

# YG NC-SPOTTING DRILLS

## D5320 SERIES

### CARBIDE, NC-SPOTTING DRILLS 142°

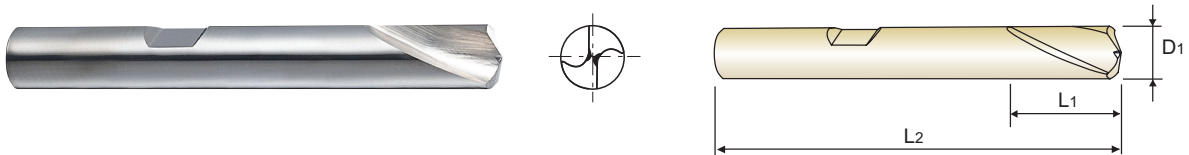
● VOLLHARTMETALL NC-ANBOHRER 142°

● Forets carbure à pointer NC 142°

● PUNTE IN MD A CENTRARE NC 142°

► **Application** : For more precise centering work on NC/CNC machines. The large diameter of the tool permits chamfering work after centering continuously.

► **Verwendung** : Auf NC-Maschinen, Lehrenbohrwerken u.a. kapitalintensiven Bohrwerken, zum Zentrieren und Anfasen von Gewindebohrungen in einem Arbeitsgang. Besonders geeignet zum Anbohren von hochfesten Stählen, Stahlguß, Grauguß, Hartguß, Mangan-Hartstahl, CrNi-Stählen, Bronze, Leicht- und Buntmetallen.



### NC-Spotting drills 142° NC-Anbohrer 142°

Unit : mm

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
● D5320030	3.0	8	32
● D5320040	4.0	10	40
● D5320050	5.0	13	50
D5320060	6.0	13	50
D5320080	8.0	23	60
D5320100	10.0	24	70
D5320120	12.0	24	70
D5320160	16.0	29	75
D5320200	20.0	35	100

● with plain shank

◎ : Excellent ○ : Good

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25		21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎			◎	○					○			◎	○	○		○		
ISO	N				S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
HB											15	30	25	38	34			55	60	42	55
Recommended	○	○	○													○					



RECOMMENDED CUTTING CONDITIONS  
EMPHOHLENE SCHNEIDPARAMETER

D5306, D5307, D5320 SERIES

CARBIDE, NC-SPOTTING DRILLS

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

ISO	VDI 3323	Material Description	Vc (m/min)	Parameter	Drill Diameter (mm)								
					2.0	3.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0
P	1	Non-alloy steel	75	RPM FEED	11940 0.02-0.04	7960 0.04-0.06	5970 0.05-0.08	3980 0.07-0.10	2980 0.08-0.12	2390 0.09-0.14	1990 0.11-0.17	1490 0.13-0.19	1190 0.15-0.21
	2		70	RPM FEED	11140 0.02-0.04	7430 0.04-0.06	5570 0.05-0.08	3710 0.07-0.10	2790 0.08-0.12	2230 0.09-0.14	1860 0.11-0.17	1390 0.13-0.19	1110 0.15-0.21
	3		65	RPM FEED	10350 0.01-0.03	6900 0.03-0.05	5170 0.04-0.07	3450 0.05-0.08	2590 0.07-0.10	2070 0.08-0.12	1720 0.09-0.14	1290 0.11-0.17	1030 0.13-0.19
	4												
	5												
	6	Low alloy steel	70	RPM FEED	11140 0.02-0.04	7430 0.04-0.06	5570 0.05-0.08	3710 0.07-0.10	2790 0.08-0.12	2230 0.09-0.14	1860 0.11-0.17	1390 0.13-0.19	1110 0.15-0.21
	7		55	RPM FEED	8750 0.01-0.03	5840 0.03-0.05	4380 0.04-0.07	2920 0.05-0.08	2190 0.07-0.10	1750 0.08-0.12	1460 0.09-0.14	1090 0.11-0.17	880 0.13-0.19
	8												
	9												
	10	High alloyed steel, and tool steel											
	11												
M	12	Stainless steel	35	RPM FEED	5570 0.02-0.04	3710 0.04-0.06	2790 0.05-0.08	1860 0.07-0.10	1390 0.08-0.12	1110 0.09-0.14	930 0.11-0.17	700 0.13-0.19	560 0.15-0.21
	13												
	14												
K	15	Grey cast iron	90	RPM FEED	14320 0.03-0.05	9550 0.05-0.07	7160 0.06-0.09	4770 0.08-0.11	3580 0.10-0.13	2860 0.12-0.16	2390 0.15-0.20	1790 0.18-0.24	1430 0.22-0.28
	16		70	RPM FEED	11140 0.01-0.03	7430 0.03-0.05	5570 0.04-0.07	3710 0.05-0.08	2790 0.07-0.10	2230 0.08-0.12	1860 0.09-0.14	1390 0.11-0.17	1110 0.13-0.19
	17	Nodular cast iron	90	RPM FEED	14320 0.03-0.05	9550 0.05-0.07	7160 0.06-0.09	4770 0.08-0.11	3580 0.10-0.13	2860 0.12-0.16	2390 0.15-0.20	1790 0.18-0.24	1430 0.22-0.28
	18												
	19	Malleable cast iron	60	RPM FEED	9550 0.03-0.05	6370 0.05-0.07	4770 0.06-0.09	3180 0.08-0.11	2390 0.10-0.13	1910 0.12-0.16	1590 0.15-0.2	1190 0.18-0.24	950 0.22-0.28
	20												
N	21	Aluminum-wrought alloy	165	RPM FEED	26260 0.04-0.06	17510 0.06-0.09	13130 0.08-0.11	8750 0.10-0.13	6570 0.12-0.15	5250 0.15-0.19	4380 0.18-0.23	3280 0.21-0.27	2630 0.25-0.31
	22		130	RPM FEED	20690 0.04-0.06	13790 0.06-0.09	10350 0.08-0.11	6900 0.10-0.13	5170 0.12-0.15	4140 0.15-0.19	3450 0.18-0.23	2590 0.21-0.27	2070 0.25-0.31
	23	Aluminum-cast, alloyed	110	RPM FEED	17510 0.04-0.06	11670 0.06-0.09	8750 0.08-0.11	5840 0.10-0.13	4380 0.12-0.15	3500 0.15-0.19	2920 0.18-0.23	2190 0.21-0.27	1750 0.25-0.31
	24												
	25												
	26												
	27	Copper and Copper Alloys (Bronze / Brass)											
	28												
	29	Non Metallic Materials											
	30												
S	31	Heat Resistant Super Alloys											
	32												
	33												
	34												
	35												
	36	Titanium Alloys	35	RPM FEED	5570 0.01-0.03	3710 0.03-0.05	2790 0.04-0.06	1860 0.05-0.08	1390 0.07-0.10	1110 0.08-0.12	930 0.09-0.14	700 0.11-0.17	560 0.13-0.19
	37												
H	38	Hardened steel											
	39												
	40	Chilled Cast Iron											
	41	Hardened Cast Iron											

SELECTION GUIDE



SERIES

D5306  
D5307

D5320

D2306  
D2321

POINT ANGLE

90° / 120°

142°

90°

SIZE MIN

D6.0

D3.0

D3.0

SIZE MAX

D20.0

D20.0

D20.0

PAGE

300

301

302

SURFACE TREATMENT

Bright

# SOLID CARBIDE & HSSCo8 NC-SPOTTING DRILLS

For Centering and Chamfering of Holes



Please visit  
[globalyg1.com/mat](http://globalyg1.com/mat)  
for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : P.305

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc	D5306/D5307	D5320	D2306/D2321
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	◎	◎
	2		About 0.45% C Annealed	190	13	◎	◎	◎
	3		About 0.45% C Quenched & Tempered	250	25	◎	◎	◎
	4		About 0.75% C Annealed	270	28			
	5		About 0.75% C Quenched & Tempered	300	32			
	6	Low alloy steel	Annealed	180	10	◎	◎	◎
	7		Quenched & Tempered	275	29	○	○	○
	8		Quenched & Tempered	300	32			
	9		Quenched & Tempered	350	38			
	10		High alloyed steel, and tool steel	Annealed	200	15		
	11	Quenched & Tempered		325	35			
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	○	○	○
	13		Martensitic Quenched & Tempered	240	23			
	14		Austenitic	180	10			
K	15	Grey cast iron	Pearlitic / ferritic	180	10	◎	◎	◎
	16		Pearlitic (Martensitic)	260	26	○	○	○
	17	Nodular cast iron	Ferritic	160	3	○	○	○
	18		Pearlitic	250	25			
	19	Malleable cast iron	Ferritic	130		○	○	○
20	Pearlitic		230	21				
N	21	Aluminum-wrought alloy	Not Curable	60		○	○	○
	22		Curable Hardened	100		○	○	○
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		○	○	○
	24		≤ 12% Si, Curable Hardened	90				
	25		> 12% Si, Not Curable	130				
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110				
	27		CuZn, CuSnZn (Brass)	90				
	28		CuSn, lead-free copper and electrolytic copper	100				
	29		Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic Rubber, Wood, etc.				
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15		
	32			Cured	280	30		
	33		Annealed	250	25			
	34		Ni or Co Based	Cured	350	38		
	35			Cast	320	34		
	36	Titanium Alloys	Pure Titanium	400 Rm		○	○	
	37		Alpha + Beta Alloys Hardened	1050 Rm				
H	38	Hardened steel	Hardened	550	55			
	39		Hardened	630	60			
	40	Chilled Cast Iron	Cast	400	42			
	41	Hardened Cast Iron	Hardened	550	55			