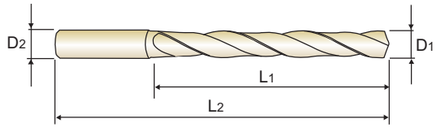
RCH-COATED SOLID CARBIDE

DREAM DRILL X without COOLANT HOLES (5XD)

SERIES NEW DTX424

- Upgraded coating for higher Tool Life in various materials
- Soft cutting action and reduced axial forces; Easy to Recondition
- Good self-centering even at low feed rates and unstable situations
- Excellent Chip breaking and chip evacuation



DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | RCH Coating

p.40

LONG 5× D

Unit : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
RCH-Coating	D1	D2	L1	L2
DTX424010	1.0	3	8	55
DTX424011	1.1	3	12	55
DTX424012	1.2	3	12	55
DTX424013	1.3	3	12	55
DTX424014	1.4	3	12	55
DTX424015	1.5	3	16	55
DTX424016	1.6	3	16	55
DTX424017	1.7	3	16	55
DTX424018	1.8	3	16	55
DTX424019	1.9	3	16	55
DTX424020	2.0	4	21	57
DTX424021	2.1	4	21	57
DTX424022	2.2	4	21	57
DTX424023	2.3	4	21	57
DTX424024	2.4	4	21	57
DTX424025	2.5	4	21	57
DTX424026	2.6	4	21	57
DTX424027	2.7	4	21	57
DTX424028	2.8	4	21	57
DTX424029	2.9	4	21	57
DTX424030	3.0	6	28	66
DTX424031	3.1	6	28	66
DTX424032	3.2	6	28	66
DTX424033	3.3	6	28	66
DTX424034	3.4	6	28	66
DTX424035	3.5	6	28	66
DTX424036	3.6	6	28	66
DTX424037	3.7	6	28	66

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
RCH-Coating	D1	D2	L1	L2
DTX424038	3.8	6	36	74
DTX424039	3.9	6	36	74
DTX424040	4.0	6	36	74
DTX424041	4.1	6	36	74
DTX424042	4.2	6	36	74
DTX424043	4.3	6	36	74
DTX424044	4.4	6	36	74
DTX424045	4.5	6	36	74
DTX424046	4.6	6	36	74
DTX424047	4.7	6	36	74
DTX424048	4.8	6	44	82
DTX424049	4.9	6	44	82
DTX424050	5.0	6	44	82
DTX424051	5.1	6	44	82
DTX424052	5.2	6	44	82
DTX424053	5.3	6	44	82
DTX424054	5.4	6	44	82
DTX424055	5.5	6	44	82
DTX424056	5.6	6	44	82
DTX424057	5.7	6	44	82
DTX424058	5.8	6	44	82
DTX424059	5.9	6	44	82
DTX424060	6.0	6	44	82
DTX424061	6.1	8	53	91
DTX424062	6.2	8	53	91
DTX424063	6.3	8	53	91
DTX424064	6.4	8	53	91
DTX424065	6.5	8	53	91

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : Excellent ○ : Good

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

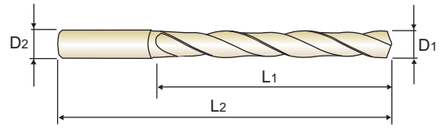
ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze /Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29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

RCH-COATED SOLID CARBIDE

DREAM DRILL X without COOLANT HOLES (5XD)

SERIES NEW DTX424

- Upgraded coating for higher Tool Life in various materials
- Soft cutting action and reduced axial forces; Easy to Recondition
- Good self-centering even at low feed rates and unstable situations
- Excellent Chip breaking and chip evacuation



DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | RCH Coating

p.40

LONG 5× D

Unit : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
RCH-Coating	D1	D2	L1	L2
DTX424066	6.6	8	53	91
DTX424067	6.7	8	53	91
DTX424068	6.8	8	53	91
DTX424069	6.9	8	53	91
DTX424070	7.0	8	53	91
DTX424071	7.1	8	53	91
DTX424072	7.2	8	53	91
DTX424073	7.3	8	53	91
DTX424074	7.4	8	53	91
DTX424075	7.5	8	53	91
DTX424076	7.6	8	53	91
DTX424077	7.7	8	53	91
DTX424078	7.8	8	53	91
DTX424079	7.9	8	53	91
DTX424080	8.0	8	53	91
DTX424081	8.1	10	61	103
DTX424082	8.2	10	61	103
DTX424083	8.3	10	61	103
DTX424084	8.4	10	61	103
DTX424085	8.5	10	61	103
DTX424086	8.6	10	61	103
DTX424087	8.7	10	61	103
DTX424088	8.8	10	61	103
DTX424089	8.9	10	61	103
DTX424090	9.0	10	61	103
DTX424091	9.1	10	61	103
DTX424092	9.2	10	61	103
DTX424093	9.3	10	61	103

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
RCH-Coating	D1	D2	L1	L2
DTX424094	9.4	10	61	103
DTX424095	9.5	10	61	103
DTX424096	9.6	10	61	103
DTX424097	9.7	10	61	103
DTX424098	9.8	10	61	103
DTX424099	9.9	10	61	103
DTX424100	10.0	10	61	103
DTX424101	10.1	12	71	118
DTX424102	10.2	12	71	118
DTX424103	10.3	12	71	118
DTX424104	10.4	12	71	118
DTX424105	10.5	12	71	118
DTX424106	10.6	12	71	118
DTX424107	10.7	12	71	118
DTX424108	10.8	12	71	118
DTX424109	10.9	12	71	118
DTX424110	11.0	12	71	118
DTX424111	11.1	12	71	118
DTX424112	11.2	12	71	118
DTX424113	11.3	12	71	118
DTX424114	11.4	12	71	118
DTX424115	11.5	12	71	118
DTX424116	11.6	12	71	118
DTX424117	11.7	12	71	118
DTX424118	11.8	12	71	118
DTX424119	11.9	12	71	118
DTX424120	12.0	12	71	118
DTX424125	12.5	14	77	124

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : Excellent ○ : Good

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

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

RCH-COATED SOLID CARBIDE

DREAM DRILL X without COOLANT HOLES (5XD)

SERIES NEW DTX424

- Upgraded coating for higher Tool Life in various materials
- Soft cutting action and reduced axial forces; Easy to Recondition
- Good self-centering even at low feed rates and unstable situations
- Excellent Chip breaking and chip evacuation

DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | RCH Coating

p.40

LONG 5× D

Unit : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
RCH-Coating	D1	D2	L1	L2
DTX424130	13.0	14	77	124
DTX424135	13.5	14	77	124
DTX424140	14.0	14	77	124
DTX424145	14.5	16	83	133
DTX424150	15.0	16	83	133
DTX424155	15.5	16	83	133
DTX424160	16.0	16	83	133
DTX424165	16.5	18	93	143

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
RCH-Coating	D1	D2	L1	L2
DTX424170	17.0	18	93	143
DTX424175	17.5	18	93	143
DTX424180	18.0	18	93	143
DTX424185	18.5	20	101	153
DTX424190	19.0	20	101	153
DTX424195	19.5	20	101	153
DTX424200	20.0	20	101	153

▶ Other shank types are available on your request.

◎ : Excellent ○ : Good

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

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

RCH-COATED SOLID CARBIDE

DREAM DRILL X with COOLANT HOLES (3XD)

SERIES NEW DTX406

- Upgraded coating for higher Tool Life in various materials
- Soft cutting action and reduced axial forces; Easy to Recondition
- Good self-centering even at low feed rates and unstable situations
- Excellent Chip breaking and chip evacuation

DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | 20 bar | RCH Coating

p.41

SHORT 3× D

Unit : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
RCH-Coating	D1	D2	L1	L2
DTX406030	3.0	6	20	62
DTX406031	3.1	6	20	62
DTX406032	3.2	6	20	62
DTX406033	3.3	6	20	62
DTX406034	3.4	6	20	62
DTX406035	3.5	6	20	62
DTX406036	3.6	6	20	62
DTX406037	3.7	6	20	62
DTX406038	3.8	6	24	66
DTX406039	3.9	6	24	66
DTX406040	4.0	6	24	66
DTX406041	4.1	6	24	66
DTX406042	4.2	6	24	66
DTX406043	4.3	6	24	66
DTX406044	4.4	6	24	66
DTX406045	4.5	6	24	66
DTX406046	4.6	6	24	66
DTX406047	4.7	6	24	66
DTX406048	4.8	6	28	66
DTX406049	4.9	6	28	66
DTX406050	5.0	6	28	66
DTX406051	5.1	6	28	66
DTX406052	5.2	6	28	66
DTX406053	5.3	6	28	66
DTX406054	5.4	6	28	66
DTX406055	5.5	6	28	66
DTX406056	5.6	6	28	66
DTX406057	5.7	6	28	66

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
RCH-Coating	D1	D2	L1	L2
DTX406058	5.8	6	28	66
DTX406059	5.9	6	28	66
DTX406060	6.0	6	28	66
DTX406061	6.1	8	34	79
DTX406062	6.2	8	34	79
DTX406063	6.3	8	34	79
DTX406064	6.4	8	34	79
DTX406065	6.5	8	34	79
DTX406066	6.6	8	34	79
DTX406067	6.7	8	34	79
DTX406068	6.8	8	34	79
DTX406069	6.9	8	34	79
DTX406070	7.0	8	34	79
DTX406071	7.1	8	41	79
DTX406072	7.2	8	41	79
DTX406073	7.3	8	41	79
DTX406074	7.4	8	41	79
DTX406075	7.5	8	41	79
DTX406076	7.6	8	41	79
DTX406077	7.7	8	41	79
DTX406078	7.8	8	41	79
DTX406079	7.9	8	41	79
DTX406080	8.0	8	41	79
DTX406081	8.1	10	47	89
DTX406082	8.2	10	47	89
DTX406083	8.3	10	47	89
DTX406084	8.4	10	47	89
DTX406085	8.5	10	47	89

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : Excellent ○ : Good

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

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

DTX404, DTX423, DTX424 SERIES without COOLANT HOLES

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

ISO	VDI 3323	Material Description	Vc	Parameter	Drill Diameter (mm) 1.0	2.0	Vc	Parameter	3.0	4.0	5.0	6.0
P	2	Non-alloy steel	70	RPM	22280	11140	100	RPM	10610	7960	6370	5310
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22
	3		70	RPM	22280	11140	100	RPM	10610	7960	6370	5310
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22
	4		70	RPM	22280	11140	100	RPM	10610	7960	6370	5310
				FEED	0.03-0.05	0.05-0.07		FEED	0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18
	5		60	RPM	19100	9550	80	RPM	8490	6370	5090	4240
				FEED	0.03-0.05	0.05-0.07		FEED	0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18
	6	Low alloy steel	70	RPM	22280	11140	100	RPM	10610	7960	6370	5310
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22
	7		60	RPM	19100	9550	80	RPM	8490	6370	5090	4240
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22
	8		60	RPM	19100	9550	80	RPM	8490	6370	5090	4240
				FEED	0.02-0.04	0.03-0.05		FEED	0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18
	9		30	RPM	9550	4770	40	RPM	4240	3180	2550	2120
				FEED	0.02-0.04	0.03-0.05		FEED	0.03-0.08	0.05-0.11	0.08-0.14	0.10-0.16
	10	High alloyed steel, and tool steel	50	RPM	15920	7960	70	RPM	7430	5570	4460	3710
				FEED	0.03-0.05	0.05-0.07		FEED	0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18
	11		30	RPM	9550	4770	40	RPM	4240	3180	2550	2120
				FEED	0.02-0.04	0.03-0.05		FEED	0.03-0.08	0.05-0.11	0.08-0.14	0.10-0.16
M	12	Stainless steel	50	RPM	15920	7960	70	RPM	7430	5570	4460	3710
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22
	13		35	RPM	11140	5570	45	RPM	4770	3580	2860	2390
				FEED	0.02-0.04	0.03-0.05		FEED	0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18
K	15	Grey cast iron	70	RPM	22280	11140	100	RPM	10610	7960	6370	5310
				FEED	0.04-0.06	0.04-0.06		FEED	0.08-0.14	0.12-0.18	0.15-0.22	0.20-0.26
	16		65	RPM	20690	10350	80	RPM	8490	6370	5090	4240
				FEED	0.04-0.06	0.04-0.06		FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22
	17	Nodular cast iron	70	RPM	22280	11140	100	RPM	10610	7960	6370	5310
				FEED	0.04-0.06	0.04-0.06		FEED	0.08-0.14	0.12-0.18	0.15-0.22	0.20-0.26
	18		50	RPM	15920	7960	70	RPM	7430	5570	4460	3710
				FEED	0.04-0.06	0.04-0.06		FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22
	19	Malleable cast iron	60	RPM	19100	9550	80	RPM	8490	6370	5090	4240
				FEED	0.04-0.06	0.04-0.06		FEED	0.08-0.14	0.12-0.18	0.15-0.22	0.20-0.26
	20		50	RPM	15920	7960	70	RPM	7430	5570	4460	3710
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22
H	38	Hardened steel	20	RPM	6370	3180	25	RPM	2650	1990	1590	1330
				FEED	0.01-0.02	0.01-0.03		FEED	0.01-0.03	0.01-0.04	0.02-0.05	0.03-0.06

ISO	VDI 3323	Material Description	Vc	Parameter	Drill Diameter (mm) 8.0	10.0	12.0	14.0	16.0	18.0	20.0
P	2	Non-alloy steel	100	RPM	3980	3180	2650	2270	1990	1770	1590
				FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	3		100	RPM	3980	3180	2650	2270	1990	1770	1590
				FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	4		100	RPM	3980	3180	2650	2270	1990	1770	1590
				FEED	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
	5		80	RPM	3180	2550	2120	1820	1590	1410	1270
				FEED	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
	6	Low alloy steel	100	RPM	3980	3180	2650	2270	1990	1770	1590
				FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	7		80	RPM	3180	2550	2120	1820	1590	1410	1270
				FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	8		80	RPM	3180	2550	2120	1820	1590	1410	1270
				FEED	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
	9		40	RPM	1590	1270	1060	910	800	710	640
				FEED	0.12-0.18	0.13-0.19	0.14-0.20	0.15-0.21	0.16-0.22	0.17-0.25	0.18-0.28
	10	High alloyed steel, and tool steel	70	RPM	2790	2230	1860	1590	1390	1240	1110
				FEED	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
	11		40	RPM	1590	1270	1060	910	800	710	640
				FEED	0.12-0.18	0.13-0.19	0.14-0.20	0.15-0.21	0.16-0.22	0.17-0.25	0.18-0.28
M	12	Stainless steel	70	RPM	2790	2230	1860	1590	1390	1240	1110
				FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	13		45	RPM	1790	1430	1190	1020	900	800	720
				FEED	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
K	15	Grey cast iron	100	RPM	3980	3180	2650	2270	1990	1770	1590
				FEED	0.22-0.28	0.25-0.33	0.27-0.35	0.29-0.37	0.31-0.39	0.32-0.42	0.34-0.44
	16		80	RPM	3180	2550	2120	1820	1590	1410	1270
				FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	17	Nodular cast iron	100	RPM	3980	3180	2650	2270	1990	1770	1590
				FEED	0.22-0.28	0.25-0.33	0.27-0.35	0.29-0.37	0.31-0.39	0.32-0.42	0.34-0.44
	18		70	RPM	2790	2230	1860	1590	1390	1240	1110
				FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	19	Malleable cast iron	80	RPM	3180	2550	2120	1820	1590	1410	1270
				FEED	0.22-0.28	0.25-0.33	0.27-0.35	0.29-0.37	0.31-0.39	0.32-0.42	0.34-0.44
	20		70	RPM	2790	2230	1860	1590	1390	1240	1110
				FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
H	38	Hardened steel	25	RPM	990	800	660	570	500	440	400
				FEED	0.03-0.06	0.04-0.07	0.04-0.08	0.05-0.09	0.05-0.09	0.05-0.10	0.05-0.10

▶ Recommend to reduce the feed rate as following **Feed 100%** : DTX404(3×D), DTX423(3×D), DTX424(5×D)

DTX406, DTX408, DTX421 SERIES with COOLANT HOLES

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

ISO	VDI 3323	Material Description	Vc	Parameter	Drill Diameter (mm) 1.0	2.0	Vc	Parameter	3.0	4.0	5.0	6.0
P	2	Non-alloy steel	80	RPM	25460	12730	110	RPM	11670	8750	7000	5840
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22
	3		80	RPM	25460	12730	110	RPM	11670	8750	7000	5840
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22
	4		80	RPM	25460	12730	110	RPM	11670	8750	7000	5840
				FEED	0.03-0.05	0.05-0.07		FEED	0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18
	5		70	RPM	22280	11140	90	RPM	9550	7160	5730	4770
				FEED	0.03-0.05	0.05-0.07		FEED	0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18
	6	Low alloy steel	80	RPM	25460	12730	110	RPM	11670	8750	7000	5840
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22
	7		70	RPM	22280	11140	90	RPM	9550	7160	5730	4770
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22
	8		70	RPM	22280	11140	90	RPM	9550	7160	5730	4770
				FEED	0.02-0.04	0.03-0.05		FEED	0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18
	9		40	RPM	12730	6370	50	RPM	5310	3980	3180	2650
				FEED	0.02-0.04	0.03-0.05		FEED	0.03-0.08	0.05-0.11	0.08-0.14	0.10-0.16
	10	High alloyed steel, and tool steel	60	RPM	19100	9550	80	RPM	8490	6370	5090	4240
				FEED	0.03-0.05	0.05-0.07		FEED	0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18
	11		40	RPM	12730	6370	45	RPM	4770	3580	2860	2390
				FEED	0.02-0.04	0.03-0.05		FEED	0.03-0.08	0.05-0.11	0.08-0.14	0.10-0.16
M	12	Stainless steel	60	RPM	19100	9550	80	RPM	8490	6370	5090	4240
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22
	13		45	RPM	14320	7160	55	RPM	5840	4380	3500	2920
				FEED	0.02-0.04	0.03-0.05		FEED	0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18
K	15	Grey cast iron	80	RPM	25460	12730	110	RPM	11670	8750	7000	5840
				FEED	0.04-0.06	0.04-0.06		FEED	0.08-0.14	0.12-0.18	0.15-0.22	0.20-0.26
	16		75	RPM	23870	11940	95	RPM	10080	7560	6050	5040
				FEED	0.04-0.06	0.04-0.06		FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22
	17	Nodular cast iron	90	RPM	28650	14320	120	RPM	12730	9550	7640	6370
				FEED	0.04-0.06	0.04-0.06		FEED	0.08-0.14	0.12-0.18	0.15-0.22	0.20-0.26
	18		60	RPM	19100	9550	80	RPM	8490	6370	5090	4240
				FEED	0.04-0.06	0.04-0.06		FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22
	19	Malleable cast iron	70	RPM	22280	11140	90	RPM	9550	7160	5730	4770
				FEED	0.04-0.06	0.04-0.06		FEED	0.08-0.14	0.12-0.18	0.15-0.22	0.20-0.26
	20		60	RPM	19100	9550	80	RPM	8490	6370	5090	4240
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22
H	38	Hardened steel	25	RPM	7960	3980	30	RPM	3180	2390	1910	1590
				FEED	0.01-0.02	0.01-0.03		FEED	0.01-0.03	0.01-0.04	0.02-0.05	0.03-0.06

ISO	VDI 3323	Material Description	Vc	Parameter	Drill Diameter (mm) 8.0	10.0	12.0	14.0	16.0	18.0	20.0
P	2	Non-alloy steel	110	RPM	4380	3500	2920	2500	2190	1950	1750
				FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	3		110	RPM	4380	3500	2920	2500	2190	1950	1750
				FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	4		110	RPM	4380	3500	2920	2500	2190	1950	1750
				FEED	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
	5		90	RPM	3580	2860	2390	2050	1790	1590	1430
				FEED	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
	6	Low alloy steel	110	RPM	4380	3500	2920	2500	2190	1950	1750
				FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	7		90	RPM	3580	2860	2390	2050	1790	1590	1430
				FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	8		90	RPM	3580	2860	2390	2050	1790	1590	1430
				FEED	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
	9		50	RPM	1990	1590	1330	1140	990	880	800
				FEED	0.12-0.18	0.13-0.19	0.14-0.20	0.15-0.21	0.16-0.22	0.17-0.25	0.18-0.28
	10	High alloyed steel, and tool steel	80	RPM	3180	2550	2120	1820	1590	1410	1270
				FEED	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
	11		45	RPM	1790	1430	1190	1020	900	800	720
				FEED	0.12-0.18	0.13-0.19	0.14-0.20	0.15-0.21	0.16-0.22	0.17-0.25	0.18-0.28
M	12	Stainless steel	80	RPM	3180	2550	2120	1820	1590	1410	1270
				FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	13		55	RPM	2190	1750	1460	1250	1090	970	880
				FEED	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
K	15	Grey cast iron	110	RPM	4380	3500	2920	2500	2190	1950	1750
				FEED	0.22-0.28	0.25-0.33	0.27-0.35	0.29-0.37	0.31-0.39	0.32-0.42	0.34-0.44
	16		95	RPM	3780	3020	2520	2160	1890	1680	1510
				FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	17	Nodular cast iron	120	RPM	4770	3820	3180	2730	2390	2120	1910
				FEED	0.22-0.28	0.25-0.33	0.27-0.35	0.29-0.37	0.31-0.39	0.32-0.42	0.34-0.44
	18		80	RPM	3180	2550	2120	1820	1590	1410	1270
				FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	19	Malleable cast iron	90	RPM	3580	2860	2390	2050	1790	1590	1430
				FEED	0.22-0.28	0.25-0.33	0.27-0.35	0.29-0.37	0.31-0.39	0.32-0.42	0.34-0.44
	20		80	RPM	3180	2550	2120	1820	1590	1410	1270
				FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
H	38	Hardened steel	30	RPM	1190	950	800	680	600	530	480
				FEED	0.03-0.06	0.04-0.07	0.04-0.08	0.05-0.09	0.05-0.09	0.05-0.10	0.05-0.10

▶ Recommend to reduce the feed rate as following **Feed 100%** : DTX406(3×D), DTX408(5×D) **Feed 75%** : DTX421(8×D)

NEW

DREAM DRILL X

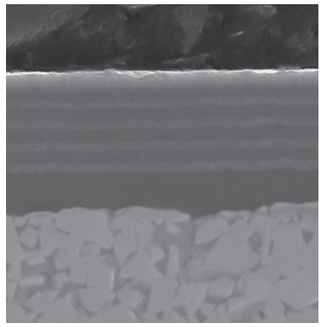
New Coating Technology *"RCH-Coating"*

Combining the major benefits of TiAlN and AlCrN into a new '**Nano Layered Multilayer**' coating generation provides unique advantages such as:

Extreme Wear Resistance

High Heat Endurance

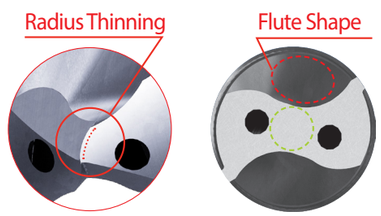
Chipping Protection

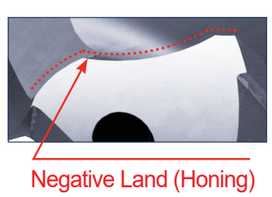


At insufficient coolant conditions where higher temperatures occur, **RCH-Coating** allows with its very high temperature stability for great tool life results.

FEATURES & BENEFITS

- **Universal Point Grinding**
  Soft cutting action and reduced axial forces; Easy to Recondition
- **Radius Thinning**
  Provides very good self centering even at low feed rates and unstable situations
- **Tailored Flute Design**
  Excellent chip breaking and evacuation
- **Edge Preparation**
  Maximizing tool life in various materials

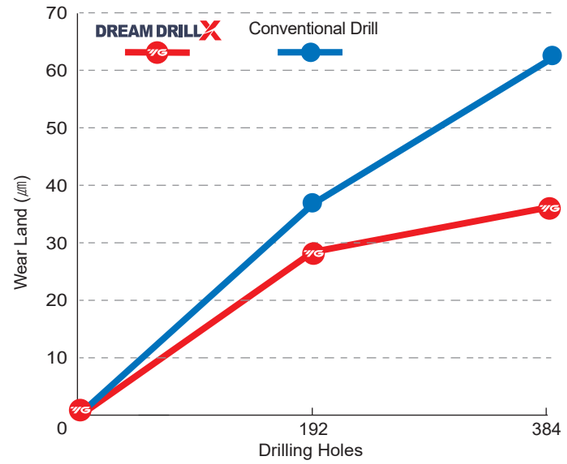




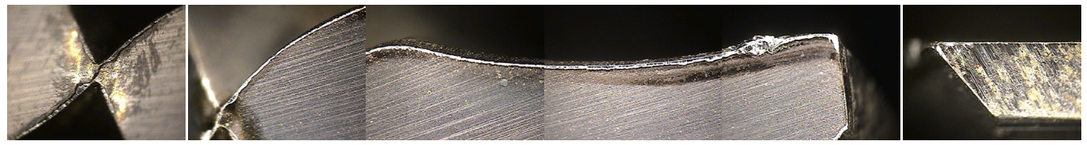
CASE STUDY

▶ SOLID CARBIDE DREAM DRILL X with Coolant Holes

CUTTING CONDITION	
Work Material	• DIN : C45 • AISI : 1045 • JIS : S45C (HRc20)
Drill Diameter(mm)	Ø10.0
Cutting Speed	109.99 m/min.
Feed	0.23 mm/rev
Drilling Depth	40mm
Coolant	Internal Cooling Wet Cut (9% Emulsion)
Machine	Vertical Machine

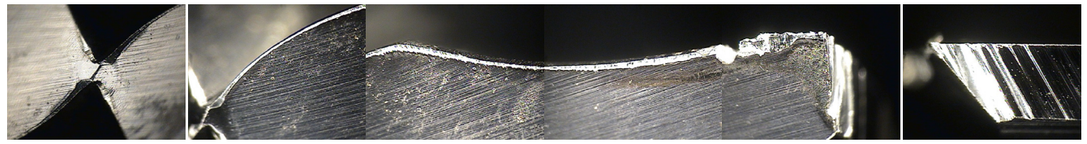


DREAM DRILL X — Total Drilling 384 Holes



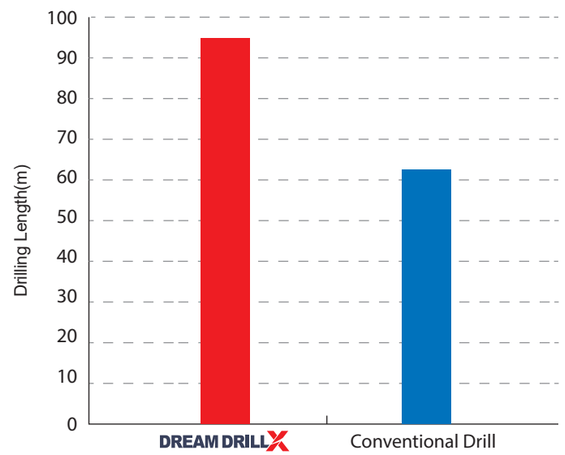
Conventional Drill

Total Drilling 384 Holes



▶ SOLID CARBIDE DREAM DRILL X with Coolant Holes

CUTTING CONDITION	
Work Material	• DIN : GGG40 • AISI : 60-40-18 • JIS : FCD400
Drilling Diameter(mm)	Ø8.5
Cutting Speed	112m/min
Feed	0.33mm/rev.
Drilling Depth	18mm
Coolant	Internal Cooling
Machine	Machining Center (Horizontal)



SELECTION GUIDE

METRIC

SOLID CARBIDE

DREAM DRILLS

	PRO				X
SERIES	DGN523	DGN526	DGN506	DGN508	DTX404
DRILLING DEPTH	3XD	5XD	3XD	5XD	3XD
TOOL MATERIAL	CARBIDE				CARBIDE
LENGTH	SHORT	LONG	SHORT	LONG	STUB
SIZE MIN	D3.0	D1.0	D3.0	D1.0	D3.0
SIZE MAX	D20.0	D20.0	D20.0	D20.0	D20.0
PAGE	10	12	15	17	26
SURFACE TREATMENT	Z-Coating				RCH-Coating

Please visit globalyg1.com/mat for material search

◎ : Excellent ○ : Good

ISO		VDI 3323	Material Description	Composition / Structure / Heat Treatment		HB	HRc						
P	1		Non-alloy steel	About 0.15% C	Annealed	125							1
	2			About 0.45% C	Annealed	190	13	◎	◎	◎	◎	◎	2
	3			About 0.45% C	Quenched & Tempered	250	25	◎	◎	◎	◎	◎	3
	4			About 0.75% C	Annealed	270	28	◎	◎	◎	◎	◎	4
	5			About 0.75% C	Quenched & Tempered	300	32	○	○	○	○	○	5
	6		Low alloy steel		Annealed	180	10	◎	◎	◎	◎	◎	6
	7				Quenched & Tempered	275	29	◎	◎	◎	◎	◎	7
	8				Quenched & Tempered	300	32	○	○	○	○	○	8
	9				Quenched & Tempered	350	38	○	○	○	○	○	9
	10		High alloyed steel, and tool steel		Annealed	200	15	◎	◎	◎	◎	◎	10
	11				Quenched & Tempered	325	35	○	○	○	○	○	11
M	12		Stainless steel	Ferritic / Martensitic	Annealed	200	15	○	○	○	○	○	12
	13			Martensitic	Quenched & Tempered	240	23	○	○	○	○	○	13
	14			Austenitic		180	10						14
K	15		Grey cast iron	Pearlitic / ferritic		180	10	◎	◎	◎	◎	◎	15
	16			Pearlitic (Martensitic)		260	26	○	○	○	○	○	16
	17		Nodular cast iron	Ferritic		160	3	◎	◎	◎	◎	◎	17
	18			Pearlitic		250	25	○	○	○	○	○	18
	19		Malleable cast iron	Ferritic		130		◎	◎	◎	◎	◎	19
	20			Pearlitic		230	21	○	○	○	○	○	20
N	21		Aluminum-wrought alloy	Not Curable		60							21
	22			Curable	Hardened	100							22
	23		Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75							23
	24			≤ 12% Si, Curable	Hardened	90							24
	25			> 12% Si, Not Curable		130							25
	26		Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110							26
	27			CuZn, CuSnZn (Brass)		90							27
	28			CuSn, lead-free copper and electrolytic copper		100							28
	29		Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic									29
	30			Rubber, Wood, etc.									30
S	31		Heat Resistant Super Alloys	Fe Based	Annealed	200	15						31
	32				Cured	280	30						32
	33			Ni or Co Based	Annealed	250	25						33
	34				Cured	350	38						34
	35				Cast	320	34						35
	36		Titanium Alloys	Pure Titanium		400 Rm							36
	37			Alpha + Beta Alloys	Hardened	1050 Rm							37
H	38		Hardened steel		Hardened	550	55	○	○	○	○	○	38
	39				Hardened	630	60						39
	40		Chilled Cast Iron		Cast	400	42						40
	41		Hardened Cast Iron		Hardened	550	55						41

	X					GENERAL					
	DTX423	DTX424	DTX406	DTX408	DTX421	DH404	DH423 DH443	DH424 DH444	DH406 DH446	DH408 DH448	DH421
	3XD	5XD	3XD	5XD	8XD	3XD	3XD	5XD	3XD	5XD	8XD
	CARBIDE					CARBIDE					
	SHORT	LONG	SHORT	LONG	EXTRA LONG	STUB	SHORT	LONG	SHORT	LONG	EXTRA LONG
	D3.0	D1.0	D3.0	D1.0	D3.0	D3.0	D3.0	D1.0	D3.0	D1.0	D3.0
	D20.0	D20.0	D20.0	D20.0	D14.0	D20.0	D20.0	D20.0	D20.0	D20.0	D14.0
	28	30	33	35	38	46	48	50	53	55	58
	RCH-Coating					TiAlN					

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