



**CARBIDE, DREAM DRILLS**

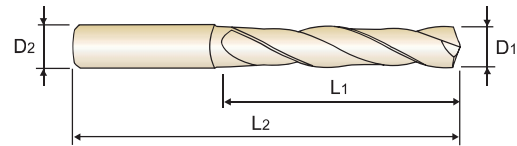
**SHORT**

- VOLLHARTMETALL DREAM SPIRALBOHRER**
- Forets DREAM DRILLS carbure, série courte**
- PUNTE ELICOIDALI IN MD - DREAM DRILLS**

**KURZ  
COURTE  
CORTA**

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
- ▶ Self centering and chip breaking by R-thinning
- ▶ Wave shape and negative land on the cutting edge for low thrust, stable torque and long tool life
- ▶ Optimized flute shape for strength of drilling and smooth chip evacuation

- ▶ Bohren von Stahl, Stahlguss, Gusseisen, Temperguss, Nichteisenmetallen-Leichtmetallen, abrasiven Kunststoffen
- ▶ Selbst zentrierend und guter Spanbruch durch die R-Ausspitzung
- ▶ Wellenform und Neagtivfase auf der Schneide bewirken geringen Schub, stabiles Drehmoment und lange Standzeit
- ▶ Optimierte Nutenform für Hochleistungsbohren und leichte Spanabfuhr



P.94-95

**3 × D**

Unit : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
TiAlN	D1	D2	L1	L2
DH423030	3.0	6	20	62
DH423031	3.1	6	20	62
DH423032	3.2	6	20	62
DH423033	3.3	6	20	62
DH423034	3.4	6	20	62
DH423035	3.5	6	20	62
DH423036	3.6	6	20	62
DH423037	3.7	6	20	62
DH423038	3.8	6	24	66
DH423039	3.9	6	24	66
DH423040	4.0	6	24	66
DH423041	4.1	6	24	66
DH423042	4.2	6	24	66
DH423043	4.3	6	24	66
DH423044	4.4	6	24	66
DH423045	4.5	6	24	66
DH423046	4.6	6	24	66
DH423047	4.7	6	24	66
DH423048	4.8	6	28	66
DH423049	4.9	6	28	66
DH423050	5.0	6	28	66
DH423051	5.1	6	28	66
DH423052	5.2	6	28	66
DH423053	5.3	6	28	66

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
TiAlN	D1	D2	L1	L2
DH423054	5.4	6	28	66
DH423055	5.5	6	28	66
DH423056	5.6	6	28	66
DH423057	5.7	6	28	66
DH423058	5.8	6	28	66
DH423059	5.9	6	28	66
DH423060	6.0	6	28	66
DH423061	6.1	8	34	79
DH423062	6.2	8	34	79
DH423063	6.3	8	34	79
DH423064	6.4	8	34	79
DH423065	6.5	8	34	79
DH423066	6.6	8	34	79
DH423067	6.7	8	34	79
DH423068	6.8	8	34	79
DH423069	6.9	8	34	79
DH423070	7.0	8	34	79
DH423071	7.1	8	41	79
DH423072	7.2	8	41	79
DH423073	7.3	8	41	79
DH423074	7.4	8	41	79
DH423075	7.5	8	41	79
DH423076	7.6	8	41	79
DH423077	7.7	8	41	79

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : Excellent ○ : Good

ISO Material Description	P										M				K							
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel				Grey cast iron		Nodular 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	29	32	38	30	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 Material Description	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	400 Rm	1050 Rm	550	630	400	550
Recommended																					

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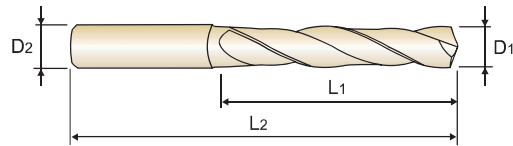
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**3 x D**

Unit : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
TiAlN	D1	D2	L1	L2
DH423078	7.8	8	41	79
DH423079	7.9	8	41	79
DH423080	8.0	8	41	79
DH423081	8.1	10	47	89
DH423082	8.2	10	47	89
DH423083	8.3	10	47	89
DH423084	8.4	10	47	89
DH423085	8.5	10	47	89
DH423086	8.6	10	47	89
DH423087	8.7	10	47	89
DH423088	8.8	10	47	89
DH423089	8.9	10	47	89
DH423090	9.0	10	47	89
DH423091	9.1	10	47	89
DH423092	9.2	10	47	89
DH423093	9.3	10	47	89
DH423094	9.4	10	47	89
DH423095	9.5	10	47	89
DH423096	9.6	10	47	89
DH423097	9.7	10	47	89
DH423098	9.8	10	47	89
DH423099	9.9	10	47	89
DH423100	10.0	10	47	89
DH423101	10.1	12	55	102

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
TiAlN	D1	D2	L1	L2
DH423102	10.2	12	55	102
DH423103	10.3	12	55	102
DH423104	10.4	12	55	102
DH423105	10.5	12	55	102
DH423106	10.6	12	55	102
DH423107	10.7	12	55	102
DH423108	10.8	12	55	102
DH423109	10.9	12	55	102
DH423110	11.0	12	55	102
DH423111	11.1	12	55	102
DH423112	11.2	12	55	102
DH423113	11.3	12	55	102
DH423114	11.4	12	55	102
DH423115	11.5	12	55	102
DH423116	11.6	12	55	102
DH423117	11.7	12	55	102
DH423118	11.8	12	55	102
DH423119	11.9	12	55	102
DH423120	12.0	12	55	102
DH423123	12.3	14	60	107
DH423125	12.5	14	60	107
DH423128	12.8	14	60	107
DH423130	13.0	14	60	107
DH423135	13.5	14	60	107

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : Excellent ○ : Good

ISO Material Description	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	38	10	29	32	38	45	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 Material Description	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			15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommended																											



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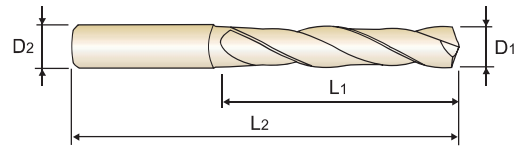
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**3 × D**

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
TiAlN	D1	D2	L1	L2
DH423138	13.8	14	60	107
DH423140	14.0	14	60	107
DH423145	14.5	16	65	115
DH423148	14.8	16	65	115
DH423150	15.0	16	65	115
DH423155	15.5	16	65	115
DH423158	15.8	16	65	115
DH423160	16.0	16	65	115
DH423165	16.5	18	73	123
DH423168	16.8	18	73	123

Unit : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
TiAlN	D1	D2	L1	L2
DH423170	17.0	18	73	123
DH423175	17.5	18	73	123
DH423178	17.8	18	73	123
DH423180	18.0	18	73	123
DH423185	18.5	20	79	131
DH423190	19.0	20	79	131
DH423195	19.5	20	79	131
DH423198	19.8	20	79	131
DH423200	20.0	20	79	131

▶ Other shank types are available on your request.

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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	32	38	15	35	15	23	10	10	26	3	25					
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	400 Rm	1050 Rm	550	630	400	550
Recommended																					



**DH404, DH423, DH424 SERIES**

**without COOLANT HOLES**

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

- i-ONE DRILLS
- i-DREAM DRILLS
- DREAM DRILLS -GENERAL**
- DREAM DRILLS -HIGH FEED
- DREAM DRILLS -FLAT BOTTOM
- DREAM DRILLS -INOX
- DREAM DRILLS -ALU
- DREAM DRILLS -CFRP
- DREAM DRILLS -MQL
- DREAM DRILLS for HIGH HARDENED STEELS
- GENERAL CARBIDE DRILLS
- MULTI-1 DRILLS
- HPD DRILLS
- GOLD-P DRILLS
- SUPER-GP DRILLS
- STRAIGHT SHANK DRILLS
- TAPER SHANK DRILLS
- NC-SPOTTING DRILLS
- CENTER DRILLS
- SPADE DRILLS
- REAMERS
- COUNTER SINKS
- COUNTER BORES
- TECHNICAL DATA

ISO	VDI 3323	Material Description	Vc (m/min)	Parameter	Drill Diameter (mm)		Vc (m/min)	Parameter	Drill Diameter (mm)		
					1.0	2.0			3.0	4.0	5.0
<b>P</b>	1	Non-alloy steel	70	RPM	22280	11140	100	RPM	10610	7960	6370
	2			FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20
	3			RPM	22280	11140		RPM	10610	7960	6370
	4			FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20
	5			RPM	22280	11140		RPM	10610	7960	6370
	6	Low alloy steel	60	RPM	19100	9550	80	RPM	8490	6370	5090
	7			FEED	0.03-0.05	0.05-0.07		FEED	0.04-0.10	0.07-0.13	0.10-0.16
	8			RPM	22280	11140		RPM	10610	7960	6370
	9			FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20
	10			RPM	19100	9550		RPM	8490	6370	5090
	<b>M</b>	11	High alloyed steel, and tool steel	30	RPM	9550	4770	40	RPM	4240	3180
12		FEED			0.02-0.04	0.03-0.05	FEED		0.04-0.10	0.07-0.13	0.10-0.16
13		RPM			15920	7960	RPM		7430	5570	4460
14		FEED			0.03-0.05	0.05-0.07	FEED		0.04-0.10	0.07-0.13	0.10-0.16
<b>K</b>	15	Grey cast iron	70	RPM	22280	11140	100	RPM	10610	7960	6370
	16			FEED	0.04-0.06	0.04-0.06		FEED	0.08-0.14	0.12-0.18	0.18-0.24
	17	Nodular cast iron	70	RPM	22280	11140	100	RPM	8490	6370	5090
	18			FEED	0.04-0.06	0.04-0.06		FEED	0.06-0.12	0.08-0.14	0.14-0.20
	19	Malleable cast iron	60	RPM	15920	7960	70	RPM	7430	5570	4460
	20			FEED	0.04-0.06	0.04-0.06		FEED	0.06-0.12	0.08-0.14	0.14-0.20
<b>N</b>	21	Aluminum-wrought alloy		RPM	15920	7960		RPM	7430	5570	4460
	22			FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20
	23	Aluminum-cast, alloyed		RPM	22280	11140		RPM	10610	7960	6370
	24			FEED	0.04-0.06	0.04-0.06		FEED	0.08-0.14	0.12-0.18	0.18-0.24
	25			RPM	22280	11140		RPM	10610	7960	6370
	26			FEED	0.04-0.06	0.04-0.06		FEED	0.08-0.14	0.12-0.18	0.18-0.24
	27	Copper and Copper Alloys (Bronze / Brass)		RPM	15920	7960		RPM	7430	5570	4460
	28			FEED	0.04-0.06	0.04-0.06		FEED	0.06-0.12	0.08-0.14	0.14-0.20
	29			RPM	19100	9550		RPM	8490	6370	5090
	30	Non Metallic Materials			RPM	15920	7960	70	RPM	7430	5570
<b>S</b>	31	Heat Resistant Super Alloys		RPM	22280	11140		RPM	10610	7960	6370
	32			FEED	0.04-0.06	0.04-0.06		FEED	0.08-0.14	0.12-0.18	0.18-0.24
	33			RPM	22280	11140		RPM	10610	7960	6370
	34			FEED	0.04-0.06	0.04-0.06		FEED	0.08-0.14	0.12-0.18	0.18-0.24
	35	Titanium Alloys		RPM	15920	7960		RPM	7430	5570	4460
	36			FEED	0.04-0.06	0.04-0.06		FEED	0.06-0.12	0.08-0.14	0.14-0.20
	37			RPM	19100	9550		RPM	8490	6370	5090
<b>H</b>	38	Hardened steel		RPM	15920	7960		RPM	7430	5570	4460
	39			FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20
	40	Chilled Cast Iron			RPM	15920	7960	70	RPM	7430	5570
41	Hardened Cast Iron			RPM	15920	7960	70	RPM	7430	5570	4460

► Recommend to reduce the feed rate as following  
**Feed 100%** : DH404(3×D), DH423(3×D), DH424(5×D)

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

VDI 3323	Parameter	Drill Diameter (mm)							
		6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
1									
2	RPM	5310	3980	3180	2650	2270	1990	1770	1590
	FEED	0.16-0.22	0.18-0.24	0.22-0.28	0.20-0.30	0.22-0.32	0.24-0.34	0.28-0.38	0.30-0.40
3	RPM	5310	3980	3180	2650	2270	1990	1770	1590
	FEED	0.16-0.22	0.18-0.24	0.22-0.28	0.20-0.30	0.22-0.32	0.24-0.34	0.28-0.38	0.30-0.40
4	RPM	5310	3980	3180	2650	2270	1990	1770	1590
	FEED	0.12-0.18	0.14-0.2	0.18-0.24	0.14-0.24	0.16-0.26	0.18-0.28	0.20-0.30	0.22-0.32
5	RPM	4240	3180	2550	2120	1820	1590	1410	1270
	FEED	0.12-0.18	0.14-0.2	0.18-0.24	0.14-0.24	0.16-0.26	0.18-0.28	0.20-0.30	0.22-0.32
6	RPM	5310	3980	3180	2650	2270	1990	1770	1590
	FEED	0.16-0.22	0.18-0.24	0.22-0.28	0.20-0.30	0.22-0.32	0.24-0.34	0.28-0.38	0.30-0.40
7	RPM	4240	3180	2550	2120	1820	1590	1410	1270
	FEED	0.12-0.24	0.16-0.28	0.20-0.30	0.21-0.30	0.22-0.35	0.25-0.36	0.28-0.38	0.30-0.40
8	RPM	4240	3180	2550	2120	1820	1590	1410	1270
	FEED	0.12-0.18	0.14-0.2	0.18-0.24	0.14-0.24	0.16-0.26	0.18-0.28	0.20-0.30	0.22-0.32
9	RPM	2120	1590	1270	1060	910	800	710	640
	FEED	0.10-0.16	0.12-0.18	0.14-0.20	0.12-0.22	0.13-0.23	0.14-0.24	0.16-0.26	0.18-0.28
10	RPM	3710	2790	2230	1860	1590	1390	1240	1110
	FEED	0.12-0.18	0.14-0.20	0.18-0.24	0.14-0.24	0.16-0.26	0.18-0.28	0.20-0.30	0.22-0.32
11	RPM	2120	1590	1270	1060	910	800	710	640
	FEED	0.10-0.16	0.12-0.18	0.14-0.20	0.12-0.22	0.13-0.23	0.14-0.24	0.16-0.26	0.18-0.28
12	RPM	3710	2790	2230	1860	1590	1390	1240	1110
	FEED	0.16-0.22	0.18-0.24	0.22-0.28	0.20-0.30	0.22-0.32	0.24-0.34	0.28-0.38	0.30-0.40
13	RPM	2390	1790	1430	1190	1020	900	800	720
	FEED	0.12-0.18	0.14-0.20	0.18-0.24	0.14-0.24	0.16-0.26	0.18-0.28	0.20-0.30	0.22-0.32
14									
15	RPM	5310	3980	3180	2650	2270	1990	1770	1590
	FEED	0.14-0.26	0.16-0.28	0.24-0.34	0.26-0.36	0.28-0.38	0.30-0.40	0.32-0.42	0.34-0.44
16	RPM	4240	3180	2550	2120	1820	1590	1410	1270
	FEED	0.16-0.22	0.18-0.24	0.22-0.28	0.20-0.30	0.22-0.32	0.24-0.34	0.28-0.38	0.30-0.40
17	RPM	5310	3980	3180	2650	2270	1990	1770	1590
	FEED	0.14-0.26	0.16-0.28	0.24-0.34	0.26-0.36	0.28-0.38	0.30-0.40	0.32-0.42	0.34-0.44
18	RPM	3710	2790	2230	1860	1590	1390	1240	1110
	FEED	0.16-0.22	0.18-0.24	0.22-0.28	0.20-0.30	0.22-0.32	0.24-0.34	0.28-0.38	0.30-0.40
19	RPM	4240	3180	2550	2120	1820	1590	1410	1270
	FEED	0.14-0.26	0.16-0.28	0.24-0.34	0.26-0.36	0.28-0.38	0.30-0.40	0.32-0.42	0.34-0.44
20	RPM	3710	2790	2230	1860	1590	1390	1240	1110
	FEED	0.16-0.22	0.18-0.24	0.22-0.28	0.20-0.30	0.22-0.32	0.24-0.34	0.28-0.38	0.30-0.40
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