable Working Material

Series	Carbon Steels Low (100-170)	Carbon Steels Med (170-200)	Carbon Steels High (200)	Alloy Steels (40-60)	Die Steels	Stainless Steels 300	Stainless Steels 400	Stainless Steels 17-4 PH	Cast Iron	Aluminum (6061, 7075)	Aluminum Castings	Nickel Alloys (Inconel)	Titanium (6Al4V)	Hardened Steels 35 HRc	Hardened Steels 35-45 HRc	Hardened Steels 45-50 HRc	Hardened Steels 50-70 HRc	Magnesium	Brass Bronze	Graphite	Cobalt Chrome	
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

○:GOOD ◎:BEST



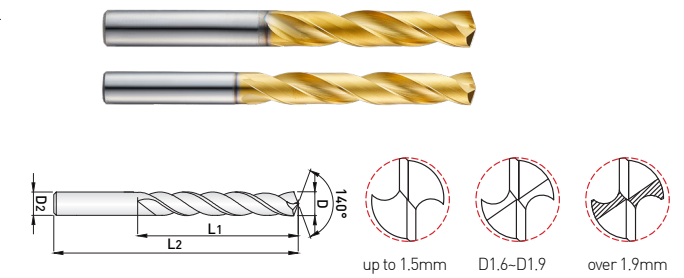
Drills for general speed cutting
NEW DYNAMIC POWER DRILL (N-DOLPHIN DRILL)



NDPR, NDPL SERIES

4xD & 6xD

DRILLS / 2 FLUTES / 4xD & 6xD / SOLID CARBIDE
AITiN COATING



TOLERANCE [Metric]

D1 = +0 / -0.01 (D1 ≤ 3)
D1 = +0 / -0.012 (D1 = 3.1 to 6)
D1 = +0 / -0.015 (D1 = 6.1 to 10)
D1 = +0 / -0.018 (D1 = 10.1 to 18)
D1 = +0 / -0.021 (D1 > 18)
D2 = h6 / -0.0014, 0.018

HARDNESS [HRc]



up to 1.5mm D1.6-D1.9 over 1.9mm

EDP NO.		Cutting Diameter	Cutting Length	Overall Length	Shank Diameter
2 Flute					
AITiN					
Helix 30°					
4xD	6xD	D1	L1	L2	D2
NDPR	NDPL				
NDPR088	-	8.80	50.00	85.00	9.00
-	NDPL088	8.80	64.00	98.00	9.00
NDPR089	-	8.90	50.00	85.00	9.00
-	NDPL089	8.90	64.00	98.00	9.00
NDPR090	-	9.00	50.00	85.00	9.00
-	NDPL090	9.00	64.00	98.00	9.00
NDPR091	-	9.10	50.00	85.00	10.00
-	NDPL091	9.10	64.00	98.00	10.00
NDPR092	-	9.20	55.00	90.00	10.00
-	NDPL092	9.20	68.00	105.00	10.00
NDPR093	-	9.30	55.00	90.00	10.00
-	NDPL093	9.30	68.00	105.00	10.00
NDPR094	-	9.40	55.00	90.00	10.00
-	NDPL094	9.40	68.00	105.00	10.00
NDPR095	-	9.50	55.00	90.00	10.00
-	NDPL095	9.50	68.00	105.00	10.00
NDPR096	-	9.60	55.00	90.00	10.00
-	NDPL096	9.60	68.00	105.00	10.00
NDPR097	-	9.70	55.00	90.00	10.00
-	NDPL097	9.70	68.00	105.00	10.00
NDPR098	-	9.80	55.00	90.00	10.00
-	NDPL098	9.80	68.00	105.00	10.00
NDPR099	-	9.90	55.00	90.00	10.00
-	NDPL099	9.90	68.00	105.00	10.00
NDPR100	-	10.00	55.00	90.00	10.00
-	NDPL100	10.00	68.00	105.00	10.00
NDPR101	-	10.10	55.00	90.00	11.00
-	NDPL101	10.10	68.00	105.00	11.00
NDPR102	-	10.20	57.00	95.00	11.00
-	NDPL102	10.20	73.00	110.00	11.00
NDPR103	-	10.30	57.00	95.00	11.00
-	NDPL103	10.30	73.00	110.00	11.00
NDPR104	-	10.40	57.00	95.00	11.00
-	NDPL104	10.40	73.00	110.00	11.00

Applicable Working Material

Series	Carbon Steels Low (100-170)	Carbon Steels Med (170-200)	Carbon Steels High (200)	Alloy Steels (40-60)	Die Steels	Stainless Steels 300	Stainless Steels 400	Stainless Steels 17-4 PH	Cast Iron	Aluminum (6061, 7075)	Aluminum Castings	Nickel Alloys (Inconel)	Titanium (6Al4V)	Hardened Steels 35 HRc	Hardened Steels 35-45 HRc	Hardened Steels 45-50 HRc	Hardened Steels 50-70 HRc	Magnesium	Brass Bronze	Graphite	Cobalt Chrome
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

○:GOOD ◎:BEST



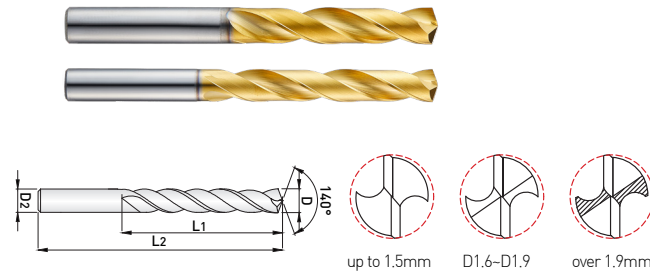
Drills for general speed cutting
NEW DYNAMIC POWER DRILL (N-DOLPHIN DRILL)



NDPR, NDPL SERIES

4xD & 6xD

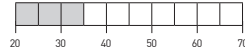
DRILLS / 2 FLUTES / 4xD & 6xD / SOLID CARBIDE
AITiN COATING



TOLERANCE (Metric)

D1 = +0 / -0.01 (D1 ≤ 3)
D1 = +0 / -0.012 (D1 = 3.1 to 6)
D1 = +0 / -0.015 (D1 = 6.1 to 10)
D1 = +0 / -0.018 (D1 = 10.1 to 18)
D1 = +0 / -0.021 (D1 > 18)
D2 = h6 / -0.0014, 0.018

HARDNESS (HRC)



EDP NO.		Cutting Diameter	Cutting Length	Overall Length	Shank Diameter
2 Flute					
AITiN					
Helix 30°					
4xD	6xD	D1	L1	L2	D2
NDPR	NDPL				
NDPR105	-	10.50	57.00	95.00	11.00
-	NDPL105	10.50	73.00	110.00	11.00
NDPR106	-	10.60	57.00	95.00	11.00
-	NDPL106	10.60	73.00	110.00	11.00
NDPR107	-	10.70	57.00	95.00	11.00
-	NDPL107	10.70	73.00	110.00	11.00
NDPR108	-	10.80	57.00	95.00	11.00
-	NDPL108	10.80	73.00	110.00	11.00
NDPR109	-	10.90	57.00	95.00	11.00
-	NDPL109	10.90	73.00	110.00	11.00
NDPR110	-	11.00	57.00	95.00	11.00
-	NDPL110	11.00	73.00	110.00	11.00
NDPR111	-	11.10	57.00	95.00	12.00
-	NDPL111	11.10	73.00	110.00	12.00
NDPR112	-	11.20	63.00	102.00	12.00
-	NDPL112	11.20	80.00	120.00	12.00
NDPR113	-	11.30	63.00	102.00	12.00
-	NDPL113	11.30	80.00	120.00	12.00
NDPR114	-	11.40	63.00	102.00	12.00
-	NDPL114	11.40	80.00	120.00	12.00
NDPR115	-	11.50	63.00	102.00	12.00
-	NDPL115	11.50	80.00	120.00	12.00
NDPR116	-	11.60	63.00	102.00	12.00
-	NDPL116	11.60	80.00	120.00	12.00
NDPR117	-	11.70	63.00	102.00	12.00
-	NDPL117	11.70	80.00	120.00	12.00
NDPR118	-	11.80	63.00	102.00	12.00
-	NDPL118	11.80	80.00	120.00	12.00
NDPR119	-	11.90	63.00	102.00	12.00
-	NDPL119	11.90	80.00	120.00	12.00
NDPR120	-	12.00	63.00	102.00	12.00
-	NDPL120	12.00	80.00	120.00	12.00
NDPR121	-	12.10	63.00	102.00	13.00
-	NDPL121	12.10	80.00	120.00	13.00

Applicable Working Material

ALL	CARBON STEELS LOW (100L-100)	CARBON STEELS MED (100L-100)	CARBON STEELS HIGH (100)	ALLOY STEELS (4140, 4340)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME	
	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

○:GOOD ◎:BEST



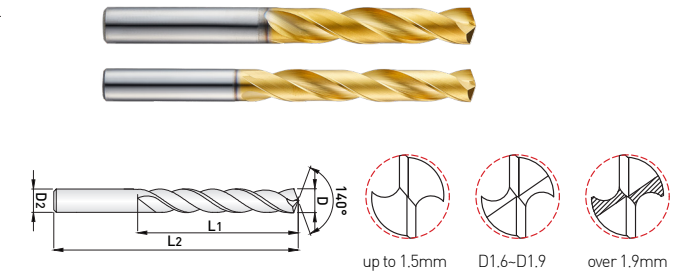
Drills for general speed cutting
NEW DYNAMIC POWER DRILL (N-DOLPHIN DRILL)



NDPR, NDPL SERIES

4xD & 6xD

DRILLS / 2 FLUTES / 4xD & 6xD / SOLID CARBIDE
AITiN COATING



TOLERANCE (Metric)

D1 = +0 / -0.01 (D1 ≤ 3)
D1 = +0 / -0.012 (D1 = 3.1 to 6)
D1 = +0 / -0.015 (D1 = 6.1 to 10)
D1 = +0 / -0.018 (D1 = 10.1 to 18)
D1 = +0 / -0.021 (D1 > 18)
D2 = h6 / -0.0014, 0.018

HARDNESS (HRC)



EDP NO.		Cutting Diameter	Cutting Length	Overall Length	Shank Diameter
2 Flute					
AITiN					
Helix 30°					
4xD	6xD	D1	L1	L2	D2
NDPR	NDPL				
NDPR122	-	12.20	63.00	102.00	13.00
-	NDPL122	12.20	90.00	137.00	13.00
NDPR123	-	12.30	63.00	102.00	13.00
-	NDPL123	12.30	90.00	137.00	13.00
NDPR124	-	12.40	63.00	102.00	13.00
-	NDPL124	12.40	90.00	137.00	13.00
NDPR125	-	12.50	63.00	102.00	13.00
-	NDPL125	12.50	90.00	137.00	13.00
NDPR126	-	12.60	63.00	102.00	13.00
-	NDPL126	12.60	90.00	137.00	13.00
NDPR127	-	12.70	63.00	102.00	13.00
-	NDPL127	12.70	90.00	137.00	13.00
NDPR128	-	12.80	63.00	102.00	13.00
-	NDPL128	12.80	90.00	137.00	13.00
NDPR129	-	12.90	63.00	102.00	13.00
-	NDPL129	12.90	90.00	137.00	13.00
NDPR130	-	13.00	63.00	102.00	13.00
-	NDPL130	13.00	90.00	137.00	13.00
NDPR131	-	13.10	63.00	102.00	14.00
-	NDPL131	13.10	90.00	137.00	14.00
NDPR132	-	13.20	65.00	107.00	14.00
-	NDPL132	13.20	96.00	147.00	14.00
NDPR133	-	13.30	65.00	107.00	14.00
-	NDPL133	13.30	96.00	147.00	14.00
NDPR134	-	13.40	65.00	107.00	14.00
-	NDPL134	13.40	96.00	147.00	14.00
NDPR135	-	13.50	65.00	107.00	14.00
-	NDPL135	13.50	96.00	147.00	14.00
NDPR136	-	13.60	65.00	107.00	14.00
-	NDPL136	13.60	96.00	147.00	14.00
NDPR137	-	13.70	65.00	107.00	14.00
-	NDPL137	13.70	96.00	147.00	14.00
NDPR138	-	13.80	65.00	107.00	14.00
-	NDPL138	13.80	96.00	147.00	14.00

Applicable Working Material

ALL	CARBON STEELS LOW (100L-100)	CARBON STEELS MED (100L-100)	CARBON STEELS HIGH (100)	ALLOY STEELS (4140, 4340)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME	
	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

○:GOOD ◎:BEST



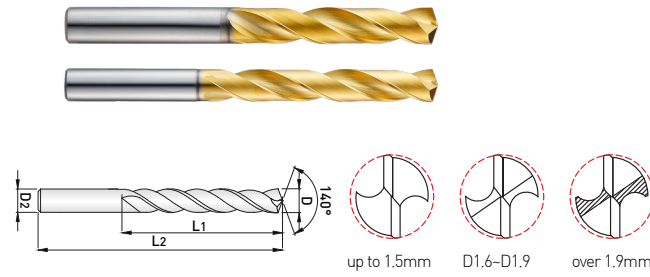
Drills for general speed cutting
NEW DYNAMIC POWER DRILL (N-DOLPHIN DRILL)



NDPR, NDPL SERIES

4xD & 6xD

DRILLS / 2 FLUTES / 4xD & 6xD / SOLID CARBIDE
AITiN COATING



TOLERANCE (Metric)

D1 = +0 / -0.01 (D1 ≤ 3)
D1 = +0 / -0.012 (D1 = 3.1 to 6)
D1 = +0 / -0.015 (D1 = 6.1 to 10)
D1 = +0 / -0.018 (D1 = 10.1 to 18)
D1 = +0 / -0.021 (D1 > 18)
D2 = h6 / -0.0014, 0.018

HARDNESS (HRc)



EDP NO.		Cutting Diameter	Cutting Length	Overall Length	Shank Diameter
2 Flute					
AITiN					
Helix 30°					
4xD	6xD	D1	L1	L2	D2
NDPR	NDPL				
NDPR139	-	13.90	65.00	107.00	14.00
-	NDPL139	13.90	96.00	147.00	14.00
NDPR140	-	14.00	65.00	107.00	14.00
-	NDPL140	14.00	96.00	147.00	14.00
NDPR141	-	14.10	65.00	107.00	15.00
-	NDPL141	14.10	96.00	147.00	15.00
NDPR142	-	14.20	67.00	111.00	15.00
-	NDPL142	14.20	100.00	153.00	15.00
NDPR143	-	14.30	67.00	111.00	15.00
-	NDPL143	14.30	100.00	153.00	15.00
NDPR144	-	14.40	67.00	111.00	15.00
-	NDPL144	14.40	100.00	153.00	15.00
NDPR145	-	14.50	67.00	111.00	15.00
-	NDPL145	14.50	100.00	153.00	15.00
NDPR146	-	14.60	67.00	111.00	15.00
-	NDPL146	14.60	100.00	153.00	15.00
NDPR147	-	14.70	67.00	111.00	15.00
-	NDPL147	14.70	100.00	153.00	15.00
NDPR148	-	14.80	67.00	111.00	15.00
-	NDPL148	14.80	100.00	153.00	15.00
NDPR149	-	14.90	67.00	111.00	15.00
-	NDPL149	14.90	100.00	153.00	15.00
NDPR150	-	15.00	67.00	111.00	15.00
-	NDPL150	15.00	100.00	153.00	15.00
NDPR151	-	15.10	67.00	111.00	16.00
-	NDPL151	15.10	100.00	153.00	16.00
NDPR152	-	15.20	69.00	115.00	16.00
-	NDPL152	15.20	112.00	160.00	16.00
NDPR153	-	15.30	69.00	115.00	16.00
-	NDPL153	15.30	112.00	160.00	16.00
NDPR154	-	15.40	69.00	115.00	16.00
-	NDPL154	15.40	112.00	160.00	16.00
NDPR155	-	15.50	69.00	115.00	16.00
-	NDPL155	15.50	112.00	160.00	16.00

Applicable Working Material

SERIES	CARBON STEELS LOW (1010-1045)	CARBON STEELS MED (1045-1090)	CARBON STEELS HIGH (1090-1345)	ALLOY STEELS (4140-640)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061-7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME	
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

○:GOOD ◎:BEST



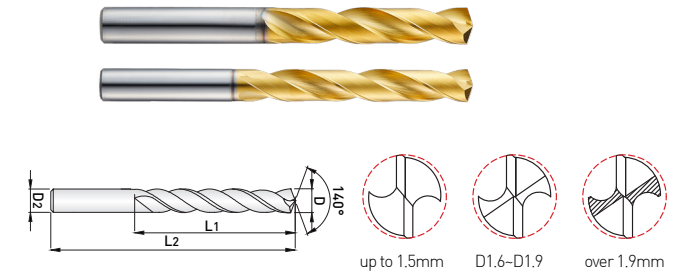
Drills for general speed cutting
NEW DYNAMIC POWER DRILL (N-DOLPHIN DRILL)



NDPR, NDPL SERIES

4xD & 6xD

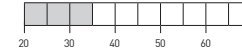
DRILLS / 2 FLUTES / 4xD & 6xD / SOLID CARBIDE
AITiN COATING



TOLERANCE (Metric)

D1 = +0 / -0.01 (D1 ≤ 3)
D1 = +0 / -0.012 (D1 = 3.1 to 6)
D1 = +0 / -0.015 (D1 = 6.1 to 10)
D1 = +0 / -0.018 (D1 = 10.1 to 18)
D1 = +0 / -0.021 (D1 > 18)
D2 = h6 / -0.0014, 0.018

HARDNESS (HRc)



EDP NO.		Cutting Diameter	Cutting Length	Overall Length	Shank Diameter
2 Flute					
AITiN					
Helix 30°					
4xD	6xD	D1	L1	L2	D2
NDPR	NDPL				
NDPR156	-	15.60	69.00	115.00	16.00
-	NDPL156	15.60	112.00	160.00	16.00
NDPR157	-	15.70	69.00	115.00	16.00
-	NDPL157	15.70	112.00	160.00	16.00
NDPR158	-	15.80	69.00	115.00	16.00
-	NDPL158	15.80	112.00	160.00	16.00
NDPR159	-	15.90	69.00	115.00	16.00
-	NDPL159	15.90	112.00	160.00	16.00
NDPR160	-	16.00	69.00	115.00	16.00
-	NDPL160	16.00	112.00	160.00	16.00
NDPR165	-	16.50	71.00	119.00	17.00
-	NDPL165	16.50	112.00	160.00	17.00
NDPR167	-	16.70	71.00	119.00	17.00
NDPR170	-	17.00	71.00	119.00	17.00
-	NDPL170	17.00	112.00	160.00	17.00
NDPR175	-	17.50	74.00	123.00	18.00
-	NDPL175	17.50	112.00	160.00	18.00
-	NDPL176	17.60	112.00	160.00	18.00
-	NDPL177	17.70	112.00	160.00	18.00
-	NDPL178	17.80	112.00	160.00	18.00
NDPR180	-	18.00	74.00	123.00	18.00
-	NDPL180	18.00	112.00	160.00	18.00
NDPR185	-	18.50	76.00	127.00	19.00
-	NDPL185	18.50	112.00	160.00	19.00
NDPR190	-	19.00	76.00	127.00	19.00
-	NDPL190	19.00	112.00	160.00	19.00
NDPR195	-	19.50	80.00	131.00	20.00
-	NDPL195	19.50	112.00	160.00	20.00
NDPR200	-	20.00	80.00	131.00	20.00
-	NDPL200	20.00	112.00	160.00	20.00

Applicable Working Material

SERIES	CARBON STEELS LOW (1010-1045)	CARBON STEELS MED (1045-1090)	CARBON STEELS HIGH (1090-1345)	ALLOY STEELS (4140-640)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061-7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME	
All	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

○:GOOD ◎:BEST

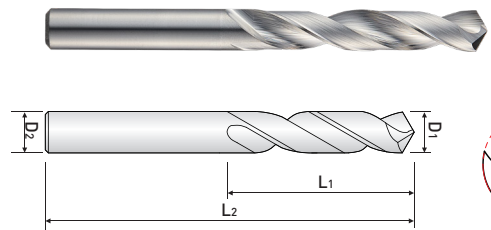
NDPR, NDPL SERIES

>>Continue

SSD SERIES

5xD

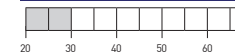
DRILL / 2 FLUTES / JOBBER LENGTH / BRIGHT



TOLERANCE (Metric)

D1 = +0 / -0.014 (D1≤3)
 D1 = +0 / -0.018 (D1 = 3.1 to 6)
 D1 = +0 / -0.022 (D1 = 6.1 to 10)
 D1 = +0 / -0.027 (D1>10)
 Dz = h7

HARDNESS (HRc)



FEED=mm/rev.

Work Material	Carbon Steels (C<0.3%) Alloy steels / SS400 SCM -710N/mm ²		High Carbon Steels (C > 0.45%)		Alloy Steels (~ HB180)		Alloy Steels (~ HB280)		High Alloy Steels	
	VC	80-120M/MIN	80-120M/MIN	80-120M/MIN	80-120M/MIN	80-120M/MIN	80-120M/MIN	80-120M/MIN	40-45M/MIN	FEED
DIA	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
1	13,000	0.04	13,000	0.04	21,300	0.04	14,200	0.04	7,160	0.03
2	13,000	0.06	13,000	0.06	21,300	0.06	14,200	0.06	7,160	0.04
3	13,000	0.13	13,000	0.13	21,000	0.13	14,000	0.13	4,780	0.07
4	9,500	0.14	9,500	0.14	16,000	0.14	10,500	0.14	3,600	0.08
5	7,600	0.15	7,600	0.15	13,000	0.15	8,300	0.15	2,850	0.09
6	6,400	0.17	6,400	0.17	11,000	0.17	6,900	0.17	2,400	0.1
8	4,800	0.21	4,800	0.21	8,000	0.21	5,200	0.21	1,800	0.12
10	3,800	0.25	3,800	0.25	6,400	0.25	4,150	0.25	1,450	0.15
12	3,200	0.27	3,200	0.27	5,300	0.27	3,450	0.27	1,200	0.17
14	2,750	0.29	2,750	0.29	4,550	0.29	3,000	0.29	1,000	0.19
16	2,400	0.31	2,400	0.31	4,000	0.31	2,600	0.31	900	0.21
18	2,100	0.33	2,100	0.33	3,550	0.33	2,300	0.33	800	0.23
20	1,900	0.35	1,900	0.35	3,200	0.35	2,100	0.35	700	0.25

※ The above cutting conditions is the ideal condition, required to adjust conditions according to machine conditions.
 * NDPL : Apply for 85% on the above condition.

EDP NO.	2 Flute				
	Cutting Diameter (metric)	Cutting Length (metric)	Overall Length (metric)	Shank Diameter (metric)	
					Bright
					Helix 30°
SSD	D1	L1	L2	D2	
SSD010	1.00	10.00	38.00	1.00	
SSD011	1.10	10.00	38.00	1.10	
SSD012	1.20	10.00	38.00	1.20	
SSD013	1.30	10.00	38.00	1.30	
SSD014	1.40	10.00	38.00	1.40	
SSD015	1.50	13.00	38.00	1.50	
SSD016	1.60	13.00	38.00	1.60	
SSD017	1.70	13.00	38.00	1.70	
SSD018	1.80	13.00	38.00	1.80	
SSD019	1.90	13.00	38.00	1.90	
SSD020	2.00	16.00	45.00	2.00	
SSD021	2.10	16.00	45.00	2.10	
SSD022	2.20	16.00	45.00	2.20	
SSD023	2.30	16.00	45.00	2.30	
SSD024	2.40	18.00	50.00	2.40	
SSD025	2.50	20.00	50.00	2.50	
SSD026	2.60	20.00	50.00	2.60	
SSD027	2.70	22.00	50.00	2.70	
SSD028	2.80	22.00	50.00	2.80	
SSD029	2.90	22.00	50.00	2.90	
SSD030	3.00	22.00	50.00	3.00	
SSD031	3.10	25.00	50.00	3.10	
SSD032	3.20	25.00	50.00	3.20	
SSD033	3.30	25.00	50.00	3.30	
SSD034	3.40	25.00	50.00	3.40	
SSD035	3.50	25.00	50.00	3.50	
SSD036	3.60	28.00	55.00	3.60	
SSD037	3.70	28.00	55.00	3.70	
SSD038	3.80	28.00	55.00	3.80	
SSD039	3.90	28.00	55.00	3.90	
SSD040	4.00	28.00	55.00	4.00	
SSD041	4.10	30.00	60.00	4.10	
SSD042	4.20	30.00	60.00	4.20	
SSD043	4.30	30.00	60.00	4.30	
SSD044	4.40	30.00	60.00	4.40	

EDP NO.	2 Flute				
	Cutting Diameter (metric)	Cutting Length (metric)	Overall Length (metric)	Shank Diameter (metric)	
					Bright
					Helix 30°
SSD	D1	L1	L2	D2	
SSD045	4.50	30.00	60.00	4.50	
SSD046	4.60	33.00	65.00	4.60	
SSD047	4.70	33.00	65.00	4.70	
SSD048	4.80	35.00	65.00	4.80	
SSD049	4.90	35.00	65.00	4.90	
SSD050	5.00	35.00	65.00	5.00	
SSD051	5.10	35.00	65.00	5.10	
SSD052	5.20	35.00	65.00	5.20	
SSD053	5.30	35.00	65.00	5.30	
SSD054	5.40	35.00	65.00	5.40	
SSD055	5.50	35.00	65.00	5.50	
SSD056	5.60	38.00	75.00	5.60	
SSD057	5.70	38.00	75.00	5.70	
SSD058	5.80	38.00	75.00	5.80	
SSD059	5.90	38.00	75.00	5.90	
SSD060	6.00	38.00	75.00	6.00	
SSD061	6.10	38.00	75.00	6.10	
SSD062	6.20	38.00	75.00	6.20	
SSD063	6.30	38.00	75.00	6.30	
SSD064	6.40	38.00	75.00	6.40	
SSD065	6.50	38.00	75.00	6.50	
SSD066	6.60	45.00	80.00	6.60	
SSD067	6.70	45.00	80.00	6.70	
SSD068	6.80	45.00	80.00	6.80	
SSD069	6.90	45.00	80.00	6.90	
SSD070	7.00	45.00	80.00	7.00	
SSD071	7.10	45.00	80.00	7.10	
SSD072	7.20	45.00	80.00	7.20	
SSD073	7.30	45.00	80.00	7.30	
SSD074	7.40	45.00	80.00	7.40	
SSD075	7.50	45.00	80.00	7.50	
SSD076	7.60	50.00	85.00	7.60	
SSD077	7.70	50.00	85.00	7.70	
SSD078	7.80	50.00	85.00	7.80	
SSD079	7.90	50.00	85.00	7.90	

Applicable Working Material

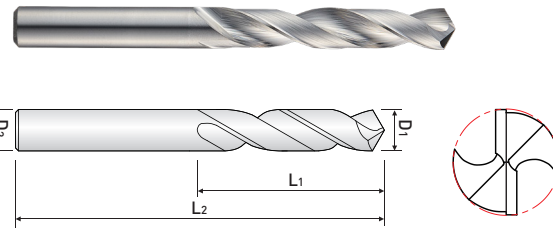
○:GOOD ●:BEST

SERIES	CARBON STEELS LOW (1045-1075)	CARBON STEELS MED (1075-1095)	CARBON STEELS HIGH (1095-1145)	ALLOY STEELS (4140, 4340)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 55 HRc	HARDENED STEELS 55-65 HRc	HARDENED STEELS 65-50 HRc	HARDENED STEELS 50-70 HRc	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
SSD	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

SSD SERIES

5xD

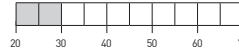
DRILL / 2 FLUTES / JOBBER LENGTH / BRIGHT



TOLERANCE (Metric)

D1 = +0 / -0.014 (D1 ≤ 3)
D1 = +0 / -0.018 (D1 = 3.1 to 6)
D1 = +0 / -0.022 (D1 = 6.1 to 10)
D1 = +0 / -0.027 (D1 > 10)
Dz = h7

HARDNESS (HRC)



EDP NO.	Cutting Diameter (metric)	Cutting Length (metric)	Overall Length (metric)	Shank Diameter (metric)
SSD118	11.80	65.00	120.00	11.80
SSD119	11.90	65.00	120.00	11.90
SSD120	12.00	65.00	120.00	12.00
SSD124	12.40	70.00	125.00	12.40
SSD125	12.50	70.00	125.00	12.50
SSD130	13.00	75.00	130.00	13.00

EDP NO.	Cutting Diameter (metric)	Cutting Length (metric)	Overall Length (metric)	Shank Diameter (metric)
SSD080	8.00	50.00	85.00	8.00
SSD081	8.10	50.00	85.00	8.10
SSD082	8.20	50.00	85.00	8.20
SSD083	8.30	50.00	85.00	8.30
SSD084	8.40	50.00	85.00	8.40
SSD085	8.50	50.00	85.00	8.50
SSD086	8.60	50.00	95.00	8.60
SSD087	8.70	50.00	95.00	8.70
SSD088	8.80	50.00	95.00	8.80
SSD089	8.90	50.00	95.00	8.90
SSD090	9.00	50.00	95.00	9.00
SSD091	9.10	50.00	95.00	9.10
SSD092	9.20	50.00	95.00	9.20
SSD093	9.30	50.00	95.00	9.30
SSD094	9.40	50.00	95.00	9.40
SSD095	9.50	50.00	95.00	9.50
SSD096	9.60	50.00	95.00	9.60
SSD097	9.70	50.00	95.00	9.70
SSD098	9.80	50.00	95.00	9.80
SSD099	9.90	55.00	100.00	9.90
SSD100	10.00	55.00	100.00	10.00
SSD101	10.10	55.00	115.00	10.10
SSD102	10.20	55.00	115.00	10.20
SSD103	10.30	55.00	115.00	10.30
SSD104	10.40	55.00	115.00	10.40
SSD105	10.50	55.00	115.00	10.50
SSD106	10.60	60.00	115.00	10.60
SSD107	10.70	60.00	115.00	10.70
SSD108	10.80	60.00	115.00	10.80
SSD109	10.90	60.00	115.00	10.90
SSD110	11.00	60.00	115.00	11.00
SSD111	11.10	65.00	120.00	11.10
SSD112	11.20	65.00	120.00	11.20
SSD113	11.30	65.00	120.00	11.30
SSD115	11.50	65.00	120.00	11.50

Applicable Working Material

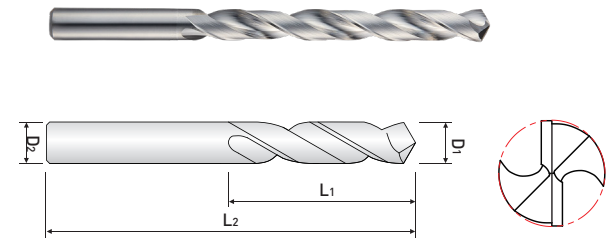
SERIES	CARBON STEELS LOW (1018, 1020)	CARBON STEELS MED (1045, 1050)	CARBON STEELS HIGH (1095)	ALLOY STEELS (4140, 4340)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (B414V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
SSD	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

○:GOOD ◎:BEST

SSDL SERIES

8xD

DRILL / 2 FLUTES / X-LONG JOBBER LENGTH / BRIGHT



TOLERANCE (Metric)

D1 = +0 / -0.014 (D1 ≤ 3)
D1 = +0 / -0.018 (D1 = 3.1 to 6)
D1 = +0 / -0.022 (D1 = 6.1 to 10)
D1 = +0 / -0.027 (D1 > 10)
Dz = h7

HARDNESS (HRC)

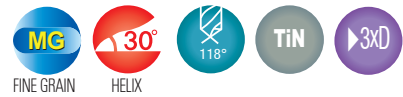


EDP NO.	Cutting Diameter (metric)	Cutting Length (metric)	Overall Length (metric)	Shank Diameter (metric)
SSDL020	2.00	30.00	65.00	2.00
SSDL021	2.10	30.00	65.00	2.10
SSDL022	2.20	30.00	65.00	2.20
SSDL023	2.30	30.00	65.00	2.30
SSDL024	2.40	30.00	65.00	2.40
SSDL025	2.50	35.00	70.00	2.50
SSDL026	2.60	35.00	70.00	2.60
SSDL027	2.70	35.00	70.00	2.70
SSDL028	2.80	35.00	70.00	2.80
SSDL029	2.90	35.00	70.00	2.90
SSDL030	3.00	42.00	73.00	3.00
SSDL031	3.10	42.00	73.00	3.10
SSDL032	3.20	42.00	73.00	3.20
SSDL033	3.30	42.00	73.00	3.30
SSDL034	3.40	42.00	73.00	3.40
SSDL035	3.50	42.00	73.00	3.50
SSDL036	3.60	45.00	80.00	3.60
SSDL037	3.70	45.00	80.00	3.70
SSDL038	3.80	48.00	80.00	3.80
SSDL039	3.90	50.00	80.00	3.90
SSDL040	4.00	54.00	85.00	4.00
SSDL041	4.10	54.00	85.00	4.10
SSDL042	4.20	54.00	85.00	4.20
SSDL043	4.30	54.00	85.00	4.30
SSDL044	4.40	54.00	85.00	4.40
SSDL045	4.50	54.00	85.00	4.50
SSDL046	4.60	59.00	90.00	4.60
SSDL047	4.70	59.00	90.00	4.70
SSDL048	4.80	59.00	90.00	4.80
SSDL049	4.90	59.00	90.00	4.90
SSDL050	5.00	59.00	90.00	5.00
SSDL051	5.10	63.00	95.00	5.10
SSDL052	5.20	63.00	95.00	5.20
SSDL053	5.30	63.00	95.00	5.30
SSDL054	5.40	63.00	95.00	5.40
SSDL055	5.50	63.00	95.00	5.50
SSDL056	5.60	66.00	100.00	5.60
SSDL057	5.70	66.00	100.00	5.70
SSDL058	5.80	66.00	100.00	5.80
SSDL059	5.90	66.00	100.00	5.90
SSDL060	6.00	66.00	100.00	6.00

Applicable Working Material

SERIES	CARBON STEELS LOW (1018, 1020)	CARBON STEELS MED (1045, 1050)	CARBON STEELS HIGH (1095)	ALLOY STEELS (4140, 4340)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (B414V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
SSDL	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

○:GOOD ◎:BEST

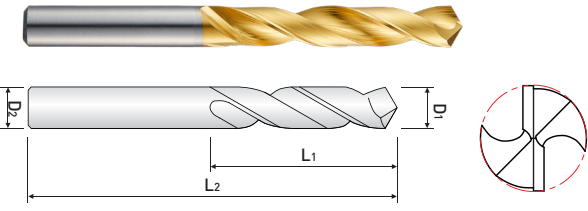


SSTD SERIES

3xD

>>Continue

DRILL / 2 FLUTES / JOBBER LENGTH / TiN COATING



TOLERANCE (Metric)

D1 = +0 / -0.014 (D1 ≤ 3)
D1 = +0 / -0.018 (D1 = 3.1 to 6)
D1 = +0 / -0.022 (D1 = 6.1 to 10)
D1 = +0 / -0.027 (D1 > 10)
D2 = h7

HARDNESS (HRC)



EDP NO.	Cutting Diameter (metric)	Cutting Length (metric)	Overall Length (metric)	Shank Diameter (metric)		
					2 Flute	
					TiN	
					Helix 30°	
SSTD	D1	L1	L2	D2		
SSTD005	0.50	6.00	22.00	0.50		
SSTD0055	0.55	7.00	24.00	0.55		
SSTD006	0.60	7.00	24.00	0.60		
SSTD0065	0.65	8.00	26.00	0.65		
SSTD007	0.70	9.00	28.00	0.70		
SSTD0075	0.75	9.00	28.00	0.75		
SSTD008	0.80	10.00	30.00	0.80		
SSTD0085	0.85	10.00	30.00	0.85		
SSTD009	0.90	11.00	32.00	0.90		
SSTD0095	0.95	11.00	32.00	0.95		
SSTD010	1.00	10.00	38.00	1.00		
SSTD011	1.10	10.00	38.00	1.10		
SSTD012	1.20	10.00	38.00	1.20		
SSTD013	1.30	10.00	38.00	1.30		
SSTD014	1.40	10.00	38.00	1.40		
SSTD015	1.50	13.00	38.00	1.50		
SSTD016	1.60	13.00	38.00	1.60		
SSTD017	1.70	13.00	38.00	1.70		
SSTD018	1.80	13.00	38.00	1.80		
SSTD019	1.90	13.00	38.00	1.90		
SSTD020	2.00	16.00	45.00	2.00		
SSTD021	2.10	16.00	45.00	2.10		
SSTD022	2.20	16.00	45.00	2.20		
SSTD023	2.30	16.00	45.00	2.30		
SSTD024	2.40	18.00	50.00	2.40		
SSTD025	2.50	20.00	50.00	2.50		
SSTD026	2.60	20.00	50.00	2.60		
SSTD027	2.70	22.00	50.00	2.70		
SSTD028	2.80	22.00	50.00	2.80		
SSTD029	2.90	22.00	50.00	2.90		
SSTD030	3.00	22.00	50.00	3.00		
SSTD031	3.10	25.00	50.00	3.10		
SSTD032	3.20	25.00	50.00	3.20		
SSTD033	3.30	25.00	50.00	3.30		
SSTD034	3.40	25.00	50.00	3.40		

EDP NO.	Cutting Diameter (metric)	Cutting Length (metric)	Overall Length (metric)	Shank Diameter (metric)		
					2 Flute	
					TiN	
					Helix 30°	
SSTD	D1	L1	L2	D2		
SSTD035	3.50	25.00	50.00	3.50		
SSTD036	3.60	28.00	55.00	3.60		
SSTD037	3.70	28.00	55.00	3.70		
SSTD038	3.80	28.00	55.00	3.80		
SSTD039	3.90	28.00	55.00	3.90		
SSTD040	4.00	28.00	55.00	4.00		
SSTD041	4.10	30.00	60.00	4.10		
SSTD042	4.20	30.00	60.00	4.20		
SSTD043	4.30	30.00	60.00	4.30		
SSTD044	4.40	30.00	60.00	4.40		
SSTD045	4.50	30.00	60.00	4.50		
SSTD046	4.60	33.00	65.00	4.60		
SSTD047	4.70	33.00	65.00	4.70		
SSTD048	4.80	35.00	65.00	4.80		
SSTD049	4.90	35.00	65.00	4.90		
SSTD050	5.00	35.00	65.00	5.00		
SSTD051	5.10	35.00	65.00	5.10		
SSTD052	5.20	35.00	65.00	5.20		
SSTD053	5.30	35.00	65.00	5.30		
SSTD054	5.40	35.00	65.00	5.40		
SSTD055	5.50	35.00	65.00	5.50		
SSTD056	5.60	38.00	75.00	5.60		
SSTD057	5.70	38.00	75.00	5.70		
SSTD058	5.80	38.00	75.00	5.80		
SSTD059	5.90	38.00	75.00	5.90		
SSTD060	6.00	38.00	75.00	6.00		
SSTD061	6.10	38.00	75.00	6.10		
SSTD062	6.20	38.00	75.00	6.20		
SSTD063	6.30	38.00	75.00	6.30		
SSTD064	6.40	38.00	75.00	6.40		
SSTD065	6.50	38.00	75.00	6.50		
SSTD066	6.60	45.00	80.00	6.60		
SSTD067	6.70	45.00	80.00	6.70		
SSTD068	6.80	45.00	80.00	6.80		
SSTD069	6.90	45.00	80.00	6.90		

Applicable Working Material

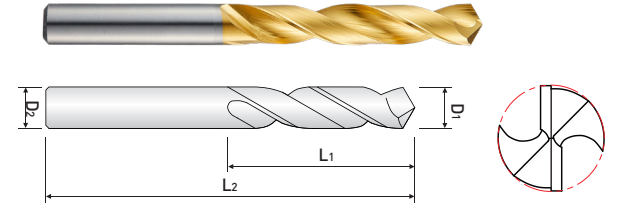
SERIES	CARBON STEELS LOW (100-170)	CARBON STEELS MED (170-200)	CARBON STEELS HIGH (200)	ALLOY STEELS (4140, 4340)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6AL4V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MANGANESE	BRASS BRONZE	GRAPHITE	COBALT CHROME	
SSTD	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



SSTD SERIES

3xD

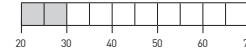
DRILL / 2 FLUTES / JOBBER LENGTH / TiN COATING



TOLERANCE (Metric)

D1 = +0 / -0.014 (D1 ≤ 3)
D1 = +0 / -0.018 (D1 = 3.1 to 6)
D1 = +0 / -0.022 (D1 = 6.1 to 10)
D1 = +0 / -0.027 (D1 > 10)
D2 = h7

HARDNESS (HRC)



EDP NO.	Cutting Diameter (metric)	Cutting Length (metric)	Overall Length (metric)	Shank Diameter (metric)		
					2 Flute	
					TiN	
					Helix 30°	
SSTD	D1	L1	L2	D2		
SSTD070	7.00	45.00	80.00	7.00		
SSTD071	7.10	45.00	80.00	7.10		
SSTD072	7.20	45.00	80.00	7.20		
SSTD073	7.30	45.00	80.00	7.30		
SSTD074	7.40	45.00	80.00	7.40		
SSTD075	7.50	45.00	80.00	7.50		
SSTD076	7.60	50.00	85.00	7.60		
SSTD077	7.70	50.00	85.00	7.70		
SSTD078	7.80	50.00	85.00	7.80		
SSTD079	7.90	50.00	85.00	7.90		
SSTD080	8.00	50.00	85.00	8.00		
SSTD081	8.10	50.00	85.00	8.10		
SSTD082	8.20	50.00	85.00	8.20		
SSTD083	8.30	50.00	85.00	8.30		
SSTD084	8.40	50.00	85.00	8.40		
SSTD085	8.50	50.00	85.00	8.50		
SSTD086	8.60	50.00	95.00	8.60		
SSTD087	8.70	50.00	95.00	8.70		
SSTD088	8.80	50.00	95.00	8.80		
SSTD089	8.90	50.00	95.00	8.90		
SSTD090	9.00	50.00	95.00	9.00		
SSTD091	9.10	50.00	95.00	9.10		
SSTD092	9.20	50.00	95.00	9.20		
SSTD093	9.30	50.00	95.00	9.30		
SSTD094	9.40	50.00	95.00	9.40		
SSTD095	9.50	50.00	95.00	9.50		
SSTD096	9.60	50.00	95.00	9.60		
SSTD097	9.70	50.00	95.00	9.70		
SSTD098	9.80	50.00	95.00	9.80		
SSTD099	9.90	55.00	100.00	9.90		
SSTD100	10.00	55.00	100.00	10.00		
SSTD101	10.10	55.00	115.00	10.10		
SSTD102	10.20	55.00	115.00	10.20		
SSTD103	10.30	55.00	115.00	10.30		
SSTD104	10.40	55.00	115.00	10.40		

EDP NO.	Cutting Diameter (metric)	Cutting Length (metric)	Overall Length (metric)	Shank Diameter (metric)		
					2 Flute	
					TiN	
					Helix 30°	
SSTD	D1	L1	L2	D2		
SSTD105	10.50	55.00	115.00	10.50		
SSTD106	10.60	60.00	115.00	10.60		
SSTD107	10.70	60.00	115.00	10.70		
SSTD108	10.80	60.00	115.00	10.80		
SSTD109	10.90	60.00	115.00	10.90		
SSTD110	11.00	60.00	115.00	11.00		
SSTD111	11.10	65.00	120.00	11.10		
SSTD112	11.20	65.00	120.00	11.20		
SSTD113	11.30	65.00	120.00	11.30		
SSTD115	11.50	65.00	120.00	11.50		
SSTD118	11.80	65.00	120.00	11.80		
SSTD119	11.90	65.00	120.00	11.90		
SSTD120	12.00	65.00	120.00	12.00		
SSTD124	12.40	70.00	125.00	12.40		
SSTD125	12.50	70.00	125.00	12.50		
SSTD130	13.00	75.00	130.00	13.00		

Applicable Working Material

SERIES	CARBON STEELS LOW (100-170)	CARBON STEELS MED (170-200)	CARBON STEELS HIGH (200)	ALLOY STEELS (4140, 4340)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6AL4V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MANGANESE	BRASS BRONZE	GRAPHITE	COBALT CHROME	
SSTD	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

SSD, SSDL, SSTD SERIES

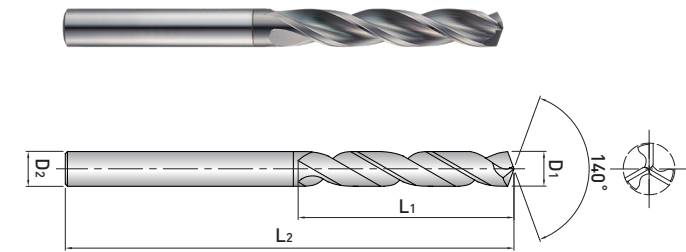


>>Continue

APF505 SERIES

5xD

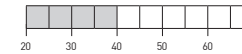
DRILLS / 3 FLUTES / 5xD / DLC COATING



TOLERANCE (Metric)

D1 = +0 / -0.012
D2 = +0 / -0.008 (D2<6)
D2 = +0 / -0.009 (D2≥6)

HARDNESS (HRc)



RPM=rev./min.
FEED=min/rev.
IPR=inch/rev.

Work Material	Tool Steels Alloy Steels			Aluminum Rolled Aluminum Alloys		
	Cutting Diameter (metric)	RPM (rev/min)	FEED (mm/rev)	IPR (inch/rev)	RPM (rev/min)	FEED (mm/rev)
3	4,000-7,000	0.02	0.001	10,000-12,000	0.03	0.001
5	2,400-4,200	0.03	0.001	6,000-8,000	0.05	0.002
8	1,500-2,600	0.05	0.002	3,700-5,000	0.08	0.003
12	1,000-1,700	0.06	0.002	2,500-3,200	0.12	0.005
Work Material	Brass Bronze			Epoxy Resin		
Cutting Diameter (metric)	RPM (rev/min)	FEED (mm/rev)	IPR (inch/rev)	RPM (rev/min)	FEED (mm/rev)	IPR (inch/rev)
3	7,000-10,000	0.02	0.001	9,000-12,000	0.08	0.003
5	4,200-6,000	0.04	0.002	5,400-7,200	0.08	0.003
8	2,600-3,700	0.08	0.003	3,400-4,500	0.09	0.004
12	1,700-2,500	0.12	0.005	2,200-3,000	0.11	0.004

EDP NO.	Cutting Diameter			Cutting Length	Overall Length	Shank Diameter
	3 Flute					
	DLC					
	Helix 30°					
5xD	D1			L1	L2	D2
APF505	Decimal	Fraction	Metric			
APF505030	0.1181	-	3.000	20.00	60.00	3.00
APF50503175	0.1250	1/8"	3.175	27/32"	2 3/8"	4.00
APF50503263	0.1285	#30	3.263	27/32"	2 3/8"	4.00
APF505035	0.1378	-	3.500	22.00	63.00	4.00
APF50503572	0.1406	9/64"	3.571	15/16"	2 1/2"	4.00
APF50503967	0.1562	5/32"	3.967	15/16"	2 1/2"	4.00
APF505040	0.1575	-	4.000	24.00	65.00	4.00
APF505045	0.1772	-	4.500	24.00	65.00	5.00
APF50504762	0.1875	3/16"	4.762	1 1/4"	2 3/4"	5.00
APF50504800	0.1890	#12	4.800	1 1/4"	2 3/4"	5.00
APF50504851	0.1910	#11	4.851	1 1/4"	2 3/4"	5.00
APF50504914	0.1935	#10	4.914	1 1/4"	2 3/4"	5.00
APF505050	0.1969	-	5.000	32.00	75.00	5.00
APF50505054	0.1990	#8	5.054	1 5/16"	3	6.00
APF50505105	0.2010	#7	5.105	1 5/16"	3	6.00
APF50505158	0.2031	13/64"	5.158	1 5/16"	3	6.00
APF50505181	0.2040	#6	5.181	1 3/8"	3	6.00
APF50505219	0.2055	#5	5.219	1 3/8"	3	6.00
APF50505308	0.2090	#4	5.308	1 3/8"	3	6.00
APF50505410	0.2130	#3	5.410	1 3/8"	3	6.00
APF505055	0.2165	-	5.500	35.00	75.00	6.00
APF50505556	0.2188	7/32"	5.556	1 3/8"	3	6.00
APF50505613	0.2210	#2	5.613	1 3/8"	3	6.00
APF50505791	0.2280	#1	5.791	1 3/8"	3	6.00
APF50505953	0.2344	15/64"	5.953	1 1/2"	3 1/4"	6.00
APF505060	0.2362	-	6.000	38.00	82.00	6.00
APF50506045	0.2380	B	6.045	1 5/8"	3 1/4"	7.00
APF50506146	0.2420	C	6.146	1 5/8"	3 1/4"	7.00
APF50506248	0.2460	D	6.248	1 5/8"	3 1/4"	7.00
APF50506350	0.2500	1/4" / E	6.350	1 5/8"	3 1/4"	7.00
APF505065	0.2559	-	6.500	41.00	82.00	7.00
APF50506527	0.2570	F	6.527	1 11/16"	3 1/4"	7.00
APF50506629	0.2610	G	6.629	1 11/16"	3 1/2"	7.00
APF50506746	0.2656	17/64"	6.746	1 11/16"	3 1/2"	7.00

Applicable Working Material

○:GOOD ●:BEST

SERIES	CARBON STEELS LOW (1045-1078)	CARBON STEELS MED (1045-1078)	CARBON STEELS HIGH (1045-1078)	ALLOY STEELS (4140-4340)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 25-45 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
APF505	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



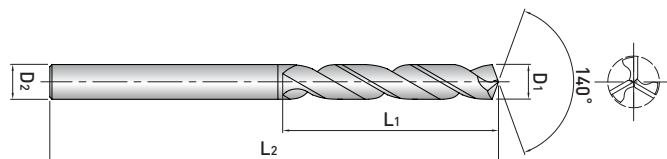
Drill for Multi-purpose & Aluminum
SOLID SPIRAL DRILL SERIES



APF505 SERIES

5xD

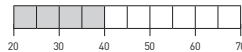
DRILLS / 3 FLUTES / 5xD / DLC COATING



TOLERANCE [Metric]

D1 = +0 / -0.012
D2 = +0 / -0.008 (D2<6)
D2 = +0 / -0.009 (D2≥6)

HARDNESS [HRc]



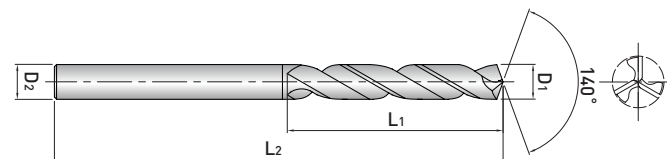
Drill for Multi-purpose & Aluminum
SOLID SPIRAL DRILL SERIES



APF505 SERIES

5xD

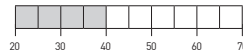
DRILLS / 3 FLUTES / 5xD / DLC COATING



TOLERANCE [Metric]

D1 = +0 / -0.012
D2 = +0 / -0.008 (D2<6)
D2 = +0 / -0.009 (D2≥6)

HARDNESS [HRc]



EDP NO.	3 Flute	Cutting Diameter	Cutting Length	Overall Length	Shank Diameter			
						DLC	Helix 30°	5xD
APF50506756								
APF50506908								
APF50507070								
APF50507035								
APF50507142								
APF50507366								
APF505075								
APF50507541								
APF50507670								
APF50507937								
APF505080								
APF50508026								
APF50508204								
APF50508333								
APF50508432								
APF505085								
APF50508610								
APF50508732								
APF50508839								
APF505090								
APF50509093								
APF50509128								
APF50509347								
APF505095								
APF50509525								
APF50509575								
APF50509804								
APF50509921								
APF505100								
APF50510083								
APF50510261								
APF50510317								
APF505105								
APF50510716								

Applicable Working Material

SERIES	CARBON STEELS LOW (100L, 100S)	CARBON STEELS MED (100L, 100S)	CARBON STEELS HIGH (100S)	ALLOY STEELS (4140, 4142)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (TA14V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME	
APF505																						

○:GOOD ●:BEST

EDP NO.	3 Flute	Cutting Diameter	Cutting Length	Overall Length	Shank Diameter			
						DLC	Helix 30°	5xD
APF505110								
APF50511112								
APF505115								
APF50511508								
APF50511907								
APF505120								
APF50512303								
APF505125								
APF505127								
APF505130								
APF50513096								
APF50513492								
APF50513891								
APF505140								
APF50514287								
APF50514683								
APF505150								
APF50515082								
APF50515478								
APF50515875								
APF505160								

Applicable Working Material

SERIES	CARBON STEELS LOW (100L, 100S)	CARBON STEELS MED (100L, 100S)	CARBON STEELS HIGH (100S)	ALLOY STEELS (4140, 4142)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (TA14V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME	
APF505																						

○:GOOD ●:BEST

APF505 SERIES



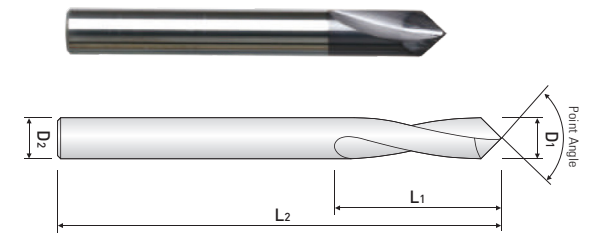
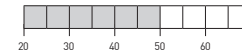
LDA SERIES

NC SPOT DRILLS / 2 FLUTES / SINGLE ENDED / 90°, 120° & 142° / TiAlN COATING

TOLERANCE (Inch)

D1 = +0.0004 / -0.0004
D2 = h6

HARDNESS (HRc)



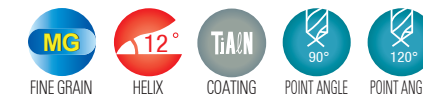
Work Material	Aluminum Alloy	Cast Aluminum	Magnesium	Copper & Brass	Titanium
Type	6061	380	-	-	6Al-4V
SFM	450 ~ 650	300 ~ 500	250 ~ 500	250 ~ 400	100 ~ 300
Cutting Diameter (Inch)	Chip Load per Flute (Fz)				
3/16	0.0020 ~ 0.0040	0.0015 ~ 0.0030	0.0015 ~ 0.0030	0.0010 ~ 0.0020	0.0010 ~ 0.0020
1/4	0.0025 ~ 0.0050	0.0020 ~ 0.0040	0.0020 ~ 0.0040	0.0020 ~ 0.0030	0.0020 ~ 0.0030
5/16	0.0035 ~ 0.0060	0.0030 ~ 0.0050	0.0030 ~ 0.0050	0.0020 ~ 0.0030	0.0020 ~ 0.0030
3/8	0.0045 ~ 0.0070	0.0030 ~ 0.0060	0.0030 ~ 0.0060	0.0020 ~ 0.0040	0.0020 ~ 0.0040
1/2	0.0055 ~ 0.0080	0.0035 ~ 0.0070	0.0035 ~ 0.0070	0.0030 ~ 0.0050	0.0030 ~ 0.0050
5/8	0.0065 ~ .01000	0.0040 ~ 0.0080	0.0040 ~ 0.0080	0.0030 ~ 0.0060	0.0030 ~ 0.0060
Work Material	Aluminum Alloy	Cast Aluminum	Magnesium	Copper & Brass	Titanium
Type	6061	380	-	-	6Al-4V
V (m/min)	140 ~ 200	90 ~ 150	75 ~ 150	75 ~ 120	30 ~ 90
Cutting Diameter (Metric)	Chip Load per Flute (Fz)				
4	0.050 ~ 0.100	0.038 ~ 0.078	0.038 ~ 0.075	0.025 ~ 0.060	0.025 ~ 0.050
6	0.065 ~ 0.125	0.050 ~ 0.100	0.050 ~ 0.100	0.050 ~ 0.075	0.050 ~ 0.075
8	0.090 ~ 0.150	0.075 ~ 0.125	0.075 ~ 0.125	0.050 ~ 0.075	0.050 ~ 0.075
10	0.115 ~ 0.175	0.075 ~ 0.150	0.075 ~ 0.150	0.050 ~ 0.100	0.050 ~ 0.100
12	0.150 ~ 0.200	0.090 ~ 0.175	0.090 ~ 0.175	0.075 ~ 0.125	0.075 ~ 0.125
16	0.165 ~ 0.250	0.100 ~ 0.200	0.100 ~ 0.200	0.075 ~ 0.150	0.075 ~ 0.150

EDP NO.	Cutting Diameter (inch)	Cutting Length (inch)	Overall Length (inch)	Shank Diameter (inch)	Point Angle
TiAlN Helix 12°					
LDA	D1	L1	L2	D2	Degree
LDA006A	3/32	3/8	2	3/32	90°
LDA006B	3/32	3/8	2	3/32	120°
LDA006C	3/32	3/8	2	3/32	142°
LDA008A	1/8	3/8	2	1/8	90°
LDA008B	1/8	3/8	2	1/8	120°
LDA008C	1/8	3/8	2	1/8	142°
LDA012A	3/16	3/4	3	3/16	90°
LDA012B	3/16	3/4	3	3/16	120°
LDA012C	3/16	3/4	3	3/16	142°
LDA016A	1/4	3/4	3	1/4	90°
LDA016B	1/4	3/4	3	1/4	120°
LDA016C	1/4	3/4	3	1/4	142°
LDA020A	5/16	1	3	5/16	90°
LDA020B	5/16	1	3	5/16	120°
LDA020C	5/16	1	3	5/16	142°
LDA024A	3/8	1	3	3/8	90°
LDA024B	3/8	1	3	3/8	120°
LDA024C	3/8	1	3	3/8	142°
LDA028A	7/16	1	4	7/16	90°
LDA028B	7/16	1	4	7/16	120°
LDA028C	7/16	1	4	7/16	142°
LDA032A	1/2	1	4	1/2	90°
LDA032B	1/2	1	4	1/2	120°
LDA032C	1/2	1	4	1/2	142°

Applicable Working Material

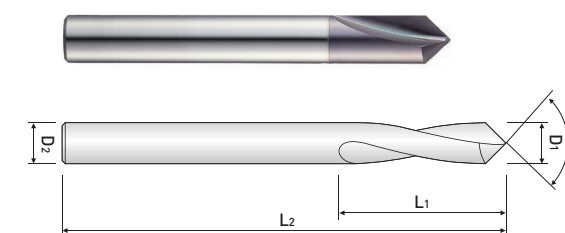
SERIES	CARBON STEELS LOW TENSILE	CARBON STEELS MED TENSILE	CARBON STEELS HIGH TENSILE	ALLOY STEELS (AISI 4140, 4340)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al-4V)	HARDENED STEELS 35 HRc	HARDENED STEELS 35-45 HRc	HARDENED STEELS 45-50 HRc	HARDENED STEELS 50-70 HRc	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
LDA	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

LDA SERIES



LDS SERIES

NC SPOT DRILLS / 2 FLUTES / SINGLE ENDED / 90°, 120° / TiAlN COATING



TOLERANCE (Metric)

D1 = +0.01 / -0.01
D2 = h6

HARDNESS (HRC)



RPM=rev./min.
FEED=min/rev.
IPR=inch/rev.

Work Material	Low Carbon Steel 1015-A36 ~500N/mm²		Medium Carbon Steel 1045, 1046		Alloy Steel 4140, 4142		Alloy tool steel H13 ~ HRC28	
	2,480-3,150 inch/min		1,575-2,362 inch/min		1,260-1,969 inch/min		787-1,102 inch/min	
Drilling Speed(V)	2,480-3,150 inch/min		1,575-2,362 inch/min		1,260-1,969 inch/min		787-1,102 inch/min	
Cutting Diameter (metric)	RPM (rev/min)	IPR (inch/rev)	RPM (rev/min)	IPR (inch/rev)	RPM (rev/min)	IPR (inch/rev)	RPM (rev/min)	IPR (inch/rev)
3/32	7,500	0.0016-0.0032	5,500	0.0016-0.0032	4,500	0.0016-0.0032	2,500	0.0016-0.0032
1/8	7,500	0.0016-0.0032	5,500	0.0016-0.0032	4,500	0.0016-0.0032	2,500	0.0016-0.0032
3/16	5,700	0.002-0.004	4,100	0.002-0.004	3,300	0.002-0.004	1,900	0.002-0.004
1/4	3,800	0.0024-0.0048	2,700	0.0024-0.0048	2,300	0.0024-0.0048	1,250	0.0024-0.0048
5/16	2,800	0.0031-0.0059	2,000	0.0031-0.0059	1,700	0.0031-0.0059	950	0.0031-0.0059
3/8	2,300	0.004-0.007	1,700	0.004-0.007	1,400	0.004-0.007	750	0.004-0.007
7/16	1,900	0.0047-0.0083	1,400	0.0047-0.0083	1,200	0.0047-0.0083	650	0.0047-0.0083
1/2	1,900	0.0047-0.0083	1,400	0.0047-0.0083	1,200	0.0047-0.0083	650	0.0047-0.0083
Work Material	Alloy tool steel H13 ~ HRC34		Cast Iron No 35 B ~ HRC24		Aluminum Alloy 355			
Drilling Speed(V)	630-866 inch/min		2,480-3,937 inch/min		3,149-6,299 inch/min			
Cutting Diameter (metric)	RPM (rev/min)	IPR (inch/rev)	RPM (rev/min)	IPR (inch/rev)	RPM (rev/min)	IPR (inch/rev)	RPM (rev/min)	IPR (inch/rev)
3/32	1,500	0.0016-0.0032	8,000	0.002-0.0035	12,000	0.0039-0.0087		
1/8	1,500	0.0016-0.0032	8,000	0.002-0.0035	12,000	0.0039-0.0087		
3/16	1,100	0.002-0.004	6,500	0.0028-0.0047	9,500	0.0047-0.0098		
1/4	750	0.0024-0.0048	4,300	0.0047-0.007	6,400	0.0055-0.011		
5/16	550	0.0031-0.0059	3,200	0.005-0.0079	4,800	0.007-0.0126		
3/8	450	0.004-0.007	2,600	0.0067-0.0098	3,800	0.0087-0.0142		
7/16	370	0.0047-0.0083	2,200	0.0083-0.0118	3,200	0.0098-0.0157		
1/2	370	0.0047-0.0083	2,200	0.0083-0.0118	3,200	0.0098-0.0157		

EDP NO.	Cutting Diameter (metric)	Cutting Length (metric)	Overall Length (metric)	Shank Diameter (metric)	Point Angle
TiAlN					
Helix 12°					
LDS	D1	L1	L2	D2	Degree
LDS030	3.00	9.00	50.00	3.00	90°
LDS030L	3.00	10.00	100.00	3.00	90°
LDS030A	3.00	9.00	50.00	3.00	120°
LDS040	4.00	10.00	50.00	4.00	90°
LDS040L	4.00	12.00	100.00	4.00	90°
LDS040A	4.00	10.00	50.00	4.00	120°
LDS050	5.00	12.00	50.00	5.00	90°
LDS050A	5.00	12.00	50.00	5.00	120°
LDS060	6.00	13.00	60.00	6.00	90°
LDS060L	6.00	18.00	110.00	6.00	90°
LDS060A	6.00	13.00	60.00	6.00	120°
LDS080	8.00	23.00	70.00	8.00	90°
LDS080L	8.00	23.00	150.00	8.00	90°
LDS080A	8.00	23.00	70.00	8.00	120°
LDS100	10.00	24.00	80.00	10.00	90°
LDS100L	10.00	24.00	150.00	10.00	90°
LDS100A	10.00	24.00	80.00	10.00	120°
LDS120	12.00	28.00	80.00	12.00	90°
LDS120L	12.00	24.00	150.00	12.00	90°
LDS120A	12.00	28.00	80.00	12.00	120°
LDS160	16.00	32.00	90.00	16.00	90°
LDS160A	16.00	32.00	90.00	16.00	120°
LDS200	20.00	35.00	100.00	20.00	90°
LDS200A	20.00	35.00	100.00	20.00	120°

Applicable Working Material

SERIES	CARBON STEELS LOW TENSILE	CARBON STEELS MED TENSILE	CARBON STEELS HIGH TENSILE	ALLOY STEELS (4140, 4340)	DIE STEELS	STAINLESS STEELS 300	STAINLESS STEELS 400	STAINLESS STEELS 17-4 PH	CAST IRON	ALUMINUM (6061, 7075)	ALUMINUM CASTINGS	NICKEL ALLOYS (INCONEL)	TITANIUM (6Al4V)	HARDENED STEELS 35 HRC	HARDENED STEELS 35-45 HRC	HARDENED STEELS 45-50 HRC	HARDENED STEELS 50-70 HRC	MAGNESIUM	BRASS BRONZE	GRAPHITE	COBALT CHROME
LDS	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

○:GOOD ◎:BEST



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