

Solid Carbide NC Spot Drill ——D180/181



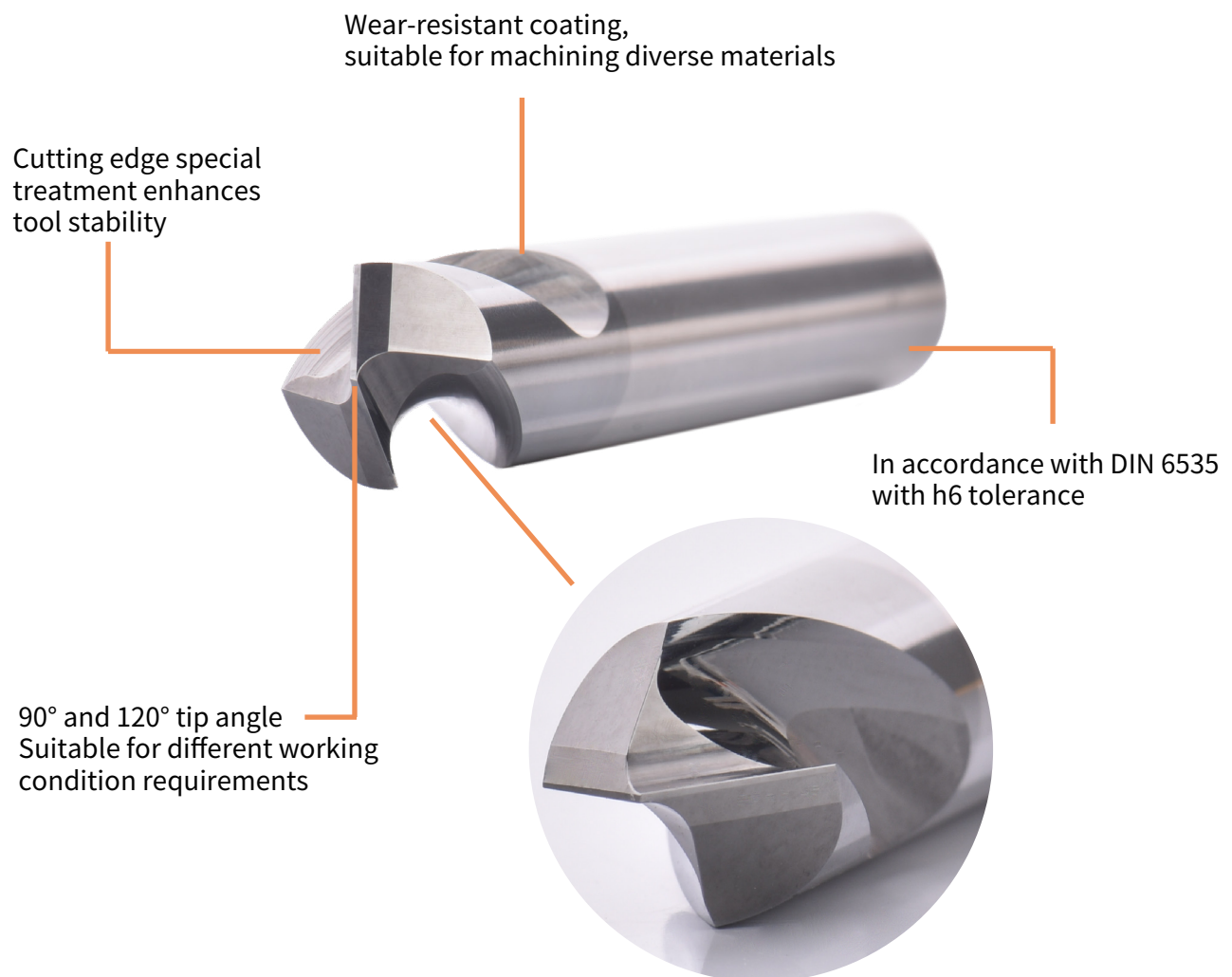
• D180 NC Spot Drill

• Tool

- Solid carbide NC spot drill
- 90° and 120° tip angle
- Cutting diameter 6mm-20mm

• Application

- ISO workpiece material groups , P,M,K,N,S,H
- NC spotting and hole chamfering



• Solid Carbide Drill Denomination System

D	1	80			01			06000	A	0
1	2	3			4			5	6	7

1-Tool Group	
D	Drilling

2-Generation
1

4-Drilling Depth	
01	Accordance with Achteck standard

5-Cutting Diameter	
06000	6.0mm
12000	12.0mm

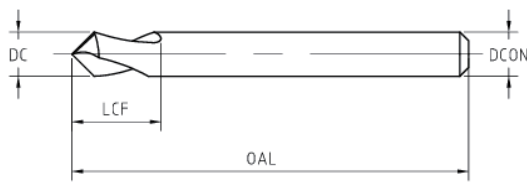
6-Shank Type	
A	DIN 6535 HA cylindrical shank

3-Tool Type	
00-09	General-purpose drills
10-19	Micro-diameter drills
20-29	High-performance drills
30-39	Steel-specific drills
40-49	Aluminum-specific drills
50-59	S.S.-specific drills
60-69	Hard-to-cut material drills
70-79	Hard material drills
80-99	80:90° Spot Drill 81:120° Spot Drill

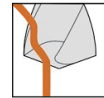
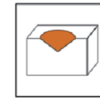
7-Coolant	
0	External coolant
1	Internal coolant

● D180 Solid Carbide NC Spot Drill-90°

●●1st choice ●2nd choice



P	M	K	N	S	H
●●	●	●●	●	●	●



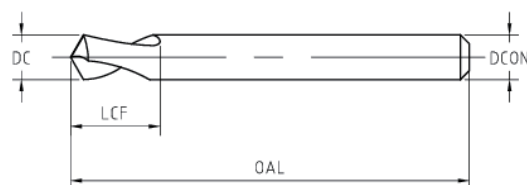
Product code	DC mm	LCF mm	OAL mm	DCON (h6) mm	Stock
D180-01-06000A0	6	15	66	6	●
D180-01-08000A0	8	17	79	8	●
D180-01-10000A0	10	20	89	10	●
D180-01-12000A0	12	25	102	12	●
D180-01-14000A0	14	30	107	14	●
D180-01-16000A0	16	35	115	16	●
D180-01-20000A0	20	40	131	20	○

Special product can be ordered

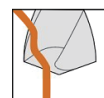
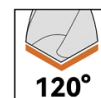
● Standard stock ○ Made-to-Order

● D181 Solid Carbide NC Spot Drill-120°

●●1st choice ●2nd choice



P	M	K	N	S	H
●●	●	●●	●	●	●



Product code	DC mm	LCF mm	OAL mm	DCON (h6) mm	Stock
D181-01-06000A0	6	15	66	6	●
D181-01-08000A0	8	17	79	8	●
D181-01-10000A0	10	20	89	10	●
D181-01-12000A0	12	25	102	12	●
D181-01-14000A0	14	30	107	14	●
D181-01-16000A0	16	35	115	16	●
D180-01-20000A0	20	40	131	20	○

Special product can be ordered

● Standard stock ○ Made-to-Order

◆ D180 Solid Carbide NC Spot Drill Cutting Data

Vc=Cutting speed (m/min) Feed code = feed reference table see page 5						D180/D181	
ISO	Workpiece material			Brinell hardness (HB/HRC)	Tensile strength (N/mm ²)	Vc(m/min)	Feed code
P	Unalloyed steel	C≤0.25%	Annealed	125	428	90-195	F
		0.25 < C≤0.55%	Annealed	190	639	90-180	F
		0.25 < C≤0.55%	Heat-treated	210	708	90-165	E
		C > 0.55%	Annealed	190	639	90-165	E
		C > 0.55%	Heat-treated	300	1013	90-165	D
		Free cutting steel (short-chip)	Annealed	220	745	90-165	E
	Low-alloyed steel	Annealed		175	591	90-165	E
		Heat-treated		285	960	90-165	D
		Heat-treated		380	1282	90-165	C
		Heat-treated		430	1477	90-120	B
	High-alloyed steel and high-alloyed tool steel	Annealed		200	675	60-110	D
		Hardened and tempered		300	1013	90-165	C
		Hardened and tempered		400	1361	90-150	C
	Stainless steel	Ferritic/martensitic, annealed		200	675	90-150	D
		Martensitic, heat-treated		330	1114	60-110	C
M	Stainless steel	Austenitic, quench hardened		200	675	45-75	C
		Austenitic, precipitation hardened (PH)		300	1013	45-75	C
		Austenitic/ferritic, duplex		230	778		
K	Malleable cast iron	Ferritic		200	400	90-210	G
		Pearlitic		260	700	90-210	G
	Grey cast iron	Low tensile strength		180	200	90-210	H
		High tensile strength/austenitic		245	350	90-195	G
	Cast iron with spheroidal graphite	Ferritic		155	400	90-195	G
		Pearlitic		265	700	90-180	F
	GGV (CGI)			230	400	90-180	F
N	Wrought aluminium alloys	non-aging		30	-	90-225	G
		aged		100	340	90-180	G
	Cast aluminium alloys	≤ 12% Si, non-aging		75	260	90-225	H
		≤ 12% Si, aged		90	310	90-225	H
		> 12% Si, non-aging		130	450	90-225	G
	Magnesium alloys			70	250		
	Copper and copper alloys (bronze/brass)	Unalloyed, electrolytic copper		100	340	90-180	C
		Brass, bronze, red brass		90	310	90-180	E
		Cu alloys, short-chip		110	380	90-180	F
S	Heat-resistant alloys	Fe-based	Annealed	200	680		
			Hardened	280	940		
		Ni or Co based	Annealed	250	840		
			Hardened	350	1180		
			Cast	320	1080		
	Titanium alloys	Pure titanium		200	680	30-45	B
		α and β alloys, hardened		375	1260	30-45	A
		β alloys		410	1400		
	Tungsten alloys			300	1010		
	Molybdenum alloys			300	1010		
H	Hardened steel	Hardened and tempered		50HRC		10-15	A
		Hardened and tempered		55HRC		10-15	A
		Hardened and tempered		60HRC			
	Chilled cast iron	Hardened and tempered		50HRC			

The cutting data are average recommended values. For special applications, adjustment is needed.

Feed Rate Reference Table

Feed rate f(mm/rev)									
Dia. mm		A	B	C	D	E	F	G	H
	6.0	0.05	0.07	0.08	0.10	0.12	0.15	0.18	0.20
	8.0	0.06	0.08	0.10	0.14	0.15	0.18	0.20	0.23
	10.0	0.08	0.10	0.12	0.14	0.18	0.20	0.24	0.28
	12.0	0.10	0.12	0.14	0.18	0.20	0.24	0.28	0.32
	14.0	0.10	0.14	0.18	0.20	0.24	0.28	0.32	0.34
	16.0	0.12	0.15	0.18	0.20	0.25	0.30	0.34	0.36
	20.0	0.15	0.16	0.20	0.25	0.30	0.34	0.37	0.40