



高性能钻头

SGS[®]
Solid Carbide Tools



孔加工

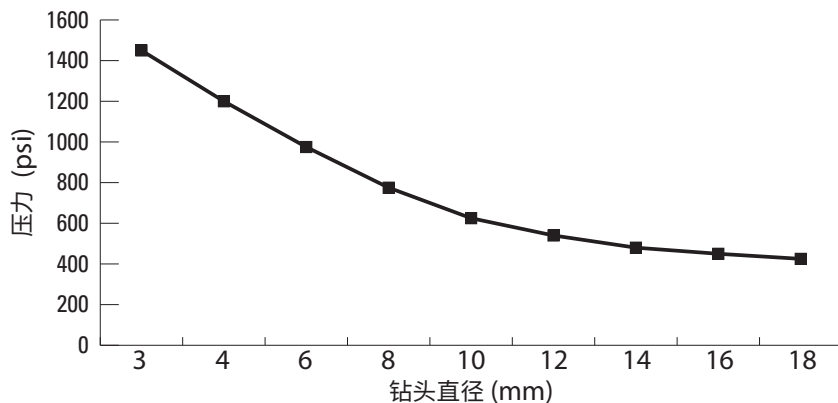
高性能钻头	系列	描述	应用		页				
			● 首选	○ 备选					
Hi-PerCarb [®]	135 (3xD)	2刃外冷双刃带高性能钻头3xD	●	●	●	●	●	○	158
	135 (5xD)	2刃外冷双刃带高性能钻头5xD	●	●	●	●	●	○	169
	131N (3xD)	3刃外冷三刃带高性能钻头3xD						●	180
	131N (5xD)	3刃外冷三刃带高性能钻头5xD						●	186
	141K (5xD)	3刃内冷三刃带高性能钻头5xD			●				192
Ice-Carb [®]	140 (5xD)	2刃内冷高性能钻头5xD	●	●	●	●	●	○	200
	140 (8xD)	2刃内冷高性能钻头8xD	●	●	●	●	●	○	210
CFRP 8面钻	120	2刃外冷双刃带高性能CFRP加工用钻头						●	218

刀具推荐转速和进给参见每个刀具系列后的列表

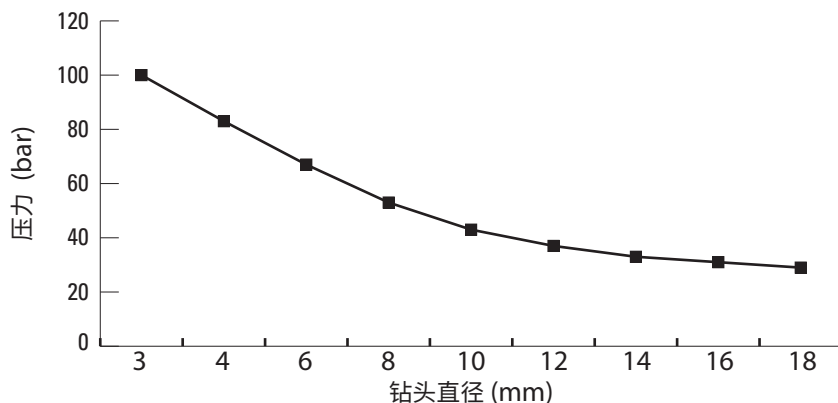
钻孔操作 冷却液建议

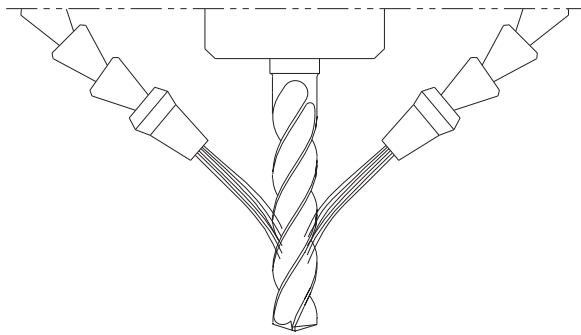
- 冷却液将切屑带出切削区域,降低切削过程中产生的热量并减小摩擦
- 为使切削过程获得充分冷却效果,优化冷却压力和冷却位置十分重要
- 正确使用冷却液可提高加工参数和材料去除率,改善表面光洁度,延长刀具寿命,降低能耗并缩短加工周期
- 冷却压力很重要,但更为重要的是压力的稳定性和在刀具上的应用,对硬质合金进行间歇性冷却会导致材料热应力并形成“微裂纹”
- 冷却液的正确清洁和过滤非常重要,这能使冷却液保持良好特性,同时避免冷却压力降低或内冷钻的冷却液通道堵塞的可能性

不同直径的推荐冷却压力 – psi

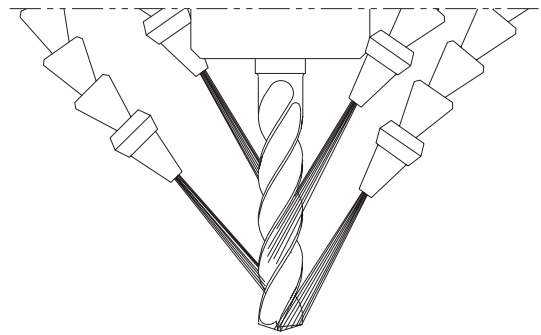


不同直径的推荐冷却压力 – bar



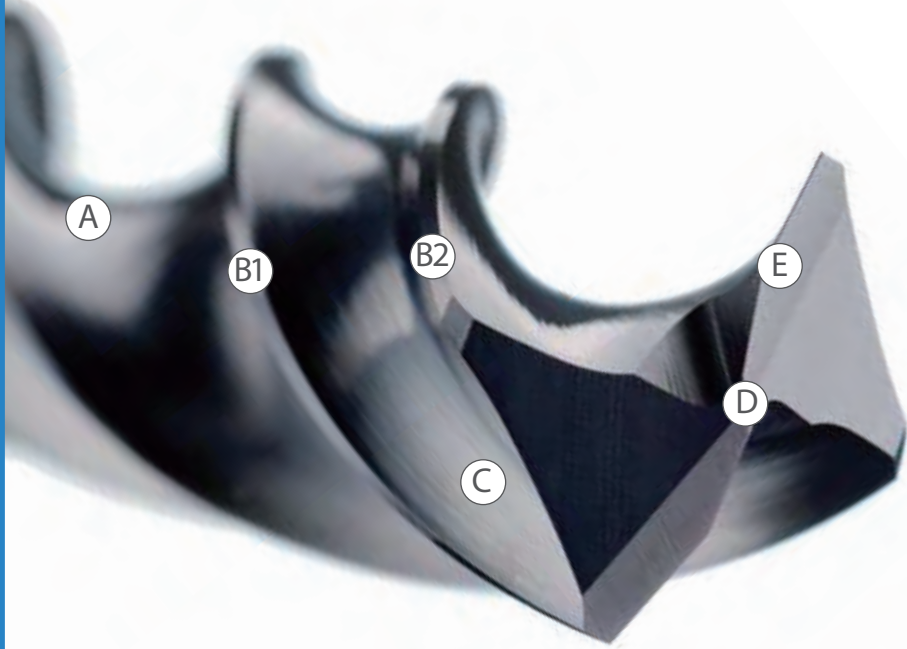


大喷嘴 - 低速
最大深度时的覆盖范围



小喷嘴 - 高速
全覆盖

- 减小喷嘴尺寸有助于通过提高速度将特殊双刃带设计Hi-PerCarb钻头的冷却效果提升。将喷嘴对准主刀槽及双刃带间的第二刀槽，可改善加工效果。



135系列



HIGH PERFORMANCE CARBIDE DRILLS

Hi-PerCarb 135系列钻头的关键设计特征不仅使该产品能够提供优于标准硬质合金钻头的应用优势,还可以提供优于其他高性能钻头的应用优势。Hi-PerCarb 135系列钻头的每个特征均经过特殊设计,旨在解决高生产率钻孔过程中常见的问题。

- A** 高性能刀槽设计

 - 可高效地排出切屑
 - 增加高速钻孔的强度

Ti-NAMITE A涂层

 - 提高了耐热性和耐磨性
 - 延长了刀具寿命
- B1** 双刃带设计

 - 改善了精度和表面光洁度
- B2**

 - 增加了稳定性和刚性
- C** 第二刀槽

 - 改善了冷却液向钻尖的流动
 - 减轻了沿钻体的摩擦
 - 有助于细屑排出
- D** 特别设计的145°缺口型钻尖

 - 自定心,无需点钻
 - 改善了切屑控制
 - 降低了钻头推力和偏转
- E** 精心设计的刃口保护

 - 增强了刃口强度
 - 减轻了刃口疲劳
 - 实现更高的进给率

高性能、高精度、高追求。
HI-PER CARB 135系列钻头

高性能

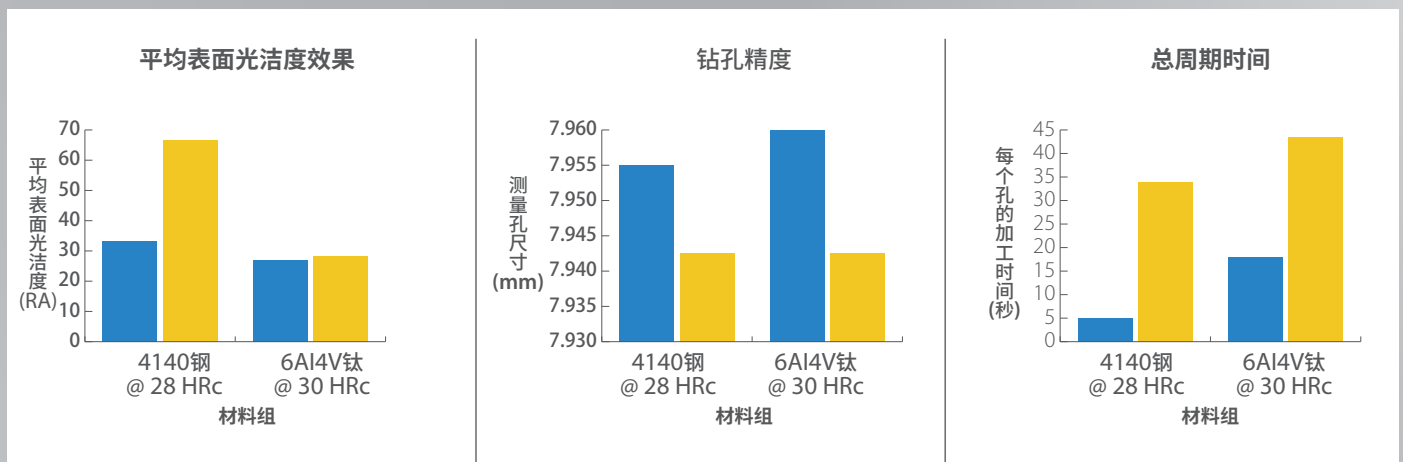
加工环境：

Haas VM-3, 采用9%的水溶性油射流冷却,

5/16"(7.94mm)直径孔：

4140应用 – 16.5mm深

6Al-4V应用 – 28.6mm深



■ HI-PERCARB 135系列

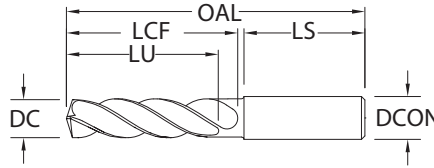
■ 硬质合金钻头和铰刀

第二条刃带赋予Hi-PerCarb 135系列钻头抛光效果, 并且其槽形可有效地控制和排出切屑, 从而能够在高生产率环境中实现良好的表面光洁度和孔尺寸, 同时在众多应用中无需铰孔, 从而节省了周期时间。



135 3xD

英制 & 公制系列



- 双刃带设计提高加工精度和表面光洁度, 同时提高钻孔强度
- 特殊自定心缺口型钻头, 无需点钻加工, 减少钻孔过程中的推力和偏转
- 刃边保护结构设计提高刃口强度, 减少刃口疲劳从而提高进给率
- 推荐材料硬度 ≤56HRC (≤577Bhn)

inch & mm									EDP 订货号
刃径 DC	英制值	公制值	丝锥尺寸 仅供参考	柄径 DCON	全长 OAL	槽长 LCF	刃长 LU	柄长 LS	Ti-NAMITE-A (AITIN)
1/64	0.0156	0.40		1/8	1-1/2	1/8	5/64	1	51752*
1/32	0.0312	0.79		1/8	1-1/2	1/4	3/16	1	51269*
3/64	0.0469	1.19	1/16-64	1/8	1-1/2	3/8	5/16	1	51270*
1,25 mm	0.0492			3,0	38,0	9,5	8,0	25,0	64500*
1,45 mm	0.0571			3,0	38,0	9,5	8,0	25,0	64501*
#53	0.0595	1.51		1/8	1-1/2	3/8	5/16	1	64502*
1/16	0.0625	1.59	5/64-60	1/8	2	7/16	3/8	1-1/4	51271*
1,6 mm	0.0630			3,0	50,0	11,0	9,0	32,0	64503*
1,75 mm	0.0689			3,0	50,0	11,0	9,0	32,0	64504*
#50	0.0700	1.78		1/8	2	7/16	3/8	1-1/4	64505*
5/64	0.0781	1.98		1/8	2	1/2	7/16	1-1/4	51272*
#47	0.0785	1.99		1/8	2	1/2	7/16	1-1/4	64506*
2,05 mm	0.0807			3,0	50,0	12,0	11,0	32,0	64507*
#46	0.0810	2.06		1/8	2	1/2	7/16	1-1/4	64508*
#43	0.0890	2.26		1/8	2	1/2	7/16	1-1/4	64509*
#42	0.0935	2.37		1/8	2	1/2	7/16	1-1/4	64510*
3/32	0.0938	2.38	1/8-32	1/8	2	1/2	7/16	1-1/4	51273
#40	0.0980	2.49		1/8	2	9/16	1/2	1-1/4	51274
2,5 mm	0.0984			3,0	50,0	14,0	12,0	32,0	64511
#39	0.0995	2.53		1/8	2	9/16	1/2	1-1/4	51753
#38	0.1015	2.58	5-40	1/8	2	9/16	1/2	1-1/4	51754
#37	0.1040	2.64	5-44	1/8	2	9/16	1/2	1-1/4	51755
#36	0.1065	2.71	6-32	1/8	2	9/16	1/2	1-1/4	51756
7/64	0.1094	2.78		1/8	2	5/8	9/16	1-1/4	51275
#35	0.1100	2.79		1/8	2	5/8	9/16	1-1/4	51276
#34	0.1110	2.82		1/8	2	5/8	9/16	1-1/4	51277
#33	0.1130	2.87	6-40	1/8	2	5/8	9/16	1-1/4	51757
2,9 mm	0.1142			3,0	50,0	16,0	14,0	32,0	64512
#32	0.1160	2.95		1/8	2	5/8	9/16	1-1/4	51758
3,0 mm	0.1181			6,0	62,0	20,0	17,0	36,0	63155
#31	0.1200	3.05		1/8	2	5/8	9/16	1-1/4	51759
3,1 mm	0.1220			6,0	62,0	20,0	17,0	36,0	63741
1/8	0.1250	3.18		1/4	2-1/2	3/4	21/32	1-7/16	51330
3,2 mm	0.1260		M3,5 X 0,35	6,0	62,0	20,0	17,0	36,0	63156
#30	0.1285	3.26		1/4	2-1/2	3/4	21/32	1-7/16	51278
3,3 mm	0.1299		M4 X 0,7	6,0	62,0	20,0	17,0	36,0	63157
3,4 mm	0.1339			6,0	62,0	20,0	17,0	36,0	63158
#29	0.1360	3.45	8-32,8-36	1/4	2-1/2	3/4	21/32	1-7/16	51331
3,5 mm	0.1378		M4 X 0,5	6,0	62,0	20,0	17,0	36,0	63159
#28	0.1405	3.57	8-40	1/4	2-1/2	3/4	21/32	1-7/16	51760
9/64	0.1406	3.57		1/4	2-1/2	3/4	21/32	1-7/16	51332
3,6 mm	0.1417		M4 X 0,35	6,0	62,0	20,0	17,0	36,0	63160
#27	0.1440	3.66		1/4	2-1/2	3/4	21/32	1-7/16	51761
3,7 mm	0.1457		M4.5 X 0,75	6,0	62,0	20,0	17,0	36,0	63161

*单刃带

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公差 (inch)

≤.1181 直径

DC = +.00008/+0.00047

DCON = h₆

>.1181-.2362 直径

DC = +.00016/+0.00063

DCON = h₆

>.2362-.3937 直径

DC = +.00024/+0.00083

DCON = h₆

>.3937-.7087 直径

DC = +.00028/+0.00098

DCON = h₆

>.7087-1.1811 直径

DC = +.00031/+0.0114

DCON = h₆

公差 (mm)

≤3 直径

DC = +0,002/+0,012

DCON = h₆

>3-6 直径

DC = +0,004/+0,016

DCON = h₆

>6-10 直径

DC = +0,006/+0,021

DCON = h₆

>10-18 直径

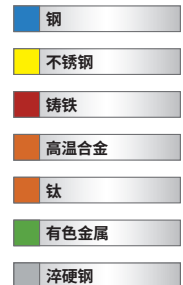
DC = +0,007/+0,025

DCON = h₆

>18-30 直径

DC = +0,008/+0,029

DCON = h₆



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135 3xD
英制 & 公制系列

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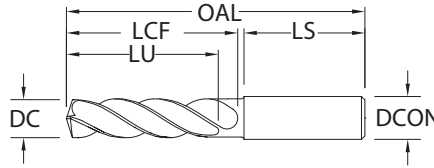
刃径 DC	英制值	公制值	inch & mm						EDP订货号 Ti-NAMITE-A (AITIN)
			丝锥尺寸 仅供参考	柄径 DCON	全长 OAL	槽长 LCF	刃长 LU	柄长 LS	
#26	0.1470	3.73	3/16-24	1/4	2-1/2	3/4	21/32	1-7/16	51762
#25	0.1495	3.80	10-24	1/4	2-5/8	7/8	23/32	1-7/16	51333
3,8 mm	0.1496			6,0	66,0	24,0	21,0	36,0	63742
#24	0.1520	3.86	10-28	1/4	2-5/8	7/8	23/32	1-7/16	51763
3,9 mm	0.1535			6,0	66,0	24,0	21,0	36,0	63743
#23	0.1540	3.91		1/4	2-5/8	7/8	23/32	1-7/16	51764
5/32	0.1562	3.97		1/4	2-5/8	7/8	23/32	1-7/16	51334
#22	0.1570	3.99	10-30	1/4	2-5/8	7/8	23/32	1-7/16	51765
4,0 mm	0.1575		M4,5 X 0,5	6,0	66,0	24,0	21,0	36,0	63162
#21	0.1590	4.04	10-32	1/4	2-5/8	7/8	23/32	1-7/16	51335
#20	0.1610	4.09	13/64-24	1/4	2-5/8	7/8	23/32	1-7/16	51279
4,1 mm	0.1614			6,0	66,0	24,0	21,0	36,0	63744
4,2 mm	0.1654		M5 / M5 X 0,75	6,0	66,0	24,0	21,0	36,0	63163
#19	0.1660	4.22		1/4	2-5/8	7/8	23/32	1-7/16	51766
4,3 mm	0.1693			6,0	66,0	24,0	21,0	36,0	63164
#18	0.1695	4.31		1/4	2-5/8	7/8	23/32	1-7/16	51767
11/64	0.1719	4.37		1/4	2-5/8	7/8	23/32	1-7/16	51336
#17	0.1730	4.39		1/4	2-5/8	7/8	23/32	1-7/16	51768
4,4 mm	0.1732			6,0	66,0	24,0	21,0	36,0	63745
#16	0.1770	4.50	12-24	1/4	2-5/8	7/8	23/32	1-7/16	51769
4,5 mm	0.1772		M5 X 0,5	6,0	66,0	24,0	21,0	36,0	63165
#15	0.1800	4.57		1/4	2-5/8	7/8	23/32	1-7/16	51770
4,6 mm	0.1811		12-28	6,0	66,0	24,0	21,0	36,0	63166
#14	0.1820	4.62		1/4	2-5/8	7/8	23/32	1-7/16	51771
#13	0.1850	4.70	12-32	1/4	2-5/8	7/8	23/32	1-7/16	51772
4,7 mm	0.1850			6,0	66,0	24,0	21,0	36,0	63746
3/16	0.1875	4.76		1/4	2-5/8	1	53/64	1-7/16	51337
#12	0.1890	4.80	7/32-32	1/4	2-5/8	1	53/64	1-7/16	51773
4,8 mm	0.1890			6,0	66,0	28,0	24,0	36,0	63167
#11	0.1910	4.85		1/4	2-5/8	1	53/64	1-7/16	51774
4,9 mm	0.1929			6,0	66,0	28,0	24,0	36,0	63747
#10	0.1935	4.91	14-20	1/4	2-5/8	1	53/64	1-7/16	51775
#9	0.1960	4.98		1/4	2-5/8	1	53/64	1-7/16	51776
5,0 mm	0.1969		M6 X 1	6,0	66,0	28,0	24,0	36,0	63168
#8	0.1990	5.05		1/4	2-5/8	1	53/64	1-7/16	51777
5,1 mm	0.2008			6,0	66,0	28,0	24,0	36,0	63748
#7	0.2010	5.11	1/4-20	1/4	2-5/8	1	53/64	1-7/16	51338
13/64	0.2031	5.16		1/4	2-5/8	1	53/64	1-7/16	51339
#6	0.2040	5.18		1/4	2-5/8	1	53/64	1-7/16	51778
5,2 mm	0.2047		M6 X 0,75	6,0	66,0	28,0	24,0	36,0	63749
#5	0.2055	5.22		1/4	2-5/8	1	53/64	1-7/16	51779
5,25 mm	0.2067			6,0	66,0	28,0	24,0	36,0	63169
5,3 mm	0.2087			6,0	66,0	28,0	24,0	36,0	63170
#4	0.2090	5.31	1/4-24	1/4	2-5/8	1	53/64	1-7/16	51780
5,4 mm	0.2126			6,0	66,0	28,0	24,0	36,0	63750
#3	0.2130	5.41	1/4-28	1/4	2-5/8	1	53/64	1-7/16	51340
5,5 mm	0.2165		M6 X 0,5	6,0	66,0	28,0	24,0	36,0	63171
7/32	0.2188	5.56	1/4-32	1/4	2-5/8	1	53/64	1-7/16	51341
5,6 mm	0.2205			6,0	66,0	28,0	24,0	36,0	63751
#2	0.2210	5.61		1/4	2-5/8	1	53/64	1-7/16	51781
5,7 mm	0.2244			6,0	66,0	28,0	24,0	36,0	63752
#1	0.2280	5.79		1/4	2-5/8	1	53/64	1-7/16	51782
5,8 mm	0.2283			6,0	66,0	28,0	24,0	36,0	63172
5,9 mm	0.2323			6,0	66,0	28,0	24,0	36,0	63753
A	0.2340	5.94		1/4	2-5/8	1	53/64	1-7/16	51601
15/64	0.2344	5.95		1/4	2-5/8	1	53/64	1-7/16	51342
6,0 mm	0.2362	6.00	M7 X 1	6,0	66,0	28,0	24,0	36,0	63173

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135 3xD

英制 & 公制系列



- 双刃带设计提高加工精度和表面光洁度, 同时提高钻孔强度
- 特殊自定心缺口型钻尖, 无需点钻加工, 减少钻孔过程中的推力和偏转
- 刃边保护结构设计提高刃口强度, 减少刃口疲劳从而提高进给率
- 推荐材料硬度 ≤56HRC (≤577Bhn)

		inch & mm							EDP订货号
刃径 DC	英制值	公制值	丝锥尺寸 仅供参考	柄径 DCON	全长 OAL	槽长 LCF	刃长 LU	柄长 LS	Ti-NAMITE-A (AlTiN)
B	0.2380	6.05		1/4	3-1/8	1-5/16	1-3/64	1-7/16	51602
6,1 mm	0.2402			8,0	79,0	34,0	28,0	36,0	63754
C	0.2420	6.15		1/4	3-1/8	1-5/16	1-3/64	1-7/16	51603
6,2 mm	0.2441			8,0	79,0	34,0	28,0	36,0	63755
D	0.2460	6.25		1/4	3-1/8	1-5/16	1-3/64	1-7/16	51604
6,25 mm	0.2461		M7 X 0,75	8,0	79,0	34,0	28,0	36,0	63174
6,3 mm	0.2480			8,0	79,0	34,0	28,0	36,0	63756
1/4	0.2500	6.35		1/4	3-1/8	1-5/16	1-3/64	1-7/16	51343
6,4 mm	0.2520			8,0	79,0	34,0	28,0	36,0	63175
6,5 mm	0.2559			8,0	79,0	34,0	28,0	36,0	63213
F	0.2570	6.53	5/16-18	5/16	3-1/8	1-5/16	1-3/64	1-7/16	51344
6,6 mm	0.2598			8,0	79,0	34,0	28,0	36,0	63757
G	0.2610	6.63		5/16	3-1/8	1-5/16	1-3/64	1-7/16	51606
6,7 mm	0.2638			8,0	79,0	34,0	28,0	36,0	63758
17/64	0.2656	6.75	5/16-20	5/16	3-1/8	1-5/16	1-3/64	1-7/16	51345
H	0.2660	6.76		5/16	3-1/8	1-5/16	1-3/64	1-7/16	51607
6,8 mm	0.2677		M8 X 1,25	8,0	79,0	34,0	28,0	36,0	63176
6,9 mm	0.2717			8,0	79,0	34,0	28,0	36,0	63759
I	0.2720	6.91	5/16-24	5/16	3-1/8	1-5/16	1-3/64	1-7/16	51346
7,0 mm	0.2756		M8 X 1	8,0	79,0	34,0	28,0	36,0	63177
J	0.2770	7.04		5/16	3-1/8	1-5/16	1-3/64	1-7/16	51608
7,1 mm	0.2795			8,0	79,0	41,0	34,0	36,0	63760
K	0.2810	7.14		5/16	3-1/8	1-9/16	1-3/16	1-7/16	51609
9/32	0.2812	7.14	5/16-32	5/16	3-1/8	1-9/16	1-3/16	1-7/16	51347
7,2 mm	0.2835			8,0	79,0	41,0	34,0	36,0	63761
7,25 mm	0.2854		M8 X 0,75	8,0	79,0	41,0	34,0	36,0	63178
7,3 mm	0.2874			8,0	79,0	41,0	34,0	36,0	63762
L	0.2900	7.37		5/16	3-1/8	1-9/16	1-3/16	1-7/16	51610
7,4 mm	0.2913			8,0	79,0	41,0	34,0	36,0	63763
M	0.2950	7.49		5/16	3-1/8	1-9/16	1-3/16	1-7/16	51611
7,5 mm	0.2953		M8 X 0,5	8,0	79,0	41,0	34,0	36,0	63179
19/64	0.2969	7.54		5/16	3-1/8	1-9/16	1-3/16	1-7/16	51348
7,6 mm	0.2992			8,0	79,0	41,0	34,0	36,0	63764
N	0.3020	7.67		5/16	3-1/8	1-9/16	1-3/16	1-7/16	51612
7,7 mm	0.3031			8,0	79,0	41,0	34,0	36,0	63765
7,8 mm	0.3071		M9 X 1,25	8,0	79,0	41,0	34,0	36,0	63180
7,9 mm	0.3110			8,0	79,0	41,0	34,0	36,0	63766
5/16	0.3125	7.94	3/8-16	5/16	3-1/8	1-9/16	1-3/16	1-7/16	51349
8,0 mm	0.3150		M9 x 1	8,0	79,0	41,0	34,0	36,0	63181
O	0.3160	8.03		3/8	3-1/2	1-27/32	1-37/64	1-9/16	51613
8,1 mm	0.3189			10,0	89,0	47,0	40,0	40,0	63767
8,2 mm	0.3228			10,0	89,0	47,0	40,0	40,0	63768
P	0.3230	8.20		3/8	3-1/2	1-27/32	1-37/64	1-9/16	51614
8,3 mm	0.3268			10,0	89,0	47,0	40,0	40,0	63769
21/64	0.3281	8.33	3/8-20	3/8	3-1/2	1-27/32	1-37/64	1-9/16	51350
8,4 mm	0.3307			10,0	89,0	47,0	40,0	40,0	63182

公差 (inch)

≤.1181 直径

DC = +.00008/+0.0047

DCON = h₆

>.1181-.2362 直径

DC = +.00016/+0.0063

DCON = h₆

>.2362-.3937 直径

DC = +.00024/+0.0083

DCON = h₆

>.3937-.7087 直径

DC = +.00028/+0.0098

DCON = h₆

>.7087-1.1811 直径

DC = +.00031/+0.0114

DCON = h₆

公差 (mm)

≤3 直径

DC = +0,002/+0,012

DCON = h₆

>3-6 直径

DC = +0,004/+0,016

DCON = h₆

>6-10 直径

DC = +0,006/+0,021

DCON = h₆

>10-18 直径

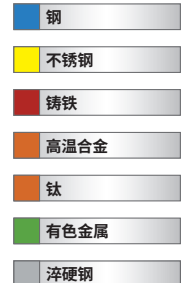
DC = +0,007/+0,025

DCON = h₆

>18-30 直径

DC = +0,008/+0,029

DCON = h₆



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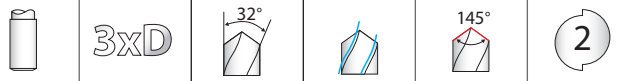
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135 3xD
英制 & 公制系列

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刃径 DC	英制值	公制值	inch & mm						EDP订货号
			丝锥尺寸 仅供参考	柄径 DCON	全长 OAL	槽长 LCF	刃长 LU	柄长 LS	Ti-NAMITE-A (AlTiN)
Q	0.3320	8.43	3/8-24	3/8	3-1/2	1-27/32	1-37/64	1-9/16	51351
8,5 mm	0.3346		M10 X 1,5	10,0	89,0	47,0	40,0	40,0	63183
8,6 mm	0.3386			10,0	89,0	47,0	40,0	40,0	63770
R	0.3390	8.61		3/8	3-1/2	1-27/32	1-37/64	1-9/16	51615
8,7 mm	0.3425			10,0	89,0	47,0	40,0	40,0	63771
11/32	0.3438	8.73	3/8-32	3/8	3-1/2	1-27/32	1-37/64	1-9/16	51352
8,8 mm	0.3465		M10 X 1,25	10,0	89,0	47,0	40,0	40,0	63184
S	0.3480	8.84		3/8	3-1/2	1-27/32	1-37/64	1-9/16	51616
8,9 mm	0.3504			10,0	89,0	47,0	40,0	40,0	63772
9,0 mm	0.3543		M10 X 1	10,0	89,0	47,0	40,0	40,0	63185
T	0.3580	9.09		3/8	3-1/2	1-27/32	1-37/64	1-9/16	51617
9,1 mm	0.3583			10,0	89,0	47,0	40,0	40,0	63773
23/64	0.3594	9.13		3/8	3-1/2	1-27/32	1-37/64	1-9/16	51353
9,2 mm	0.3622		M10 X 0,75	10,0	89,0	47,0	40,0	40,0	63774
9,25 mm	0.3642	9.25		10,0	89,0	47,0	40,0	40,0	63186
9,3 mm	0.3661			10,0	89,0	47,0	40,0	40,0	63775
U	0.3680	9.35	7/16-14	3/8	3-1/2	1-27/32	1-37/64	1-9/16	51354
9,4 mm	0.3701			10,0	89,0	47,0	40,0	40,0	63776
9,5 mm	0.3740		M10 X 0,5	10,0	89,0	47,0	40,0	40,0	63187
3/8	0.3750	9.53		3/8	3-1/2	1-27/32	1-37/64	1-9/16	51355
V	0.3770	9.58		1/2	3-1/2	1-27/32	1-37/64	1-9/16	51618
9,6 mm	0.3780			10,0	89,0	47,0	40,0	40,0	63777
9,7 mm	0.3819			10,0	89,0	47,0	40,0	40,0	63778
9,8 mm	0.3858			10,0	89,0	47,0	40,0	40,0	63779
W	0.3860			1/2	3-1/2	1-27/32	1-37/64	1-9/16	51619
9,9 mm	0.3898			10,0	89,0	47,0	40,0	40,0	63780
25/64	0.3906	9.92	7/16-20	1/2	3-1/2	1-27/32	1-37/64	1-9/16	51356
10,0 mm	0.3937			10,0	89,0	47,0	40,0	40,0	63188
X	0.3970	10.08	7/16-24	1/2	4-1/16	2-3/16	1-51/64	1-49/64	51620
10,1 mm	0.3976			12,0	102,0	55,0	45,0	45,0	63781
10,2 mm	0.4016		M12 X 1,75	12,0	102,0	55,0	45,0	45,0	63189
Y	0.4040	10.26	7/16-28	1/2	4-1/16	2-3/16	1-51/64	1-49/64	51621
10,3 mm	0.4055			12,0	102,0	55,0	45,0	45,0	63782
13/32	0.4062	10.32		1/2	4-1/16	2-3/16	1-51/64	1-49/64	51357
10,4 mm	0.4094			12,0	102,0	55,0	45,0	45,0	63783
Z	0.4130	10.49		1/2	4-1/16	2-3/16	1-51/64	1-49/64	51622
10,5 mm	0.4134		M12 X 1,5	12,0	102,0	55,0	45,0	45,0	63190
10,6 mm	0.4173			12,0	102,0	55,0	45,0	45,0	63784
10,7 mm	0.4213			12,0	102,0	55,0	45,0	45,0	63785
27/64	0.4219	10.72	1/2-13	1/2	4-1/16	2-3/16	1-51/64	1-49/64	51358
10,8 mm	0.4252		M12 X 1,25	12,0	102,0	55,0	45,0	45,0	63191
10,9 mm	0.4291			12,0	102,0	55,0	45,0	45,0	63786
11,0 mm	0.4331		M12 X 1	12,0	102,0	55,0	45,0	45,0	63192
11,1 mm	0.4370			12,0	102,0	55,0	45,0	45,0	63787
7/16	0.4375	11.11	1/4-18 NPT	1/2	4-1/16	2-3/16	1-51/64	1-49/64	51359
11,2 mm	0.4409			12,0	102,0	55,0	45,0	45,0	63788
11,25 mm	0.4429			12,0	102,0	55,0	45,0	45,0	63193
11,3 mm	0.4449			12,0	102,0	55,0	45,0	45,0	63789
11,4 mm	0.4488			12,0	102,0	55,0	45,0	45,0	63790
11,5 mm	0.4528		M12 X 0,5	12,0	102,0	55,0	45,0	45,0	63194
29/64	0.4531	11.51	1/2-20	1/2	4-1/16	2-3/16	1-51/64	1-49/64	51360
11,6 mm	0.4567			12,0	102,0	55,0	45,0	45,0	63791
11,7 mm	0.4606			12,0	102,0	55,0	45,0	45,0	63792
11,8 mm	0.4646			12,0	102,0	55,0	45,0	45,0	63793
11,9 mm	0.4685			12,0	102,0	55,0	45,0	45,0	63794
15/32	0.4688	11.91	1/2-28	1/2	4-1/16	2-3/16	1-51/64	1-49/64	51361
12,0 mm	0.4724		M14 X 2	12,0	102,0	55,0	45,0	45,0	63195

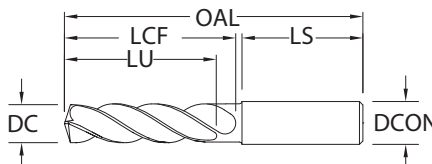
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135 3xD

英制 & 公制系列

- 双刃带设计提高加工精度和表面光洁度, 同时提高钻孔强度
- 特殊自定心缺口型钻尖, 无需点钻加工, 减少钻孔过程中的推力和偏转
- 刃边保护结构设计提高刃口强度, 减少刃口疲劳从而提高进给率
- 推荐材料硬度 ≤ 56HRC (≤ 577Bhn)



inch & mm										EDP 订货号
刃径 DC	英制值	公制值	丝锥尺寸 仅供参考	柄径 DCON	全长 OAL	槽长 LCF	刃长 LU	柄长 LS		Ti-NAMITE-A (AlTiN)
31/64	0.4844	12.30	9/16-12	1/2	4-1/4	2-5/16	1-7/8	1-49/64		51362
12,5 mm	0.4921		M14 X 1,5	14,0	107,0	60,0	49,0	45,0		63196
1/2	0.5000	12.70		1/2	4-1/4	2-5/16	1-7/8	1-49/64		51363
12,8 mm	0.5039		M14 X 1,25	14,0	107,0	60,0	49,0	45,0		63197
13,0 mm	0.5118		M14 X 1	14,0	107,0	60,0	49,0	45,0		63198
33/64	0.5156	13.10	9/16-18	5/8	4-1/4	2-5/16	1-7/8	1-49/64		51364
17/32	0.5312	13.49	5/8-11	5/8	4-1/4	2-5/16	1-7/8	1-49/64		51365
13,5 mm	0.5315			14,0	107,0	60,0	49,0	45,0		63199
35/64	0.5469	13.89	5/8-12	5/8	4-1/4	2-5/16	1-7/8	1-49/64		51783
14,0 mm	0.5512		M16 X 2	14,0	107,0	60,0	49,0	45,0		63200
9/16	0.5625	14.29		5/8	4-9/16	2-1/2	2	1-57/64		51366
14,5 mm	0.5709		M16 X 1,5	16,0	115,0	65,0	51,0	48,0		63201
37/64	0.5781	14.68	5/8-18	5/8	4-9/16	2-1/2	2	1-57/64		51367
15,0 mm	0.5906		M16 X 1	16,0	115,0	65,0	51,0	48,0		63202
19/32	0.5938	15.08	11/16-11	5/8	4-9/16	2-1/2	2	1-57/64		51784
39/64	0.6094	15.48	11/16-12	5/8	4-9/16	2-1/2	2	1-57/64		51785
15,5 mm	0.6102		M18 X 2,5	16,0	115,0	65,0	51,0	48,0		63203
5/8	0.6250	15.88	11/16-16	5/8	4-9/16	2-1/2	2	1-57/64		51368
16,0 mm	0.6299			16,0	115,0	65,0	51,0	48,0		63204
41/64	0.6406	16.27	11/16-24	3/4	4-7/8	2-3/4	2-5/16	1-57/64		51786
16,5 mm	0.6496		M18 X 1,5	18,0	123,0	73,0	58,0	48,0		63205
21/32	0.6562	16.67	3/4-10	3/4	4-7/8	2-3/4	2-5/16	1-57/64		51369
17,0 mm	0.6693			18,0	123,0	73,0	58,0	48,0		63206
43/64	0.6719	17.07	3/4-12	3/4	4-7/8	2-3/4	2-5/16	1-57/64		51787
11/16	0.6875	17.46	3/4-16	3/4	4-7/8	2-3/4	2-5/16	1-57/64		51370
17,5 mm	0.6890		M20 X 2,5	18,0	123,0	73,0	58,0	48,0		63207
45/64	0.7031	17.86	3/4-20, 1/2-14 NPT	3/4	4-7/8	2-3/4	2-5/16	1-57/64		51788
18,0 mm	0.7087			18,0	123,0	73,0	58,0	48,0		63208
23/32	0.7188	18.26		3/4	4-7/8	2-3/4	2-5/16	1-57/64		51789
18,5 mm	0.7283		M20 X 1,5	20,0	131,0	79,0	63,0	50,0		63209
47/64	0.7344	18.65	13/16-12	3/4	4-7/8	2-3/4	2-5/16	1-57/64		51790
19,0 mm	0.7480			20,0	131,0	79,0	63,0	50,0		63210
3/4	0.7500	19.05	13/16-16	3/4	5-1/4	3-1/16	2-7/16	1-31/32		51371
49/64	0.7656	19.45	7/8-9	7/8	5-1/4	3-1/16	2-7/16	1-31/32		51372
19,5 mm	0.7677		M22 X 2,5	20,0	131,0	79,0	63,0	50,0		63211
25/32	0.7812	19.84		7/8	6	3-11/16	2-11/16	2-1/8		51791
20,0 mm	0.7874			20,0	131,0	79,0	63,0	50,0		63212
51/64	0.7969	20.24	7/8-12	7/8	6	3-11/16	2-11/16	2-1/8		51792
20,5 mm	0.8071			22,0	150,0	93,0	73,0	53,0		64513
13/16	0.8125	20.64	7/8-14	7/8	6	3-11/16	2-11/16	2-1/8		51373
21,0 mm	0.8268			22,0	150,0	93,0	73,0	53,0		64514
22,0 mm	0.8661			22,0	150,0	93,0	73,0	53,0		64515
7/8	0.8750	22.23	15/16-16, 1-8	7/8	6	3-11/16	2-11/16	2-1/8		51374
59/64	0.9219	23.42	1-12	1	6	3-11/16	2-11/16	2-1/8		51375

公差 (inch)

≤.1181 直径

DC = +.00008/+0.0047

DCON = h₆

>.1181-.2362 直径

DC = +.00016/+0.0063

DCON = h₆

>.2362-.3937 直径

DC = +.00024/+0.0083

DCON = h₆

>.3937-.7087 直径

DC = +.00028/+0.0098

DCON = h₆

>.7087-1.1811 直径

DC = +.00031/+0.0114

DCON = h₆

公差 (mm)

≤3 直径

DC = +0,002/+0,012

DCON = h₆

>3-6 直径

DC = +0,004/+0,016

DCON = h₆

>6-10 直径

DC = +0,006/+0,021

DCON = h₆

>10-18 直径

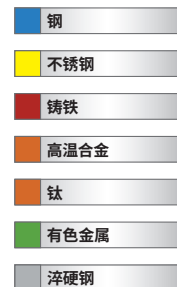
DC = +0,007/+0,025

DCON = h₆

>18-30 直径

DC = +0,008/+0,029

DCON = h₆



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135 3D
系列
英制

	硬度	Vc (sfm)	DC · in								
			1/32	1/8	1/4	3/8	1/2	5/8	7/8		
P 碳素钢 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 175 Bhn 或 ≤ 7 HRc	385	RPM	47062	11766	5883	3922	2941	2353	1681	
		(308-462)	Fr	0.0010	0.0038	0.0076	0.0115	0.0153	0.0191	0.0268	
			进给 (ipm)	45.0	45.0	45.0	45.0	45.0	45.0	45.0	
	≤ 275 Bhn 或 ≤ 28 HRc	350	RPM	42784	10696	5348	3565	2674	2139	1528	
		(280-420)	Fr	0.0009	0.0036	0.0071	0.0107	0.0142	0.0178	0.0249	
			进给 (ipm)	38.0	38.0	38.0	38.0	38.0	38.0	38.0	
	≤ 425 Bhn 或 ≤ 45 HRc	200	RPM	24448	6112	3056	2037	1528	1222	873	
		(160-240)	Fr	0.0007	0.0029	0.0059	0.0088	0.0118	0.0147	0.0206	
			进给 (ipm)	18.0	18.0	18.0	18.0	18.0	18.0	18.0	
	M 合金钢 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 50100	≤ 275 Bhn 或 ≤ 28 HRc	300	RPM	36672	9168	4584	3056	2292	1834	1310
			(240-360)	Fr	0.0007	0.0029	0.0059	0.0088	0.0118	0.0147	0.0206
				进给 (ipm)	27.0	27.0	27.0	27.0	27.0	27.0	27.0
≤ 375 Bhn 或 ≤ 40 HRc		185	RPM	22614	5654	2827	1885	1413	1131	808	
		(148-222)	Fr	0.0006	0.0026	0.0051	0.0077	0.0103	0.0128	0.0180	
			进给 (ipm)	14.5	14.5	14.5	14.5	14.5	14.5	14.5	
≤ 450 Bhn 或 ≤ 48 HRc		130	RPM	15891	3973	1986	1324	993	795	568	
		(104-156)	Fr	0.0004	0.0018	0.0035	0.0053	0.0070	0.0088	0.0123	
			进给 (ipm)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
M 不锈钢 (易加工) 303, 416, 420F, 430F, 440F		≤ 185 Bhn 或 ≤ 9 HRc	275	RPM	33616	8404	4202	2801	2101	1681	1201
			(220-330)	Fr	0.0006	0.0026	0.0051	0.0077	0.0102	0.0128	0.0179
				进给 (ipm)	21.5	21.5	21.5	21.5	21.5	21.5	21.5
	≤ 275 Bhn 或 ≤ 28 HRc	170	RPM	20781	5195	2598	1732	1299	1039	742	
		(136-204)	Fr	0.0005	0.0020	0.0040	0.0061	0.0081	0.0101	0.0141	
			进给 (ipm)	10.5	10.5	10.5	10.5	10.5	10.5	10.5	
	≤ 275 Bhn 或 ≤ 28 HRc	90	RPM	11002	2750	1375	917	688	550	393	
		(72-108)	Fr	0.0005	0.0020	0.0040	0.0060	0.0080	0.0100	0.0140	
			进给 (ipm)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	
	≤ 375 Bhn 或 ≤ 40 HRc	65	RPM	7946	1986	993	662	497	397	284	
		(52-78)	Fr	0.0004	0.0018	0.0035	0.0053	0.0070	0.0088	0.0123	
			进给 (ipm)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
K 铸铁 灰铸铁, 可锻铸铁, 球墨铸铁	≤ 220 Bhn 或 ≤ 19 HRc	320	RPM	39117	9779	4890	3260	2445	1956	1397	
		(256-384)	Fr	0.0012	0.0046	0.0092	0.0138	0.0184	0.0230	0.0322	
			进给 (ipm)	45.0	45.0	45.0	45.0	45.0	45.0	45.0	
	≤ 260 Bhn 或 ≤ 26 HRc	285	RPM	34838	8710	4355	2903	2177	1742	1244	
		(228-342)	Fr	0.0011	0.0046	0.0092	0.0138	0.0184	0.0230	0.0321	
			进给 (ipm)	40.0	40.0	40.0	40.0	40.0	40.0	40.0	

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135 3D 系列 英制	硬度	Vc (sfm)		DC • in							
				1/32	1/8	1/4	3/8	1/2	5/8	7/8	
N 铝合金 2017, 2024, 356, 6061, 7075	≤ 80 Bhn 或 ≤ 47 HRb	700 (560-840)	RPM	85568	21392	10696	7131	5348	4278	3056	
			Fr	0.0012	0.0049	0.0098	0.0147	0.0196	0.0245	0.0344	
			进给 (ipm)	105.0	105.0	105.0	105.0	105.0	105.0	105.0	
	≤ 150 Bhn 或 ≤ 7 HRc	600 (480-720)	RPM	73344	18336	9168	6112	4584	3667	2619	
			Fr	0.0012	0.0050	0.0099	0.0149	0.0199	0.0248	0.0347	
			进给 (ipm)	91.0	91.0	91.0	91.0	91.0	91.0	91.0	
	铜合金 铝青铜, C110, 蒙知黄铜	≤ 140 Bhn 或 ≤ 3 HRc	500 (400-600)	RPM	61120	15280	7640	5093	3820	3056	2183
				Fr	0.0005	0.0020	0.0039	0.0059	0.0079	0.0098	0.0137
				进给 (ipm)	30.0	30.0	30.0	30.0	30.0	30.0	30.0
		≤ 200 Bhn 或 ≤ 23 HRc	400 (320-480)	RPM	48896	12224	6112	4075	3056	2445	1746
				Fr	0.0005	0.0020	0.0040	0.0060	0.0080	0.0100	0.0140
				进给 (ipm)	24.5	24.5	24.5	24.5	24.5	24.5	24.5
S 高温合金 (镍、钴、铁基) Inconel 601, 617, 625, Incoloy, 蒙乃尔 400, Rene, Waspaloy	≤ 300 Bhn 或 ≤ 32 HRc	55 (44-66)	RPM	6723	1681	840	560	420	336	240	
			Fr	0.0002	0.0008	0.0015	0.0023	0.0031	0.0039	0.0054	
			进给 (ipm)	1.3	1.3	1.3	1.3	1.3	1.3	1.3	
	≤ 400 Bhn 或 ≤ 43 HRc	30 (24-36)	RPM	3667	917	458	306	229	183	131	
			Fr	0.0002	0.0007	0.0013	0.0020	0.0026	0.0033	0.0046	
			进给 (ipm)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	
	钛合金 纯钛, Ti6Al4V, Ti6Al2Sn4Zr2Mo, Ti4Al4Mo2Sn0.5Si, Ti-6Al4V	≤ 275 Bhn 或 ≤ 28 HRc	135 (108-162)	RPM	16502	4126	2063	1375	1031	825	589
				Fr	0.0004	0.0018	0.0035	0.0053	0.0071	0.0088	0.0124
				进给 (ipm)	7.3	7.3	7.3	7.3	7.3	7.3	7.3
		≤ 350 Bhn 或 ≤ 38 HRc	100 (80-120)	RPM	12224	3056	1528	1019	764	611	437
				Fr	0.0004	0.0016	0.0033	0.0049	0.0065	0.0082	0.0115
				进给 (ipm)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
≤ 440 Bhn 或 ≤ 47 HRc	55 (44-66)	RPM	6723	1681	840	560	420	336	240		
		Fr	0.0003	0.0012	0.0024	0.0036	0.0048	0.0059	0.0083		
		进给 (ipm)	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
H 工具钢 A2, D2, H13, L2, M2, P20, S7, T15, W2	≤ 200 Bhn 或 ≤ 13 HRc	130 (104-156)	RPM	15891	3973	1986	1324	993	795	568	
			Fr	0.0007	0.0026	0.0053	0.0079	0.0106	0.0132	0.0185	
			进给 (ipm)	10.5	10.5	10.5	10.5	10.5	10.5	10.5	
	≤ 375 Bhn 或 ≤ 40 HRc	90 (72-108)	RPM	11002	2750	1375	917	688	550	393	
			Fr	0.0003	0.0012	0.0023	0.0035	0.0047	0.0058	0.0081	
			进给 (ipm)	3.2	3.2	3.2	3.2	3.2	3.2	3.2	
	≤ 475 Bhn 或 ≤ 50 HRc	75 (60-90)	RPM	9168	2292	1146	764	573	458	327	
			Fr	0.0002	0.0008	0.0016	0.0024	0.0031	0.0039	0.0055	
			进给 (ipm)	1.8	1.8	1.8	1.8	1.8	1.8	1.8	

Bhn (布氏硬度) HRc (洛氏硬度) HRb (洛氏硬度)

rpm = Vc x 3.82 / DC

ipm = Fr x rpm

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135 3D 系列 公制	硬度	Vc (m/min)	DC • mm									
			1.5	3	6	8	10	12	16	20		
P 碳素钢 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 175 Bhn 或 ≤ 7 HRc	117	RPM	24882	12441	6220	4665	3732	3110	2333	1866	
		(94-141)	Fr	0.047	0.094	0.189	0.252	0.315	0.378	0.504	0.630	
			进给(mm/min)	1175	1175	1175	1175	1175	1175	1175	1175	1175
	≤ 275 Bhn 或 ≤ 28 HRc	107	RPM	22620	11310	5655	4241	3393	2827	2121	1696	
		(85-128)	Fr	0.043	0.086	0.172	0.229	0.286	0.343	0.457	0.572	
			进给(mm/min)	970	970	970	970	970	970	970	970	970
	≤ 475 Bhn 或 ≤ 45 HRc	61	RPM	12926	6463	3231	2424	1939	1616	1212	969	
		(49-73)	Fr	0.036	0.071	0.142	0.190	0.237	0.285	0.380	0.475	
			进给(mm/min)	460	460	460	460	460	460	460	460	460
	M 合金钢 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 50100	≤ 275 Bhn 或 ≤ 28 HRc	91	RPM	19388	9694	4847	3635	2908	2424	1818	1454
			(73-110)	Fr	0.036	0.071	0.142	0.190	0.237	0.285	0.380	0.475
				进给(mm/min)	690	690	690	690	690	690	690	690
≤ 375 Bhn 或 ≤ 40 HRc		56	RPM	11956	5978	2989	2242	1793	1495	1121	897	
		(45-68)	Fr	0.031	0.061	0.122	0.163	0.204	0.244	0.326	0.407	
			进给(mm/min)	365	365	365	365	365	365	365	365	365
≤ 450 Bhn 或 ≤ 48 HRc		40	RPM	8402	4201	2100	1575	1260	1050	788	630	
		(32-48)	Fr	0.021	0.042	0.083	0.111	0.139	0.167	0.222	0.278	
			进给(mm/min)	175	175	175	175	175	175	175	175	175
K 不锈钢 (易加工) 303, 416, 420F, 430F, 440F		≤ 185 Bhn 或 ≤ 9 HRc	84	RPM	17773	8886	4443	3332	2666	2222	1666	1333
			(67-101)	Fr	0.031	0.061	0.123	0.164	0.204	0.245	0.327	0.409
				进给(mm/min)	545	545	545	545	545	545	545	545
	≤ 275 Bhn 或 ≤ 28 HRc	52	RPM	10987	5493	2747	2060	1648	1373	1030	824	
		(41-62)	Fr	0.024	0.047	0.095	0.126	0.158	0.189	0.252	0.316	
			进给(mm/min)	260	260	260	260	260	260	260	260	260
	≤ 275 Bhn 或 ≤ 28 HRc	27	RPM	5816	2908	1454	1091	872	727	545	436	
		(22-33)	Fr	0.023	0.046	0.093	0.124	0.155	0.186	0.248	0.309	
			进给(mm/min)	135	135	135	135	135	135	135	135	135
	≤ 375 Bhn 或 ≤ 40 HRc	20	RPM	4201	2100	1050	788	630	525	394	315	
		(16-24)	Fr	0.020	0.040	0.081	0.108	0.135	0.162	0.216	0.270	
			进给(mm/min)	85	85	85	85	85	85	85	85	85
K 铸铁 灰铸铁, 可锻铸铁, 球墨铸铁	≤ 220 Bhn 或 ≤ 19 HRc	98	RPM	20681	10340	5170	3878	3102	2585	1939	1551	
		(78-117)	Fr	0.055	0.110	0.220	0.293	0.366	0.439	0.585	0.732	
			进给(mm/min)	1135	1135	1135	1135	1135	1135	1135	1135	1135
	≤ 260 Bhn 或 ≤ 26 HRc	87	RPM	18419	9209	4605	3454	2763	2302	1727	1381	
		(69-104)	Fr	0.055	0.110	0.219	0.292	0.366	0.439	0.585	0.731	
			进给(mm/min)	1010	1010	1010	1010	1010	1010	1010	1010	1010

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135 3D 系列 公制	硬度	Vc (m/min)	DC • mm									
			1.5	3	6	8	10	12	16	20		
N 铝合金 2017, 2024, 356, 6061, 7075	≤ 80 Bhn 或 ≤ 47 HRb	213	RPM	45239	22620	11310	8482	6786	5655	4241	3393	
		(171-256)	Fr	0.059	0.119	0.238	0.317	0.396	0.476	0.634	0.793	
			进给(mm/min)	2690	2690	2690	2690	2690	2690	2690	2690	
	≤ 150 Bhn 或 ≤ 7 HRc	183	RPM	38777	19388	9694	7271	5816	4847	3635	2908	
		(146-219)	Fr	0.060	0.120	0.240	0.320	0.400	0.480	0.640	0.799	
			进给(mm/min)	2325	2325	2325	2325	2325	2325	2325	2325	
	S 铜合金 铝青铜, C110, 蒙知黄铜	≤ 140 Bhn 或 ≤ 3 HRc	152	RPM	32314	16157	8078	6059	4847	4039	3029	2424
			(122-183)	Fr	0.024	0.048	0.096	0.128	0.160	0.192	0.256	0.320
				进给(mm/min)	776	776	776	776	776	776	776	776
		≤ 200 Bhn 或 ≤ 23 HRc	122	RPM	25851	12926	6463	4847	3878	3231	2424	1939
			(98-146)	Fr	0.024	0.049	0.097	0.130	0.162	0.195	0.260	0.325
				进给(mm/min)	630	630	630	630	630	630	630	630
H 高温合金 (镍、钴、铁基) Inconel 601, 617, 625, Incoloy, 蒙乃尔 400, Rene, Waspaloy		≤ 300 Bhn 或 ≤ 32 HRc	17	RPM	3555	1777	889	666	533	444	333	267
			(13-20)	Fr	0.010	0.020	0.039	0.053	0.066	0.079	0.105	0.131
				进给(mm/min)	35	35	35	35	35	35	35	35
		≤ 400 Bhn 或 ≤ 43 HRc	9	RPM	1939	969	485	364	291	242	182	145
			(7-11)	Fr	0.008	0.015	0.031	0.041	0.052	0.062	0.083	0.103
				进给(mm/min)	15	15	15	15	15	15	15	15
	H 钛合金 纯钛, Ti6Al4V, Ti6Al2Sn4Zr2Mo, Ti4Al4Mo2Sn0.5Si, Ti-6Al4V	≤ 275 Bhn 或 ≤ 28 HRc	41	RPM	8725	4362	2181	1636	1309	1091	818	654
			(33-49)	Fr	0.021	0.042	0.085	0.113	0.141	0.170	0.226	0.283
				进给(mm/min)	185	185	185	185	185	185	185	185
		≤ 350 Bhn 或 ≤ 38 HRc	30	RPM	6463	3231	1616	1212	969	808	606	485
			(24-37)	Fr	0.019	0.039	0.077	0.103	0.129	0.155	0.206	0.258
				进给(mm/min)	125	125	125	125	125	125	125	125
≤ 440 Bhn 或 ≤ 47 HRc		17	RPM	3555	1777	889	666	533	444	333	267	
		(13-20)	Fr	0.014	0.028	0.056	0.075	0.094	0.113	0.150	0.188	
			进给(mm/min)	50	50	50	50	50	50	50	50	
H 工具钢 A2, D2, H13, L2, M2, P20, S7, T15, W2		≤ 200 Bhn 或 ≤ 13 HRc	40	RPM	8402	4201	2100	1575	1260	1050	788	630
			(32-48)	Fr	0.032	0.063	0.126	0.168	0.210	0.252	0.336	0.421
				进给(mm/min)	265	265	265	265	265	265	265	265
	≤ 375 Bhn 或 ≤ 40 HRc	27	RPM	5816	2908	1454	1091	872	727	545	436	
		(22-33)	Fr	0.014	0.028	0.055	0.073	0.092	0.110	0.147	0.183	
			进给(mm/min)	80	80	80	80	80	80	80	80	
	≤ 475 Bhn 或 ≤ 50 HRc	23	RPM	4847	2424	1212	909	727	606	454	364	
		(18-27)	Fr	0.009	0.019	0.037	0.050	0.062	0.074	0.099	0.124	
			进给(mm/min)	45	45	45	45	45	45	45	45	

Bhn (布氏硬度) HRc (洛氏硬度) HRb (洛氏硬度)

$rpm = (Vc \times 1000) / (DC \times 3.14)$

$mm/min = Fr \times rpm$

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5xD



公差 (inch)

≤.1181 直径

DC = +.00008/+0.00047

DCON = h₆

>.1181-.2362 直径

DC = +.00016/+0.00063

DCON = h₆

>.2362-.3937 直径

DC = +.00024/+0.00083

DCON = h₆

>.3937-.7087 直径

DC = +.00028/+0.00098

DCON = h₆

>.7087-1.1811 直径

DC = +.00031/+0.00114

DCON = h₆

公差 (mm)

≤3 直径

DC = +0,002/+0,012

DCON = h₆

>3-6 直径

DC = +0,004/+0,016

DCON = h₆

>6-10 直径

DC = +0,006/+0,021

DCON = h₆

>10-18 直径

DC = +0,007/+0,025

DCON = h₆

>18-30 直径

DC = +0,008/+0,029

DCON = h₆

钢

不锈钢

铸铁

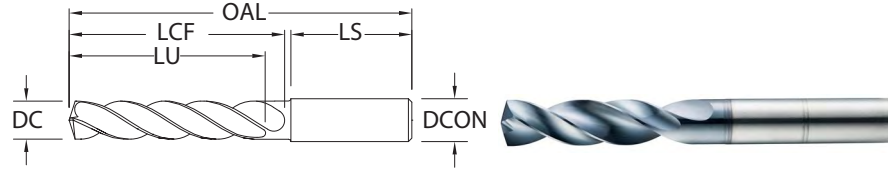
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135 5xD
英制 & 公制系列

inch & mm										EDP 订货号
刃径 DC	英制值	公制值	丝锥尺寸 仅供参考	柄径 DCON	全长 OAL	槽长 LCF	刃长 LU	柄长 LS		Ti-NAMITE-A (AlTiN)
1/64	0.0156	0.40		1/8	1 1/2	5/32	7/64	1		52300*
1/32	0.0312	0.79		1/8	1 1/2	5/16	7/32	1		52301*
3/64	0.0469	1.19	1/16-64	1/8	1 1/2	25/64	19/64	1		52302*
1,25 mm	0.0492			3,0	38,0	10,0	7,5	25,0		64520*
1,45 mm	0.0571			3,0	38,0	10,0	7,5	25,0		64521*
#53	0.0595	1.51		1/8	1-1/2	25/64	19/64	1		64522*
1/16	0.0625	1.59	5/64-60	1/8	2	15/32	23/64	1-1/4		52303*
1,6 mm	0.0630			3,0	50,0	12,0	9,0	32,0		64523*
1,75 mm	0.0689			3,0	50,0	12,0	9,0	32,0		64524*
#50	0.0700	1.78		1/8	2	15/32	23/64	1-1/4		64525*
5/64	0.0781	1.98		1/8	2	35/64	27/64	1-1/4		52304*
#47	0.0785	1.99		1/8	2	35/64	27/64	1-1/4		64526*
2,05 mm	0.0807			3,0	50,0	14,0	11,0	32,0		64527*
#46	0.0810	2.06		1/8	2	35/64	27/64	1-1/4		64528*
#43	0.0890	2.26		1/8	2	19/32	15/32	1-1/4		64529*
#42	0.0935	2.37		1/8	2	5/8	1/2	1-1/4		64530*
3/32	0.0938	2.38	1/8-32	1/8	2	5/8	1/2	1-1/4		52305
#40	0.0980	2.49		1/8	2	43/64	17/32	1-1/4		52306
2,5 mm	0.0984			3,0	50,0	17,0	13,0	32,0		64531
#39	0.0995	2.53		1/8	2	43/64	17/32	1-1/4		52307
#38	0.1015	2.58	5-40	1/8	2	43/64	17/32	1-1/4		52308
#37	0.1040	2.64	5-44	1/8	2	45/64	9/16	1-1/4		52309
#36	0.1065	2.71	6-32	1/8	2	45/64	9/16	1-1/4		52310
7/64	0.1094	2.78		1/8	2	3/4	19/32	1-1/4		52311
#35	0.1100	2.79		1/8	2	3/4	19/32	1-1/4		52312
#34	0.1110	2.82		1/8	2	3/4	19/32	1-1/4		52313
#33	0.1130	2.87	6-40	1/8	2	3/4	19/32	1-1/4		52314
2,9 mm	0.1142			3,0	50,0	19,0	15,0	32,0		64532
#32	0.1160	2.95		1/8	2	3/4	39/64	1-1/4		52315
3,0 mm	0.1181			6,0	66,0	28,0	23,0	36,0		64100
#31	0.1200	3.05		1/8	2	3/4	39/64	1-1/4		52316
3,1 mm	0.1220			6,0	66,0	28,0	23,0	36,0		64101
1/8	0.1250	3.18		1/4	3	1	53/64	1-7/16		51580
3,2 mm	0.1260		M3,5 X 0,35	6,0	66,0	28,0	23,0	36,0		64102
#30	0.1285	3.26		1/4	3	1	53/64	1-7/16		51581
3,3 mm	0.1299		M4 X 0,7	6,0	66,0	28,0	23,0	36,0		64103

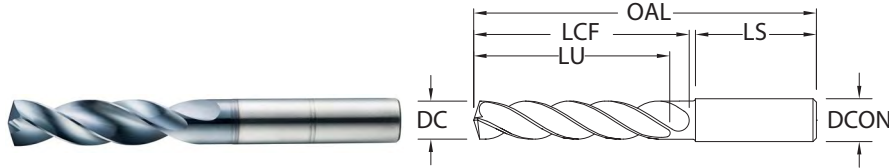
*单刃带

- 双刃带设计提高加工精度和表面光洁度,同时提高钻孔强度
- 特殊自定心缺口型钻尖,无需点钻加工,减少钻孔过程中的推力和偏转
- 刃边保护结构设计提高刃口强度,减少刃口疲劳从而提高进给率
- 推荐材料硬度≤56HRC (≤577Bhn)

续下一页



5xD



135 5xD

英制 & 公制系列

- 双刃带设计提高加工精度和表面光洁度, 同时提高钻孔强度
- 特殊自定心缺口型钻尖, 无需点钻加工, 减少钻孔过程中的推力和偏转
- 刃边保护结构设计提高刃口强度, 减少刃口疲劳从而提高进给率
- 推荐材料硬度 ≤ 56HRc (≤ 577Bhn)

inch & mm									EDP 订货号
刃径 DC	英制值	公制值	丝锥尺寸 仅供参考	柄径 DCON	全长 OAL	槽长 LCF	刃长 LU	柄长 LS	Ti-NAMITE-A (AlTiN)
3,4 mm	0.1339		8-32,8-36	6,0	66,0	28,0	23,0	36,0	64104
#29	0.1360	3.45		1/4	3	1	53/64	1-7/16	51582
3,5 mm	0.1378			6,0	66,0	28,0	23,0	36,0	64105
#28	0.1405	3.57	8-40	1/4	3	1	53/64	1-7/16	52317
9/64	0.1406	3.57		1/4	3	1	53/64	1-7/16	51583
3,6 mm	0.1417		M4 X 0,35	6,0	66,0	28,0	23,0	36,0	64106
#27	0.1440	3.66		1/4	3	1	53/64	1-7/16	52318
3,7 mm	0.1457		M4.5 X 0,75	6,0	66,0	28,0	23,0	36,0	64107
#26	0.1470	3.73	3/16-24	1/4	3	1	53/64	1-7/16	52319
#25	0.1495	3.80	10-24	1/4	3-1/4	1-1/4	1-5/64	1-7/16	51584
3,8 mm	0.1496			6,0	74,0	36,0	29,0	36,0	64108
#24	0.1520	3.86	10-28	1/4	3-1/4	1-1/4	1-5/64	1-7/16	52321
3,9 mm	0.1535			6,0	74,0	36,0	29,0	36,0	64109
#23	0.1540	3.91		1/4	3-1/4	1-1/4	1-5/64	1-7/16	52322
5/32	0.1562	3.97		1/4	3-1/4	1-1/4	1-5/64	1-7/16	51585
#22	0.1570	3.99	10-30	1/4	3-1/4	1-1/4	1-5/64	1-7/16	52323
4,0 mm	0.1575		M4,5 X 0,5	6,0	74,0	36,0	29,0	36,0	64110
#21	0.1590	4.04	10-32	1/4	3-1/4	1-1/4	1-5/64	1-7/16	51586
#20	0.1610	4.09	13/64-24	1/4	3-1/4	1-1/4	1-5/64	1-7/16	51587
4,1 mm	0.1614			6,0	74,0	36,0	29,0	36,0	64111
4,2 mm	0.1654		M5 / M5 X 0,75	6,0	74,0	36,0	29,0	36,0	64112
#19	0.1660	4.22		1/4	3-1/4	1-1/4	1-5/64	1-7/16	52324
4,3 mm	0.1693			6,0	74,0	36,0	29,0	36,0	64113
#18	0.1695	4.31		1/4	3-1/4	1-1/4	1-5/64	1-7/16	52325
11/64	0.1719	4.37		1/4	3-1/4	1-1/4	1-5/64	1-7/16	51588
#17	0.1730	4.39		1/4	3-1/4	1-1/4	1-5/64	1-7/16	52326
4,4 mm	0.1732			6,0	74,0	36,0	29,0	36,0	64114
4,5 mm	0.1772		M5 X 0,5	6,0	74,0	36,0	29,0	36,0	64115
#15	0.1800	4.57		1/4	3-1/4	1-1/4	1-5/64	1-7/16	52327
4,6 mm	0.1811		12-28	6,0	74,0	36,0	29,0	36,0	64116
#14	0.1820	4.62		1/4	3-1/4	1-1/4	1-5/64	1-7/16	52328
#13	0.1850	4.70	12-32	1/4	3-1/4	1-1/4	1-5/64	1-7/16	52329
4,7 mm	0.1850			6,0	74,0	36,0	29,0	36,0	64117
3/16	0.1875	4.76		1/4	3-1/4	1-3/4	1-37/64	1-7/16	51589
#12	0.1890	4.80	7/32-32	1/4	3-1/4	1-3/4	1-37/64	1-7/16	52330
4,8 mm	0.1890			6,0	82,0	44,0	35,0	36,0	64118
4,9 mm	0.1929			6,0	82,0	44,0	35,0	36,0	64119
#10	0.1935	4.91	14-20	1/4	3-1/4	1-3/4	1-37/64	1-7/16	52331

公差 (inch)

≤.1181 直径

DC = +.00008/+0.00047

DCON = h₆

>.1181-.2362 直径

DC = +.00016/+0.00063

DCON = h₆

>.2362-.3937 直径

DC = +.00024/+0.00083

DCON = h₆

>.3937-.7087 直径

DC = +.00028/+0.00098

DCON = h₆

>.7087-1.1811 直径

DC = +.00031/+0.00114

DCON = h₆

公差 (mm)

≤3 直径

DC = +0,002/+0,012

DCON = h₆

>3-6 直径

DC = +0,004/+0,016

DCON = h₆

>6-10 直径

DC = +0,006/+0,021

DCON = h₆

>10-18 直径

DC = +0,007/+0,025

DCON = h₆

>18-30 直径

DC = +0,008/+0,029

DCON = h₆

钢

不锈钢

铸铁

高温合金

钛

有色金属

淬硬钢

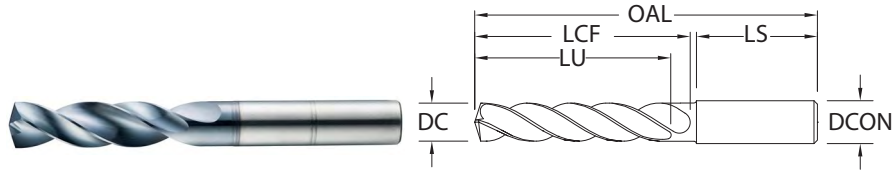
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刃径 DC	英制值	公制值	inch & mm						EDP订货号
			丝锥尺寸 仅供参考	柄径 DCON	全长 OAL	槽长 LCF	刃长 LU	柄长 LS	
#9	0.1960	4.98		1/4	3-1/4	1-3/4	1-37/64	1-7/16	52332
5,0 mm	0.1969		M6 X 1	6,0	82,0	44,0	35,0	36,0	64120
#8	0.1990	5.05		1/4	3-1/4	1-3/4	1-37/64	1-7/16	52333
5,1 mm	0.2008			6,0	82,0	44,0	35,0	36,0	64121
#7	0.2010	5.11	1/4-20	1/4	3-1/4	1-3/4	1-37/64	1-7/16	51506
13/64	0.2031	5.16		1/4	3-1/4	1-3/4	1-37/64	1-7/16	51507
#6	0.2040	5.18		1/4	3 1/4	1 3/4	1 37/64	1 7/16	52334
5,2 mm	0.2047		M6 X 0,75	6,0	82,0	44,0	35,0	36,0	64122
#5	0.2055	5.22		1/4	3-1/4	1-3/4	1-37/64	1-7/16	51590
5,25 mm	0.2067			6,0	82,0	44,0	35,0	36,0	64123
5,3 mm	0.2087			6,0	82,0	44,0	35,0	36,0	64124
#4	0.2090	5.31	1/4-24	1/4	3-1/4	1-3/4	1-37/64	1-7/16	51508
5,4 mm	0.2126			6,0	82,0	44,0	35,0	36,0	64125
#3	0.2130	5.41	1/4-28	1/4	3-1/4	1-3/4	1-37/64	1-7/16	51509
5,5 mm	0.2165		M6 X 0,5	6,0	82,0	44,0	35,0	36,0	64126
7/32	0.2188	5.56	1/4-32	1/4	3-1/4	1-3/4	1-37/64	1-7/16	51510
5,6 mm	0.2205			6,0	82,0	44,0	35,0	36,0	64127
#2	0.2210	5.61		1/4	3-1/4	1-3/4	1-37/64	1-7/16	52335
5,7 mm	0.2244			6,0	82,0	44,0	35,0	36,0	64128
#1	0.2280	5.79		1/4	3-1/4	1-3/4	1-37/64	1-7/16	52336
5,8 mm	0.2283			6,0	82,0	44,0	35,0	36,0	64129
5,9 mm	0.2323			6,0	82,0	44,0	35,0	36,0	64130
A	0.2340	5.94		1/4	3-1/4	1-3/4	1-37/64	1-7/16	52337
15/64	0.2344	5.95		1/4	3-1/4	1-3/4	1-37/64	1-7/16	51591
6,0 mm	0.2362		M7 X 1	6,0	82,0	44,0	35,0	36,0	64131
B	0.2380	6.05		1/4	3 5/8	2-5/64	1-51/64	1-7/16	52338
6,1 mm	0.2402			8,0	91,0	53,0	43,0	36,0	64132
C	0.2420	6.15		1/4	3 5/8	2-5/64	1-51/64	1-7/16	52339
6,2 mm	0.2441			8,0	91,0	53,0	43,0	36,0	64133
D	0.2460	6.25		1/4	3 5/8	2-5/64	1-51/64	1-7/16	52340
6,25 mm	0.2461		M7 X 0,75	8,0	91,0	53,0	43,0	36,0	64134
6,3 mm	0.2480			8,0	91,0	53,0	43,0	36,0	64135
1/4	0.2500	6.35		1/4	3-5/8	2-5/64	1-51/64	1-7/16	51511
6,4 mm	0.2520			8,0	91,0	53,0	43,0	36,0	64136
6,5 mm	0.2559			8,0	91,0	53,0	43,0	36,0	64137
F	0.2570	6.53	5/16-18	5/16	3-5/8	2-5/64	1-51/64	1-7/16	51512
6,6 mm	0.2598			8,0	91,0	53,0	43,0	36,0	64138
G	0.2610	6.63		5/16	3 5/8	2 5/64	1 51/64	1 7/16	52341
6,7 mm	0.2638			8,0	91,0	53,0	43,0	36,0	64139
17/64	0.2656	6.75	5/16-20	5/16	3-5/8	2-5/64	1-51/64	1-7/16	51513
H	0.2660	6.76		5/16	3-5/8	2-5/64	1-51/64	1-7/16	52342
6,8 mm	0.2677		M8 X 1,25	8,0	91,0	53,0	43,0	36,0	64140
6,9 mm	0.2717			8,0	91,0	53,0	43,0	36,0	64141
I	0.2720	6.91	5/16-24	5/16	3-5/8	2-5/64	1-51/64	1-7/16	51514
7,0 mm	0.2756		M8 X 1	8,0	91,0	53,0	43,0	36,0	64142
J	0.2770	7.04		5/16	3 5/8	2-5/64	1-51/64	1-7/16	52343
7,1 mm	0.2795			8,0	91,0	53,0	43,0	36,0	64143
K	0.2810	7.14		5/16	3 5/8	2-5/64	1-51/64	1-7/16	52344



5xD



135 5xD

英制 & 公制系列

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inch & mm										EDP订货号
刃径 DC	英制值	公制值	丝锥尺寸 仅供参考	柄径 DCON	全长 OAL	槽长 LCF	刃长 LU	柄长 LS	Ti-NAMITE-A (AlTiN)	
9/32	0.2812	7.14	5/16-32	5/16	3-5/8	2-5/64	1-51/64	1-7/16	51515	
7,2 mm	0.2835			8,0	91,0	53,0	43,0	36,0	64144	
7,25 mm	0.2854		M8 X 0,75	8,0	91,0	53,0	43,0	36,0	64145	
7,3 mm	0.2874			8,0	91,0	53,0	43,0	36,0	64146	
L	0.2900	7.37		5/16	3-5/8	2-5/64	1-51/64	1-7/16	52345	
7,4 mm	0.2913			8,0	91,0	53,0	43,0	36,0	64147	
M	0.2950	7.49		5/16	3-5/8	2-5/64	1-51/64	1-7/16	52346	
7,5 mm	0.2953		M8 X 0,5	8,0	91,0	53,0	43,0	36,0	64148	
19/64	0.2969	7.54		5/16	3-5/8	2-5/64	1-51/64	1-7/16	51516	
7,6 mm	0.2992			8,0	91,0	53,0	43,0	36,0	64149	
N	0.3020	7.67		5/16	3-5/8	2-5/64	1-51/64	1-7/16	52347	
7,7 mm	0.3031			8,0	91,0	53,0	43,0	36,0	64150	
7,8 mm	0.3071		M9 X 1,25	8,0	91,0	53,0	43,0	36,0	64151	
7,9 mm	0.3110			8,0	91,0	53,0	43,0	36,0	64152	
5/16	0.3125	7.94	3/8-16	5/16	3-5/8	2-5/64	1-51/64	1-7/16	51517	
8,0 mm	0.3150		M9 X 1	8,0	91,0	53,0	43,0	36,0	64153	
O	0.3160	8.03		3/8	4	2-13/32	2-1/8	1-9/16	52348	
8,1 mm	0.3189			10,0	103,0	61,0	49,0	40,0	64154	
8,2 mm	0.3228			10,0	103,0	61,0	49,0	40,0	64155	
P	0.3230	8.20		3/8	4	2-13/32	2-1/8	1-9/16	51518	
8,3 mm	0.3268			10,0	103,0	61,0	49,0	40,0	64156	
21/64	0.3281	8.33	3/8-20	3/8	4	2-13/32	2-1/8	1-9/16	51519	
8,4 mm	0.3307			10,0	103,0	61,0	49,0	40,0	64157	
Q	0.3320	8.43	3/8-24	3/8	4	2-13/32	2-1/8	1-9/16	51520	
8,5 mm	0.3346		M10 X 1,5	10,0	103,0	61,0	49,0	40,0	64158	
8,6 mm	0.3386			10,0	103,0	61,0	49,0	40,0	64159	
R	0.3390	8.61	3/8-32	3/8	4	2-13/32	2-1/8	1-9/16	52349	
8,7 mm	0.3425		M10 X 1,25	10,0	103,0	61,0	49,0	40,0	64160	
11/32	0.3438	8.73		3/8	4	2-13/32	2-1/8	1-9/16	51521	
8,8 mm	0.3465			10,0	103,0	61,0	49,0	40,0	64161	
S	0.3480	8.84		3/8	4	2-13/32	2-1/8	1-9/16	51522	
8,9 mm	0.3504			10,0	103,0	61,0	49,0	40,0	64162	
9,0 mm	0.3543		M10 X 1	10,0	103,0	61,0	49,0	40,0	64163	
T	0.3580	9.09		3/8	4	2-13/32	2-1/8	1-9/16	52350	
9,1 mm	0.3583			10,0	103,0	61,0	49,0	40,0	64164	
23/64	0.3594	9.13		3/8	4	2-13/32	2-1/8	1-9/16	51523	
9,2 mm	0.3622		M10 X 0,75	10,0	103,0	61,0	49,0	40,0	64165	
9,25 mm	0.3642			10,0	103,0	61,0	49,0	40,0	64166	

公差 (inch)

≤.1181 直径

DC = +.00008/+0.00047

DCON = h₆

>.1181-.2362 直径

DC = +.00016/+0.00063

DCON = h₆

>.2362-.3937 直径

DC = +.00024/+0.00083

DCON = h₆

>.3937-.7087 直径

DC = +.00028/+0.00098

DCON = h₆

>.7087-1.1811 直径

DC = +.00031/+0.0114

DCON = h₆

公差 (mm)

≤3 直径

DC = +0,002/+0,012

DCON = h₆

>3-6 直径

DC = +0,004/+0,016

DCON = h₆

>6-10 直径

DC = +0,006/+0,021

DCON = h₆

>10-18 直径

DC = +0,007/+0,025

DCON = h₆

>18-30 直径

DC = +0,008/+0,029

DCON = h₆

- 钢
- 不锈钢
- 铸铁
- 高温合金
- 钛
- 有色金属
- 淬硬钢

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inch & mm									EDP订货号
刃径 DC	英制值	公制值	丝锥尺寸 仅供参考	柄径 DCON	全长 OAL	槽长 LCF	刃长 LU	柄长 LS	Ti-NAMITE-A (AlTiN)
9,3 mm	0.3661			10,0	103,0	61,0	49,0	40,0	64167
U	0.3680	9.35	7/16-14	3/8	4	2-13/32	2-1/8	1-9/16	51524
9,4 mm	0.3701			10,0	103,0	61,0	49,0	40,0	64168
9,5 mm	0.3740		M10 X 0,5	10,0	103,0	61,0	49,0	40,0	64169
3/8	0.3750	9.53		3/8	4	2-13/32	2-1/8	1-9/16	51525
V	0.3770	9.58		1/2	4	2-13/32	2-1/8	1-9/16	52351
9,6 mm	0.3780			10,0	103,0	61,0	49,0	40,0	64170
9,7 mm	0.3819			10,0	103,0	61,0	49,0	40,0	64171
9,8 mm	0.3858			10,0	103,0	61,0	49,0	40,0	64172
W	0.3860	9.80		1/2	4	2-13/32	2-1/8	1-9/16	51526
9,9 mm	0.3898			10,0	103,0	61,0	49,0	40,0	64173
25/64	0.3906	9.92	7/16-20	1/2	4	2-13/32	2-1/8	1-9/16	51527
10,0 mm	0.3937			10,0	103,0	61,0	49,0	40,0	64174
X	0.3970	10.08	7/16-24	1/2	4-11/16	2-3/4	2-23/64	1-49/64	52352
10,1 mm	0.3976			12,0	118,0	71,0	56,0	45,0	64175
10,2 mm	0.4016			12,0	118,0	71,0	56,0	45,0	64176
Y	0.4040	10.26	7/16-28	1/2	4-11/16	2-3/4	2-23/64	1-49/64	52353
10,3 mm	0.4055			12,0	118,0	71,0	56,0	45,0	64177
13/32	0.4062	10.32		1/2	4-11/16	2-3/4	2-23/64	1-49/64	51528
10,4 mm	0.4095			12,0	118,0	71,0	56,0	45,0	64178
Z	0.4130	10.49		1/2	4-11/16	2-3/4	2-23/64	1-49/64	52354
10,5 mm	0.4134		M12 X 1,5	12,0	118,0	71,0	56,0	45,0	64179
10,6 mm	0.4173			12,0	118,0	71,0	56,0	45,0	64180
10,7 mm	0.4213			12,0	118,0	71,0	56,0	45,0	64181
27/64	0.4219	10.72	1/2-13	1/2	4-11/16	2-3/4	2-23/64	1-49/64	51529
10,8 mm	0.4252		M12 X 1,25	12,0	118,0	71,0	56,0	45,0	64182
10,9 mm	0.4291			12,0	118,0	71,0	56,0	45,0	64183
11,0 mm	0.4331			12,0	118,0	71,0	56,0	45,0	64184
11,1 mm	0.4370		M12 X 1	12,0	118,0	71,0	56,0	45,0	64185
7/16	0.4375	11.11	1/4-18 NPT	1/2	4-11/16	2-3/4	2-23/64	1-49/64	51530
11,2 mm	0.4409			12,0	118,0	71,0	56,0	45,0	64186
11,25 mm	0.4429			12,0	118,0	71,0	56,0	45,0	64187
11,3 mm	0.4449			12,0	118,0	71,0	56,0	45,0	64188
11,4 mm	0.4488			12,0	118,0	71,0	56,0	45,0	64189
11,5 mm	0.4528		M12 X 0,5	12,0	118,0	71,0	56,0	45,0	64190
29/64	0.4531	11.51	1/2-20	1/2	4-11/16	2-3/4	2-23/64	1-49/64	51531
11,6 mm	0.4567			12,0	118,0	71,0	56,0	45,0	64191
11,7 mm	0.4606			12,0	118,0	71,0	56,0	45,0	64192
11,8 mm	0.4646			12,0	118,0	71,0	56,0	45,0	64193
11,9 mm	0.4685			12,0	118,0	71,0	56,0	45,0	64194
15/32	0.4688	11.91	1/2-28	1/2	4-11/16	2-3/4	2-23/64	1-49/64	51532
12,0 mm	0.4724		M14 X 2	12,0	118,0	71,0	56,0	45,0	64195
31/64	0.4844	12.30	9/16-12	1/2	4-7/8	3-1/32	2-19/32	1-49/64	51533
12,5 mm	0.4921		M14 X 1,5	14,0	124,0	77,0	60,0	45,0	64196
1/2	0.5000	12.70		1/2	4-7/8	3-1/32	2-19/32	1-49/64	51534
12,8 mm	0.5039		M14 X 1,25	14,0	124,0	77,0	60,0	45,0	64197
13,0 mm	0.5118		M14 X 1	14,0	124,0	77,0	60,0	45,0	64198

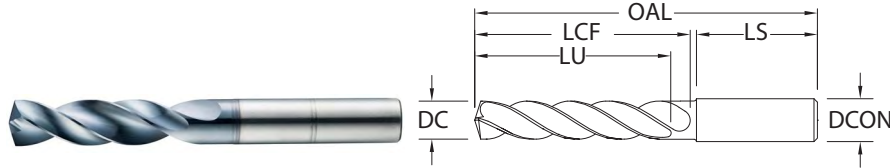
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135 5xD

英制 & 公制系列

- 双刃带设计提高加工精度和表面光洁度, 同时提高钻孔强度
- 特殊自定心缺口型钻头, 无需点钻加工, 减少钻孔过程中的推力和偏转
- 刃边保护结构设计提高刃口强度, 减少刃口疲劳从而提高进给率
- 推荐材料硬度 ≤ 56HRC (≤ 577Bhn)



inch & mm										EDP订货号
刃径 DC	英制值	公制值	丝锥尺寸 仅供参考	柄径 DCON	全长 OAL	槽长 LCF	刃长 LU	柄长 LS	Ti-NAMITE-A (AlTiN)	
33/64	0.5156	13.10	9/16-18	5/8	4-7/8	3-1/32	2-19/32	1-49/64	51535	
17/32	0.5312	13.49	5/8-11	5/8	4-7/8	3-1/32	2-19/32	1-49/64	51536	
13,5 mm	0.5315			14,0	124,0	77,0	60,0	45,0	64199	
35/64	0.5469	13.89	5/8-12	5/8	4-7/8	3-1/32	2-19/32	1-49/64	51537	
14,0 mm	0.5512		M16 X 2	14,0	124,0	77,0	60,0	45,0	64200	
9/16	0.5625	14.29		5/8	5-1/4	3-1/4	2-3/4	1-57/64	51538	
14,5 mm	0.5709		M16 X 1,5	16,0	133,0	83,0	63,0	48,0	64201	
37/64	0.5781	14.68	5/8-18	5/8	5-1/4	3-1/4	2-3/4	1-57/64	51539	
15,0 mm	0.5906		M16 X 1	16,0	133,0	83,0	63,0	48,0	64202	
19/32	0.5938	15.08	11/16-11	5/8	5-1/4	3-1/4	2-3/4	1-57/64	51592	
39/64	0.6094	15.48	11/16-12	5/8	5-1/4	3-1/4	2-3/4	1-57/64	51593	
15,5 mm	0.6102		M18 X 2,5	16,0	133,0	83,0	63,0	48,0	64203	
5/8	0.6250	15.88	11/16-16	5/8	5-1/4	3-1/4	2-3/4	1-57/64	51540	
16,0 mm	0.6299			16,0	133,0	83,0	63,0	48,0	64204	
41/64	0.6406	16.27	11/16-24	3/4	5-5/8	3-5/8	3-3/16	1-57/64	51594	
16,5 mm	0.6496		M18 X 1,5	18,0	143,0	93,0	71,0	48,0	64205	
21/32	0.6562	16.67	3/4-10	3/4	5-5/8	3-5/8	3-3/16	1-57/64	51541	
17,0 mm	0.6693			18,0	143,0	93,0	71,0	48,0	64206	
43/64	0.6719	17.07	3/4-12	3/4	5-5/8	3-5/8	3-3/16	1-57/64	51595	
11/16	0.6875	17.46	3/4-16	3/4	5-5/8	3-5/8	3-3/16	1-57/64	51542	
17,5 mm	0.6890		M20 X 2,5	18,0	143,0	93,0	71,0	48,0	64207	
45/64	0.7031	17.86	3/4-20, 1/2-14 NPT	3/4	5-5/8	3-5/8	3-3/16	1-57/64	51543	
18,0 mm	0.7087			18,0	143,0	93,0	71,0	48,0	64208	
23/32	0.7188	18.26		3/4	6	4	3-3/8	1-31/32	51596	
18,5 mm	0.7283		M20 X 1,5	20,0	153,0	101,0	77,0	50,0	64209	
47/64	0.7344	18.65	13/16-12	3/4	6	4	3-3/8	1-31/32	51544	
19,0 mm	0.7480			20,0	153,0	101,0	77,0	50,0	64210	
3/4	0.7500	19.05	13/16-16	3/4	6	4	3-3/8	1-31/32	51545	
49/64	0.7656	19.45	7/8-9	7/8	6	4	3-3/8	1-31/32	52355	
19,5 mm	0.7677		M22 X 2,5	20,0	153,0	101,0	77,0	50,0	64211	
25/32	0.7812	19.84		7/8	6	4	3-3/8	1-31/32	52356	
20,0 mm	0.7874			20,0	153,0	101,0	77,0	50,0	64212	
51/64	0.7969	20.24	7/8-12	7/8	6	4	3-3/8	1-31/32	52357	
20,5 mm	0.8071			22,0	153,0	101,0	77,0	50,0	64533	
13/16	0.8125	20.64	7/8-14	7/8	6-1/2	4-1/2	3-7/8	1-31/32	52358	
21,0 mm	0.8268			22,0	153,0	101,0	77,0	50,0	64534	
22,0 mm	0.8661			22,0	178,0	127,0	108,0	50,0	64535	
7/8	0.8750	22.23	15/16-16, 1-8	7/8	6-1/2	4-1/2	3-7/8	1-31/32	52359	
59/64	0.9219	23.42	1-12	1	7	5	4-3/8	2-1/8	52360	

公差 (inch)

≤.1181 直径
DC = +.00008/+0.00047
DCON = h₆

>.1181-.2362 直径
DC = +.00016/+0.00063
DCON = h₆

>.2362-.3937 直径
DC = +.00024/+0.00083
DCON = h₆

>.3937-.7087 直径
DC = +.00028/+0.00098
DCON = h₆

>.7087-1.1811 直径
DC = +.00031/+0.00114
DCON = h₆

公差 (mm)

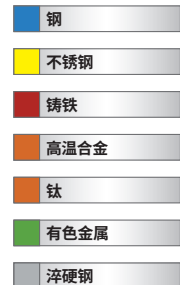
≤3 直径
DC = +0,002/+0,012
DCON = h₆

>3-6 直径
DC = +0,004/+0,016
DCON = h₆

>6-10 直径
DC = +0,006/+0,021
DCON = h₆

>10-18 直径
DC = +0,007/+0,025
DCON = h₆

>18-30 直径
DC = +0,008/+0,029
DCON = h₆



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135 5D 系列 英制		硬度	Vc (sfm)	DC • in							
				1/32	1/8	1/4	3/8	1/2	5/8	7/8	
P	碳素钢 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 175 Bhn 或 ≤ 7 HRc	345	RPM	42173	10543	5272	3514	2636	2109	1506
			(276-414)	Fr	0.0010	0.0040	0.0080	0.0120	0.0159	0.0199	0.0279
				进给 (ipm)	42.0	42.0	42.0	42.0	42.0	42.0	42.0
		≤ 275 Bhn 或 ≤ 28 HRc	310	RPM	37894	9474	4737	3158	2368	1895	1353
			(248-372)	Fr	0.0009	0.0036	0.0072	0.0108	0.0144	0.0179	0.0251
				进给 (ipm)	34.0	34.0	34.0	34.0	34.0	34.0	34.0
		≤ 425 Bhn 或 ≤ 45 HRc	180	RPM	22003	5501	2750	1834	1375	1100	786
			(144-216)	Fr	0.0007	0.0030	0.0060	0.0090	0.0120	0.0150	0.0210
				进给 (ipm)	16.5	16.5	16.5	16.5	16.5	16.5	16.5
	合金钢 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 50100	≤ 275 Bhn 或 ≤ 28 HRc	270	RPM	33005	8251	4126	2750	2063	1650	1179
			(216-324)	Fr	0.0008	0.0030	0.0061	0.0091	0.0121	0.0151	0.0212
				进给 (ipm)	25.0	25.0	25.0	25.0	25.0	25.0	25.0
≤ 375 Bhn 或 ≤ 40 HRc		165	RPM	20170	5042	2521	1681	1261	1008	720	
		(132-198)	Fr	0.0006	0.0026	0.0052	0.0077	0.0103	0.0129	0.0180	
			进给 (ipm)	13.0	13.0	13.0	13.0	13.0	13.0	13.0	
≤ 450 Bhn 或 ≤ 48 HRc		115	RPM	14058	3514	1757	1171	879	703	502	
		(92-138)	Fr	0.0004	0.0018	0.0035	0.0053	0.0071	0.0088	0.0123	
			进给 (ipm)	6.2	6.2	6.2	6.2	6.2	6.2	6.2	
M	不锈钢 (易加工) 303, 416, 420F, 430F, 440F	≤ 185 Bhn 或 ≤ 9 HRc	250	RPM	30560	7640	3820	2547	1910	1528	1091
			(200-300)	Fr	0.0006	0.0026	0.0051	0.0077	0.0102	0.0128	0.0179
				进给 (ipm)	19.5	19.5	19.5	19.5	19.5	19.5	19.5
		≤ 275 Bhn 或 ≤ 28 HRc	150	RPM	18336	4584	2292	1528	1146	917	655
			(120-180)	Fr	0.0005	0.0020	0.0039	0.0059	0.0079	0.0098	0.0137
				进给 (ipm)	9.0	9.0	9.0	9.0	9.0	9.0	9.0
	不锈钢 (难加工) 304, 316, 321, 13-8 PH, 15-5PH, 17-4 PH, Custom 450	≤ 275 Bhn 或 ≤ 28 HRc	80	RPM	9779	2445	1222	815	611	489	349
			(64-96)	Fr	0.0005	0.0020	0.0039	0.0059	0.0079	0.0098	0.0137
				进给 (ipm)	4.8	4.8	4.8	4.8	4.8	4.8	4.8
		≤ 375 Bhn 或 ≤ 40 HRc	55	RPM	6723	1681	840	560	420	336	240
			(44-66)	Fr	0.0004	0.0018	0.0036	0.0054	0.0071	0.0089	0.0125
				进给 (ipm)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
K	铸铁 灰铸铁, 可锻铸铁, 球墨铸铁	≤ 220 Bhn 或 ≤ 19 HRc	300	RPM	36672	9168	4584	3056	2292	1834	1310
			(240-360)	Fr	0.0011	0.0045	0.0089	0.0134	0.0179	0.0224	0.0313
				进给 (ipm)	41.0	41.0	41.0	41.0	41.0	41.0	41.0
		≤ 260 Bhn 或 ≤ 26 HRc	265	RPM	32394	8098	4049	2699	2025	1620	1157
			(212-318)	Fr	0.0011	0.0046	0.0091	0.0137	0.0183	0.0228	0.0320
				进给 (ipm)	37.0	37.0	37.0	37.0	37.0	37.0	37.0

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135 5D 系列 英制		硬度	Vc (sfm)	DC • in								
				1/32	1/8	1/4	3/8	1/2	5/8	7/8		
N	铝合金 2017, 2024, 356, 6061, 7075	≤ 80 Bhn 或 ≤ 47 HRb	635	RPM	77622	19406	9703	6469	4851	3881	2772	
			(508-762)	Fr	0.0012	0.0049	0.0099	0.0148	0.0198	0.0247	0.0346	
					进给 (ipm)	96.0	96.0	96.0	96.0	96.0	96.0	96.0
		≤ 150 Bhn 或 ≤ 7 HRc	540	RPM	66010	16502	8251	5501	4126	3300	2357	
			(432-648)	Fr	0.0012	0.0050	0.0099	0.0149	0.0199	0.0248	0.0348	
					进给 (ipm)	82.0	82.0	82.0	82.0	82.0	82.0	82.0
	铜合金 铝青铜, C110, 蒙知黄铜	≤ 140 Bhn 或 ≤ 3 HRc	450	RPM	55008	13752	6876	4584	3438	2750	1965	
			(360-540)	Fr	0.0005	0.0020	0.0040	0.0060	0.0080	0.0100	0.0140	
					进给 (ipm)	27.5	27.5	27.5	27.5	27.5	27.5	27.5
		≤ 200 Bhn 或 ≤ 23 HRc	360	RPM	44006	11002	5501	3667	2750	2200	1572	
			(288-432)	Fr	0.0005	0.0020	0.0040	0.0060	0.0080	0.0100	0.0140	
					进给 (ipm)	22.0	22.0	22.0	22.0	22.0	22.0	22.0
S	高温合金 (镍、钴、铁基) Inconel 601, 617, 625, Incoloy, 蒙乃尔 400, Rene, Waspaloy	≤ 300 Bhn 或 ≤ 32 HRc	40	RPM	4890	1222	611	407	306	244	175	
			(32-48)	Fr	0.0002	0.0008	0.0016	0.0025	0.0033	0.0041	0.0057	
					进给 (ipm)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
		≤ 400 Bhn 或 ≤ 43 HRc	20	RPM	2445	611	306	204	153	122	87	
			(16-24)	Fr	0.0002	0.0007	0.0013	0.0020	0.0026	0.0033	0.0046	
					进给 (ipm)	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	钛合金 纯钛, Ti6Al4V, Ti6Al2Sn4Zr2Mo, Ti4Al4Mo2Sn0.5Si, Ti-6Al4V	≤ 275 Bhn 或 ≤ 28 HRc	105	RPM	12835	3209	1604	1070	802	642	458	
			(84-126)	Fr	0.0005	0.0018	0.0036	0.0054	0.0072	0.0090	0.0127	
					进给 (ipm)	5.8	5.8	5.8	5.8	5.8	5.8	5.8
		≤ 350 Bhn 或 ≤ 38 HRc	80	RPM	9779	2445	1222	815	611	489	349	
			(64-96)	Fr	0.0004	0.0016	0.0032	0.0048	0.0064	0.0080	0.0112	
					进给 (ipm)	3.9	3.9	3.9	3.9	3.9	3.9	3.9
≤ 440 Bhn 或 ≤ 47 HRc	42	RPM	5134	1284	642	428	321	257	183			
	(34-50)	Fr	0.0003	0.0012	0.0025	0.0037	0.0050	0.0062	0.0087			
			进给 (ipm)	1.6	1.6	1.6	1.6	1.6	1.6	1.6		
H	工具钢 A2, D2, H13, L2, M2, P20, S7, T15, W2	≤ 200 Bhn 或 ≤ 13 HRc	120	RPM	14669	3667	1834	1222	917	733	524	
			(96-144)	Fr	0.0006	0.0026	0.0051	0.0077	0.0103	0.0128	0.0179	
					进给 (ipm)	9.4	9.4	9.4	9.4	9.4	9.4	9.4
		≤ 375 Bhn 或 ≤ 40 HRc	80	RPM	9779	2445	1222	815	611	489	349	
			(64-96)	Fr	0.0003	0.0012	0.0024	0.0036	0.0047	0.0059	0.0083	
					进给 (ipm)	2.9	2.9	2.9	2.9	2.9	2.9	2.9
	≤ 475 Bhn 或 ≤ 50 HRc	70	RPM	8557	2139	1070	713	535	428	306		
		(56-84)	Fr	0.0002	0.0008	0.0016	0.0024	0.0032	0.0040	0.0056		
				进给 (ipm)	1.7	1.7	1.7	1.7	1.7	1.7	1.7	

Bhn (布氏硬度) HRc (洛氏硬度) HRb (洛氏硬度)

rpm = Vc x 3.82 / DC

ipm = Fr x rpm

加工更硬的材料时, 降低转速和进给

获取更多技术信息, 请参考SGS刀具向导SGS Tool Wizard® (www.kyocera.com.cn)

135M 5D 系列 公制	硬度	Vc (m/min)	DC • mm									
			1.5	3	6	8	10	12	16	20		
碳素钢 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 175 Bhn 或 ≤ 7 HRc	105	RPM	22297	11148	5574	4181	3344	2787	2090	1672	
		(84-126)	Fr	0.048	0.095	0.190	0.254	0.317	0.380	0.507	0.634	
			进给(mm/min)	1060	1060	1060	1060	1060	1060	1060	1060	
	≤ 275 Bhn 或 ≤ 28 HRc	94	RPM	20035	10017	5009	3756	3005	2504	1878	1503	
		(76-113)	Fr	0.043	0.085	0.171	0.228	0.285	0.341	0.455	0.569	
			进给(mm/min)	855	855	855	855	855	855	855	855	
	≤ 425 Bhn 或 ≤ 45 HRc	55	RPM	11633	5816	2908	2181	1745	1454	1091	872	
		(44-66)	Fr	0.036	0.071	0.143	0.190	0.238	0.285	0.381	0.476	
			进给(mm/min)	415	415	415	415	415	415	415	415	
	合金钢 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 50100	≤ 275 Bhn 或 ≤ 28 HRc	82	RPM	17449	8725	4362	3272	2617	2181	1636	1309
			(66-99)	Fr	0.036	0.072	0.143	0.191	0.239	0.287	0.382	0.478
				进给(mm/min)	625	625	625	625	625	625	625	625
≤ 375 Bhn 或 ≤ 40 HRc		50	RPM	10664	5332	2666	1999	1600	1333	1000	800	
		(40-60)	Fr	0.031	0.062	0.124	0.165	0.206	0.248	0.330	0.413	
			进给(mm/min)	330	330	330	330	330	330	330	330	
≤ 450 Bhn 或 ≤ 48 HRc		35	RPM	7432	3716	1858	1394	1115	929	697	557	
		(28-42)	Fr	0.022	0.043	0.086	0.115	0.144	0.172	0.230	0.287	
			进给(mm/min)	160	160	160	160	160	160	160	160	
不锈钢 (易加工) 303, 416, 420F, 430F, 440F		≤ 185 Bhn 或 ≤ 9 HRc	76	RPM	16157	8078	4039	3029	2424	2020	1515	1212
			(61-91)	Fr	0.031	0.061	0.123	0.163	0.204	0.245	0.327	0.408
				进给(mm/min)	495	495	495	495	495	495	495	495
	≤ 275 Bhn 或 ≤ 28 HRc	46	RPM	9694	4847	2424	1818	1454	1212	909	727	
		(37-55)	Fr	0.024	0.047	0.095	0.127	0.158	0.190	0.253	0.316	
			进给(mm/min)	230	230	230	230	230	230	230	230	
	不锈钢 (难加工) 304, 316, 321, 13-8 PH, 15-5PH, 17-4 PH, Custom 450	≤ 275 Bhn 或 ≤ 28 HRc	24	RPM	5170	2585	1293	969	776	646	485	388
			(20-29)	Fr	0.023	0.046	0.093	0.124	0.155	0.186	0.248	0.309
				进给(mm/min)	120	120	120	120	120	120	120	120
		≤ 375 Bhn 或 ≤ 40 HRc	17	RPM	3555	1777	889	666	533	444	333	267
			(13-20)	Fr	0.021	0.042	0.084	0.113	0.141	0.169	0.225	0.281
				进给(mm/min)	75	75	75	75	75	75	75	75
铸铁 灰铸铁, 可锻铸铁, 球墨铸铁		≤ 220 Bhn 或 ≤ 19 HRc	91	RPM	19388	9694	4847	3635	2908	2424	1818	1454
			(73-110)	Fr	0.054	0.108	0.217	0.289	0.361	0.433	0.578	0.722
				进给(mm/min)	1050	1050	1050	1050	1050	1050	1050	1050
		≤ 260 Bhn 或 ≤ 26 HRc	81	RPM	17126	8563	4282	3211	2569	2141	1606	1284
			(65-97)	Fr	0.055	0.109	0.218	0.291	0.364	0.437	0.582	0.728
				进给(mm/min)	935	935	935	935	935	935	935	935

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135M 5D 系列 公制		硬度	Vc (m/min)	DC • mm								
				1.5	3	6	8	10	12	16	20	
N	铝合金 2017, 2024, 356, 6061, 7075	≤ 80 Bhn 或 ≤ 47 HRb	194	RPM	41039	20519	10260	7695	6156	5130	3847	3078
			(155-232)	Fr	0.059	0.118	0.237	0.316	0.395	0.474	0.632	0.790
				进给(mm/min)	2430	2430	2430	2430	2430	2430	2430	2430
		≤ 150 Bhn 或 ≤ 7 HRc	165	RPM	34899	17449	8725	6544	5235	4362	3272	2617
			(132-198)	Fr	0.059	0.118	0.237	0.316	0.394	0.473	0.631	0.789
				进给(mm/min)	2065	2065	2065	2065	2065	2065	2065	2065
	铜合金 铝青铜, C110, 蒙知黄铜	≤ 140 Bhn 或 ≤ 3 HRc	137	RPM	29082	14541	7271	5453	4362	3635	2726	2181
			(110-165)	Fr	0.027	0.053	0.107	0.142	0.178	0.213	0.284	0.355
				进给(mm/min)	775	775	775	775	775	775	775	775
		≤ 200 Bhn 或 ≤ 23 HRc	110	RPM	23266	11633	5816	4362	3490	2908	2181	1745
			(88-132)	Fr	0.027	0.054	0.108	0.144	0.181	0.217	0.289	0.361
				进给(mm/min)	630	630	630	630	630	630	630	630
S	高温合金 (镍、钴、铁基) Inconel 601, 617, 625, Incoloy, 蒙乃尔 400, Rene, Waspaloy	≤ 300 Bhn 或 ≤ 32 HRc	12	RPM	2585	1293	646	485	388	323	242	194
			(10-15)	Fr	0.010	0.019	0.039	0.052	0.064	0.077	0.103	0.129
				进给(mm/min)	25	25	25	25	25	25	25	25
		≤ 400 Bhn 或 ≤ 43 HRc	6	RPM	1293	646	323	242	194	162	121	97
			(5-7)	Fr	0.007	0.014	0.028	0.037	0.046	0.056	0.074	0.093
				进给(mm/min)	9	9	9	9	9	9	9	9
	钛合金 纯钛, Ti6Al4V, Ti6Al2Sn4Zr2Mo, Ti4Al4Mo2Sn0.5Si, Ti-6Al4V	≤ 275 Bhn 或 ≤ 28 HRc	32	RPM	6786	3393	1696	1272	1018	848	636	509
			(26-38)	Fr	0.021	0.043	0.085	0.114	0.142	0.171	0.228	0.285
				进给(mm/min)	145	145	145	145	145	145	145	145
		≤ 350 Bhn 或 ≤ 38 HRc	24	RPM	5170	2585	1293	969	776	646	485	388
			(20-29)	Fr	0.019	0.039	0.077	0.103	0.129	0.155	0.206	0.258
				进给(mm/min)	100	100	100	100	100	100	100	100
≤ 440 Bhn 或 ≤ 47 HRc	13	RPM	2714	1357	679	509	407	339	254	204		
	(10-15)	Fr	0.015	0.029	0.059	0.079	0.098	0.118	0.157	0.196		
		进给(mm/min)	40	40	40	40	40	40	40	40	40	

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135M 5D 系列 公制		硬度	Vc (m/min)	DC • mm								
H	工具钢 A2, D2, H13, L2, M2, P20, S7, T15, W2			1.5	3	6	8	10	12	16	20	
				≤ 200 Bhn 或 ≤ 13 HRc	37	RPM	7755	3878	1939	1454	1163	969
		(29-44)	Fr		0.031	0.062	0.124	0.165	0.206	0.248	0.330	0.413
			进给(mm/min)		240	240	240	240	240	240	240	240
		≤ 375 Bhn 或 ≤ 40 HRc	24	RPM	5170	2585	1293	969	776	646	485	388
			(20-29)	Fr	0.015	0.029	0.058	0.077	0.097	0.116	0.155	0.193
				进给(mm/min)	75	75	75	75	75	75	75	75
		≤ 475 Bhn 或 ≤ 50 HRc	21	RPM	4524	2262	1131	848	679	565	424	339
			(17-26)	Fr	0.010	0.020	0.040	0.053	0.066	0.080	0.106	0.133
				进给(mm/min)	45	45	45	45	45	45	45	45

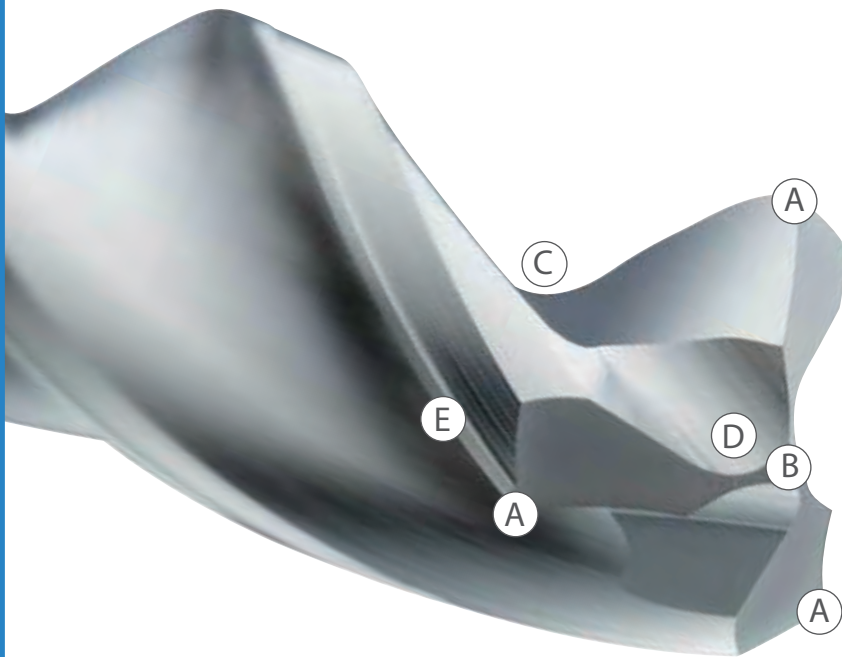
Bhn (布氏硬度) HRc (洛氏硬度) HRb (洛氏硬度)

$rpm = (Vc \times 1000) / (DC \times 3.14)$

$mm/min = Fr \times rpm$

加工更硬的材料时, 降低转速和进给

获取更多技术信息, 请参考SGS刀具向导SGS Tool Wizard® (www.kyocera.com.cn)



131N系列



HIGH PERFORMANCE CARBIDE DRILLS

Hi-PerCarb 131N系列钻头的关键设计特征不仅使该产品能够提供优于标准硬质合金钻头的应用优势，还可以提供优于其他高性能钻头的应用优势。Hi-PerCarb 131N系列钻头的每个特征均经过特殊设计，旨在解决高生产率钻孔过程中常见的问题。

- A** 三刃设计

 - 通过双刃带设计改善了孔的稳定性
 - 良好的表面光洁度、圆度和孔圆柱度
 - 良好的孔尺寸控制
- B** 自稳定钻尖

 - 金字塔设计使钻头与工件接触时更稳定
- C** 开放式钻槽结构

 - 提高了排屑效率，同时在高进给速率下保持钻孔强度
- D** 雕刻容屑槽

 - 使切屑可轻松地 from 钻头中心流出
 - 通过有竞争力的三刃设计降低了切削力
- E** 刃带小型化设计

 - 减轻了刃带与工件过度接触所造成的摩擦起热
 - 平行设计可在刃带磨损时保持接触宽度，以便实现一致的性能

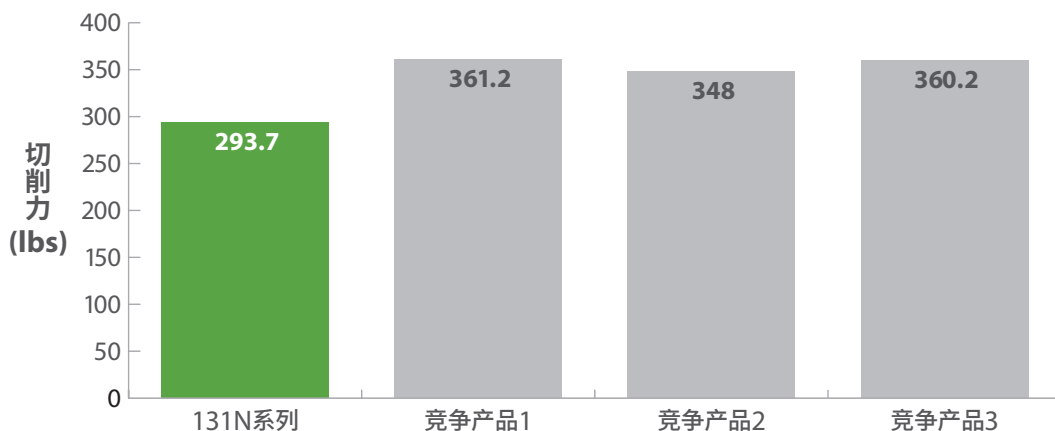
现提供3XD和5XD带涂层和无涂层选项!

高性能、高精度、高追求。
HI-PERCARB 131N系列铝钻头

高性能

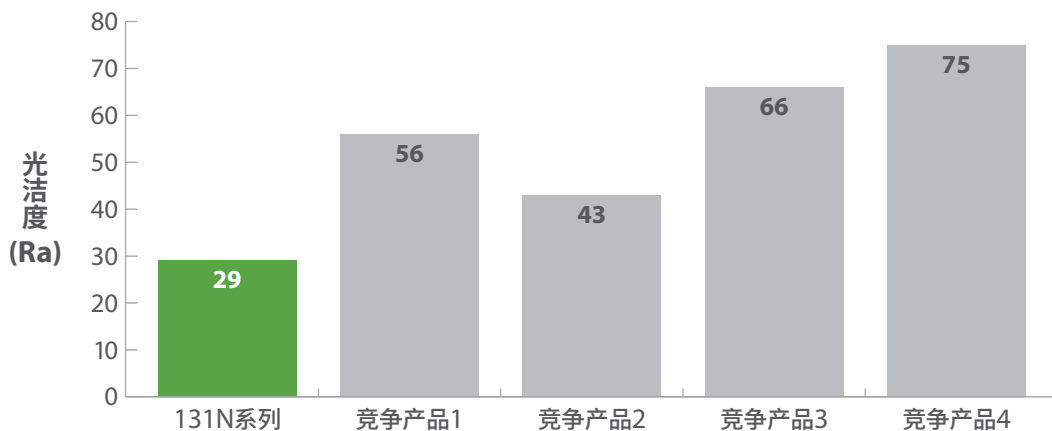
切削力对比

131N系列钻头比竞争产品的切削力低15-20%



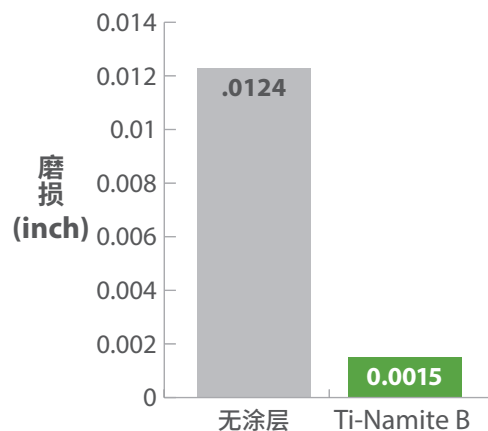
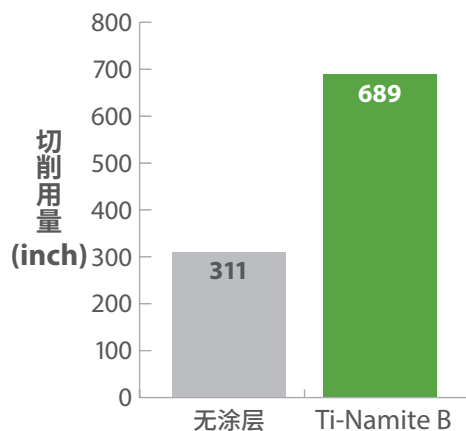
表面光洁度对比

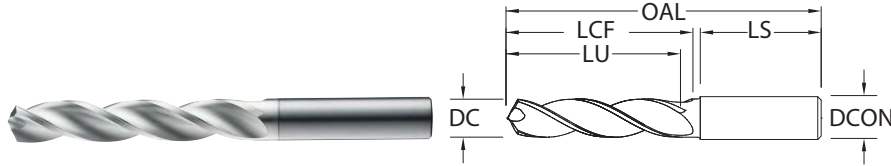
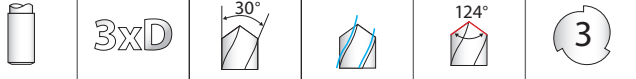
131N系列钻头的钻孔表面光洁度比主要竞争产品高30-60%



切削用量和磨损对比

Ti-NAMITE B涂层提高了耐磨性,这对钻削高硅铝合金有利





131N 3xD

英制 & 公制系列

- 三刃带设计提高孔的稳定性和尺寸控制, 同时达到良好的表面光洁度, 圆度和圆柱度
- 自稳定金字塔钻尖设计提高钻头与工件接触时的稳定性
- 开放式钻槽结构提高排屑效率, 同时维持高进给加工时的强度
- 雕刻容屑槽便于切屑轻易从钻头中心排出
- 推荐材料硬度 ≤ 175 Bhn (≤ 16 HRC)

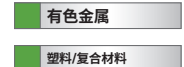
		inch & mm							EDP订货号	
刃径 DC	英制值	公制值	丝锥尺寸 仅供参考	柄径 DCON	全长 OAL	槽长 LCF	刃长 LU	柄长 LS	无涂层	Ti-NAMITE-B (TiB ₂)
3,0 mm	0.1181			6,0	62,0	20,0	14,0	36,0	64600	67600
3,1 mm	0.1220			6,0	62,0	20,0	14,0	36,0	64601	67601
1/8	0.1250	3.18		6,0	62,0	20,0	14,0	36,0	54600	54700
3,2 mm	0.1260		M3,5 X 0,35	6,0	62,0	20,0	14,0	36,0	64602	67602
3,3 mm	0.1299		M4 X 0,7	6,0	62,0	20,0	14,0	36,0	64603	67603
3,4 mm	0.1339			6,0	62,0	20,0	14,0	36,0	64604	67604
#29	0.1360	3.45	8-32,8-36	6,0	62,0	20,0	14,0	36,0	54601	54701
3,5 mm	0.1378		M4 X 0,5	6,0	62,0	20,0	14,0	36,0	64605	67605
9/64	0.1406	3.57		6,0	62,0	20,0	14,0	36,0	54602	54702
3,6 mm	0.1417		M4 X 0,35	6,0	62,0	20,0	14,0	36,0	64606	67606
3,7 mm	0.1457		M4,5 X 0,75	6,0	62,0	20,0	14,0	36,0	64607	67607
3,8 mm	0.1496		10-24	6,0	66,0	24,0	17,0	36,0	64608	67608
3,9 mm	0.1535			6,0	66,0	24,0	17,0	36,0	64609	67609
5/32	0.1562	3.97		6,0	66,0	24,0	17,0	36,0	54603	54703
4,0 mm	0.1575		M4,5 X 0,5	6,0	66,0	24,0	17,0	36,0	64610	67610
#21	0.1590	4.04	10-32	6,0	66,0	24,0	17,0	36,0	54604	54704
4,1 mm	0.1614			6,0	66,0	24,0	17,0	36,0	64611	67611
4,2 mm	0.1654		M5 / M5 X 0,75	6,0	66,0	24,0	17,0	36,0	64612	67612
4,3 mm	0.1693			6,0	66,0	24,0	17,0	36,0	64613	67613
11/64	0.1719	4.37		6,0	66,0	24,0	17,0	36,0	54605	54705
4,4 mm	0.1732		12-24	6,0	66,0	24,0	17,0	36,0	64614	67614
4,5 mm	0.1772		M5 X 0,5	6,0	66,0	24,0	17,0	36,0	64615	67615
4,6 mm	0.1811		12-28	6,0	66,0	24,0	17,0	36,0	64616	67616
4,7 mm	0.1850		12-32	6,0	66,0	24,0	17,0	36,0	64617	67617
3/16	0.1875	4.76		6,0	66,0	28,0	20,0	36,0	54606	54706
4,8 mm	0.1890		7/32-32	6,0	66,0	28,0	20,0	36,0	64618	67618
4,9 mm	0.1929			6,0	66,0	28,0	20,0	36,0	64619	67619
5,0 mm	0.1969		M6 X 1	6,0	66,0	28,0	20,0	36,0	64620	67620
5,1 mm	0.2008		1/4-20	6,0	66,0	28,0	20,0	36,0	64621	67621
13/64	0.2031	5.16		6,0	66,0	28,0	20,0	36,0	54607	54707
5,2 mm	0.2047		M6 X 0,75	6,0	66,0	28,0	20,0	36,0	64622	67622
5,3 mm	0.2087			6,0	66,0	28,0	20,0	36,0	64623	67623
5,4 mm	0.2126			6,0	66,0	28,0	20,0	36,0	64624	67624
5,5 mm	0.2165		M6 X 0,5	6,0	66,0	28,0	20,0	36,0	64625	67625

公差 (inch)

- ≤.1181 直径
DC = +.00008/+0.00047
DCON = h₆
- >.1181-.2362 直径
DC = +.00016/+0.00063
DCON = h₆
- >.2362-.3937 直径
DC = +.00024/+0.00083
DCON = h₆
- >.3937-.7087 直径
DC = +.00028/+0.00098
DCON = h₆
- >.7087-1.1811 直径
DC = +.00031/+0.00114
DCON = h₆

公差 (mm)

- ≤3 直径
DC = +0,002/+0,012
DCON = h₆
- >3-6 直径
DC = +0,004/+0,016
DCON = h₆
- >6-10 直径
DC = +0,006/+0,021
DCON = h₆
- >10-18 直径
DC = +0,007/+0,025
DCON = h₆



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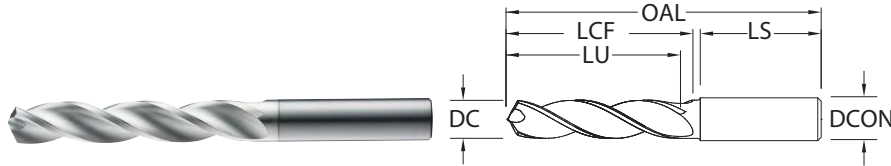
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131N 3xD
英制 & 公制系列

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inch & mm									EDP订货号	
刃径 DC	英制值	公制值	丝锥尺寸 仅供参考	柄径 DCON	全长 OAL	槽长 LCF	刃长 LU	柄长 LS	无涂层	Ti-NAMITE-B (TiB ₂)
7/32	0.2188	5.56	1/4-32	6,0	66,0	28,0	20,0	36,0	54608	54708
5,6 mm	0.2205			6,0	66,0	28,0	20,0	36,0	64626	67626
5,7 mm	0.2244			6,0	66,0	28,0	20,0	36,0	64627	67627
5,8 mm	0.2283			6,0	66,0	28,0	20,0	36,0	64628	67628
5,9 mm	0.2323			6,0	66,0	28,0	20,0	36,0	64629	67629
15/64	0.2344	5.95		6,0	66,0	28,0	20,0	36,0	54609	54709
6,0 mm	0.2362		M7 X 1	6,0	66,0	28,0	20,0	36,0	64630	67630
6,1 mm	0.2402			8,0	79,0	34,0	24,0	36,0	64631	67631
6,2 mm	0.2441		M7 X 0,75	8,0	79,0	34,0	24,0	36,0	64632	67632
6,3 mm	0.2480			8,0	79,0	34,0	24,0	36,0	64633	67633
1/4	0.2500	6.35		8,0	79,0	34,0	24,0	36,0	54610	54710
6,4 mm	0.2520			8,0	79,0	34,0	24,0	36,0	64634	67634
6,5 mm	0.2559			8,0	79,0	34,0	24,0	36,0	64635	67635
F	0.2570	6.53	5/16-18	8,0	79,0	34,0	24,0	36,0	54611	54711
6,6 mm	0.2598			8,0	79,0	34,0	24,0	36,0	64636	67636
6,7 mm	0.2638			8,0	79,0	34,0	24,0	36,0	64637	67637
17/64	0.2656	6.75	5/16-20	8,0	79,0	34,0	24,0	36,0	54612	54712
6,8 mm	0.2677		M8 X 1,25	8,0	79,0	34,0	24,0	36,0	64638	67638
6,9 mm	0.2717		5/16-24	8,0	79,0	34,0	24,0	36,0	64639	67639
7,0 mm	0.2756		M8 X 1	8,0	79,0	34,0	24,0	36,0	64640	67640
7,1 mm	0.2795			8,0	79,0	41,0	29,0	36,0	64641	67641
9/32	0.2812	7.14	5/16-32	8,0	79,0	41,0	29,0	36,0	54613	54713
7,2 mm	0.2835		M8 X 0,75	8,0	79,0	41,0	29,0	36,0	64642	67642
7,3 mm	0.2874			8,0	79,0	41,0	29,0	36,0	64643	67643
7,4 mm	0.2913			8,0	79,0	41,0	29,0	36,0	64644	67644
7,5 mm	0.2953		M8 X 0,5	8,0	79,0	41,0	29,0	36,0	64645	67645
19/64	0.2969	7.54		8,0	79,0	41,0	29,0	36,0	54614	54714
7,6 mm	0.2992			8,0	79,0	41,0	29,0	36,0	64646	67646
7,7 mm	0.3031			8,0	79,0	41,0	29,0	36,0	64647	67647
7,8 mm	0.3071		M9 X 1,25	8,0	79,0	41,0	29,0	36,0	64648	67648
7,9 mm	0.3110			8,0	79,0	41,0	29,0	36,0	64649	67649
5/16	0.3125	7.94	3/8-16	8,0	79,0	41,0	29,0	36,0	54615	54715
8,0 mm	0.3150		M9 X 1	8,0	79,0	41,0	29,0	36,0	64650	67650
8,1 mm	0.3189			10,0	89,0	47,0	35,0	40,0	64651	67651
8,2 mm	0.3228			10,0	89,0	47,0	35,0	40,0	64652	67652
8,3 mm	0.3268			10,0	89,0	47,0	35,0	40,0	64653	67653
21/64	0.3281	8.33	3/8-20	10,0	89,0	47,0	35,0	40,0	54616	54716
8,4 mm	0.3307			10,0	89,0	47,0	35,0	40,0	64654	67654
Q	0.3320	8.43	3/8-24	10,0	89,0	47,0	35,0	40,0	54617	54717
8,5 mm	0.3346		M10 X 1,5	10,0	89,0	47,0	35,0	40,0	64655	67655
8,6 mm	0.3386			10,0	89,0	47,0	35,0	40,0	64656	67656
8,7 mm	0.3425			10,0	89,0	47,0	35,0	40,0	64657	67657
11/32	0.3438	8.73	3/8-32	10,0	89,0	47,0	35,0	40,0	54618	54718
8,8 mm	0.3465		M10 X 1,25	10,0	89,0	47,0	35,0	40,0	64658	67658

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131N 3xD

英制 & 公制系列

- 三刃带设计提高孔的稳定性和尺寸控制, 同时达到良好的表面光洁度, 圆度和圆柱度
- 自稳定金字塔钻尖设计提高钻头与工件接触时的稳定性
- 开放式钻槽结构提高排屑效率, 同时维持高进给加工时的强度
- 雕刻容屑槽便于切屑轻易从钻头中心排出
- 推荐材料硬度 ≤ 175 Bhn (≤ 16 HRC)

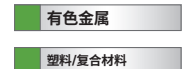
inch & mm										EDP 订货号		
刃径 DC	英制值	公制值	丝锥尺寸 仅供参考	柄径 DCON	全长 OAL	槽长 LCF	刃长 LU	柄长 LS	无涂层	Ti-NAMITE-B (TiB ₂)		
8,9 mm	0.3504			10,0	89,0	47,0	35,0	40,0	64659	67659		
9,0 mm	0.3543		M10 X 1	10,0	89,0	47,0	35,0	40,0	64660	67660		
9,1 mm	0.3583			10,0	89,0	47,0	35,0	40,0	64661	67661		
23/64	0.3594	9.13		10,0	89,0	47,0	35,0	40,0	54619	54719		
9,2 mm	0.3622		M10 X 0,75	10,0	89,0	47,0	35,0	40,0	64662	67662		
9,3 mm	0.3661			10,0	89,0	47,0	35,0	40,0	64663	67663		
U	0.3680	9.35	7/16-14	10,0	89,0	47,0	35,0	40,0	54620	54720		
9,4 mm	0.3701			10,0	89,0	47,0	35,0	40,0	64664	67664		
9,5 mm	0.3740		M11 / M10 X 0,5	10,0	89,0	47,0	35,0	40,0	64665	67665		
3/8	0.3750	9.53		10,0	89,0	47,0	35,0	40,0	54621	54721		
9,6 mm	0.3780			10,0	89,0	47,0	35,0	40,0	64666	67666		
9,7 mm	0.3819			10,0	89,0	47,0	35,0	40,0	64667	67667		
9,8 mm	0.3858			10,0	89,0	47,0	35,0	40,0	64668	67668		
9,9 mm	0.3898			10,0	89,0	47,0	35,0	40,0	64669	67669		
25/64	0.3906	9.92	7/16-20	10,0	89,0	47,0	35,0	40,0	54622	54722		
10,0 mm	0.3937			10,0	89,0	47,0	35,0	40,0	64670	67670		
10,1 mm	0.3976			12,0	102,0	55,0	40,0	45,0	64671	67671		
10,2 mm	0.4016		M12 X 1,75	12,0	102,0	55,0	40,0	45,0	64672	67672		
10,3 mm	0.4055			12,0	102,0	55,0	40,0	45,0	64673	67673		
13/32	0.4062	10.32		12,0	102,0	55,0	40,0	45,0	54623	54723		
10,4 mm	0.4094			12,0	102,0	55,0	40,0	45,0	64674	67674		
10,5 mm	0.4134		M12 X 1,5	12,0	102,0	55,0	40,0	45,0	64675	67675		
10,6 mm	0.4173			12,0	102,0	55,0	40,0	45,0	64676	67676		
10,7 mm	0.4213			12,0	102,0	55,0	40,0	45,0	64677	67677		
27/64	0.4219	10.72	1/2-13	12,0	102,0	55,0	40,0	45,0	54624	54724		
10,8 mm	0.4252		M12 X 1,25	12,0	102,0	55,0	40,0	45,0	64678	67678		
10,9 mm	0.4291			12,0	102,0	55,0	40,0	45,0	64679	67679		
11,0 mm	0.4331		M12 X 1	12,0	102,0	55,0	40,0	45,0	64680	67680		
11,1 mm	0.4370			12,0	102,0	55,0	40,0	45,0	64681	67681		
7/16	0.4375	11.11	1/4-18NPT	12,0	102,0	55,0	40,0	45,0	54625	54725		
11,2 mm	0.4409			12,0	102,0	55,0	40,0	45,0	64682	67682		
11,3 mm	0.4449			12,0	102,0	55,0	40,0	45,0	64683	67683		
11,4 mm	0.4488			12,0	102,0	55,0	40,0	45,0	64684	67684		
11,5 mm	0.4528		M12 X 0,5	12,0	102,0	55,0	40,0	45,0	64685	67685		

公差 (inch)

- ≤.1181 直径
DC = +.00008/+0.00047
DCON = h₆
- >.1181-.2362 直径
DC = +.00016/+0.00063
DCON = h₆
- >.2362-.3937 直径
DC = +.00024/+0.00083
DCON = h₆
- >.3937-.7087 直径
DC = +.00028/+0.00098
DCON = h₆
- >.7087-1.1811 直径
DC = +.00031/+0.00114
DCON = h₆

公差 (mm)

- ≤3 直径
DC = +0,002/+0,012
DCON = h₆
- >3-6 直径
DC = +0,004/+0,016
DCON = h₆
- >6-10 直径
DC = +0,006/+0,021
DCON = h₆
- >10-18 直径
DC = +0,007/+0,025
DCON = h₆



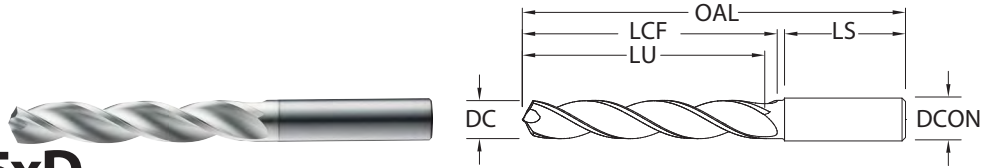
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131N 3xD
英制 & 公制系列

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inch & mm									EDP订货号	
刃径 DC	英制值	公制值	丝锥尺寸 仅供参考	柄径 DCON	全长 OAL	槽长 LCF	刃长 LU	柄长 LS	无涂层	Ti-NAMITE-B (TiB ₂)
11,6 mm	0.4567			12,0	102,0	55,0	40,0	45,0	64686	67686
11,7 mm	0.4606			12,0	102,0	55,0	40,0	45,0	64687	67687
11,8 mm	0.4646			12,0	102,0	55,0	40,0	45,0	64688	67688
11,9 mm	0.4685			12,0	102,0	55,0	40,0	45,0	64689	67689
15/32	0.4688	11.91	1/2-28	12,0	102,0	55,0	40,0	45,0	54626	54726
12,0 mm	0.4724		M14 X 2	12,0	102,0	55,0	40,0	45,0	64690	67690
31/64	0.4844	12.30	9/16-12	14,0	107,0	60,0	43,0	45,0	54627	54727
12,5 mm	0.4921		M14 X 1,5	14,0	107,0	60,0	43,0	45,0	64691	67691
1/2	0.5000	12.70		14,0	107,0	60,0	43,0	45,0	54628	54728
12,8 mm	0.5039		M14 X 1,25	14,0	107,0	60,0	43,0	45,0	64692	67692
13,0 mm	0.5118		M14 X 1	14,0	107,0	60,0	43,0	45,0	64693	67693
33/64	0.5156	13.10	9/16-18	14,0	107,0	60,0	43,0	45,0	54629	54729
13,5 mm	0.5315		5/8-11	14,0	107,0	60,0	43,0	45,0	64694	67694
13,8 mm	0.5433			14,0	107,0	60,0	43,0	45,0	64695	67695
14,0 mm	0.5512		M16 X 2	14,0	107,0	60,0	43,0	45,0	64696	67696
9/16	0.5625	14.29		16,0	115,0	65,0	45,0	48,0	54630	54730
14,5 mm	0.5709		M16 X 1,5	16,0	115,0	65,0	45,0	48,0	64697	67697
37/64	0.5781	14.68	5/8-18	16,0	115,0	65,0	45,0	48,0	54631	54731
14,8 mm	0.5827			16,0	115,0	65,0	45,0	48,0	64698	67698
15,0 mm	0.5906		M16 X 1	16,0	115,0	65,0	45,0	48,0	64699	67699
15,5 mm	0.6102		M18 X 2,5	16,0	115,0	65,0	45,0	48,0	64700	67700
15,8 mm	0.6220			16,0	115,0	65,0	45,0	48,0	64701	67701
5/8	0.6250	15.88	11/16-16	16,0	115,0	65,0	45,0	48,0	54632	54732
16,0 mm	0.6299			16,0	115,0	65,0	45,0	48,0	64702	67702
21/32	0.6562	16.67	3/4-10	18,0	123,0	73,0	51,0	48,0	54633	54733
11/16	0.6875	17.46	3/4-16	18,0	123,0	73,0	51,0	48,0	54634	54734
3/4	0.7500	19.05	13/16-16	20,0	131,0	79,0	55,0	50,0	54635	54735



131N 5xD

英制 & 公制系列

- 三刃带设计提高孔的稳定性和尺寸控制, 同时达到良好的表面光洁度, 圆度和圆柱度
- 自稳定金字塔钻尖设计提高钻头与工件接触时的稳定性
- 开放式钻槽结构提高排屑效率, 同时维持高进给加工时的强度
- 雕刻容屑槽便于切屑轻易从钻头中心排出
- 推荐材料硬度 ≤ 175 Bhn (≤ 16 HRC)

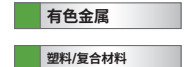
inch & mm										EDP 订货号		
刃径 DC	英制值	公制值	丝锥尺寸 仅供参考	柄径 DCON	全长 OAL	槽长 LCF	刃长 LU	柄长 LS	无涂层	Ti-NAMITE-B (TiB ₂)		
3,0 mm	0.1181			6,0	66,0	28,0	23,0	36,0	65000	64800		
3,1 mm	0.1220			6,0	66,0	28,0	23,0	36,0	65001	64801		
1/8	0.1250	3.18		6,0	66,0	28,0	23,0	36,0	55000	54800		
3,2 mm	0.1260		M3,5 X 0,35	6,0	66,0	28,0	23,0	36,0	65002	64802		
3,3 mm	0.1299		M4 X 0,7	6,0	66,0	28,0	23,0	36,0	65003	64803		
3,4 mm	0.1339			6,0	66,0	28,0	23,0	36,0	65004	64804		
#29	0.1360	3.45	8-32,8-36	6,0	66,0	28,0	23,0	36,0	55001	54801		
3,5 mm	0.1378		M4 X 0,5	6,0	66,0	28,0	23,0	36,0	65005	64805		
9/64	0.1406	3.57		6,0	66,0	28,0	23,0	36,0	55002	54802		
3,6 mm	0.1417		M4 X 0,35	6,0	66,0	28,0	23,0	36,0	65006	64806		
3,7 mm	0.1457		M4,5 X 0,75	6,0	66,0	28,0	23,0	36,0	65007	64807		
3,8 mm	0.1496		10-24	6,0	74,0	36,0	29,0	36,0	65008	64808		
3,9 mm	0.1535			6,0	74,0	36,0	29,0	36,0	65009	64809		
5/32	0.1562	3.97		6,0	74,0	36,0	29,0	36,0	55003	54803		
4,0 mm	0.1575		M4,5 X 0,5	6,0	74,0	36,0	29,0	36,0	65010	64810		
#21	0.1590	4.04	10-32	6,0	74,0	36,0	29,0	36,0	55004	54804		
4,1 mm	0.1614			6,0	74,0	36,0	29,0	36,0	65011	64811		
4,2 mm	0.1654		M5 / M5 X 0,75	6,0	74,0	36,0	29,0	36,0	65012	64812		
4,3 mm	0.1693			6,0	74,0	36,0	29,0	36,0	65013	64813		
11/64	0.1719	4.37		6,0	74,0	36,0	29,0	36,0	55005	54805		
4,4 mm	0.1732		12-24	6,0	74,0	36,0	29,0	36,0	65014	64814		
4,5 mm	0.1772		M5 X 0,5	6,0	74,0	36,0	29,0	36,0	65015	64815		
4,6 mm	0.1811		12-28	6,0	74,0	36,0	29,0	36,0	65016	64816		
4,7 mm	0.1850		12-32	6,0	74,0	36,0	29,0	36,0	65017	64817		
3/16	0.1875	4.76		6,0	82,0	44,0	35,0	36,0	55006	54806		
4,8 mm	0.1890		7/32-32	6,0	82,0	44,0	35,0	36,0	65018	64818		
4,9 mm	0.1929			6,0	82,0	44,0	35,0	36,0	65019	64819		
5,0 mm	0.1969		M6 X 1	6,0	82,0	44,0	35,0	36,0	65020	64820		
5,1 mm	0.2008		1/4-20	6,0	82,0	44,0	35,0	36,0	65021	64821		
13/64	0.2031	5.16		6,0	82,0	44,0	35,0	36,0	55007	54807		
5,2 mm	0.2047		M6 X 0,75	6,0	82,0	44,0	35,0	36,0	65022	64822		
5,3 mm	0.2087			6,0	82,0	44,0	35,0	36,0	65023	64823		
5,4 mm	0.2126			6,0	82,0	44,0	35,0	36,0	65024	64824		
5,5 mm	0.2165		M6 X 0,5	6,0	82,0	44,0	35,0	36,0	65025	64825		

公差 (inch)

- ≤.1181 直径
DC = +.00008/+0.00047
DCON = h₆
- >.1181-.2362 直径
DC = +.00016/+0.00063
DCON = h₆
- >.2362-.3937 直径
DC = +.00024/+0.00083
DCON = h₆
- >.3937-.7087 直径
DC = +.00028/+0.00098
DCON = h₆
- >.7087-1.1811 直径
DC = +.00031/+0.00114
DCON = h₆

公差 (mm)

- ≤3 直径
DC = +0,002/+0,012
DCON = h₆
- >3-6 直径
DC = +0,004/+0,016
DCON = h₆
- >6-10 直径
DC = +0,006/+0,021
DCON = h₆
- >10-18 直径
DC = +0,007/+0,025
DCON = h₆



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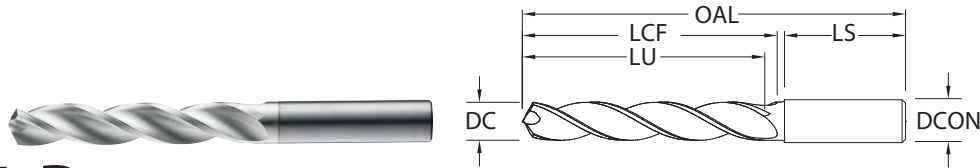
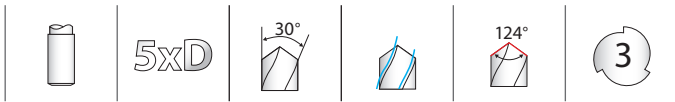
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131N 5xD
英制 & 公制系列

inch & mm									EDP 订货号	
刃径 DC	英制值	公制值	丝锥尺寸 仅供参考	柄径 DCON	全长 OAL	槽长 LCF	刃长 LU	柄长 LS	无涂层	Ti-NAMITE-B (TiB ₂)
7/32	0.2188	5.56	1/4-32	6,0	82,0	44,0	35,0	36,0	55008	54808
5,6 mm	0.2205			6,0	82,0	44,0	35,0	36,0	65026	64826
5,7 mm	0.2244			6,0	82,0	44,0	35,0	36,0	65027	64827
5,8 mm	0.2283			6,0	82,0	44,0	35,0	36,0	65028	64828
5,9 mm	0.2323			6,0	82,0	44,0	35,0	36,0	65029	64829
15/64	0.2344	5.95		6,0	82,0	44,0	35,0	36,0	55009	54809
6,0 mm	0.2362		M7 X 1	6,0	82,0	44,0	35,0	36,0	65030	64830
6,1 mm	0.2402			8,0	91,0	53,0	43,0	36,0	65031	64831
6,2 mm	0.2441		M7 X 0,75	8,0	91,0	53,0	43,0	36,0	65032	64832
6,3 mm	0.2480			8,0	91,0	53,0	43,0	36,0	65033	64833
1/4	0.2500	6.35		8,0	91,0	53,0	43,0	36,0	55010	54810
6,4 mm	0.2520			8,0	91,0	53,0	43,0	36,0	65034	64834
6,5 mm	0.2559			8,0	91,0	53,0	43,0	36,0	65035	64835
F	0.2570	6.53	5/16-18	8,0	91,0	53,0	43,0	36,0	55011	54811
6,6 mm	0.2598			8,0	91,0	53,0	43,0	36,0	65036	64836
6,7 mm	0.2638			8,0	91,0	53,0	43,0	36,0	65037	64837
17/64	0.2656	6.75	5/16-20	8,0	91,0	53,0	43,0	36,0	55012	54812
6,8 mm	0.2677		M8 X 1,25	8,0	91,0	53,0	43,0	36,0	65038	64838
6,9 mm	0.2717		5/16-24	8,0	91,0	53,0	43,0	36,0	65039	64839
7,0 mm	0.2756		M8 X 1	8,0	91,0	53,0	43,0	36,0	65040	64840
7,1 mm	0.2795			8,0	91,0	53,0	43,0	36,0	65041	64841
9/32	0.2812	7.14	5/16-32	8,0	91,0	53,0	43,0	36,0	55013	54813
7,2 mm	0.2835		M8 X 0,75	8,0	91,0	53,0	43,0	36,0	65042	64842
7,3 mm	0.2874			8,0	91,0	53,0	43,0	36,0	65043	64843
7,4 mm	0.2913			8,0	91,0	53,0	43,0	36,0	65044	64844
7,5 mm	0.2953		M8 X 0,5	8,0	91,0	53,0	43,0	36,0	65045	64845
19/64	0.2969	7.54		8,0	91,0	53,0	43,0	36,0	55014	54814
7,6 mm	0.2992			8,0	91,0	53,0	43,0	36,0	65046	64846
7,7 mm	0.3031			8,0	91,0	53,0	43,0	36,0	65047	64847
7,8 mm	0.3071		M9 X 1,25	8,0	91,0	53,0	43,0	36,0	65048	64848
7,9 mm	0.3110			8,0	91,0	53,0	43,0	36,0	65049	64849
5/16	0.3125	7.94	3/8-16	8,0	91,0	53,0	43,0	36,0	55015	54815
8,0 mm	0.3150		M9 X 1	8,0	91,0	53,0	43,0	36,0	65050	64850
8,1 mm	0.3189			10,0	103,0	61,0	49,0	40,0	65051	64851
8,2 mm	0.3228			10,0	103,0	61,0	49,0	40,0	65052	64852
8,3 mm	0.3268			10,0	103,0	61,0	49,0	40,0	65053	64853
21/64	0.3281	8.33	3/8-20	10,0	103,0	61,0	49,0	40,0	55016	54816
8,4 mm	0.3307			10,0	103,0	61,0	49,0	40,0	65054	64854
Q	0.3320	8.43	3/8-24	10,0	103,0	61,0	49,0	40,0	55017	54817
8,5 mm	0.3346		M10 X 1,5	10,0	103,0	61,0	49,0	40,0	65055	64855
8,6 mm	0.3386			10,0	103,0	61,0	49,0	40,0	65056	64856
8,7 mm	0.3425			10,0	103,0	61,0	49,0	40,0	65057	64857
11/32	0.3438	8.73	3/8-32	10,0	103,0	61,0	49,0	40,0	55018	54818
8,8 mm	0.3465		M10 X 1,25	10,0	103,0	61,0	49,0	40,0	65058	64858

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131N 5xD

英制 & 公制系列

- 三刃带设计提高孔的稳定性和尺寸控制, 同时达到良好的表面光洁度, 圆度和圆柱度
- 自稳定金字塔钻尖设计提高钻头与工件接触时的稳定性
- 开放式钻槽结构提高排屑效率, 同时维持高进给加工时的强度
- 雕刻容屑槽便于切屑轻易从钻头中心排出
- 推荐材料硬度 ≤ 175 Bhn (≤ 16 HRC)

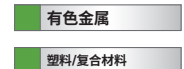
inch & mm										EDP 订货号		
刃径 DC	英制值	公制值	丝锥尺寸 仅供参考	柄径 DCON	全长 OAL	槽长 LCF	刃长 LU	柄长 LS	无涂层	Ti-NAMITE-B (TiB ₂)		
8,9 mm	0.3504			10,0	103,0	61,0	49,0	40,0	65059	64859		
9,0 mm	0.3543		M10 X 1	10,0	103,0	61,0	49,0	40,0	65060	64860		
9,1 mm	0.3583			10,0	103,0	61,0	49,0	40,0	65061	64861		
23/64	0.3594	9.13		10,0	103,0	61,0	49,0	40,0	55019	54819		
9,2 mm	0.3622		M10 X 0,75	10,0	103,0	61,0	49,0	40,0	65062	64862		
9,3 mm	0.3661			10,0	103,0	61,0	49,0	40,0	65063	64863		
U	0.3680	9.35	7/16-14	10,0	103,0	61,0	49,0	40,0	55020	54820		
9,4 mm	0.3701			10,0	103,0	61,0	49,0	40,0	65064	64864		
9,5 mm	0.3740		M11 / M10 X 0,5	10,0	103,0	61,0	49,0	40,0	65065	64865		
3/8	0.3750	9.53		10,0	103,0	61,0	49,0	40,0	55021	54821		
9,6 mm	0.3780			10,0	103,0	61,0	49,0	40,0	65066	64866		
9,7 mm	0.3819			10,0	103,0	61,0	49,0	40,0	65067	64867		
9,8 mm	0.3858			10,0	103,0	61,0	49,0	40,0	65068	64868		
9,9 mm	0.3898			10,0	103,0	61,0	49,0	40,0	65069	64869		
25/64	0.3906	9.92	7/16-20	10,0	103,0	61,0	49,0	40,0	55022	54822		
10,0 mm	0.3937			10,0	103,0	61,0	49,0	40,0	65070	64870		
10,1 mm	0.3976			12,0	118,0	71,0	56,0	45,0	65071	64871		
10,2 mm	0.4016		M12 X 1,75	12,0	118,0	71,0	56,0	45,0	65072	64872		
10,3 mm	0.4055			12,0	118,0	71,0	56,0	45,0	65073	64873		
13/32	0.4062	10.32		12,0	118,0	71,0	56,0	45,0	55023	54823		
10,4 mm	0.4094			12,0	118,0	71,0	56,0	45,0	65074	64874		
10,5 mm	0.4134		M12 X 1,5	12,0	118,0	71,0	56,0	45,0	65075	64875		
10,6 mm	0.4173			12,0	118,0	71,0	56,0	45,0	65076	64876		
10,7 mm	0.4213			12,0	118,0	71,0	56,0	45,0	65077	64877		
27/64	0.4219	10.72	1/2-13	12,0	118,0	71,0	56,0	45,0	55024	54824		
10,8 mm	0.4252		M12 X 1,25	12,0	118,0	71,0	56,0	45,0	65078	64878		
10,9 mm	0.4291			12,0	118,0	71,0	56,0	45,0	65079	64879		
11,0 mm	0.4331		M12 X 1	12,0	118,0	71,0	56,0	45,0	65080	64880		
11,1 mm	0.4370			12,0	118,0	71,0	56,0	45,0	65081	64881		
7/16	0.4375	11.11	1/4-18NPT	12,0	118,0	71,0	56,0	45,0	55025	54825		
11,2 mm	0.4409			12,0	118,0	71,0	56,0	45,0	65082	64882		
11,3 mm	0.4449			12,0	118,0	71,0	56,0	45,0	65083	64883		

公差 (inch)

- ≤.1181 直径
DC = +.00008/+0.00047
DCON = h₆
- >.1181-.2362 直径
DC = +.00016/+0.00063
DCON = h₆
- >.2362-.3937 直径
DC = +.00024/+0.00083
DCON = h₆
- >.3937-.7087 直径
DC = +.00028/+0.00098
DCON = h₆
- >.7087-1.1811 直径
DC = +.00031/+0.00114
DCON = h₆

公差 (mm)

- ≤3 直径
DC = +0,002/+0,012
DCON = h₆
- >3-6 直径
DC = +0,004/+0,016
DCON = h₆
- >6-10 直径
DC = +0,006/+0,021
DCON = h₆
- >10-18 直径
DC = +0,007/+0,025
DCON = h₆



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131N 5xD
英制 & 公制系列

续上一页

inch & mm									EDP订货号	
刃径 DC	英制值	公制值	丝锥尺寸 仅供参考	柄径 DCON	全长 OAL	槽长 LCF	刃长 LU	柄长 LS	无涂层	Ti-NAMITE-B (TiB ₂)
11,4 mm	0.4488			12,0	118,0	71,0	56,0	45,0	65084	64884
11,5 mm	0.4528		M12 X 0,5	12,0	118,0	71,0	56,0	45,0	65085	64885
11,6 mm	0.4567			12,0	118,0	71,0	56,0	45,0	65086	64886
11,7 mm	0.4606			12,0	118,0	71,0	56,0	45,0	65087	64887
11,8 mm	0.4646			12,0	118,0	71,0	56,0	45,0	65088	64888
11,9 mm	0.4685			12,0	118,0	71,0	56,0	45,0	65089	64889
15/32	0.4688	11.91	1/2-28	12,0	118,0	71,0	56,0	45,0	55026	54826
12,0 mm	0.4724		M14 X 2	12,0	118,0	71,0	56,0	45,0	65090	64890
31/64	0.4844	12.30	9/16-12	14,0	124,0	77,0	60,0	45,0	55027	54827
12,5 mm	0.4921		M14 X 1,5	14,0	124,0	77,0	60,0	45,0	65091	64891
1/2	0.5000	12.70		14,0	124,0	77,0	60,0	45,0	55028	54828
12,8 mm	0.5039		M14 X 1,25	14,0	124,0	77,0	60,0	45,0	65092	64892
13,0 mm	0.5118		M14 X 1	14,0	124,0	77,0	60,0	45,0	65093	64893
33/64	0.5156	13.10	9/16-18	14,0	124,0	77,0	60,0	45,0	55029	54829
13,5 mm	0.5315		5/8-11	14,0	124,0	77,0	60,0	45,0	65094	64894
13,8 mm	0.5433			14,0	124,0	77,0	60,0	45,0	65095	64895
14,0 mm	0.5512		M16 X 2	14,0	124,0	77,0	60,0	45,0	65096	64896
9/16	0.5625	14.29		16,0	133,0	83,0	63,0	48,0	55030	54830
14,5 mm	0.5709		M16 X 1,5	16,0	133,0	83,0	63,0	48,0	65097	64897
37/64	0.5781	14.68	5/8-18	16,0	133,0	83,0	63,0	48,0	55031	54831
14,8 mm	0.5827			16,0	133,0	83,0	63,0	48,0	65098	64898
15,0 mm	0.5906		M16 X 1	16,0	133,0	83,0	63,0	48,0	65099	64899
15,5 mm	0.6102		M18 X 2,5	16,0	133,0	83,0	63,0	48,0	65100	64900
15,8 mm	0.6220			16,0	133,0	83,0	63,0	48,0	65101	64901
5/8	0.6250	15.88	11/16-16	16,0	133,0	83,0	63,0	48,0	55032	54832
16,0 mm	0.6299			16,0	133,0	83,0	63,0	48,0	65102	64902
21/32	0.6562	16.67	3/4-10	18,0	143,0	93,0	71,0	48,0	55033	54833
11/16	0.6875	17.46	3/4-16	18,0	143,0	93,0	71,0	48,0	55034	54834
3/4	0.7500	19.05	13/16-16	20,0	153,0	101,0	77,0	50,0	55035	54835

131N 3D & 5D 系列 英制	硬度	Vc (sfm)		DC • in							
				1/8	3/16	1/4	3/8	1/2	5/8	3/4	
N	铝合金 < 12% SI 6061, 2024, 7075	≤ 150 Bhn 或 ≤ 7 HRC	800	RPM	24448	16299	12224	8149	6112	4890	4075
			(640-960)	Fr	0.0055	0.0083	0.0110	0.0166	0.0221	0.0276	0.0331
				进给 (ipm)	135	135	135	135	135	135	135
	铝合金 > 12% SI A356.0, 390.0, 319.0	≤ 125 Bhn 或 ≤ 77 HRb	600	RPM	18336	12224	9168	6112	4584	3667	3056
			(480-720)	Fr	0.0055	0.0082	0.0109	0.0164	0.0218	0.0273	0.0327
				进给 (ipm)	100	100	100	100	100	100	100
	铜合金 铝青铜, 蒙知黄铜, 船用黄铜	≤ 175 Bhn 或 ≤ 16 HRC	550	RPM	16808	11205	8404	5603	4202	3362	2801
			(440-660)	Fr	0.0020	0.0030	0.0040	0.0061	0.0081	0.0101	0.0121
				进给 (ipm)	34	34	34	34	34	34	34
塑料 亚克力, PVC, 聚丙烯		450	RPM	13752	9168	6876	4584	3438	2750	2292	
		(360-540)	Fr	0.0025	0.0037	0.0049	0.0074	0.0099	0.0124	0.0148	
			进给 (ipm)	34	34	34	34	34	34	34	

Bhn (布氏硬度) HRC (洛氏硬度) HRb (洛氏硬度)

rpm = Vc x 3.82 / DC

ipm = Fr x rpm

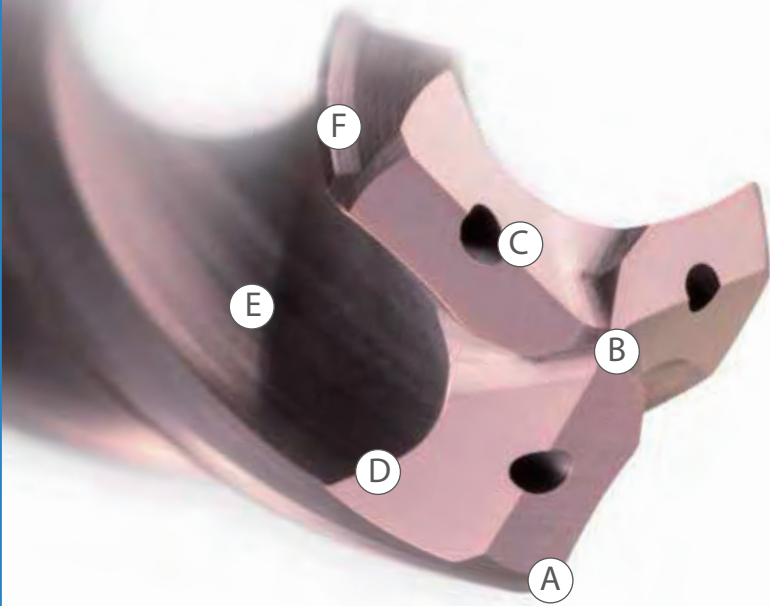
加工更硬的材料时, 降低转速和进给

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131N 3D & 5D 系列 公制	硬度	Vc (m/min)	DC • mm							
			3	6	8	10	12	14	16	
铝合金 < 12% SI 6061, 2024, 7075	≤ 150 Bhn 或 ≤ 7 HRc	244	RPM	25851	12926	9694	7755	6463	5540	4847
		(195-293)	Fr	0.133	0.265	0.354	0.442	0.531	0.619	0.708
			进给(mm/min)	3430	3430	3430	3430	3430	3430	3430
铝合金 > 12% SI A356.0, 390.0, 319.0	≤ 125 Bhn 或 ≤ 77 HRb	183	RPM	19388	9694	7271	5816	4847	4155	3635
		(146-219)	Fr	0.131	0.262	0.349	0.437	0.524	0.611	0.699
			进给(mm/min)	2540	2540	2540	2540	2540	2540	2540
N 铜合金 铝青铜, 蒙知黄铜, 船用黄铜	≤ 175 Bhn 或 ≤ 16 HRc	168	RPM	17773	8886	6665	5332	4443	3808	3332
		(134-201)	Fr	0.049	0.097	0.130	0.162	0.194	0.227	0.259
			进给(mm/min)	864	864	864	864	864	864	864
塑料 亚克力, PVC, 聚丙烯		137	RPM	14541	7271	5453	4362	3635	3116	2726
		(110-165)	Fr	0.059	0.119	0.158	0.198	0.238	0.277	0.317
			进给(mm/min)	864	864	864	864	864	864	864

Bhn (布氏硬度) HRc (洛氏硬度) HRb (洛氏硬度)
 $rpm = (Vc \times 1000) / (DC \times 3.14)$
 $mm/min = Fr \times rpm$
 加工更硬的材料时, 降低转速和进给
 获取更多技术信息, 请参考SGS刀具向导SGS Tool Wizard® (www.kyocera.com.cn)

141K系列



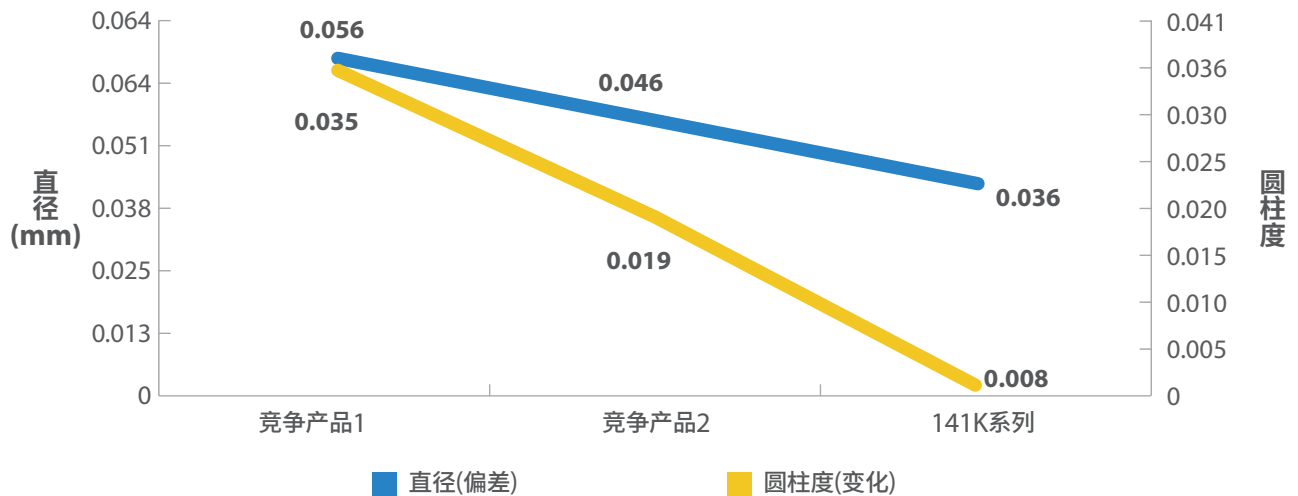
Hi-PerCarb 141K系列钻头的关键设计特征不仅使该产品能够提供优于标准硬质合金钻头的应用优势，还可以提供优于其他高性能钻头的应用优势。Hi-PerCarb 141K系列钻头的每个特征均经过特殊设计，旨在解决高效率钻孔过程中常见的问题。

- (A) 三刃设计**
 - 通过双刃带设计改善了孔的稳定性
 - 良好的表面光洁度、圆度和孔圆柱度
 - 良好的孔尺寸控制
- (B) 自稳定钻尖和开放式钻槽结构**
 - 金字塔设计使钻头与工件接触时更稳定
 - 精心设计的槽形可在不牺牲强度的前提下高效地排出切屑
- (C) 中心冷却刀具**
 - 使冷却液尽可能接近切刃，以便连续地带走切屑，较大限度地改善冷却并提高生产率
- (D) 刃口和圆角保护**
 - 圆角倒角增加了强度，并减轻了在铸铁中钻通孔时的崩损
 - 自动化刃口处理工艺通过消除切刃中的微观缺陷延长了刀具寿命
- (E) 特定应用的涂层和品质良好的硬质合金**
 - Ti-Namite M是一种纳米复合材料表面涂层，可大幅地提高耐磨铸铁的耐磨性
 - 141K钻头采用经认证的品质良好的硬质合金制造，以进一步提高品质、性能和使用寿命
- (F) 刃带小型化设计**
 - 窄刃带减轻了与工件过度接触所造成的摩擦起热，而且平行设计有助于在刃带磨损时保持一致的接触宽度

高性能、高精度、高追求。
HI-PERCARB 141K系列铸铁加工钻头

高精度

141K系列与竞争产品在40级铸铁中的孔尺寸比较



高追求

实验室结果表明,在各种转速和进给速率下,Hi-PerCarb 141K系列钻头所加工钻孔的品质优于竞争对手。

Ti-NAMITE-M

Ti-Namite-M的特点包括高耐磨性、减轻了摩擦,以及良好地预防刃口积屑。在对铸铁和钢以及难加工材料(如钛)进行高性能加工时,该涂层可实现良好的材料去除率和刀具寿命。

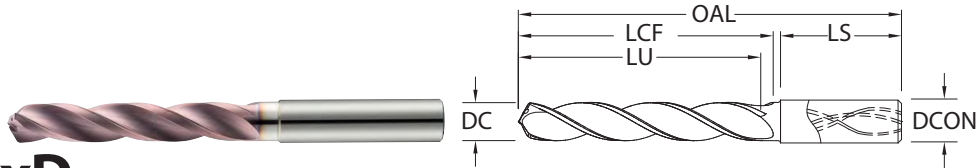
硬度(HV):3600

氧化温度:1150°C / 2100°F

摩擦系数:0.45

厚度:1-4μm(基于刀径)





141K 5xD

英制 & 公制系列

- 三刃带设计提高孔的稳定性和尺寸控制, 同时达到良好的表面光洁度, 圆度和圆柱度
- 自稳定金字塔钻尖设计提高钻头与工件接触时的稳定性
- 开放式钻槽结构提高排屑效率, 同时维持高进给加工时的强度
- 雕刻容屑槽便于切屑轻易从钻头中心排出
- 推荐材料硬度 ≤ 400Bhn (≤ 43HRC)

inch & mm									EDP订货号
刃径 DC	英制值	公制值	丝锥尺寸 仅供参考	柄径 DCON	全长 OAL	槽长 LCF	刃长 LU	柄长 LS	Ti-NAMITE-M (TM)
3,0 mm	0.1181			6,0	66,0	28,0	23,0	36,0	65160
3,1 mm	0.1220			6,0	66,0	28,0	23,0	36,0	65161
1/8	0.1250	3.18		6,0	66,0	28,0	23,0	36,0	55160
3,2 mm	0.1260		M3,5 X 0,35	6,0	66,0	28,0	23,0	36,0	65162
3,3 mm	0.1299		M4 X 0,7	6,0	66,0	28,0	23,0	36,0	65163
3,4 mm	0.1339			6,0	66,0	28,0	23,0	36,0	65164
#29	0.1360	3.45	8-32,8-36	6,0	66,0	28,0	23,0	36,0	55161
3,5 mm	0.1378		M4 X 0,5	6,0	66,0	28,0	23,0	36,0	65165
9/64	0.1406	3.57		6,0	66,0	28,0	23,0	36,0	55162
3,6 mm	0.1417		M4 X 0,35	6,0	66,0	28,0	23,0	36,0	65166
3,7 mm	0.1457		M4,5 X 0,75	6,0	66,0	28,0	23,0	36,0	65167
3,8 mm	0.1496		10-24	6,0	74,0	36,0	29,0	36,0	65168
3,9 mm	0.1535			6,0	74,0	36,0	29,0	36,0	65169
5/32	0.1562	3.97		6,0	74,0	36,0	29,0	36,0	55163
4,0 mm	0.1575		M4,5 X 0,5	6,0	74,0	36,0	29,0	36,0	65170
#21	0.1590	4.04	10-32	6,0	74,0	36,0	29,0	36,0	55164
4,1 mm	0.1614			6,0	74,0	36,0	29,0	36,0	65171
4,2 mm	0.1654		M5 / M5 x 0,75	6,0	74,0	36,0	29,0	36,0	65172
4,3 mm	0.1693			6,0	74,0	36,0	29,0	36,0	65173
11/64	0.1719	4.37		6,0	74,0	36,0	29,0	36,0	55165
4,4 mm	0.1732		12-24	6,0	74,0	36,0	29,0	36,0	65174
4,5 mm	0.1772		M5 X 0,5	6,0	74,0	36,0	29,0	36,0	65175
4,6 mm	0.1811		12-28	6,0	74,0	36,0	29,0	36,0	65176
4,7 mm	0.1850		12-32	6,0	74,0	36,0	29,0	36,0	65177
3/16	0.1875	4.76		6,0	82,0	44,0	35,0	36,0	55166
4,8 mm	0.1890		7/32-32	6,0	82,0	44,0	35,0	36,0	65178
4,9 mm	0.1929			6,0	82,0	44,0	35,0	36,0	65179
5,0 mm	0.1969		M6 X 1	6,0	82,0	44,0	35,0	36,0	65180
5,1 mm	0.2008		1/4-20	6,0	82,0	44,0	35,0	36,0	65181
13/64	0.2031	5.16		6,0	82,0	44,0	35,0	36,0	55167
5,2 mm	0.2047		M6 X 0,75	6,0	82,0	44,0	35,0	36,0	65182
5,3 mm	0.2087			6,0	82,0	44,0	35,0	36,0	65183
5,4 mm	0.2126			6,0	82,0	44,0	35,0	36,0	65184
5,5 mm	0.2165		M6 X 0,5	6,0	82,0	44,0	35,0	36,0	65185

公差 (inch)

- ≤ .1181 直径
DC = +.00008/+0.00047
DCON = h₆
- > .1181-.2362 直径
DC = +.00016/+0.00063
DCON = h₆
- > .2362-.3937 直径
DC = +.00024/+0.00083
DCON = h₆
- > .3937-.7087 直径
DC = +.00028/+0.00098
DCON = h₆
- > .7087-1.1811 直径
DC = +.00031/+0.00114
DCON = h₆

公差 (mm)

- ≤ 3 直径
DC = +0,002/+0,012
DCON = h₆
- > 3-6 直径
DC = +0,004/+0,016
DCON = h₆
- > 6-10 直径
DC = +0,006/+0,021
DCON = h₆
- > 10-18 直径
DC = +0,007/+0,025
DCON = h₆

铸铁

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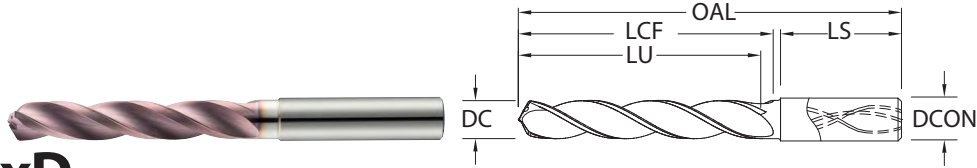
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141K 5xD
英制 & 公制系列

inch & mm										EDP订货号
刃径 DC	英制值	公制值	丝锥尺寸 仅供参考	柄径 DCON	全长 OAL	槽长 LCF	刃长 LU	柄长 LS		Ti-NAMITE-M (TM)
7/32	0.2188	5.56	1/4-32	6,0	82,0	44,0	35,0	36,0		55168
5,6 mm	0.2205			6,0	82,0	44,0	35,0	36,0		65186
5,7 mm	0.2244			6,0	82,0	44,0	35,0	36,0		65187
5,8 mm	0.2283			6,0	82,0	44,0	35,0	36,0		65188
5,9 mm	0.2323			6,0	82,0	44,0	35,0	36,0		65189
15/64	0.2344	5.95		6,0	82,0	44,0	35,0	36,0		55169
6,0 mm	0.2362		M7 X 1	6,0	82,0	44,0	35,0	36,0		65190
6,1 mm	0.2402			8,0	91,0	53,0	43,0	36,0		65191
6,2 mm	0.2441		M7 X 0,75	8,0	91,0	53,0	43,0	36,0		65192
6,3 mm	0.2480			8,0	91,0	53,0	43,0	36,0		65193
1/4	0.2500	6.35		8,0	91,0	53,0	43,0	36,0		55170
6,4 mm	0.2520			8,0	91,0	53,0	43,0	36,0		65194
6,5 mm	0.2559			8,0	91,0	53,0	43,0	36,0		65195
F	0.2570	6.53	5/16-18	8,0	91,0	53,0	43,0	36,0		55171
6,6 mm	0.2598			8,0	91,0	53,0	43,0	36,0		65196
6,7 mm	0.2638			8,0	91,0	53,0	43,0	36,0		65197
17/64	0.2656	6.75	5/16-20	8,0	91,0	53,0	43,0	36,0		55172
6,8 mm	0.2677		M8 X 1,25	8,0	91,0	53,0	43,0	36,0		65198
6,9 mm	0.2717		5/16-24	8,0	91,0	53,0	43,0	36,0		65199
7,0 mm	0.2756		M8 X 1	8,0	91,0	53,0	43,0	36,0		65200
7,1 mm	0.2795			8,0	91,0	53,0	43,0	36,0		65201
9/32	0.2812	7.14	5/16-32	8,0	91,0	53,0	43,0	36,0		55173
7,2 mm	0.2835		M8 X 0,75	8,0	91,0	53,0	43,0	36,0		65202
7,3 mm	0.2874			8,0	91,0	53,0	43,0	36,0		65203
7,4 mm	0.2913			8,0	91,0	53,0	43,0	36,0		65204
7,5 mm	0.2953		M8 X 0,5	8,0	91,0	53,0	43,0	36,0		65205
19/64	0.2969	7.54		8,0	91,0	53,0	43,0	36,0		55174
7,6 mm	0.2992			8,0	91,0	53,0	43,0	36,0		65206
7,7 mm	0.3031			8,0	91,0	53,0	43,0	36,0		65207
7,8 mm	0.3071		M9 X 1,25	8,0	91,0	53,0	43,0	36,0		65208
7,9 mm	0.3110			8,0	91,0	53,0	43,0	36,0		65209
5/16	0.3125	7.94	3/8-16	8,0	91,0	53,0	43,0	36,0		55175
8,0 mm	0.3150		M9 X 1	8,0	91,0	53,0	43,0	36,0		65210
8,1 mm	0.3189			10,0	103,0	61,0	49,0	40,0		65211
8,2 mm	0.3228			10,0	103,0	61,0	49,0	40,0		65212
8,3 mm	0.3268			10,0	103,0	61,0	49,0	40,0		65213
21/64	0.3281	8.33	3/8-20	10,0	103,0	61,0	49,0	40,0		55176
8,4 mm	0.3307			10,0	103,0	61,0	49,0	40,0		65214
Q	0.3320	8.43	3/8-24	10,0	103,0	61,0	49,0	40,0		55177
8,5 mm	0.3346		M10 X 1,5	10,0	103,0	61,0	49,0	40,0		65215
8,6 mm	0.3386			10,0	103,0	61,0	49,0	40,0		65216
8,7 mm	0.3425			10,0	103,0	61,0	49,0	40,0		65217
11/32	0.3438	8.73	3/8-32	10,0	103,0	61,0	49,0	40,0		55178
8,8 mm	0.3465		M10 X 1,25	10,0	103,0	61,0	49,0	40,0		65218

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141K 5xD

英制 & 公制系列

- 三刃带设计提高孔的稳定性和尺寸控制, 同时达到良好的表面光洁度, 圆度和圆柱度
- 自稳定金字塔钻尖设计提高钻头与工件接触时的稳定性
- 开放式钻槽结构提高排屑效率, 同时维持高进给加工时的强度
- 雕刻容屑槽便于切屑轻易从钻头中心排出
- 推荐材料硬度 ≤ 400Bhn (≤ 43HRC)

inch & mm										EDP订货号
刃径 DC	英制值	公制值	丝锥尺寸 仅供参考	柄径 DCON	全长 OAL	槽长 LCF	刃长 LU	柄长 LS	Ti-NAMITE-M (TM)	
8,9 mm	0.3504			10,0	103,0	61,0	49,0	40,0	65219	
9,0 mm	0.3543		M10 X 1	10,0	103,0	61,0	49,0	40,0	65220	
9,1 mm	0.3583			10,0	103,0	61,0	49,0	40,0	65221	
23/64	0.3594	9.13		10,0	103,0	61,0	49,0	40,0	55179	
9,2 mm	0.3622		M10 X 0,75	10,0	103,0	61,0	49,0	40,0	65222	
9,3 mm	0.3661			10,0	103,0	61,0	49,0	40,0	65223	
U	0.3680	9.35	7/16-14	10,0	103,0	61,0	49,0	40,0	55180	
9,4 mm	0.3701			10,0	103,0	61,0	49,0	40,0	65224	
9,5 mm	0.3740		M11 / M10 X 0,5	10,0	103,0	61,0	49,0	40,0	65225	
3/8	0.3750	9.53		10,0	103,0	61,0	49,0	40,0	55181	
9,6 mm	0.3780			10,0	103,0	61,0	49,0	40,0	65226	
9,7 mm	0.3819			10,0	103,0	61,0	49,0	40,0	65227	
9,8 mm	0.3858			10,0	103,0	61,0	49,0	40,0	65228	
9,9 mm	0.3898			10,0	103,0	61,0	49,0	40,0	65229	
25/64	0.3906	9.92	7/16-20	10,0	103,0	61,0	49,0	40,0	55182	
10,0 mm	0.3937			10,0	103,0	61,0	49,0	40,0	65230	
10,1 mm	0.3976			12,0	118,0	71,0	56,0	45,0	65231	
10,2 mm	0.4016		M12 X 1,75	12,0	118,0	71,0	56,0	45,0	65232	
10,3 mm	0.4055			12,0	118,0	71,0	56,0	45,0	65233	
13/32	0.4062	10.32		12,0	118,0	71,0	56,0	45,0	55183	
10,4 mm	0.4094			12,0	118,0	71,0	56,0	45,0	65234	
10,5 mm	0.4134		M12 X 1,5	12,0	118,0	71,0	56,0	45,0	65235	
10,6 mm	0.4173			12,0	118,0	71,0	56,0	45,0	65236	
10,7 mm	0.4213			12,0	118,0	71,0	56,0	45,0	65237	
27/64	0.4219	10.72	1/2-13	12,0	118,0	71,0	56,0	45,0	55184	
10,8 mm	0.4252		M12 X 1,25	12,0	118,0	71,0	56,0	45,0	65238	
10,9 mm	0.4291			12,0	118,0	71,0	56,0	45,0	65239	
11,0 mm	0.4331		M12 X 1	12,0	118,0	71,0	56,0	45,0	65240	
11,1 mm	0.4370			12,0	118,0	71,0	56,0	45,0	65241	
7/16	0.4375	11.11	1/4-18NPT	12,0	118,0	71,0	56,0	45,0	55185	
11,2 mm	0.4409			12,0	118,0	71,0	56,0	45,0	65242	
11,3 mm	0.4449			12,0	118,0	71,0	56,0	45,0	65243	
11,4 mm	0.4488			12,0	118,0	71,0	56,0	45,0	65244	
11,5 mm	0.4528		M12 X 0,5	12,0	118,0	71,0	56,0	45,0	65245	

公差 (inch)

- ≤.1181 直径
DC = +.00008/+0.00047
DCON = h₆
- >.1181-.2362 直径
DC = +.00016/+0.00063
DCON = h₆
- >.2362-.3937 直径
DC = +.00024/+0.00083
DCON = h₆
- >.3937-.7087 直径
DC = +.00028/+0.00098
DCON = h₆
- >.7087-1.1811 直径
DC = +.00031/+0.00114
DCON = h₆

公差 (mm)

- ≤3 直径
DC = +0,002/+0,012
DCON = h₆
- >3-6 直径
DC = +0,004/+0,016
DCON = h₆
- >6-10 直径
DC = +0,006/+0,021
DCON = h₆
- >10-18 直径
DC = +0,007/+0,025
DCON = h₆

铸铁

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141K 5xD
英制 & 公制系列

inch & mm										EDP订货号
刃径 DC	英制值	公制值	丝锥尺寸 仅供参考	柄径 DCON	全长 OAL	槽长 LCF	刃长 LU	柄长 LS		Ti-NAMITE-M (TM)
11,6 mm	0.4567			12,0	118,0	71,0	56,0	45,0		65246
11,7 mm	0.4606			12,0	118,0	71,0	56,0	45,0		65247
11,8 mm	0.4646			12,0	118,0	71,0	56,0	45,0		65248
11,9 mm	0.4685			12,0	118,0	71,0	56,0	45,0		65249
15/32	0.4688	11.91	1/2-28	12,0	118,0	71,0	56,0	45,0		55186
12,0 mm	0.4724		M14 X 2	12,0	118,0	71,0	56,0	45,0		65250
31/64	0.4844	12.30	9/16-12	14,0	124,0	77,0	60,0	45,0		55187
12,5 mm	0.4921		M14 X 1,5	14,0	124,0	77,0	60,0	45,0		65251
1/2	0.5000	12.70		14,0	124,0	77,0	60,0	45,0		55188
12,8 mm	0.5039		M14 X 1,25	14,0	124,0	77,0	60,0	45,0		65252
13,0 mm	0.5118		M14 X 1	14,0	124,0	77,0	60,0	45,0		65253
33/64	0.5156	13.10	9/16-18	14,0	124,0	77,0	60,0	45,0		55189
13,5 mm	0.5315		5/8-11	14,0	124,0	77,0	60,0	45,0		65254
13,8 mm	0.5433			14,0	124,0	77,0	60,0	45,0		65255
14,0 mm	0.5512		M16 X 2	14,0	124,0	77,0	60,0	45,0		65256
9/16	0.5625	14.29		16,0	133,0	83,0	63,0	48,0		55190
14,5 mm	0.5709		M16 X 1,5	16,0	133,0	83,0	63,0	48,0		65257
37/64	0.5781	14.68	5/8-18	16,0	133,0	83,0	63,0	48,0		55191
14,8 mm	0.5827			16,0	133,0	83,0	63,0	48,0		65258
15,0 mm	0.5906		M16 X 1	16,0	133,0	83,0	63,0	48,0		65259
15,5 mm	0.6102		M18 X 2,5	16,0	133,0	83,0	63,0	48,0		65260
15,8 mm	0.6220			16,0	133,0	83,0	63,0	48,0		65261
5/8	0.6250	15.88	11/16-16	16,0	133,0	83,0	63,0	48,0		55192
16,0 mm	0.6299			16,0	133,0	83,0	63,0	48,0		65262
21/32	0.6562	16.67	3/4-10	18,0	143,0	93,0	71,0	48,0		55193
11/16	0.6875	17.46	3/4-16	18,0	143,0	93,0	71,0	48,0		55194
3/4	0.7500	19.05	13/16-16	20,0	153,0	101,0	77,0	50,0		55195

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141K 5D 系列 英制	硬度	Vc (sfm)	DC • in							
			1/8	3/16	1/4	3/8	1/2	5/8	3/4	
灰铸铁 铁素体 ASTM A48: 20类别 SAE J431C: 1800等级	≤ 150 Bhn 或 ≤ 80 HRb	450 (360-540)	RPM	13752	9168	6876	4584	3438	2750	2292
			Fr	0.0049	0.0074	0.0099	0.0148	0.0198	0.0247	0.0297
			进给 (ipm)	68	68	68	68	68	68	68
灰铸铁 珠光体 ASTM A48: 30,35,40类别 SAE J431C: 3000等级	≤ 220 Bhn 或 ≤ 19 HRc	375 (300-450)	RPM	11460	7640	5730	3820	2865	2292	1910
			Fr	0.0039	0.0059	0.0079	0.0118	0.0157	0.0196	0.0236
			进给 (ipm)	45	45	45	45	45	45	45
K 蠕墨铸铁	≤ 250 Bhn 或 ≤ 25 HRc	325 (260-390)	RPM	9932	6621	4966	3311	2483	1986	1655
			Fr	0.0039	0.0059	0.0079	0.0118	0.0157	0.0196	0.0236
			进给 (ipm)	39	39	39	39	39	39	39
可锻铸铁 铁素体 ASTM A220: 40010等级 SAE J158: M4504等级	≤ 160 Bhn 或 ≤ 3 HRc	450 (360-540)	RPM	13752	9168	6876	4584	3438	2750	2292
			Fr	0.0049	0.0074	0.0099	0.0148	0.0198	0.0247	0.0297
			进给 (ipm)	68	68	68	68	68	68	68
可锻铸铁 马氏体 ASTM A220: 90001等级 SAE J158: M8501等级	≤ 320 Bhn 或 ≤ 34 HRc	250 (200-300)	RPM	7640	5093	3820	2547	1910	1528	1273
			Fr	0.0031	0.0047	0.0063	0.0094	0.0126	0.0157	0.0188
			进给 (ipm)	24	24	24	24	24	24	24

Bhn (布氏硬度) HRc (洛氏硬度) HRb (洛氏硬度)

rpm = Vc x 3.82 / DC

ipm = Fr x rpm

加工更硬的材料时,降低转速和进给

获取更多技术信息,请参考SGS刀具向导SGS Tool Wizard® (www.kyocera.com.cn)

141K 5D 系列 公制	硬度	Vc (m/min)	DC • mm							
			3	6	8	10	12	14	16	
灰铸铁 铁素体 ASTM A48: 20类别 SAE J431C: 1800等级	≤ 150 Bhn 或 ≤ 80 HRb	137	RPM	14541	7271	5453	4362	3635	3116	2726
		(110-165)	Fr	0.119	0.237	0.316	0.395	0.475	0.554	0.633
			进给(mm/min)	1725	1725	1725	1725	1725	1725	1725
灰铸铁 珠光体 ASTM A48: 30,35,40类别 SAE J431C: 3000等级	≤ 220 Bhn 或 ≤ 19 HRC	114	RPM	12118	6059	4544	3635	3029	2597	2272
		(91-137)	Fr	0.094	0.189	0.252	0.315	0.378	0.441	0.504
			进给(mm/min)	1145	1145	1145	1145	1145	1145	1145
K 蠕墨铸铁	≤ 250 Bhn 或 ≤ 25 HRC	99	RPM	10502	5251	3938	3151	2626	2250	1969
		(79-119)	Fr	0.094	0.189	0.251	0.314	0.377	0.440	0.503
			进给(mm/min)	990	990	990	990	990	990	990
可锻铸铁 铁素体 ASTM A220: 40010等级 SAE J158: M4504等级	≤ 160 Bhn 或 ≤ 3 HRC	137	RPM	14541	7271	5453	4362	3635	3116	2726
		(110-165)	Fr	0.119	0.237	0.316	0.395	0.475	0.554	0.633
			进给(mm/min)	1725	1725	1725	1725	1725	1725	1725
可锻铸铁 马氏体 ASTM A220: 90001等级 SAE J158: M8501等级	≤ 320 Bhn 或 ≤ 34 HRC	76	RPM	8078	4039	3029	2424	2020	1731	1515
		(61-91)	Fr	0.076	0.151	0.201	0.252	0.302	0.352	0.403
			进给(mm/min)	610	610	610	610	610	610	610

Bhn (布氏硬度) HRC (洛氏硬度) HRb (洛氏硬度)

rpm = (Vc x 1000) / (DC x 3.14)

mm/min = Fr x rpm

加工更硬的材料时, 降低转速和进给

获取更多技术信息, 请参考SGS刀具向导SGS Tool Wizard® (www.kyocera.com.cn)



High Performance Internal Coolant Drills

ICe-Carb® 140系列的设计旨在使最终用户能够在高生产率要求下实现高性能。内冷设计可以在此类应用中更好地控制加工温度,而几何特征便于有效和高效地产生和去除切屑。ICe-Carb® 140系列的设计可减少切削负载、提高加工参数和延长刀具寿命。

140系列

- (A) 中心冷却设计**

 - 有助于实现可控且一致的加工温度。
 - 在保持强度的同时,改善了冷却液向切刃的流动
 - 提高了加工参数,并延长了刀具寿命
- (B) 高性能刀槽设计**

 - 优化的开放式钻槽
 - 通过有效的排屑改善了表面光洁度
- (C) 抛光Ti-NAMITE A涂层**

 - 降低了切屑和刀具之间的摩擦,以避免切屑流动受阻
 - 降低了由挤屑造成的机床负载
 - 减轻了切削阻力,从而减少发热和磨损
- (D) 高穿透力140°钻尖角**

 - 分裂钻尖几何结构提高钻头的穿透度和加工精度
 - 凸轮型后角钻尖
 - 自定心设计,具有高穿透能力
- (E) 精心设计的切刃**

 - 精度准确的曲线研磨可高效地产生和控制切屑
 - 刃口珩磨,可延长使用寿命
 - 负角位置加强和保护

高性能、高精度、高追求。
ICe-CARB® 140系列内冷钻头

钻175个孔后的钻头状况

ICe-CARB® 140系列



未发现损坏,状况良好,可继续使用;375" Ø的贯穿深度,具有良好的表面光洁度

第一个孔

最后一个孔



竞争产品1



钻尖严重崩裂,刃带磨损;钻刃下方的涂层消失,保持0.375" Ø,但表面光洁度严重下降

第一个孔

最后一个孔



竞争产品2



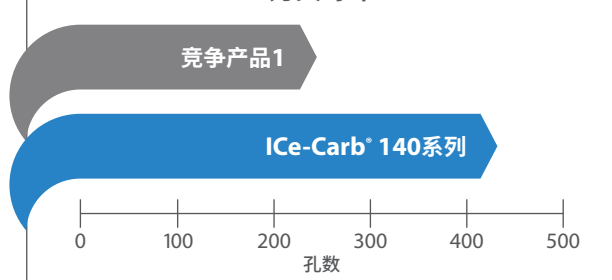
状况优于竞争产品1,但钻孔不合格;钻孔不圆,尺寸增加至0.385" Ø,锥部达到0.392" Ø,并有严重的涡形痕迹

第一个孔

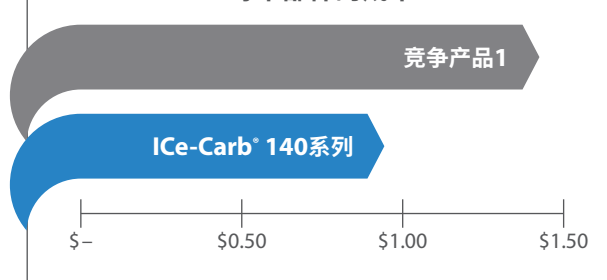
最后一个孔



刀具寿命

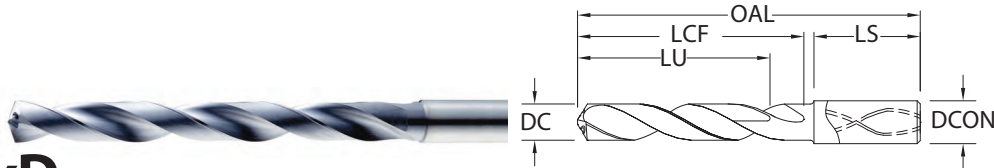


每个部件的成本





5xD



140 5xD

英制 & 公制系列

- 中心冷却设计可促进控制并保持一致温度的冷却液到达切削区域, 同时保持强度
- 分裂钻尖几何结构提高钻头的穿透力和加工精度
- 控制刃边的珩磨以提高刀具寿命
- 加强和保护负角位置
- 推荐材料硬度 ≤ 60HRC (≤ 654Bhn)

inch & mm										EDP 订货号
刃径 DC	英制值	公制值	丝锥尺寸 仅供参考	柄径 DCON	全长 OAL	槽长 LCF	刃长 LU	柄长 LS		Ti-NAMITE-A (AITiN)
3,0 mm	0.1181			6,0	66,0	28,0	23,0	36,0		63901
3,1 mm	0.1220			6,0	66,0	28,0	23,0	36,0		63902
1/8	0.1250	3.18		6,0	66,0	28,0	23,0	36,0		51901
3,2 mm	0.1260		M3,5 X 0,35	6,0	66,0	28,0	23,0	36,0		63903
3,3 mm	0.1299		M4 X 0,7	6,0	66,0	28,0	23,0	36,0		63904
3,4 mm	0.1339			6,0	66,0	28,0	23,0	36,0		63905
#29	0.1360	3.45	8-32,8-36	6,0	66,0	28,0	23,0	36,0		51902
3,5 mm	0.1378		M4 X 0,5	6,0	66,0	28,0	23,0	36,0		63906
9/64	0.1406	3.57		6,0	66,0	28,0	23,0	36,0		51903
3,6 mm	0.1417		M4 X 0,35	6,0	66,0	28,0	23,0	36,0		63907
3,7 mm	0.1457		M4,5 X 0,75	6,0	66,0	28,0	23,0	36,0		63908
3,8 mm	0.1496		10-24	6,0	74,0	36,0	29,0	36,0		51904
3,9 mm	0.1535			6,0	74,0	36,0	29,0	36,0		63909
5/32	0.1562	3.97		6,0	74,0	36,0	29,0	36,0		51905
4,0 mm	0.1575		M4,5 X 0,5	6,0	74,0	36,0	29,0	36,0		63910
#21	0.1590	4.04	10-32	6,0	74,0	36,0	29,0	36,0		51906
4,1 mm	0.1614			6,0	74,0	36,0	29,0	36,0		63911
4,2 mm	0.1654		M5 / M5 x 0,75	6,0	74,0	36,0	29,0	36,0		63912
4,3 mm	0.1693			6,0	74,0	36,0	29,0	36,0		63913
11/64	0.1719	4.37		6,0	74,0	36,0	29,0	36,0		51907
4,4 mm	0.1732		12-24	6,0	74,0	36,0	29,0	36,0		63914
4,5 mm	0.1772		M5 X 0,5	6,0	74,0	36,0	29,0	36,0		63915
4,6 mm	0.1811		12-28	6,0	74,0	36,0	29,0	36,0		63916
4,7 mm	0.1850		12-32	6,0	74,0	36,0	29,0	36,0		63917
3/16	0.1875	4.76		6,0	82,0	44,0	35,0	36,0		51908
4,8 mm	0.1890		7/32-32	6,0	82,0	44,0	35,0	36,0		63918
4,9 mm	0.1929			6,0	82,0	44,0	35,0	36,0		63919
5,0 mm	0.1969		M6 X 1	6,0	82,0	44,0	35,0	36,0		63920
5,1 mm	0.2008		1/4-20	6,0	82,0	44,0	35,0	36,0		63900
13/64	0.2031	5.16		6,0	82,0	44,0	35,0	36,0		51910
5,2 mm	0.2047		M6 X 0,75	6,0	82,0	44,0	35,0	36,0		63921
5,3 mm	0.2087			6,0	82,0	44,0	35,0	36,0		63922
5,4 mm	0.2126			6,0	82,0	44,0	35,0	36,0		63998
5,5 mm	0.2165		M6 X 0,5	6,0	82,0	44,0	35,0	36,0		63923
7/32	0.2188	5.56	1/4-32	6,0	82,0	44,0	35,0	36,0		51912

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公差 (inch)

≤.1181 直径

DC = +.00008/+0.00047

DCON = h₆

>.1181-.2362 直径

DC = +.00016/+0.00063

DCON = h₆

>.2362-.3937 直径

DC = +.00024/+0.00083

DCON = h₆

>.3937-.7087 直径

DC = +.00028/+0.00098

DCON = h₆

>.7087-1.1811 直径

DC = +.00031/+0.00114

DCON = h₆

公差 (mm)

≤3 直径

DC = +0,002/+0,012

DCON = h₆

>3-6 直径

DC = +0,004/+0,016

DCON = h₆

>6-10 直径

DC = +0,006/+0,021

DCON = h₆

>10-18 直径

DC = +0,007/+0,025

DCON = h₆

钢

不锈钢

铸铁

高温合金

钛

有色金属

淬硬钢

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140 5xD

英制 & 公制系列

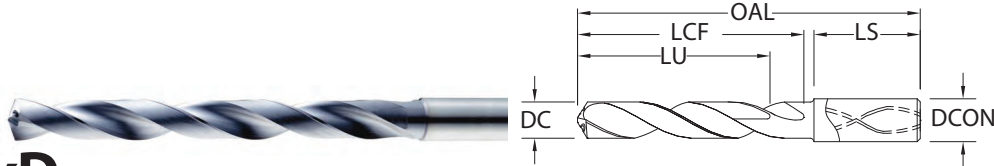
inch & mm										EDP订货号
刃径 DC	英制值	公制值	丝锥尺寸 仅供参考	柄径 DCON	全长 OAL	槽长 LCF	刃长 LU	柄长 LS		Ti-NAMITE-A (AlTiN)
5,6 mm	0.2205			6,0	82,0	44,0	35,0	36,0		63924
5,7 mm	0.2244			6,0	82,0	44,0	35,0	36,0		63925
5,8 mm	0.2283			6,0	82,0	44,0	35,0	36,0		63926
5,9 mm	0.2323			6,0	82,0	44,0	35,0	36,0		63927
15/64	0.2344	5.95		6,0	82,0	44,0	35,0	36,0		51913
6,0 mm	0.2362		M7 X 1	6,0	82,0	44,0	35,0	36,0		63928
6,1 mm	0.2402			8,0	91,0	53,0	43,0	36,0		63929
6,2 mm	0.2441		M7 X 0,75	8,0	91,0	53,0	43,0	36,0		63930
6,3 mm	0.2480			8,0	91,0	53,0	43,0	36,0		63931
1/4	0.2500	6.35		8,0	91,0	53,0	43,0	36,0		51914
6,4 mm	0.2520			8,0	91,0	53,0	43,0	36,0		63932
6,5 mm	0.2559			8,0	91,0	53,0	43,0	36,0		63933
F	0.2570	6.53	5/16-18	8,0	91,0	53,0	43,0	36,0		51915
6,6 mm	0.2598			8,0	91,0	53,0	43,0	36,0		63934
6,7 mm	0.2638			8,0	91,0	53,0	43,0	36,0		63935
17/64	0.2656	6.75	5/16-20	8,0	91,0	53,0	43,0	36,0		51916
6,8 mm	0.2677		M8 X 1,25	8,0	91,0	53,0	43,0	36,0		63936
6,9 mm	0.2717		5/16-24	8,0	91,0	53,0	43,0	36,0		63999
7,0 mm	0.2756		M8 X 1	8,0	91,0	53,0	43,0	36,0		63937
7,1 mm	0.2795			8,0	91,0	53,0	43,0	36,0		63938
9/32	0.2812	7.14	5/16-32	8,0	91,0	53,0	43,0	36,0		51918
7,2 mm	0.2835		M8 X 0,75	8,0	91,0	53,0	43,0	36,0		63939
7,3 mm	0.2874			8,0	91,0	53,0	43,0	36,0		63940
7,4 mm	0.2913			8,0	91,0	53,0	43,0	36,0		63941
7,5 mm	0.2953		M8 X 0,5	8,0	91,0	53,0	43,0	36,0		63942
19/64	0.2969	7.54		8,0	91,0	53,0	43,0	36,0		51919
7,6 mm	0.2992			8,0	91,0	53,0	43,0	36,0		63943
7,7 mm	0.3031			8,0	91,0	53,0	43,0	36,0		63944
7,8 mm	0.3071		M9 X 1,25	8,0	91,0	53,0	43,0	36,0		63945
7,9 mm	0.3110			8,0	91,0	53,0	43,0	36,0		63946
5/16	0.3125	7.94	3/8-16	8,0	91,0	53,0	43,0	36,0		51920
8,0 mm	0.3150		M9 X 1	8,0	91,0	53,0	43,0	36,0		63947
8,1 mm	0.3189			10,0	103,0	61,0	49,0	40,0		63948
8,2 mm	0.3228			10,0	103,0	61,0	49,0	40,0		63949
8,3 mm	0.3268			10,0	103,0	61,0	49,0	40,0		63950
21/64	0.3281	8.33	3/8-20	10,0	103,0	61,0	49,0	40,0		51921
8,4 mm	0.3307			10,0	103,0	61,0	49,0	40,0		63951
Q	0.3320	8.43	3/8-24	10,0	103,0	61,0	49,0	40,0		51922
8,5 mm	0.3346		M10 X 1,5	10,0	103,0	61,0	49,0	40,0		63952
8,6 mm	0.3386			10,0	103,0	61,0	49,0	40,0		63953

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5xD



140 5xD

英制 & 公制系列

- 中心冷却设计可促进控制并保持一致温度的冷却流到达切削区域, 同时保持强度
- 分裂钻尖几何结构提高钻头的穿透力和加工精度
- 控制刃边的珩磨以提高刀具寿命
- 加强和保护负角位置
- 推荐材料硬度≤60HRc (≤654Bhn)

inch & mm										EDP订货号
刃径 DC	英制值	公制值	丝锥尺寸 仅供参考	柄径 DCON	全长 OAL	槽长 LCF	刃长 LU	柄长 LS	Ti-NAMITE-A (AITiN)	
8,7 mm	0.3425			10,0	103,0	61,0	49,0	40,0	63954	
11/32	0.3438	8.73	3/8-32	10,0	103,0	61,0	49,0	40,0	51923	
8,8 mm	0.3465		M10 X 1,25	10,0	103,0	61,0	49,0	40,0	63955	
8,9 mm	0.3504			10,0	103,0	61,0	49,0	40,0	63956	
9,0 mm	0.3543		M10 X 1	10,0	103,0	61,0	49,0	40,0	63957	
9,1 mm	0.3583			10,0	103,0	61,0	49,0	40,0	63958	
23/64	0.3594	9.13		10,0	103,0	61,0	49,0	40,0	51924	
9,2 mm	0.3622		M10 X 0,75	10,0	103,0	61,0	49,0	40,0	63959	
9,3 mm	0.3661			10,0	103,0	61,0	49,0	40,0	63960	
U	0.3680	9.35	7/16-14	10,0	103,0	61,0	49,0	40,0	51925	
9,4 mm	0.3701			10,0	103,0	61,0	49,0	40,0	63961	
9,5 mm	0.3740		M11 / M10 X 0,5	10,0	103,0	61,0	49,0	40,0	63962	
3/8	0.3750	9.53		10,0	103,0	61,0	49,0	40,0	51926	
9,6 mm	0.3780			10,0	103,0	61,0	49,0	40,0	63963	
9,7 mm	0.3819			10,0	103,0	61,0	49,0	40,0	63964	
9,8 mm	0.3858			10,0	103,0	61,0	49,0	40,0	63965	
9,9 mm	0.3898			10,0	103,0	61,0	49,0	40,0	63966	
25/64	0.3906	9.92	7/16-20	10,0	103,0	61,0	49,0	40,0	51927	
10,0 mm	0.3937			10,0	103,0	61,0	49,0	40,0	63967	
10,1 mm	0.3976			12,0	118,0	71,0	56,0	45,0	63968	
10,2 mm	0.4016		M12 X 1,75	12,0	118,0	71,0	56,0	45,0	63969	
10,3 mm	0.4055			12,0	118,0	71,0	56,0	45,0	63970	
13/32	0.4062	10.32		12,0	118,0	71,0	56,0	45,0	51928	
10,4 mm	0.4094			12,0	118,0	71,0	56,0	45,0	63971	
10,5 mm	0.4134		M12 X 1,5	12,0	118,0	71,0	56,0	45,0	63972	
10,6 mm	0.4173			12,0	118,0	71,0	56,0	45,0	63973	
10,7 mm	0.4213			12,0	118,0	71,0	56,0	45,0	63974	
27/64	0.4219	10.72	1/2-13	12,0	118,0	71,0	56,0	45,0	51929	
10,8 mm	0.4252		M12 X 1,25	12,0	118,0	71,0	56,0	45,0	63975	
10,9 mm	0.4291			12,0	118,0	71,0	56,0	45,0	63976	
11,0 mm	0.4331		M12 X 1	12,0	118,0	71,0	56,0	45,0	63977	
11,1 mm	0.4370			12,0	118,0	71,0	56,0	45,0	63978	
7/16	0.4375	11.11	1/4-18NPT	12,0	118,0	71,0	56,0	45,0	51930	
11,2 mm	0.4409			12,0	118,0	71,0	56,0	45,0	63979	
11,3 mm	0.4449			12,0	118,0	71,0	56,0	45,0	63980	
11,4 mm	0.4488			12,0	118,0	71,0	56,0	45,0	63981	

公差 (inch)

- ≤.1181 直径
DC = +.00008/+0.00047
DCON = h₆
- >.1181-.2362 直径
DC = +.00016/+0.00063
DCON = h₆
- >.2362-.3937 直径
DC = +.00024/+0.00083
DCON = h₆
- >.3937-.7087 直径
DC = +.00028/+0.00098
DCON = h₆
- >.7087-1.1811 直径
DC = +.00031/+0.00114
DCON = h₆

公差 (mm)

- ≤3 直径
DC = +0,002/+0,012
DCON = h₆
- >3-6 直径
DC = +0,004/+0,016
DCON = h₆
- >6-10 直径
DC = +0,006/+0,021
DCON = h₆
- >10-18 直径
DC = +0,007/+0,025
DCON = h₆

- 钢
- 不锈钢
- 铸铁
- 高温合金
- 钛
- 有色金属
- 淬硬钢

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140 5xD

英制 & 公制系列

刃径 DC	英制值	公制值	inch & mm						EDP订货号
			丝锥尺寸 仅供参考	柄径 D _{CON}	全长 OAL	槽长 LCF	刃长 LU	柄长 LS	Ti-NAMITE-A (AlTiN)
11,5 mm	0.4528		M12 X 0,5	12,0	118,0	71,0	56,0	45,0	64000
11,6 mm	0.4567			12,0	118,0	71,0	56,0	45,0	63982
11,7 mm	0.4606			12,0	118,0	71,0	56,0	45,0	63983
11,8 mm	0.4646			12,0	118,0	71,0	56,0	45,0	63984
11,9 mm	0.4685			12,0	118,0	71,0	56,0	45,0	63985
15/32	0.4688	11.91	1/2-28	12,0	118,0	71,0	56,0	45,0	51932
12,0 mm	0.4724		M14 X 2	12,0	118,0	71,0	56,0	45,0	63986
31/64	0.4844	12.30	9/16-12	14,0	124,0	77,0	60,0	45,0	51933
12,5 mm	0.4921		M14 X 1,5	14,0	124,0	77,0	60,0	45,0	63987
1/2	0.5000	12.70		14,0	124,0	77,0	60,0	45,0	51934
12,8 mm	0.5039		M14 X 1,25	14,0	124,0	77,0	60,0	45,0	63988
13,0 mm	0.5118		M14 X 1	14,0	124,0	77,0	60,0	45,0	63989
33/64	0.5156	13.10	9/16-18	14,0	124,0	77,0	60,0	45,0	51935
13,5 mm	0.5315		5/8-11	14,0	124,0	77,0	60,0	45,0	64001
13,8 mm	0.5433			14,0	124,0	77,0	60,0	45,0	63990
14,0 mm	0.5512		M16 X 2	14,0	124,0	77,0	60,0	45,0	63991
9/16	0.5625	14.29		16,0	133,0	83,0	63,0	48,0	51937
14,5 mm	0.5709		M16 X 1,5	16,0	133,0	83,0	63,0	48,0	63992
37/64	0.5781	14.68	5/8-18	16,0	133,0	83,0	63,0	48,0	51938
14,8 mm	0.5827			16,0	133,0	83,0	63,0	48,0	63993
15,0 mm	0.5906		M16 X 1	16,0	133,0	83,0	63,0	48,0	63994
15,5 mm	0.6102		M18 X 2,5	16,0	133,0	83,0	63,0	48,0	63995
15,8 mm	0.6220			16,0	133,0	83,0	63,0	48,0	63996
5/8	0.6250	15.88	11/16-16	16,0	133,0	83,0	63,0	48,0	51939
16,0 mm	0.6299			16,0	133,0	83,0	63,0	48,0	63997
21/32	0.6562	16.67	3/4-10	18,0	143,0	93,0	71,0	48,0	51940
11/16	0.6875	17.46	3/4-16	18,0	143,0	93,0	71,0	48,0	51941
3/4	0.7500	19.05	13/16-16	20,0	153,0	101,0	77,0	50,0	51942

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140 5D 系列 英制	硬度	Vc (sfm)	DC • in								
			1/8	3/16	1/4	3/8	1/2	5/8	3/4		
P 碳素钢 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 175 Bhn 或 ≤ 7 HRc	425	RPM	12988	8659	6494	4329	3247	2598	2165	
		(340-510)	Fr	0.0039	0.0059	0.0079	0.0118	0.0157	0.0196	0.0236	
			进给 (ipm)	51.0	51.0	51.0	51.0	51.0	51.0	51.0	
	≤ 275 Bhn 或 ≤ 28 HRc	380	RPM	11613	7742	5806	3871	2903	2323	1935	
		(304-456)	Fr	0.0035	0.0053	0.0071	0.0106	0.0141	0.0177	0.0212	
			进给 (ipm)	41.0	41.0	41.0	41.0	41.0	41.0	41.0	
	≤ 425 Bhn 或 ≤ 45 HRc	220	RPM	6723	4482	3362	2241	1681	1345	1121	
		(176-264)	Fr	0.0030	0.0045	0.0059	0.0089	0.0119	0.0149	0.0178	
			进给 (ipm)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	
	M 合金钢 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 50100	≤ 275 Bhn 或 ≤ 28 HRc	330	RPM	10085	6723	5042	3362	2521	2017	1681
			(264-396)	Fr	0.0030	0.0045	0.0059	0.0089	0.0119	0.0149	0.0178
				进给 (ipm)	30.0	30.0	30.0	30.0	30.0	30.0	30.0
≤ 375 Bhn 或 ≤ 40 HRc		200	RPM	6112	4075	3056	2037	1528	1222	1019	
		(160-240)	Fr	0.0025	0.0038	0.0051	0.0076	0.0101	0.0127	0.0152	
			进给 (ipm)	15.5	15.5	15.5	15.5	15.5	15.5	15.5	
≤ 450 Bhn 或 ≤ 48 HRc		140	RPM	4278	2852	2139	1426	1070	856	713	
		(112-168)	Fr	0.0018	0.0027	0.0036	0.0054	0.0072	0.0090	0.0108	
			进给 (ipm)	7.7	7.7	7.7	7.7	7.7	7.7	7.7	
K 不锈钢 (易加工) 303, 416, 420F, 430F, 440F		≤ 185 Bhn 或 ≤ 9 HRc	305	RPM	9321	6214	4660	3107	2330	1864	1553
			(244-366)	Fr	0.0026	0.0039	0.0051	0.0077	0.0103	0.0129	0.0154
				进给 (ipm)	24.0	24.0	24.0	24.0	24.0	24.0	24.0
	≤ 275 Bhn 或 ≤ 28 HRc	195	RPM	5959	3973	2980	1986	1490	1192	993	
		(156-234)	Fr	0.0020	0.0030	0.0040	0.0060	0.0081	0.0101	0.0121	
			进给 (ipm)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
	K 不锈钢 (难加工) 304, 316, 321, 13-8 PH, 15-5PH, 17-4 PH, Custom 450	≤ 275 Bhn 或 ≤ 28 HRc	150	RPM	4584	3056	2292	1528	1146	917	764
			(120-180)	Fr	0.0020	0.0030	0.0040	0.0060	0.0079	0.0099	0.0119
				进给 (ipm)	9.1	9.1	9.1	9.1	9.1	9.1	9.1
		≤ 375 Bhn 或 ≤ 40 HRc	110	RPM	3362	2241	1681	1121	840	672	560
			(88-132)	Fr	0.0018	0.0027	0.0036	0.0054	0.0071	0.0089	0.0107
				进给 (ipm)	6.0	6.0	6.0	6.0	6.0	6.0	6.0
K 铸铁 灰铸铁, 可锻铸铁, 球墨铸铁		≤ 220 Bhn 或 ≤ 19 HRc	360	RPM	11002	7334	5501	3667	2750	2200	1834
			(288-432)	Fr	0.0045	0.0068	0.0091	0.0136	0.0182	0.0227	0.0273
				进给 (ipm)	50.0	50.0	50.0	50.0	50.0	50.0	50.0
		≤ 260 Bhn 或 ≤ 26 HRc	335	RPM	10238	6825	5119	3413	2559	2048	1706
			(268-402)	Fr	0.0045	0.0068	0.0091	0.0136	0.0182	0.0227	0.0273
				进给 (ipm)	46.5	46.5	46.5	46.5	46.5	46.5	46.5

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140 5D 系列 英制	硬度	Vc (sfm)	DC • in								
			1/8	3/16	1/4	3/8	1/2	5/8	3/4		
N 铝合金 2017, 2024, 356, 6061, 7075	≤ 80 Bhn 或 ≤ 47 HRb	770	RPM	23531	15687	11766	7844	5883	4706	3922	
		(616-924)	Fr	0.0049	0.0073	0.0098	0.0147	0.0195	0.0244	0.0293	
			进给 (ipm)	115.0	115.0	115.0	115.0	115.0	115.0	115.0	
	≤ 150 Bhn 或 ≤ 7 HRc	660	RPM	20170	13446	10085	6723	5042	4034	3362	
		(528-792)	Fr	0.0050	0.0074	0.0099	0.0149	0.0198	0.0248	0.0297	
			进给 (ipm)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
	铜合金 铝青铜, C110, 蒙知黄铜	≤ 140 Bhn 或 ≤ 3 HRc	550	RPM	16808	11205	8404	5603	4202	3362	2801
			(440-660)	Fr	0.0020	0.0030	0.0040	0.0060	0.0080	0.0100	0.0120
				进给 (ipm)	33.5	33.5	33.5	33.5	33.5	33.5	33.5
		≤ 200 Bhn 或 ≤ 23 HRc	440	RPM	13446	8964	6723	4482	3362	2689	2241
			(352-528)	Fr	0.0020	0.0030	0.0040	0.0060	0.0080	0.0100	0.0120
				进给 (ipm)	27.0	27.0	27.0	27.0	27.0	27.0	27.0
S 高温合金 (镍、钴、铁基) Inconel 601, 617, 625, Incoloy, 蒙乃尔 400, Rene, Waspaloy	≤ 300 Bhn 或 ≤ 32 HRc	95	RPM	2903	1935	1452	968	726	581	484	
		(76-114)	Fr	0.0008	0.0012	0.0016	0.0024	0.0032	0.0040	0.0048	
			进给 (ipm)	2.3	2.3	2.3	2.3	2.3	2.3	2.3	
	≤ 400 Bhn 或 ≤ 43 HRc	50	RPM	1528	1019	764	509	382	306	255	
		(40-60)	Fr	0.0007	0.0010	0.0013	0.0020	0.0026	0.0033	0.0039	
			进给 (ipm)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
	钛合金 纯钛, Ti6Al4V, Ti6Al2Sn4Zr2Mo, Ti4Al4Mo2Sn0.5Si, Ti-6Al4V	≤ 275 Bhn 或 ≤ 28 HRc	215	RPM	6570	4380	3285	2190	1643	1314	1095
			(172-258)	Fr	0.0018	0.0026	0.0035	0.0053	0.0070	0.0088	0.0105
				进给 (ipm)	11.5	11.5	11.5	11.5	11.5	11.5	11.5
		≤ 350 Bhn 或 ≤ 38 HRc	160	RPM	4890	3260	2445	1630	1222	978	815
			(128-192)	Fr	0.0016	0.0024	0.0032	0.0048	0.0064	0.0080	0.0096
				进给 (ipm)	7.8	7.8	7.8	7.8	7.8	7.8	7.8
≤ 440 Bhn 或 ≤ 47 HRc	85	RPM	2598	1732	1299	866	649	520	433		
	(68-102)	Fr	0.0012	0.0018	0.0024	0.0036	0.0048	0.0060	0.0072		
		进给 (ipm)	3.1	3.1	3.1	3.1	3.1	3.1	3.1		
H 工具钢 A2, D2, H13, L2, M2, P20, S7, T15, W2	≤ 200 Bhn 或 ≤ 13 HRc	145	RPM	4431	2954	2216	1477	1108	886	739	
		(116-174)	Fr	0.0026	0.0039	0.0052	0.0078	0.0104	0.0130	0.0156	
			进给 (ipm)	11.5	11.5	11.5	11.5	11.5	11.5	11.5	
	≤ 375 Bhn 或 ≤ 40 HRc	95	RPM	2903	1935	1452	968	726	581	484	
		(76-114)	Fr	0.0012	0.0018	0.0024	0.0036	0.0048	0.0060	0.0072	
			进给 (ipm)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
	≤ 475 Bhn 或 ≤ 50 HRc	85	RPM	2598	1732	1299	866	649	520	433	
		(68-102)	Fr	0.0008	0.0012	0.0015	0.0023	0.0031	0.0038	0.0046	
			进给 (ipm)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	

Bhn (布氏硬度) HRc (洛氏硬度) HRb (洛氏硬度)

$rpm = Vc \times 3.82 / DC$

$ipm = Fr \times rpm$

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140M 5D 系列 公制	硬度	Vc (m/min)	DC • mm								
			3	6	8	10	12	14	16		
P 碳素钢 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 175 Bhn 或 ≤ 7 HRc	130	RPM	13733	6867	5150	4120	3433	2943	2575	
		(104-155)	Fr	0.095	0.189	0.252	0.316	0.379	0.442	0.505	
			进给(mm/min)	1300	1300	1300	1300	1300	1300	1300	
	≤ 275 Bhn 或 ≤ 28 HRc	116	RPM	12279	6140	4605	3684	3070	2631	2302	
		(93-139)	Fr	0.086	0.171	0.228	0.285	0.342	0.399	0.456	
			进给(mm/min)	1050	1050	1050	1050	1050	1050	1050	
	≤ 425 Bhn 或 ≤ 45 HRc	67	RPM	7109	3555	2666	2133	1777	1523	1333	
		(54-80)	Fr	0.071	0.142	0.189	0.237	0.284	0.332	0.379	
			进给(mm/min)	505	505	505	505	505	505	505	
	M 合金钢 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 50100	≤ 275 Bhn 或 ≤ 28 HRc	101	RPM	10664	5332	3999	3199	2666	2285	1999
			(80-121)	Fr	0.071	0.143	0.190	0.238	0.285	0.333	0.380
				进给(mm/min)	760	760	760	760	760	760	760
≤ 375 Bhn 或 ≤ 40 HRc		61	RPM	6463	3231	2424	1939	1616	1385	1212	
		(49-73)	Fr	0.062	0.124	0.165	0.206	0.248	0.289	0.330	
			进给(mm/min)	400	400	400	400	400	400	400	
≤ 450 Bhn 或 ≤ 48 HRc		43	RPM	4524	2262	1696	1357	1131	969	848	
		(34-51)	Fr	0.043	0.086	0.115	0.144	0.172	0.201	0.230	
			进给(mm/min)	195	195	195	195	195	195	195	
K 不锈钢 (易加工) 303, 416, 420F, 430F, 440F		≤ 185 Bhn 或 ≤ 9 HRc	93	RPM	9856	4928	3696	2957	2464	2112	1848
			(74-112)	Fr	0.061	0.123	0.164	0.205	0.246	0.286	0.327
				进给(mm/min)	605	605	605	605	605	605	605
	≤ 275 Bhn 或 ≤ 28 HRc	59	RPM	6301	3151	2363	1890	1575	1350	1181	
		(48-71)	Fr	0.048	0.095	0.127	0.159	0.190	0.222	0.254	
			进给(mm/min)	300	300	300	300	300	300	300	
	K 不锈钢 (难加工) 304, 316, 321, 13-8 PH, 15-5PH, 17-4 PH, Custom 450	≤ 275 Bhn 或 ≤ 28 HRc	46	RPM	4847	2424	1818	1454	1212	1039	909
			(37-55)	Fr	0.047	0.095	0.127	0.158	0.190	0.221	0.253
				进给(mm/min)	230	230	230	230	230	230	230
		≤ 375 Bhn 或 ≤ 40 HRc	34	RPM	3555	1777	1333	1066	889	762	666
			(27-40)	Fr	0.042	0.084	0.113	0.141	0.169	0.197	0.225
				进给(mm/min)	150	150	150	150	150	150	150
K 铸铁 灰铸铁, 可锻铸铁, 球墨铸铁		≤ 220 Bhn 或 ≤ 19 HRc	110	RPM	11633	5816	4362	3490	2908	2493	2181
			(88-132)	Fr	0.109	0.218	0.291	0.364	0.437	0.509	0.582
				进给(mm/min)	1270	1270	1270	1270	1270	1270	1270
		≤ 260 Bhn 或 ≤ 26 HRc	102	RPM	10825	5413	4059	3248	2706	2320	2030
			(82-123)	Fr	0.109	0.218	0.291	0.363	0.436	0.509	0.581
				进给(mm/min)	1180	1180	1180	1180	1180	1180	1180

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140M 5D 系列 公制		硬度	Vc (m/min)	DC • mm								
				3	6	8	10	12	14	16		
N	铝合金 2017, 2024, 356, 6061, 7075	≤ 80 Bhn 或 ≤ 47 HRb	235	RPM	24882	12441	9331	7465	6220	5332	4665	
			(188-282)	Fr	0.118	0.237	0.316	0.395	0.473	0.552	0.631	
				进给(mm/min)	2945	2945	2945	2945	2945	2945	2945	2945
		≤ 150 Bhn 或 ≤ 7 HRc	201	RPM	21327	10664	7998	6398	5332	4570	3999	
			(161-241)	Fr	0.119	0.238	0.318	0.397	0.476	0.556	0.635	
				进给(mm/min)	2540	2540	2540	2540	2540	2540	2540	2540
	铜合金 铝青铜, C110, 蒙知黄铜	≤ 140 Bhn 或 ≤ 3 HRc	168	RPM	17773	8886	6665	5332	4443	3808	3332	
			(134-201)	Fr	0.048	0.096	0.128	0.159	0.191	0.223	0.255	
				进给(mm/min)	850	850	850	850	850	850	850	
		≤ 200 Bhn 或 ≤ 23 HRc	134	RPM	14218	7109	5332	4265	3555	3047	2666	
			(107-161)	Fr	0.048	0.096	0.128	0.161	0.193	0.225	0.257	
				进给(mm/min)	685	685	685	685	685	685	685	685
S	高温合金 (镍、钴、铁基) Inconel 601, 617, 625, Incoloy, 蒙乃尔 400, Rene, Waspaloy	≤ 300 Bhn 或 ≤ 32 HRc	29	RPM	3070	1535	1151	921	767	658	576	
			(23-35)	Fr	0.020	0.039	0.052	0.065	0.078	0.091	0.104	
				进给(mm/min)	60	60	60	60	60	60	60	
		≤ 400 Bhn 或 ≤ 43 HRc	15	RPM	1616	808	606	485	404	346	303	
			(12-18)	Fr	0.015	0.031	0.041	0.052	0.062	0.072	0.083	
				进给(mm/min)	25	25	25	25	25	25	25	
	钛合金 纯钛, Ti6Al4V, Ti6Al2Sn4Zr2Mo, Ti4Al4Mo2Sn0.5Si, Ti-6Al4V	≤ 275 Bhn 或 ≤ 28 HRc	66	RPM	6947	3474	2605	2084	1737	1489	1303	
			(52-79)	Fr	0.040	0.079	0.106	0.132	0.158	0.185	0.211	
				进给(mm/min)	275	275	275	275	275	275	275	
		≤ 350 Bhn 或 ≤ 38 HRc	49	RPM	5170	2585	1939	1551	1293	1108	969	
			(39-59)	Fr	0.039	0.077	0.103	0.129	0.155	0.181	0.206	
				进给(mm/min)	200	200	200	200	200	200	200	
≤ 440 Bhn 或 ≤ 47 HRc	26	RPM	2747	1373	1030	824	687	589	515			
	(21-31)	Fr	0.029	0.058	0.078	0.097	0.117	0.136	0.155			
		进给(mm/min)	80	80	80	80	80	80	80			
H	工具钢 A2, D2, H13, L2, M2, P20, S7, T15, W2	≤ 200 Bhn 或 ≤ 13 HRc	44	RPM	4686	2343	1757	1406	1171	1004	879	
			(35-53)	Fr	0.061	0.122	0.162	0.203	0.243	0.284	0.324	
				进给(mm/min)	285	285	285	285	285	285	285	
		≤ 375 Bhn 或 ≤ 40 HRc	29	RPM	3070	1535	1151	921	767	658	576	
			(23-35)	Fr	0.029	0.059	0.078	0.098	0.117	0.137	0.156	
				进给(mm/min)	90	90	90	90	90	90	90	
	≤ 475 Bhn 或 ≤ 50 HRc	26	RPM	2747	1373	1030	824	687	589	515		
		(21-31)	Fr	0.018	0.036	0.049	0.061	0.073	0.085	0.097		
			进给(mm/min)	50	50	50	50	50	50	50		

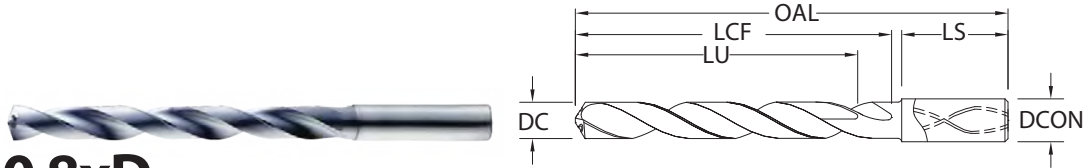
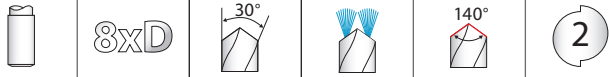
Bhn (布氏硬度) HRc (洛氏硬度) HRb (洛氏硬度)

$rpm = (Vc \times 1000) / (DC \times 3.14)$

$mm/min = Fr \times rpm$

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140 8xD

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- 中心冷却设计可促进控制并保持一致温度的冷却流到达切削区域, 同时保持强度
- 分裂钻尖几何结构提高钻头的穿透力和加工精度
- 控制刃边的珩磨以提高刀具寿命
- 加强和保护负角位置
- 推荐材料硬度 ≤ 60HRC (≤ 654Bhn)

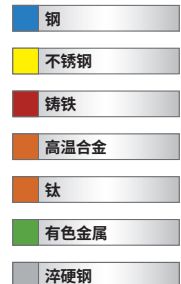
inch & mm										EDP订货号
刃径 DC	英制值	公制值	丝锥尺寸 仅供参考	柄径 DCON	全长 OAL	槽长 LCF	刃长 LU	柄长 LS		Ti-NAMITE-A (AITiN)
3,0 mm	0.1181			6,0	72,0	34,0	29,0	36,0		63575
3,1 mm	0.1220			6,0	72,0	34,0	29,0	36,0		63576
1/8	0.1250	3.18		6,0	72,0	34,0	29,0	36,0		51801
3,2 mm	0.1260		M3,5 X 0,35	6,0	72,0	34,0	29,0	36,0		63577
3,3 mm	0.1299		M4 X 0,7	6,0	72,0	34,0	29,0	36,0		63578
3,4 mm	0.1339			6,0	72,0	34,0	29,0	36,0		63579
#29	0.1360	3.45	8-32,8-36	6,0	72,0	34,0	29,0	36,0		51802
3,5 mm	0.1378		M4 X 0,5	6,0	72,0	34,0	29,0	36,0		63580
9/64	0.1406	3.57		6,0	72,0	34,0	29,0	36,0		51803
3,6 mm	0.1417		M4 X 0,35	6,0	72,0	34,0	29,0	36,0		63581
3,7 mm	0.1457		M4,5 X 0,75	6,0	72,0	34,0	29,0	36,0		63582
3,8 mm	0.1496		10-24	6,0	81,0	43,0	36,0	36,0		63583
3,9 mm	0.1535			6,0	81,0	43,0	36,0	36,0		63584
5/32	0.1562	3.97		6,0	81,0	43,0	36,0	36,0		51804
4,0 mm	0.1575		M4,5 X 0,5	6,0	81,0	43,0	36,0	36,0		63585
#21	0.1590	4.04	10-32	6,0	81,0	43,0	36,0	36,0		51805
4,1 mm	0.1614			6,0	81,0	43,0	36,0	36,0		63586
4,2 mm	0.1654		M5 / M5 X 0,75	6,0	81,0	43,0	36,0	36,0		63587
4,3 mm	0.1693			6,0	81,0	43,0	36,0	36,0		63588
11/64	0.1719	4.37		6,0	81,0	43,0	36,0	36,0		51806
4,4 mm	0.1732		12-24	6,0	81,0	43,0	36,0	36,0		63589
4,5 mm	0.1772		M5 X 0,5	6,0	81,0	43,0	36,0	36,0		63590
4,6 mm	0.1811		12-28	6,0	81,0	43,0	36,0	36,0		63591
4,7 mm	0.1850		12-32	6,0	81,0	43,0	36,0	36,0		63592
3/16	0.1875	4.76		6,0	95,0	57,0	48,0	36,0		51807
4,8 mm	0.1890		7/32-32	6,0	95,0	57,0	48,0	36,0		63593
4,9 mm	0.1929			6,0	95,0	57,0	48,0	36,0		63594
5,0 mm	0.1969		M6 X 1	6,0	95,0	57,0	48,0	36,0		63595
5,1 mm	0.2008		1/4-20	6,0	95,0	57,0	48,0	36,0		63596
13/64	0.2031	5.16		6,0	95,0	57,0	48,0	36,0		51808
5,2 mm	0.2047		M6 X 0,75	6,0	95,0	57,0	48,0	36,0		63597
5,3 mm	0.2087			6,0	95,0	57,0	48,0	36,0		63598
5,4 mm	0.2126			6,0	95,0	57,0	48,0	36,0		63599
5,5 mm	0.2165		M6 X 0,5	6,0	95,0	57,0	48,0	36,0		63600
7/32	0.2188	5.56	1/4-32	6,0	95,0	57,0	48,0	36,0		51809
5,6 mm	0.2205			6,0	95,0	57,0	48,0	36,0		63601

公差 (inch)

- ≤.1181 直径
DC = +.00008/+0.00047
DCON = h₆
- >.1181-.2362 直径
DC = +.00016/+0.00063
DCON = h₆
- >.2362-.3937 直径
DC = +.00024/+0.00083
DCON = h₆
- >.3937-.7087 直径
DC = +.00028/+0.00098
DCON = h₆
- >.7087-1.1811 直径
DC = +.00031/+0.00114
DCON = h₆

公差 (mm)

- ≤3 直径
DC = +0,002/+0,012
DCON = h₆
- >3-6 直径
DC = +0,004/+0,016
DCON = h₆
- >6-10 直径
DC = +0,006/+0,021
DCON = h₆
- >10-18 直径
DC = +0,007/+0,025
DCON = h₆



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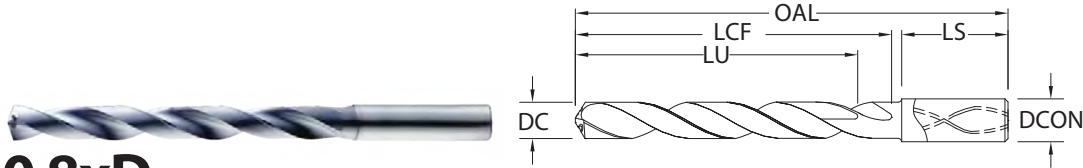
140 8xD

英制 & 公制系列

刃径 DC	inch & mm								EDP订货号
	英制值	公制值	丝锥尺寸 仅供参考	柄径 DCON	全长 OAL	槽长 LCF	刃长 LU	柄长 LS	Ti-NAMITE-A (AlTiN)
5,7 mm	0.2244			6,0	95,0	57,0	48,0	36,0	63602
5,8 mm	0.2283			6,0	95,0	57,0	48,0	36,0	63603
5,9 mm	0.2323			6,0	95,0	57,0	48,0	36,0	63604
15/64	0.2344	5.95		6,0	95,0	57,0	48,0	36,0	51810
6,0 mm	0.2362		M7 X 1	6,0	95,0	57,0	48,0	36,0	63605
6,1 mm	0.2402			8,0	114,0	76,0	64,0	36,0	63606
6,2 mm	0.2441		M7 X 0,75	8,0	114,0	76,0	64,0	36,0	63607
6,3 mm	0.2480			8,0	114,0	76,0	64,0	36,0	63608
1/4	0.2500	6.35		8,0	114,0	76,0	64,0	36,0	51811
6,4 mm	0.2520			8,0	114,0	76,0	64,0	36,0	63609
6,5 mm	0.2559			8,0	114,0	76,0	64,0	36,0	63610
F	0.2570	6.53	5/16-18	8,0	114,0	76,0	64,0	36,0	51812
6,6 mm	0.2598			8,0	114,0	76,0	64,0	36,0	63611
6,7 mm	0.2638			8,0	114,0	76,0	64,0	36,0	63612
17/64	0.2656	6.75	5/16-20	8,0	114,0	76,0	64,0	36,0	51813
6,8 mm	0.2677		M8 X 1,25	8,0	114,0	76,0	64,0	36,0	63613
6,9 mm	0.2717			8,0	114,0	76,0	64,0	36,0	63614
7,0 mm	0.2756		M8 X 1	8,0	114,0	76,0	64,0	36,0	63615
7,1 mm	0.2795			8,0	114,0	76,0	64,0	36,0	63616
9/32	0.2812	7.14	5/16-32	8,0	114,0	76,0	64,0	36,0	51814
7,2 mm	0.2835		M8 X 0,75	8,0	114,0	76,0	64,0	36,0	63617
7,3 mm	0.2874			8,0	114,0	76,0	64,0	36,0	63618
7,4 mm	0.2913			8,0	114,0	76,0	64,0	36,0	63619
7,5 mm	0.2953		M8 X 0,5	8,0	114,0	76,0	64,0	36,0	63620
19/64	0.2969	7.54		8,0	114,0	76,0	64,0	36,0	51815
7,6 mm	0.2992			8,0	114,0	76,0	64,0	36,0	63621
7,7 mm	0.3031			8,0	114,0	76,0	64,0	36,0	63622
7,8 mm	0.3071		M9 X 1,25	8,0	114,0	76,0	64,0	36,0	63623
7,9 mm	0.3110			8,0	114,0	76,0	64,0	36,0	63624
5/16	0.3125	7.94	3/8-16	8,0	114,0	76,0	64,0	36,0	51816
8,0 mm	0.3150		M9 X 1	8,0	114,0	76,0	64,0	36,0	63625
8,1 mm	0.3189			10,0	142,0	95,0	80,0	40,0	63626
8,2 mm	0.3228			10,0	142,0	95,0	80,0	40,0	63627
8,3 mm	0.3268			10,0	142,0	95,0	80,0	40,0	63628
21/64	0.3281	8.33	3/8-20	10,0	142,0	95,0	80,0	40,0	51817
8,4 mm	0.3307			10,0	142,0	95,0	80,0	40,0	63629
Q	0.3320	8.43	3/8-24	10,0	142,0	95,0	80,0	40,0	51818
8,5 mm	0.3346		M10 X 1,5	10,0	142,0	95,0	80,0	40,0	63630
8,6 mm	0.3386			10,0	142,0	95,0	80,0	40,0	63631
8,7 mm	0.3425			10,0	142,0	95,0	80,0	40,0	63632
11/32	0.3438	8.73	3/8-32	10,0	142,0	95,0	80,0	40,0	51819
8,8 mm	0.3465		M10 X 1,25	10,0	142,0	95,0	80,0	40,0	63633
8,9 mm	0.3504			10,0	142,0	95,0	80,0	40,0	63634

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140 8xD

英制 & 公制系列

- 中心冷却设计可促进控制并保持一致温度的冷却流到达切削区域, 同时保持强度
- 分裂钻尖几何结构提高钻头的穿透力和加工精度
- 控制刃边的珩磨以提高刀具寿命
- 加强和保护负角位置
- 推荐材料硬度 ≤ 60HRC (≤ 654Bhn)

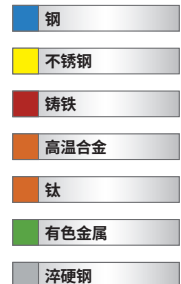
		inch & mm							EDP订货号
刃径 DC	英制值	公制值	丝锥尺寸 仅供参考	柄径 DCON	全长 OAL	槽长 LCF	刃长 LU	柄长 LS	Ti-NAMITE-A (AlTiN)
9,0 mm	0.3543		M10 X 1	10,0	142,0	95,0	80,0	40,0	63635
9,1 mm	0.3583			10,0	142,0	95,0	80,0	40,0	63636
23/64	0.3594	9.13		10,0	142,0	95,0	80,0	40,0	51820
9,2 mm	0.3622		M10 X 0,75	10,0	142,0	95,0	80,0	40,0	63637
9,3 mm	0.3661			10,0	142,0	95,0	80,0	40,0	63638
U	0.3680	9.35	7/16-14	10,0	142,0	95,0	80,0	40,0	51821
9,4 mm	0.3701			10,0	142,0	95,0	80,0	40,0	63639
9,5 mm	0.3740		M11 / M10 X 0,5	10,0	142,0	95,0	80,0	40,0	63640
3/8	0.3750	9.53		10,0	142,0	95,0	80,0	40,0	51822
9,6 mm	0.3780			10,0	142,0	95,0	80,0	40,0	63641
9,7 mm	0.3819			10,0	142,0	95,0	80,0	40,0	63642
9,8 mm	0.3858			10,0	142,0	95,0	80,0	40,0	63643
9,9 mm	0.3898			10,0	142,0	95,0	80,0	40,0	63644
25/64	0.3906	9.92	7/16-20	10,0	142,0	95,0	80,0	40,0	51823
10,0 mm	0.3937			10,0	142,0	95,0	80,0	40,0	63645
10,1 mm	0.3976			12,0	162,0	114,0	96,0	45,0	63646
10,2 mm	0.4016		M12 X 1,75	12,0	162,0	114,0	96,0	45,0	63647
10,3 mm	0.4055			12,0	162,0	114,0	96,0	45,0	63648
13/32	0.4062	10.32		12,0	162,0	114,0	96,0	45,0	51824
10,4 mm	0.4094			12,0	162,0	114,0	96,0	45,0	63649
10,5 mm	0.4134		M12 X 1,5	12,0	162,0	114,0	96,0	45,0	63650
10,6 mm	0.4173			12,0	162,0	114,0	96,0	45,0	63651
10,7 mm	0.4213			12,0	162,0	114,0	96,0	45,0	63652
27/64	0.4219	10.72	1/2-13	12,0	162,0	114,0	96,0	45,0	51825
10,8 mm	0.4252		M12 X 1,25	12,0	162,0	114,0	96,0	45,0	63653
10,9 mm	0.4291			12,0	162,0	114,0	96,0	45,0	63654
11,0 mm	0.4331		M12 X 1	12,0	162,0	114,0	96,0	45,0	63655
11,1 mm	0.4370			12,0	162,0	114,0	96,0	45,0	63656
7/16	0.4375	11.11	1/4-18NPT	12,0	162,0	114,0	96,0	45,0	51826
11,2 mm	0.4409			12,0	162,0	114,0	96,0	45,0	63657
11,3 mm	0.4449			12,0	162,0	114,0	96,0	45,0	63658
11,4 mm	0.4488			12,0	162,0	114,0	96,0	45,0	63659
11,5 mm	0.4528		M12 X 0,5	12,0	162,0	114,0	96,0	45,0	63660
11,6 mm	0.4567			12,0	162,0	114,0	96,0	45,0	63661
11,7 mm	0.4606			12,0	162,0	114,0	96,0	45,0	63662
11,8 mm	0.4646			12,0	162,0	114,0	96,0	45,0	63663

公差 (inch)

- ≤.1181 直径
DC = +.00008/+0.00047
DCON = h₆
- >.1181-.2362 直径
DC = +.00016/+0.00063
DCON = h₆
- >.2362-.3937 直径
DC = +.00024/+0.00083
DCON = h₆
- >.3937-.7087 直径
DC = +.00028/+0.00098
DCON = h₆
- >.7087-1.1811 直径
DC = +.00031/+0.0114
DCON = h₆

公差 (mm)

- ≤3 直径
DC = +0,002/+0,012
DCON = h₆
- >3-6 直径
DC = +0,004/+0,016
DCON = h₆
- >6-10 直径
DC = +0,006/+0,021
DCON = h₆
- >10-18 直径
DC = +0,007/+0,025
DCON = h₆



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140 8xD

英制 & 公制系列

刃径 DC	英制值	公制值	inch & mm						EDP订货号	
			丝锥尺寸 仅供参考	柄径 DCON	全长 OAL	槽长 LCF	刃长 LU	柄长 LS	Ti-NAMITE-A (AlTiN)	
11,9 mm	0.4685			12,0	162,0	114,0	96,0	45,0	63664	
15/32	0.4688	11.91	1/2-28	12,0	162,0	114,0	96,0	45,0	51827	
12,0 mm	0.4724		M14 X 2	12,0	162,0	114,0	96,0	45,0	63665	
31/64	0.4844	12.30	9/16-12	14,0	178,0	133,0	112,0	45,0	51828	
12,5 mm	0.4921		M14 X 1,5	14,0	178,0	133,0	112,0	45,0	63666	
1/2	0.5000	12.70		14,0	178,0	133,0	112,0	45,0	51829	
12,8 mm	0.5039		M14 X 1,25	14,0	178,0	133,0	112,0	45,0	63667	
13,0 mm	0.5118		M14 X 1	14,0	178,0	133,0	112,0	45,0	63668	
33/64	0.5156	13.10	9/16-18	14,0	178,0	133,0	112,0	45,0	51830	
13,5 mm	0.5315		5/8-11	14,0	178,0	133,0	112,0	45,0	63669	
13,8 mm	0.5433			14,0	178,0	133,0	112,0	45,0	63670	
14,0 mm	0.5512		M16 X 2	14,0	178,0	133,0	112,0	45,0	63671	
9/16	0.5625	14.29		16,0	203,0	152,0	128,0	48,0	51831	
14,5 mm	0.5709		M16 X 1,5	16,0	203,0	152,0	128,0	48,0	63672	
37/64	0.5781	14.68	5/8-18	16,0	203,0	152,0	128,0	48,0	51832	
14,8 mm	0.5827			16,0	203,0	152,0	128,0	48,0	63673	
15,0 mm	0.5906		M16 X 1	16,0	203,0	152,0	128,0	48,0	63674	
15,5 mm	0.6102		M18 X 2,5	16,0	203,0	152,0	128,0	48,0	63675	
15,8 mm	0.6220			16,0	203,0	152,0	128,0	48,0	63676	
5/8	0.6250	15.88	11/16-16	16,0	203,0	152,0	128,0	48,0	51833	
16,0 mm	0.6299			16,0	203,0	152,0	128,0	48,0	63677	
21/32	0.6562	16.67	3/4-10	18,0	222,0	171,0	144,0	48,0	51834	
11/16	0.6875	17.46	3/4-16	18,0	222,0	171,0	144,0	48,0	51835	
3/4	0.7500	19.05	13/16-16	20,0	243,0	190,0	160,0	50,0	51836	

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140 8D 系列 英制		硬度	Vc (sfm)	DC • in							
				1/8	3/16	1/4	3/8	1/2	5/8	3/4	
P	碳素钢 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 175 Bhn 或 ≤ 7 HRc	405	RPM	12377	8251	6188	4126	3094	2475	2063
			(324-486)	Fr	0.0036	0.0053	0.0071	0.0107	0.0142	0.0178	0.0213
			进给 (ipm)	44.0	44.0	44.0	44.0	44.0	44.0	44.0	
		≤ 275 Bhn 或 ≤ 28 HRc	370	RPM	11307	7538	5654	3769	2827	2261	1885
			(296-444)	Fr	0.0030	0.0045	0.0060	0.0090	0.0120	0.0150	0.0180
			进给 (ipm)	34.0	34.0	34.0	34.0	34.0	34.0	34.0	
		≤ 425 Bhn 或 ≤ 45 HRc	210	RPM	6418	4278	3209	2139	1604	1284	1070
			(168-252)	Fr	0.0026	0.0039	0.0051	0.0077	0.0103	0.0129	0.0154
			进给 (ipm)	16.5	16.5	16.5	16.5	16.5	16.5	16.5	
	合金钢 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 50100	≤ 275 Bhn 或 ≤ 28 HRc	320	RPM	9779	6519	4890	3260	2445	1956	1630
			(256-384)	Fr	0.0026	0.0038	0.0051	0.0077	0.0102	0.0128	0.0153
			进给 (ipm)	25.0	25.0	25.0	25.0	25.0	25.0	25.0	
≤ 375 Bhn 或 ≤ 40 HRc		190	RPM	5806	3871	2903	1935	1452	1161	968	
		(152-228)	Fr	0.0020	0.0030	0.0040	0.0059	0.0079	0.0099	0.0119	
		进给 (ipm)	11.5	11.5	11.5	11.5	11.5	11.5	11.5		
≤ 450 Bhn 或 ≤ 48 HRc		135	RPM	4126	2750	2063	1375	1031	825	688	
		(108-162)	Fr	0.0016	0.0024	0.0032	0.0047	0.0063	0.0079	0.0095	
		进给 (ipm)	6.5	6.5	6.5	6.5	6.5	6.5	6.5		
M	不锈钢 (易加工) 303, 416, 420F, 430F, 440F	≤ 185 Bhn 或 ≤ 9 HRc	290	RPM	8862	5908	4431	2954	2216	1772	1477
			(232-348)	Fr	0.0020	0.0030	0.0039	0.0059	0.0079	0.0099	0.0118
			进给 (ipm)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	
		≤ 275 Bhn 或 ≤ 28 HRc	180	RPM	5501	3667	2750	1834	1375	1100	917
			(144-216)	Fr	0.0018	0.0027	0.0036	0.0055	0.0073	0.0091	0.0109
			进给 (ipm)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
	不锈钢 (难加工) 304, 316, 321, 13-8 PH, 15-5PH, 17-4 PH, Custom 450	≤ 275 Bhn 或 ≤ 28 HRc	130	RPM	3973	2649	1986	1324	993	795	662
			(104-156)	Fr	0.0018	0.0026	0.0035	0.0053	0.0070	0.0088	0.0106
			进给 (ipm)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
		≤ 375 Bhn 或 ≤ 40 HRc	95	RPM	2903	1935	1452	968	726	581	484
			(76-114)	Fr	0.0016	0.0023	0.0031	0.0047	0.0062	0.0078	0.0093
			进给 (ipm)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
K	铸铁 灰铸铁, 可锻铸铁, 球墨铸铁	≤ 220 Bhn 或 ≤ 19 HRc	350	RPM	10696	7131	5348	3565	2674	2139	1783
			(280-420)	Fr	0.0037	0.0056	0.0075	0.0112	0.0150	0.0187	0.0224
			进给 (ipm)	40.0	40.0	40.0	40.0	40.0	40.0	40.0	
		≤ 260 Bhn 或 ≤ 26 HRc	310	RPM	9474	6316	4737	3158	2368	1895	1579
			(248-372)	Fr	0.0039	0.0059	0.0078	0.0117	0.0156	0.0195	0.0234
			进给 (ipm)	37.0	37.0	37.0	37.0	37.0	37.0	37.0	

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140 8D 系列 英制	硬度	Vc (sfm)		DC • in							
				1/8	3/16	1/4	3/8	1/2	5/8	3/4	
N 铝合金 2017, 2024, 356, 6061, 7075	≤ 80 Bhn 或 ≤ 47 HRb	730 (584-876)	RPM	22309	14873	11154	7436	5577	4462	3718	
			Fr	0.0045	0.0067	0.0090	0.0134	0.0179	0.0224	0.0269	
			进给 (ipm)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
	≤ 150 Bhn 或 ≤ 7 HRc	635 (508-762)	RPM	19406	12937	9703	6469	4851	3881	3234	
			Fr	0.0046	0.0070	0.0093	0.0139	0.0186	0.0232	0.0278	
			进给 (ipm)	90.0	90.0	90.0	90.0	90.0	90.0	90.0	
	铜合金 铝青铜, C110, 蒙知黄铜	≤ 140 Bhn 或 ≤ 3 HRc	255 (204-306)	RPM	7793	5195	3896	2598	1948	1559	1299
				Fr	0.0018	0.0027	0.0036	0.0054	0.0072	0.0090	0.0108
				进给 (ipm)	14.0	14.0	14.0	14.0	14.0	14.0	14.0
		≤ 200 Bhn 或 ≤ 23 HRc	235 (188-282)	RPM	7182	4788	3591	2394	1795	1436	1197
				Fr	0.0018	0.0027	0.0036	0.0054	0.0072	0.0091	0.0109
				进给 (ipm)	13.0	13.0	13.0	13.0	13.0	13.0	13.0
S 高温合金 (镍、钴、铁基) Inconel 601, 617, 625, Incoloy, 蒙乃尔 400, Rene, Waspaloy	≤ 300 Bhn 或 ≤ 32 HRc	65 (52-78)	RPM	1986	1324	993	662	497	397	331	
			Fr	0.0009	0.0013	0.0017	0.0026	0.0034	0.0043	0.0051	
			进给 (ipm)	1.7	1.7	1.7	1.7	1.7	1.7	1.7	
	≤ 400 Bhn 或 ≤ 43 HRc	35 (28-42)	RPM	1070	713	535	357	267	214	178	
			Fr	0.0006	0.0008	0.0011	0.0017	0.0022	0.0028	0.0034	
			进给 (ipm)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	
	钛合金 纯钛, Ti6Al4V, Ti6Al2Sn4Zr2Mo, Ti4Al4Mo2Sn0.5Si, Ti-6Al4V	≤ 275 Bhn 或 ≤ 28 HRc	185 (148-222)	RPM	5654	3769	2827	1885	1413	1131	942
				Fr	0.0016	0.0024	0.0032	0.0048	0.0064	0.0080	0.0096
				进给 (ipm)	9.0	9.0	9.0	9.0	9.0	9.0	9.0
		≤ 350 Bhn 或 ≤ 38 HRc	140 (112-168)	RPM	4278	2852	2139	1426	1070	856	713
				Fr	0.0012	0.0018	0.0023	0.0035	0.0047	0.0058	0.0070
				进给 (ipm)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
≤ 440 Bhn 或 ≤ 47 HRc	75 (60-90)	RPM	2292	1528	1146	764	573	458	382		
		Fr	0.0010	0.0015	0.0020	0.0030	0.0040	0.0050	0.0060		
		进给 (ipm)	2.3	2.3	2.3	2.3	2.3	2.3	2.3		
H 工具钢 A2, D2, H13, L2, M2, P20, S7, T15, W2	≤ 200 Bhn 或 ≤ 13 HRc	140 (112-168)	RPM	4278	2852	2139	1426	1070	856	713	
			Fr	0.0020	0.0030	0.0040	0.0060	0.0079	0.0099	0.0119	
			进给 (ipm)	8.5	8.5	8.5	8.5	8.5	8.5	8.5	
	≤ 375 Bhn 或 ≤ 40 HRc	90 (72-108)	RPM	2750	1834	1375	917	688	550	458	
			Fr	0.0011	0.0016	0.0022	0.0033	0.0044	0.0055	0.0065	
			进给 (ipm)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
	≤ 475 Bhn 或 ≤ 50 HRc	80 (64-96)	RPM	2445	1630	1222	815	611	489	407	
			Fr	0.0006	0.0009	0.0012	0.0018	0.0025	0.0031	0.0037	
			进给 (ipm)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	

Bhn (布氏硬度) HRc (洛氏硬度) HRb (洛氏硬度)

$rpm = Vc \times 3.82 / DC$

$ipm = Fr \times rpm$

加工更硬的材料时, 降低转速和进给

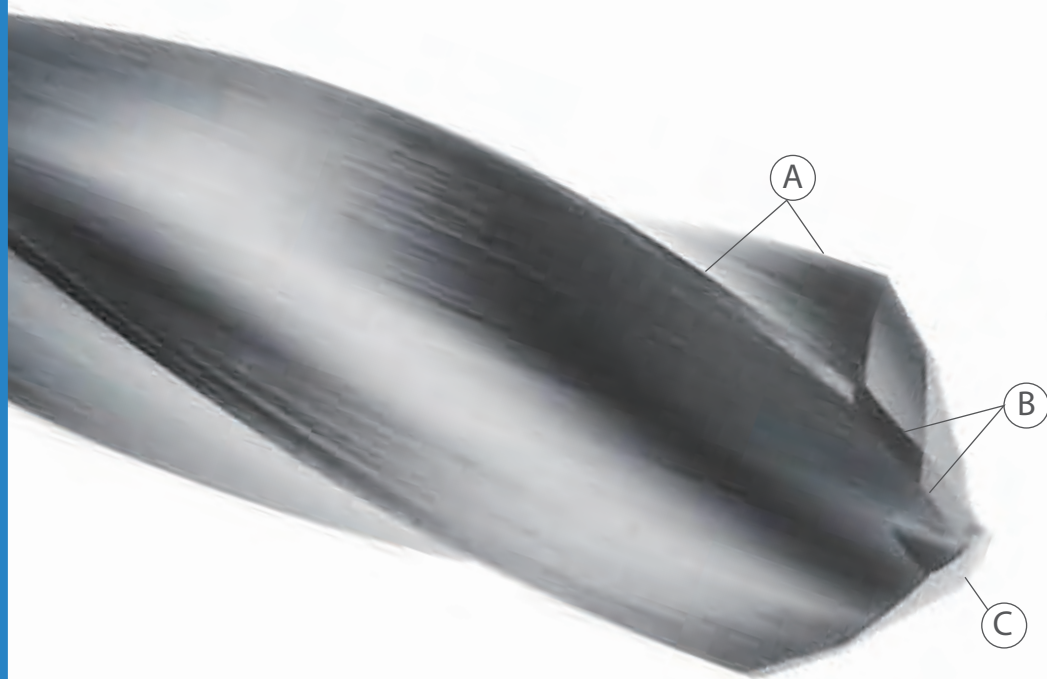
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140M 8D 系列 公制	硬度	Vc (m/min)	DC • mm								
			3	6	8	10	12	14	16		
P 碳素钢 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 175 Bhn 或 ≤ 7 HRc	123	RPM	13087	6544	4908	3926	3272	2804	2454	
		(100-170)	Fr	0.085	0.171	0.228	0.285	0.342	0.399	0.455	
			进给(mm/min)	1118	1118	1118	1118	1118	1118	1118	
	≤ 275 Bhn 或 ≤ 28 HRc	113	RPM	11956	5978	4484	3587	2989	2562	2242	
		(90-135)	Fr	0.072	0.144	0.193	0.241	0.289	0.337	0.385	
			进给(mm/min)	864	864	864	864	864	864	864	
	≤ 425 Bhn 或 ≤ 45 HRc	64	RPM	6786	3393	2545	2036	1696	1454	1272	
		(51-77)	Fr	0.062	0.124	0.165	0.206	0.247	0.288	0.329	
			进给(mm/min)	419	419	419	419	419	419	419	
	M 合金钢 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 50100	≤ 275 Bhn 或 ≤ 28 HRc	98	RPM	10340	5170	3878	3102	2585	2216	1939
			(78-117)	Fr	0.061	0.123	0.164	0.205	0.246	0.287	0.328
				进给(mm/min)	635	635	635	635	635	635	635
≤ 375 Bhn 或 ≤ 40 HRc		58	RPM	6140	3070	2302	1842	1535	1316	1151	
		(46-69)	Fr	0.048	0.095	0.127	0.159	0.190	0.222	0.254	
			进给(mm/min)	292	292	292	292	292	292	292	
≤ 450 Bhn 或 ≤ 48 HRc		41	RPM	4362	2181	1636	1309	1091	935	818	
		(33-49)	Fr	0.038	0.076	0.101	0.126	0.151	0.177	0.202	
			进给(mm/min)	165	165	165	165	165	165	165	
K 不锈钢 (易加工) 303, 416, 420F, 430F, 440F		≤ 185 Bhn 或 ≤ 9 HRc	88	RPM	9371	4686	3514	2811	2343	2008	1757
			(71-106)	Fr	0.047	0.095	0.126	0.158	0.190	0.221	0.253
				进给(mm/min)	445	445	445	445	445	445	445
	≤ 275 Bhn 或 ≤ 28 HRc	55	RPM	5816	2908	2181	1745	1454	1246	1091	
		(44-66)	Fr	0.044	0.087	0.116	0.146	0.175	0.204	0.233	
			进给(mm/min)	254	254	254	254	254	254	254	
	K 不锈钢 (难加工) 304, 316, 321, 13-8 PH, 15-5PH, 17-4 PH, Custom 450	≤ 275 Bhn 或 ≤ 28 HRc	40	RPM	4201	2100	1575	1260	1050	900	788
			(32-48)	Fr	0.042	0.085	0.113	0.141	0.169	0.198	0.226
				进给(mm/min)	178	178	178	178	178	178	178
		≤ 375 Bhn 或 ≤ 40 HRc	29	RPM	3070	1535	1151	921	767	658	576
			(23-35)	Fr	0.037	0.074	0.099	0.124	0.149	0.174	0.199
				进给(mm/min)	114	114	114	114	114	114	114
K 铸铁 灰铸铁, 可锻铸铁, 球墨铸铁		≤ 220 Bhn 或 ≤ 19 HRc	107	RPM	11310	5655	4241	3393	2827	2424	2121
			(85-128)	Fr	0.090	0.180	0.240	0.299	0.359	0.419	0.479
				进给(mm/min)	1016	1016	1016	1016	1016	1016	1016
		≤ 260 Bhn 或 ≤ 26 HRc	94	RPM	10017	5009	3756	3005	2504	2147	1878
			(76-113)	Fr	0.094	0.188	0.250	0.313	0.375	0.438	0.500
				进给(mm/min)	940	940	940	940	940	940	940

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140M 8D 系列 公制		硬度	Vc (m/min)	DC • mm								
				3	6	8	10	12	14	16		
N	铝合金 2017, 2024, 356, 6061, 7075	≤ 80 Bhn 或 ≤ 47 HRb	223	RPM	23589	11795	8846	7077	5897	5055	4423	
			(178-267)	Fr	0.108	0.215	0.287	0.359	0.431	0.502	0.574	
				进给(mm/min)	2540	2540	2540	2540	2540	2540	2540	2540
		≤ 150 Bhn 或 ≤ 7 HRc	194	RPM	20519	10260	7695	6156	5130	4397	3847	
			(155-232)	Fr	0.111	0.223	0.297	0.371	0.446	0.520	0.594	
				进给(mm/min)	2286	2286	2286	2286	2286	2286	2286	2286
	铜合金 铝青铜, C110, 蒙知黄铜	≤ 140 Bhn 或 ≤ 3 HRc	78	RPM	8240	4120	3090	2472	2060	1766	1545	
			(62-93)	Fr	0.043	0.086	0.115	0.144	0.173	0.201	0.230	
				进给(mm/min)	356	356	356	356	356	356	356	
		≤ 200 Bhn 或 ≤ 23 HRc	72	RPM	7594	3797	2848	2278	1898	1627	1424	
			(57-86)	Fr	0.043	0.087	0.116	0.145	0.174	0.203	0.232	
				进给(mm/min)	330	330	330	330	330	330	330	
S	高温合金 (镍、钴、铁基) Inconel 601, 617, 625, Incoloy, 蒙乃尔 400, Rene, Waspaloy	≤ 300 Bhn 或 ≤ 32 HRc	20	RPM	2100	1050	788	630	525	450	394	
			(16-24)	Fr	0.021	0.041	0.055	0.069	0.082	0.096	0.110	
				进给(mm/min)	43	43	43	43	43	43	43	
		≤ 400 Bhn 或 ≤ 43 HRc	11	RPM	1131	565	424	339	283	242	212	
			(9-13)	Fr	0.013	0.027	0.036	0.045	0.054	0.063	0.072	
				进给(mm/min)	15	15	15	15	15	15	15	
	钛合金 纯钛, Ti6Al4V, Ti6Al2Sn4Zr2Mo, Ti4Al4Mo2Sn0.5Si, Ti-6Al4V	≤ 275 Bhn 或 ≤ 28 HRc	56	RPM	5978	2989	2242	1793	1495	1281	1121	
			(45-68)	Fr	0.038	0.076	0.102	0.127	0.153	0.178	0.204	
				进给(mm/min)	229	229	229	229	229	229	229	
		≤ 350 Bhn 或 ≤ 38 HRc	43	RPM	4524	2262	1696	1357	1131	969	848	
			(34-51)	Fr	0.028	0.056	0.075	0.094	0.112	0.131	0.150	
				进给(mm/min)	127	127	127	127	127	127	127	
≤ 440 Bhn 或 ≤ 47 HRc	23	RPM	2424	1212	909	727	606	519	454			
	(18-27)	Fr	0.024	0.048	0.064	0.080	0.096	0.112	0.129			
		进给(mm/min)	58	58	58	58	58	58	58			
H	工具钢 A2, D2, H13, L2, M2, P20, S7, T15, W2	≤ 200 Bhn 或 ≤ 13 HRc	43	RPM	4524	2262	1696	1357	1131	969	848	
			(34-51)	Fr	0.048	0.095	0.127	0.159	0.191	0.223	0.255	
				进给(mm/min)	216	216	216	216	216	216	216	
		≤ 375 Bhn 或 ≤ 40 HRc	27	RPM	2908	1454	1091	872	727	623	545	
			(22-33)	Fr	0.026	0.052	0.070	0.087	0.105	0.122	0.140	
				进给(mm/min)	76	76	76	76	76	76	76	
	≤ 475 Bhn 或 ≤ 50 HRc	24	RPM	2585	1293	969	776	646	554	485		
		(20-29)	Fr	0.015	0.029	0.039	0.049	0.059	0.069	0.079		
			进给(mm/min)	38	38	38	38	38	38	38		

Bhn (布氏硬度) HRc (洛氏硬度) HRb (洛氏硬度)
 $\text{rpm} = (\text{Vc} \times 1000) / (\text{DC} \times 3.14)$
 $\text{mm/min} = \text{Fr} \times \text{rpm}$
 加工更硬的材料时, 降低转速和进给
 获取更多技术信息, 请参考SGS刀具向导SGS Tool Wizard® (www.kyocera.com.cn)



120系列



120系列复合钻头

8面双刃带120系列钻头的关键设计特征使其具有优于其他同类高性能钻头的应用优势。这一8面设计的每个特征都是为了解决复合钻孔期间所遇到的常见问题。这一特殊的高性能设计可有效帮助实现精度准确的钻孔，而不会产生劈裂或分层。

- A 双刃带结构**
 - 改善了钻头稳定性, 可实现更好的孔表面光洁度和尺寸控制
 - 使冷却液可以到达钻尖, 以改进加工孔品质和延长刀具寿命
- B 双顶角钻尖**
 - 较大限度地减轻了钻头进出时的工件分层
 - 沿多个切刃重新分配负载, 以提升性能
- C 缺口型钻尖**
 - 降低了钻头中心的切削力, 提高了性能并延长了刀具寿命
 - 采用Di-NAMITE®涂层制造, 可实现均匀的磨损、延长刀具寿命并改善表面光洁度。

高性能、高精度、高追求。
120系列复合钻头

高性能

- 双刃带设计使钻头更加稳定,从而提高了孔精度,并改善了孔的表面光洁度。
- 较大限度地减轻了孔入口/出口处的分层。
- 采用Di-NAMITE®涂层制造,可实现均匀的磨损、延长刀具寿命并改善表面光洁度。

高精度

我们对CFRP钻头进行了测试,以确定在钻削碳纤维材料时采用涂层的必要性。

使用0.190"特殊规格的CFRP钻头钻了50个孔。该刀具的设计可产生质量合格的孔,但如照片中所示,无涂层钻头的早期刃口磨损会产生边缘破损的孔。带金刚石涂层的钻头在钻完50个孔后几乎没有磨损,边缘磨损比无涂层的钻头减轻了38%。

在加工碳纤维材料时,采用Di-NAMITE®涂层的8面钻头的几何形状是延长刀具寿命和提高生产率的必要条件。

转速	进给量	直径	孔深	工件	机床类型	冷却液
5,000 rpm	127mm/min	4.8mm	6mm	CFRP	立式加工中心	无

刀具号	类型说明	机床上的刀尖跳动	切削用量
1	4.8mm CFRP 无涂层钻头	0.0025mm	50个孔
检查说明 前3个孔质量很好,从第3个孔开始有磨损,0.05mm磨损			
第1个孔	第3个孔	第50个孔	第50个孔后

刀具号	类型说明	机床上的刀尖跳动	切削用量
2	4.8mm CFRP 金刚石钻头	0.005mm	50个孔
检查说明 所有50个孔质量都很好,只有轻微磨损,0.0025mm磨损			
第1个孔	第25个孔	第50个孔	第50个孔后

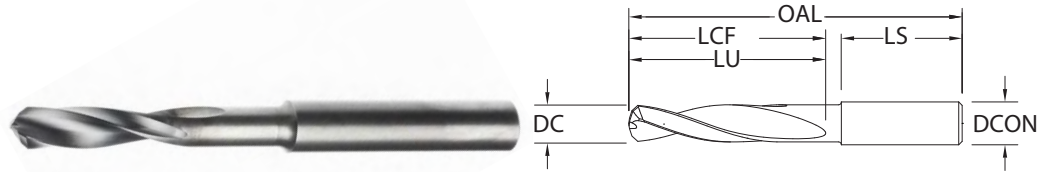
高追求

- 复合角沿钻尖产生4个切刃。
- 特殊的双角设计可避免复合钻头沿钻尖的局部磨损和缩短刀具寿命。

120 系列



3xD



120

英制 & 公制系列

- 双刃带设计提升钻头稳定性, 提高孔加工精度及表面光洁度
- 缺口型钻尖相比传统设计, 减少推力
- 8面钻减少纤维断裂和分层
- 90°二次倒角提高加工孔入口和出口的品质

inch & mm							EDP订货号
刃径 DC	英制值	公制值	柄径 DCON	全长 OAL	槽长 LCF/LU	柄长 LS	Di-NAMITE [®] (金刚石涂层)
#40	0.0980	2.49	1/8	2	9/16	1-1/4	50000
2,7 mm	0.1063		6,0	63,0	20,0	32,0	50001
3,0 mm	0.1181		6,0	63,0	20,0	36,0	50002
1/8	0.1250	3.18	1/4	2-1/2	3/4	1-7/16	50003
3,2 mm	0.1260		6,0	63,0	20,0	36,0	50004
#30	0.1285	3.26	1/4	2-1/2	3/4	1-7/16	50005
#28	0.1405	3.57	1/4	2-1/2	3/4	1-7/16	50006
#22	0.1570	3.99	1/4	2-5/8	7/8	1-7/16	50007
#21	0.1590	4.04	1/4	2-5/8	7/8	1-7/16	50008
4,1 mm	0.1614		6,0	66,0	24,0	36,0	50009
#19	0.1660	4.22	1/4	2-5/8	7/8	1-7/16	50010
11/64	0.1719	4.37	1/4	2-5/8	7/8	1-7/16	50011
3/16	0.1875	4.76	1/4	2-5/8	1	1-7/16	50012
#11	0.1910	4.85	1/4	2-5/8	1	1-7/16	50013
#8	0.1990	5.05	1/4	2-5/8	1	1-7/16	50014
#7	0.2010	5.11	1/4	2-5/8	1	1-7/16	50015
#2	0.2210	5.61	1/4	2-5/8	1	1-7/16	50016
6,0 mm	0.2362		6,0	66,0	28,0	36,0	50017
1/4	0.2500	6.35	1/4	3-1/8	1-5/16	1-7/16	50018
.2510	0.2510	6.38	5/16	3-1/8	1-5/16	1-7/16	50019
F	0.2570	6.53	5/16	3-1/8	1-5/16	1-7/16	50020
I	0.2720	6.91	5/16	3-1/8	1-5/16	1-7/16	50021
J	0.2770	7.04	5/16	3-1/8	1-5/16	1-7/16	50022
K	0.2810	7.14	5/16	3-1/8	1-9/16	1-7/16	50023
5/16	0.3125	7.94	5/16	3-1/8	1-9/16	1-7/16	50024
8,0 mm	0.3150		8,0	79,0	41,0	36,0	50025
3/8	0.3750	9.53	3/8	3-1/2	1-27/32	1-9/16	50026
V	0.3770	9.58	1/2	3-1/2	1-27/32	1-9/16	50027
10,0 mm	0.3937		10,0	89,0	47,0	40,0	50028
7/16	0.4375	11.11	1/2	4-1/16	2-3/16	1-9/16	50029
12,0 mm	0.4724		12,0	102,0	55,0	45,0	50030
1/2	0.5000	12.70	1/2	4-1/4	2-5/16	1-3/4	50031

公差 (inch)

DC = +0.0000/-0.0005

DCON = h₆

公差 (mm)

DC = +0,000/-0,013

DCON = h₆

塑料/复合材料

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120 系列 英制	Vc (sfm)		DC • in						
			1/8	3/16	1/4	5/16	3/8	7/16	1/2
CFRP, AFRP (碳纤维, 聚芳酰胺纤维)	320	RPM	9779	6519	4890	3912	3260	2794	2445
	(256-384)	Fr	0.0006	0.0009	0.0012	0.0015	0.0018	0.0021	0.0024
		进给 (ipm)	5.9	5.9	5.9	5.9	5.9	5.9	5.9
GFRP (玻璃纤维)	240	RPM	7334	4890	3667	2934	2445	2096	1834
	(192-288)	Fr	0.0006	0.0009	0.0012	0.0015	0.0018	0.0021	0.0024
		进给 (ipm)	4.4	4.4	4.4	4.4	4.4	4.4	4.4
碳, 石墨	400	RPM	12224	8149	6112	4890	4075	3493	3056
	(320-480)	Fr	0.0008	0.0012	0.0016	0.0020	0.0024	0.0028	0.0032
		进给 (ipm)	9.8	9.8	9.8	9.8	9.8	9.8	9.8

$$\text{rpm} = \text{Vc} \times 3.82 / \text{DC}$$

$$\text{ipm} = \text{Fr} \times \text{rpm}$$

需根据树脂类型和/或纤维结构, 调整速度和/或进给

获取更多技术信息, 请参考SGS刀具向导SGS Tool Wizard® (www.kyocera.com.cn)

120 系列 公制	Vc (m/min)		DC • mm						
			2.5	3	4	6	8	10	12
CFRP, AFRP (碳纤维, 聚芳酰胺纤维)	100	RPM	12722	10602	7951	5301	3976	3181	2650
	(80-120)	Fr	0.012	0.014	0.019	0.028	0.038	0.047	0.057
		进给(mm/min)	150	150	150	150	150	150	150
GFRP (玻璃纤维)	75	RPM	9542	7951	5963	3976	2982	2385	1988
	(65-90)	Fr	0.012	0.014	0.019	0.029	0.039	0.048	0.058
		进给(mm/min)	115	115	115	115	115	115	115
碳, 石墨	120	RPM	15266	12722	9542	6361	4771	3817	3181
	(96-144)	Fr	0.015	0.018	0.025	0.037	0.049	0.062	0.074
		进给(mm/min)	235	235	235	235	235	235	235

$$\text{rpm} = (\text{Vc} \times 1000) / (\text{DC} \times 3.14)$$

$$\text{mm/min} = \text{Fr} \times \text{rpm}$$

需根据树脂类型和/或纤维结构, 调整速度和/或进给

获取更多技术信息, 请参考SGS刀具向导SGS Tool Wizard® (www.kyocera.com.cn)