

# Y/G DREAM DRILLS - MQL TYPE

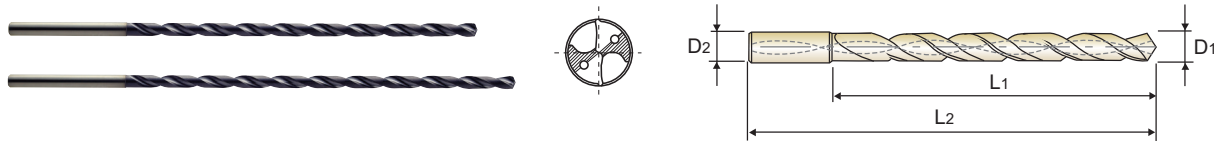
## DH515 SERIES DH520 SERIES

### CARBIDE, DREAM DRILLS MQL TYPE with COOLANT HOLES EXTRA LONG ÜBERLANG EXTRA-LONGUE EXTRA LUNGA

- 🇩🇪 VOLLHARTMETALL DREAM SPIRALBOHRER MQL - TYPE mit KÜHLKANAL in GERADZÄHLIGER SCHAFTAUSFÜHRUNG
- 🇫🇷 Forets DREAM DRILLS carbure Type MQL avec arrosage central, série extra-longue
- 🇮🇹 PUNTE ELICOIDALI IN MD, DREAM DRILLS MQL (con fori di refrigerazione)

- ▶ 4-Facet Point for good centering capability
- ▶ Optimized special flutes are ideal for removing chips and for productive drilling
- ▶ Enhanced chip evacuation by polished flute upgraded TiAlN nano layer full coating
- ▶ MQL system compatible (Minimum Quantity Lubrication)

- ▶ 4-Facetten-Spitze für gute Zentrierfähigkeit
- ▶ Optimierte Spezialnuten für die ideale Spanabfuhr und zum produktiven Bohren
- ▶ Verbesserte Spanabfuhr durch hochglanzpolierte TiAlN-Nano-Vollbeschichtung
- ▶ MMS geeignet



P.154-155

15 x D (DH515)    20 x D (DH520)

#### DH515

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
TiAlN	D1	D2	L1	L2
DH515030	3.0	3	54	105
DH515035	3.5	4	63	114
DH515040	4.0	4	72	123
DH515045	4.5	5	81	134
DH515050	5.0	5	90	143
DH515055	5.5	6	99	154
DH515060	6.0	6	108	163
DH515070	7.0	7	126	182
DH515080	8.0	8	144	201
DH515090	9.0	9	162	220
DH515100	10.0	10	180	238
DH515110	11.0	11	198	262
DH515120	12.0	12	216	281

#### DH520

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
TiAlN	D1	D2	L1	L2
DH520030	3.0	3	69	120
DH520035	3.5	4	81	132
DH520040	4.0	4	92	143
DH520045	4.5	5	104	157
DH520050	5.0	5	115	168
DH520055	5.5	6	127	182
DH520060	6.0	6	138	193
DH520070	7.0	7	161	217
DH520080	8.0	8	184	241
DH520090	9.0	9	207	265
DH520100	10.0	10	230	288
DH520120	12.0	12	276	341

Unit : mm

ISO	P									M					K					
Material Description	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	32	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					
Material Description	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											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																					

**DH510, DH515, DH520, DHM10, DHM15, DHM20, DHM25, DHM30** SERIES with COOLANT HOLES

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

ISO	VDI 3323	Material Description	Vc(m/min)		Parameter	Drill Diameter (mm)				
			10xD ~ 20xD	25xD ~ 30xD		3.0	4.0	5.0	6.0	
P	1	Non-alloy steel	120	100	RPM(10xD-20xD) RPM(25xD-30xD) FEED	12730 10610 0.08-0.12	9550 7960 0.10-0.14	7640 6370 0.12-0.18	6370 5310 0.14-0.20	
	2		100	80	RPM(10xD-20xD) RPM(25xD-30xD) FEED	10610 8490 0.08-0.12	7960 6370 0.10-0.14	6370 5090 0.12-0.18	5310 4240 0.14-0.20	
	3		80	65	RPM(10xD-20xD) RPM(25xD-30xD) FEED	8490 6900 0.06-0.10	6370 5170 0.08-0.12	5090 4140 0.10-0.16	4240 3450 0.12-0.18	
	4									
	5									
	6	Low alloy steel	100	100	RPM(10xD-20xD) RPM(25xD-30xD) FEED	10610 10610 0.08-0.12	7960 7960 0.10-0.14	6370 6370 0.12-0.18	5310 5310 0.14-0.20	
	7		70	60	RPM(10xD-20xD) RPM(25xD-30xD) FEED	7430 6370 0.06-0.10	5570 4770 0.08-0.12	4460 3820 0.10-0.16	3710 3180 0.12-0.18	
	8		55	50	RPM(10xD-20xD) RPM(25xD-30xD) FEED	5840 5310 0.06-0.10	4380 3980 0.08-0.12	3500 3180 0.10-0.16	2920 2650 0.12-0.18	
	9									
	10	High alloyed steel, and tool steel	60	50	RPM(10xD-20xD) RPM(25xD-30xD) FEED	6370 5310 0.05-0.09	4770 3980 0.07-0.11	3820 3180 0.08-0.14	3180 2650 0.10-0.16	
	11		50	45	RPM(10xD-20xD) RPM(25xD-30xD) FEED	5310 4770 0.04-0.08	3980 3580 0.06-0.10	3180 2860 0.07-0.13	2650 2390 0.08-0.14	
M	12	Stainless steel								
	13									
	14									
K	15	Grey cast iron	90	75	RPM(10xD-20xD) RPM(25xD-30xD) FEED	9550 7960 0.10-0.14	7160 5970 0.12-0.16	5730 4770 0.17-0.23	4770 3980 0.19-0.25	
	16		70	60	RPM(10xD-20xD) RPM(25xD-30xD) FEED	7430 6370 0.10-0.14	5570 4770 0.12-0.16	4460 3820 0.17-0.23	3710 3180 0.19-0.25	
	17	Nodular cast iron	100	80	RPM(10xD-20xD) RPM(25xD-30xD) FEED	10610 8490 0.10-0.14	7960 6370 0.12-0.16	6370 5090 0.17-0.23	5310 4240 0.19-0.25	
	18		70	60	RPM(10xD-20xD) RPM(25xD-30xD) FEED	7430 6370 0.08-0.12	5570 4770 0.10-0.14	4460 3820 0.12-0.18	3710 3180 0.14-0.20	
	19	Malleable cast iron	80	65	RPM(10xD-20xD) RPM(25xD-30xD) FEED	8490 6900 0.10-0.14	6370 5170 0.12-0.16	5090 4140 0.17-0.23	4240 3450 0.19-0.25	
20	70		55	RPM(10xD-20xD) RPM(25xD-30xD) FEED	7430 5840 0.08-0.12	5570 4380 0.10-0.14	4460 3500 0.12-0.18	3710 2920 0.14-0.20		

1. Guide Drilling should be done as Diameter+0.1mm between 3xD and 5xD depth.
2. For Main Drilling, proceed with low RPM at Guide Drilling segment.  
(RPM 300, FEED 400mm/min)
3. Just before the end of Guide Drilling segment, reduce feed to zero and increase the RPM according to Recommended Cutting Condition chart (See above).

SELECTION GUIDE



SERIES

	DH510	DH515	DH520
DRILLING DEPTH	10XD	15XD	20XD
LENGTH	EXTRA LONG	EXTRA LONG	EXTRA LONG
SIZE MIN	D3.0	D3.0	D3.0
SIZE MAX	D14.0	D12.0	D12.0
PAGE	150	151	151

SURFACE TREATMENT

TiAIN

# SOLID CARBIDE DREAM DRILLS MQL TYPE

Minimum Quantity Lubrication  
Drilling Deep Holes (10×D ~ 30×D)



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

◎ : Excellent ○ : Good

Recommended cutting conditions : P.154

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc			
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		Ferritic	130		◎	◎	◎
20	Malleable cast iron	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	Cutting Alloys, PB>1%	110			
	27	(Bronze / Brass)	CuZn, CuSnZn (Brass)	90				
	28		CuSn, lead-free copper and electrolytic copper	100				
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic					
	30		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			