



Leading Through Innovation

SOLID CARBIDE

DREAM DRILLS -MQL TYPE

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- Minimum Quantity Lubrication Drilling Deep Holes (10×D ~ 40×D)
- Minimalmengenschmierung Tieflochbohren (10×D ~ 40×D)

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

A144

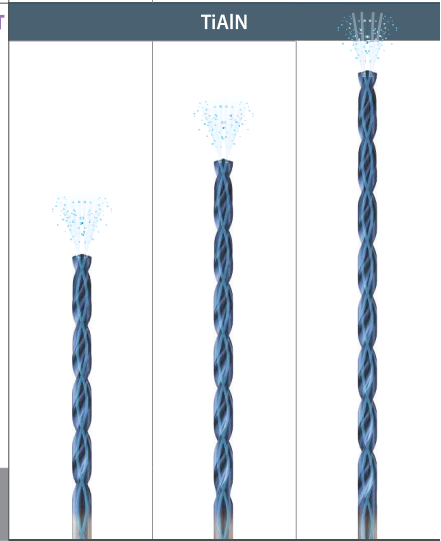
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SURFACE TREATMENT

TiAIN

SOLID CARBIDE DREAM DRILLS MQL TYPE

Minimum Quantity Lubrication
Drilling Deep Holes (10xD ~ 30xD)



Please visit
globalyg1.com/mat
for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : p. A148

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		CuZn, CuSnZn (Brass)		90				
	28	Bronze / Brass	CuSn, lead-free copper and electrolytic copper		100				
	29		Duroplastic, Fiber Reinforced Plastic						
30	Non Metallic Materials	Rubber, Wood, etc.							
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15			
	32			Cured	280	30			
	33		Ni or Co Based	Annealed	250	25			
	34			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			



CARBIDE, DREAM DRILLS MQL TYPE with COOLANT HOLES

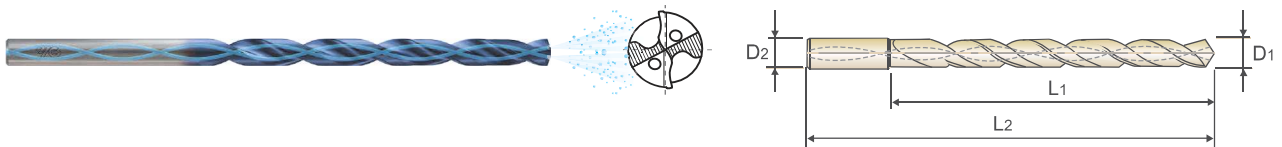
EXTRA LONG

- 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)

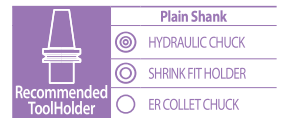
**ÜBERLANG
EXTRA-LONGUE
EXTRA LUNGA**

- ▶ 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



10 × D



EDP No.	Drill Diameter		Shank Diameter		Flute Length		Overall Length	
	D1	D2	D1	D2	L1	L2	L1	L2
TiAlN								
DH510030	3.0	3	3	3	39	90		
DH510033	3.3	4	4	4	46	97		
DH510035	3.5	4	4	4	46	97		
DH510040	4.0	4	4	4	52	103		
DH510042	4.2	5	5	5	59	112		
DH510045	4.5	5	5	5	59	112		
DH510050	5.0	5	5	5	65	118		
DH510055	5.5	6	6	6	72	127		
DH510060	6.0	6	6	6	78	133		
DH510065	6.5	7	7	7	85	141		
DH510068	6.8	7	7	7	91	147		
DH510070	7.0	7	7	7	91	147		
DH510075	7.5	8	8	8	98	155		

EDP No.	Drill Diameter		Shank Diameter		Flute Length		Overall Length	
	D1	D2	D1	D2	L1	L2	L1	L2
TiAlN								
DH510080	8.0	8	8	8	104	161		
DH510085	8.5	9	9	9	111	169		
DH510090	9.0	9	9	9	117	175		
DH510095	9.5	10	10	10	124	182		
DH510100	10.0	10	10	10	130	188		
DH510105	10.5	11	11	11	137	201		
DH510110	11.0	11	11	11	143	207		
DH510115	11.5	12	12	12	150	215		
DH510120	12.0	12	12	12	156	221		
DH510125	12.5	13	13	13	163	229		
DH510130	13.0	13	13	13	169	235		
DH510135	13.5	14	14	14	176	243		
DH510140	14.0	14	14	14	182	249		

Unit : mm

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	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			
	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																					

◎ : Excellent ○ : Good



DREAM DRILLS - MQL TYPE

DHM15 SERIES

DHM10 SERIES

DHM20 SERIES

CARBIDE, DREAM DRILL MQL TYPE END MILL SHANK with COOLANT HOLE

EXTRA LONG

● **VOLLHARTMETALL DREAM SPIRALBOHRER MQL - TYPE MIT KÜHLKANAL**

ÜBERLANG

● **Forets DREAM DRILLS carbure Type MQL avec arrosage central, série extra-longue**

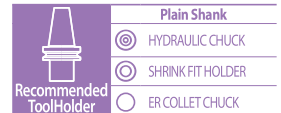
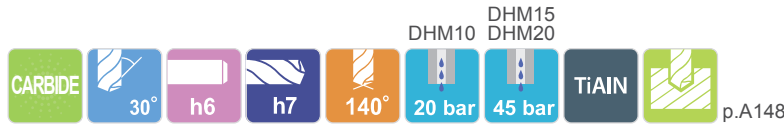
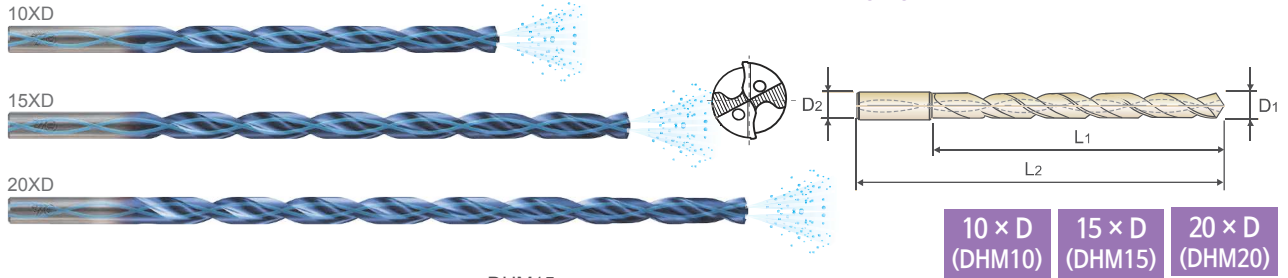
EXTRA-LONGUE

● **PUNTE MD, DREAM DRILLS MQL GAMBO RINFORZATO (con fori di refrigerazione)**

EXTRA LUNGA

- ▶ 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 TiAIN 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 TiAIN-Nano-Vollbeschichtung
- ▶ MMS geeignet



DHM10

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	
				D1	L2
TiAIN					
DHM10030	3.0	6	40	80	
DHM10033	3.3	6	47	87	
DHM10035	3.5	6	47	87	
DHM10040	4.0	6	53	93	
DHM10042	4.2	6	60	100	
DHM10045	4.5	6	60	100	
DHM10050	5.0	6	66	106	
DHM10055	5.5	6	73	113	
DHM10060	6.0	6	79	119	
DHM10065	6.5	8	86	126	
DHM10068	6.8	8	92	132	
DHM10070	7.0	8	92	132	
DHM10075	7.5	8	99	139	
DHM10080	8.0	8	105	145	
DHM10085	8.5	10	112	156	
DHM10090	9.0	10	118	162	
DHM10095	9.5	10	126	170	
DHM10100	10.0	10	132	176	
DHM10105	10.5	12	139	188	
DHM10110	11.0	12	145	194	
DHM10115	11.5	12	152	201	
DHM10120	12.0	12	158	207	
DHM10125	12.5	14	165	214	
DHM10130	13.0	14	171	220	
DHM10135	13.5	14	178	227	
DHM10140	14.0	14	184	233	

DHM15

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	
				D1	L2
TiAIN					
DHM15030	3.0	6	55	95	
DHM15035	3.5	6	64	104	
DHM15040	4.0	6	73	113	
DHM15045	4.5	6	82	122	
DHM15050	5.0	6	91	131	
DHM15055	5.5	6	100	140	
DHM15060	6.0	6	109	149	
DHM15070	7.0	8	127	167	
DHM15080	8.0	8	145	185	
DHM15090	9.0	10	163	207	
DHM15100	10.0	10	182	226	
DHM15110	11.0	12	200	249	
DHM15120	12.0	12	218	267	

DHM20

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	
				D1	L2
TiAIN					
DHM20030	3.0	6	70	110	
DHM20035	3.5	6	82	122	
DHM20040	4.0	6	93	133	
DHM20045	4.5	6	105	145	
DHM20050	5.0	6	116	156	
DHM20055	5.5	6	128	168	
DHM20060	6.0	6	139	179	
DHM20070	7.0	8	162	202	
DHM20080	8.0	8	185	225	
DHM20090	9.0	10	208	252	
DHM20100	10.0	10	232	276	
DHM20110	11.0	12	255	304	
DHM20120	12.0	12	278	327	

◎ : 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	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
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	36	10	29	32	38	42	15	35	40	45	10	26	3	25	21	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	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
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
Recommended																					



DH510, DH515, DH520, DHM10, DHM15, DHM20, DHM25, DHM30 SERIES

with COOLANT HOLES

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

ISO	VDI 3323	Material Description	Vc		Parameter	Drill Diameter (mm)							
			10xD 20xD	25xD 30xD		3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0
P	1	Non-alloy steel	120	100	RPM(10xD-20xD)	12730	9550	7640	6370	4770	3820	3180	2730
					RPM(25xD-30xD)	10610	7960	6370	5310	3980	3180	2650	2270
					FEED	0.08-0.12	0.10-0.14	0.12-0.18	0.14-0.20	0.18-0.24	0.20-0.26	0.22-0.26	0.25-0.31
	2		100	80	RPM(10xD-20xD)	8490	6370	5090	4240	3180	2550	2120	1820
					RPM(25xD-30xD)	8490	6370	5090	4240	3180	2550	2120	1820
					FEED	0.08-0.12	0.10-0.14	0.12-0.18	0.14-0.20	0.18-0.24	0.20-0.26	0.22-0.26	0.25-0.31
	3		80	65	RPM(10xD-20xD)	8490	6370	5090	4240	3180	2550	2120	1820
					RPM(25xD-30xD)	6900	5170	4140	3450	2590	2070	1720	1480
	6		100	100	RPM(10xD-20xD)	10610	7960	6370	5310	3980	3180	2650	2270
					RPM(25xD-30xD)	10610	7960	6370	5310	3980	3180	2650	2270
	7		70	60	RPM(10xD-20xD)	7430	5570	4460	3710	2790	2230	1860	1590
RPM(25xD-30xD)		6370			4770	3820	3180	2390	1910	1590	1360		
FEED		0.06-0.10			0.08-0.12	0.10-0.16	0.12-0.18	0.14-0.20	0.16-0.22	0.18-0.24	0.20-0.26		
8	55	50	RPM(10xD-20xD)	5840	4380	3500	2920	2190	1750	1460	1250		
			RPM(25xD-30xD)	5310	3980	3180	2650	1990	1590	1330	1140		
			FEED	0.06-0.10	0.08-0.12	0.10-0.16	0.12-0.18	0.14-0.20	0.16-0.22	0.18-0.24	0.20-0.26		
10	60	50	RPM(10xD-20xD)	6370	4770	3820	3180	2390	1910	1590	1360		
			RPM(25xD-30xD)	5310	3980	3180	2650	1990	1590	1330	1140		
			FEED	0.05-0.09	0.07-0.11	0.08-0.14	0.10-0.16	0.12-0.18	0.14-0.20	0.16-0.22	0.18-0.24		
11	50	45	RPM(10xD-20xD)	5310	3980	3180	2650	1990	1590	1330	1140		
			RPM(25xD-30xD)	4770	3580	2860	2390	1790	1430	1190	1020		
			FEED	0.04-0.08	0.06-0.10	0.07-0.13	0.08-0.14	0.10-0.16	0.12-0.18	0.13-0.19	0.15-0.21		
K	15	Grey cast iron	90	75	RPM(10xD-20xD)	9550	7160	5730	4770	3580	2860	2390	2050
					RPM(25xD-30xD)	7960	5970	4770	3980	2980	2390	1990	1710
	16		70	60	RPM(10xD-20xD)	7430	5570	4460	3710	2790	2230	1860	1590
					RPM(25xD-30xD)	6370	4770	3820	3180	2390	1910	1590	1360
	17		100	80	RPM(10xD-20xD)	10610	7960	6370	5310	3980	3180	2650	2270
					RPM(25xD-30xD)	8490	6370	5090	4240	3180	2550	2120	1820
18	70	60	RPM(10xD-20xD)	7430	5570	4460	3710	2790	2230	1860	1590		
			RPM(25xD-30xD)	6370	4770	3820	3180	2390	1910	1590	1360		
19	80	65	RPM(10xD-20xD)	8490	6370	5090	4240	3180	2550	2120	1820		
			RPM(25xD-30xD)	6900	5170	4140	3450	2590	2070	1720	1480		
20	70	55	RPM(10xD-20xD)	7430	5570	4460	3710	2790	2230	1860	1590		
			RPM(25xD-30xD)	5840	4380	3500	2920	2190	1750	1460	1250		
			FEED	0.08-0.12	0.10-0.14	0.12-0.18	0.14-0.20	0.18-0.24	0.20-0.26	0.22-0.26	0.25-0.31		

1. Guide Drilling should be done as Diameter +0.01~+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).
4. After then, proceed main drilling by increasing feed without step drilling.
5. When coming out from Guide Drilling start point after drilling, RPM should be reduced as 300 and feed should be 1000 mm/min.
6. When coming out from Guide Drilling segment to the outside, the feed should be decreased as 50%.