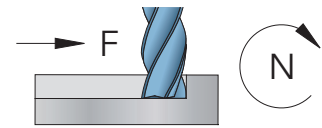


SOLID CARBIDE END MILLS

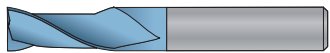


















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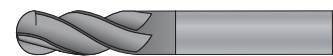
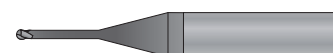
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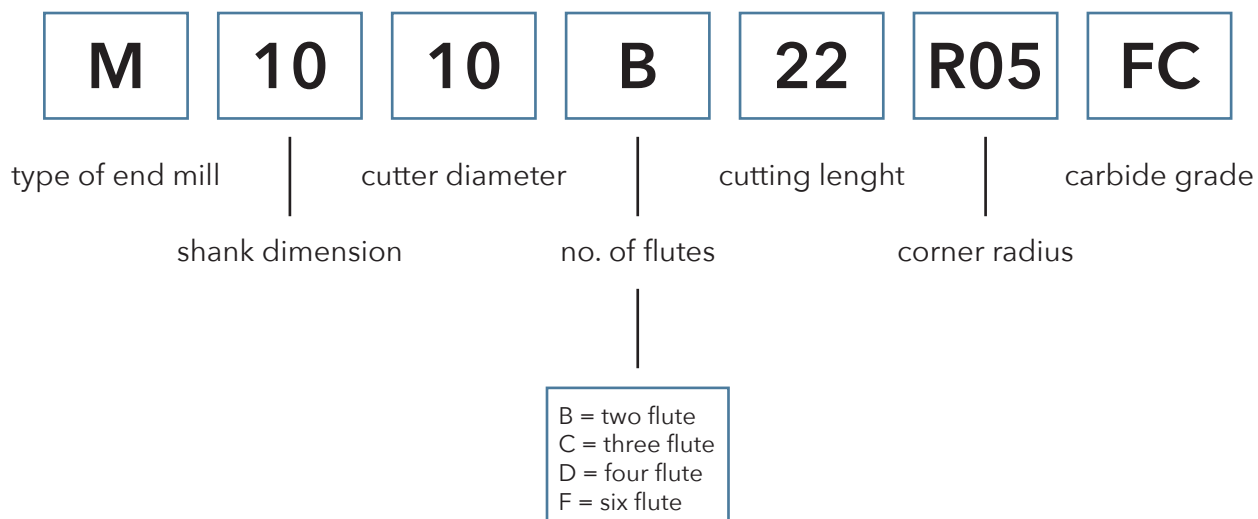
DC	MG	Micro, Two Flute	108
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Cutting Speed (V_c) and Material Factor (F_m)

MATERIAL		Hardness HB	Tensile Strength N/mm ²	Cutting Speed (V_c) m/min	Material Factor (F_m)
Steel	Low carbon, C < 0,25%	< 120	< 400	150 - 200	1,2
	Medium carbon, C < 0,55%	< 200	< 700	120 - 170	1,1
	High carbon, C < 0,85%	< 250	< 850	110 - 150	1,0
	Low alloy	< 250	< 850	100 - 140	1,0
	High alloy	< 350	< 1200	70 - 110	0,9
	Hardened, HRC < 45			60 - 100	0,8
	Hardened, HRC < 55			30 - 60	0,7
	Hardened, HRC < 65			20 - 40	0,6
Cast iron	Lamellar graphite	< 150	< 500	130 - 180	1,2
	Lamellar graphite	< 300	< 1000	100 - 150	1,1
	Nodular graphite, malleable	< 200	< 700	100 - 150	1,0
	Nodular graphite, malleable	< 300	< 1000	80 - 120	0,9
Stainless steel	Free machining	< 250	< 850	130 - 180	1,0
	Austenitic	< 250	< 850	90 - 140	0,9
	Ferritic and austenitic	< 300	< 1000	80 - 120	0,8
Titanium	Unalloyed	< 200	< 700	60 - 80	0,8
	Alloyed	< 270	< 900	50 - 70	0,7
	Alloyed	< 350	< 1250	30 - 50	0,6
Nickel	Unalloyed	< 150	< 500	80 - 120	0,8
	Alloyed	< 270	< 900	60 - 80	0,7
	Alloyed	< 350	< 1250	50 - 70	0,6
Copper	Unalloyed	< 100	< 350	150 - 250	1,0
	Brass, bronze	< 200	< 700	130 - 180	1,0
	High strength bronze	< 470	< 1500	60 - 80	0,8
Aluminium	Unalloyed	< 100	< 350	500 - 900	1,4
	Alloyed, Si < 0.5%	< 150	< 500	400 - 800	1,3
	Alloyed, Si < 10%	< 120	< 400	300 - 500	1,2
	Alloyed, Si > 10%	< 120	< 400	200 - 400	1,1
Inconel	718	< 370		50 - 70	0,6
Graphite				300 - 500	1,0

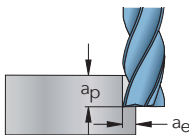
Code Key



Engagement Factor (F_e)

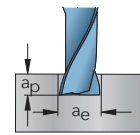
	Side Milling				Slot Milling $a_e = 1,0 \times D$
	$a_e = 0,1 \times D$	$a_e = 0,25 \times D$	$a_e = 0,5 \times D$	$a_e = 0,75 \times D$	
$a_p = 0,25 \times D$	3,5	1,8	1,4	1,2	1,0
$a_p = 0,5 \times D$	3,0	1,5	1,2	0,9	0,7
$a_p = 0,75 \times D$	2,5	1,3	1,0	0,7	0,6
$a_p = 1,0 \times D$	2,0	1,1	0,8	0,6	0,5
$a_p = 1,25 \times D$	1,7	0,9	0,6		
$a_p = 1,5 \times D$	1,4	0,7			
$a_p = 2,0 \times D$	1,2	0,5			
$a_p = 2,5 \times D$	1,0				
$a_p = 3,0 \times D$	0,8				

Side Milling



$$F_z = F_m \times F_e \times F_d$$

Slot Milling

Diameter Factor (F_d)

D	Diameter Factor (F_d)
0,5	0,004
1,0	0,006
2,0	0,009
3,0	0,012
4,0	0,016
5,0	0,022
6,0	0,032
8,0	0,045
10,0	0,056
12,0	0,074
14,0	0,086
16,0	0,098
18,0	0,110
20,0	0,122
25,0	0,135
32,0	0,145
40,0	0,155

D = cutter diameter (mm)

F_z = feed / flute (mm/flute)

n = spindle speed (rpm)

V_c = cutting speed (m/min)

V_f = table feed (mm/min)

z = no. of flutes

Example

Side Milling with M1010D25 LC
Standard Length Four Flute End Mill
Carbon Steel, up to 700 N/mm²

D = 10 mm

$a_p = 1,0 \times D = 10$ mm

$a_e = 0,25 \times D = 2,5$ mm

$F_z = 1,1 \times 1,1 \times 0,056 = 0,068$ mm/flute

$n = (130 \times 1000) / (n \times 10) = 4138$ rpm

$V_f = 0,068 \times 4 \times 4138 = 1126$ mm/min

$$n = \frac{V_c \times 1000}{\pi \times D}$$

$$V_f = F_z \times z \times n$$

Carbide Grades

LC

Super Micrograin Carbide with AlCrN coating.
Allround Grade with extremely high heat
resistance. Use cutting data according to the tables.

MG

Uncoated Super Micrograin Carbide.
For Aluminium. Use cutting data according to
the tables.

FC

Micrograin Carbide with TiAlN coating.
Allround Grade with high heat resistance.
Use cutting data according to the tables.

DC

Micrograin Carbide with Diamond coating.
For Graphite. Use cutting data according
to the tables.

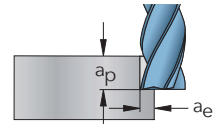
$$\text{Feed (mm/min)} = F_z \times z \times n$$



Fz (mm/z)		n (rpm)																					
z2	z3	z4	200	350	500	750	1000	1250	1500	2000	2500	3000	4000	5000	6000	8000	10000	15000	20000	25000	30000	40000	50000
0,001	0,001	0,001	1	1	2	3	4	5	6	8	10	12	16	20	24	32	40	60	80	100	120	160	200
0,002	0,002	0,002	1	2	3	5	6	8	9	12	15	18	24	30	36	48	60	90	120	150	180	240	300
0,004	0,003	0,002	2	3	4	6	8	10	12	16	20	24	32	40	48	64	80	120	160	200	240	320	400
0,005	0,003	0,003	2	4	5	8	10	13	15	20	25	30	40	50	60	80	100	150	200	250	300	400	500
0,006	0,004	0,003	2	4	6	9	12	15	18	24	30	36	48	60	72	96	120	180	240	300	360	480	600
0,007	0,005	0,004	3	5	7	11	14	18	21	28	35	42	56	70	84	112	140	210	280	350	420	560	700
0,008	0,005	0,004	3	6	8	12	16	20	24	32	40	48	64	80	96	128	160	240	320	400	480	640	800
0,009	0,006	0,005	4	6	9	14	18	23	27	36	45	54	72	90	108	144	180	270	360	450	540	720	900
0,010	0,007	0,005	4	7	10	15	20	25	30	40	50	60	80	100	120	160	200	300	400	500	600	800	1000
0,012	0,008	0,006	5	8	12	18	24	30	36	48	60	72	96	120	144	192	240	360	480	600	720	960	1200
0,014	0,009	0,007	6	10	14	21	28	35	42	56	70	84	112	140	168	224	280	420	560	700	840	1120	1400
0,016	0,011	0,008	6	11	16	24	32	40	48	64	80	96	128	160	192	256	320	480	640	800	960	1280	1600
0,018	0,012	0,009	7	13	18	27	36	45	54	72	90	108	144	180	216	288	360	540	720	900	1080	1440	1800
0,020	0,013	0,010	8	14	20	30	40	50	60	80	100	120	160	200	240	320	400	600	800	1000	1200	1600	2000
0,022	0,015	0,011	9	15	22	33	44	55	66	88	110	132	176	220	264	352	440	660	880	1100	1320	1760	2200
0,024	0,016	0,012	10	17	24	36	48	60	72	96	120	144	192	240	288	384	480	720	960	1200	1440	1920	2400
0,026	0,017	0,013	10	18	26	39	52	65	78	104	130	156	208	260	312	416	520	780	1040	1300	1560	2080	2600
0,028	0,019	0,014	11	20	28	42	56	70	84	112	140	168	224	280	336	448	560	840	1120	1400	1680	2240	2800
0,030	0,020	0,015	12	21	30	45	60	75	90	120	150	180	240	300	360	480	600	900	1200	1500	1800	2400	3000
0,035	0,023	0,018	14	25	35	53	70	88	105	140	175	210	280	350	420	560	700	1050	1400	1750	2100	2800	3500
0,040	0,027	0,020	16	28	40	60	80	100	120	160	200	240	320	400	480	640	800	1200	1600	2000	2400	3200	4000
0,045	0,030	0,023	18	32	45	68	90	113	135	180	225	270	360	450	540	720	900	1350	1800	2250	2700	3600	4500
0,050	0,033	0,025	20	35	50	75	100	125	150	200	250	300	400	500	600	800	1000	1500	2000	2500	3000	4000	5000
0,055	0,037	0,028	22	39	55	83	110	138	165	220	275	330	440	550	660	880	1100	1650	2200	2750	3300	4400	5500
0,060	0,040	0,030	24	42	60	90	120	150	180	240	300	360	480	600	720	960	1200	1800	2400	3000	3600	4800	6000
0,065	0,043	0,033	26	46	65	98	130	163	195	260	325	390	520	650	780	1040	1300	1950	2600	3250	3900	5200	6500
0,070	0,047	0,035	28	49	70	105	140	175	210	280	350	420	560	700	840	1120	1400	2100	2800	3500	4200	5600	7000
0,075	0,050	0,038	30	53	75	113	150	188	225	300	375	450	600	750	900	1200	1500	2250	3000	3750	4500	6000	7500
0,080	0,053	0,040	32	56	80	120	160	200	240	320	400	480	640	800	960	1280	1600	2400	3200	4000	4800	6400	8000
0,090	0,060	0,045	36	63	90	135	180	225	270	360	450	540	720	900	1080	1440	1800	2700	3600	4500	5400	7200	9000
0,100	0,067	0,050	40	70	100	150	200	250	300	400	500	600	800	1000	1200	1600	2000	3000	4000	5000	6000	8000	10000
0,110	0,073	0,055	44	77	110	165	220	275	330	440	550	660	880	1100	1320	1760	2200	3300	4400	5500	6600	8800	11000
0,120	0,080	0,060	48	84	120	180	240	300	360	480	600	720	960	1200	1440	1920	2400	3600	4800	6000	7200	9600	12000
0,130	0,087	0,065	52	91	130	195	260	325	390	520	650	780	1040	1300	1560	2080	2600	3900	5200	6500	7800	10400	13000
0,140	0,093	0,070	56	98	140	210	280	350	420	560	700	840	1120	1400	1680	2240	2800	4200	5600	7000	8400	11200	14000
0,150	0,100	0,075	60	105	150	225	300	375	450	600	750	900	1200	1500	1800	2400	3000	4500	6000	7500	9000	12000	15000
0,160	0,107	0,080	64	112	160	240	320	400	480	640	800	960	1280	1600	1920	2560	3200	4800	6400	8000	9600	12800	16000
0,180	0,120	0,090	72	126	180	270	360	450	540	720	900	1080	1440	1800	2160	2880	3600	5400	7200	9000	10800	14400	18000
0,200	0,133	0,100	80	140	200	300	400	500	600	800	1000	1200	1600	2000	2400	3200	4000	6000	8000	10000	12000	16000	20000
0,220	0,147	0,110	88	154	220	330	440	550	660	880	1100	1320	1760	2200	2640	3520	4400	6600	8800	11000	13200	17600	22000
0,240	0,160	0,120	96	168	240	360	480	600	720	960	1200	1440	1920	2400	2880	3840	4800	7200	9600	12000	14400	19200	24000
0,260	0,173	0,130	104	182	260	390	520	650	780	1040	1300	1560	2080	2600	3120	4160	5200	7800	10400	13000	15600	20800	26000
0,280	0,187	0,140	112	196	280	420	560	700	840	1120	1400	1680	2240	2800	3360	4480	5600	8400	11200	14000	16800	22400	28000
0,300	0,200	0,150	120	210	300	450	600	750	900	1200	1500	1800	2400	3000	3600	4800	6000	9000	12000	15000	18000	24000	30000
0,350	0,233	0,175	140	245	350	525	700	875	1050	1400	1750	2100	2800	3500	4200	5600	7000	10500	14000	17500	21000	28000	35000
0,400	0,267	0,200	160	280	400	600	800	1000	1200	1600	2000	2400	3200	4000	4800	6400	8000	12000	16000	20000	24000	32000	40000
0,450	0,300	0,225	180	315	450	675	900	1125	1350	1800	2250	2700	3600	4500	5400	7200	9000	13500	18000	22500	27000	36000	45000
0,500	0,333	0,250	200	350	500	750	1000	1250	1500	2000	2500	3000	4000	5000	6000	8000	10000	15000	20000	25000	30000	40000	50000
0,550	0,367	0,275	220	385	550	825	1100	1375	1650	2200	2750	3300	4400	5500	6600	8800	11000	16500	22000	27500	33000	44000	55000

SIDE MILLING

Roughing



$$a_e = 0,25 \times D$$

$$a_p = 1,0 \times D$$

Carbon Steel, up to 700 N/mm²

D mm	z	a _e mm	a _p mm	V _c m/min	n rpm	F _z mm/z	V _f mm/min
3,0	4	0,75	3,00	130	13 793	0,015	801
4,0	4	1,00	4,00	130	10 345	0,019	801
5,0	4	1,25	5,00	130	8 276	0,027	881
6,0	4	1,50	6,00	130	6 897	0,039	1 068
8,0	4	2,00	8,00	130	5 173	0,054	1 127
10,0	4	2,50	10,00	130	4 138	0,068	1 122
12,0	4	3,00	12,00	130	3 448	0,090	1 235
16,0	4	4,00	16,00	130	2 586	0,119	1 227
20,0	4	5,00	20,00	130	2 069	0,148	1 222
25,0	4	6,25	25,00	130	1 655	0,163	1 082

High Alloy Steel / Hardened Steel HRC 30-45

D mm	z	a _e mm	a _p mm	V _c m/min	n rpm	F _z mm/z	V _f mm/min
3,0	4	0,75	3,00	70	7 427	0,011	314
4,0	4	1,00	4,00	70	5 570	0,014	314
5,0	4	1,25	5,00	70	4 456	0,019	345
6,0	4	1,50	6,00	70	3 714	0,028	418
8,0	4	2,00	8,00	70	2 785	0,040	441
10,0	4	2,50	10,00	70	2 228	0,049	439
12,0	4	3,00	12,00	70	1 857	0,065	484
16,0	4	4,00	16,00	70	1 393	0,086	480
20,0	4	5,00	20,00	70	1 114	0,107	478
25,0	4	6,25	25,00	70	891	0,119	424

Cast Iron, Lamellar Graphite, up to 1000 N/mm²

D mm	z	a _e mm	a _p mm	V _c m/min	n rpm	F _z mm/z	V _f mm/min
3,0	4	0,75	3,00	110	11 671	0,015	678
4,0	4	1,00	4,00	110	8 754	0,019	678
5,0	4	1,25	5,00	110	7 003	0,027	746
6,0	4	1,50	6,00	110	5 836	0,039	904
8,0	4	2,00	8,00	110	4 377	0,054	953
10,0	4	2,50	10,00	110	3 501	0,068	949
12,0	4	3,00	12,00	110	2 918	0,090	1 045
16,0	4	4,00	16,00	110	2 188	0,119	1 038
20,0	4	5,00	20,00	110	1 751	0,148	1 034
25,0	4	6,25	25,00	110	1 401	0,163	915

Copper, Unalloyed

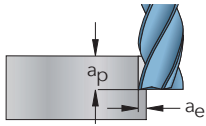
D mm	z	a _e mm	a _p mm	V _c m/min	n rpm	F _z mm/z	V _f mm/min
3,0	4	0,75	3,00	170	18 038	0,013	952
4,0	4	1,00	4,00	170	13 528	0,018	952
5,0	4	1,25	5,00	170	10 823	0,024	1 048
6,0	4	1,50	6,00	170	9 019	0,035	1 270
8,0	4	2,00	8,00	170	6 764	0,050	1 339
10,0	4	2,50	10,00	170	5 411	0,062	1 333
12,0	4	3,00	12,00	170	4 509	0,081	1 468
16,0	4	4,00	16,00	170	3 382	0,108	1 458
20,0	4	5,00	20,00	170	2 706	0,134	1 452
25,0	4	6,25	25,00	170	2 165	0,149	1 286

Stainless Steel, Austenitic

D mm	z	a _e mm	a _p mm	V _c m/min	n rpm	F _z mm/z	V _f mm/min
3,0	3	0,75	3,00	100	10 610	0,012	504
4,0	3	1,00	4,00	100	7 958	0,016	504
5,0	3	1,25	5,00	100	6 366	0,022	555
6,0	3	1,50	6,00	100	5 305	0,032	672
8,0	3	2,00	8,00	100	3 979	0,045	709
10,0	3	2,50	10,00	100	3 183	0,055	706
12,0	3	3,00	12,00	100	2 653	0,073	777
16,0	3	4,00	16,00	100	1 989	0,097	772
20,0	3	5,00	20,00	100	1 592	0,121	769

Aluminium, up to 10% Si

D mm	z	a _e mm	a _p mm	V _c m/min	n rpm	F _z mm/z	V _f mm/min
3,0	2	0,75	3,00	300	31 831	0,016	2 017
4,0	2	1,00	4,00	300	23 873	0,021	2 017
5,0	2	1,25	5,00	300	19 099	0,029	2 218
6,0	2	1,50	6,00	300	15 916	0,042	2 689
8,0	2	2,00	8,00	300	11 937	0,059	2 836
10,0	2	2,50	10,00	300	9 549	0,074	2 824
12,0	2	3,00	12,00	300	7 958	0,098	3 109
16,0	2	4,00	16,00	300	5 968	0,129	3 088
20,0	2	5,00	20,00	300	4 775	0,161	3 076



SIDE MILLING

Finishing



$$a_e = 0,1 \times D$$

$$a_p = 1,5 \times D$$

Carbon Steel, up to 700 N/mm²

D mm	z	a _e mm	a _p mm	V _c m/min	n rpm	F _z mm/z	V _f mm/min
3,0	4	0,30	4,50	150	15 916	0,018	1 176
4,0	4	0,40	6,00	150	11 937	0,025	1 176
5,0	4	0,50	7,50	150	9 549	0,034	1 294
6,0	4	0,60	9,00	150	7 958	0,049	1 569
8,0	4	0,80	12,00	150	5 968	0,069	1 654
10,0	4	1,00	15,00	150	4 775	0,086	1 647
	6	1,00	15,00	150	4 775	0,086	2 471
12,0	4	1,20	18,00	150	3 979	0,114	1 814
	6	1,20	18,00	150	3 979	0,114	2 721
16,0	4	1,60	24,00	150	2 984	0,151	1 801
	6	1,60	24,00	150	2 984	0,151	2 702
20,0	4	2,00	30,00	150	2 387	0,188	1 794
	6	2,00	30,00	150	2 387	0,188	2 691
25,0	4	2,50	37,50	150	1 910	0,208	1 588
	6	2,50	37,50	150	1 910	0,208	2 382
32,0	8	3,20	48,00	150	1 492	0,223	2 665
40,0	10	4,00	60,00	150	1 194	0,239	2 849

High Alloy Steel / Hardened Steel HRC 30-45

D mm	z	a _e mm	a _p mm	V _c m/min	n rpm	F _z mm/z	V _f mm/min
3,0	4	0,30	4,50	90	9 549	0,013	513
4,0	4	0,40	6,00	90	7 162	0,018	513
5,0	4	0,50	7,50	90	5 730	0,025	565
6,0	4	0,60	9,00	90	4 775	0,036	684
8,0	4	0,80	12,00	90	3 581	0,050	722
10,0	4	1,00	15,00	90	2 865	0,063	719
	6	1,00	15,00	90	2 865	0,063	1 078
12,0	4	1,20	18,00	90	2 387	0,083	791
	6	1,20	18,00	90	2 387	0,083	1 187
16,0	4	1,60	24,00	90	1 790	0,110	786
	6	1,60	24,00	90	1 790	0,110	1 179
20,0	4	2,00	30,00	90	1 432	0,137	783
	6	2,00	30,00	90	1 432	0,137	1 174
25,0	4	2,50	37,50	90	1 146	0,151	693
	6	2,50	37,50	90	1 146	0,151	1 040
32,0	8	3,20	48,00	90	895	0,162	1 163
40,0	10	4,00	60,00	90	716	0,174	1 243

Cast Iron, Lamellar Graphite, up to 1000 N/mm²

D mm	z	a _e mm	a _p mm	V _c m/min	n rpm	F _z mm/z	V _f mm/min
6,0	6	0,60	9,00	130	6 897	0,049	2 039
8,0	6	0,80	12,00	130	5 173	0,069	2 151
10,0	6	1,00	15,00	130	4 138	0,086	2 141
12,0	6	1,20	18,00	130	3 448	0,114	2 358
16,0	6	1,60	24,00	130	2 586	0,151	2 342
20,0	6	2,00	30,00	130	2 069	0,188	2 332
25,0	8	2,50	37,50	130	1 655	0,208	2 753
32,0	8	3,20	48,00	130	1 293	0,223	2 310
40,0	10	4,00	60,00	130	1 035	0,239	2 469

Copper, Unalloyed

D mm	z	a _e mm	a _p mm	V _c m/min	n rpm	F _z mm/z	V _f mm/min
4,0	4	0,40	6,00	200	15 916	0,022	1 426
5,0	4	0,50	7,50	200	12 732	0,031	1 569
6,0	4	0,60	9,00	200	10 610	0,045	1 901
8,0	4	0,80	12,00	200	7 958	0,063	2 005
10,0	4	1,00	15,00	200	6 366	0,078	1 996
12,0	4	1,20	18,00	200	5 305	0,104	2 198
16,0	4	1,60	24,00	200	3 979	0,137	2 184
20,0	4	2,00	30,00	200	3 183	0,171	2 175
25,0	4	2,50	37,50	200	2 546	0,189	1 925

Hardened Steel HRC 45-55

D mm	z	a _e mm	a _p mm	V _c m/min	n rpm	F _z mm/z	V _f mm/min
6,0	6	0,60	9,00	45	2 387	0,031	449
8,0	6	0,80	12,00	45	1 790	0,044	474
10,0	6	1,00	15,00	45	1 432	0,055	472
12,0	6	1,20	18,00	45	1 194	0,073	519
16,0	6	1,60	24,00	45	895	0,096	516
20,0	6	2,00	30,00	45	716	0,120	514
25,0	8	2,50	37,50	45	573	0,132	606
32,0	8	3,20	48,00	45	448	0,142	509
40,0	10	4,00	60,00	45	358	0,152	544

Hardened Steel HRC 55-65

D mm	z	a _e mm	a _p mm	V _c m/min	n rpm	F _z mm/z	V _f mm/min
6,0	6	0,60	9,00	30	1 592	0,027	257
8,0	6	0,80	12,00	30	1 194	0,038	271
10,0	6	1,00	15,00	30	955	0,047	270
12,0	6	1,20	18,00	30	796	0,062	297
16,0	6	1,60	24,00	30	597	0,082	295
20,0	6	2,00	30,00	30	477	0,102	294
25,0	8	2,50	37,50	30	382	0,113	347
32,0	8	3,20	48,00	30	298	0,122	291
40,0	10	4,00	60,00	30	239	0,130	311

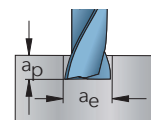
Stainless Steel, Austenitic

D mm	z	a _e mm	a _p mm	V _c m/min	n rpm	F _z mm/z	V _f mm/min
3,0	3	0,30	4,50	120	12 732	0,015	578
4,0	3	0,40	6,00	120	9 549	0,020	578
5,0	3	0,50	7,50	120	7 639	0,028	635
6,0	3	0,60	9,00	120	6 366	0,040	770
8,0	3	0,80	12,00	120	4 775	0,057	812
10,0	3	1,00	15,00	120	3 820	0,071	809
12,0	3	1,20	18,00	120	3 183	0,093	890
16,0	3	1,60	24,00	120	2 387	0,123	884
20,0	3	2,00	30,00	120	1 910	0,154	881

Aluminium, up to 10% Si

D mm	z	a _e mm	a _p mm	V _c m/min	n rpm	F _z mm/z	V _f mm/min
3,0	2	0,30	4,50	350	37 136	0,020	1 497
4,0	2	0,40	6,00	350	27 852	0,027	1 497
5,0	2	0,50	7,50	350	22 282	0,037	1 647
6,0	2	0,60	9,00	350	18 568	0,054	1 996
8,0	2	0,80	12,00	350	13 926	0,076	2 106
10,0	2	1,00	15,00	350	11 141	0,094	2 096
12,0	2	1,20	18,00	350	9 284	0,124	2 308
16,0	2	1,60	24,00	350	6 963	0,165	2 293
20,0	2	2,00	30,00	350	5 570	0,205	2 283

SLOT MILLING



$$a_e = 1,0 \times D$$

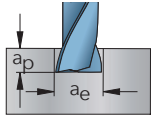
$$a_p = 0,5 \times D$$

Carbon Steel, up to 700 N/mm²

D mm	z	a _e mm	a _p mm	V _c m/min	n rpm	F _z mm/z	V _f mm/min
0,5	2	0,50	0,25	130	82 761	0,003	510
1,0	2	1,00	0,50	130	41 380	0,005	382
	3	1,00	0,50	130	41 380	0,005	574
1,5	2	1,50	0,75	130	27 587	0,006	319
	3	1,50	0,75	130	27 587	0,006	478
2,0	2	2,00	1,00	130	20 690	0,007	287
	3	2,00	1,00	130	20 690	0,007	430
2,5	2	2,50	1,25	130	16 552	0,008	268
	3	2,50	1,25	130	16 552	0,008	401
3,0	2	3,00	1,50	130	13 793	0,009	255
	3	3,00	1,50	130	13 793	0,009	382
4,0	2	4,00	2,00	130	10 345	0,012	255
	3	4,00	2,00	130	10 345	0,012	382
5,0	2	5,00	2,50	130	8 276	0,017	280
	3	5,00	2,50	130	8 276	0,017	421
6,0	2	6,00	3,00	130	6 897	0,025	340
	3	6,00	3,00	130	6 897	0,025	510
8,0	2	8,00	4,00	130	5 173	0,035	358
	3	8,00	4,00	130	5 173	0,035	538
10,0	2	10,00	5,00	130	4 138	0,043	357
	3	10,00	5,00	130	4 138	0,043	535
12,0	2	12,00	6,00	130	3 448	0,057	393
	3	12,00	6,00	130	3 448	0,057	589
14,0	2	14,00	7,00	130	2 956	0,066	391
	3	14,00	7,00	130	2 956	0,066	587
16,0	2	16,00	8,00	130	2 586	0,075	390
	3	16,00	8,00	130	2 586	0,075	585
18,0	2	18,00	9,00	130	2 299	0,085	389
	3	18,00	9,00	130	2 299	0,085	584
20,0	2	20,00	10,00	130	2 069	0,094	389
	3	20,00	10,00	130	2 069	0,094	583
25,0	2	25,00	12,50	130	1 655	0,104	344
	3	25,00	12,50	130	1 655	0,104	516

High Alloy Steel / Hardened Steel HRC 30-45

D mm	z	a _e mm	a _p mm	V _c m/min	n rpm	F _z mm/z	V _f mm/min
0,5	2	0,50	0,25	70	44 563	0,002	200
1,0	2	1,00	0,50	70	22 282	0,003	150
	3	1,00	0,50	70	22 282	0,003	225
1,5	2	1,50	0,75	70	14 854	0,004	125
	3	1,50	0,75	70	14 854	0,004	187
2,0	2	2,00	1,00	70	11 141	0,005	112
	3	2,00	1,00	70	11 141	0,005	168
2,5	2	2,50	1,25	70	8 913	0,006	105
	3	2,50	1,25	70	8 913	0,006	157
3,0	2	3,00	1,50	70	7 427	0,007	100
	3	3,00	1,50	70	7 427	0,007	150
4,0	2	4,00	2,00	70	5 570	0,009	100
	3	4,00	2,00	70	5 570	0,009	150
5,0	2	5,00	2,50	70	4 456	0,012	110
	3	5,00	2,50	70	4 456	0,012	165
6,0	2	6,00	3,00	70	3 714	0,018	133
	3	6,00	3,00	70	3 714	0,018	200
8,0	2	8,00	4,00	70	2 785	0,025	140
	3	8,00	4,00	70	2 785	0,025	211
10,0	2	10,00	5,00	70	2 228	0,031	140
	3	10,00	5,00	70	2 228	0,031	210
12,0	2	12,00	6,00	70	1 857	0,041	154
	3	12,00	6,00	70	1 857	0,041	231
14,0	2	14,00	7,00	70	1 592	0,048	153
	3	14,00	7,00	70	1 592	0,048	230
16,0	2	16,00	8,00	70	1 393	0,055	153
	3	16,00	8,00	70	1 393	0,055	229
18,0	2	18,00	9,00	70	1 238	0,062	153
	3	18,00	9,00	70	1 238	0,062	229
20,0	2	20,00	10,00	70	1 114	0,068	152
	3	20,00	10,00	70	1 114	0,068	228
25,0	2	25,00	12,50	70	891	0,076	135
	3	25,00	12,50	70	891	0,076	202



SLOT MILLING

$$a_e = 1,0 \times D$$

$$a_p = 0,5 \times D$$

Cast Iron, Lamellar Graphite, up to 1000 N/mm²

D mm	z	a _e mm	a _p mm	V _c m/min	n rpm	F _z mm/z	V _f mm/min
0,5	2	0,50	0,25	110	70 028	0,003	431
1,0	2	1,00	0,50	110	35 014	0,005	324
	3	1,00	0,50	110	35 014	0,005	485
1,5	2	1,50	0,75	110	23 343	0,006	270
	3	1,50	0,75	110	23 343	0,006	404
2,0	2	2,00	1,00	110	17 507	0,007	243
	3	2,00	1,00	110	17 507	0,007	364
2,5	2	2,50	1,25	110	14 006	0,008	226
	3	2,50	1,25	110	14 006	0,008	340
3,0	2	3,00	1,50	110	11 671	0,009	216
	3	3,00	1,50	110	11 671	0,009	324
4,0	2	4,00	2,00	110	8 754	0,012	216
	3	4,00	2,00	110	8 754	0,012	324
5,0	2	5,00	2,50	110	7 003	0,017	237
	3	5,00	2,50	110	7 003	0,017	356
6,0	2	6,00	3,00	110	5 836	0,025	288
	3	6,00	3,00	110	5 836	0,025	431
8,0	2	8,00	4,00	110	4 377	0,035	303
	3	8,00	4,00	110	4 377	0,035	455
10,0	2	10,00	5,00	110	3 501	0,043	302
	3	10,00	5,00	110	3 501	0,043	453
12,0	2	12,00	6,00	110	2 918	0,057	333
	3	12,00	6,00	110	2 918	0,057	499
14,0	2	14,00	7,00	110	2 501	0,066	331
	3	14,00	7,00	110	2 501	0,066	497
16,0	2	16,00	8,00	110	2 188	0,075	330
	3	16,00	8,00	110	2 188	0,075	495
18,0	2	18,00	9,00	110	1 945	0,085	330
	3	18,00	9,00	110	1 945	0,085	494
20,0	2	20,00	10,00	110	1 751	0,094	329
	3	20,00	10,00	110	1 751	0,094	493
25,0	2	25,00	12,50	110	1 401	0,104	291
	3	25,00	12,50	110	1 401	0,104	437

Copper, Unalloyed

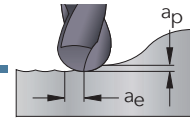
D mm	z	a _e mm	a _p mm	V _c m/min	n rpm	F _z mm/z	V _f mm/min
0,5	2	0,50	0,25	170	108 225	0,003	606
1,0	2	1,00	0,50	170	54 113	0,004	455
	3	1,00	0,50	170	54 113	0,004	682
1,5	2	1,50	0,75	170	36 075	0,005	379
	3	1,50	0,75	170	36 075	0,005	568
2,0	2	2,00	1,00	170	27 056	0,006	341
	3	2,00	1,00	170	27 056	0,006	511
2,5	2	2,50	1,25	170	21 645	0,007	318
	3	2,50	1,25	170	21 645	0,007	477
3,0	2	3,00	1,50	170	18 038	0,008	303
	3	3,00	1,50	170	18 038	0,008	455
4,0	2	4,00	2,00	170	13 528	0,011	303
	3	4,00	2,00	170	13 528	0,011	455
5,0	2	5,00	2,50	170	10 823	0,015	333
	3	5,00	2,50	170	10 823	0,015	500
6,0	2	6,00	3,00	170	9 019	0,022	404
	3	6,00	3,00	170	9 019	0,022	606
8,0	2	8,00	4,00	170	6 764	0,032	426
	3	8,00	4,00	170	6 764	0,032	639
10,0	2	10,00	5,00	170	5 411	0,039	424
	3	10,00	5,00	170	5 411	0,039	636
12,0	2	12,00	6,00	170	4 509	0,052	467
	3	12,00	6,00	170	4 509	0,052	701
14,0	2	14,00	7,00	170	3 865	0,060	465
	3	14,00	7,00	170	3 865	0,060	698
16,0	2	16,00	8,00	170	3 382	0,069	464
	3	16,00	8,00	170	3 382	0,069	696
18,0	2	18,00	9,00	170	3 006	0,077	463
	3	18,00	9,00	170	3 006	0,077	694
20,0	2	20,00	10,00	170	2 706	0,085	462
	3	20,00	10,00	170	2 706	0,085	693
25,0	2	25,00	12,50	170	2 165	0,095	409
	3	25,00	12,50	170	2 165	0,095	614

Stainless Steel, Austenitic

D mm	z	a _e mm	a _p mm	V _c m/min	n rpm	F _z mm/z	V _f mm/min
3,0	3	3,00	1,50	100	10 610	0,008	241
4,0	3	4,00	2,00	100	7 958	0,010	241
5,0	3	5,00	2,50	100	6 366	0,014	265
6,0	3	6,00	3,00	100	5 305	0,020	321
8,0	3	8,00	4,00	100	3 979	0,028	338
10,0	3	10,00	5,00	100	3 183	0,035	337
12,0	3	12,00	6,00	100	2 653	0,047	371
16,0	3	16,00	8,00	100	1 989	0,062	368
20,0	3	20,00	10,00	100	1 592	0,077	367

Aluminium, up to 10% Si

D mm	z	a _e mm	a _p mm	V _c m/min	n rpm	F _z mm/z	V _f mm/min
3,0	2	3,00	1,50	300	31 831	0,010	963
4,0	2	4,00	2,00	300	23 873	0,013	963
5,0	2	5,00	2,50	300	19 099	0,018	1 059
6,0	2	6,00	3,00	300	15 916	0,027	1 283
8,0	2	8,00	4,00	300	11 937	0,038	1 354
10,0	2	10,00	5,00	300	9 549	0,047	1 348
12,0	2	12,00	6,00	300	7 958	0,062	1 484
16,0	2	16,00	8,00	300	5 968	0,082	1 474
20,0	2	20,00	10,00	300	4 775	0,102	1 468



$$a_e = 0,3 \times D$$

$$a_p = 0,1 \times D$$

High Alloy Steel / Hardened Steel HRC 30-45

D	z	a _e	a _p	V _c	n	F _z	V _f
mm		mm	mm	m/min	rpm	mm/z	mm/min
0,3	2	0,09	0,03	47	50 000	0,005	500
0,4	2	0,12	0,04	63	50 000	0,007	700
0,5	2	0,15	0,05	79	50 000	0,009	900
0,6	2	0,18	0,06	94	50 000	0,010	1 000
0,7	2	0,21	0,07	110	50 000	0,012	1 200
0,8	2	0,24	0,08	126	50 000	0,014	1 400
1,0	2	0,30	0,10	157	50 000	0,018	1 800
1,2	2	0,36	0,12	188	50 000	0,021	2 100
1,5	2	0,45	0,15	236	50 000	0,027	2 700
2,0	2	0,60	0,20	300	47 747	0,035	3 342
2,5	2	0,75	0,25	300	38 197	0,047	3 591
3,0	2	0,90	0,30	300	31 831	0,064	4 074
4,0	2	1,20	0,40	300	23 873	0,082	3 915
5,0	2	1,50	0,50	300	19 099	0,102	3 896
6,0	2	1,80	0,60	300	15 916	0,121	3 852
8,0	2	2,40	0,80	300	11 937	0,138	3 295
10,0	2	3,00	1,00	300	9 549	0,152	2 903
12,0	2	3,60	1,20	300	7 958	0,163	2 594
16,0	2	4,80	1,60	300	5 968	0,181	2 161

Hardened Steel HRC 45-55

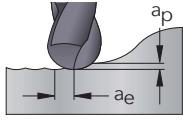
D	z	a _e	a _p	V _c	n	F _z	V _f
mm		mm	mm	m/min	rpm	mm/z	mm/min
0,3	2	0,09	0,03	47	50 000	0,004	440
0,4	2	0,12	0,04	63	50 000	0,006	616
0,5	2	0,15	0,05	79	50 000	0,008	792
0,6	2	0,18	0,06	94	50 000	0,009	880
0,7	2	0,21	0,07	110	50 000	0,011	1 056
0,8	2	0,24	0,08	126	50 000	0,012	1 232
1,0	2	0,30	0,10	157	50 000	0,016	1 584
1,2	2	0,36	0,12	188	50 000	0,018	1 848
1,5	2	0,45	0,15	236	50 000	0,024	2 376
2,0	2	0,60	0,20	250	39 789	0,031	2 451
2,5	2	0,75	0,25	250	31 831	0,041	2 633
3,0	2	0,90	0,30	250	26 526	0,056	2 988
4,0	2	1,20	0,40	250	19 894	0,072	2 871
5,0	2	1,50	0,50	250	15 916	0,090	2 857
6,0	2	1,80	0,60	250	13 263	0,106	2 824
8,0	2	2,40	0,80	250	9 947	0,121	2 416
10,0	2	3,00	1,00	250	7 958	0,134	2 129
12,0	2	3,60	1,20	250	6 631	0,143	1 902
16,0	2	4,80	1,60	250	4 974	0,159	1 584

Hardened Steel HRC 55-65

D	z	a _e	a _p	V _c	n	F _z	V _f
mm		mm	mm	m/min	rpm	mm/z	mm/min
0,3	2	0,09	0,03	47	50 000	0,004	410
0,4	2	0,12	0,04	63	50 000	0,006	574
0,5	2	0,15	0,05	79	50 000	0,007	738
0,6	2	0,18	0,06	94	50 000	0,008	820
0,7	2	0,21	0,07	110	50 000	0,010	984
0,8	2	0,24	0,08	126	50 000	0,011	1 148
1,0	2	0,30	0,10	157	50 000	0,015	1 476
1,2	2	0,36	0,12	188	50 000	0,017	1 722
1,5	2	0,45	0,15	200	42 441	0,022	1 879
2,0	2	0,60	0,20	200	31 831	0,029	1 827
2,5	2	0,75	0,25	200	25 465	0,039	1 963
3,0	2	0,90	0,30	200	21 221	0,052	2 227
4,0	2	1,20	0,40	200	15 916	0,067	2 140
5,0	2	1,50	0,50	200	12 732	0,084	2 130
6,0	2	1,80	0,60	200	10 610	0,099	2 106
8,0	2	2,40	0,80	200	7 958	0,113	1 801
10,0	2	3,00	1,00	200	6 366	0,125	1 587
12,0	2	3,60	1,20	200	5 305	0,134	1 418
16,0	2	4,80	1,60	200	3 979	0,148	1 181

Graphite

D	z	a _e	a _p	V _c	n	F _z	V _f
mm		mm	mm	m/min	rpm	mm/z	mm/min
0,3	2	0,09	0,03	47	50 000	0,006	625
0,4	2	0,12	0,04	63	50 000	0,009	875
0,5	2	0,15	0,05	79	50 000	0,011	1 125
0,6	2	0,18	0,06	94	50 000	0,013	1 250
0,7	2	0,21	0,07	110	50 000	0,015	1 500
0,8	2	0,24	0,08	126	50 000	0,018	1 750
1,0	2	0,30	0,10	157	50 000	0,023	2 250
1,2	2	0,36	0,12	188	50 000	0,026	2 625
1,5	2	0,45	0,15	236	50 000	0,034	3 375
2,0	2	0,60	0,20	314	50 000	0,044	4 375
2,5	2	0,75	0,25	393	50 000	0,059	5 875
3,0	2	0,90	0,30	400	42 441	0,080	6 791
4,0	2	1,20	0,40	400	31 831	0,103	6 525
5,0	2	1,50	0,50	400	25 465	0,128	6 494
6,0	2	1,80	0,60	400	21 221	0,151	6 419
8,0	2	2,40	0,80	400	15 916	0,173	5 491
10,0	2	3,00	1,00	400	12 732	0,190	4 838
12,0	2	3,60	1,20	400	10 610	0,204	4 324
16,0	2	4,80	1,60	400	7 958	0,226	3 601



HIGH SPEED CUTTING

Finishing



$$a_e = 0,05 \times D$$

$$a_p = 0,05 \times D$$

High Alloy Steel / Hardened Steel HRC 30-45

D	z	a _e	a _p	V _c	n	F _z	V _f
mm		mm	mm	m/min	rpm	mm/z	mm/min
0,3	2	0,02	0,02	47	50 000	0,006	600
0,4	2	0,02	0,02	63	50 000	0,008	840
0,5	2	0,03	0,03	79	50 000	0,011	1 080
0,6	2	0,03	0,03	94	50 000	0,012	1 200
0,7	2	0,04	0,04	110	50 000	0,014	1 440
0,8	2	0,04	0,04	126	50 000	0,017	1 680
1,0	2	0,05	0,05	157	50 000	0,022	2 160
1,2	2	0,06	0,06	188	50 000	0,025	2 520
1,5	2	0,08	0,08	236	50 000	0,032	3 240
2,0	2	0,10	0,10	314	50 000	0,042	4 200
2,5	2	0,13	0,13	350	44 563	0,056	5 027
3,0	2	0,15	0,15	350	37 136	0,077	5 704
4,0	2	0,20	0,20	350	27 852	0,098	5 481
5,0	2	0,25	0,25	350	22 282	0,122	5 455
6,0	2	0,30	0,30	350	18 568	0,145	5 392
8,0	2	0,40	0,40	350	13 926	0,166	4 612
10,0	2	0,50	0,50	350	11 141	0,182	4 064
12,0	2	0,60	0,60	350	9 284	0,196	3 632
16,0	2	0,80	0,80	350	6 963	0,217	3 025

Hardened Steel HRC 45-55

D	z	a _e	a _p	V _c	n	F _z	V _f
mm		mm	mm	m/min	rpm	mm/z	mm/min
0,3	2	0,02	0,02	47	50 000	0,005	528
0,4	2	0,02	0,02	63	50 000	0,007	739
0,5	2	0,03	0,03	79	50 000	0,010	950
0,6	2	0,03	0,03	94	50 000	0,011	1 056
0,7	2	0,04	0,04	110	50 000	0,013	1 267
0,8	2	0,04	0,04	126	50 000	0,015	1 478
1,0	2	0,05	0,05	157	50 000	0,019	1 901
1,2	2	0,06	0,06	188	50 000	0,022	2 218
1,5	2	0,08	0,08	236	50 000	0,029	2 851
2,0	2	0,10	0,10	300	47 747	0,037	3 529
2,5	2	0,13	0,13	300	38 197	0,050	3 792
3,0	2	0,15	0,15	300	31 831	0,068	4 303
4,0	2	0,20	0,20	300	23 873	0,087	4 134
5,0	2	0,25	0,25	300	19 099	0,108	4 114
6,0	2	0,30	0,30	300	15 916	0,128	4 067
8,0	2	0,40	0,40	300	11 937	0,146	3 479
10,0	2	0,50	0,50	300	9 549	0,161	3 066
12,0	2	0,60	0,60	300	7 958	0,172	2 740
16,0	2	0,80	0,80	300	5 968	0,191	2 282

Hardened Steel HRC 55-65

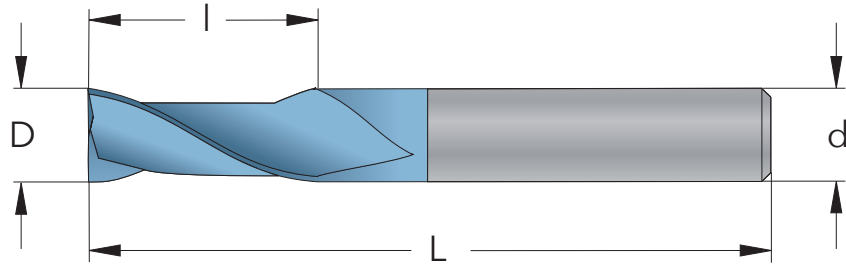
D	z	a _e	a _p	V _c	n	F _z	V _f
mm		mm	mm	m/min	rpm	mm/z	mm/min
0,3	2	0,02	0,02	47	50 000	0,005	492
0,4	2	0,02	0,02	63	50 000	0,007	689
0,5	2	0,03	0,03	79	50 000	0,009	886
0,6	2	0,03	0,03	94	50 000	0,010	984
0,7	2	0,04	0,04	110	50 000	0,012	1 181
0,8	2	0,04	0,04	126	50 000	0,014	1 378
1,0	2	0,05	0,05	157	50 000	0,018	1 771
1,2	2	0,06	0,06	188	50 000	0,021	2 066
1,5	2	0,08	0,08	236	50 000	0,027	2 657
2,0	2	0,10	0,10	250	39 789	0,034	2 741
2,5	2	0,13	0,13	250	31 831	0,046	2 944
3,0	2	0,15	0,15	250	26 526	0,063	3 341
4,0	2	0,20	0,20	250	19 894	0,081	3 210
5,0	2	0,25	0,25	250	15 916	0,100	3 195
6,0	2	0,30	0,30	250	13 263	0,119	3 158
8,0	2	0,40	0,40	250	9 947	0,136	2 701
10,0	2	0,50	0,50	250	7 958	0,150	2 380
12,0	2	0,60	0,60	250	6 631	0,160	2 127
16,0	2	0,80	0,80	250	4 974	0,178	1 772

Graphite

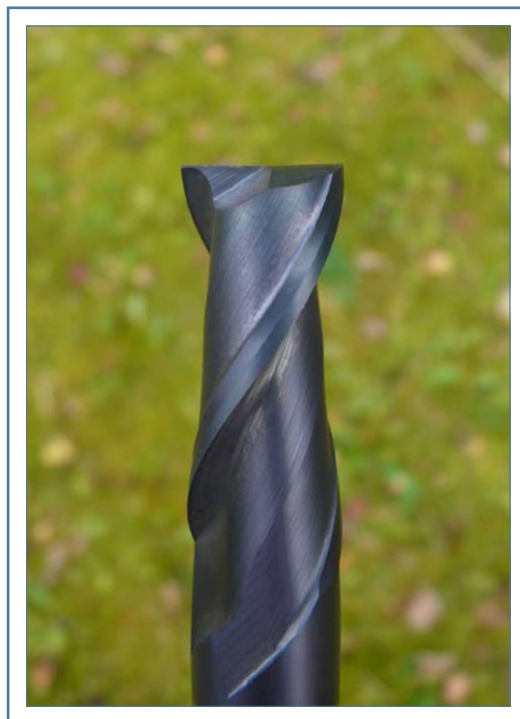
D	z	a _e	a _p	V _c	n	F _z	V _f
mm		mm	mm	m/min	rpm	mm/z	mm/min
0,3	2	0,02	0,02	47	50 000	0,008	750
0,4	2	0,02	0,02	63	50 000	0,011	1 050
0,5	2	0,03	0,03	79	50 000	0,014	1 350
0,6	2	0,03	0,03	94	50 000	0,015	1 500
0,7	2	0,04	0,04	110	50 000	0,018	1 800
0,8	2	0,04	0,04	126	50 000	0,021	2 100
1,0	2	0,05	0,05	157	50 000	0,027	2 700
1,2	2	0,06	0,06	188	50 000	0,032	3 150
1,5	2	0,08	0,08	236	50 000	0,041	4 050
2,0	2	0,10	0,10	314	50 000	0,053	5 250
2,5	2	0,13	0,13	393	50 000	0,071	7 050
3,0	2	0,15	0,15	450	47 747	0,096	9 167
4,0	2	0,20	0,20	450	35 810	0,123	8 809
5,0	2	0,25	0,25	450	28 648	0,153	8 766
6,0	2	0,30	0,30	450	23 873	0,182	8 666
8,0	2	0,40	0,40	450	17 905	0,207	7 413
10,0	2	0,50	0,50	450	14 324	0,228	6 532
12,0	2	0,60	0,60	450	11 937	0,245	5 837
16,0	2	0,80	0,80	450	8 952	0,272	4 861

Two Flute

LC
 AlCrN coated
 Super Micrograin Carbide
Tolerance
 D 1,0 - 5,0 +0 / -0,020
 D 6,0 - 7,0 +0 / -0,025
 D 8,0 - 9,0 +0 / -0,030
 D 10,0 - 12,0 +0 / -0,035
Shank
 Cylindrical h6, DIN6535 HA
Flute
 35° right hand spiral, center cutting
Field of application
 All types of steel up to HRC55



D mm	d mm	Part Number	l mm	L mm	No. of Flutes
1,0	4	M0401B3_LC	3	50	2
1,5	4	M04015B4_LC	4	50	2
2,0	4	M0402B6_LC	6	50	2
2,5	4	M04025B8_LC	8	50	2
3,0	4	M0403B8_LC	8	50	2
3,0	6	M0603B8_LC	8	57	2
4,0	4	M0404B11_LC	11	50	2
4,0	6	M0604B11_LC	11	57	2
5,0	6	M0605B13_LC	13	57	2
6,0	6	M0606B16_LC	16	57	2
8,0	8	M0808B20_LC	20	63	2
10,0	10	M1010B25_LC	25	72	2
12,0	12	M1212B30_LC	30	83	2



Three Flute

LC

AlCrN coated

Super Micrograin Carbide

Tolerance

D 1,0 - 5,0 +0 / -0,020

D 6,0 - 7,0 +0 / -0,025

D 8,0 - 9,0 +0 / -0,030

D 10,0 - 12,0 +0 / -0,035

Shank

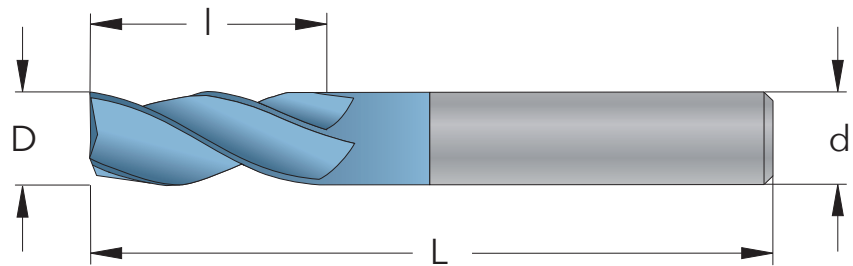
Cylindrical h6, DIN6535 HA

Flute

35° right hand spiral, center cutting

Field of application

All types of steel up to HRC55



D mm	d mm	Part Number	l mm	L mm	No. of Flutes
1,0	4	M0401C3_LC	3	50	3
1,5	4	M04015C4_LC	4	50	3
2,0	4	M0402C6_LC	6	50	3
2,5	4	M04025C8_LC	8	50	3
3,0	4	M0403C8_LC	8	50	3
3,0	6	M0603C8_LC	8	57	3
4,0	4	M0404C11_LC	11	50	3
4,0	6	M0604C11_LC	11	57	3
5,0	6	M0605C13_LC	13	57	3
6,0	6	M0606C10_LC	10	50	3
6,0	6	M0606C16_LC	16	57	3
8,0	8	M0808C12_LC	12	57	3
8,0	8	M0808C20_LC	20	63	3
10,0	10	M1010C15_LC	15	63	3
10,0	10	M1010C25_LC	25	72	3
12,0	12	M1212C18_LC	18	72	3
12,0	12	M1212C30_LC	30	83	3



Four Flute

LC
AlCrN coated
Super Micrograin Carbide

Tolerance

- D 1,0 - 5,0 +0 / -0,020
- D 6,0 - 7,0 +0 / -0,025
- D 8,0 - 9,0 +0 / -0,030
- D 10,0 - 12,0 +0 / -0,035
- D 16,0 - 20,0 +0 / -0,040

Shank

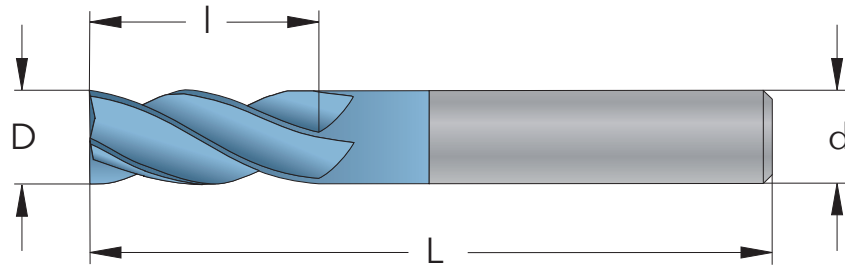
Cylindrical h6, DIN6535 HA

Flute

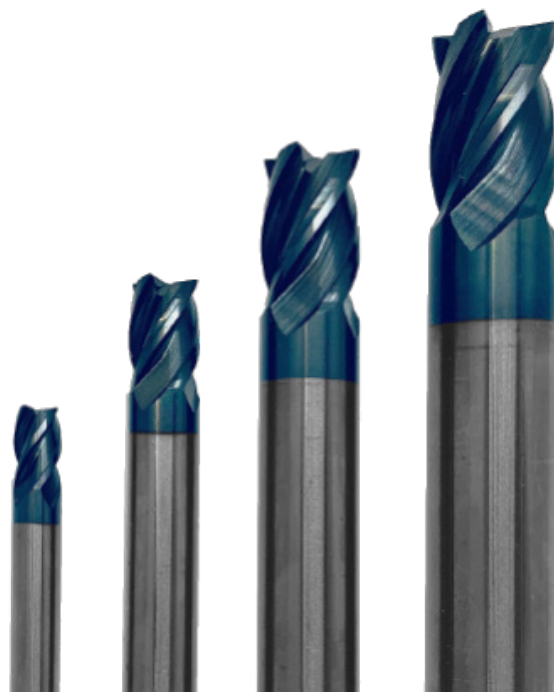
35° right hand spiral, center cutting

Field of application

All types of steel up to HRC55



D mm	d mm	Part Number	l mm	L mm	No. of Flutes
2,0	4	M0402D6_LC	6	50	4
3,0	4	M0403D8_LC	8	50	4
3,0	6	M0603D8_LC	8	57	4
4,0	4	M0404D11_LC	11	50	4
4,0	6	M0604D11_LC	11	57	4
5,0	6	M0605D13_LC	13	57	4
6,0	6	M0606D10_LC	10	50	4
6,0	6	M0606D16_LC	16	57	4
6,0	6	M0606D26_LC	26	72	4
7,0	8	M0807D18_LC	18	63	4
8,0	8	M0808D12_LC	12	57	4
8,0	8	M0808D20_LC	20	63	4
8,0	8	M0808D32_LC	32	83	4
10,0	10	M1010D15_LC	15	63	4
10,0	10	M1010D25_LC	25	72	4
10,0	10	M1010D40_LC	40	92	4
12,0	12	M1212D18_LC	18	72	4
12,0	12	M1212D30_LC	30	83	4
12,0	12	M1212D48_LC	48	100	4
16,0	16	M1616D34_LC	34	92	4
20,0	20	M2020D40_LC	40	100	4



Two Flute, with Ball Nose

LC

AlCrN coated

Super Micrograin Carbide

Tolerance

D 1,0 - 5,0 +0 / -0,020

D 6,0 - 7,0 +0 / -0,025

D 8,0 - 9,0 +0 / -0,030

D 10,0 - 12,0 +0 / -0,035

Shank

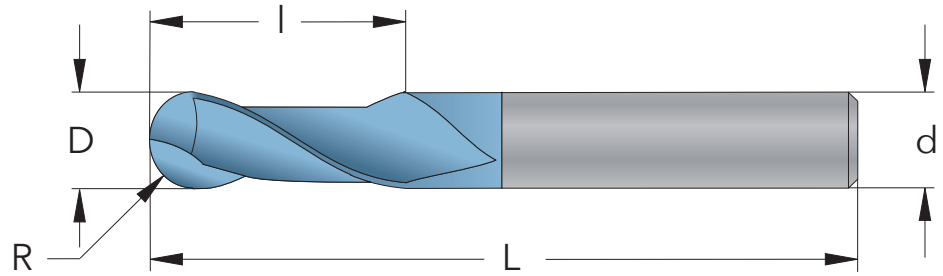
Cylindrical h6, DIN6535 HA

Flute

35° right hand spiral, center cutting

Field of application

All types of steel up to HRC55

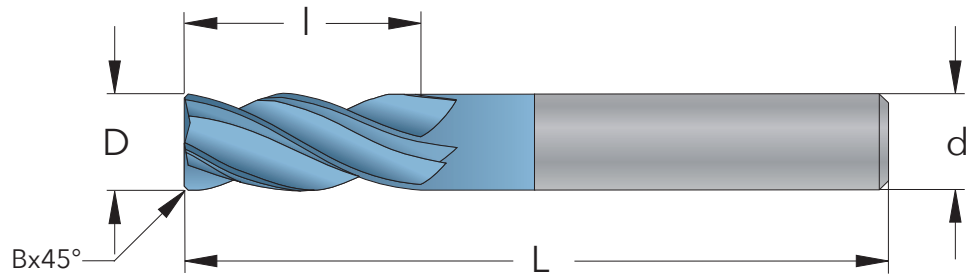


D mm	d mm	R mm	Part Number	l mm	L mm	No. of Flutes
1,0	4	0,5	R0401B2_LC	2	50	2
1,5	4	0,75	R04015B3_LC	3	50	2
2,0	4	1,0	R0402B4_LC	4	50	2
2,5	4	1,25	R04025B5_LC	5	50	2
3,0	4	1,5	R0403B6_LC	6	50	2
3,0	6	1,5	R0603B6_LC	6	57	2
4,0	4	2,0	R0404B8_LC	8	50	2
4,0	6	2,0	R0604B8_LC	8	57	2
5,0	6	2,5	R0605B10_LC	10	57	2
6,0	6	3,0	R0606B12_LC	12	57	2
8,0	8	4,0	R0808B16_LC	16	63	2
10,0	10	5,0	R1010B20_LC	20	72	2
12,0	12	6,0	R1212B24_LC	24	83	2

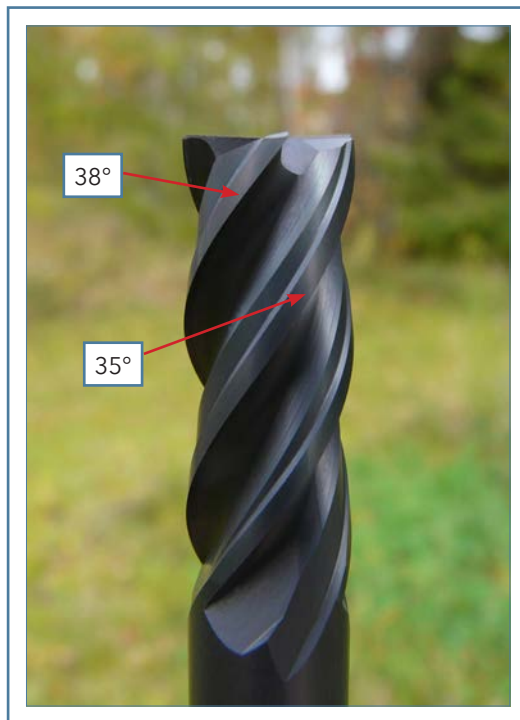


Variable Flute 35° and 38°

LC
AlCrN coated
Super Micrograin Carbide
Tolerance
D 6,0 - 7,0 +0 / -0,025
D 8,0 - 9,0 +0 / -0,030
D 10,0 - 12,0 +0 / -0,035
Shank
Cylindrical h6, DIN6535 HA
Flute
35° and 38° right hand spiral,
center cutting
Field of application
All types of steel up to HRC55



D mm	d mm	B mm	Part Number	l mm	L mm	No. of Flutes
6,0	6	0,2	MZ0606D16_LC	16	57	4
8,0	8	0,25	MZ0808D20_LC	20	63	4
10,0	10	0,3	MZ1010D25_LC	25	72	4
12,0	12	0,3	MZ1212D30_LC	30	83	4



Less vibrations with
two different angles

Slot Side End Mill

LC

AlCrN coated

Super Micrograin Carbide

Tolerance

D 6,0 - 7,0 +0 / -0,025

D 8,0 - 9,0 +0 / -0,030

D 10,0 - 12,0 +0 / -0,035

Shank

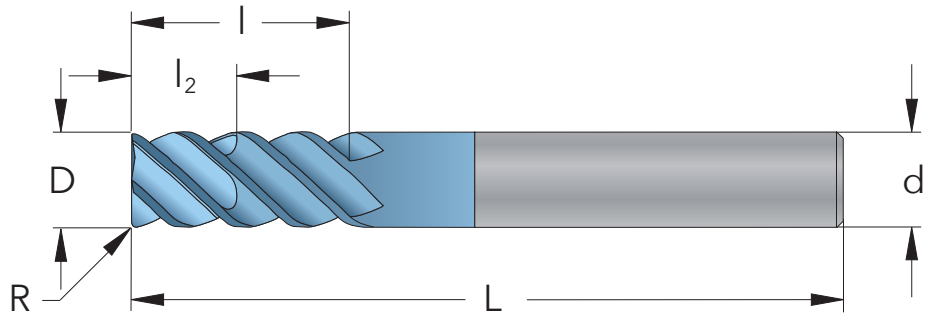
Cylindrical h6, DIN6535 HA

Flute

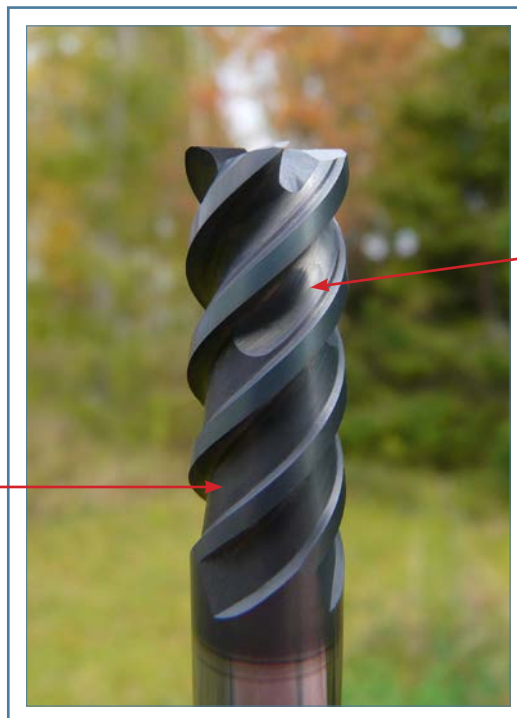
50° right hand spiral, center cutting

Field of application

All types of steel up to HRC55



D mm	d mm	R mm	Part Number	l mm	l ₂ mm	L mm	No. of Flutes
6,0	6	0,4	MV0606D16_LC	16	6	57	4
8,0	8	0,5	MV0808D20_LC	20	8	63	4
10,0	10	0,6	MV1010D25_LC	25	10	72	4
12,0	12	0,6	MV1212D30_LC	30	12	83	4

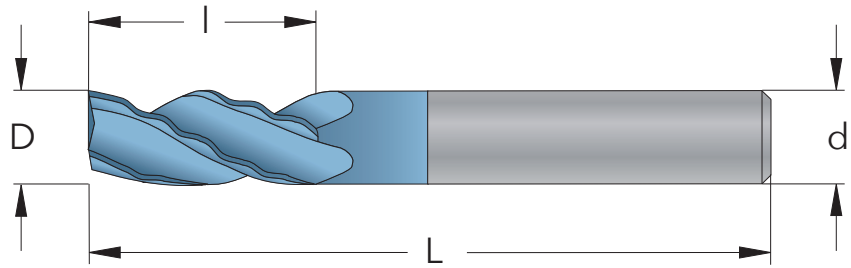


Deep flute for slot milling

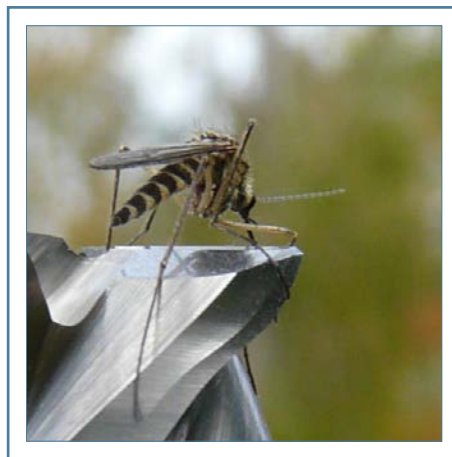
Shallow flute results in stronger tools for side milling

Wave formed, Roughing, Three Flute

LC
AlCrN coated
Super Micrograin Carbide
Tolerance
D 6,0 - 7,0 +0 / -0,025
D 8,0 - 9,0 +0 / -0,030
D 10,0 - 12,0 +0 / -0,035
Shank
Cylindrical h6, DIN6535 HA
Flute
35° right hand spiral, center cutting
Field of application
All types of steel up to HRC55



D mm	d mm	Part Number	l mm	L mm	No. of Flutes
6,0	6	FW0606C16_LC	16	57	3
8,0	8	FW0808C20_LC	20	63	3
10,0	10	FW1010C25_LC	25	72	3
12,0	12	FW1212C30_LC	30	83	3



Wave formed, Roughing, Four Flute

LC

AlCrN coated

Super Micrograin Carbide

Tolerance

D 6,0 - 7,0 +0 / -0,025

D 8,0 - 9,0 +0 / -0,030

D 10,0 - 12,0 +0 / -0,035

Shank

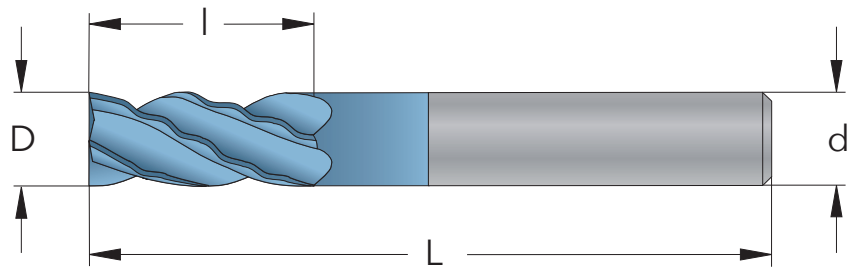
Cylindrical h6, DIN6535 HA

Flute

35° right hand spiral, center cutting

Field of application

All types of steel up to HRC55



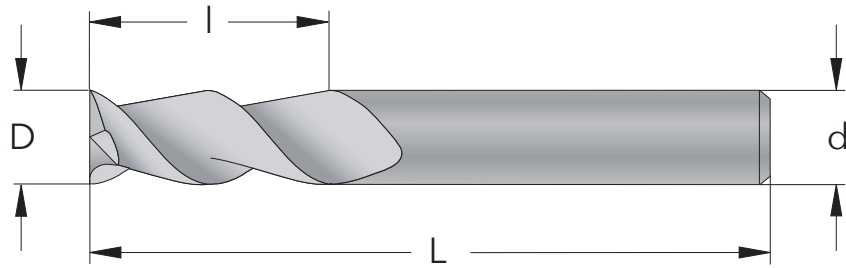
D mm	d mm	Part Number	l mm	L mm	No. of Flutes
6,0	6	FW0606D16_LC	16	57	4
8,0	8	FW0808D20_LC	20	63	4
10,0	10	FW1010D25_LC	25	72	4
12,0	12	FW1212D30_LC	30	83	4



Wave formed cutting edge
gives high productivity

Two Flute, for aluminium

MG
Uncoated
Super Micrograin Carbide
Tolerance
D 1,0 - 5,0 +0 / -0,020
D 6,0 - 7,0 +0 / -0,025
D 8,0 - 9,0 +0 / -0,030
D 10,0 - 12,0 +0 / -0,035
Shank
Cylindrical h6, DIN6535 HA
Flute
45° right hand spiral, center cutting
Field of application
Aluminium



D mm	d mm	Part Number	l mm	L mm	No. of Flutes
2,0	6	MA0602B6_MG	6	57	2
3,0	6	MA0603B8_MG	8	57	2
4,0	6	MA0604B11_MG	11	57	2
5,0	6	MA0605B13_MG	13	57	2
6,0	6	MA0606B16_MG	16	57	2
8,0	8	MA0808B20_MG	20	63	2
10,0	10	MA1010B25_MG	25	72	2
12,0	12	MA1212B30_MG	30	83	2



Three Flute, for aluminium

MG

Uncoated

Super Micrograin Carbide

Tolerance

D 1,0 - 5,0 +0 / -0,020

D 6,0 - 7,0 +0 / -0,025

D 8,0 - 9,0 +0 / -0,030

D 10,0 - 12,0 +0 / -0,035

Shank

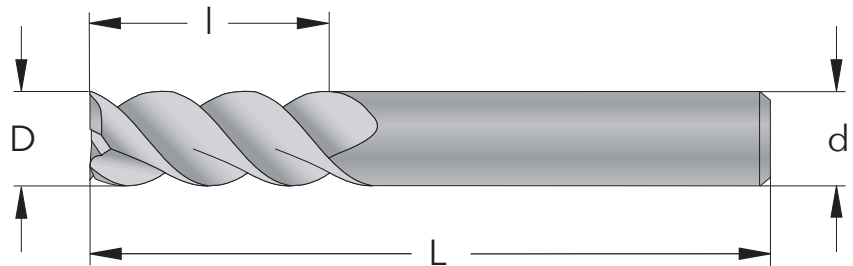
Cylindrical h6, DIN6535 HA

Flute

50° right hand spiral, center cutting

Field of application

Aluminium

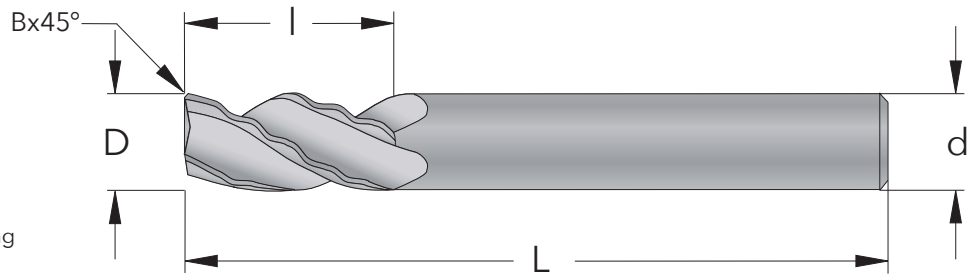


D mm	d mm	Part Number	l mm	L mm	No. of Flutes
2,0	6	MA0602C6_MG	6	57	3
3,0	6	MA0603C8_MG	8	57	3
4,0	6	MA0604C11_MG	11	57	3
5,0	6	MA0605C13_MG	13	57	3
6,0	6	MA0606C16_MG	16	57	3
8,0	8	MA0808C20_MG	20	63	3
10,0	10	MA1010C25_MG	25	72	3
12,0	12	MA1212C30_MG	30	83	3

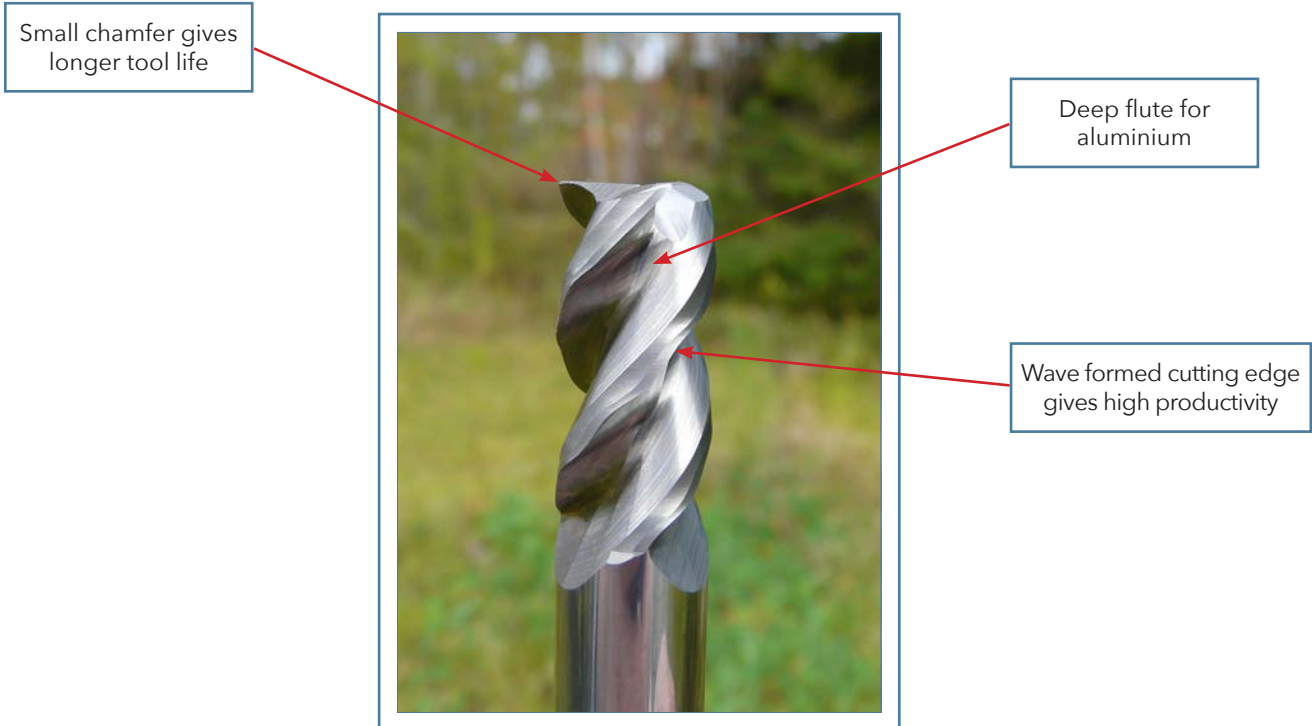


Wave formed, Roughing, for aluminium

MG
 Uncoated
 Super Micrograin Carbide
Tolerance
 D 6,0 - 7,0 +0 / -0,025
 D 8,0 - 9,0 +0 / -0,030
 D 10,0 - 12,0 +0 / -0,035
Shank
 Cylindrical h6, DIN6535 HA
Flute
 45° right hand spiral, center cutting
Field of application
 Aluminium



D mm	d mm	B mm	Part Number	l mm	L mm	No. of Flutes
6,0	6	0,2	FWA0606C16_MG	16	57	3
8,0	8	0,25	FWA0808C20_MG	20	63	3
10,0	10	0,3	FWA1010C25_MG	25	72	3
12,0	12	0,3	FWA1212C30_MG	30	83	3



Two Flute

FC

TiAlN coated

Micrograin Carbide

Tolerance

D 1,0 - 25,0 +0 / -0,050

Shank

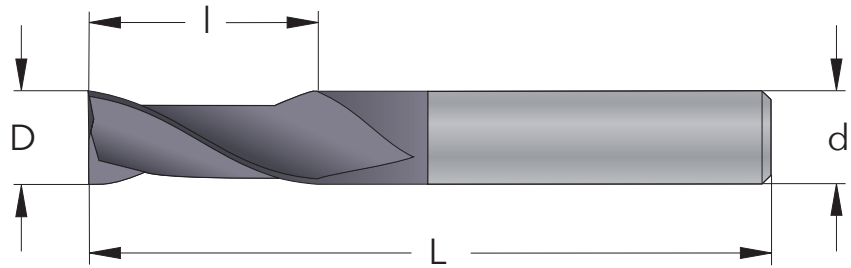
Cylindrical med h6 Tolerance

Flute

30° right hand spiral, center cutting

Field of application

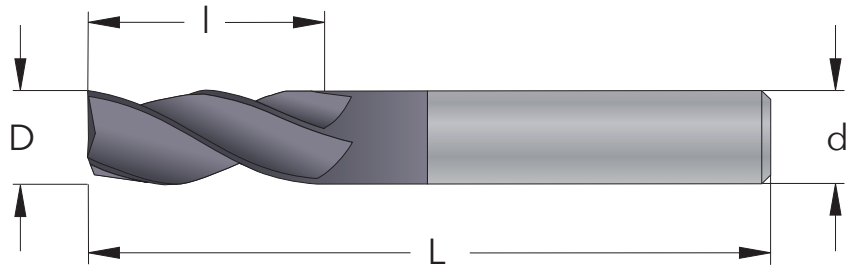
All types of steel



D mm	d mm	Part Number	l mm	L mm	No. of Flutes
1,0	3	M0301B3_FC	3	38	2
1,5	3	M03015B5_FC	5	38	2
2,0	3	M0302B6_FC	6	38	2
2,5	3	M03025B7_FC	7	38	2
3,0	3	M0303B12_FC	12	38	2
3,0	3	M0303B25_FC	25	65	2
3,5	4	M04035B12_FC	12	50	2
4,0	4	M0404B14_FC	14	50	2
4,0	4	M0404B25_FC	25	65	2
4,5	5	M05045B14_FC	14	50	2
5,0	5	M0505B16_FC	16	50	2
5,0	5	M0505B25_FC	25	75	2
6,0	6	M0606B19_FC	19	63	2
6,0	6	M0606B25_FC	25	75	2
6,0	6	M0606B38_FC	38	100	2
7,0	8	M0807B19_FC	19	63	2
8,0	8	M0808B19_FC	19	63	2
8,0	8	M0808B25_FC	25	75	2
8,0	8	M0808B38_FC	38	100	2
9,0	10	M1009B22_FC	22	70	2
10,0	10	M1010B22_FC	22	70	2
10,0	10	M1010B38_FC	38	100	2
12,0	12	M1212B25_FC	25	75	2
12,0	12	M1212B50_FC	50	100	2
12,0	12	M1212B75_FC	75	150	2
14,0	14	M1414B30_FC	30	88	2
14,0	14	M1414B75_FC	75	150	2
16,0	16	M1616B32_FC	32	88	2
16,0	16	M1616B75_FC	75	150	2
18,0	18	M1818B36_FC	36	100	2
20,0	20	M2020B38_FC	38	100	2
20,0	20	M2020B75_FC	75	150	2
25,0	25	M2525B38_FC	38	100	2
25,0	25	M2525B75_FC	75	150	2

Three Flute

FC
 TiAlN coated
 Micrograin Carbide
Tolerance
 D 1,0 - 25,0 +0 / -0,050
Shank
 Cylindrical med h6 Tolerance
Flute
 30° right hand spiral, center cutting
Field of application
 All types of steel



D mm	d mm	Part Number	l mm	L mm	No. of Flutes
1,0	3	M0301C3_FC	3	38	3
1,5	3	M03015C5_FC	5	38	3
2,0	3	M0302C6_FC	6	38	3
2,5	3	M03025C7_FC	7	38	3
3,0	3	M0303C12_FC	12	38	3
3,0	3	M0303C25_FC	25	65	3
3,5	4	M04035C12_FC	12	50	3
4,0	4	M0404C14_FC	14	50	3
4,0	4	M0404C25_FC	25	65	3
4,5	5	M05045C14_FC	14	50	3
5,0	5	M0505C16_FC	16	50	3
5,0	5	M0505C25_FC	25	75	3
6,0	6	M0606C19_FC	19	63	3
6,0	6	M0606C25_FC	25	75	3
7,0	8	M0807C19_FC	19	63	3
8,0	8	M0808C19_FC	19	63	3
8,0	8	M0808C25_FC	25	75	3
9,0	10	M1009C22_FC	22	70	3
10,0	10	M1010C22_FC	22	70	3
10,0	10	M1010C38_FC	38	100	3
12,0	12	M1212C25_FC	25	75	3
12,0	12	M1212C50_FC	50	100	3
14,0	14	M1414C30_FC	30	88	3
16,0	16	M1616C32_FC	32	88	3
16,0	16	M1616C75_FC	75	150	3
18,0	18	M1818C36_FC	36	100	3
20,0	20	M2020C38_FC	38	100	3
20,0	20	M2020C75_FC	75	150	3
25,0	25	M2525C38_FC	38	100	3
25,0	25	M2525C75_FC	75	150	3

Four Flute

FC

TiAlN coated

Micrograin Carbide

Tolerance

D 1,0 - 25,0 +0 / -0,050

Shank

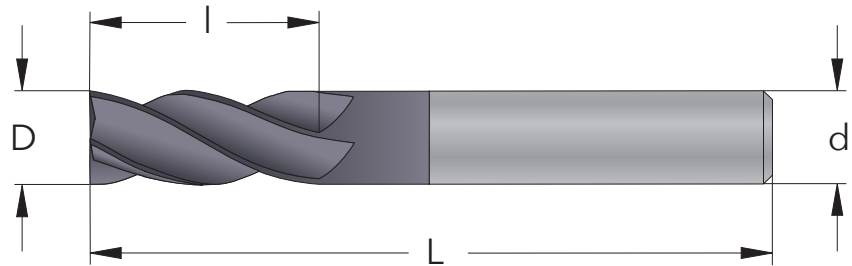
Cylindrical med h6 Tolerance

Flute

30° right hand spiral, center cutting

Field of application

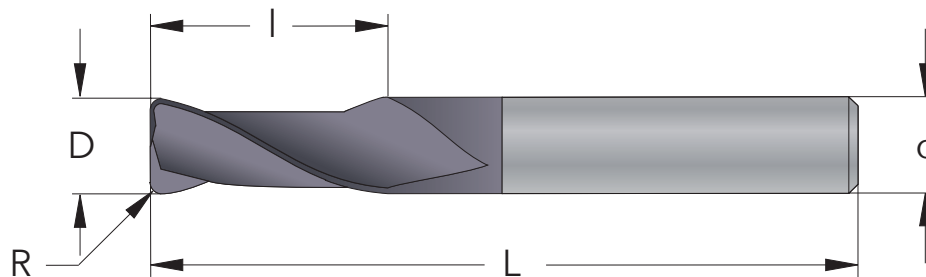
All types of steel



D mm	d mm	Part Number	l mm	L mm	No. of Flutes
1,0	3	M0301D3_FC	3	38	4
1,5	3	M03015D5_FC	5	38	4
2,0	3	M0302D6_FC	6	38	4
2,5	3	M03025D7_FC	7	38	4
3,0	3	M0303D12_FC	12	38	4
3,0	3	M0303D25_FC	25	65	4
3,5	4	M04035D12_FC	12	50	4
4,0	4	M0404D14_FC	14	50	4
4,0	4	M0404D25_FC	25	65	4
4,5	5	M05045D14_FC	14	50	4
5,0	5	M0505D16_FC	16	50	4
5,0	5	M0505D25_FC	25	75	4
6,0	6	M0606D19_FC	19	63	4
6,0	6	M0606D25_FC	25	75	4
6,0	6	M0606D38_FC	38	100	4
7,0	8	M0807D19_FC	19	63	4
8,0	8	M0808D19_FC	19	63	4
8,0	8	M0808D25_FC	25	75	4
8,0	8	M0808D38_FC	38	100	4
9,0	10	M1009D22_FC	22	70	4
10,0	10	M1010D22_FC	22	70	4
10,0	10	M1010D38_FC	38	100	4
12,0	12	M1212D25_FC	25	75	4
12,0	12	M1212D50_FC	50	100	4
12,0	12	M1212D75_FC	75	150	4
14,0	14	M1414D30_FC	30	88	4
14,0	14	M1414D75_FC	75	150	4
16,0	16	M1616D32_FC	32	88	4
16,0	16	M1616D75_FC	75	150	4
18,0	18	M1818D36_FC	36	100	4
20,0	20	M2020D38_FC	38	100	4
20,0	20	M2020D75_FC	75	150	4
25,0	25	M2525D38_FC	38	100	4
25,0	25	M2525D75_FC	75	150	4

Two Flute, with Corner Radius

FC
 TiAlN coated
 Micrograin Carbide
Tolerance
 D 4,0 - 20,0 +0 / -0,050
Shank
 Cylindrical med h6 Tolerance
Flute
 30° right hand spiral, center cutting
Field of application
 All types of steel



D mm	d mm	R mm	Part Number	l mm	L mm	No. of Flutes
4,0	4	0,25	M0404B14R025_FC	14	50	2
4,0	4	0,50	M0404B14R05_FC	14	50	2
4,0	4	0,75	M0404B14R075_FC	14	50	2
4,0	4	1,00	M0404B14R10_FC	14	50	2
6,0	6	0,25	M0606B19R025_FC	19	63	2
6,0	6	0,50	M0606B19R05_FC	19	63	2
6,0	6	0,75	M0606B19R075_FC	19	63	2
6,0	6	1,00	M0606B19R10_FC	19	63	2
6,0	6	1,25	M0606B19R125_FC	19	63	2
6,0	6	1,50	M0606B19R15_FC	19	63	2
8,0	8	0,50	M0808B19R05_FC	19	63	2
8,0	8	0,75	M0808B19R075_FC	19	63	2
8,0	8	1,00	M0808B19R10_FC	19	63	2
8,0	8	1,25	M0808B19R125_FC	19	63	2
8,0	8	1,50	M0808B19R15_FC	19	63	2
8,0	8	2,00	M0808B19R20_FC	19	63	2
10,0	10	0,50	M1010B22R05_FC	22	70	2
10,0	10	0,75	M1010B22R075_FC	22	70	2
10,0	10	1,00	M1010B22R10_FC	22	70	2
10,0	10	1,50	M1010B22R15_FC	22	70	2
10,0	10	2,00	M1010B22R20_FC	22	70	2
10,0	10	3,00	M1010B22R30_FC	22	70	2
12,0	12	0,50	M1212B25R05_FC	25	75	2
12,0	12	0,75	M1212B25R075_FC	25	75	2
12,0	12	1,00	M1212B25R10_FC	25	75	2
12,0	12	1,50	M1212B25R15_FC	25	75	2
12,0	12	2,00	M1212B25R20_FC	25	75	2
12,0	12	3,00	M1212B25R30_FC	25	75	2
16,0	16	0,50	M1616B32R05_FC	32	88	2
16,0	16	0,75	M1616B32R075_FC	32	88	2
16,0	16	1,00	M1616B32R10_FC	32	88	2
16,0	16	1,50	M1616B32R15_FC	32	88	2
16,0	16	2,00	M1616B32R20_FC	32	88	2
16,0	16	3,00	M1616B32R30_FC	32	88	2
20,0	20	0,50	M2020B38R05_FC	38	100	2
20,0	20	0,75	M2020B38R075_FC	38	100	2
20,0	20	1,00	M2020B38R10_FC	38	100	2
20,0	20	1,50	M2020B38R15_FC	38	100	2
20,0	20	2,00	M2020B38R20_FC	38	100	2
20,0	20	3,00	M2020B38R30_FC	38	100	2

Four Flute, with Corner Radius

FC

TiAlN coated

Micrograin Carbide

Tolerance

D 4,0 - 20,0 +0 / -0,050

Shank

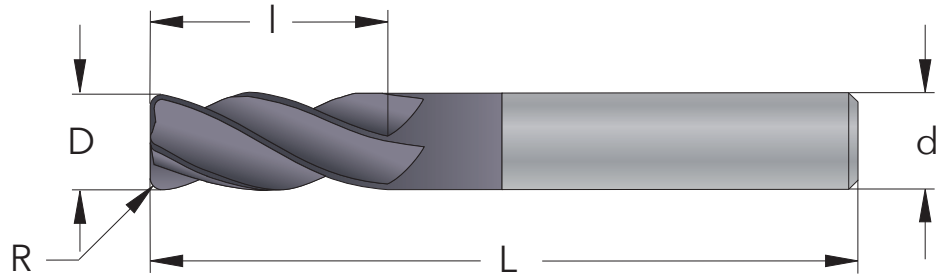
Cylindrical med h6 Tolerance

Flute

30° right hand spiral, center cutting

Field of application

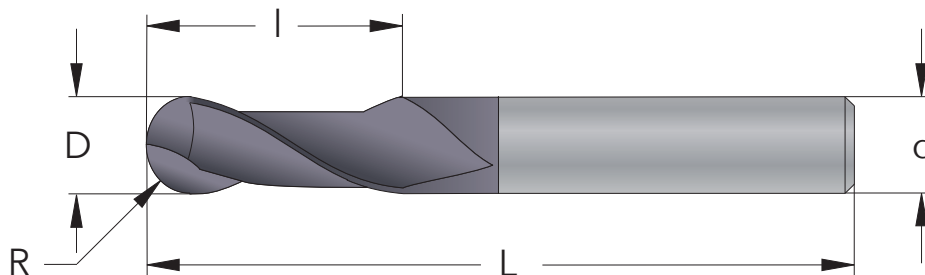
All types of steel



D mm	d mm	R mm	Part Number	l mm	L mm	No. of Flutes
4,0	4	0,25	M0404D14R025_FC	14	50	4
4,0	4	0,50	M0404D14R05_FC	14	50	4
4,0	4	0,75	M0404D14R075_FC	14	50	4
4,0	4	1,00	M0404D14R10_FC	14	50	4
6,0	6	0,25	M0606D19R025_FC	19	63	4
6,0	6	0,50	M0606D19R05_FC	19	63	4
6,0	6	0,75	M0606D19R075_FC	19	63	4
6,0	6	1,00	M0606D19R10_FC	19	63	4
6,0	6	1,25	M0606D19R125_FC	19	63	4
6,0	6	1,50	M0606D19R15_FC	19	63	4
8,0	8	0,50	M0808D19R05_FC	19	63	4
8,0	8	0,75	M0808D19R075_FC	19	63	4
8,0	8	1,00	M0808D19R10_FC	19	63	4
8,0	8	1,25	M0808D19R125_FC	19	63	4
8,0	8	1,50	M0808D19R15_FC	19	63	4
8,0	8	2,00	M0808D19R20_FC	19	63	4
10,0	10	0,50	M1010D22R05_FC	22	70	4
10,0	10	0,75	M1010D22R075_FC	22	70	4
10,0	10	1,00	M1010D22R10_FC	22	70	4
10,0	10	1,50	M1010D22R15_FC	22	70	4
10,0	10	2,00	M1010D22R20_FC	22	70	4
10,0	10	3,00	M1010D22R30_FC	22	70	4
12,0	12	0,50	M1212D25R05_FC	25	75	4
12,0	12	0,75	M1212D25R075_FC	25	75	4
12,0	12	1,00	M1212D25R10_FC	25	75	4
12,0	12	1,50	M1212D25R15_FC	25	75	4
12,0	12	2,00	M1212D25R20_FC	25	75	4
12,0	12	3,00	M1212D25R30_FC	25	75	4
16,0	16	0,50	M1616D32R05_FC	32	88	4
16,0	16	0,75	M1616D32R075_FC	32	88	4
16,0	16	1,00	M1616D32R10_FC	32	88	4
16,0	16	1,50	M1616D32R15_FC	32	88	4
16,0	16	2,00	M1616D32R20_FC	32	88	4
16,0	16	3,00	M1616D32R30_FC	32	88	4
20,0	20	0,50	M2020D38R05_FC	38	100	4
20,0	20	0,75	M2020D38R075_FC	38	100	4
20,0	20	1,00	M2020D38R10_FC	38	100	4
20,0	20	1,50	M2020D38R15_FC	38	100	4
20,0	20	2,00	M2020D38R20_FC	38	100	4
20,0	20	3,00	M2020D38R30_FC	38	100	4

Two Flute, with Ball Nose

FC
TiAlN coated
Micrograin Carbide
Tolerance
D 1,0 - 25,0 +0 / -0,050
Shank
Cylindrical med h6 Tolerance
Flute
30° right hand spiral
Field of application
All types of steel



D mm	d mm	R mm	Part Number	l mm	L mm	No. of Flutes
1,0	3	0,50	R0301B3_FC	3	38	2
1,5	3	0,75	R03015B5_FC	5	38	2
2,0	3	1,00	R0302B6_FC	6	38	2
2,5	3	1,25	R03025B7_FC	7	38	2
3,0	3	1,50	R0303B12_FC	12	38	2
3,0	3	1,50	R0303B25_FC	25	65	2
4,0	4	2,00	R0404B14_FC	14	50	2
4,0	4	2,00	R0404B25_FC	25	65	2
5,0	5	2,50	R0505B16_FC	16	50	2
5,0	5	2,50	R0505B25_FC	25	75	2
6,0	6	3,00	R0606B19_FC	19	63	2
6,0	6	3,00	R0606B25_FC	25	75	2
6,0	6	3,00	R0606B38_FC	38	100	2
8,0	8	4,00	R0808B19_FC	19	63	2
8,0	8	4,00	R0808B25_FC	25	75	2
8,0	8	4,00	R0808B38_FC	38	100	2
10,0	10	5,00	R1010B22_FC	22	70	2
10,0	10	5,00	R1010B38_FC	38	100	2
12,0	12	6,00	R1212B25_FC	25	75	2
12,0	12	6,00	R1212B50_FC	50	100	2
12,0	12	6,00	R1212B75_FC	75	150	2
14,0	14	7,00	R1414B30_FC	30	88	2
16,0	16	8,00	R1616B32_FC	32	88	2
16,0	16	8,00	R1616B75_FC	75	150	2
18,0	18	9,00	R1818B36_FC	36	100	2
20,0	20	10,0	R2020B38_FC	38	100	2
20,0	20	10,0	R2020B75_FC	75	150	2
25,0	25	12,5	R2525B75_FC	75	150	2

with Long Shank

D mm	d mm	R mm	Part Number	l mm	L mm	No. of Flutes
2,0	2	1,0	R0202B10L100_FC	10	100	2
3,0	3	1,5	R0303B12L100_FC	12	100	2
4,0	4	2,0	R0404B15L120_FC	15	120	2
5,0	5	2,5	R0505B15L150_FC	15	150	2
6,0	6	3,0	R0606B20L150_FC	20	150	2
8,0	8	4,0	R0808B20L180_FC	20	180	2
10,0	10	5,0	R1010B25L200_FC	25	200	2
12,0	12	6,0	R1212B30L200_FC	30	200	2

Four Flute, with Ball Nose

FC

TiAlN coated

Micrograin Carbide

Tolerance

D 1,0 - 25,0 +0 / -0,050

Shank

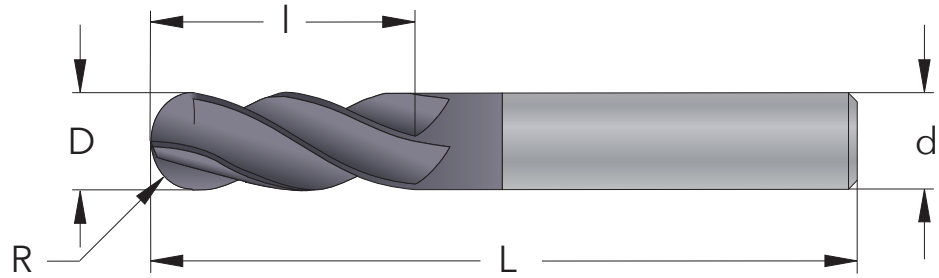
Cylindrical med h6 Tolerance

Flute

30° right hand spiral

Field of application

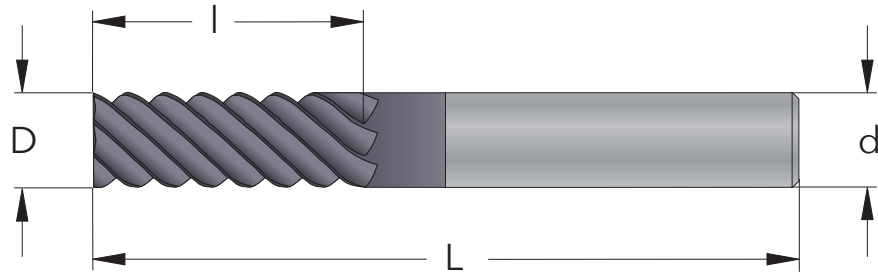
All types of steel



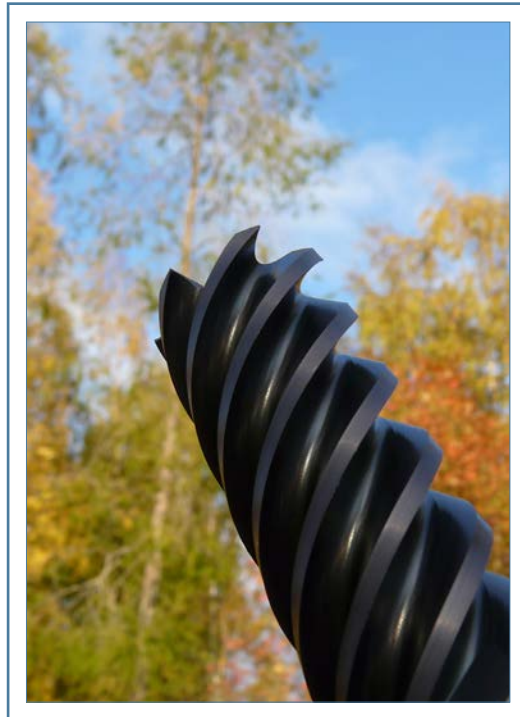
D mm	d mm	R mm	Part Number	l mm	L mm	No. of Flutes
1,0	3	0,50	R0301D3_FC	3	38	4
1,5	3	0,75	R03015D5_FC	5	38	4
2,0	3	1,00	R0302D6_FC	6	38	4
2,5	3	1,25	R03025D7_FC	7	38	4
3,0	3	1,50	R0303D12_FC	12	38	4
3,0	3	1,50	R0303D25_FC	25	65	4
4,0	4	2,00	R0404D14_FC	14	50	4
4,0	4	2,00	R0404D25_FC	25	65	4
5,0	5	2,50	R0505D16_FC	16	50	4
5,0	5	2,50	R0505D25_FC	25	75	4
6,0	6	3,00	R0606D19_FC	19	63	4
6,0	6	3,00	R0606D25_FC	25	75	4
6,0	6	3,00	R0606D38_FC	38	100	4
8,0	8	4,00	R0808D19_FC	19	63	4
8,0	8	4,00	R0808D25_FC	25	75	4
8,0	8	4,00	R0808D38_FC	38	100	4
10,0	10	5,00	R1010D22_FC	22	70	4
10,0	10	5,00	R1010D38_FC	38	100	4
12,0	12	6,00	R1212D25_FC	25	75	4
12,0	12	6,00	R1212D50_FC	50	100	4
12,0	12	6,00	R1212D75_FC	75	150	4
14,0	14	7,00	R1414D30_FC	30	88	4
16,0	16	8,00	R1616D32_FC	32	88	4
16,0	16	8,00	R1616D75_FC	75	150	4
18,0	18	9,00	R1818D36_FC	36	100	4
20,0	20	10,0	R2020D38_FC	38	100	4
20,0	20	10,0	R2020D75_FC	75	150	4
25,0	25	12,5	R2525D75_FC	75	150	4

High Helix

FC
TiAlN coated
Micrograin Carbide
Tolerance
D 10,0 - 32,0 +0 / -0,050
Shank
Cylindrical h6, DIN6535 HA
Flute
50° right hand spiral
Field of application
All types of steel



D mm	d mm	Part Number	l mm	L mm	No. of Flutes
10,0	10	U1010F25_FC	25	76	6
12,0	12	U1212F30_FC	30	83	6
16,0	16	U1616F40_FC	40	100	6
20,0	20	U2020F45_FC	45	120	6
25,0	25	U2525F60_FC	60	130	6



High Helix, for Hard Materials

FC

TiAlN coated

Micrograin Carbide

Tolerance

D 6,0 - 32,0 +0 / -0,050

Shank

Cylindrical h6, DIN6535 HA

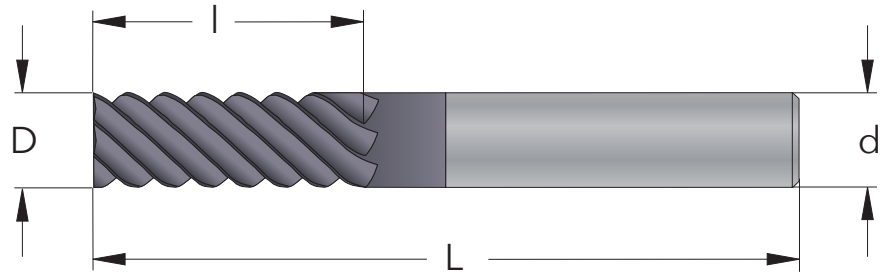
Flute

50° right hand spiral

Negative cutting angle

Field of application

Hard materials up to HRC 65

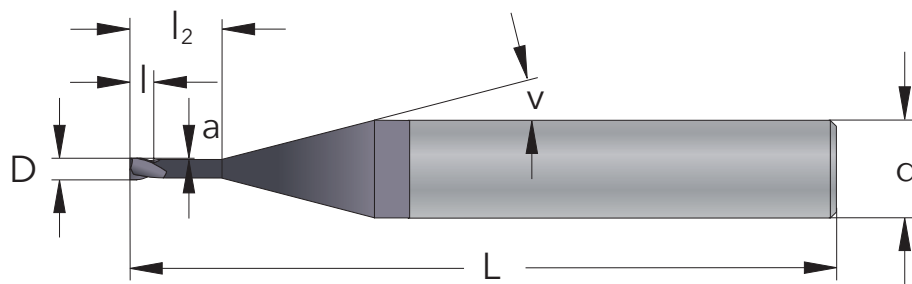


D mm	d mm	Part Number	l mm	L mm	No. of Flutes
6,0	6	V0606F15_FC	15	63	6
8,0	8	V0808F20_FC	20	76	6
10,0	10	V1010F25_FC	25	76	6
12,0	12	V1212F30_FC	30	83	6
16,0	16	V1616F40_FC	40	100	6
20,0	20	V2020F45_FC	45	120	6
25,0	25	V2525H60_FC	60	130	8



Micro, Two Flute

FC
TiAlN coated
Super Micrograin Carbide
Tolerance
D 0,3 - 3,0 -0,002 / -0,012
Shank
Cylindrical h5, DIN6535 HA
Flute
30° right hand spiral, center cutting
Field of application
High speed cutting in steel



D mm	d mm	Part Number	l mm	l ₂ mm	L mm	a mm	v °	No. of Flutes
0,1	6	MP06001B0.2_FC	0,15	0,15	64		10	2
0,2	6	MP06002B0.3_FC	0,3	0,3	64		10	2
0,3	6	MP06003B0.5_FC	0,5	0,5	64		11	2
0,3	6	MP06003B0.6_FC	0,5	1,5	64	0,010	11	2
0,3	6	MP06003B0.7_FC	0,5	3,0	64	0,010	12	2
0,4	6	MP06004B0.7_FC	0,6	0,6	64		11	2
0,4	6	MP06004B0.8_FC	0,6	2,0	64	0,010	11	2
0,4	6	MP06004B0.9_FC	0,6	4,0	64	0,010	13	2
0,5	6	MP06005B0.9_FC	0,8	0,8	64		11	2
0,5	6	MP06005B1_FC	0,8	3,0	64	0,015	12	2
0,5	6	MP06005B1.1_FC	0,8	6,0	64	0,015	15	2
0,5	6	MP06005B1.2_FC	0,8	8,0	64	0,015	15	2
0,5	6	MP06005B1.3_FC	0,8	10,0	64	0,015	15	2
0,6	6	MP06006B1.1_FC	0,9	0,9	64		10	2
0,6	6	MP06006B1.15_FC	0,9	2,0	64	0,025	11	2
0,6	6	MP06006B1.2_FC	0,9	4,0	64	0,025	13	2
0,6	6	MP06006B1.3_FC	0,9	6,0	64	0,025	15	2
0,6	6	MP06006B1.4_FC	0,9	8,0	64	0,025	15	2
0,6	6	MP06006B1.5_FC	0,9	10,0	64	0,025	15	2
0,8	6	MP06008B1.5_FC	1,2	1,2	64		10	2
0,8	6	MP06008B1.55_FC	1,2	2,5	64	0,025	11	2
0,8	6	MP06008B1.6_FC	1,2	5,0	64	0,025	13	2
0,8	6	MP06008B1.7_FC	1,2	8,0	64	0,025	15	2
0,8	6	MP06008B1.8_FC	1,2	10,0	64	0,025	15	2
1,0	6	MP0601B1.9_FC	1,5	1,5	64		10	2
1,0	6	MP0601B1.95_FC	1,5	4,0	64	0,025	12	2
1,0	6	MP0601B2_FC	1,5	6,0	64	0,025	14	2
1,0	6	MP0601B2.1_FC	1,5	10,0	64	0,025	15	2
1,0	6	MP0601B2.2_FC	1,5	15,0	64	0,025	15	2
1,0	6	MP0601B2.3_FC	1,5	20,0	64	0,025	15	2
1,0	6	MP0601B2.4_FC	1,5	25,0	64	0,025	15	2
1,2	6	MP06012B2.3_FC	1,8	1,8	64		10	2
1,2	6	MP06012B2.34_FC	1,8	4,0	64	0,025	11	2
1,2	6	MP06012B2.37_FC	1,8	6,0	64	0,025	14	2
1,2	6	MP06012B2.4_FC	1,8	8,0	64	0,025	15	2
1,2	6	MP06012B2.5_FC	1,8	12,0	64	0,025	15	2
1,2	6	MP06012B2.6_FC	1,8	16,0	64	0,025	15	2
1,5	6	MP06015B2.9_FC	2,3	2,3	64		10	2
1,5	6	MP06015B2.95_FC	2,3	6,0	64	0,025	13	2
1,5	6	MP06015B3_FC	2,3	10,0	64	0,025	15	2
1,5	6	MP06015B3.1_FC	2,3	15,0	64	0,025	15	2
1,5	6	MP06015B3.2_FC	2,3	20,0	64	0,025	15	2
1,5	6	MP06015B3.3_FC	2,3	25,0	64	0,025	15	2
2,0	6	MP0602B2.9_FC	3,0	3,0	64		9	2
2,0	6	MP0602B2.95_FC	3,0	6,0	64	0,05	11	2

continue

Micro, Two Flute

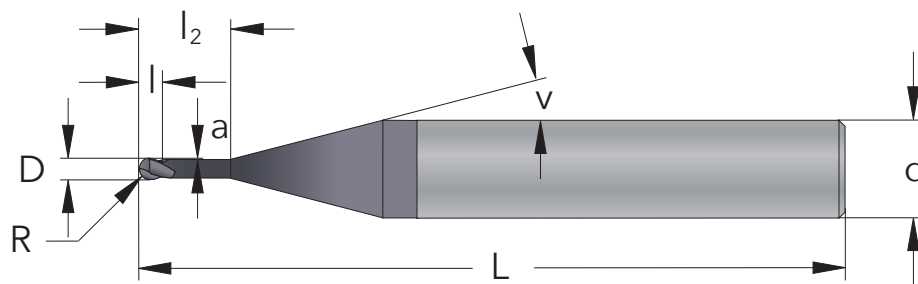
D mm	d mm	Part Number	l mm	l ₂ mm	L mm	a mm	v °	No. of Flutes
2,0	6	MP0602B3_FC	3,0	10,0	64	0,05	15	2
2,0	6	MP0602B3.1_FC	3,0	16,0	64	0,05	15	2
2,0	6	MP0602B3.2_FC	3,0	20,0	64	0,05	15	2
2,0	6	MP0602B3.3_FC	3,0	25,0	64	0,05	15	2
2,0	6	MP0602B3.4_FC	3,0	30,0	64	0,05	15	2
2,5	6	MP06025B2.9_FC	3,0	3,0	64		8	2
2,5	6	MP06025B2.95_FC	3,0	6,0	64	0,05	10	2
2,5	6	MP06025B3_FC	3,0	10,0	64	0,05	15	2
2,5	6	MP06025B3.1_FC	3,0	16,0	64	0,05	15	2
2,5	6	MP06025B3.2_FC	3,0	20,0	64	0,05	15	2
2,5	6	MP06025B3.3_FC	3,0	25,0	64	0,05	15	2
3,0	6	MP0603B2.9_FC	3,0	3,0	64		7	2
3,0	6	MP0603B2.95_FC	3,0	6,0	64	0,05	9	2
3,0	6	MP0603B3_FC	3,0	10,0	64	0,05	14	2
3,0	6	MP0603B3.1_FC	3,0	16,0	64	0,05	15	2
3,0	6	MP0603B3.2_FC	3,0	20,0	64	0,05	15	2
3,0	6	MP0603B3.3_FC	3,0	25,0	64	0,05	15	2
3,0	6	MP0603B3.4_FC	3,0	30,0	64	0,05	15	2

■ Micro End Mills are available with Corner Radius. The price is 10% higher.



Micro, Two Flute, with Ball Nose

FC
 TiAlN coated
 Super Micrograin Carbide
Tolerance
 D 0,3 - 3,0 -0,002 / -0,012
Shank
 Cylindrical h5, DIN6535 HA
Flute
 30° right hand spiral
Field of application
 High speed cutting in steel



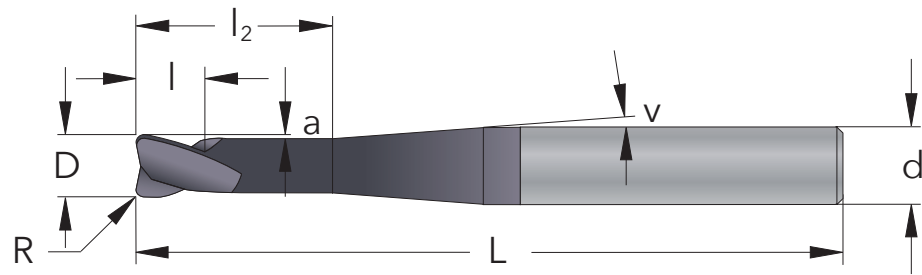
D mm	d mm	R mm	Part Number	l mm	l ₂ mm	L mm	a mm	v °	No. of Flutes
0,2	6	0,10	RP06002B0.3_FC	0,3	0,3	64		10	2
0,3	6	0,15	RP06003B0.5_FC	0,5	0,5	64		11	2
0,3	6	0,15	RP06003B0.6_FC	0,5	1,5	64	0,010	11	2
0,3	6	0,15	RP06003B0.7_FC	0,5	3,0	64	0,010	12	2
0,4	6	0,2	RP06004B0.7_FC	0,6	0,6	64		11	2
0,4	6	0,2	RP06004B0.8_FC	0,6	2,0	64	0,010	11	2
0,4	6	0,2	RP06004B0.9_FC	0,6	4,0	64	0,010	13	2
0,5	6	0,25	RP06005B0.9_FC	0,8	0,8	64		11	2
0,5	6	0,25	RP06005B1_FC	0,8	3,0	64	0,015	12	2
0,5	6	0,25	RP06005B1.1_FC	0,8	6,0	64	0,015	15	2
0,5	6	0,25	RP06005B1.2_FC	0,8	8,0	64	0,015	15	2
0,5	6	0,25	RP06005B1.3_FC	0,8	10,0	64	0,015	15	2
0,6	6	0,3	RP06006B1.1_FC	0,9	0,9	64		10	2
0,6	6	0,3	RP06006B1.15_FC	0,9	2,0	64	0,025	11	2
0,6	6	0,3	RP06006B1.2_FC	0,9	4,0	64	0,025	13	2
0,6	6	0,3	RP06006B1.3_FC	0,9	6,0	64	0,025	15	2
0,6	6	0,3	RP06006B1.4_FC	0,9	8,0	64	0,025	15	2
0,6	6	0,3	RP06006B1.5_FC	0,9	10,0	64	0,025	15	2
0,8	6	0,4	RP06008B1.5_FC	1,2	1,2	64		10	2
0,8	6	0,4	RP06008B1.55_FC	1,2	2,5	64	0,025	11	2
0,8	6	0,4	RP06008B1.6_FC	1,2	5,0	64	0,025	13	2
0,8	6	0,4	RP06008B1.7_FC	1,2	8,0	64	0,025	15	2
0,8	6	0,4	RP06008B1.8_FC	1,2	10,0	64	0,025	15	2
1,0	6	0,5	RP0601B1.9_FC	1,5	1,5	64		10	2
1,0	6	0,5	RP0601B1.95_FC	1,5	4,0	64	0,025	12	2
1,0	6	0,5	RP0601B2_FC	1,5	6,0	64	0,025	14	2
1,0	6	0,5	RP0601B2.1_FC	1,5	10,0	64	0,025	15	2
1,0	6	0,5	RP0601B2.2_FC	1,5	15,0	64	0,025	15	2
1,0	6	0,5	RP0601B2.3_FC	1,5	20,0	64	0,025	15	2
1,0	6	0,5	RP0601B2.4_FC	1,5	25,0	64	0,025	15	2
1,2	6	0,6	RP06012B2.3_FC	1,8	1,8	64		10	2
1,2	6	0,6	RP06012B2.34_FC	1,8	4,0	64	0,025	11	2
1,2	6	0,6	RP06012B2.37_FC	1,8	6,0	64	0,025	14	2
1,2	6	0,6	RP06012B2.4_FC	1,8	8,0	64	0,025	15	2
1,2	6	0,6	RP06012B2.5_FC	1,8	12,0	64	0,025	15	2
1,2	6	0,6	RP06012B2.6_FC	1,8	16,0	64	0,025	15	2
1,5	6	0,75	RP06015B2.9_FC	2,3	2,3	64		10	2
1,5	6	0,75	RP06015B2.95_FC	2,3	6,0	64	0,025	13	2
1,5	6	0,75	RP06015B3_FC	2,3	10,0	64	0,025	15	2
1,5	6	0,75	RP06015B3.1_FC	2,3	15,0	64	0,025	15	2
1,5	6	0,75	RP06015B3.2_FC	2,3	20,0	64	0,025	15	2
1,5	6	0,75	RP06015B3.3_FC	2,3	25,0	64	0,025	15	2
2,0	6	1,0	RP0602B2.9_FC	3,0	3,0	64		9	2
2,0	6	1,0	RP0602B2.95_FC	3,0	6,0	64	0,05	11	2
2,0	6	1,0	RP0602B3_FC	3,0	10,0	64	0,05	15	2

D mm	d mm	R mm	Part Number	l mm	l ₂ mm	L mm	a mm	v °	No. of Flutes
2,0	6	1,0	RP0602B3.1_FC	3,0	16,0	64	0,05	15	2
2,0	6	1,0	RP0602B3.2_FC	3,0	20,0	64	0,05	15	2
2,0	6	1,0	RP0602B3.3_FC	3,0	25,0	64	0,05	15	2
2,0	6	1,0	RP0602B3.4_FC	3,0	30,0	64	0,05	15	2
2,5	6	1,25	RP06025B2.9_FC	3,0	3,0	64		8	2
2,5	6	1,25	RP06025B2.95_FC	3,0	6,0	64	0,05	10	2
2,5	6	1,25	RP06025B3_FC	3,0	10,0	64	0,05	15	2
2,5	6	1,25	RP06025B3.1_FC	3,0	16,0	64	0,05	15	2
2,5	6	1,25	RP06025B3.2_FC	3,0	20,0	64	0,05	15	2
2,5	6	1,25	RP06025B3.3_FC	3,0	25,0	64	0,05	15	2
3,0	6	1,5	RP0603B2.9_FC	3,0	3,0	64		7	2
3,0	6	1,5	RP0603B2.95_FC	3,0	6,0	64	0,05	9	2
3,0	6	1,5	RP0603B3_FC	3,0	10,0	64	0,05	14	2
3,0	6	1,5	RP0603B3.1_FC	3,0	16,0	64	0,05	15	2
3,0	6	1,5	RP0603B3.2_FC	3,0	20,0	64	0,05	15	2
3,0	6	1,5	RP0603B3.3_FC	3,0	25,0	64	0,05	15	2
3,0	6	1,5	RP0603B3.4_FC	3,0	30,0	64	0,05	15	2



Two Flute, with Corner Radius

FC
 TiAlN coated
 Super Micrograin Carbide
Tolerance
 D 1,0 - 3,0 -0,002 / -0,012
 D 4,0 - 6,0 -0,004 / -0,016
 D 7,0 - 10,0 -0,005 / -0,020
 D 11,0 - 18,0 -0,006 / -0,024
Shank
 Cylindrical h5, DIN6535 HA
Flute
 30° right hand spiral, center cutting
Field of application
 High speed cutting in steel



D mm	d mm	R mm	Part Number	l mm	l ₂ mm	L mm	a mm	v °	No. of Flutes
1,5	6	0,3	MH06015B2R03L64_FC	2	5	64	0,05	7,0	2
1,5	6	0,3	MH06015B2.1R03L64_FC	2	10	64	0,05	9,0	2
2,0	6	0,5	MH0602B3R05L64_FC	3	5	64	0,05	6,0	2
2,0	6	0,5	MH0602B3.1R05L64_FC	3	10	64	0,05	8,0	2
2,0	6	0,5	MH0602B3R05L78_FC	3	15	78	0,05	5,0	2
3,0	6	0,5	MH0603B4R05L64_FC	4	7	64	0,05	5,0	2
3,0	6	0,5	MH0603B4R05L78_FC	4	15	78	0,05	4,0	2
4,0	6	0,5	MH0604B5R05L64_FC	5	8	64	0,1	4,0	2
4,0	6	0,5	MH0604B5R05L78_FC	5	15	78	0,1	2,5	2
4,0	6	1,0	MH0604B5R10L64_FC	5	8	64	0,1	4,0	2
4,0	6	1,0	MH0604B5R10L78_FC	5	15	78	0,1	2,5	2
5,0	6	0,5	MH0605B5R05L64_FC	5	10	64	0,15	2,5	2
5,0	6	0,5	MH0605B5R05L78_FC	5	20	78	0,15	2,0	2
5,0	6	1,0	MH0605B5R10L64_FC	5	10	64	0,15	2,5	2
5,0	6	1,0	MH0605B5R10L78_FC	5	20	78	0,15	2,0	2
6,0	6	0,5	MH0606B6R05L64_FC	6	25	64	0,2		2
6,0	6	0,5	MH0606B6R05L78_FC	6	35	78	0,2		2
6,0	8	0,5	MH0806B6R05L100_FC	6	25	100	0,2	2,0	2
6,0	6	1,0	MH0606B6R10L64_FC	6	25	64	0,2		2
6,0	6	1,0	MH0606B6R10L78_FC	6	35	78	0,2		2
6,0	8	1,0	MH0806B6R10L100_FC	6	25	100	0,2		2
6,0	6	1,5	MH0606B6R15L64_FC	6	25	64	0,2		2
6,0	6	1,5	MH0606B6R15L78_FC	6	35	78	0,2		2
6,0	8	1,5	MH0806B6R15L100_FC	6	25	100	0,2	2,0	2
8,0	8	0,5	MH0808B8R05L64_FC	8	25	64	0,3		2
8,0	8	0,5	MH0808B8R05L78_FC	8	25	78	0,3		2
8,0	8	1,0	MH0808B8R10L64_FC	8	25	64	0,3		2
8,0	8	1,0	MH0808B8R10L78_FC	8	35	78	0,3		2
8,0	8	1,0	MH0808B8R10L100_FC	8	50	100	0,3		2
8,0	8	2,0	MH0808B8R20L64_FC	8	25	64	0,3		2
8,0	8	2,0	MH0808B8R20L78_FC	8	35	78	0,3		2
8,0	8	2,0	MH0808B8R20L100_FC	8	50	100	0,3		2
8,0	10	1,0	MH1008B8R10L120_FC	8	30	120	0,3	1,5	2
8,0	10	2,0	MH1008B8R20L120_FC	8	30	120	0,3	1,5	2
10,0	10	0,5	MH1010B10R05L78_FC	10	35	78	0,3		2
10,0	10	1,0	MH1010B10R10L100_FC	10	55	100	0,3		2
10,0	10	2,0	MH1010B10R20L78_FC	10	35	78	0,3		2
10,0	10	2,0	MH1010B10R20L100_FC	10	55	100	0,3		2
10,0	12	2,0	MH1210B10R20L120_FC	10	30	120	0,3	1,5	2
12,0	12	0,5	MH1212B12R05L78_FC	12	35	78	0,3		2
12,0	12	1,0	MH1212B12R10L100_FC	12	55	100	0,3		2
12,0	12	2,0	MH1212B12R20L78_FC	12	35	78	0,3		2
12,0	12	2,0	MH1212B12R20L100_FC	12	55	100	0,3		2
12,0	16	2,0	MH1612B12R20L120_FC	12	40	120	0,3	4,5	2
16,0	16	3,5	MH1616B20R35L100_FC	20	50	100	0,3		2
16,0	16	3,5	MH1616B20R35L150_FC	20	100	150	0,3		2

Four Flute, with Corner Radius

FC

TiAlN coated

Super Micrograin Carbide

Tolerance

D 1,0 - 3,0 -0,002 / -0,012

D 4,0 - 6,0 -0,004 / -0,016

D 7,0 - 10,0 -0,005 / -0,020

D 11,0 - 18,0 -0,006 / -0,024

Shank

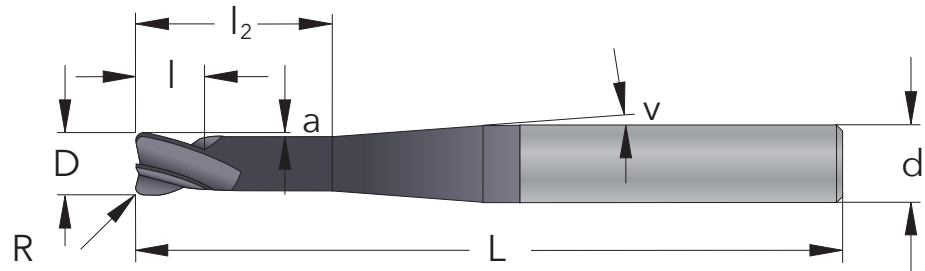
Cylindrical h5, DIN6535 HA

Flute

30° right hand spiral, center cutting

Field of application

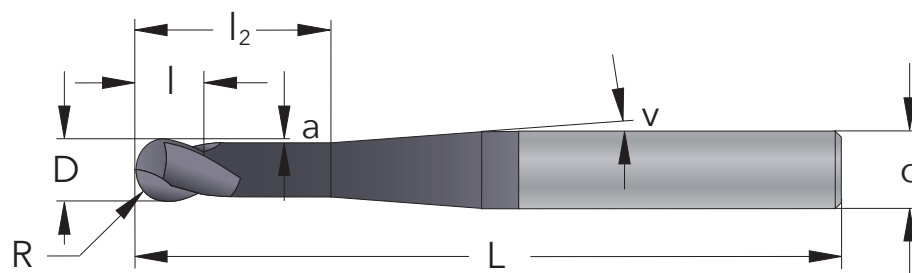
High speed cutting in steel



D mm	d mm	R mm	Part Number	l mm	l ₂ mm	L mm	a mm	v °	No. of Flutes
6,0	6	0,5	MH0606D6R05L64_FC	6	25	64	0,2		4
6,0	6	0,5	MH0606D6R05L78_FC	6	35	78	0,2		4
6,0	6	1,0	MH0606D6R10L64_FC	6	25	64	0,2		4
6,0	6	1,5	MH0606D6R15L64_FC	6	25	64	0,2		4
6,0	6	1,5	MH0606D6R15L78_FC	6	35	78	0,2		4
6,0	8	0,5	MH0806D6R05L100_FC	6	25	100	0,2	2,0	4
6,0	8	1,5	MH0806D6R15L100_FC	6	25	100	0,2	2,0	4
8,0	8	0,5	MH0808D8R05L64_FC	8	25	64	0,3		4
8,0	8	0,5	MH0808D8R05L78_FC	8	25	78	0,3		4
8,0	8	1,0	MH0808D8R10L64_FC	8	25	64	0,3		4
8,0	8	1,0	MH0808D8R10L78_FC	8	35	78	0,3		4
8,0	8	1,0	MH0808D8R10L100_FC	8	50	100	0,3		4
8,0	8	2,0	MH0808D8R20L64_FC	8	25	64	0,3		4
8,0	8	2,0	MH0808D8R20L78_FC	8	35	78	0,3		4
8,0	8	2,0	MH0808D8R20L100_FC	8	50	100	0,3		4
8,0	10	1,0	MH1008D8R10L120_FC	8	30	120	0,3	1,5	4
8,0	10	2,0	MH1008D8R20L120_FC	8	30	120	0,3	1,5	4
10,0	10	0,5	MH1010D10R05L78_FC	10	35	78	0,3		4
10,0	10	1,0	MH1010D10R10L100_FC	10	55	100	0,3		4
10,0	10	2,0	MH1010D10R20L78_FC	10	35	78	0,3		4
10,0	10	2,0	MH1010D10R20L100_FC	10	55	100	0,3		4
10,0	12	2,0	MH1210D10R20L120_FC	10	30	120	0,3	1,5	4
12,0	12	0,5	MH1212D12R05L78_FC	12	35	78	0,3		4
12,0	12	1,0	MH1212D12R10L100_FC	12	55	100	0,3		4
12,0	12	2,0	MH1212D12R20L78_FC	12	35	78	0,3		4
12,0	12	2,0	MH1212D12R20L100_FC	12	55	100	0,3		4
12,0	16	2,0	MH1612D12R20L120_FC	12	40	120	0,3	4,5	4
16,0	16	3,5	MH1616D20R35L100_FC	20	50	100	0,3		4
16,0	16	3,5	MH1616D20R35L150_FC	20	100	150	0,3		4

Two Flute, with Ball Nose

FC
 TiAlN coated
 Super Micrograin Carbide
Tolerance
 D 1,0 - 3,0 -0,002 / -0,012
 D 4,0 - 6,0 -0,004 / -0,016
 D 7,0 - 10,0 -0,005 / -0,020
 D 11,0 - 18,0 -0,006 / -0,024
Shank
 Cylindrical h5, DIN6535 HA
Flute
 30° right hand spiral
Field of application
 High speed cutting in steel



D mm	d mm	R mm	Part Number	l mm	l ₂ mm	L mm	a mm	v °	No. of Flutes
1,0	6	0,5	RH0601B2L64_FC	2	4	64	0,05	7,0	2
1,5	6	0,75	RH06015B2L64_FC	2	4	64	0,05	6,5	2
2,0	6	1,0	RH0602B3L64_FC	3	5	64	0,05	6,0	2
2,0	6	1,0	RH0602B3L78_FC	3	15	78	0,05	5,0	2
3,0	6	1,5	RH0603B4L64_FC	4	7	64	0,05	5,0	2
3,0	6	1,5	RH0603B4L78_FC	4	15	78	0,05	4,0	2
4,0	6	2,0	RH0604B5L64_FC	5	8	64	0,1	4,0	2
4,0	6	2,0	RH0604B5L78_FC	5	15	78	0,1	2,5	2
5,0	6	2,5	RH0605B5L64_FC	5	10	64	0,15	2,5	2
5,0	6	2,5	RH0605B5L78_FC	5	20	78	0,15	2,0	2
6,0	6	3,0	RH0606B6L64_FC	6	25	64	0,2		2
6,0	6	3,0	RH0606B6L78_FC	6	35	78	0,2		2
6,0	8	3,0	RH0806B6L100_FC	6	25	100	0,2	2,0	2
6,0	8	3,0	RH0806B6L150_FC	6	15	150	0,2	1,5	2
8,0	8	4,0	RH0808B8L64_FC	8	25	64	0,3		2
8,0	8	4,0	RH0808B8L78_FC	8	35	78	0,3		2
8,0	8	4,0	RH0808B8L100_FC	8	50	100	0,3		2
8,0	10	4,0	RH1008B8L120_FC	8	30	120	0,3	1,5	2
8,0	10	4,0	RH1008B8L150_FC	8	20	150	0,3	1,5	2
10,0	10	5,0	RH1010B10L78_FC	10	35	78	0,3		2
10,0	10	5,0	RH1010B10L100_FC	10	55	100	0,3		2
10,0	12	5,0	RH1210B10L100_FC	10	30	100	0,3	3,5	2
10,0	12	5,0	RH1210B10L120_FC	10	30	120	0,3	1,5	2
10,0	12	5,0	RH1210B10L150_FC	10	25	150	0,3	1,5	2
12,0	12	6,0	RH1212B12L78_FC	12	35	78	0,3		2
12,0	12	6,0	RH1212B12L100_FC	12	55	100	0,3		2
12,0	16	6,0	RH1612B12L120_FC	12	40	120	0,3	4,5	2
12,0	16	6,0	RH1612B12L150_FC	12	30	150	0,3	2,0	2
16,0	16	8,0	RH1616B20L100_FC	20	50	100	0,3		2
16,0	16	8,0	RH1616B20L150_FC	20	100	150	0,3		2

Four Flute, with Ball Nose

FC

TiAlN coated

Super Micrograin Carbide

Tolerance

D 1,0 - 3,0 -0,002 / -0,012

D 4,0 - 6,0 -0,004 / -0,016

D 7,0 - 10,0 -0,005 / -0,020

D 11,0 - 18,0 -0,006 / -0,024

Shank

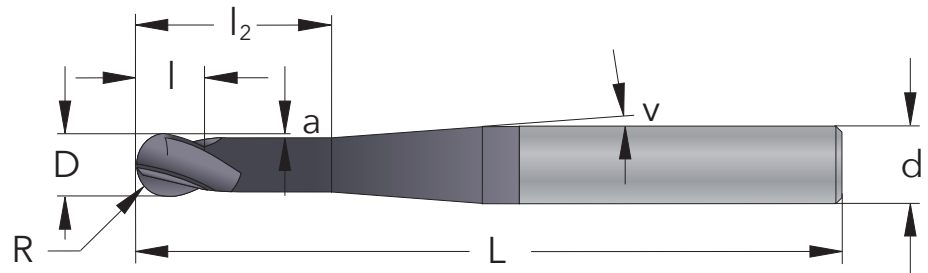
Cylindrical h5, DIN6535 HA

Flute

30° right hand spiral

Field of application

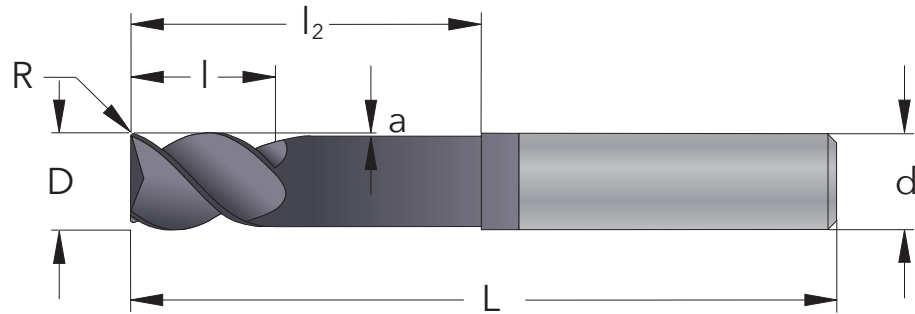
High speed cutting in steel



D mm	d mm	R mm	Part Number	l mm	l ₂ mm	L mm	a mm	v °	No. of Flutes
6,0	6	3,0	RH0606D6L64_FC	6	25	64	0,2		4
6,0	6	3,0	RH0606D6L78_FC	6	35	78	0,2		4
6,0	8	3,0	RH0806D6L100_FC	6	25	100	0,2	2,0	4
8,0	8	4,0	RH0808D8L64_FC	8	25	64	0,3		4
8,0	8	4,0	RH0808D8L78_FC	8	35	78	0,3		4
8,0	8	4,0	RH0808D8L100_FC	8	50	100	0,3		4
8,0	10	4,0	RH1008D8L120_FC	8	30	120	0,3	1,5	4
10,0	10	5,0	RH1010D10L78_FC	10	35	78	0,3		4
10,0	10	5,0	RH1010D10L100_FC	10	55	100	0,3		4
10,0	12	5,0	RH1210D10L120_FC	10	30	120	0,3	1,5	4
12,0	12	6,0	RH1212D12L78_FC	12	35	78	0,3		4
12,0	12	6,0	RH1212D12L100_FC	12	55	100	0,3		4
12,0	16	6,0	RH1612D12L120_FC	12	40	120	0,3	4,5	4
16,0	16	8,0	RH1616D20L100_FC	20	50	100	0,3		4
16,0	16	8,0	RH1616D20L150_FC	20	100	150	0,3		4

Roughing End Mill

FC
 TiAlN coated
 Super Micrograin Carbide
Tolerance
 D 1,0 - 3,0 -0,002 / -0,012
 D 4,0 - 6,0 -0,004 / -0,016
 D 7,0 - 10,0 -0,005 / -0,020
 D 11,0 - 18,0 -0,006 / -0,024
Shank
 Cylindrical h5, DIN6535 HA
Flute
 45° right hand spiral, center cutting
Field of application
 High speed cutting in steel

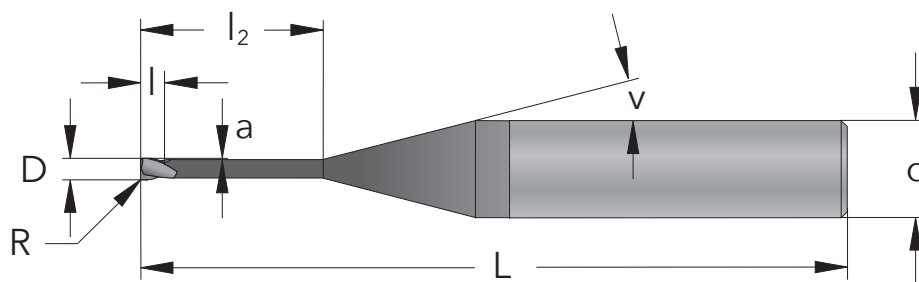


D mm	d mm	R mm	Part Number	l mm	l ₂ mm	L mm	a mm	No. of Flutes
3,0	3	0,2	TH0303C4_FC	4	10	39	0,05	3
4,0	6	0,2	TH0604C5_FC	5	12	64	0,1	3
5,0	6	0,2	TH0605C6_FC	6	14	64	0,15	3
6,0	6	0,3	TH0606C7_FC	7	16	64	0,2	3
8,0	8	0,5	TH0808C9_FC	9	20	64	0,3	3
10,0	10	0,5	TH1010C12_FC	12	25	70	0,3	3
12,0	12	0,5	TH1212C15_FC	15	30	78	0,3	3
16,0	16	0,5	TH1616C18_FC	18	38	89	0,3	3



Micro, Two Flute

DC
 Diamond coated
 Micrograin Carbide
Tolerance
 D 0,3 - 3,0 -0,002 / -0,012
Shank
 Cylindrical h5, DIN6535 HA
Flute
 40° right hand spiral
 Center cutting
Field of application
 Graphite



D mm	d mm	R mm	Part Number	l mm	l ₂ mm	L mm	a mm	v °	No. of Flutes
0,3	6	0,05	MG06003B1_DC	1,0	1,0	64		7	2
0,3	6	0,05	MG06003B1.4_DC	1,5	2,5	64	0,01	7	2
0,3	6	0,05	MG06003B1.5_DC	1,5	5,0	64	0,01	8	2
0,4	6	0,05	MG06004B1_DC	1,0	1,0	64		7	2
0,4	6	0,05	MG06004B1.4_DC	1,5	2,5	64	0,01	7	2
0,4	6	0,05	MG06004B1.5_DC	1,5	5,0	64	0,01	8	2
0,5	6	0,05	MG06005B1.3_DC	1,5	1,5	64		7	2
0,5	6	0,05	MG06005B1.4_DC	1,5	3,5	64	0,01	7	2
0,5	6	0,05	MG06005B1.5_DC	1,5	7,0	64	0,01	9	2
0,5	6	0,05	MG06005B1.6_DC	1,5	10,0	64	0,01	10	2
0,6	6	0,05	MG06006B1.8_DC	1,5	1,5	64		6	2
0,6	6	0,05	MG06006B1.9_DC	2,0	3,5	64	0,025	7	2
0,6	6	0,05	MG06006B2_DC	2,0	7,0	64	0,025	9	2
0,6	6	0,05	MG06006B2.1_DC	2,0	10,0	64	0,025	10	2
0,8	6	0,05	MG06008B1.8_DC	2,0	2,0	64		6	2
0,8	6	0,05	MG06008B1.9_DC	2,0	5,0	64	0,025	8	2
0,8	6	0,05	MG06008B1.95_DC	2,0	7,5	64	0,025	9	2
0,8	6	0,05	MG06008B2_DC	2,0	10,0	64	0,025	10	2
0,8	6	0,05	MG06008B2.1_DC	2,0	15,0	64	0,025	14	2
1,0	6	0,05	MG0601B2.5_DC	2,5	2,5	64		6	2
1,0	6	0,05	MG0601B2.9_DC	3,0	5,0	64	0,025	7	2
1,0	6	0,05	MG0601B2.95_DC	3,0	7,5	64	0,025	8	2
1,0	6	0,05	MG0601B3_DC	3,0	10,0	64	0,025	10	2
1,0	6	0,05	MG0601B3.1_DC	3,0	15,0	64	0,025	13	2
1,2	6	0,05	MG06012B2.9_DC	3,0	5,0	64	0,025	7	2
1,2	6	0,05	MG06012B3_DC	3,0	10,0	64	0,025	9	2
1,5	6	0,05	MG06015B2.9_DC	3,0	5,0	64	0,025	7	2
1,5	6	0,05	MG06015B2.95_DC	3,0	7,5	64	0,025	8	2
1,5	6	0,05	MG06015B3_DC	3,0	10,0	64	0,025	9	2
1,5	6	0,05	MG06015B3.1_DC	3,0	15,0	64	0,025	12	2
1,5	6	0,05	MG06015B3.2_DC	3,0	20,0	64	0,025	15	2

Micro, Two Flute, with Ball Nose

DCDiamond coated
Micrograin Carbide**Tolerance**

D 0,3 - 3,0 -0,002 / -0,012

Shank

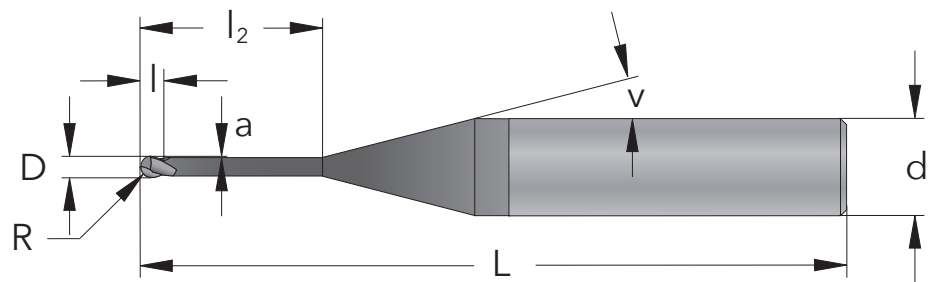
Cylindrical h5, DIN6535 HA

Flute

40° right hand spiral

Field of application

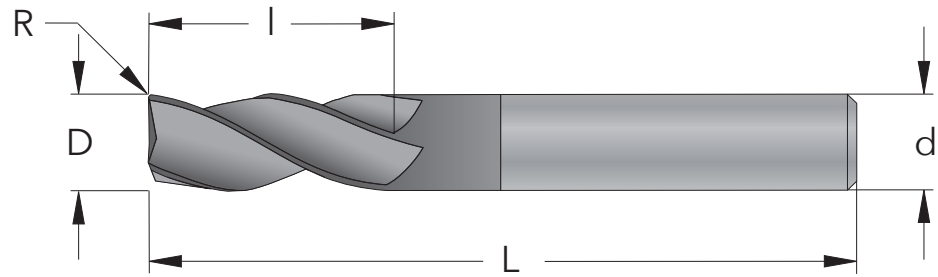
Graphite



D mm	d mm	R mm	Part Number	l mm	l ₂ mm	L mm	a mm	v °	No. of Flutes
0,3	6	0,15	RG06003B1_DC	1,0	1,0	64		7	2
0,3	6	0,15	RG06003B1.4_DC	1,5	2,5	64	0,01	7	2
0,3	6	0,15	RG06003B1.5_DC	1,5	5,0	64	0,01	8	2
0,4	6	0,2	RG06004B1_DC	1,0	1,0	64		7	2
0,4	6	0,2	RG06004B1.4_DC	1,5	2,5	64	0,01	7	2
0,4	6	0,2	RG06004B1.5_DC	1,5	5,0	64	0,01	8	2
0,5	6	0,25	RG06005B1.3_DC	1,5	1,5	64		7	2
0,5	6	0,25	RG06005B1.4_DC	1,5	3,5	64	0,01	7	2
0,5	6	0,25	RG06005B1.5_DC	1,5	7,0	64	0,01	9	2
0,5	6	0,25	RG06005B1.6_DC	1,5	10,0	64	0,01	10	2
0,6	6	0,3	RG06006B1.8_DC	1,5	1,5	64		6	2
0,6	6	0,3	RG06006B1.9_DC	2,0	3,5	64	0,025	7	2
0,6	6	0,3	RG06006B2_DC	2,0	7,0	64	0,025	9	2
0,6	6	0,3	RG06006B2.1_DC	2,0	10,0	64	0,025	10	2
0,8	6	0,4	RG06008B1.8_DC	2,0	2,0	64		6	2
0,8	6	0,4	RG06008B1.9_DC	2,0	5,0	64	0,025	8	2
0,8	6	0,4	RG06008B1.95_DC	2,0	7,5	64	0,025	9	2
0,8	6	0,4	RG06008B2_DC	2,0	10,0	64	0,025	10	2
0,8	6	0,4	RG06008B2.1_DC	2,0	15,0	64	0,025	14	2
1,0	6	0,5	RG0601B2.5_DC	2,5	2,5	64		6	2
1,0	6	0,5	RG0601B2.9_DC	3,0	5,0	64	0,025	7	2
1,0	6	0,5	RG0601B2.95_DC	3,0	7,5	64	0,025	8	2
1,0	6	0,5	RG0601B3_DC	3,0	10,0	64	0,025	10	2
1,0	6	0,5	RG0601B3.1_DC	3,0	15,0	64	0,025	13	2
1,2	6	0,6	RG06012B2.9_DC	3,0	5,0	64	0,025	7	2
1,2	6	0,6	RG06012B3_DC	3,0	10,0	64	0,025	9	2
1,5	6	0,75	RG06015B2.9_DC	3,0	5,0	64	0,025	7	2
1,5	6	0,75	RG06015B2.95_DC	3,0	7,5	64	0,025	8	2
1,5	6	0,75	RG06015B3_DC	3,0	10,0	64	0,025	9	2
1,5	6	0,75	RG06015B3.1_DC	3,0	15,0	64	0,025	12	2
1,5	6	0,75	RG06015B3.2_DC	3,0	20,0	64	0,025	15	2

Three Flute, with Corner Radius

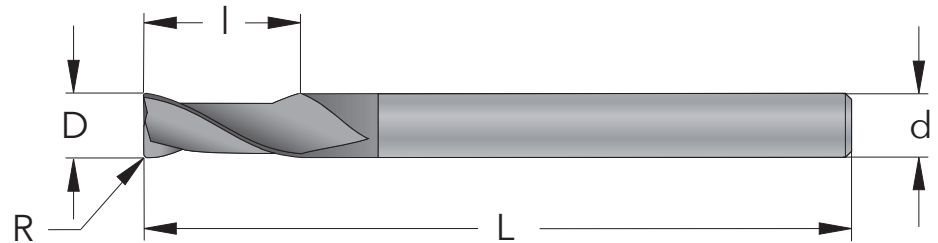
DC
 Diamond coated
 Micrograin Carbide
Tolerance
 D 1,0 - 3,0 -0,002 / -0,012
 D 4,0 - 6,0 -0,004 / -0,016
 D 7,0 - 10,0 -0,005 / -0,020
 D 11,0 - 18,0 -0,006 / -0,024
Shank
 Cylindrical h5, DIN6535 HA
Flute
 40° right hand spiral, center cutting
Field of application
 Graphite



D mm	d mm	R mm	Part Number	l mm	L mm	No. of Flutes
2,0	3	0,1	MG0302C10_DC	10	50	3
3,0	3	0,1	MG0303C10_DC	10	50	3
4,0	4	0,2	MG0404C15_DC	15	60	3
5,0	5	0,2	MG0505C20_DC	20	60	3
6,0	6	0,3	MG0606C30_DC	30	78	3
8,0	8	0,3	MG0808C30_DC	30	78	3
10,0	10	0,3	MG1010C30_DC	30	78	3
12,0	12	0,3	MG1212C30_DC	30	89	3

Two Flute, with Corner Radius, Long Shank

DC
 Diamond coated
 Micrograin Carbide
Tolerance
 D 1,0 - 3,0 -0,002 / -0,012
 D 4,0 - 6,0 -0,004 / -0,016
 D 7,0 - 10,0 -0,005 / -0,020
 D 11,0 - 18,0 -0,006 / -0,024
Shank
 Cylindrical h5, DIN6535 HA
Flute
 40° right hand spiral, center cutting
Field of application
 Graphite



D mm	d mm	R mm	Part Number	l mm	L mm	No. of Flutes
4,0	4	0,3	MG0404B10L100_DC	10	100	2
5,0	5	0,5	MG0505B13L100_DC	13	100	2
6,0	6	0,5	MG0606B42L100_DC	42	100	2
6,0	6	0,5	MG0606B26L150_DC	26	150	2
8,0	8	0,5	MG0808B41L150_DC	41	150	2
10,0	10	0,5	MG1010B42L150_DC	42	150	2

Diamond **DIAMOND COATED END MILLS**

Two/Four Flute, with Corner Radius



DC

Diamond coated
Micrograin Carbide

Tolerance

D 1,0 - 3,0 -0,002 / -0,012

D 4,0 - 6,0 -0,004 / -0,016

D 7,0 - 10,0 -0,005 / -0,020

D 11,0 - 18,0 -0,006 / -0,024

Shank

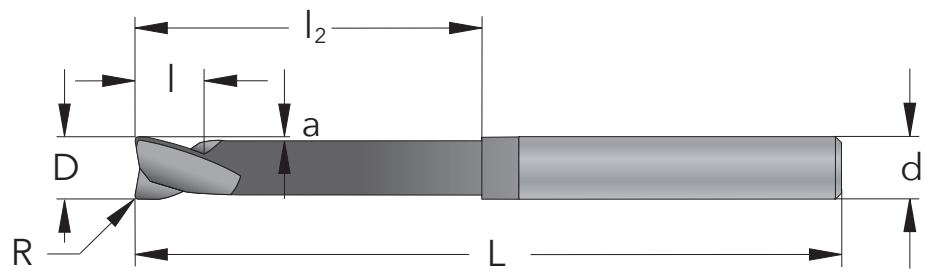
Cylindrical h5, DIN6535 HA

Flute

40° right hand spiral, center cutting

Field of application

Graphite



D mm	d mm	R mm	Part Number	l mm	l ₂ mm	L mm	a mm	No. of Flutes
2,0	3	0,1	MG0302B3_DC	3	10	50	0,1	2
3,0	6	0,1	MG0603B4_DC	4	10	50	0,1	2
4,0	6	0,2	MG0604D4_DC	4	10	50	0,1	4
5,0	6	0,2	MG0605D5_DC	5	10	50	0,15	4
6,0	6	0,3	MG0606D6_DC	6	10	50	0,2	4
8,0	8	0,3	MG0808D8_DC	8	15	64	0,3	4
10,0	10	0,3	MG1010D10_DC	10	20	78	0,3	4
12,0	12	0,3	MG1212D10_DC	10	20	78	0,3	4

Three Flute, with Ball Nose

DC

Diamond coated
Micrograin Carbide

Tolerance

D 1,0 - 3,0 -0,002 / -0,012

D 4,0 - 6,0 -0,004 / -0,016

D 7,0 - 10,0 -0,005 / -0,020

D 11,0 - 18,0 -0,006 / -0,024

Shank

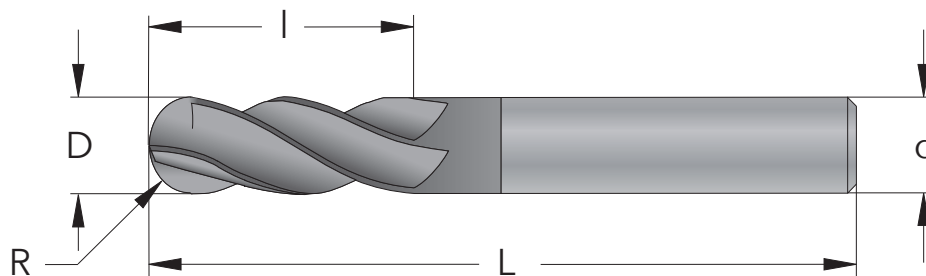
Cylindrical h5, DIN6535 HA

Flute

40° right hand spiral

Field of application

Graphite



D mm	d mm	R mm	Part Number	l mm	L mm	No. of Flutes
2,0	3	1,0	RG0302C10_DC	10	50	3
3,0	3	1,5	RG0303C10_DC	10	50	3
4,0	4	2,0	RG0404C15_DC	15	60	3
5,0	5	2,5	RG0505C20_DC	20	60	3
6,0	6	3,0	RG0606C30_DC	30	78	3
8,0	8	4,0	RG0808C30_DC	30	78	3
10,0	10	5,0	RG1010C30_DC	30	78	3
12,0	12	6,0	RG1212C30_DC	30	89	3

Two Flute, with Ball Nose, Long Shank

DC

Diamond coated
Micrograin Carbide

Tolerance

D 1,0 - 3,0 -0,002 / -0,012

D 4,0 - 6,0 -0,004 / -0,016

D 7,0 - 10,0 -0,005 / -0,020

D 11,0 - 18,0 -0,006 / -0,024

Shank

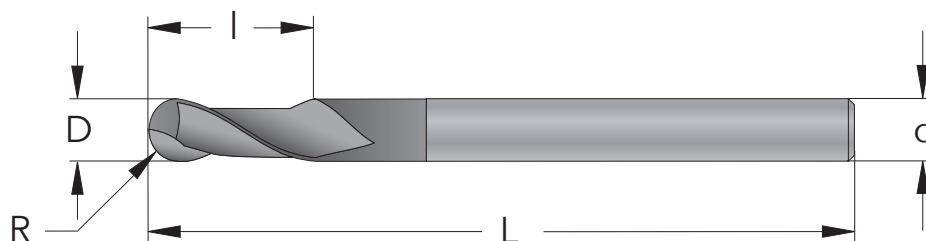
Cylindrical h5, DIN6535 HA

Flute

40° right hand spiral

Field of application

Graphite



D mm	d mm	R mm	Part Number	l mm	L mm	No. of Flutes
2,0	3	1,0	RG0302B6L100_DC	6	100	2
3,0	3	1,5	RG0303B16L100_DC	16	100	2
4,0	4	2,0	RG0404B16L100_DC	16	100	2
6,0	6	3,0	RG0606B42L100_DC	42	100	2
6,0	6	3,0	RG0606B42L150_DC	42	150	2
8,0	8	4,0	RG0808B42L100_DC	42	100	2
8,0	8	4,0	RG0808B42L150_DC	42	150	2
10,0	10	5,0	RG1010B45L150_DC	45	150	2

Two/Four Flute, with Ball Nose

DC

Diamond coated
Micrograin Carbide

Tolerance

D 1,0 - 3,0 -0,002 / -0,012

D 4,0 - 6,0 -0,004 / -0,016

D 7,0 - 10,0 -0,005 / -0,020

D 11,0 - 18,0 -0,006 / -0,024

Shank

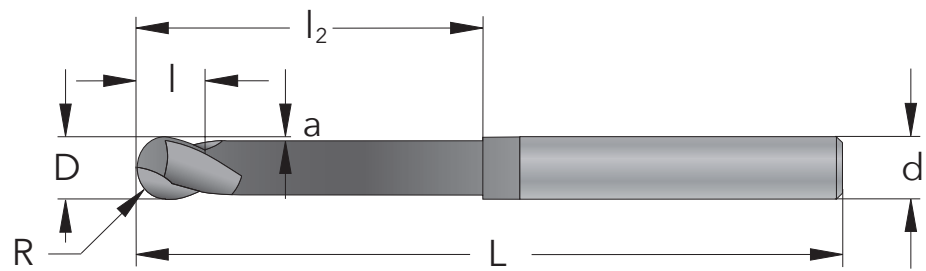
Cylindrical h5, DIN6535 HA

Flute

40° right hand spiral

Field of application

Graphite



D mm	d mm	R mm	Part Number	l mm	l ₂ mm	L mm	a mm	No. of Flutes
2,0	3	1,0	RG0302B3_DC	3	10	50	0,1	2
3,0	6	1,5	RG0603B4_DC	4	10	50	0,1	2
4,0	6	2,0	RG0604D4_DC	4	10	50	0,1	4
5,0	6	2,5	RG0605D5_DC	5	10	50	0,15	4
6,0	6	3,0	RG0606D6_DC	6	10	50	0,2	4
8,0	8	4,0	RG0808D8_DC	8	15	64	0,3	4
10,0	10	5,0	RG1010D10_DC	10	20	78	0,3	4
12,0	12	6,0	RG1212D10_DC	10	20	78	0,3	4



Schmidt Tool Systems - The Master of Threading



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