



Where **high performance**
is the **standard**



M.A. FORD MAX
RANGE

**Interchangeable
Insert Drill**

www.mafordeurope.com



Where **high performance** is the **standard**®

High-Performance Replaceable Insert Drill System

Performance, versatility and economy are all key benefits of the FordMAX replaceable insert drill range, as they not only optimise performance, accuracy and repeatability, but also enable different materials to be machined, just by changing the insert grade, to help reduce tooling inventory and cost.

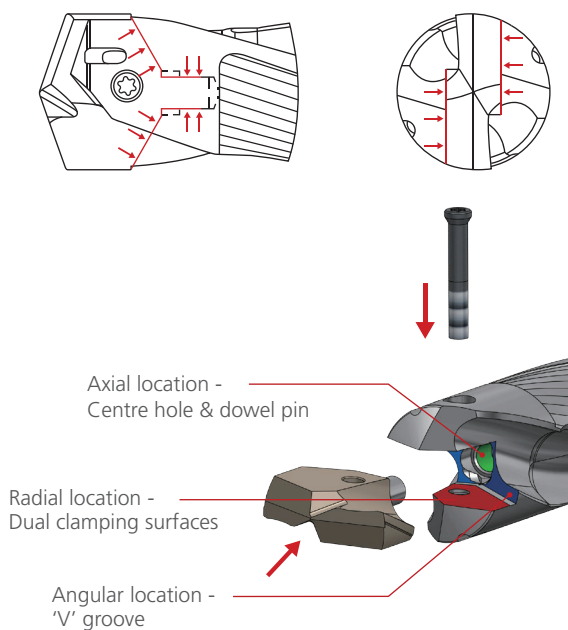
When the selection of insert grades are used in combination with the optional 3xD; 5xD & 8xD holder lengths, this allows a range of materials to be machined while also providing different drilling depths and high rigidity for diverse applications.

With insert diameters from 10.00mm to 39.99mm, even greater versatility is available, as the holders are designed to accept inserts within a 0.49mm or 0.99mm size band, depending on the holder, making them ideal for high-mix manufacturing and batch production.

The 'triple positioning' system uses axial, radial and angular locators for the drill inserts to ensure that interchangeability and repeatability are maximised. It also provides high integrity contact between the holder and insert, enabling excellent cutting performance, durability and tool life to be achieved.



'Triple positioning' locator system



Advantages

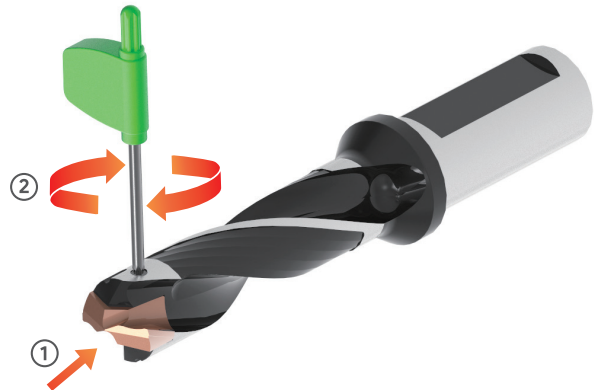
- Precision location for increased accuracy and repeatability
- Easy to change insert allows simple replacement on machine tools
- Triple positioning maintains consistent locking force and drilling performance
- Suitable for high feed drilling applications
- Choice of insert grades for versatile CNC machining on a range of materials
- Reduced tooling inventory and cost as holders can be used with different insert types and sizes within the range



Installation Procedure

Range of Diameter Ø	Tightening Torque (Nm)
10.0-13.99	0.6
14.0-17.99	1.2
18.0-23.99	2.2
24.0-27.99	3.3
28.0-30.99	5.0
31.0-36.99	7.5
37.0-39.99	15.0

- ① Clean the insert and mounting groove with compressed air.
- ② Load the insert into the mounting groove in the holder.
- ③ Fix the insert with the fastening screw. It is recommended that users use a torque wrench as far as possible. Recommended tightening torques values are shown in the table above.



Spade Drill Insert

SDI - C - P - 1000H

Product Series	Insert Material	Geometry	Insert Diameter
SDI-SPADE DRILL INSERT	C - Carbide PM-HSS-PM	P - Steel MS - Stainless steel K - Cast iron N - Non-ferrous metal U - Universal high centring drill point	1000 - 10.0 mm 1270 - 12.7mm

Carbide
micro grain

HSS
PM

Carbide Drill Insert

	P	M	K	N	S
P	●	○	○		
MS	○	●			○
K			●		
N				●	

● Preferred ○ Alternative

HSS PM Insert Series

	P	M	K	N	S
C	●	○	○	○	

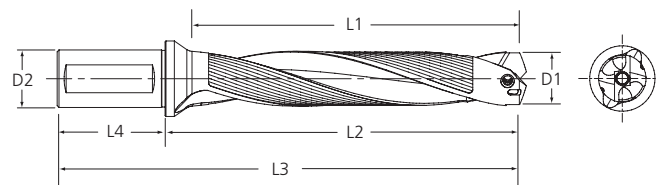
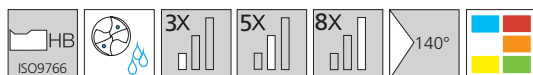
Spade Drill Holder

SDH - 18001899 - 05 - F25

Product Series	Type	Insert Diameter Range	Max. Hole Depth	Shank Type	Shank Diameter	
SDI-SPADE DRILL	H - holder	18001899 = 18-18.99mm	03-3xD 05-5xD 08-8xD	F - Flanged Shank	16-16.0 20-20.0 25-25.0	32-32.0 40-40.0



Interchangeable Insert Drill 10.0 - 10.49mm

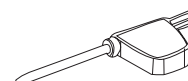
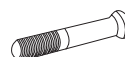


Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH1917	SDH-10001049-03-F16	10.0 - 10.49	16.0	31.5	48.0	96.0	48.0
5D	FH1918	SDH-10001049-05-F16	10.0 - 10.49	16.0	52.5	69.0	117.0	48.0
8D	FH1919	SDH-10001049-08-F16	10.0 - 10.49	16.0	84.0	100.0	148.0	48.0

Interchangeable Inserts

Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S
		●	○	○			○	●			○			●			●	○	○	○		●	○	○	○	
		CPA					CMA					CKA					CNA					HPC				
10.0	1.8	SDI-C-P-1000H	●				SDI-C-MS-1000H	○				SDI-C-K-1000H	○				SDI-C-N-1000D	○				SDI-PM-U-1000H	●			
10.1	1.8	SDI-C-P-1010H	○				SDI-C-MS-1010H	○				SDI-C-K-1010H	○				SDI-C-N-1010D	○				SDI-PM-U-1010H	○			
10.2	1.9	SDI-C-P-1020H	●				SDI-C-MS-1020H	○				SDI-C-K-1020H	○				SDI-C-N-1020D	○				SDI-PM-U-1020H	●			
10.3	1.9	SDI-C-P-1030H	○				SDI-C-MS-1030H	○				SDI-C-K-1030H	○				SDI-C-N-1030D	○				SDI-PM-U-1030H	○			
10.4	1.9	SDI-C-P-1040H	○				SDI-C-MS-1040H	○				SDI-C-K-1040H	○				SDI-C-N-1040D	○				SDI-PM-U-1040H	○			

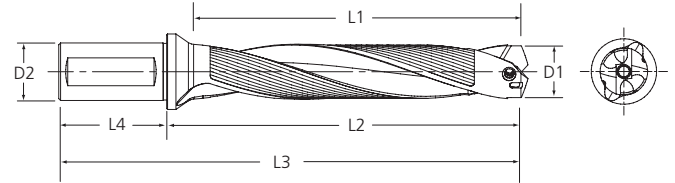
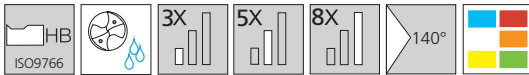
● Stocked ○ Check availability



Spare Parts

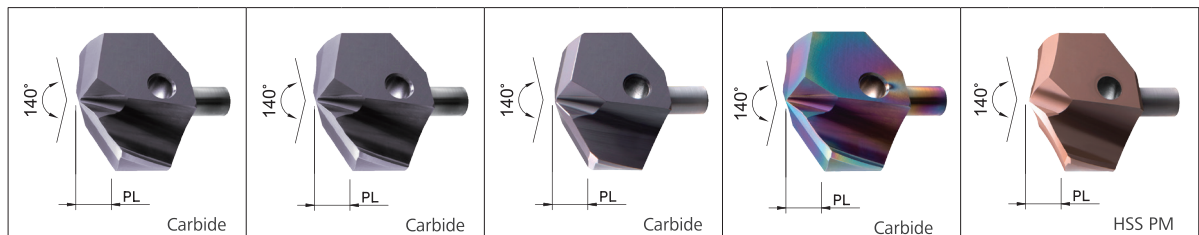
				Insert Screw		Torx Wrench	
Size	Torx Size	Nm	Tool Number	EDP	Tool Number	EDP	Tool Number
3D	6IP	0.6	SDH-10001049-03-F16	FS1176	SDA-M2X9-TP	FS1150	FH180-IP6
5D	6IP	0.6	SDH-10001049-05-F16	FS1176	SDA-M2X9-TP	FS1150	FH180-IP6
8D	6IP	0.6	SDH-10001049-08-F16	FS1176	SDA-M2X9-TP	FS1150	FH180-IP6

Interchangeable Insert Drill 10.5 - 10.99mm



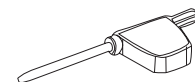
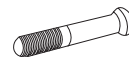
Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH1920	SDH-10501099-03-F16	10.5 - 10.99	16.0	33.0	50.0	98.0	48.0
5D	FH1921	SDH-10501099-05-F16	10.5 - 10.99	16.0	55.0	72.0	120.0	48.0
8D	FH1922	SDH-10501099-08-F16	10.5 - 10.99	16.0	88.0	105.0	153.0	48.0

Interchangeable Inserts



Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S					
		●	○	○			○	●			○			●							●		●	○	○	○					
		CPA					Stk	CMA					Stk	CKA					Stk	CNA					Stk	HPC					Stk
10.5	1.9	SDI-C-P-1050H					●	SDI-C-MS-1050H					○	SDI-C-K-1050H					○	SDI-C-N-1050H					○	SDI-PM-U-1050H					●
10.6	1.9	SDI-C-P-1060H					○	SDI-C-MS-1060H					○	SDI-C-K-1060H					○	SDI-C-N-1060H					○	SDI-PM-U-1060H					○
10.7	1.9	SDI-C-P-1070H					○	SDI-C-MS-1070H					○	SDI-C-K-1070H					○	SDI-C-N-1070H					○	SDI-PM-U-1070H					○
10.8	1.9	SDI-C-P-1080H					○	SDI-C-MS-1080H					○	SDI-C-K-1080H					○	SDI-C-N-1080H					○	SDI-PM-U-1080H					○
10.9	1.9	SDI-C-P-1090H					○	SDI-C-MS-1090H					○	SDI-C-K-1090H					○	SDI-C-N-1090H					○	SDI-PM-U-1090H					○

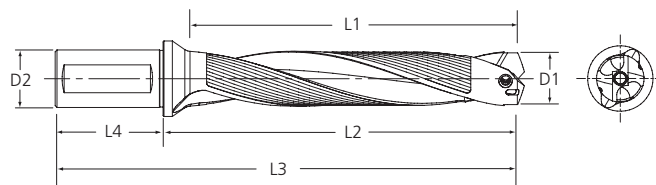
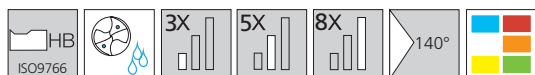
● Stocked ○ Check availability



Spare Parts

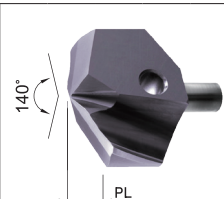
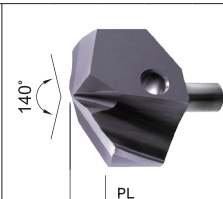
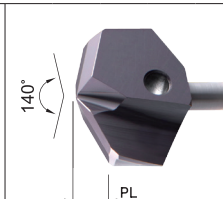
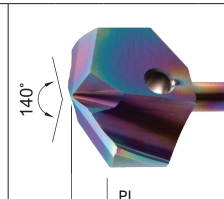
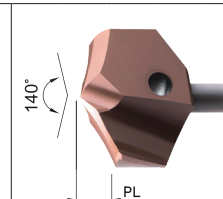
Size	Torx Size	Nm	Tool Number	Insert Screw		Torx Wrench	
				EDP	Tool Number	EDP	Tool Number
3D	6IP	0.6	SDH-10501099-03-F16	FS1176	SDA-M2X9-TP	FS1150	FH180-IP6
5D	6IP	0.6	SDH-10501099-05-F16	FS1176	SDA-M2X9-TP	FS1150	FH180-IP6
8D	6IP	0.6	SDH-10501099-08-F16	FS1176	SDA-M2X9-TP	FS1150	FH180-IP6

Interchangeable Insert Drill 11.0 - 11.49mm

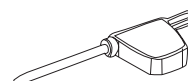
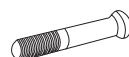


Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH1923	SDH-11001149-03-F16	11.0 - 11.49	16.0	34.5	52.0	100.0	48.0
5D	FH1924	SDH-11001149-05-F16	11.0 - 11.49	16.0	57.5	75.0	123.0	48.0
8D	FH1925	SDH-11001149-08-F16	11.0 - 11.49	16.0	92.0	110.0	158.0	48.0

Interchangeable Inserts

																															
Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S
		●	○	○			○	●				○			●						●				○		●	○	○	○	
		CPA					Stk	CMA					Stk	CKA					Stk	CNA					Stk	HPC					Stk
11.0	2.0	SDI-C-P-1100H					●	SDI-C-MS-1100H					○	SDI-C-K-1100H					○	SDI-C-N-1100H					○	SDI-PM-U-1100H					●
11.1	2.0	SDI-C-P-1110H					○	SDI-C-MS-1110H					○	SDI-C-K-1110H					○	SDI-C-N-1110H					○	SDI-PM-U-1110H					○
11.2	2.0	SDI-C-P-1120H					○	SDI-C-MS-1120H					○	SDI-C-K-1120H					○	SDI-C-N-1120H					○	SDI-PM-U-1120H					○
11.3	2.0	SDI-C-P-1130H					○	SDI-C-MS-1130H					○	SDI-C-K-1130H					○	SDI-C-N-1130H					○	SDI-PM-U-1130H					○
11.4	2.0	SDI-C-P-1140H					○	SDI-C-MS-1140H					○	SDI-C-K-1140H					○	SDI-C-N-1140H					○	SDI-PM-U-1140H					○

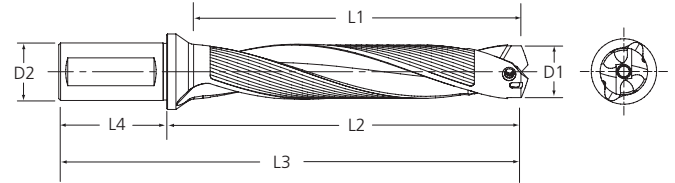
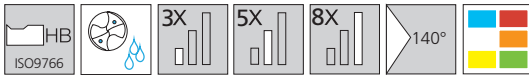
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Spare Parts

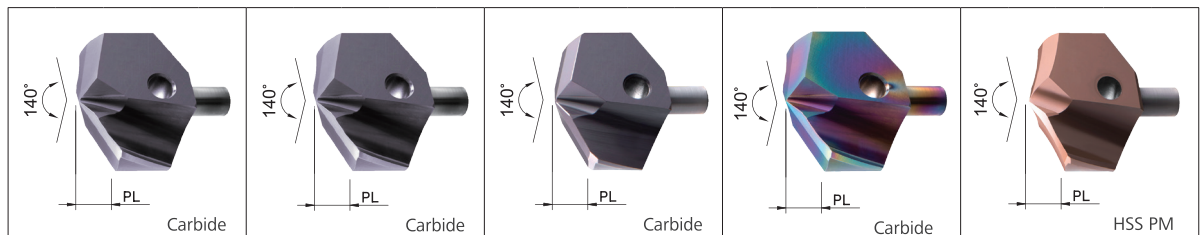
				Insert Screw		Torx Wrench	
Size	Torx Size	Nm	Tool Number	EDP	Tool Number	EDP	Tool Number
3D	6IP	0.6	SDH-11001149-03-F16	FS1174	SDA-M2X10-TP	FS1150	FH180-IP6
5D	6IP	0.6	SDH-11001149-05-F16	FS1174	SDA-M2X10-TP	FS1150	FH180-IP6
8D	6IP	0.6	SDH-11001149-08-F16	FS1174	SDA-M2X10-TP	FS1150	FH180-IP6

Interchangeable Insert Drill 11.5 - 11.99mm



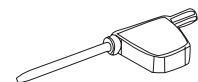
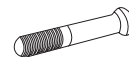
Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH1926	SDH-11501199-03-F16	11.5 - 11.99	16.0	36.0	54.0	102.0	48.0
5D	FH1927	SDH-11501199-05-F16	11.5 - 11.99	16.0	60.0	78.0	126.0	48.0
8D	FH1928	SDH-11501199-08-F16	11.5 - 11.99	16.0	96.0	114.0	162.0	48.0

Interchangeable Inserts



Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S					
		●	○	○			○	●				○			●						●		●	○	○	○					
		CPA					Stk	CMA					Stk	CKA					Stk	CNA					Stk	HPC					Stk
11.5	2.1	SDI-C-P-1150H					●	SDI-C-MS-1150H					○	SDI-C-K-1150H					○	SDI-C-N-1150H					○	SDI-PM-U-1150H					●
11.6	2.1	SDI-C-P-1160H					○	SDI-C-MS-1160H					○	SDI-C-K-1160H					○	SDI-C-N-1160H					○	SDI-PM-U-1160H					○
11.7	2.1	SDI-C-P-1170H					○	SDI-C-MS-1170H					○	SDI-C-K-1170H					○	SDI-C-N-1170H					○	SDI-PM-U-1170H					○
11.8	2.1	SDI-C-P-1180H					○	SDI-C-MS-1180H					○	SDI-C-K-1180H					○	SDI-C-N-1180H					○	SDI-PM-U-1180H					○
11.9	2.1	SDI-C-P-1190H					○	SDI-C-MS-1190H					○	SDI-C-K-1190H					○	SDI-C-N-1190H					○	SDI-PM-U-1190H					○

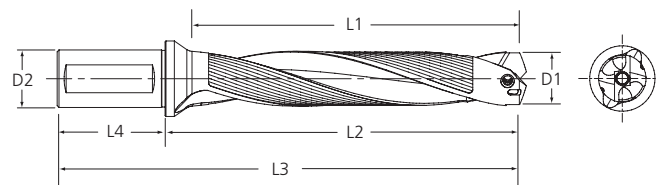
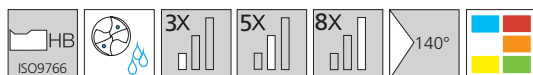
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Spare Parts

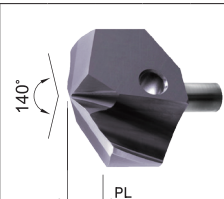
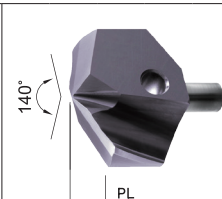
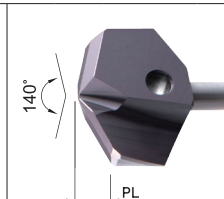
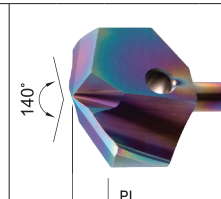
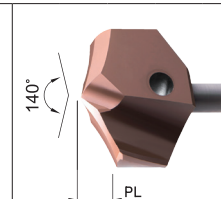
Size	Torx Size	Nm	Tool Number	Insert Screw		Torx Wrench	
				EDP	Tool Number	EDP	Tool Number
3D	6IP	0.6	SDH-11501199-03-F16	FS1174	SDA-M2X10-TP	FS1150	FH180-IP6
5D	6IP	0.6	SDH-11501199-05-F16	FS1174	SDA-M2X10-TP	FS1150	FH180-IP6
8D	6IP	0.6	SDH-11501199-08-F16	FS1174	SDA-M2X10-TP	FS1150	FH180-IP6

Interchangeable Insert Drill 12.0 - 12.49mm

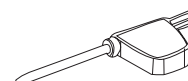
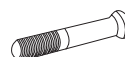


Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH1929	SDH-12001249-03-F16	12.0 - 12.49	16.0	37.5	57.0	105.0	48.0
5D	FH1930	SDH-12001249-05-F16	12.0 - 12.49	16.0	62.5	82.0	130.0	48.0
8D	FH1931	SDH-12001249-08-F16	12.0 - 12.49	16.0	100.0	119.0	167.0	48.0

Interchangeable Inserts

																															
		Carbide					Carbide					Carbide					Carbide					HSS PM									
Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S					
		●	○	○			○	●				○				●					●		●	○	○	○					
		CPA					Stk	CMA					Stk	CKA					Stk	CNA					Stk	HPC					Stk
12.0	2.2	SDI-C-P-1200H					●	SDI-C-MS-1200H					○	SDI-C-K-1200H					○	SDI-C-N-1200H					○	SDI-PM-U-1200H					●
12.1	2.2	SDI-C-P-1210H					○	SDI-C-MS-1210H					○	SDI-C-K-1210H					○	SDI-C-N-1210H					○	SDI-PM-U-1210H					○
12.2	2.2	SDI-C-P-1220H					○	SDI-C-MS-1220H					○	SDI-C-K-1220H					○	SDI-C-N-1220H					○	SDI-PM-U-1220H					○
12.3	2.2	SDI-C-P-1230H					○	SDI-C-MS-1230H					○	SDI-C-K-1230H					○	SDI-C-N-1230H					○	SDI-PM-U-1230H					○
12.4	2.2	SDI-C-P-1240H					○	SDI-C-MS-1240H					○	SDI-C-K-1240H					○	SDI-C-N-1240H					○	SDI-PM-U-1240H					○

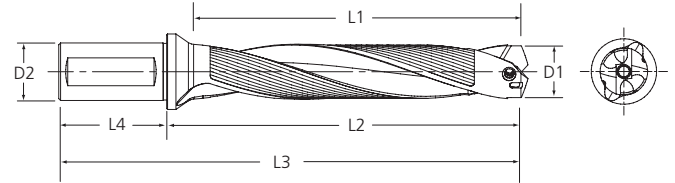
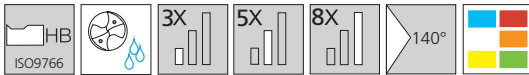
● Stocked ○ Check availability



Spare Parts

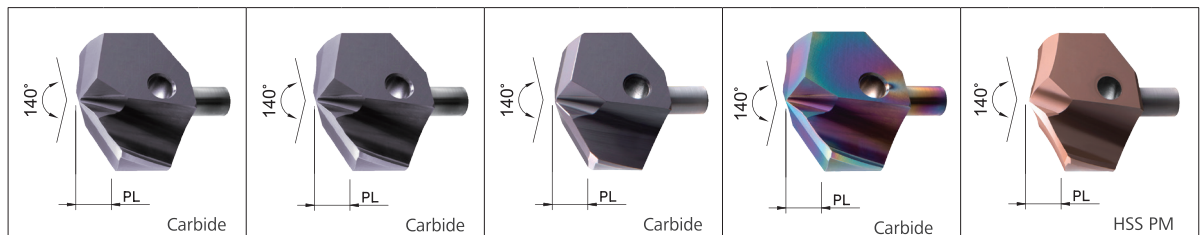
				Insert Screw		Torx Wrench	
Size	Torx Size	Nm	Tool Number	EDP	Tool Number	EDP	Tool Number
3D	6IP	0.6	SDH-12001249-03-F16	FS1174	SDA-M2X10-TP	FS1150	FH180-IP6
5D	6IP	0.6	SDH-12001249-05-F16	FS1174	SDA-M2X10-TP	FS1150	FH180-IP6
8D	6IP	0.6	SDH-12001249-08-F16	FS1174	SDA-M2X10-TP	FS1150	FH180-IP6

Interchangeable Insert Drill 12.5 - 12.99mm



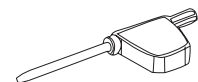
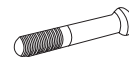
Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH1932	SDH-12501299-03-F16	12.5 - 12.99	16.0	39.0	59.0	107.0	48.0
5D	FH1933	SDH-12501299-05-F16	12.5 - 12.99	16.0	65.0	85.0	133.0	48.0
8D	FH1934	SDH-12501299-08-F16	12.5 - 12.99	16.0	104.0	124.0	172.0	48.0

Interchangeable Inserts



Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S					
		●	○	○			○	●			○			●							●		●	○	○	○					
		CPA					Stk	CMA					Stk	CKA					Stk	CNA					Stk	HPC					Stk
12.5	2.3	SDI-C-P-1250H					●	SDI-C-MS-1250H					●	SDI-C-K-1250H					○	SDI-C-N-1250H					○	SDI-PM-U-1250H					●
12.6	2.3	SDI-C-P-1260H					○	SDI-C-MS-1260H					○	SDI-C-K-1260H					○	SDI-C-N-1260H					○	SDI-PM-U-1260H					○
12.7	2.3	SDI-C-P-1270H					○	SDI-C-MS-1270H					○	SDI-C-K-1270H					○	SDI-C-N-1270H					○	SDI-PM-U-1270H					○
12.8	2.3	SDI-C-P-1280H					○	SDI-C-MS-1280H					○	SDI-C-K-1280H					○	SDI-C-N-1280H					○	SDI-PM-U-1280H					○
12.9	2.3	SDI-C-P-1290H					○	SDI-C-MS-1290H					○	SDI-C-K-1290H					○	SDI-C-N-1290H					○	SDI-PM-U-1290H					○

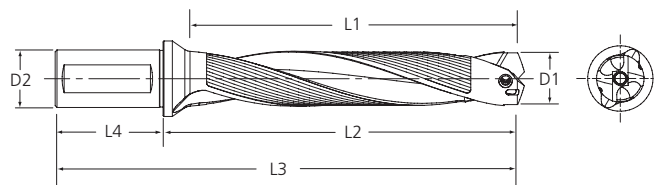
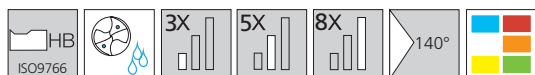
● Stocked ○ Check availability



Spare Parts

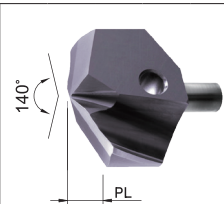
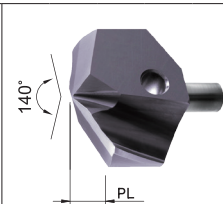
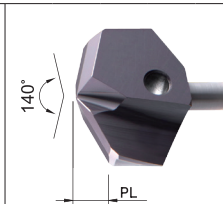
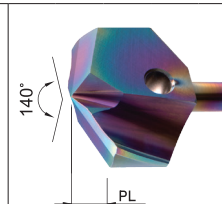
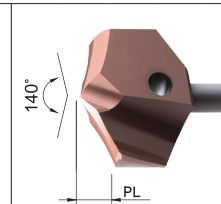
Size	Torx Size	Nm	Tool Number	Insert Screw		Torx Wrench	
				EDP	Tool Number	EDP	Tool Number
3D	6IP	0.6	SDH-12501299-03-F16	FS1175	SDA-M2X11.5-TP	FS1150	FH180-IP6
5D	6IP	0.6	SDH-12501299-05-F16	FS1175	SDA-M2X11.5-TP	FS1150	FH180-IP6
8D	6IP	0.6	SDH-12501299-08-F16	FS1175	SDA-M2X11.5-TP	FS1150	FH180-IP6

Interchangeable Insert Drill 13.0 - 13.49mm

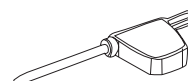
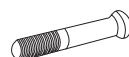


Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH1935	SDH-13001349-03-F16	13.0 - 13.49	16.0	40.5	61.0	107.0	48.0
5D	FH1936	SDH-13001349-05-F16	13.0 - 13.49	16.0	67.5	88.0	133.0	48.0
8D	FH1937	SDH-13001349-08-F16	13.0 - 13.49	16.0	108.0	128.0	172.0	48.0

Interchangeable Inserts

																															
		Carbide					Carbide					Carbide					Carbide					HSS PM									
Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S					
		●	○	○			○	●				○			●						●			●	○	○	○				
		CPA					Stk	CMA					Stk	CKA					Stk	CNA					Stk	HPC					Stk
13.0	2.4	SDI-C-P-1300H					●	SDI-C-MS-1300H					○	SDI-C-K-1300H					○	SDI-C-N-1300H					○	SDI-PM-U-1300H					●
13.1	2.4	SDI-C-P-1310H					○	SDI-C-MS-1310H					○	SDI-C-K-1310H					○	SDI-C-N-1310H					○	SDI-PM-U-1310H					○
13.2	2.4	SDI-C-P-1320H					○	SDI-C-MS-1320H					○	SDI-C-K-1320H					○	SDI-C-N-1320H					○	SDI-PM-U-1320H					○
13.3	2.4	SDI-C-P-1330H					○	SDI-C-MS-1330H					○	SDI-C-K-1330H					○	SDI-C-N-1330H					○	SDI-PM-U-1330H					○
13.4	2.4	SDI-C-P-1340H					○	SDI-C-MS-1340H					○	SDI-C-K-1340H					○	SDI-C-N-1340H					○	SDI-PM-U-1340H					○

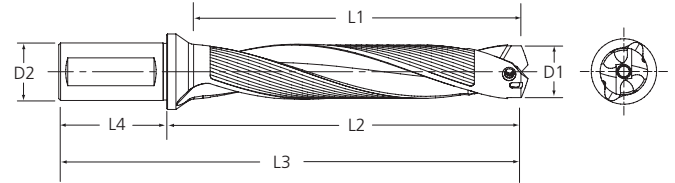
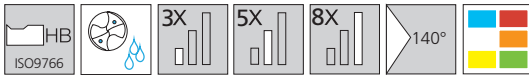
● Stocked ○ Check availability



Spare Parts

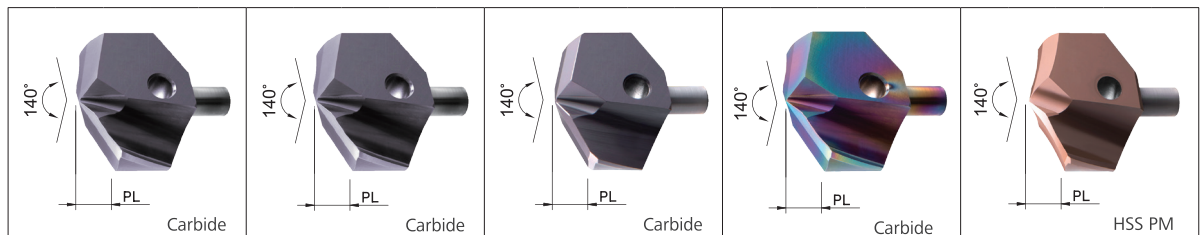
				Insert Screw		Torx Wrench	
Size	Torx Size	Nm	Tool Number	EDP	Tool Number	EDP	Tool Number
3D	6IP	0.6	SDH-13001349-03-F16	FS1175	SDA-M2X11.5-TP	FS1150	FH180-IP6
5D	6IP	0.6	SDH-13001349-05-F16	FS1175	SDA-M2X11.5-TP	FS1150	FH180-IP6
8D	6IP	0.6	SDH-13001349-08-F16	FS1175	SDA-M2X11.5-TP	FS1150	FH180-IP6

Interchangeable Insert Drill 13.5 - 13.99mm



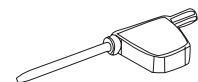
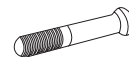
Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH1938	SDH-13501399-03-F16	13.5 - 13.99	16.0	40.5	63.0	111.0	48.0
5D	FH1939	SDH-13501399-05-F16	13.5 - 13.99	16.0	67.5	91.0	139.0	48.0
8D	FH1940	SDH-13501399-08-F16	13.5 - 13.99	16.0	108.0	133.0	181.0	48.0

Interchangeable Inserts



Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	
		●	○	○			○	●			○			●							●		●	○	○	○	
		CPA				Stk	CMA				Stk	CKA				Stk	CNA				Stk	HPC				Stk	
13.5	2.5	SDI-C-P-1350H				●	SDI-C-MS-1350H				○	SDI-C-K-1350H				○	SDI-C-N-1350H				○	SDI-PM-U-1350H				●	
13.6	2.5	SDI-C-P-1360H				○	SDI-C-MS-1360H				○	SDI-C-K-1360H				○	SDI-C-N-1360H				○	SDI-PM-U-1360H				○	
13.7	2.5	SDI-C-P-1370H				○	SDI-C-MS-1370H				○	SDI-C-K-1370H				○	SDI-C-N-1370H				○	SDI-PM-U-1370H				○	
13.8	2.5	SDI-C-P-1380H				○	SDI-C-MS-1380H				○	SDI-C-K-1380H				○	SDI-C-N-1380H				○	SDI-PM-U-1380H				○	
13.9	2.5	SDI-C-P-1390H				○	SDI-C-MS-1390H				○	SDI-C-K-1390H				○	SDI-C-N-1390H				○	SDI-PM-U-1390H				○	

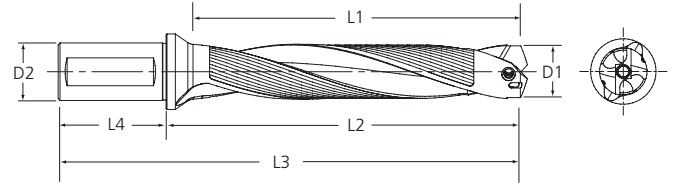
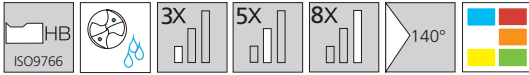
● Stocked ○ Check availability



Spare Parts

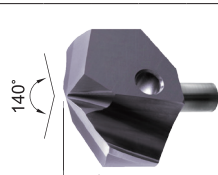
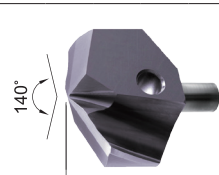
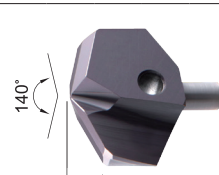
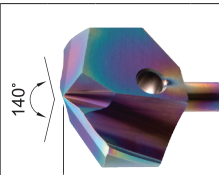
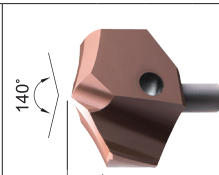
Size	Torx Size	Nm	Tool Number	Insert Screw		Torx Wrench	
				EDP	Tool Number	EDP	Tool Number
3D	6IP	0.6	SDH-13501399-03-F16	FS1175	SDA-M2X11.5-TP	FS1150	FH180-IP6
5D	6IP	0.6	SDH-13501399-05-F16	FS1175	SDA-M2X11.5-TP	FS1150	FH180-IP6
8D	6IP	0.6	SDH-13501399-08-F16	FS1175	SDA-M2X11.5-TP	FS1150	FH180-IP6

Interchangeable Insert Drill 14.0 - 14.49mm

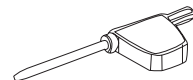
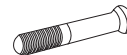


Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH1941	SDH-14001449-03-F16	14.0 - 14.49	16.0	43.5	65.0	113.0	48.0
5D	FH1942	SDH-14001449-05-F16	14.0 - 14.49	16.0	72.5	94.0	142.0	48.0
8D	FH1943	SDH-14001449-08-F16	14.0 - 14.49	16.0	116.0	138.0	186.0	48.0

Interchangeable Inserts

																															
		Carbide					Carbide					Carbide					Carbide					HSS PM									
Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S					
		●	○	○			○	●				○			●					●				●	○	○	○				
		CPA					Stk	CMA					Stk	CKA					Stk	CNA					Stk	HPC					Stk
14.0	2.5	SDI-C-P-1400H					●	SDI-C-MS-1400H					●	SDI-C-K-1400H					○	SDI-C-N-1400H					○	SDI-PM-U-1400H					●
14.1	2.5	SDI-C-P-1410H					○	SDI-C-MS-1410H					○	SDI-C-K-1410H					○	SDI-C-N-1410H					○	SDI-PM-U-1410H					○
14.2	2.5	SDI-C-P-1420H					○	SDI-C-MS-1420H					○	SDI-C-K-1420H					○	SDI-C-N-1420H					○	SDI-PM-U-1420H					○
14.3	2.5	SDI-C-P-1430H					○	SDI-C-MS-1430H					○	SDI-C-K-1430H					○	SDI-C-N-1430H					○	SDI-PM-U-1430H					○
14.4	2.5	SDI-C-P-1440H					○	SDI-C-MS-1440H					○	SDI-C-K-1440H					○	SDI-C-N-1440H					○	SDI-PM-U-1440H					○

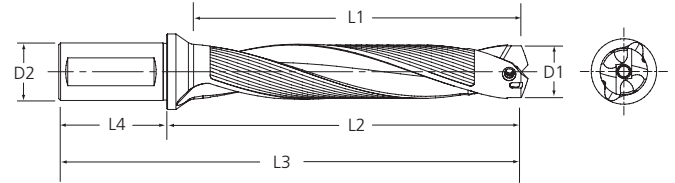
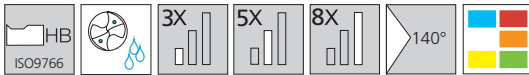
● Stocked ○ Check availability



Spare Parts

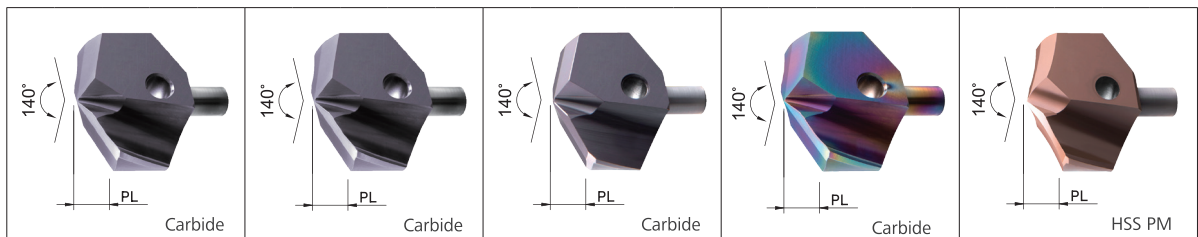
				Insert Screw		Torx Wrench	
Size	Torx Size	Nm	Tool Number	EDP	Tool Number	EDP	Tool Number
3D	7IP	1.2	SDH-14001449-03-F16	FS1172	SDA-M2.5X13-TP	FS1151	FH180-IP7
5D	7IP	1.2	SDH-14001449-05-F16	FS1172	SDA-M2.5X13-TP	FS1151	FH180-IP7
8D	7IP	1.2	SDH-14001449-08-F16	FS1172	SDA-M2.5X13-TP	FS1151	FH180-IP7

Interchangeable Insert Drill 14.5 - 14.99mm



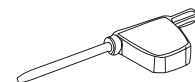
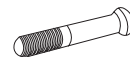
Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH1944	SDH-14501499-03-F16	14.5 - 14.99	16.0	45.0	67.0	115.0	48.0
5D	FH1945	SDH-14501499-05-F16	14.5 - 14.99	16.0	75.0	97.0	145.0	48.0
8D	FH1946	SDH-14501499-08-F16	14.5 - 14.99	16.0	120.0	142.0	190.0	48.0

Interchangeable Inserts



Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S					
		●	○	○			○	●			○			●							●		●	○	○	○					
		CPA					Stk	CMA					Stk	CKA					Stk	CNA					Stk	HPC					Stk
14.5	2.6	SDI-C-P-1450H					●	SDI-C-MS-1450H					○	SDI-C-K-1450H					○	SDI-C-N-1450H					○	SDI-PM-U-1450H					●
14.6	2.6	SDI-C-P-1460H					○	SDI-C-MS-1460H					○	SDI-C-K-1460H					○	SDI-C-N-1460H					○	SDI-PM-U-1460H					○
14.7	2.6	SDI-C-P-1470H					○	SDI-C-MS-1470H					○	SDI-C-K-1470H					○	SDI-C-N-1470H					○	SDI-PM-U-1470H					○
14.8	2.6	SDI-C-P-1480H					○	SDI-C-MS-1480H					○	SDI-C-K-1480H					○	SDI-C-N-1480H					○	SDI-PM-U-1480H					○
14.9	2.6	SDI-C-P-1490H					○	SDI-C-MS-1490H					○	SDI-C-K-1490H					○	SDI-C-N-1490H					○	SDI-PM-U-1490H					○

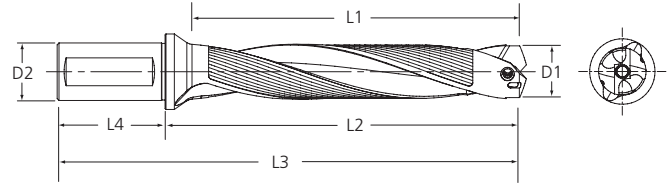
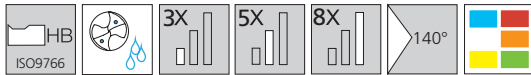
● Stocked ○ Check availability



Spare Parts

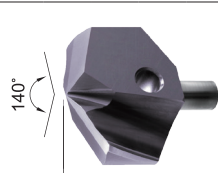
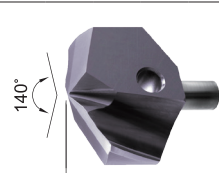
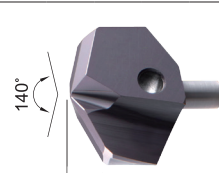
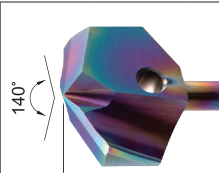
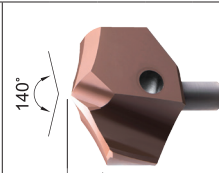
Size	Torx Size	Nm	Tool Number	Insert Screw		Torx Wrench	
				EDP	Tool Number	EDP	Tool Number
3D	7IP	1.2	SDH-14501499-03-F16	FS1172	SDA-M2.5X13-TP	FS1151	FH180-IP7
5D	7IP	1.2	SDH-14501499-05-F16	FS1172	SDA-M2.5X13-TP	FS1151	FH180-IP7
8D	7IP	1.2	SDH-14501499-08-F16	FS1172	SDA-M2.5X13-TP	FS1151	FH180-IP7

Interchangeable Insert Drill 15.0 - 15.99mm

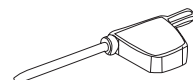
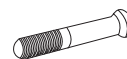


Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH1947	SDH-15001599-03-F20	15.0 - 15.99	20.0	48.0	72.0	122.0	50.0
5D	FH1948	SDH-15001599-05-F20	15.0 - 15.99	20.0	80.0	104.0	154.0	50.0
8D	FH1949	SDH-15001599-08-F20	15.0 - 15.99	20.0	128.0	152.0	202.0	50.0

Interchangeable Inserts

																											
		Carbide					Carbide					Carbide					Carbide					HSS PM					
Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	
		●	○	○			○	●				○			●			●			●		●	○	○	○	
		CPA				Stk	CMA				Stk	CKA				Stk	CNA				Stk	HPC				Stk	
15.0	2.7	SDI-C-P-1500H				●	SDI-C-MS-1500H				○	SDI-C-K-1500H				○	SDI-C-N-1500H				○	SDI-PM-U-1500H				●	
15.1	2.7	SDI-C-P-1510H				○	SDI-C-MS-1510H				○	SDI-C-K-1510H				○	SDI-C-N-1510H				○	SDI-PM-U-1510H				○	
15.2	2.7	SDI-C-P-1520H				○	SDI-C-MS-1520H				○	SDI-C-K-1520H				○	SDI-C-N-1520H				○	SDI-PM-U-1520H				○	
15.3	2.7	SDI-C-P-1530H				○	SDI-C-MS-1530H				○	SDI-C-K-1530H				○	SDI-C-N-1530H				○	SDI-PM-U-1530H				○	
15.4	2.7	SDI-C-P-1540H				○	SDI-C-MS-1540H				○	SDI-C-K-1540H				○	SDI-C-N-1540H				○	SDI-PM-U-1540H				○	
15.5	2.8	SDI-C-P-1550H				●	SDI-C-MS-1550H				○	SDI-C-K-1550H				○	SDI-C-N-1550H				○	SDI-PM-U-1550H				●	
15.6	2.8	SDI-C-P-1560H				○	SDI-C-MS-1560H				○	SDI-C-K-1560H				○	SDI-C-N-1560H				○	SDI-PM-U-1560H				○	
15.7	2.8	SDI-C-P-1570H				○	SDI-C-MS-1570H				○	SDI-C-K-1570H				○	SDI-C-N-1570H				○	SDI-PM-U-1570H				○	
15.8	2.8	SDI-C-P-1580H				○	SDI-C-MS-1580H				○	SDI-C-K-1580H				○	SDI-C-N-1580H				○	SDI-PM-U-1580H				○	
15.9	2.8	SDI-C-P-1590H				○	SDI-C-MS-1590H				○	SDI-C-K-1590H				○	SDI-C-N-1590H				○	SDI-PM-U-1590H				○	

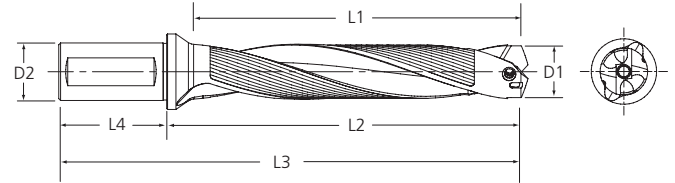
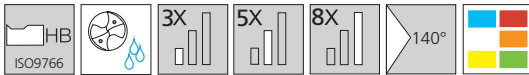
● Stocked ○ Check availability



Spare Parts

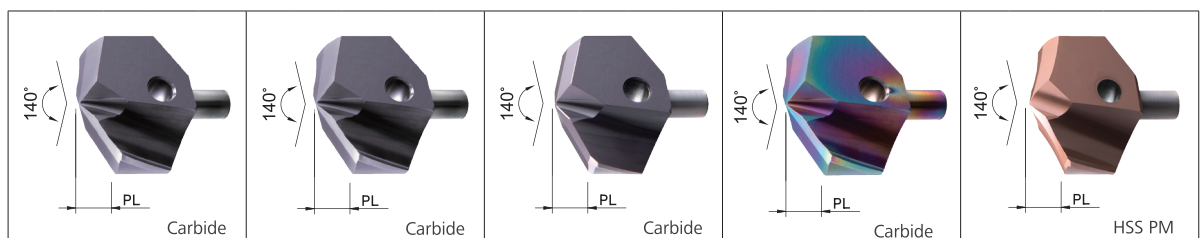
Size	Torx Size	Nm	Tool Number	Insert Screw		Torx Wrench	
				EDP	Tool Number	EDP	Tool Number
3D	7IP	1.2	SDH-15001599-03-F20	FS1172	SDA-M2.5X13-TP	FS1151	FH180-IP7
5D	7IP	1.2	SDH-15001599-05-F20	FS1172	SDA-M2.5X13-TP	FS1151	FH180-IP7
8D	7IP	1.2	SDH-15001599-08-F20	FS1172	SDA-M2.5X13-TP	FS1151	FH180-IP7

Interchangeable Insert Drill 16.0 - 16.99mm



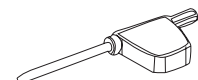
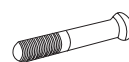
Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH1950	SDH-16001699-03-F20	16.0 - 16.99	20.0	51.0	77.0	127.0	50.0
5D	FH1951	SDH-16001699-05-F20	16.0 - 16.99	20.0	85.0	111.0	161.0	50.0
8D	FH1952	SDH-16001699-08-F20	16.0 - 16.99	20.0	140.0	162.0	212.0	50.0

Interchangeable Inserts



Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S					
		●	○	○			○	●				○			●							●		●	○	○	○				
		CPA					Stk	CMA					Stk	CKA					Stk	CNA					Stk	HPC					Stk
16.0	3.1	SDI-C-P-1600H					●	SDI-C-MS-1600H					●	SDI-C-K-1600H					○	SDI-C-N-1600H					○	SDI-PM-U-1600H					●
16.1	3.1	SDI-C-P-1610H					○	SDI-C-MS-1610H					○	SDI-C-K-1610H					○	SDI-C-N-1610H					○	SDI-PM-U-1610H					○
16.2	3.1	SDI-C-P-1620H					○	SDI-C-MS-1620H					○	SDI-C-K-1620H					○	SDI-C-N-1620H					○	SDI-PM-U-1620H					○
16.3	3.1	SDI-C-P-1630H					○	SDI-C-MS-1630H					○	SDI-C-K-1630H					○	SDI-C-N-1630H					○	SDI-PM-U-1630H					○
16.4	3.1	SDI-C-P-1640H					○	SDI-C-MS-1640H					○	SDI-C-K-1640H					○	SDI-C-N-1640H					○	SDI-PM-U-1640H					○
16.5	3.2	SDI-C-P-1650H					●	SDI-C-MS-1650H					●	SDI-C-K-1650H					○	SDI-C-N-1650H					○	SDI-PM-U-1650H					●
16.6	3.2	SDI-C-P-1660H					○	SDI-C-MS-1660H					○	SDI-C-K-1660H					○	SDI-C-N-1660H					○	SDI-PM-U-1660H					○
16.7	3.2	SDI-C-P-1670H					○	SDI-C-MS-1670H					○	SDI-C-K-1670H					○	SDI-C-N-1670H					○	SDI-PM-U-1670H					○
16.8	3.2	SDI-C-P-1680H					○	SDI-C-MS-1680H					○	SDI-C-K-1680H					○	SDI-C-N-1680H					○	SDI-PM-U-1680H					○
16.9	3.2	SDI-C-P-1690H					○	SDI-C-MS-1690H					○	SDI-C-K-1690H					○	SDI-C-N-1690H					○	SDI-PM-U-1690H					○

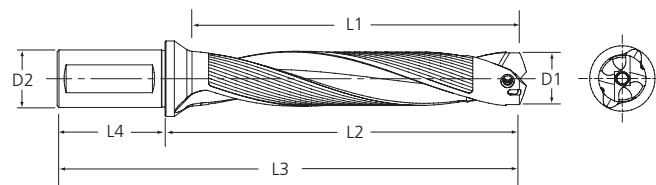
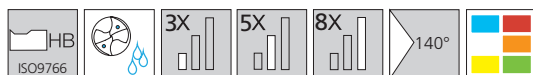
● Stocked ○ Check availability



Spare Parts

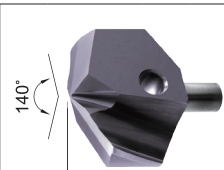
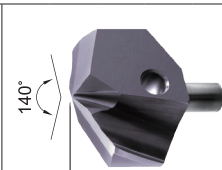
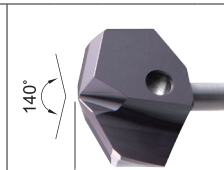
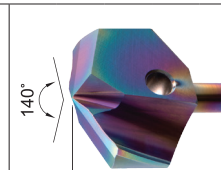
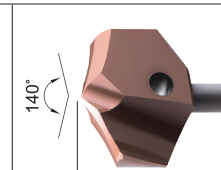
Size	Torx Size	Nm	Tool Number	Insert Screw		Torx Wrench	
				EDP	Tool Number	EDP	Tool Number
3D	7IP	1.2	SDH-16001699-03-F20	FS1173	SDA-M2.5X15-TP	FS1151	FH180-IP7
5D	7IP	1.2	SDH-16001699-05-F20	FS1173	SDA-M2.5X15-TP	FS1151	FH180-IP7
8D	7IP	1.2	SDH-16001699-08-F20	FS1173	SDA-M2.5X15-TP	FS1151	FH180-IP7

Interchangeable Insert Drill 17.0 - 17.99mm

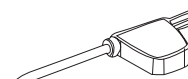
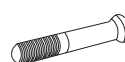


Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH1953	SDH-17001799-03-F20	17.0 - 17.99	20.0	54.0	81.0	131.0	50.0
5D	FH1954	SDH-17001799-05-F20	17.0 - 17.99	20.0	90.0	117.0	167.0	50.0
8D	FH1955	SDH-17001799-08-F20	17.0 - 17.99	20.0	144.0	171.0	221.0	50.0

Interchangeable Inserts

		 Carbide					 Carbide					 Carbide					 Carbide					 HSS PM									
Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S					
		●	○	○			○	●				○			●						●			●	○	○	○				
		CPA					Stk	CMA					Stk	CKA					Stk	CNA					Stk	HPC					Stk
17.0	3.1	SDI-C-P-1700H					●	SDI-C-MS-1700H					●	SDI-C-K-1700H					○	SDI-C-N-1700H					○	SDI-PM-U-1700H					●
17.1	3.1	SDI-C-P-1710H					○	SDI-C-MS-1710H					○	SDI-C-K-1710H					○	SDI-C-N-1710H					○	SDI-PM-U-1710H					○
17.2	3.1	SDI-C-P-1720H					○	SDI-C-MS-1720H					○	SDI-C-K-1720H					○	SDI-C-N-1720H					○	SDI-PM-U-1720H					○
17.3	3.1	SDI-C-P-1730H					●	SDI-C-MS-1730H					○	SDI-C-K-1730H					●	SDI-C-N-1730H					○	SDI-PM-U-1730H					○
17.4	3.1	SDI-C-P-1740H					○	SDI-C-MS-1740H					○	SDI-C-K-1740H					○	SDI-C-N-1740H					○	SDI-PM-U-1740H					○
17.5	3.2	SDI-C-P-1750H					●	SDI-C-MS-1750H					●	SDI-C-K-1750H					○	SDI-C-N-1750H					○	SDI-PM-U-1750H					●
17.6	3.2	SDI-C-P-1760H					○	SDI-C-MS-1760H					○	SDI-C-K-1760H					○	SDI-C-N-1760H					○	SDI-PM-U-1760H					○
17.7	3.2	SDI-C-P-1770H					○	SDI-C-MS-1770H					○	SDI-C-K-1770H					○	SDI-C-N-1770H					○	SDI-PM-U-1770H					○
17.8	3.2	SDI-C-P-1780H					○	SDI-C-MS-1780H					○	SDI-C-K-1780H					○	SDI-C-N-1780H					○	SDI-PM-U-1780H					○
17.9	3.2	SDI-C-P-1790H					○	SDI-C-MS-1790H					○	SDI-C-K-1790H					○	SDI-C-N-1790H					○	SDI-PM-U-1790H					○

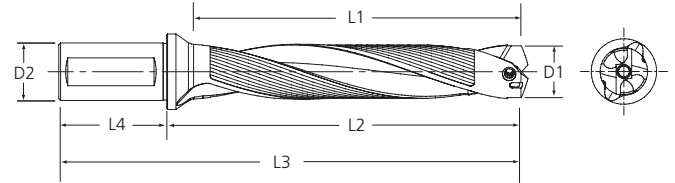
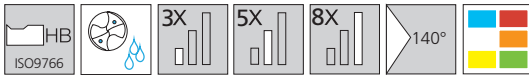
● Stocked ○ Check availability



Spare Parts

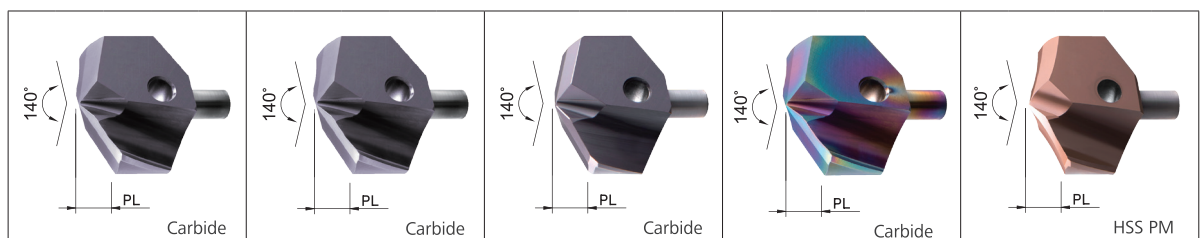
Size	Torx Size	Nm	Tool Number	Insert Screw		Torx Wrench	
				EDP	Tool Number	EDP	Tool Number
3D	7IP	1.2	SDH-17001799-03-F20	FS1173	SDA-M2.5X15-TP	FS1151	FH180-IP7
5D	7IP	1.2	SDH-17001799-05-F20	FS1173	SDA-M2.5X15-TP	FS1151	FH180-IP7
8D	7IP	1.2	SDH-17001799-08-F20	FS1173	SDA-M2.5X15-TP	FS1151	FH180-IP7

Interchangeable Insert Drill 18.0 - 18.99mm



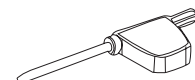
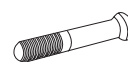
Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH1956	SDH-18001899-03-F25	18.0 - 18.99	25.0	57.0	85.0	141.0	56.0
5D	FH1957	SDH-18001899-05-F25	18.0 - 18.99	25.0	95.0	123.0	179.0	56.0
8D	FH1958	SDH-18001899-08-F25	18.0 - 18.99	25.0	152.0	180.0	236.0	56.0

Interchangeable Inserts



Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S
		●	○	○			○	●						●					●			●	○	○	○	
		CPA					CMA					CKA					CNA					HPC				
18.0	3.3	SDI-C-P-1800H	●				SDI-C-MS-1800H	○				SDI-C-K-1800H	○				SDI-C-N-1800H	○				SDI-PM-U-1800H	●			
18.1	3.3	SDI-C-P-1810H	○				SDI-C-MS-1810H	○				SDI-C-K-1810H	○				SDI-C-N-1810H	○				SDI-PM-U-1810H	○			
18.2	3.3	SDI-C-P-1820H	○				SDI-C-MS-1820H	○				SDI-C-K-1820H	○				SDI-C-N-1820H	○				SDI-PM-U-1820H	○			
18.3	3.3	SDI-C-P-1830H	●				SDI-C-MS-1830H	○				SDI-C-K-1830H	○				SDI-C-N-1830H	○				SDI-PM-U-1830H	○			
18.4	3.3	SDI-C-P-1840H	○				SDI-C-MS-1840H	○				SDI-C-K-1840H	○				SDI-C-N-1840H	○				SDI-PM-U-1840H	○			
18.5	3.4	SDI-C-P-1850H	●				SDI-C-MS-1850H	○				SDI-C-K-1850H	○				SDI-C-N-1850H	○				SDI-PM-U-1850H	●			
18.6	3.4	SDI-C-P-1860H	○				SDI-C-MS-1860H	○				SDI-C-K-1860H	○				SDI-C-N-1860H	○				SDI-PM-U-1860H	○			
18.7	3.4	SDI-C-P-1870H	○				SDI-C-MS-1870H	○				SDI-C-K-1870H	○				SDI-C-N-1870H	○				SDI-PM-U-1870H	○			
18.8	3.4	SDI-C-P-1880H	●				SDI-C-MS-1880H	○				SDI-C-K-1880H	○				SDI-C-N-1880H	○				SDI-PM-U-1880H	○			
18.9	3.4	SDI-C-P-1890H	○				SDI-C-MS-1890H	○				SDI-C-K-1890H	○				SDI-C-N-1890H	○				SDI-PM-U-1890H	○			

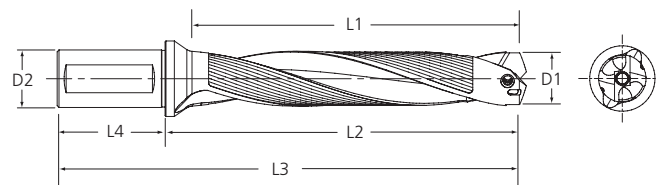
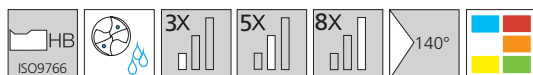
● Stocked ○ Check availability



Spare Parts

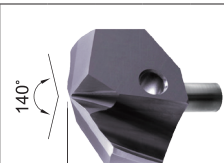
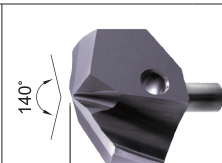
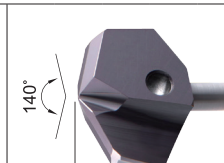
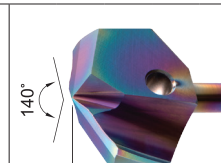
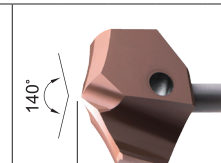
Size	Torx Size	Nm	Tool Number	Insert Screw		Torx Wrench	
				EDP	Tool Number	EDP	Tool Number
3D	9IP	2.2	SDH-18001899-03-F25	FS1179	SDA-M3X16-TP	FS1153	FH180-IP9
5D	9IP	2.2	SDH-18001899-05-F25	FS1179	SDA-M3X16-TP	FS1153	FH180-IP9
8D	9IP	2.2	SDH-18001899-08-F25	FS1179	SDA-M3X16-TP	FS1153	FH180-IP9

Interchangeable Insert Drill 19.0 - 19.99mm

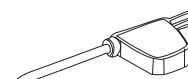
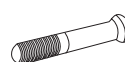


Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH1959	SDH-19001999-03-F25	19.0 - 19.99	25.0	60.0	90.0	146.0	56.0
5D	FH1960	SDH-19001999-05-F25	19.0 - 19.99	25.0	100.0	130.0	186.0	56.0
8D	FH1961	SDH-19001999-08-F25	19.0 - 19.99	25.0	160.0	190.0	246.0	56.0

Interchangeable Inserts

		 Carbide					 Carbide					 Carbide					 Carbide					 HSS PM									
Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S					
		●	○	○			○	●				○			●						●			●	○	○	○				
		CPA					Stk	CMA					Stk	CKA					Stk	CNA					Stk	HPC					Stk
19.0	3.5	SDI-C-P-1900H					●	SDI-C-MS-1900H					○	SDI-C-K-1900H					○	SDI-C-N-1900H					○	SDI-PM-U-1900H					●
19.1	3.5	SDI-C-P-1910H					○	SDI-C-MS-1910H					○	SDI-C-K-1910H					○	SDI-C-N-1910H					○	SDI-PM-U-1910H					○
19.2	3.5	SDI-C-P-1920H					○	SDI-C-MS-1920H					○	SDI-C-K-1920H					○	SDI-C-N-1920H					○	SDI-PM-U-1920H					○
19.3	3.5	SDI-C-P-1930H					○	SDI-C-MS-1930H					○	SDI-C-K-1930H					○	SDI-C-N-1930H					○	SDI-PM-U-1930H					○
19.4	3.5	SDI-C-P-1940H					○	SDI-C-MS-1940H					○	SDI-C-K-1940H					○	SDI-C-N-1940H					○	SDI-PM-U-1940H					○
19.5	3.5	SDI-C-P-1950H					●	SDI-C-MS-1950H					○	SDI-C-K-1950H					○	SDI-C-N-1950H					○	SDI-PM-U-1950H					●
19.6	3.5	SDI-C-P-1960H					○	SDI-C-MS-1960H					○	SDI-C-K-1960H					○	SDI-C-N-1960H					○	SDI-PM-U-1960H					○
19.7	3.5	SDI-C-P-1970H					○	SDI-C-MS-1970H					○	SDI-C-K-1970H					○	SDI-C-N-1970H					○	SDI-PM-U-1970H					○
19.8	3.5	SDI-C-P-1980H					○	SDI-C-MS-1980H					○	SDI-C-K-1980H					○	SDI-C-N-1980H					○	SDI-PM-U-1980H					○
19.9	3.5	SDI-C-P-1990H					○	SDI-C-MS-1990H					○	SDI-C-K-1990H					○	SDI-C-N-1990H					○	SDI-PM-U-1990H					○

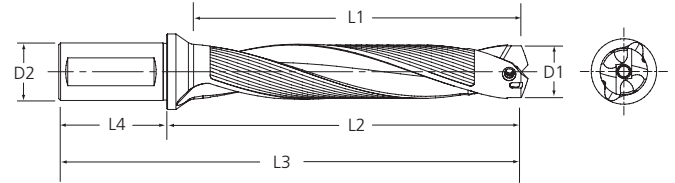
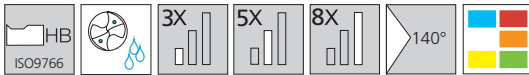
● Stocked ○ Check availability



Spare Parts

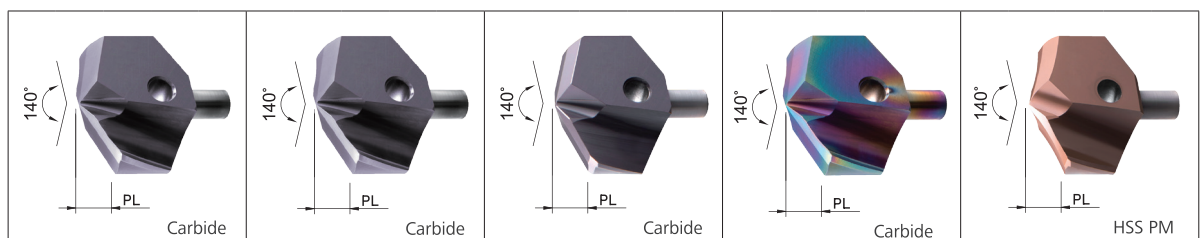
Size	Torx Size	Nm	Tool Number	Insert Screw		Torx Wrench	
				EDP	Tool Number	EDP	Tool Number
3D	9IP	2.2	SDH-19001999-03-F25	FS1180	SDA-M3X17-TP	FS1153	FH180-IP9
5D	9IP	2.2	SDH-19001999-05-F25	FS1180	SDA-M3X17-TP	FS1153	FH180-IP9
8D	9IP	2.2	SDH-19001999-08-F25	FS1180	SDA-M3X17-TP	FS1153	FH180-IP9

Interchangeable Insert Drill 20.0 - 20.99mm



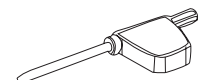
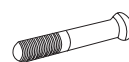
Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH1962	SDH-20002099-03-F25	20.0 - 20.99	25.0	63.0	94.0	150.0	56.0
5D	FH1963	SDH-20002099-05-F25	20.0 - 20.99	25.0	105.0	136.0	192.0	56.0
8D	FH1964	SDH-20002099-08-F25	20.0 - 20.99	25.0	168.0	199.0	255.0	56.0

Interchangeable Inserts



Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S					
		●	○	○			○	●				○			●							●		●	○	○	○				
		CPA					Stk	CMA					Stk	CKA					Stk	CNA					Stk	HPC					Stk
20.0	3.6	SDI-C-P-2000H					●	SDI-C-MS-2000H					○	SDI-C-K-2000H					○	SDI-C-N-2000H					○	SDI-PM-U-2000H					●
20.1	3.6	SDI-C-P-2010H					○	SDI-C-MS-2010H					○	SDI-C-K-2010H					○	SDI-C-N-2010H					○	SDI-PM-U-2010H					○
20.2	3.6	SDI-C-P-2020H					○	SDI-C-MS-2020H					○	SDI-C-K-2020H					○	SDI-C-N-2020H					○	SDI-PM-U-2020H					○
20.3	3.6	SDI-C-P-2030H					○	SDI-C-MS-2030H					○	SDI-C-K-2030H					○	SDI-C-N-2030H					○	SDI-PM-U-2030H					○
20.4	3.6	SDI-C-P-2040H					●	SDI-C-MS-2040H					○	SDI-C-K-2040H					○	SDI-C-N-2040H					○	SDI-PM-U-2040H					○
20.5	3.7	SDI-C-P-2050H					●	SDI-C-MS-2050H					○	SDI-C-K-2050H					○	SDI-C-N-2050H					○	SDI-PM-U-2050H					●
20.6	3.7	SDI-C-P-2060H					○	SDI-C-MS-2060H					○	SDI-C-K-2060H					○	SDI-C-N-2060H					○	SDI-PM-U-2060H					○
20.7	3.7	SDI-C-P-2070H					○	SDI-C-MS-2070H					○	SDI-C-K-2070H					○	SDI-C-N-2070H					○	SDI-PM-U-2070H					○
20.8	3.7	SDI-C-P-2080H					○	SDI-C-MS-2080H					○	SDI-C-K-2080H					○	SDI-C-N-2080H					○	SDI-PM-U-2080H					○
20.9	3.7	SDI-C-P-2090H					○	SDI-C-MS-2090H					○	SDI-C-K-2090H					○	SDI-C-N-2090H					○	SDI-PM-U-2090H					○

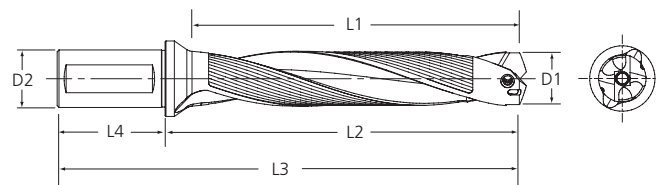
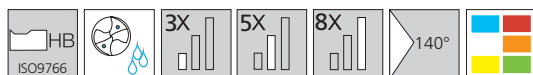
● Stocked ○ Check availability



Spare Parts

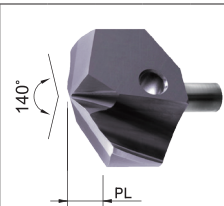
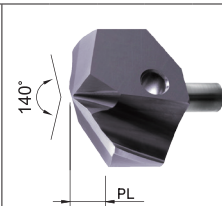
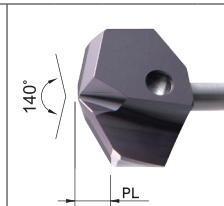
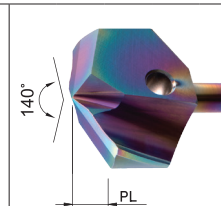
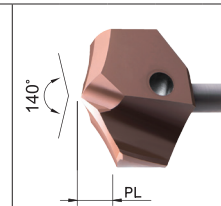
Size	Torx Size	Nm	Tool Number	Insert Screw		Torx Wrench	
				EDP	Tool Number	EDP	Tool Number
3D	9IP	2.2	SDH-20002099-03-F25	FS1180	SDA-M3X17-TP	FS1153	FH180-IP9
5D	9IP	2.2	SDH-20002099-05-F25	FS1180	SDA-M3X17-TP	FS1153	FH180-IP9
8D	9IP	2.2	SDH-20002099-08-F25	FS1180	SDA-M3X17-TP	FS1153	FH180-IP9

Interchangeable Insert Drill 21.0 - 21.99mm

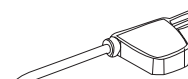
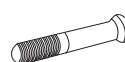


Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH1965	SDH-21002199-03-F25	21.0 - 21.99	25.0	66.0	98.0	154.0	56.0
5D	FH1966	SDH-21002199-05-F25	21.0 - 21.99	25.0	110.0	142.0	198.0	56.0
8D	FH1967	SDH-21002199-08-F25	21.0 - 21.99	25.0	176.0	208.0	264.0	56.0

Interchangeable Inserts

																															
		Carbide					Carbide					Carbide					Carbide					HSS PM									
Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S					
		●	○	○			○	●				○			●						●			●	○	○	○				
		CPA					Stk	CMA					Stk	CKA					Stk	CNA					Stk	HPC					Stk
21.0	3.8	SDI-C-P-2100H					●	SDI-C-MS-2100H					○	SDI-C-K-2100H					○	SDI-C-N-2100H					○	SDI-PM-U-2100H					●
21.1	3.8	SDI-C-P-2110H					○	SDI-C-MS-2110H					○	SDI-C-K-2110H					○	SDI-C-N-2110H					○	SDI-PM-U-2110H					○
21.2	3.8	SDI-C-P-2120H					○	SDI-C-MS-2120H					○	SDI-C-K-2120H					○	SDI-C-N-2120H					○	SDI-PM-U-2120H					○
21.3	3.8	SDI-C-P-2130H					○	SDI-C-MS-2130H					○	SDI-C-K-2130H					○	SDI-C-N-2130H					○	SDI-PM-U-2130H					○
21.4	3.8	SDI-C-P-2140H					○	SDI-C-MS-2140H					○	SDI-C-K-2140H					○	SDI-C-N-2140H					○	SDI-PM-U-2140H					○
21.5	3.9	SDI-C-P-2150H					●	SDI-C-MS-2150H					○	SDI-C-K-2150H					○	SDI-C-N-2150H					○	SDI-PM-U-2150H					●
21.6	3.9	SDI-C-P-2160H					○	SDI-C-MS-2160H					○	SDI-C-K-2160H					○	SDI-C-N-2160H					○	SDI-PM-U-2160H					○
21.7	3.9	SDI-C-P-2170H					○	SDI-C-MS-2170H					○	SDI-C-K-2170H					○	SDI-C-N-2170H					○	SDI-PM-U-2170H					○
21.8	3.9	SDI-C-P-2180H					○	SDI-C-MS-2180H					○	SDI-C-K-2180H					○	SDI-C-N-2180H					○	SDI-PM-U-2180H					○
21.9	3.9	SDI-C-P-2190H					○	SDI-C-MS-2190H					○	SDI-C-K-2190H					○	SDI-C-N-2190H					○	SDI-PM-U-2190H					○

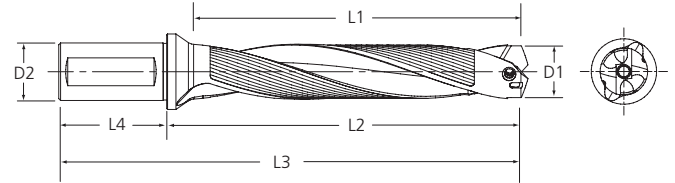
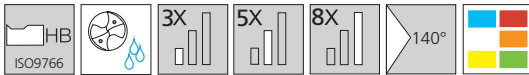
● Stocked ○ Check availability



Spare Parts

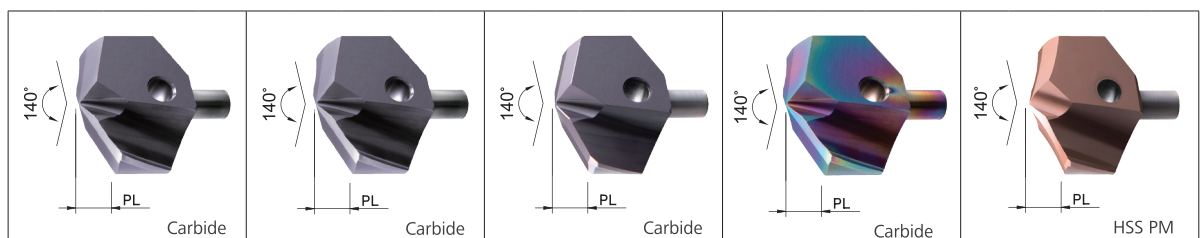
Size	Torx Size	Nm	Tool Number	Insert Screw		Torx Wrench	
				EDP	Tool Number	EDP	Tool Number
3D	9IP	2.2	SDH-21002199-03-F25	FS1181	SDA-M3X20-TP	FS1153	FH180-IP9
5D	9IP	2.2	SDH-21002199-05-F25	FS1181	SDA-M3X20-TP	FS1153	FH180-IP9
8D	9IP	2.2	SDH-21002199-08-F25	FS1181	SDA-M3X20-TP	FS1153	FH180-IP9

Interchangeable Insert Drill 22.0 - 22.99mm



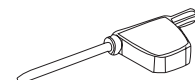
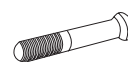
Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH1968	SDH-22002299-03-F25	22.0 - 22.99	25.0	69.0	102.0	158.0	56.0
5D	FH1969	SDH-22002299-05-F25	22.0 - 22.99	25.0	115.0	148.0	204.0	56.0
8D	FH1970	SDH-22002299-08-F25	22.0 - 22.99	25.0	184.0	217.0	273.0	56.0

Interchangeable Inserts



Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S					
		●	○	○			○	●				○			●							●		●	○	○	○				
		CPA					Stk	CMA					Stk	CKA					Stk	CNA					Stk	HPC					Stk
22.0	4.0	SDI-C-P-2200H					●	SDI-C-MS-2200H					○	SDI-C-K-2200H					○	SDI-C-N-2200H					○	SDI-PM-U-2200H					●
22.1	4.0	SDI-C-P-2210H					○	SDI-C-MS-2210H					○	SDI-C-K-2210H					○	SDI-C-N-2210H					○	SDI-PM-U-2210H					○
22.2	4.0	SDI-C-P-2220H					○	SDI-C-MS-2220H					○	SDI-C-K-2220H					○	SDI-C-N-2220H					○	SDI-PM-U-2220H					○
22.3	4.0	SDI-C-P-2230H					○	SDI-C-MS-2230H					○	SDI-C-K-2230H					○	SDI-C-N-2230H					○	SDI-PM-U-2230H					○
22.4	4.0	SDI-C-P-2240H					○	SDI-C-MS-2240H					○	SDI-C-K-2240H					○	SDI-C-N-2240H					○	SDI-PM-U-2240H					○
22.5	4.1	SDI-C-P-2250H					●	SDI-C-MS-2250H					○	SDI-C-K-2250H					○	SDI-C-N-2250H					○	SDI-PM-U-2250H					●
22.6	4.1	SDI-C-P-2260H					○	SDI-C-MS-2260H					○	SDI-C-K-2260H					○	SDI-C-N-2260H					○	SDI-PM-U-2260H					○
22.7	4.1	SDI-C-P-2270H					○	SDI-C-MS-2270H					○	SDI-C-K-2270H					○	SDI-C-N-2270H					○	SDI-PM-U-2270H					○
22.8	4.1	SDI-C-P-2280H					○	SDI-C-MS-2280H					○	SDI-C-K-2280H					○	SDI-C-N-2280H					○	SDI-PM-U-2280H					○
22.9	4.1	SDI-C-P-2290H					○	SDI-C-MS-2290H					○	SDI-C-K-2290H					○	SDI-C-N-2290H					○	SDI-PM-U-2290H					○

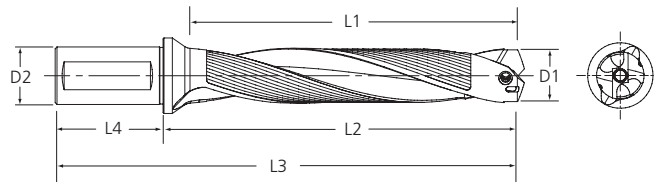
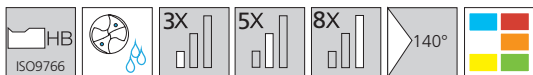
● Stocked ○ Check availability



Spare Parts

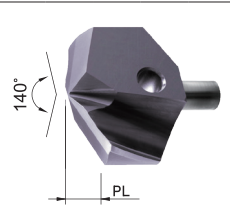
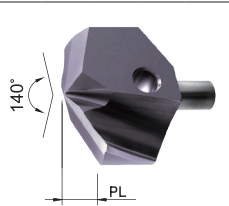
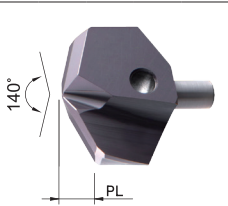
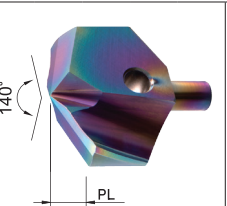
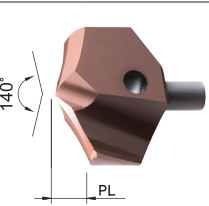
Size	Torx Size	Nm	Tool Number	Insert Screw		Torx Wrench	
				EDP	Tool Number	EDP	Tool Number
3D	9IP	2.2	SDH-22002299-03-F25	FS1181	SDA-M3X20-TP	FS1153	FH180-IP9
5D	9IP	2.2	SDH-22002299-05-F25	FS1181	SDA-M3X20-TP	FS1153	FH180-IP9
8D	9IP	2.2	SDH-22002299-08-F25	FS1181	SDA-M3X20-TP	FS1153	FH180-IP9

Interchangeable Insert Drill 23.0 - 23.99mm

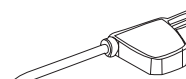
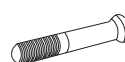


Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH1971	SDH-23002399-03-F25	23.0 - 23.99	25.0	72.0	107.0	163.0	56.0
5D	FH1972	SDH-23002399-05-F25	23.0 - 23.99	25.0	120.0	155.0	211.0	56.0
8D	FH1973	SDH-23002399-08-F25	23.0 - 23.99	25.0	192.0	227.0	283.0	56.0

Interchangeable Inserts

																															
Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S										
		●	○	○			○	●				○			●			●	○	○	○										
		CPA					Stk	CMA					Stk	CKA					Stk	CNA					Stk	HPC					Stk
23.0	4.2	SDI-C-P-2300H					●	SDI-C-MS-2300H					○	SDI-C-K-2300H					○	SDI-C-N-2300H					○	SDI-PM-U-2300H					●
23.1	4.2	SDI-C-P-2310H					○	SDI-C-MS-2310H					○	SDI-C-K-2310H					○	SDI-C-N-2310H					○	SDI-PM-U-2310H					○
23.2	4.2	SDI-C-P-2320H					○	SDI-C-MS-2320H					○	SDI-C-K-2320H					○	SDI-C-N-2320H					○	SDI-PM-U-2320H					○
23.3	4.2	SDI-C-P-2330H					○	SDI-C-MS-2330H					○	SDI-C-K-2330H					○	SDI-C-N-2330H					○	SDI-PM-U-2330H					○
23.4	4.2	SDI-C-P-2340H					○	SDI-C-MS-2340H					○	SDI-C-K-2340H					○	SDI-C-N-2340H					○	SDI-PM-U-2340H					○
23.5	4.3	SDI-C-P-2350H					●	SDI-C-MS-2350H					○	SDI-C-K-2350H					○	SDI-C-N-2350H					○	SDI-PM-U-2350H					●
23.6	4.3	SDI-C-P-2360H					○	SDI-C-MS-2360H					○	SDI-C-K-2360H					○	SDI-C-N-2360H					○	SDI-PM-U-2360H					○
23.7	4.3	SDI-C-P-2370H					○	SDI-C-MS-2370H					○	SDI-C-K-2370H					○	SDI-C-N-2370H					○	SDI-PM-U-2370H					○
23.8	4.3	SDI-C-P-2380H					○	SDI-C-MS-2380H					○	SDI-C-K-2380H					○	SDI-C-N-2380H					○	SDI-PM-U-2380H					○
23.9	4.3	SDI-C-P-2390H					○	SDI-C-MS-2390H					○	SDI-C-K-2390H					○	SDI-C-N-2390H					○	SDI-PM-U-2390H					○

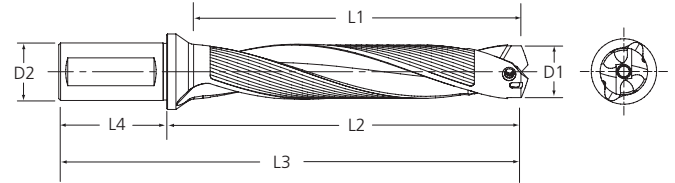
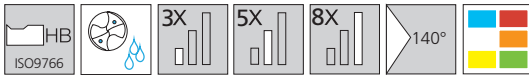
● Stocked ○ Check availability



Spare Parts

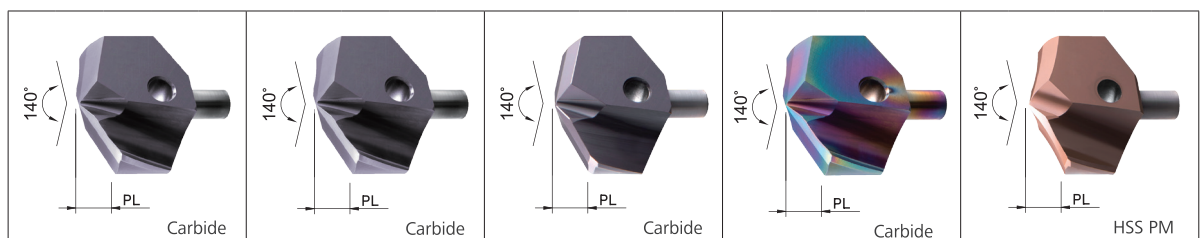
Size	Torx Size	Nm	Tool Number	Insert Screw		Torx Wrench	
				EDP	Tool Number	EDP	Tool Number
3D	9IP	2.2	SDH-23002399-03-F25	FS1181	SDA-M3X20-TP	FS1153	FH180-IP9
5D	9IP	2.2	SDH-23002399-05-F25	FS1181	SDA-M3X20-TP	FS1153	FH180-IP9
8D	9IP	2.2	SDH-23002399-08-F25	FS1181	SDA-M3X20-TP	FS1153	FH180-IP9

Interchangeable Insert Drill 24.0 - 24.99mm



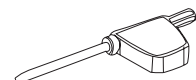
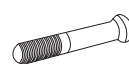
Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH1974	SDH-24002499-03-F32	24.0 - 24.99	32.0	75.0	112.0	172.0	60.0
5D	FH1975	SDH-24002499-05-F32	24.0 - 24.99	32.0	125.0	162.0	222.0	60.0
8D	FH1976	SDH-24002499-08-F32	24.0 - 24.99	32.0	200.0	237.0	297.0	60.0

Interchangeable Inserts



Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S
		●	○	○			○	●						●			●		○	○	○			○	○	○
		CPA					CMA					CKA					CNA					HPC				
2400	4.4	SDI-C-P-2400H	●				SDI-C-MS-2400H	○				SDI-C-K-2400H	○				SDI-C-N-2400H	○				SDI-PM-U-2400H	●			
2410	4.4	SDI-C-P-2410H	○				SDI-C-MS-2410H	○				SDI-C-K-2410H	○				SDI-C-N-2410H	○				SDI-PM-U-2410H	○			
2420	4.4	SDI-C-P-2420H	○				SDI-C-MS-2420H	○				SDI-C-K-2420H	○				SDI-C-N-2420H	○				SDI-PM-U-2420H	○			
2430	4.4	SDI-C-P-2430H	○				SDI-C-MS-2430H	○				SDI-C-K-2430H	○				SDI-C-N-2430H	○				SDI-PM-U-2430H	○			
2440	4.4	SDI-C-P-2440H	○				SDI-C-MS-2440H	○				SDI-C-K-2440H	○				SDI-C-N-2440H	○				SDI-PM-U-2440H	○			
2450	4.5	SDI-C-P-2450H	●				SDI-C-MS-2450H	○				SDI-C-K-2450H	○				SDI-C-N-2450H	○				SDI-PM-U-2450H	●			
2460	4.5	SDI-C-P-2460H	○				SDI-C-MS-2460H	○				SDI-C-K-2460H	○				SDI-C-N-2460H	○				SDI-PM-U-2460H	○			
2470	4.5	SDI-C-P-2470H	○				SDI-C-MS-2470H	○				SDI-C-K-2470H	○				SDI-C-N-2470H	○				SDI-PM-U-2470H	○			
2480	4.5	SDI-C-P-2480H	○				SDI-C-MS-2480H	○				SDI-C-K-2480H	○				SDI-C-N-2480H	○				SDI-PM-U-2480H	○			
2490	4.5	SDI-C-P-2490H	○				SDI-C-MS-2490H	○				SDI-C-K-2490H	○				SDI-C-N-2490H	○				SDI-PM-U-2490H	○			

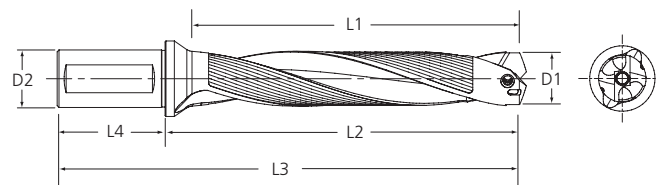
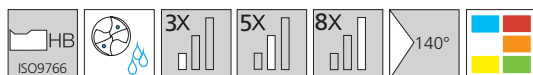
● Stocked ○ Check availability



Spare Parts

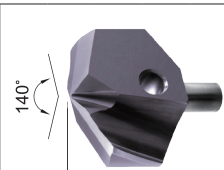
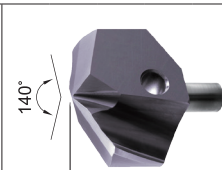
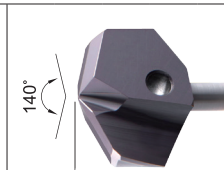
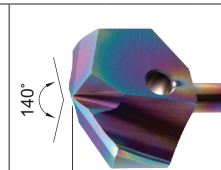
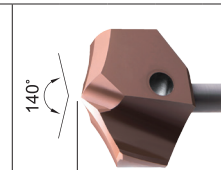
Size	Torx Size	Nm	Tool Number	Insert Screw		Torx Wrench	
				EDP	Tool Number	EDP	Tool Number
3D	10IP	3.3	SDH-24002499-03-F32	FS1177	SDA-M3.5X22-TP	FS1146	FH180-IP10
5D	10IP	3.3	SDH-24002499-05-F32	FS1177	SDA-M3.5X22-TP	FS1146	FH180-IP10
8D	10IP	3.3	SDH-24002499-08-F32	FS1177	SDA-M3.5X22-TP	FS1146	FH180-IP10

Interchangeable Insert Drill 25.0 - 25.99mm

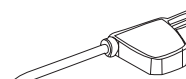
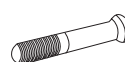


Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH1977	SDH-25002599-03-F32	25.0 - 25.99	32.0	78.0	116.0	176.0	60.0
5D	FH1978	SDH-25002599-05-F32	25.0 - 25.99	32.0	130.0	168.0	228.0	60.0
8D	FH1979	SDH-25002599-08-F32	25.0 - 25.99	32.0	208.0	246.0	306.0	60.0

Interchangeable Inserts

		 Carbide					 Carbide					 Carbide					 Carbide					 HSS PM									
Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S					
		●	○	○			○	●				○			●						●			●	○	○	○				
		CPA					Stk	CMA					Stk	CKA					Stk	CNA					Stk	HPC					Stk
25.0	4.5	SDI-C-P-2500H					●	SDI-C-MS-2500H					○	SDI-C-K-2500H					○	SDI-C-N-2500H					○	SDI-PM-U-2500H					●
25.1	4.5	SDI-C-P-2510H					○	SDI-C-MS-2510H					○	SDI-C-K-2510H					○	SDI-C-N-2510H					○	SDI-PM-U-2510H					○
25.2	4.5	SDI-C-P-2520H					○	SDI-C-MS-2520H					○	SDI-C-K-2520H					○	SDI-C-N-2520H					○	SDI-PM-U-2520H					○
25.3	4.5	SDI-C-P-2530H					○	SDI-C-MS-2530H					○	SDI-C-K-2530H					○	SDI-C-N-2530H					○	SDI-PM-U-2530H					○
25.4	4.5	SDI-C-P-2540H					○	SDI-C-MS-2540H					○	SDI-C-K-2540H					○	SDI-C-N-2540H					○	SDI-PM-U-2540H					○
25.5	4.6	SDI-C-P-2550H					●	SDI-C-MS-2550H					○	SDI-C-K-2550H					○	SDI-C-N-2550H					○	SDI-PM-U-2550H					●
25.6	4.6	SDI-C-P-2560H					○	SDI-C-MS-2560H					○	SDI-C-K-2560H					○	SDI-C-N-2560H					○	SDI-PM-U-2560H					○
25.7	4.6	SDI-C-P-2570H					●	SDI-C-MS-2570H					○	SDI-C-K-2570H					○	SDI-C-N-2570H					○	SDI-PM-U-2570H					○
25.8	4.6	SDI-C-P-2580H					○	SDI-C-MS-2580H					○	SDI-C-K-2580H					○	SDI-C-N-2580H					○	SDI-PM-U-2580H					○
25.9	4.6	SDI-C-P-2590H					○	SDI-C-MS-2590H					○	SDI-C-K-2590H					○	SDI-C-N-2590H					○	SDI-PM-U-2590H					○

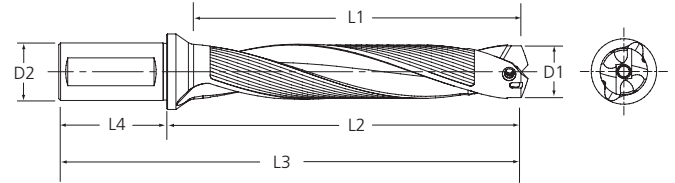
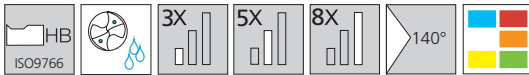
● Stocked ○ Check availability



Spare Parts

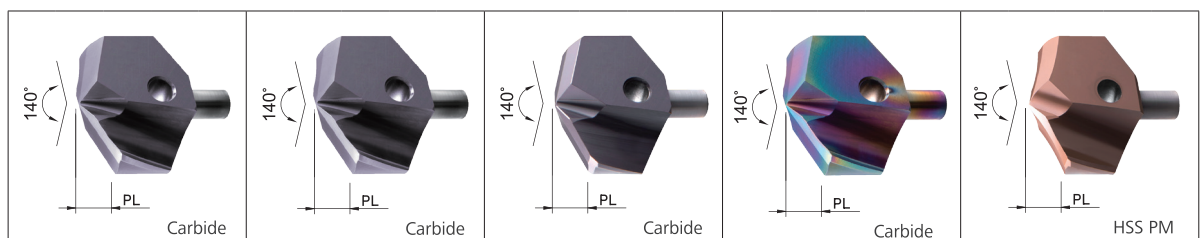
Size	Torx Size	Nm	Tool Number	Insert Screw		Torx Wrench	
				EDP	Tool Number	EDP	Tool Number
3D	10IP	3.3	SDH-25002599-03-F32	FS1177	SDA-M3.5X22-TP	FS1146	FH180-IP10
5D	10IP	3.3	SDH-25002599-05-F32	FS1177	SDA-M3.5X22-TP	FS1146	FH180-IP10
8D	10IP	3.3	SDH-25002599-08-F32	FS1177	SDA-M3.5X22-TP	FS1146	FH180-IP10

Interchangeable Insert Drill 26.0 - 26.99mm



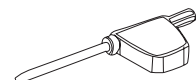
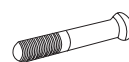
Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH1980	SDH-26002699-03-F32	26.0 - 26.99	32.0	81.0	121.0	181.0	60.0
5D	FH1981	SDH-26002699-05-F32	26.0 - 26.99	32.0	135.0	175.0	235.0	60.0
8D	FH1982	SDH-26002699-08-F32	26.0 - 26.99	32.0	216.0	256.0	316.0	60.0

Interchangeable Inserts



Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S					
		●	○	○			○	●				○			●						●		●	○	○	○					
		CPA					Stk	CMA					Stk	CKA					Stk	CNA					Stk	HPC					Stk
26.0	4.7	SDI-C-P-2600H					●	SDI-C-MS-2600H					○	SDI-C-K-2600H					○	SDI-C-N-2600H					○	SDI-PM-U-2600H					●
26.1	4.7	SDI-C-P-2610H					○	SDI-C-MS-2610H					○	SDI-C-K-2610H					○	SDI-C-N-2610H					○	SDI-PM-U-2610H					○
26.2	4.7	SDI-C-P-2620H					○	SDI-C-MS-2620H					○	SDI-C-K-2620H					○	SDI-C-N-2620H					○	SDI-PM-U-2620H					○
26.3	4.7	SDI-C-P-2630H					○	SDI-C-MS-2630H					○	SDI-C-K-2630H					○	SDI-C-N-2630H					○	SDI-PM-U-2630H					○
26.4	4.7	SDI-C-P-2640H					○	SDI-C-MS-2640H					○	SDI-C-K-2640H					○	SDI-C-N-2640H					○	SDI-PM-U-2640H					○
26.5	4.8	SDI-C-P-2650H					●	SDI-C-MS-2650H					○	SDI-C-K-2650H					○	SDI-C-N-2650H					○	SDI-PM-U-2650H					●
26.6	4.8	SDI-C-P-2660H					○	SDI-C-MS-2660H					○	SDI-C-K-2660H					○	SDI-C-N-2660H					○	SDI-PM-U-2660H					○
26.7	4.8	SDI-C-P-2670H					○	SDI-C-MS-2670H					○	SDI-C-K-2670H					○	SDI-C-N-2670H					○	SDI-PM-U-2670H					○
26.8	4.8	SDI-C-P-2680H					○	SDI-C-MS-2680H					○	SDI-C-K-2680H					○	SDI-C-N-2680H					○	SDI-PM-U-2680H					○
26.9	4.8	SDI-C-P-2690H					○	SDI-C-MS-2690H					○	SDI-C-K-2690H					○	SDI-C-N-2690H					○	SDI-PM-U-2690H					○

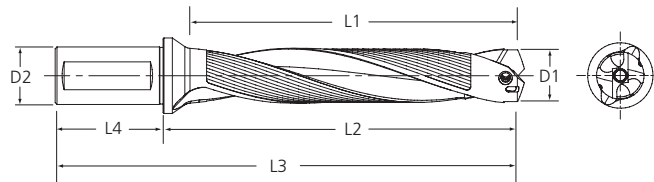
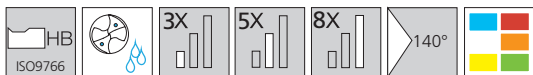
● Stocked ○ Check availability



Spare Parts

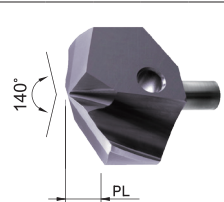
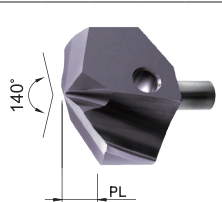
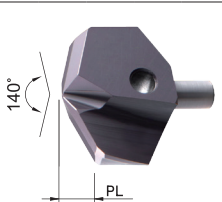
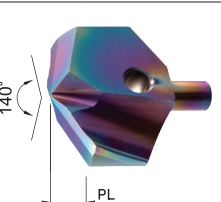
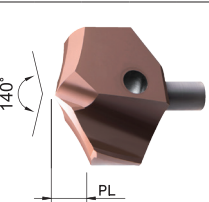
Size	Torx Size	Nm	Tool Number	Insert Screw		Torx Wrench	
				EDP	Tool Number	EDP	Tool Number
3D	10IP	3.3	SDH-26002699-03-F32	FS1178	SDA-M3.5X24-TP	FS1146	FH180-IP10
5D	10IP	3.3	SDH-26002699-05-F32	FS1178	SDA-M3.5X24-TP	FS1146	FH180-IP10
8D	10IP	3.3	SDH-26002699-08-F32	FS1178	SDA-M3.5X24-TP	FS1146	FH180-IP10

Interchangeable Insert Drill 27.0 - 27.99mm

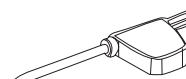
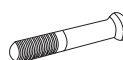


Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH1983	SDH-27002799-03-F32	27.0 - 27.99	32.0	84.0	125.0	185.0	60.0
5D	FH1984	SDH-27002799-05-F32	27.0 - 27.99	32.0	140.0	181.0	241.0	60.0
8D	FH1985	SDH-27002799-08-F32	27.0 - 27.99	32.0	224.0	265.0	325.0	60.0

Interchangeable Inserts

																															
		Carbide					Carbide					Carbide					Carbide					HSS PM									
Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S					
		●	○	○			○	●				○			●						●			●	○	○	○				
		CPA					Stk	CMA					Stk	CKA					Stk	CNA					Stk	HPC					Stk
27.0	4.9	SDI-C-P-2700H					●	SDI-C-MS-2700H					○	SDI-C-K-2700H					○	SDI-C-N-2700H					○	SDI-PM-U-2700H					●
27.1	4.9	SDI-C-P-2710H					○	SDI-C-MS-2710H					○	SDI-C-K-2710H					○	SDI-C-N-2710H					○	SDI-PM-U-2710H					○
27.2	4.9	SDI-C-P-2720H					○	SDI-C-MS-2720H					○	SDI-C-K-2720H					○	SDI-C-N-2720H					○	SDI-PM-U-2720H					○
27.3	4.9	SDI-C-P-2730H					○	SDI-C-MS-2730H					○	SDI-C-K-2730H					○	SDI-C-N-2730H					○	SDI-PM-U-2730H					○
27.4	4.9	SDI-C-P-2740H					○	SDI-C-MS-2740H					○	SDI-C-K-2740H					○	SDI-C-N-2740H					○	SDI-PM-U-2740H					●
27.5	4.9	SDI-C-P-2750H					●	SDI-C-MS-2750H					○	SDI-C-K-2750H					○	SDI-C-N-2750H					○	SDI-PM-U-2750H					○
27.6	5.0	SDI-C-P-2760H					○	SDI-C-MS-2760H					○	SDI-C-K-2760H					○	SDI-C-N-2760H					○	SDI-PM-U-2760H					○
27.7	5.0	SDI-C-P-2770H					○	SDI-C-MS-2770H					○	SDI-C-K-2770H					○	SDI-C-N-2770H					○	SDI-PM-U-2770H					○
27.8	5.0	SDI-C-P-2780H					○	SDI-C-MS-2780H					○	SDI-C-K-2780H					○	SDI-C-N-2780H					○	SDI-PM-U-2780H					○
27.9	5.0	SDI-C-P-2790H					○	SDI-C-MS-2790H					○	SDI-C-K-2790H					○	SDI-C-N-2790H					○	SDI-PM-U-2790H					○

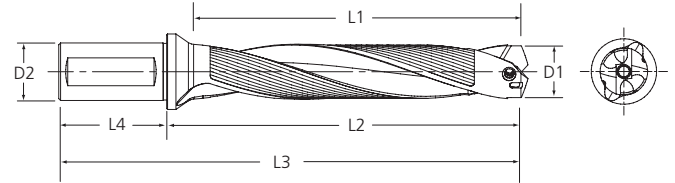
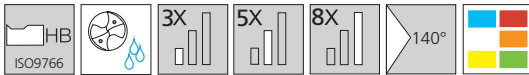
● Stocked ○ Check availability



Spare Parts

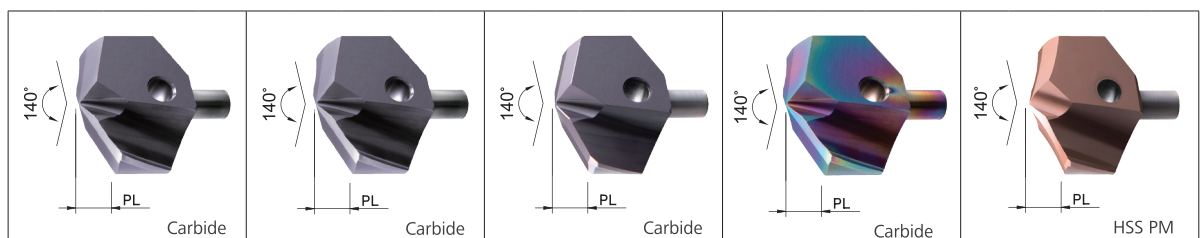
Size	Torx Size	Nm	Tool Number	Insert Screw		Torx Wrench	
				EDP	Tool Number	EDP	Tool Number
3D	10IP	3.3	SDH-27002799-03-F32	FS1178	SDA-M3.5X24-TP	FS1146	FH180-IP10
5D	10IP	3.3	SDH-27002799-05-F32	FS1178	SDA-M3.5X24-TP	FS1146	FH180-IP10
8D	10IP	3.3	SDH-27002799-08-F32	FS1178	SDA-M3.5X24-TP	FS1146	FH180-IP10

Interchangeable Insert Drill 28.0 - 28.99mm



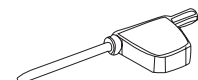
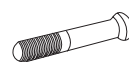
Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH1986	SDH-28002899-03-F32	28.0 - 28.99	32.0	87.0	129.0	189.0	60.0
5D	FH1987	SDH-28002899-05-F32	28.0 - 28.99	32.0	145.0	187.0	247.0	60.0
8D	FH1988	SDH-28002899-08-F32	28.0 - 28.99	32.0	232.0	274.0	334.0	60.0

Interchangeable Inserts



Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S					
		●	○	○			○	●				○			●						●			●	○	○	○				
		CPA					Stk	CMA					Stk	CKA					Stk	CNA					Stk	HPC					Stk
28.0	5.1	SDI-C-P-2800H					●	SDI-C-MS-2800H					○	SDI-C-K-2800H					○	SDI-C-N-2800H					○	SDI-PM-U-2800H					●
28.1	5.1	SDI-C-P-2810H					○	SDI-C-MS-2810H					○	SDI-C-K-2810H					○	SDI-C-N-2810H					○	SDI-PM-U-2810H					○
28.2	5.1	SDI-C-P-2820H					○	SDI-C-MS-2820H					○	SDI-C-K-2820H					○	SDI-C-N-2820H					○	SDI-PM-U-2820H					○
28.3	5.1	SDI-C-P-2830H					○	SDI-C-MS-2830H					○	SDI-C-K-2830H					○	SDI-C-N-2830H					○	SDI-PM-U-2830H					○
28.4	5.1	SDI-C-P-2840H					○	SDI-C-MS-2840H					○	SDI-C-K-2840H					○	SDI-C-N-2840H					○	SDI-PM-U-2840H					○
28.5	5.2	SDI-C-P-2850H					●	SDI-C-MS-2850H					○	SDI-C-K-2850H					○	SDI-C-N-2850H					○	SDI-PM-U-2850H					●
28.6	5.2	SDI-C-P-2860H					○	SDI-C-MS-2860H					○	SDI-C-K-2860H					○	SDI-C-N-2860H					○	SDI-PM-U-2860H					○
28.7	5.2	SDI-C-P-2870H					○	SDI-C-MS-2870H					○	SDI-C-K-2870H					○	SDI-C-N-2870H					○	SDI-PM-U-2870H					○
28.8	5.2	SDI-C-P-2880H					○	SDI-C-MS-2880H					○	SDI-C-K-2880H					○	SDI-C-N-2880H					○	SDI-PM-U-2880H					○
28.9	5.2	SDI-C-P-2890H					○	SDI-C-MS-2890H					○	SDI-C-K-2890H					○	SDI-C-N-2890H					○	SDI-PM-U-2890H					○

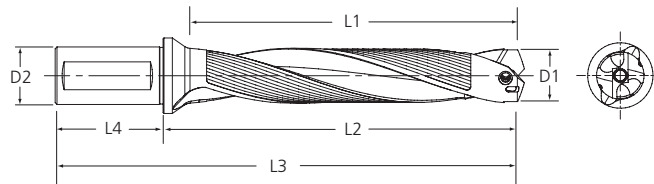
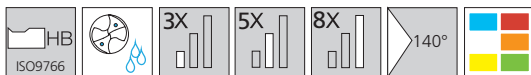
● Stocked ○ Check availability



Spare Parts

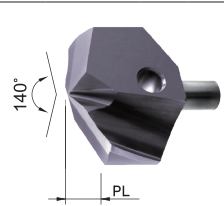
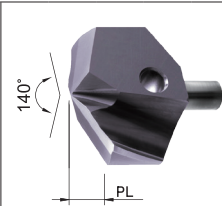
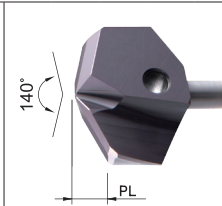
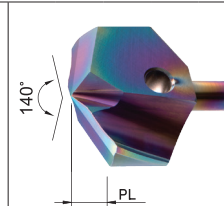
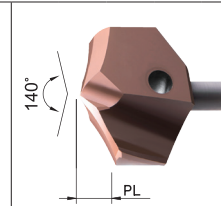
Size	Torx Size	Nm	Tool Number	Insert Screw		Torx Wrench	
				EDP	Tool Number	EDP	Tool Number
3D	15IP	5.0	SDH-28002899-03-F32	FS1182	SDA-M4X26-TP	FS1147	FH180-IP15
5D	15IP	5.0	SDH-28002899-05-F32	FS1182	SDA-M4X26-TP	FS1147	FH180-IP15
8D	15IP	5.0	SDH-28002899-08-F32	FS1182	SDA-M4X26-TP	FS1147	FH180-IP15

Interchangeable Insert Drill 29.0 - 29.99mm

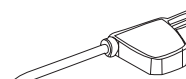
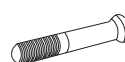


Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH1989	SDH-29002999-03-F32	29.0 - 29.99	32.0	90.0	133.0	193.0	60.0
5D	FH1990	SDH-29002999-05-F32	29.0 - 29.99	32.0	150.0	193.0	253.0	60.0
8D	FH1991	SDH-29002999-08-F32	29.0 - 29.99	32.0	240.0	283.0	343.0	60.0

Interchangeable Inserts

																															
Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S					
		●	○	○			○	●				○			●						●			●	○	○	○				
		CPA					Stk	CMA					Stk	CKA					Stk	CNA					Stk	HPC					Stk
2900	5.3	SDI-C-P-2900H					●	SDI-C-MS-2900H					○	SDI-C-K-2900H					○	SDI-C-N-2900H					○	SDI-PM-U-2900H					●
2910	5.3	SDI-C-P-2910H					○	SDI-C-MS-2910H					○	SDI-C-K-2910H					○	SDI-C-N-2910H					○	SDI-PM-U-2910H					○
2920	5.3	SDI-C-P-2920H					○	SDI-C-MS-2920H					○	SDI-C-K-2920H					○	SDI-C-N-2920H					○	SDI-PM-U-2920H					○
2930	5.3	SDI-C-P-2930H					○	SDI-C-MS-2930H					○	SDI-C-K-2930H					○	SDI-C-N-2930H					○	SDI-PM-U-2930H					○
2940	5.3	SDI-C-P-2940H					●	SDI-C-MS-2940H					○	SDI-C-K-2940H					○	SDI-C-N-2940H					○	SDI-PM-U-2940H					○
2950	5.4	SDI-C-P-2950H					●	SDI-C-MS-2950H					○	SDI-C-K-2950H					○	SDI-C-N-2950H					○	SDI-PM-U-2950H					●
2960	5.4	SDI-C-P-2960H					○	SDI-C-MS-2960H					○	SDI-C-K-2960H					○	SDI-C-N-2960H					○	SDI-PM-U-2960H					○
2970	5.4	SDI-C-P-2970H					○	SDI-C-MS-2970H					○	SDI-C-K-2970H					○	SDI-C-N-2970H					○	SDI-PM-U-2970H					○
2980	5.4	SDI-C-P-2980H					○	SDI-C-MS-2980H					○	SDI-C-K-2980H					○	SDI-C-N-2980H					○	SDI-PM-U-2980H					○
2990	5.4	SDI-C-P-2990H					○	SDI-C-MS-2990H					○	SDI-C-K-2990H					○	SDI-C-N-2990H					○	SDI-PM-U-2990H					○

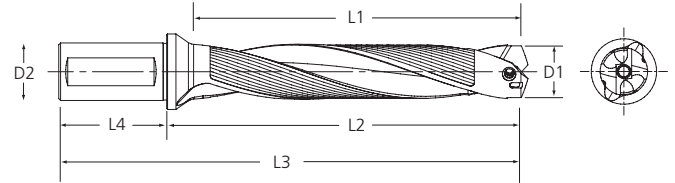
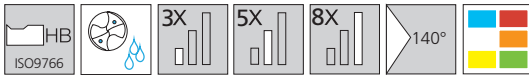
● Stocked ○ Check availability



Spare Parts

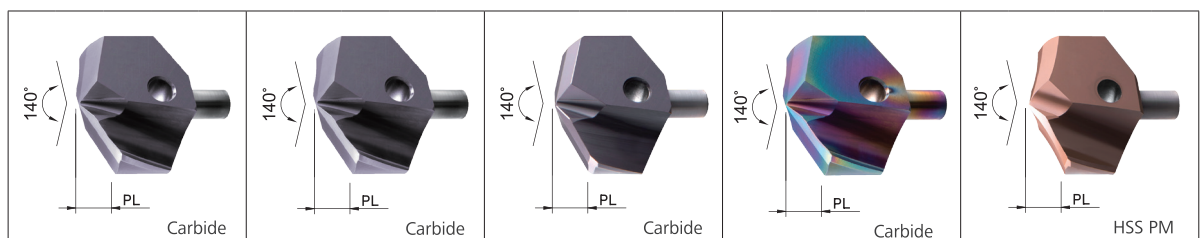
Size	Torx Size	Nm	Tool Number	Insert Screw		Torx Wrench	
				EDP	Tool Number	EDP	Tool Number
3D	15IP	5.0	SDH-29002999-03-F32	FS1182	SDA-M4X26-TP	FS1147	FH180-IP15
5D	15IP	5.0	SDH-29002999-05-F32	FS1182	SDA-M4X26-TP	FS1147	FH180-IP15
8D	15IP	5.0	SDH-29002999-08-F32	FS1182	SDA-M4X26-TP	FS1147	FH180-IP15

Interchangeable Insert Drill 30.0 - 30.99mm



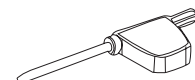
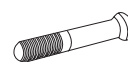
Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH1992	SDH-30003099-03-F32	30.0 - 30.99	32.0	93.0	138.0	198.0	60.0
5D	FH1993	SDH-30003099-05-F32	30.0 - 30.99	32.0	155.0	200.0	260.0	60.0
8D	FH1994	SDH-30003099-08-F32	30.0 - 30.99	32.0	248.0	293.0	353.0	60.0

Interchangeable Inserts



Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S					
		●	○	○			○	●				○			●						●			●	○	○	○				
		CPA					Stk	CMA					Stk	CKA					Stk	CNA					Stk	HPC					Stk
30.0	5.5	SDI-C-P-3000H					●	SDI-C-MS-3000H					○	SDI-C-K-3000H					○	SDI-C-N-3000H					○	SDI-PM-U-3000H					●
30.1	5.5	SDI-C-P-3010H					○	SDI-C-MS-3010H					○	SDI-C-K-3010H					○	SDI-C-N-3010H					○	SDI-PM-U-3010H					○
30.2	5.5	SDI-C-P-3020H					○	SDI-C-MS-3020H					○	SDI-C-K-3020H					○	SDI-C-N-3020H					○	SDI-PM-U-3020H					○
30.3	5.5	SDI-C-P-3030H					○	SDI-C-MS-3030H					○	SDI-C-K-3030H					○	SDI-C-N-3030H					○	SDI-PM-U-3030H					○
30.4	5.5	SDI-C-P-3040H					○	SDI-C-MS-3040H					○	SDI-C-K-3040H					○	SDI-C-N-3040H					○	SDI-PM-U-3040H					○
30.5	5.6	SDI-C-P-3050H					●	SDI-C-MS-3050H					○	SDI-C-K-3050H					○	SDI-C-N-3050H					○	SDI-PM-U-3050H					●
30.6	5.6	SDI-C-P-3060H					○	SDI-C-MS-3060H					○	SDI-C-K-3060H					○	SDI-C-N-3060H					○	SDI-PM-U-3060H					○
30.7	5.6	SDI-C-P-3070H					○	SDI-C-MS-3070H					○	SDI-C-K-3070H					○	SDI-C-N-3070H					○	SDI-PM-U-3070H					○
30.8	5.6	SDI-C-P-3080H					○	SDI-C-MS-3080H					○	SDI-C-K-3080H					○	SDI-C-N-3080H					○	SDI-PM-U-3080H					○
30.9	5.6	SDI-C-P-3090H					○	SDI-C-MS-3090H					○	SDI-C-K-3090H					○	SDI-C-N-3090H					○	SDI-PM-U-3090H					○

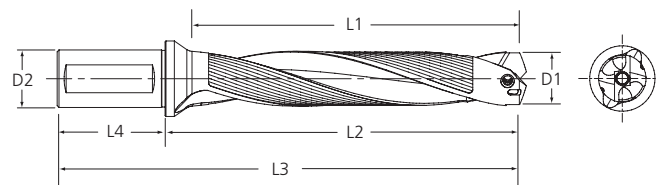
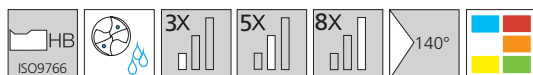
● Stocked ○ Check availability



Spare Parts

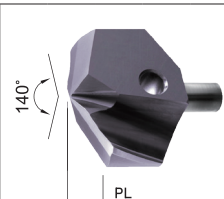
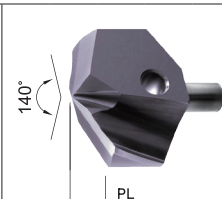
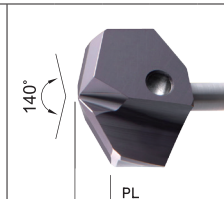
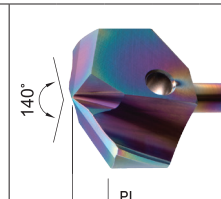
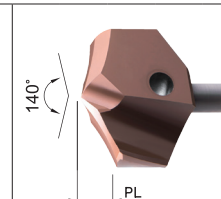
Size	Torx Size	Nm	Tool Number	Insert Screw		Torx Wrench	
				EDP	Tool Number	EDP	Tool Number
3D	15IP	5.0	SDH-30003099-03-F32	FS1182	SDA-M4X26-TP	FS1147	FH180-IP15
5D	15IP	5.0	SDH-30003099-05-F32	FS1182	SDA-M4X26-TP	FS1147	FH180-IP15
8D	15IP	5.0	SDH-30003099-08-F32	FS1182	SDA-M4X26-TP	FS1147	FH180-IP15

Interchangeable Insert Drill 31.0 - 31.99mm

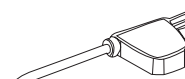
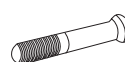


Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH1995	SDH-31003199-03-F32	31.0 - 31.99	32.0	96.0	142.0	202.0	60.0
5D	FH1996	SDH-31003199-05-F32	31.0 - 31.99	32.0	160.0	206.0	266.0	60.0
8D	FH1997	SDH-31003199-08-F32	31.0 - 31.99	32.0	256.0	302.0	362.0	60.0

Interchangeable Inserts

																															
		Carbide					Carbide					Carbide					Carbide					HSS PM									
Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S					
		●	○	○			○	●				○			●						●			●	○	○	○				
		CPA					Stk	CMA					Stk	CKA					Stk	CNA					Stk	HPC					Stk
31.0	5.6	SDI-C-P-3100H					●	SDI-C-MS-3100H					○	SDI-C-K-3100H					○	SDI-C-N-3100H					○	SDI-PM-U-3100H					●
31.1	5.6	SDI-C-P-3110H					○	SDI-C-MS-3110H					○	SDI-C-K-3110H					○	SDI-C-N-3110H					○	SDI-PM-U-3110H					○
31.2	5.6	SDI-C-P-3120H					○	SDI-C-MS-3120H					○	SDI-C-K-3120H					○	SDI-C-N-3120H					○	SDI-PM-U-3120H					○
31.3	5.6	SDI-C-P-3130H					●	SDI-C-MS-3130H					○	SDI-C-K-3130H					○	SDI-C-N-3130H					○	SDI-PM-U-3130H					○
31.4	5.6	SDI-C-P-3140H					○	SDI-C-MS-3140H					○	SDI-C-K-3140H					○	SDI-C-N-3140H					○	SDI-PM-U-3140H					○
31.5	5.7	SDI-C-P-3150H					●	SDI-C-MS-3150H					○	SDI-C-K-3150H					○	SDI-C-N-3150H					○	SDI-PM-U-3150H					●
31.6	5.7	SDI-C-P-3160H					○	SDI-C-MS-3160H					○	SDI-C-K-3160H					○	SDI-C-N-3160H					○	SDI-PM-U-3160H					○
31.7	5.7	SDI-C-P-3170H					○	SDI-C-MS-3170H					○	SDI-C-K-3170H					○	SDI-C-N-3170H					○	SDI-PM-U-3170H					○
31.8	5.7	SDI-C-P-3180H					○	SDI-C-MS-3180H					○	SDI-C-K-3180H					○	SDI-C-N-3180H					○	SDI-PM-U-3180H					○
31.9	5.7	SDI-C-P-3190H					○	SDI-C-MS-3190H					○	SDI-C-K-3190H					○	SDI-C-N-3190H					○	SDI-PM-U-3190H					○

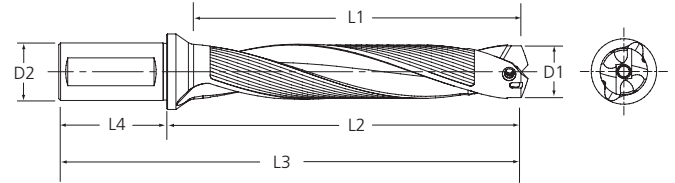
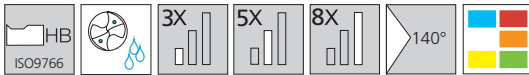
● Stocked ○ Check availability



Spare Parts

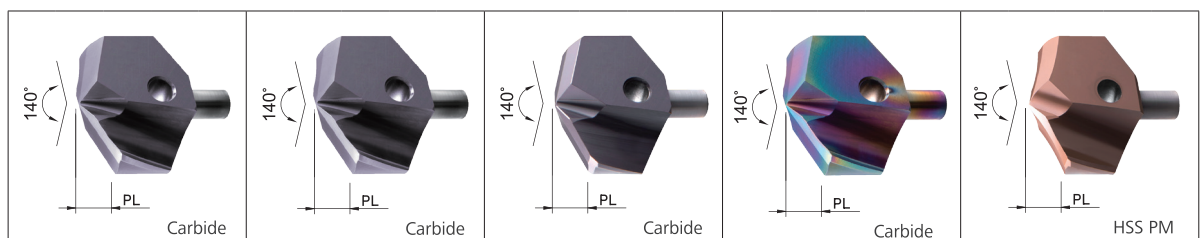
Size	Torx Size	Nm	Tool Number	Insert Screw		Torx Wrench	
				EDP	Tool Number	EDP	Tool Number
3D	20IP	7.5	SDH-31003199-03-F32	FS1183	SDA-M5X29-TP	FS1095	TH120-20IP
5D	20IP	7.5	SDH-31003199-05-F32	FS1183	SDA-M5X29-TP	FS1095	TH120-20IP
8D	20IP	7.5	SDH-31003199-08-F32	FS1183	SDA-M5X29-TP	FS1095	TH120-20IP

Interchangeable Insert Drill 32.0 - 32.99mm



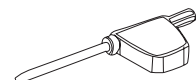
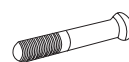
Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH1998	SDH-32003299-03-F32	32.0 - 32.99	32.0	99.0	146.0	206.0	60.0
5D	FH1999	SDH-32003299-05-F32	32.0 - 32.99	32.0	165.0	212.0	272.0	60.0
8D	FH2000	SDH-32003299-08-F32	32.0 - 32.99	32.0	264.0	311.0	371.0	60.0

Interchangeable Inserts



Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S					
		●	○	○			○	●				○			●							●		●	○	○	○				
		CPA					Stk	CMA					Stk	CKA					Stk	CNA					Stk	HPC					Stk
3200	5.8	SDI-C-P-3200H					●	SDI-C-MS-3200H					○	SDI-C-K-3200H					○	SDI-C-N-3200H					○	SDI-PM-U-3200H					●
3210	5.8	SDI-C-P-3210H					○	SDI-C-MS-3210H					○	SDI-C-K-3210H					○	SDI-C-N-3210H					○	SDI-PM-U-3210H					○
3220	5.8	SDI-C-P-3220H					○	SDI-C-MS-3220H					○	SDI-C-K-3220H					○	SDI-C-N-3220H					○	SDI-PM-U-3220H					○
3230	5.8	SDI-C-P-3230H					○	SDI-C-MS-3230H					○	SDI-C-K-3230H					○	SDI-C-N-3230H					○	SDI-PM-U-3230H					○
3240	5.8	SDI-C-P-3240H					○	SDI-C-MS-3240H					○	SDI-C-K-3240H					○	SDI-C-N-3240H					○	SDI-PM-U-3240H					○
3250	5.9	SDI-C-P-3250H					●	SDI-C-MS-3250H					○	SDI-C-K-3250H					○	SDI-C-N-3250H					○	SDI-PM-U-3250H					●
3260	5.9	SDI-C-P-3260H					○	SDI-C-MS-3260H					○	SDI-C-K-3260H					○	SDI-C-N-3260H					○	SDI-PM-U-3260H					○
3270	5.9	SDI-C-P-3270H					○	SDI-C-MS-3270H					○	SDI-C-K-3270H					○	SDI-C-N-3270H					○	SDI-PM-U-3270H					○
3280	5.9	SDI-C-P-3280H					○	SDI-C-MS-3280H					○	SDI-C-K-3280H					○	SDI-C-N-3280H					○	SDI-PM-U-3280H					○
3290	5.9	SDI-C-P-3290H					○	SDI-C-MS-3290H					○	SDI-C-K-3290H					○	SDI-C-N-3290H					○	SDI-PM-U-3290H					○

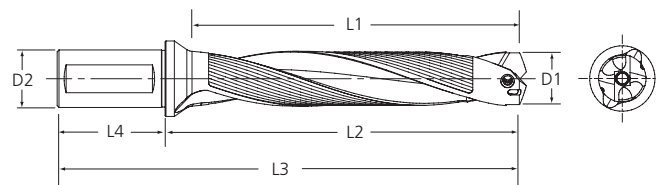
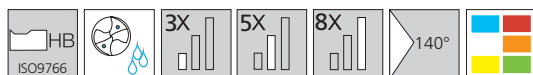
● Stocked ○ Check availability



Spare Parts

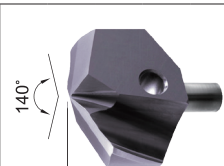
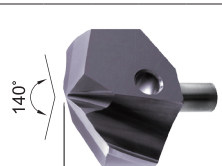
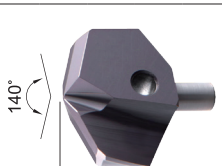
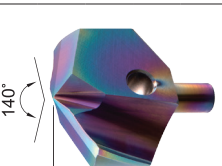
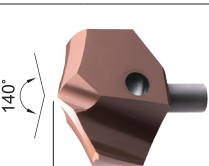
				Insert Screw		Torx Wrench	
Size	Torx Size	Nm	Tool Number	EDP	Tool Number	EDP	Tool Number
3D	20IP	7.5	SDH-32003299-03-F32	FS1183	SDA-M5X29-TP	FS1095	TH120-20IP
5D	20IP	7.5	SDH-32003299-05-F32	FS1183	SDA-M5X29-TP	FS1095	TH120-20IP
8D	20IP	7.5	SDH-32003299-08-F32	FS1183	SDA-M5X29-TP	FS1095	TH120-20IP

Interchangeable Insert Drill 33.0 - 33.99mm

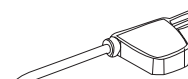
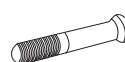


Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH2001	SDH-33003399-03-F32	33.0 - 33.9	32.0	102.0	151.0	211.0	60.0
5D	FH2002	SDH-33003399-05-F32	33.0 - 33.9	32.0	170.0	219.0	279.0	60.0
8D	FH2003	SDH-33003399-08-F32	33.0 - 33.9	32.0	272.0	321.0	381.0	60.0

Interchangeable Inserts

		 Carbide					 Carbide					 Carbide					 Carbide					 HSS PM									
Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S					
		●	○	○			○	●				○			●						●			●	○	○	○				
		CPA					Stk	CMA					Stk	CKA					Stk	CNA					Stk	HPC					Stk
33.0	6.0	SDI-C-P-3300H					●	SDI-C-MS-3300H					○	SDI-C-K-3300H					○	SDI-C-N-3300H					○	SDI-PM-U-3300H					●
33.1	6.0	SDI-C-P-3310H					○	SDI-C-MS-3310H					○	SDI-C-K-3310H					○	SDI-C-N-3310H					○	SDI-PM-U-3310H					○
33.2	6.0	SDI-C-P-3320H					○	SDI-C-MS-3320H					○	SDI-C-K-3320H					○	SDI-C-N-3320H					○	SDI-PM-U-3320H					○
33.3	6.0	SDI-C-P-3330H					○	SDI-C-MS-3330H					○	SDI-C-K-3330H					○	SDI-C-N-3330H					○	SDI-PM-U-3330H					○
33.4	6.0	SDI-C-P-3340H					○	SDI-C-MS-3340H					○	SDI-C-K-3340H					○	SDI-C-N-3340H					○	SDI-PM-U-3340H					○
33.5	6.1	SDI-C-P-3350H					●	SDI-C-MS-3350H					○	SDI-C-K-3350H					○	SDI-C-N-3350H					○	SDI-PM-U-3350H					●
33.6	6.1	SDI-C-P-3360H					○	SDI-C-MS-3360H					○	SDI-C-K-3360H					○	SDI-C-N-3360H					○	SDI-PM-U-3360H					○
33.7	6.1	SDI-C-P-3370H					○	SDI-C-MS-3370H					○	SDI-C-K-3370H					○	SDI-C-N-3370H					○	SDI-PM-U-3370H					○
33.8	6.1	SDI-C-P-3380H					○	SDI-C-MS-3380H					○	SDI-C-K-3380H					○	SDI-C-N-3380H					○	SDI-PM-U-3380H					○
33.9	6.1	SDI-C-P-3390H					○	SDI-C-MS-3390H					○	SDI-C-K-3390H					○	SDI-C-N-3390H					○	SDI-PM-U-3390H					○

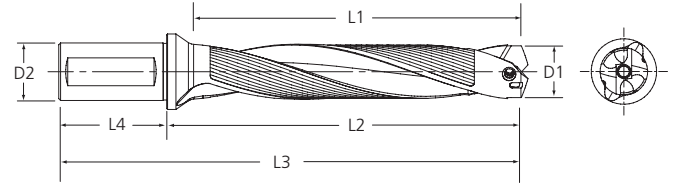
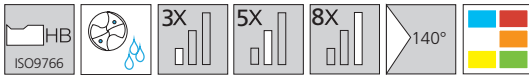
● Stocked ○ Check availability



Spare Parts

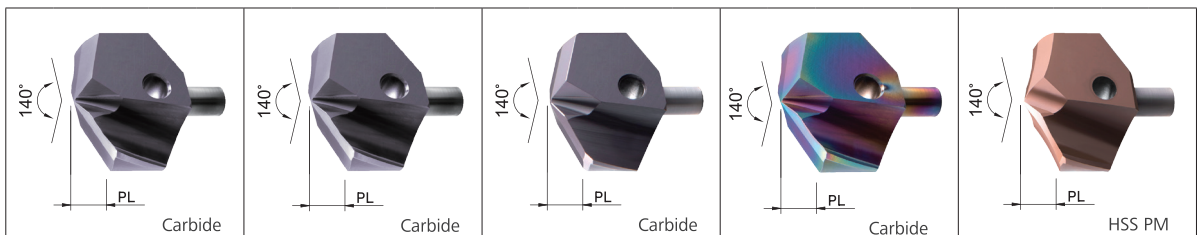
Size	Torx Size	Nm	Tool Number	Insert Screw		Torx Wrench	
				EDP	Tool Number	EDP	Tool Number
3D	20IP	7.5	SDH-33003399-03-F32	FS1183	SDA-M5X29-TP	FS1095	TH120-20IP
5D	20IP	7.5	SDH-33003399-05-F32	FS1183	SDA-M5X29-TP	FS1095	TH120-20IP
8D	20IP	7.5	SDH-33003399-08-F32	FS1183	SDA-M5X29-TP	FS1095	TH120-20IP

Interchangeable Insert Drill 34.0 - 34.99mm



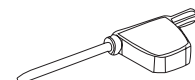
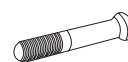
Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH2004	SDH-34003499-03-F40	34.0 - 34.99	40.0	105.0	156.0	226.0	70.0
5D	FH2005	SDH-34003499-05-F40	34.0 - 34.99	40.0	175.0	224.0	294.0	70.0
8D	FH2006	SDH-34003499-08-F40	34.0 - 34.99	40.0	280.0	329.0	399.0	70.0

Interchangeable Inserts



Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S
		●	○	○			○	●			○			●			●	○	○	○		●	○	○	○	
		CPA					CMA					CKA					CNA					HPC				
34.0	6.2	SDI-C-P-3400H	●				SDI-C-MS-3400H	○				SDI-C-K-3400H	○				SDI-C-N-3400H	○				SDI-PM-U-3400H	●			
34.1	6.2	SDI-C-P-3410H		○			SDI-C-MS-3410H	○				SDI-C-K-3410H	○				SDI-C-N-3410H	○				SDI-PM-U-3410H		○		
34.2	6.2	SDI-C-P-3420H		○			SDI-C-MS-3420H	○				SDI-C-K-3420H	○				SDI-C-N-3420H	○				SDI-PM-U-3420H		○		
34.3	6.2	SDI-C-P-3430H		○			SDI-C-MS-3430H	○				SDI-C-K-3430H	○				SDI-C-N-3430H	○				SDI-PM-U-3430H		○		
34.4	6.2	SDI-C-P-3440H		○			SDI-C-MS-3440H	○				SDI-C-K-3440H	○				SDI-C-N-3440H	○				SDI-PM-U-3440H		○		
34.5	6.3	SDI-C-P-3450H	●				SDI-C-MS-3450H	○				SDI-C-K-3450H	○				SDI-C-N-3450H	○				SDI-PM-U-3450H	●			
34.6	6.3	SDI-C-P-3460H		○			SDI-C-MS-3460H	○				SDI-C-K-3460H	○				SDI-C-N-3460H	○				SDI-PM-U-3460H		○		
34.7	6.3	SDI-C-P-3470H		○			SDI-C-MS-3470H	○				SDI-C-K-3470H	○				SDI-C-N-3470H	○				SDI-PM-U-3470H		○		
34.8	6.3	SDI-C-P-3480H		○			SDI-C-MS-3480H	○				SDI-C-K-3480H	○				SDI-C-N-3480H	○				SDI-PM-U-3480H		○		
34.9	6.3	SDI-C-P-3490H		○			SDI-C-MS-3490H	○				SDI-C-K-3490H	○				SDI-C-N-3490H	○				SDI-PM-U-3490H		○		

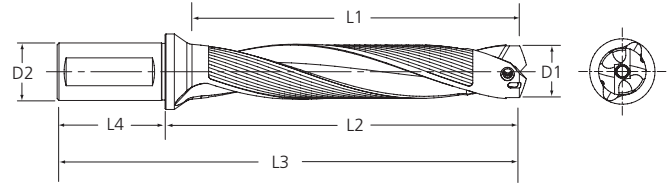
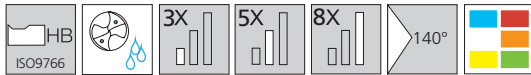
● Stocked ○ Check availability



Spare Parts

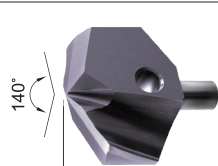
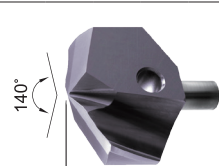
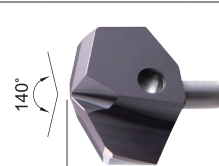
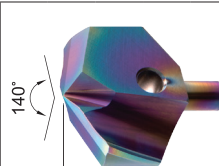
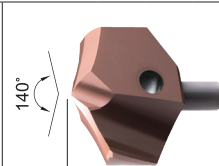
Size	Torx Size	Nm	Tool Number	Insert Screw		Torx Wrench	
				EDP	Tool Number	EDP	Tool Number
3D	20IP	7.5	SDH-34003499-03-F40	FS1184	SDA-M5X32-TP	FS1095	TH120-20IP
5D	20IP	7.5	SDH-34003499-05-F40	FS1184	SDA-M5X32-TP	FS1095	TH120-20IP
8D	20IP	7.5	SDH-34003499-08-F40	FS1184	SDA-M5X32-TP	FS1095	TH120-20IP

Interchangeable Insert Drill 35.0 - 35.99mm

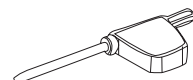
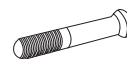


Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH2007	SDH-35003599-03-F40	35.0 - 35.99	40.0	108.0	160.0	230.0	70.0
5D	FH2008	SDH-35003599-05-F40	35.0 - 35.99	40.0	180.0	230.0	300.0	70.0
8D	FH2009	SDH-35003599-08-F40	35.0 - 35.99	40.0	288.0	338.0	408.0	70.0

Interchangeable Inserts

		 Carbide					 Carbide					 Carbide					 Carbide					 HSS PM									
Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S					
		●	○	○			○	●				○			●						●		●	○	○	○					
		CPA					Stk	CMA					Stk	CKA					Stk	CNA					Stk	HPC					Stk
35.0	6.4	SDI-C-P-3500H					●	SDI-C-MS-3500H					○	SDI-C-K-3500H					○	SDI-C-N-3500H					○	SDI-PM-U-3500H					●
35.1	6.4	SDI-C-P-3510H					○	SDI-C-MS-3510H					○	SDI-C-K-3510H					○	SDI-C-N-3510H					○	SDI-PM-U-3510H					○
35.2	6.4	SDI-C-P-3520H					○	SDI-C-MS-3520H					○	SDI-C-K-3520H					○	SDI-C-N-3520H					○	SDI-PM-U-3520H					○
35.3	6.4	SDI-C-P-3530H					○	SDI-C-MS-3530H					○	SDI-C-K-3530H					○	SDI-C-N-3530H					○	SDI-PM-U-3530H					○
35.6	6.4	SDI-C-P-3560H					○	SDI-C-MS-3560H					○	SDI-C-K-3560H					○	SDI-C-N-3560H					○	SDI-PM-U-3560H					○
35.5	6.5	SDI-C-P-3550H					●	SDI-C-MS-3550H					○	SDI-C-K-3550H					○	SDI-C-N-3550H					○	SDI-PM-U-3550H					●
35.6	6.5	SDI-C-P-3560H					○	SDI-C-MS-3560H					○	SDI-C-K-3560H					○	SDI-C-N-3560H					○	SDI-PM-U-3560H					○
35.7	6.5	SDI-C-P-3570H					○	SDI-C-MS-3570H					○	SDI-C-K-3570H					○	SDI-C-N-3570H					○	SDI-PM-U-3570H					○
35.8	6.5	SDI-C-P-3580H					○	SDI-C-MS-3580H					○	SDI-C-K-3580H					○	SDI-C-N-3580H					○	SDI-PM-U-3580H					○
35.9	6.5	SDI-C-P-3590H					○	SDI-C-MS-3590H					○	SDI-C-K-3590H					○	SDI-C-N-3590H					○	SDI-PM-U-3590H					○

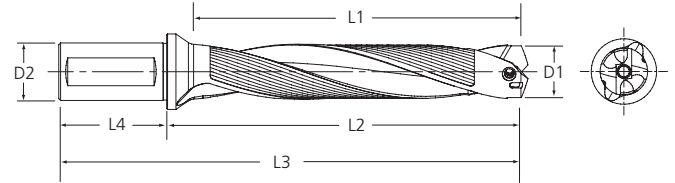
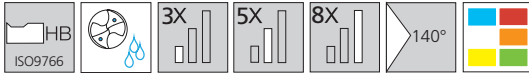
● Stocked ○ Check availability



Spare Parts

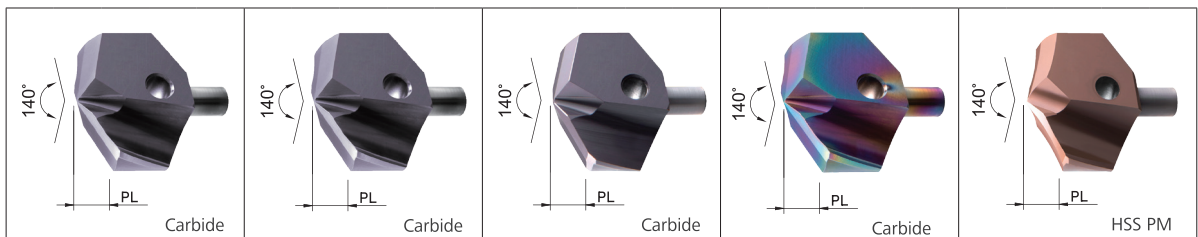
Size	Torx Size	Nm	Tool Number	Insert Screw		Torx Wrench	
				EDP	Tool Number	EDP	Tool Number
3D	20IP	7.5	SDH-35003599-03-F40	FS1184	SDA-M5X32-TP	FS1095	TH120-20IP
5D	20IP	7.5	SDH-35003599-05-F40	FS1184	SDA-M5X32-TP	FS1095	TH120-20IP
8D	20IP	7.5	SDH-35003599-08-F40	FS1184	SDA-M5X32-TP	FS1095	TH120-20IP

Interchangeable Insert Drill 36.0 - 36.99mm



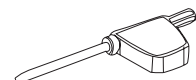
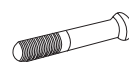
Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH2010	SDH-36003699-03-F40	36.0 - 36.99	40.0	111.0	164.0	234.0	70.0
5D	FH2011	SDH-36003699-05-F40	36.0 - 36.99	40.0	185.0	306.0	306.0	70.0
8D	FH2012	SDH-36003699-08-F40	36.0 - 36.99	40.0	296.0	347.0	417.0	70.0

Interchangeable Inserts



Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S					
		●	○	○			○	●				○			●						●		●	○	○	○					
		CPA					Stk	CMA					Stk	CKA					Stk	CNA					Stk	HPC					Stk
36.0	6.6	SDI-C-P-3600H					●	SDI-C-MS-3600H					○	SDI-C-K-3600H					○	SDI-C-N-3600H					○	SDI-PM-U-3600H					●
36.1	6.6	SDI-C-P-3610H					○	SDI-C-MS-3610H					○	SDI-C-K-3610H					○	SDI-C-N-3610H					○	SDI-PM-U-3610H					○
36.2	6.6	SDI-C-P-3620H					○	SDI-C-MS-3620H					○	SDI-C-K-3620H					○	SDI-C-N-3620H					○	SDI-PM-U-3620H					○
36.3	6.6	SDI-C-P-3630H					○	SDI-C-MS-3630H					○	SDI-C-K-3630H					○	SDI-C-N-3630H					○	SDI-PM-U-3630H					○
36.4	6.6	SDI-C-P-3640H					○	SDI-C-MS-3640H					○	SDI-C-K-3640H					○	SDI-C-N-3640H					○	SDI-PM-U-3640H					○
36.5	6.6	SDI-C-P-3650H					●	SDI-C-MS-3650H					○	SDI-C-K-3650H					○	SDI-C-N-3650H					○	SDI-PM-U-3650H					●
36.6	6.6	SDI-C-P-3660H					○	SDI-C-MS-3660H					○	SDI-C-K-3660H					○	SDI-C-N-3660H					○	SDI-PM-U-3660H					○
36.7	6.6	SDI-C-P-3670H					○	SDI-C-MS-3670H					○	SDI-C-K-3670H					○	SDI-C-N-3670H					○	SDI-PM-U-3670H					○
36.8	6.6	SDI-C-P-3680H					○	SDI-C-MS-3680H					○	SDI-C-K-3680H					○	SDI-C-N-3680H					○	SDI-PM-U-3680H					○
36.9	6.6	SDI-C-P-3690H					○	SDI-C-MS-3690H					○	SDI-C-K-3690H					○	SDI-C-N-3690H					○	SDI-PM-U-3690H					○

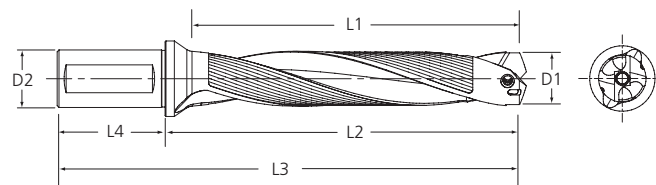
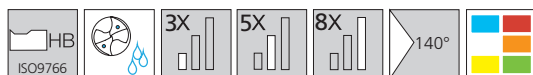
● Stocked ○ Check availability



Spare Parts

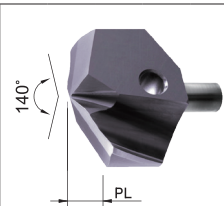
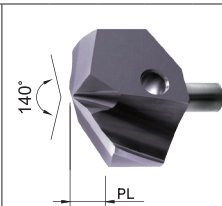
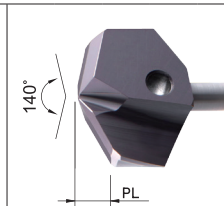
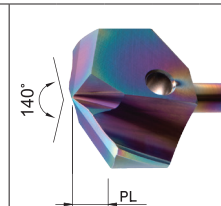
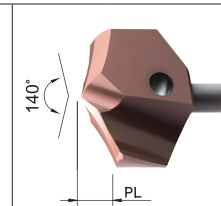
Size	Torx Size	Nm	Tool Number	Insert Screw		Torx Wrench	
				EDP	Tool Number	EDP	Tool Number
3D	20IP	7.5	SDH-36003699-03-F40	FS1184	SDA-M5X32-TP	FS1095	TH120-20IP
5D	20IP	7.5	SDH-36003699-05-F40	FS1184	SDA-M5X32-TP	FS1095	TH120-20IP
8D	20IP	7.5	SDH-36003699-08-F40	FS1184	SDA-M5X32-TP	FS1095	TH120-20IP

Interchangeable Insert Drill 37.0 - 37.99mm

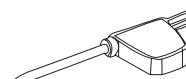
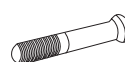


Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH2013	SDH-37003799-03-F40	37.0 - 37.99	40.0	114.0	169.0	239.0	70.0
5D	FH2014	SDH-37003799-05-F40	37.0 - 37.99	40.0	190.0	243.0	313.0	70.0
8D	FH2015	SDH-37003799-08-F40	37.0 - 37.99	40.0	304.0	357.0	427.0	70.0

Interchangeable Inserts

		 Carbide					 Carbide					 Carbide					 Carbide					 HSS PM									
Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S					
		●	○	○			○	●				○			●						●		●	○	○	○					
		CPA					Stk	CMA					Stk	CKA					Stk	CNA					Stk	HPC					Stk
37.0	6.7	SDI-C-P-3700H					●	SDI-C-MS-3700H					○	SDI-C-K-3700H					○	SDI-C-N-3700H					○	SDI-PM-U-3700H					●
37.1	6.7	SDI-C-P-3710H					○	SDI-C-MS-3710H					○	SDI-C-K-3710H					○	SDI-C-N-3710H					○	SDI-PM-U-3710H					○
37.2	6.7	SDI-C-P-3720H					○	SDI-C-MS-3720H					○	SDI-C-K-3720H					○	SDI-C-N-3720H					○	SDI-PM-U-3720H					○
37.3	6.7	SDI-C-P-3730H					○	SDI-C-MS-3730H					○	SDI-C-K-3730H					○	SDI-C-N-3730H					○	SDI-PM-U-3730H					○
37.4	6.7	SDI-C-P-3740H					○	SDI-C-MS-3740H					○	SDI-C-K-3740H					○	SDI-C-N-3740H					○	SDI-PM-U-3740H					○
37.5	6.8	SDI-C-P-3750H					●	SDI-C-MS-3750H					○	SDI-C-K-3750H					○	SDI-C-N-3750H					○	SDI-PM-U-3750H					●
37.6	6.8	SDI-C-P-3760H					○	SDI-C-MS-3760H					○	SDI-C-K-3760H					○	SDI-C-N-3760H					○	SDI-PM-U-3760H					○
37.8	6.8	SDI-C-P-3780H					○	SDI-C-MS-3780H					○	SDI-C-K-3780H					○	SDI-C-N-3780H					○	SDI-PM-U-3780H					○
37.8	6.8	SDI-C-P-3780H					○	SDI-C-MS-3780H					○	SDI-C-K-3780H					○	SDI-C-N-3780H					○	SDI-PM-U-3780H					○
37.9	6.8	SDI-C-P-3790H					○	SDI-C-MS-3790H					○	SDI-C-K-3790H					○	SDI-C-N-3790H					○	SDI-PM-U-3790H					○

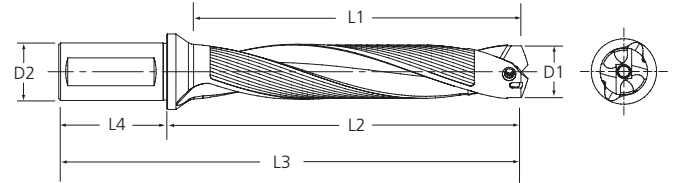
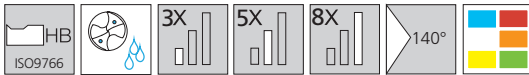
● Stocked ○ Check availability



Spare Parts

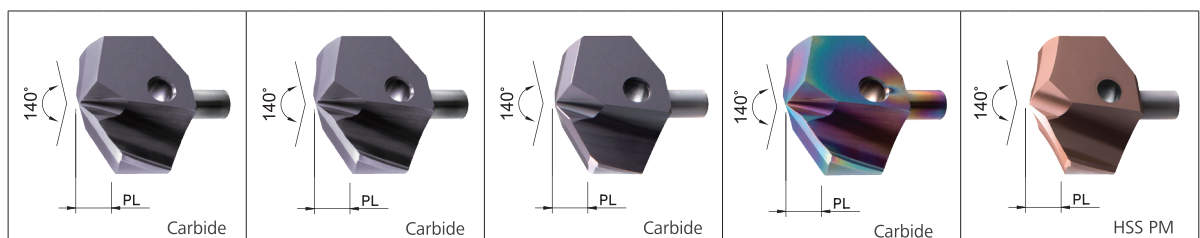
Size	Torx Size	Nm	Tool Number	Insert Screw		Torx Wrench	
				EDP	Tool Number	EDP	Tool Number
3D	25IP	15.0	SDH-37003799-03-F40	FS1185	SDA-M6X35-TP	FS1096	TH120-25IP
5D	25IP	15.0	SDH-37003799-05-F40	FS1185	SDA-M6X35-TP	FS1096	TH120-25IP
8D	25IP	15.0	SDH-37003799-08-F40	FS1185	SDA-M6X35-TP	FS1096	TH120-25IP

Interchangeable Insert Drill 38.0 - 38.99mm



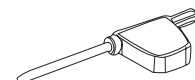
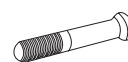
Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH2016	SDH-38003899-03-F40	38.0 - 38.99	40.0	117.0	173.0	243.0	70.0
5D	FH2017	SDH-38003899-05-F40	38.0 - 38.99	40.0	195.0	249.0	319.0	70.0
8D	FH2018	SDH-38003899-08-F40	38.0 - 38.99	40.0	312.0	366.0	436.0	70.0

Interchangeable Inserts



Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S
		●	○	○			○	●						●			●					●	○	○	○	
		CPA					CMA					CKA					CNA					HPC				
38.0	6.8	SDI-C-P-3800H	●				SDI-C-MS-3800H	○				SDI-C-K-3800H	○				SDI-C-N-3800H	○				SDI-PM-U-3800H	●			
38.1	6.8	SDI-C-P-3810H	○				SDI-C-MS-3810H	○				SDI-C-K-3810H	○				SDI-C-N-3810H	○				SDI-PM-U-3810H	○			
38.2	6.8	SDI-C-P-3820H	○				SDI-C-MS-3820H	○				SDI-C-K-3820H	○				SDI-C-N-3820H	○				SDI-PM-U-3820H	○			
38.3	6.8	SDI-C-P-3830H	○				SDI-C-MS-3830H	○				SDI-C-K-3830H	○				SDI-C-N-3830H	○				SDI-PM-U-3830H	○			
38.4	6.8	SDI-C-P-3840H	○				SDI-C-MS-3840H	○				SDI-C-K-3840H	○				SDI-C-N-3840H	○				SDI-PM-U-3840H	○			
38.5	6.9	SDI-C-P-3850H	●				SDI-C-MS-3850H	○				SDI-C-K-3850H	○				SDI-C-N-3850H	○				SDI-PM-U-3850H	●			
38.6	6.9	SDI-C-P-3860H	○				SDI-C-MS-3860H	○				SDI-C-K-3860H	○				SDI-C-N-3860H	○				SDI-PM-U-3860H	○			
38.7	6.9	SDI-C-P-3870H	○				SDI-C-MS-3870H	○				SDI-C-K-3870H	○				SDI-C-N-3870H	○				SDI-PM-U-3870H	○			
38.8	6.9	SDI-C-P-3880H	○				SDI-C-MS-3880H	○				SDI-C-K-3880H	○				SDI-C-N-3880H	○				SDI-PM-U-3880H	○			
38.9	6.9	SDI-C-P-3890H	○				SDI-C-MS-3890H	○				SDI-C-K-3890H	○				SDI-C-N-3890H	○				SDI-PM-U-3890H	○			

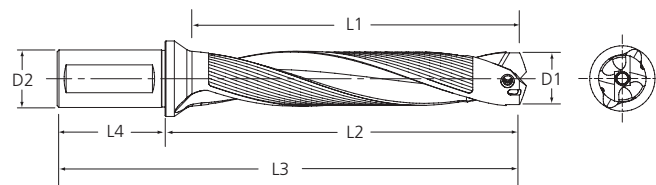
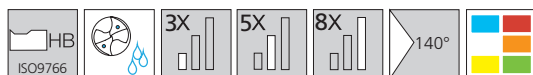
● Stocked ○ Check availability



Spare Parts

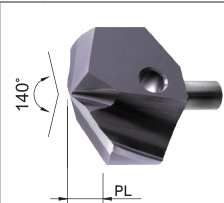
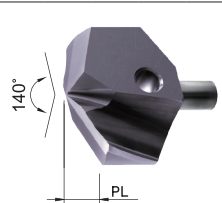
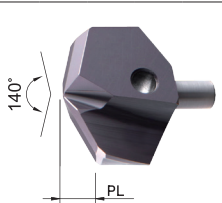
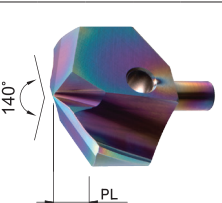
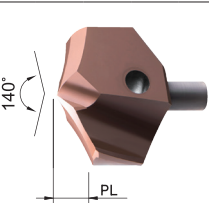
Size	Torx Size	Nm	Tool Number	Insert Screw		Torx Wrench	
				EDP	Tool Number	EDP	Tool Number
3D	25IP	15.0	SDH-38003899-03-F40	FS1185	SDA-M6X35-TP	FS1096	TH120-25IP
5D	25IP	15.0	SDH-38003899-05-F40	FS1185	SDA-M6X35-TP	FS1096	TH120-25IP
8D	25IP	15.0	SDH-38003899-08-F40	FS1185	SDA-M6X35-TP	FS1096	TH120-25IP

Interchangeable Insert Drill 39.0 - 39.99mm

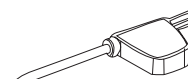
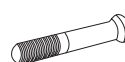


Size	EDP	Tool Number	D1	D2	L1	L2	L3	L4
3D	FH2019	SDH-39003999-03-F40	39.0 - 39.99	40.0	123.0	182.0	252.0	70.0
5D	FH2020	SDH-39003999-05-F40	39.0 - 39.99	40.0	205.0	262.0	332.0	70.0
8D	FH2021	SDH-39003999-08-F40	39.0 - 39.99	40.0	328.0	385.0	455.0	70.0

Interchangeable Inserts

																															
		Carbide					Carbide					Carbide					Carbide					HSS PM									
Dia. mm	PL	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S	P	M	K	N	S					
		●	○	○			○	●				○			●						●			●	○	○	○				
		CPA					Stk	CMA					Stk	CKA					Stk	CNA					Stk	HPC					Stk
39.0	7.1	SDI-C-P-3900H					●	SDI-C-MS-3900H					○	SDI-C-K-3900H					○	SDI-C-N-3900H					○	SDI-PM-U-3900H					●
39.1	7.1	SDI-C-P-3910H					○	SDI-C-MS-3910H					○	SDI-C-K-3910H					○	SDI-C-N-3910H					○	SDI-PM-U-3910H					○
39.2	7.1	SDI-C-P-3920H					○	SDI-C-MS-3920H					○	SDI-C-K-3920H					○	SDI-C-N-3920H					○	SDI-PM-U-3920H					○
39.3	7.1	SDI-C-P-3930H					○	SDI-C-MS-3930H					○	SDI-C-K-3930H					○	SDI-C-N-3930H					○	SDI-PM-U-3930H					○
39.4	7.1	SDI-C-P-3940H					○	SDI-C-MS-3940H					○	SDI-C-K-3940H					○	SDI-C-N-3940H					○	SDI-PM-U-3940H					○
39.5	7.2	SDI-C-P-3950H					○	SDI-C-MS-3950H					○	SDI-C-K-3950H					○	SDI-C-N-3950H					○	SDI-PM-U-3950H					●
39.6	7.2	SDI-C-P-3960H					○	SDI-C-MS-3960H					○	SDI-C-K-3960H					○	SDI-C-N-3960H					○	SDI-PM-U-3960H					○
39.7	7.2	SDI-C-P-3970H					○	SDI-C-MS-3970H					○	SDI-C-K-3970H					○	SDI-C-N-3970H					○	SDI-PM-U-3970H					○
39.8	7.2	SDI-C-P-3980H					○	SDI-C-MS-3980H					○	SDI-C-K-3980H					○	SDI-C-N-3980H					○	SDI-PM-U-3980H					○
39.9	7.3	SDI-C-P-3990H					○	SDI-C-MS-3990H					○	SDI-C-K-3990H					○	SDI-C-N-3990H					○	SDI-PM-U-3990H					○
40.0	7.3	SDI-C-P-4000H					○	SDI-C-MS-4000H					○	SDI-C-K-4000H					○	SDI-C-N-4000H					○	SDI-PM-U-4000H					●

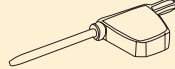
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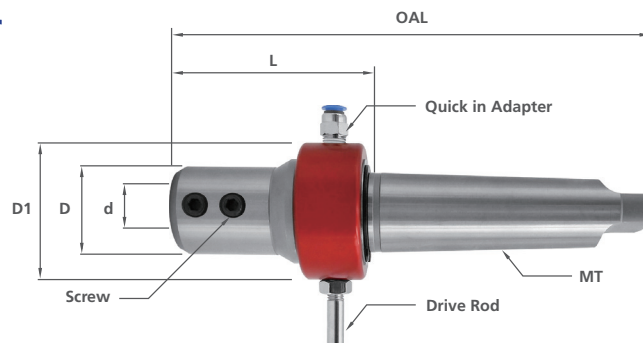
Spare Parts

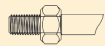
Size	Torx Size	Nm	Tool Number	Insert Screw		Torx Wrench	
				EDP	Tool Number	EDP	Tool Number
3D	25IP	15.0	SDH-39003999-03-F40	FS1185	SDA-M6X35-TP	FS1096	TH120-25IP
5D	25IP	15.0	SDH-39003999-05-F40	FS1185	SDA-M6X35-TP	FS1096	TH120-25IP
8D	25IP	15.0	SDH-39003999-08-F40	FS1185	SDA-M6X35-TP	FS1096	TH120-25IP

Accessories

Insert Diameter Range Ø						
	TORX PLUS	Spec.	Item No.	Spec.	Item No.	Shape
10.0~10.99	6IP	M2x9	SDA-M2X9-TP	6IP	FH180-IP6	
11.0~12.49	6IP	M2x10	SDA-M2X10-TP	6IP		
12.5~13.99	6IP	M2x11.5	SDA-M2X11.5-TP	6IP		
14.0~15.99	7IP	M2.5x13	SDA-M2.5X13-TP	7IP		
16.0~17.99	7IP	M2.5x15	SDA-M2.5X15-TP	7IP	FH180-IP7	
18.0~18.99	9IP	M3x16	SDA-M3X16-TP	9IP		
19.0~20.99	9IP	M3x17	SDA-M3X17-TP	9IP	FH180-IP9	
21.0~23.99	9IP	M3x20	SDA-M3X20-TP	9IP		
24.0~25.99	10IP	M3.5x22	SDA-M3.5X22-TP	10IP	FH180-IP10	
26.0~27.99	10IP	M3.5x24	SDA-M3.5X24-TP	10IP		
28.0~30.99	15IP	M4x26	SDA-M4X26-TP	15IP	TH120-15IP	
31.0~33.99	20IP	M5x29	SDA-M5X29-TP	20IP	TH120-20IP	
34.0~36.99	20IP	M5x32	SDA-M5X32-TP	20IP	TH120-20IP	
37.0~39.99	25IP	M6x35	SDA-M6X35-TP	25IP	TH120-25IP	

Taper Shank Holder



Item No.	d	L	D	D1	OAL	MT				
							Item No.	Item No.	Item No.	Item No.
RCA-MT3-S16-100	16	100	37	54	194	#3	2102006	2301258	2301399	2301203
RCA-MT3-S20-103	20	103	40	54	197.5	#3	2102006	2301258	2301399	2301203
RCA-MT3-S25-109	25	109	49	54	204	#3	2102007	2301258	2301399	2301203
RCA-MT4-S16-110	16	110	37	63.5	227.5	#4	2102006	2301257	2301400	2301202
RCA-MT4-S20-113	20	113	40	63.5	230.5	#4	2102006	2301257	2301400	2301202
RCA-MT4-S25-119	25	119	49	63.5	236.5	#4	2102007	2301257	2301400	2301202
RCA-MT4-S32-128	32	128	64	76	245.5	#4	2102147	2301256	2301400	2301204
RCA-MT4-S40-139	40	139	73	76	256.5	#4	2102147	2301256	2301400	2301204
RCA-MT5-S16-105	16	105	37	76	254	#5	2102006	2301256	2301400	2301204
RCA-MT5-S20-108	20	108	40	76	257	#5	2102006	2301256	2301400	2301204
RCA-MT5-S25-114	25	114	49	76	263	#5	2102007	2301256	2301400	2301204
RCA-MT5-S32-120	32	120	64	76	269	#5	2102147	2301256	2301400	2301204
RCA-MT5-S40-130	40	130	73	76	279	#5	2102147	2301256	2301400	2301204

SD Drill Cutting Parameter Recommendation List - Carbide Insert Series

ISO	Material			Heat treatment		HB	N/mm²	Vc (m/min)			
								Min.	Recommended	Max.	
P	Non-alloy steel Y13 1215 1.0736 Y15 1213 1.0715 Low carbon steel 45 1045 1.0503 Q345B 1140 1.7026			<0.25%C	Annealed	100-150	370-500	84	120	156	
				≥0.25%C	Annealed	175-225	600-775	77	110	143	
				<0.55%C	Quenched & Tempered	225-275	775-940	70	100	130	
				≥0.55%C	Annealed	275-325	940-1090	56	80	104	
	Quenched & Tempered	300	1000		49	70	91				
	Low alloy steel 40Cr 5140 1.7035 42CrMo 4140 1.7225			Annealed	175-225	600-775	74	105	137		
				Annealed	225-275	775-940	70	100	130		
				Annealed	275-325	940-1090	63	90	117		
				Tempered	325-375	1090-1265	53	75	98		
	High alloy steel, tool steel, Cast steel Cr12, D3, 1.2080; 4Cr5MoSiV, H 13, 1.2344			Annealed	225-300	600-1020	49	70	91		
				Tempered	300-350	1020-1180	42	60	78		
	Stainless steel Ferritic/Martensitic 0Cr13 403 1.400 2Cr13 410 1.4021			Ferritic	185-275	640-940	35	50	65		
				Martensitic	275-350	940-1180	42	60	78		
M	Stainless steel Austenitic 0Cr18Ni9 304 1.4301 0Cr17Ni11Mo2 316 1.4401			Annealed	135-185	480-640	39	55	72		
				Cast	185-275	640-940	39	55	72		
	Super Duplex Stainless Steel		N<0.1%	>60% Ferritic	135-185	480-640	42	60	78		
			N≥0.1%	<60% Ferritic	185-275	640-940	35	50	65		
K	Grey cast iron HT200 N0.30 GG20 HT250 N0.35 GG25			Ferritic	120-150	430-500	76	108	140		
				Pearlitic	150-200	500-700	69	99	129		
	Cast iron nodular QT400-18 60-40-18 GGG40 QT600-3 80-60-03 GGG60			Ferritic	200-220	700-755	63	90	117		
				Pearlitic	220-260	755-890	63	90	117		
	Malleable cast iron			Ferritic	120-150	430-500	63	90	117		
				Pearlitic	260-320	890-1020	63	90	117		
N	Wrought Aluminium			Soft	30	100	105	150	195		
				Aged	180	600	91	130	169		
	Cast Aluminium		≤12% Si	Soft	30	100	105	150	195		
			Aged	180	600	91	130	169			
	>12% Si		High Temperature	-	-	91	130	169			
			Copper Alloys			>1% Pb	Free Cutting	100-200	370-670	105	150
	Brass	200-250				670-855	105	150	195		
	Non-metallic			Electrolitic Copper	100	370	105	150	195		
				Duroplastics Fibre Plastics	-	-	105	150	195		
	Hard Rubber			60	200	105	150	195			
S				High Temp. Alloy Hastelloy B, Inconel 600		Fe base	Annealed	140-220	480-755	32	45
Ni or Co base		Aged	223-310				755-990	25	35	46	
		Titanium Alloy		- α + β Alloys Aged	Annealed	250	-	25	35	46	
Aged	350				-	25	35	46			
Cast	320				-	25	35	46			
H			Wear Plate Hardox, AR400, T-1		-	320	Rm 400	25	35	46	
					-	-	Rm 1050	25	35	46	
			Hardened Steel		Harden	400	1365	21	30	39	
					Harden	500	1600	15	21	30	
			Harden	300-400	1020-1365	28	40	52			
			Harden	400-500	1365+	18	25	35			

The cutting parameters recommended by the upper speed are subject to the 3D model. When using 5D and 8D models, reduce the feed rate appropriately according to the working conditions.

fn (mm/r)																				
Ø 10.00-11.99mm			Ø 12.00-13.99mm			Ø 14.00-15.99mm			Ø 16.00-19.99mm			Ø 20.00-25.99mm			Ø 26.00-32.99mm			Ø 33.00-39.99mm		
Min.	Recommended	Max.	Min.	Recommended	Max.	Min.	Recommended	Max.	Min.	Recommended	Max.	Min.	Recommended	Max.	Min.	Recommended	Max.	Min.	Recommended	Max.
0.13	0.18	0.23	0.14	0.20	0.26	0.18	0.25	0.33	0.22	0.32	0.41	0.24	0.35	0.45	0.27	0.38	0.49	0.28	0.40	0.52
0.13	0.18	0.23	0.14	0.20	0.26	0.18	0.25	0.33	0.22	0.32	0.41	0.24	0.35	0.45	0.27	0.38	0.49	0.28	0.40	0.52
0.13	0.18	0.23	0.14	0.20	0.26	0.18	0.25	0.33	0.22	0.32	0.41	0.24	0.35	0.45	0.27	0.38	0.49	0.28	0.40	0.52
0.13	0.18	0.23	0.14	0.20	0.26	0.18	0.25	0.33	0.22	0.32	0.41	0.24	0.35	0.45	0.27	0.38	0.49	0.28	0.40	0.52
0.11	0.16	0.21	0.13	0.18	0.23	0.16	0.23	0.30	0.21	0.30	0.39	0.22	0.32	0.42	0.25	0.36	0.47	0.27	0.38	0.49
0.13	0.18	0.23	0.14	0.20	0.26	0.17	0.24	0.31	0.21	0.30	0.39	0.25	0.35	0.46	0.28	0.40	0.52	0.32	0.45	0.59
0.13	0.18	0.23	0.14	0.20	0.26	0.17	0.24	0.31	0.21	0.30	0.39	0.25	0.35	0.46	0.28	0.40	0.52	0.32	0.45	0.59
0.12	0.17	0.22	0.13	0.19	0.25	0.16	0.23	0.30	0.20	0.29	0.38	0.24	0.34	0.44	0.27	0.39	0.51	0.31	0.44	0.57
0.11	0.16	0.21	0.13	0.18	0.23	0.15	0.22	0.29	0.20	0.28	0.36	0.23	0.33	0.43	0.27	0.38	0.49	0.30	0.43	0.56
0.11	0.16	0.21	0.13	0.19	0.25	0.15	0.22	0.29	0.18	0.25	0.33	0.21	0.30	0.39	0.21	0.30	0.39	0.22	0.32	0.42
0.11	0.16	0.21	0.13	0.19	0.25	0.15	0.22	0.29	0.18	0.25	0.33	0.21	0.30	0.39	0.21	0.30	0.39	0.22	0.32	0.42
0.09	0.14	0.18	0.11	0.16	0.20	0.12	0.17	0.22	0.15	0.22	0.28	0.19	0.27	0.34	0.20	0.29	0.38	0.23	0.33	0.43
0.09	0.13	0.16	0.09	0.14	0.18	0.11	0.15	0.20	0.13	0.19	0.24	0.16	0.24	0.31	0.18	0.26	0.34	0.23	0.33	0.43
0.09	0.13	0.16	0.09	0.14	0.18	0.11	0.15	0.20	0.12	0.18	0.23	0.15	0.22	0.28	0.17	0.24	0.31	0.23	0.33	0.43
0.09	0.13	0.16	0.09	0.14	0.18	0.11	0.15	0.20	0.12	0.18	0.23	0.15	0.22	0.28	0.17	0.24	0.31	0.23	0.33	0.43
0.09	0.13	0.16	0.09	0.14	0.18	0.11	0.15	0.20	0.12	0.18	0.23	0.14	0.21	0.27	0.16	0.23	0.30	0.23	0.33	0.43
0.09	0.13	0.16	0.09	0.14	0.18	0.11	0.15	0.20	0.12	0.18	0.23	0.14	0.21	0.27	0.16	0.23	0.30	0.23	0.33	0.43
0.18	0.25	0.33	0.20	0.29	0.38	0.26	0.37	0.48	0.28	0.41	0.53	0.32	0.45	0.59	0.34	0.48	0.63	0.35	0.50	0.65
0.18	0.25	0.33	0.20	0.29	0.38	0.26	0.37	0.48	0.28	0.41	0.53	0.32	0.45	0.59	0.34	0.48	0.63	0.35	0.50	0.65
0.18	0.25	0.33	0.20	0.29	0.38	0.26	0.37	0.48	0.28	0.41	0.53	0.32	0.45	0.59	0.34	0.48	0.63	0.35	0.50	0.65
0.18	0.25	0.33	0.20	0.29	0.38	0.26	0.37	0.48	0.28	0.41	0.53	0.32	0.45	0.59	0.34	0.48	0.63	0.35	0.50	0.65
0.18	0.25	0.33	0.20	0.29	0.38	0.26	0.37	0.48	0.28	0.41	0.53	0.32	0.45	0.59	0.34	0.48	0.63	0.35	0.50	0.65
0.18	0.25	0.33	0.20	0.29	0.38	0.26	0.37	0.48	0.28	0.41	0.53	0.32	0.45	0.59	0.34	0.48	0.63	0.35	0.50	0.65
0.18	0.25	0.33	0.20	0.28	0.36	0.26	0.37	0.48	0.28	0.40	0.52	0.32	0.45	0.59	0.35	0.50	0.65	0.39	0.55	0.72
0.18	0.25	0.33	0.20	0.28	0.36	0.26	0.37	0.48	0.28	0.40	0.52	0.32	0.45	0.59	0.35	0.50	0.65	0.39	0.55	0.72
0.18	0.25	0.33	0.20	0.28	0.36	0.26	0.37	0.48	0.28	0.40	0.52	0.32	0.45	0.59	0.35	0.50	0.65	0.39	0.55	0.72
0.18	0.25	0.33	0.20	0.28	0.36	0.26	0.37	0.48	0.28	0.40	0.52	0.32	0.45	0.59	0.35	0.50	0.65	0.39	0.55	0.72
0.18	0.25	0.33	0.20	0.28	0.36	0.26	0.37	0.48	0.28	0.40	0.52	0.32	0.45	0.59	0.35	0.50	0.65	0.39	0.55	0.72
0.18	0.25	0.33	0.20	0.28	0.36	0.26	0.37	0.48	0.28	0.40	0.52	0.32	0.45	0.59	0.35	0.50	0.65	0.39	0.55	0.72
0.18	0.25	0.33	0.20	0.28	0.36	0.26	0.37	0.48	0.28	0.40	0.52	0.32	0.45	0.59	0.35	0.50	0.65	0.39	0.55	0.72
0.18	0.25	0.33	0.20	0.28	0.36	0.26	0.37	0.48	0.28	0.40	0.52	0.32	0.45	0.59	0.35	0.50	0.65	0.39	0.55	0.72
0.18	0.25	0.33	0.20	0.28	0.36	0.26	0.37	0.48	0.28	0.40	0.52	0.32	0.45	0.59	0.35	0.50	0.65	0.39	0.55	0.72
0.06	0.08	0.10	0.07	0.10	0.13	0.10	0.14	0.18	0.11	0.16	0.21	0.13	0.18	0.23	0.14	0.20	0.26	0.15	0.22	0.29
0.06	0.08	0.10	0.07	0.10	0.13	0.10	0.14	0.18	0.11	0.16	0.21	0.13	0.18	0.23	0.14	0.20	0.26	0.15	0.22	0.29
0.06	0.08	0.10	0.07	0.10	0.13	0.10	0.14	0.18	0.11	0.16	0.21	0.13	0.18	0.23	0.14	0.20	0.26	0.15	0.22	0.29
0.06	0.08	0.10	0.07	0.10	0.13	0.10	0.14	0.18	0.11	0.16	0.21	0.13	0.18	0.23	0.14	0.20	0.26	0.15	0.22	0.29
0.06	0.08	0.10	0.07	0.10	0.13	0.10	0.14	0.18	0.11	0.16	0.21	0.13	0.18	0.23	0.14	0.20	0.26	0.15	0.22	0.29
0.06	0.08	0.10	0.07	0.10	0.13	0.10	0.14	0.18	0.11	0.16	0.21	0.13	0.18	0.23	0.14	0.20	0.26	0.15	0.22	0.29
0.06	0.08	0.10	0.07	0.10	0.13	0.10	0.14	0.18	0.11	0.16	0.21	0.13	0.18	0.23	0.14	0.20	0.26	0.15	0.22	0.29
0.06	0.08	0.10	0.08	0.12	0.16	0.11	0.15	0.20	0.14	0.20	0.26	0.18	0.25	0.33	0.21	0.30	0.39	0.25	0.35	0.46
0.03	0.04	0.06	0.04	0.06	0.08	0.05	0.07	0.10	0.08	0.11	0.15	0.1	0.14	0.20	0.13	0.18	0.25	0.15	0.21	0.30
0.07	0.10	0.13	0.08	0.12	0.16	0.11	0.15	0.20	0.13	0.18	0.23	0.14	0.20	0.26	0.15	0.22	0.29	0.18	0.25	0.33
0.04	0.06	0.08	0.05	0.07	0.10	0.06	0.08	0.12	0.08	0.11	0.16	0.09	0.13	0.18	0.1	0.14	0.20	0.11	0.15	0.22

It is recommended to use MQL (micro oil mist cooling method) for cutting H-class hard materials.



SD Drill Cutting Parameter Recommendation List - HSS-PM Insert Series

ISO	Material			Heat treatment		HB	N/mm²	Vc (m/min)					
								Min.	Recommended	Max.			
P	Non-alloy steel Y13 1215 1.0736 Y15 1213 1.0715 Low carbon steel 45 1045 1.0503 Q345B 1140 1.7026			<0.25%C	Annealed	100-150	370-500	38	54	70			
				≥0.25%C	Annealed	175-225	600-775	35	50	64			
				<0.55%C	Quenched & Tempered	225-275	775-940	32	45	59			
				≥0.55%C	Annealed	275-325	940-1090	25	36	47			
	Quenched & Tempered	300	1000		22	32	41						
	Low alloy steel 40Cr 5140 1.7035 42CrMo 4140 1.7225			Annealed	175-225	600-775	33	47	62				
				Annealed	225-275	775-940	32	45	59				
				Annealed	275-325	940-1090	28	41	53				
				Tempered	325-375	1090-1265	24	34	44				
	High alloy steel, tool steel, Cast steel Cr12, D3, 1.2080; 4Cr5MoSiV, H 13, 1.2344			Annealed	225-300	600-1020	22	32	41				
				Tempered	300-350	1020-1180	19	27	35				
	Stainless steel Ferritic/Martensitic 0Cr13 403 1.400 2Cr13 410 1.4021			Ferritic	185-275	640-940	16	23	29				
				Martensitic	275-350	940-1180	19	27	35				
M	Stainless steel Austenitic 0Cr18Ni9 304 1.4301 0Cr17Ni11Mo2 316 1.4401			Annealed	135-185	480-640	18	25	32				
				Cast	185-275	640-940	18	25	32				
	Super Duplex Stainless Steel		N<0.1%	>60% Ferritic	135-185	480-640	19	27	35				
			N≥0.1%	<60% Ferritic	185-275	640-940	16	23	29				
K	Grey cast iron HT200 N0.30 GG20 HT250 N0.35 GG25			Ferritic	120-150	430-500	38	54	70				
				Pearlitic	150-200	500-700	35	50	64				
	Cast iron nodular QT400-18 60-40-18 GGG40 QT600-3 80-60-03 GGG60			Ferritic	200-220	700-755	32	45	59				
				Pearlitic	220-260	755-890	32	45	59				
	Malleable cast iron			Ferritic	120-150	430-500	32	45	59				
				Pearlitic	260-320	890-1020	32	45	59				
N	Wrought Aluminium			Soft	30	100	47	68	88				
				Aged	180	600	41	59	76				
	Cast Aluminium			≤12% Si	Soft	30	100	47	68	88			
				Aged	180	600	41	59	76				
	>12% Si			High Temperature	-	-	41	59	76				
				Copper Alloys			>1% Pb	Free Cutting	100-200	370-670	47	68	88
	Brass	200-250	670-855				47	68	88				
	Non-metallic			Electrolitic Copper	100	370	47	68	88				
				Duroplastics Fibre Plastics	-	-	47	68	88				
	Hard Rubber			60	200	47	68	88					
S				High Temp. Alloy Hastelloy B, Inconel 600			Fe base		Annealed	140-220	480-755	14	20
Aged	223-310	755-990	11						16	21			
Ni or Co base		Annealed	250				-	11	16	21			
		Aged	350				-	11	16	21			
		Cast	320				-	11	16	21			
Titanium Alloy			-	320	Rm 400	11	16	21					
			α + β Alloys Aged	-	Rm 1050	11	16	21					
H	Wear Plate Hardox, AR400, T-1			Harden	400	1365	7	10	13				
				Harden	500	1600	-	-	-				
	Hardened Steel			Harden	300-400	1020-1365	9	13	16				
				Harden	400-500	1365+	-	-	-				

The cutting parameters recommended by the upper speed are subject to the 3D model. When using 5D and 8D models, reduce the feed rate appropriately according to the working conditions.

fn (mm/r)																				
Ø 10.00-11.99mm			Ø 12.00-13.99mm			Ø 14.00-15.99mm			Ø 16.00-19.99mm			Ø 20.00-25.99mm			Ø 26.00-32.99mm			Ø 33.00-39.99mm		
Min.	Recommended	Max.	Min.	Recommended	Max.	Min.	Recommended	Max.	Min.	Recommended	Max.	Min.	Recommended	Max.	Min.	Recommended	Max.	Min.	Recommended	Max.
0.13	0.18	0.23	0.14	0.20	0.26	0.18	0.25	0.33	0.22	0.32	0.41	0.24	0.35	0.45	0.27	0.38	0.49	0.28	0.40	0.52
0.13	0.18	0.23	0.14	0.20	0.26	0.18	0.25	0.33	0.22	0.32	0.41	0.24	0.35	0.45	0.27	0.38	0.49	0.28	0.40	0.52
0.13	0.18	0.23	0.14	0.20	0.26	0.18	0.25	0.33	0.22	0.32	0.41	0.24	0.35	0.45	0.27	0.38	0.49	0.28	0.40	0.52
0.13	0.18	0.23	0.14	0.20	0.26	0.18	0.25	0.33	0.22	0.32	0.41	0.24	0.35	0.45	0.27	0.38	0.49	0.28	0.40	0.52
0.11	0.16	0.21	0.13	0.18	0.23	0.16	0.23	0.30	0.21	0.30	0.39	0.22	0.32	0.42	0.25	0.36	0.47	0.27	0.38	0.49
0.13	0.18	0.23	0.14	0.20	0.26	0.17	0.24	0.31	0.21	0.30	0.39	0.25	0.35	0.46	0.28	0.40	0.52	0.32	0.45	0.59
0.13	0.18	0.23	0.14	0.20	0.26	0.17	0.24	0.31	0.21	0.30	0.39	0.25	0.35	0.46	0.28	0.40	0.52	0.32	0.45	0.59
0.12	0.17	0.22	0.13	0.19	0.25	0.16	0.23	0.30	0.20	0.29	0.38	0.24	0.34	0.44	0.27	0.39	0.51	0.31	0.44	0.57
0.11	0.16	0.21	0.13	0.18	0.23	0.15	0.22	0.29	0.20	0.28	0.36	0.23	0.33	0.43	0.27	0.38	0.49	0.30	0.43	0.56
0.11	0.16	0.21	0.13	0.19	0.25	0.15	0.22	0.29	0.18	0.25	0.33	0.21	0.30	0.39	0.21	0.30	0.39	0.22	0.32	0.42
0.11	0.16	0.21	0.13	0.19	0.25	0.15	0.22	0.29	0.18	0.25	0.33	0.21	0.30	0.39	0.21	0.30	0.39	0.22	0.32	0.42
0.09	0.14	0.18	0.11	0.16	0.20	0.12	0.17	0.22	0.15	0.22	0.28	0.19	0.27	0.34	0.20	0.29	0.38	0.23	0.33	0.43
0.09	0.13	0.16	0.09	0.14	0.18	0.11	0.15	0.20	0.13	0.19	0.24	0.16	0.24	0.31	0.18	0.26	0.34	0.23	0.33	0.43
0.09	0.13	0.16	0.09	0.14	0.18	0.11	0.15	0.20	0.12	0.18	0.23	0.15	0.22	0.28	0.17	0.24	0.31	0.23	0.33	0.43
0.09	0.13	0.16	0.09	0.14	0.18	0.11	0.15	0.20	0.12	0.18	0.23	0.15	0.22	0.28	0.17	0.24	0.31	0.23	0.33	0.43
0.09	0.13	0.16	0.09	0.14	0.18	0.11	0.15	0.20	0.12	0.18	0.23	0.14	0.21	0.27	0.16	0.23	0.30	0.23	0.33	0.43
0.09	0.13	0.16	0.09	0.14	0.18	0.11	0.15	0.20	0.12	0.18	0.23	0.14	0.21	0.27	0.16	0.23	0.30	0.23	0.33	0.43
0.18	0.25	0.33	0.20	0.29	0.38	0.26	0.37	0.48	0.28	0.41	0.53	0.32	0.45	0.59	0.34	0.48	0.63	0.35	0.50	0.65
0.18	0.25	0.33	0.20	0.29	0.38	0.26	0.37	0.48	0.28	0.41	0.53	0.32	0.45	0.59	0.34	0.48	0.63	0.35	0.50	0.65
0.18	0.25	0.33	0.20	0.29	0.38	0.26	0.37	0.48	0.28	0.41	0.53	0.32	0.45	0.59	0.34	0.48	0.63	0.35	0.50	0.65
0.18	0.25	0.33	0.20	0.29	0.38	0.26	0.37	0.48	0.28	0.41	0.53	0.32	0.45	0.59	0.34	0.48	0.63	0.35	0.50	0.65
0.18	0.25	0.33	0.20	0.29	0.38	0.26	0.37	0.48	0.28	0.41	0.53	0.32	0.45	0.59	0.34	0.48	0.63	0.35	0.50	0.65
0.18	0.25	0.33	0.20	0.29	0.38	0.26	0.37	0.48	0.28	0.41	0.53	0.32	0.45	0.59	0.34	0.48	0.63	0.35	0.50	0.65
0.18	0.25	0.33	0.20	0.28	0.36	0.26	0.37	0.48	0.28	0.40	0.52	0.32	0.45	0.59	0.35	0.50	0.65	0.39	0.55	0.72
0.18	0.25	0.33	0.20	0.28	0.36	0.26	0.37	0.48	0.28	0.40	0.52	0.32	0.45	0.59	0.35	0.50	0.65	0.39	0.55	0.72
0.18	0.25	0.33	0.20	0.28	0.36	0.26	0.37	0.48	0.28	0.40	0.52	0.32	0.45	0.59	0.35	0.50	0.65	0.39	0.55	0.72
0.18	0.25	0.33	0.20	0.28	0.36	0.26	0.37	0.48	0.28	0.40	0.52	0.32	0.45	0.59	0.35	0.50	0.65	0.39	0.55	0.72
0.18	0.25	0.33	0.20	0.28	0.36	0.26	0.37	0.48	0.28	0.40	0.52	0.32	0.45	0.59	0.35	0.50	0.65	0.39	0.55	0.72
0.18	0.25	0.33	0.20	0.28	0.36	0.26	0.37	0.48	0.28	0.40	0.52	0.32	0.45	0.59	0.35	0.50	0.65	0.39	0.55	0.72
0.18	0.25	0.33	0.20	0.28	0.36	0.26	0.37	0.48	0.28	0.40	0.52	0.32	0.45	0.59	0.35	0.50	0.65	0.39	0.55	0.72
0.18	0.25	0.33	0.20	0.28	0.36	0.26	0.37	0.48	0.28	0.40	0.52	0.32	0.45	0.59	0.35	0.50	0.65	0.39	0.55	0.72
0.18	0.25	0.33	0.20	0.28	0.36	0.26	0.37	0.48	0.28	0.40	0.52	0.32	0.45	0.59	0.35	0.50	0.65	0.39	0.55	0.72
0.18	0.25	0.33	0.20	0.28	0.36	0.26	0.37	0.48	0.28	0.40	0.52	0.32	0.45	0.59	0.35	0.50	0.65	0.39	0.55	0.72
0.06	0.08	0.10	0.07	0.10	0.13	0.10	0.14	0.18	0.11	0.16	0.21	0.13	0.18	0.23	0.14	0.20	0.26	0.15	0.22	0.29
0.06	0.08	0.10	0.07	0.10	0.13	0.10	0.14	0.18	0.11	0.16	0.21	0.13	0.18	0.23	0.14	0.20	0.26	0.15	0.22	0.29
0.06	0.08	0.10	0.07	0.10	0.13	0.10	0.14	0.18	0.11	0.16	0.21	0.13	0.18	0.23	0.14	0.20	0.26	0.15	0.22	0.29
0.06	0.08	0.10	0.07	0.10	0.13	0.10	0.14	0.18	0.11	0.16	0.21	0.13	0.18	0.23	0.14	0.20	0.26	0.15	0.22	0.29
0.06	0.08	0.10	0.07	0.10	0.13	0.10	0.14	0.18	0.11	0.16	0.21	0.13	0.18	0.23	0.14	0.20	0.26	0.15	0.22	0.29
0.06	0.08	0.10	0.07	0.10	0.13	0.10	0.14	0.18	0.11	0.16	0.21	0.13	0.18	0.23	0.14	0.20	0.26	0.15	0.22	0.29
0.06	0.08	0.10	0.07	0.10	0.13	0.10	0.14	0.18	0.11	0.16	0.21	0.13	0.18	0.23	0.14	0.20	0.26	0.15	0.22	0.29
0.06	0.08	0.10	0.08	0.12	0.16	0.11	0.15	0.20	0.14	0.20	0.26	0.18	0.25	0.33	0.21	0.30	0.39	0.25	0.35	0.46
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.07	0.10	0.13	0.08	0.12	0.16	0.11	0.15	0.20	0.13	0.18	0.23	0.14	0.20	0.26	0.15	0.22	0.29	0.18	0.25	0.33
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

It is recommended to use MQL (micro oil mist cooling method) for cutting H-class hard materials.

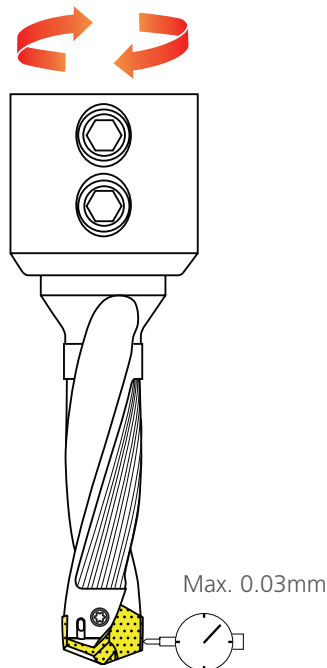
Essentials of use and precautions

Assembly

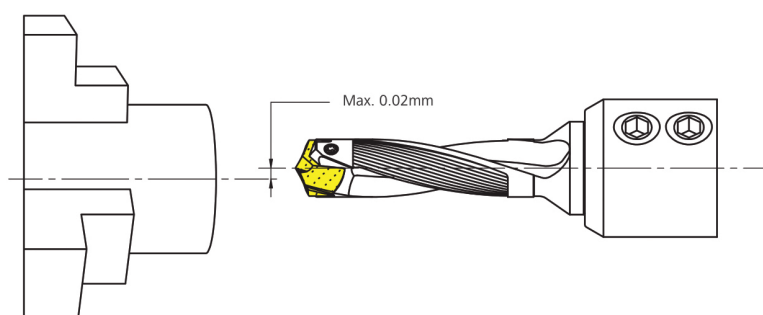
The stability of the applications is essential for optimal tool life and hole accuracy. Guarantee the maximum stability and rigidity by checking the holding of the machine tool spindle, fixtures and workpiece. Unstable operating conditions will cause fracture of drill inserts.

Max Runout and Misalignment

Runout

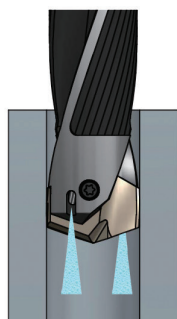


Misalignment



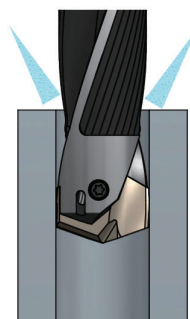
Cooling Pressure

Inner cooling



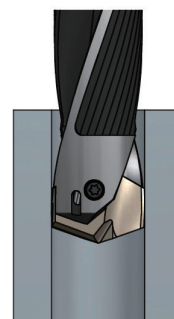
3xD: 5bar	✓
5xD: 10bar	✓
8xD: 15bar	✓
10xD: 20bar	✓

Outer cooling



3xD: 5bar	✓
5xD: 10bar	✗
8xD: 15bar	✗
10xD: 20bar	✗

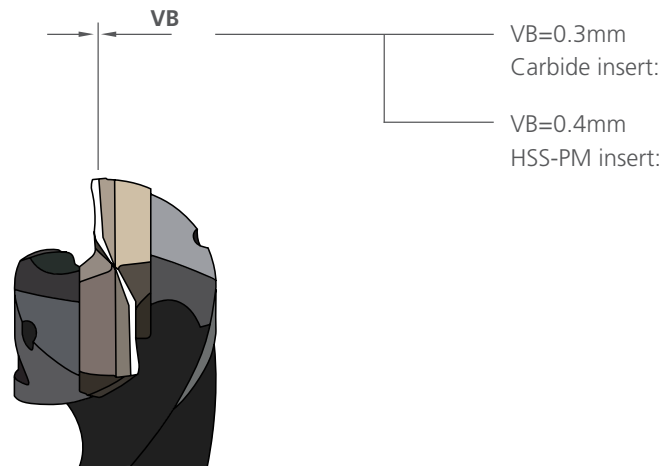
MQL cutting



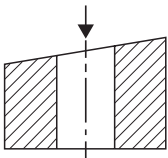
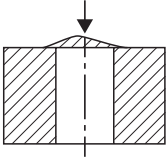
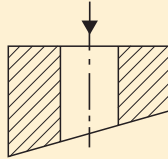
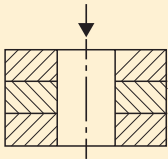
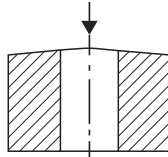
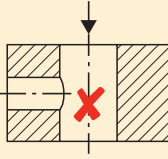
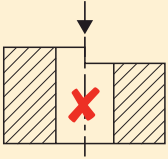
3xD: MQL	✓
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Standard for drill insert replacement

Wear limit

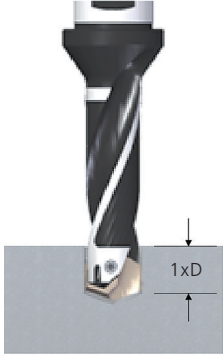
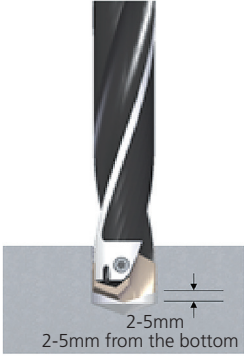
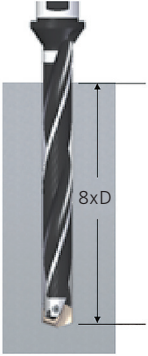


Application

Operating Condition	Instructions	Operating Condition	Instructions
	The entry surface is angled Slope <3° Feed Rate 50%		The entry surface is welded Level it through spot facing before machining
	The exit is angled Slope <3° Feed Rate 50%		Stacked plates Allowed in principle The workpiece shall be properly clamped There must be no gaps between the plates
	The entry surface is an arc Drilling at the center at reduced feed rate is allowed Spot facing is required if the entry point is not at the center of the arc		Cavities/Overlapping Not allowed
	Cross holes Care to be exercised with chip removal		Step on the entry surface not allowed (the entry point must be on a horizontal plane)

Precautions

Drilling process for holders with a length of 8D

			
Drill a pilot hole to 1D to 1.5D with a short holder	Enter the pilot hole at a low speed and low feed rate	Turn on coolant for 2 to 3s	Carry out continuous drilling according to the recommended parameters Reduce the speed and feed during exit

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M.A. Ford Europe Ltd.

650 City Gate
London Road, Derby
DE24 8WY
United Kingdom

Tel: +44(0) 1332 267960
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e-mail: sales@mafordeurope.com
www.mafordeurope.com

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M.A. Ford® Asia-Pacific Limited

Room 1709, Level 17
Millennium City 2
378 Kwun Tong Road
Kowloon, Hong Kong

Tel: +852-2167-7150
Fax: +852-2167-8150
Email: sales@mafordap.com