



TWIST DRILLS



Twist drills DIN 338 TL 3000 with split point

Multirange drill especially suitable for drilling deep holes.
Covers types N, H and W for a wide range of applications.

Point cut: helical point
from \varnothing 3,0 mm with split point DIN 1412 C

Point angle: 130°
Helix angle: 40°
 \varnothing tolerance: h8
right hand cutting

Packing unit: in plastic box



HSS ground

Surface: bright

Multirange drill consisting of heavy-duty high speed steel with reinforced drill core and parabolic flute to give improved chip removal. Ideal for drilling medium and long chipping materials. Suitable for drilling depths $< 3 \times$ diameter.

Application areas: for steel, alloyed and unalloyed cast iron (up to a strength of 900 N/mm^2), grey, malleable, ductile and die-cast iron, sintered iron, nickel silver, graphite, short chipping aluminium alloys, brass and bronze.

HSS-TiN ground

Surface: TiN coating

Like HSS-G plus titanium nitride coating. The TiN wear-resistant coating increases the surface hardness to approx. $2,300 \text{ HV}$ and the heat resistance to 600°C .

Application areas: for unalloyed and alloyed steel (up to a strength of 1200 N/mm^2), high chrome alloyed steel such as stainless and acidresistant steel, steel resistant to rust and acid, titanium, titanium alloys, cast iron, aluminium, aluminium alloys, copper, brass and bronze.

HSS Co 5 ground

Surface: golden brown

Like HSS-G plus cobalt alloyed.
The cobalt content ensures increased heat resistance.

Application areas: for unalloyed and alloyed steel (up to a strength of 1200 N/mm^2), steel resistant to rust and acid, cast iron, aluminium, aluminium alloys, copper, brass and bronze.

HSS-TiAlN ground

Surface: TiAlN coating

Like HSS-G plus titanium aluminium nitride coating.
The TiAlN wear-resistant coating increases the surface hardness to approx. $3,000 \text{ HV}$ and the heat resistance to 900°C .

Application areas: for unalloyed and alloyed steel (up to a strength of 1200 N/mm^2), high chrome alloyed steel such as stainless and acidresistant steel, steel resistant to rust and acid, titanium, titanium alloys, cast iron, aluminium, aluminium alloys, copper, brass and bronze.



Twist drills DIN 338 TL 3000 HSS, HSS Co 5, HSS-TiN and HSS-TiAlN ground with split point

Ø mm	Total length mm	Flute length mm	HSS-G		HSS-G Co 5		HSS-G TiN		HSS-G TiAlN	
			Article no.	Cont. pcs.	Article no.	Cont. pcs.	Article no.	Cont. pcs.	Article no.	Cont. pcs.
2,00	49,0	24,0	258 020	10	229 020	10	258 020 T	10	258 020 F	10
2,10	49,0	24,0	258 021	10	229 021	10	258 021 T	10	258 021 F	10
2,20	53,0	27,0	258 022	10	229 022	10	258 022 T	10	258 022 F	10
2,30	53,0	27,0	258 023	10	229 023	10	258 023 T	10	258 023 F	10
2,40	57,0	30,0	258 024	10	229 024	10	258 024 T	10	258 024 F	10
2,50	57,0	30,0	258 025	10	229 025	10	258 025 T	10	258 025 F	10
2,60	57,0	30,0	258 026	10	229 026	10	258 026 T	10	258 026 F	10
2,70	61,0	33,0	258 027	10	229 027	10	258 027 T	10	258 027 F	10
2,80	61,0	33,0	258 028	10	229 028	10	258 028 T	10	258 028 F	10
2,90	61,0	33,0	258 029	10	229 029	10	258 029 T	10	258 029 F	10
3,00	61,0	33,0	258 030	10	229 030	10	258 030 T	10	258 030 F	10
3,10	65,0	36,0	258 031	10	229 031	10	258 031 T	10	258 031 F	10
3,20	65,0	36,0	258 032	10	229 032	10	258 032 T	10	258 032 F	10
3,30	65,0	36,0	258 033	10	229 033	10	258 033 T	10	258 033 F	10
3,40	70,0	39,0	258 034	10	229 034	10	258 034 T	10	258 034 F	10
3,50	70,0	39,0	258 035	10	229 035	10	258 035 T	10	258 035 F	10
3,60	70,0	39,0	258 036	10	229 036	10	258 036 T	10	258 036 F	10
3,70	70,0	39,0	258 037	10	229 037	10	258 037 T	10	258 037 F	10
3,80	75,0	43,0	258 038	10	229 038	10	258 038 T	10	258 038 F	10
3,90	75,0	43,0	258 039	10	229 039	10	258 039 T	10	258 039 F	10
4,00	75,0	43,0	258 040	10	229 040	10	258 040 T	10	258 040 F	10
4,10	75,0	43,0	258 041	10	229 041	10	258 041 T	10	258 041 F	10
4,20	75,0	43,0	258 042	10	229 042	10	258 042 T	10	258 042 F	10
4,30	80,0	47,0	258 043	10	229 043	10	258 043 T	10	258 043 F	10
4,40	80,0	47,0	258 044	10	229 044	10	258 044 T	10	258 044 F	10
4,50	80,0	47,0	258 045	10	229 045	10	258 045 T	10	258 045 F	10
4,60	80,0	47,0	258 046	10	229 046	10	258 046 T	10	258 046 F	10
4,70	80,0	47,0	258 047	10	229 047	10	258 047 T	10	258 047 F	10
4,80	86,0	52,0	258 048	10	229 048	10	258 048 T	10	258 048 F	10
4,90	86,0	52,0	258 049	10	229 049	10	258 049 T	10	258 049 F	10
5,00	86,0	52,0	258 050	10	229 050	10	258 050 T	10	258 050 F	10
5,10	86,0	52,0	258 051	10	229 051	10	258 051 T	10	258 051 F	10
5,20	86,0	52,0	258 052	10	229 052	10	258 052 T	10	258 052 F	10
5,30	86,0	52,0	258 053	10	229 053	10	258 053 T	10	258 053 F	10
5,40	93,0	57,0	258 054	10	229 054	10	258 054 T	10	258 054 F	10
5,50	93,0	57,0	258 055	10	229 055	10	258 055 T	10	258 055 F	10
5,60	93,0	57,0	258 056	10	229 056	10	258 056 T	10	258 056 F	10
5,70	93,0	57,0	258 057	10	229 057	10	258 057 T	10	258 057 F	10
5,80	93,0	57,0	258 058	10	229 058	10	258 058 T	10	258 058 F	10
5,90	93,0	57,0	258 059	10	229 059	10	258 059 T	10	258 059 F	10
6,00	93,0	57,0	258 060	10	229 060	10	258 060 T	10	258 060 F	10
6,10	101,0	63,0	258 061	10	229 061	10	258 061 T	10	258 061 F	10
6,20	101,0	63,0	258 062	10	229 062	10	258 062 T	10	258 062 F	10
6,30	101,0	63,0	258 063	10	229 063	10	258 063 T	10	258 063 F	10
6,40	101,0	63,0	258 064	10	229 064	10	258 064 T	10	258 064 F	10
6,50	101,0	63,0	258 065	10	229 065	10	258 065 T	10	258 065 F	10
6,60	101,0	63,0	258 066	10	229 066	10	258 066 T	10	258 066 F	10
6,70	101,0	63,0	258 067	10	229 067	10	258 067 T	10	258 067 F	10
6,80	109,0	69,0	258 068	10	229 068	10	258 068 T	10	258 068 F	10
6,90	109,0	69,0	258 069	10	229 069	10	258 069 T	10	258 069 F	10
7,00	109,0	69,0	258 070	10	229 070	10	258 070 T	10	258 070 F	10
7,10	109,0	69,0	258 071	10	229 071	10	258 071 T	10	258 071 F	10
7,20	109,0	69,0	258 072	10	229 072	10	258 072 T	10	258 072 F	10
7,30	109,0	69,0	258 073	10	229 073	10	258 073 T	10	258 073 F	10
7,40	109,0	69,0	258 074	10	229 074	10	258 074 T	10	258 074 F	10
7,50	109,0	69,0	258 075	10	229 075	10	258 075 T	10	258 075 F	10
7,60	117,0	75,0	258 076	10	229 076	10	258 076 T	10	258 076 F	10
7,70	117,0	75,0	258 077	10	229 077	10	258 077 T	10	258 077 F	10
7,80	117,0	75,0	258 078	10	229 078	10	258 078 T	10	258 078 F	10
7,90	117,0	75,0	258 079	10	229 079	10	258 079 T	10	258 079 F	10
8,00	117,0	75,0	258 080	10	229 080	10	258 080 T	10	258 080 F	10
8,10	117,0	75,0	258 081	10	229 081	10	258 081 T	10	258 081 F	10
8,20	117,0	75,0	258 082	10	229 082	10	258 082 T	10	258 082 F	10
8,30	117,0	75,0	258 083	10	229 083	10	258 083 T	10	258 083 F	10

Twist drills DIN 338 TL 3000 HSS, HSS Co 5, HSS-TiN and HSS-TiAlN ground with split point in steel case



No. 258 214



No. 229 214



No. 258 214 T



No. 258 214 F

Description	Article no. HSS-G	Article no. HSS-G Co 5	Article no. HSS-G TiN	Article no. HSS-G TiAlN
19-piece set of twist drills DIN 338 TL 3000 Ø 1,0 mm up to 10,0 mm in increments of 0,5 mm	258 214	229 214	258 214 T	258 214 F
25-piece set of twist drills DIN 338 TL 3000 Ø 1,0 mm up to 13,0 mm in increments of 0,5 mm	258 215	229 215	258 215 T	258 215 F

Twist drills DIN 338 TL 3000 HSS, HSS Co 5, HSS-TiN and HSS-TiAlN ground with split point in polystyrene case



No. 258 214



No. 229 214



No. 258 214 T



No. 258 214 F

Description	Article no. HSS-G	Article no. HSS-G Co 5	Article no. HSS-G TiN	Article no. HSS-G TiAlN
19-piece set of twist drills DIN 338 TL 3000 Ø 1,0 mm up to 10,0 mm in increments of 0,5 mm	258 214 RO	229 214 RO	258 214 TRO	258 214 FRO
25-piece set of twist drills DIN 338 TL 3000 Ø 1,0 mm up to 13,0 mm in increments of 0,5 mm	258 215 RO	229 215 RO	258 215 TRO	258 215 FRO

Jobber length DIN 338 TL 3000 in fractional sizes HSS, HSS Co 5, HSS-TiN and HSS-TiAlN ground with split point

Ø in inch	Ø in mm	Total length in inch	Flute length in inch	Article no. HSS-G	Cont. pcs.	Article no. HSS-G Co 5	Cont. pcs.	Article no. HSS-G TiN	Cont. pcs.	Article no. HSS-G TiAlN	Cont. pcs.
1/16	1,59	1 7/8	7/8	258 801	10	229 801	10	258 801 T	10	258 801 F	10
5/64	1,98	2	1	258 802	10	229 802	10	258 802 T	10	258 802 F	10
3/32	2,38	2 1/4	1 1/4	258 803	10	229 803	10	258 803 T	10	258 803 F	10
7/64	2,78	2 5/8	1 1/2	258 804	10	229 804	10	258 804 T	10	258 804 F	10
1/8	3,18	2 3/4	1 5/8	258 805	10	229 805	10	258 805 T	10	258 805 F	10
9/64	3,57	2 7/8	1 3/4	258 806	10	229 806	10	258 806 T	10	258 806 F	10
5/32	3,97	3 1/8	2	258 807	10	229 807	10	258 807 T	10	258 807 F	10
11/64	4,37	3 1/4	2 1/8	258 808	10	229 808	10	258 808 T	10	258 808 F	10
3/16	4,76	3 1/2	2 5/16	258 809	10	229 809	10	258 809 T	10	258 809 F	10
13/64	5,16	3 5/8	2 7/16	258 810	10	229 810	10	258 810 T	10	258 810 F	10
7/32	5,56	3 3/4	2 1/2	258 811	10	229 811	10	258 811 T	10	258 811 F	10
15/64	5,95	3 7/8	2 5/8	258 812	10	229 812	10	258 812 T	10	258 812 F	10
1/4	6,35	4	2 3/4	258 813	10	229 813	10	258 813 T	10	258 813 F	10
17/64	6,75	4 1/8	2 7/8	258 814	10	229 814	10	258 814 T	10	258 814 F	10
9/32	7,14	4 1/4	2 15/16	258 815	10	229 815	10	258 815 T	10	258 815 F	10
19/64	7,54	4 3/8	3 1/16	258 816	10	229 816	10	258 816 T	10	258 816 F	10
5/16	7,94	4 1/2	3 3/16	258 817	10	229 817	10	258 817 T	10	258 817 F	10
21/64	8,33	4 5/8	3 5/16	258 818	10	229 818	10	258 818 T	10	258 818 F	10
11/32	8,73	4 3/4	3 7/16	258 819	10	229 819	10	258 819 T	10	258 819 F	10
23/64	9,13	4 7/8	3 1/2	258 820	10	229 820	10	258 820 T	10	258 820 F	10
3/8	9,53	5	3 5/8	258 821	10	229 821	10	258 821 T	10	258 821 F	10
25/64	9,92	5 1/8	3 3/4	258 822	10	229 822	10	258 822 T	10	258 822 F	10
13/32	10,32	5 1/4	3 7/8	258 823	10	229 823	10	258 823 T	10	258 823 F	10
27/64	10,72	5 3/8	3 15/16	258 824	5	229 824	5	258 824 T	5	258 824 F	5
7/16	11,11	5 1/2	4 1/16	258 825	5	229 825	5	258 825 T	5	258 825 F	5
29/64	11,51	5 5/8	4 3/16	258 826	5	229 826	5	258 826 T	5	258 826 F	5
15/32	11,91	5 3/4	4 5/16	258 827	5	229 827	5	258 827 T	5	258 827 F	5
31/64	12,30	5 7/8	4 3/8	258 828	5	229 828	5	258 828 T	5	258 828 F	5
1/2	12,70	6	4 1/2	258 829	5	229 829	5	258 829 T	5	258 829 F	5

Jobber length sets DIN 338 TL 3000 with fractional sizes HSS, HSS Co 5, HSS-TiN and HSS-TiAlN ground with split point in steel case



No. 258 850



No. 229 850



No. 258 850 T



No. 258 850 F

Description	Article no. HSS-G	Article no. HSS-G Co 5	Article no. HSS-G TiN	Article no. HSS-G TiAlN
21-piece set of jobber length DIN 338 TL 3000 Ø 1/16" up to 3/8" in increments of 1/64"	258 850	229 850	258 850 T	258 850 F
29-piece set of jobber length DIN 338 TL 3000 Ø 1/16" up to 1/2" in increments of 1/64"	258 851	229 851	258 851 T	258 851 F

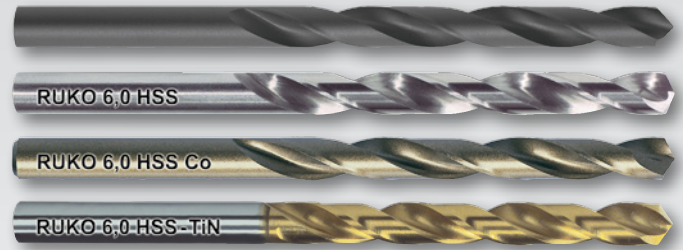


Twist drills DIN 338 type N

High performance twist drill suitable for all normal drilling in conventional materials.

Point cut: helical point
 Helix angle: 20-30°
 Ø tolerance: h8
 right hand cutting

Packing unit: in plastic box



HSS rolled

Point cut: helical point
 Point angle: 118°
 Surface: black, steam tempered

High performance rolled twist drill consisting of heavy-duty high speed steel. The material is strengthened by the rolled production process and is more resistant to fracture.

Application areas: for steel, alloyed and unalloyed cast iron (up to a strength of 900 N/mm²), grey, malleable, ductile and die-cast iron, sintered iron, nickel silver, graphite, short chipping aluminium alloys, brass and bronze.

HSS ground

Point cut: from Ø 3,0 mm **with split point** DIN 1412 C
 Point angle: 118°
 Surface: bright

High performance ground twist drill consisting of heavy-duty high speed steel. The fully ground twist drill has a more precise concentricity.

Application areas: for steel, alloyed and unalloyed cast iron (up to a strength of 900 N/mm²), grey, malleable, ductile and die-cast iron, sintered iron, nickel silver, graphite, short chipping aluminium alloys, brass and bronze.

HSS Co 5 ground

Point cut: from Ø 3,0 mm **with split point** DIN 1412 C
 Point angle: 130°
 Surface: golden brown

Like HSS-G plus cobalt alloyed. The cobalt content ensures increased heat resistance.

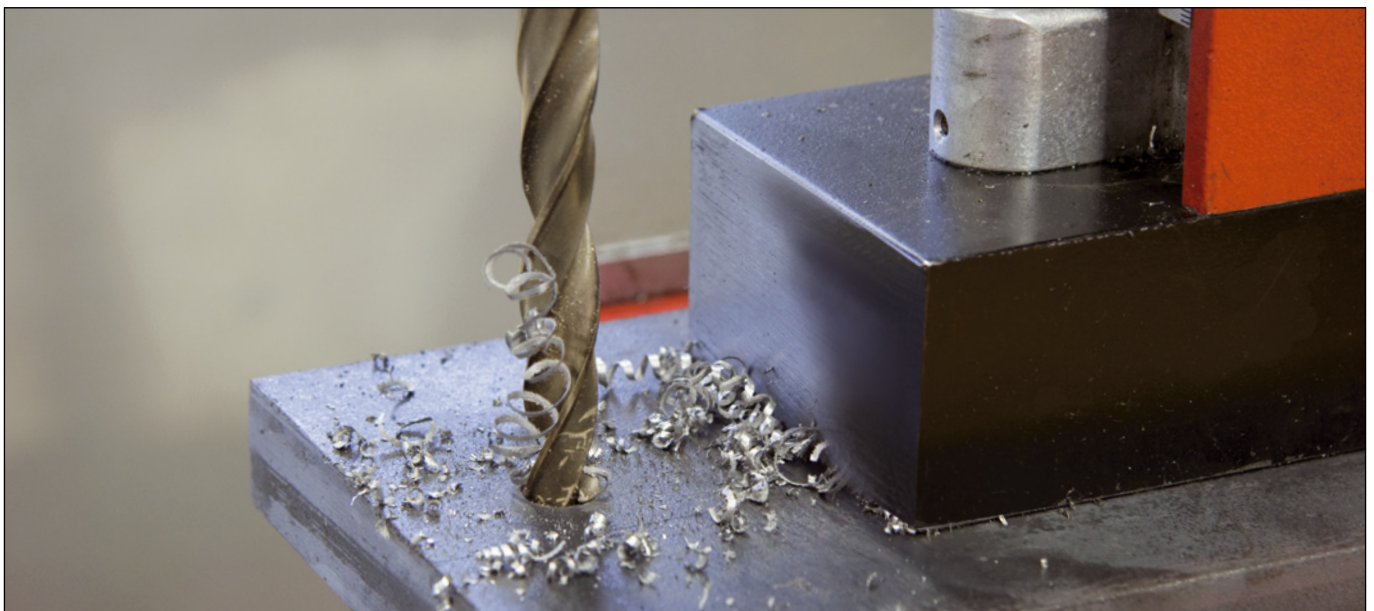
Application areas: for unalloyed and alloyed steel (up to a strength of 1100 N/mm²), hot and cold-working steel, reinforced and case-hardened steel and also steel resistant to rust and acid.

HSS-TiN ground

Point cut: from Ø 3,0 mm **with split point** DIN 1412 C
 Point angle: 118°
 Surface: TiN coating

Like HSS-G plus titanium nitride coating. The TiN wear resistant coating increases the surface hardness to approx. 2,300 HV and the heat resistance to 600 °C. Achieves longer tool life with increased cutting values.

Application areas: for steel, alloyed and unalloyed cast iron (up to a strength of 1100 N/mm²), grey, malleable, ductile and die-cast iron, sintered iron, nickel silver, graphite, short chipping aluminium alloys, brass and bronze.



Twist drills DIN 338 type N
HSS rolled, HSS ground, HSS Co 5 ground and HSS-TiN ground

Ø mm	Total length mm	Flute length mm	Article no. HSS-R	Cont. pcs.	Article no. HSS-G	Cont. pcs.	Article no. HSS-G Co 5	Cont. pcs.	Article no. HSS-G TiN	Cont. pcs.
0,30	19,0	3,0	201 003	10	214 003	10	—	—	250 003 T	10
0,40	20,0	5,0	201 004	10	214 004	10	—	—	250 004 T	10
0,50	22,0	6,0	201 005	10	214 005	10	—	—	250 005 T	10
0,60	24,0	7,0	201 006	10	214 006	10	—	—	250 006 T	10
0,70	28,0	9,0	201 007	10	214 007	10	—	—	250 007 T	10
0,80	30,0	10,0	201 008	10	214 008	10	—	—	250 008 T	10
0,90	32,0	11,0	201 009	10	214 009	10	—	—	250 009 T	10
1,00	34,0	12,0	201 010	10	214 010	10	215 010	10	250 010 T	10
1,10	36,0	14,0	201 011	10	214 011	10	215 011	10	250 011 T	10
1,20	38,0	16,0	201 012	10	214 012	10	215 012	10	250 012 T	10
1,25	38,0	16,0	201 0125	10	214 0125	10	215 0125	10	250 0125 T	10
1,30	38,0	16,0	201 013	10	214 013	10	215 013	10	250 013 T	10
1,40	40,0	18,0	201 014	10	214 014	10	215 014	10	250 014 T	10
1,50	40,0	18,0	201 015	10	214 015	10	215 015	10	250 015 T	10
1,60	43,0	20,0	201 016	10	214 016	10	215 016	10	250 016 T	10
1,70	43,0	20,0	201 017	10	214 017	10	215 017	10	250 017 T	10
1,75	46,0	20,0	201 0175	10	214 0175	10	215 0175	10	250 0175 T	10
1,80	46,0	22,0	201 018	10	214 018	10	215 018	10	250 018 T	10
1,90	46,0	22,0	201 019	10	214 019	10	215 019	10	250 019 T	10
2,00	49,0	24,0	201 020	10	214 020	10	215 020	10	250 020 T	10
2,10	49,0	24,0	201 021	10	214 021	10	215 021	10	250 021 T	10
2,20	53,0	27,0	201 022	10	214 022	10	215 022	10	250 022 T	10
2,25	53,0	27,0	201 0225	10	214 0225	10	215 0225	10	250 0225 T	10
2,30	53,0	27,0	201 023	10	214 023	10	215 023	10	250 023 T	10
2,40	57,0	30,0	201 024	10	214 024	10	215 024	10	250 024 T	10
2,50	57,0	30,0	201 025	10	214 025	10	215 025	10	250 025 T	10
2,60	57,0	30,0	201 026	10	214 026	10	215 026	10	250 026 T	10
2,70	61,0	33,0	201 027	10	214 027	10	215 027	10	250 027 T	10
2,75	61,0	33,0	201 0275	10	214 0275	10	215 0275	10	250 0275 T	10
2,80	61,0	33,0	201 028	10	214 028	10	215 028	10	250 028 T	10
2,90	61,0	33,0	201 029	10	214 029	10	215 029	10	250 029 T	10
3,00	61,0	33,0	201 030	10	214 030	10	215 030	10	250 030 T	10
3,10	65,0	36,0	201 031	10	214 031	10	215 031	10	250 031 T	10
3,20	65,0	36,0	201 032	10	214 032	10	215 032	10	250 032 T	10
3,25	65,0	36,0	201 0325	10	214 0325	10	215 0325	10	250 0325 T	10
3,30	65,0	36,0	201 033	10	214 033	10	215 033	10	250 033 T	10
3,40	70,0	39,0	201 034	10	214 034	10	215 034	10	250 034 T	10
3,50	70,0	39,0	201 035	10	214 035	10	215 035	10	250 035 T	10
3,60	70,0	39,0	201 036	10	214 036	10	215 036	10	250 036 T	10
3,70	70,0	39,0	201 037	10	214 037	10	215 037	10	250 037 T	10
3,75	70,0	39,0	201 0375	10	214 0375	10	215 0375	10	250 0375 T	10
3,80	75,0	43,0	201 038	10	214 038	10	215 038	10	250 038 T	10
3,90	75,0	43,0	201 039	10	214 039	10	215 039	10	250 039 T	10
4,00	75,0	43,0	201 040	10	214 040	10	215 040	10	250 040 T	10
4,10	75,0	43,0	201 041	10	214 041	10	215 041	10	250 041 T	10
4,20	75,0	43,0	201 042	10	214 042	10	215 042	10	250 042 T	10
4,25	75,0	43,0	201 0425	10	214 0425	10	215 0425	10	250 0425 T	10
4,30	80,0	47,0	201 043	10	214 043	10	215 043	10	250 043 T	10
4,40	80,0	47,0	201 044	10	214 044	10	215 044	10	250 044 T	10
4,50	80,0	47,0	201 045	10	214 045	10	215 045	10	250 045 T	10
4,60	80,0	47,0	201 046	10	214 046	10	215 046	10	250 046 T	10
4,70	80,0	47,0	201 047	10	214 047	10	215 047	10	250 047 T	10
4,75	80,0	47,0	201 0475	10	214 0475	10	215 0475	10	250 0475 T	10
4,80	86,0	52,0	201 048	10	214 048	10	215 048	10	250 048 T	10
4,90	86,0	52,0	201 049	10	214 049	10	215 049	10	250 049 T	10
5,00	86,0	52,0	201 050	10	214 050	10	215 050	10	250 050 T	10
5,10	86,0	52,0	201 051	10	214 051	10	215 051	10	250 051 T	10
5,20	86,0	52,0	201 052	10	214 052	10	215 052	10	250 052 T	10
5,25	86,0	52,0	201 0525	10	214 0525	10	215 0525	10	250 0525 T	10
5,30	86,0	52,0	201 053	10	214 053	10	215 053	10	250 053 T	10
5,40	93,0	57,0	201 054	10	214 054	10	215 054	10	250 054 T	10
5,50	93,0	57,0	201 055	10	214 055	10	215 055	10	250 055 T	10
5,60	93,0	57,0	201 056	10	214 056	10	215 056	10	250 056 T	10
5,70	93,0	57,0	201 057	10	214 057	10	215 057	10	250 057 T	10

Twist drills DIN 338 type N

HSS rolled, HSS ground, HSS Co 5 ground and HSS-TiN ground

Ø mm	Total length mm	Flute length mm	Article no. HSS-R	Cont. pcs.	Article no. HSS-G	Cont. pcs.	Article no. HSS-G Co 5	Cont. pcs.	Article no. HSS-G TiN	Cont. pcs.
5,70	93,0	57,0	201 057	10	214 057	10	215 057	10	250 057 T	10
5,75	93,0	57,0	201 0575	10	214 0575	10	215 0575	10	250 0575 T	10
5,80	93,0	57,0	201 058	10	214 058	10	215 058	10	250 058 T	10
5,90	93,0	57,0	201 059	10	214 059	10	215 059	10	250 059 T	10
6,00	93,0	57,0	201 060	10	214 060	10	215 060	10	250 060 T	10
6,10	101,0	63,0	201 061	10	214 061	10	215 061	10	250 061 T	10
6,20	101,0	63,0	201 062	10	214 062	10	215 062	10	250 062 T	10
6,25	101,0	63,0	201 0625	10	214 0625	10	215 0625	10	250 0625 T	10
6,30	101,0	63,0	201 063	10	214 063	10	215 063	10	250 063 T	10
6,40	101,0	63,0	201 064	10	214 064	10	215 064	10	250 064 T	10
6,50	101,0	63,0	201 065	10	214 065	10	215 065	10	250 065 T	10
6,60	101,0	63,0	201 066	10	214 066	10	215 066	10	250 066 T	10
6,70	101,0	63,0	201 067	10	214 067	10	215 067	10	250 067 T	10
6,75	101,0	63,0	201 0675	10	214 0675	10	215 0675	10	250 0675 T	10
6,80	109,0	69,0	201 068	10	214 068	10	215 068	10	250 068 T	10
6,90	109,0	69,0	201 069	10	214 069	10	215 069	10	250 069 T	10
7,00	109,0	69,0	201 070	10	214 070	10	215 070	10	250 070 T	10
7,10	109,0	69,0	201 071	10	214 071	10	215 071	10	250 071 T	10
7,20	109,0	69,0	201 072	10	214 072	10	215 072	10	250 072 T	10
7,25	109,0	69,0	201 0725	10	214 0725	10	215 0725	10	250 0725 T	10
7,30	109,0	69,0	201 073	10	214 073	10	215 073	10	250 073 T	10
7,40	109,0	69,0	201 074	10	214 074	10	215 074	10	250 074 T	10
7,50	109,0	69,0	201 075	10	214 075	10	215 075	10	250 075 T	10
7,60	117,0	75,0	201 076	10	214 076	10	215 076	10	250 076 T	10
7,70	117,0	75,0	201 077	10	214 077	10	215 077	10	250 077 T	10
7,75	117,0	75,0	201 0775	10	214 0775	10	215 0775	10	250 0775 T	10
7,80	117,0	75,0	201 078	10	214 078	10	215 078	10	250 078 T	10
7,90	117,0	75,0	201 079	10	214 079	10	215 079	10	250 079 T	10
8,00	117,0	75,0	201 080	10	214 080	10	215 080	10	250 080 T	10
8,10	117,0	75,0	201 081	10	214 081	10	215 081	10	250 081 T	10
8,20	117,0	75,0	201 082	10	214 082	10	215 082	10	250 082 T	10
8,25	117,0	75,0	201 0825	10	214 0825	10	215 0825	10	250 0825 T	10
8,30	117,0	75,0	201 083	10	214 083	10	215 083	10	250 083 T	10
8,40	117,0	75,0	201 084	10	214 084	10	215 084	10	250 084 T	10
8,50	117,0	75,0	201 085	10	214 085	10	215 085	10	250 085 T	10
8,60	125,0	81,0	201 086	10	214 086	10	215 086	10	250 086 T	10
8,70	125,0	81,0	201 087	10	214 087	10	215 087	10	250 087 T	10
8,75	125,0	81,0	201 0875	10	214 0875	10	215 0875	10	250 0875 T	10
8,80	125,0	81,0	201 088	10	214 088	10	215 088	10	250 088 T	10
8,90	125,0	81,0	201 089	10	214 089	10	215 089	10	250 089 T	10
9,00	125,0	81,0	201 090	10	214 090	10	215 090	10	250 090 T	10
9,10	125,0	81,0	201 091	10	214 091	10	215 091	10	250 091 T	10
9,20	125,0	81,0	201 092	10	214 092	10	215 092	10	250 092 T	10
9,25	125,0	81,0	201 0925	10	214 0925	10	215 0925	10	250 0925 T	10
9,30	125,0	81,0	201 093	10	214 093	10	215 093	10	250 093 T	10
9,40	125,0	81,0	201 094	10	214 094	10	215 094	10	250 094 T	10
9,50	125,0	81,0	201 095	10	214 095	10	215 095	10	250 095 T	10
9,60	133,0	87,0	201 096	10	214 096	10	215 096	10	250 096 T	10
9,70	133,0	87,0	201 097	10	214 097	10	215 097	10	250 097 T	10
9,75	133,0	87,0	201 0975	10	214 0975	10	215 0975	10	250 0975 T	10
9,80	133,0	87,0	201 098	10	214 098	10	215 098	10	250 098 T	10
9,90	133,0	87,0	201 099	10	214 099	10	215 099	10	250 099 T	10
10,00	133,0	87,0	201 100	10	214 100	10	215 100	10	250 100 T	10
10,10	133,0	87,0	201 101	10	214 101	10	—	—	250 101 T	10
10,20	133,0	87,0	201 102	10	214 102	10	215 102	10	250 102 T	10
10,30	133,0	87,0	201 103	10	214 103	10	—	—	250 103 T	10
10,40	133,0	87,0	201 104	10	214 104	10	—	—	250 104 T	10
10,50	133,0	87,0	201 105	5	214 105	5	215 105	5	250 105 T	5
10,60	133,0	87,0	201 106	5	214 106	5	—	—	250 106 T	5
10,70	142,0	94,0	201 107	5	214 107	5	—	—	250 107 T	5
10,80	142,0	94,0	201 108	5	214 108	5	—	—	250 108 T	5
10,90	142,0	94,0	201 109	5	214 109	5	—	—	250 109 T	5
11,00	142,0	94,0	201 110	5	214 110	5	215 110	5	250 110 T	5
11,10	142,0	94,0	201 111	5	214 111	5	—	—	250 111 T	5

Twist drills DIN 338 type N
HSS rolled, HSS ground, HSS Co 5 ground and HSS-TiN ground

Ø mm	Total length mm	Flute length mm	Article no. HSS-R	Cont. pcs.	Article no. HSS-G	Cont. pcs.	Article no. HSS-G Co 5	Cont. pcs.	Article no. HSS-G TiN	Cont. pcs.
11,20	142,0	94,0	201 112	5	214 112	5	—	—	250 112 T	5
11,30	142,0	94,0	201 113	5	214 113	5	—	—	250 113 T	5
11,40	142,0	94,0	201 114	5	214 114	5	—	—	250 114 T	5
11,50	142,0	94,0	201 115	5	214 115	5	215 115	5	250 115 T	5
11,60	142,0	94,0	201 116	5	214 116	5	—	—	250 116 T	5
11,70	142,0	94,0	201 117	5	214 117	5	—	—	250 117 T	5
11,80	142,0	94,0	201 118	5	214 118	5	—	—	250 118 T	5
11,90	151,0	101,0	201 119	5	214 119	5	—	—	250 119 T	5
12,00	151,0	101,0	201 120	5	214 120	5	215 120	5	250 120 T	5
12,10	151,0	101,0	201 121	5	214 121	5	—	—	250 121 T	5
12,20	151,0	101,0	201 122	5	214 122	5	—	—	250 122 T	5
12,30	151,0	101,0	201 123	5	214 123	5	—	—	250 123 T	5
12,40	151,0	101,0	201 124	5	214 124	5	—	—	250 124 T	5
12,50	151,0	101,0	201 125	5	214 125	5	215 125	5	250 125 T	5
12,60	151,0	101,0	201 126	5	214 126	5	—	—	250 126 T	5
12,70	151,0	101,0	201 127	5	214 127	5	—	—	250 127 T	5
12,80	151,0	101,0	201 128	5	214 128	5	—	—	250 128 T	5
12,90	151,0	101,0	201 129	5	214 129	5	—	—	250 129 T	5
13,00	151,0	101,0	201 130	5	214 130	5	215 130	5	250 130 T	5
13,50	160,0	108,0	201 135	5	214 135	5	215 135	5	250 135 T	5
14,00	160,0	108,0	201 140	5	214 140	5	215 140	5	250 140 T	5
14,50	169,0	114,0	201 145	5	214 145	5	215 145	5	250 145 T	5
15,00	169,0	114,0	201 150	5	214 150	5	215 150	5	250 150 T	5
15,50	178,0	120,0	201 155	5	214 155	5	215 155	5	250 155 T	5
16,00	178,0	120,0	201 160	5	214 160	5	215 160	5	250 160 T	5
16,50	184,0	125,0	201 165	1	—	—	—	—	—	—
17,00	184,0	125,0	201 170	1	—	—	—	—	—	—
17,50	191,0	130,0	201 175	1	—	—	—	—	—	—
18,00	191,0	130,0	201 180	1	—	—	—	—	—	—
18,50	198,0	135,0	201 185	1	—	—	—	—	—	—
19,00	198,0	135,0	201 190	1	—	—	—	—	—	—
19,50	205,0	140,0	201 195	1	—	—	—	—	—	—
20,00	205,0	140,0	201 200	1	—	—	—	—	—	—

Twist drill sets DIN 338 type N HSS and HSS Co 5 ground with split point in magazine

Description	Article no.
Consisting of 170 twist drills DIN 338 type N HSS ground 10 pcs, Ø 1,0 - 8,0 mm in increments of 0,5 mm 5 pcs, Ø 8,5 - 10,0 mm in increments of 0,5 mm	214 200
Consisting of 170 twist drills DIN 338 type N HSS Co 5 ground 10 pcs, Ø 1,0 - 8,0 mm in increments of 0,5 mm 5 pcs, Ø 8,5 - 10,0 mm in increments of 0,5 mm	215 200



No. 214 200

Twist drill sets DIN 338 type N HSS rolled, HSS ground, HSS Co 5 ground and HSS-TiN ground in steel case



No. 205 212



No. 214 214



No. 215 214



No. 250 214 T

Description	Article no. HSS-R	Article no. HSS-G	Article no. HSS-G Co 5	Article no. HSS-G TiN
19-piece set of twist drills DIN 338 type N Ø 1,0 mm up to 10,0 mm in increments of 0,5 mm	205 212	214 214	215 214	250 214 T
25-piece set of twist drills DIN 338 type N Ø 1,0 mm up to 13,0 mm in increments of 0,5 mm	205 213	214 215	215 215	250 215 T
41-piece set of twist drills DIN 338 type N Ø 6,0 mm up to 10,0 mm in increments of 0,1 mm	205 218	214 218	215 218	—
50-piece set of twist drills DIN 338 type N Ø 1,0 mm up to 5,9 mm in increments of 0,1 mm	205 217	214 217	215 217	—

Twist drill sets DIN 338 type N HSS rolled, HSS ground, HSS Co 5 ground and HSS-TiN ground in polystyrene case



No. 205 212 RO



No. 214 214 RO



No. 215 214 RO



No. 250 214 TRO

Description	Article no. HSS-R	Article no. HSS-G	Article no. HSS-G Co 5	Article no. HSS-G TiN
19-piece set of twist drills DIN 338 type N Ø 1,0 mm up to 10,0 mm in increments of 0,5 mm	205 212 RO	214 214 RO	215 214 RO	250 214 TRO
25-piece set of twist drills DIN 338 type N Ø 1,0 mm up to 13,0 mm in increments of 0,5 mm	205 213 RO	214 215 RO	215 215 RO	250 215 TRO

Twist drill sets DIN 338 type N HSS rolled in steel case

Description	Article no.
13-piece set of twist drills DIN 338 type N Ø 1,5 mm up to 6,5 mm in increments of 0,5 mm + Ø 3,3 and 4,2 mm	205 207



Twist drill sets DIN 338 type N HSS rolled, HSS ground and HSS Co 5 ground in bench stand

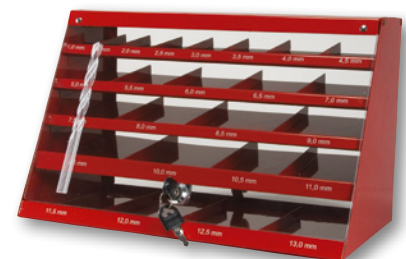
Description	Article no.
91-piece set of twist drills DIN 338 type N HSS rolled Ø 1,0 mm up to 10,0 mm in increments of 0,1 mm	205 223
91-piece set of twist drills DIN 338 type N HSS ground Ø 1,0 mm up to 10,0 mm in increments of 0,1 mm	214 223
91-piece set of twist drills DIN 338 type N HSS Co 5 ground Ø 1,0 mm up to 10,0 mm in increments of 0,1 mm	215 223



No. 205 223

Drill cabinet

Description	Article no.
Drill cabinet empty Ø 1,0 mm up to 10,0 mm in increments of 0,1 mm + Ø 10,5 mm up to 13,0 mm in increments of 0,5 mm	205 208 L
Drill cabinet empty Ø 1,0 mm up to 13,0 mm in increments of 0,5 mm	205 208 L
Drill cabinet consisting of 570 twist drills DIN 338 type N HSS rolled contents list see below	205 208
Drill cabinet consisting of 570 twist drills DIN 338 type N HSS ground contents list see below	214 208
Drill cabinet consisting of 570 twist drills DIN 338 type N HSS Co 5 ground contents list see below	215 208



No. 205 208 L

Contents list:

Ø mm x pcs.	Ø mm x pcs.	Ø mm x pcs.	Ø mm x pcs.	Ø mm x pcs.
1,0 x 50	3,5 x 30	6,0 x 20	8,5 x 10	11,0 x 10
1,5 x 50	4,0 x 30	6,5 x 20	9,0 x 10	11,5 x 10
2,0 x 50	4,5 x 30	7,0 x 20	9,5 x 10	12,0 x 10
2,5 x 50	5,0 x 30	7,5 x 20	10,0 x 10	12,5 x 10
3,0 x 30	5,5 x 30	8,0 x 10	10,5 x 10	13,0 x 10



No. 205 208 L

Jobber length DIN 338 type N in fractional sizes HSS, HSS Co 5 and HSS-TiN ground with split point

Ø in inch	Ø in mm	Total length in inch	Flute length in inch	HSS-G		HSS-G Co 5		HSS-G TiN	
				Article no.	Cont. pcs.	Article no.	Cont. pcs.	Article no.	Cont. pcs.
1/16	1,59	1 7/8	7/8	214 801	10	215 801	10	250 801 T	10
5/64	1,98	2	1	214 802	10	215 802	10	250 802 T	10
3/32	2,38	2 1/4	1 1/4	214 803	10	215 803	10	250 803 T	10
7/64	2,78	2 5/8	1 1/2	214 804	10	215 804	10	250 804 T	10
1/8	3,18	2 3/4	1 5/8	214 805	10	215 805	10	250 805 T	10
9/64	3,57	2 7/8	1 3/4	214 806	10	215 806	10	250 806 T	10
5/32	3,97	3 1/8	2	214 807	10	215 807	10	250 807 T	10
11/64	4,37	3 1/4	2 1/8	214 808	10	215 808	10	250 808 T	10
3/16	4,76	3 1/2	2 5/16	214 809	10	215 809	10	250 809 T	10
13/64	5,16	3 5/8	2 7/16	214 810	10	215 810	10	250 810 T	10
7/32	5,56	3 3/4	2 1/2	214 811	10	215 811	10	250 811 T	10
15/64	5,95	3 7/8	2 5/8	214 812	10	215 812	10	250 812 T	10
1/4	6,35	4	2 3/4	214 813	10	215 813	10	250 813 T	10
17/64	6,75	4 1/8	2 7/8	214 814	10	215 814	10	250 814 T	10
9/32	7,14	4 1/4	2 15/16	214 815	10	215 815	10	250 815 T	10
19/64	7,54	4 3/8	3 1/16	214 816	10	215 816	10	250 816 T	10
5/16	7,94	4 1/2	3 3/16	214 817	10	215 817	10	250 817 T	10
21/64	8,33	4 5/8	3 5/16	214 818	10	215 818	10	250 818 T	10
11/32	8,73	4 3/4	3 7/16	214 819	10	215 819	10	250 819 T	10
23/64	9,13	4 7/8	3 1/2	214 820	10	215 820	10	250 820 T	10
3/8	9,53	5	3 5/8	214 821	10	215 821	10	250 821 T	10
25/64	9,92	5 1/8	3 3/4	214 822	10	215 822	10	250 822 T	10
13/32	10,32	5 1/4	3 7/8	214 823	10	215 823	10	250 823 T	10
27/64	10,72	5 3/8	3 15/16	214 824	5	215 824	5	250 824 T	5
7/16	11,11	5 1/2	4 1/16	214 825	5	215 825	5	250 825 T	5
29/64	11,51	5 5/8	4 3/16	214 826	5	215 826	5	250 826 T	5
15/32	11,91	5 3/4	4 5/16	214 827	5	215 827	5	250 827 T	5
31/64	12,30	5 7/8	4 3/8	214 828	5	215 828	5	250 828 T	5
1/2	12,70	6	4 1/2	214 829	5	215 829	5	250 829 T	5

Twist drill sets DIN 338 type N with fractional sizes HSS, HSS Co 5 and HSS-TiN ground with split point in steel case



No. 214 850



No. 215 850



No. 250 850 T

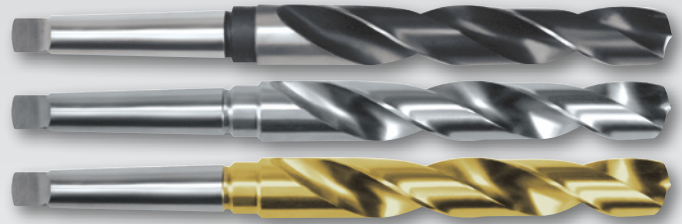
Description	Article no. HSS-G	Article no. HSS-G Co 5	Article no. HSS-G TiN
21-piece set of jobber length DIN 338 type N Ø 1/16" up to 3/8" in increments of 1/64"	214 850	215 850	250 850 T
29-piece set of jobber length DIN 338 type N Ø 1/16" up to 1/2" in increments of 1/64"	214 851	215 851	250 851 T

Twist drills DIN 345 type N

Highly efficient standard drill with Morse taper. High security against fracture.

Point cut: cut chisel edge in accordance with DIN 1412 A
 Point angle: 118°
 Helix angle: 20-30°
 Ø tolerance: h8
 right hand cutting

Packing unit: in plastic box



HSS

Surface: bright / ground

Highly efficient standard drill consisting of heavy-duty high speed steel usable for all drilling work in normal materials.

Applications: for steel and cast-steel alloyed and unalloyed up to approx. 900 N/mm² strength, grey cast, malleable cast iron, die-cast metal, iron sinter, nickel-silver, graphite cast iron, short-chipping aluminium alloys, bronze and brass.

HSS Co 5 ground

Surface: bright

Highly efficient standard drill consisting of cobalt alloyed heavy duty high-speed steel with higher heat-resistance. Ideally suitable for drilling of materials that are difficult to drill and for highest loading.

Applications: for steel and cast-steel alloyed and unalloyed over 900 N/mm² strength, grey cast, malleable cast, high-alloyed chromium steel such as stainless and acid resistant steel.

HSS Co 5 TiN ground

Surface: TiN coating

Like HSS Co 5 ground plus titanium nitride coating. The TiN wear-resistant coating increases the surface hardness to approx. 2,300 HV and the heat resistance to 600 °C. Ideally suitable for drilling of materials that are difficult to drill and for highest loading.

Applications: for steel and cast-steel alloyed and unalloyed up to approx. 1.200 N/mm² strength, grey cast, malleable cast, high-alloyed chromium steel such as stainless and acid resistant steel.

Twist drills DIN 345 type N

HSS, HSS-G Co 5 and HSS-G Co 5 TiN

Ø mm	Total length mm	Flute length mm	Morse taper no.	Article no. HSS		Article no. HSS-G Co 5		Article no. HSS-G Co 5 TiN	
					Cont. pcs.		Cont. pcs.		Cont. pcs.
10,00	168,0	87,0	1	204 100	1	204 100 E	1	204 100 T	1
10,50	168,0	87,0	1	204 105	1	204 105 E	1	204 105 T	1
11,00	175,0	94,0	1	204 110	1	204 110 E	1	204 110 T	1
11,50	175,0	94,0	1	204 115	1	204 115 E	1	204 115 T	1
12,00	182,0	101,0	1	204 120	1	204 120 E	1	204 120 T	1
12,50	182,0	101,0	1	204 125	1	204 125 E	1	204 125 T	1
13,00	182,0	101,0	1	204 130	1	204 130 E	1	204 130 T	1
13,50	189,0	108,0	1	204 135	1	204 135 E	1	204 135 T	1
14,00	189,0	108,0	1	204 140	1	204 140 E	1	204 140 T	1
14,50	212,0	114,0	2	204 145	1	204 145 E	1	204 145 T	1
15,00	212,0	114,0	2	204 150	1	204 150 E	1	204 150 T	1
15,50	218,0	120,0	2	204 155	1	204 155 E	1	204 155 T	1
16,00	218,0	120,0	2	204 160	1	204 160 E	1	204 160 T	1
16,50	223,0	125,0	2	204 165	1	204 165 E	1	204 165 T	1
17,00	223,0	125,0	2	204 170	1	204 170 E	1	204 170 T	1
17,50	228,0	130,0	2	204 175	1	204 175 E	1	204 175 T	1
18,00	228,0	130,0	2	204 180	1	204 180 E	1	204 180 T	1
18,50	233,0	135,0	2	204 185	1	204 185 E	1	204 185 T	1
19,00	233,0	135,0	2	204 190	1	204 190 E	1	204 190 T	1
19,50	238,0	140,0	2	204 195	1	204 195 E	1	204 195 T	1
20,00	238,0	140,0	2	204 200	1	204 200 E	1	204 200 T	1
20,50	243,0	145,0	2	204 205	1	204 205 E	1	204 205 T	1
21,00	243,0	145,0	2	204 210	1	204 210 E	1	204 210 T	1
21,50	248,0	150,0	2	204 215	1	204 215 E	1	204 215 T	1
22,00	248,0	150,0	2	204 220	1	204 220 E	1	204 220 T	1
22,50	253,0	155,0	2	204 225	1	204 225 E	1	204 225 T	1
23,00	253,0	155,0	2	204 230	1	204 230 E	1	204 230 T	1

Twist drills DIN 345 type N
HSS, HSS-G Co 5 and HSS-G Co 5 TiN

Ø mm	Total length mm	Flute length mm	Morse taper no.	HSS		HSS-G Co 5		HSS-G Co 5 TiN	
				Article no.	Cont. pcs.	Article no.	Cont. pcs.	Article no.	Cont. pcs.
23,50	276,0	155,0	3	204 235	1	204 235 E	1	204 235 T	1
24,00	281,0	160,0	3	204 240	1	204 240 E	1	204 240 T	1
24,50	281,0	160,0	3	204 245	1	204 245 E	1	204 245 T	1
25,00	281,0	160,0	3	204 250	1	204 250 E	1	204 250 T	1
25,50	286,0	165,0	3	204 255	1	204 255 E	1	204 255 T	1
26,00	286,0	165,0	3	204 260	1	204 260 E	1	204 260 T	1
26,50	286,0	165,0	3	204 265	1	204 265 E	1	204 265 T	1
27,00	291,0	170,0	3	204 270	1	204 270 E	1	204 270 T	1
27,50	291,0	170,0	3	204 275	1	204 275 E	1	204 275 T	1
28,00	291,0	170,0	3	204 280	1	204 280 E	1	204 280 T	1
28,50	296,0	175,0	3	204 285	1	204 285 E	1	204 285 T	1
29,00	296,0	175,0	3	204 290	1	204 290 E	1	204 290 T	1
29,50	296,0	175,0	3	204 295	1	204 295 E	1	204 295 T	1
30,00	296,0	175,0	3	204 300	1	204 300 E	1	204 300 T	1
30,50	301,0	180,0	3	204 305	1	—	—	—	—
31,00	301,0	180,0	3	204 310	1	—	—	—	—
31,50	301,0	180,0	3	204 315	1	—	—	—	—
32,00	334,0	185,0	4	204 320	1	—	—	—	—
32,50	334,0	185,0	4	204 325	1	—	—	—	—
33,00	334,0	185,0	4	204 330	1	—	—	—	—
33,50	334,0	185,0	4	204 335	1	—	—	—	—
34,00	339,0	190,0	4	204 340	1	—	—	—	—
34,50	339,0	190,0	4	204 345	1	—	—	—	—
35,00	339,0	190,0	4	204 350	1	—	—	—	—
35,50	339,0	190,0	4	204 355	1	—	—	—	—
36,00	344,0	195,0	4	204 360	1	—	—	—	—
36,50	344,0	195,0	4	204 365	1	—	—	—	—
37,00	344,0	195,0	4	204 370	1	—	—	—	—
37,50	344,0	195,0	4	204 375	1	—	—	—	—
38,00	349,0	200,0	4	204 380	1	—	—	—	—
38,50	349,0	200,0	4	204 385	1	—	—	—	—
39,00	349,0	200,0	4	204 390	1	—	—	—	—
39,50	349,0	200,0	4	204 395	1	—	—	—	—
40,00	349,0	200,0	4	204 400	1	—	—	—	—
40,50	354,0	205,0	4	204 405	1	—	—	—	—
41,00	354,0	205,0	4	204 410	1	—	—	—	—
41,50	354,0	205,0	4	204 415	1	—	—	—	—
42,00	354,0	205,0	4	204 420	1	—	—	—	—
42,50	354,0	205,0	4	204 425	1	—	—	—	—
43,00	359,0	210,0	4	204 430	1	—	—	—	—
43,50	359,0	210,0	4	204 435	1	—	—	—	—
44,00	359,0	210,0	4	204 440	1	—	—	—	—
44,50	359,0	210,0	4	204 445	1	—	—	—	—
45,00	359,0	210,0	4	204 450	1	—	—	—	—
45,50	364,0	215,0	4	204 455	1	—	—	—	—
46,00	364,0	215,0	4	204 460	1	—	—	—	—
46,50	364,0	215,0	4	204 465	1	—	—	—	—
47,00	364,0	215,0	4	204 470	1	—	—	—	—
47,50	364,0	215,0	4	204 475	1	—	—	—	—
48,00	369,0	220,0	4	204 480	1	—	—	—	—
48,50	369,0	220,0	4	204 485	1	—	—	—	—
49,00	369,0	220,0	4	204 490	1	—	—	—	—
49,50	369,0	220,0	4	204 495	1	—	—	—	—
50,00	369,0	220,0	4	204 500	1	—	—	—	—
51,00	412,0	225,0	5	204 510	1	—	—	—	—
52,00	412,0	225,0	5	204 520	1	—	—	—	—
53,00	412,0	225,0	5	204 530	1	—	—	—	—
54,00	417,0	230,0	5	204 540	1	—	—	—	—
55,00	417,0	230,0	5	204 550	1	—	—	—	—
56,00	417,0	230,0	5	204 560	1	—	—	—	—
57,00	422,0	235,0	5	204 570	1	—	—	—	—
58,00	422,0	235,0	5	204 580	1	—	—	—	—
59,00	422,0	235,0	5	204 590	1	—	—	—	—
60,00	422,0	235,0	5	204 600	1	—	—	—	—

Twist drills DIN 340 TL 3000 HSS Co 5 ground with split point

Point cut: helical point
from Ø 3,0 mm **with split point** DIN 1412 C

Point angle: 130°

Helix angle: 40°

Ø tolerance: h8

Surface: golden brown
right hand cutting

Packing unit:

Ø 2,5 mm up to 10,0 mm in plastic box of 10
Ø 10,5 mm up to 13,0 mm in plastic box of 5



Multirange drill consisting of cobalt alloyed heavy-duty high-speed steel with higher heat-resistance. Ideally suitable for drilling of materials that are middle, long-chipping and hard to work. Especially suitable for drilling deep holes. Covers in many areas type N, H and W.

Applications:

for steel alloyed and unalloyed up to approx. 1200 N/mm² strength, acid resistant steel, titanium, titanium alloy, cast iron, aluminium, aluminium alloy, copper, brass, bronze and further materials.

Ø mm	Total length mm	Flute length mm	Article no.
2,50	95,0	62,0	253 025
3,00	100,0	66,0	253 030
3,10	106,0	69,0	253 031
3,20	106,0	69,0	253 032
3,30	106,0	69,0	253 033
3,40	112,0	73,0	253 034
3,50	112,0	73,0	253 035
3,60	112,0	73,0	253 036
3,70	112,0	73,0	253 037
3,80	119,0	78,0	253 038
3,90	119,0	78,0	253 039
4,00	119,0	78,0	253 040
4,10	119,0	78,0	253 041
4,20	119,0	78,0	253 042
4,30	126,0	82,0	253 043
4,40	126,0	82,0	253 044
4,50	126,0	82,0	253 045
4,60	126,0	82,0	253 046
4,70	126,0	82,0	253 047
4,80	132,0	87,0	253 048
4,90	132,0	87,0	253 049
5,00	132,0	87,0	253 050
5,10	132,0	87,0	253 051
5,20	132,0	87,0	253 052
5,30	132,0	87,0	253 053
5,40	139,0	91,0	253 054
5,50	139,0	91,0	253 055
5,60	139,0	91,0	253 056
5,70	139,0	91,0	253 057
5,80	139,0	91,0	253 058
5,90	139,0	91,0	253 059
6,00	139,0	91,0	253 060
6,10	148,0	97,0	253 061
6,20	148,0	97,0	253 062
6,30	148,0	97,0	253 063
6,40	148,0	97,0	253 064
6,50	148,0	97,0	253 065
6,60	148,0	97,0	253 066
6,70	148,0	97,0	253 067

Ø mm	Total length mm	Flute length mm	Article no.
6,80	156,0	102,0	253 068
6,90	156,0	102,0	253 069
7,00	156,0	102,0	253 070
7,10	156,0	102,0	253 071
7,20	156,0	102,0	253 072
7,30	156,0	102,0	253 073
7,40	156,0	102,0	253 074
7,50	156,0	102,0	253 075
7,60	165,0	109,0	253 076
7,70	165,0	109,0	253 077
7,80	165,0	109,0	253 078
7,90	165,0	109,0	253 079
8,00	165,0	109,0	253 080
8,10	165,0	109,0	253 081
8,20	165,0	109,0	253 082
8,30	165,0	109,0	253 083
8,40	165,0	109,0	253 084
8,50	165,0	109,0	253 085
8,60	175,0	115,0	253 086
8,70	175,0	115,0	253 087
8,80	175,0	115,0	253 088
8,90	175,0	115,0	253 089
9,00	175,0	115,0	253 090
9,10	175,0	115,0	253 091
9,20	175,0	115,0	253 092
9,30	175,0	115,0	253 093
9,40	175,0	115,0	253 094
9,50	175,0	115,0	253 095
9,60	184,0	121,0	253 096
9,70	184,0	121,0	253 097
9,80	184,0	121,0	253 098
9,90	184,0	121,0	253 099
10,00	184,0	121,0	253 100
10,50	184,0	121,0	253 105
11,00	195,0	128,0	253 110
11,50	195,0	128,0	253 115
12,00	205,0	134,0	253 120
12,50	205,0	134,0	253 125
13,00	205,0	134,0	253 130

Twist drills DIN 340 type N HSS ground

Point cut: helical point
 Point angle: 118°
 Helix angle: 20-30°
 Ø tolerance: h8
 Surface: bright

right hand cutting

Packing unit:

Ø 2,5 mm up to 10,0 mm in plastic box of 10
 Ø 10,5 mm up to 13,0 mm in plastic box of 5



Highly efficient standard drill in long version. Suitable for deep hole drillings in all normal materials.
 High security against fracture.
 For deep hole drillings small forward feeds and frequent chip removal are necessary.

Applications:

for steel and cast-steel alloyed and unalloyed up to approx. 900 N/mm² strength, grey cast, malleable cast iron, die-cast metal, iron sinter, nickel-silver, graphite cast iron, short-chipping aluminium alloys, bronze and brass.

Ø mm	Total length mm	Flute length mm	Article no.
2,50	95,0	62,0	203 025
3,00	100,0	66,0	203 030
3,10	106,0	69,0	203 031
3,20	106,0	69,0	203 032
3,30	106,0	69,0	203 033
3,40	112,0	73,0	203 034
3,50	112,0	73,0	203 035
3,60	112,0	73,0	203 036
3,70	112,0	73,0	203 037
3,80	119,0	78,0	203 038
3,90	119,0	78,0	203 039
4,00	119,0	78,0	203 040
4,10	119,0	78,0	203 041
4,20	119,0	78,0	203 042
4,30	126,0	82,0	203 043
4,40	126,0	82,0	203 044
4,50	126,0	82,0	203 045
4,60	126,0	82,0	203 046
4,70	126,0	82,0	203 047
4,80	132,0	87,0	203 048
4,90	132,0	87,0	203 049
5,00	132,0	87,0	203 050
5,10	132,0	87,0	203 051
5,20	132,0	87,0	203 052
5,30	132,0	87,0	203 053
5,40	139,0	91,0	203 054
5,50	139,0	91,0	203 055
5,60	139,0	91,0	203 056
5,70	139,0	91,0	203 057
5,80	139,0	91,0	203 058
5,90	139,0	91,0	203 059
6,00	139,0	91,0	203 060
6,10	148,0	97,0	203 061
6,20	148,0	97,0	203 062
6,30	148,0	97,0	203 063
6,40	148,0	97,0	203 064
6,50	148,0	97,0	203 065
6,60	148,0	97,0	203 066
6,70	148,0	97,0	203 067

Ø mm	Total length mm	Flute length mm	Article no.
6,80	156,0	102,0	203 068
6,90	156,0	102,0	203 069
7,00	156,0	102,0	203 070
7,10	156,0	102,0	203 071
7,20	156,0	102,0	203 072
7,30	156,0	102,0	203 073
7,40	156,0	102,0	203 074
7,50	156,0	102,0	203 075
7,60	165,0	109,0	203 076
7,70	165,0	109,0	203 077
7,80	165,0	109,0	203 078
7,90	165,0	109,0	203 079
8,00	165,0	109,0	203 080
8,10	165,0	109,0	203 081
8,20	165,0	109,0	203 082
8,30	165,0	109,0	203 083
8,40	165,0	109,0	203 084
8,50	165,0	109,0	203 085
8,60	175,0	115,0	203 086
8,70	175,0	115,0	203 087
8,80	175,0	115,0	203 088
8,90	175,0	115,0	203 089
9,00	175,0	115,0	203 090
9,10	175,0	115,0	203 091
9,20	175,0	115,0	203 092
9,30	175,0	115,0	203 093
9,40	175,0	115,0	203 094
9,50	175,0	115,0	203 095
9,60	184,0	121,0	203 096
9,70	184,0	121,0	203 097
9,80	184,0	121,0	203 098
9,90	184,0	121,0	203 099
10,00	184,0	121,0	203 100
10,50	184,0	121,0	203 105
11,00	195,0	128,0	203 110
11,50	195,0	128,0	203 115
12,00	205,0	134,0	203 120
12,50	205,0	134,0	203 125
13,00	205,0	134,0	203 130



Twist drills DIN 338 HSS ground "TURBO"

High-performance twist drill, particularly suited to freehand drilling of thin-walled materials.

Point cut: helical point
 Center angle: 130°
 Helix angle: 56°
 Ø tolerance: h8
 Surface: golden brown
 right hand cutting

Packing unit: in plastic box



Ground twist drill in high-performance high-speed steel. Drills very cleanly with burr-free hole edges. Immediate drilling start after insertion as no prepunching is necessary. Shatter stability is increased by up to 50% as the core diameter increases constantly in the direction of the shaft (from Ø 3,2 mm). Triple milled clamping areas prevent the drill from spinning in the machine (from Ø 5,0 mm).

For use on: non-alloy and alloy steel (up to grade of approx. 900 N/mm²), for drilling thin-walled profiles and sheeting up to 5,0 mm, plastics and wood.

Ø mm	Total length mm	Flute length mm	Article no.	Cont. pcs.
1,00	34,0	12,0	2146 010	10
1,50	40,0	18,0	2146 015	10
2,00	49,0	24,0	2146 020	10
2,50	57,0	30,0	2146 025	10
3,00	61,0	33,0	2146 030	10
3,20	65,0	36,0	2146 032	10
3,30	65,0	36,0	2146 033	10
3,50	70,0	39,0	2146 035	10
4,00	75,0	43,0	2146 040	10
4,10	75,0	43,0	2146 041	10
4,20	75,0	43,0	2146 042	10
4,50	80,0	46,0	2146 045	10
4,80	86,0	46,0	2146 048	10
5,00	86,0	46,0	2146 050	10
5,10	86,0	46,0	2146 051	10
5,20	86,0	46,0	2146 052	10
5,40	93,0	52,0	2146 054	10
5,50	93,0	52,0	2146 055	10

Ø mm	Total length mm	Flute length mm	Article no.	Cont. pcs.
6,00	93,0	57,0	2146 060	10
6,50	101,0	58,0	2146 065	10
6,80	109,0	66,0	2146 068	10
7,00	109,0	66,0	2146 070	10
7,50	109,0	66,0	2146 075	10
8,00	117,0	72,0	2146 080	10
8,50	117,0	72,0	2146 085	10
9,00	125,0	78,0	2146 090	10
9,50	125,0	78,0	2146 095	10
10,00	133,0	84,0	2146 100	10
10,50	133,0	84,0	2146 105	5
11,00	142,0	91,0	2146 110	5
11,50	142,0	91,0	2146 115	5
11,80	151,0	98,0	2146 118	5
12,00	151,0	98,0	2146 120	5
12,50	151,0	98,0	2146 125	5
13,00	151,0	98,0	2146 130	5

Twist drill sets DIN 338 HSS ground "TURBO" in steel case and polystyrene case

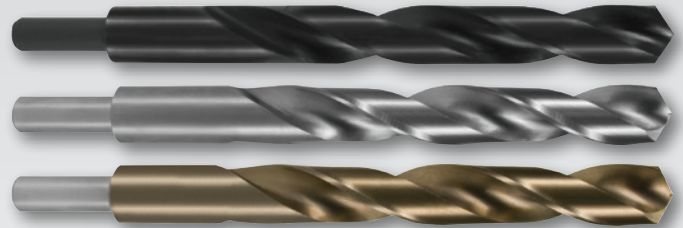
Description	Article no.
19-piece set of twist drills DIN 338 HSS ground "TURBO" Ø 1,0 mm up to 10,0 mm in increments of 0,5 mm in steel case	214 614
25-piece set of twist drills DIN 338 HSS ground "TURBO" Ø 1,0 mm up to 13,0 mm in increments of 0,5 mm in steel case	214 615
19-piece set of twist drills DIN 338 "TURBO" Ø 1,0 mm up to 10,0 mm in increments of 0,5 mm in polystyrene case	214 614 RO
25-piece set of twist drills DIN 338 "TURBO" Ø 1,0 mm up to 13,0 mm in increments of 0,5 mm in polystyrene case	214 615 RO



Twist drills DIN 338 type N with reduced shank

Ideally suitable for drilling largish drilling diameters on all commonly-used drilling machines with a clamping chuck up to 13,0 mm.

Point cut: helical point
 Helix angle: 20-30°
 Ø tolerance: h8
 right hand cutting



Packing unit: in plastic box

HSS rolled

Point cut: helical point
 Point angle: 118°
 Surface: black, steam tempered

High performance rolled twist drill consisting of heavy-duty high speed steel. The material is strengthened by the rolled production process and is more resistant to fracture.

Application areas: for steel, alloyed and unalloyed cast iron (up to a strength of 900 N/mm²), grey, malleable, ductile and die-cast iron, sintered iron, nickel silver, graphite, short chipping aluminium alloys, brass and bronze.

HSS ground

Point cut: **with split point**
 DIN 1412 C
 Point angle: 118°
 Surface: bright

High performance ground twist drill consisting of heavy-duty high speed steel. The fully ground twist drill has a more precise concentricity.

Application areas: for steel, alloyed and unalloyed cast iron (up to a strength of 900 N/mm²), grey, malleable, ductile and die-cast iron, sintered iron, nickel silver, graphite, short chipping aluminium alloys, brass and bronze.

HSS Co 5 ground

Point cut: **with split point**
 DIN 1412 C
 Point angle: 130°
 Surface: golden brown

Like HSS-G plus cobalt alloyed. The cobalt content ensures increased heat resistance.

Application areas: for unalloyed and alloyed steel (up to a strength of 900 N/mm²), hot and cold-working steel, reinforced and case-hardened steel and also steel resistant to rust and acid.

Twist drills DIN 338 type N with reduced shank HSS rolled, HSS ground and HSS Co 5 ground

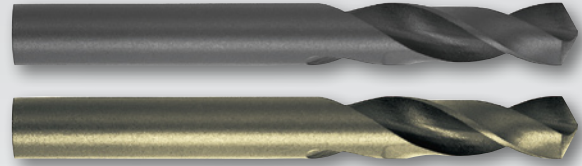
Ø mm	Total length mm	Shank Ø mm	Shank length mm	HSS-R		HSS-G		HSS-G Co 5	
				Article no.	Cont. pcs.	Article no.	Cont. pcs.	Article no.	Cont. pcs.
10,50	133,0	10,0	30,0	200 105	1	200 4 105	1	200 5 105	1
11,00	142,0	10,0	30,0	200 110	1	200 4 110	1	200 5 110	1
11,50	142,0	10,0	30,0	200 115	1	200 4 115	1	200 5 115	1
12,00	151,0	10,0	30,0	200 120	1	200 4 120	1	200 5 120	1
12,50	151,0	10,0	30,0	200 125	1	200 4 125	1	200 5 125	1
13,00	151,0	10,0	30,0	200 130	1	200 4 130	1	200 5 130	1
13,50	160,0	10,0	30,0	200 135	1	200 4 135	1	200 5 135	1
14,00	160,0	10,0	30,0	200 140	1	200 4 140	1	200 5 140	1
14,50	169,0	10,0	30,0	200 145	1	200 4 145	1	200 5 145	1
15,00	169,0	10,0	30,0	200 150	1	200 4 150	1	200 5 150	1
15,50	178,0	10,0	30,0	200 155	1	200 4 155	1	200 5 155	1
16,00	178,0	10,0	30,0	200 160	1	200 4 160	1	200 5 160	1
16,50	184,0	13,0	35,0	200 165	1	200 4 165	1	200 5 165	1
17,00	184,0	13,0	35,0	200 170	1	200 4 170	1	200 5 170	1
17,50	191,0	13,0	35,0	200 175	1	200 4 175	1	200 5 175	1
18,00	191,0	13,0	35,0	200 180	1	200 4 180	1	200 5 180	1
18,50	198,0	13,0	35,0	200 185	1	200 4 185	1	200 5 185	1
19,00	198,0	13,0	35,0	200 190	1	200 4 190	1	200 5 190	1
19,50	205,0	13,0	35,0	200 195	1	200 4 195	1	200 5 195	1
20,00	205,0	13,0	35,0	200 200	1	200 4 200	1	200 5 200	1
22,00	205,0	13,0	35,0	200 220	1	—	—	—	—
24,00	205,0	13,0	35,0	200 240	1	—	—	—	—
25,00	205,0	13,0	35,0	200 250	1	—	—	—	—

Twist drills DIN 1897 type N - short

Ideally suitable for assembly work in thin-walled materials such as sheet steels, flat steels and profile steels. High security against fracture. For use in all hand-held drilling machines.

Point cut: helical point
 Helix angle: 20-30°
 Ø tolerance: h8
 right hand cutting

Packing unit: in plastic box



HSS rolled

Point cut: helical point
 Point angle: 118°
 Surface: black, steam tempered

Short and stable rolled standard drill consisting of heavy-duty high speed steel.

Applications: for steel and cast-steel alloyed and unalloyed up to approx. 900 N/mm² strength, grey cast, malleable cast iron, die-cast metal, iron sinter, nickel-silver, graphite cast iron, short-chipping aluminium alloys, bronze and brass.

HSS Co 5 ground

Point cut: from Ø 3,0 mm with split point DIN 1412 C
 Point angle: 135°
 Surface: golden brown

Short and stable ground standard drill consisting of cobalt alloyed heavy-duty high-speed steel with higher heat-resistance.

Applications: for steel and alloyed cast steel (up to a strength of 1100 N/mm²), grey cast, malleable cast, high-alloyed chromium steel such as stainless and acid resistant steel.

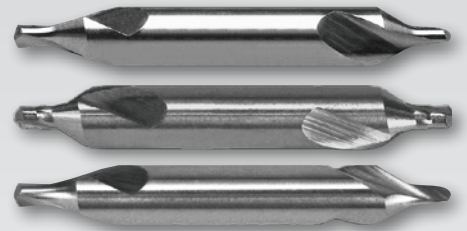
Twist drills DIN 1897 type N - short HSS rolled and HSS Co 5 ground

Ø mm	Total length mm	Flute length mm	HSS-R		HSS-G Co 5	
			Article no.	Cont. pcs.	Article no.	Cont. pcs.
2,00	38,0	12,0	202 020	10	202 020 E	10
2,10	38,0	12,0	202 021	10	—	—
2,20	40,0	13,0	202 022	10	—	—
2,30	40,0	13,0	202 023	10	—	—
2,40	43,0	14,0	202 024	10	—	—
2,50	43,0	14,0	202 025	10	202 025 E	10
2,60	43,0	14,0	202 026	10	—	—
2,70	46,0	16,0	202 027	10	—	—
2,80	46,0	16,0	202 028	10	—	—
2,90	46,0	16,0	202 029	10	—	—
3,00	46,0	16,0	202 030	10	202 030 E	10
3,10	49,0	18,0	202 031	10	202 031 E	10
3,20	49,0	18,0	202 032	10	202 032 E	10
3,25	49,0	18,0	—	—	202 0325 E	10
3,30	49,0	18,0	202 033	10	202 033 E	10
3,40	52,0	20,0	202 034	10	202 034 E	10
3,50	52,0	20,0	202 035	10	202 035 E	10
3,60	52,0	20,0	202 036	10	202 036 E	10
3,70	52,0	20,0	202 037	10	202 037 E	10
3,80	55,0	22,0	202 038	10	202 038 E	10
3,90	55,0	22,0	202 039	10	—	—
4,00	55,0	22,0	202 040	10	202 040 E	10
4,10	55,0	22,0	202 041	10	202 041 E	10
4,20	55,0	22,0	202 042	10	202 042 E	10
4,25	55,0	22,0	—	—	202 0425 E	10
4,30	58,0	24,0	202 043	10	—	—
4,40	58,0	24,0	202 044	10	202 044 E	10
4,50	58,0	24,0	202 045	10	202 045 E	10
4,60	58,0	24,0	202 046	10	—	—
4,70	58,0	24,0	202 047	10	202 047 E	10
4,80	62,0	26,0	202 048	10	202 048 E	10

Centre drills DIN 333 HSS shape A, shape A with reinforcing bead and shape R

Centre angle: 60°
Point angle: 120°
Ø tolerance: h9
right hand cutting

Packing unit:
in individual plastic pack



Shape A




For making centre holes according to
DIN 332, Shape A.

Shape A with reinforcing bead

For making centre holes according to DIN
332 shape A with recess at the crossover
of countersink and drill.

Shape R

For making centre holes with radius accor-
ding to DIN 332 R.

Ø mm	Total length mm	Shank-Ø mm	Article no. Shape A 	Article no. Shape A with reinforcing bead 	Article no. Shape R 
0,80	20,0	3,15	217 008	—	217 2 008
1,00	31,5	3,15	217 010	217 1 010	217 2 010
1,60	35,5	4,00	217 016	217 1 016	217 2 016
2,00	40,0	5,00	217 020	217 1 020	217 2 020
2,50	45,0	6,30	217 025	217 1 025	217 2 025
3,15	50,0	8,00	217 315	217 1 315	217 2 315
4,00	56,0	10,00	217 040	217 1 040	217 2 040
5,00	63,0	12,50	217 050	217 1 050	217 2 050
6,30	71,0	16,00	217 063	217 1 063	217 2 063

Hollow section twist drills works standard type N HSS ground

Point cut: helical point DIN 1412 A
Point angle: 118°
Helix angle: 20-30°
Ø tolerance: h8
Surface: black, steam tempered
right hand cutting

Due to the short spiral shape the drill is particularly suitable for the
working and fitting of hollow sections. The web thinning guarantees an
optimized centring and long tool life.

Applications: Optimal drill for roofers, plumbers, window and front works.

Packing unit:
in plastic box of 10



Ø mm	Total length mm	Flute length mm	Article no.
4,90	100,0	30,0	257 491
4,90	150,0	30,0	257 492
5,00	70,0	30,0	257 501
5,00	100,0	30,0	257 502
5,00	150,0	30,0	257 503
5,00	210,0	30,0	257 504
5,10	100,0	30,0	257 511
5,10	150,0	30,0	257 512
5,10	210,0	30,0	257 513
5,30	100,0	30,0	257 531
5,30	150,0	30,0	257 532

Ø mm	Total length mm	Flute length mm	Article no.
5,30	210,0	30,0	257 533
5,50	100,0	30,0	257 551
5,50	150,0	30,0	257 552
5,50	210,0	30,0	257 553
5,70	70,0	30,0	257 571
5,70	100,0	30,0	257 572
5,70	150,0	30,0	257 573
5,70	210,0	30,0	257 574
5,80	100,0	30,0	257 581
5,80	150,0	30,0	257 582
5,80	210,0	30,0	257 583

Spot drills HSS ground, extra short with split point

Point cut: helical point from Ø 3,0 mm
with split point DIN 1412 C
 Point angle: 135°
 Ø tolerance: h8
 Surface: bright
 right hand cutting

Extra short and stable standard drill. Shorter than DIN 1897. Ideally suitable for assembly work in thin-walled materials such as sheet steels, flat steels and profile steels. High security against fracture. For use in all hand-held drilling machines. Advantages DIN 1412 C: good centring, little pressure required. Chip distribution improves chip removal.

Applications: for steel and cast-steel alloyed and unalloyed up to approx. 900 N/mm² strength, grey cast, malleable cast iron, die-cast metal, iron sinter, nickel-silver, graphite cast iron, short-chipping aluminium alloys, bronze and brass.

Packing unit:
 in plastic box of 10



Ø mm	Total length mm	Flute length mm	Article no.
2,50	38,0	14,0	251 025
2,80	40,0	16,0	251 028
3,00	40,0	16,0	251 030
3,10	40,0	16,0	251 031
3,20	40,0	16,0	251 032
3,25	41,0	16,0	251 0325
3,30	41,0	16,0	251 033
3,40	42,0	16,0	251 034
3,50	42,0	16,0	251 035
4,00	42,0	16,0	251 040
4,10	44,0	18,0	251 041
4,20	44,0	18,0	251 042

Ø mm	Total length mm	Flute length mm	Article no.
4,30	44,0	18,0	251 043
4,50	48,0	20,0	251 045
4,70	48,0	20,0	251 047
4,80	48,0	20,0	251 048
4,90	50,0	22,0	251 049
5,00	52,0	24,0	251 050
5,10	52,0	24,0	251 051
5,20	52,0	24,0	251 052
5,50	52,0	24,0	251 055
6,00	55,0	26,0	251 060
6,50	60,0	26,0	251 065

Double end sheet metal drills HSS ground with split point

Point cut: helical point from Ø 3,0 mm
with split point DIN 1412 C
 Point angle: 135°
 Ø tolerance: h8
 Surface: bright
 right hand cutting

Extra short and stable standard drill. Shorter than DIN 1897. Ideally suitable for assembly work in thin-walled materials such as sheet steels, flat steels and profile steels. High security against fracture. For use in hand-held drilling machines. Usable at both ends. Advantages DIN 1412 C: good centring, little pressure required. Chip distribution improves chip removal.

Applications: for steel and cast-steel alloyed and unalloyed up to approx. 900 N/mm² strength, grey cast, malleable cast iron, die-cast metal, iron sinter, nickel-silver, graphite cast iron, short-chipping aluminium alloys, bronze and brass.

Packing unit:
 in plastic box of 10



Ø mm	Total length mm	Flute length mm	Article no.
2,50	43,0	10,0	252 025
2,80	46,0	11,0	252 028
3,00	46,0	11,0	252 030
3,10	49,0	11,0	252 031
3,20	49,0	11,0	252 032
3,25	49,0	11,0	252 0325
3,30	49,0	11,0	252 033
3,40	52,0	14,0	252 034
3,50	52,0	14,0	252 035
4,00	55,0	14,0	252 040
4,10	55,0	14,0	252 041

Ø mm	Total length mm	Flute length mm	Article no.
4,20	55,0	14,0	252 042
4,30	58,0	17,0	252 043
4,50	58,0	17,0	252 045
4,80	62,0	17,0	252 048
4,90	62,0	17,0	252 049
5,00	62,0	17,0	252 050
5,10	62,0	17,0	252 051
5,20	62,0	17,0	252 052
5,50	66,0	20,0	252 055
6,00	66,0	20,0	252 060
6,50	70,0	20,0	252 065

Twist drills DIN 1869 TL 3000 HSS ground with split point, extra long

Point cut: helical point from \varnothing 3,0 mm
with split point DIN 1412 C

Pont angel: 130°

Helix angel: 40°

\varnothing -tolerance: h8

Surface: bright / black

right hand cutting



Packing unit: in individual plastic bags



Stable special drill. Ideally suitable for deep holes under difficult conditions, e.g. work for bad chipping materials.

Suitable for all usual drilling work in all normal materials. High rotational precision. For drilling deep holes please use small feed and deaerate chips often.

Applications: for steel and cast-steel alloyed and unalloyed up to 900N/mm² strength, grey cast, malleable cast iron, die-cast metal, iron sinter, nickel-silver, graphite cast iron, short-chipping aluminium alloys, bronze and brass.

\varnothing mm	Total length mm	Flute length mm	Article no.
2,00	125,0	85,0	254 020
2,50	140,0	95,0	254 025
3,00	150,0	100,0	254 030
3,20	155,0	105,0	254 032
3,30	155,0	105,0	254 033
3,50	165,0	115,0	254 035
4,00	175,0	120,0	254 040
4,20	175,0	120,0	254 042
4,50	185,0	125,0	254 045
5,00	195,0	135,0	254 050
5,50	205,0	140,0	254 055
6,00	205,0	140,0	254 060
6,50	215,0	150,0	254 065

\varnothing mm	Total length mm	Flute length mm	Article no.
7,00	225,0	155,0	254 070
7,50	225,0	155,0	254 075
8,00	240,0	165,0	254 080
8,50	240,0	165,0	254 085
9,00	250,0	175,0	254 090
9,50	250,0	175,0	254 095
10,00	265,0	185,0	254 100
10,50	265,0	185,0	254 105
11,00	280,0	195,0	254 110
11,50	280,0	195,0	254 115
12,00	295,0	205,0	254 120
12,50	295,0	205,0	254 125
13,00	295,0	205,0	254 130

\varnothing mm	Total length mm	Flute length mm	Article no.
3,00	190,0	130,0	255 030
3,20	200,0	135,0	255 032
3,30	200,0	135,0	255 033
3,50	210,0	145,0	255 035
4,00	220,0	150,0	255 040
4,20	220,0	150,0	255 042
4,50	235,0	160,0	255 045
5,00	245,0	170,0	255 050
5,50	260,0	180,0	255 055
6,00	260,0	180,0	255 060
6,50	275,0	190,0	255 065
7,00	290,0	200,0	255 070

\varnothing mm	Total length mm	Flute length mm	Article no.
7,50	290,0	200,0	255 075
8,00	305,0	210,0	255 080
8,50	305,0	210,0	255 085
9,00	320,0	220,0	255 090
9,50	320,0	220,0	255 095
10,00	340,0	235,0	255 100
10,50	340,0	235,0	255 105
11,00	365,0	250,0	255 110
11,50	365,0	250,0	255 115
12,00	375,0	260,0	255 120
12,50	375,0	260,0	255 125
13,00	375,0	260,0	255 130

\varnothing mm	Total length mm	Flute length mm	Article no.
3,50	265,0	180,0	256 035
4,00	280,0	190,0	256 040
4,20	280,0	190,0	256 042
4,50	295,0	200,0	256 045
5,00	315,0	210,0	256 050
5,50	330,0	225,0	256 055
6,00	330,0	225,0	256 060
6,50	350,0	235,0	256 065
7,00	370,0	250,0	256 070
7,50	370,0	250,0	256 075
8,00	390,0	265,0	256 080

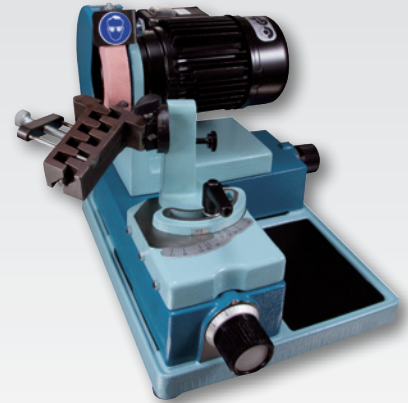
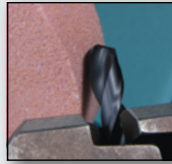
\varnothing mm	Total length mm	Flute length mm	Article no.
8,50	390,0	265,0	256 085
9,00	410,0	280,0	256 090
9,50	410,0	280,0	256 095
10,00	430,0	295,0	256 100
10,50	430,0	295,0	256 105
11,00	455,0	310,0	256 110
11,50	455,0	310,0	256 115
12,00	480,0	330,0	256 120
12,50	480,0	330,0	256 125
13,00	480,0	330,0	256 130

Twist drill grinding machine BSM 20 for subsequent grinding of twist drills, counter- and deburring sinkers

Length: 370,0 mm
 Width: 310,0 mm
 Height: 260,0 mm
 Grinding wheel: Ø 125,0 x 20,0 x 20,0 mm
 Weight: ca. 22,0 kg
 Connection: 230 volt 50/60 Hz
 Motor: 230 volt, 0,12 kW, 2.800 r.p.m.
 Clamping range: Ø 1,0 up to 20,0 mm
 Clearance/ vertex angle: infinitely adjustable

- ✓ Quick and simple handling
- ✓ Tried and tested, patented prism process
- ✓ Guaranteed maximum symmetry of cutting edges
- ✓ Grinds twist drills, also special shapes such as plate drills, wood drills. Also taper and deburring countersinkers.

Packing unit:
 individual in carton



Description	Article no.
Twist drill grinding machine BSM 20, complete with corundum wheel	104 060

Cut chisel edge	Corrected major edge	Left-hand cutting	Split point	Grey cast iron	Centre point for metal and plastics	Centre point for wood	Tungsten carbide drills

Accessories for twist drill grinding machine BSM 20

Description	Article no.
Optical system with neon light	104 061
Grinding disk dresser	104 062
Corundum grinding wheel grain 60 Measurements Ø 125,0 x 20,0 x 20,0 mm (rough)	104 063
Corundum grinding wheel grain 80 Measurements Ø 125,0 x 20,0 x 20,0 mm (BSM standard)	104 064
Corundum grinding wheel grain 180 Measurements Ø 125,0 x 20,0 x 20,0 mm (fine)	104 065
Adapter for a additional grinding disk	104 066
Diamond wheel 3-sided covered D 76/3 125,0 mm for wood drills	104 067
Diamond wheel 3-sided covered D 76/3 125,0 mm for drills with tungsten carbide edges	104 068
Arbor for short spot weld millers 6,0 oder 8,0 mm	104 069
Sleeve for short morse taper drills (morse taper no. 1)	104 070
Sleeve for short morse taper drills (morse taper no. 2)	104 071



No. 104 061



No. 104 064



No. 104 067

Special accessories for twist drill grinding machine BSM 20 for subsequent grinding of countersinkers

Description	Article no.
SVR 31 sink grinding device, basic equipment incl. 10,0 mm collet chuck for adapter	104 072
Collet chuck 6,0 mm for SVR 31	104 073
Collet chuck 8,0 mm for SVR 31	104 074
Collet chuck 12,0 mm for SVR 31	104 075
Nut for additional collet chuck	104 076
Curve for slotted taper and deburring countersinkers	104 077

Point angel 60° up to 90° Taper and deburring countersinkers with cylindrical shank Ø 7,0 mm up to 31,0 mm	Slotted taper and deburring countersinkers 90° Ø 2/5", 5/10", 10/15", 15/20"	



No. 104 074

No. 104 072



No. 104 077



No. 104 076

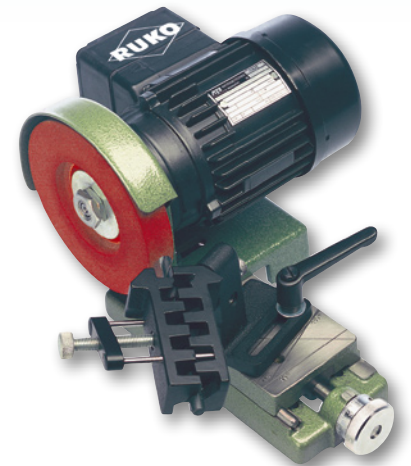
The Drillgrind® precision drill-grinding set

Motor speed:	2.800 r.p.m.
Power input:	70 Watt
Power output:	50 Watt
Supply voltage:	220 volt / 50 Hz
Weight:	9,0 kg
Swing-over prism:	1,0 up to 20,0 mm

The Drillgrind® precision drill-grinding set from RUKO is ideal for all those who want to save costs and time. This Drillgrind® can sharpen and point twist drills, adjust point angles and sharpen drills with carbide cutting edges.

Packing unit:
individual carton

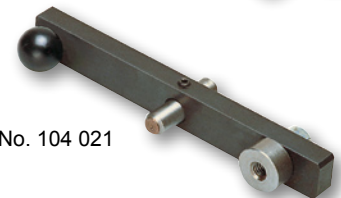
Description	Article no.
Drillgrind® precision drill grinding set incl. special screw clamp and high-grade corundum wheel	104 020



Drillgrind® accessories

Description	Article no.
Grinding disc dresser	104 021
Optical system for fine adjustment	104 022
High-grade corundum wheel Measurements Ø 125,0 x 20,0 x 20,0 mm	104 023
Silicium carbide wheel Measurements Ø 125,0 x 20,0 x 20,0 mm	104 024
Diamond wheel Ø 125,0 mm	104 025

No. 104 021



No. 104 024

Drills Ø mm	Cutting speed Vc = m/min															
	4	6	8	10	12	15	18	20	25	30	35	40	50	60	80	100
	r.p.m.															
1,0	1274	1911	2548	3185	3822	4777	5732	6369	7962	9554	11146	12739	15924	19108	25478	31847
1,5	849	1274	1699	2123	2548	3185	3822	4246	5308	6369	7431	8493	10616	12739	16985	21231
2,0	637	955	1274	1592	1911	2389	2866	3185	3981	4777	5573	6369	7962	9554	12739	15924
2,5	510	764	1019	1274	1529	1911	2293	2548	3185	3822	4459	5096	6369	7643	10191	12739
3,0	425	637	849	1062	1274	1592	1911	2123	2654	3185	3715	4246	5308	6369	8493	10616
3,5	364	546	728	910	1092	1365	1638	1820	2275	2730	3185	3640	4550	5460	7279	9099
4,0	318	478	637	796	955	1194	1433	1592	1990	2389	2787	3185	3981	4777	6369	7962
4,5	283	425	566	708	849	1062	1274	1415	1769	2123	2477	2831	3539	4246	5662	7077
5,0	255	382	510	637	764	955	1146	1274	1592	1911	2229	2548	3185	3822	5096	6369
5,5	232	347	463	579	695	869	1042	1158	1448	1737	2027	2316	2895	3474	4632	5790
6,0	212	318	425	531	637	796	955	1062	1327	1592	1858	2123	2654	3185	4246	5308
6,5	196	294	392	490	588	735	882	980	1225	1470	1715	1960	2450	2940	3920	4900
7,0	182	273	364	455	546	682	819	910	1137	1365	1592	1820	2275	2730	3640	4550
7,5	170	255	340	425	510	637	764	849	1062	1274	1486	1699	2123	2548	3397	4246
8,0	159	239	318	398	478	597	717	796	995	1194	1393	1592	1990	2389	3185	3981
8,5	150	225	300	375	450	562	674	749	937	1124	1311	1499	1873	2248	2997	3747
9,0	142	212	283	354	425	531	637	708	885	1062	1238	1415	1769	2123	2831	3539
9,5	134	201	268	335	402	503	603	670	838	1006	1173	1341	1676	2011	2682	3352
10,0	127	191	255	318	382	478	573	637	796	955	1115	1274	1592	1911	2548	3185
11,0	116	174	232	290	347	434	521	579	724	869	1013	1158	1448	1737	2316	2895
12,0	106	159	212	265	318	398	478	531	663	796	929	1062	1327	1592	2123	2654
13,0	98	147	196	245	294	367	441	490	612	735	857	980	1225	1470	1960	2450
14,0	91	136	182	227	273	341	409	455	569	682	796	910	1137	1365	1820	2275
15,0	85	127	170	212	255	318	382	425	531	637	743	849	1062	1274	1699	2123
16,0	80	119	159	199	239	299	358	398	498	597	697	796	995	1194	1592	1990
17,0	75	112	150	187	225	281	337	375	468	562	656	749	937	1124	1499	1873
18,0	71	106	142	177	212	265	318	354	442	531	619	708	885	1062	1415	1769
19,0	67	101	134	168	201	251	302	335	419	503	587	670	838	1006	1341	1676
20,0	64	96	127	159	191	239	287	318	398	478	557	637	796	955	1274	1592
21,0	61	91	121	152	182	227	273	303	379	455	531	607	758	910	1213	1517
22,0	58	87	116	145	174	217	261	290	362	434	507	579	724	869	1158	1448
23,0	55	83	111	138	166	208	249	277	346	415	485	554	692	831	1108	1385
24,0	53	80	106	133	159	199	239	265	332	398	464	531	663	796	1062	1327
25,0	51	76	102	127	153	191	229	255	318	382	446	510	637	764	1019	1274
26,0	49	73	98	122	147	184	220	245	306	367	429	490	612	735	980	1225
27,0	47	71	94	118	142	177	212	236	295	354	413	472	590	708	944	1180
28,0	45	68	91	114	136	171	205	227	284	341	398	455	569	682	910	1137
29,0	44	66	88	110	132	165	198	220	275	329	384	439	549	659	879	1098
30,0	42	64	85	106	127	159	191	212	265	318	372	425	531	637	849	1062
31,0	41	62	82	103	123	154	185	205	257	308	360	411	514	616	822	1027
32,0	40	60	80	100	119	149	179	199	249	299	348	398	498	597	796	995
33,0	39	58	77	97	116	145	174	193	241	290	338	386	483	579	772	965
34,0	37	56	75	94	112	141	169	187	234	281	328	375	468	562	749	937
35,0	36	55	73	91	109	136	164	182	227	273	318	364	455	546	728	910
36,0	35	53	71	88	106	133	159	177	221	265	310	354	442	531	708	885
37,0	34	52	69	86	103	129	155	172	215	258	301	344	430	516	689	861
38,0	34	50	67	84	101	126	151	168	210	251	293	335	419	503	670	838
39,0	33	49	65	82	98	122	147	163	204	245	286	327	408	490	653	817
40,0	32	48	64	80	96	119	143	159	199	239	279	318	398	478	637	796
41,0	31	47	62	78	93	117	140	155	194	233	272	311	388	466	621	777
42,0	30	45	61	76	91	114	136	152	190	227	265	303	379	455	607	758
43,0	30	44	59	74	89	111	133	148	185	222	259	296	370	444	593	741
44,0	29	43	58	72	87	109	130	145	181	217	253	290	362	434	579	724
45,0	28	42	57	71	85	106	127	142	177	212	248	283	354	425	566	708
46,0	28	42	55	69	83	104	125	138	173	208	242	277	346	415	554	692
47,0	27	41	54	68	81	102	122	136	169	203	237	271	339	407	542	678
48,0	27	40	53	66	80	100	119	133	166	199	232	265	332	398	531	663
49,0	26	39	52	65	78	97	117	130	162	195	227	260	325	390	520	650
50,0	25	38	51	64	76	96	115	127	159	191	223	255	318	382	510	637

Material	Cutting speed Vc m/min	Coolant
High carbon struc. steel < 700 N/mm ²	30 - 35	cutting spray
High carbon struc. steel > 700 N/mm ²	20 - 25	cutting spray
Alloyed steel < 1000 N/mm ²	20 - 25	cutting spray
Cast iron < 250 N/mm ²	15 - 25	compressed air
Cast iron > 250 N/mm ²	10 - 20	compressed air
CuZn alloy brittle	60 - 100	compressed air

Material	Cutting speed Vc m/min	Coolant
CuZn alloy tough	35 - 60	compressed air
Al alloy 11% Si	30 - 50	cutting spray
Thermoplastics	20 - 40	water
Duroplastics with inorganic filling	15 - 25	compressed air
Duroplastics with organic filling	15 - 35	compressed air

Drills Ø inch	Cutting speed Vc = m/min															
	4	6	8	10	12	15	18	20	25	30	35	40	50	60	80	100
	r.p.m.															
1/16	800	1190	1590	1990	2390	2990	3580	3980	4980	5970	6970	7960	9950	11940	15920	19900
5/64	640	960	1270	1590	1910	2390	2870	3180	3980	4780	5570	6370	7960	9550	12740	15920
3/32	530	800	1060	1330	1590	1990	2390	2650	3320	3980	4640	5310	6630	7960	10620	13270
7/64	450	680	910	1140	1360	1710	2050	2270	2840	3410	3980	4550	5690	6820	9100	11370
1/8	400	600	800	1000	1190	1490	1790	1990	2490	2990	3480	3980	4980	5970	7960	9950
9/64	350	530	710	880	1060	1330	1590	1770	2210	2650	3100	3540	4420	5310	7080	8850
5/32	320	480	640	800	960	1190	1430	1590	1990	2390	2790	3180	3980	4780	6370	7960
11/64	290	430	580	720	870	1090	1300	1450	1810	2170	2530	2900	3620	4340	5790	7240
3/16	270	400	530	660	800	1000	1190	1330	1660	1990	2320	2650	3320	3980	5310	6630
13/64	240	370	490	610	730	920	1100	1220	1530	1840	2140	2450	3060	3670	4900	6120
7/32	230	340	450	570	680	850	1020	1140	1420	1710	1990	2270	2840	3410	4550	5690
15/64	210	320	420	530	640	800	960	1060	1330	1590	1860	2120	2650	3180	4250	5310
1/4	200	300	400	500	600	750	900	1000	1240	1490	1740	1990	2490	2990	3980	4980
17/64	190	290	380	480	570	710	860	950	1190	1430	1660	1900	2380	2850	3800	4750
9/32	180	270	360	450	540	670	810	900	1120	1350	1570	1790	2240	2690	3590	4490
19/64	170	250	340	420	510	640	760	850	1060	1270	1490	1700	2120	2550	3400	4250
5/16	160	240	320	400	480	600	730	810	1010	1210	1410	1610	2020	2420	3230	4030
21/64	150	230	310	380	460	580	690	770	960	1150	1340	1530	1920	2300	3070	3840
11/32	150	220	290	370	440	550	660	730	920	1100	1280	1460	1830	2200	2930	3660
23/64	140	210	280	350	420	520	630	700	870	1050	1220	1400	1750	2100	2800	3500
3/8	130	200	270	340	400	500	600	670	840	1010	1170	1340	1680	2010	2680	3350
25/64	130	190	260	320	390	480	580	640	800	970	1130	1290	1610	1930	2570	3220
13/32	120	190	250	310	370	460	560	620	770	930	1080	1240	1550	1860	2470	3090
27/64	120	180	240	300	360	450	540	600	740	890	1040	1190	1490	1790	2380	2980
7/16	110	170	230	290	340	430	520	570	720	860	1000	1150	1430	1720	2300	2870
29/64	110	170	220	280	330	420	500	550	690	830	970	1110	1380	1660	2220	2770
15/32	110	160	210	270	320	400	480	540	670	800	940	1070	1340	1610	2140	2680
31/64	110	160	210	260	310	390	470	520	650	780	910	1040	1290	1550	2070	2590
1/2	110	150	200	250	300	380	450	500	630	750	880	1000	1250	1500	2010	2510

Material	Cutting speed Vc m/min	Coolant	Material	Cutting speed Vc m/min	Coolant
High carbon struc. steel < 700 N/mm ²	30 - 35	cutting spray	CuZn alloy tough	35 - 60	compressed air
High carbon struc. steel > 700 N/mm ²	20 - 25	cutting spray	Al alloy 11% Si	30 - 50	cutting spray
Alloyed steel < 1000 N/mm ²	20 - 25	cutting spray	Thermoplastics	20 - 40	water
Cast iron < 250 N/mm ²	15 - 25	compressed air	Duroplastics with inorganic filling	15 - 25	compressed air
Cast iron > 250 N/mm ²	10 - 20	compressed air	Duroplastics with organic filling	15 - 35	compressed air
CuZn alloy brittle	60 - 100	compressed air			