



YU-DD20 AMERICA

BEST VALUE IN THE WORLD OF CUTTING TOOLS

YU-DD20

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YU-DD200100001

SOLID CARBIDE DREAM DRILLS

YG-1 CO., LTD.



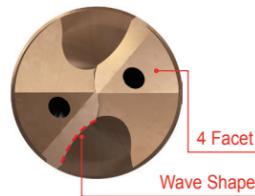
SOLID CARBIDE DREAM DRILLS

- NEW** PRO with Coolant Holes
GENERAL with/without Coolant Holes
- NEW SIZES** HIGH FEED with Coolant Holes
FLAT BOTTOM with/without Coolant Holes
- NEW SIZES** INOX with Coolant Holes
ALU with Coolant Holes
MQL TYPE with Coolant Holes(10xD - 40xD)
for HIGH HARDENED STEELS HRc50-70

NEW
DREAM DRILLS PRO

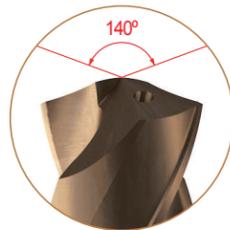


Performance Upgrade with Faster Cutting Speed



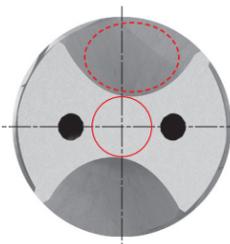
Wave Shape Cutting Edge

- Improve chip formation
- Low Cutting Force



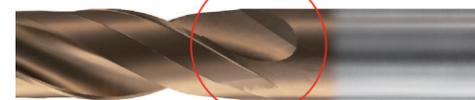
140 Degree Point Angle

- Provides edge strength and Exceptional tool life
- Good Self Centering
- Low Torque

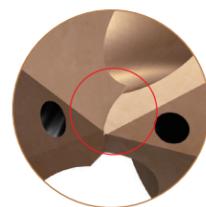


Optimized wide flute design

The unique flute structure provides good surface finish, longer tool life and requires less cutting force



Radius Shape



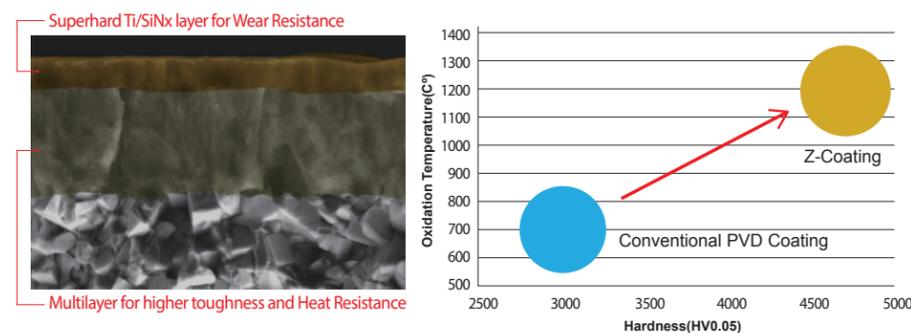
Helical Thinning

- Low Thrust
- Stable Torque
- Good Chip Breakage

Higher & Improved cutting conditions due to YG-1 Special Z-Coating Technology

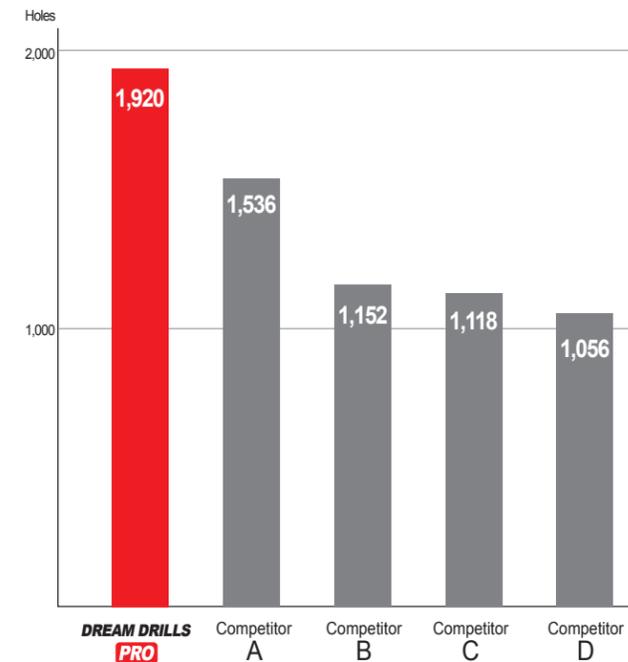
(YG-1's Unique Silicon Based Coating: Nano-Layer Coating)

- Extremely High Hardness and Heat Resistance



CASE STUDY

► **SOLID CARBIDE DREAM DRILLS - PRO with Coolant Holes**



CUTTING CONDITION	
Work Material	DIN: 42CrMo4 ANSI: 4140 JIS: SCM440 Hardness: HRC30 (HB286)
O.D SIZE(mm)	Ø10.0 (.3937 inch)
RPM	4,458 rev./min.
SFM	140 ft/min.
Feed	0.012inch/rev.
Drilling Depth	1.77" (4.5xD)
Coolant	Internal Cooling (20 bar) Water Soluble (9% Emulsion)
Machine	Machining Center

DREAM DRILLS PRO

Total Drilling 1,920 Holes



Competitor A

Total Drilling 1,536 Holes



Competitor B

Total Drilling 1,152 Holes



Competitor C

Total Drilling 1,118 Holes



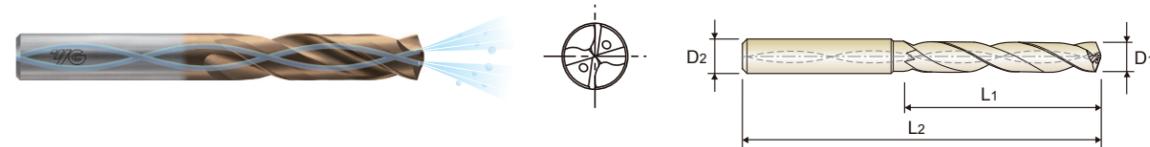
Competitor D

Total Drilling 1,056 Holes

Z-COATED SOLID CARBIDE DREAM DRILLS
PRO with Coolant Holes (3XD)

NEW **DGN506** SERIES

- ▶ Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRC30-50), Cast Iron
- ▶ Wave shape cutting edge to improve chip formation for low cutting force
- ▶ Helical thinning for low thrust, stable torque and good chip breakage
- ▶ Extremely high hardness and heat resistance due to YG-1 special Z-Coating technology



SHORT
3 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
	D1							D1					
DGN506030	3.0		0.1181	6	20	62	DGN506011F	4.366	11/64	0.1719	6	24	66
DGN506031	3.1		0.1220	6	20	62	DGN506044	4.4		0.1732	6	24	66
DGN506008F	3.175	1/8	0.1250	6	20	62	DGN5060446	4.46		0.1754	6	24	66
DGN506032	3.2		0.1260	6	20	62	DGN506045	4.5		0.1772	6	24	66
DGN506033	3.3		0.1299	6	20	62	DGN506046	4.6		0.1811	6	24	66
DGN5060336	3.36		0.1323	6	20	62	DGN5060466	4.66		0.1835	6	24	66
DGN506034	3.4		0.1339	6	20	62	DGN506047	4.7		0.1850	6	24	66
DGN5060344	3.44		0.1356	6	20	62	DGN506012F	4.763	3/16	0.1875	6	28	66
DGN506035	3.5		0.1378	6	20	62	DGN506048	4.8		0.1890	6	28	66
DGN5060352	3.52		0.1387	6	20	62	DGN506049	4.9		0.1929	6	28	66
DGN5060357	3.57		0.1405	6	20	62	DGN506050	5.0		0.1969	6	28	66
DGN506036	3.6		0.1417	6	20	62	DGN506051	5.1		0.2008	6	28	66
DGN506037	3.7		0.1457	6	20	62	DGN5060515	5.15		0.2029	6	28	66
DGN5060377	3.77		0.1484	6	24	66	DGN506013F	5.159	13/64	0.2031	6	28	66
DGN506038	3.8		0.1496	6	24	66	DGN506052	5.2		0.2047	6	28	66
DGN5060386	3.86		0.1521	6	24	66	DGN5060526	5.26		0.2070	6	28	66
DGN506039	3.9		0.1535	6	24	66	DGN506053	5.3		0.2087	6	28	66
DGN506010F	3.969	5/32	0.1563	6	24	66	DGN506054	5.4		0.2126	6	28	66
DGN506040	4.0		0.1575	6	24	66	DGN506003G	5.41	#3	0.2130	6	28	66
DGN5060405	4.05		0.1596	6	24	66	DGN5060547	5.47		0.2152	6	28	66
DGN506020G	4.09	#20	0.1610	6	24	66	DGN506055	5.5		0.2165	6	28	66
DGN506041	4.1		0.1614	6	24	66	DGN506014F	5.556	7/32	0.2188	6	28	66
DGN5060416	4.16		0.1636	6	24	66	DGN506056	5.6		0.2205	6	28	66
DGN506042	4.2		0.1654	6	24	66	DGN506057	5.7		0.2244	6	28	66
DGN5060427	4.27		0.1681	6	24	66	DGN506058	5.8		0.2283	6	28	66
DGN506043	4.3		0.1693	6	24	66	DGN506059	5.9		0.2323	6	28	66

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◎ : Excellent ○ : Good

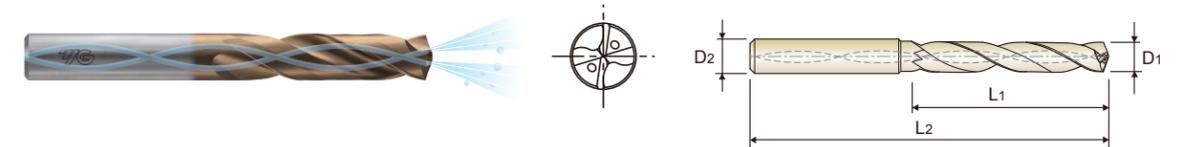
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRC	13	25	28	32	30	10	29	32	38	15	35	15	23	10	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	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	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	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

Z-COATED SOLID CARBIDE DREAM DRILLS
PRO with Coolant Holes (3XD)

NEW **DGN506** SERIES

- ▶ Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRC30-50), Cast Iron
- ▶ Wave shape cutting edge to improve chip formation for low cutting force
- ▶ Helical thinning for low thrust, stable torque and good chip breakage
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SHORT
3 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
	D1							D1					
DGN506015F	5.953	15/64	0.2344	6	28	66	DGN506076	7.6		0.2992	8	41	79
DGN506060	6.0		0.2362	6	28	66	DGN506077	7.7		0.3031	8	41	79
DGN506061	6.1		0.2402	8	34	79	DGN506078	7.8		0.3071	8	41	79
DGN506003L	6.147	C	0.2420	8	34	79	DGN506079	7.9		0.3110	8	41	79
DGN506062	6.2		0.2441	8	34	79	DGN506020F	7.938	5/16	0.3125	8	41	79
DGN506063	6.3		0.2480	8	34	79	DGN506080	8.0		0.3150	8	41	79
DGN506016F	6.350	1/4	0.2500	8	34	79	DGN506081	8.1		0.3189	10	47	89
DGN506064	6.4		0.2520	8	34	79	DGN5060815	8.15		0.3210	10	47	89
DGN506065	6.5		0.2559	8	34	79	DGN506082	8.2		0.3228	10	47	89
DGN506006L	6.528	F	0.2570	8	34	79	DGN506083	8.3		0.3268	10	47	89
DGN506066	6.6		0.2598	8	34	79	DGN506021F	8.334	21/64	0.3281	10	47	89
DGN5060665	6.65		0.2620	8	34	79	DGN506084	8.4		0.3307	10	47	89
DGN506067	6.7		0.2638	8	34	79	DGN506017L	8.430	Q	0.3320	10	47	89
DGN506017F	6.747	17/64	0.2656	8	34	79	DGN506085	8.5		0.3346	10	47	89
DGN506068	6.8		0.2677	8	34	79	DGN5060856	8.56		0.3371	10	47	89
DGN5060686	6.86		0.2701	8	34	79	DGN506086	8.6		0.3386	10	47	89
DGN506069	6.9		0.2717	8	34	79	DGN5060864	8.64		0.3402	10	47	89
DGN506070	7.0		0.2756	8	34	79	DGN506087	8.7		0.3425	10	47	89
DGN506010L	7.036	J	0.2770	8	41	79	DGN506022F	8.731	11/32	0.3438	10	47	89
DGN506071	7.1		0.2795	8	41	79	DGN506088	8.8		0.3465	10	47	89
DGN506018F	7.144	9/32	0.2812	8	41	79	DGN5060886	8.86		0.3488	10	47	89
DGN506072	7.2		0.2835	8	41	79	DGN506089	8.9		0.3504	10	47	89
DGN506073	7.3		0.2874	8	41	79	DGN506090	9.0		0.3543	10	47	89
DGN506074	7.4		0.2913	8	41	79	DGN506091	9.1		0.3583	10	47	89
DGN506075	7.5		0.2953	8	41	79	DGN506023F	9.128	23/64	0.3594	10	47	89
DGN506019F	7.541	19/64	0.2969	8	41	79	DGN506092	9.2		0.3622	10	47	89

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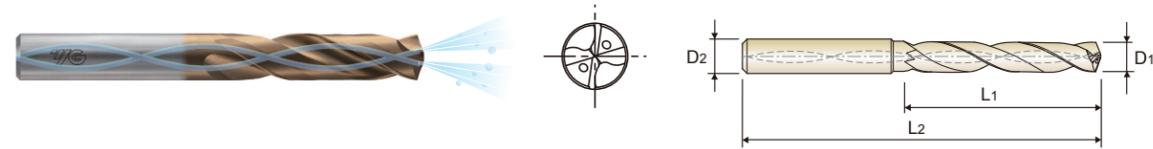
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRC	13	25	28	32	30	10	29	32	38	15	35	15	23	10	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								

Z-COATED SOLID CARBIDE DREAM DRILLS PRO with Coolant Holes (3XD)

NEW DGN506 SERIES

- ▶ Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRC30-50), Cast Iron
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DIN 6537 CARBIDE h6 m7 140° 20 bar P.16

SHORT
3 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
Z-Coating	D1			D2	L1	L2	Z-Coating	D1			D2	L1	L2
DGN506093	9.3		0.3661	10	47	89	DGN506113	11.3		0.4448	12	55	102
DGN506094	9.4		0.3701	10	47	89	DGN506114	11.4		0.4488	12	55	102
DGN506095	9.5		0.3740	10	47	89	DGN506115	11.5		0.4527	12	55	102
DGN506024F	9.525	3/8	0.3750	10	47	89	DGN506029F	11.509	29/64	0.4531	12	55	102
DGN506096	9.6		0.3780	10	47	89	DGN506116	11.6		0.4566	12	55	102
DGN506097	9.7		0.3819	10	47	89	DGN506117	11.7		0.4606	12	55	102
DGN506098	9.8		0.3858	10	47	89	DGN506118	11.8		0.4645	12	55	102
DGN506099	9.9		0.3898	10	47	89	DGN506119	11.9		0.4685	12	55	102
DGN506025F	9.922	25/64	0.3906	10	47	89	DGN506030F	11.906	15/32	0.4688	12	55	102
DGN506100	10.0		0.3937	10	47	89	DGN506120	12.0		0.4724	12	55	102
DGN506101	10.1		0.3976	12	55	102	DGN506121	12.1		0.4764	14	60	107
DGN506102	10.2		0.4016	12	55	102	DGN506122	12.2		0.4803	14	60	107
DGN506103	10.3		0.4055	12	55	102	DGN506123	12.3		0.4843	14	60	107
DGN506026F	10.319	13/32	0.4062	12	55	102	DGN506031F	12.303	31/64	0.4844	14	60	107
DGN506104	10.4		0.4094	12	55	102	DGN506124	12.4		0.4882	14	60	107
DGN506105	10.5		0.4134	12	55	102	DGN506125	12.5		0.4921	14	60	107
DGN506106	10.6		0.4173	12	55	102	DGN506126	12.6		0.4961	14	60	107
DGN506107	10.7		0.4212	12	55	102	DGN506032F	12.7	1/2	0.5000	14	60	107
DGN506027F	10.716	27/64	0.4219	12	55	102	DGN506129	12.9		0.5079	14	60	107
DGN506108	10.8		0.4252	12	55	102	DGN506130	13.0		0.5118	14	60	107
DGN5061086	10.86		0.4276	12	55	102	DGN506131	13.1		0.5157	14	60	107
DGN506109	10.9		0.4291	12	55	102	DGN506132	13.2		0.5197	14	60	107
DGN506110	11.0		0.4330	12	55	102	DGN506133	13.3		0.5236	14	60	107
DGN506111	11.1		0.4370	12	55	102	DGN506134	13.4		0.5276	14	60	107
DGN506028F	11.113	7/16	0.4375	12	55	102	DGN506034F	13.49	17/32	0.5312	14	60	107
DGN506112	11.2		0.4409	12	55	102	DGN506135	13.5		0.5314	14	60	107

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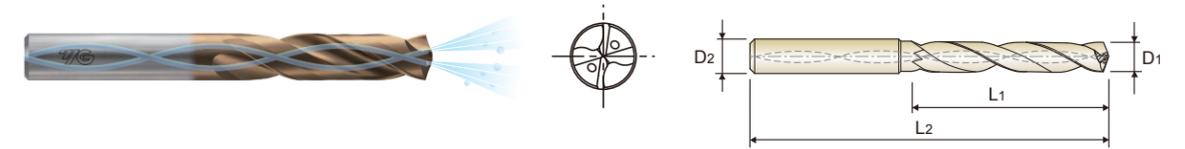
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRC	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	3	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	◎	○	○	◎	○	○	○	○	◎	○	◎	○	◎	○

ISO	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	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	400 Rm	1050 Rm	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	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎		

Z-COATED SOLID CARBIDE DREAM DRILLS PRO with Coolant Holes (3XD)

NEW DGN506 SERIES

- ▶ Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRC30-50), Cast Iron
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DIN 6537 CARBIDE h6 m7 140° 20 bar P.16

SHORT
3 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
Z-Coating	D1			D2	L1	L2	Z-Coating	D1			D2	L1	L2
DGN506136	13.6		0.5354	14	60	107	DGN506159	15.9		0.6260	16	65	115
DGN506137	13.7		0.5394	14	60	107	DGN506160	16		0.6299	16	65	115
DGN506138	13.8		0.5433	14	60	107	DGN506165	16.5		0.6495	18	73	123
DGN506139	13.9		0.5472	14	60	107	DGN506042F	16.67	21/32	0.6563	18	73	123
DGN506140	14.0		0.5512	14	60	107	DGN506170	17.0		0.6692	18	73	123
DGN506141	14.1		0.5551	16	65	115	DGN506175	17.5		0.6889	18	73	123
DGN506142	14.2		0.5591	16	65	115	DGN5061761	17.61		0.6932	18	73	123
DGN506036F	14.288	9/16	0.5625	16	65	115	DGN5061773	17.73		0.6980	18	73	123
DGN506143	14.3		0.5630	16	65	115	DGN506180	18.0		0.7087	18	73	123
DGN506144	14.4		0.5669	16	65	115	DGN506185	18.5		0.7283	20	79	131
DGN506145	14.5		0.5708	16	65	115	DGN5061864	18.64		0.7339	20	79	131
DGN506146	14.6		0.5748	16	65	115	DGN506190	19.0		0.7480	20	79	131
DGN506037F	14.68	37/64	0.5781	16	65	115	DGN506048F	19.05	3/4	0.7500	20	79	131
DGN506147	14.7		0.5787	16	65	115	DGN506195	19.5		0.7676	20	79	131
DGN506148	14.8		0.5827	16	65	115	DGN5061966	19.66		0.7740	20	79	131
DGN506149	14.9		0.5866	16	65	115	DGN5061973	19.73		0.7766	20	79	131
DGN506150	15.0		0.5905	16	65	115	DGN506200	20.0		0.7874	20	79	131
DGN506151	15.1		0.5945	16	65	115							
DGN506152	15.2		0.5984	16	65	115							
DGN506153	15.3		0.6024	16	65	115							
DGN506154	15.4		0.6063	16	65	115							
DGN506155	15.5		0.6102	16	65	115							
DGN506156	15.6		0.6142	16	65	115							
DGN506157	15.7		0.6181	16	65	115							
DGN506158	15.8		0.6220	16	65	115							
DGN506040F	15.875	5/8	0.6250	16	65	115							

◎ : 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	
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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	3	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	◎	○	○	◎	○	○	○	○	◎	○	◎	○	◎	○

ISO	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			

Z-COATED SOLID CARBIDE DREAM DRILLS
PRO with Coolant Holes (5XD)

NEW **DGN508** SERIES

- ▶ Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRC30-50), Cast Iron
- ▶ Wave shape cutting edge to improve chip formation for low cutting force
- ▶ Helical thinning for low thrust, stable torque and good chip breakage
- ▶ Extremely high hardness and heat resistance due to YG-1 special Z-Coating technology



LONG
5 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
Z-Coating	D1			D2	L1	L2	Z-Coating	D1			D2	L1	L2
DGN508010	1.0		0.0394	3	8	55	DGN508008F	3.175	1/8	0.1250	6	28	66
DGN508011	1.1		0.0433	3	12	55	DGN508032	3.2		0.1260	6	28	66
DGN508012	1.2		0.0472	3	12	55	DGN508033	3.3		0.1299	6	28	66
DGN508013	1.3		0.0512	3	12	55	DGN508034	3.4		0.1339	6	28	66
DGN508014	1.4		0.0551	3	12	55	DGN508035	3.5		0.1378	6	28	66
DGN508015	1.5		0.0591	3	16	55	DGN508009F	3.572	9/64	0.1406	6	28	66
DGN508004F	1.588	1/16	0.0625	3	16	55	DGN508036	3.6		0.1417	6	28	66
DGN508016	1.6		0.0630	3	16	55	DGN508037	3.7		0.1457	6	28	66
DGN508017	1.7		0.0669	3	16	55	DGN508038	3.8		0.1496	6	36	74
DGN508018	1.8		0.0709	3	16	55	DGN508039	3.9		0.1535	6	36	74
DGN508019	1.9		0.0748	3	16	55	DGN508010F	3.969	5/32	0.1563	6	36	74
DGN508005F	1.984	5/64	0.0781	3	16	55	DGN508040	4.0		0.1575	6	36	74
DGN508020	2.0		0.0787	4	21	57	DGN508020G	4.09	#20	0.1610	6	36	74
DGN508021	2.1		0.0827	4	21	57	DGN508041	4.1		0.1614	6	36	74
DGN508022	2.2		0.0866	4	21	57	DGN508042	4.2		0.1654	6	36	74
DGN508023	2.3		0.0906	4	21	57	DGN508043	4.3		0.1693	6	36	74
DGN508006F	2.381	3/32	0.0938	4	21	57	DGN508011F	4.366	11/64	0.1719	6	36	74
DGN508024	2.4		0.0945	4	21	57	DGN508044	4.4		0.1732	6	36	74
DGN508025	2.5		0.0984	4	21	57	DGN508045	4.5		0.1772	6	36	74
DGN508026	2.6		0.1024	4	21	57	DGN508046	4.6		0.1811	6	36	74
DGN508027	2.7		0.1063	4	21	57	DGN508047	4.7		0.1850	6	36	74
DGN508007F	2.778	7/64	0.1094	4	21	57	DGN508012F	4.763	3/16	0.1875	6	44	82
DGN508028	2.8		0.1102	4	21	57	DGN508048	4.8		0.1890	6	44	82
DGN508029	2.9		0.1142	4	21	57	DGN508049	4.9		0.1929	6	44	82
DGN508030	3.0		0.1181	6	28	66	DGN508050	5.0		0.1969	6	44	82
DGN508031	3.1		0.1220	6	28	66	DGN508051	5.1		0.2008	6	44	82

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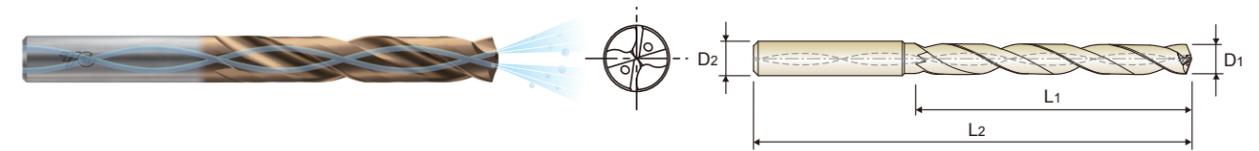
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRC	13	25	28	32	30	10	29	32	38	15	35	15	23	10	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	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

Z-COATED SOLID CARBIDE DREAM DRILLS
PRO with Coolant Holes (5XD)

NEW **DGN508** SERIES

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LONG
5 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
Z-Coating	D1			D2	L1	L2	Z-Coating	D1			D2	L1	L2
DGN508013F	5.159	13/64	0.2031	6	44	82	DGN508071	7.1		0.2795	8	53	91
DGN508052	5.2		0.2047	6	44	82	DGN508018F	7.144	9/32	0.2812	8	53	91
DGN508053	5.3		0.2087	6	44	82	DGN508072	7.2		0.2835	8	53	91
DGN508054	5.4		0.2126	6	44	82	DGN508073	7.3		0.2874	8	53	91
DGN508003G	5.41	#3	0.2130	6	44	82	DGN508074	7.4		0.2913	8	53	91
DGN508055	5.5		0.2165	6	44	82	DGN508075	7.5		0.2953	8	53	91
DGN508014F	5.556	7/32	0.2188	6	44	82	DGN508019F	7.541	19/64	0.2969	8	53	91
DGN508056	5.6		0.2205	6	44	82	DGN508076	7.6		0.2992	8	53	91
DGN508057	5.7		0.2244	6	44	82	DGN508077	7.7		0.3031	8	53	91
DGN508058	5.8		0.2283	6	44	82	DGN508078	7.8		0.3071	8	53	91
DGN508059	5.9		0.2323	6	44	82	DGN508079	7.9		0.3110	8	53	91
DGN508015F	5.953	15/64	0.2344	6	44	82	DGN508020F	7.938	5/16	0.3125	8	53	91
DGN508060	6.0		0.2362	6	44	82	DGN508080	8.0		0.3150	8	53	91
DGN508061	6.1		0.2402	8	53	91	DGN508081	8.1		0.3189	10	61	103
DGN508062	6.2		0.2441	8	53	91	DGN508082	8.2		0.3228	10	61	103
DGN508063	6.3		0.2480	8	53	91	DGN508083	8.3		0.3268	10	61	103
DGN508016F	6.350	1/4	0.2500	8	53	91	DGN508021F	8.334	21/64	0.3281	10	61	103
DGN508064	6.4		0.2520	8	53	91	DGN508084	8.4		0.3307	10	61	103
DGN508065	6.5		0.2559	8	53	91	DGN508017L	8.430	Q	0.3320	10	61	103
DGN508006L	6.528	F	0.2570	8	53	91	DGN508085	8.5		0.3346	10	61	103
DGN508066	6.6		0.2598	8	53	91	DGN508086	8.6		0.3386	10	61	103
DGN508067	6.7		0.2638	8	53	91	DGN508087	8.7		0.3425	10	61	103
DGN508017F	6.747	17/64	0.2656	8	53	91	DGN508022F	8.731	11/32	0.3438	10	61	103
DGN508068	6.8		0.2677	8	53	91	DGN508088	8.8		0.3465	10	61	103
DGN508069	6.9		0.2717	8	53	91	DGN508089	8.9		0.3504	10	61	103
DGN508070	7.0		0.2756	8	53	91	DGN508090	9.0		0.3543	10	61	103

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◎ : 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	
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	30	10	29	32	38	15	35	15	23	10	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	2																	

Z-COATED SOLID CARBIDE DREAM DRILLS
PRO with Coolant Holes (5XD)

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LONG
5 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
Z-Coating	D1			D2	L1	L2	Z-Coating	D1			D2	L1	L2
DGN508091	9.1		0.3583	10	61	103	DGN508028F	11.113	7/16	0.4375	12	71	118
DGN508023F	9.128	23/64	0.3594	10	61	103	DGN508112	11.2		0.4409	12	71	118
DGN508092	9.2		0.3622	10	61	103	DGN508113	11.3		0.4448	12	71	118
DGN508093	9.3		0.3661	10	61	103	DGN508114	11.4		0.4488	12	71	118
DGN508094	9.4		0.3701	10	61	103	DGN508115	11.5		0.4527	12	71	118
DGN508095	9.5		0.3740	10	61	103	DGN508029F	11.509	29/64	0.4531	12	71	118
DGN508024F	9.525	3/8	0.3750	10	61	103	DGN508116	11.6		0.4566	12	71	118
DGN508096	9.6		0.3780	10	61	103	DGN508117	11.7		0.4606	12	71	118
DGN508097	9.7		0.3819	10	61	103	DGN508118	11.8		0.4645	12	71	118
DGN508098	9.8		0.3858	10	61	103	DGN508119	11.9		0.4685	12	71	118
DGN508099	9.9		0.3898	10	61	103	DGN508030F	11.906	15/32	0.4688	12	71	118
DGN508025F	9.922	25/64	0.3906	10	61	103	DGN508120	12.0		0.4724	12	71	118
DGN508100	10.0		0.3937	10	61	103	DGN508121	12.1		0.4764	14	77	124
DGN508101	10.1		0.3976	12	71	118	DGN508122	12.3		0.4843	14	77	124
DGN508102	10.2		0.4016	12	71	118	DGN508031F	12.303	31/64	0.4844	14	77	124
DGN508103	10.3		0.4055	12	71	118	DGN508124	12.4		0.4882	14	77	124
DGN508026F	10.319	13/32	0.4062	12	71	118	DGN508125	12.5		0.4921	14	77	124
DGN508104	10.4		0.4094	12	71	118	DGN508126	12.6		0.4961	14	77	124
DGN508105	10.5		0.4134	12	71	118	DGN508032F	12.7	1/2	0.5000	14	77	124
DGN508106	10.6		0.4173	12	71	118	DGN508129	12.9		0.5079	14	77	124
DGN508107	10.7		0.4212	12	71	118	DGN508130	13.0		0.5118	14	77	124
DGN508027F	10.716	27/64	0.4219	12	71	118	DGN508132	13.2		0.5197	14	77	124
DGN508108	10.8		0.4252	12	71	118	DGN508133	13.3		0.5236	14	77	124
DGN508109	10.9		0.4291	12	71	118	DGN508134	13.4		0.5276	14	77	124
DGN508110	11.0		0.4330	12	71	118	DGN508034F	13.49	17/32	0.5312	14	77	124
DGN508111	11.1		0.4370	12	71	118	DGN508135	13.5		0.5314	14	77	124

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◎ : Excellent ○ : Good

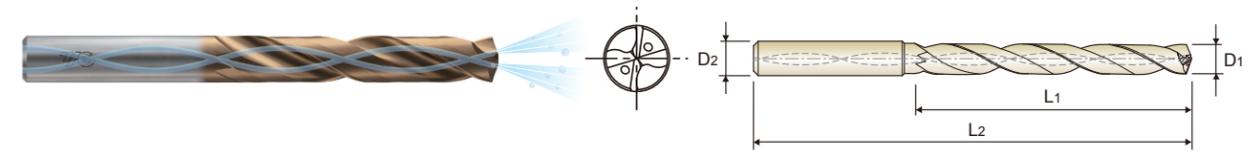
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	3	21
HRC	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
HB																				
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											15	30	25	38	34			55	60	42	55
HRC											200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB																					
Recommended																					

Z-COATED SOLID CARBIDE DREAM DRILLS
PRO with Coolant Holes (5XD)

NEW DGN508 SERIES

- ▶ Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRC30-50), Cast Iron
- ▶ Wave shape cutting edge to improve chip formation for low cutting force
- ▶ Helical thinning for low thrust, stable torque and good chip breakage
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LONG
5 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
Z-Coating	D1			D2	L1	L2	Z-Coating	D1			D2	L1	L2
DGN508140	14.0		0.5512	14	77	124	DGN508040F	15.875	5/8	0.6250	16	83	133
DGN508141	14.1		0.5551	16	83	133	DGN508159	15.9		0.6260	16	83	133
DGN508036F	14.288	9/16	0.5625	16	83	133	DGN508160	16.0		0.6299	16	83	133
DGN508143	14.3		0.5630	16	83	133	DGN508165	16.5		0.6495	18	93	143
DGN508144	14.4		0.5669	16	83	133	DGN508042F	16.67	21/32	0.6563	18	93	143
DGN508145	14.5		0.5708	16	83	133	DGN508170	17.0		0.6692	18	93	143
DGN508146	14.6		0.5748	16	83	133	DGN508175	17.5		0.6889	18	93	143
DGN508149	14.9		0.5866	16	83	133	DGN508180	18.0		0.7087	18	93	143
DGN508150	15.0		0.5905	16	83	133	DGN508185	18.5		0.7283	20	101	153
DGN508153	15.3		0.6024	16	83	133	DGN508190	19.0		0.7480	20	101	153
DGN508154	15.4		0.6063	16	83	133	DGN508048F	19.05	3/4	0.7500	20	101	153
DGN508155	15.5		0.6102	16	83	133	DGN508195	19.5		0.7676	20	101	153
DGN508156	15.6		0.6142	16	83	133	DGN508200	20.0		0.7874	20	101	153
DGN508157	15.7		0.6181	16	83	133							

◎ : 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	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	3	21
HRC	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
HB																				
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											15	30	25	38	34			55	60	42	55
HRC											200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB																					
Recommended																					

DGN506, DGN508 SERIES with COOLANT HOLES

ISO	VDI 3323	Material Description	SFM		Drill Diameter					SFM		Drill Diameter				
			1.0~2.9	METRIC	1.0	2.0	3.0~20.0	METRIC	3.0	-	4.0	-	5.0			
			-	FRACTIONAL	-	-	1/8~3/4	FRACTIONAL	-	1/8	-	3/16	-			
				.0394~.0787	DECIMAL	.0394	.0787	.1181~.7874	DECIMAL	.1181	.1250	.1575	.1875	.1969		
P	2	Non-alloy steel	312	RPM	30240	15120	427	RPM	13790	10350	8280					
			FEED	.0012-.002	.002-.0028	.0024-.0047	.0031-.0055	.0055-.0079								
			312	RPM	30240	15120	427	RPM	13790	10350	8280					
	3	Non-alloy steel	FEED	.0012-.002	.002-.0028	.0024-.0047	.0031-.0055	.0055-.0079								
			312	RPM	30240	15120	427	RPM	13790	10350	8280					
			FEED	.0012-.002	.002-.0028	.0024-.0047	.0031-.0055	.0055-.0079								
	4	Non-alloy steel	312	RPM	30240	15120	427	RPM	13790	10350	8280					
			FEED	.0012-.002	.002-.0028	.0024-.0047	.0031-.0055	.0055-.0079								
			312	RPM	30240	15120	427	RPM	13790	10350	8280					
	5	Non-alloy steel	FEED	.0012-.002	.002-.0028	.0024-.0047	.0031-.0055	.0055-.0079								
			279	RPM	27060	13530	361	RPM	11670	8750	7000					
FEED			.0012-.002	.002-.0028	.0024-.0047	.0031-.0055	.0055-.0079									
6	Low alloy steel	312	RPM	30240	15120	427	RPM	13790	10350	8280						
		FEED	.0012-.002	.002-.0028	.0024-.0047	.0031-.0055	.0055-.0079									
		279	RPM	27060	13530	361	RPM	11670	8750	7000						
7	Low alloy steel	FEED	.0012-.002	.002-.0028	.0024-.0047	.0031-.0055	.0055-.0079									
		312	RPM	30240	15120	361	RPM	11670	8750	7000						
		FEED	.0012-.002	.002-.0028	.0024-.0047	.0031-.0055	.0055-.0079									
8	Low alloy steel	312	RPM	30240	15120	361	RPM	11670	8750	7000						
		FEED	.0008-.0016	.0012-.002	.0016-.0039	.0028-.0051	.0039-.0063									
		164	RPM	15920	7960	197	RPM	6370	4770	3820						
9	High alloyed steel, and tool steel	FEED	.0008-.0016	.0012-.002	.0012-.0031	.002-.0043	.0031-.0055									
		230	RPM	22280	11140	295	RPM	9550	7160	5730						
		FEED	.0012-.002	.002-.0028	.0016-.0039	.0028-.0051	.0039-.0063									
10	High alloyed steel, and tool steel	148	RPM	14320	7160	164	RPM	5310	3980	3180						
		FEED	.0008-.0016	.0012-.002	.0012-.0031	.002-.0043	.0031-.0055									
		246	RPM	23870	11940	311	RPM	10080	7560	6050						
11	High alloyed steel, and tool steel	FEED	.0012-.002	.002-.0028	.0024-.0047	.0031-.0055	.0055-.0079									
		180	RPM	17510	8750	213	RPM	6900	5170	4140						
		FEED	.0008-.0016	.0012-.002	.0016-.0039	.0028-.0051	.0039-.0063									
12	Stainless steel	312	RPM	30240	15120	427	RPM	13790	10350	8280						
		FEED	.0016-.0024	.0016-.0024	.0031-.0055	.0047-.0071	.0071-.0094									
		295	RPM	28650	14320	377	RPM	12200	9150	7320						
13	Stainless steel	FEED	.0016-.0024	.0016-.0024	.0024-.0047	.0031-.0055	.0055-.0079									
		361	RPM	35010	17510	475	RPM	15380	11540	9230						
		FEED	.0016-.0024	.0016-.0024	.0031-.0055	.0047-.0071	.0071-.0094									
14	Grey cast iron	246	RPM	23870	11940	312	RPM	10080	7560	6050						
		FEED	.0016-.0024	.0016-.0024	.0024-.0047	.0031-.0055	.0055-.0079									
		279	RPM	27060	13530	361	RPM	11670	8750	7000						
15	Grey cast iron	FEED	.0016-.0024	.0016-.0024	.0031-.0055	.0047-.0071	.0071-.0094									
		246	RPM	23870	11940	312	RPM	10080	7560	6050						
		FEED	.0016-.0024	.0016-.0024	.0024-.0047	.0031-.0055	.0055-.0079									
16	Nodular cast iron	279	RPM	27060	13530	361	RPM	11670	8750	7000						
		FEED	.0016-.0024	.0016-.0024	.0031-.0055	.0047-.0071	.0071-.0094									
		246	RPM	23870	11940	312	RPM	10080	7560	6050						
17	Nodular cast iron	FEED	.0016-.0024	.0016-.0024	.0024-.0047	.0031-.0055	.0055-.0079									
		279	RPM	27060	13530	361	RPM	11670	8750	7000						
		FEED	.0016-.0024	.0016-.0024	.0031-.0055	.0047-.0071	.0071-.0094									
18	Malleable cast iron	246	RPM	23870	11940	312	RPM	10080	7560	6050						
		FEED	.0012-.002	.002-.0028	.0024-.0047	.0031-.0055	.0055-.0079									
		246	RPM	23870	11940	312	RPM	10080	7560	6050						
19	Malleable cast iron	FEED	.0012-.002	.002-.0028	.0024-.0047	.0031-.0055	.0055-.0079									
		99	RPM	11140	5570	99	RPM	3710	2790	2230						
		FEED	.0004-.0008	.0004-.0012	.0004-.0012	.0004-.0016	.0008-.002									
20	Hardened steel	99	RPM	11140	5570	99	RPM	3710	2790	2230						
		FEED	.0004-.0008	.0004-.0012	.0004-.0012	.0004-.0016	.0008-.002									
		99	RPM	11140	5570	99	RPM	3710	2790	2230						
38	Hardened steel	99	RPM	11140	5570	99	RPM	3710	2790	2230						
		FEED	.0004-.0008	.0004-.0012	.0004-.0012	.0004-.0016	.0008-.002									
		99	RPM	11140	5570	99	RPM	3710	2790	2230						

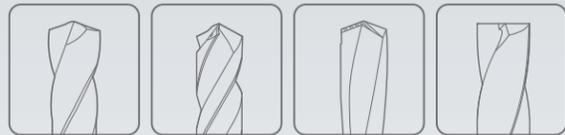
SFM = ft/min.
RPM = rev./min.
FEED = inch/rev.

Drill Diameter														
6.0	-	-	8.0	-	10.0	12.0	-	14.0	-	-	16.0	18.0	-	20.0
-	1/4	5/16	-	3/8	-	-	1/2	-	9/16	5/8	-	-	3/4	-
.2362	.2500	.3125	.3150	.3750	.3937	.4724	.5000	.5512	.5625	.6250	.6299	.7087	.7500	.7874
6900	5170	4140	3450	3270	2960	2590	2300	2180	2070					
.0063-.0087	.0071-.0094	.0087-.011	.0079-.0118	.0087-.0126	.0087-.0126	.0094-.0134	.011-.015	.011-.015	.0118-.0157					
6900	5170	4140	3450	3270	2960	2590	2300	2180	2070					
.0063-.0087	.0071-.0094	.0087-.011	.0079-.0118	.0087-.0126	.0087-.0126	.0094-.0134	.011-.015	.011-.015	.0118-.0157					
6900	5170	4140	3450	3270	2960	2590	2300	2180	2070					
.0047-.0071	.0055-.0079	.0071-.0094	.0055-.0094	.0063-.0102	.0063-.0102	.0071-.011	.0079-.0118	.0079-.0118	.0087-.0126					
5840	4380	3500	2920	2760	2500	2190	1950	1840	1750					
.0047-.0071	.0055-.0079	.0071-.0094	.0055-.0094	.0063-.0102	.0063-.0102	.0071-.011	.0079-.0118	.0079-.0118	.0087-.0126					
6900	5170	4140	3450	3270	2960	2590	2300	2180	2070					
.0063-.0087	.0071-.0094	.0087-.011	.0079-.0118	.0087-.0126	.0087-.0126	.0094-.0134	.011-.015	.011-.015	.0118-.0157					
5840	4380	3500	2920	2760	2500	2190	1950	1840	1750					
.0047-.0071	.0055-.0079	.0071-.0094	.0055-.0094	.0063-.0102	.0063-.0102	.0071-.011	.0079-.0118	.0079-.0118	.0087-.0126					
3180	2390	1910	1590	1510	1360	1190	1060	1010	950					
.0039-.0063	.0047-.0071	.0055-.0079	.0047-.0087	.0051-.0091	.0051-.0091	.0055-.0094	.0063-.0102	.0063-.0102	.0071-.011					
4770	3580	2860	2390	2260	2050	1790	1590	1510	1430					
.0047-.0071	.0055-.0079	.0071-.0094	.0055-.0094	.0063-.0102	.0063-.0102	.0071-.011	.0079-.0118	.0079-.0118	.0087-.0126					
2650	1990	1590	1330	1260	1140	990	880	840	800					
.0039-.0063	.0047-.0071	.0055-.0079	.0047-.0087	.0051-.0091	.0051-.0091	.0055-.0094	.0063-.0102	.0063-.0102	.0071-.011					
5040	3780	3020	2520	2380	2160	1890	1680	1590	1510					
.0063-.0087	.0071-.0094	.0087-.011	.0079-.0118	.0087-.0126	.0087-.0126	.0094-.0134	.011-.015	.011-.015	.0118-.0157					
3450	2590	2070	1720	1630	1480	1290	1150	1090	1030					
.0047-.0071	.0055-.0079	.0071-.0094	.0055-.0094	.0063-.0102	.0063-.0102	.0071-.011	.0079-.0118	.0079-.0118	.0087-.0126					
6900	5170	4140	3450	3270	2960	2590	2300	2180	2070					
.0055-.0102	.0063-.011	.0094-.0134	.0102-.0142	.011-.015	.011-.015	.0118-.0157	.0126-.0165	.0126-.0165	.0134-.0173					
6100	4580	3660	3050	2890	2610	2290	2030	1930	1830					
.0063-.0087	.0071-.0094	.0087-.011	.0079-.0118	.0087-.0126	.0087-.0126	.0094-.0134	.011-.015	.011-.015	.0118-.0157					
7690	5770	4620	3850	3630	3300	2880	2560	2420	2310					
.0055-.0102	.0063-.011	.0094-.0134	.0102-.0142	.011-.015	.011-.015	.0118-.0157	.0126-.0165	.0126-.0165	.0134-.0173					
5040	3780	3020	2520	2390	2160	1890	1680	1590	1510					
.0063-.0087	.0071-.0094	.0087-.011	.0079-.0118	.0087-.0126	.0087-.0126	.0094-.0134	.011-.015	.011-.015	.0118-.0157					
5840	4380	3500	2920	2760	2500	2190	1950	1840	1750					
.0055-.0102	.0063-.011	.0094-.0134	.0102-.0142	.011-.015	.011-.015	.0118-.0157	.0126-.0165	.0126-.0165	.0134-.0173					
5040	3780	3020	2520	2390	2160	1890	1680	1590	1510					
.0063-.0087	.0071-.0094	.0087-.011	.0079-.0118	.0087-.0126	.0087-.0126	.0094-.0134	.011-.015	.011-.015	.0118-.0157					
1860	1390	1110	930	880	800	700	620	580	560					
.0012-.0024	.0012-.0024	.0016-.0028	.0016-.0031	.0016-.0031	.002-.0035	.002-.0035	.002-.0039	.002-.0039	.002-.0039					

► Recommend to reduce the feed rate as following
Feed 100% : DGN506(3×D) Feed 80% : DGN508(5×D)



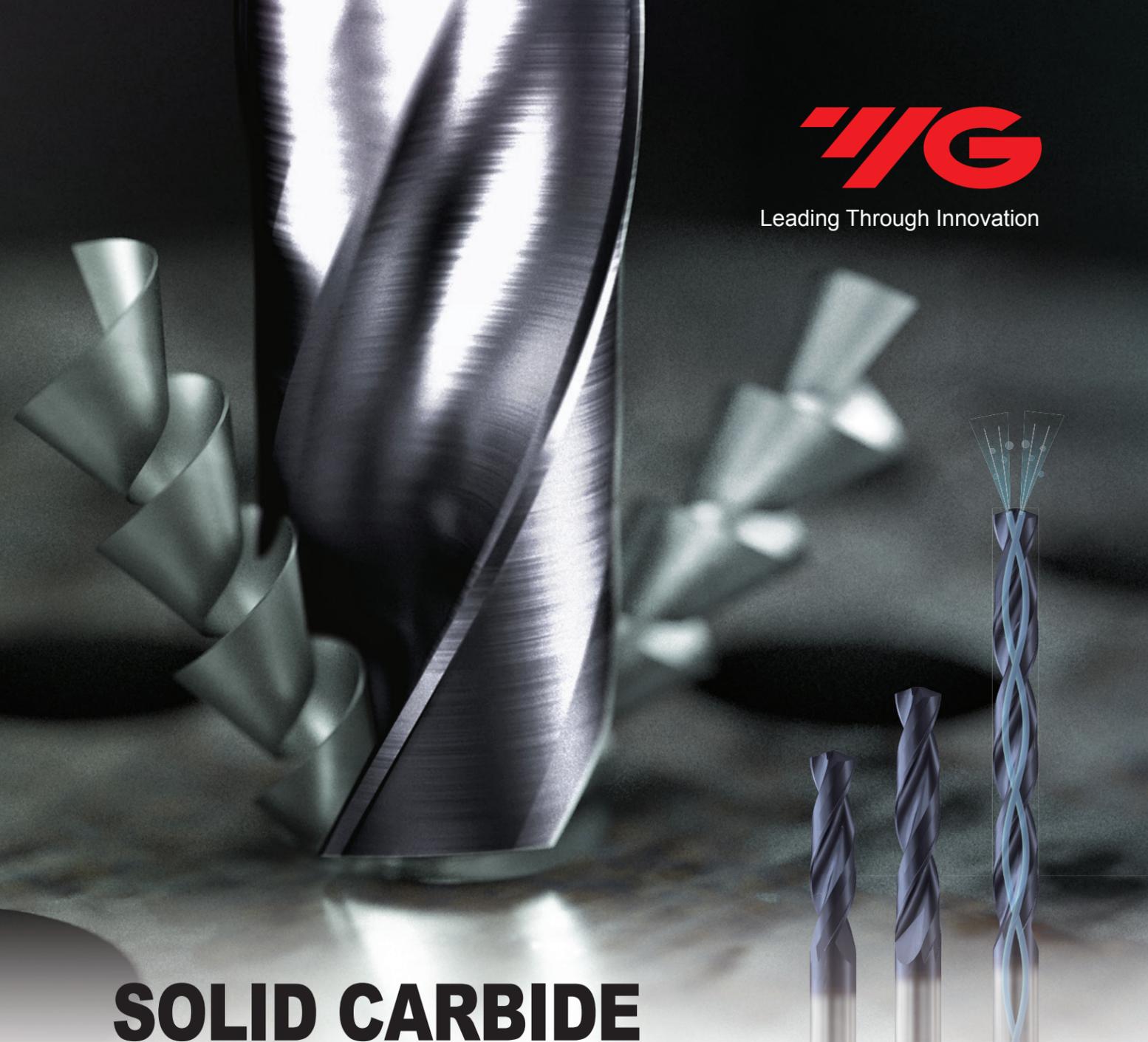
Global Cutting Tool Leader **YG-1**



DREAM DRILLS



Leading Through Innovation



SOLID CARBIDE

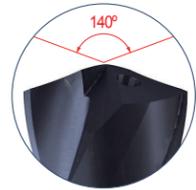
DREAM DRILLS GENERAL

- For General Purpose (HRc30 to HRc50)

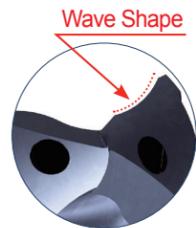
DREAM DRILLS GENERAL



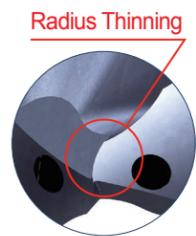
Micro-grained carbide for wear resistance and longer tool life



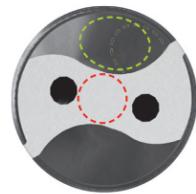
140 Degree Point Angle
for good centering and low thrust



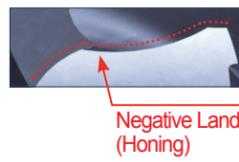
Wave shape Cutting Edge
will allow low thrust, stable torque and long tool life



Radius Thinning
for Self Centering and Chip Breaking



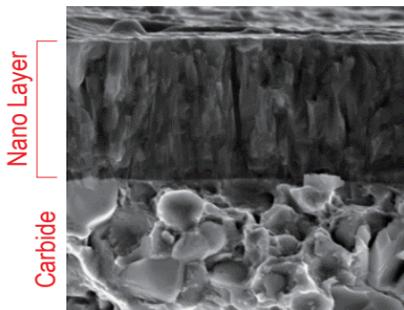
Optimized flute shape
for strength of drill and smooth chip evacuation



Negative land on the cutting edge
for Reliable Tool Life

TiAlN Coating
(Upgraded Titanium Aluminum Nitride : nano-Layer coating)
• Higher wear resistance and Lower friction
• Higher Cutting Speed and Feed
• Improved drill Hole Quality

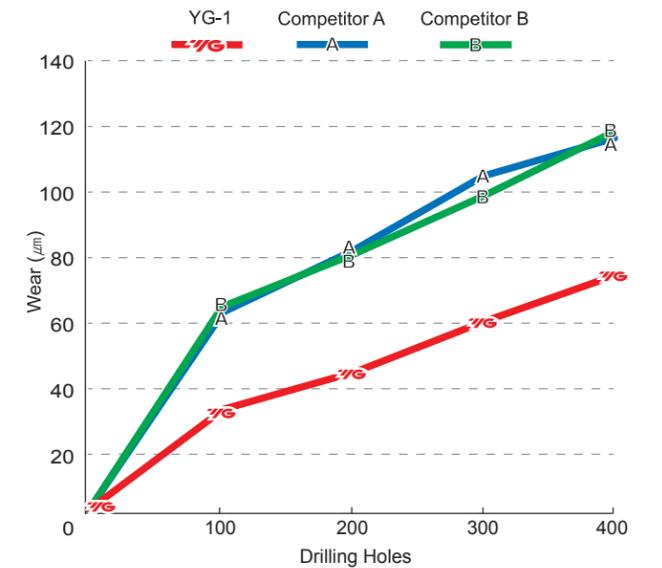
Special surface treatment after coating
to reduce friction and better chip flow.



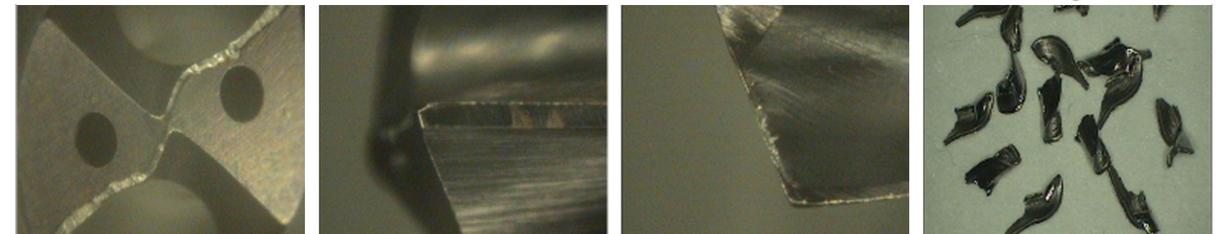
CASE STUDY

► SOLID CARBIDE DREAM DRILLS - General with Coolant Holes

CUTTING CONDITION	
Tool	DH408015 (Dream Drill with Coolant Holes)
Size	Ø1.5 x Ø3 x 15 x 55
Work Material	• AISI : H13 • JIS : SKD61 • DIN : X40GrMoV51 • WR : 1.2344 (HRC30)
RPM	14,856 rev./min.
Feed	.0019 inch/rev.
Drilling Depth	.29" (5xD)
Coolant	Wet Cut
Machine	Machining Center



YG-1



Total Drilling 400 Holes

Competitor A



Total Drilling 400 Holes

Competitor B

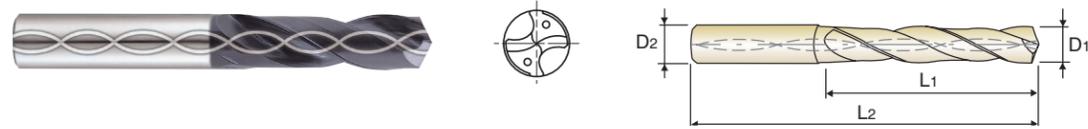


Total Drilling 400 Holes

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
General with Coolant Holes (3XD)

DH416 SERIES
DH711 SERIES

- ▶ 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
- ▶ Tolerance : Dia. Tolerance ØD1 : See page 141
Shank Tolerance ØD2: -.0001 -.0005



SHORT
3 x D

Unit : inch

EDP No.	Drill Diameter		Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter		Shank Diameter	Flute Length	Overall Length
	Fractional	Decimal					Fractional	Decimal			
TiAIN	D1		D2	L1	L2	TiAIN	D1		D2	L1	L2
DH711008	1/8	.1250	3/16	1.102	2.992	DH711217	Q	.3320	3/8	1.673	3.937
0081BTF	1/8	.1250	15/64	1.102	2.992	0221BTF	11/32	.3438	11/32	1.772	3.937
DH711011	11/64	.1719	3/16	1.417	3.386	DH711022	11/32	.3438	3/8	1.772	3.937
0111BTF	11/64	.1719	15/64	1.417	3.386	DH711023	23/64	.3594	3/8	1.87	4.174
DH711012	3/16	.1875	3/16	1.575	3.543	0231BTF	23/64	.3594	25/64	1.870	4.174
0121BTF	3/16	.1875	15/64	1.575	3.543	DH711221	U	.3680	3/8	1.87	4.174
0131BTF	13/64	.2031	15/64	1.082	3.228	2211BTF	U	.3680	25/64	1.870	4.174
DH711013	13/64	.2031	1/4	1.082	3.228	DH711024	3/8	.3750	3/8	1.969	4.174
0141BTF	7/32	.2188	15/64	1.181	3.228	0241BTF	3/8	.3750	25/64	1.969	4.174
DH711014	7/32	.2188	1/4	1.181	3.228	0251BTF	25/64	.3906	25/64	1.969	4.174
0151BTF	15/64	.2344	15/64	1.181	3.228	DH711025	25/64	.3906	7/16	1.969	4.174
DH711015	15/64	.2344	1/4	1.181	3.228	0261BTF	13/32	.4062	27/64	2.067	4.567
DH711016	1/4	.2500	1/4	1.279	3.465	DH711026	13/32	.4062	7/16	2.067	4.567
0161BTF	1/4	.2500	17/64	1.279	3.465	0271BTF	27/64	.4219	27/64	2.165	4.567
2061BTF	F	.2570	17/64	1.279	3.465	DH711027	27/64	.4219	7/16	2.165	4.567
DH711206	F	.2570	5/16	1.279	3.465	DH711028	7/16	.4375	7/16	2.264	4.803
0171BTF	17/64	.2656	17/64	1.378	3.465	0281BTF	7/16	.4375	15/32	2.264	4.803
DH711017	17/64	.2656	5/16	1.378	3.465	0291BTF	29/64	.4531	15/32	2.264	4.803
2091BTF	I	.2720	.2720	1.378	3.465	DH711029	29/64	.4531	1/2	2.264	4.803
DH711209	I	.2720	5/16	1.378	3.465	0301BTF	15/32	.4688	15/32	2.362	4.803
0181BTF	9/32	.2812	5/16	1.476	3.701	DH711030	15/32	.4688	1/2	2.362	4.803
0191BTF	19/64	.2969	5/16	1.476	3.701	0311BTF	31/64	.4844	1/2	2.461	5.039
0201BTF	5/16	.3125	5/16	1.575	3.701	0321BTF	1/2	.5000	1/2	2.559	5.039
0211BTF	21/64	.3281	11/32	1.673	3.937	0331BTF	33/64	.5156	35/64	2.657	5.276
DH711021	21/64	.3281	3/8	1.673	3.937	DH711033	33/64	.5156	9/16	2.657	5.276
2171BTF	Q	.3320	11/32	1.673	3.937	0341BTF	17/32	.5312	35/64	2.756	5.276

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : 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	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	
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						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																		○			

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
General with Coolant Holes (3XD)

DH416 SERIES
DH711 SERIES

- ▶ 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
- ▶ Tolerance : Dia. Tolerance ØD1 : See page 141
Shank Tolerance ØD2: -.0001 -.0005



SHORT
3 x D

Unit : inch

EDP No.	Drill Diameter		Shank Diameter	Flute Length	Overall Length
	Fractional	Decimal			
TiAIN	D1		D2	L1	L2
DH711034	17/32	.5312	9/16	2.756	5.276
0351BTF	35/64	.5469	35/64	2.756	5.276
DH711035	35/64	.5469	9/16	2.756	5.276
DH711036	9/16	.5625	9/16	2.854	5.512
0361BTF	9/16	.5625	37/64	2.854	5.512
0371BTF	37/64	.5781	37/64	2.953	5.512
DH711037	37/64	.5781	5/8	2.953	5.512
0381BTF	19/32	.5937	5/8	3.051	5.709
0391BTF	39/64	.6094	5/8	3.051	5.709
0401BTF	5/8	.6250	5/8	3.150	5.709

▶ Other shank types are available on your request.

◎ : Excellent ○ : Good

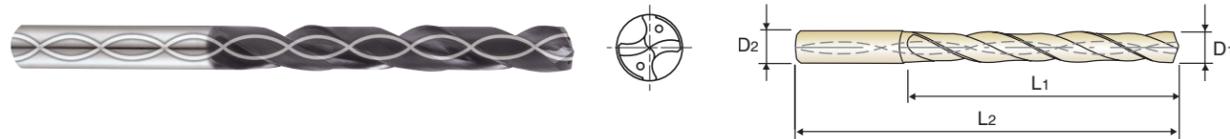
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRC	13	25	28	32	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	
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						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																		○			

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
General with Coolant Holes (5XD)

DH418 SERIES
DH712 SERIES

- ▶ 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
- ▶ Tolerance : Dia. Tolerance ØD1
Shank Tolerance ØD2: -.0001 -.0005



LONG
5 x D

EDP No.	Drill Diameter		Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter		Shank Diameter	Flute Length	Overall Length
	Fractional	Decimal					Fractional	Decimal			
	D1						D1				
TiAIN	D1		D2	L1	L2	TiAIN	D1		D2	L1	L2
0131CTF	13/64	.2031	15/64	1-3/4	3-15/16	2211CTF	U	.3680	25/64	3	5-23/64
DH712013	13/64	.2031	1/4	1-3/4	3-15/16	DH712024	3/8	.3750	3/8	3-5/32	5-23/64
0141CTF	7/32	.2188	15/64	1-57/64	3-15/16	0241CTF	3/8	.3750	25/64	3-5/32	5-23/64
DH712014	7/32	.2188	1/4	1-57/64	3-15/16	0251CTF	25/64	.3906	25/64	3-5/32	5-23/64
0151CTF	15/64	.2344	15/64	1-57/64	3-15/16	DH712025	25/64	.3906	7/16	3-5/32	5-23/64
DH712015	15/64	.2344	1/4	1-57/64	3-15/16	0261CTF	13/32	.4062	27/64	3-5/16	5-7/8
DH712016	1/4	.2500	1/4	2-3/64	4-19/64	DH712026	13/32	.4062	7/16	3-5/16	5-7/8
0161CTF	1/4	.2500	17/64	2-3/64	4-19/64	0271CTF	27/64	.4219	27/64	3-15/32	5-7/8
2061CTF	F	.2570	17/64	2-13/64	4-19/64	DH712027	27/64	.4219	7/16	3-15/32	5-7/8
DH712206	F	.2570	5/16	2-13/64	4-19/64	DH712028	7/16	.4375	7/16	3-5/8	6-7/32
0171CTF	17/64	.2656	17/64	2-13/64	4-19/64	0281CTF	7/16	.4375	15/32	3-5/8	6-7/32
DH712017	17/64	.2656	5/16	2-13/64	4-19/64	0291CTF	29/64	.4531	15/32	3-25/32	6-7/32
2091CTF	I	.2720	.2720	2-13/64	4-19/64	DH712029	29/64	.4531	1/2	3-25/32	6-7/32
DH712209	I	.2720	5/16	2-13/64	4-19/64	0301CTF	15/32	.4688	15/32	3-25/32	6-7/32
0181CTF	9/32	.2812	5/16	2-23/64	4-41/64	DH712030	15/32	.4688	1/2	3-25/32	6-7/32
0191CTF	19/64	.2969	5/16	2-33/64	4-41/64	0311CTF	31/64	.4844	1/2	3-15/16	6-37/64
0201CTF	5/16	.3125	5/16	2-33/64	4-41/64	0321CTF	1/2	.5000	1/2	4-3/32	6-37/64
0211CTF	21/64	.3281	11/32	2-43/64	5	0291BTF	29/64	.4531	15/32	2.264	4.803
DH712021	21/64	.3281	3/8	2-43/64	5	DH711029	29/64	.4531	1/2	2.264	4.803
2171CTF	Q	.3320	11/32	2-43/64	5	0301BTF	15/32	.4688	15/32	2.362	4.803
DH712217	Q	.3320	3/8	2-43/64	5	DH711030	15/32	.4688	1/2	2.362	4.803
0221CTF	11/32	.3438	11/32	2-27/32	5	0311BTF	31/64	.4844	1/2	2.461	5.039
DH712022	11/32	.3438	3/8	2-27/32	5	0321BTF	1/2	.5000	1/2	2.559	5.039
DH712023	23/64	.3594	3/8	3	5-23/64						
0231CTF	23/64	.3594	25/64	3	5-23/64						
DH712221	U	.3680	3/8	3	5-23/64						

▶ Other shank types are available on your request.

◎ : 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	
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	30	10	29	32	38	15	35	15	23	10	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	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	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
General with Coolant Holes (3XD)

DH406 SERIES

- ▶ 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



SHORT
3 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
	D1							D1					
TiAIN	D1			D2	L1	L2	TiAIN	D1			D2	L1	L2
DH406030	3.0		.1181	6	20	62	DH406051	5.1		.2008	6	28	66
DH406031	3.1		.1220	6	20	62	DH406013F	5.159	13/64	.2031	6	28	66
DH406008F	3.175	1/8	.1250	6	20	62	DH406052	5.2		.2047	6	28	66
DH406032	3.2		.1260	6	20	62	DH406053	5.3		.2087	6	28	66
DH406033	3.3		.1299	6	20	62	DH406054	5.4		.2126	6	28	66
DH406034	3.4		.1339	6	20	62	DH406055	5.5		.2165	6	28	66
DH406035	3.5		.1378	6	20	62	DH406014F	5.556	7/32	.2188	6	28	66
DH406009F	3.572	9/64	.1406	6	20	62	DH406056	5.6		.2205	6	28	66
DH406036	3.6		.1417	6	20	62	DH406057	5.7		.2244	6	28	66
DH406037	3.7		.1457	6	20	62	DH406058	5.8		.2283	6	28	66
DH406038	3.8		.1496	6	24	66	DH406059	5.9		.2323	6	28	66
DH406039	3.9		.1535	6	24	66	DH406015F	5.953	15/64	.2344	6	28	66
DH406010F	3.969	5/32	.1563	6	24	66	DH406060	6.0		.2362	6	28	66
DH406040	4.0		.1575	6	24	66	DH406061	6.1		.2402	8	34	79
DH406041	4.1		.1614	6	24	66	DH406062	6.2		.2441	8	34	79
DH406042	4.2		.1654	6	24	66	DH406063	6.3		.2480	8	34	79
DH406043	4.3		.1693	6	24	66	DH406016F	6.350	1/4	.2500	8	34	79
DH406011F	4.366	11/64	.1719	6	24	66	DH406064	6.4		.2520	8	34	79
DH406044	4.4		.1732	6	24	66	DH406065	6.5		.2559	8	34	79
DH406045	4.5		.1772	6	24	66	DH406006L	6.528	F	.2570	8	34	79
DH406046	4.6		.1811	6	24	66	DH406066	6.6		.2598	8	34	79
DH406047	4.7		.1850	6	24	66	DH406067	6.7		.2638	8	34	79
DH406012F	4.763	3/16	.1875	6	24	66	DH406017F	6.747	17/64	.2656	8	34	79
DH406048	4.8		.1890	6	28	66	DH406068	6.8		.2677	8	34	79
DH406049	4.9		.1929	6	28	66	DH406069	6.9		.2717	8	34	79
DH406050	5.0		.1969	6	28	66	DH406009L	6.909	I	.2720	8	34	79

▶ Other shank types are available on your request.

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◎ : Excellent ○ : Good

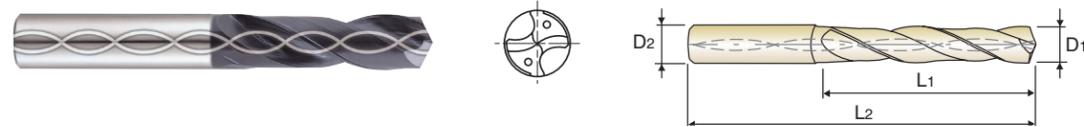
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRC	13	25	28	32	30	10	29	32	38	15	35	15	23	10	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	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	2															

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
General with Coolant Holes (3XD)

DH406 SERIES

- ▶ 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



SHORT
3 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
Unit : mm													
TiAIN	D1			D2	L1	L2	TiAIN	D1			D2	L1	L2
DH406070	7.0		.2756	8	34	79	DH406090	9.0		.3543	10	47	89
DH406071	7.1		.2795	8	41	79	DH406091	9.1		.3583	10	47	89
DH406018F	7.144	9/32	.2812	8	41	79	DH406023F	9.128	23/64	.3594	10	47	89
DH406072	7.2		.2835	8	41	79	DH406092	9.2		.3622	10	47	89
DH406073	7.3		.2874	8	41	79	DH406093	9.3		.3661	10	47	89
DH406074	7.4		.2913	8	41	79	DH406021L	9.347	U	.3680	10	47	89
DH406075	7.5		.2953	8	41	79	DH406094	9.4		.3701	10	47	89
DH406019F	7.541	19/64	.2969	8	41	79	DH406095	9.5		.3740	10	47	89
DH406076	7.6		.2992	8	41	79	DH406024F	9.525	3/8	.3750	10	47	89
DH406077	7.7		.3031	8	41	79	DH406096	9.6		.3780	10	47	89
DH406078	7.8		.3071	8	41	79	DH406097	9.7		.3819	10	47	89
DH406079	7.9		.3110	8	41	79	DH406098	9.8		.3858	10	47	89
DH406020F	7.938	5/16	.3125	8	41	79	DH406099	9.9		.3898	10	47	89
DH406080	8.0		.3150	8	41	79	DH406025F	9.922	25/64	.3906	10	47	89
DH406081	8.1		.3189	10	47	89	DH406100	10.0		.3937	10	47	89
DH406082	8.2		.3228	10	47	89	DH406101	10.1		.3976	12	55	102
DH406083	8.3		.3268	10	47	89	DH406102	10.2		.4016	12	55	102
DH406021F	8.334	21/64	.3281	10	47	89	DH406103	10.3		.4055	12	55	102
DH406084	8.4		.3307	10	47	89	DH406026F	10.319	13/32	.4062	12	55	102
DH406017L	8.433	Q	.3320	10	47	89	DH406104	10.4		.4094	12	55	102
DH406085	8.5		.3346	10	47	89	DH406105	10.5		.4134	12	55	102
DH406086	8.6		.3386	10	47	89	DH406106	10.6		.4173	12	55	102
DH406087	8.7		.3425	10	47	89	DH406107	10.7		.4212	12	55	102
DH406022F	8.731	11/32	.3438	10	47	89	DH406027F	10.716	27/64	.4219	12	55	102
DH406088	8.8		.3465	10	47	89	DH406108	10.8		.4252	12	55	102
DH406089	8.9		.3504	10	47	89	DH406109	10.9		.4291	12	55	102

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : Excellent ○ : Good

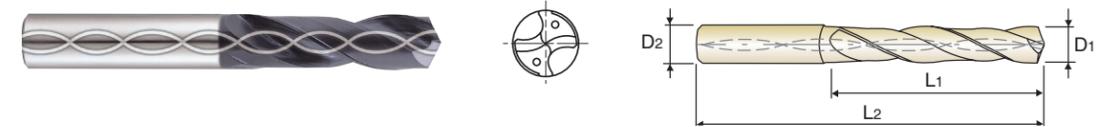
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	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											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																		○			

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
General with Coolant Holes (3XD)

DH406 SERIES

- ▶ 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



SHORT
3 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
Unit : mm													
TiAIN	D1			D2	L1	L2	TiAIN	D1			D2	L1	L2
DH406110	11.0		.4330	12	55	102	DH406132	13.2		.5197	14	60	107
DH406111	11.1		.4370	12	55	102	DH406133	13.3		.5236	14	60	107
DH406028F	11.113	7/16	.4375	12	55	102	DH406134	13.4		.5276	14	60	107
DH406112	11.2		.4409	12	55	102	DH406135	13.5		.5314	14	60	107
DH406113	11.3		.4448	12	55	102	DH406136	13.6		.5354	14	60	107
DH406114	11.4		.4488	12	55	102	DH406137	13.7		.5394	14	60	107
DH406115	11.5		.4527	12	55	102	DH406138	13.8		.5433	14	60	107
DH406029F	11.509	29/64	.4531	12	55	102	DH406139	13.9		.5472	14	60	107
DH406116	11.6		.4566	12	55	102	DH406140	14.0		.5512	14	60	107
DH406117	11.7		.4606	12	55	102	DH406141	14.1		.5551	16	65	115
DH406118	11.8		.4645	12	55	102	DH406142	14.2		.5591	16	65	115
DH406119	11.9		.4685	12	55	102	DH406036F	14.288	9/16	.5625	16	65	115
DH406030F	11.906	15/32	.4688	12	55	102	DH406143	14.3		.5630	16	65	115
DH406120	12.0		.4724	12	55	102	DH406144	14.4		.5669	16	65	115
DH406121	12.1		.4764	14	60	107	DH406145	14.5		.5708	16	65	115
DH406122	12.2		.4803	14	60	107	DH406146	14.6		.5748	16	65	115
DH406123	12.3		.4843	14	60	107	DH406147	14.7		.5787	16	65	115
DH406031F	12.303	31/64	.4844	14	60	107	DH406148	14.8		.5827	16	65	115
DH406124	12.4		.4882	14	60	107	DH406149	14.9		.5866	16	65	115
DH406125	12.5		.4921	14	60	107	DH406150	15.0		.5905	16	65	115
DH406126	12.6		.4961	14	60	107	DH406151	15.1		.5945	16	65	115
DH406032F	12.7	1/2	.5000	14	60	107	DH406152	15.2		.5984	16	65	115
DH406128	12.8		.5039	14	60	107	DH406153	15.3		.6024	16	65	115
DH406129	12.9		.5079	14	60	107	DH406154	15.4		.6063	16	65	115
DH406130	13.0		.5118	14	60	107	DH406155	15.5		.6102	16	65	115
DH406131	13.1		.5157	14	60	107	DH406156	15.6		.6142	16	65	115

▶ Other shank types are available on your request.

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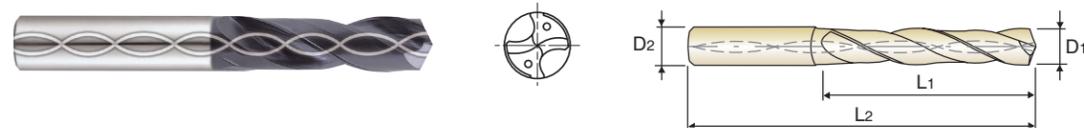
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	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												

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
General with Coolant Holes (3XD)

DH406 SERIES

- ▶ 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



SHORT
3 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
TiAIN						TiAIN							
DH406157	15.7		.6181	16	65	115	DH406181	18.1		.7126	20	79	131
DH406158	15.8		.6220	16	65	115	DH406182	18.2		.7165	20	79	131
DH406040F	15.875	5/8	.6250	16	65	115	DH406183	18.3		.7205	20	79	131
DH406159	15.9		.6260	16	65	115	DH406184	18.4		.7244	20	79	131
DH406160	16.0		.6299	16	65	115	DH406185	18.5		.7283	20	79	131
DH406161	16.1		.6339	18	73	123	DH406186	18.6		.7323	20	79	131
DH406162	16.2		.6378	18	73	123	DH406187	18.7		.7362	20	79	131
DH406163	16.3		.6417	18	73	123	DH406188	18.8		.7402	20	79	131
DH406164	16.4		.6457	18	73	123	DH406189	18.9		.7441	20	79	131
DH406165	16.5		.6495	18	73	123	DH406190	19.0		.7480	20	79	131
DH406166	16.6		.6535	18	73	123	DH406048F	19.050	3/4	.7500	20	79	131
DH406167	16.7		.6575	18	73	123	DH406191	19.1		.7520	20	79	131
DH406168	16.8		.6614	18	73	123	DH406192	19.2		.7559	20	79	131
DH406169	16.9		.6654	18	73	123	DH406193	19.3		.7598	20	79	131
DH406170	17.0		.6692	18	73	123	DH406194	19.4		.7638	20	79	131
DH406171	17.1		.6732	18	73	123	DH406195	19.5		.7676	20	79	131
DH406172	17.2		.6772	18	73	123	DH406196	19.6		.7717	20	79	131
DH406173	17.3		.6811	18	73	123	DH406197	19.7		.7756	20	79	131
DH406174	17.4		.6850	18	73	123	DH406198	19.8		.7795	20	79	131
DH406044F	17.463	11/16	.6875	18	73	123	DH406199	19.9		.7835	20	79	131
DH406175	17.5		.6889	18	73	123	DH406200	20.0		.7874	20	79	131
DH406176	17.6		.6929	18	73	123							
DH406177	17.7		.6968	18	73	123							
DH406178	17.8		.7008	18	73	123							
DH406179	17.9		.7047	18	73	123							
DH406180	18.0		.7087	18	73	123							

▶ Other shank types are available on your request.

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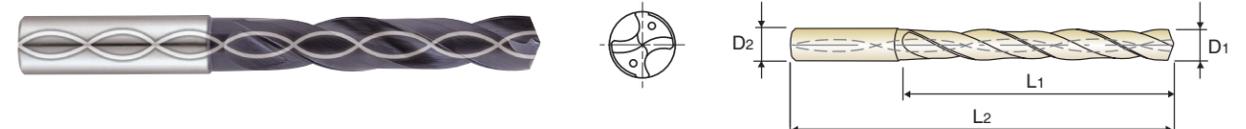
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	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											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																		○			

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
General with Coolant Holes (5XD)

DH408 SERIES

- ▶ 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



LONG
5 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
TiAIN						TiAIN							
DH408010	1.0		.0394	3	8	55	DH408033	3.3		.1299	6	28	66
DH408011	1.1		.0433	3	12	55	DH408034	3.4		.1339	6	28	66
DH408012	1.2		.0472	3	12	55	DH408035	3.5		.1378	6	28	66
DH408013	1.3		.0512	3	12	55	DH408009F	3.572	9/64	.1406	6	28	66
DH408014	1.4		.0551	3	12	55	DH408036	3.6		.1417	6	28	66
DH408015	1.5		.0591	3	16	55	DH408037	3.7		.1457	6	28	66
DH408004F	1.588	1/16	.0625	3	16	55	DH408038	3.8		.1496	6	36	74
DH408016	1.6		.0630	3	16	55	DH408039	3.9		.1535	6	36	74
DH408017	1.7		.0669	3	16	55	DH408010F	3.969	5/32	.1563	6	36	74
DH408018	1.8		.0709	3	16	55	DH408040	4.0		.1575	6	36	74
DH408019	1.9		.0748	3	16	55	DH408041	4.1		.1614	6	36	74
DH408005F	1.984	5/64	.0781	3	16	55	DH408042	4.2		.1654	6	36	74
DH408020	2.0		.0787	4	21	57	DH408043	4.3		.1693	6	36	74
DH408021	2.1		.0827	4	21	57	DH408011F	4.366	11/64	.1719	6	36	74
DH408022	2.2		.0866	4	21	57	DH408044	4.4		.1732	6	36	74
DH408023	2.3		.0906	4	21	57	DH408045	4.5		.1772	6	36	74
DH408006F	2.381	3/32	.0938	4	21	57	DH408046	4.6		.1811	6	36	74
DH408024	2.4		.0945	4	21	57	DH408047	4.7		.1850	6	36	74
DH408025	2.5		.0984	4	21	57	DH408012F	4.763	3/16	.1875	6	36	74
DH408026	2.6		.1024	4	21	57	DH408048	4.8		.1890	6	44	82
DH408027	2.7		.1063	4	21	57	DH408049	4.9		.1929	6	44	82
DH408007F	2.778	7/64	.1094	4	21	57	DH408050	5.0		.1969	6	44	82
DH408028	2.8		.1102	4	21	57	DH408051	5.1		.2008	6	44	82
DH408029	2.9		.1142	4	21	57	DH408013F	5.159	13/64	.2031	6	44	82
DH408030	3.0		.1181	6	28	66	DH408052	5.2		.2047	6	44	82
DH408031	3.1		.1220	6	28	66	DH408053	5.3		.2087	6	44	82
DH408008F	3.175	1/8	.1250	6	28	66	DH408054	5.4		.2126	6	44	82
DH408032	3.2		.1260	6	28	66	DH408055	5.5		.2165	6	44	82

▶ Other shank types are available on your request.

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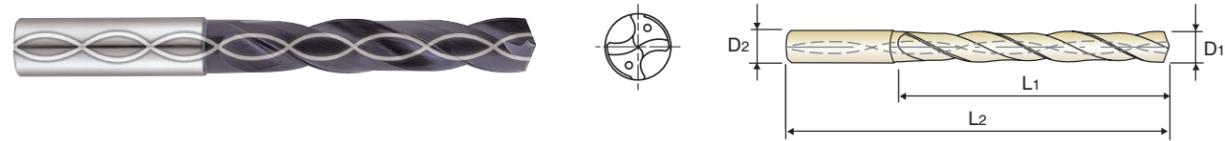
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	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											15	30	25	38	34						

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
General with Coolant Holes (5XD)

DH408 SERIES

- ▶ 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



LONG
5 x D

EDP No.	Drill Diameter			Shank Diameter D2	Flute Length L1	Overall Length L2	EDP No.	Drill Diameter			Shank Diameter D2	Flute Length L1	Overall Length L2
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
	D1							D1					
TiAIN	D1			D2	L1	L2	TiAIN	D1			D2	L1	L2
DH408014F	5.556	7/32	.2188	6	44	82	DH408076	7.6		.2992	8	53	91
DH408056	5.6		.2205	6	44	82	DH408077	7.7		.3031	8	53	91
DH408057	5.7		.2244	6	44	82	DH408078	7.8		.3071	8	53	91
DH408058	5.8		.2283	6	44	82	DH408079	7.9		.3110	8	53	91
DH408059	5.9		.2323	6	44	82	DH408020F	7.938	5/16	.3125	8	53	91
DH408015F	5.953	15/64	.2344	6	44	82	DH408080	8.0		.3150	8	53	91
DH408060	6.0		.2362	6	44	82	DH408081	8.1		.3189	10	61	103
DH408061	6.1		.2402	8	53	91	DH408082	8.2		.3228	10	61	103
DH408062	6.2		.2441	8	53	91	DH408083	8.3		.3268	10	61	103
DH408063	6.3		.2480	8	53	91	DH408021F	8.334	21/64	.3281	10	61	103
DH408016F	6.350	1/4	.2500	8	53	91	DH408084	8.4		.3307	10	61	103
DH408064	6.4		.2520	8	53	91	DH408017L	8.433	Q	.3320	10	61	103
DH408065	6.5		.2559	8	53	91	DH408085	8.5		.3346	10	61	103
DH408006L	6.528	F	.2570	8	53	91	DH408086	8.6		.3386	10	61	103
DH408066	6.6		.2598	8	53	91	DH408087	8.7		.3425	10	61	103
DH408067	6.7		.2638	8	53	91	DH408022F	8.731	11/32	.3438	10	61	103
DH408017F	6.747	17/64	.2656	8	53	91	DH408088	8.8		.3465	10	61	103
DH408068	6.8		.2677	8	53	91	DH408089	8.9		.3504	10	61	103
DH408069	6.9		.2717	8	53	91	DH408090	9.0		.3543	10	61	103
DH408009L	6.909	I	.2720	8	53	91	DH408091	9.1		.3583	10	61	103
DH408070	7.0		.2756	8	53	91	DH408023F	9.128	23/64	.3594	10	61	103
DH408071	7.1		.2795	8	53	91	DH408092	9.2		.3622	10	61	103
DH408018F	7.144	9/32	.2812	8	53	91	DH408093	9.3		.3661	10	61	103
DH408072	7.2		.2835	8	53	91	DH408021L	9.347	U	.3680	10	61	103
DH408073	7.3		.2874	8	53	91	DH408094	9.4		.3701	10	61	103
DH408074	7.4		.2913	8	53	91	DH408095	9.5		.3740	10	61	103
DH408075	7.5		.2953	8	53	91	DH408024F	9.525	3/8	.3750	10	61	103
DH408019F	7.541	19/64	.2969	8	53	91	DH408096	9.6		.3780	10	61	103

▶ Other shank types are available on your request.

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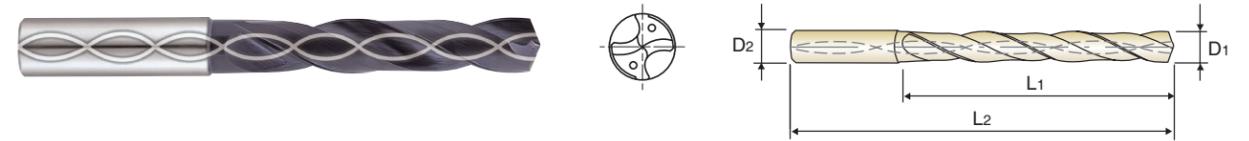
ISO Material Description	P										M					K													
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel					Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron						
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20									
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	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 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																		◎	◎	◎	◎	◎	◎	◎	◎	◎

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
General with Coolant Holes (5XD)

DH408 SERIES

- ▶ 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



LONG
5 x D

EDP No.	Drill Diameter			Shank Diameter D2	Flute Length L1	Overall Length L2	EDP No.	Drill Diameter			Shank Diameter D2	Flute Length L1	Overall Length L2
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
	D1							D1					
TiAIN	D1			D2	L1	L2	TiAIN	D1			D2	L1	L2
DH408097	9.7		.3819	10	61	103	DH408030F	11.906	15/32	.4688	12	71	118
DH408098	9.8		.3858	10	61	103	DH408120	12.0		.4724	12	71	118
DH408099	9.9		.3898	10	61	103	DH408121	12.1		.4764	14	77	124
DH408025F	9.922	25/64	.3906	10	61	103	DH408122	12.2		.4803	14	77	124
DH408100	10.0		.3937	10	61	103	DH408123	12.3		.4843	14	77	124
DH408101	10.1		.3976	12	71	118	DH408031F	12.303	31/64	.4844	14	77	124
DH408102	10.2		.4016	12	71	118	DH408124	12.4		.4882	14	77	124
DH408103	10.3		.4055	12	71	118	DH408125	12.5		.4921	14	77	124
DH408026F	10.319	13/32	.4062	12	71	118	DH408126	12.6		.4961	14	77	124
DH408104	10.4		.4094	12	71	118	DH408032F	12.7	1/2	.5000	14	77	124
DH408105	10.5		.4134	12	71	118	DH408128	12.8		.5039	14	77	124
DH408106	10.6		.4173	12	71	118	DH408129	12.9		.5079	14	77	124
DH408107	10.7		.4212	12	71	118	DH408130	13.0		.5118	14	77	124
DH408027F	10.716	27/64	.4219	12	71	118	DH408131	13.1		.5157	14	77	124
DH408108	10.8		.4252	12	71	118	DH408132	13.2		.5197	14	77	124
DH408109	10.9		.4291	12	71	118	DH408133	13.3		.5236	14	77	124
DH408110	11.0		.4330	12	71	118	DH408134	13.4		.5276	14	77	124
DH408111	11.1		.4370	12	71	118	DH408135	13.5		.5314	14	77	124
DH408028F	11.113	7/16	.4375	12	71	118	DH408136	13.6		.5354	14	77	124
DH408112	11.2		.4409	12	71	118	DH408137	13.7		.5394	14	77	124
DH408113	11.3		.4448	12	71	118	DH408138	13.8		.5433	14	77	124
DH408114	11.4		.4488	12	71	118	DH408139	13.9		.5472	14	77	124
DH408115	11.5		.4527	12	71	118	DH408140	14.0		.5512	14	77	124
DH408029F	11.509	29/64	.4531	12	71	118	DH408141	14.1		.5551	16	83	133
DH408116	11.6		.4566	12	71	118	DH408142	14.2		.5591	16	83	133
DH408117	11.7		.4606	12	71	118	DH408036F	14.288	9/16	.5625	16	83	133
DH408118	11.8		.4645	12	71	118	DH408143	14.3		.5630	16	83	133
DH408119	11.9		.4685	12	71	118	DH408144	14.4		.5669	16	83	133

▶ Other shank types are available on your request.

▶ NEXT PAGE

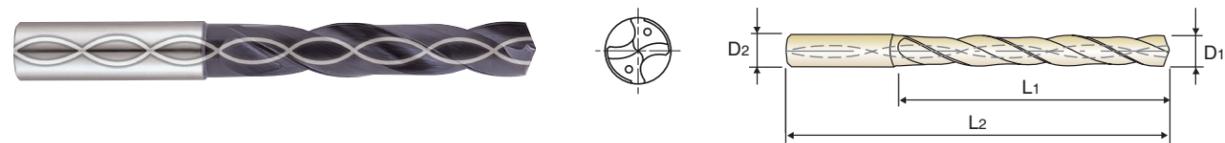
◎ : Excellent ○ : Good

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	30	10	29	32	38	15	35	15	23	10	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	◎	◎	◎	○	○	◎	◎	◎	○	○	◎	○	○	○	○	◎	◎	◎	◎	◎</						

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
General with Coolant Holes (5XD)

DH408 SERIES

- ▶ 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



LONG
5 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
TiAIN	D1			D2	L1	L2	TiAIN	D1			D2	L1	L2
DH408145	14.5		.5708	16	83	133	DH408173	17.3		.6811	18	93	143
DH408146	14.6		.5748	16	83	133	DH408174	17.4		.6850	18	93	143
DH408147	14.7		.5787	16	83	133	DH408175	17.5		.6889	18	93	143
DH408148	14.8		.5827	16	83	133	DH408176	17.6		.6929	18	93	143
DH408149	14.9		.5866	16	83	133	DH408177	17.7		.6968	18	93	143
DH408150	15.0		.5905	16	83	133	DH408178	17.8		.7008	18	93	143
DH408151	15.1		.5945	16	83	133	DH408179	17.9		.7047	18	93	143
DH408152	15.2		.5984	16	83	133	DH408180	18.0		.7087	18	93	143
DH408153	15.3		.6024	16	83	133	DH408181	18.1		.7126	20	101	153
DH408154	15.4		.6063	16	83	133	DH408182	18.2		.7165	20	101	151
DH408155	15.5		.6102	16	83	133	DH408183	18.3		.7205	20	101	151
DH408156	15.6		.6142	16	83	133	DH408184	18.4		.7244	20	101	153
DH408157	15.7		.6181	16	83	133	DH408185	18.5		.7283	20	101	153
DH408158	15.8		.6220	16	83	133	DH408186	18.6		.7323	20	101	151
DH408040F	15.875	5/8	.6250	16	83	133	DH408187	18.7		.7362	20	101	153
DH408159	15.9		.6260	16	83	133	DH408188	18.8		.7402	20	101	153
DH408160	16.0		.6299	16	83	133	DH408189	18.9		.7441	20	101	153
DH408161	16.1		.6339	18	93	143	DH408190	19.0		.7480	20	101	153
DH408162	16.2		.6378	18	93	143	DH408048F	19.050	3/4	.7500	20	101	153
DH408163	16.3		.6417	18	93	143	DH408191	19.1		.7520	20	101	151
DH408164	16.4		.6457	18	93	143	DH408192	19.2		.7559	20	101	151
DH408165	16.5		.6495	18	93	143	DH408193	19.3		.7598	20	101	151
DH408166	16.6		.6535	18	93	143	DH408194	19.4		.7638	20	101	151
DH408167	16.7		.6575	18	93	143	DH408195	19.5		.7676	20	101	153
DH408168	16.8		.6614	18	93	143	DH408196	19.6		.7717	20	101	151
DH408169	16.9		.6654	18	93	143	DH408197	19.7		.7756	20	101	151
DH408170	17.0		.6692	18	93	143	DH408198	19.8		.7795	20	101	153
DH408171	17.1		.6732	18	93	143	DH408199	19.9		.7835	20	101	151
DH408172	17.2		.6772	18	93	143	DH408200	20.0		.7874	20	101	153

▶ Other shank types are available on your request.

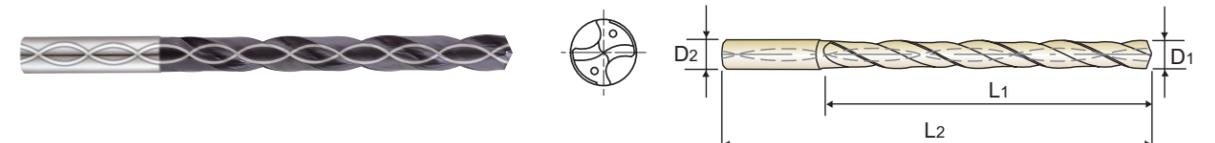
◎ : Excellent ○ : Good

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																			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
HRc	13	25	28	32	30	10	29	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	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎						

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
General with Coolant Holes (8XD)

DH421 SERIES

- ▶ 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



EXTRA LONG
8 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
TiAIN	D1			D2	L1	L2	TiAIN	D1			D2	L1	L2
DH421030	3.0		.1181	6	34	72	DH421049	4.9		.1929	6	57	95
DH421031	3.1		.1220	6	34	72	DH421050	5.0		.1969	6	57	95
DH421008F	3.175	1/8	.1250	6	34	72	DH421051	5.1		.2008	6	57	95
DH421032	3.2		.1260	6	34	72	DH421013F	5.159	13/64	.2031	6	57	95
DH421033	3.3		.1299	6	34	72	DH421052	5.2		.2047	6	57	95
DH421034	3.4		.1339	6	34	72	DH421053	5.3		.2087	6	57	95
DH421229G	3.450	#29	.1360	6	34	72	DH421054	5.4		.2126	6	57	95
DH421035	3.5		.1378	6	34	72	DH421055	5.5		.2165	6	57	95
DH421009F	3.572	9/64	.1406	6	34	72	DH421014F	5.556	7/32	.2188	6	57	95
DH421036	3.6		.1417	6	34	72	DH421056	5.6		.2205	6	57	95
DH421037	3.7		.1457	6	34	72	DH421057	5.7		.2244	6	57	95
DH421038	3.8		.1496	6	43	81	DH421058	5.8		.2283	6	57	95
DH421039	3.9		.1535	6	43	81	DH421059	5.9		.2323	6	57	95
DH421010F	3.969	5/32	.1563	6	43	81	DH421015F	5.953	15/64	.2344	6	57	95
DH421040	4.0		.1575	6	43	81	DH421060	6.0		.2362	6	57	95
DH421221G	4.040	#21	.1590	6	43	81	DH421061	6.1		.2402	8	76	114
DH421041	4.1		.1614	6	43	81	DH421062	6.2		.2441	8	76	114
DH421042	4.2		.1654	6	43	81	DH421063	6.3		.2480	8	76	114
DH421043	4.3		.1693	6	43	81	DH421016F	6.350	1/4	.2500	8	76	114
DH421011F	4.366	11/64	.1719	6	43	81	DH421064	6.4		.2520	8	76	114
DH421044	4.4		.1732	6	43	81	DH421065	6.5		.2559	8	76	114
DH421045	4.5		.1772	6	43	81	DH421066L	6.528	F	.2570	8	76	114
DH421046	4.6		.1811	6	43	81	DH421066	6.6		.2598	8	76	114
DH421047	4.7		.1850	6	43	81	DH421067	6.7		.2638	8	76	114
DH421012F	4.763	3/16	.1875	6	57	95	DH421017F	6.747	17/64	.2656	8	76	114
DH421048	4.8		.1890	6	57	95	DH421068	6.8		.2677	8	76	114

▶ Other shank types are available on your request.

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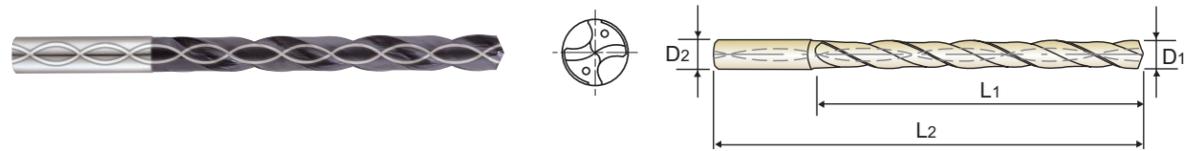
◎ : Excellent ○ : Good

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																			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
HRc	13	25	28	32	30	10	29	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																															

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
General with Coolant Holes (8XD)

DH421 SERIES

- ▶ 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



EXTRA LONG

8 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
	D1			D2	L1	L2		D1			D2	L1	L2
DH421154	15.4		.6063	16	152	203	DH421179	17.9		.7047	18	171	222
DH421155	15.5		.6102	16	152	203	DH421180	18.0		.7087	18	171	222
DH421156	15.6		.6142	16	152	203	DH421181	18.1		.7126	20	190	243
DH421157	15.7		.6181	16	152	203	DH421182	18.2		.7165	20	190	243
DH421158	15.8		.6220	16	152	203	DH421183	18.3		.7205	20	190	243
DH421040F	15.875	5/8	.6250	16	152	203	DH421184	18.4		.7244	20	190	243
DH421159	15.9		.6260	16	152	203	DH421185	18.5		.7283	20	190	243
DH421160	16.0		.6299	16	152	203	DH421186	18.6		.7323	20	190	243
DH421161	16.1		.6339	18	171	222	DH421187	18.7		.7362	20	190	243
DH421162	16.2		.6378	18	171	222	DH421188	18.8		.7402	20	190	243
DH421163	16.3		.6417	18	171	222	DH421189	18.9		.7441	20	190	243
DH421164	16.4		.6457	18	171	222	DH421190	19.0		.7480	20	190	243
DH421165	16.5		.6496	18	171	222	DH421048F	19.050	3/4	.7500	20	190	243
DH421166	16.6		.6535	18	171	222	DH421191	19.1		.7520	20	190	243
DH421167	16.7		.6575	18	171	222	DH421192	19.2		.7559	20	190	243
DH421168	16.8		.6614	18	171	222	DH421193	19.3		.7598	20	190	243
DH421169	16.9		.6654	18	171	222	DH421194	19.4		.7638	20	190	243
DH421170	17.0		.6693	18	171	222	DH421195	19.5		.7677	20	190	243
DH421171	17.1		.6732	18	171	222	DH421196	19.6		.7717	20	190	243
DH421172	17.2		.6772	18	171	222	DH421197	19.7		.7756	20	190	243
DH421173	17.3		.6811	18	171	222	DH421198	19.8		.7795	20	190	243
DH421174	17.4		.6850	18	171	222	DH421199	19.9		.7835	20	190	243
DH421175	17.5		.6890	18	171	222	DH421200	20.0		.7874	20	190	243
DH421176	17.6		.6929	18	171	222							
DH421177	17.7		.6968	18	171	222							
DH421178	17.8		.7008	18	171	222							

▶ Other shank types are available on your request.

◎ : 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	
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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	3	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											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																		○			

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
General without Coolant Holes (3XD)

DH414 SERIES

- ▶ 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
- ▶ Tolerance : Dia. Tolerance ØD1 : See page 141
Shank Tolerance ØD2: -.0001 -.0005



STUB

3 x D

EDP No.	Drill Diameter		Flute Length	Overall Length	EDP No.	Drill Diameter		Flute Length	Overall Length
	Fractional	Decimal				Fractional	Decimal		
	D1 = D2		L1	L2		D1 = D2		L1	L2
TiAIN					TiAIN				
0081ATF	1/8	.1250	45/64	1-59/64	0301ATF	15/32	.4688	2-7/8	4-3/4
0091ATF	9/64	.1406	25/32	2-3/64	0311ATF	31/64	.4844	3	5-5/16
0101ATF	5/32	.1562	7/8	2-3/16	0321ATF	1/2	.5000	3-1/16	5-3/8
0111ATF	11/64	.1719	15/16	2-9/32	0331ATF	33/64	.5156	3-11/32	5-11/16
0121ATF	3/16	.1875	1	2-7/16	0341ATF	17/32	.5312	3-11/32	5-11/16
0131ATF	13/64	.2031	1	2-7/16	0361ATF	9/16	.5625	3-1/2	5-15/16
0141ATF	7/32	.2188	1-1/8	2-5/8	0371ATF	37/64	.5781	3-37/64	6
0151ATF	15/64	.2344	1-1/8	2-5/8	0401ATF	5/8	.6250	3-25/3	6-19/64
0161ATF	1/4	.2500	1-5/8	3-3/16					
2061ATF	F	.2570	1-11/16	3-17/64					
0171ATF	17/64	.2656	1-11/16	3-17/64					
2091ATF	I	.2720	1-11/16	3-17/64					
0181ATF	9/32	.2812	1-3/4	3-7/16					
0191ATF	19/64	.2969	1-7/8	3-9/16					
0201ATF	5/16	.3125	1-7/8	3-9/16					
0211ATF	21/64	.3281	2-1/16	3-3/4					
2171ATF	Q	.3320	2-1/16	3-3/4					
0221ATF	11/32	.3438	2-3/16	3-7/8					
0231ATF	23/64	.3594	2-9/32	4					
2211ATF	U	.3680	2-9/32	4					
0241ATF	3/8	.3750	2-3/8	4-1/8					
0251ATF	25/64	.3906	2-3/8	4-1/8					
0261ATF	13/32	.4062	2-5/8	4-13/32					
0271ATF	27/64	.4219	2-11/16	4-1/2					
0281ATF	7/16	.4375	2-13/16	4-5/8					
0291ATF	29/64	.4531	2-7/8	4-3/4					

▶ Other shank types are available on your request.

◎ : Excellent ○ : Good

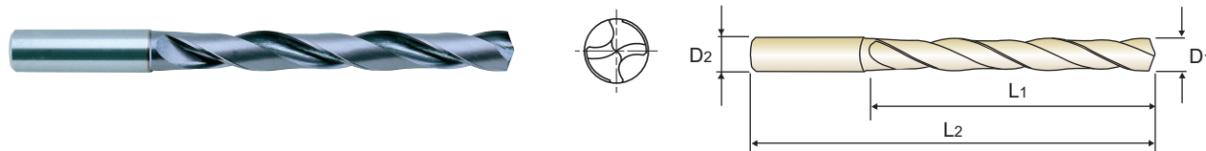
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	3	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											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																		○			

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
General without Coolant Holes (5XD)

DH722 SERIES

- ▶ 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
- ▶ Tolerance : Dia. Tolerance ØD1 : See page 141
Shank Tolerance ØD2: -.0001 -.0005



LONG
5 x D

Unit : inch

EDP No.	Drill Diameter		Shank Diameter	Flute Length	Overall Length
	Fractional	Decimal			
TiAIN	D1		D2	L1	L2
DH722013	13/64	.2031	1/4	1-3/4	3-15/16
DH722014	7/32	.2188	1/4	1-57/64	3-15/16
DH722015	15/64	.2344	1/4	1-57/64	3-15/16
DH722016	1/4	.2500	1/4	2-3/64	4-19/64
DH72206	F	.2570	5/16	2-13/64	4-19/64
DH722017	17/64	.2656	5/16	2-13/64	4-19/64
DH72209	I	.2720	5/16	2-13/64	4-19/64
DH722018	9/32	.2812	5/16	2-23/64	4-41/64
DH722019	19/64	.2969	5/16	2-33/64	4-41/64
DH722020	5/16	.3125	5/16	2-33/64	4-41/64
DH722021	21/64	.3281	3/8	2-43/64	5
DH722217	Q	.3320	3/8	2-43/64	5
DH722022	11/32	.3438	3/8	2-27/32	5
DH722023	23/64	.3594	3/8	3	5-23/64
DH72221	U	.3680	3/8	3	5-23/64
DH722024	3/8	.3750	3/8	3-5/32	5-23/64
DH722025	25/64	.3906	7/16	3-5/32	5-23/64
DH722026	13/32	.4062	7/16	3-5/16	5-7/8
DH722027	27/64	.4219	7/16	3-15/32	5-7/8
DH722028	7/16	.4375	7/16	3-5/8	6-7/32
DH722029	29/64	.4531	1/2	3-25/32	6-7/32
DH722030	15/32	.4688	1/2	3-25/32	6-7/32
DH722031	31/64	.4844	1/2	3-15/16	6-37/64
DH722032	1/2	.5000	1/2	4-3/32	6-37/64

▶ Other shank types are available on your request.

◎ : Excellent ○ : Good

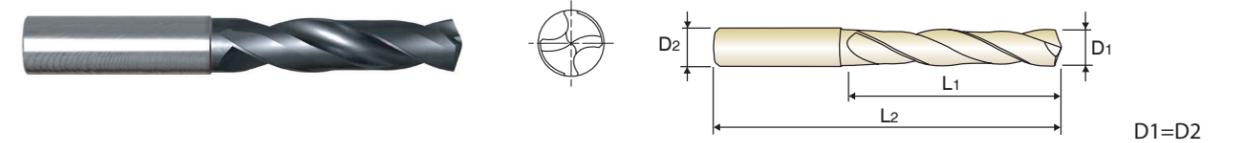
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	130	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											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	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
General without Coolant Holes (3XD)

DH404 SERIES

- ▶ 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



STUB
3 x D

Unit : mm

EDP No.	Drill Diameter		Flute Length	Overall Length	EDP No.	Drill Diameter		Flute Length	Overall Length
	Metric	Inch				Metric	Inch		
TiAIN	D1 = D2		L1	L2	TiAIN	D1 = D2		L1	L2
DH404030	3.0	.1181	16	46	DH404056	5.6	.2205	28	66
DH404031	3.1	.1220	18	49	DH404057	5.7	.2244	28	66
DH404032	3.2	.1260	18	49	DH404058	5.8	.2283	28	66
DH404033	3.3	.1299	18	49	DH404059	5.9	.2323	28	66
DH404034	3.4	.1339	20	52	DH404060	6.0	.2362	28	66
DH404035	3.5	.1378	20	52	DH404061	6.1	.2402	31	70
DH404036	3.6	.1417	20	52	DH404062	6.2	.2441	31	70
DH404037	3.7	.1457	20	52	DH404063	6.3	.2480	31	70
DH404038	3.8	.1496	22	55	DH404064	6.4	.2520	31	70
DH404039	3.9	.1535	22	55	DH404065	6.5	.2559	31	70
DH404040	4.0	.1575	22	55	DH404066	6.6	.2598	31	70
DH404041	4.1	.1614	22	55	DH404067	6.7	.2638	31	70
DH404042	4.2	.1654	22	55	DH404068	6.8	.2677	34	74
DH404043	4.3	.1693	24	58	DH404069	6.9	.2717	34	74
DH404044	4.4	.1732	24	58	DH404070	7.0	.2756	34	74
DH404045	4.5	.1772	24	58	DH404071	7.1	.2795	34	74
DH404046	4.6	.1811	24	58	DH404072	7.2	.2835	34	74
DH404047	4.7	.1850	24	58	DH404073	7.3	.2874	34	74
DH404048	4.8	.1890	26	62	DH404074	7.4	.2913	34	74
DH404049	4.9	.1929	26	62	DH404075	7.5	.2953	34	74
DH404050	5.0	.1969	26	62	DH404076	7.6	.2992	37	79
DH404051	5.1	.2008	26	62	DH404077	7.7	.3031	37	79
DH404052	5.2	.2047	26	62	DH404078	7.8	.3071	37	79
DH404053	5.3	.2087	26	62	DH404079	7.9	.3110	37	79
DH404054	5.4	.2126	28	66	DH404080	8.0	.3150	37	79
DH404055	5.5	.2165	28	66	DH404081	8.1	.3189	37	79

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : 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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	130	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											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	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
General without Coolant Holes (3XD)

DH404 SERIES

- ▶ 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



STUB
3 x D

EDP No.	Drill Diameter		Flute Length	Overall Length	EDP No.	Drill Diameter		Flute Length	Overall Length
	Metric	Inch				Metric	Inch		
TiAIN	D1 = D2		L1	L2	TiAIN	D1 = D2		L1	L2
DH404082	8.2	.3228	37	79	DH404140	14.0	.5512	54	107
DH404083	8.3	.3268	37	79	DH404145	14.5	.5708	56	111
DH404084	8.4	.3307	37	79	DH404150	15.0	.5905	56	111
DH404085	8.5	.3346	37	79	DH404155	15.5	.6102	58	115
DH404086	8.6	.3386	40	84	DH404160	16.0	.6299	58	115
DH404087	8.7	.3425	40	84	DH404165	16.5	.6495	60	119
DH404088	8.8	.3465	40	84	DH404170	17.0	.6692	60	119
DH404089	8.9	.3504	40	84	DH404175	17.5	.6889	62	123
DH404090	9.0	.3543	40	84	DH404180	18.0	.7087	62	123
DH404091	9.1	.3583	40	84	DH404185	18.5	.7283	64	127
DH404092	9.2	.3622	40	84	DH404190	19.0	.7480	64	127
DH404093	9.3	.3661	40	84	DH404195	19.5	.7676	66	131
DH404094	9.4	.3701	40	84	DH404200	20.0	.7874	66	131
DH404095	9.5	.3740	40	84					
DH404096	9.6	.3780	43	89					
DH404097	9.7	.3819	43	89					
DH404098	9.8	.3858	43	89					
DH404099	9.9	.3898	43	89					
DH404100	10.0	.3937	43	89					
DH404102	10.2	.4016	43	89					
DH404105	10.5	.4134	43	89					
DH404110	11.0	.4331	47	95					
DH404115	11.5	.4528	47	95					
DH404120	12.0	.4724	51	102					
DH404130	13.0	.5118	51	102					
DH404135	13.5	.5314	54	107					

▶ Other shank types are available on your request.

◎ : 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
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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	13	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	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	400 Rm	1050 Rm	550	630	400	550				
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550				
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎			

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
General without Coolant Holes (3XD)

DH423 SERIES

- ▶ 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



SHORT
3 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
TiAIN	D1			D2	L1	L2	TiAIN	D1			D2	L1	L2
DH423030	3.0		.1181	6	20	62	DH423051	5.1		.2008	6	28	66
DH423031	3.1		.1220	6	20	62	DH423013F	5.159	13/64	.2031	6	28	66
DH423008F	3.175	1/8	.1250	6	20	62	DH423052	5.2		.2047	6	28	66
DH423032	3.2		.1260	6	20	62	DH423053	5.3		.2087	6	28	66
DH423033	3.3		.1299	6	20	62	DH423054	5.4		.2126	6	28	66
DH423034	3.4		.1339	6	20	62	DH423055	5.5		.2165	6	28	66
DH423035	3.5		.1378	6	20	62	DH423014F	5.556	7/32	.2188	6	28	66
DH423009F	3.572	9/64	.1406	6	20	62	DH423056	5.6		.2205	6	28	66
DH423036	3.6		.1417	6	20	62	DH423057	5.7		.2244	6	28	66
DH423037	3.7		.1457	6	20	62	DH423058	5.8		.2283	6	28	66
DH423038	3.8		.1496	6	24	66	DH423059	5.9		.2323	6	28	66
DH423039	3.9		.1535	6	24	66	DH423015F	5.953	15/64	.2344	6	28	66
DH423010F	3.969	5/32	.1563	6	24	66	DH423060	6.0		.2362	6	28	66
DH423040	4.0		.1575	6	24	66	DH423061	6.1		.2402	8	34	79
DH423041	4.1		.1614	6	24	66	DH423062	6.2		.2441	8	34	79
DH423042	4.2		.1654	6	24	66	DH423063	6.3		.2480	8	34	79
DH423043	4.3		.1693	6	24	66	DH423016F	6.350	1/4	.2500	8	34	79
DH423011F	4.366	11/64	.1719	6	24	66	DH423064	6.4		.2520	8	34	79
DH423044	4.4		.1732	6	24	66	DH423065	6.5		.2559	8	34	79
DH423045	4.5		.1772	6	24	66	DH423006L	6.528	F	.2570	8	34	79
DH423046	4.6		.1811	6	24	66	DH423066	6.6		.2598	8	34	79
DH423047	4.7		.1850	6	24	66	DH423067	6.7		.2638	8	34	79
DH423012F	4.763	3/16	.1875	6	24	66	DH423017F	6.747	17/64	.2656	8	34	79
DH423048	4.8		.1890	6	28	66	DH423068	6.8		.2677	8	34	79
DH423049	4.9		.1929	6	28	66	DH423069	6.9		.2717	8	34	79
DH423050	5.0		.1969	6	28	66	DH423009L	6.909	I	.2720	8	34	79

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : Excellent ○ : Good

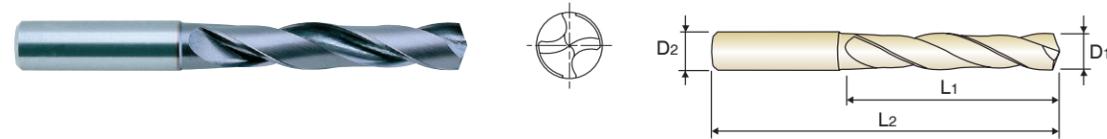
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	13	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	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	400 Rm	1050 Rm	550	630	400	550				
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550				
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎			

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
General without Coolant Holes (3XD)

DH423 SERIES

- ▶ 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



SHORT
3 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
TiAIN							TiAIN						
DH423070	7.0		.2756	8	34	79	DH423090	9.0		.3543	10	47	89
DH423071	7.1		.2795	8	41	79	DH423091	9.1		.3583	10	47	89
DH423018F	7.144	9/32	.2812	8	41	79	DH423023F	9.128	23/64	.3594	10	47	89
DH423072	7.2		.2835	8	41	79	DH423092	9.2		.3622	10	47	89
DH423073	7.3		.2874	8	41	79	DH423093	9.3		.3661	10	47	89
DH423074	7.4		.2913	8	41	79	DH423021L	9.347	U	.3680	10	47	89
DH423075	7.5		.2953	8	41	79	DH423094	9.4		.3701	10	47	89
DH423019F	7.541	19/64	.2969	8	41	79	DH423095	9.5		.3740	10	47	89
DH423076	7.6		.2992	8	41	79	DH423024F	9.525	3/8	.3750	10	47	89
DH423077	7.7		.3031	8	41	79	DH423096	9.6		.3780	10	47	89
DH423078	7.8		.3071	8	41	79	DH423097	9.7		.3819	10	47	89
DH423079	7.9		.3110	8	41	79	DH423098	9.8		.3858	10	47	89
DH423020F	7.938	5/16	.3125	8	41	79	DH423099	9.9		.3898	10	47	89
DH423080	8.0		.3150	8	41	79	DH423025F	9.922	25/64	.3906	10	47	89
DH423081	8.1		.3189	10	47	89	DH423100	10.0		.3937	10	47	89
DH423082	8.2		.3228	10	47	89	DH423101	10.1		.3976	12	55	102
DH423083	8.3		.3268	10	47	89	DH423102	10.2		.4016	12	55	102
DH423021F	8.334	21/64	.3281	10	47	89	DH423103	10.3		.4055	12	55	102
DH423084	8.4		.3307	10	47	89	DH423026F	10.319	13/32	.4062	12	55	102
DH423017L	8.433	Q	.3320	10	47	89	DH423104	10.4		.4094	12	55	102
DH423085	8.5		.3346	10	47	89	DH423105	10.5		.4134	12	55	102
DH423086	8.6		.3386	10	47	89	DH423106	10.6		.4173	12	55	102
DH423087	8.7		.3425	10	47	89	DH423107	10.7		.4213	12	55	102
DH423022F	8.731	11/32	.3438	10	47	89	DH423027F	10.716	27/64	.4219	12	55	102
DH423088	8.8		.3465	10	47	89	DH423108	10.8		.4252	12	55	102
DH423089	8.9		.3504	10	47	89	DH423109	10.9		.4291	12	55	102

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : 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	
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	30	10	29	32	38	15	35	15	23	10	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											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																		◎	◎	◎	◎

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
General without Coolant Holes (3XD)

DH423 SERIES

- ▶ 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



SHORT
3 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
TiAIN							TiAIN						
DH423110	11.0		.4331	12	55	102	DH423132	13.2		.5197	14	60	107
DH423111	11.1		.4370	12	55	102	DH423133	13.3		.5236	14	60	107
DH423028F	11.113	7/16	.4375	12	55	102	DH423134	13.4		.5276	14	60	107
DH423112	11.2		.4409	12	55	102	DH423135	13.5		.5315	14	60	107
DH423113	11.3		.4449	12	55	102	DH423136	13.6		.5354	14	60	107
DH423114	11.4		.4488	12	55	102	DH423137	13.7		.5394	14	60	107
DH423115	11.5		.4528	12	55	102	DH423138	13.8		.5433	14	60	107
DH423029F	11.509	29/64	.4531	12	55	102	DH423139	13.9		.5472	14	60	107
DH423116	11.6		.4567	12	55	102	DH423140	14.0		.5512	14	60	107
DH423117	11.7		.4606	12	55	102	DH423141	14.1		.5551	16	65	115
DH423118	11.8		.4646	12	55	102	DH423142	14.2		.5591	16	65	115
DH423119	11.9		.4685	12	55	102	DH423036F	14.288	9/16	.5625	16	65	115
DH423030F	11.906	15/32	.4688	12	55	102	DH423143	14.3		.5630	16	65	115
DH423120	12.0		.4724	12	55	102	DH423144	14.4		.5669	16	65	115
DH423121	12.1		.4764	14	60	107	DH423145	14.5		.5708	16	65	115
DH423122	12.2		.4803	14	60	107	DH423146	14.6		.5748	16	65	115
DH423123	12.3		.4843	14	60	107	DH423147	14.7		.5787	16	65	115
DH423031F	12.303	31/64	.4844	14	60	107	DH423148	14.8		.5827	16	65	115
DH423124	12.4		.4882	14	60	107	DH423149	14.9		.5866	16	65	115
DH423125	12.5		.4921	14	60	107	DH423150	15.0		.5905	16	65	115
DH423126	12.6		.4961	14	60	107	DH423151	15.1		.5945	16	65	115
DH423032F	12.7	1/2	.5000	14	60	107	DH423152	15.2		.5984	16	65	115
DH423128	12.8		.5039	14	60	107	DH423153	15.3		.6024	16	65	115
DH423129	12.9		.5079	14	60	107	DH423154	15.4		.6063	16	65	115
DH423130	13.0		.5118	14	60	107	DH423155	15.5		.6102	16	65	115
DH423131	13.1		.5157	14	60	107	DH423156	15.6		.6142	16	65	115

▶ Other shank types are available on your request.

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◎ : Excellent ○ : Good

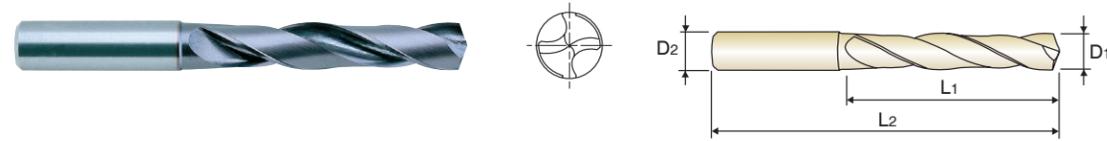
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	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											15	30	25	38							

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
General without Coolant Holes (3XD)

DH423 SERIES

- ▶ 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



SHORT
3 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
	D1			D2	L1	L2		D1			D2	L1	L2
DH423157	15.7		.6181	16	65	115	DH423181	18.1		.7126	20	79	131
DH423158	15.8		.6220	16	65	115	DH423182	18.2		.7165	20	79	131
DH423040F	15.875	5/8	.6250	16	65	115	DH423183	18.3		.7205	20	79	131
DH423159	15.9		.6260	16	65	115	DH423184	18.4		.7244	20	79	131
DH423160	16.0		.6299	16	65	115	DH423185	18.5		.7283	20	79	131
DH423161	16.1		.6339	18	73	123	DH423186	18.6		.7323	20	79	131
DH423162	16.2		.6378	18	73	123	DH423187	18.7		.7362	20	79	131
DH423163	16.3		.6417	18	73	123	DH423188	18.8		.7402	20	79	131
DH423164	16.4		.6457	18	73	123	DH423189	18.9		.7441	20	79	131
DH423165	16.5		.6495	18	73	123	DH423190	19.0		.7480	20	79	131
DH423166	16.6		.6535	18	73	123	DH423048F	19.050	3/4	.7500	20	79	131
DH423167	16.7		.6575	18	73	123	DH423191	19.1		.7520	20	79	131
DH423168	16.8		.6614	18	73	123	DH423192	19.2		.7559	20	79	131
DH423169	16.9		.6654	18	73	123	DH423193	19.3		.7598	20	79	131
DH423170	17.0		.6692	18	73	123	DH423194	19.4		.7638	20	79	131
DH423171	17.1		.6732	18	73	123	DH423195	19.5		.7676	20	79	131
DH423172	17.2		.6772	18	73	123	DH423196	19.6		.7717	20	79	131
DH423173	17.3		.6811	18	73	123	DH423197	19.7		.7756	20	79	131
DH423174	17.4		.6850	18	73	123	DH423198	19.8		.7795	20	79	131
DH423044F	17.463	11/16	.6875	18	73	123	DH423199	19.9		.7835	20	79	131
DH423175	17.5		.6889	18	73	123	DH423200	20.0		.7874	20	79	131
DH423176	17.6		.6929	18	73	123							
DH423177	17.7		.6968	18	73	123							
DH423178	17.8		.7008	18	73	123							
DH423179	17.9		.7047	18	73	123							
DH423180	18.0		.7087	18	73	123							

▶ Other shank types are available on your request.

◎ : 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	
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	30	10	29	32	38	15	35	15	23	10	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											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																		○			

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
General without Coolant Holes (5XD)

DH424 SERIES

- ▶ 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



LONG
5 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
	D1			D2	L1	L2		D1			D2	L1	L2
DH424010	1.0		.0394	3	8	55	DH424008F	3.175	1/8	.1250	6	28	66
DH424011	1.1		.0433	3	12	55	DH424032	3.2		.1260	6	28	66
DH424012	1.2		.0472	3	12	55	DH424033	3.3		.1299	6	28	66
DH424013	1.3		.0512	3	12	55	DH424034	3.4		.1339	6	28	66
DH424014	1.4		.0551	3	12	55	DH424035	3.5		.1378	6	28	66
DH424015	1.5		.0591	3	16	55	DH424009F	3.572	9/64	.1406	6	28	66
DH424004F	1.588	1/16	.0625	3	16	55	DH424036	3.6		.1417	6	28	66
DH424016	1.6		.0630	3	16	55	DH424037	3.7		.1457	6	28	66
DH424017	1.7		.0669	3	16	55	DH424038	3.8		.1496	6	36	74
DH424018	1.8		.0709	3	16	55	DH424039	3.9		.1535	6	36	74
DH424019	1.9		.0748	3	16	55	DH424010F	3.969	5/32	.1563	6	36	74
DH424005F	1.984	5/64	.0781	3	16	55	DH424040	4.0		.1575	6	36	74
DH424020	2.0		.0787	4	21	57	DH424041	4.1		.1614	6	36	74
DH424021	2.1		.0827	4	21	57	DH424042	4.2		.1654	6	36	74
DH424022	2.2		.0866	4	21	57	DH424043	4.3		.1693	6	36	74
DH424023	2.3		.0906	4	21	57	DH424011F	4.366	11/64	.1719	6	36	74
DH424006F	2.381	3/32	.0938	4	21	57	DH424044	4.4		.1732	6	36	74
DH424024	2.4		.0945	4	21	57	DH424045	4.5		.1772	6	36	74
DH424025	2.5		.0984	4	21	57	DH424046	4.6		.1811	6	36	74
DH424026	2.6		.1024	4	21	57	DH424047	4.7		.1850	6	36	74
DH424027	2.7		.1063	4	21	57	DH424012F	4.763	3/16	.1875	6	36	74
DH424007F	2.778	7/64	.1094	4	21	57	DH424048	4.8		.1890	6	44	82
DH424028	2.8		.1102	4	21	57	DH424049	4.9		.1929	6	44	82
DH424029	2.9		.1142	4	21	57	DH424050	5.0		.1969	6	44	82
DH424030	3.0		.1181	6	28	66	DH424051	5.1		.2008	6	44	82
DH424031	3.1		.1220	6	28	66	DH424013F	5.159	13/64	.2031	6	44	82

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : 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	
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	30	10	29	32	38	15	35	15	23	10	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											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	32						

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
General without Coolant Holes (5XD)

DH424 SERIES

- ▶ 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



LONG
5 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
TiAIN	D1			D2	L1	L2	TiAIN	D1			D2	L1	L2
DH424052	5.2		.2047	6	44	82	DH424018F	7.144	9/32	.2812	8	53	91
DH424053	5.3		.2087	6	44	82	DH424072	7.2		.2835	8	53	91
DH424054	5.4		.2126	6	44	82	DH424073	7.3		.2874	8	53	91
DH424055	5.5		.2165	6	44	82	DH424074	7.4		.2913	8	53	91
DH424014F	5.556	7/32	.2188	6	44	82	DH424075	7.5		.2953	8	53	91
DH424056	5.6		.2205	6	44	82	DH424019F	7.541	19/64	.2969	8	53	91
DH424057	5.7		.2244	6	44	82	DH424076	7.6		.2992	8	53	91
DH424058	5.8		.2283	6	44	82	DH424077	7.7		.3031	8	53	91
DH424059	5.9		.2323	6	44	82	DH424078	7.8		.3071	8	53	91
DH424015F	5.953	15/64	.2344	6	44	82	DH424079	7.9		.3110	8	53	91
DH424060	6.0		.2362	6	44	82	DH424020F	7.938	5/16	.3125	8	53	91
DH424061	6.1		.2402	8	53	91	DH424080	8.0		.3150	8	53	91
DH424062	6.2		.2441	8	53	91	DH424081	8.1		.3189	10	61	103
DH424063	6.3		.2480	8	53	91	DH424082	8.2		.3228	10	61	103
DH424016F	6.350	1/4	.2500	8	53	91	DH424083	8.3		.3268	10	61	103
DH424064	6.4		.2520	8	53	91	DH424021F	8.334	21/64	.3281	10	61	103
DH424065	6.5		.2559	8	53	91	DH424084	8.4		.3307	10	61	103
DH424006L	6.528	F	.2570	8	53	91	DH424017L	8.433	Q	.3320	10	61	103
DH424066	6.6		.2598	8	53	91	DH424085	8.5		.3346	10	61	103
DH424067	6.7		.2638	8	53	91	DH424086	8.6		.3386	10	61	103
DH424017F	6.747	17/64	.2656	8	53	91	DH424087	8.7		.3425	10	61	103
DH424068	6.8		.2677	8	53	91	DH424022F	8.731	11/32	.3438	10	61	103
DH424069	6.9		.2717	8	53	91	DH424088	8.8		.3465	10	61	103
DH424009L	6.909	I	.2720	8	53	91	DH424089	8.9		.3504	10	61	103
DH424070	7.0		.2756	8	53	91	DH424090	9.0		.3543	10	61	103
DH424071	7.1		.2795	8	53	91	DH424091	9.1		.3583	10	61	103

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : 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	
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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	13	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											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																					

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
General without Coolant Holes (5XD)

DH424 SERIES

- ▶ 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



LONG
5 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
TiAIN	D1			D2	L1	L2	TiAIN	D1			D2	L1	L2
DH424023F	9.128	23/64	.3594	10	61	103	DH424028F	11.113	7/16	.4375	12	71	118
DH424092	9.2		.3622	10	61	103	DH424112	11.2		.4409	12	71	118
DH424093	9.3		.3661	10	61	103	DH424113	11.3		.4449	12	71	118
DH424021L	9.347	U	.3680	10	61	103	DH424114	11.4		.4488	12	71	118
DH424094	9.4		.3701	10	61	103	DH424115	11.5		.4528	12	71	118
DH424095	9.5		.3740	10	61	103	DH424029F	11.509	29/64	.4531	12	71	118
DH424024F	9.525	3/8	.3750	10	61	103	DH424116	11.6		.4567	12	71	118
DH424096	9.6		.3780	10	61	103	DH424117	11.7		.4606	12	71	118
DH424097	9.7		.3819	10	61	103	DH424118	11.8		.4646	12	71	118
DH424098	9.8		.3858	10	61	103	DH424119	11.9		.4685	12	71	118
DH424099	9.9		.3898	10	61	103	DH424030F	11.906	15/32	.4688	12	71	118
DH424025F	9.922	25/64	.3906	10	61	103	DH424120	12.0		.4724	12	71	118
DH424100	10.0		.3937	10	61	103	DH424121	12.1		.4764	14	77	124
DH424101	10.1		.3976	12	71	118	DH424122	12.2		.4803	14	77	124
DH424102	10.2		.4016	12	71	118	DH424123	12.3		.4843	14	77	124
DH424103	10.3		.4055	12	71	118	DH424031F	12.303	31/64	.4844	14	77	124
DH424026F	10.319	13/32	.4062	12	71	118	DH424124	12.4		.4882	14	77	124
DH424104	10.4		.4094	12	71	118	DH424125	12.5		.4921	14	77	124
DH424105	10.5		.4134	12	71	118	DH424126	12.6		.4961	14	77	124
DH424106	10.6		.4173	12	71	118	DH424032F	12.7	1/2	.5000	14	77	124
DH424107	10.7		.4213	12	71	118	DH424128	12.8		.5039	14	77	124
DH424027F	10.716	27/64	.4219	12	71	118	DH424129	12.9		.5079	14	77	124
DH424108	10.8		.4252	12	71	118	DH424130	13.0		.5118	14	77	124
DH424109	10.9		.4291	12	71	118	DH424131	13.1		.5157	14	77	124
DH424110	11.0		.4331	12	71	118	DH424132	13.2		.5197	14	77	124
DH424111	11.1		.4370	12	71	118	DH424133	13.3		.5236	14	77	124

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : 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	
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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	13	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	4	

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
General without Coolant Holes (5XD)

DH424 SERIES

- ▶ 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



LONG
5 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
TiAIN	D1			D2	L1	L2	TiAIN	D1			D2	L1	L2
DH424134	13.4		.5276	14	77	124	DH424040F	15.875	5/8	.6250	16	83	133
DH424135	13.5		.5315	14	77	124	DH424159	15.9		.6260	16	83	133
DH424136	13.6		.5354	14	77	124	DH424160	16.0		.6299	16	83	133
DH424137	13.7		.5394	14	77	124	DH424161	16.1		.6339	18	93	143
DH424138	13.8		.5433	14	77	124	DH424162	16.2		.6378	18	93	143
DH424139	13.9		.5472	14	77	124	DH424163	16.3		.6417	18	93	143
DH424140	14.0		.5512	14	77	124	DH424164	16.4		.6457	18	93	143
DH424141	14.1		.5551	16	83	133	DH424165	16.5		.6495	18	93	143
DH424142	14.2		.5591	16	83	133	DH424166	16.6		.6535	18	93	143
DH424036F	14.288	9/16	.5625	16	83	133	DH424167	16.7		.6575	18	93	143
DH424143	14.3		.5630	16	83	133	DH424168	16.8		.6614	18	93	143
DH424144	14.4		.5669	16	83	133	DH424169	16.9		.6654	18	93	143
DH424145	14.5		.5708	16	83	133	DH424170	17.0		.6692	18	93	143
DH424146	14.6		.5748	16	83	133	DH424171	17.1		.6732	18	93	143
DH424147	14.7		.5787	16	83	133	DH424172	17.2		.6772	18	93	143
DH424148	14.8		.5827	16	83	133	DH424173	17.3		.6811	18	93	143
DH424149	14.9		.5866	16	83	133	DH424174	17.4		.6850	18	93	143
DH424150	15.0		.5905	16	83	133	DH424175	17.5		.6889	18	93	143
DH424151	15.1		.5945	16	83	133	DH424176	17.6		.6929	18	93	143
DH424152	15.2		.5984	16	83	133	DH424177	17.7		.6968	18	93	143
DH424153	15.3		.6024	16	83	133	DH424178	17.8		.7008	18	93	143
DH424154	15.4		.6063	16	83	133	DH424179	17.9		.7047	18	93	143
DH424155	15.5		.6102	16	83	133	DH424180	18.0		.7087	18	93	143
DH424156	15.6		.6142	16	83	133	DH424181	18.1		.7126	20	101	153
DH424157	15.7		.6181	16	83	133	DH424182	18.2		.7165	20	101	153
DH424158	15.8		.6220	16	83	133	DH424183	18.3		.7205	20	101	153

▶ Other shank types are available on your request.

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◎ : 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	
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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	13	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											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																		○			

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
General without Coolant Holes (5XD)

DH424 SERIES

- ▶ 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



LONG
5 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
TiAIN	D1			D2	L1	L2	TiAIN	D1			D2	L1	L2
DH424184	18.4		.7244	20	101	153	DH424048F	19.005	3/4	.7500	20	101	153
DH424185	18.5		.7283	20	101	153	DH424191	19.1		.7520	20	101	153
DH424186	18.6		.7323	20	101	153	DH424192	19.2		.7559	20	101	153
DH424187	18.7		.7362	20	101	153	DH424193	19.3		.7598	20	101	153
DH424188	18.8		.7402	20	101	153	DH424194	19.4		.7638	20	101	153
DH424189	18.9		.7441	20	101	153	DH424195	19.5		.7676	20	101	153
DH424190	19.0		.7480	20	101	153	DH424196	19.6		.7717	20	101	153
DH424191	19.1		.7520	20	101	153	DH424197	19.7		.7756	20	101	153
DH424192	19.2		.7559	20	101	153	DH424198	19.8		.7795	20	101	153
DH424193	19.3		.7598	20	101	153	DH424199	19.9		.7835	20	101	153
DH424194	19.4		.7638	20	101	153	DH424200	20.0		.7874	20	101	153
DH424195	19.5		.7676	20	101	153							
DH424196	19.6		.7717	20	101	153							
DH424197	19.7		.7756	20	101	153							
DH424198	19.8		.7795	20	101	153							
DH424199	19.9		.7835	20	101	153							
DH424200	20.0		.7874	20	101	153							

▶ Other shank types are available on your request.

◎ : 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	
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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	13	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											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																		○			

DH416, DH418, DH711, DH712, DH406, DH408, DH421 SERIES

with COOLANT HOLES

ISO	VDI 3323	Material Description	SFM			Drill Diameter			SFM			Drill Diameter		
			1.0~2.9	METRIC	1.0	2.0	3.0~20.0	METRIC	3.0	-	4.0	-	5.0	
			-	FRACTIONAL	-	-	1/8~3/4	FRACTIONAL	-	1/8	-	3/16	-	
			.0394~.0787	DECIMAL	.0394	.0787		.1181~.7874	DECIMAL	.1181	.1250	.1575	.1875	.1969
P	2	Non-alloy steel	263	RPM	25460	12730	362	RPM	11670	8750	7000			
			FEED	.0012-.002	.002-.0028	FEED	.0024-.0047	.0031-.0055	.0055-.0079					
			263	RPM	25460	12730	362	RPM	11670	8750	7000			
	FEED		.0012-.002	.002-.0028	FEED	.0024-.0047	.0031-.0055	.0055-.0079						
	263		RPM	25460	12730	362	RPM	11670	8750	7000				
	FEED		.0012-.002	.002-.0028	FEED	.0016-.0039	.0028-.0051	.0039-.0063						
	230	RPM	22280	11140	296	RPM	9550	7160	5730					
	FEED	.0012-.002	.002-.0028	FEED	.0016-.0039	.0028-.0051	.0039-.0063							
	3	Low alloy steel	263	RPM	25460	12730	362	RPM	11670	8750	7000			
			FEED	.0012-.002	.002-.0028	FEED	.0024-.0047	.0031-.0055	.0055-.0079					
			230	RPM	22280	11140	296	RPM	9550	7160	5730			
FEED	.0012-.002		.002-.0028	FEED	.0024-.0047	.0031-.0055	.0039-.0079							
230	RPM		22280	11140	296	RPM	9550	7160	5730					
FEED	.0008-.0016		.0012-.002	FEED	.0016-.0039	.0028-.0051	.0039-.0063							
4	High alloyed steel, and tool steel	132	RPM	12730	6370	165	RPM	5310	3980	3180				
		FEED	.0008-.0016	.0012-.002	FEED	.0012-.0031	.002-.0043	.0031-.0055						
		198	RPM	19100	9550	263	RPM	8490	6370	5090				
FEED		.0012-.002	.002-.0028	FEED	.0016-.0039	.0028-.0051	.0039-.0063							
132		RPM	12730	6370	148	RPM	4770	3580	2860					
FEED		.0008-.0016	.0012-.002	FEED	.0012-.0031	.002-.0043	.0031-.0055							
5	Stainless steel	198	RPM	19100	9550	263	RPM	8490	6370	5090				
		FEED	.0012-.002	.002-.0028	FEED	.0024-.0047	.0031-.0055	.0055-.0079						
6	Grey cast iron	148	RPM	14320	7160	181	RPM	5840	4380	3500				
		FEED	.0008-.0016	.0012-.002	FEED	.0016-.0039	.0028-.0051	.0039-.0063						
K	Nodular cast iron	263	RPM	25460	12730	362	RPM	11670	8750	7000				
		FEED	.0016-.0024	.0016-.0024	FEED	.0031-.0055	.0047-.0071	.0071-.0094						
	247	RPM	23870	11940	313	RPM	10080	7560	6050					
	FEED	.0016-.0024	.0016-.0024	FEED	.0024-.0047	.0031-.0055	.0055-.0079							
	296	RPM	28650	14320	395	RPM	12730	9550	7640					
FEED	.0016-.0024	.0016-.0024	FEED	.0031-.0055	.0047-.0071	.0071-.0094								
Malleable cast iron	198	RPM	19100	9550	263	RPM	8490	6370	5090					
	FEED	.0016-.0024	.0016-.0024	FEED	.0024-.0047	.0031-.0055	.0055-.0079							
	230	RPM	22280	11140	296	RPM	9550	7160	5730					
FEED	.0016-.0024	.0016-.0024	FEED	.0031-.0055	.0047-.0071	.0071-.0094								
H	Hardened steel	198	RPM	19100	9550	263	RPM	8490	6370	5090				
		FEED	.0012-.002	.002-.0028	FEED	.0024-.0047	.0031-.0055	.0055-.0079						
		82	RPM	9550	4770	99	RPM	3180	2390	1910				
		FEED	.0004-.0008	.0004-.0012	FEED	.0004-.0012	.0004-.0016	.0008-.002						

SFM = ft/min.
RPM = rev./min.
FEED = inch/rev.

Drill Diameter														
6.0	-	-	8.0	-	10.0	12.0	-	14.0	-	16.0	18.0	-	20.0	-
-	1/4	5/16	-	3/8	-	-	1/2	-	9/16	5/8	-	-	3/4	-
.2362	.2500	.3125	.3150	.3750	.3937	.4724	.5000	.5512	.5625	.6250	.6299	.7087	.7500	.7874
5840	4380	3500	2920	2770	2500	2190	1950	1840	1750					
.0063-.0087	.0071-.0094	.0087-.011	.0079-.0118	.0079-.0118	.0087-.0126	.0094-.0134	.011-.015	.011-.015	.0118-.0157					
5840	4380	3500	2920	2770	2500	2190	1950	1840	1750					
.0063-.0087	.0071-.0094	.0087-.011	.0079-.0118	.0079-.0118	.0087-.0126	.0094-.0134	.011-.015	.011-.015	.0118-.0157					
5840	4380	3500	2920	2770	2500	2190	1950	1840	1750					
.0047-.0071	.0055-.0079	.0071-.0094	.0055-.0094	.0055-.0094	.0063-.0102	.0071-.011	.0079-.0118	.0079-.0118	.0087-.0126					
4770	3580	2860	2390	2260	2050	1790	1590	1510	1430					
.0047-.0071	.0055-.0079	.0071-.0094	.0055-.0094	.0055-.0094	.0063-.0102	.0071-.011	.0079-.0118	.0079-.0118	.0087-.0126					
5840	4380	3500	2920	2770	2500	2190	1950	1840	1750					
.0063-.0087	.0071-.0094	.0087-.011	.0079-.0118	.0079-.0118	.0087-.0126	.0094-.0134	.011-.015	.011-.015	.0118-.0157					
4770	3580	2860	2390	2260	2050	1790	1590	1510	1430					
.0047-.0094	.0063-.011	.0079-.0118	.0083-.0118	.0083-.0118	.0087-.0138	.0098-.0142	.011-.015	.011-.015	.0118-.0157					
4770	3580	2860	2390	2260	2050	1790	1590	1510	1430					
.0047-.0071	.0055-.0079	.0071-.0094	.0055-.0094	.0055-.0094	.0063-.0102	.0071-.011	.0079-.0118	.0079-.0118	.0087-.0126					
2650	1990	1590	1330	1260	1140	990	880	840	800					
.0039-.0063	.0047-.0071	.0055-.0079	.0047-.0087	.0047-.0087	.0051-.0091	.0055-.0094	.0063-.0102	.0063-.0102	.0071-.011					
4240	3180	2550	2120	2010	1820	1590	1410	1340	1270					
.0047-.0071	.0055-.0079	.0071-.0094	.0055-.0094	.0055-.0094	.0063-.0102	.0071-.011	.0079-.0118	.0079-.0118	.0087-.0126					
2390	1790	1430	1190	1130	1020	900	800	750	720					
.0039-.0063	.0047-.0071	.0055-.0079	.0047-.0087	.0047-.0087	.0051-.0091	.0055-.0094	.0063-.0102	.0063-.0102	.0071-.011					
4240	3180	2550	2120	2010	1820	1590	1410	1340	1270					
.0063-.0087	.0071-.0094	.0087-.011	.0079-.0118	.0079-.0118	.0087-.0126	.0094-.0134	.011-.015	.011-.015	.0118-.0157					
2920	2190	1750	1460	1380	1250	1090	970	920	880					
.0047-.0071	.0055-.0079	.0071-.0094	.0055-.0094	.0055-.0094	.0063-.0102	.0071-.011	.0079-.0118	.0079-.0118	.0087-.0126					
5840	4380	3500	2920	2770	2500	2190	1950	1840	1750					
.0055-.0102	.0063-.011	.0094-.0134	.0102-.0142	.0102-.0142	.011-.015	.0118-.0157	.0126-.0165	.0126-.0165	.0134-.0173					
5040	3780	3020	2520	2390	2160	1890	1680	1590	1510					
.0063-.0087	.0071-.0094	.0087-.011	.0079-.0118	.0079-.0118	.0087-.0126	.0094-.0134	.011-.015	.011-.015	.0118-.0157					
6370	4770	3820	3180	3020	2730	2390	2120	2010	1910					
.0055-.0102	.0063-.011	.0094-.0134	.0102-.0142	.0102-.0142	.011-.015	.0118-.0157	.0126-.0165	.0126-.0165	.0134-.0173					
4240	3180	2550	2120	2010	1820	1590	1410	1340	1270					
.0063-.0087	.0071-.0094	.0087-.011	.0079-.0118	.0079-.0118	.0087-.0126	.0094-.0134	.011-.015	.011-.015	.0118-.0157					
4770	3580	2860	2390	2260	2050	1790	1590	1510	1430					
.0055-.0102	.0063-.011	.0094-.0134	.0102-.0142	.0102-.0142	.011-.015	.0118-.0157	.0126-.0165	.0126-.0165	.0134-.0173					
4240	3180	2550	2120	2010	1820	1590	1410	1340	1270					
.0063-.0087	.0071-.0094	.0087-.011	.0079-.0118	.0079-.0118	.0087-.0126	.0094-.0134	.011-.015	.011-.015	.0118-.0157					
1590	1190	950	800	750	680	600	530	500	480					
.0012-.0024	.0012-.0024	.0016-.0028	.0016-.0031	.0016-.0031	.002-.0035	.002-.0035	.002-.0039	.002-.0039	.002-.0039					

► Recommend to reduce the feed rate as following
Feed 100% : DH416/DH711(3xD), DH406(3xD) **Feed 80%** : DH418/DH712(5xD), DH408(5xD) **Feed 70%** : DH421(8xD)

DH414, DH722, DH404, DH423, DH424 SERIES

without COOLANT HOLES

ISO	VDI 3323	Material Description	SFM	Drill Diameter			SFM	Drill Diameter						
			1.0~2.9	METRIC	1.0	2.0	3.0~20.0	METRIC	3.0	-	4.0	-	5.0	
			-	FRACTIONAL	-	-	1/8~3/4	FRACTIONAL	-	1/8	-	3/16	-	
			.0394~.0787	DECIMAL	.0394	.0787	.1181~.7874	DECIMAL	.1181	.1250	.1575	.1875	.1969	
P	2	Non-alloy steel	230	RPM	22280	11140	329	RPM	10610	7960	6370			
			FEED	.0012-.002	.002-.0028		FEED	.0024-.0047	.0031-.0055	.0055-.0079				
	3		230	RPM	22280	11140	329	RPM	10610	7960	6370			
			FEED	.0012-.002	.002-.0028		FEED	.0024-.0047	.0031-.0055	.0055-.0079				
	4	230	RPM	22280	11140	329	RPM	10610	7960	6370				
		FEED	.0012-.002	.002-.0028		FEED	.0016-.0039	.0028-.0051	.0039-.0063					
	5	197	RPM	19100	9550	263	RPM	8490	6370	5090				
		FEED	.0012-.002	.002-.0028		FEED	.0016-.0039	.0028-.0051	.0039-.0063					
	6	230	RPM	22280	11140	329	RPM	10610	7960	6370				
		FEED	.0012-.002	.002-.0028		FEED	.0024-.0047	.0031-.0055	.0055-.0079					
	7	197	RPM	19100	9550	263	RPM	8490	6370	5090				
	FEED	.0012-.002	.002-.0028		FEED	.0024-.0047	.0031-.0055	.0039-.0079						
8	197	RPM	19100	9550	263	RPM	8490	6370	5090					
	FEED	.0008-.0016	.0012-.002		FEED	.0016-.0039	.0028-.0051	.0039-.0063						
9	99	RPM	9550	4770	132	RPM	4240	3180	2550					
	FEED	.0008-.0016	.0012-.002		FEED	.0012-.0031	.002-.0043	.0031-.0055						
10	165	RPM	15920	7960	230	RPM	7430	5570	4460					
	FEED	.0012-.002	.002-.0028		FEED	.0016-.0039	.0028-.0051	.0039-.0063						
11	99	RPM	9550	4770	132	RPM	4240	3180	2550					
	FEED	.0008-.0016	.0012-.002		FEED	.0012-.0031	.002-.0043	.0031-.0055						
M	12	Stainless steel	165	RPM	15920	7960	230	RPM	7430	5570	4460			
			FEED	.0012-.002	.002-.0028		FEED	.0024-.0047	.0031-.0055	.0055-.0079				
	13	115	RPM	11140	5570	148	RPM	4770	3580	2860				
		FEED	.0008-.0016	.0012-.002		FEED	.0016-.0039	.0028-.0051	.0039-.0063					
K	15	Grey cast iron	230	RPM	22280	11140	329	RPM	10610	7960	6370			
			FEED	.0016-.0024	.0016-.0024		FEED	.0031-.0055	.0047-.0071	.0071-.0094				
		16	214	RPM	20690	10350	263	RPM	8490	6370	5090			
			FEED	.0016-.0024	.0016-.0024		FEED	.0024-.0047	.0031-.0055	.0055-.0079				
		17	Nodular cast iron	230	RPM	22280	11140	329	RPM	10610	7960	6370		
				FEED	.0016-.0024	.0016-.0024		FEED	.0031-.0055	.0047-.0071	.0071-.0094			
	18	165	RPM	15920	7960	230	RPM	7430	5570	4460				
		FEED	.0016-.0024	.0016-.0024		FEED	.0024-.0047	.0031-.0055	.0055-.0079					
	19	Malleable cast iron	197	RPM	19100	9550	263	RPM	8490	6370	5090			
			FEED	.0016-.0024	.0016-.0024		FEED	.0031-.0055	.0047-.0071	.0071-.0094				
	20	165	RPM	15920	7960	230	RPM	7430	5570	4460				
		FEED	.0012-.002	.002-.0028		FEED	.0024-.0047	.0031-.0055	.0055-.0079					
H	38	Hardened steel	66	RPM	7960	3980	82	RPM	2650	1990	1590			
			FEED	.0004-.0008	.0004-.0012		FEED	.0004-.0012	.0004-.0016	.0008-.002				

SFM = ft/min.
RPM = rev./min.
FEED = inch/rev.

Drill Diameter														
6.0	-	-	8.0	-	10.0	12.0	-	14.0	-	-	16.0	18.0	-	20.0
-	1/4	5/16	-	3/8	-	-	1/2	-	9/16	5/8	-	-	3/4	-
.2362	.2500	.3125	.3150	.3750	.3937	.4724	.5000	.5512	.5625	.6250	.6299	.7087	.7500	.7874
5310	3980	3180	2650	2510	2270	1990	1770	1680	1590					
.0063-.0087	.0071-.0094	.0087-.011	.0079-.0118	.0079-.0118	.0087-.0126	.0094-.0134	.011-.015	.011-.015	.0118-.0157					
5310	3980	3180	2650	2510	2270	1990	1770	1680	1590					
.0063-.0087	.0071-.0094	.0087-.011	.0079-.0118	.0079-.0118	.0087-.0126	.0094-.0134	.011-.015	.011-.015	.0118-.0157					
5310	3980	3180	2650	2510	2270	1990	1770	1680	1590					
.0047-.0071	.0055-.0079	.0071-.0094	.0055-.0094	.0055-.0094	.0063-.0102	.0071-.011	.0079-.0118	.0079-.0118	.0087-.0126					
4240	3180	2550	2120	2010	1820	1590	1410	1340	1270					
.0047-.0071	.0055-.0079	.0071-.0094	.0055-.0094	.0055-.0094	.0063-.0102	.0071-.011	.0079-.0118	.0079-.0118	.0087-.0126					
5310	3980	3180	2650	2510	2270	1990	1770	1680	1590					
.0063-.0087	.0071-.0094	.0087-.011	.0079-.0118	.0079-.0118	.0087-.0126	.0094-.0134	.011-.015	.011-.015	.0118-.0157					
4240	3180	2550	2120	2010	1820	1590	1410	1340	1270					
.0047-.0094	.0063-.011	.0079-.0118	.0083-.0118	.0083-.0118	.0087-.0138	.0098-.0142	.011-.015	.011-.015	.0118-.0157					
4240	3180	2550	2120	2010	1820	1590	1410	1340	1270					
.0047-.0071	.0055-.0079	.0071-.0094	.0055-.0094	.0055-.0094	.0063-.0102	.0071-.011	.0079-.0118	.0079-.0118	.0087-.0126					
2120	1590	1270	1060	1010	910	800	710	670	640					
.0039-.0063	.0047-.0071	.0055-.0079	.0047-.0087	.0047-.0087	.0051-.0091	.0055-.0094	.0063-.0102	.0063-.0102	.0071-.011					
3710	2790	2230	1860	1760	1590	1390	1240	1170	1110					
.0047-.0071	.0055-.0079	.0071-.0094	.0055-.0094	.0055-.0094	.0063-.0102	.0071-.011	.0079-.0118	.0079-.0118	.0087-.0126					
2120	1590	1270	1060	1010	910	800	710	670	640					
.0039-.0063	.0047-.0071	.0055-.0079	.0047-.0087	.0047-.0087	.0051-.0091	.0055-.0094	.0063-.0102	.0063-.0102	.0071-.011					
3710	2790	2230	1860	1760	1590	1390	1240	1170	1110					
.0047-.0071	.0055-.0079	.0071-.0094	.0055-.0094	.0055-.0094	.0063-.0102	.0071-.011	.0079-.0118	.0079-.0118	.0087-.0126					
2390	1790	1430	1190	1130	1020	900	800	750	720					
.0047-.0071	.0055-.0079	.0071-.0094	.0055-.0094	.0055-.0094	.0063-.0102	.0071-.011	.0079-.0118	.0079-.0118	.0087-.0126					
5310	3980	3180	2650	2510	2270	1990	1770	1680	1590					
.0055-.0102	.0063-.011	.0094-.0134	.0102-.0142	.0102-.0142	.011-.015	.0118-.0157	.0126-.0165	.0126-.0165	.0134-.0173					
4240	3180	2550	2120	2010	1820	1590	1410	1340	1270					
.0063-.0087	.0071-.0094	.0087-.011	.0079-.0118	.0079-.0118	.0087-.0126	.0094-.0134	.011-.015	.011-.015	.0118-.0157					
5310	3980	3180	2650	2510	2270	1990	1770	1680	1590					
.0055-.0102	.0063-.011	.0094-.0134	.0102-.0142	.0102-.0142	.011-.015	.0118-.0157	.0126-.0165	.0126-.0165	.0134-.0173					
3710	2790	2230	1860	1760	1590	1390	1240	1170	1110					
.0063-.0087	.0071-.0094	.0087-.011	.0079-.0118	.0079-.0118	.0087-.0126	.0094-.0134	.011-.015	.011-.015	.0118-.0157					
4240	3180	2550	2120	2010	1820	1590	1410	1340	1270					
.0055-.0102	.0063-.011	.0094-.0134	.0102-.0142	.0102-.0142	.011-.015	.0118-.0157	.0126-.0165	.0126-.0165	.0134-.0173					
3710	2790	2230	1860	1760	1590	1390	1240	1170	1110					
.0063-.0087	.0071-.0094	.0087-.011	.0079-.0118	.0079-.0118	.0087-.0126	.0094-.0134	.011-.015	.011-.015	.0118-.0157					
1330	990	800	660	630	570	500	440	420	400					
.0012-.0024	.0012-.0024	.0016-.0028	.0016-.0031	.0016-.0031	.002-.0035	.002-.0035	.002-.0039	.002-.0039	.002-.0039					

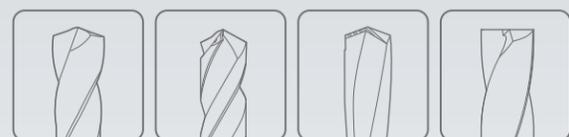
► Recommend to reduce the feed rate as following
Feed 100% : DH414(3xD), DH404(3xD), DH423(3xD) **Feed 80%** : DH722(5xD), DH424(5xD)



Leading Through Innovation



Global Cutting Tool Leader **YG-1**



DREAM DRILLS

NEW
SIZES

SOLID CARBIDE

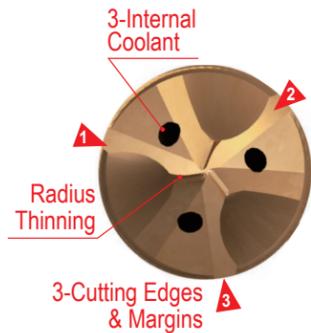
DREAM DRILLS HIGH FEED

- 1.5 to 2 Times Faster Feeding Speed than 2-Flute Drill
For Carbon Steels, Alloy Steels(up to HRC35) and Cast Iron

NEW SIZES
DREAM DRILLS HIGH FEED

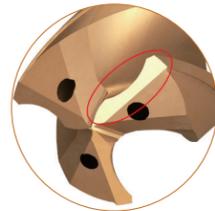


1.5 ~ 2 times Faster in drilling compared to two flute carbide drills



3-Cutting Edges & Margins will allow high penetration rate, accurate hole location and good surface finish.

Radius Thinning for **Self Centering and Chip Breaking**



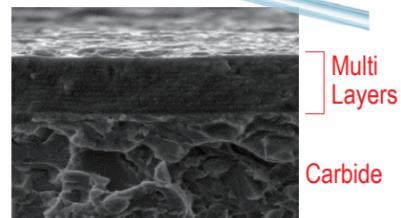
Ground Negative land on cutting edge for Reliable Tool Life

3-Slots on end of shank for smooth and consistent coolant supply

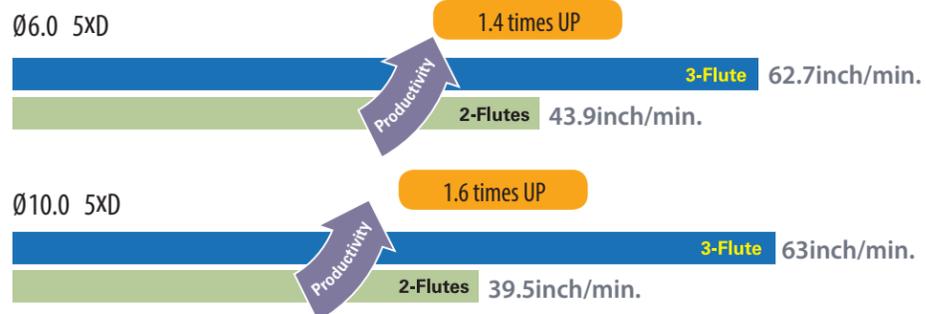


H-Coating
(Upgraded AlCrN-Based : **Multi-Layer coating**)

- Higher worn-out resistance and Lower friction
- Higher Cutting Speed and Feed
- Improved drill Hole Quality



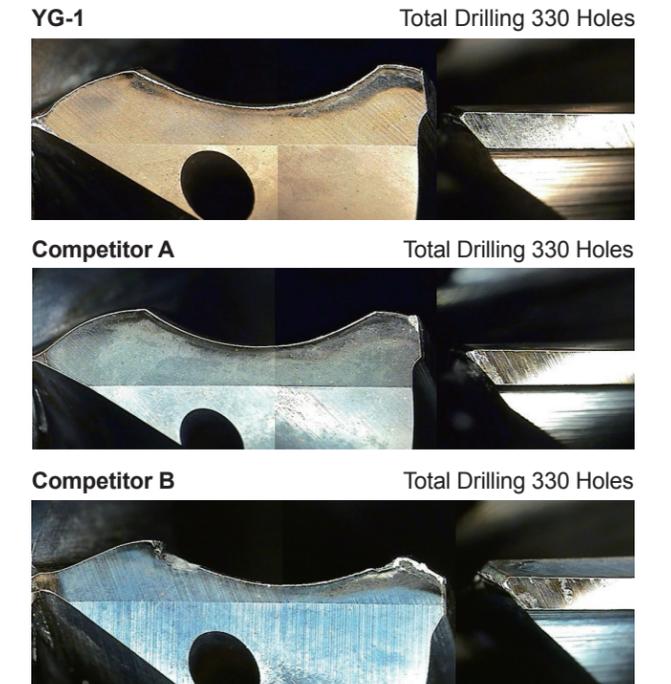
Productivity (Carbon Steel)



CASE STUDY

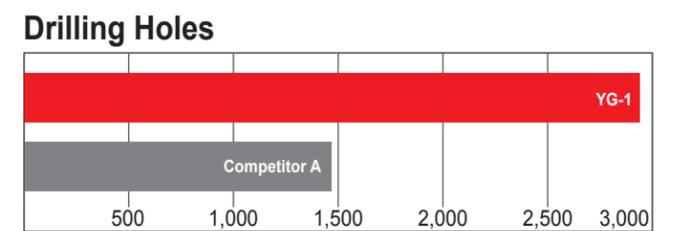
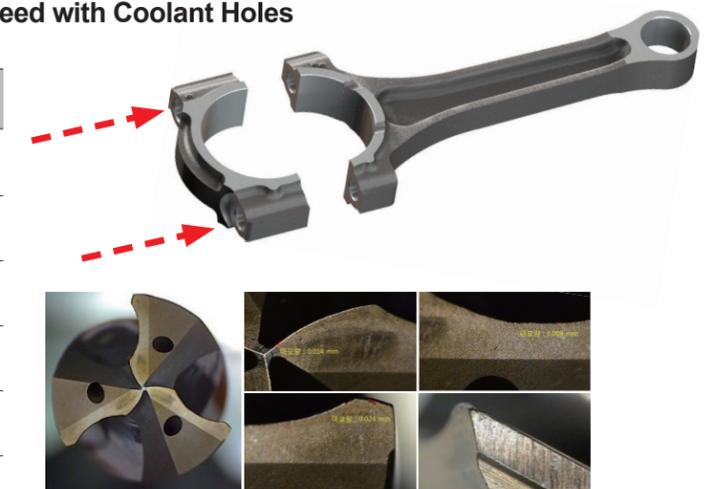
► **SOLID CARBIDE DREAM DRILLS - High Feed with Coolant Holes**

CUTTING CONDITION	
Tool	DGR495100 (Dream Drills High Feed)
Size	Ø10 x Ø10 x 61 x 103
Work Material	• AISI : 1045 • JIS : S45C • DIN : C45 (HRc20)
RPM	3,200 rev./min.
Feed	.0197 inch/rev.
Drilling Depth	1.97" (5xD)
Drilling Method	Blind Hole
Coolant	Wet Cut
Machine	Machining Center



► **SOLID CARBIDE DREAM DRILLS - High Feed with Coolant Holes**

CUTTING CONDITION	
Tool	DGR495080 (Dream Drills High Feed)
Size	Ø8 x Ø8 x 53 x 91
Work Material	Connecting rod
RPM	2,000 rev./min.
Feed	0.009inch/rev.
Drilling Depth	1.58" (5xD)
Drilling Method	Internal Cooling, Water Soluble
Coolant	Wet Cut
Machine	Machining Center



H-COATED SOLID CARBIDE DREAM DRILLS
High Feed with Coolant Holes (3XD)

NEW SIZES
DGR493 SERIES
DGR496 SERIES

- ▶ Drilling for Carbon Steels, Alloy Steels(-HRc35) and Cast Iron
- ▶ Higher productivity due to 1.5 to 2 times faster feeding speed than 2-flute drill
- ▶ Multi-Layer coating delivers much better productivity and reliability
- ▶ Self centering and chip breaking by R-thinning and coolant holes



SHORT
3 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Inch	Decimal					Metric	Inch	Decimal			
H-coating	D1			D2	L1	L2	H-coating	D1			D2	L1	L2
* DGR493040	4.00			6	24	66	DGR496014	5.56	7/32	.2188	1/4	28	66
* DGR493945	4.05			6	24	66	DGR493056	5.60		.2205	6	28	66
* DGR493020G	4.09	#20	.1610	6	24	66	DGR496102	5.61	#2	.2210	1/4	28	66
* DGR493041	4.10			6	24	66	DGR493057	5.70		.2244	6	28	66
* DGR4930416	4.16			6	24	66	DGR496101	5.79	#1	.2280	1/4	28	66
* DGR493042	4.20			6	24	66	DGR493058	5.80		.2283	6	28	66
* DGR4930427	4.27			6	24	66	DGR493059	5.90		.2323	6	28	66
* DGR493043	4.30			6	24	66	DGR496015	5.95	15/64	.2344	1/4	28	66
* DGR493011F	4.366	11/64	.1719	6	24	66	DGR493060	6.00		.2362	6	28	66
* DGR493044	4.40			6	24	66	DGR493061	6.10		.2402	8	34	79
* DGR4930446	4.46			6	24	66	DGR493062	6.20		.2441	8	34	79
* DGR493045	4.50			6	24	66	DGR493063	6.30		.2480	8	34	79
* DGR493046	4.60			6	24	66	DGR496016	6.35	1/4	.2500	1/4	34	79
* DGR4930466	4.66			6	24	66	DGR493064	6.40		.2520	8	34	79
* DGR493047	4.70			6	24	66	DGR493065	6.50		.2559	8	34	79
* DGR493012F	4.763	3/16	.1875	6	28	66	DGR496206	6.53	F	.2570	5/16	34	79
* DGR493048	4.80			6	28	66	DGR493066	6.60		.2598	8	34	79
* DGR493049	4.90			6	28	66	DGR493067	6.70		.2638	8	34	79
DGR493050	5.00		.1969	6	28	66	DGR496017	6.75	17/64	.2656	5/16	34	79
DGR493051	5.10		.2008	6	28	66	DGR493068	6.80		.2677	8	34	79
DGR496013	5.16	13/64	.2031	1/4	28	66	DGR493069	6.90		.2717	8	34	79
DGR493052	5.20		.2047	6	28	66	DGR496209	6.91	I	.2720	5/16	34	79
DGR493053	5.30		.2087	6	28	66	DGR493070	7.00		.2756	8	34	79
DGR493054	5.40		.2126	6	28	66	DGR493071	7.10		.2795	8	41	79
DGR496103	5.41	#3	.2130	1/4	28	66	DGR496018	7.14	9/32	.2813	5/16	41	79
DGR493055	5.50		.2165	6	28	66	DGR493072	7.20		.2835	8	41	79

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : Excellent ○ : Good

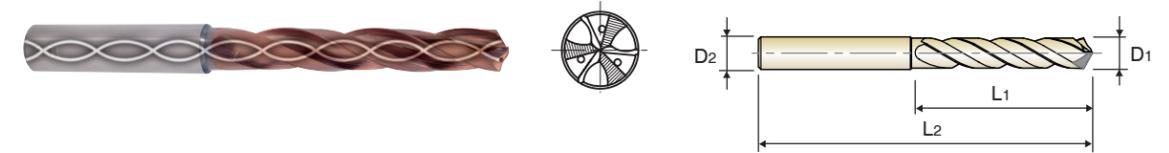
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	4	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	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	400 Rm	1050 Rm	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	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

H-COATED SOLID CARBIDE DREAM DRILLS
High Feed with Coolant Holes (3XD)

NEW SIZES
DGR493 SERIES
DGR496 SERIES

- ▶ Drilling for Carbon Steels, Alloy Steels(-HRc35) and Cast Iron
- ▶ Higher productivity due to 1.5 to 2 times faster feeding speed than 2-flute drill
- ▶ Multi-Layer coating delivers much better productivity and reliability
- ▶ Self centering and chip breaking by R-thinning and coolant holes



SHORT
3 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Inch	Decimal					Metric	Inch	Decimal			
H-coating	D1			D2	L1	L2	H-coating	D1			D2	L1	L2
DGR493073	7.30		.2874	8	41	79	DGR493093	9.30		.3661	10	47	89
DGR493074	7.40		.2913	8	41	79	DGR496221	9.35	U	.3680	3/8	47	89
DGR493075	7.50		.2953	8	41	79	DGR493094	9.40		.3701	10	47	89
DGR496019	7.54	19/64	.2969	5/16	41	79	DGR493095	9.50		.3740	10	47	89
DGR493076	7.60		.2992	8	41	79	DGR496024	9.53	3/8	.3750	3/8	47	89
DGR493077	7.70		.3031	8	41	79	DGR493096	9.60		.3780	10	47	89
DGR493078	7.80		.3071	8	41	79	DGR493097	9.70		.3819	10	47	89
DGR493079	7.90		.3110	8	41	79	DGR493098	9.80	W	.3858	10	47	89
DGR496020	7.94	5/16	.3125	5/16	41	79	DGR493099	9.90		.3898	10	47	89
DGR493080	8.00		.3150	8	41	79	DGR496025	9.92	25/64	.3906	7/16	47	89
DGR493081	8.10		.3189	10	47	89	DGR493100	10.00		.3937	10	47	89
DGR493082	8.20	P	.3228	10	47	89	DGR493101	10.10		.3976	12	55	102
DGR493083	8.30		.3268	10	47	89	DGR493102	10.20		.4016	12	55	102
DGR496021	8.33	21/64	.3281	3/8	47	89	DGR493103	10.30		.4055	12	55	102
DGR493084	8.40		.3307	10	47	89	DGR496026	10.32	13/32	.4063	7/16	55	102
DGR496217	8.43	Q	.3320	3/8	47	89	DGR493104	10.40		.4094	12	55	102
DGR493085	8.50		.3346	10	47	89	DGR493105	10.50		.4134	12	55	102
DGR493086	8.60		.3386	10	47	89	DGR493106	10.60		.4173	12	55	102
DGR493087	8.70		.3425	10	47	89	DGR493107	10.70		.4213	12	55	102
DGR496022	8.73	11/32	.3437	3/8	47	89	DGR496027	10.72	27/64	.4219	7/16	55	102
DGR493088	8.80		.3465	10	47	89	DGR493108	10.80		.4252	12	55	102
DGR493089	8.90		.3504	10	47	89	DGR493109	10.90		.4291	12	55	102
DGR493090	9.00		.3543	10	47	89	DGR493110	11.00		.4331	12	55	102
DGR493091	9.10		.3583	10	47	89	DGR493111	11.10		.4370	12	55	102
DGR496023	9.13	23/64	.3594	3/8	47	89	DGR496028	11.11	7/16	.4375	7/16	55	102
DGR493092	9.20		.3622	10	47	89	DGR493112	11.20		.4409	12	55	102

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : 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	
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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	4	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																				

H-COATED SOLID CARBIDE DREAM DRILLS
High Feed with Coolant Holes (3XD)

NEW SIZES
DGR493 SERIES
DGR496 SERIES

- ▶ Drilling for Carbon Steels, Alloy Steels(-HRc35) and Cast Iron
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SHORT
3 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Inch	Decimal					Metric	Inch	Decimal			
H-coating	D1			D2	L1	L2	H-coating	D1			D2	L1	L2
DGR493113	11.30		.4449	12	55	102	DGR496034	13.49	17/32	.5312	9/16	60	107
DGR493114	11.40		.4488	12	55	102	DGR493135	13.50		.5315	14	60	107
DGR493115	11.50		.4528	12	55	102	DGR493136	13.60		.5354	14	60	107
DGR496029	11.51	29/64	.4531	1/2	55	102	DGR493137	13.70		.5394	14	60	107
DGR493116	11.60		.4567	12	55	102	DGR493138	13.80		.5433	14	60	107
DGR493117	11.70		.4606	12	55	102	DGR496035	13.89	35/64	.5469	9/16	60	107
DGR493118	11.80		.4646	12	55	102	DGR493139	13.90		.5472	14	60	107
DGR493119	11.90		.4685	12	55	102	DGR493140	14.00		.5512	14	60	107
DGR496030	11.91	15/32	.4688	1/2	55	102	DGR493141	14.10		.5551	16	65	115
DGR493120	12.00		.4724	12	55	102	DGR493142	14.20		.5591	16	65	115
DGR493121	12.10		.4764	14	60	107	DGR496036	14.29	9/16	.5625	9/16	65	115
DGR493122	12.20		.4803	14	60	107	DGR493143	14.30		.5630	16	65	115
DGR493123	12.30		.4843	14	60	107	DGR493144	14.40		.5669	16	65	115
DGR496031	12.30	31/64	.4844	1/2	60	107	DGR493145	14.50		.5709	16	65	115
DGR493124	12.40		.4882	14	60	107	DGR493146	14.60		.5748	16	65	115
DGR493125	12.50		.4921	14	60	107	DGR496037	14.68	37/64	.5781	5/8	65	115
DGR493126	12.60		.4961	14	60	107	DGR493147	14.70		.5787	16	65	115
DGR496032	12.70	1/2	.5000	1/2	60	107	DGR493148	14.80		.5827	16	65	115
DGR493127	12.70		.5000	14	60	107	DGR493149	14.90		.5866	16	65	115
DGR493128	12.80		.5039	14	60	107	DGR493150	15.00		.5906	16	65	115
DGR493129	12.90		.5079	14	60	107	DGR496038	15.08	19/32	.5938	5/8	65	115
DGR493130	13.00		.5118	14	60	107	DGR493151	15.10		.5945	16	65	115
DGR493131	13.10	33/64	.5156	14	60	107	DGR493152	15.20		.5984	16	65	115
DGR493132	13.20		.5197	14	60	107	DGR493153	15.30		.6024	16	65	115
DGR493133	13.30		.5236	14	60	107	DGR493154	15.40		.6063	16	65	115
DGR493134	13.40		.5276	14	60	107	DGR496039	15.48	39/64	.6094	5/8	65	115

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : Excellent ○ : Good

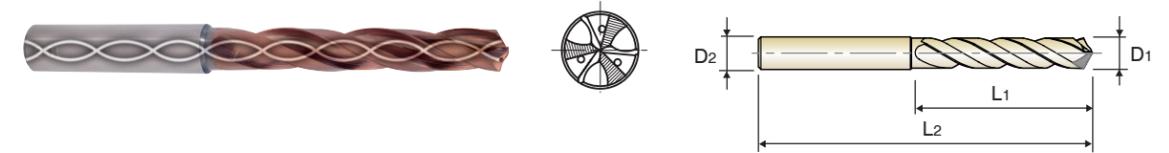
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	3	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	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	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	55	60	42	55			
HB	60	100	75	90	130	110	90	100															
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎			

H-COATED SOLID CARBIDE DREAM DRILLS
High Feed with Coolant Holes (3XD)

NEW SIZES
DGR493 SERIES
DGR496 SERIES

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SHORT
3 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Inch	Decimal					Metric	Inch	Decimal			
H-coating	D1			D2	L1	L2	H-coating	D1			D2	L1	L2
DGR493155	15.50		.6102	16	65	115	DGR493156	15.60		.6142	16	65	115
DGR493157	15.70		.6181	16	65	115	DGR493158	15.80		.6220	16	65	115
DGR496040	15.88	5/8	.6250	5/8	65	115	DGR493159	15.90		.6260	16	65	115
DGR493160	16.00		.6299	16	65	115	DGR493161	16.10		.6339	18	73	123
DGR496041	16.27	41/64	.6406	11/16	73	123	DGR493165	16.50		.6496	18	73	123
DGR496042	16.67	21/32	.6563	11/16	73	123	DGR493170	17.00		.6693	18	73	123
DGR496043	17.07	43/64	.6719	11/16	73	123	DGR496044	17.46	11/16	.6875	11/16	73	123
DGR493175	17.50		.6890	18	73	123	DGR496045	17.86	45/64	.7031	3/4	73	123
DGR493180	18.00		.7087	18	73	123	DGR496046	18.26	23/32	.7188	3/4	79	131
DGR493185	18.50		.7283	20	79	131	DGR496047	18.65	47/64	.7344	3/4	79	131
DGR493190	19.00		.7480	20	79	131	DGR496048	19.05	3/4	.7500	3/4	79	131
DGR493195	19.50		.7677	20	79	131	DGR493200	20.00		.7874	20	79	131

▶ Other shank types are available on your request.

◎ : 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
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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	3	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	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	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	55	60	42	55			
HB	60	100	75	90	130	110	90	100															
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎			

H-COATED SOLID CARBIDE DREAM DRILLS
High Feed with Coolant Holes (5XD)

NEW SIZES
DGR495 SERIES
DGR497 SERIES

- ▶ Drilling for Carbon Steels, Alloy Steels(-HRc35) and Cast Iron
- ▶ Higher productivity due to 1.5 to 2 times faster feeding speed than 2-flute drill
- ▶ Multi-Layer coating delivers much better productivity and reliability
- ▶ Self centering and chip breaking by R-thinning and coolant holes



DIN 6537 CARBIDE h6 m7 140° 20 bar P.66 * (NEW SIZE)

LONG
5 × D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Inch	Decimal					Metric	Inch	Decimal			
H-coating							H-coating						
* DGR495040	4.00			6	36	74	DGR495058	5.80		.2283	6	44	82
* DGR495020G	4.09	#20	.1610	6	36	74	DGR495059	5.90		.2323	6	44	82
* DGR495041	4.10			6	36	74	DGR497015	5.95	15/64	.2344	1/4	44	82
* DGR495042	4.20			6	36	74	DGR495060	6.00		.2362	6	44	82
* DGR495043	4.30			6	36	74	DGR495061	6.10		.2402	8	53	91
* DGR495011F	4.366	11/64	.1719	6	36	74	DGR495062	6.20		.2441	8	53	91
* DGR495044	4.40			6	36	74	DGR495063	6.30		.2480	8	53	91
* DGR495045	4.50			6	36	74	DGR497016	6.35	1/4	.2500	1/4	53	91
* DGR495046	4.60			6	36	74	DGR495064	6.40		.2520	8	53	91
* DGR495047	4.70			6	36	74	DGR495065	6.50		.2559	8	53	91
* DGR495012F	4.763	3/16	.1875	6	44	82	DGR497206	6.53	F	.2570	5/16	53	91
* DGR495048	4.80			6	44	82	DGR495066	6.60		.2598	8	53	91
* DGR495049	4.90			6	44	82	DGR495067	6.70		.2638	8	53	91
DGR495050	5.00		.1969	6	44	82	DGR497017	6.75	17/64	.2656	5/16	53	91
DGR495051	5.10		.2008	6	44	82	DGR495068	6.80		.2677	8	53	91
DGR497013	5.16	13/64	.2031	1/4	44	82	DGR495069	6.90		.2717	8	53	91
DGR495052	5.20		.2047	6	44	82	DGR497209	6.91	I	.2720	5/16	53	91
DGR495053	5.30		.2087	6	44	82	DGR495070	7.00		.2756	8	53	91
DGR495054	5.40		.2126	6	44	82	DGR495071	7.10		.2795	8	53	91
DGR497103	5.41	#3	.2130	1/4	44	82	DGR497018	7.14	9/32	.2813	5/16	53	91
DGR495055	5.50		.2165	6	44	82	DGR495072	7.20		.2835	8	53	91
DGR497014	5.56	7/32	.2188	1/4	44	82	DGR495073	7.30		.2874	8	53	91
DGR495056	5.60		.2205	6	44	82	DGR495074	7.40		.2913	8	53	91
DGR497102	5.61	#2	.2210	1/4	44	82	DGR495075	7.50		.2953	8	53	91
DGR495057	5.70		.2244	6	44	82	DGR497019	7.54	19/64	.2969	5/16	53	91
DGR497101	5.79	#1	.2280	1/4	44	82	DGR495076	7.60		.2992	8	53	91

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : Excellent ○ : Good

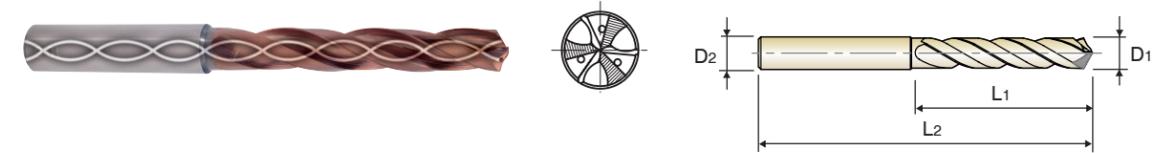
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	4	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											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																					

H-COATED SOLID CARBIDE DREAM DRILLS
High Feed with Coolant Holes (5XD)

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DGR497 SERIES

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- ▶ Self centering and chip breaking by R-thinning and coolant holes



DIN 6537 CARBIDE h6 m7 140° 20 bar P.66

LONG
5 × D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Inch	Decimal					Metric	Inch	Decimal			
H-coating							H-coating						
DGR495077	7.70		.3031	8	53	91	DGR495096	9.60		.3780	10	61	103
DGR495078	7.80		.3071	8	53	91	DGR495097	9.70		.3819	10	61	103
DGR495079	7.90		.3110	8	53	91	DGR495098	9.80	W	.3858	10	61	103
DGR497020	7.94	5/16	.3125	5/16	53	91	DGR495099	9.90		.3898	10	61	103
DGR495080	8.00		.3150	8	53	91	DGR497025	9.92	25/64	.3906	7/16	61	103
DGR495081	8.10		.3189	10	61	103	DGR495100	10.00		.3937	10	61	103
DGR495082	8.20	P	.3228	10	61	103	DGR495101	10.10		.3976	12	71	118
DGR495083	8.30		.3268	10	61	103	DGR495102	10.20		.4016	12	71	118
DGR497021	8.33	21/64	.3281	3/8	61	103	DGR495103	10.30		.4055	12	71	118
DGR495084	8.40		.3307	10	61	103	DGR497026	10.32	13/32	.4063	7/16	71	118
DGR497217	8.43	Q	.3320	3/8	61	103	DGR495104	10.40		.4094	12	71	118
DGR495085	8.50		.3346	10	61	103	DGR495105	10.50		.4134	12	71	118
DGR495086	8.60		.3386	10	61	103	DGR495106	10.60		.4173	12	71	118
DGR495087	8.70		.3425	10	61	103	DGR495107	10.70		.4213	12	71	118
DGR497022	8.73	11/32	.3437	3/8	61	103	DGR497027	10.72	27/64	.4219	7/16	71	118
DGR495088	8.80		.3465	10	61	103	DGR495108	10.80		.4252	12	71	118
DGR495089	8.90		.3504	10	61	103	DGR495109	10.90		.4291	12	71	118
DGR495090	9.00		.3543	10	61	103	DGR495110	11.00		.4331	12	71	118
DGR495091	9.10		.3583	10	61	103	DGR495111	11.10		.4370	12	71	118
DGR497023	9.13	23/64	.3594	3/8	61	103	DGR497028	11.11	7/16	.4375	7/16	71	118
DGR495092	9.20		.3622	10	61	103	DGR495112	11.20		.4409	12	71	118
DGR495093	9.30		.3661	10	61	103	DGR495113	11.30		.4449	12	71	118
DGR497221	9.35	U	.3680	3/8	61	103	DGR495114	11.40		.4488	12	71	118
DGR495094	9.40		.3701	10	61	103	DGR495115	11.50		.4528	12	71	118
DGR495095	9.50		.3740	10	61	103	DGR497029	11.51	29/64	.4531	1/2	71	118
DGR497024	9.53	3/8	.3750	3/8	61	103	DGR495116	11.60		.4567	12	71	118

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : 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	
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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	4	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		

H-COATED SOLID CARBIDE DREAM DRILLS
High Feed with Coolant Holes (5XD)

NEW SIZES
DGR495 SERIES
DGR497 SERIES

- ▶ Drilling for Carbon Steels, Alloy Steels(-HRc35) and Cast Iron
- ▶ Higher productivity due to 1.5 to 2 times faster feeding speed than 2-flute drill
- ▶ Multi-Layer coating delivers much better productivity and reliability
- ▶ Self centering and chip breaking by R-thinning and coolant holes



LONG
5 × D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Inch	Decimal					Metric	Inch	Decimal			
H-coating	D1			D2	L1	L2	H-coating	D1			D2	L1	L2
DGR495117	11.70		.4606	12	71	118	DGR497035	13.89	35/64	.5469	9/16	77	124
DGR495118	11.80		.4646	12	71	118	DGR495139	13.90		.5472	14	77	124
DGR495119	11.90		.4685	12	71	118	DGR495140	14.00		.5512	14	77	124
DGR497030	11.91	15/32	.4688	1/2	71	118	DGR495141	14.10		.5551	16	83	133
DGR495120	12.00		.4724	12	71	118	DGR495142	14.20		.5591	16	83	133
DGR495121	12.10		.4764	14	77	124	DGR497036	14.29	9/16	.5625	9/16	83	133
DGR495122	12.20		.4803	14	77	124	DGR495143	14.30		.5630	16	83	133
DGR495123	12.30		.4843	14	77	124	DGR495144	14.40		.5669	16	83	133
DGR497031	12.30	31/64	.4844	1/2	77	124	DGR495145	14.50		.5709	16	83	133
DGR495124	12.40		.4882	14	77	124	DGR495146	14.60		.5748	16	83	133
DGR495125	12.50		.4921	14	77	124	DGR497037	14.68	37/64	.5781	5/8	83	133
DGR495126	12.60		.4961	14	77	124	DGR495147	14.70		.5787	16	83	133
DGR497032	12.70	1/2	.5000	1/2	77	124	DGR495148	14.80		.5827	16	83	133
DGR495127	12.70		.5000	14	77	124	DGR495149	14.90		.5866	16	83	133
DGR495128	12.80		.5039	14	77	124	DGR495150	15.00		.5906	16	83	133
DGR495129	12.90		.5079	14	77	124	DGR497038	15.08	19/32	.5938	5/8	83	133
DGR495130	13.00		.5118	14	77	124	DGR495151	15.10		.5945	16	83	133
DGR495131	13.10	33/64	.5156	14	77	124	DGR495152	15.20		.5984	16	83	133
DGR495132	13.20		.5197	14	77	124	DGR495153	15.30		.6024	16	83	133
DGR495133	13.30		.5236	14	77	124	DGR495154	15.40		.6063	16	83	133
DGR495134	13.40		.5276	14	77	124	DGR497039	15.48	39/64	.6094	5/8	83	133
DGR497034	13.49	17/32	.5312	9/16	77	124	DGR495155	15.50		.6102	16	83	133
DGR495135	13.50		.5315	14	77	124	DGR495156	15.60		.6142	16	83	133
DGR495136	13.60		.5354	14	77	124	DGR495157	15.70		.6181	16	83	133
DGR495137	13.70		.5394	14	77	124	DGR495158	15.80		.6220	16	83	133
DGR495138	13.80		.5433	14	77	124	DGR497040	15.88	5/8	.6250	5/8	83	133

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : Excellent ○ : Good

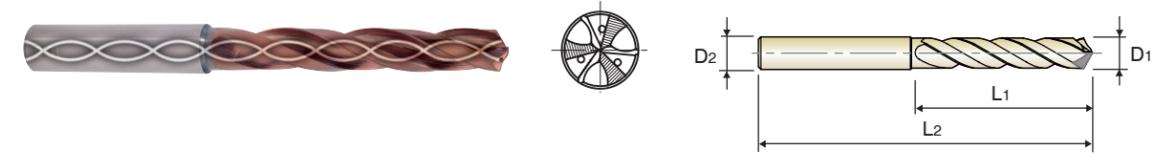
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	3	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											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																					

H-COATED SOLID CARBIDE DREAM DRILLS
High Feed with Coolant Holes (5XD)

NEW SIZES
DGR495 SERIES
DGR497 SERIES

- ▶ Drilling for Carbon Steels, Alloy Steels(-HRc35) and Cast Iron
- ▶ Higher productivity due to 1.5 to 2 times faster feeding speed than 2-flute drill
- ▶ Multi-Layer coating delivers much better productivity and reliability
- ▶ Self centering and chip breaking by R-thinning and coolant holes



LONG
5 × D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Inch	Decimal			
H-coating	D1			D2	L1	L2
DGR495159	15.90		.6260	16	83	133
DGR495160	16.00		.6299	16	83	133
DGR495161	16.10		.6339	18	93	143
DGR497041	16.27	41/64	.6406	11/16	93	143
DGR495165	16.50		.6496	18	93	143
DGR497042	16.67	21/32	.6563	11/16	93	143
DGR495170	17.00		.6693	18	93	143
DGR497043	17.07	43/64	.6719	11/16	93	143
DGR497044	17.46	11/16	.6875	11/16	93	143
DGR495175	17.50		.6890	18	93	143
DGR497045	17.86	45/64	.7031	3/4	93	143
DGR495180	18.00		.7087	18	93	143
DGR497046	18.26	23/32	.7188	3/4	101	153
DGR495185	18.50		.7283	20	101	153
DGR497047	18.65	47/64	.7344	3/4	101	153
DGR495190	19.00		.7480	20	101	153
DGR497048	19.05	3/4	.7500	3/4	101	153
DGR495195	19.50		.7677	20	101	153
DGR495200	20.00		.7874	20	101	153

▶ Other shank types are available on your request.

◎ : 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
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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	3	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											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																					

DGR493, DGR496, DGR495, DGR497 SERIES with COOLANT HOLES

ISO	VDI 3323	Material Description	SFM	Drill Diameter								
				METRIC	-	5.0	6.0	-	8.0	-	10.0	12.0
				FRACTIONAL	3/16	-	-	1/4	5/16	-	3/8	-
DECIMAL	.1875	.1969	.2362	.2500	.3125	.3150	.3750	.3937	.4724			
P	2	Non-alloy steel	329	RPM	6370	5310	3980	3180	2650			
				FEED	.0079 - .0098	.0094 - .0118	.0126 - .0157	.0157 - .0197	.0189 - .0236			
			3	329	RPM	6370	5310	3980	3180	2650		
	FEED				.0079 - .0098	.0094 - .0118	.0126 - .0157	.0157 - .0197	.0189 - .0236			
	4		329	RPM	6370	5310	3980	3180	2650			
				FEED	.0063 - .0083	.0079 - .0102	.0102 - .0134	.0134 - .0165	.0161 - .0185			
	5	263	RPM	5090	4240	3180	2550	2120				
			FEED	.0063 - .0083	.0079 - .0102	.0102 - .0134	.0134 - .0165	.0161 - .0185				
	6	Low alloy steel	329	RPM	6370	5310	3980	3180	2650			
				FEED	.0079 - .0098	.0094 - .0118	.0126 - .0157	.0157 - .0197	.0189 - .0213			
			7	263	RPM	5090	4240	3180	2550	2120		
FEED	.0079 - .0098				.0094 - .0118	.0126 - .0157	.0157 - .0197	.0189 - .0213				
8	263		RPM	5090	4240	3180	2550	2120				
			FEED	.0063 - .0083	.0079 - .0102	.0102 - .0134	.0134 - .0165	.0161 - .0185				
9	132	RPM	2550	2120	1590	1270	1060					
		FEED	.0051 - .0071	.0063 - .0087	.0083 - .0114	.0102 - .0142	.0126 - .015					
10	High alloyed steel, and tool steel	230	RPM	4460	3710	2790	2230	1860				
			FEED	.0063 - .0083	.0079 - .0102	.0102 - .0134	.0134 - .0165	.0161 - .0185				
11		132	RPM	2550	2120	1590	1270	1060				
			FEED	.0051 - .0071	.0063 - .0087	.0083 - .0114	.0102 - .0142	.0126 - .015				
K		15	Grey cast iron	329	RPM	6370	5310	3980	3180	2650		
					FEED	.0091 - .0118	.0106 - .0142	.0142 - .0189	.0177 - .0236	.0213 - .0283		
	16	263	RPM	5090	4240	3180	2550	2120				
			FEED	.0079 - .0098	.0094 - .0118	.0126 - .0157	.0157 - .0197	.0189 - .0236				
	17	Nodular cast iron	329	RPM	6370	5310	3980	3180	2650			
				FEED	.0091 - .0118	.0106 - .0142	.0142 - .0189	.0177 - .0236	.0213 - .0283			
	18		230	RPM	4460	3710	2790	2230	1860			
				FEED	.0079 - .0098	.0094 - .0118	.0126 - .0157	.0157 - .0197	.0189 - .0236			
	19	Malleable cast iron	263	RPM	5090	4240	3180	2550	2120			
				FEED	.0091 - .0118	.0106 - .0142	.0142 - .0189	.0177 - .0236	.0213 - .0283			
20	230		RPM	4460	3710	2790	2230	1860				
			FEED	.0079 - .0098	.0094 - .0118	.0126 - .0157	.0157 - .0197	.0189 - .0236				

SFM = ft/min.
RPM = rev./min.
FEED = inch/rev.

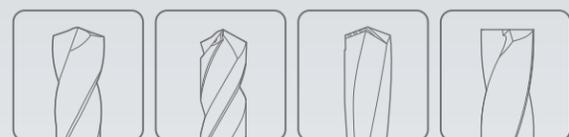
Drill Diameter							
-	14.0	-	-	16.0	18.0	-	20.0
1/2	-	9/16	5/8	-	-	3/4	-
.5000	.5512	.5625	.6250	.6299	.7087	.7500	.7874
2510	2270	1990	1770	1680	1590		
.0189 - .0236	.022 - .0276	.022 - .0283	.0248 - .0319	.0248 - .0319	.0276 - .0346		
2510	2270	1990	1770	1680	1590		
.0189 - .0236	.022 - .0276	.022 - .0283	.0248 - .0319	.0248 - .0319	.0276 - .0346		
2510	2270	1990	1770	1680	1590		
.0161 - .0185	.0185 - .0213	.0185 - .0217	.0197 - .0232	.0197 - .0232	.0213 - .0264		
2010	1820	1590	1410	1340	1270		
.0161 - .0185	.0185 - .0213	.0185 - .0217	.0197 - .0232	.0197 - .0232	.0213 - .0264		
2510	2270	1990	1770	1680	1590		
.0189 - .0213	.022 - .0248	.022 - .0252	.0248 - .0283	.0248 - .0283	.0268 - .0319		
2010	1820	1590	1410	1340	1270		
.0189 - .0213	.022 - .0248	.022 - .0252	.0248 - .0283	.0248 - .0283	.0268 - .0319		
2010	1820	1590	1410	1340	1270		
.0161 - .0185	.0185 - .0213	.0185 - .0217	.0197 - .0232	.0197 - .0232	.0213 - .0264		
1010	910	800	710	670	640		
.0126 - .015	.0142 - .0169	.0142 - .0177	.015 - .0185	.015 - .0185	.0161 - .0213		
1760	1590	1390	1240	1170	1110		
.0161 - .0185	.0185 - .0213	.0185 - .0217	.0197 - .0232	.0197 - .0232	.0213 - .0264		
1010	910	800	710	670	640		
.0126 - .015	.0142 - .0169	.0142 - .0177	.015 - .0185	.015 - .0185	.0161 - .0213		
2510	2270	1990	1770	1680	1590		
.0213 - .0283	.0248 - .0331	.0252 - .0315	.0283 - .0354	.0283 - .0354	.0315 - .0386		
2010	1820	1590	1410	1340	1270		
.0189 - .0236	.022 - .0276	.022 - .0283	.0248 - .0319	.0248 - .0319	.0276 - .0354		
2510	2270	1990	1770	1680	1590		
.0213 - .0283	.0248 - .0331	.0252 - .0315	.0283 - .0354	.0283 - .0354	.0315 - .0386		
1760	1590	1390	1240	1170	1110		
.0189 - .0236	.022 - .0276	.022 - .0283	.0248 - .0319	.0248 - .0319	.0276 - .0354		
2010	1820	1590	1410	1340	1270		
.0213 - .0283	.0248 - .0331	.0252 - .0315	.0283 - .0354	.0283 - .0354	.0315 - .0386		
1760	1590	1390	1240	1170	1110		
.0189 - .0236	.022 - .0276	.022 - .0283	.0248 - .0319	.0248 - .0319	.0276 - .0354		



Leading Through Innovation



Global Cutting Tool Leader **YG-1**



DREAM DRILLS

SOLID CARBIDE

DREAM DRILLS FLAT BOTTOM

- For Holes on Various Angled Surfaces

DREAM DRILLS FLAT BOTTOM



Advantages for Flat Bottom 2xD, 5xD

180 Degree Point Angle enables drilling of Horizontal Surface and Sloped Surface

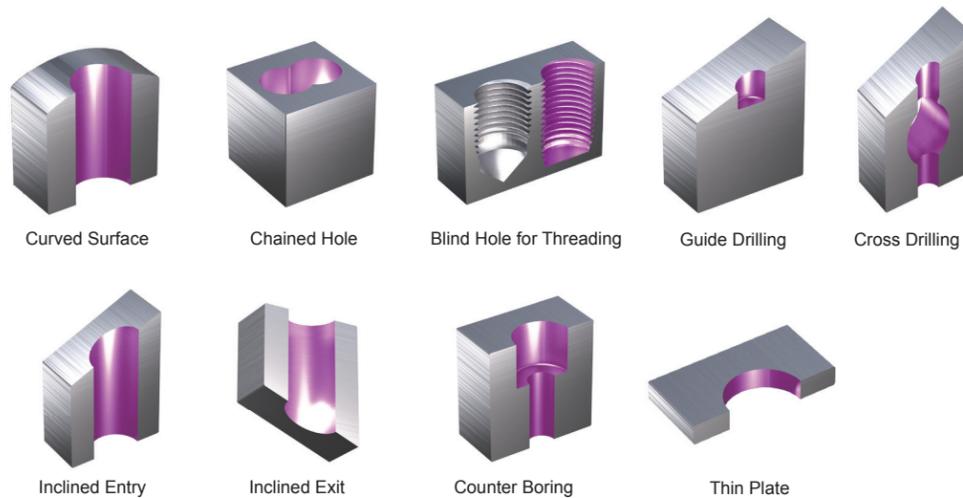
180 Degree Point Angle enables drilling of Horizontal Surface and Sloped Surface

Optimized flute shape for **Excellent Chip Evacuation**

High **Strength Cutting Edge** to improve tool life and versatility drilling



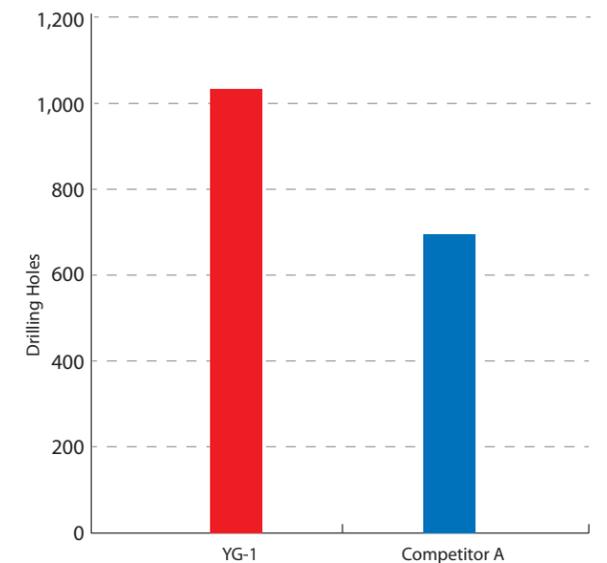
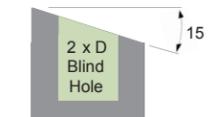
VARIETY OF DRILLING



CASE STUDY

► SOLID CARBIDE DREAM DRILLS - Flat Bottom without Coolant Holes

CUTTING CONDITION	
Drill Diameter (mm)	Ø6.0 (.2362 inch)
Work Material	• AISI : 1045 • JIS : S45C • DIN : C45 (HRc 20)
Cutting Speed	244.4 ft/min.
RPM	4,000 rev/min
Feed	.0039 in/rev.
Drilling Depth	12.0 mm (2XD) Blind Hole / without Pecking
Coolant	External Cooling Water Soluble (9% Emulsion)
Machine	Machining Center

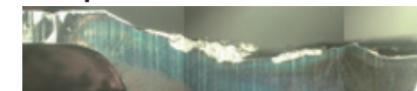


YG-1



Small Chipping

Competitor A

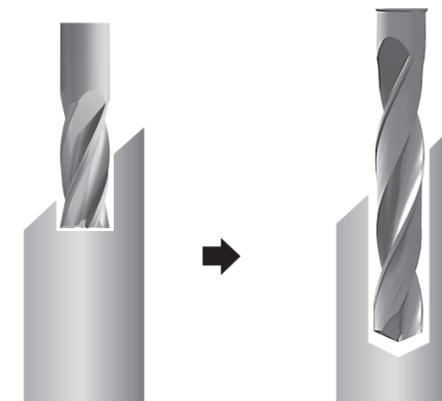


Big Chipping

Only One Operation for Angled Surface

For angled surfaces, two operations are required to drill in a conventional Process

For angled surfaces, only one operation can complete the drilling with Dream Drill Flat Bottom



1st operation(End mill)
Counter boring to make flat surface and guide hole

2nd operation(Drill)
Drilling to required depth of hole

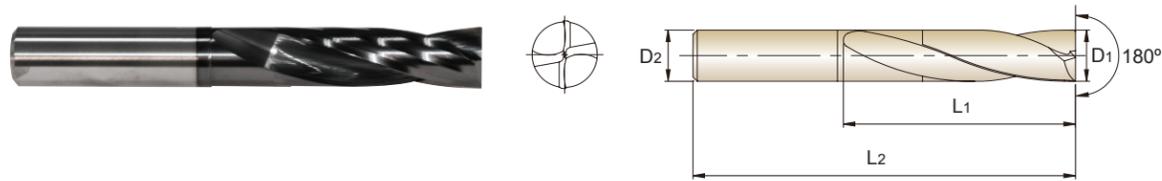


One operation(Dream Drill Flat Bottom)
One Drill does it all without using both an end mill and a drill

X-COATED SOLID CARBIDE DREAM DRILLS
Flat Bottom without Coolant Holes (2XD)

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- ▶ High strength cutting edge to improve tool life and versatility drilling
- ▶ Variety of drilling can be used in a variety of drilling applications



SHORT
2 x D

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
X-Coating	D1	D2	L1	L2	X-Coating	D1	D2	L1	L2
DPP447030	3.0	6	16	50	DPP447051	5.1	6	24	60
DPP447031	3.1	6	16	50	DPP447052	5.2	6	24	60
DPP447008F	1/8	6	16	50	DPP447053	5.3	6	24	60
DPP447032	3.2	6	16	50	DPP447054	5.4	6	24	60
DPP447033	3.3	6	16	50	DPP447055	5.5	6	24	60
DPP447034	3.4	6	18	50	DPP447014F	7/32	6	24	60
DPP447035	3.5	6	18	50	DPP447056	5.6	6	24	60
DPP447036	3.6	6	18	50	DPP447057	5.7	6	26	60
DPP447037	3.7	6	18	50	DPP447058	5.8	6	26	60
DPP447038	3.8	6	18	50	DPP447059	5.9	6	26	60
DPP447039	3.9	6	18	50	DPP447060	6.0	6	26	60
DPP447010F	5/32	6	18	50	DPP447061	6.1	8	28	70
DPP447040	4.0	6	18	50	DPP447062	6.2	8	28	70
DPP447041	4.1	6	20	60	DPP447063	6.3	8	28	70
DPP447042	4.2	6	20	60	DPP447016F	1/4	8	30	70
DPP447043	4.3	6	20	60	DPP447064	6.4	8	30	70
DPP447044	4.4	6	20	60	DPP447065	6.5	8	30	70
DPP447045	4.5	6	22	60	DPP447066	6.6	8	30	70
DPP447046	4.6	6	22	60	DPP447067	6.7	8	30	70
DPP447047	4.7	6	22	60	DPP447068	6.8	8	30	70
DPP447012F	3/16	6	22	60	DPP447069	6.9	8	30	70
DPP447048	4.8	6	22	60	DPP447070	7.0	8	30	70
DPP447049	4.9	6	22	60	DPP447071	7.1	8	34	70
DPP447050	5.0	6	22	60	DPP447018F	9/32	8	34	70

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : Excellent ○ : Good

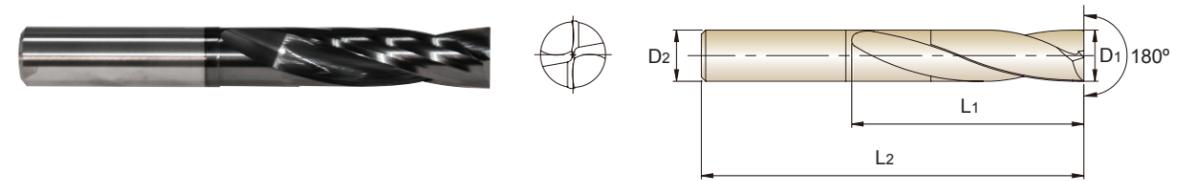
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron	Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	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											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	○	○																					

X-COATED SOLID CARBIDE DREAM DRILLS
Flat Bottom without Coolant Holes (2XD)

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SHORT
2 x D

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
X-Coating	D1	D2	L1	L2	X-Coating	D1	D2	L1	L2
DPP447072	7.2	8	34	70	DPP447093	9.3	10	42	80
DPP447073	7.3	8	34	70	DPP447094	9.4	10	42	80
DPP447074	7.4	8	34	70	DPP447095	9.5	10	42	80
DPP447075	7.5	8	34	70	DPP447024F	3/8	10	42	80
DPP447076	7.6	8	34	70	DPP447096	9.6	10	42	80
DPP447077	7.7	8	34	70	DPP447097	9.7	10	45	80
DPP447078	7.8	8	34	70	DPP447098	9.8	10	45	80
DPP447079	7.9	8	34	70	DPP447099	9.9	10	45	80
DPP447020F	5/16	8	34	70	DPP447100	10.0	10	45	80
DPP447080	8.0	8	34	70	DPP447101	10.1	12	46	90
DPP447081	8.1	10	38	80	DPP447102	10.2	12	46	90
DPP447082	8.2	10	38	80	DPP447103	10.3	12	46	90
DPP447083	8.3	10	38	80	DPP447026F	13/32	12	46	90
DPP447021F	21/64	10	38	80	DPP447104	10.4	12	48	90
DPP447084	8.4	10	38	80	DPP447105	10.5	12	48	90
DPP447085	8.5	10	38	80	DPP447106	10.6	12	48	90
DPP447086	8.6	10	38	80	DPP447107	10.7	12	48	90
DPP447087	8.7	10	40	80	DPP447108	10.8	12	48	90
DPP447088	8.8	10	40	80	DPP447109	10.9	12	48	90
DPP447089	8.9	10	40	80	DPP447110	11.0	12	48	90
DPP447090	9.0	10	40	80	DPP447111	11.1	12	50	90
DPP447091	9.1	10	42	80	DPP447028F	7/16	12	50	90
DPP447023F	23/64	10	42	80	DPP447112	11.2	12	50	90
DPP447092	9.2	10	42	80	DPP447113	11.3	12	50	90

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : Excellent ○ : Good

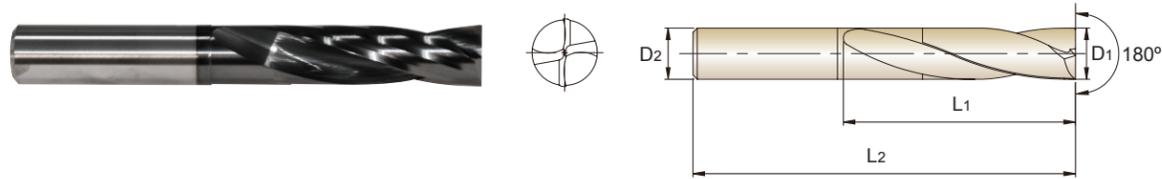
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron	Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	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											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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SHORT
2 x D

Unit : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
X-Coating	D1	D2	L1	L2	X-Coating	D1	D2	L1	L2
DPP447114	11.4	12	50	90	DPP447136	13.6	14	58	100
DPP447115	11.5	12	50	90	DPP447137	13.7	14	58	100
DPP447029F	29/64	12	50	90	DPP447138	13.8	14	58	100
DPP447116	11.6	12	50	90	DPP447139	13.9	14	58	100
DPP447117	11.7	12	52	90	DPP447140	14.0	14	58	100
DPP447118	11.8	12	52	90	DPP447141	14.1	16	62	105
DPP447119	11.9	12	52	90	DPP447142	14.2	16	62	105
DPP447030F	15/32	12	52	90	DPP447036F	9/16	16	62	105
DPP447120	12.0	12	52	90	DPP447143	14.3	16	62	105
DPP447121	12.1	14	54	100	DPP447144	14.4	16	62	105
DPP447122	12.2	14	54	100	DPP447145	14.5	16	62	105
DPP447123	12.3	14	54	100	DPP447146	14.6	16	62	105
DPP447124	12.4	14	54	100	DPP447147	14.7	16	62	105
DPP447125	12.5	14	54	100	DPP447148	14.8	16	62	105
DPP447126	12.6	14	54	100	DPP447149	14.9	16	62	105
DPP447127	12.7	14	56	100	DPP447150	15.0	16	62	105
DPP447128	12.8	14	56	100	DPP447151	15.1	16	64	115
DPP447129	12.9	14	56	100	DPP447152	15.2	16	64	115
DPP447130	13.0	14	56	100	DPP447153	15.3	16	64	115
DPP447131	13.1	14	58	100	DPP447154	15.4	16	64	115
DPP447132	13.2	14	58	100	DPP447155	15.5	16	64	115
DPP447133	13.3	14	58	100	DPP447156	15.6	16	64	115
DPP447134	13.4	14	58	100	DPP447157	15.7	16	64	115
DPP447135	13.5	14	58	100	DPP447158	15.8	16	64	115

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : Excellent ○ : Good

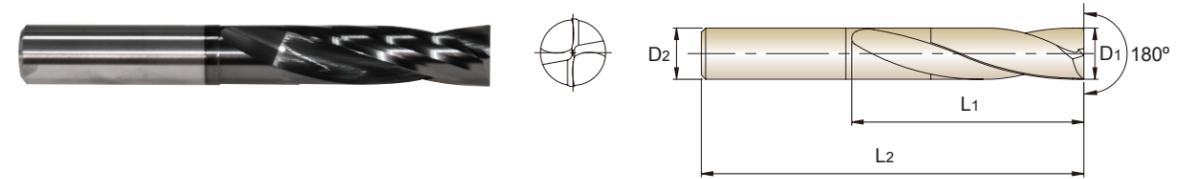
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
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			15	30	25	38	34	400 Rm	1050 Rm	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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SHORT
2 x D

Unit : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
X-Coating	D1	D2	L1	L2
DPP447040F	5/8	16	64	115
DPP447159	15.9	16	64	115
DPP447160	16.0	16	64	115
DPP447165	16.5	18	70	125
DPP447170	17.0	18	70	125
DPP447044F	11/16	18	70	125
DPP447175	17.5	18	70	125
DPP447180	18.0	18	70	125
DPP447185	18.5	20	75	135
DPP447190	19.0	20	75	135
DPP447048F	3/4	20	75	135
DPP447195	19.5	20	75	145
DPP447200	20.0	20	75	145

▶ Other shank types are available on your request.

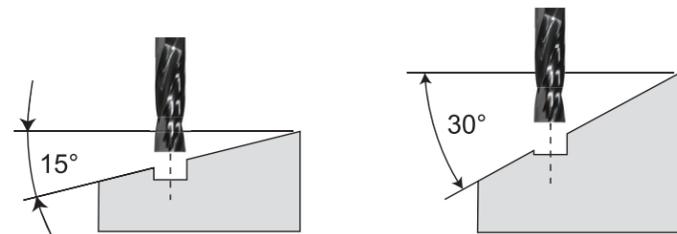
◎ : Excellent ○ : Good

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	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
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			15	30	25	38	34	400 Rm	1050 Rm	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	○	○																			

DPP447 SERIES without COOLANT HOLES

ISO	VDI 3323	Material Description	SFM	Drill Diameter								
				METRIC	3.0	-	4.0	-	5.0	6.0	-	8.0
				FRACTIONAL	-	1/8	-	3/16	-	-	5/16	-
DECIMAL	.1181	.1250	.1575	.1875	.1969	.2362	.3125	.3150				
P	1-9	Non-alloy steel	263	RPM	8490	6370	5090	4240	3180			
				FEED	.0008 - .002	.0012 - .0028	.0012 - .0031	.0016 - .0039	.0031 - .0055			
			263	RPM	8490	6370	5090	4240	3180			
				FEED	.0008 - .002	.0012 - .0028	.0012 - .0031	.0016 - .0039	.0031 - .0055			
			230	RPM	7430	5570	4460	3710	2790			
				FEED	.0008 - .002	.0012 - .0028	.0012 - .0031	.0016 - .0039	.0028 - .0051			
			132	RPM	4240	3180	2550	2120	1590			
				FEED	.0008 - .002	.0012 - .0028	.0012 - .0031	.0016 - .0039	.0028 - .0051			
			125	RPM	4030	3020	2420	2020	1510			
FEED	.0008 - .002	.0008 - .0024		.0012 - .0031	.0012 - .0035	.0024 - .0047						
K	15-16	Low alloy steel	148	RPM	4770	3580	2860	2390	1790			
				FEED	.0008 - .002	.0012 - .0028	.0012 - .0031	.0016 - .0039	.0028 - .0051			
			132	RPM	4240	3180	2550	2120	1590			
				FEED	.0008 - .002	.0012 - .0028	.0012 - .0031	.0016 - .0039	.0028 - .0051			
			125	RPM	4030	3020	2420	2020	1510			
				FEED	.0008 - .002	.0008 - .0024	.0012 - .0031	.0012 - .0035	.0024 - .0047			
			82	RPM	2650	1990	1590	1330	990			
				FEED	.0004 - .0012	.0008 - .0016	.0008 - .002	.0012 - .0024	.0012 - .0031			
			M	12	Stainless steel	RPM	3180	2390	1910	1590	1190	
FEED	.0004 - .0012	.0004 - .0012				.0008 - .0016	.0008 - .002	.0012 - .0024				
K	15	Grey cast iron	RPM	7430	5570	4460	3710	2790				
			FEED	.0008 - .002	.0008 - .0024	.0012 - .0031	.0012 - .0035	.0024 - .0047				
K	16	Grey cast iron	RPM	6370	4770	3820	3180	2390				
			FEED	.0008 - .002	.0008 - .002	.0012 - .0024	.0012 - .0028	.0016 - .0039				
N	21-22	Aluminum-wrought alloy	543	RPM	17510	13130	10500	8750	6570			
				FEED	.0008 - .002	.0016 - .0031	.0016 - .0039	.0024 - .0047	.0039 - .0063			
			543	RPM	17510	13130	10500	8750	6570			
				FEED	.0008 - .002	.0016 - .0031	.0016 - .0039	.0024 - .0047	.0039 - .0063			



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

Surface Angle	Cutting Conditions	
	RPM	IPR
0° ~ 15°	100%	100%
15° ~ 30°	100%	50%
30° ~	70%	30%

SFM = ft/min.
RPM = rev./min.
FEED = inch/rev.

ISO	VDI 3323	Material Description	SFM	Drill Diameter						
				METRIC	10.0	12.0	-	16.0	-	20.0
				FRACTIONAL	3/8	-	1/2	5/8	-	3/4
DECIMAL	.3750	.3937	.4724	.5000	.6250	.6299	.7500	.7874		
P	1-9	Non-alloy steel	2550	RPM	2550	2120	2010	1590	1340	1270
				FEED	.0043 - .0067	.0043 - .0083	.0043 - .0083	.0071 - .011	.0104 - .0144	.011 - .015
			2550	RPM	2550	2120	2010	1590	1340	1270
				FEED	.0043 - .0067	.0043 - .0083	.0043 - .0083	.0071 - .011	.0104 - .0144	.011 - .015
			2230	RPM	2230	1860	1760	1390	1170	1110
				FEED	.0043 - .0067	.0043 - .0083	.0043 - .0083	.0071 - .011	.0088 - .0128	.0094 - .0134
			1270	RPM	1270	1060	1010	800	670	640
				FEED	.0043 - .0067	.0043 - .0083	.0043 - .0083	.0071 - .011	.0088 - .0128	.0094 - .0134
			1210	RPM	1210	1010	960	760	640	600
				FEED	.0035 - .0059	.0031 - .0071	.0031 - .0071	.0055 - .0094	.0077 - .0117	.0083 - .0122
			1430	RPM	1430	1190	1130	900	750	720
				FEED	.0043 - .0067	.0043 - .0083	.0043 - .0083	.0071 - .011	.0088 - .0128	.0094 - .0134
			1270	RPM	1270	1060	1010	800	670	640
				FEED	.0043 - .0067	.0043 - .0083	.0043 - .0083	.0071 - .011	.0088 - .0128	.0094 - .0134
			1210	RPM	1210	1010	960	760	640	600
				FEED	.0035 - .0059	.0031 - .0071	.0031 - .0071	.0055 - .0094	.0077 - .0117	.0083 - .0122
			800	RPM	800	660	630	500	420	400
				FEED	.002 - .0039	.0024 - .0047	.0024 - .0047	.0024 - .0063	.0025 - .0065	.0039 - .0079
950	RPM	950	800	760	600	500	480			
	FEED	.0012 - .0031	.002 - .0039	.002 - .0039	.0024 - .0047	.0025 - .0065	.0035 - .0059			
2010	RPM	2010	1820	1590	1410	1340	1270			
	FEED	.0189 - .0236	.022 - .0276	.022 - .0283	.0248 - .0319	.0248 - .0319	.0276 - .0354			
2510	RPM	2510	2270	1990	1770	1680	1590			
	FEED	.0213 - .0283	.0248 - .0331	.0252 - .0315	.0283 - .0354	.0283 - .0354	.0315 - .0386			
5250	RPM	5250	4380	4150	3280	2770	2630			
	FEED	.0055 - .0079	.0055 - .0094	.0055 - .0094	.0087 - .0126	.0111 - .0151	.0118 - .0157			
5250	RPM	5250	4380	4150	3280	2770	2630			
	FEED	.0055 - .0079	.0055 - .0094	.0055 - .0094	.0087 - .0126	.0111 - .0151	.0118 - .0157			

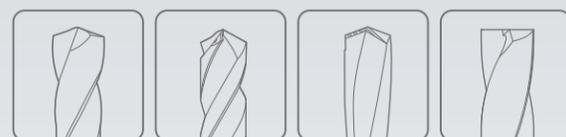
- ▶ The cutting conditions are for 2xD.
- ▶ The rigid and precise machine and holder are required.
- ▶ The recommended depth of hole is measured from the highest point of the hole on drilling in inclined and angled surfaces.
- ▶ The recommended cutting conditions are those for drilling on flat and horizontal surfaces.
- ▶ Please adjust feed rate according to the above surface angle when drilling on an inclined surface.
 - The recommended feed rate 50% or lower, in case of 15°~30° of the incline angle.
 - The recommended feed rate 30% or lower and RPM 70%, in case of 30° ~ of the incline angle.
- ▶ Please decrease cutting speed as material hardness increases.
- ▶ Only use drilling tool. Side milling, traversing, helical milling are not usable.



Leading Through Innovation



Global Cutting Tool Leader **YG-1**



DREAM DRILLS



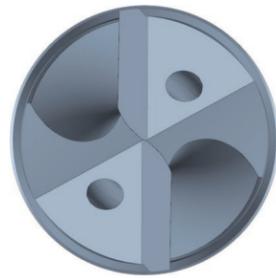
NEW
SIZES

SOLID CARBIDE

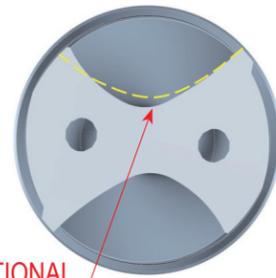
DREAM DRILLS INOX

- For Tough Materials like Stainless Steels

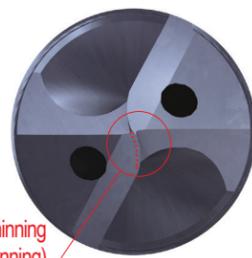
NEW SIZES
DREAM DRILLS INOX



CONVENTIONAL



- Special Flute geometry and Chip pocket to help Chip evacuation and proper Chip Curl.
- strong rigidity from **Cutting Edge**
- high Performance on Stainless Steel and pre hardend Steel



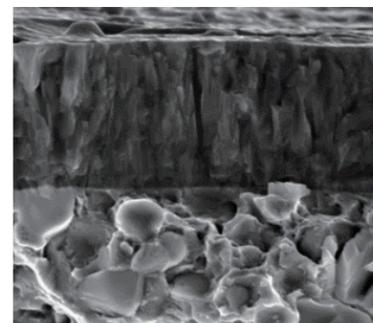
R-Thinning (Radius Thinning)

- Positive Axial **Rake Angle** and cutting force, with **R-Thinning** enhance centering and Chip Breaking.

TiAlN Coating
(Upgraded Titanium Aluminum Nitride : **nano-Layer coating**)

- Higher wear resistance and Lower friction
- Higher Cutting Speed and Feed
- Improved drill Hole Quality

Special surface treatment after coating to reduce friction and better chip flow.



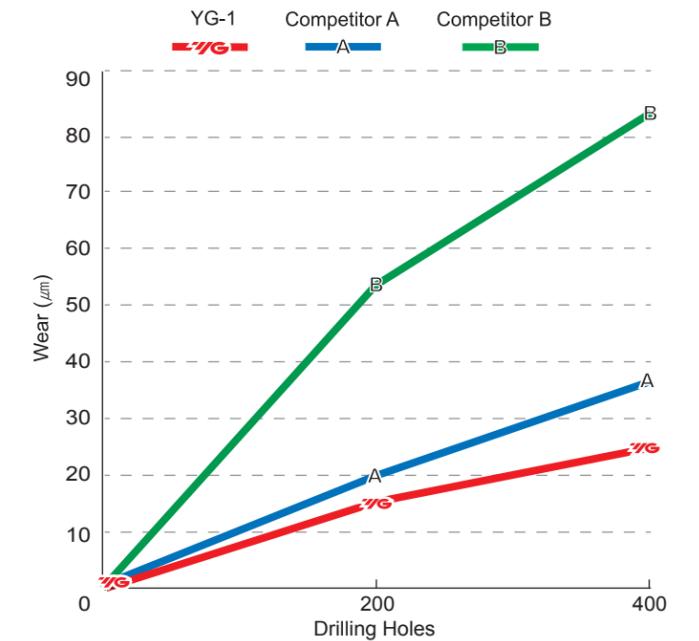
Nano Layer

Carbide

CASE STUDY

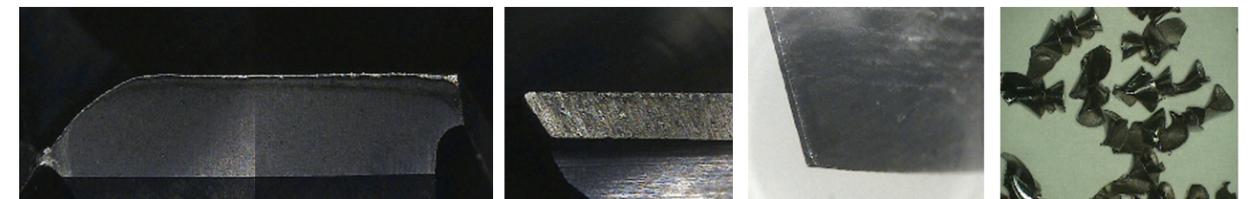
► SOLID CARBIDE DREAM DRILLS - INOX with Coolant Holes

CUTTING CONDITION	
Tool	DH452060 (DREAM DRILL-INOX)
Size	Ø6 x Ø6 x 44 x 82
Work Material	•AISI : 304 •JIS : SUS304 •DIN : X5CrNi1810 (X4CrNi18-10) (HRc10)
RPM	14,856 rev./min.
Feed	.0028 inch/rev.
SFM	229 ft/min.
Drilling Depth	.94" (4xD)
Coolant	Wet Cut
Machine	Machining Center



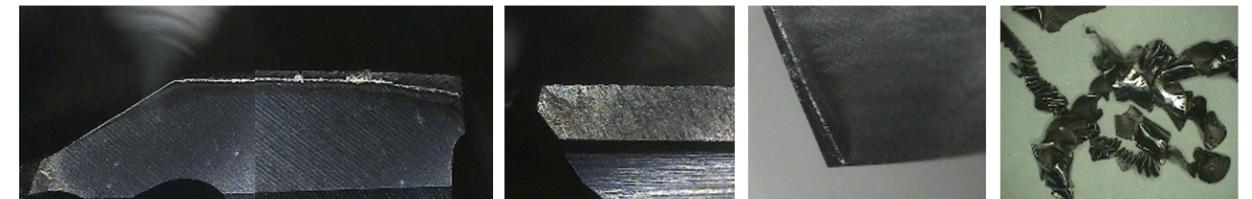
YG-1

Total Drilling 400 Holes



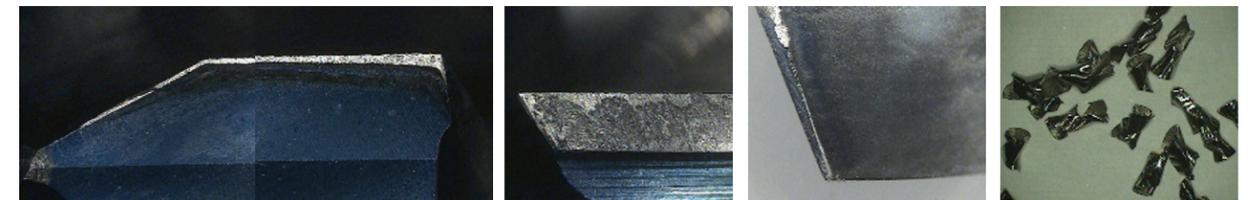
Competitor A

Total Drilling 400 Holes



Competitor B

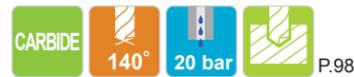
Total Drilling 400 Holes



TiAIN-COATED SOLID CARBIDE DREAM DRILLS INOX with Coolant Holes (3XD)

DH463 SERIES
DH714 SERIES

- ▶ Special flute shape and geometry suitable for machining stainless steel
- ▶ Excellent chip evacuation from better surface treatment
- ▶ Point R-thinning achieves superior centering and chip curling
- ▶ TiAIN coating for better surface finishes and longer tool life
- ▶ Tolerance : Dia. Tolerance ØD1 : See page 141
Shank Tolerance ØD2: -.0001 -.0005



STUB
3 x D

Unit : inch

EDP No.	Drill Diameter		Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter		Shank Diameter	Flute Length	Overall Length
	Fractional	Decimal					Fractional	Decimal			
TiAIN	D1		D2	L1	L2	TiAIN	D1		D2	L1	L2
DH714008	1/8	.1250	3/16	1.102	2.992	DH714217	Q	.3320	3/8	1.673	3.937
DH463008	1/8	.1250	15/64	1.102	2.992	DH463022	11/32	.3438	11/32	1.772	3.937
DH714011	11/64	.1719	3/16	1.417	3.386	DH714022	11/32	.3438	3/8	1.772	3.937
DH463011	11/64	.1719	15/64	1.417	3.386	DH714023	23/64	.3594	3/8	1.870	4.174
DH714012	3/16	.1875	3/16	1.575	3.543	DH463023	23/64	.3594	25/64	1.870	4.174
DH463012	3/16	.1875	15/64	1.575	3.543	DH714221	U	.3680	3/8	1.870	4.174
DH463013	13/64	.2031	15/64	1.082	3.228	DH463221	U	.3680	25/64	1.870	4.174
DH714013	13/64	.2031	1/4	1.082	3.228	DH714024	3/8	.3750	3/8	1.969	4.174
DH463014	7/32	.2188	15/64	1.181	3.228	DH463024	3/8	.3750	25/64	1.969	4.174
DH714014	7/32	.2188	1/4	1.181	3.228	DH463025	25/64	.3906	25/64	1.969	4.174
DH463015	15/64	.2344	15/64	1.181	3.228	DH714025	25/64	.3906	7/16	1.969	4.174
DH714015	15/64	.2344	1/4	1.181	3.228	DH463026	13/32	.4062	27/64	2.067	4.567
DH714016	1/4	.2500	1/4	1.279	3.465	DH714026	13/32	.4062	7/16	2.067	4.567
DH463016	1/4	.2500	17/64	1.279	3.465	DH463027	27/64	.4219	27/64	2.165	4.567
DH463206	F	.2570	17/64	1.279	3.465	DH714027	27/64	.4219	7/16	2.165	4.567
DH714206	F	.2570	5/16	1.279	3.465	DH714028	7/16	.4375	7/16	2.264	4.803
DH463017	17/64	.2656	17/64	1.378	3.465	DH463028	7/16	.4375	15/32	2.264	4.803
DH714017	17/64	.2656	5/16	1.378	3.465	DH463029	29/64	.4531	15/32	2.264	4.803
DH463209	I	.2720	.2720	1.378	3.465	DH714029	29/64	.4531	1/2	2.264	4.803
DH714209	I	.2720	5/16	1.378	3.465	DH463030	15/32	.4688	15/32	2.362	4.803
DH463018	9/32	.2812	5/16	1.476	3.701	DH714030	15/32	.4688	1/2	2.362	4.803
DH463019	19/64	.2969	5/16	1.476	3.701	DH463031	31/64	.4844	1/2	2.461	5.039
DH463020	5/16	.3125	5/16	1.575	3.701	DH463032	1/2	.5000	1/2	2.559	5.039
DH463021	21/64	.3281	11/32	1.673	3.937	DH463033	33/64	.5156	35/64	2.657	5.276
DH714021	21/64	.3281	3/8	1.673	3.937	DH714033	33/64	.5156	9/16	2.657	5.276
DH463217	Q	.3320	11/32	1.673	3.937	DH463034	17/32	.5312	35/64	2.756	5.276

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : 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
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	30	10	29	32	38	15	35	15	23	10	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	15	30	25	38	34	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	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	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

TiAIN-COATED SOLID CARBIDE DREAM DRILLS INOX with Coolant Holes (3XD)

DH463 SERIES
DH714 SERIES

- ▶ Special flute shape and geometry suitable for machining stainless steel
- ▶ Excellent chip evacuation from better surface treatment
- ▶ Point R-thinning achieves superior centering and chip curling
- ▶ TiAIN coating for better surface finishes and longer tool life
- ▶ Tolerance : Dia. Tolerance ØD1 : See page 141
Shank Tolerance ØD2: -.0001 -.0005



STUB
3 x D

Unit : inch

EDP No.	Drill Diameter		Shank Diameter	Flute Length	Overall Length
	Fractional	Decimal			
TiAIN	D1		D2	L1	L2
DH714034	17/32	.5312	9/16	2.756	5.276
DH463035	35/64	.5469	35/64	2.756	5.276
DH714035	35/64	.5469	9/16	2.756	5.276
DH714036	9/16	.5625	9/16	2.854	5.512
DH463036	9/16	.5625	37/64	2.854	5.512
DH463037	37/64	.5781	37/64	2.953	5.512
DH714037	37/64	.5781	5/8	2.953	5.512
DH463038	19/32	.5937	5/8	3.051	5.709
DH463039	39/64	.6094	5/8	3.051	5.709
DH463040	5/8	.6250	5/8	3.150	5.709

▶ Other shank types are available on your request.

◎ : 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
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	30	10	29	32	38	15	35	15	23	10	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	15	30	25	38	34	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	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	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

TiAIN-COATED SOLID CARBIDE DREAM DRILLS INOX with Coolant Holes (3XD)

DH464 SERIES
DH715 SERIES

- Special flute shape and geometry suitable for machining stainless steel
- Excellent chip evacuation from better surface treatment
- Point R-thinning achieves superior centering and chip curling
- TiAIN coating for better surface finishes and longer tool life
- Tolerance : Dia. Tolerance ØD1 : See page 141
Shank Tolerance ØD2: -.0001 -.0005



LONG
5 x D

EDP No.	Drill Diameter		Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter		Shank Diameter	Flute Length	Overall Length
	Fractional	Decimal					Fractional	Decimal			
TiAIN	D1		D2	L1	L2	TiAIN	D1		D2	L1	L2
DH464013	13/64	.2031	15/64	1-3/4	3-15/16	DH464221	U	.3680	25/64	3	5-23/64
DH715013	13/64	.2031	1/4	1-3/4	3-15/16	DH715024	3/8	.3750	3/8	3-5/32	5-23/64
DH464014	7/32	.2188	15/64	1-57/64	3-15/16	DH464024	3/8	.3750	25/64	3-5/32	5-23/64
DH715014	7/32	.2188	1/4	1-57/64	3-15/16	DH464025	25/64	.3906	25/64	3-5/32	5-23/64
DH464015	15/64	.2344	15/64	1-57/64	3-15/16	DH715025	25/64	.3906	7/16	3-5/32	5-23/64
DH715015	15/64	.2344	1/4	1-57/64	3-15/16	DH464026	13/32	.4062	27/64	3-5/16	5-7/8
DH715016	1/4	.2500	1/4	2-3/64	4-19/64	DH715026	13/32	.4062	7/16	3-5/16	5-7/8
DH464016	1/4	.2500	17/64	2-3/64	4-19/64	DH464027	27/64	.4219	27/64	3-15/32	5-7/8
DH464206	F	.2570	17/64	2-13/64	4-19/64	DH715027	27/64	.4219	7/16	3-15/32	5-7/8
DH715206	F	.2570	5/16	2-13/64	4-19/64	DH715028	7/16	.4375	7/16	3-5/8	6-7/32
DH464017	17/64	.2656	17/64	2-13/64	4-19/64	DH464028	7/16	.4375	15/32	3-5/8	6-7/32
DH715017	17/64	.2656	5/16	2-13/64	4-19/64	DH464029	29/64	.4531	15/32	3-25/32	6-7/32
DH464209	I	.2720	.2720	2-13/64	4-19/64	DH715029	29/64	.4531	1/2	3-25/32	6-7/32
DH715209	I	.2720	5/16	2-13/64	4-19/64	DH464030	15/32	.4688	15/32	3-25/32	6-7/32
DH464018	9/32	.2812	5/16	2-23/64	4-41/64	DH715030	15/32	.4688	1/2	3-25/32	6-7/32
DH464019	19/64	.2969	5/16	2-33/64	4-41/64	DH464031	31/64	.4844	1/2	3-15/16	6-37/64
DH464020	5/16	.3125	5/16	2-33/64	4-41/64	DH464032	1/2	.5000	1/2	4-3/32	6-37/64
DH464021	21/64	.3281	11/32	2-43/64	5						
DH715021	21/64	.3281	3/8	2-43/64	5						
DH464217	Q	.3320	11/32	2-43/64	5						
DH715217	Q	.3320	3/8	2-43/64	5						
DH464022	11/32	.3438	11/32	2-27/32	5						
DH715022	11/32	.3438	3/8	2-27/32	5						
DH715023	23/64	.3594	3/8	3	5-23/64						
DH464023	23/64	.3594	25/64	3	5-23/64						
DH715221	U	.3680	3/8	3	5-23/64						

► Other shank types are available on your request.

◎ : 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
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	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	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

TiAIN-COATED SOLID CARBIDE DREAM DRILLS INOX with Coolant Holes (3XD)

NEW SIZES DH451 SERIES

- Special flute shape and geometry suitable for machining stainless steel
- Excellent chip evacuation from better surface treatment
- Point R-thinning achieves superior centering and chip curling
- TiAIN coating for better surface finishes and longer tool life



SHORT
3 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
TiAIN	D1			D2	L1	L2	TiAIN	D1			D2	L1	L2
* DH451021	2.1			4	25	66	DH451047	4.7		.1850	6	24	66
* DH451006F	2.381	3/32	.0938	4	30	66	DH451012F	4.763	3/16	.1875	6	24	66
* DH451027	2.7			4	30	66	DH451048	4.8		.1890	6	28	66
* DH451007F	2.778	7/64	.1094	4	30	66	DH451049	4.9		.1929	6	28	66
* DH451929	2.95			4	30	66	DH451050	5.0		.1969	6	28	66
DH451030	3.0		.1181	6	20	62	DH451051	5.1		.2008	6	28	66
DH451031	3.1		.1220	6	20	62	DH451013F	5.159	13/64	.2031	6	28	66
DH451008F	3.175	1/8	.1250	6	20	62	DH451052	5.2		.2047	6	28	66
DH451032	3.2		.1260	6	20	62	DH451053	5.3		.2087	6	28	66
DH451033	3.3		.1299	6	20	62	DH451054	5.4		.2126	6	28	66
DH451034	3.4		.1339	6	20	62	DH451055	5.5		.2165	6	28	66
DH451035	3.5		.1378	6	20	62	DH451014F	5.556	7/32	.2188	6	28	66
DH451009F	3.572	9/64	.1406	6	20	62	DH451056	5.6		.2205	6	28	66
DH451036	3.6		.1417	6	20	62	DH451057	5.7		.2244	6	28	66
DH451037	3.7		.1457	6	20	62	DH451058	5.8		.2283	6	28	66
DH451038	3.8		.1496	6	24	66	DH451059	5.9		.2323	6	28	66
DH451039	3.9		.1535	6	24	66	DH451015F	5.953	15/64	.2344	6	28	66
DH451010F	3.969	5/32	.1563	6	24	66	DH451060	6.0		.2362	6	28	66
DH451040	4.0		.1575	6	24	66	DH451061	6.1		.2402	8	34	79
DH451041	4.1		.1614	6	24	66	DH451062	6.2		.2441	8	34	79
DH451042	4.2		.1654	6	24	66	DH451063	6.3		.2480	8	34	79
DH451043	4.3		.1693	6	24	66	DH451016F	6.350	1/4	.2500	8	34	79
DH451011F	4.366	11/64	.1719	6	24	66	DH451064	6.4		.2520	8	34	79
DH451044	4.4		.1732	6	24	66	DH451065	6.5		.2559	8	34	79
DH451045	4.5		.1772	6	24	66	DH451006L	6.528	F	.2570	8	34	79
DH451046	4.6		.1811	6	24	66	DH451066	6.6		.2598	8	34	79

► Other shank types are available on your request.

► NEXT PAGE

◎ : 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
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	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	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

TiAIN-COATED SOLID CARBIDE DREAM DRILLS INOX with Coolant Holes (3XD)

NEW SIZES DH451 SERIES

- Special flute shape and geometry suitable for machining stainless steel
- Excellent chip evacuation from better surface treatment
- Point R-thinning achieves superior centering and chip curling
- TiAIN coating for better surface finishes and longer tool life



SHORT 3 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
TiAIN	D1			D2	L1	L2	TiAIN	D1			D2	L1	L2
DH451067	6.7		.2638	8	34	79	DH451086	8.6		.3386	10	47	89
DH451017F	6.747	17/64	.2656	8	34	79	DH451087	8.7		.3425	10	47	89
DH451068	6.8		.2677	8	34	79	DH451022F	8.731	11/32	.3438	10	47	89
DH451069	6.9		.2717	8	34	79	DH451088	8.8		.3465	10	47	89
DH451009L	6.909	I	.2720	8	34	79	DH451089	8.9		.3504	10	47	89
DH451070	7.0		.2756	8	34	79	DH451090	9.0		.3543	10	47	89
DH451071	7.1		.2795	8	41	79	DH451091	9.1		.3583	10	47	89
DH451018F	7.144	9/32	.2812	8	41	79	DH451023F	9.128	23/64	.3594	10	47	89
DH451072	7.2		.2835	8	41	79	DH451092	9.2		.3622	10	47	89
DH451073	7.3		.2874	8	41	79	DH451093	9.3		.3661	10	47	89
DH451074	7.4		.2913	8	41	79	DH451021L	9.347	U	.3680	10	47	89
DH451075	7.5		.2953	8	41	79	DH451094	9.4		.3701	10	47	89
DH451019F	7.541	19/64	.2969	8	41	79	DH451095	9.5		.3740	10	47	89
DH451076	7.6		.2992	8	41	79	DH451024F	9.525	3/8	.3750	10	47	89
DH451077	7.7		.3031	8	41	79	DH451096	9.6		.3780	10	47	89
DH451078	7.8		.3071	8	41	79	DH451097	9.7		.3819	10	47	89
DH451079	7.9		.3110	8	41	79	DH451098	9.8		.3858	10	47	89
DH451020F	7.938	5/16	.3125	8	41	79	DH451099	9.9		.3898	10	47	89
DH451080	8.0		.3150	8	41	79	DH451025F	9.922	25/64	.3906	10	47	89
DH451081	8.1		.3189	10	47	89	DH451100	10.0		.3937	10	47	89
DH451082	8.2		.3228	10	47	89	DH451101	10.1		.3976	12	55	102
DH451083	8.3		.3268	10	47	89	DH451102	10.2		.4016	12	55	102
DH451021F	8.334	21/64	.3281	10	47	89	DH451103	10.3		.4055	12	55	102
DH451084	8.4		.3307	10	47	89	DH451026F	10.319	13/32	.4062	12	55	102
DH451017L	8.433	Q	.3320	10	47	89	DH451104	10.4		.4094	12	55	102
DH451085	8.5		.3346	10	47	89	DH451105	10.5		.4134	12	55	102

► Other shank types are available on your request.

► NEXT PAGE

◎ : 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	
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	30	10	29	32	38	15	35	15	23	10	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	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	400 Rm	1050 Rm	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	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

TiAIN-COATED SOLID CARBIDE DREAM DRILLS INOX with Coolant Holes (3XD)

NEW SIZES DH451 SERIES

- Special flute shape and geometry suitable for machining stainless steel
- Excellent chip evacuation from better surface treatment
- Point R-thinning achieves superior centering and chip curling
- TiAIN coating for better surface finishes and longer tool life



SHORT 3 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
TiAIN	D1			D2	L1	L2	TiAIN	D1			D2	L1	L2
DH451106	10.6		.4173	12	55	102	DH451032F	12.7	1/2	.5000	14	60	107
DH451107	10.7		.4212	12	55	102	DH451128	12.8		.5039	14	60	107
DH451027F	10.716	27/64	.4219	12	55	102	DH451129	12.9		.5079	14	60	107
DH451108	10.8		.4252	12	55	102	DH451130	13.0		.5118	14	60	107
DH451109	10.9		.4291	12	55	102	DH451131	13.1		.5157	14	60	107
DH451110	11.0		.4330	12	55	102	DH451132	13.2		.5197	14	60	107
DH451111	11.1		.4370	12	55	102	DH451133	13.3		.5236	14	60	107
DH451028F	11.113	7/16	.4375	12	55	102	DH451134	13.4		.5276	14	60	107
DH451112	11.2		.4409	12	55	102	DH451135	13.5		.5314	14	60	107
DH451113	11.3		.4448	12	55	102	DH451136	13.6		.5354	14	60	107
DH451114	11.4		.4488	12	55	102	DH451137	13.7		.5394	14	60	107
DH451115	11.5		.4527	12	55	102	DH451138	13.8		.5433	14	60	107
DH451029F	11.509	29/64	.4531	12	55	102	DH451139	13.9		.5472	14	60	107
DH451116	11.6		.4566	12	55	102	DH451140	14.0		.5512	14	60	107
DH451117	11.7		.4606	12	55	102	DH451141	14.1		.5551	16	65	115
DH451118	11.8		.4645	12	55	102	DH451142	14.2		.5591	16	65	115
DH451119	11.9		.4685	12	55	102	DH451036F	14.288	9/16	.5625	16	65	115
DH451030F	11.906	15/32	.4688	12	55	102	DH451143	14.3		.5630	16	65	115
DH451120	12.0		.4724	12	55	102	DH451144	14.4		.5669	16	65	115
DH451121	12.1		.4764	14	60	107	DH451145	14.5		.5708	16	65	115
DH451122	12.2		.4803	14	60	107	DH451146	14.6		.5748	16	65	115
DH451123	12.3		.4843	14	60	107	DH451147	14.7		.5787	16	65	115
DH451031F	12.303	31/64	.4844	14	60	107	DH451148	14.8		.5827	16	65	115
DH451124	12.4		.4882	14	60	107	DH451149	14.9		.5866	16	65	115
DH451125	12.5		.4921	14	60	107	DH451150	15.0		.5905	16	65	115
DH451126	12.6		.4961	14	60	107	DH451151	15.1		.5945	16	65	115

► Other shank types are available on your request.

► NEXT PAGE

◎ : 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	
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	30	10	29	32	38	15	35	15	23	10	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											

TiAIN-COATED SOLID CARBIDE DREAM DRILLS INOX with Coolant Holes (3XD)

NEW SIZES DH451 SERIES

- Special flute shape and geometry suitable for machining stainless steel
- Excellent chip evacuation from better surface treatment
- Point R-thinning achieves superior centering and chip curling
- TiAIN coating for better surface finishes and longer tool life



SHORT 3 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
TiAIN	D1			D2	L1	L2	TiAIN	D1			D2	L1	L2
DH451152	15.2		.5984	16	65	115	DH451176	17.6		.6929	18	73	123
DH451153	15.3		.6024	16	65	115	DH451177	17.7		.6968	18	73	123
DH451154	15.4		.6063	16	65	115	DH451178	17.8		.7008	18	73	123
DH451155	15.5		.6102	16	65	115	DH451179	17.9		.7047	18	73	123
DH451156	15.6		.6142	16	65	115	DH451180	18.0		.7087	18	73	123
DH451157	15.7		.6181	16	65	115	DH451181	18.1		.7126	20	79	131
DH451158	15.8		.6220	16	65	115	DH451182	18.2		.7165	20	79	131
DH451040F	15.875	5/8	.6250	16	65	115	DH451183	18.3		.7205	20	79	131
DH451159	15.9		.6260	16	65	115	DH451184	18.4		.7244	20	79	131
DH451160	16.0		.6299	16	65	115	DH451185	18.5		.7283	20	79	131
DH451161	16.1		.6339	18	73	123	DH451186	18.6		.7323	20	79	131
DH451162	16.2		.6378	18	73	123	DH451187	18.7		.7362	20	79	131
DH451163	16.3		.6417	18	73	123	DH451188	18.8		.7402	20	79	131
DH451164	16.4		.6457	18	73	123	DH451189	18.9		.7441	20	79	131
DH451165	16.5		.6495	18	73	123	DH451190	19.0		.7480	20	79	131
DH451166	16.6		.6535	18	73	123	DH451048F	19.050	3/4	.7500	20	79	131
DH451167	16.7		.6575	18	73	123	DH451191	19.1		.7520	20	79	131
DH451168	16.8		.6614	18	73	123	DH451192	19.2		.7559	20	79	131
DH451169	16.9		.6654	18	73	123	DH451193	19.3		.7598	20	79	131
DH451170	17.0		.6692	18	73	123	DH451194	19.4		.7638	20	79	131
DH451171	17.1		.6732	18	73	123	DH451195	19.5		.7676	20	79	131
DH451172	17.2		.6772	18	73	123	DH451196	19.6		.7717	20	79	131
DH451173	17.3		.6811	18	73	123	DH451197	19.7		.7756	20	79	131
DH451174	17.4		.6850	18	73	123	DH451198	19.8		.7795	20	79	131
DH451044F	17.463	11/16	.6875	18	73	123	DH451199	19.9		.7835	20	79	131
DH451175	17.5		.6889	18	73	123	DH451200	20.0		.7874	20	79	131

► Other shank types are available on your request.

◎ : 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
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	30	32	10	29	32	38	35	15	23	10	10	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											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	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

TiAIN-COATED SOLID CARBIDE DREAM DRILLS INOX with Coolant Holes (5XD)

DH452 SERIES

- Special flute shape and geometry suitable for machining stainless steel
- Excellent chip evacuation from better surface treatment
- Point R-thinning achieves superior centering and chip curling
- TiAIN coating for better surface finishes and longer tool life



LONG 5 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
TiAIN	D1			D2	L1	L2	TiAIN	D1			D2	L1	L2
DH452010	1.0		.0394	3	8	55	DH452008F	3.175	1/8	.1250	6	28	66
DH452011	1.1		.0433	3	12	55	DH452032	3.2		.1260	6	28	66
DH452012	1.2		.0472	3	12	55	DH452033	3.3		.1299	6	28	66
DH452013	1.3		.0512	3	12	55	DH452034	3.4		.1339	6	28	66
DH452014	1.4		.0551	3	12	55	DH452035	3.5		.1378	6	28	66
DH452015	1.5		.0591	3	16	55	DH452009F	3.572	9/64	.1406	6	28	66
DH452004F	1.588	1/16	.0625	3	16	55	DH452036	3.6		.1417	6	28	66
DH452016	1.6		.0630	3	16	55	DH452037	3.7		.1457	6	28	66
DH452017	1.7		.0669	3	16	55	DH452038	3.8		.1496	6	36	74
DH452018	1.8		.0709	3	16	55	DH452039	3.9		.1535	6	36	74
DH452019	1.9		.0748	3	16	55	DH452010F	3.969	5/32	.1563	6	36	74
DH452005F	1.984	5/64	.0781	3	16	55	DH452040	4.0		.1575	6	36	74
DH452020	2.0		.0787	4	21	57	DH452041	4.1		.1614	6	36	74
DH452021	2.1		.0827	4	21	57	DH452042	4.2		.1654	6	36	74
DH452022	2.2		.0866	4	21	57	DH452043	4.3		.1693	6	36	74
DH452023	2.3		.0906	4	21	57	DH452011F	4.366	11/64	.1719	6	36	74
DH452006F	2.381	3/32	.0938	4	21	57	DH452044	4.4		.1732	6	36	74
DH452024	2.4		.0945	4	21	57	DH452045	4.5		.1772	6	36	74
DH452025	2.5		.0984	4	21	57	DH452046	4.6		.1811	6	36	74
DH452026	2.6		.1024	4	21	57	DH452047	4.7		.1850	6	36	74
DH452027	2.7		.1063	4	21	57	DH452012F	4.763	3/16	.1875	6	36	74
DH452007F	2.778	7/64	.1094	4	21	57	DH452048	4.8		.1890	6	44	82
DH452028	2.8		.1102	4	21	57	DH452049	4.9		.1929	6	44	82
DH452029	2.9		.1142	4	21	57	DH452050	5.0		.1969	6	44	82
DH452030	3.0		.1181	6	28	66	DH452051	5.1		.2008	6	44	82
DH452031	3.1		.1220	6	28	66	DH452013F	5.159	13/64	.2031	6	44	82

► Other shank types are available on your request.

► NEXT PAGE

◎ : Excellent ○ : Good

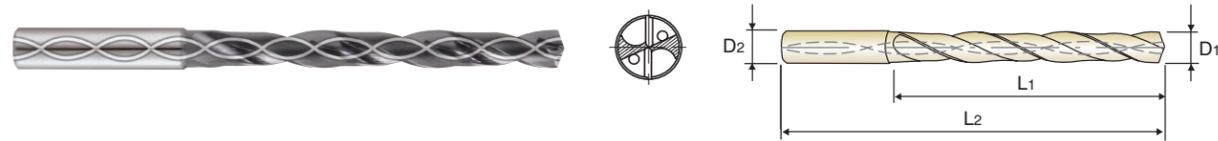
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	30	32	10	29	32	38	35	15	23	10	10	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											15	30	25	38	34			55			

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
INOX with Coolant Holes (5XD)

DH452 SERIES

- ▶ Special flute shape and geometry suitable for machining stainless steel
- ▶ Excellent chip evacuation from better surface treatment
- ▶ Point R-thinning achieves superior centering and chip curling
- ▶ TiAIN coating for better surface finishes and longer tool life



LONG
5 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
TiAIN	D1			D2	L1	L2	TiAIN	D1			D2	L1	L2
DH452052	5.2		.2047	6	44	82	DH452018F	7.144	9/32	.2812	8	53	91
DH452053	5.3		.2087	6	44	82	DH452072	7.2		.2835	8	53	91
DH452054	5.4		.2126	6	44	82	DH452073	7.3		.2874	8	53	91
DH452055	5.5		.2165	6	44	82	DH452074	7.4		.2913	8	53	91
DH452014F	5.556	7/32	.2188	6	44	82	DH452075	7.5		.2953	8	53	91
DH452056	5.6		.2205	6	44	82	DH452019F	7.541	19/64	.2969	8	53	91
DH452057	5.7		.2244	6	44	82	DH452076	7.6		.2992	8	53	91
DH452058	5.8		.2283	6	44	82	DH452077	7.7		.3031	8	53	91
DH452059	5.9		.2323	6	44	82	DH452078	7.8		.3071	8	53	91
DH452015F	5.953	15/64	.2344	6	44	82	DH452079	7.9		.3110	8	53	91
DH452060	6.0		.2362	6	44	82	DH452020F	7.938	5/16	.3125	8	53	91
DH452061	6.1		.2402	8	53	91	DH452080	8.0		.3150	8	53	91
DH452062	6.2		.2441	8	53	91	DH452081	8.1		.3189	10	61	103
DH452063	6.3		.2480	8	53	91	DH452082	8.2		.3228	10	61	103
DH452016F	6.350	1/4	.2500	8	53	91	DH452083	8.3		.3268	10	61	103
DH452064	6.4		.2520	8	53	91	DH452021F	8.334	21/64	.3281	10	61	103
DH452065	6.5		.2559	8	53	91	DH452084	8.4		.3307	10	61	103
DH452006L	6.528	F	.2570	8	53	91	DH452017L	8.433	Q	.3320	10	61	103
DH452066	6.6		.2598	8	53	91	DH452085	8.5		.3346	10	61	103
DH452067	6.7		.2638	8	53	91	DH452086	8.6		.3386	10	61	103
DH452017F	6.747	17/64	.2656	8	53	91	DH452087	8.7		.3425	10	61	103
DH452068	6.8		.2677	8	53	91	DH452022F	8.731	11/32	.3438	10	61	103
DH452069	6.9		.2717	8	53	91	DH452088	8.8		.3465	10	61	103
DH452009L	6.909	I	.2720	8	53	91	DH452089	8.9		.3504	10	61	103
DH452070	7.0		.2756	8	53	91	DH452090	9.0		.3543	10	61	103
DH452071	7.1		.2795	8	53	91	DH452091	9.1		.3583	10	61	103

▶ 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	30	10	29	32	38	15	35	15	23	10	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 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	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
INOX with Coolant Holes (5XD)

DH452 SERIES

- ▶ Special flute shape and geometry suitable for machining stainless steel
- ▶ Excellent chip evacuation from better surface treatment
- ▶ Point R-thinning achieves superior centering and chip curling
- ▶ TiAIN coating for better surface finishes and longer tool life



LONG
5 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
TiAIN	D1			D2	L1	L2	TiAIN	D1			D2	L1	L2
DH452023F	9.128	23/64	.3594	10	61	103	DH452028F	11.113	7/16	.4375	12	71	118
DH452092	9.2		.3622	10	61	103	DH452112	11.2		.4409	12	71	118
DH452093	9.3		.3661	10	61	103	DH452113	11.3		.4448	12	71	118
DH452021L	9.347	U	.3680	10	61	103	DH452114	11.4		.4488	12	71	118
DH452094	9.4		.3701	10	61	103	DH452115	11.5		.4527	12	71	118
DH452095	9.5		.3740	10	61	103	DH452029F	11.509	29/64	.4531	12	71	118
DH452024F	9.525	3/8	.3750	10	61	103	DH452116	11.6		.4566	12	71	118
DH452096	9.6		.3780	10	61	103	DH452117	11.7		.4606	12	71	118
DH452097	9.7		.3819	10	61	103	DH452118	11.8		.4645	12	71	118
DH452098	9.8		.3858	10	61	103	DH452119	11.9		.4685	12	71	118
DH452099	9.9		.3898	10	61	103	DH452030F	11.906	15/32	.4688	12	71	118
DH452025F	9.922	25/64	.3906	10	61	103	DH452120	12.0		.4724	12	71	118
DH452100	10.0		.3937	10	61	103	DH452121	12.1		.4764	14	77	124
DH452101	10.1		.3976	12	71	118	DH452122	12.2		.4803	14	77	124
DH452102	10.2		.4016	12	71	118	DH452123	12.3		.4843	14	77	124
DH452103	10.3		.4055	12	71	118	DH452031F	12.303	31/64	.4844	14	77	124
DH452026F	10.319	13/32	.4062	12	71	118	DH452124	12.4		.4882	14	77	124
DH452104	10.4		.4094	12	71	118	DH452125	12.5		.4921	14	77	124
DH452105	10.5		.4134	12	71	118	DH452126	12.6		.4961	14	77	124
DH452106	10.6		.4173	12	71	118	DH452032F	12.7	1/2	.5000	14	77	124
DH452107	10.7		.4212	12	71	118	DH452128	12.8		.5039	14	77	124
DH452027F	10.716	27/64	.4219	12	71	118	DH452129	12.9		.5079	14	77	124
DH452108	10.8		.4252	12	71	118	DH452130	13.0		.5118	14	77	124
DH452109	10.9		.4291	12	71	118	DH452131	13.1		.5157	14	77	124
DH452110	11.0		.4330	12	71	118	DH452132	13.2		.5197	14	77	124
DH452111	11.1		.4370	12	71	118	DH452133	13.3		.5236	14	77	124

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : Excellent ○ : Good

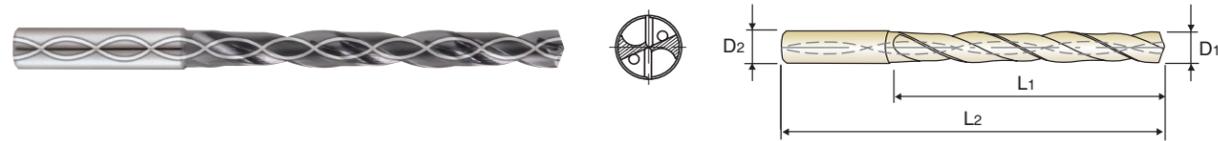
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	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 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	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

TiAIN-COATED SOLID CARBIDE DREAM DRILLS INOX with Coolant Holes (5XD)

DH452 SERIES

- ▶ Special flute shape and geometry suitable for machining stainless steel
- ▶ Excellent chip evacuation from better surface treatment
- ▶ Point R-thinning achieves superior centering and chip curling
- ▶ TiAIN coating for better surface finishes and longer tool life



LONG 5 x D

EDP No.	Drill Diameter			Shank Diameter D2	Flute Length L1	Overall Length L2	EDP No.	Drill Diameter			Shank Diameter D2	Flute Length L1	Overall Length L2
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
TiAIN	D1			D2	L1	L2	TiAIN	D1			D2	L1	L2
DH452134	13.4		.5276	14	77	124	DH452040F	15.875	5/8	.6250	16	83	133
DH452135	13.5		.5314	14	77	124	DH452159	15.9		.6260	16	83	133
DH452136	13.6		.5354	14	77	124	DH452160	16.0		.6299	16	83	133
DH452137	13.7		.5394	14	77	124	DH452161	16.1		.6339	18	93	143
DH452138	13.8		.5433	14	77	124	DH452162	16.2		.6378	18	93	143
DH452139	13.9		.5472	14	77	124	DH452163	16.3		.6417	18	93	143
DH452140	14.0		.5512	14	77	124	DH452164	16.4		.6457	18	93	143
DH452141	14.1		.5551	16	83	133	DH452165	16.5		.6495	18	93	143
DH452142	14.2		.5591	16	83	133	DH452166	16.6		.6535	18	93	143
DH452036F	14.288	9/16	.5625	16	83	133	DH452167	16.7		.6575	18	93	143
DH452143	14.3		.5630	16	83	133	DH452168	16.8		.6614	18	93	143
DH452144	14.4		.5669	16	83	133	DH452169	16.9		.6654	18	93	143
DH452145	14.5		.5708	16	83	133	DH452170	17.0		.6692	18	93	143
DH452146	14.6		.5748	16	83	133	DH452171	17.1		.6732	18	93	143
DH452147	14.7		.5787	16	83	133	DH452172	17.2		.6772	18	93	143
DH452148	14.8		.5827	16	83	133	DH452173	17.3		.6811	18	93	143
DH452149	14.9		.5866	16	83	133	DH452174	17.4		.6850	18	93	143
DH452150	15.0		.5905	16	83	133	DH452175	17.5		.6889	18	93	143
DH452151	15.1		.5945	16	83	133	DH452176	17.6		.6929	18	93	143
DH452152	15.2		.5984	16	83	133	DH452177	17.7		.6968	18	93	143
DH452153	15.3		.6024	16	83	133	DH452178	17.8		.7008	18	93	143
DH452154	15.4		.6063	16	83	133	DH452179	17.9		.7047	18	93	143
DH452155	15.5		.6102	16	83	133	DH452180	18.0		.7087	18	93	143
DH452156	15.6		.6142	16	83	133	DH452181	18.1		.7126	20	101	153
DH452157	15.7		.6181	16	83	133	DH452182	18.2		.7165	20	101	151
DH452158	15.8		.6220	16	83	133	DH452183	18.3		.7205	20	101	151

▶ 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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	19	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	◎	◎	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

TiAIN-COATED SOLID CARBIDE DREAM DRILLS INOX with Coolant Holes (5XD)

DH452 SERIES

- ▶ Special flute shape and geometry suitable for machining stainless steel
- ▶ Excellent chip evacuation from better surface treatment
- ▶ Point R-thinning achieves superior centering and chip curling
- ▶ TiAIN coating for better surface finishes and longer tool life



LONG 5 x D

EDP No.	Drill Diameter			Shank Diameter D2	Flute Length L1	Overall Length L2	EDP No.	Drill Diameter			Shank Diameter D2	Flute Length L1	Overall Length L2
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
TiAIN	D1			D2	L1	L2	TiAIN	D1			D2	L1	L2
DH452184	18.4		.7244	20	101	153	DH452048F	19.050	3/4	.7500	20	101	153
DH452185	18.5		.7283	20	101	153	DH452191	19.1		.7520	20	101	151
DH452186	18.6		.7323	20	101	151	DH452192	19.2		.7559	20	101	151
DH452187	18.7		.7362	20	101	153	DH452193	19.3		.7598	20	101	151
DH452188	18.8		.7402	20	101	153	DH452194	19.4		.7638	20	101	151
DH452189	18.9		.7441	20	101	153	DH452195	19.5		.7676	20	101	153
DH452190	19.0		.7480	20	101	153	DH452196	19.6		.7717	20	101	151
DH452191	19.1		.7520	20	101	151	DH452197	19.7		.7756	20	101	151
DH452192	19.2		.7559	20	101	151	DH452198	19.8		.7795	20	101	153
DH452193	19.3		.7598	20	101	151	DH452199	19.9		.7835	20	101	151
DH452194	19.4		.7638	20	101	151	DH452200	20.0		.7874	20	101	153
DH452195	19.5		.7676	20	101	153							
DH452196	19.6		.7717	20	101	151							
DH452197	19.7		.7756	20	101	151							
DH452198	19.8		.7795	20	101	153							
DH452199	19.9		.7835	20	101	151							
DH452200	20.0		.7874	20	101	153							

▶ Other shank types are available on your request.

◎ : Excellent ○ : Good

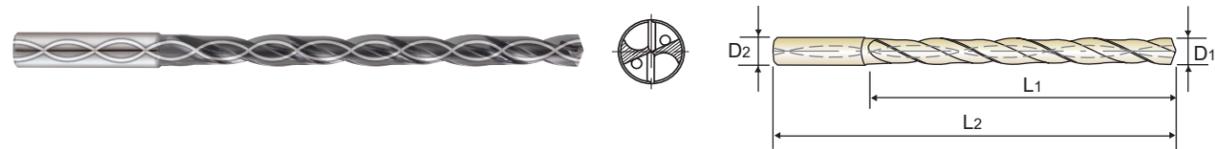
ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	19	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	◎	◎	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
INOX with Coolant Holes (8XD)

NEW SIZES **DH453** SERIES

- Special flute shape and geometry suitable for machining stainless steel
- Excellent chip evacuation from better surface treatment
- Point R-thinning achieves superior centering and chip curling



EXTRA LONG
8 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
TiAIN	D1			D2	L1	L2	TiAIN	D1			D2	L1	L2
* DH453020	2.0			4	25	66	DH453221G	4.038	#21	.1590	6	43	81
* DH453021	2.1			4	25	66	DH453041	4.1		.1614	6	43	81
* DH453022	2.2			4	25	66	DH453042	4.2		.1654	6	43	81
* DH453023	2.3			4	25	66	DH453043	4.3		.1693	6	43	81
* DH453006F	2.381	3/32	.0938	4	30	66	DH453011F	4.366	11/64	.1719	6	43	81
* DH453024	2.4			4	30	66	DH453044	4.4		.1732	6	43	81
* DH453025	2.5			4	30	66	DH453045	4.5		.1772	6	43	81
* DH453026	2.6			4	30	66	DH453046	4.6		.1811	6	43	81
* DH453027	2.7			4	30	66	DH453047	4.7		.1850	6	43	81
* DH453007F	2.778	7/64	.1094	4	30	66	DH453012F	4.763	3/16	.1875	6	57	95
* DH453028	2.8			4	30	66	DH453048	4.8		.1890	6	57	95
* DH453029	2.9			4	30	66	DH453049	4.9		.1929	6	57	95
DH453030	3.0		.1181	6	34	72	DH453050	5.0		.1969	6	57	95
DH453031	3.1		.1220	6	34	72	DH453051	5.1		.2008	6	57	95
DH453008F	3.175	1/8	.1250	6	34	72	DH453013F	5.159	13/64	.2031	6	57	95
DH453032	3.2		.1260	6	34	72	DH453052	5.2		.2047	6	57	95
DH453033	3.3		.1299	6	34	72	DH453053	5.3		.2087	6	57	95
DH453034	3.4		.1339	6	34	72	DH453054	5.4		.2126	6	57	95
DH453229G	3.454	#29	.1360	6	34	72	DH453055	5.5		.2165	6	57	95
DH453035	3.5		.1378	6	34	72	DH453014F	5.556	7/32	.2188	6	57	95
DH453009F	3.572	9/64	.1406	6	34	72	DH453056	5.6		.2205	6	57	95
DH453036	3.6		.1417	6	34	72	DH453057	5.7		.2244	6	57	95
DH453037	3.7		.1457	6	34	72	DH453058	5.8		.2283	6	57	95
DH453038	3.8		.1496	6	43	81	DH453059	5.9		.2323	6	57	95
DH453039	3.9		.1535	6	43	81	DH453015F	5.953	15/64	.2344	6	57	95
DH453010F	3.969	5/32	.1563	6	43	81	DH453060	6.0		.2362	6	57	95
DH453040	4.0		.1575	6	43	81	DH453061	6.1		.2402	8	76	114

► Other shank types are available on your request.

► NEXT PAGE

◎ : Excellent ○ : Good

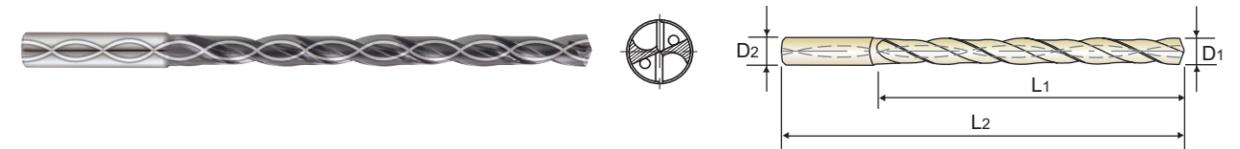
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	23	23	10	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	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	400 Rm	1050 Rm	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	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
INOX with Coolant Holes (8XD)

NEW SIZES **DH453** SERIES

- Special flute shape and geometry suitable for machining stainless steel
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- Point R-thinning achieves superior centering and chip curling



EXTRA LONG
8 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
TiAIN	D1			D2	L1	L2	TiAIN	D1			D2	L1	L2
DH453062	6.2		.2441	8	76	114	DH453082	8.2		.3228	10	95	142
DH453063	6.3		.2480	8	76	114	DH453083	8.3		.3268	10	95	142
DH453016F	6.350	1/4	.2500	8	76	114	DH453021F	8.334	21/64	.3281	10	95	142
DH453064	6.4		.2520	8	76	114	DH453084	8.4		.3307	10	95	142
DH453065	6.5		.2559	8	76	114	DH453117L	8.432	Q	.3320	10	95	142
DH453106L	6.527	F	.2570	8	76	114	DH453085	8.5		.3346	10	95	142
DH453066	6.6		.2598	8	76	114	DH453086	8.6		.3386	10	95	142
DH453067	6.7		.2638	8	76	114	DH453087	8.7		.3425	10	95	142
DH453017F	6.747	17/64	.2656	8	76	114	DH453022F	8.731	11/32	.3438	10	95	142
DH453068	6.8		.2677	8	76	114	DH453088	8.8		.3465	10	95	142
DH453069	6.9		.2717	8	76	114	DH453089	8.9		.3504	10	95	142
DH453009L	6.909	I	.2720	8	76	114	DH453090	9.0		.3543	10	95	142
DH453070	7.0		.2756	8	76	114	DH453091	9.1		.3583	10	95	142
DH453071	7.1		.2795	8	76	114	DH453023F	9.128	23/64	.3594	10	95	142
DH453018F	7.144	9/32	.2813	8	76	114	DH453092	9.2		.3622	10	95	142
DH453072	7.2		.2835	8	76	114	DH453093	9.3		.3661	10	95	142
DH453073	7.3		.2874	8	76	114	DH453121L	9.347	U	.3680	10	95	142
DH453074	7.4		.2913	8	76	114	DH453094	9.4		.3701	10	95	142
DH453075	7.5		.2953	8	76	114	DH453095	9.5		.3740	10	95	142
DH453019F	7.541	19/64	.2969	8	76	114	DH453024F	9.525	3/8	.3750	10	95	142
DH453076	7.6		.2992	8	76	114	DH453096	9.6		.3780	10	95	142
DH453077	7.7		.3031	8	76	114	DH453097	9.7		.3819	10	95	142
DH453078	7.8		.3071	8	76	114	DH453098	9.8		.3858	10	95	142
DH453079	7.9		.3110	8	76	114	DH453099	9.9		.3898	10	95	142
DH453020F	7.938	5/16	.3125	8	76	114	DH453025F	9.922	25/64	.3906	10	95	142
DH453080	8.0		.3150	8	76	114	DH453100	10.0		.3937	10	95	142
DH453081	8.1		.3189	10	95	142	DH453101	10.1		.3976	12	114	162

► 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	
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	38	10	29	32	38	45	15	23	23	10	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
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36				

TiAIN-COATED SOLID CARBIDE DREAM DRILLS INOX with Coolant Holes (8XD)

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EXTRA LONG 8 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
TiAIN							TiAIN						
DH453102	10.2		.4016	12	114	162	DH453031F	12.303	31/64	.4844	14	133	178
DH453103	10.3		.4055	12	114	162	DH453124	12.4		.4882	14	133	178
DH453026F	10.319	13/32	.4063	12	114	162	DH453125	12.5		.4921	14	133	178
DH453104	10.4		.4094	12	114	162	DH453126	12.6		.4961	14	133	178
DH453105	10.5		.4134	12	114	162	DH453032F	12.7	1/2	.5000	14	133	178
DH453106	10.6		.4173	12	114	162	DH453128	12.8		.5039	14	133	178
DH453107	10.7		.4212	12	114	162	DH453129	12.9		.5079	14	133	178
DH453027F	10.716	27/64	.4219	12	114	162	DH453130	13.0		.5118	14	133	178
DH453108	10.8		.4252	12	114	162	DH453033F	13.097	33/64	.5156	14	133	178
DH453109	10.9		.4291	12	114	162	DH453131	13.1		.5157	14	133	178
DH453110	11.0		.4330	12	114	162	DH453132	13.2		.5197	14	133	178
DH453111	11.1		.4370	12	114	162	DH453133	13.3		.5236	14	133	178
DH453028F	11.113	7/16	.4375	12	114	162	DH453134	13.4		.5276	14	133	178
DH453112	11.2		.4409	12	114	162	DH453135	13.5		.5314	14	133	178
DH453113	11.3		.4448	12	114	162	DH453136	13.6		.5354	14	133	178
DH453114	11.4		.4488	12	114	162	DH453137	13.7		.5394	14	133	178
DH453115	11.5		.4527	12	114	162	DH453138	13.8		.5433	14	133	178
DH453029F	11.509	29/64	.4531	12	114	162	DH453139	13.9		.5472	14	133	178
DH453116	11.6		.4566	12	114	162	DH453140	14.0		.5512	14	133	178
DH453117	11.7		.4606	12	114	162	DH453141	14.1		.5551	16	152	203
DH453118	11.8		.4645	12	114	162	DH453142	14.2		.5591	16	152	203
DH453119	11.9		.4685	12	114	162	DH453036F	14.288	9/16	.5625	16	152	203
DH453030F	11.906	15/32	.4688	12	114	162	DH453143	14.3		.5630	16	152	203
DH453120	12.0		.4724	12	114	162	DH453144	14.4		.5669	16	152	203
DH453121	12.1		.4764	14	133	178	DH453145	14.5		.5709	16	152	203
DH453122	12.2		.4803	14	133	178	DH453146	14.6		.5748	16	152	203
DH453123	12.3		.4843	14	133	178	DH453147	14.7		.5787	16	152	203

► Other shank types are available on your request.

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◎ : Excellent ○ : Good

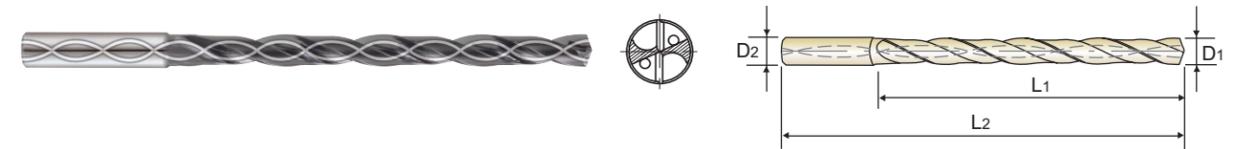
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	35	15	23	10	10	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	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	400 Rm	1050 Rm	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	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

TiAIN-COATED SOLID CARBIDE DREAM DRILLS INOX with Coolant Holes (8XD)

NEW SIZES DH453 SERIES

- Special flute shape and geometry suitable for machining stainless steel
- Excellent chip evacuation from better surface treatment
- Point R-thinning achieves superior centering and chip curling



EXTRA LONG 8 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
TiAIN							TiAIN						
DH453148	14.8		.5827	16	152	203	DH453174	17.4		.6850	18	171	222
DH453149	14.9		.5866	16	152	203	DH453175	17.5		.6890	18	171	222
DH453150	15.0		.5905	16	152	203	DH453176	17.6		.6929	18	171	222
DH453151	15.1		.5945	16	152	203	DH453177	17.7		.6968	18	171	222
DH453152	15.2		.5984	16	152	203	DH453178	17.8		.7008	18	171	222
DH453153	15.3		.6024	16	152	203	DH453179	17.9		.7047	18	171	222
DH453154	15.4		.6063	16	152	203	DH453180	18.0		.7087	18	171	222
DH453155	15.5		.6102	16	152	203	DH453181	18.1		.7126	20	190	243
DH453156	15.6		.6142	16	152	203	DH453182	18.2		.7165	20	190	243
DH453157	15.7		.6181	16	152	203	DH453183	18.3		.7205	20	190	243
DH453158	15.8		.6220	16	152	203	DH453184	18.4		.7244	20	190	243
DH453040F	15.875	5/8	.6250	16	152	203	DH453185	18.5		.7283	20	190	243
DH453159	15.9		.6260	16	152	203	DH453186	18.6		.7323	20	190	243
DH453160	16.0		.6299	16	152	203	DH453187	18.7		.7362	20	190	243
DH453161	16.1		.6339	18	171	222	DH453188	18.8		.7402	20	190	243
DH453162	16.2		.6378	18	171	222	DH453189	18.9		.7441	20	190	243
DH453163	16.3		.6417	18	171	222	DH453190	19.0		.7480	20	190	243
DH453164	16.4		.6457	18	171	222	DH453048F	19.050	3/4	.7500	20	190	243
DH453165	16.5		.6496	18	171	222	DH453191	19.1		.7520	20	190	243
DH453166	16.6		.6535	18	171	222	DH453192	19.2		.7559	20	190	243
DH453167	16.7		.6575	18	171	222	DH453193	19.3		.7598	20	190	243
DH453168	16.8		.6614	18	171	222	DH453194	19.4		.7638	20	190	243
DH453169	16.9		.6654	18	171	222	DH453195	19.5		.7677	20	190	243
DH453170	17.0		.6693	18	171	222	DH453196	19.6		.7717	20	190	243
DH453171	17.1		.6732	18	171	222	DH453197	19.7		.7756	20	190	243
DH453172	17.2		.6772	18	171	222	DH453198	19.8		.7795	20	190	243
DH453173	17.3		.6811	18	171	222	DH453199	19.9		.7835	20	190	243
							DH453200	20.0		.7874	20	190	243

► Other shank types are available on your request.

◎ : 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
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	38	10	29	32	38	35	15	23	10	10	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								

DH463, DH714, DH464, DH715, DH451, DH452, DH453 SERIES

with COOLANT HOLES

ISO	VDI 3323	Material Description	SFM	Drill Diameter			SFM	Drill Diameter						
				METRIC	1.0	2.0		METRIC	3.0	-	4.0	-	5.0	
				FRACTIONAL	-	-		FRACTIONAL	-	1/8	-	3/16	-	-
				DECIMAL	.0394	.0787		DECIMAL	.1181	.1250	.1575	.1875	.1969	-
P	2	Non-alloy steel	230	RPM	22280	11140	329	RPM	10610	7960	6370			
				FEED	.0008-.0016	.0016-.0024		FEED	.0016-.0039	.0024-.0047	.0047-.0071			
	3	Non-alloy steel	230	RPM	22280	11140	329	RPM	10610	7960	6370			
				FEED	.0008-.0016	.0016-.0024		FEED	.0016-.0039	.0024-.0047	.0047-.0071			
	6	Low alloy steel	230	RPM	22280	11140	329	RPM	10610	7960	6370			
				FEED	.0008-.0016	.0016-.0024		FEED	.0016-.0039	.0024-.0047	.0047-.0071			
7	Low alloy steel	160	RPM	15920	7960	230	RPM	7430	5570	4460				
			FEED	.0008-.0016	.0016-.0024		FEED	.0016-.0039	.0024-.0047	.0047-.0071				
M	12	Stainless steel	130	RPM	12730	6370	165	RPM	5310	3980	3180			
				FEED	.0008-.0016	.0008-.0016		FEED	.0012-.002	.002-.0035	.0028-.0043			
	13	Stainless steel	80	RPM	7960	3980	132	RPM	4240	3180	2550			
				FEED	.0008-.0016	.0008-.0016		FEED	.0012-.002	.002-.0035	.0028-.0043			
	14	Stainless steel	150	RPM	14320	7160	198	RPM	6370	4770	3820			
				FEED	.0008-.0016	.0008-.0016		FEED	.0016-.0024	.0024-.0039	.0031-.0047			
N	21	Aluminum-wrought alloy	430	RPM	41380	20690	659	RPM	21220	15920	12730			
				FEED	.0016-.0039	.0031-.0055		FEED	.0055-.0079	.0075-.0098	.0079-.0102			
	22	Aluminum-wrought alloy	430	RPM	41380	20690	659	RPM	21220	15920	12730			
				FEED	.0016-.0039	.0031-.0055		FEED	.0055-.0079	.0075-.0098	.0079-.0102			
	23	Aluminum-wrought alloy	360	RPM	35010	17510	593	RPM	19100	14320	11460			
				FEED	.0016-.0039	.0031-.0055		FEED	.0055-.0079	.0075-.0098	.0079-.0102			
24	Aluminum-wrought alloy	360	RPM	35010	17510	593	RPM	19100	14320	11460				
			FEED	.0016-.0039	.0031-.0055		FEED	.0055-.0079	.0075-.0098	.0079-.0102				
25	Aluminum-wrought alloy	300	RPM	28650	14320	494	RPM	15920	11940	9550				
			FEED	.0016-.0031	.0024-.0039		FEED	.0047-.0071	.0063-.0087	.0067-.0091				
S	37	Aluminum-wrought alloy	80	RPM	7960	3980	132	RPM	4240	3180	2550			
				FEED	.0004-.0012	.0004-.0012		FEED	.0008-.0016	.0016-.0031	.0024-.0039			

SFM = ft/min.
RPM = rev./min.
FEED = inch/rev.

Drill Diameter														
6.0	-	-	8.0	-	10.0	12.0	-	14.0	-	-	16.0	18.0	-	20.0
-	1/4	5/16	-	3/8	-	-	1/2	-	9/16	5/8	-	-	3/4	-
.2362	.2500	.3125	.3150	.3750	.3937	.4724	.5000	.5512	.5625	.6250	.6299	.7087	.7500	.7874
5310	3980	3180	2650	2510	2270	1990	1770	1680	1590					
.0055-.0079	.0063-.0087	.0079-.0102	.0071-.011	.0071-.011	.0079-.0118	.0087-.0126	.0102-.0142	.0102-.0142	.011-.015					
5310	3980	3180	2650	2510	2270	1990	1770	1680	1590					
.0055-.0079	.0063-.0087	.0079-.0102	.0071-.011	.0071-.011	.0079-.0118	.0087-.0126	.0102-.0142	.0102-.0142	.011-.015					
5310	3980	3180	2650	2510	2270	1990	1770	1680	1590					
.0055-.0079	.0063-.0087	.0079-.0102	.0071-.011	.0071-.011	.0079-.0118	.0087-.0126	.0102-.0142	.0102-.0142	.011-.015					
3710	2790	2230	1860	1760	1590	1390	1240	1170	1110					
.0055-.0079	.0063-.0087	.0079-.0102	.0071-.011	.0071-.011	.0079-.0118	.0087-.0126	.0102-.0142	.0102-.0142	.011-.015					
2650	1990	1590	1330	1260	1140	990	880	840	800					
.0035-.0051	.0035-.0051	.0039-.0059	.0043-.0063	.0043-.0063	.0047-.0067	.0051-.0071	.0055-.0075	.0055-.0075	.0059-.0079					
2120	1590	1270	1060	1010	910	800	710	670	640					
.0035-.0051	.0035-.0051	.0039-.0059	.0043-.0063	.0043-.0063	.0047-.0067	.0051-.0071	.0055-.0075	.0055-.0075	.0059-.0079					
3180	2390	1910	1590	1510	1360	1190	1060	1010	950					
.0039-.0055	.0039-.0055	.0043-.0063	.0047-.0067	.0047-.0067	.0051-.0071	.0055-.0075	.0059-.0079	.0059-.0079	.0063-.0083					
10610	7960	6370	5310	5030	4550	3980	3540	3360	3180					
.0087-.011	.0094-.0118	.0114-.0138	.0114-.0138	.0114-.0138	.0118-.0157	.0118-.0157	.013-.0169	.013-.0169	.0138-.0177					
10610	7960	6370	5310	5030	4550	3980	3540	3360	3180					
.0087-.011	.0094-.0118	.0114-.0138	.0114-.0138	.0114-.0138	.0118-.0157	.0118-.0157	.013-.0169	.013-.0169	.0138-.0177					
9550	7160	5730	4770	4530	4090	3580	3180	3020	2860					
.0087-.011	.0094-.0118	.0114-.0138	.0114-.0138	.0114-.0138	.0118-.0157	.0118-.0157	.013-.0169	.013-.0169	.0138-.0177					
9550	7160	5730	4770	4530	4090	3580	3180	3020	2860					
.0087-.011	.0094-.0118	.0114-.0138	.0114-.0138	.0114-.0138	.0118-.0157	.0118-.0157	.013-.0169	.013-.0169	.0138-.0177					
7960	5970	4770	3980	3770	3410	2980	2650	2520	2390					
.0075-.0098	.0087-.011	.0094-.0118	.0094-.0118	.0094-.0118	.0098-.0138	.0098-.0138	.011-.015	.011-.015	.0118-.0157					
2120	1590	1270	1060	1010	910	800	710	670	640					
.0031-.0047	.0031-.0047	.0035-.0055	.0039-.0059	.0039-.0059	.0043-.0063	.0047-.0067	.0051-.0071	.0051-.0071	.0055-.0075					

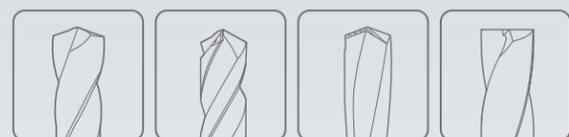
► Recommend to reduce the feed rate as following
Feed 100% : DH463/DH714/DH451(3xD), DH464/DH714/DH452(5xD)
Feed 85% : DH453(8xD)



Leading Through Innovation



Global Cutting Tool Leader **YG-1**



SOLID CARBIDE

DREAM DRILLS

**DREAM DRILLS
ALU**

- For Aluminum and Aluminum Alloys

DREAM DRILLS ALU



Design that optimized flute shape and geometry suitable for Aluminum, Aluminum alloy.



Optimized point thinning to prevent any chip-clogging from chip welding.

Polished flutes improve chip control and evacuation.

The Drilling of High Speed is possible while maintaining the excellent surface roughness of workpiece.

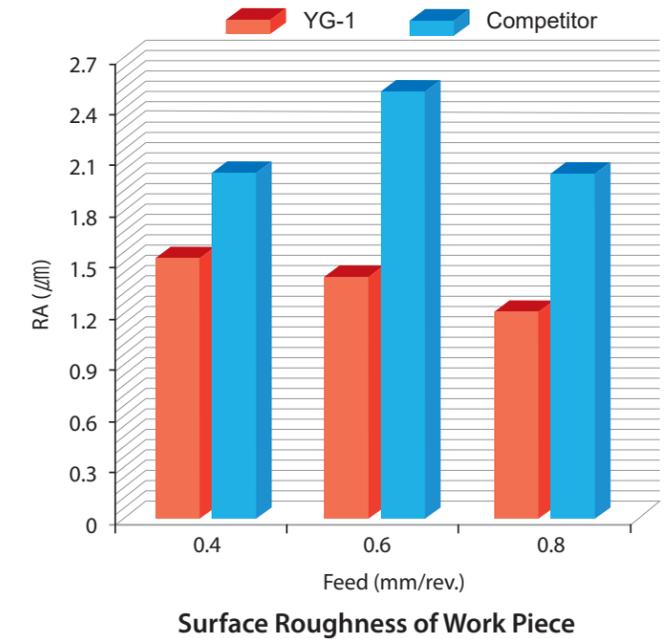
Ø6.0 & Ø10.0 TEST, Aluminum(6061)

CUTTING CONDITION	DREAM DRILL-ALU		COMPETITOR A	
	Roundness	Straightness	Roundness	Straightness
SIZE Ø 6.0				
Drilling Holes 1200 Holes				
SIZE Ø10.0				
Drilling Holes 820 Holes				

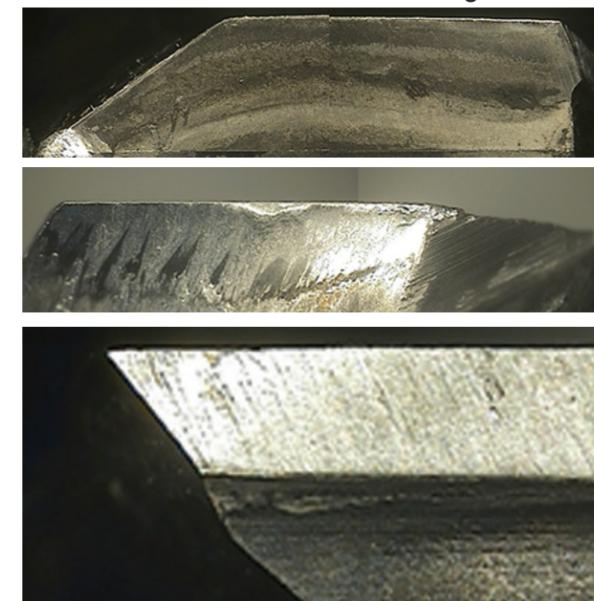
CASE STUDY

► SOLID CARBIDE DREAM DRILLS - ALU with Coolant Holes

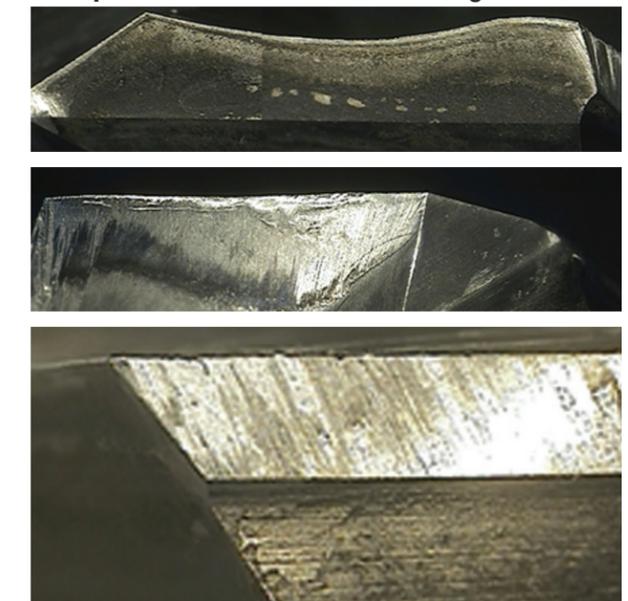
CUTTING CONDITION	
Tool	D5433100 (DREAM DRILLS-ALU)
Size	Ø10 × Ø10 × 61 × 103
Work Material	•AISI : 6061 •JIS : A6061 •DIN : AlMgSiCu (HB75)
RPM	6,367 rev./min.
Feed	.0157 ~ .0315 inch/rev.
SFM	656 ft/min.
Drilling Depth	1.77" (4.5xD)
Coolant	Wet Cut
Machine	Machining Center



YG-1 Total Drilling 820 Holes



Competitor A Total Drilling 820 Holes



DLC-COATED SOLID CARBIDE DREAM DRILLS
ALU with Coolant Holes (5XD)

DGE466 SERIES
DGE718 SERIES

- ▶ Optimized thinning for Aluminum & Aluminum Alloys to prevent any clogging from chip welding
- ▶ Wider and deeper flute gullets for maximum chip removal
- ▶ Special geometry and smooth coating reduces built up edge and improves finishes
- ▶ Tolerance : Dia. Tolerance ØD1 : See page 141
Shank Tolerance ØD2: -.0001 -.0005



LONG
5 x D

EDP No.	Drill Diameter		Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter		Shank Diameter	Flute Length	Overall Length
	Fractional	Decimal					Fractional	Decimal			
DLC	D1		D2	L1	L2	DLC	D1		D2	L1	L2
DGE466013	13/64	.2031	15/64	1-3/4	3-15/16	DGE466221	U	.3680	25/64	3	5-23/64
DGE718013	13/64	.2031	1/4	1-3/4	3-15/16	DGE718024	3/8	.3750	3/8	3-5/32	5-23/64
DGE466014	7/32	.2188	15/64	1-57/64	3-15/16	DGE466024	3/8	.3750	25/64	3-5/32	5-23/64
DGE718014	7/32	.2188	1/4	1-57/64	3-15/16	DGE466025	25/64	.3906	25/64	3-5/32	5-23/64
DGE466015	15/64	.2344	15/64	1-57/64	3-15/16	DGE718025	25/64	.3906	7/16	3-5/32	5-23/64
DGE718015	15/64	.2344	1/4	1-57/64	3-15/16	DGE466026	13/32	.4062	27/64	3-5/16	5-7/8
DGE718016	1/4	.2500	1/4	2-3/64	4-19/64	DGE718026	13/32	.4062	7/16	3-5/16	5-7/8
DGE466016	1/4	.2500	17/64	2-3/64	4-19/64	DGE466027	27/64	.4219	27/64	3-15/32	5-7/8
DGE466206	F	.2570	17/64	2-13/64	4-19/64	DGE718027	27/64	.4219	7/16	3-15/32	5-7/8
DGE718206	F	.2570	5/16	2-13/64	4-19/64	DGE718028	7/16	.4375	7/16	3-5/8	6-7/32
DGE466017	17/64	.2656	17/64	2-13/64	4-19/64	DGE466028	7/16	.4375	15/32	3-5/8	6-7/32
DGE718017	17/64	.2656	5/16	2-13/64	4-19/64	DGE466029	29/64	.4531	15/32	3-25/32	6-7/32
DGE466209	I	.2720	.272	2-13/64	4-19/64	DGE718029	29/64	.4531	1/2	3-25/32	6-7/32
DGE718209	I	.2720	5/16	2-13/64	4-19/64	DGE466030	15/32	.4688	15/32	3-25/32	6-7/32
DGE466018	9/32	.2812	5/16	2-23/64	4-41/64	DGE718030	15/32	.4688	1/2	3-25/32	6-7/32
DGE466019	19/64	.2969	5/16	2-33/64	4-41/64	DGE466031	31/64	.4844	1/2	3-15/16	6-37/64
DGE466020	5/16	.3125	5/16	2-33/64	4-41/64	DGE466032	1/2	.5000	1/2	4-3/32	6-37/64
DGE466021	21/64	.3281	11/32	2-43/64	5						
DGE718021	21/64	.3281	3/8	2-43/64	5						
DGE466217	Q	.3320	11/32	2-43/64	5						
DGE718217	Q	.3320	3/8	2-43/64	5						
DGE466022	11/32	.3438	11/32	2-27/32	5						
DGE718022	11/32	.3438	3/8	2-27/32	5						
DGE718023	23/64	.3594	3/8	3	5-23/64						
DGE466023	23/64	.3594	25/64	3	5-23/64						
DGE718221	U	.3680	3/8	3	5-23/64						

▶ Other shank types are available on your request.

◎ : 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		
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	30	10	29	32	38	15	35	15	23	10	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											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	◎	◎	◎	◎																	

DLC-COATED SOLID CARBIDE DREAM DRILLS
ALU with Coolant Holes (5XD)

DGE433 SERIES

- ▶ Optimized thinning for Aluminum & Aluminum Alloys to prevent any clogging from chip welding
- ▶ Wider and deeper flute gullets for maximum chip removal
- ▶ Special geometry and smooth coating reduces built up edge and improves finishes



LONG
5 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
DLC	D1			D2	L1	L2	DLC	D1			D2	L1	L2
DGE433030	3.0		.1181	6	28	66	DGE433051	5.1		.2008	6	44	82
DGE433031	3.1		.1220	6	28	66	DGE433013F	5.159	13/64	.2031	6	44	82
DGE433008F	3.175	1/8	.1250	6	28	66	DGE433052	5.2		.2047	6	44	82
DGE433032	3.2		.1260	6	28	66	DGE433053	5.3		.2087	6	44	82
DGE433033	3.3		.1299	6	28	66	DGE433054	5.4		.2126	6	44	82
DGE433034	3.4		.1339	6	28	66	DGE433055	5.5		.2165	6	44	82
DGE433035	3.5		.1378	6	28	66	DGE433014F	5.556	7/32	.2188	6	44	82
DGE433009F	3.572	9/64	.1406	6	28	66	DGE433056	5.6		.2205	6	44	82
DGE433036	3.6		.1417	6	28	66	DGE433057	5.7		.2244	6	44	82
DGE433037	3.7		.1457	6	28	66	DGE433058	5.8		.2283	6	44	82
DGE433038	3.8		.1496	6	36	74	DGE433059	5.9		.2323	6	44	82
DGE433039	3.9		.1535	6	36	74	DGE433015F	5.953	15/64	.2344	6	44	82
DGE433010F	3.969	5/32	.1563	6	36	74	DGE433060	6.0		.2362	6	44	82
DGE433040	4.0		.1575	6	36	74	DGE433061	6.1		.2402	8	53	91
DGE433041	4.1		.1614	6	36	74	DGE433062	6.2		.2441	8	53	91
DGE433042	4.2		.1654	6	36	74	DGE433063	6.3		.2480	8	53	91
DGE433043	4.3		.1693	6	36	74	DGE433016F	6.350	1/4	.2500	8	53	91
DGE433011F	4.366	11/64	.1719	6	36	74	DGE433064	6.4		.2520	8	53	91
DGE433044	4.4		.1732	6	36	74	DGE433065	6.5		.2559	8	53	91
DGE433045	4.5		.1772	6	36	74	DGE433006L	6.528	F	.2570	8	53	9
DGE433046	4.6		.1811	6	36	74	DGE433066	6.6		.2598	8	53	91
DGE433047	4.7		.1850	6	36	74	DGE433067	6.7		.2638	8	53	91
DGE433012F	4.763	3/16	.1875	6	36	74	DGE433017F	6.747	17/64	.2656	8	53	91
DGE433048	4.8		.1890	6	44	82	DGE433068	6.8		.2677	8	53	91
DGE433049	4.9		.1929	6	44	82	DGE433069	6.9		.2717	8	53	91
DGE433050	5.0		.1969	6	44	82	DGE433009L	6.909	I	.2720	8	53	91

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : 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		
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	30	10	29	32	38	15	35	15	23	10	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											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	◎	◎	◎	◎																	

DLC-COATED SOLID CARBIDE DREAM DRILLS
ALU with Coolant Holes (5XD)

DGE433 SERIES

- ▶ Optimized thinning for Aluminum & Aluminum Alloys to prevent any clogging from chip welding
- ▶ Wider and deeper flute gullets for maximum chip removal
- ▶ Special geometry and smooth coating reduces built up edge and improves finishes



LONG
5 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
DLC	D1			D2	L1	L2	DLC	D1			D2	L1	L2
DGE433070	7.0		.2756	8	53	91	DGE433090	9.0		.3543	10	61	103
DGE433071	7.1		.2795	8	53	91	DGE433091	9.1		.3583	10	61	103
DGE433018F	7.144	9/32	.2812	8	53	91	DGE433023F	9.128	23/64	.3594	10	61	103
DGE433072	7.2		.2835	8	53	91	DGE433092	9.2		.3622	10	61	103
DGE433073	7.3		.2874	8	53	91	DGE433093	9.3		.3661	10	61	103
DGE433074	7.4		.2913	8	53	91	DGE433021L	9.347	U	.3680	10	61	103
DGE433075	7.5		.2953	8	53	91	DGE433094	9.4		.3701	10	61	103
DGE433019F	7.541	19/64	.2969	8	53	91	DGE433095	9.5		.3740	10	61	103
DGE433076	7.6		.2992	8	53	91	DGE433024F	9.525	3/8	.3750	10	61	103
DGE433077	7.7		.3031	8	53	91	DGE433096	9.6		.3780	10	61	103
DGE433078	7.8		.3071	8	53	91	DGE433097	9.7		.3819	10	61	103
DGE433079	7.9		.3110	8	53	91	DGE433098	9.8		.3858	10	61	103
DGE433020F	7.938	5/16	.3125	8	53	91	DGE433099	9.9		.3898	10	61	103
DGE433080	8.0		.3150	8	53	91	DGE433025F	9.922	25/64	.3906	10	61	103
DGE433081	8.1		.3189	10	61	103	DGE433100	10.0		.3937	10	61	103
DGE433082	8.2		.3228	10	61	103	DGE433101	10.1		.3976	12	71	118
DGE433083	8.3		.3268	10	61	103	DGE433102	10.2		.4016	12	71	118
DGE433021F	8.334	21/64	.3281	10	61	103	DGE433103	10.3		.4055	12	71	118
DGE433084	8.4		.3307	10	61	103	DGE433026F	10.319	13/32	.4062	12	71	118
DGE433017L	8.433	Q	.3320	10	61	103	DGE433104	10.4		.4094	12	71	118
DGE433085	8.5		.3346	10	61	103	DGE433105	10.5		.4134	12	71	118
DGE433086	8.6		.3386	10	61	103	DGE433106	10.6		.4173	12	71	118
DGE433087	8.7		.3425	10	61	103	DGE433107	10.7		.4212	12	71	118
DGE433022F	8.731	11/32	.3438	10	61	103	DGE433027F	10.716	27/64	.4219	12	71	118
DGE433088	8.8		.3465	10	61	103	DGE433108	10.8		.4252	12	71	118
DGE433089	8.9		.3504	10	61	103	DGE433109	10.9		.4291	12	71	118

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : 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	
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	30	32	10	29	32	38	15	35	15	23	10	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											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	◎	◎	◎	◎																	

DLC-COATED SOLID CARBIDE DREAM DRILLS
ALU with Coolant Holes (5XD)

DGE433 SERIES

- ▶ Optimized thinning for Aluminum & Aluminum Alloys to prevent any clogging from chip welding
- ▶ Wider and deeper flute gullets for maximum chip removal
- ▶ Special geometry and smooth coating reduces built up edge and improves finishes



LONG
5 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
DLC	D1			D2	L1	L2	DLC	D1			D2	L1	L2
DGE433110	11.0		.4330	12	71	118	DGE433132	13.2		.5197	14	77	124
DGE433111	11.1		.4370	12	71	118	DGE433133	13.3		.5236	14	77	124
DGE433028F	11.113	7/16	.4375	12	71	118	DGE433134	13.4		.5276	14	77	124
DGE433112	11.2		.4409	12	71	118	DGE433135	13.5		.5314	14	77	124
DGE433113	11.3		.4448	12	71	118	DGE433136	13.6		.5354	14	77	124
DGE433114	11.4		.4488	12	71	118	DGE433137	13.7		.5394	14	77	124
DGE433115	11.5		.4527	12	71	118	DGE433138	13.8		.5433	14	77	124
DGE433029F	11.509	29/64	.4531	12	71	118	DGE433139	13.9		.5472	14	77	124
DGE433116	11.6		.4566	12	71	118	DGE433140	14.0		.5512	14	77	124
DGE433117	11.7		.4606	12	71	118	DGE433141	14.1		.5551	16	83	133
DGE433118	11.8		.4645	12	71	118	DGE433142	14.2		.5591	16	83	133
DGE433119	11.9		.4685	12	71	118	DGE433036F	14.288	9/16	.5625	16	83	133
DGE433030F	11.906	15/32	.4688	12	71	118	DGE433143	14.3		.5630	16	83	133
DGE433120	12.0		.4724	12	71	118	DGE433144	14.4		.5669	16	83	133
DGE433121	12.1		.4764	14	77	124	DGE433145	14.5		.5708	16	83	133
DGE433122	12.2		.4803	14	77	124	DGE433146	14.6		.5748	16	83	133
DGE433123	12.3		.4843	14	77	124	DGE433147	14.7		.5787	16	83	133
DGE433031F	12.303	31/64	.4844	14	77	124	DGE433148	14.8		.5827	16	83	133
DGE433124	12.4		.4882	14	77	124	DGE433149	14.9		.5866	16	83	133
DGE433125	12.5		.4921	14	77	124	DGE433150	15.0		.5905	16	83	133
DGE433126	12.6		.4961	14	77	124	DGE433151	15.1		.5945	16	83	133
DGE433032F	12.7	1/2	.5000	14	77	124	DGE433152	15.2		.5984	16	83	133
DGE433128	12.8		.5039	14	77	124	DGE433153	15.3		.6024	16	83	133
DGE433129	12.9		.5079	14	77	124	DGE433154	15.4		.6063	16	83	133
DGE433130	13.0		.5118	14	77	124	DGE433155	15.5		.6102	16	83	133
DGE433131	13.1		.5157	14	77	124	DGE433156	15.6		.6142	16	83	133

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : 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	
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	30	32	10	29	32	38	15	35	15	23	10	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											15	30									

**DLC-COATED SOLID CARBIDE DREAM DRILLS
ALU with Coolant Holes (5XD)**

DGE433 SERIES

- ▶ Optimized thinning for Aluminum & Aluminum Alloys to prevent any clogging from chip welding
- ▶ Wider and deeper flute gullets for maximum chip removal
- ▶ Special geometry and smooth coating reduces built up edge and improves finishes



LONG
5 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Fractional	Decimal					Metric	Fractional	Decimal			
DLC	D1			D2	L1	L2	DLC	D1			D2	L1	L2
DGE433157	15.7		.6181	16	83	133	DGE433182	18.2		.7165	20	101	153
DGE433158	15.8		.6220	16	83	133	DGE433183	18.3		.7205	20	101	153
DGE433040F	15.875	5/8	.6250	16	83	133	DGE433184	18.4		.7244	20	101	153
DGE433159	15.9		.6260	16	83	133	DGE433185	18.5		.7283	20	101	153
DGE433160	16.0		.6299	16	83	133	DGE433186	18.6		.7323	20	101	153
DGE433161	16.1		.6339	18	93	143	DGE433187	18.7		.7362	20	101	153
DGE433162	16.2		.6378	18	93	143	DGE433188	18.8		.7402	20	101	153
DGE433163	16.3		.6417	18	93	143	DGE433189	18.9		.7441	20	101	153
DGE433164	16.4		.6457	18	93	143	DGE433190	19.0		.7480	20	101	153
DGE433165	16.5		.6495	18	93	143	DGE433048F	19.050	3/4	.7500	20	101	153
DGE433166	16.6		.6535	18	93	143	DGE433191	19.1		.7520	20	101	153
DGE433167	16.7		.6575	18	93	143	DGE433192	19.2		.7559	20	101	153
DGE433168	16.8		.6614	18	93	143	DGE433193	19.3		.7598	20	101	153
DGE433169	16.9		.6654	18	93	143	DGE433194	19.4		.7638	20	101	153
DGE433170	17.0		.6692	18	93	143	DGE433195	19.5		.7676	20	101	153
DGE433171	17.1		.6732	18	93	143	DGE433196	19.6		.7717	20	101	153
DGE433172	17.2		.6772	18	93	143	DGE433197	19.7		.7756	20	101	153
DGE433173	17.3		.6811	18	93	143	DGE433198	19.8		.7795	20	101	153
DGE433174	17.4		.6850	18	93	143	DGE433199	19.9		.7835	20	101	153
DGE433175	17.5		.6889	18	93	143	DGE433200	20.0		.7874	20	101	153
DGE433176	17.6		.6929	18	93	143							
DGE433177	17.7		.6968	18	93	143							
DGE433178	17.8		.7008	18	93	143							
DGE433179	17.9		.7047	18	93	143							
DGE433180	18.0		.7087	18	93	143							
DGE433181	18.1		.7126	20	101	153							

▶ Other shank types are available on your request.

◎ : 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											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	◎	◎	◎	◎																	

RECOMMENDED CUTTING CONDITIONS

DGE466, DGE718, DGE433 SERIES with COOLANT HOLES

SFM = ft/min.
RPM = rev./min.
FEED = inch/rev.

ISO	VDI 3323	Material Description	SFM	Drill Diameter											
				METRIC	3.0	-	4.0	-	5.0	6.0	-	-	8.0	-	10.0
				FRACTIONAL	-	1/8	-	3/16	-	-	1/4	5/16	-	3/8	-
N	21	Aluminum-wrought alloy	658	RPM	21220	15920	12730	10610	7960	6370					
				FEED	.0047 - .0071	.0055 - .0087	.0059 - .0091	.0067 - .0098	.0083 - .011	.0094 - .0118					
			527	RPM	16980	12730	10190	8490	6370	5090					
				FEED	.0047 - .0071	.0055 - .0087	.0059 - .0091	.0067 - .0098	.0083 - .011	.0094 - .0118					
	23	Aluminum-cast, alloyed	494	RPM	15920	11940	9550	7960	5970	4770					
				FEED	.0059 - .0083	.0067 - .0098	.0075 - .0106	.0083 - .011	.0094 - .0122	.0114 - .0177					
			461	RPM	14850	11140	8910	7430	5570	4460					
				FEED	.0059 - .0083	.0067 - .0098	.0075 - .0106	.0083 - .011	.0094 - .0122	.0114 - .0177					

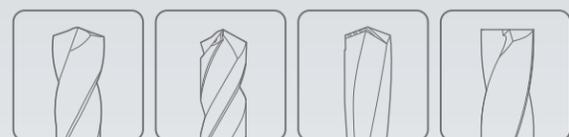
ISO	VDI 3323	Material Description	SFM	Drill Diameter									
				METRIC	12.0	-	14.0	-	-	16.0	18.0	-	20.0
				FRACTIONAL	-	1/2	-	9/16	5/8	-	-	3/4	-
N	21	Aluminum-wrought alloy	658	RPM	5310	5030	4550	3980	3540	3350	3180		
				FEED	.0094 - .0118	.0094 - .0118	.0098 - .0138	.0098 - .0138	.011 - .015	.011 - .015	.0118 - .0157		
			527	RPM	4240	4030	3640	3180	2830	2680	2550		
				FEED	.0094 - .0118	.0094 - .0118	.0098 - .0138	.0098 - .0138	.011 - .015	.011 - .015	.0118 - .0157		
	23	Aluminum-cast, alloyed	494	RPM	3980	3770	3410	2980	2650	2520	2390		
				FEED	.013 - .0217	.013 - .0217	.0138 - .0236	.0138 - .0236	.0154 - .0287	.0154 - .0287	.0154 - .0335		
			461	RPM	3710	3520	3180	2790	2480	2350	2230		
				FEED	.013 - .0217	.013 - .0217	.0138 - .0236	.0138 - .0236	.0154 - .0287	.0154 - .0287	.0154 - .0335		



Leading Through Innovation



Global Cutting Tool Leader **YG-1**



DREAM DRILLS



SOLID CARBIDE

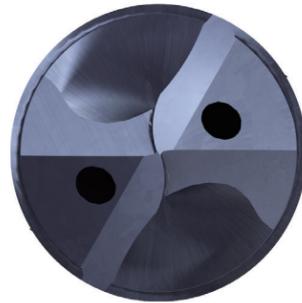
DREAM DRILLS MQL TYPE

- Minimum Quantity Lubrication
Drilling Deep Holes (10xD - 40xD)

DREAM DRILLS MQL TYPE

4-Facet point for good centering capability

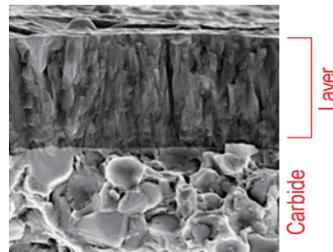
Polished flute for enhanced chip evacuation



Optimized special flutes are ideal for removing chips and for productive drilling



Upgraded TiAlN nano Layer Full Coating



Layer
Carbide

Compatible with the MQL (Minimum Quantity Lubrication) system.

- Reduction of Cooling Cost
- Reduce generation of dioxin for human [Eco-Friendly]

Compare with Gun drills

- Used on conventional machining center (MQL Drills)
- Higher productivity than conventional HSS deep hole drills and Gun drills

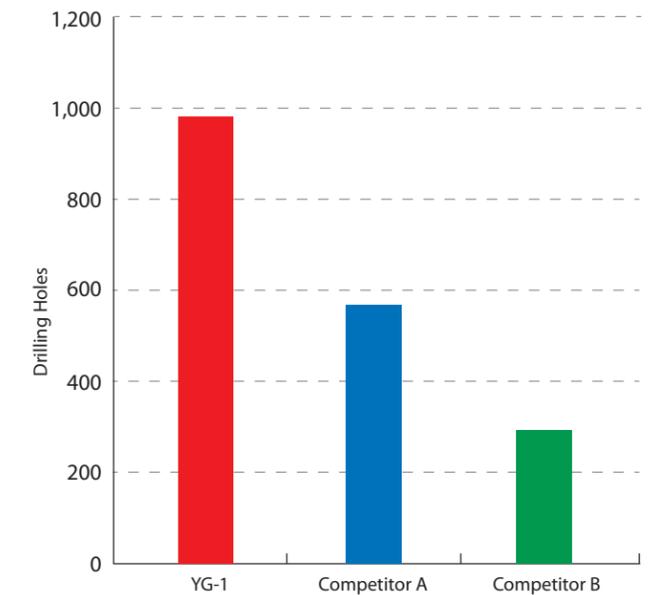
<p>Gun drill</p>  <p>Gun drilling Machine</p>	<p>Productivity ↑</p> <p>Up to 10 times Drilling Feedrate</p>	<p>MQL Drill</p>  <p>Vertical & Horizontal Machining Center</p>
<p>- Size Range : Ø2~Ø25</p> <p>- Drilling Depth : 25xD ~ over 100xD</p> <p>* Need Gun drilling machine</p>		<p>- Size Range : Ø3~Ø14</p> <p>- Drilling Depth : 10xD ~ 40xD</p> <p>* Need enough machine stroke on machining center</p>

CASE STUDY

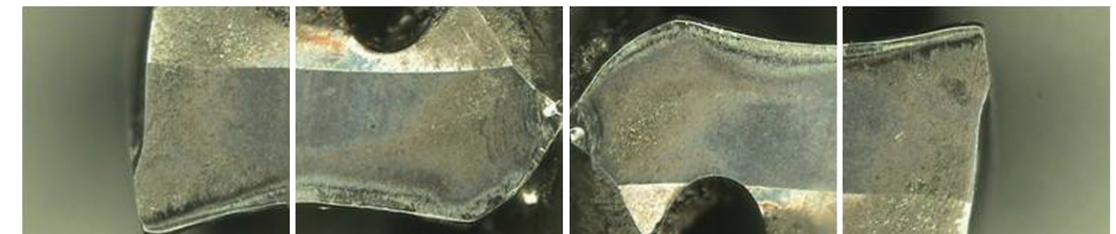
- Flute Shape and Point Shape allowing better chip evacuation in deep hole drilling
- Excellent Coating and Surface Treatment for better performance and chip evacuation

► SOLID CARBIDE DREAM DRILLS - MQL Type with Coolant Holes

CUTTING CONDITION	
Tool	DH520060 (DREAM DRILL - MQL TYPE, 20xD)
Size	Ø6 × Ø6 × 138 × 193
Work Material	• AISI : 1045 • JIS : S45C • DIN : C45 (HRc25)
RPM	3,528 rev./min.
Feed	.0075 inch/rev.
SFM	218 ft/min.
Drilling Depth	3.15"
Coolant	Wet Cut
Machine	Machining Center



YG-1



After Drilling 1,000 Holes

Competitor A

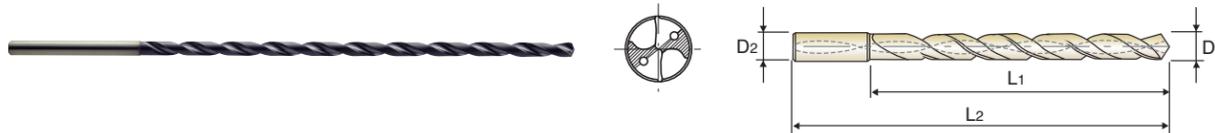


After Drilling 546 Holes

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
MQL with Coolant Holes (10XD)

DH510 SERIES

- ▶ 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)



EXTRA LONG

10 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Inch	Decimal					Metric	Inch	Decimal			
TiAIN							TiAIN						
DH510030	3.0		.1181	3	39	90	DH510055	5.5		.2165	6	72	127
DH510031	3.1		.1220	4	46	97	DH510056	5.6		.2205	6	78	133
DH510008F	3.175	1/8	.1250	4	46	97	DH510057	5.7		.2244	6	78	133
DH510032	3.2		.1260	4	46	97	DH510058	5.8		.2283	6	78	133
DH510033	3.3		.1299	4	46	97	DH510059	5.9		.2323	6	78	133
DH510034	3.4		.1339	4	46	97	DH510060	6.0		.2362	6	78	133
DH510035	3.5		.1378	4	46	97	DH510061	6.1		.2402	7	85	141
DH510036	3.6		.1417	4	52	103	DH510062	6.2		.2441	7	85	141
DH510037	3.7		.1457	4	52	103	DH510063	6.3		.2480	7	85	141
DH510038	3.8		.1496	4	52	103	DH510016F	6.350	1/4	.2500	7	85	141
DH510039	3.9		.1535	4	52	103	DH510064	6.4		.2520	7	85	141
DH510040	4.0		.1575	4	52	103	DH510065	6.5		.2559	7	85	141
DH510041	4.1		.1614	5	59	112	DH510206L	6.528	F	.2570	7	91	147
DH510042	4.2		.1654	5	59	112	DH510066	6.6		.2598	7	91	147
DH510043	4.3		.1693	5	59	112	DH510067	6.7		.2638	7	91	147
DH510044	4.4		.1732	5	59	112	DH510017F	6.746	17/64	.2656	7	91	147
DH510045	4.5		.1772	5	59	112	DH510068	6.8		.2677	7	91	147
DH510046	4.6		.1811	5	65	118	DH510069	6.9		.2717	7	91	147
DH510047	4.7		.1850	5	65	118	DH510209L	6.909	I	.2720	7	91	147
DH510048	4.8		.1890	5	65	118	DH510070	7.0		.2756	7	91	147
DH510049	4.9		.1929	5	65	118	DH510071	7.1		.2795	8	98	155
DH510050	5.0		.1969	5	65	118	DH510018F	7.142	9/32	.2812	8	98	155
DH510051	5.1		.2008	6	72	127	DH510072	7.2		.2835	8	98	155
DH510052	5.2		.2047	6	72	127	DH510073	7.3		.2874	8	98	155
DH510053	5.3		.2087	6	72	127	DH510074	7.4		.2913	8	98	155
DH510054	5.4		.2126	6	72	127	DH510075	7.5		.2953	8	98	155

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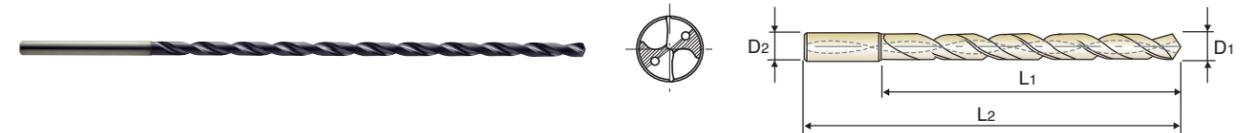
◎ : Excellent ○ : Good

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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	3	25	21	13	15	18	21	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	◎	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
MQL with Coolant Holes (10XD)

DH510 SERIES

- ▶ 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)



EXTRA LONG

10 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Inch	Decimal					Metric	Inch	Decimal			
TiAIN							TiAIN						
DH510019F	7.541	19/64	.2969	8	104	161	DH510095	9.5		.3740	10	124	182
DH510076	7.6		.2992	8	104	161	DH510024F	9.525	3/8	.3750	10	130	188
DH510077	7.7		.3031	8	104	161	DH510096	9.6		.3780	10	130	188
DH510078	7.8		.3071	8	104	161	DH510097	9.7		.3819	10	130	188
DH510079	7.9		.3110	8	104	161	DH510098	9.8		.3858	10	130	188
DH510020F	7.938	5/16	.3125	8	104	161	DH510099	9.9		.3898	10	130	188
DH510080	8.0		.3150	8	104	161	DH510025F	9.921	25/64	.3906	10	130	188
DH510081	8.1		.3189	9	111	169	DH510100	10.0		.3937	10	130	188
DH510082	8.2		.3228	9	111	169	DH510101	10.1		.3976	11	137	201
DH510083	8.3		.3268	9	111	169	DH510102	10.2		.4016	11	137	201
DH510021F	8.334	21/64	.3281	9	111	169	DH510103	10.3		.4055	11	137	201
DH510084	8.4		.3307	9	111	169	DH510026F	10.318	13/32	.4062	11	137	201
DH510217L	8.433	Q	.3320	9	111	169	DH510104	10.4		.4094	11	137	201
DH510085	8.5		.3346	9	111	169	DH510105	10.5		.4134	11	137	201
DH510086	8.6		.3386	9	117	175	DH510106	10.6		.4173	11	143	207
DH510087	8.7		.3425	9	117	175	DH510107	10.7		.4213	11	143	207
DH510022F	8.733	11/32	.3438	9	117	175	DH510027F	10.716	27/64	.4219	11	143	207
DH510088	8.8		.3465	9	117	175	DH510108	10.8		.4252	11	143	207
DH510089	8.9		.3504	9	117	175	DH510109	10.9		.4291	11	143	207
DH510090	9.0		.3543	9	117	175	DH510110	11.0		.4331	11	143	207
DH510091	9.1		.3583	10	124	182	DH510111	11.1		.4370	12	150	215
DH510023F	9.129	23/64	.3594	10	124	182	DH510028F	11.113	7/16	.4375	12	150	215
DH510092	9.2		.3622	10	124	182	DH510112	11.2		.4409	12	150	215
DH510093	9.3		.3661	10	124	182	DH510113	11.3		.4449	12	150	215
DH510221L	9.347	U	.3680	10	124	182	DH510114	11.4		.4488	12	150	215
DH510094	9.4		.3701	10	124	182	DH510115	11.5		.4528	12	150	215

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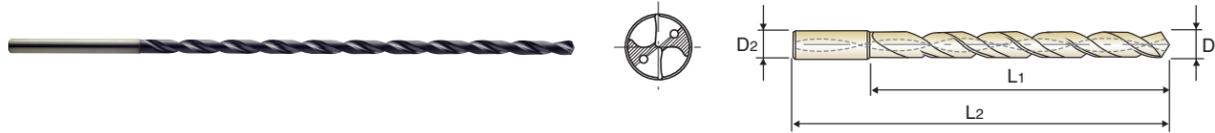
◎ : Excellent ○ : Good

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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	3	25	21	13	15	18	21	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	◎	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
MQL with Coolant Holes (10XD)

DH510 SERIES

- ▶ 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)



EXTRA LONG

10 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Inch	Decimal			
TiAIN	D1			D2	L1	L2
DH510029F	11.509	29/64	.4531	12	156	221
DH510116	11.6		.4567	12	156	221
DH510117	11.7		.4606	12	156	221
DH510118	11.8		.4646	12	156	221
DH510119	11.9		.4685	12	156	221
DH510030F	11.908	15/32	.4688	12	156	221
DH510120	12.0		.4724	12	156	221
DH510121	12.1		.4764	13	163	229
DH510122	12.2		.4803	13	163	229
DH510123	12.3		.4843	13	163	229
DH510031F	12.304	31/64	.4844	13	163	229
DH510124	12.4		.4882	13	163	229
DH510125	12.5		.4921	13	163	229
DH510126	12.6		.4961	13	169	235
DH510127	12.7	1/2	.5000	13	169	235
DH510128	12.8		.5039	13	169	235
DH510129	12.9		.5079	13	169	235
DH510130	13.0		.5118	13	169	235
DH510131	13.1		.5157	14	176	243
DH510132	13.2		.5197	14	176	243
DH510133	13.3		.5236	14	176	243
DH510134	13.4		.5276	14	176	243
DH510135	13.5		.5315	14	176	243
DH510136	13.6		.5354	14	182	249
DH510137	13.7		.5394	14	182	249
DH510138	13.8		.5433	14	182	249

Unit : mm

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Inch	Decimal			
TiAIN	D1			D2	L1	L2
DH510139	13.9		.5472	14	182	249
DH510140	14.0		.5512	14	182	249

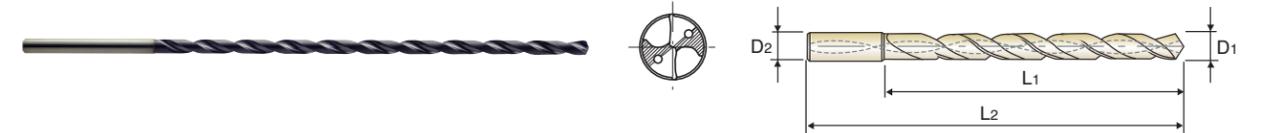
◎ : Excellent ○ : Good

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														
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
HRc	13	25	28	32	38	10	29	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	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	◎	○	○	○	○	◎	○	○	○	○	◎	○	○	○	○	◎	○	○	○	○	◎	○	○	○	○	◎	○	○	○	○

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
MQL with Coolant Holes (15XD)

DH515 SERIES

- ▶ 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)



EXTRA LONG

15 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Inch	Decimal			
TiAIN	D1			D2	L1	L2
DH515030	3.0		.1181	3	54	105
DH515031	3.1		.1220	4	63	114
DH515008F	3.175	1/8	.1250	4	63	114
DH515032	3.2		.1260	4	63	114
DH515033	3.3		.1299	4	63	114
DH515034	3.4		.1339	4	63	114
DH515035	3.5		.1378	4	63	114
DH515036	3.6		.1417	4	72	123
DH515037	3.7		.1457	4	72	123
DH515038	3.8		.1496	4	72	123
DH515039	3.9		.1535	4	72	123
DH515040	4.0		.1575	4	72	123
DH515041	4.1		.1614	5	81	134
DH515042	4.2		.1654	5	81	134
DH515043	4.3		.1693	5	81	134
DH515044	4.4		.1732	5	81	134
DH515045	4.5		.1772	5	81	134
DH515046	4.6		.1811	5	90	143
DH515047	4.7		.1850	5	90	143
DH515048	4.8		.1890	5	90	143
DH515049	4.9		.1929	5	90	143
DH515050	5.0		.1969	5	90	143
DH515051	5.1		.2008	6	99	154
DH515052	5.2		.2047	6	99	154
DH515053	5.3		.2087	6	99	154
DH515054	5.4		.2126	6	99	154

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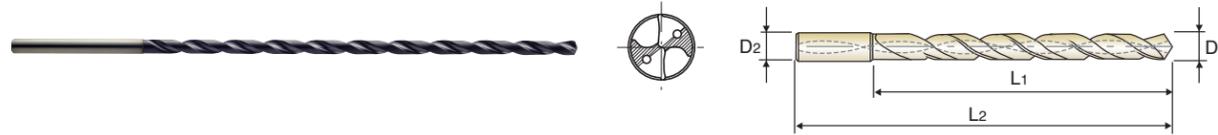
ISO	P										M					K																													
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel					Stainless steel					Grey cast iron					Nodular cast iron					Malleable cast iron														
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
HRc	13	25	28	32	38	10	29	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	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	◎	○	○	○	○	◎	○	○	○	○	◎	○	○	○	○	◎	○	○	○	○	◎	○	○	○	○	◎	○	○	○	○

◎ : Excellent ○ : Good

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
MQL with Coolant Holes (15XD)

DH515 SERIES

- ▶ 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)



EXTRA LONG
15 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Inch	Decimal					Metric	Inch	Decimal			
TiAIN	D1			D2	L1	L2	TiAIN	D1			D2	L1	L2
DH515019F	7.541	19/64	.2969	8	144	201	DH515095	9.5		.3740	10	171	229
DH515076	7.6		.2992	8	144	201	DH515024F	9.525	3/8	.3750	10	180	238
DH515077	7.7		.3031	8	144	201	DH515096	9.6		.3780	10	180	238
DH515078	7.8		.3071	8	144	201	DH515097	9.7		.3819	10	180	238
DH515079	7.9		.3110	8	144	201	DH515098	9.8		.3858	10	180	238
DH515020F	7.938	5/16	.3125	8	144	201	DH515099	9.9		.3898	10	180	238
DH515080	8.0		.3150	8	144	201	DH515025F	9.921	25/64	.3906	10	180	238
DH515081	8.1		.3189	9	153	211	DH515100	10.0		.3937	10	180	238
DH515082	8.2		.3228	9	153	211	DH515101	10.1		.3976	11	189	253
DH515083	8.3		.3268	9	153	211	DH515102	10.2		.4016	11	189	253
DH515021F	8.334	21/64	.3281	9	153	211	DH515103	10.3		.4055	11	189	253
DH515084	8.4		.3307	9	153	211	DH515026F	10.318	13/32	.4062	11	189	253
DH515217L	8.433	Q	.3320	9	153	211	DH515104	10.4		.4094	11	189	253
DH515085	8.5		.3346	9	153	211	DH515105	10.5		.4134	11	189	253
DH515086	8.6		.3386	9	162	220	DH515106	10.6		.4173	11	198	262
DH515087	8.7		.3425	9	162	220	DH515107	10.7		.4213	11	198	262
DH515022F	8.733	11/32	.3438	9	162	220	DH515027F	10.716	27/64	.4219	11	198	262
DH515088	8.8		.3465	9	162	220	DH515108	10.8		.4252	11	198	262
DH515089	8.9		.3504	9	162	220	DH515109	10.9		.4291	11	198	262
DH515090	9.0		.3543	9	162	220	DH515110	11.0		.4331	11	198	262
DH515091	9.1		.3583	10	171	229	DH515111	11.1		.4370	12	207	272
DH515023F	9.129	23/64	.3594	10	171	229	DH515028F	11.113	7/16	.4375	12	207	272
DH515092	9.2		.3622	10	171	229	DH515112	11.2		.4409	12	207	272
DH515093	9.3		.3661	10	171	229	DH515113	11.3		.4449	12	207	272
DH515221L	9.347	U	.3680	10	171	229	DH515114	11.4		.4488	12	207	272
DH515094	9.4		.3701	10	171	229	DH515115	11.5		.4527	12	207	272

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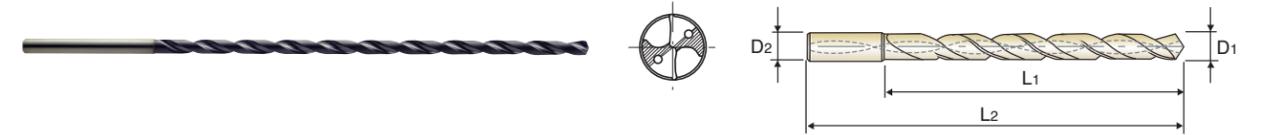
◎ : Excellent ○ : Good

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																		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	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	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	◎	○	○	○	○	◎	○	○	○	○	◎	○	○	○	○	◎	○	○	○	○	◎	○	○	○	○	○

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
MQL with Coolant Holes (15XD)

DH515 SERIES

- ▶ 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)



EXTRA LONG
15 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Inch	Decimal					Metric	Inch	Decimal			
TiAIN	D1			D2	L1	L2	TiAIN	D1			D2	L1	L2
DH515029F	11.509	29/64	.4531	12	216	281	DH515139	13.9		.5472	14	252	319
DH515116	11.6		.4567	12	216	281	DH515140	14.0		.5512	14	252	319
DH515117	11.7		.4606	12	216	281							
DH515118	11.8		.4646	12	216	281							
DH515119	11.9		.4685	12	216	281							
DH515030F	11.908	15/32	.4688	12	216	281							
DH515120	12.0		.4724	12	216	281							
DH515121	12.1		.4764	13	225	291							
DH515122	12.2		.4803	13	225	291							
DH515123	12.3		.4843	13	225	291							
DH515031F	12.304	31/64	.4844	13	225	291							
DH515124	12.4		.4882	13	225	291							
DH515125	12.5		.4921	13	225	291							
DH515126	12.6		.4961	13	234	300							
DH515127	12.7	1/2	.5000	13	234	300							
DH515128	12.8		.5039	13	234	300							
DH515129	12.9		.5079	13	234	300							
DH515130	13.0		.5118	13	234	300							
DH515131	13.1		.5157	14	243	310							
DH515132	13.2		.5197	14	243	310							
DH515133	13.3		.5236	14	243	310							
DH515134	13.4		.5276	14	243	310							
DH515135	13.5		.5314	14	243	310							
DH515136	13.6		.5354	14	252	319							
DH515137	13.7		.5394	14	252	319							
DH515138	13.8		.5433	14	252	319							

◎ : 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																		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	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	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	◎	○	○	○	○	◎	○	○	○	○	◎	○	○	○	○	◎	○	○	○	○	◎	○	○	○	○	○

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
MQL with Coolant Holes (20XD)

DH520 SERIES

- ▶ 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)



EXTRA LONG
20 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Inch	Decimal					Metric	Inch	Decimal			
TiAIN	D1			D2	L1	L2	TiAIN	D1			D2	L1	L2
DH520030	3.0		.1181	3	69	120	DH520057	5.7		.2244	6	138	193
DH520031	3.1		.1220	4	81	132	DH520058	5.8		.2283	6	138	193
DH520008F	3.175	1/8	.1250	4	81	132	DH520059	5.9		.2323	6	138	193
DH520032	3.2		.1260	4	81	132	DH520060	6.0		.2362	6	138	193
DH520033	3.3		.1299	4	81	132	DH520061	6.1		.2402	7	150	206
DH520034	3.4		.1339	4	81	132	DH520062	6.2		.2441	7	150	206
DH520035	3.5		.1378	4	81	132	DH520063	6.3		.2480	7	150	206
DH520036	3.6		.1417	4	92	143	DH520016F	6.350	1/4	.2500	7	150	206
DH520037	3.7		.1457	4	92	143	DH520064	6.4		.2520	7	150	206
DH520038	3.8		.1496	4	92	143	DH520065	6.5		.2559	7	150	206
DH520039	3.9		.1535	4	92	143	DH520206L	6.528	F	.2570	7	161	217
DH520040	4.0		.1575	4	92	143	DH520066	6.6		.2598	7	161	217
DH520041	4.1		.1614	5	104	157	DH520067	6.7		.2638	7	161	217
DH520042	4.2		.1654	5	104	157	DH520017F	6.746	17/64	.2656	7	161	217
DH520043	4.3		.1693	5	104	157	DH520068	6.8		.2677	7	161	217
DH520044	4.4		.1732	5	104	157	DH520069	6.9		.2717	7	161	217
DH520045	4.5		.1772	5	104	157	DH520209L	6.909	I	.2720	7	161	217
DH520046	4.6		.1811	5	115	168	DH520070	7.0		.2756	7	161	217
DH520047	4.7		.1850	5	115	168	DH520071	7.1		.2795	8	173	230
DH520048	4.8		.1890	5	115	168	DH520018F	7.142	9/32	.2812	8	173	230
DH520049	4.9		.1929	5	115	168	DH520072	7.2		.2835	8	173	230
DH520050	5.0		.1969	5	115	168	DH520073	7.3		.2874	8	173	230
DH520051	5.1		.2008	6	127	182	DH520074	7.4		.2913	8	173	230
DH520052	5.2		.2047	6	127	182	DH520075	7.5		.2953	8	173	230
DH520053	5.3		.2087	6	127	182	DH520019F	7.541	19/64	.2969	8	184	241
DH520054	5.4		.2126	6	127	182	DH520076	7.6		.2992	8	184	241
DH520055	5.5		.2165	6	127	182	DH520077	7.7		.3031	8	184	241
DH520056	5.6		.2205	6	138	193	DH520078	7.8		.3071	8	184	241

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◎ : Excellent ○ : Good

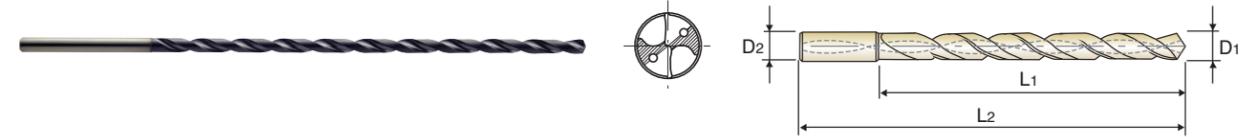
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	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											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																					

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
MQL with Coolant Holes (20XD)

DH520 SERIES

- ▶ 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)



EXTRA LONG
20 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Inch	Decimal					Metric	Inch	Decimal			
TiAIN	D1			D2	L1	L2	TiAIN	D1			D2	L1	L2
DH520079	7.9		.3110	8	184	241	DH520025F	9.921	25/64	.3906	10	230	288
DH520020F	7.938	5/16	.3125	8	184	241	DH520100	10.0		.3937	10	230	288
DH520080	8.0		.3150	8	184	241	DH520101	10.1		.3976	11	242	306
DH520081	8.1		.3189	9	196	254	DH520102	10.2		.4016	11	242	306
DH520082	8.2		.3228	9	196	254	DH520103	10.3		.4055	11	242	306
DH520083	8.3		.3268	9	196	254	DH520026F	10.318	13/32	.4062	11	242	306
DH520021F	8.334	21/64	.3281	9	196	254	DH520104	10.4		.4094	11	242	306
DH520084	8.4		.3307	9	196	254	DH520105	10.5		.4134	11	242	306
DH520217L	8.433	Q	.3320	9	196	254	DH520106	10.6		.4173	11	253	317
DH520085	8.5		.3346	9	196	254	DH520107	10.7		.4213	11	253	317
DH520086	8.6		.3386	9	207	265	DH520027F	10.716	27/64	.4219	11	253	317
DH520087	8.7		.3425	9	207	265	DH520108	10.8		.4252	11	253	317
DH520022F	8.733	11/32	.3438	9	207	265	DH520109	10.9		.4291	11	253	317
DH520088	8.8		.3465	9	207	265	DH520110	11.0		.4331	11	253	317
DH520089	8.9		.3504	9	207	265	DH520111	11.1		.4370	12	265	330
DH520090	9.0		.3543	9	207	265	DH520028F	11.113	7/16	.4375	12	265	330
DH520091	9.1		.3583	10	219	277	DH520112	11.2		.4409	12	265	330
DH520023F	9.129	23/64	.3594	10	219	277	DH520113	11.3		.4449	12	265	330
DH520092	9.2		.3622	10	219	277	DH520114	11.4		.4488	12	265	330
DH520093	9.3		.3661	10	219	277	DH520115	11.5		.4527	12	265	330
DH520221L	9.347	U	.3680	10	219	277	DH520029F	11.509	29/64	.4531	12	276	341
DH520094	9.4		.3701	10	219	277	DH520116	11.6		.4567	12	276	341
DH520095	9.5		.3740	10	219	277	DH520117	11.7		.4606	12	276	341
DH520024F	9.525	3/8	.3750	10	219	277	DH520118	11.8		.4646	12	276	341
DH520096	9.6		.3780	10	230	288	DH520119	11.9		.4685	12	276	341
DH520097	9.7		.3819	10	230	288	DH520030F	11.908	15/32	.4688	12	276	341
DH520098	9.8		.3858	10	230	288	DH520120	12.0		.4724	12	276	341
DH520099	9.9		.3898	10	230	288							

◎ : 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	
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	38	10	29	32	38	15	35	15	23	10	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	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	◎	○	◎	○	◎	○

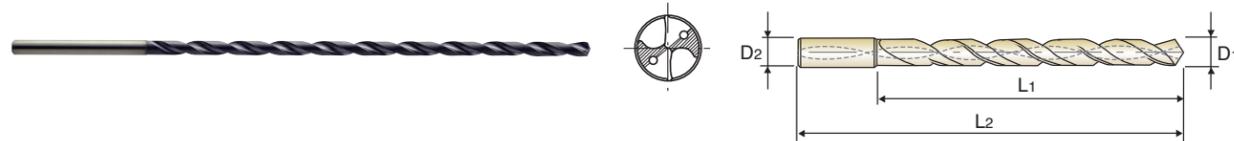
ISO	N										S						H		
	Aluminum-wrought alloy		Aluminum-cast, alloyed																

TiAlN-COATED SOLID CARBIDE DREAM DRILLS
MQL with Coolant Holes (10XD, 15XD)

DHM10 SERIES

DHM15 SERIES

- ▶ 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)



EXTRA LONG

15xD (DHM15) 15xD (DHM15)

10XD

15XD

Unit : mm

EDP No.	Drill Diameter		Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter		Shank Diameter	Flute Length	Overall Length
	Metric	Decimal					Metric	Decimal			
TiAlN	D1		D2	L1	L2	TiAlN	D1		D2	L1	L2
DHM10030	3.0	.1181	6	40	80	DHM15030	3.0	.1181	6	55	95
DHM10033	3.3	.1299	6	47	87	DHM15035	3.5	.1378	6	64	104
DHM10035	3.5	.1378	6	47	87	DHM15040	4.0	.1575	6	73	113
DHM10040	4.0	.1575	6	53	93	DHM15045	4.5	.1772	6	82	122
DHM10042	4.2	.1654	6	60	100	DHM15050	5.0	.1969	6	91	131
DHM10045	4.5	.1772	6	60	100	DHM15055	5.5	.2165	6	100	140
DHM10050	5.0	.1969	6	66	106	DHM15060	6.0	.2362	6	109	149
DHM10055	5.5	.2165	6	73	113	DHM15070	7.0	.2756	8	127	167
DHM10060	6.0	.2362	6	79	119	DHM15080	8.0	.3150	8	145	185
DHM10065	6.5	.2559	8	86	126	DHM15090	9.0	.3543	10	163	207
DHM10068	6.8	.2677	8	92	132	DHM15100	10.0	.3937	10	182	226
DHM10070	7.0	.2756	8	92	132	DHM15110	11.0	.4330	12	200	249
DHM10075	7.5	.2953	8	99	139	DHM15120	12.0	.4724	12	218	267
DHM10080	8.0	.3150	8	105	145						
DHM10085	8.5	.3346	10	112	156						
DHM10090	9.0	.3543	10	118	162						
DHM10095	9.5	.3740	10	126	170						
DHM10100	10.0	.3937	10	132	176						
DHM10105	10.5	.4134	12	139	188						
DHM10110	11.0	.4330	12	145	194						
DHM10115	11.5	.4527	12	152	201						
DHM10120	12.0	.4724	12	158	207						
DHM10125	12.5	.4921	14	165	214						
DHM10130	13.0	.5118	14	171	220						
DHM10135	13.5	.5314	14	178	227						
DHM10140	14.0	.5512	14	184	233						

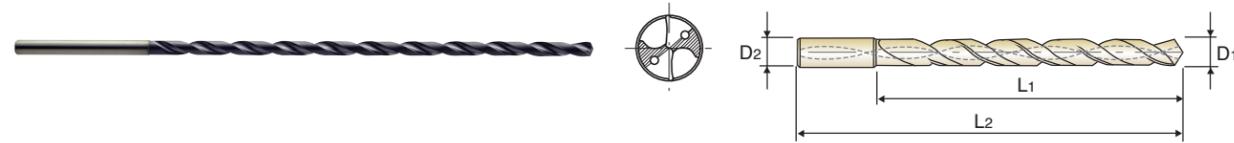
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ISO	P										M					K																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel					Stainless steel					Grey cast iron					Nodular cast iron					Malleable cast iron																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
HRc	13	25	28	32	38	42	48	52	58	62	68	72	78	82	88	92	98	102	108	112	118	122	128	132	138	142	148	152	158	162	168	172	178	182	188	192	198	202	208	212	218	222	228	232	238	242	248	252	258	262	268	272	278	282	288	292	298	302	308	312	318	322	328	332	338	342	348	352	358	362	368	372	378	382	388	392	398	402	408	412	418	422	428	432	438	442	448	452	458	462	468	472	478	482	488	492	498	502	508	512	518	522	528	532	538	542	548	552	558	562	568	572	578	582	588	592	598	602	608	612	618	622	628	632	638	642	648	652	658	662	668	672	678	682	688	692	698	702	708	712	718	722	728	732	738	742	748	752	758	762	768	772	778	782	788	792	798	802	808	812	818	822	828	832	838	842	848	852	858	862	868	872	878	882	888	892	898	902	908	912	918	922	928	932	938	942	948	952	958	962	968	972	978	982	988	992	998	1002	1008	1012	1018	1022	1028	1032	1038	1042	1048	1052	1058	1062	1068	1072	1078	1082	1088	1092	1098	1102	1108	1112	1118	1122	1128	1132	1138	1142	1148	1152	1158	1162	1168	1172	1178	1182	1188	1192	1198	1202	1208	1212	1218	1222	1228	1232	1238	1242	1248	1252	1258	1262	1268	1272	1278	1282	1288	1292	1298	1302	1308	1312	1318	1322	1328	1332	1338	1342	1348	1352	1358	1362	1368	1372	1378	1382	1388	1392	1398	1402	1408	1412	1418	1422	1428	1432	1438	1442	1448	1452	1458	1462	1468	1472	1478	1482	1488	1492	1498	1502	1508	1512	1518	1522	1528	1532	1538	1542	1548	1552	1558	1562	1568	1572	1578	1582	1588	1592	1598	1602	1608	1612	1618	1622	1628	1632	1638	1642	1648	1652	1658	1662	1668	1672	1678	1682	1688	1692	1698	1702	1708	1712	1718	1722	1728	1732	1738	1742	1748	1752	1758	1762	1768	1772	1778	1782	1788	1792	1798	1802	1808	1812	1818	1822	1828	1832	1838	1842	1848	1852	1858	1862	1868	1872	1878	1882	1888	1892	1898	1902	1908	1912	1918	1922	1928	1932	1938	1942	1948	1952	1958	1962	1968	1972	1978	1982	1988	1992	1998	2002	2008	2012	2018	2022	2028	2032	2038	2042	2048	2052	2058	2062	2068	2072	2078	2082	2088	2092	2098	2102	2108	2112	2118	2122	2128	2132	2138	2142	2148	2152	2158	2162	2168	2172	2178	2182	2188	2192	2198	2202	2208	2212	2218	2222	2228	2232	2238	2242	2248	2252	2258	2262	2268	2272	2278	2282	2288	2292	2298	2302	2308	2312	2318	2322	2328	2332	2338	2342	2348	2352	2358	2362	2368	2372	2378	2382	2388	2392	2398	2402	2408	2412	2418	2422	2428	2432	2438	2442	2448	2452	2458	2462	2468	2472	2478	2482	2488	2492	2498	2502	2508	2512	2518	2522	2528	2532	2538	2542	2548	2552	2558	2562	2568	2572	2578	2582	2588	2592	2598	2602	2608	2612	2618	2622	2628	2632	2638	2642	2648	2652	2658	2662	2668	2672	2678	2682	2688	2692	2698	2702	2708	2712	2718	2722	2728	2732	2738	2742	2748	2752	2758	2762	2768	2772	2778	2782	2788	2792	2798	2802	2808	2812	2818	2822	2828	2832	2838	2842	2848	2852	2858	2862	2868	2872	2878	2882	2888	2892	2898	2902	2908	2912	2918	2922	2928	2932	2938	2942	2948	2952	2958	2962	2968	2972	2978	2982	2988	2992	2998	3002	3008	3012	3018	3022	3028	3032	3038	3042	3048	3052	3058	3062	3068	3072	3078	3082	3088	3092	3098	3102	3108	3112	3118	3122	3128	3132	3138	3142	3148	3152	3158	3162	3168	3172	3178	3182	3188	3192	3198	3202	3208	3212	3218	3222	3228	3232	3238	3242	3248	3252	3258	3262	3268	3272	3278	3282	3288	3292	3298	3302	3308	3312	3318	3322	3328	3332	3338	3342	3348	3352	3358	3362	3368	3372	3378	3382	3388	3392	3398	3402	3408	3412	3418	3422	3428	3432	3438	3442	3448	3452	3458	3462	3468	3472	3478	3482	3488	3492	3498	3502	3508	3512	3518	3522	3528	3532	3538	3542	3548	3552	3558	3562	3568	3572	3578	3582	3588	3592	3598	3602	3608	3612	3618	3622	3628	3632	3638	3642	3648	3652	3658	3662	3668	3672	3678	3682	3688	3692	3698	3702	3708	3712	3718	3722	3728	3732	3738	3742	3748	3752	3758	3762	3768	3772	3778	3782	3788	3792	3798	3802	3808	3812	3818	3822	3828	3832	3838	3842	3848	3852	3858	3862	3868	3872	3878	3882	3888	3892	3898	3902	3908	3912	3918	3922	3928	3932	3938	3942	3948	3952	3958	3962	3968	3972	3978	3982	3988	3992	3998	4002	4008	4012	4018	4022	4028	4032	4038	4042	4048	4052	4058	4062	4068	4072	4078	4082	4088	4092	4098	4102	4108	4112	4118	4122	4128	4132	4138	4142	4148	4152	4158	4162	4168	4172	4178	4182	4188	4192	4198	4202	4208	4212	4218	4222	4228	4232	4238	4242	4248	4252	4258	4262	4268	4272	4278	4282	4288	4292	4298	4302	4308	4312	4318	4322	4328	4332	4338	4342	4348	4352	4358	4362	4368	4372	4378	4382	4388	4392	4398	4402	4408	4412	441

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
MQL with Coolant Holes (25XD)

DHM25 SERIES

- ▶ 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)



EXTRA LONG

25 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Inch	Decimal					Metric	Inch	Decimal			
TiAIN							TiAIN						
DHM25030	3.0		.1181	6	85	125	DHM25055	5.5		.2165	6	155	195
DHM25031	3.1		.1220	6	99	139	DHM25056	5.6		.2205	6	169	209
DHM25008F	3.175	1/8	.1250	6	99	139	DHM25057	5.7		.2244	6	169	209
DHM25032	3.2		.1260	6	99	139	DHM25058	5.8		.2283	6	169	209
DHM25033	3.3		.1299	6	99	139	DHM25059	5.9		.2323	6	169	209
DHM25034	3.4		.1339	6	99	139	DHM25060	6.0		.2362	6	169	209
DHM25035	3.5		.1378	6	99	139	DHM25061	6.1		.2402	8	183	223
DHM25036	3.6		.1417	6	113	153	DHM25062	6.2		.2441	8	183	223
DHM25037	3.7		.1457	6	113	153	DHM25063	6.3		.2480	8	183	223
DHM25038	3.8		.1496	6	113	153	DHM25016F	6.350	1/4	.2500	8	183	223
DHM25039	3.9		.1535	6	113	153	DHM25064	6.4		.2520	8	183	223
DHM25040	4.0		.1575	6	113	153	DHM25065	6.5		.2559	8	183	223
DHM25041	4.1		.1614	6	127	167	DHM25206L	6.528	F	.2570	8	197	237
DHM25042	4.2		.1654	6	127	167	DHM25066	6.6		.2598	8	197	237
DHM25043	4.3		.1693	6	127	167	DHM25067	6.7		.2638	8	197	237
DHM25044	4.4		.1732	6	127	167	DHM25017F	6.746	17/64	.2656	8	197	237
DHM25045	4.5		.1772	6	127	167	DHM25068	6.8		.2677	8	197	237
DHM25046	4.6		.1811	6	141	181	DHM25069	6.9		.2717	8	197	237
DHM25047	4.7		.1850	6	141	181	DHM25209L	6.909	I	.2720	8	197	237
DHM25048	4.8		.1890	6	141	181	DHM25070	7.0		.2756	8	197	237
DHM25049	4.9		.1929	6	141	181	DHM25071	7.1		.2795	8	211	251
DHM25050	5.0		.1969	6	141	181	DHM25018F	7.142	9/32	.2812	8	211	251
DHM25051	5.1		.2008	6	155	195	DHM25072	7.2		.2835	8	211	251
DHM25052	5.2		.2047	6	155	195	DHM25073	7.3		.2874	8	211	251
DHM25053	5.3		.2087	6	155	195	DHM25074	7.4		.2913	8	211	251
DHM25054	5.4		.2126	6	155	195	DHM25075	7.5		.2953	8	211	251

▶ NEXT PAGE

◎ : 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		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
HRc	13	25	28	32	38	10	29	32	38	45	15	23	23	10	10	26	3	25	25	21	21	21	21	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	130	230	230	230	230
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	◎	○	◎	○	○	○	◎	○	○	○	○

ISO	N										S					H									
	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials									
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	400 Rm	1050 Rm	550	630	400	550	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	55	60	42	55
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
MQL with Coolant Holes (25XD)

DHM25 SERIES

- ▶ 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)



EXTRA LONG

25 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Inch	Decimal					Metric	Inch	Decimal			
TiAIN							TiAIN						
DHM25019F	7.541	19/64	.2969	8	225	265	DHM25095	9.5		.3740	10	268	312
DHM25076	7.6		.2992	8	225	265	DHM25024F	9.525	3/8	.3750	10	282	326
DHM25077	7.7		.3031	8	225	265	DHM25096	9.6		.3780	10	282	326
DHM25078	7.8		.3071	8	225	265	DHM25097	9.7		.3819	10	282	326
DHM25079	7.9		.3110	8	225	265	DHM25098	9.8		.3858	10	282	326
DHM25020F	7.938	5/16	.3125	8	225	265	DHM25099	9.9		.3898	10	282	326
DHM25080	8.0		.3150	8	225	265	DHM25025F	9.921	25/64	.3906	10	282	326
DHM25081	8.1		.3189	10	239	283	DHM25100	10.0		.3937	10	282	326
DHM25082	8.2		.3228	10	239	283							
DHM25083	8.3		.3268	10	239	283							
DHM25021F	8.334	21/64	.3281	10	239	283							
DHM25084	8.4		.3307	10	239	283							
DHM25217L	8.433	Q	.3320	10	239	283							
DHM25085	8.5		.3346	10	239	283							
DHM25086	8.6		.3386	10	253	297							
DHM25087	8.7		.3425	10	253	297							
DHM25022F	8.733	11/32	.3438	10	253	297							
DHM25088	8.8		.3465	10	253	297							
DHM25089	8.9		.3504	10	253	297							
DHM25090	9.0		.3543	10	253	297							
DHM25091	9.1		.3583	10	268	312							
DHM25023F	9.129	23/64	.3594	10	268	312							
DHM25092	9.2		.3622	10	268	312							
DHM25093	9.3		.3661	10	268	312							
DHM25221L	9.347	U	.3680	10	268	312							
DHM25094	9.4		.3701	10	268	312							

◎ : Excellent ○ : Good

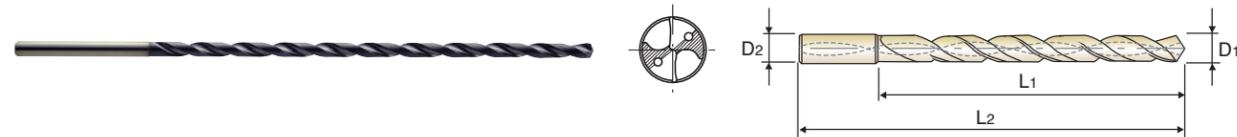
ISO	P										M					K									
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel					Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
HRc	13	25	28	32	38	10	29	32	38	45	15	23	23	10	10	26	3	25	25	21	21	21	21	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	130	230	230	230	230
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	◎	○	◎	○	○	○	◎	○	○	○	○

ISO	N										S					H									
	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials									
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	400 Rm	1050 Rm	550	630	400	550	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm								

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
MQL with Coolant Holes (30XD)

DHM30 SERIES

- ▶ 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)



EXTRA LONG
30 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Inch	Decimal					Metric	Inch	Decimal			
TiAIN	D1			D2	L1	L2	TiAIN	D1			D2	L1	L2
DHM30030	3.0		.1181	6	100	140	DHM30055	5.5		.2165	6	183	223
DHM30031	3.1		.1220	6	117	157	DHM30056	5.6		.2205	6	199	239
DHM30008F	3.175	1/8	.1250	6	117	157	DHM30057	5.7		.2244	6	199	239
DHM30032	3.2		.1260	6	117	157	DHM30058	5.8		.2283	6	199	239
DHM30033	3.3		.1299	6	117	157	DHM30059	5.9		.2323	6	199	239
DHM30034	3.4		.1339	6	117	157	DHM30060	6.0		.2362	6	199	239
DHM30035	3.5		.1378	6	117	157	DHM30061	6.1		.2402	8	216	256
DHM30036	3.6		.1417	6	133	173	DHM30062	6.2		.2441	8	216	256
DHM30037	3.7		.1457	6	133	173	DHM30063	6.3		.2480	8	216	256
DHM30038	3.8		.1496	6	133	173	DHM30016F	6.350	1/4	.2500	8	216	256
DHM30039	3.9		.1535	6	133	173	DHM30064	6.4		.2520	8	216	256
DHM30040	4.0		.1575	6	133	173	DHM30065	6.5		.2559	8	216	256
DHM30041	4.1		.1614	6	150	190	DHM30206L	6.528	F	.2570	8	232	272
DHM30042	4.2		.1654	6	150	190	DHM30066	6.6		.2598	8	232	272
DHM30043	4.3		.1693	6	150	190	DHM30067	6.7		.2638	8	232	272
DHM30044	4.4		.1732	6	150	190	DHM30017F	6.746	17/64	.2656	8	232	272
DHM30045	4.5		.1772	6	150	190	DHM30068	6.8		.2677	8	232	272
DHM30046	4.6		.1811	6	166	206	DHM30069	6.9		.2717	8	232	272
DHM30047	4.7		.1850	6	166	206	DHM30209L	6.909	I	.2720	8	232	272
DHM30048	4.8		.1890	6	166	206	DHM30070	7.0		.2756	8	232	272
DHM30049	4.9		.1929	6	166	206	DHM30071	7.1		.2795	8	249	289
DHM30050	5.0		.1969	6	166	206	DHM30018F	7.142	9/32	.2812	8	249	289
DHM30051	5.1		.2008	6	183	223	DHM30072	7.2		.2835	8	249	289
DHM30052	5.2		.2047	6	183	223	DHM30073	7.3		.2874	8	249	289
DHM30053	5.3		.2087	6	183	223	DHM30074	7.4		.2913	8	249	289
DHM30054	5.4		.2126	6	183	223	DHM30075	7.5		.2953	8	249	289

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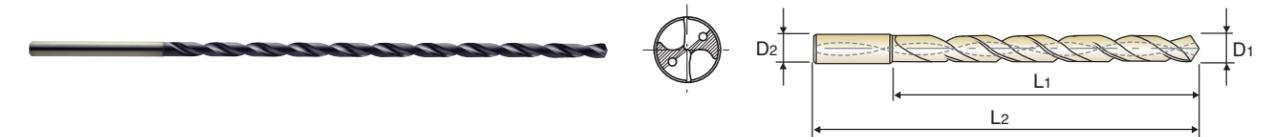
◎ : Excellent ○ : Good

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														
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	3	25	21	13	15	18	21	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
MQL with Coolant Holes (30XD)

DHM30 SERIES

- ▶ 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)

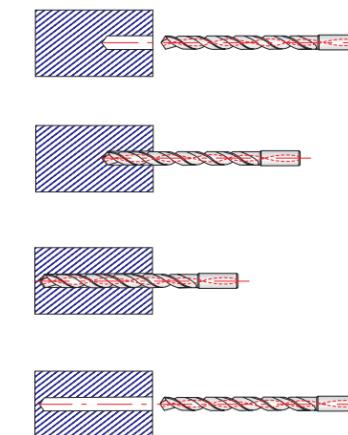


EXTRA LONG
30 x D

EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter			Shank Diameter	Flute Length	Overall Length
	Metric	Inch	Decimal					Metric	Inch	Decimal			
TiAIN	D1			D2	L1	L2	TiAIN	D1			D2	L1	L2
DHM30019F	7.541	19/64	.2969	8	265	305	DHM30076	7.6		.2992	8	265	305
DHM30076	7.6		.2992	8	265	305	DHM30077	7.7		.3031	8	265	305
DHM30077	7.7		.3031	8	265	305	DHM30078	7.8		.3071	8	265	305
DHM30078	7.8		.3071	8	265	305	DHM30079	7.9		.3110	8	265	305
DHM30079	7.9		.3110	8	265	305	DHM30020F	7.938	5/16	.3125	8	265	305
DHM30020F	7.938	5/16	.3125	8	265	305	DHM30080	8.0		.3150	8	265	305
DHM30080	8.0		.3150	8	265	305							

▶ Made to order in depth 35xD(Ø3-Ø6) & 40xD(Ø3-Ø6)

▶ Coolant Pressure : 900 PSI



1. Use a YG 3xD Drill to produce a guide hole no larger than .004 over the required drill size. Drill the pilot hole 2xD deep hole.
2. Enter the guide hole at 50 SFM surface and .010 feed rate / per rev.
3. Before hitting the bottom of the guide hole, Increase SFM and feed rate for normal drilling.
4. After drilling, to withdraw drill, reduce SFM to 50 @ 10 inches per minute.

◎ : 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														
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	3	25	21	13	15	18	21	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

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

with COOLANT HOLES

ISO	VDI 3323	Material Description	SFM		Drill Diameter						
			10xD ~20xD	25xD ~30xD	METRIC	3.0	-	4.0	-	5.0	
					FRACTIONAL	-	1/8	-	3/16	-	
		DECIMAL	.1181	.1250	.1575	.1875	.1969				
P	1	Non-alloy steel	395	329	RPM(10xD~20xD)	12730		9550		7640	
					RPM(25xD~30xD)	10610		7960		6370	
					FEED	.0031 - .0047		.0039 - .0055		.0047 - .0071	
	2		329	263	RPM(10xD~20xD)	10610		7960		6370	
					RPM(25xD~30xD)	8490		6370		5090	
					FEED	.0031 - .0047		.0039 - .0055		.0047 - .0071	
	3		263	214	RPM(10xD~20xD)	8490		6370		5090	
					RPM(25xD~30xD)	6900		5170		4140	
					FEED	.0024 - .0039		.0031 - .0047		.0039 - .0063	
	6	Low alloy steel	329	329	RPM(10xD~20xD)	10610		7960		6370	
					RPM(25xD~30xD)	10610		7960		6370	
					FEED	.0031 - .0047		.0039 - .0055		.0047 - .0071	
7	230		197	RPM(10xD~20xD)	7430		5570		4460		
				RPM(25xD~30xD)	6370		4770		3820		
				FEED	.0024 - .0039		.0031 - .0047		.0039 - .0063		
8	181		165	RPM(10xD~20xD)	5840		4380		3500		
				RPM(25xD~30xD)	5310		3980		3180		
				FEED	.0024 - .0039		.0031 - .0047		.0039 - .0063		
10	High alloyed steel, and tool steel	197	165	RPM(10xD~20xD)	6370		4770		3820		
				RPM(25xD~30xD)	5310		3980		3180		
				FEED	.002 - .0035		.0028 - .0043		.0031 - .0055		
11		165	148	RPM(10xD~20xD)	5310		3980		3180		
				RPM(25xD~30xD)	4770		3580		2860		
				FEED	.0016 - .0031		.0024 - .0039		.0028 - .0051		
K		15	Grey cast iron	296	247	RPM(10xD~20xD)	9550		7160		5730
						RPM(25xD~30xD)	7960		5970		4770
						FEED	.0039 - .0055		.0047 - .0063		.0067 - .0091
	16	230		197	RPM(10xD~20xD)	7430		5570		4460	
					RPM(25xD~30xD)	6370		4770		3820	
					FEED	.0039 - .0055		.0047 - .0063		.0067 - .0091	
	17	Nodular cast iron	329	263	RPM(10xD~20xD)	10610		7960		6370	
					RPM(25xD~30xD)	8490		6370		5090	
					FEED	.0039 - .0055		.0047 - .0063		.0067 - .0091	
	18		230	197	RPM(10xD~20xD)	7430		5570		4460	
					RPM(25xD~30xD)	6370		4770		3820	
					FEED	.0031 - .0047		.0039 - .0055		.0047 - .0071	
19	Malleable cast iron	263	214	RPM(10xD~20xD)	8490		6370		5090		
				RPM(25xD~30xD)	6900		5170		4140		
				FEED	.0039 - .0055		.0047 - .0063		.0067 - .0091		
20		230	181	RPM(10xD~20xD)	7430		5570		4460		
				RPM(25xD~30xD)	5840		4380		3500		
				FEED	.0031 - .0047		.0039 - .0055		.0047 - .0071		

SFM = ft/min.
RPM = rev./min.
FEED = inch/rev.

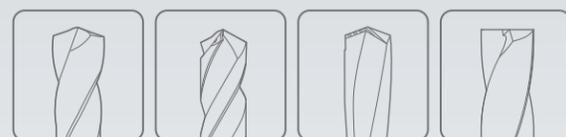
		Drill Diameter							
6.0	-	-	8.0	-	10.0	12.0	-	14.0	
-	1/4	5/16	-	3/8	-	-	1/2	-	
.2362	.2500	.3125	.3150	.3750	.3937	.4724	.5000	.5512	
6370	4770	3820	3180	3020	2730				
5310	3980	3180	2650	2510	2270				
.0055 - .0079	.0071 - .0094	.0079 - .0102	.0087 - .0102	.0087 - .0102	.0098 - .0122				
5310	3980	3180	2650	2510	2270				
4240	3180	2550	2120	2010	1820				
.0055 - .0079	.0071 - .0094	.0079 - .0102	.0087 - .0102	.0087 - .0102	.0098 - .0122				
4240	3180	2550	2120	2010	1820				
3450	2590	2070	1720	1630	1480				
.0047 - .0071	.0055 - .0079	.0063 - .0087	.0071 - .0094	.0071 - .0094	.0079 - .0102				
5310	3980	3180	2650	2510	2270				
5310	3980	3180	2650	2510	2270				
.0055 - .0079	.0071 - .0094	.0079 - .0102	.0087 - .0102	.0087 - .0102	.0098 - .0122				
3710	2790	2230	1860	1760	1590				
3180	2390	1910	1590	1510	1360				
.0047 - .0071	.0055 - .0079	.0063 - .0087	.0071 - .0094	.0071 - .0094	.0079 - .0102				
2920	2190	1750	1460	1380	1250				
2650	1990	1590	1330	1260	1140				
.0047 - .0071	.0055 - .0079	.0063 - .0087	.0071 - .0094	.0071 - .0094	.0079 - .0102				
3180	2390	1910	1590	1510	1360				
2650	1990	1590	1330	1260	1140				
.0039 - .0063	.0047 - .0071	.0055 - .0079	.0063 - .0087	.0063 - .0087	.0071 - .0094				
2650	1990	1590	1330	1260	1140				
2390	1790	1430	1190	1130	1020				
.0031 - .0055	.0039 - .0063	.0047 - .0071	.0051 - .0075	.0051 - .0075	.0059 - .0083				
4770	3580	2860	2390	2260	2050				
3980	2980	2390	1990	1890	1710				
.0075 - .0098	.0087 - .011	.0094 - .0118	.011 - .0134	.011 - .0134	.0118 - .0142				
3710	2790	2230	1860	1760	1590				
3180	2390	1910	1590	1510	1360				
.0075 - .0098	.0087 - .011	.0094 - .0118	.011 - .0134	.011 - .0134	.0118 - .0142				
5310	3980	3180	2650	2510	2270				
4240	3180	2550	2120	2010	1820				
.0075 - .0098	.0087 - .011	.0094 - .0118	.011 - .0134	.011 - .0134	.0118 - .0142				
3710	2790	2230	1860	1760	1590				
3180	2390	1910	1590	1510	1360				
.0055 - .0079	.0071 - .0094	.0079 - .0102	.0087 - .0102	.0087 - .0102	.0098 - .0122				
4240	3180	2550	2120	2010	1820				
3450	2590	2070	1720	1630	1480				
.0075 - .0098	.0087 - .011	.0094 - .0118	.011 - .0134	.011 - .0134	.0118 - .0142				
3710	2790	2230	1860	1760	1590				
2920	2190	1750	1460	1380	1250				
.0055 - .0079	.0071 - .0094	.0079 - .0102	.0087 - .0102	.0087 - .0102	.0098 - .0122				



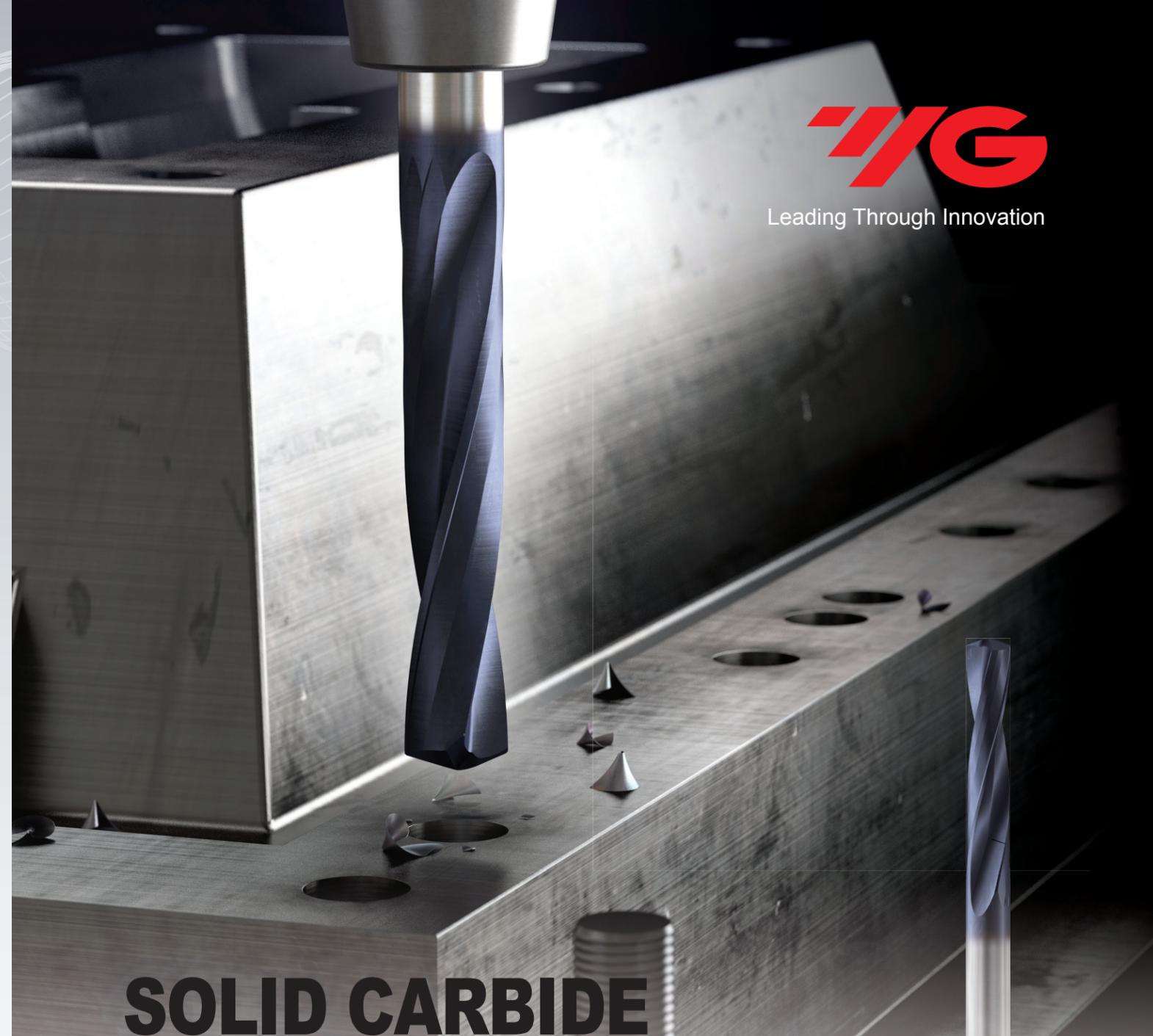
Leading Through Innovation



Global Cutting Tool Leader **YG-1**



DREAM DRILLS



SOLID CARBIDE

DREAM DRILLS for HIGH HARDENED STEELS

- For High Hardened Steels (HRc 50 - 70)

DREAM DRILLS for HIGH HARDENED STEELS

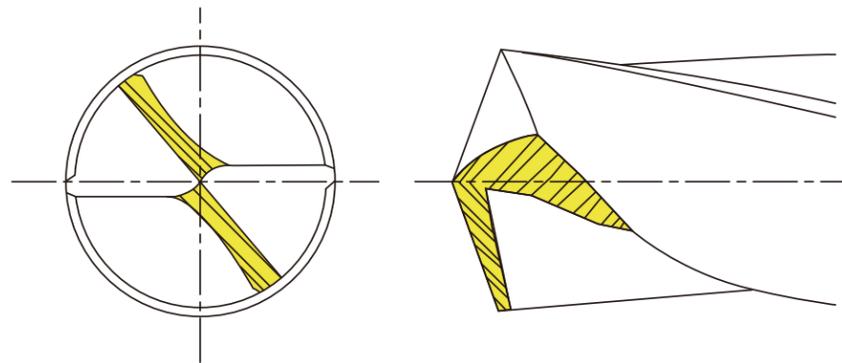


Low Helix

The low Helix angle maximizes tools' rigidity and stability with less deflection

Special Thinning (R+U Thinning)

Unique drill point geometry with special thinning to minimize cutting workload, axial thrust loading and heat generation.



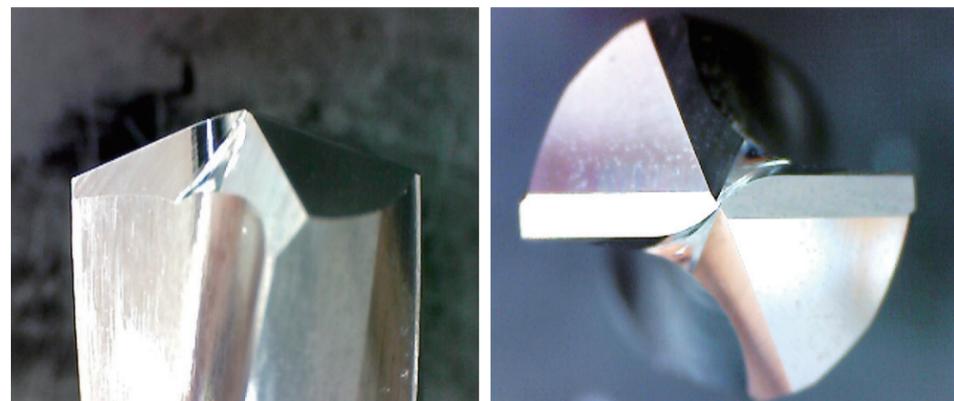
Coating

TiAlN nano coating combines high hardness with high thermal stability against oxidation, allows machining the upper level of hardened steels HRC 50-70.

Polished Flutes

Polished flutes improve coating addition, with better chip control and evacuation.

Point Shape

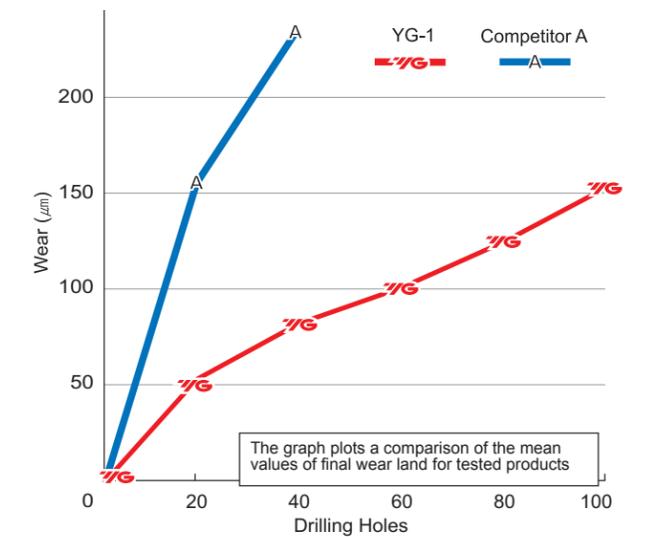


CASE STUDY

- Low Helix Angle to maximize tools' rigidity.
- Special Point Thinning to improve chip evacuation.
- Excellent Coating and Surface Treatment for improved surface and better chip evacuation.

► SOLID CARBIDE DREAM DRILLS for HIGH HARDENED STEELS (HRc50-70)

CUTTING CONDITION	
Tool	DH500100 (Dream Drills for High Hardened Steels)
Size	Ø10 × Ø10 × 63 × 111
Work Material	• AISI : H13 • JIS : SKD11 • DIN : X155CrV-Mo12-1 (HRc60)
RPM	3,528 rev./min.
Feed	.0016 inch/rev.
SFM	39 ft/min.
Drilling Depth	.98"(2.5xD)
Coolant	Wet Cut
Machine	Machining Center

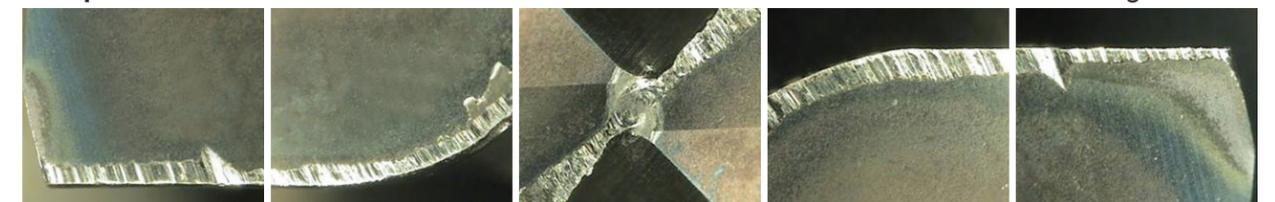


YG-1



After Drilling 100 Holes

Competitor A



After Drilling 40 Holes

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
for High Hardened Steels (HRc50~HRc70)

DH501 SERIES

- ▶ Drilling for High Hardened Steels; Quenched Steels, Tempered Steels (under HRc 70)
- ▶ Special geometry design for Hardened Steels
- ▶ Minimum of cutting load through special thinning
- ▶ Performing good chip removal and powerful drilling
- ▶ Tolerance : Dia. Tolerance ØD1 : See page 141
Shank Tolerance ØD2: -.0001 -.0005



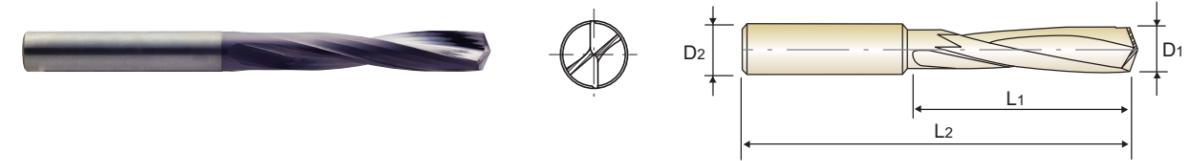
EDP No.	Drill Diameter		Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter		Shank Diameter	Flute Length	Overall Length
	Fractional	Decimal					Fractional	Decimal			
TiAIN	D1		D2	L1	L2	TiAIN	D1		D2	L1	L2
DH501001	1/8	.1250	1/8	21/32	2	DH501027	#4	.2090	1/4	1-9/32	2-7/8
DH501002	#30	.1285	3/16	23/32	2	DH501028	#3	.2130	1/4	1-13/32	3
DH501003	#29	.1360	3/16	13/16	2	DH501029	7/32	.2188	1/4	1-13/32	3
DH501004	#28	.1405	3/16	13/16	2	DH501030	#2	.2210	1/4	1-13/32	3
DH501005	9/64	.1406	3/16	13/16	2	DH501031	#1	.2280	1/4	1-13/32	3
DH501006	#27	.1440	3/16	13/16	2	DH501032	15/64	.2344	1/4	1-13/32	3
DH501007	#26	.1470	3/16	13/16	2	DH501033	B	.2380	1/4	1-19/32	3-1/8
DH501008	#25	.1495	3/16	7/8	2-1/16	DH501034	C	.2420	1/4	1-19/32	3-1/8
DH501009	#24	.1520	3/16	7/8	2-1/16	DH501035	D	.2460	1/4	1-19/32	3-1/8
DH501010	#23	.1540	3/16	7/8	2-1/16	DH501036	1/4	.2500	1/4	1-19/32	3-1/8
DH501011	5/32	.1562	3/16	7/8	2-1/16	DH501037	F	.2570	3/8	1-19/32	3-1/8
DH501012	#22	.1570	3/16	7/8	2-1/16	DH501038	G	.2610	3/8	1-19/32	3-1/8
DH501013	#21	.1590	3/16	7/8	2-1/16	DH501039	17/64	.2656	3/8	1-19/32	3-1/8
DH501014	#20	.1610	3/16	1	2-1/2	DH501040	I	.2720	3/8	1-25/32	3-3/8
DH501015	#19	.1660	3/16	1	2-1/2	DH501041	J	.2770	3/8	1-25/32	3-3/8
DH501016	11/64	.1719	3/16	1-1/8	2-3/4	DH501042	9/32	.2812	3/8	1-25/32	3-3/8
DH501017	#15	.1800	3/16	1-1/8	2-3/4	DH501043	L	.2900	3/8	1-25/32	3-3/8
DH501018	#14	.1820	3/16	1-1/8	2-3/4	DH501044	M	.2950	3/8	1-25/32	3-3/8
DH501019	3/16	.1875	3/16	1-1/8	2-3/4	DH501045	19/64	.2969	3/8	1-25/32	3-3/8
DH501020	#10	.1935	1/4	1-9/32	2-7/8	DH501046	N	.3020	3/8	1-31/32	3-7/8
DH501021	#9	.1960	1/4	1-9/32	2-7/8	DH501047	5/16	.3125	3/8	1-31/32	3-7/8
DH501022	#8	.1990	1/4	1-9/32	2-7/8	DH501048	O	.3160	3/8	1-31/32	3-7/8
DH501023	#7	.2010	1/4	1-9/32	2-7/8	DH501049	21/64	.3281	3/8	1-31/32	3-7/8
DH501024	13/64	.2031	1/4	1-9/32	2-7/8	DH501050	Q	.3320	3/8	1-31/32	3-7/8
DH501025	#6	.2040	1/4	1-9/32	2-7/8	DH501051	R	.3390	3/8	2-1/4	4-1/8
DH501026	#5	.2055	1/4	1-9/32	2-7/8	DH501052	11/32	.3438	3/8	2-1/4	4-1/8

▶ NEXT PAGE

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
for High Hardened Steels (HRc50~HRc70)

DH501 SERIES

- ▶ Drilling for High Hardened Steels; Quenched Steels, Tempered Steels (under HRc 70)
- ▶ Special geometry design for Hardened Steels
- ▶ Minimum of cutting load through special thinning
- ▶ Performing good chip removal and powerful drilling
- ▶ Tolerance : Dia. Tolerance ØD1 : See page 141
Shank Tolerance ØD2: -.0001 -.0005



EDP No.	Drill Diameter		Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter		Shank Diameter	Flute Length	Overall Length
	Fractional	Decimal					Fractional	Decimal			
TiAIN	D1		D2	L1	L2	TiAIN	D1		D2	L1	L2
DH501053	23/64	.3594	3/8	2-1/4	4-1/8	DH501079	11/16	.6875	3/4	3-11/16	5-5/8
DH501054	U	.3680	3/8	2-1/4	4-1/8	DH501080	45/64	.7031	3/4	3-11/16	5-5/8
DH501055	3/8	.3750	3/8	2-1/4	4-1/8	DH501081	23/32	.7188	3/4	3-3/4	6
DH501056	V	.3770	1/2	2-1/2	4-3/8	DH501082	47/64	.7344	3/4	3-3/4	6
DH501057	25/64	.3906	1/2	2-1/2	4-3/8	DH501083	3/4	.7500	3/4	3-3/4	6
DH501058	X	.3970	1/2	2-1/2	4-3/8						
DH501059	Y	.4040	1/2	2-1/2	4-3/8						
DH501060	13/32	.4062	1/2	2-1/2	4-3/8						
DH501061	Z	.4130	1/2	2-1/2	4-3/8						
DH501062	27/64	.4219	1/2	2-13/16	4-5/8						
DH501063	7/16	.4375	1/2	2-13/16	4-5/8						
DH501064	29/64	.4531	1/2	2-13/16	4-5/8						
DH501065	15/32	.4688	1/2	2-13/16	4-5/8						
DH501066	31/64	.4844	1/2	2-13/16	4-5/8						
DH501067	1/2	.5000	1/2	3-1/16	5						
DH501068	33/64	.5156	5/8	3-1/16	5						
DH501069	17/32	.5312	5/8	3-1/16	5						
DH501070	35/64	.5469	5/8	3-1/16	5						
DH501071	9/16	.5625	5/8	3-1/16	5						
DH501072	37/64	.5781	5/8	3-9/32	5-1/4						
DH501073	19/32	.5937	5/8	3-9/32	5-1/4						
DH501074	39/64	.6094	5/8	3-9/32	5-1/4						
DH501075	5/8	.6250	5/8	3-9/32	5-1/4						
DH501076	41/64	.6406	3/4	3-9/32	5-1/4						
DH501077	21/32	.6563	3/4	3-11/16	5-5/8						
DH501078	43/64	.6719	3/4	3-11/16	5-5/8						

◎ : 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				
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20			
VDI 3323																							
HRc																							
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	39.1	39.3	40	41	
VDI 3323																							
HRc																							
HB	60	100	75	90	130	110	90	100			15	30	25	38	34			55	60	70	42	55	
Recommended											200	280	250	350	320			400 Rm	1050 Rm	550	630	400	550
																		◎	◎	◎			

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
for High Hardened Steels (HRc50~HRc70)

DH500 SERIES

- ▶ Drilling for High Hardened Steels; Quenched Steels, Tempered Steels (under HRc 70)
- ▶ Special geometry design for Hardened Steels
- ▶ Minimum of cutting load through special thinning
- ▶ Performing good chip removal and powerful drilling



EDP No.	Drill Diameter		Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter		Shank Diameter	Flute Length	Overall Length
	Metric	Decimal					Metric	Decimal			
TiAIN	D1		D2	L1	L2	TiAIN	D1		D2	L1	L2
DH500010	1.0	.0394	3	6	40	DH500048	4.8	.1890	6	32	72
DH500011	1.1	.0433	3	6	40	DH500049	4.9	.1929	6	32	72
DH500012	1.2	.0472	3	6	40	DH500050	5.0	.1969	6	32	72
DH500013	1.3	.0512	3	8	40	DH500051	5.1	.2008	6	32	72
DH500014	1.4	.0551	3	8	40	DH500052	5.2	.2047	6	32	72
DH500015	1.5	.0591	3	8	40	DH500053	5.3	.2087	6	32	72
DH500016	1.6	.0630	3	10	40	DH500055	5.5	.2165	6	35	75
DH500017	1.7	.0669	3	10	40	DH500060	6.0	.2362	6	35	75
DH500018	1.8	.0709	3	10	40	DH500062	6.2	.2441	8	40	80
DH500019	1.9	.0748	3	10	40	DH500065	6.5	.2559	8	40	80
DH500020	2.0	.0787	3	12	42	DH500068	6.8	.2677	8	45	85
DH500025	2.5	.0984	3	14	44	DH500069	6.9	.2717	8	45	85
DH500026	2.6	.1024	3	16	44	DH500070	7.0	.2756	8	45	85
DH500028	2.8	.1102	3	16	46	DH500075	7.5	.2953	8	45	85
DH500030	3.0	.1181	3	18	46	DH500080	8.0	.3150	8	50	98
DH500033	3.3	.1299	4	18	48	DH500085	8.5	.3346	10	50	98
DH500034	3.4	.1339	4	20	50	DH500086	8.6	.3386	10	57	105
DH500035	3.5	.1378	4	20	50	DH500088	8.8	.3465	10	57	105
DH500038	3.8	.1496	4	22	52	DH500090	9.0	.3543	10	57	105
DH500040	4.0	.1575	4	22	52	DH500093	9.3	.3661	10	57	105
DH500041	4.1	.1614	6	25	65	DH500095	9.5	.3740	10	57	105
DH500042	4.2	.1654	6	25	65	DH500100	10.0	.3937	10	63	111
DH500043	4.3	.1693	6	28	68	DH500102	10.2	.4016	12	63	111
DH500044	4.4	.1732	6	28	68	DH500103	10.3	.4055	12	63	111
DH500045	4.5	.1772	6	28	68	DH500105	10.5	.4134	12	71	111
DH500046	4.6	.1811	6	28	68	DH500108	10.8	.4252	12	71	119

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◎ : Excellent ○ : Good

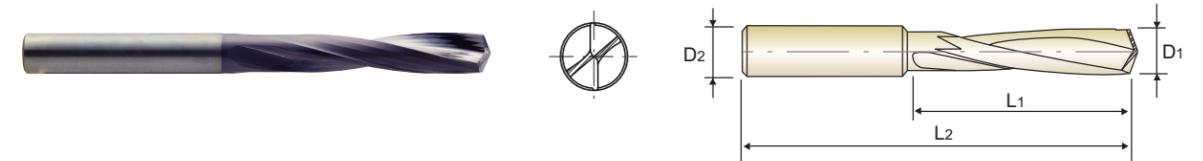
ISO	P										M				K								
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20			
HRc	13	25	28	30	32	32	32	32	38	38	35	35	23	10	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	39.1	39.3	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39.1	39.3	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39.1	39.3	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	55	60	70	42	55
Recommended																						

TiAIN-COATED SOLID CARBIDE DREAM DRILLS
for High Hardened Steels (HRc50~HRc70)

DH500 SERIES

- ▶ Drilling for High Hardened Steels; Quenched Steels, Tempered Steels (under HRc 70)
- ▶ Special geometry design for Hardened Steels
- ▶ Minimum of cutting load through special thinning
- ▶ Performing good chip removal and powerful drilling



EDP No.	Drill Diameter		Shank Diameter	Flute Length	Overall Length
	Metric	Decimal			
TiAIN	D1		D2	L1	L2
DH500110	11.0	.4331	12	71	119
DH500115	11.5	.4528	12	71	119
DH500120	12.0	.4724	12	71	119
DH500121	12.1	.4764	14	77	125
DH500140	14.0	.5512	14	77	125

◎ : 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
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	30	32	32	32	32	38	38	35	35	23	10	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	39.1	39.3	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39.1	39.3	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39.1	39.3	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	55	60	70	42	55
Recommended																						

DH501, DH500 SERIES without COOLANT HOLES

SFM = ft/min.
RPM = rev./min.
FEED = inch/rev.

ISO	VDI 3323	Material Description	SFM	Drill Diameter											
				METRIC	3.0	-	4.0	-	5.0	6.0	-	-	8.0	-	10.0
				FRACTIONAL	-	1/8	-	3/16	-	-	1/4	5/16	-	3/8	-
				DECIMAL	.1181	.1250	.1575	.1875	.1969	.2362	.2500	.3125	.3150	.3750	.3937
H	38	Hardened steel	66	RPM	2120	1590	1270	1060	800	640					
				FEED	.0004 - .0012	.0004 - .0016	.0004 - .0016	.0004 - .002	.0004 - .002	.0004 - .002	.0004 - .002				
			49	RPM	1590	1190	950	800	600	480					
				FEED	.0004 - .0012	.0004 - .0016	.0004 - .0016	.0004 - .002	.0004 - .002	.0004 - .002	.0004 - .002				
			39	RPM	1270	950	760	640	480	380					
				FEED	.0004 - .0012	.0004 - .0016	.0004 - .0016	.0004 - .002	.0004 - .002	.0004 - .002	.0004 - .002				

ISO	VDI 3323	Material Description	SFM	Drill Diameter								
				METRIC	12.0	-	14.0	-	-	16.0	18.0	-
				FRACTIONAL	-	1/2	-	9/16	5/8	-	-	3/4
				DECIMAL	.4724	.5000	.5512	.5625	.6250	.6299	.7087	.7500
H	38	Hardened steel	66	RPM	530	504	450	403	356	336		
				FEED	.0004 - .0024	.0004 - .0024	.0004 - .0024	.0004 - .0024	.0004 - .0024	.0004 - .0024	.0004 - .0024	
			49	RPM	400	374	340	299	299	250		
				FEED	.0004 - .0024	.0004 - .0024	.0004 - .0024	.0004 - .0024	.0004 - .0024	.0004 - .0024	.0004 - .0024	
			39	RPM	320	298	270	238	238	199		
				FEED	.0004 - .0024	.0004 - .0024	.0004 - .0024	.0004 - .0024	.0004 - .0024	.0004 - .0024	.0004 - .0024	



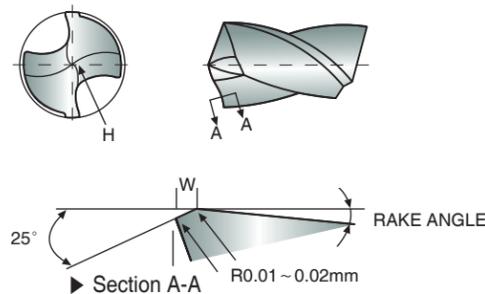
TECHNICAL DATA

1 CHARACTERISTIC OF DREAM DRILLS

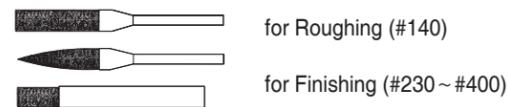
- YG-1's Dream Drill Series are suitable for high speed and accurate drilling operations by special design and high quality.
- Good performance for Steels, Cast Irons, Tool steels, Alloy steels and Stainless steels, Aluminum and Composite Material.
- Rapid chip evacuation and excellent chip breaking can be achieved by special designed cutting edges on point and chip breakers on leading edges.
- High accuracy and stability.
- Longer tool life with TiAlN coating.
- Self-centering

2 HONING GUIDE OF DREAM DRILLS

Dimension of Honing



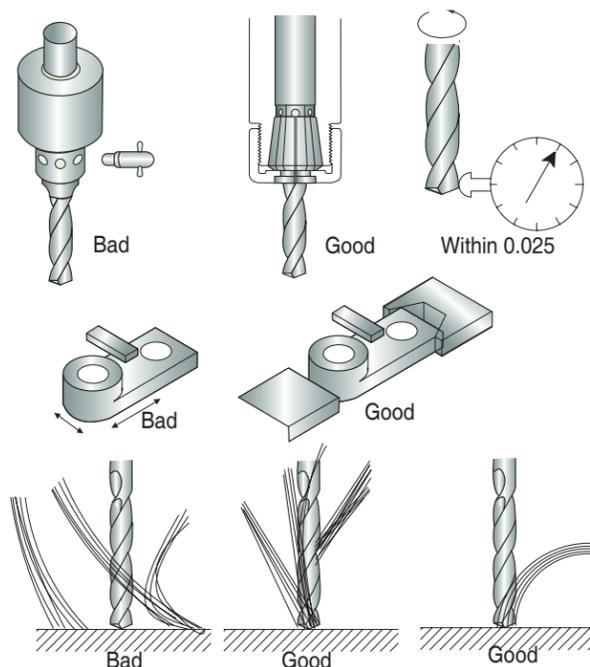
Scraper



Work Material	Alloy Steels	Mild Steels	Cast Iron
W(mm)	0.15 ~ 0.2	0.1 ~ 0.15	0.03

▶ The dimension W of stocked products is 0.1 ~ 0.15.

3 USE OF DREAM DRILLS

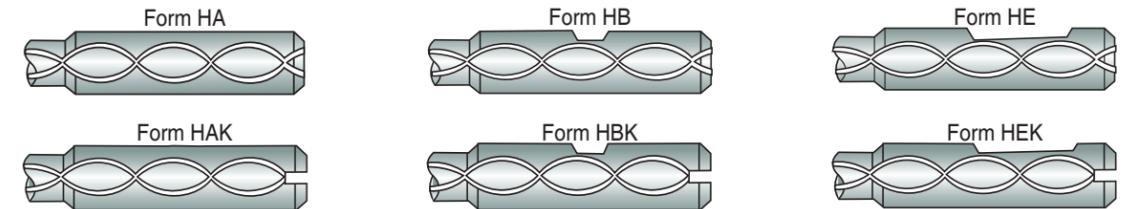


- ▶ Chucking with spring collet correctly.
- ▶ Radial run out at cutting lip must not exceed 0.025 mm.

▶ Tighten clamp of work piece.

- ▶ Supply coolant enough to the entrance of holes.
- ▶ In using Dream Drill with Coolant holes, high pressure coolant is needed.

4 SHANK TYPE DREAM DRILLS WITH COOLANT HOLES



▶ If you need other Shank Type, we can supply them.

5 DRILL DIAMETER TOLERANCE INCH

μm = 1/1000mm

up to .118	over .118 up to .236	over .236 up to .394	over .394 up to .709
+0 -.00055	+0 -.00071	+0 -.00087	+0 -.00106

6 DRILL DIAMETER TOLERANCE METRIC

Diameter (mm)	1 - 3 from to	3 - 6 over to	6 - 10 over to	10 - 18 over to	18 - 30 over to
h6	0 -.00024	0 -.00032	0 -.00036	0 -.00044	0 -.00052
h7	0 -.0004	0 -.00048	0 -.00059	0 -.00071	0 -.00083
h8	0 -.00056	0 -.00071	0 -.00087	0 -.00107	0 -.00130
m7	+0.00048 +0.00007	+0.00063 +0.00015	+0.00083 +0.00023	+0.00099 +0.00027	+0.00114 +0.00031

7 COOLANT RECOMMENDATIONS FOR CARBIDE DREAM DRILLS

