

Twist drill bit HSCO, DIN 338, type RN, MFD VARIO

Premium all-rounder for use in stationary machinery for high-precision machining of virtually all materials, such as stainless steel, heat-resistant steels and titanium, as well as for general applications in conventional steel up to 1200 N/mm² strength, in cast iron and non-ferrous metals (such as magnesium alloys, brass, bronze, plastic).

Low friction and fast chip removal

Exclusive Vario helix

Best centring ability and highest speed

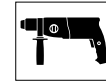
Special 4-surface grind with optimised point thinning

Best guiding properties and accuracy (extremely high torsional rigidity)

Combination of double drill heel with a single drill heel

Up to 9 times longer tool life compared to uncoated drills and up to 2 times longer service life compared to conventional coatings (heat resistant up to 800°C)

Special Magma multi-layer coating



Suitable for machine type	Milling/drill center, Pedestal drilling machine
Material to be processed	Steel, Stainless steel, Cast iron, Titanium, Special alloy, Non-ferrous metal
Quality	ZEBRA-Premium
Standard/drilling depth	DIN 338/5xD
Shank style	Cylindrical
Surface	Magma multilayer coating
Cutting material	HSCo
Angle of the tip	118 Degree
Service life	●●●●
Drilling speed (point system)	●●●●
Bore hole quality (point system)	●●●●
Versatility	●●●●
Drilling behaviour (point system)	●●●●
Self-centring	Yes
Suitable for tensile strength up to	1200 N/mm ²
Color Coding System	■ Stainless steel ■ Steel ■ Non-ferrous metal

Diameter (Ø)	Length (l1)	Chip flute length (l2)	Type	Art. no.	P. Qty.
1 mm	34 mm	12 mm	RN	0626 050 100	5
1.1 mm	36 mm	14 mm	RN	0626 050 110	5

Diameter (Ø)	Length (l1)	Chip flute length (l2)	Type	Art. no.	P. Qty.
1.2 mm	38 mm	16 mm	RN	0626 050 120	5
1.3 mm	38 mm	15 mm	RN	0626 050 130	5
1.4 mm	40 mm	18 mm	RN	0626 050 140	5
1.5 mm	40 mm	18 mm	RN	0626 050 150	5
1.6 mm	43 mm	20 mm	RN	0626 050 160	5
1.7 mm	43 mm	20 mm	RN	0626 050 170	5
1.8 mm	46 mm	22 mm	RN	0626 050 180	5
1.85 mm	46 mm	22 mm		0626 050 185	5
1.9 mm	46 mm	22 mm	RN	0626 050 190	5
2 mm	49 mm	24 mm	RN	0626 050 200	5
2.05 mm	49 mm	24 mm	RN	0626 050 205	5
2.1 mm	49 mm	24 mm	RN	0626 050 210	5
2.2 mm	53 mm	27 mm	RN	0626 050 220	5
2.3 mm	53 mm	27 mm	RN	0626 050 230	5
2.35 mm	53 mm	27 mm	RN	0626 050 235	5
2.4 mm	57 mm	30 mm	RN	0626 050 240	5
2.5 mm	57 mm	30 mm	RN	0626 050 250	5
2.6 mm	57 mm	30 mm	RN	0626 050 260	5
2.7 mm	61 mm	33 mm	RN	0626 050 270	5
2.8 mm	61 mm	33 mm	RN	0626 050 280	5
2.85 mm	61 mm	33 mm	RN	0626 050 285	5
2.9 mm	61 mm	33 mm	RN	0626 050 290	5
2.95 mm	61 mm	33 mm	RN	0626 050 295	5
3 mm	61 mm	33 mm	RN	0626 050 300	5
3.1 mm	65 mm	36 mm	RN	0626 050 310	5
3.2 mm	65 mm	36 mm	RN	0626 050 320	5
3.25 mm	65 mm	36 mm		0626 050 325	5
3.3 mm	65 mm	36 mm	RN	0626 050 330	5
3.4 mm	70 mm	39 mm	RN	0626 050 340	5
3.5 mm	70 mm	39 mm	RN	0626 050 350	5
3.6 mm	70 mm	39 mm	RN	0626 050 360	5
3.7 mm	70 mm	39 mm	RN	0626 050 370	5
3.8 mm	75 mm	43 mm	RN	0626 050 380	5
3.9 mm	75 mm	43 mm	RN	0626 050 390	5
4 mm	75 mm	43 mm	RN	0626 050 400	5
4.1 mm	75 mm	43 mm	RN	0626 050 410	5
4.2 mm	75 mm	43 mm	RN	0626 050 420	5
4.3 mm	80 mm	47 mm	RN	0626 050 430	5
4.4 mm	80 mm	47 mm	RN	0626 050 440	5
4.5 mm	80 mm	47 mm	RN	0626 050 450	5
4.6 mm	80 mm	47 mm	RN	0626 050 460	5
4.65 mm	80 mm	47 mm		0626 050 465	5
4.7 mm	80 mm	47 mm	RN	0626 050 470	5
4.8 mm	86 mm	52 mm	RN	0626 050 480	5
4.9 mm	86 mm	52 mm	RN	0626 050 490	5
5 mm	86 mm	52 mm	RN	0626 050 500	5
5.1 mm	86 mm	52 mm	RN	0626 050 510	3
5.2 mm	86 mm	52 mm	RN	0626 050 520	3
5.3 mm	86 mm	52 mm	RN	0626 050 530	3
5.4 mm	93 mm	57 mm	RN	0626 050 540	3
5.5 mm	93 mm	57 mm	RN	0626 050 550	3
5.55 mm	93 mm	57 mm		0626 050 555	3
5.6 mm	93 mm	57 mm	RN	0626 050 560	3
5.7 mm	93 mm	57 mm	RN	0626 050 570	3

Diameter (Ø)	Length (l1)	Chip flute length (l2)	Type	Art. no.	P. Qty.
5.8 mm	93 mm	57 mm	RN	0626 050 580	3
5.9 mm	93 mm	57 mm	RN	0626 050 590	3
6 mm	93 mm	57 mm	RN	0626 050 600	3
6.1 mm	101 mm	63 mm	RN	0626 050 610	3
6.2 mm	101 mm	63 mm	RN	0626 050 620	3
6.3 mm	101 mm	63 mm	RN	0626 050 630	3
6.4 mm	101 mm	63 mm	RN	0626 050 640	3
6.5 mm	101 mm	63 mm	RN	0626 050 650	3
6.6 mm	101 mm	63 mm	RN	0626 050 660	3
6.7 mm	101 mm	63 mm	RN	0626 050 670	3
6.8 mm	109 mm	69 mm	RN	0626 050 680	3
6.9 mm	109 mm	69 mm	RN	0626 050 690	3
7 mm	109 mm	69 mm	RN	0626 050 700	3
7.1 mm	109 mm	69 mm	RN	0626 050 710	3
7.2 mm	109 mm	69 mm	RN	0626 050 720	3
7.3 mm	109 mm	69 mm	RN	0626 050 730	3
7.4 mm	109 mm	69 mm	RN	0626 050 740	3
7.5 mm	109 mm	69 mm	RN	0626 050 750	3
7.6 mm	117 mm	75 mm	RN	0626 050 760	3
7.7 mm	117 mm	75 mm	RN	0626 050 770	3
7.8 mm	117 mm	75 mm	RN	0626 050 780	3
7.9 mm	117 mm	75 mm	RN	0626 050 790	3
8 mm	117 mm	75 mm	RN	0626 050 800	3
8.1 mm	117 mm	75 mm	RN	0626 050 810	1
8.2 mm	117 mm	75 mm	RN	0626 050 820	1
8.3 mm	117 mm	75 mm	RN	0626 050 830	1
8.4 mm	117 mm	75 mm	RN	0626 050 840	1
8.5 mm	117 mm	75 mm	RN	0626 050 850	1
8.6 mm	125 mm	81 mm	RN	0626 050 860	1
8.7 mm	125 mm	81 mm	RN	0626 050 870	1
8.8 mm	125 mm	81 mm	RN	0626 050 880	1
8.9 mm	125 mm	81 mm	RN	0626 050 890	1
9 mm	125 mm	81 mm	RN	0626 050 900	1
9.1 mm	125 mm	81 mm	RN	0626 050 910	1
9.2 mm	125 mm	81 mm	RN	0626 050 920	1
9.3 mm	125 mm	81 mm	RN	0626 050 930	1
9.4 mm	125 mm	81 mm	RN	0626 050 940	1
9.5 mm	125 mm	81 mm	RN	0626 050 950	1
9.6 mm	133 mm	87 mm	RN	0626 050 960	1
9.7 mm	133 mm	87 mm	RN	0626 050 970	1
9.8 mm	133 mm	87 mm	RN	0626 050 980	1
9.9 mm	133 mm	87 mm	RN	0626 050 990	1
10 mm	133 mm	87 mm	RN	0626 051 000	1
10.1 mm	133 mm	87 mm	RN	0626 051 010	1
10.2 mm	133 mm	87 mm	RN	0626 051 020	1
10.3 mm	133 mm	87 mm	RN	0626 051 030	1
10.4 mm	133 mm	87 mm	RN	0626 051 040	1
10.5 mm	133 mm	87 mm	RN	0626 051 050	1
10.6 mm	133 mm	87 mm	RN	0626 051 060	1
10.7 mm	142 mm	94 mm	RN	0626 051 070	1
10.8 mm	142 mm	94 mm	RN	0626 051 080	1
10.9 mm	142 mm	94 mm	RN	0626 051 090	1
11 mm	142 mm	94 mm	RN	0626 051 100	1
11.1 mm	142 mm	94 mm	RN	0626 051 110	1

Diameter (Ø)	Length (l1)	Chip flute length (l2)	Type	Art. no.	P. Qty.
11.2 mm	142 mm	94 mm	RN	0626 051 120	1
11.3 mm	142 mm	94 mm	RN	0626 051 130	1
11.4 mm	142 mm	94 mm	RN	0626 051 140	1
11.5 mm	142 mm	94 mm	RN	0626 051 150	1
11.6 mm	142 mm	94 mm	RN	0626 051 160	1
11.7 mm	142 mm	94 mm	RN	0626 051 170	1
11.8 mm	142 mm	94 mm	RN	0626 051 180	1
11.9 mm	151 mm	101 mm	RN	0626 051 190	1
12 mm	151 mm	101 mm	RN	0626 051 200	1
12.1 mm	151 mm	101 mm	RN	0626 051 210	1
12.2 mm	151 mm	101 mm	RN	0626 051 220	1
12.3 mm	151 mm	101 mm	RN	0626 051 230	1
12.4 mm	151 mm	101 mm	RN	0626 051 240	1
12.5 mm	151 mm	101 mm	RN	0626 051 250	1
12.6 mm	151 mm	101 mm	RN	0626 051 260	1
12.7 mm	151 mm	101 mm	RN	0626 051 270	1
12.8 mm	151 mm	101 mm	RN	0626 051 280	1
12.9 mm	151 mm	101 mm	RN	0626 051 290	1
13 mm	151 mm	101 mm	RN	0626 051 300	1
13.1 mm	151 mm	101 mm	RN	0626 051 310	1
13.5 mm	160 mm	108 mm	RN	0626 051 350	1
14 mm	160 mm	108 mm	RN	0626 051 400	1
14.2 mm	169 mm	114 mm	RN	0626 051 420	1
14.5 mm	169 mm	114 mm	RN	0626 051 450	1
15 mm	169 mm	114 mm	RN	0626 051 500	1
15.1 mm	178 mm	120 mm		0626 051 510	1
15.5 mm	178 mm	120 mm	RN	0626 051 550	1
16 mm	178 mm	120 mm	RN	0626 051 600	1
16.5 mm	184 mm	125 mm	RN	0626 051 650	1
17 mm	184 mm	125 mm	RN	0626 051 700	1
17.5 mm	191 mm	130 mm	RN	0626 051 750	1
18 mm	191 mm	130 mm	RN	0626 051 800	1
18.5 mm	198 mm	135 mm		0626 051 850	1
18.9 mm	198 mm	135 mm		0626 051 890	1
19 mm	198 mm	135 mm	RN	0626 051 900	1
19.5 mm	205 mm	140 mm	RN	0626 051 950	1
20 mm	205 mm	140 mm	RN	0626 052 000	1

Cutting values for HSCo twist drill bits

For dia. 1.0–2.5

Material name	Tensile strength	v _c		Dia. 1.0			Dia. 2.0			Dia. 2.5			
		n		f		n		f		n		f	
		From	To	From	To	From	To	From	To	From	To	From	To
General structural steels	≤ 850 N/mm ²	36	48	11459	15279	0,018	5730	7639	0,063	4584	6112	0,080	
Unalloyed heat-treated steels	≤ 850 N/mm ²	36	48	11459	15279	0,018	5730	7639	0,063	4584	6112	0,080	
Low-alloy heat-treated steels	≤ 850 N/mm ²	36	48	11459	15279	0,018	5730	7639	0,063	4584	6112	0,080	
Unalloyed heat-treated steels	≤ 1000 N/mm ²	34	42	10823	13369	0,016	5411	6685	0,050	4329	5348	0,063	
Low-alloy heat-treated steels	≤ 1000 N/mm ²	34	42	10823	13369	0,016	5411	6685	0,050	4329	5348	0,063	
Alloyed heat-treated steels	≤ 1200 N/mm ²	16	28	5093	8913	0,012	2546	4456	0,032	2037	3565	0,040	
Nitriding steels	≤ 1200 N/mm ²	16	28	5093	8913	0,012	2546	4456	0,032	2037	3565	0,040	
Tool steels	≤ 1200 N/mm ²	16	28	5093	8913	0,012	2546	4456	0,032	2037	3565	0,040	
High-speed steels	≤ 1200 N/mm ²	16	28	5093	8913	0,012	2546	4456	0,032	2037	3565	0,040	
Cast iron	≤ 350 HB	40	45	12732	14324	0,018	6366	7162	0,063	5093	5730	0,080	

Cutting values for HSCo twist drill bits
For dia. 1.0–2.5

Material name	Tensile strength	v _c		Dia. 1.0			Dia. 2.0			Dia. 2.5		
		v _c		n		f	n		f	n		f
		From	To	From	To		From	To		From	To	
Spheroidal graphite and malleable iron	≤ 350 HB	27	34	8594	10823	0,018	4297	5411	0,063	3438	4329	0,080
Stainless steels	≤ 1200 N/mm ²	12	18	3820	5730	0,012	1910	2865	0,032	1528	2292	0,040
Titanium	≤ 850 N/mm ²	8	12	2546	3820	0,008	1273	1910	0,025	1019	1528	0,032
Special alloys	≤ 1200 N/mm ²	5	7	1592	2228	0,006	796	1114	0,020	637	891	0,025
Spring steels	≤ 330 HB	16	28	5093	8913	0,012	2546	4456	0,032	2037	3565	0,040
Plastics	≤ 200 N/mm ²	20	40	6366	12732	0,016	3183	6366	0,050	2546	5093	0,063

Cutting values for HSCo twist drill bits
For dia. 3.15–5.0

Material name	Tensile strength	v _c		Dia. 3.15			Dia. 4.0			Dia. 5.0		
		v _c		n		f	n		f	n		f
		From	To	From	To		From	To		From	To	
General structural steels	≤ 850 N/mm ²	36	48	3638	4850	0,100	2865	3820	0,125	2292	3056	0,125
Unalloyed heat-treated steels	≤ 850 N/mm ²	36	48	3638	4850	0,100	2865	3820	0,125	2292	3056	0,125
Low-alloy heat-treated steels	≤ 850 N/mm ²	36	48	3638	4850	0,100	2865	3820	0,125	2292	3056	0,125
Unalloyed heat-treated steels	≤ 1000 N/mm ²	34	42	3436	4244	0,080	2706	3342	0,100	2165	2674	0,100
Low-alloy heat-treated steels	≤ 1000 N/mm ²	34	42	3436	4244	0,080	2706	3342	0,100	2165	2674	0,100
Alloyed heat-treated steels	≤ 1200 N/mm ²	16	28	1617	2829	0,050	1273	2228	0,063	1019	1783	0,063
Nitriding steels	≤ 1200 N/mm ²	16	28	1617	2829	0,050	1273	2228	0,063	1019	1783	0,063
Tool steels	≤ 1200 N/mm ²	16	28	1617	2829	0,050	1273	2228	0,063	1019	1783	0,063
High-speed steels	≤ 1200 N/mm ²	16	28	1617	2829	0,050	1273	2228	0,063	1019	1783	0,063
Cast iron	≤ 350 HB	40	45	4042	4547	0,100	3183	3581	0,125	2546	2865	0,125
Spheroidal graphite and malleable iron	≤ 350 HB	27	34	2728	3436	0,100	2149	2706	0,125	1719	2165	0,125
Stainless steels	≤ 1200 N/mm ²	12	18	1213	1819	0,050	955	1432	0,063	764	1146	0,063
Titanium	≤ 850 N/mm ²	8	12	808	1213	0,040	637	955	0,050	509	764	0,050
Special alloys	≤ 1200 N/mm ²	5	7	505	707	0,032	398	557	0,040	318	446	0,040
Spring steels	≤ 330 HB	16	28	1617	2829	0,050	1273	2228	0,063	1019	1783	0,063
Plastics	≤ 200 N/mm ²	20	40	2021	4042	0,080	1592	3183	0,100	1273	2546	0,100

Cutting values for HSCo twist drill bits
For dia. 6.3–10.0

Material name	Tensile strength	v _c		Dia. 6.3			Dia. 8.0			Dia. 10.0		
		v _c		n		f	n		f	n		f
		From	To	From	To		From	To		From	To	
General structural steels	≤ 850 N/mm ²	36	48	1819	2425	0,160	1432	1910	0,200	1146	1528	0,250
Unalloyed heat-treated steels	≤ 850 N/mm ²	36	48	1819	2425	0,160	1432	1910	0,200	1146	1528	0,250
Low-alloy heat-treated steels	≤ 850 N/mm ²	36	48	1819	2425	0,160	1432	1910	0,200	1146	1528	0,250
Unalloyed heat-treated steels	≤ 1000 N/mm ²	34	42	1718	2122	0,125	1353	1671	0,160	1082	1337	0,200
Low-alloy heat-treated steels	≤ 1000 N/mm ²	34	42	1718	2122	0,125	1353	1671	0,160	1082	1337	0,200
Alloyed heat-treated steels	≤ 1200 N/mm ²	16	28	808	1415	0,080	637	1114	0,100	509	891	0,125
Nitriding steels	≤ 1200 N/mm ²	16	28	808	1415	0,080	637	1114	0,100	509	891	0,125
Tool steels	≤ 1200 N/mm ²	16	28	808	1415	0,080	637	1114	0,100	509	891	0,125
High-speed steels	≤ 1200 N/mm ²	16	28	808	1415	0,080	637	1114	0,100	509	891	0,125
Cast iron	≤ 350 HB	40	45	2021	2274	0,160	1592	1790	0,200	1273	1432	0,250
Spheroidal graphite and malleable iron	≤ 350 HB	27	34	1364	1718	0,160	1074	1353	0,200	859	1082	0,250
Stainless steels	≤ 1200 N/mm ²	12	18	606	909	0,080	477	716	0,100	382	573	0,125
Titanium	≤ 850 N/mm ²	8	12	404	606	0,063	318	477	0,080	255	382	0,100
Special alloys	≤ 1200 N/mm ²	5	7	253	354	0,050	199	279	0,063	159	223	0,080
Spring steels	≤ 330 HB	16	28	808	1415	0,080	637	1114	0,100	509	891	0,125
Plastics	≤ 200 N/mm ²	20	40	1011	2021	0,125	796	1592	0,160	637	1273	0,200

Cutting values for HSCo twist drill bits
For dia. 12.5–20.0

Material name	Tensile strength	v_c		Dia. 12.5			Dia. 16.0			Dia. 20.0		
		v_c		n		f	n		f	n		f
		From	To	From	To		From	To		From	To	
General structural steels	$\leq 850 \text{ N/mm}^2$	36	48	917	1222	0,250	716	955	0,315	573	764	0,400
Unalloyed heat-treated steels	$\leq 850 \text{ N/mm}^2$	36	48	917	1222	0,250	716	955	0,315	573	764	0,400
Low-alloy heat-treated steels	$\leq 850 \text{ N/mm}^2$	36	48	917	1222	0,250	716	955	0,315	573	764	0,400
Unalloyed heat-treated steels	$\leq 1000 \text{ N/mm}^2$	34	42	866	1070	0,200	676	836	0,250	541	668	0,315
Low-alloy heat-treated steels	$\leq 1000 \text{ N/mm}^2$	34	42	866	1070	0,200	676	836	0,250	541	668	0,315
Alloyed heat-treated steels	$\leq 1200 \text{ N/mm}^2$	16	28	407	713	0,125	318	557	0,160	255	446	0,200
Nitriding steels	$\leq 1200 \text{ N/mm}^2$	16	28	407	713	0,125	318	557	0,160	255	446	0,200
Tool steels	$\leq 1200 \text{ N/mm}^2$	16	28	407	713	0,125	318	557	0,160	255	446	0,200
High-speed steels	$\leq 1200 \text{ N/mm}^2$	16	28	407	713	0,125	318	557	0,160	255	446	0,200
Cast iron	$\leq 350 \text{ HB}$	40	45	1019	1146	0,250	796	895	0,315	637	716	0,400
Spheroidal graphite and malleable iron	$\leq 350 \text{ HB}$	27	34	688	866	0,250	537	676	0,315	430	541	0,400
Stainless steels	$\leq 1200 \text{ N/mm}^2$	12	18	306	458	0,160	239	358	0,200	191	286	0,250
Titanium	$\leq 850 \text{ N/mm}^2$	8	12	204	306	0,100	159	239	0,125	127	191	0,160
Special alloys	$\leq 1200 \text{ N/mm}^2$	5	7	127	178	0,080	99	139	0,100	80	111	0,125
Spring steels	$\leq 330 \text{ HB}$	16	28	407	713	0,125	318	557	0,160	255	446	0,200
Plastics	$\leq 200 \text{ N/mm}^2$	20	40	509	1019	0,200	398	796	0,250	318	637	0,315

Legend
 v_c = cutting speed [m/min]

 f = feed (mm/r)

 n = speed [rpm]


The suggested cutting values are reference values and must be adapted to the respective conditions.

Notice

See overview tables for drill bit/material assignments

Related products	Art. no.
Cutting and drilling oil CUT+COOL 400 ml	0893 050 004
Cutting and drilling oil CUT+COOL Perfect 400 ml	0893 050 008
Cutting and drilling oil CUT+COOL Perfect 5 l	0893 050 009
Drilling and cutting paste Cut and Cool Perfect 500 ml	0893 050 010
Cutting and drilling oil CUT+COOL 5 l	0893 050 1