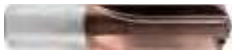
Straight-fluted drill, 4-fluted, VB 100 P

Article no. **6044**

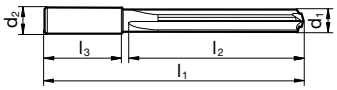


Cutting data page 77

P	M	K	N	S	H
		●	○		

NEW · VHM · VB 100 P · 3xD · WN · m7 · HA

2+4 cutting geometry • with corner radius • exceptional hole quality • maximum performance



Article no. **6044**

d1 mm	d2 h6 mm	l1 mm	l2 mm	l3 mm	Order no.
6.000	6.0	80.0	42.0	36.0	6044 6.000
7.000	8.0	85.0	47.0	36.0	6044 7.000
8.000	8.0	95.0	57.0	36.0	6044 8.000
9.000	10.0	105.0	63.0	40.0	6044 9.000
10.000	10.0	110.0	68.0	40.0	6044 10.000
11.000	12.0	115.0	68.0	45.0	6044 11.000
12.000	12.0	120.0	73.0	45.0	6044 12.000
13.000	16.0	130.0	79.0	48.0	6044 13.000
14.000	16.0	135.0	84.0	48.0	6044 14.000
15.000	16.0	140.0	90.0	48.0	6044 15.000
16.000	16.0	140.0	90.0	48.0	6044 16.000
17.000	20.0	150.0	97.0	50.0	6044 17.000
18.000	20.0	155.0	102.0	50.0	6044 18.000
19.000	20.0	155.0	103.0	50.0	6044 19.000
20.000	20.0	160.0	108.0	50.0	6044 20.000
21.000	25.0	170.0	110.0	56.0	6044 21.000
22.000	25.0	175.0	116.0	56.0	6044 22.000
23.000	25.0	180.0	121.0	56.0	6044 23.000

Article no. **6044**

d1 mm	d2 h6 mm	l1 mm	l2 mm	l3 mm	Order no.
24.000	25.0	185.0	127.0	56.0	6044 24.000
25.000	32.0	195.0	130.0	60.0	6044 25.000
26.000	32.0	200.0	135.0	60.0	6044 26.000
27.000	32.0	200.0	136.0	60.0	6044 27.000
28.000	32.0	205.0	141.0	60.0	6044 28.000
29.000	32.0	210.0	147.0	60.0	6044 29.000
30.000	32.0	210.0	147.0	60.0	6044 30.000
31.000	32.0	215.0	153.0	60.0	6044 31.000
32.000	32.0	220.0	158.0	60.0	6044 32.000

Drills, 4-fluted, VB 100 P, 3xD and 5xD

Machining group		f (mm/rev) with nom. Ø								
	v_c (m/min)	6	8	10	12	16	20	24	28	32
P1.1.1 Unalloyed steel, annealed, 0.15 % C, Rm 420 N/mm², 125 HB										
P1.1.2 Unalloyed steel, heat-treated, 0.15 % C, Rm 420 N/mm², 125 HB										
P1.1.3 Unalloyed steel, annealed, 0.45 % C, Rm 640 N/mm², 190 HB										
P1.1.4 Unalloyed steel, heat-treated, 0.45 % C, Rm 640 N/mm², 190 HB										
P1.1.5 Unalloyed steel, heat-treated, 0.45 % C, Rm 850 N/mm², 250 HB										
P1.1.6 Unalloyed steel, annealed, 0.75 % C, Rm 915 N/mm², 270 HB										
P1.1.7 Unalloyed steel, heat-treated, 0.75 % C, Rm 1020 N/mm², 300 HB										
P2.1.1 Low-alloy steel, annealed, Rm 610 N/mm², 180 HB										
P2.1.2 Low-alloy steel, heat-treated, Rm 930 N/mm², 275 HB										
P2.1.3 Low-alloy steel, heat-treated, Rm 1020 N/mm², 300 HB										
P2.1.4 Low-alloy steel, heat-treated, Rm 1190 N/mm², 350 HB										
P3.1.1 High-alloy steel and tool steel, annealed, Rm 680 N/mm², 200 HB										
P3.1.2 High-alloy steel and tool steel, hardened and tempered, Rm 1100 N/mm², 325 HB										
M1.1.1 Stainless steel, ferritic/martensitic, with machining additives										
M1.1.2 Stainless steel, ferritic/martensitic, annealed, Rm 680 N/mm², 200 HB										
M1.1.3 Stainless steel, ferritic/martensitic, heat-treated, Rm 810 N/mm², 240 HB										
M2.1.1 Stainless steel, austenitic, quenched, 180 HB										
M2.2.1 Duplex steel, high-strength stainless steels										
K1.1.1 Grey cast iron, pearlitic/ferritic, 180 HB	140	0.340	0.420	0.500	0.575	0.715	0.845	0.975	1.095	1.210
K1.1.2 Grey cast iron, pearlitic/martensitic, 260 HB	120	0.290	0.360	0.425	0.490	0.605	0.720	0.825	0.930	1.030
K1.2.1 Cast iron with spheroidal graphite, ferritic, 160 HB	120	0.290	0.360	0.425	0.490	0.605	0.720	0.825	0.930	1.030
K1.2.2 Cast iron with spheroidal graphite, pearlitic, 250 HB	110	0.270	0.340	0.400	0.460	0.570	0.675	0.780	0.875	0.970
K1.3.1 Malleable cast iron, ferritic, 130 HB	110	0.270	0.340	0.400	0.460	0.570	0.675	0.780	0.875	0.970
K1.3.2 Malleable cast iron, pearlitic, 230 HB	100	0.235	0.295	0.350	0.400	0.500	0.595	0.680	0.765	0.845
K2.1.1 Vermicular graphite cast iron (GJV)	95	0.235	0.295	0.350	0.400	0.500	0.595	0.680	0.765	0.845
K2.2.1 Austenitic-ferritic spheroidal graphite cast iron (ADI)	70	0.180	0.220	0.260	0.300	0.375	0.445	0.510	0.575	0.635
N1.1.1 Wrought aluminium alloys, non-hardened, 60 HB										
N1.1.2 Wrought aluminium alloys, hardened, 100 HB										
N2.1.1 Aluminium casting alloys, non-hardened, ≤ 12 % Si, 75 HB	180	0.305	0.380	0.450	0.515	0.645	0.760	0.875	0.985	1.090
N2.1.2 Aluminium casting alloys, hardened, ≤ 12 % Si, 90 HB	180	0.305	0.380	0.450	0.515	0.645	0.760	0.875	0.985	1.090
N2.1.3 Aluminium casting alloys, non-hardened, > 12 % Si, 130 HB	155	0.260	0.325	0.385	0.440	0.545	0.650	0.745	0.835	0.925
N3.1.1 Copper and copper alloys: Free-machining alloy, Pb > 1 %										
N3.1.2 Copper and copper alloys: CuZn, CuSnZn										
N3.1.3 Copper and copper alloys: CuSn, lead-free copper and copper electrolyte										
N4.1.1 Non-metallic materials: Duroplastics, fibre-reinforced plastics										
N4.1.2 Non-metallic materials: Hard rubber, wood, etc.										
N4.1.3 Non-metallic materials: Graphite										
S1.1.1 Heat-resistant alloys, Fe-based, annealed, 200 HB										
S1.1.2 Heat-resistant alloys, Fe-based, hardened, 280 HB										
S1.1.3 Heat-resistant alloys, Ni- or Co-based, annealed, 250 HB										
S1.1.4 Heat-resistant alloys, Ni- or Co-based, hardened, 350 HB										
S1.1.5 Heat-resistant alloys, Ni- or Co-based, cast, 320 HB										
S2.1.1 Titanium alloys, pure titanium, Rm 400 N/mm²										
S2.1.2 Titanium alloys, Alpha and Beta alloys, hardened, Rm 1050 N/mm²										
H1.1.1 Hardened steel, hardened and tempered, < 55 HRC										
H1.1.2 Hardened steel, hardened and tempered, < 60 HRC										
H1.1.3 Hardened steel, hardened and tempered, > 60 HRC										
H2.1.1 Chilled cast iron, 400 HB										
H2.1.2 Chilled cast iron, hardened and tempered, < 55 HRC										

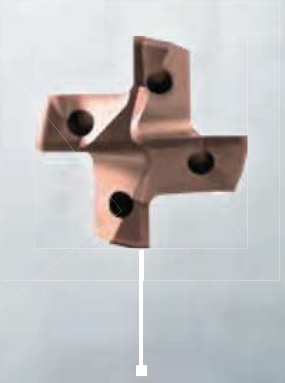
All the values stated are guide values. You can find detailed cutting values online in our Gühring Navigator at webnavigator.guehring.de/en.

VB 100 P solid carbide four-fluted drill

The straight-fluted drilling specialist for the machining of castings

ideal chip evacuation | higher position accuracy | maximum tool life

IDEAL HEAT DISSIPATION AND CHIP REMOVAL
thanks to Y coolant duct distribution



PATENTED 2 AND 4-CUTTING EDGE
distribution for a high metal removal rate

Precise piloting and drilling in cast iron

The VB 100 P, a straight-fluted 4-flute solid carbide drill, impresses with cost-effective machining of cast materials with an extreme cutting performance. The drill has a 2 and 4-flute design to meet high metal removal rates. In the first step, the two inner cutting edges machine and centre at a highly increased chip removal rate. In the second step, the high feed forces are dispersed among the four cutting edges to minimise wear and maximise quality. This results in shorter chips, higher cutting parameters and greater process reliability while maintaining the highest hole tolerances.