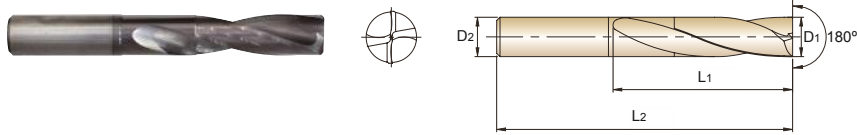




## X-COATED SOLID CARBIDE DREAM DRILLS Flat Bottom without Coolant Holes (2XD)

**SHORT**  
**DPP447 SERIES**

- ▶ For holes on various angled surfaces.
- ▶ 180 degree point angle enables drilling of flat, inclined and curved surfaces.
- ▶ Optimized flute shape for excellent chip evacuation.
- ▶ High strength cutting edge to improve tool life and versatility drilling.
- ▶ For through holes, minimized burrs at entrance and exit when drilling thin plate.



2 × D

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
	D1	D2	L1	L2
X-Coating				
DPP447086	8.6	10	38	80
DPP447087	8.7	10	40	80
DPP447088	8.8	10	40	80
DPP447089	8.9	10	40	80
DPP447090	9.0	10	40	80
DPP447091	9.1	10	42	80
DPP447092	9.2	10	42	80
DPP447093	9.3	10	42	80
DPP447094	9.4	10	42	80
DPP447095	9.5	10	42	80
DPP447096	9.6	10	42	80
DPP447097	9.7	10	45	80
DPP447098	9.8	10	45	80
DPP447099	9.9	10	45	80
DPP447100	10.0	10	45	80
DPP447101	10.1	12	46	90
DPP447102	10.2	12	46	90
DPP447103	10.3	12	46	90
DPP447104	10.4	12	48	90
DPP447105	10.5	12	48	90
DPP447106	10.6	12	48	90
DPP447107	10.7	12	48	90
DPP447108	10.8	12	48	90
DPP447109	10.9	12	48	90
DPP447110	11.0	12	48	90
DPP447111	11.1	12	50	90

▶ Other shank types are available on your request.

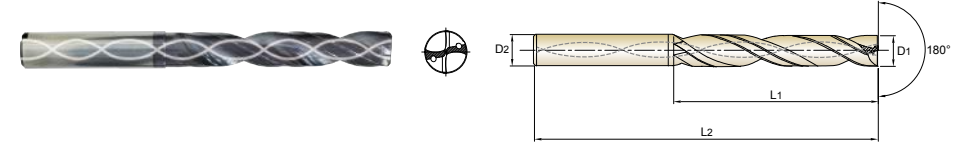
◎ : Excellent ○ : Good

P		H		M	K	N			S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels	Stainless Steels	Cast Iron	Aluminum	Copper	Bronze	CFRP	Titanium
~HB225	HB225~325	HRc30~45	HRc45~55	HRc55~						
◎	◎	◎	○	○	◎	○	○	○		

## TIAlN-COATED SOLID CARBIDE DREAM DRILLS Flat Bottom with Coolant Holes (5XD)

**LONG**  
**DH450 SERIES**

- ▶ For holes on various angled surfaces.
- ▶ 180 degree point angle enables drilling of flat, inclined and curved surfaces.
- ▶ Slope surface needs pilot drilling with YG-1 flat bottom drill(2XD) and flat surface needs pilot drilling with YG-1 dream drill general.
- ▶ Optimized flute shape for excellent chip evacuation.
- ▶ High strength cutting edge to improve tool life and versatility drilling.
- ▶ For through holes, minimized burrs at entrance and exit when drilling thin plate.
- ▶ Double margin provides good alignments with hole straightness and roundness to improve tool life and versatility drilling.



5 × D

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
	D1	D2	L1	L2
TiAlN-Coating				
DH450030	3.0	6	28	66
DH450031	3.1	6	28	66
DH450032	3.2	6	28	66
DH450033	3.3	6	28	66
DH450034	3.4	6	28	66
DH450035	3.5	6	28	66
DH450036	3.6	6	28	66
DH450037	3.7	6	28	66
DH450038	3.8	6	36	74
DH450039	3.9	6	36	74
DH450040	4.0	6	36	74
DH450041	4.1	6	36	74
DH450042	4.2	6	36	74
DH450043	4.3	6	36	74
DH450044	4.4	6	36	74
DH450045	4.5	6	36	74
DH450046	4.6	6	36	74
DH450047	4.7	6	36	74
DH450048	4.8	6	44	82
DH450049	4.9	6	44	82
DH450050	5.0	6	44	82
DH450051	5.1	6	44	82

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
	D1	D2	L1	L2
TiAlN-Coating				
DH450052	5.2	6	44	82
DH450053	5.3	6	44	82
DH450054	5.4	6	44	82
DH450055	5.5	6	44	82
DH450056	5.6	6	44	82
DH450057	5.7	6	44	82
DH450058	5.8	6	44	82
DH450059	5.9	6	44	82
DH450060	6.0	6	44	82
DH450061	6.1	8	53	91
DH450062	6.2	8	53	91
DH450063	6.3	8	53	91
DH450064	6.4	8	53	91
DH450065	6.5	8	53	91
DH450066	6.6	8	53	91
DH450067	6.7	8	53	91
DH450068	6.8	8	53	91
DH450069	6.9	8	53	91
DH450070	7.0	8	53	91
DH450071	7.1	8	53	91
DH450072	7.2	8	53	91
DH450073	7.3	8	53	91

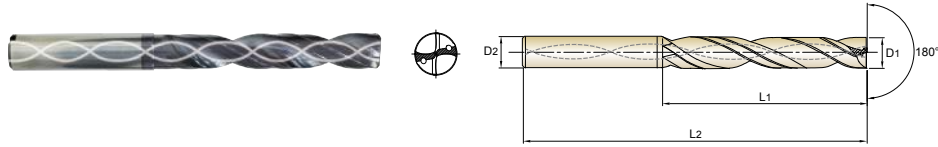
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◎ : Excellent ○ : Good

P		H		M	K	N			S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels	Stainless Steels	Cast Iron	Aluminum	Copper	Bronze	CFRP	Titanium
~HB225	HB225~325	HRc30~45	HRc45~55	HRc55~						
◎	◎	◎	○	○	◎	○	○	○		

**TiAlN-COATED SOLID CARBIDE DREAM DRILLS**  
**Flat Bottom with Coolant Holes (5XD)**
**NEW SERIES**
**DH450 SERIES**
**LONG**

- ▶ For holes on various angled surfaces.
- ▶ 180 degree point angle enables drilling of flat, inclined and curved surfaces.
- ▶ Slope surface needs pilot drilling with YG-1 flat bottom drill(2XD) and flat surface needs pilot drilling with YG-1 dream drill general.
- ▶ Optimized flute shape for excellent chip evacuation.
- ▶ High strength cutting edge to improve tool life and versatility drilling.
- ▶ For through holes, minimized burrs at entrance and exit when drilling thin plate.
- ▶ Double margin provides good alignments with hole straightness and roundness to improve tool life and versatility drilling.


**5 × D**

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	
				L1	L2
TiAlN-Coating	D1	D2	L1	L2	
DH450074	7.4	8	53	91	
DH450075	7.5	8	53	91	
DH450076	7.6	8	53	91	
DH450077	7.7	8	53	91	
DH450078	7.8	8	53	91	
DH450079	7.9	8	53	91	
DH450080	8.0	8	53	91	
DH450081	8.1	10	61	103	
DH450082	8.2	10	61	103	
DH450083	8.3	10	61	103	
DH450084	8.4	10	61	103	
DH450085	8.5	10	61	103	
DH450086	8.6	10	61	103	
DH450087	8.7	10	61	103	
DH450088	8.8	10	61	103	
DH450089	8.9	10	61	103	
DH450090	9.0	10	61	103	
DH450091	9.1	10	61	103	
DH450092	9.2	10	61	103	
DH450093	9.3	10	61	103	
DH450094	9.4	10	61	103	
DH450095	9.5	10	61	103	

Unit : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	
				L1	L2
TiAlN-Coating	D1	D2	L1	L2	
DH450096	9.6	10	61	103	
DH450097	9.7	10	61	103	
DH450098	9.8	10	61	103	
DH450099	9.9	10	61	103	
DH450100	10.0	10	61	103	
DH450102	10.2	12	71	118	
DH450105	10.5	12	71	118	
DH450108	10.8	12	71	118	
DH450110	11.0	12	71	118	
DH450115	11.5	12	71	118	
DH450118	11.8	12	71	118	
DH450119	11.9	12	71	118	
DH450120	12.0	12	71	118	
DH450125	12.5	14	77	124	
DH450130	13.0	14	77	124	
DH450135	13.5	14	77	124	
DH450140	14.0	14	77	124	
DH450145	14.5	16	83	133	
DH450150	15.0	16	83	133	
DH450155	15.5	16	83	133	
DH450160	16.0	16	83	133	
DH450165	16.5	18	93	143	

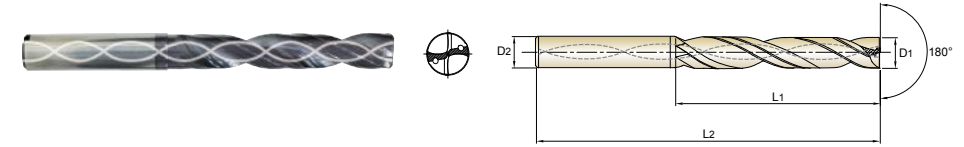
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◎ : Excellent ○ : Good

P		H		M	K	N				S
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels	Stainless Steels	Cast Iron	Aluminum	Copper	Bronze	CFRP	Titanium
~HB225	HB225~325	HRc30~45	HRc45~55 HRc55~		◎	○	○			

**TiAlN-COATED SOLID CARBIDE DREAM DRILLS**  
**Flat Bottom with Coolant Holes (5XD)**
**NEW SERIES**
**DH450 SERIES**
**LONG**

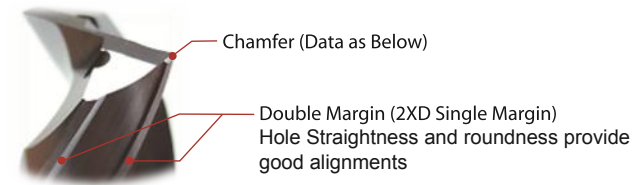
- ▶ For holes on various angled surfaces.
- ▶ 180 degree point angle enables drilling of flat, inclined and curved surfaces.
- ▶ Slope surface needs pilot drilling with YG-1 flat bottom drill(2XD) and flat surface needs pilot drilling with YG-1 dream drill general.
- ▶ Optimized flute shape for excellent chip evacuation.
- ▶ High strength cutting edge to improve tool life and versatility drilling.
- ▶ For through holes, minimized burrs at entrance and exit when drilling thin plate.
- ▶ Double margin provides good alignments with hole straightness and roundness to improve tool life and versatility drilling.


**5 × D**

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	
				L1	L2
TiAlN-Coating	D1	D2	L1	L2	
DH450170	17.0	18	93	143	
DH450175	17.5	18	93	143	
DH450180	18.0	18	93	143	
DH450185	18.5	20	101	153	

Unit : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	
				L1	L2
TiAlN-Coating	D1	D2	L1	L2	
DH450190	19.0	20	101	153	
DH450195	19.5	20	101	153	
DH450200	20.0	20	101	153	



Cutting Diameter (mm)	Corner Chamfer (mm)
Ø3.0 ~ Ø6.0	0.06
Ø6.1 ~ Ø10.0	0.12
Ø10.1 ~ Ø14.0	0.18
Ø14.1 ~ Ø20.0	0.26

◎ : Excellent ○ : Good

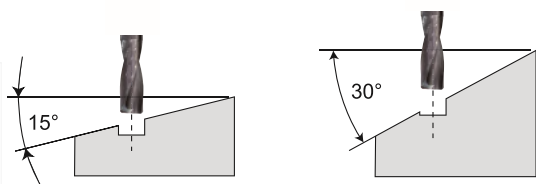
P		H		M	K	N				S
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels	Stainless Steels	Cast Iron	Aluminum	Copper	Bronze	CFRP	Titanium
~HB225	HB225~325	HRc30~45	HRc45~55 HRc55~		◎	○	○			

**X-COATED SOLID CARBIDE DREAM DRILLS**  
Flat Bottom without Coolant Holes

**DPP447 SERIES**

WORK MATERIAL	P								M		K		N	
	STRUCTURAL STEELS		CARBON STEELS ALLOY STEELS		PREHARDENED STEELS		HARDEND STEELS		STAINLESS STEELS		CAST IRON		ALUMINUM	
STRENGTH			<HB225		HRc30 ~ 40		HRc40 ~ 50		~ 200 HB					
DRILLING SPEED	80 m/min		70 m/min		38 m/min		25 m/min		30 m/min		68 m/min		165 m/min	
DRILLING DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
3.0	8350	0.05	7250	0.05	3890	0.05	2790	0.03	3180	0.02	7250	0.04	17850	0.06
4.0	6250	0.07	5410	0.07	2940	0.06	2100	0.04	2380	0.03	5410	0.06	13130	0.08
5.0	5040	0.08	4360	0.08	2310	0.08	1680	0.05	1910	0.04	4360	0.07	10500	0.10
6.0	4200	0.10	3630	0.10	1890	0.09	1370	0.06	1590	0.05	3630	0.09	8930	0.12
8.0	3150	0.14	2730	0.13	1470	0.12	1050	0.08	1190	0.06	2730	0.12	6670	0.16
10.0	2520	0.17	2160	0.17	1160	0.15	840	0.10	955	0.08	2160	0.15	5360	0.20
12.0	2100	0.21	1790	0.21	1000	0.18	690	0.12	796	0.10	1790	0.18	4470	0.24
16.0	1580	0.28	1370	0.28	740	0.24	530	0.16	597	0.12	1370	0.24	3360	0.32
20.0	1260	0.35	1110	0.34	580	0.31	420	0.20	477	0.15	1110	0.30	2680	0.40

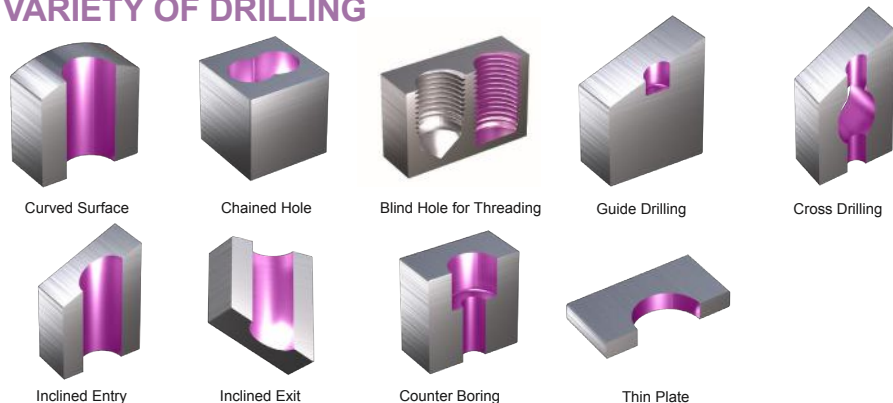
RPM = rev./min.  
FEED = mm/rev.



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

- ▶ 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.

**VARIETY OF DRILLING**



**TiAIN-COATED SOLID CARBIDE DREAM DRILLS**  
Flat Bottom with Coolant Holes

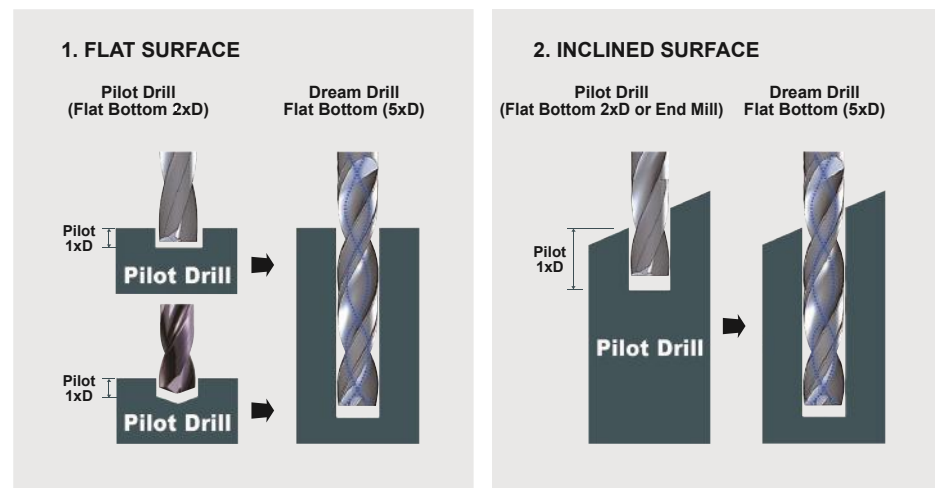
**DH450 SERIES**

WORK MATERIAL	P								M		K		N	
	STRUCTURAL STEELS		CARBON STEELS ALLOY STEELS		PREHARDENED STEELS		HARDEND STEELS		STAINLESS STEELS		CAST IRON		ALUMINUM	
STRENGTH			<HB225		HRc30 ~ 40		HRc40 ~ 50		~ 200 HB					
DRILLING SPEED	147 m/min		105 m/min		73 m/min		63 m/min		104 m/min		105 m/min		172 m/min	
DRILLING DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
3.0	15540	0.09	11130	0.06	7770	0.04	6690	0.04	11030	0.06	11130	0.05	17850	0.09
4.0	11660	0.12	8300	0.08	5830	0.06	5020	0.06	8300	0.08	8300	0.06	14390	0.11
5.0	9350	0.15	6620	0.10	4670	0.07	4010	0.07	6620	0.10	6620	0.08	10710	0.15
6.0	7770	0.18	5570	0.12	3890	0.09	3340	0.09	5570	0.12	5570	0.09	9980	0.16
8.0	5850	0.24	4150	0.16	2930	0.12	2510	0.12	4150	0.16	4150	0.12	6690	0.24
10.0	4680	0.30	3310	0.20	2340	0.15	2000	0.15	3310	0.20	3310	0.15	5360	0.30
12.0	3890	0.36	2780	0.24	1950	0.18	1670	0.18	2780	0.24	2780	0.18	4450	0.36
16.0	2930	0.48	2090	0.32	1460	0.24	1250	0.24	2090	0.32	2090	0.24	3340	0.48
20.0	2340	0.60	1660	0.40	1170	0.30	1000	0.30	1660	0.40	1660	0.30	2740	0.59

- ▶ Required pilot hole of the same diameter before using the 5xD Flat bottom Drills.
- ▶ The above table values is for under 5xD depth with pilot drilling operation.

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

**DREAM DRILLS · FLAT BOTTOM - Pilot Drilling for 5 X D**



- ▶ For Flat bottom 5xD drilling depth, Slope surface needs Pilot Drilling with YG-1 Flat Bottom Drill (2XD) and Flat surface needs Pilot Drilling with YG-1 Dream Drill General.
- ▶ Pilot Drilling Depth : around 1XD
- ▶ Pilot Drilling Diameter : same size diameter