

Step drills

The flutes of ZONO high performance step drills are CBN ground from the solid hardened form. A better and sharper cutting edge is achieved - without burrs. And, with higher dimensional precision the drills will last considerably longer while maintaining the precise process tolerances. This tough tool is suitable for all standard industrial materials. This durable and versatile tool will center, spot drill, bore and debur-all in one smooth, high performance working cycle. By using ZONO cutting spray or ZONO cutting paste tool life will be considerably prolonged.



1. CBN ground flute

CBN ground spiral flutes enable very sharp and burr-free cutting edges compared to the ordinary milled flutes. Especially the chip flow is optimized, so even long, non-breaking chips will be removed easily. The optimized chip flow protects the cutting edges and reduces built-up edges and cold weld marks. Due to these special features, cutting performance and tool life are extended significantly.

2. Radially adjusted relief produced by CBN grinding

Each step has a radially adjusted relief produced by CBN grinding that relates directly to the diameter of the step. This means the cutting edge is always the highest point of the diameter.

3. Flute

Each step is axially CBN relief ground. This means the cutting edge is always the highest point of the axial cutting axis.

4. CBN ground relief angle

The cutting edge of each step has relief angle. This means the cutting edge is also the highest point in advance direction.

5. CBN ground bit with split point DIN 1412 C

The CBN ground bit ensures centering and spot-drilling even in thin-walled material.



SETP DRILL CBN GROUND SPIRAL FLUTE WITH SPLIT POINT



Size no.	Ø1-Ø2 mm	L1 mm	Steps	Ø3 mm	Article no.	Article	Article	Article
						HSS	HSSE-Co	HSS-TiN
0/5	4.0-12.00	65.0	5	6.0	50101	50101E	50101T	50101F
0/9	4.0-12.00	65.0	9	6.0	50102	50102E	50102T	50102F
1	4.0-20.00	75.0	9	8.0	50103	50103E	50103T	50103F
2	4.0-30.00	100.0	14	10.0	50104	50104E	50104T	50104F
3	6.0-38.00	100.0	12	10.0	50105	50105E	50105T	50105F
4	6.0-26.75	75.0	8	10.0	50106	50106E	50106T	50106F
5	4.0-39.00	107.0	13	10.0	50107	50107E	50107T	50107F
6	6.0-32.00	75.0	8	10.0	50108	50108E	50108T	50108F
7	5.0-28.00	69.0	7	10.0	50109	50109E	50109T	50109F
8	6.0-30.50	80.0	9	10.0	50110	50110E	50110T	50110F
9	6.0-37.00	100.0	12	10.0	50111	50111E	50111T	50111F
12	6.0-32.00	76.0	9	10.0	50112	50112E	50112T	50112F
13	6.0-40.00	105.0	16	13.0	50113	50113E	50113T	50113F
18	6.5-32.50	91.0	12	10.0	50114	50114E	50114T	50114F

Size no.	Drilling range Ømm
0/5	4,0 / 6,0 / 8,0 / 10,0 / 12,0
0/9	4,0 / 5,0 / 6,0 / 7,0 / 8,0 / 9,0 / 10,0 / 11,0 / 12,0
1	4,0 / 6,0 / 8,0 / 10,0 / 12,0 / 14,0 / 16,0 / 18,0 / 20,0
2	4,0 / 6,0 / 8,0 / 10,0 / 12,0 / 14,0 / 16,0 / 18,0 / 20,0 / 22,0 / 24,0 / 26,0 / 28,0 / 30,0
3	6,0 / 9,0 / 13,0 / 16,0 / 19,0 / 21,0 / 23,0 / 26,0 / 29,0 / 32,0 / 35,0 / 38,0
4	6,0 / 9,0 / 11,4 (PG7) / 14,0 (PG9) / 17,25 (PG11) / 19,0 (PG13,5) / 21,25 (PG16) / 26,75 (PG21)
5	4,0 / 6,0 / 12,0 / 15,0 / 18,0 / 21,0 / 24,0 / 27,0 / 30,0 / 33,0 / 36,0 / 39,0
6	6,0 / 9,0 / 11,2 (R1/8) / 14,5 (R1/4) / 18,2 (R3/8) / 22,3 (R1/2) / 27,9 (R3/4) / 32,0
7	5,0 / 8,8 (G1/8) / 11,8 (G1/4) / 15,3 (G3/8) / 19,0 (G1/2) / 24,5 (G3/4) / 28,0
8	6,0 / 9,0 / 12,5 (PG7) / 15,2 (PG9) / 18,6 (PG11) / 20,4 (PG13,5) / 22,5 (PG16) / 28,3 (PG21) / 30,5
9	6,0 / 9,0 / 12,5 (PG7) / 15,2 (PG9) / 18,6 (PG11) / 20,4 (PG13,5) / 22,5 (PG16) / 26,0 / 28,3 (PG21) / 30,5 / 34,0 / 37,0 (PG29)
12	6,0 / 9,0 / 12,0 / 16,0 / 20,0 / 22,5 / 25,0 / 28,5 / 32,0
13	6,0 / 11,0 / 17,0 / 23,0 / 29,0 / 30,0 / 31,0 / 32,0 / 33,0 / 34,0 / 35,0 / 36,0 / 37,0 / 38,0 / 39,0 / 40,0
18	6,5 / 8,5 / 10,5 / 12,7 / 15,2 (PG9) / 16,2 / 18,6 (PG11) / 20,4 (PG13,5) / 22,5 (PG16) / 25,5 / 28,3 (PG21) / 32,5

SETP DRILL SET CBN GROUND



METAL BOX



PLASTIC BOX

HSS Subland drills short

階梯麻花鑽



90° fine /180° medium grade for through hole

沉頭螺絲階梯麻花鑽

Material:HSS-M2 & HSS-Co5

Size 規格	Overall Length 全長	Countersinker 倒角尺寸	Step length 階梯長	Flute length 刃長	Step Dia 階梯直徑	Art No. DB10-
M3	66.0	6.0	9.0	28.0	3.4	06028
M4	79.0	8.0	11.0	37.0	4.5	08037
M5	89.0	10.0	13.0	43.0	5.5	10043
M6	95.0	11.5	15.0	47.0	6.6	12047
M8	111.0	15.0	19.0	56.0	9.0	15056
M10	123.0	18.0	23.0	62.0	11.0	18062

90° for thread core hole 攻絲階梯麻花鑽

Material:HSS-M2 & HSS-Co5



Size 規格	Overall Length 全長	Countersinker 倒角尺寸	Step length 階梯長	Flute length 刃長	Step Dia 階梯直徑	Art No. DB11-
M3	52.0	3.4	8.8	20.0	2.5	03020
M4	58.0	4.5	11.1	24.0	3.3	05024
M5	66.0	5.5	13.6	28.0	4.2	06028
M6	70.0	6.6	16.5	31.0	5.0	07031
M8	84.0	9.0	21.0	40.0	6.8	09040
M10	95.0	11.0	25.5	47.0	8.5	11047
M12	107.0	13.5	30.0	54.0	10.2	14054

HSS Subland drills short

階梯麻花鑽



90° fine/180° medium grade for through hole

Material:HSS-M2 & HSS-Co5

Size 規格	Overall Length 全長	Countersinker 倒角尺寸	Step length 階梯長	Flute length 刃長	Step Dia 階梯直徑	Art No. DB12-
M3	93.0	6.0	9.0	57.0	3.2	06057
M4	117.0	8.0	11.0	75.0	4.3	08075
M5	133.0	10.0	13.0	87.0	5.3	10087
M6	142.0	11.5	15.0	94.0	6.4	12094
M8	169.0	15.0	19.0	114.0	8.4	15114
M10	198.0	19.0	23.0	135.0	10.5	19135

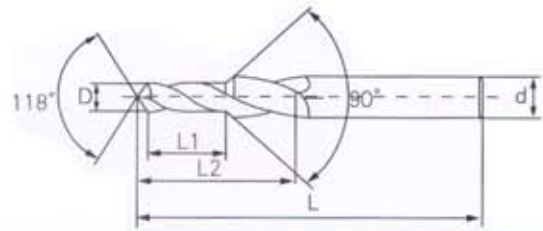
90° for thread core hole 攻絲階梯麻花鑽

Material:HSS-M2 & HSS-Co5



Size 規格	Overall Length 全長	Countersinker 倒角尺寸	Step length 階梯長	Flute length 刃長	Step Dia 階梯直徑	Art No. DB13-
M3	70.0	3.4	8.8	39.0	2.5	03039
M4	80.0	4.5	11.1	47.0	3.3	05047
M5	93.0	5.5	13.6	57.0	4.2	06057
M6	101.0	6.6	16.5	63.0	5.0	07063
M8	125.0	9.0	21.0	81.0	6.8	09081
M10	142.0	11.0	25.5	94.0	8.5	11094
M12	160.0	13.5	30.0	108.0	10.2	14108

整体硬质合金阶梯钻 Carbide Step drills



Screw thread size 螺纹规格	Diameter 刃径	Flute Length 刃长L1	Flute Length 刃长L2	Overall Length 全长	Shank Dia. 柄径	Art No. TDCS-
M4	3.4	11.4	28	66	6	034114066
M5	4.3	13.6	28	66	6	043136066
M6	5.0	16.5	41	79	8	050165079
M8	6.9	21.0	47	89	10	070210089
M10	8.7	25.5	55	102	12	090255102
M12	10.4	30.0	60	107	14	104300107
M14	12.25	34.5	65	115	16	123245115
M16	14.25	38.5	73	123	18	143385123
M8x1	7.0	21.0	47	89	10	070210089
M10x1	9.0	25.5	55	102	12	090255102
M12x1.5	10.5	30.0	60	107	14	105300107
M14x1.5	12.5	34.5	65	115	16	130345115
M16x1.5	14.5	38.5	73	123	18	150385123

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Special design and customized sizes are available on request.