

专注 · 务实
FOCUS · PRAGMATIC
高效 · 包容
EFFICIENCY · INCLUSIVENESS



大连托福科技发展有限公司 CORTOOL MANUFACTURING GROUP

Email 邮箱 : denny.zhao@cortool.cn

Website 网址 : www.cortool.cn

地址: 辽宁省大连市西岗区胜利路100号9-7

Address: 9-7 Huaihua Mansion No.100 Victory Road, Dalian China



ALL RIGHTS RESERVED BY CORTOOL MANUFACTURING GROUP

 **CORTOOL**[®]
ISO 9001:2015



Industrial Production Tools
工业级生产工具

COMPANY PROFILE

Cortool Manufacturing Group has grown steadily since its foundation in 1999 and earned profound trust and high acclaim from customers across the globe. We are mainly engaged in the sales of cemented carbide and HSS material cutting tools, including milling cutters, drills, taps & dies, inserts, reamers and non-standard special tools. Our products cover a wide range of applications in varieties of metal-cutting processes mainly, serving industries such as automotive and motorcycle engines, general machinery, electronics, medical equipment and mould manufacturing. We deliver consistent high-quality products and services to our customers.

Cortool Group's products are exported worldwide, with Europe and North America as key markets. Under rigorous quality control systems, our items boast superior quality and consistent performance, winning widespread recognition from global clients. Guided by the corporate philosophy of "Focus, Pragmatic, Efficiency and Inclusiveness", Cortool Group has consistently delivered valuable products and services hand in hand with all customers and partners.

Moving forward, we aim to be a reliable partner supporting manufacturing industries. By continuously upgrading our products and services, we strive to become a trusted enterprise that creates tangible value for society.



For other products, please refer to our general catalog or feel free to contact us.

CORTOOL Coating Advantages

CORTOOL 涂层优势

- High abrasive resistance 耐磨性高
- Excellent coating density 涂层致密
- Low friction coefficient 摩擦系数低
- Environment friendly 环保

The coating temperature is lower than most steels tempering temperature.
涂层工艺温度低于大多数钢材的最终热处理回火温度。
Do not affect the size of the parts as the coating thickness can be controlled precisely by micron.
涂层厚度能精确控制在微米级，不影响零件尺寸。
Flexible solutions of a single coating or composite coating to meet customer demand.
根据客户需求，灵活选择单一涂层或复合涂层，满足客户需求。

Application Areas Of CORTOOL Coating

CORTOOL 涂层应用范围

CORTOOL coating can be widely used in the fields of al cutting tools, dies and components,etc.
CORTOOL涂层可广泛用于金属切削刀具、模具、零部件等领域。
Metal cutting tools: shank tools, inserts, hobs.
金属切削刀具：各杆状类刀具、刀片、滚刀。
Dies: punching and forming molds, plastic molds, casting dies.
模具：冲压成型模具，塑胶模具，压铸模具。
Components: Friction parts require wearing resistance, anti-corrosion or without lubrication.
零部件：需要耐磨防腐以及无油润滑的摩擦件。

Coating Types

Coating Types	Structure	Main Ingredient	Colour	HV	Coefficient Of Friction	Working Temperatur	Thickness
Super I	Monolayer	TiN	Gold	2200	0.4	700	2-3um
Super F	Monolayer	TiAlN	Blue Black	3300	0.4	900	2-3um
Super T	Monolayer +top	TiAlN	Blue Black	3300	< 0.3	900	2-3um
Super J	Multi-layer	C based	Grey	2300	< 0.3	700	1.5um
Super H	Multi-layer	Si based	Copper	3400	< 0.4	1100	1.5-3um
Die composite coating	Multi-layer	AlCr based	Grey	3300	< 0.4	1100	1.5-4um
Super X	Monolayer	AlCr based	Black	3300	< 0.4	1100	1.5-4um
Super C	Monolayer	AlCr based	Grey	3300	< 0.4	1100	1.5-4um
DLC Coating	Multi-layer	C based	Black	2200	< 0.05	350	1-3um 3-5um
XT Coating	Multi-layer	TiAlN based	Blue Black	3300	< 0.3	1000	1.5-3um

Contact us for the best coating solutions.

INDEX

SOLID CARBIDE DRILLING TOOL

CT21-3DC / CT21-3D

Solid Carbide Drill With / Without Coolant-----1

CT21-5DC / CT21-5D

Solid Carbide Drill With / Without Coolant -----1

CT22-3DC / CT22-3D

Solid Carbide Drill With / Without Coolant-----2

CT22-5DC / CT22-5D

Solid Carbide Drill With / Without Coolant-----2

CT26-3D

Solid Carbide Drill With Coolant-----3

CT26-5DC

Solid Carbide Drill With Coolant-----3

CT23-3DC / CT23-3D

Solid Carbide Drill With / Without Coolant-----4

CT23-5DC / CT23-5D

Solid Carbide Drill With / Without Coolant-----4

CT23-8DC

Solid Carbide Drill With Coolant-----5

CT23-12DC

Solid Carbide Drill With Coolant-----5

CT30-15DC

Solid Carbide Drill With Coolant-----6

CT30-20DC

Solid Carbide Drill With Coolant-----6

CT30-25DC

Solid Carbide Drill With Coolant-----7

CT30-30DC

Solid Carbide Drill With Coolant-----7

CT30-40DC

Solid Carbide Drill With Coolant-----8

CT25-5D / CT25-5DC

Solid Carbide Drill With / Without Coolant-----8

CT-ADS

Solid Carbide Drill Without Coolant-----9

CT-ADL

Solid Carbide Drill Without Coolant-----9

CT-ADSL

Solid Carbide Drill Without Coolant-----10

CT-V-ADS

Solid Carbide Drill Without Coolant-----10

CT-2001-HD

Replaceable Carbide Drill-----11

CT-2001-HD

Replaceable Carbide Drill-----12

CT72-5D

Solid Carbide Straight-flute Drill Without Coolant-----13

CT72-5DC

Solid Carbide Straight-flute Drill With Coolant-----13

CT-1001-SF

Solid Carbide Straight Fluted Drills-----14

CT-1002-SF

Solid Carbide Straight Flute Carbon Fiber Drill-----14

CT-1003-UC

Solid Carbide Undercut Drill-----15

CT-1004-ST

Solid Carbide Micro drill-----15

CT-1005-SL

Solid Carbide Slotting Drill-----16

CT-1006-SP

Solid Carbide Step Twist Drill-----16

CT-1007-TF

Solid Carbide Twist Fluted Drill-----17

CT91-NC

Solid Carbide Spotting Drill Without Coolant-----17

CT52-3D

Solid Carbide Three-flute Drill Without Coolant-----18

FOCUS - PRAGMATIC - EFFICIENCY - INCLUSIVENESS



Solid carbide drilling tool

CT21-3D / CT21-3DC

Solid Carbide Drill With / Without Coolant

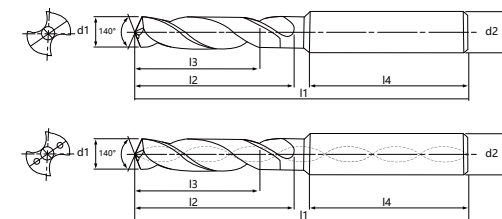


•Curved cutting edge, relieved clearance angle.
Applicable workpiece materials: steel, cast iron, etc.
Diameter:3~20mm 1/8"~3/4"

P	H	M	K
碳钢, 合金钢 (HRC < 35)	铁素体 不锈钢, 马氏体不锈钢	冲碳钢	不锈钢
○	○	○	○

◎ Most suitable 最适合 ○ Suit 适合

DC d1(m7)	Ds d2(h6)	OL l1	FL l2	Ls l4
3~3.7	6	62	20	14
4~4.65	6	66	24	17
4.8~6	6	66	28	20
6.1~7	8	79	34	24
7.1~8.0	8	79	41	29
8.1~10	10	89	47	35
10.25~12	12	102	55	40
12.25~14	14	107	60	43
14.25~16	16	115	65	45
16.50~18	18	123	73	51
18.50~20	20	131	75	55



CT21-5D / CT21-5DC

Solid Carbide Drill With / Without Coolant

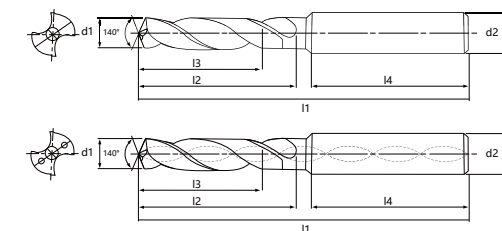


•Curved cutting edge, relieved clearance angle.
Applicable workpiece materials: steel, cast iron, etc.
Diameter:3~20mm 1/8"~3/4"

P	H	M	K
碳钢, 合金钢 (HRC < 35)	铁素体 不锈钢, 马氏体不锈钢	冲碳钢	不锈钢
○	○	○	○

◎ 最适合 most suitable ○ 适合 suit

DC d1(m7)	Ds d2(h6)	OL l1	FL l2	Max. Cutting Depth l3	Ls l4
3~3.7	6	66	28	23	36
4~4.65	6	74	36	29	36
4.8~6	6	82	44	35	36
6.1~8	8	91	53	43	36
8.1~10	10	103	61	49	40
10.25~12	12	118	71	56	45
12.20~14	14	124	77	60	45
14.25~16	16	133	83	63	48
16.50~18	18	143	93	71	48
18.50~20	20	153	101	77	50



Solid carbide drilling tool

CT22-3D / CT22-3DC

Solid Carbide Drill With / Without Coolant



- Brand-new wave-shaped cutting edge design balances edge strength and sharpness, effectively reducing cutting resistance.
- New G-type flute design improves chip breaking performance and chip evacuation space.
- Curved cutting edge, flat clearance angle.

Applicable workpiece materials: steel, cast iron, etc.

Diameter: 3~20mm 1/8"~3/4"

P	H	M	K
碳钢, 合金钢 (HRC < 30)	铁素体 不锈钢, 马氏体不锈钢	冲碳钢	不锈钢
○	○	○	○

○ Most suitable 最适合 ○ Suit 适合

DC d1(m7)	Ds d2(h6)	OL l1	FL l2	Max. Cutting Depth l3	Ls l4
3~3.7	6	62	20	14	36
4~4.65	6	66	24	29	36
4.8~6	6	66	28	20	36
6.1~8	8	91	53	43	36
7.1~8.0	8	79	41	29	36
8.1~10	10	89	47	35	40
10.25~12	12	102	55	40	45
12.25~14	14	107	60	43	45
14.25~16	16	115	65	45	48
16.50~18	18	123	73	51	48
18.50~20	20	131	79	55	50

CT22-5D / CT22-5DC

Solid Carbide Drill With / Without Coolant



- Brand-new wave-shaped cutting edge design balances edge strength and sharpness, effectively reducing cutting resistance.
- Curved cutting edge, flat clearance angle.

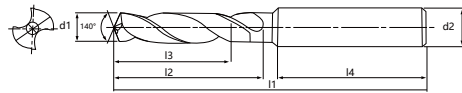
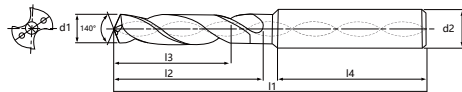
Applicable workpiece materials: steel, cast iron, etc.

Diameter: 3~20mm 1/8"~3/4"

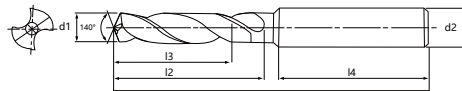
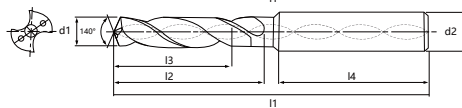
P	H	M	K
碳钢, 合金钢 (HRC < 30)	铁素体 不锈钢, 马氏体不锈钢	冲碳钢	不锈钢
○	○	○	○

○ Most suitable 最适合 ○ Suit 适合

DC d1(m7)	Ds d2(h6)	OL l1	FL l2	Max. Cutting Depth l3	Ls l4
3~3.7	6	66	28	23	36
4~4.65	6	74	36	29	36
4.8~6	6	82	44	35	36
6.1~8	8	91	53	43	36
8.1~10	10	103	61	49	40
10.25~12	12	118	71	56	45
12.20~14	14	124	77	60	45
14.25~16	16	133	83	63	48
16.50~18	18	143	93	71	48
18.50~20	20	153	101	77	50



- New G-type flute design improves chip breaking performance and chip evacuation space.



Solid carbide drilling tool

CT26-3D

Solid Carbide Drill With Coolant



- Upgraded tool body material and coating deliver superior toughness and wear resistance.
- Curved cutting edge with flat clearance angle.

Applicable workpiece materials: stainless steel, titanium alloy, superalloy, etc.

Diameter: 3~20mm 1/8"~3/4"

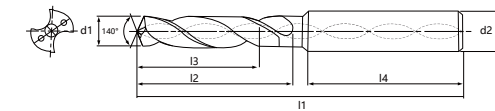
P	H	M	S	N
碳钢, 合金钢 (HRC < 30)	冲碳钢	不锈钢	高温合金, 钛合金	有色金属
○	○	○	○	○

○ Most suitable 最适合 ○ Suit 适合

DC d1(m7)	Ds d2(h6)	OL l1	FL l2	Max. Cutting Depth l3	Ls l4
3~3.7	6	62	20	14	36
4~4.65	6	66	24	29	36
4.8~6	6	66	28	20	36
6.1~8	8	91	53	43	36
7.1~8.0	8	79	41	29	36
8.1~10	10	89	47	35	40
10.25~12	12	102	55	40	45
12.25~14	14	107	60	43	45
14.25~16	16	115	65	45	48
16.50~18	18	123	73	51	48
18.50~20	20	131	79	55	50



- Optimized flute design provides ample chip room and excellent chip evacuation performance.



CT26-5DC

Solid Carbide Drill With Coolant



- Upgraded tool body material and coating deliver superior toughness and wear resistance.
- Curved cutting edge with flat clearance angle.

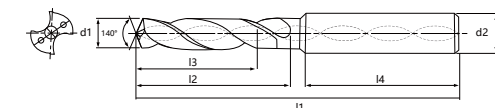
Applicable workpiece materials: stainless steel, titanium alloy, superalloy, etc.

Diameter: 3~20mm 1/8"~3/4"

P	H	M	S	N
碳钢, 合金钢 (HRC < 30)	冲碳钢	不锈钢	高温合金, 钛合金	有色金属
○	○	○	○	○

○ Most suitable 最适合 ○ Suit 适合

DC d1(m7)	Ds d2(h6)	OL l1	FL l2	Max. Cutting Depth l3	Ls l4
3~3.7	6	66	28	23	36
4~4.65	6	74	36	29	36
4.8~6	6	82	44	35	36
6.1~8	8	91	53	43	36
8.1~10	10	103	61	49	40
10.25~12	12	118	71	56	45
12.20~14	14	124	77	60	45
14.25~16	16	133	83	63	48
16.50~18	18	143	93	71	48
18.50~20	20	153	101	77	50



Solid carbide drilling tool

CT23-3D / CT23-3DC

Solid Carbide Drill With / Without Coolant

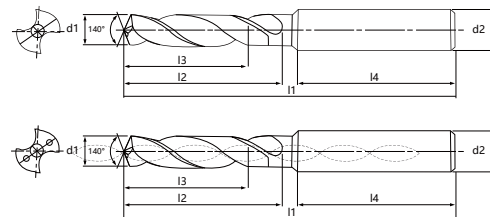


- AlTiN Coating.
 - Straight cutting edge, flat clearance angle.
- Applicable workpiece materials: steel, cast iron, etc.
Diameter: 3~20mm 1/8"~3/4"

P	H	K
碳钢 合金钢 P/MC (S15)	铁素体 不锈钢 马氏体不锈钢	冲碳钢 铸钢
◎	◎	○

◎ Most suitable 最适合 ○ Suit 适合

DC d1(m7)	Ds d2(h6)	OL l1	FL l2	Max. Cutting Depth l3	Ls l4
3~3.7	6	62	20	14	36
4~4.65	6	66	24	29	36
4.8~6	6	66	28	20	36
6.1~8	8	91	53	43	36
7.1~8.0	8	79	41	29	36
8.1~10	10	89	47	35	40
10.25~12	12	102	55	40	45
12.25~14	14	107	60	43	45
14.25~16	16	115	65	45	48
16.50~18	18	123	73	51	48
18.50~20	20	131	79	55	50



CT23-5D / CT23-5DC

Solid Carbide Drill With / Without Coolant

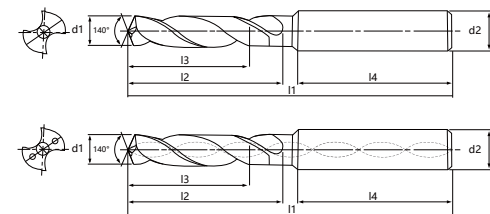


- AlTiN Coating
 - Straight cutting edge, flat clearance angle.
- Applicable workpiece materials: steel, cast iron, etc.
Diameter: 3~20mm 1/8"~3/4"

P	H	K
碳钢 合金钢 P/MC (S15)	铁素体 不锈钢 马氏体不锈钢	冲碳钢 铸钢
◎	◎	○

◎ Most suitable 最适合 ○ Suit 适合

DC d1(m7)	Ds d2(h6)	OL l1	FL l2	Max. Cutting Depth l3	Ls l4
3~3.7	6	66	28	23	36
4~4.65	6	74	36	29	36
4.8~6	6	82	44	35	36
6.1~8	8	91	53	43	36
8.1~10	10	103	61	49	40
10.25~12	12	118	71	56	45
12.20~14	14	124	77	60	45
14.25~16	16	133	83	63	48
16.50~18	18	143	93	71	48
18.50~20	20	153	101	77	50



Solid carbide drilling tool

CT23-8DC

Solid Carbide Drill With Coolant

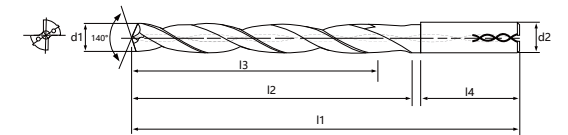


- AlTiN Coating.
 - Straight cutting edge, flat clearance angle.
- Applicable workpiece materials: steel, cast iron, etc.
Diameter: 3~16mm 1/8"~5/8"

P	H	K
碳钢 合金钢 P/MC (S15)	铁素体 不锈钢 马氏体不锈钢	冲碳钢 铸钢
◎	◎	○

◎ Most suitable 最适合 ○ Suit 适合

DC d1(m7)	Ds d2(h6)	OL l1	FL l2	Ls l4
3~3.7	6	72	34	36
3.8~4.7	6	81	43	36
4.8~6	6	95	57	36
6.1~8	8	114	76	36
8.1~10	10	142	95	40
10.2~12	12	162	114	45
12.1~14	14	182	133	45
14.2~16	16	203	152	48



CT23-12DC

Solid Carbide Drill With Coolant

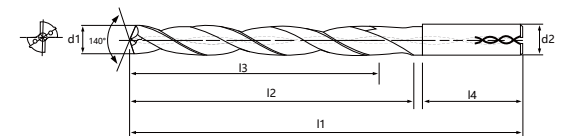


- AlTiN Coating.
 - Straight cutting edge, flat clearance angle.
- Applicable workpiece materials: steel, cast iron, etc.
Diameter: 3~20mm 1/8"~3/4"

P	H	K
碳钢 合金钢 P/MC (S15)	铁素体 不锈钢 马氏体不锈钢	冲碳钢 铸钢
◎	◎	○

◎ Most suitable 最适合 ○ Suit 适合

DC d1(h7)	Ds d2(h6)	OL l1	FL l2	Ls l4
3~3.7	6	90	50	36
3.8~4.7	6	102	64	36
4.8~6	6	116	78	36
6.1~8	8	146	108	36
8.1~10	10	162	120	40
10.2~12	12	204	156	45
12.5~14	14	230	182	45
14.5~16	16	260	208	48
16.5~18	18	285	234	48
18.5~20	16	310	258	50



Solid carbide drilling tool

CT30-15DC
Solid Carbide Drill With Coolant

- AlTiN Coating.
 - Curved cutting edge, flat clearance angle, four margin lands.
- Applicable workpiece materials: steel, cast iron, non-ferrous metals, etc.
Diameter: 3~14mm 1/8"~9/16"

P	K	N
钢	铁素体 不锈钢 马氏体不锈钢	淬硬钢 有色金属
○	○	○

○ Most suitable 最适合 ○ Suit 适合

DC d1(h7)	Ds d2(h6)	OL l1	FL l2	Ls l4
3	6	95	55	36
3.17	6	106	67	36
3.5~4	6	116	76	36
4.37~5	6	133	93	36
5.1~6	6	150	110	36
6.35~7	8	167	127	36
7.14~8	8	183	143	36
8.33~9	10	204	160	40
9.13~10	10	221	177	40
10.32~11	12	247	198	45
11.11~12	12	263	214	45
12.3~14	14	297	248	45

CT30-20DC
Solid Carbide Drill With Coolant

- AlTiN Coating.
 - Curved cutting edge, flat clearance angle, four margin lands.
- Applicable workpiece materials: steel, cast iron, non-ferrous metals, etc.
Diameter: 3~12mm 1/8"~1/2"

P	K	N
钢	铁素体 不锈钢 马氏体不锈钢	淬硬钢 有色金属
○	○	○

○ Most suitable 最适合 ○ Suit 适合

DC d1(h7)	Ds d2(h6)	OL l1	FL l2	Max. Cutting Depth l3	Ls l4
3	6	107	65	60	36
3.175~4	6	134	92	86	36
3.5~4	6	116	76	36	36
4.5~5	6	158	118	110	36
5.5	6	170	132	123	36
5.556~6	6	182	144	135	36
6.1~7	8	200	162	151	36
7.144~8	8	222	184	172	36
8.3~9	10	240	198	184	40
9.525~10	10	262	220	205	40
10.2~11	12	289	242	225	45
11.113~12	12	311	264	246	45



Solid carbide drilling tool

CT30-25DC
Solid Carbide Drill With Coolant

- AlTiN Coating.
 - Curved cutting edge, flat clearance angle, four margin lands.
- Applicable workpiece materials: steel, cast iron, non-ferrous metals, etc.
Diameter: 3~12mm 1/8"~1/2"

P	K	N
钢	铁素体 不锈钢 马氏体不锈钢	淬硬钢 有色金属
○	○	○

○ 最适合 most suitable ○ 适合 suit

DC d1(h7)	Ds d2(h6)	OL l1	FL l2	Ls l4
3	6	125	85	36
3.1	6	141	101	36
3.5~4	6	156	116	36
4.2~5	6	183	143	36
5.1~6	6	210	170	36
6.3~7	8	237	197	36
6.1~7	8	200	162	36
7.14~8	8	263	223	36
8.5~9	10	294	250	40
10	10	321	277	40
11	12	359	310	40
12	12	386	337	40

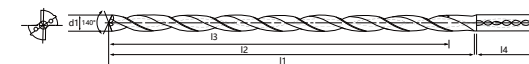
CT30-30DC
Solid Carbide Drill With Coolant

- AlTiN Coating.
 - Curved cutting edge, flat clearance angle, four margin lands.
- Applicable workpiece materials: steel, cast iron, non-ferrous metals, etc.
Diameter: 3~10mm 1/8"~3/8"

P	K	N
钢	铁素体 不锈钢 马氏体不锈钢	淬硬钢 有色金属
○	○	○

○ Most suitable 最适合 ○ Suit 适合

DC d1(h7)	Ds d2(h6)	OL l1	FL l2	Ls l4
3	6	140	100	36
3.1	6	158	118	36
3.5~4	6	176	136	36
4.2~5	6	208	168	36
5.1~6	6	240	200	36
6.3~7	8	272	232	36
7.14~8	8	303	263	36
8.5~9	10	339	295	40
10	10	371	327	40



Solid carbide drilling tool

CT30-40DC
Solid Carbide Drill With Coolant

- AlTiN Coating.
- Curved cutting edge, flat clearance angle, four margin lands.

Suitable workpiece materials: steel, cast iron, etc.

Diameter: 3~8mm 1/8"~5/16"

P	K	N
钢 铁	铁基合金 不锈钢 马氏体不锈钢	有色金属
○	○	○

○ 最适合 most suitable ○ 适合 suit

DC d1(h7)	Ds d2(h6)	OL l1	FL l2	Ls l4
3	6	170	130	36
3.1~3.5	6	193	153	36
3.8~4	6	216	176	36
4.2~4.5	6	238	198	36
4.76~5	6	258	218	36
5.1~5.5	8	280	240	36
5.56~6	8	300	260	36
6.3~6.5	8	322	282	36
7	8	342	302	36
7.14~7.5	8	363	323	36
8	8	383	343	36

CT25-5D / CT25-5DC
Solid Carbide Drill With / Without Coolant

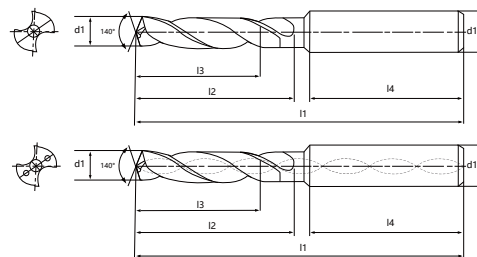
- No Coating.
 - Curved cutting edge, flat clearance angle.
- Applicable workpiece materials: aluminum alloy, copper, etc.

Diameter: 3~20mm 1/8"~3/4"

P	M	K	N
钢 铁	不锈钢	铸铁	有色金属
			○

○ 最适合 most suitable ○ 适合 suit

DC d1(m7)	Ds d2(h6)	OL l1	FL l2	Max. Cutting Depth l3	Ls l4
3~3.7	6	66	28	23	36
4~4.65	6	74	36	29	36
4.8~6	6	82	44	35	36
6.1~8	8	91	53	43	36
8.1~10	10	103	61	49	40
10.25~12	12	118	71	56	45
12.20~14	14	124	77	60	45
14.25~16	16	133	83	63	48
16.5~18	18	143	93	71	48
18.5~20	20	153	101	77	50



Solid carbide drilling tool

CT-ADS
Solid Carbide Drill Without Coolant

JIS



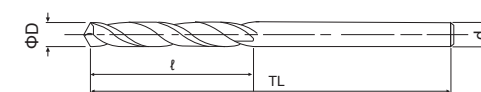
- High quality general purpose drill applicable for steels, non-ferrous materials and for plastics.
- Applicable workpiece materials: steel, non-ferrous metals, etc.

Diameter: 1~13mm 1/32"~1/2"

P	M	K	N
钢 铁	不锈钢	铸铁	有色金属
○		○	○

○ Most suitable 最适合 ○ Suit 适合

Diameter (ΦD)	Flute Length (l)	Overall length (TL)	Diameter (ΦD)	Flute Length (l)	Overall length (TL)
1	15	40	7	40	65(80)
1.5	16	40	7.5	40	80
2	18	55	8	40	80
2.5	20	40	8.5	40	80
3	20	45	9	40	80
3.5	25	50	9.5	40	80
4	27	55	10	50	100
4.5	30	60	10.5	50	100
5	30	60	11	50	100
5.5	40	65(80)	11.5	50	100
6	40	65(80)	12	50	100
6.5	40	65(80)	12.5	50	100
			13	50	100

CT-ADL
Solid Carbide Drill Without Coolant

JIS



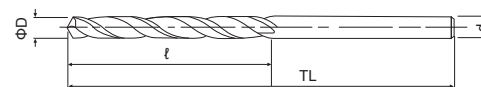
- Long type drill of ADS Standard Straight Shank Drill.
- Applicable workpiece materials: steel, cast iron, etc.

Diameter: 1~13mm 1/32"~1/2"

P	M	K	N
钢 铁	不锈钢	铸铁	有色金属
○	○	○	○

○ Most suitable 最适合 ○ Suit 适合

Diameter (ΦD)	Flute Length (l)	Overall length (TL)	Diameter (ΦD)	Flute Length (l)	Overall length (TL)
1	16	16	7	50	50
1.5	24	24	7.5	52	52
2	24	24	8	60	60
2.5	26	26	8.5	60	60
3	30	30	9	65	65
3.5	35	35	9.5	65	65
4	40	40	10	70	70
4.5	42	42	10.5	70	70
5	45	45	11	70	70
5.5	45	45	11.5	70	70
6	50	50	12	70	70
6.5	50	50	12.5	70	70
			13	70	70



Solid carbide drilling tool

CT-ADSL
Solid Carbide Drill Without Coolant

JIS

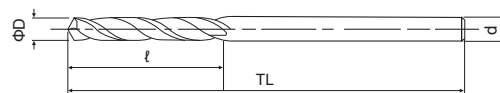


- High quality general purpose drill applicable for steels, non-ferrous materials and for plastics.

Applicable workpiece materials: steel, non-ferrous metals, etc.

Diameter: 1~13mm 1/32"~1/2"

P	M	K	N
鋼	不銹鋼	鋁鉄	有色金属
○		○	○



○ Most suitable 最适合 ○ Suit 適合

Diameter (ΦD)	Flute Length(L)	Overall length(TL)	Diameter (ΦD)	Flute Length(L)	Overall length(TL)
1	16	50	7	50	105(110)
1.5	24	50	7.5	52	111(120)
2	24	55	8	60	117(120)
2.5	26	61(65)	8.5	60	121(130)
3	30	71(75)	9	65	124(130)
3.5	35	73(75)	9.5	65	127(130)
4	40	83(90)	10	70	130(130)
4.5	42	86(90)	10.5	70	137(150)
5	45	92(100)	11	70	140(150)
5.5	45	95(100)	11.5	70	143(150)
6	50	102(110)	12	70	149(150)
6.5	50	105(110)	12.5	70	149(150)
			13	70	149(150)

CT-V-ADS
Solid Carbide Drill Without Coolant

JIS

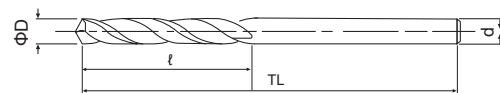


- TiAlN coating on standard drill (ADS) assures longer tool life and stable drilling operation.

Applicable workpiece materials: steel, cast iron, etc.

Diameter: 1~6mm 1/32"~1/4"

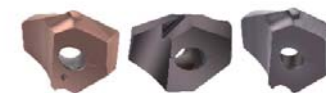
P	M	K	N
鋼	不銹鋼	鋁鉄	有色金属
○		○	○



○ Most suitable 最适合 ○ Suit 適合

Diameter (ΦD)	Flute Length(L)	Overall length(TL)
1	15	40
1.5	16	40
2	18	40
2.5	20	40(45)
3	20	45
3.5	25	50
4	27	55
4.5	30	60
5	30	60
5.5	40	80
6	40	80

Solid carbide drilling tool

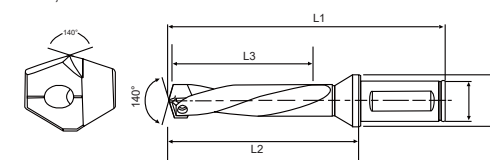
CT-2001-HD
Replaceable Carbide Drill Bit

- High-hardness carbide tips, excellent wear-resistance & heat-resistance.

Applicable workpiece materials: steel, cast iron, non-ferrous metals, etc.

Diameter: 12-35.9mm 15/32"~1-13/32"

P	M	K	N	H
鋼	不銹鋼	鋁鉄	有色金属	淬硬鋼
○	○	○	○	○



○ Most suitable 最适合 ○ Suit 適合

Insert Diameter Range(mm)	Shank Diameter	Flange Dia	Cutting Depth	L1	L2	L3	Screw Size	Wrench Size
12-12.9mm	20	25	3D	111	63	37.5	M3.0 CS11.0-12.SSL	T10
12-12.9mm	20	25	5D	136	88	62.5	M3.0 CS11.0-12.SSL	T10
12-12.9mm	20	25	7D	161	113	87.5	M3.0 CS11.0-12.SSL	T10
12-12.9mm	20	25	10D	199	151	125	M3.0 CS11.0-12.SSL	T10
13-13.9mm	20	25	3D	114	66	39	M3.0 CS11.0-12.SSL	T10
13-13.9mm	20	25	5D	140	92	65	M3.0 CS11.0-12.SSL	T10
13-13.9mm	20	25	7D	166	118	91	M3.0 CS11.0-12.SSL	T10
13-13.9mm	20	25	10D	205	157	130	M3.0 CS11.0-12.SSL	T10
14-14.9mm	20	25	3D	119	71	42	M3.0 CS11.0-14.0SL	T10
14-14.9mm	20	25	5D	147	99	70	M3.0 CS11.0-14.0SL	T10
14-14.9mm	20	25	7D	175	127	98	M3.0 CS11.0-14.0SL	T10
14-14.9mm	20	25	10D	217	169	140	M3.0 CS11.0-14.0SL	T10
15-15.9mm	20	25	3D	127	77	45	M3.0 CS11.0-14.0SL	T10
15-15.9mm	20	25	5D	157	107	75	M3.0 CS11.0-14.0SL	T10
15-15.9mm	20	25	7D	187	137	105	M3.0 CS11.0-14.0SL	T10
15-15.9mm	20	25	10D	232	182	150	M3.0 CS11.0-14.0SL	T10
16-16.9mm	20	25	3D	132	82	48	M3.5 CS14.0-16.0SL	T15
16-16.9mm	20	25	5D	164	114	80	M3.5 CS14.0-16.0SL	T15
16-16.9mm	20	25	7D	196	146	112	M3.5 CS14.0-16.0SL	T15
16-16.9mm	20	25	10D	244	194	160	M3.5 CS14.0-16.0SL	T15
17-17.9mm	20	25	3D	132	82	51	M3.5 CS14.0-16.0SL	T15
17-17.9mm	20	25	5D	166	116	85	M3.5 CS14.0-16.0SL	T15
17-17.9mm	20	25	7D	200	150	119	M3.5 CS14.0-16.0SL	T15
17-17.9mm	20	25	10D	251	201	170	M3.5 CS14.0-16.0SL	T15
18-18.9mm	20	25	3D	135	85	54	M3.5 CS14.0-18.0SL	T15
18-18.9mm	20	25	5D	171	121	90	M3.5 CS14.0-18.0SL	T15
18-18.9mm	20	25	7D	207	157	126	M3.5 CS14.0-18.0SL	T15
18-18.9mm	20	25	10D	261	211	180	M3.5 CS14.0-18.0SL	T15
19-19.9mm	20	25	3D	138	88	57	M4.0 CS18.0-20.0SL	T15
19-19.9mm	20	25	5D	176	126	95	M4.0 CS18.0-20.0SL	T15
19-19.9mm	20	25	7D	214	164	133	M4.0 CS18.0-20.0SL	T15
19-19.9mm	20	25	10D	271	221	190	M4.0 CS18.0-20.0SL	T15

Insert Diameter Range(mm)	Shank Diameter	Flange Dia	Cutting Depth	L1	L2	L3	Screw Size	Wrench Size
20-20.9mm	20	25	30	146	90	60	M4.0 CS18.0-20.0SL	T20
20-20.9mm	20	25	50	186	130	100	M4.0 CS18.0-20.0SL	T20
20-20.9mm	20	25	70	226	186	140	M4.0 CS18.0-20.0SL	T20
20-20.9mm	20	25	100	286	246	200	M4.0 CS18.0-20.0SL	T20
21-21.9mm	25	25	30	149	93	63	M5.0 CS20.0-22.0SL	T20
21-21.9mm	25	25	50	191	135	105	M5.0 CS20.0-22.0SL	T20
21-21.9mm	25	25	70	233	177	147	M5.0 CS20.0-22.0SL	T20
21-21.9mm	25	25	100	296	240	210	M5.0 CS20.0-22.0SL	T20
22-22.9mm	25	34	30	153	97	66	M5.0 CS20.0-22.0SL	T20
22-22.9mm	25	34	50	197	144	110	M5.0 CS20.0-22.0SL	T20
22-22.9mm	25	34	70	241	188	154	M5.0 CS20.0-22.0SL	T20
22-22.9mm	25	34	100	307	251	220	M5.0 CS20.0-22.0SL	T20
23-23.9mm	25	34	30	156	100	69	M5.0 CS20.0-22.0SL	T20
23-23.9mm	25	34	50	202	146	115	M5.0 CS20.0-22.0SL	T20
23-23.9mm	25	34	70	248	192	161	M5.0 CS20.0-22.0SL	T20
23-23.9mm	25	34	100	317	261	230	M5.0 CS20.0-22.0SL	T20
24-24.9mm	25	34	30	164	104	72	M5.0 CS20.0-22.0SL	T20
24-24.9mm	25	34	50	212	152	120	M5.0 CS20.0-22.0SL	T20
24-24.9mm	25	34	70	261	200	168	M5.0 CS20.0-22.0SL	T20
24-24.9mm	25	34	100	332	272	240	M5.0 CS20.0-22.0SL	T20
25-25.9mm	25	34	30	166	106	75	M5.0 CS20.0-22.0SL	T20
25-25.9mm	25	34	50	216	156	125	M5.0 CS20.0-22.0SL	T20
25-25.9mm	25	34	70	266	206	175	M5.0 CS20.0-22.0SL	T20
25-25.9mm	25	34	100	341	281	250	M5.0 CS20.0-22.0SL	T20
26-26.9mm	25	34	30	169	109	78	M5.0 CS20.0-22.0SL	T25
26-26.9mm	25	34	50	221	161	130	M5.0 CS20.0-22.0SL	T25
26-26.9mm	25	34	70	273	213	182	M5.0 CS20.0-22.0SL	T25
26-26.9mm	25	34	100	351	291	260	M5.0 CS20.0-22.0SL	T25
27-27.9mm	32	41	30	173	113	81	M6.0 CS24.0-26.0SL	T25
27-27.9mm	32	41	50	227	167	135	M6.0 CS24.0-26.0SL	T25
27-27.9mm	32	41	70	281	221	189	M6.0 CS24.0-26.0SL	T25
27-27.9mm	32	41	100	362	302	270	M6.0 CS24.0-26.0SL	T25
28-28.9mm	32	41	30	178	118	84	M6.0 CS24.0-26.0SL	T25
28-28.9mm	32	41	50	234	174	140	M6.0 CS24.0-26.0SL	T25
28-28.9mm	32	41	70	290	230	196	M6.0 CS24.0-26.0SL	T25
28-28.9mm	32	41	100	374	314	280	M6.0 CS24.0-26.0SL	T25
29-29.9mm	32	41	30	182	122	87	M6.0 CS24.0-26.0SL	T25
29-29.9mm	32	41	50	240	180	145	M6.0 CS24.0-26.0SL	T25
29-29.9mm	32	41	70	298	238	203	M6.0 CS24.0-26.0SL	T25
29-29.9mm	32	41	100	385	325	290	M6.0 CS24.0-26.0SL	T25
30-30.9mm	32	41	30	186	126	90	M6.0 CS28.0-30.0SL	T25
30-30.9mm	32	41	50	246	186	150	M6.0 CS28.0-30.0SL	T25
30-30.9mm	32	41	70	306	247	210	M6.0 CS28.0-30.0SL	T25
30-30.9mm	32	41	100	396	336	300	M6.0 CS28.0-30.0SL	T25
31-31.9mm	32	41	30	191	131	93	M6.0 CS28.0-30.0SL	T25
31-31.9mm	32	41	50	253	193	155	M6.0 CS28.0-30.0SL	T25
31-31.9mm	32	41	70	315	255	217	M6.0 CS28.0-30.0SL	T25
31-31.9mm	32	41	100	408	348	310	M6.0 CS28.0-30.0SL	T25
32-32.9mm	32	41	30	195	135	96	M6.0 CS30.0-34.0SL	T25
32-32.9mm	32	41	50	259	199	160	M6.0 CS30.0-34.0SL	T25
32-32.9mm	32	41	70	323	263	224	M6.0 CS30.0-34.0SL	T25
32-32.9mm	32	41	100	419	359	320	M6.0 CS30.0-34.0SL	T25
33-33.9mm	32	49	30	200	140	99	M6.0 CS30.0-34.0SL	T25
33-33.9mm	32	49	50	266	206	165	M6.0 CS30.0-34.0SL	T25
33-33.9mm	32	49	70	332	272	231	M6.0 CS30.0-34.0SL	T25
33-33.9mm	32	49	100	431	371	330	M6.0 CS30.0-34.0SL	T25
34-34.9mm	40	49	30	215	145	102	M6.0 CS30.0-34.0SL	T25
34-34.9mm	40	49	50	283	213	170	M6.0 CS30.0-34.0SL	T25
34-34.9mm	40	49	70	351	281	238	M6.0 CS30.0-34.0SL	T25
34-34.9mm	40	49	100	453	383	340	M6.0 CS30.0-34.0SL	T25
35-35.9mm	40	49	30	218	148	105	M6.0 CS30.0-34.0SL	T25
35-35.9mm	40	49	50	288	218	175	M6.0 CS30.0-34.0SL	T25
35-35.9mm	40	49	70	358	288	245	M6.0 CS30.0-34.0SL	T25
35-35.9mm	40	49	100	463	393	350	M6.0 CS30.0-34.0SL	T25

CT72-5D

Solid Carbide Straight-flute Drill Without Coolant



● No Coating.

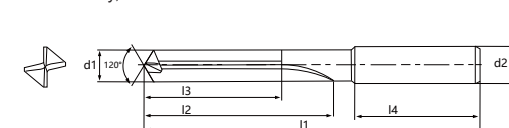
Applicable workpiece materials: steel, cast iron, cast aluminum alloy, etc.

Diameter:4~20mm 5/32"~3/4"

P	M	K	N
鋼	不銹鋼	鑄鉄	有色金属
		○	○

● Straight cutting edge, flat clearance angle.

Applicable workpiece materials: steel, cast iron, cast aluminum alloy, etc.



◎ Most suitable 最适合 ○ Suit 适合

DC d1(h7)	Ds d2(h6)	FL L2	Max. Cutting Depth L3	Ls L4
4~4.2	6	74	36	36
5~6	6	82	44	36
6.8~8	8	91	53	36
8.5~10	10	103	61	40
10.25~12	12	118	71	45
13~14	14	124	77	45
15~16	16	133	83	48
17~18	18	143	93	48
19.5~20	20	153	101	50

CT72-5DC

Solid Carbide Straight-flute Drill With Coolant



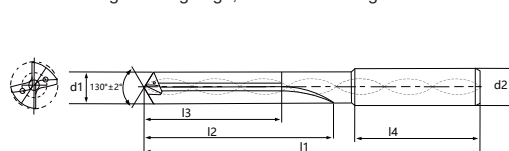
● TiAlN Coating.

Applicable workpiece materials: cast iron, etc.

Diameter:4~20mm 5/32"~3/4"

P	M	K	N
鋼	不銹鋼	鑄鉄	有色金属
		○	○

● Straight cutting edge, flat clearance angle.



◎ Most suitable 最适合 ○ Suit 适合

DC d1(h7)	Ds d2(h6)	OL L1	FL L2	Max. Cutting Depth L3	Ls L4
4~4.2	6	74	36	29	36
5~6	6	82	44	35	36
6.8~8	8	91	53	43	36
8.5~10	10	103	61	49	40
10.25~12	12	118	71	56	45
13~14	14	124	77	60	45
15~16	16	133	83	63	48
17~18	18	143	93	71	48
19.5~20	20	153	101	77	50

Solid carbide drilling tool

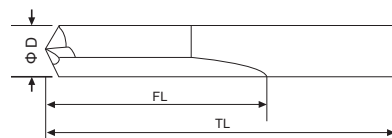
CT-1001-SF
Solid Carbide Straight Fluted Drills

Applicable workpiece materials: steel, cast iron, non-ferrous metals, etc.
Diameter: 2~14mm 3/32"~35/64"

P	M	K	N
钢	不锈钢	铸铁	有色金属
○	○	○	○

◎ Most suitable 最适合 ○ Suit 适合

Diameter (D)	Shank Diameter (SD)	Length of cut (FL)	Overall length (TL)
2	2	10	38
3	3	12	46
4	4	17	55
5	5	20	62
6	6	21	66
8	8	27	79
10	10	31	89
12	12	35	102
14	14	37	107

CT-1002-SF
Solid Carbide Straight Flute Carbon Fiber Drill

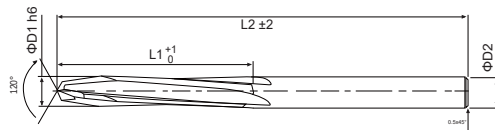
● For composite materials in aerospace industry and various harsh and complex conditions, it meets the requirements of high precision, ultra-high precision and high stability.

Applicable workpiece materials: steel, cast iron, non-ferrous metals, etc.
Diameter: 2-12.2mm 3/32"-1/2"

P	M	K	N
钢	不锈钢	铸铁	有色金属
		◎	◎

◎ Most suitable 最适合 ○ Suit 适合

Flutes	d1	d2	L1	L2
4	2	2	15	150
4	4.2	4.2	20	150
4	10	10	50	150
4	11	11	50	150
4	11.7	11.7	50	150
4	5.2	5.2	20	150
4	5.8	5.8	20	150
4	6.5	6.5	20	150
4	7.2	7.2	20	150
4	7.5	7.5	20	150
4	7.9	7.9	50	150
4	8.2	8.2	50	150



Solid carbide drilling tool

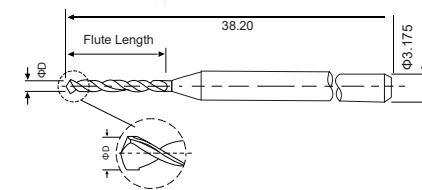
CT-1003-UC
Solid Carbide Undercut Drill

● Solid tungsten carbide under cut type drill series UC.
Features a spade shape and outstanding from other competitors by the following characteristics.

Applications:
FR-4 and high-Tg resin multilayer PCBs.

Diameter: 0.25~1.2mm 1/64"~3/64"

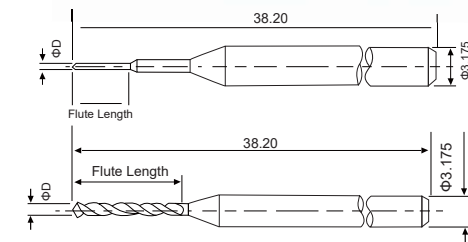
Φ D mm	Flute Length mm	Φ D mm	Flute Length mm
0.25	4	0.75	8.5
0.3	5.5	0.8	8.5
0.35	6.5	0.85	8.5
0.4	7	0.9	8.5
0.45	7	0.95	8.5
0.5	8.5	1	8.5
0.55	8.5	1.05	8.5
0.6	8.5	1.1	8.5
0.65	8.5	1.15	8.5
0.7	8.5	1.2	8.5

CT-1004-ST
Solid Carbide Micro Drill

● Solid tungsten carbide standard type drill series ST.
Applications:
Suitable for various PCB materials including paper phenolic substrates, epoxy resin boards, and FR-4 epoxy fiberglass laminates. Designed for multiple regrinding cycles.

Diameter: 0.1~3.175mm 1/64"~1/8"

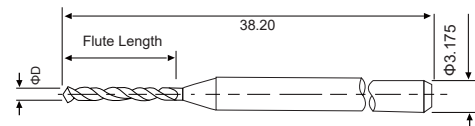
Φ D mm	Flute Length mm	Φ D mm	Flute Length mm	Φ D mm	Flute Length mm
0.1	1.2	1.15	10.5	2.2	10.5
0.15	2	1.2	10.5	2.25	10.5
0.2	3.5	1.25	10.5	2.3	10.5
0.25	5	1.3	10.5	2.35	10.5
0.3	5.5	1.35	10.5	2.4	10.5
0.35	6.5	1.4	10.5	2.45	10.5
0.4	7	1.45	10.5	2.5	10.5
0.45	7	1.5	10.5	2.55	10.5
0.5	8.5	1.55	10.5	2.6	10.5
0.55	8.5	1.6	10.5	2.65	10.5
0.6	9.5	1.65	10.5	2.7	10.5
0.65	9.5	1.7	10.5	2.75	10.5
0.7	9.5	1.75	10.5	2.8	10.5
0.75	9.5	1.8	10.5	2.85	10.5
0.8	9.5	1.85	10.5	2.9	10.5
0.85	9.5	1.9	10.5	2.95	10.5
0.9	9.5	1.95	10.5	3	10.5
0.95	9.5	2	10.5	3.05	10.5
1	10.5	2.05	10.5	3.1	10.5
1.05	10.5	2.1	10.5	3.15	10.5
1.1	10.5	2.15	10.5	3.175	10.5



CT-1005-SL
Solid Carbide Slotting DrillSolid
carbide

- The Carbide Slot Drill features a high-rigidity design optimized for machining elongated slots and circular milling operations.

Applicable workpiece materials: steel, cast iron, non-ferrous metals, etc.
Diameter: 0.5-2mm 1/64"-3/32"



Φ D mm	Flute Length mm	Φ D mm	Flute Length mm
0.5	5	1.3	8.5
0.55	5	1.35	8.5
0.6	7	1.4	8.5
0.65	7	1.45	8.5
0.7	8.5	1.5	8.5
0.75	8.5	1.55	8.5
0.8	8.5	1.6	8.5
0.85	8.5	1.65	8.5
0.9	8.5	1.7	8.5
0.95	8.5	1.75	8.5
1	8.5	1.8	8.5
1.05	8.5	1.85	8.5
1.1	8.5	1.9	8.5
1.15	8.5	1.95	8.5
1.2	8.5	2	8.5
1.25	8.5		

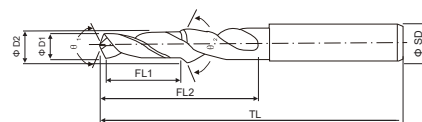
CT-1006-SP
Solid Carbide Step Twist Drill

Applicable workpiece materials: steel, cast iron, cast aluminum alloy, etc.

Diameter: 3.3~10.25mm 9/64"~13/32"

P	M	K	N
钢	不锈钢	铸铁	有色金属
○	○	○	○

◎ Most suitable 最适合 ○ Suit 适合



Diameter (D1)	Diameter (D2)	Shank Diameter (SD)	Flute Length (FL1)	Flute Length (FL2)	Overall length (TL)
3.3	4.5	6	11.4	28	66
4.2	6	6	13.6	28	66
5	7	8	16.5	41	79
6.75	9.5	10	21	47	89
8.5	12	12	25.5	55	102
10.25	14	14	30	60	107

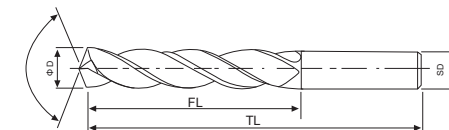
CT-1007-TF
Solid Carbide Twist Fluted Drill

Applicable workpiece materials: steel, cast iron, cast aluminum alloy, etc.

Diameter: 2~12mm 3/32"~1/2"

P	M	K	N
钢	不锈钢	铸铁	有色金属
○	○	○	○

◎ Most suitable 最适合 ○ Suit 适合



Diameter (D)	Shank Diameter (SD)	Length of cut (FL)	Overall length (TL)
2	2	12	38
3	3	16	46
4	4	22	55
5	5	26	62
6	6	28	66
7	7	34	74
8	8	37	79
9	9	40	84
10	10	43	89
11	11	47	95
12	12	51	102

CT91-NC
Solid Carbide Spotting Drill Without Coolant

- TiAlN Coating.

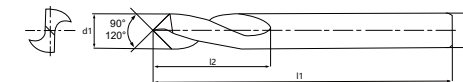
- Straight cutting edge, relieved ground clearance angle.

Applicable workpiece materials: steel, cast iron, non-ferrous metals, etc.

Diameter: 5~20mm 3/16"~3/4"

P		M	S	K	N
钢	合金钢 不锈钢 钛合金	不锈钢	高温合金、钛合金	铸铁	有色金属
●	●	●	○	●	●

◎ Most suitable 最适合 ○ Suit 适合



DC d1(h7)	Ds d2(h6)	OL L1	FL L2
5	5	62	10
6	6	66	15
8	8	79	17
10	10	89	20
12	12	102	25
14	14	107	30
16	16	115	35
20	20	131	40

CT52-3D

Solid Carbide Three-flute Drill Without Coolant

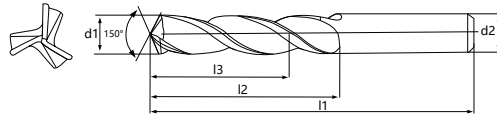


- TiAlN Coating.
 - Straight cutting edge, flat clearance angle.
- Applicable workpiece materials: steel, cast iron, cast aluminum alloy, etc.

Diameter: 3~20mm 1/8"~3/4"

P	M	K	N
钢	不锈钢	铸铁	有色金属
⊙	○	⊙	

⊙ Most suitable 最适合 ○ Suit 适合



DC d1(h7)	Ds d2(h6)	OL L1	FL L2	Max. Cutting Depth L3
3	3	46	16	12
3.1	3.1	49	18	14
3.2	3.2	49	18	14
3.3	3.3	49	18	14
3.4	3.4	52	20	15
3.5	3.5	52	20	15
3.6	3.6	52	20	15
3.7	3.7	52	20	15
3.8	3.8	55	22	17
4	4	55	22	17
4.1	4.1	55	22	17
4.2	4.2	55	22	17
4.5	4.5	58	24	18
4.8	4.8	62	26	20
5	5	62	26	20
5.1	5.1	62	26	20
5.2	5.2	62	26	20
5.3	5.3	62	26	20
5.5	5.5	66	28	21
5.8	5.8	66	28	21
6	6	66	28	21
6.1	6.1	70	31	23
6.2	6.2	70	31	23
6.4	6.4	70	31	23
6.5	6.5	70	31	23
6.7	6.7	70	31	23
6.8	6.8	74	34	25
7	7	74	34	25
7.1	7.1	74	34	25
7.4	7.4	74	34	25
7.5	7.5	74	34	25
7.8	7.8	79	37	27
8	8	79	37	27
8.1	8.1	79	37	27
8.2	8.2	79	37	27
8.4	8.4	79	37	27
8.5	8.5	79	37	27
8.6	8.6	84	40	29
8.7	8.7	84	40	29
8.8	8.8	84	40	29
9	9	84	40	29
9.5	9.5	84	40	29
9.8	9.8	89	43	31
10	10	89	43	31
10.1	10.1	89	43	31
10.2	10.2	89	43	31
10.4	10.4	89	43	31
10.5	10.5	89	43	31
11	11	95	47	33
12	12	102	51	35
13	13	102	51	35
14	14	107	54	37
15	15	111	54	37
17.5	17.5	123	62	40
19.5	19.5	131	66	42
20	20	131	66	42

Workpiece Material Table

材料组 ISO	工件材料 Workpiece material	含量 Content	抗拉强度 N/mm²	布氏硬度 HB	洛氏硬度 HRC
P Steel materials	Free-cutting steel 易切钢	C<0.25%	<320	<125	
	Low-carbon steel 低碳钢		320-530	<125	
	Medium-carbon steel, low-alloy steel 中碳钢、低合金钢	0.25%<C<0.60%	520-850	<220	<25
	Alloy steel, quenched and tempered steel 合金钢、调质钢		550-1200	<330	28-35
	High-carbon steel 高碳钢	C>0.6%	600-1200	370-750	45-65
	Ferritic stainless steel, martensitic stainless steel 铁素体不锈钢、马氏体不锈钢		600-1350	250-450	38-50
H Hardened materials	Case-hardening steel 表面硬化钢		800-1500		58-62
	Quenched and tempered steel 调质钢		490-1200		35-56
	Bearing steel 轴承钢		900-1600		56-64
	Tool steel, high-speed steel (HSS) 工具钢、高速钢				60-64
	Hardened stainless steel 硬化不锈钢				33-50
	Manganese steel 锰钢				35-64
M Stainless steel	Austenitic stainless steel 奥氏体不锈钢		600-1100	<150	
	High-strength austenitic stainless steel 高强度奥氏体不锈钢		1100-1750	150-230	
	Duplex stainless steel 双相不锈钢		600-1300	230-310	
S Superalloys and titanium alloys	Iron-base superalloy 铁基高温合金		500-1200	160-260	25-48
	Cobalt-base superalloy 钴基高温合金		1000-1450	250-450	25-48
	Nickel-base superalloy 镍基高温合金		600-1700	160-450	<48
	Titanium alloy 钛合金		900-1600	300-400	33-38
K Cast iron	Gray cast iron 灰铸铁		130-340	110-270	<32
	Vermicular graphite cast iron 蠕墨铸铁		300-570	120-290	<32
	Malleable cast iron 可锻铸铁		200-530	150-290	<28
	球墨铸铁		400-900	180-350	<43
N Non-ferrous metals	Aluminum-silicon alloy 铝硅合金	Silicon content 硅含量 < 9%		<200	60-90
	High-silicon aluminum alloy 硅铝合金	9%< Silicon content 硅含量 < 16%		200-300	70-100
	High-silicon aluminum alloy 高硅铝合金	Silicon content 硅含量 > 16%		200-350	90-150
	Cast aluminum alloy 铸造铝合金			155-460	
	Wrought aluminum alloy 锻造铝合金				60-90
	Copper 铜			20-30	35-45
	Copper alloy 铜合金			120-200	