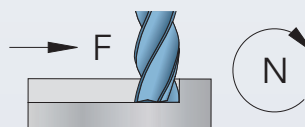


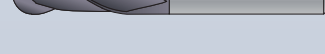
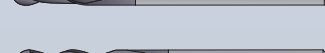


Technical Information

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### SOLID CARBIDE END MILLS

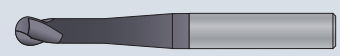
LC	M	Two Flute	74	
LC	M	Three Flute	75	
LC	M	Four Flute	76	
LC	R	Two Flute, with Ball Nose	77	
LC	MZ	Variable Flute 35° and 38°	78	
LC	MV	Slot Side End Mill	79	
LC	FW	Wave formed Roughing End Mill, Three Flute	80	
LC	FW	Wave formed Roughing End Mill, Four Flute	81	
MG	MA	Two Flute, for aluminium	82	
MG	MA	Three Flute, for aluminium	83	
MG	FWA	Wave formed Roughing End Mill, aluminium	84	
FC	M	Two Flute	85	
FC	M	Three Flute	86	
FC	M	Four Flute	87	
FC	M..R	Two Flute, with Corner Radius	88	
FC	M..R	Four Flute, with Corner Radius	89	
FC	R	Two Flute, with Ball Nose	90	
FC	R..L	Two Flute, with Ball Nose, Long Shank	90	
FC	R	Four Flute, with Ball Nose	91	

FC	U	High Helix	92
FC	V	High Helix, for Hard Materials	93



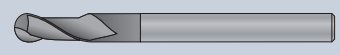
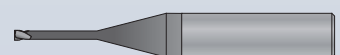
### MOLD AND DIE END MILLS

FC	MP	Micro, Two Flute	94
FC	RP	Micro, Two Flute, with Ball Nose	96
FC	MH	Two Flute, with Corner Radius	98
FC	MH	Four Flute, with Corner Radius	99
FC	RH	Two Flute, with Ball Nose	100
FC	RH	Four Flute, with Ball Nose	101
FC	TH	Roughing End Mill	102



### DIAMOND COATED END MILLS

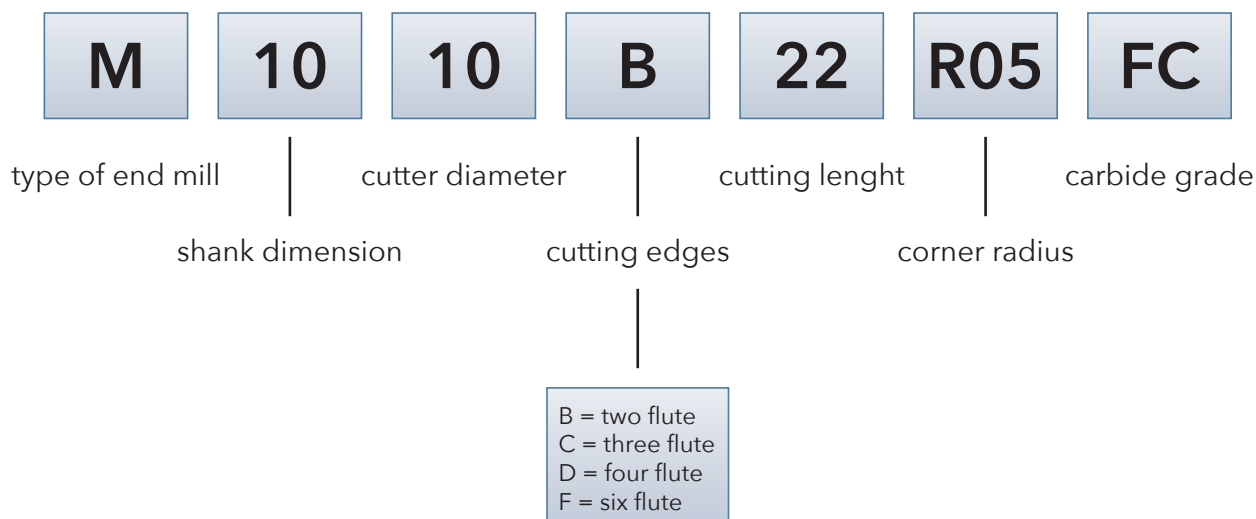
DC	MG	Micro, Two Flute	104
DC	RG	Micro, Two Flute, with Ball Nose	105
DC	MG	Three Flute, with Corner Radius	106
DC	MG..L	Two Flute, with Corner Radius, Long Shank	106
DC	MG	Two/Four Flute, with Corner Radius	107
DC	RG	Three Flute, with Ball Nose	108
DC	RG..L	Two Flute, with Ball Nose, Long Shank	108
DC	RG	Two/Four Flute, with Ball Nose	109



## Cutting Speed ( $V_c$ ) and Material Factor ( $F_m$ )

MATERIAL		Hardness HB	Tensile Strength N/mm <sup>2</sup>	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

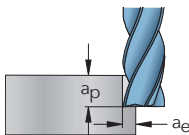
## Code Key



### Engagement Factor ( $F_e$ )

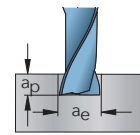
	Side Milling				Slot Milling
	$a_e = 0,1 \times D$	$a_e = 0,25 \times D$	$a_e = 0,5 \times D$	$a_e = 0,75 \times D$	$a_e = 1,0 \times D$
$a_p = 0,25 \times D$	3,5	1,8	1,4	1,2	1,0
$a_p = 0,5 \times D$	3,0	1,5	1,2	0,9	0,7
$a_p = 0,75 \times D$	2,5	1,3	1,0	0,7	0,6
$a_p = 1,0 \times D$	2,0	1,1	0,8	0,6	0,5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

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

#### Example

Side Milling with M1010D25 LC  
 Standard Length Four Flute End Mill  
 Carbon Steel, up to 700 N/mm<sup>2</sup>  
 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  
 $n = (130 \times 1000) / (\pi \times 10) = 4138$  rpm  
 $V_f = 0,068 \times 4 \times 4138 = 1126$  mm/min

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

### 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.

$$\text{Spindle Speed (rpm)} = \frac{V_c \times 1000}{\pi \times D}$$

D (mm)	20	25	30	40	50	60	70	80	90	100	110	120	130	140	160	180	200	230	260	300	350	400	450
0.3	21221	26526	31831	42441	53052	63662	74272	84883	95493														
0.4	15916	19894	23873	31831	39789	47747	55705	63662	71620	79578	87535	95493											
0.5	12732	15916	19099	25465	31831	38197	44563	50930	57296	63662	70028	76394	82761	89127									
0.6	10610	13263	15916	21221	26526	31831	37136	42441	47747	53052	58357	63662	68967	74272	84883	95493							
0.7	9095	11368	13642	18189	22736	27284	31831	36378	40926	45473	50020	54567	59115	63662	72757	81851	90946						
0.8	7958	9947	11937	15916	19894	23873	27852	31831	35810	39789	43768	47747	51725	55704	63662	71620	79578	91514					
0.9	7074	8842	10610	14147	17684	21221	24757	28294	31831	35368	38905	42441	45978	49515	56588	63662	70736	78736	91956				
1.0	6366	7958	9549	12732	15916	19099	22282	25465	28648	31831	35014	38197	41380	44563	50930	57296	63662	73121	82196	95493			
1.1	5787	7234	8681	11575	14469	17362	20256	23150	26044	28937	31831	34725	37618	40512	46300	52087	57875	66556	75237	86812			
1.2	5305	6631	7958	10610	13263	15916	18568	21221	23873	26526	29178	31831	34484	37136	42441	47747	53052	61009	68967	79578	92840		
1.3	4897	6121	7346	9794	12243	14691	17140	19588	22037	24485	26934	29382	31831	34280	39177	44074	48971	56316	63662	73456	85699	97942	
1.4	4544	5684	6821	9095	11368	13642	15916	18189	20469	22736	25010	27284	29557	31831	36378	41275	46172	53115	60462	68209	79578	90946	
1.5	4244	5305	6366	8488	10610	12732	14854	16977	19099	21221	23343	25465	27587	29709	33953	38197	42441	48808	55174	63662	73456	85699	97942
1.6	3979	4974	5968	7958	9947	11937	13926	15916	17905	19894	21884	23873	25863	27852	31831	35810	39789	45757	51725	59683	69630	79578	89525
1.7	3745	4681	5617	7490	9362	11234	13107	14979	16852	18724	20597	22469	24341	26214	29959	33703	37448	43065	48683	56172	65534	74897	84259
1.9	3351	4188	5026	6701	8377	10052	11727	13403	15078	16753	18428	20104	21779	23454	26805	30156	33506	38532	43558	50259	58636	67013	75389
2.0	3183	3979	4775	6366	7958	9549	11141	12732	14324	15916	17507	19099	20690	22282	25465	28648	31831	36006	41380	47747	55704	63662	71620
2.2	2894	3617	4341	5787	7234	8681	10128	11575	13022	14469	15916	17362	18809	20256	23150	26044	28937	33278	37618	43406	50640	57875	65109
2.3	2768	3460	4152	5536	6920	8304	9688	11072	12456	13840	15224	16607	17991	19375	22143	24911	27679	31831	35983	41519	48439	55358	62278
2.5	2546	3183	3820	5093	6366	7639	8913	10186	11459	12732	14006	15279	16552	17825	20372	22918	25465	29285	33104	38197	44563	50930	57296
2.6	2449	3061	3673	4897	6121	7346	8570	9794	11018	12243	13467	14691	15916	17140	19588	22037	24485	28158	31831	36728	42849	48971	55092
2.8	2274	2842	3410	4547	5684	6821	7958	9095	10231	11368	12505	13642	14779	15916	18189	20463	22736	26147	29557	34105	39789	45473	51157
3.0	2122	2653	3183	4244	5305	6366	7427	8488	9549	10610	11671	12732	13793	14854	16977	19099	21221	24404	27587	31831	37136	42441	47747
3.5	1819	2274	2728	3638	4547	5456	6366	7276	8185	9095	10004	10913	11823	12732	14551	16379	18189	20918	23646	27284	31831	36378	40926
3.6	1768	2210	2653	3537	4421	5305	6189	7074	7958	8842	9726	10610	11495	12379	14147	15916	17684	20336	22989	26526	30947	35368	39789
3.7	1721	2151	2581	3441	4301	5162	6022	6882	7743	8603	9463	10324	11184	12044	13765	15485	17206	19787	22368	25809	30110	34412	38713
4.0	1592	1989	2387	3183	3979	4775	5570	6366	7162	7958	8754	9549	10345	11141	12732	14324	15916	18303	20690	23873	27852	31831	35810
4.5	1475	1768	2122	2829	3537	4244	4951	5659	6366	7074	7781	8488	9196	9903	11318	12732	14147	16269	18391	21221	24757	28294	31831
5.0	1213	1592	1910	2546	3183	3820	4456	5093	5730	6366	7003	7639	8276	8913	10186	11459	12732	14642	16552	19099	22282	25465	28648
6.0	1061	1326	1592	2122	2653	3183	3714	4244	4775	5305	5836	6366	6897	7427	8488	9549	10610	12202	13793	15916	18568	21221	23873
7.0	909	1137	1364	1819	2274	2728	3183	3638	4093	4547	5002	5457	5911	6366	7276	8185	9095	10459	11823	13642	15916	18189	20463
8.0	796	995	1194	1592	1989	2387	2785	3183	3581	3979	4377	4775	5173	5570	6366	7162	7958	9151	10345	11937	13926	15916	17905
9.0	707	884	1061	1415	1768	2122	2476	2829	3183	3537	3890	4244	4598	4951	5659	6366	7074	8135	9196	10610	12379	14147	15916
10.0	637	796	955	1273	1592	1910	2228	2546	2865	3183	3501	3820	4138	4456	5093	5730	6366	7321	8276	9549	11141	12732	14324
11.0	579	723	868	1157	1447	1736	2026	2315	2604	2894	3183	3472	3762	4051	4630	5209	5787	6656	7524	8681	10128	11575	13022
12.0	531	663	796	1061	1326	1592	1857	2122	2387	2653	2918	3183	3448	3714	4244	4775	5305	6101	6897	7958	9284	10610	11937
14.0	455	568	682	909	1137	1364	1592	1819	2046	2274	2501	2728	2956	3183	3638	4093	4547	5229	5911	6821	7958	9095	10231
15.0	424	531	637	849	1061	1273	1485	1698	1910	2122	2334	2546	2759	2971	3395	3820	4244	4881	5517	6366	7427	8488	9549
16.0	398	497	597	796	995	1194	1393	1592	1790	1989	2188	2387	2586	2785	3183	3581	3979	4576	5173	5968	6937	7958	8952
18.0	354	442	531	707	884	1061	1238	1415	1592	1768	1945	2122	2299	2476	2829	3183	3537	4067	4598	5305	6189	7074	7958
20.0	318	398	477	637	796	955	1114	1273	1432	1592	1751	1910	2069	2228	2546	2865	3183	3661	4138	4775	5570	6366	7162
22.0	289	362	434	579	723	868	1013	1157	1302	1447	1592	1736	1881	2026	2315	2604	2894	3328	3762	4341	5064	5787	6511
25.0	255	318	382	509	637	764	891	1019	1146	1273	1401	1528	1655	1783	2037	2292	2546	2928	3310	3820	4456	5093	5730
32.0	199	249	298	398	497	597	696	796	895	995	1094	1194	1293	1393	1592	1790	1989	2288	2586	2984	3482	3979	4476
40.0	159	199	239	318	398	477	556	637	716	796	875	955	1035	1114	1273	1432	1592	1830	2069	2387	2785	3183	3581
50.0	127	159	191	255	318	382	446	509	573	637	700	764	828	891	1019	1146	1273	1464	1655	1910	2228	2546	2865
63.0	101	126	152	202	253	303	354	404	455	505	556	606	657	707	808	909	1011	1162	1314	1516	1768	2021	2274
80.0	80	99	119	159	199	239	279	318	358	398	438	477	517	557	637	716	796	915	1035	1194	1393	1592	1790
100.0	64	80	95	127	159	191	223	255	286	318	350	382	414	446	509	573	637	732	828	955	1114	1273	1432

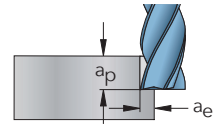
$$\text{Feed (mm/min)} = F_z \times z \times n$$



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		
0,003	0,001	1	1	2	3	4	5	6	8	10	12	16	20	24	32	40	60	80	100	120	160	200		
0,003	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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/mm<sup>2</sup>

D mm	z	a <sub>e</sub> mm	a <sub>p</sub> mm	V <sub>c</sub> m/min	n rpm	F <sub>z</sub> mm/z	V <sub>f</sub> 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 <sub>e</sub> mm	a <sub>p</sub> mm	V <sub>c</sub> m/min	n rpm	F <sub>z</sub> mm/z	V <sub>f</sub> 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/mm<sup>2</sup>

D mm	z	a <sub>e</sub> mm	a <sub>p</sub> mm	V <sub>c</sub> m/min	n rpm	F <sub>z</sub> mm/z	V <sub>f</sub> 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

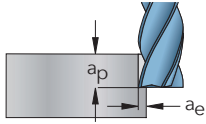
D mm	z	a <sub>e</sub> mm	a <sub>p</sub> mm	V <sub>c</sub> m/min	n rpm	F <sub>z</sub> mm/z	V <sub>f</sub> mm/min
3,0	4	0,75	3,00	170	18 038	0,013	952
4,0	4	1,00	4,00	170	13 528	0,018	952
5,0	4	1,25	5,00	170	10 823	0,024	1 048
6,0	4	1,50	6,00	170	9 019	0,035	1 270
8,0	4	2,00	8,00	170	6 764	0,050	1 339
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 <sub>e</sub> mm	a <sub>p</sub> mm	V <sub>c</sub> m/min	n rpm	F <sub>z</sub> mm/z	V <sub>f</sub> 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 <sub>e</sub> mm	a <sub>p</sub> mm	V <sub>c</sub> m/min	n rpm	F <sub>z</sub> mm/z	V <sub>f</sub> 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/mm<sup>2</sup>

D mm	z	a <sub>e</sub> mm	a <sub>p</sub> mm	V <sub>c</sub> m/min	n rpm	F <sub>z</sub> mm/z	V <sub>f</sub> 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 <sub>e</sub> mm	a <sub>p</sub> mm	V <sub>c</sub> m/min	n rpm	F <sub>z</sub> mm/z	V <sub>f</sub> 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/mm<sup>2</sup>

D mm	z	a <sub>e</sub> mm	a <sub>p</sub> mm	V <sub>c</sub> m/min	n rpm	F <sub>z</sub> mm/z	V <sub>f</sub> 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 <sub>e</sub> mm	a <sub>p</sub> mm	V <sub>c</sub> m/min	n rpm	F <sub>z</sub> mm/z	V <sub>f</sub> 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 <sub>e</sub> mm	a <sub>p</sub> mm	V <sub>c</sub> m/min	n rpm	F <sub>z</sub> mm/z	V <sub>f</sub> 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 <sub>e</sub> mm	a <sub>p</sub> mm	V <sub>c</sub> m/min	n rpm	F <sub>z</sub> mm/z	V <sub>f</sub> 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

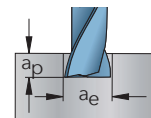
D mm	z	a <sub>e</sub> mm	a <sub>p</sub> mm	V <sub>c</sub> m/min	n rpm	F <sub>z</sub> mm/z	V <sub>f</sub> mm/min
3,0	3	0,30	4,50	120	12 732	0,015	578
4,0	3	0,40	6,00	120	9 549	0,020	578
5,0	3	0,50	7,50	120	7 639	0,028	635
6,0	3	0,60	9,00	120	6 366	0,040	770
8,0	3	0,80	12,00	120	4 775	0,057	812
10,0	3	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 <sub>e</sub> mm	a <sub>p</sub> mm	V <sub>c</sub> m/min	n rpm	F <sub>z</sub> mm/z	V <sub>f</sub> 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



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

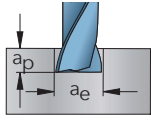
$$a_p = 0,5 \times D$$

## Carbon Steel, up to 700 N/mm<sup>2</sup>

D mm	z	a <sub>e</sub> mm	a <sub>p</sub> mm	V <sub>c</sub> m/min	n rpm	F <sub>z</sub> mm/z	V <sub>f</sub> 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 <sub>e</sub> mm	a <sub>p</sub> mm	V <sub>c</sub> m/min	n rpm	F <sub>z</sub> mm/z	V <sub>f</sub> 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/mm<sup>2</sup>

D mm	z	a <sub>e</sub> mm	a <sub>p</sub> mm	V <sub>c</sub> m/min	n rpm	F <sub>z</sub> mm/z	V <sub>f</sub> 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 <sub>e</sub> mm	a <sub>p</sub> mm	V <sub>c</sub> m/min	n rpm	F <sub>z</sub> mm/z	V <sub>f</sub> 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

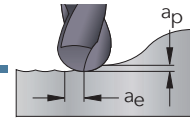
D mm	z	a <sub>e</sub> mm	a <sub>p</sub> mm	V <sub>c</sub> m/min	n rpm	F <sub>z</sub> mm/z	V <sub>f</sub> mm/min
3,0	3	3,00	1,50	100	10 610	0,008	241
4,0	3	4,00	2,00	100	7 958	0,010	241
5,0	3	5,00	2,50	100	6 366	0,014	265
6,0	3	6,00	3,00	100	5 305	0,020	321
8,0	3	8,00	4,00	100	3 979	0,028	338
10,0	3	10,00	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 <sub>e</sub> mm	a <sub>p</sub> mm	V <sub>c</sub> m/min	n rpm	F <sub>z</sub> mm/z	V <sub>f</sub> 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

# HIGH SPEED CUTTING

## Roughing



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

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

### High Alloy Steel / Hardened Steel HRC 30-45

D	z	a <sub>e</sub>	a <sub>p</sub>	V <sub>c</sub>	n	F <sub>z</sub>	V <sub>f</sub>
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

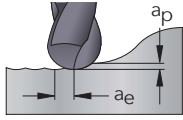
D	z	a <sub>e</sub>	a <sub>p</sub>	V <sub>c</sub>	n	F <sub>z</sub>	V <sub>f</sub>
mm		mm	mm	m/min	rpm	mm/z	mm/min
0,3	2	0,09	0,03	47	50 000	0,004	440
0,4	2	0,12	0,04	63	50 000	0,006	616
0,5	2	0,15	0,05	79	50 000	0,008	792
0,6	2	0,18	0,06	94	50 000	0,009	880
0,7	2	0,21	0,07	110	50 000	0,011	1 056
0,8	2	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 <sub>e</sub>	a <sub>p</sub>	V <sub>c</sub>	n	F <sub>z</sub>	V <sub>f</sub>
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 <sub>e</sub>	a <sub>p</sub>	V <sub>c</sub>	n	F <sub>z</sub>	V <sub>f</sub>
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 <sub>e</sub>	a <sub>p</sub>	V <sub>c</sub>	n	F <sub>z</sub>	V <sub>f</sub>
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 <sub>e</sub>	a <sub>p</sub>	V <sub>c</sub>	n	F <sub>z</sub>	V <sub>f</sub>
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

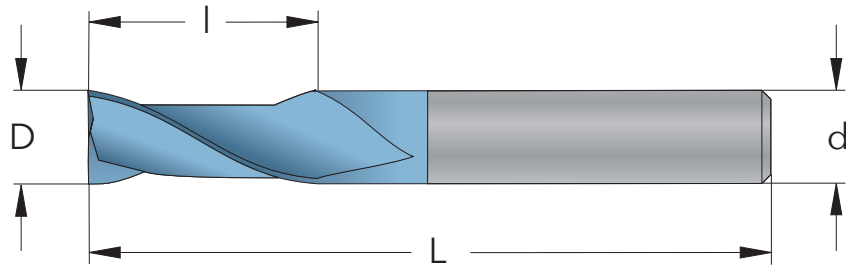
D	z	a <sub>e</sub>	a <sub>p</sub>	V <sub>c</sub>	n	F <sub>z</sub>	V <sub>f</sub>
mm		mm	mm	m/min	rpm	mm/z	mm/min
0,3	2	0,02	0,02	47	50 000	0,005	492
0,4	2	0,02	0,02	63	50 000	0,007	689
0,5	2	0,03	0,03	79	50 000	0,009	886
0,6	2	0,03	0,03	94	50 000	0,010	984
0,7	2	0,04	0,04	110	50 000	0,012	1 181
0,8	2	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

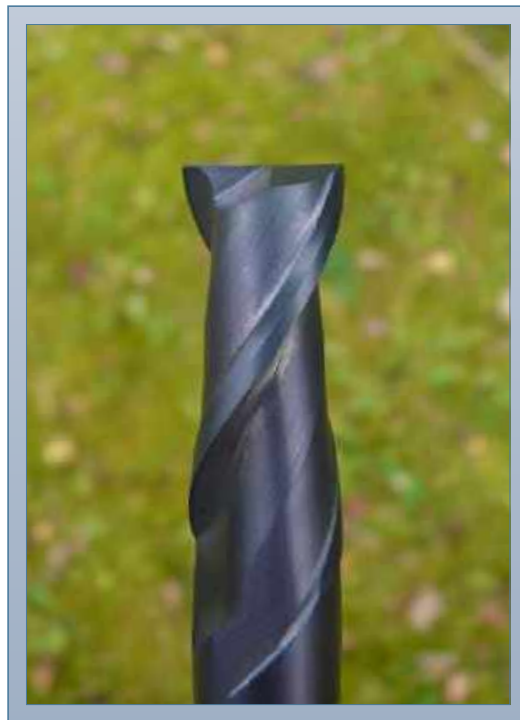
D	z	a <sub>e</sub>	a <sub>p</sub>	V <sub>c</sub>	n	F <sub>z</sub>	V <sub>f</sub>
mm		mm	mm	m/min	rpm	mm/z	mm/min
0,3	2	0,02	0,02	47	50 000	0,008	750
0,4	2	0,02	0,02	63	50 000	0,011	1 050
0,5	2	0,03	0,03	79	50 000	0,014	1 350
0,6	2	0,03	0,03	94	50 000	0,015	1 500
0,7	2	0,04	0,04	110	50 000	0,018	1 800
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	Cutting edges
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**

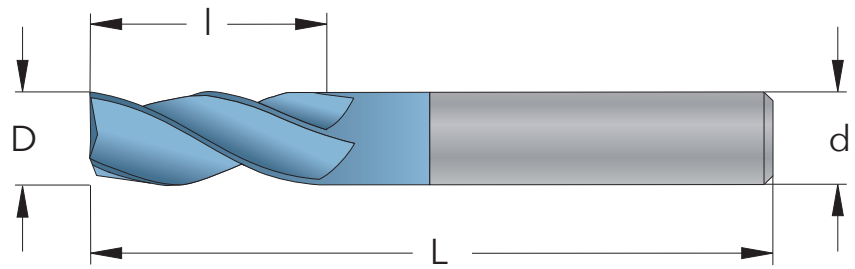
Cylindrical h6, DIN6535 HA

**Flute**

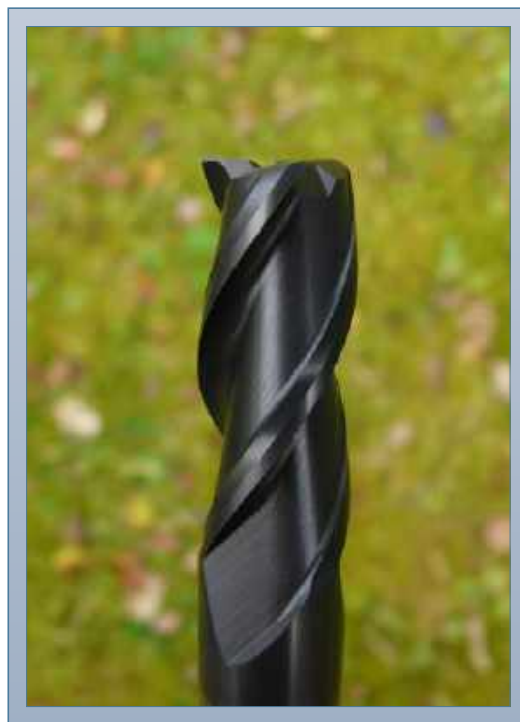
35° right hand spiral, center cutting

**Field of application**

All types of steel up to HRC55



D mm	d mm	Part Number	l mm	L mm	Cutting edges
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	M0606C16_LC	16	57	3
8,0	8	M0808C20_LC	20	63	3
10,0	10	M1010C25_LC	25	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**

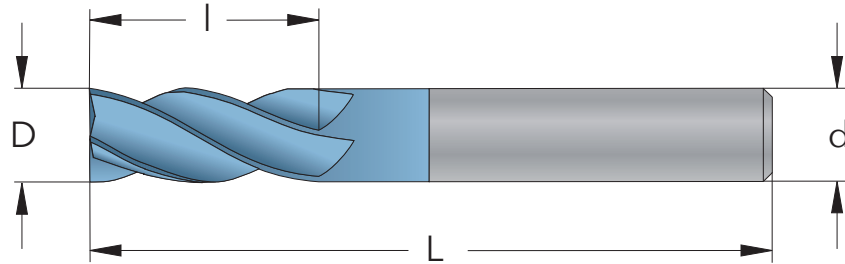
Cylindrical h6, DIN6535 HA

**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	Cutting edges
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	M0606D16_LC	16	57	4
6,0	6	M0606D26_LC	26	72	4
7,0	8	M0807D18_LC	18	63	4
8,0	8	M0808D20_LC	20	63	4
8,0	8	M0808D32_LC	32	83	4
10,0	10	M1010D25_LC	25	72	4
10,0	10	M1010D40_LC	40	92	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**

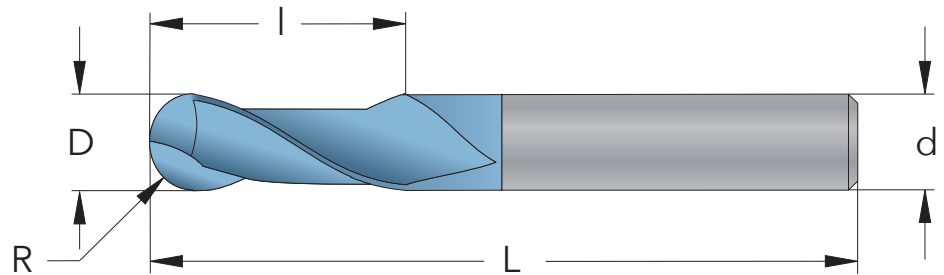
Cylindrical h6, DIN6535 HA

**Flute**

35° right hand spiral, center cutting

**Field of application**

All types of steel up to HRC55



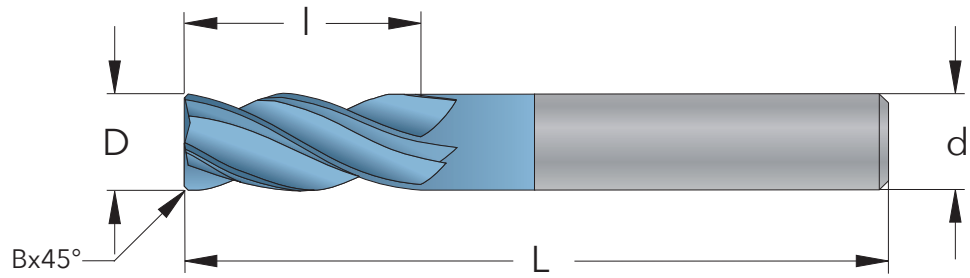
D mm	d mm	R mm	Part Number	l mm	L mm	Cutting edges
1,0	4	0,5	R0401B2_LC	2	50	2
1,5	4	0,75	R04015B3_LC	3	50	2
2,0	4	1,0	R0402B4_LC	4	50	2
2,5	4	1,25	R04025B5_LC	5	50	2
3,0	4	1,5	R0403B6_LC	6	50	2
3,0	6	1,5	R0603B6_LC	6	57	2
4,0	4	2,0	R0404B8_LC	8	50	2
4,0	6	2,0	R0604B8_LC	8	57	2
5,0	6	2,5	R0605B10_LC	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



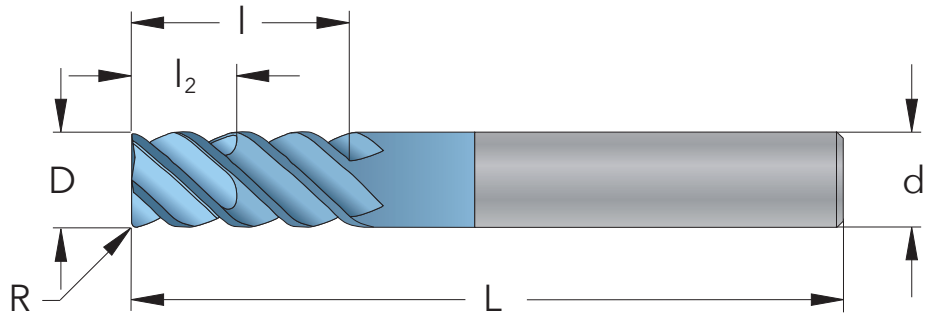
D mm	d mm	B mm	Part Number	l mm	L mm	Cutting edges
6,0	6	0,2	MZ0606D16_LC	16	57	4
8,0	8	0,25	MZ0808D20_LC	20	63	4
10,0	10	0,3	MZ1010D25_LC	25	72	4
12,0	12	0,3	MZ1212D30_LC	30	83	4



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 <sub>2</sub> mm	L mm	Cutting edges
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

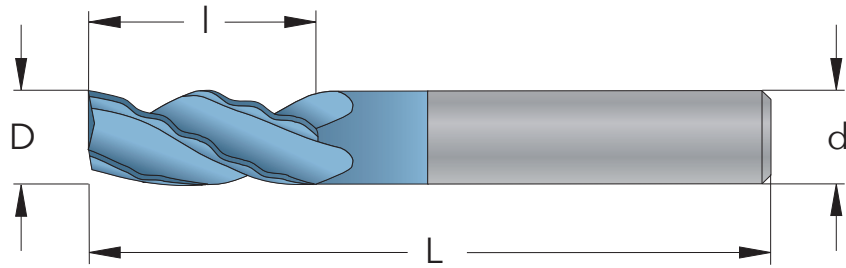


Shallow flute results in stronger tools for side milling

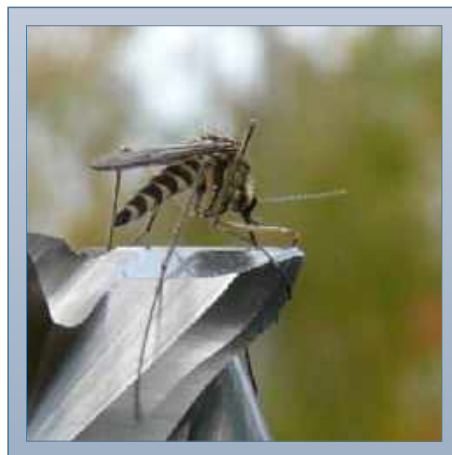
Deep flute for slot milling

## 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	Cutting edges
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**

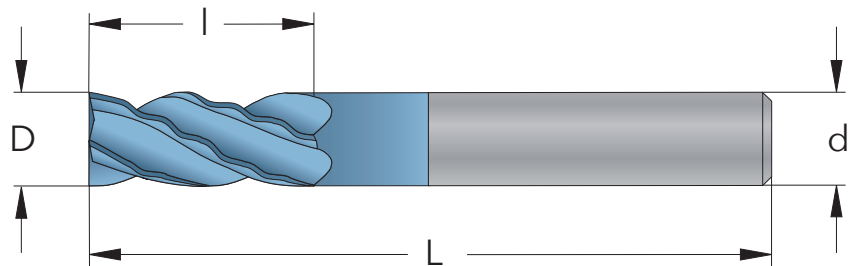
Cylindrical h6, DIN6535 HA

**Flute**

35° right hand spiral, center cutting

**Field of application**

All types of steel up to HRC55



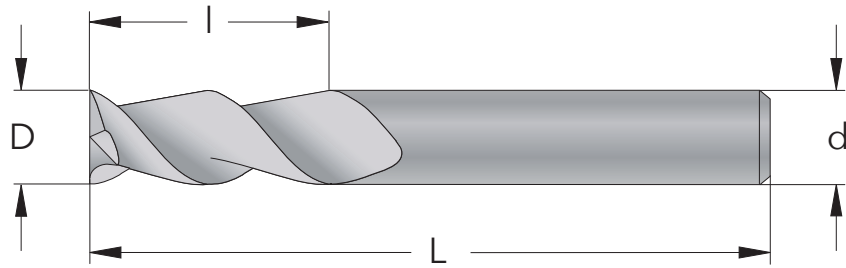
D mm	d mm	Part Number	l mm	L mm	Cutting edges
6,0	6	FW0606D16_LC	16	57	4
8,0	8	FW0808D20_LC	20	63	4
10,0	10	FW1010D25_LC	25	72	4
12,0	12	FW1212D30_LC	30	83	4



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	Cutting edges
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**

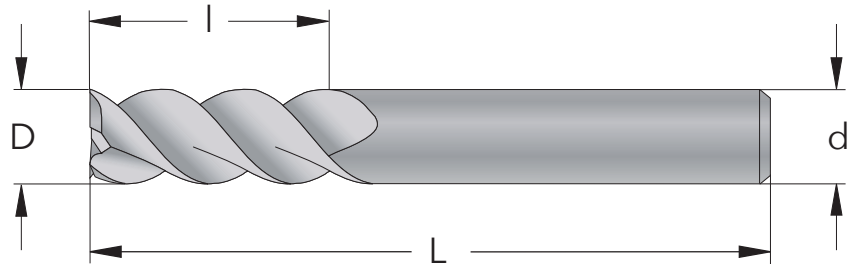
Cylindrical h6, DIN6535 HA

**Flute**

50° right hand spiral, center cutting

**Field of application**

Aluminium

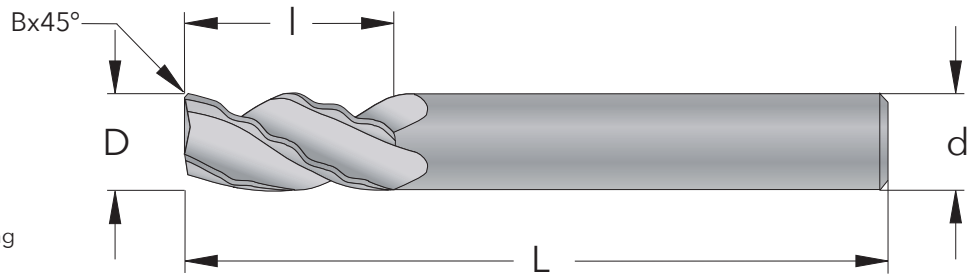


D mm	d mm	Part Number	l mm	L mm	Cutting edges
2,0	6	MA0602C6_MG	6	57	3
3,0	6	MA0603C8_MG	8	57	3
4,0	6	MA0604C11_MG	11	57	3
5,0	6	MA0605C13_MG	13	57	3
6,0	6	MA0606C16_MG	16	57	3
8,0	8	MA0808C20_MG	20	63	3
10,0	10	MA1010C25_MG	25	72	3
12,0	12	MA1212C30_MG	30	83	3

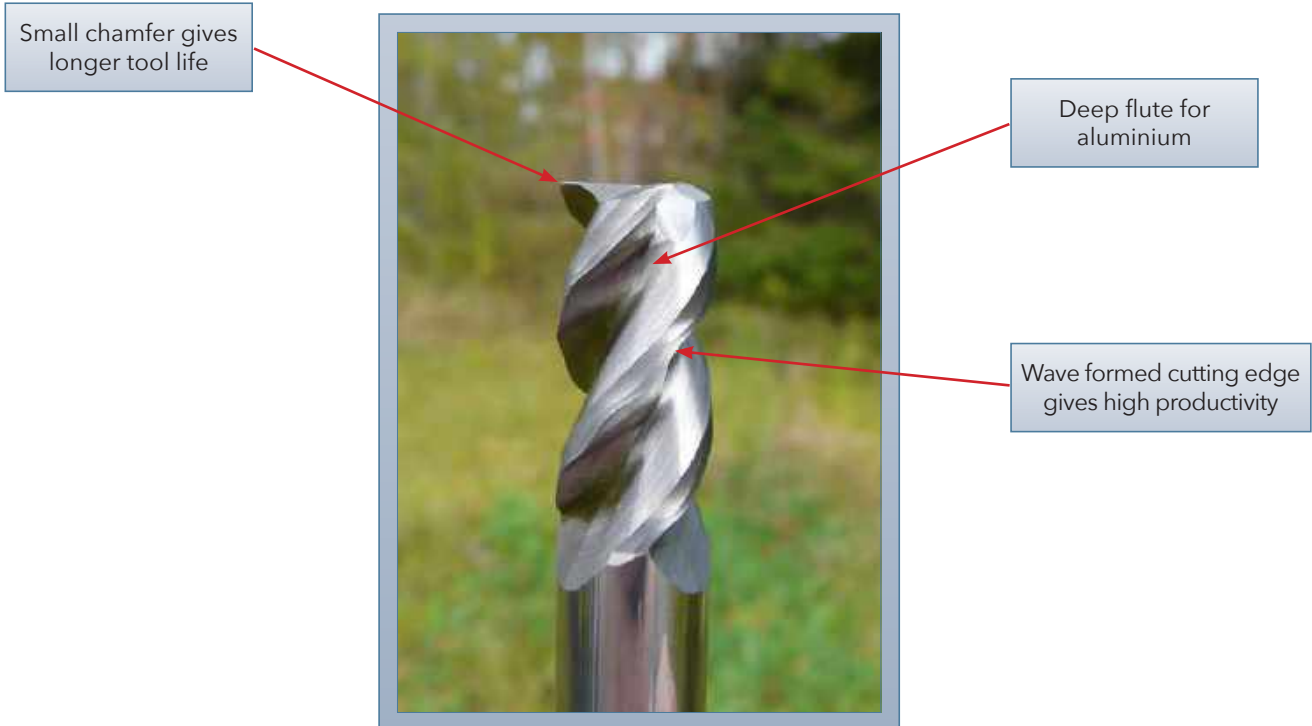


## Wave formed, Roughing, for aluminium

**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	Cutting edges
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

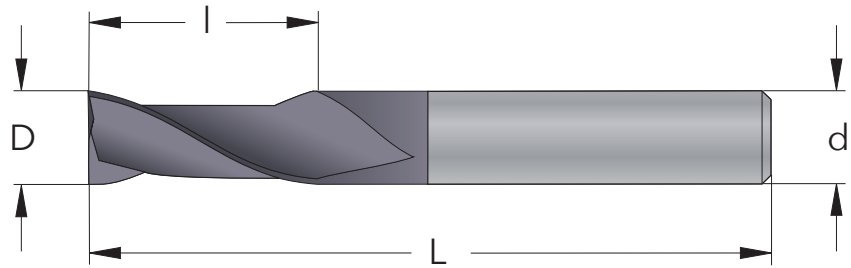
Cylindrical med h6 Tolerance

## Flute

30° right hand spiral, center cutting

## Field of application

All types of steel

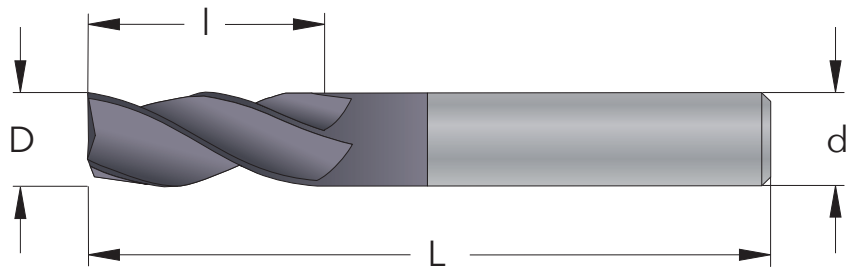


D mm	d mm	Part Number	l mm	L mm	Cutting edges
1,0	3	M0301B3_FC	3	38	2
1,5	3	M03015B5_FC	5	38	2
2,0	3	M0302B6_FC	6	38	2
2,5	3	M03025B7_FC	7	38	2
3,0	3	M0303B12_FC	12	38	2
3,0	3	M0303B25_FC	25	65	2
3,5	4	M04035B12_FC	12	50	2
4,0	4	M0404B14_FC	14	50	2
4,0	4	M0404B25_FC	25	65	2
4,5	5	M05045B14_FC	14	50	2
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	Cutting edges
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**

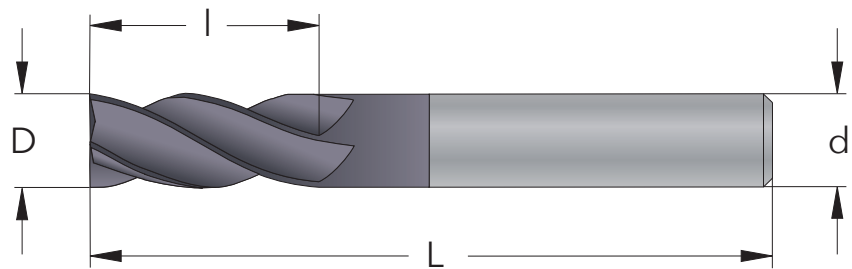
Cylindrical med h6 Tolerance

**Flute**

30° right hand spiral, center cutting

**Field of application**

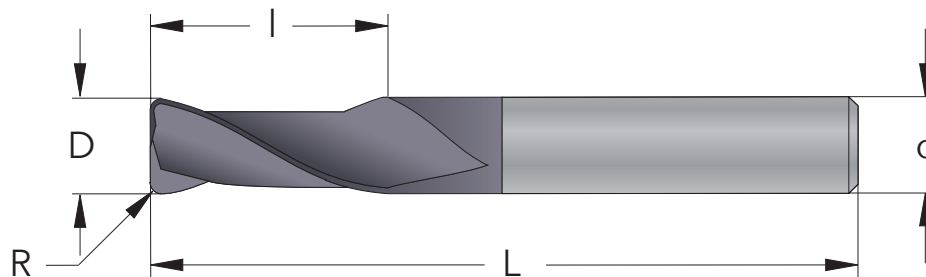
All types of steel



D mm	d mm	Part Number	l mm	L mm	Cutting edges
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	Cutting edges
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**

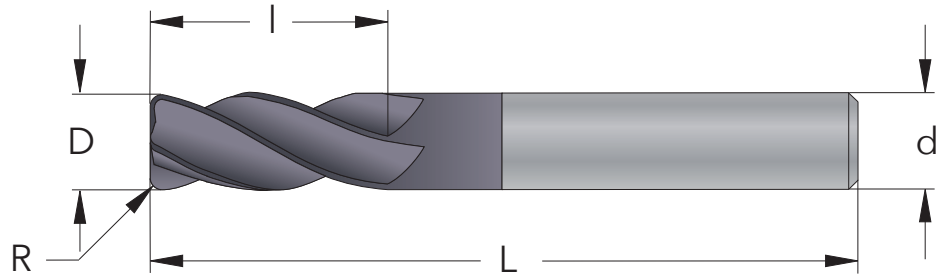
Cylindrical med h6 Tolerance

**Flute**

30° right hand spiral, center cutting

**Field of application**

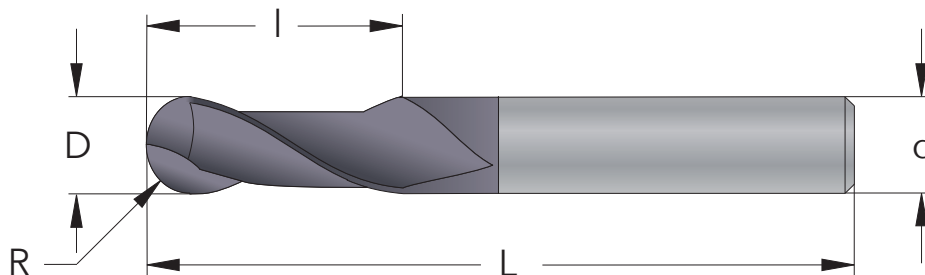
All types of steel



D mm	d mm	R mm	Part Number	l mm	L mm	Cutting edges
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	Cutting edges
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	Cutting edges
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**

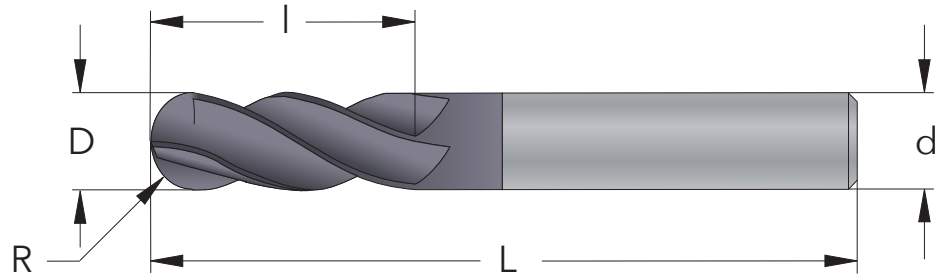
Cylindrical med h6 Tolerance

**Flute**

30° right hand spiral

**Field of application**

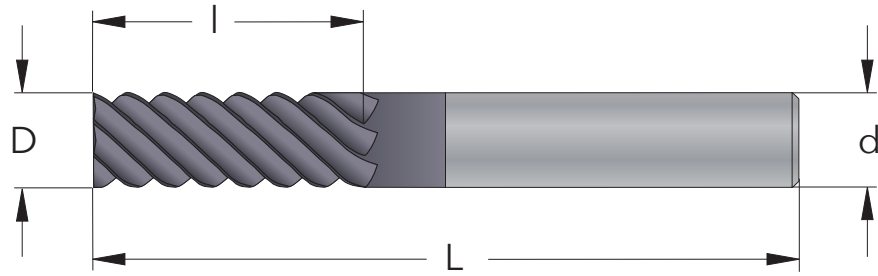
All types of steel



D mm	d mm	R mm	Part Number	l mm	L mm	Cutting edges
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	Cutting edges
10,0	10	U1010F25_FC	25	76	6
12,0	12	U1212F30_FC	30	100	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
32,0	32	U3232H75_FC	75	150	8



## High Helix, for Hard Materials

**FC**

TiAlN coated

Micrograin Carbide

**Tolerance**

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

**Shank**

Cylindrical h6, DIN6535 HA

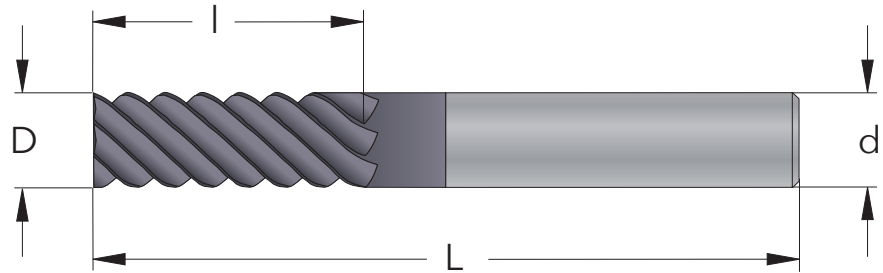
**Flute**

50° right hand spiral

Negative cutting angle

**Field of application**

Hard materials up to HRC 65



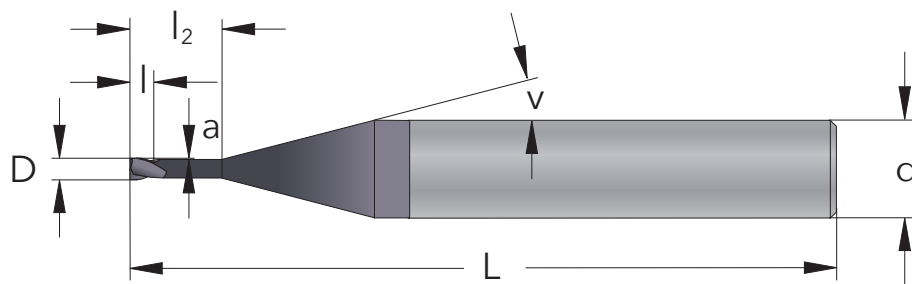
D mm	d mm	Part Number	l mm	L mm	Cutting edges
6,0	6	V0606F15_FC	15	63	6
8,0	8	V0808F20_FC	20	76	6
10,0	10	V1010F25_FC	25	76	6
12,0	12	V1212F30_FC	30	100	6
16,0	16	V1616F40_FC	40	100	6
20,0	20	V2020F45_FC	45	120	6
25,0	25	V2525H60_FC	60	130	8
32,0	32	V3232H75_FC	75	150	8





## 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 <sub>2</sub> mm	L mm	a mm	v °	Cutting edges
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

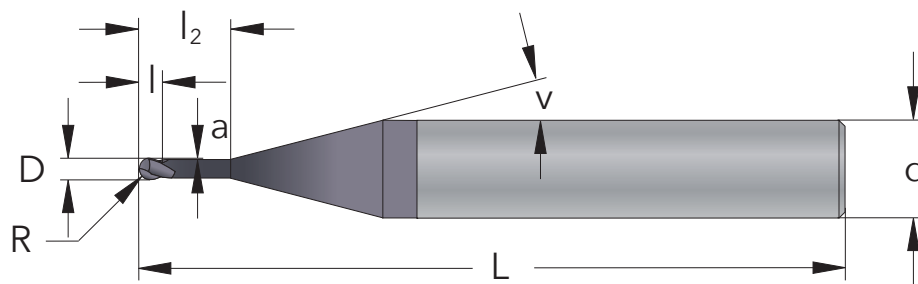
D mm	d mm	Part Number	l mm	l <sub>2</sub> mm	L mm	a mm	v °	Cutting edges
2,0	6	MP0602B3_FC	3,0	10,0	64	0,05	15	2
2,0	6	MP0602B3.1_FC	3,0	16,0	64	0,05	15	2
2,0	6	MP0602B3.2_FC	3,0	20,0	64	0,05	15	2
2,0	6	MP0602B3.3_FC	3,0	25,0	64	0,05	15	2
2,0	6	MP0602B3.4_FC	3,0	30,0	64	0,05	15	2
2,5	6	MP06025B2.9_FC	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



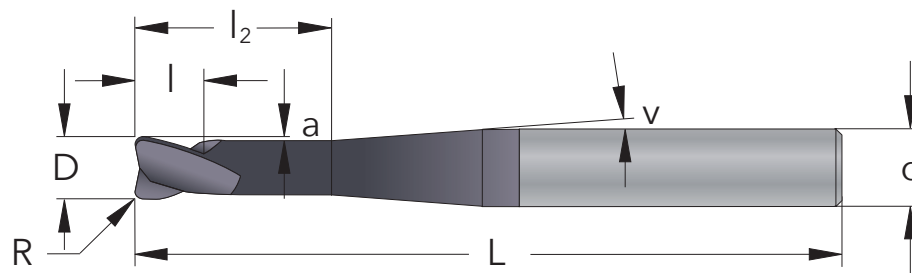
D mm	d mm	R mm	Part Number	l mm	l <sub>2</sub> mm	L mm	a mm	v °	Cutting edges
0,2	6	0,10	RP06002B0.3_FC	0,3	0,3	64		10	2
0,3	6	0,15	RP06003B0.5_FC	0,5	0,5	64		11	2
0,3	6	0,15	RP06003B0.6_FC	0,5	1,5	64	0,010	11	2
0,3	6	0,15	RP06003B0.7_FC	0,5	3,0	64	0,010	12	2
0,4	6	0,2	RP06004B0.7_FC	0,6	0,6	64		11	2
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 <sub>2</sub> mm	L mm	a mm	v °	Cutting edges
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 <sub>2</sub> mm	L mm	a mm	v °	Cutting edges
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

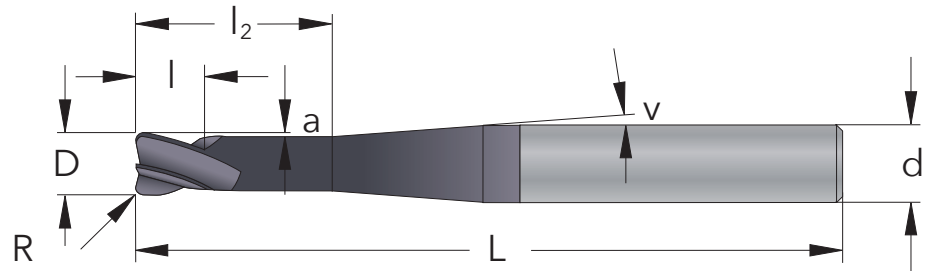
Cylindrical h5, DIN6535 HA

## Flute

30° right hand spiral, center cutting

## Field of application

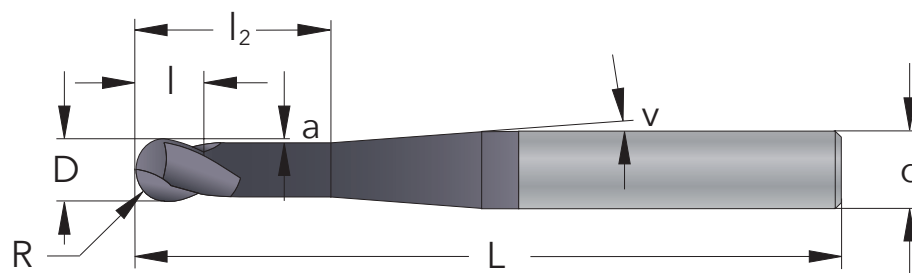
High speed cutting in steel



D mm	d mm	R mm	Part Number	l mm	l <sub>2</sub> mm	L mm	a mm	v °	Cutting edges
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 <sub>2</sub> mm	L mm	a mm	v °	Cutting edges
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

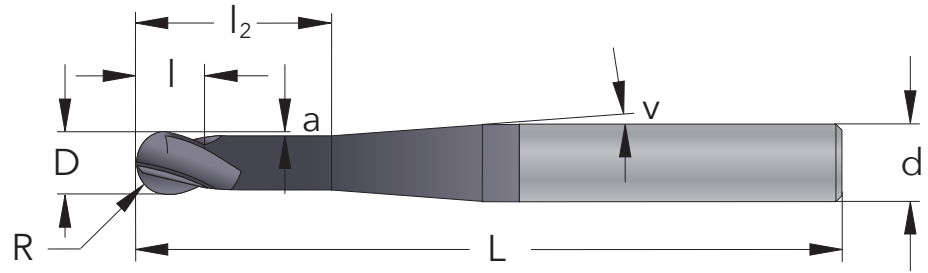
Cylindrical h5, DIN6535 HA

## Flute

30° right hand spiral

## Field of application

High speed cutting in steel

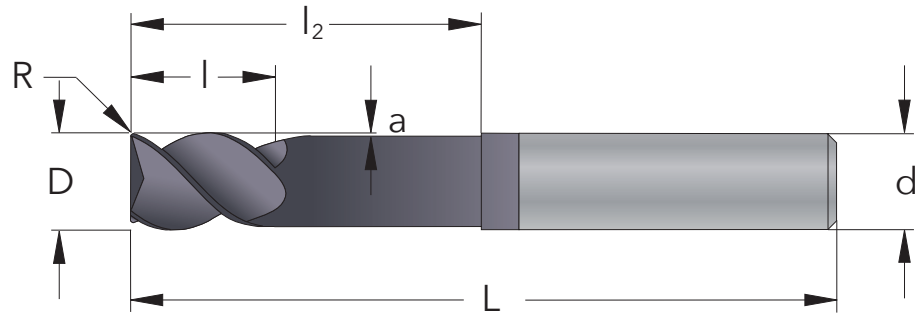


D mm	d mm	R mm	Part Number	l mm	l <sub>2</sub> mm	L mm	a mm	v °	Cutting edges
6,0	6	3,0	RH0606D6L64_FC	6	25	64	0,2		4
6,0	6	3,0	RH0606D6L78_FC	6	35	78	0,2		4
6,0	8	3,0	RH0806D6L100_FC	6	25	100	0,2	2,0	4
8,0	8	4,0	RH0808D8L64_FC	8	25	64	0,3		4
8,0	8	4,0	RH0808D8L78_FC	8	35	78	0,3		4
8,0	8	4,0	RH0808D8L100_FC	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 <sub>2</sub> mm	L mm	a mm	Cutting edges
2,0	3	0,2	TH0302C3_FC	3	10	39	0,05	3
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

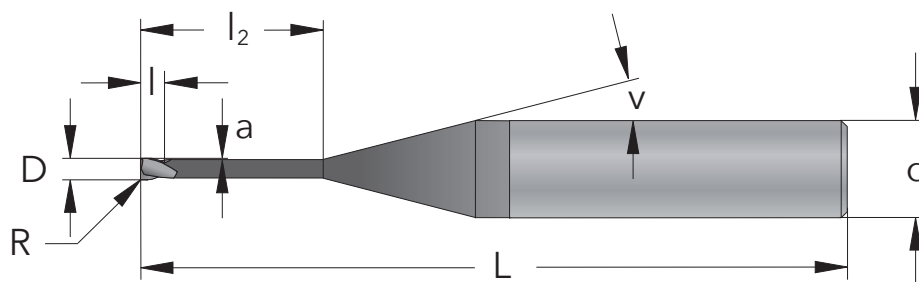




Try High Speed Cutting,  
you will not be disappointed!

## 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 <sub>2</sub> mm	L mm	a mm	v °	Cutting edges
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

**DC**Diamond coated  
Micrograin Carbide**Tolerance**

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

**Shank**

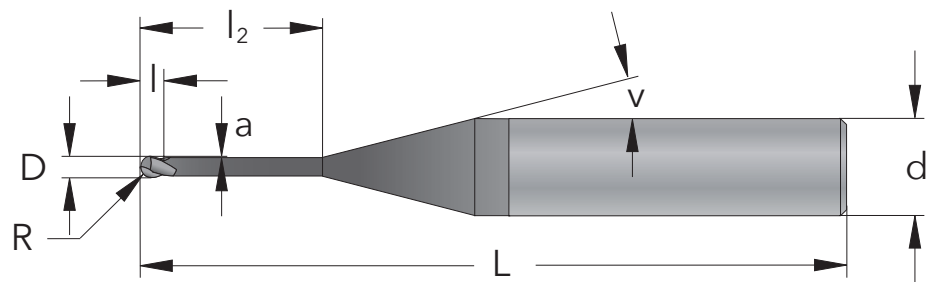
Cylindrical h5, DIN6535 HA

**Flute**

40° right hand spiral

**Field of application**

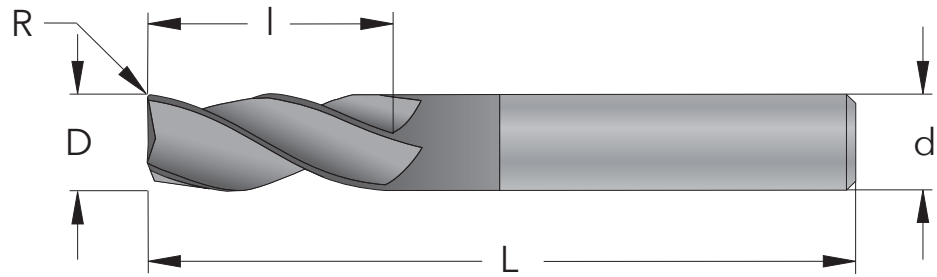
Graphite



D mm	d mm	R mm	Part Number	l mm	l <sub>2</sub> mm	L mm	a mm	v °	Cutting edges
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

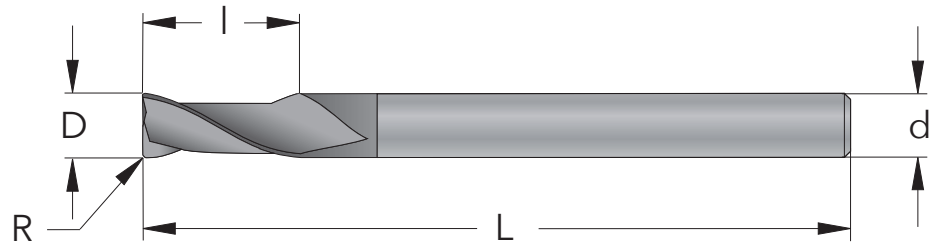
**DC**  
 Diamond coated  
 Micrograin Carbide  
**Tolerance**  
 D 1,0 - 3,0 -0,002 / -0,012  
 D 4,0 - 6,0 -0,004 / -0,016  
 D 7,0 - 10,0 -0,005 / -0,020  
 D 11,0 - 18,0 -0,006 / -0,024  
**Shank**  
 Cylindrical h5, DIN6535 HA  
**Flute**  
 40° right hand spiral, center cutting  
**Field of application**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



D mm	d mm	R mm	Part Number	l mm	L mm	Cutting edges
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	Cutting edges
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**

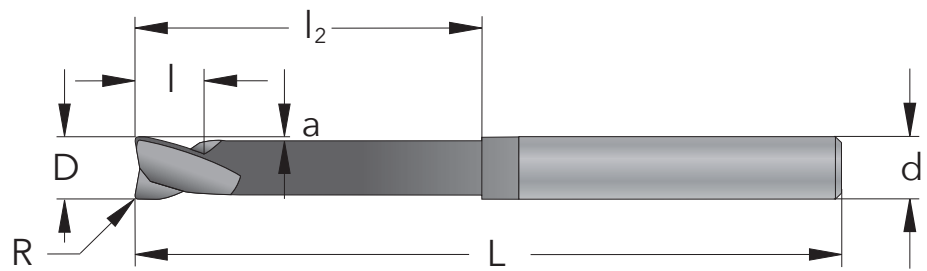
Cylindrical h5, DIN6535 HA

**Flute**

40° right hand spiral, center cutting

**Field of application**

Graphite



D mm	d mm	R mm	Part Number	l mm	l <sub>2</sub> mm	L mm	a mm	Cutting edges
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**

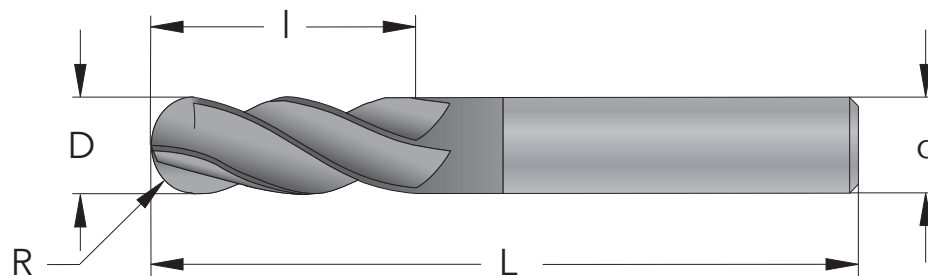
Cylindrical h5, DIN6535 HA

**Flute**

40° right hand spiral

**Field of application**

Graphite



D mm	d mm	R mm	Part Number	l mm	L mm	Cutting edges
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**

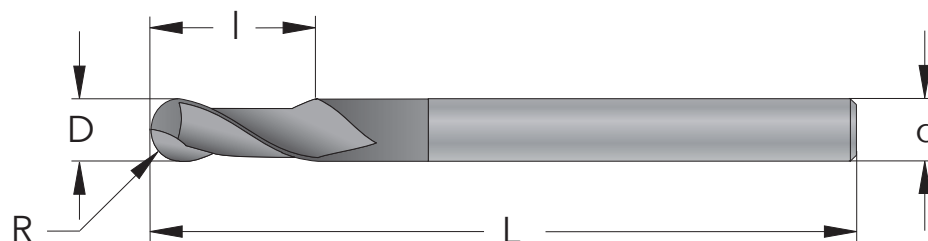
Cylindrical h5, DIN6535 HA

**Flute**

40° right hand spiral

**Field of application**

Graphite



D mm	d mm	R mm	Part Number	l mm	L mm	Cutting edges
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**

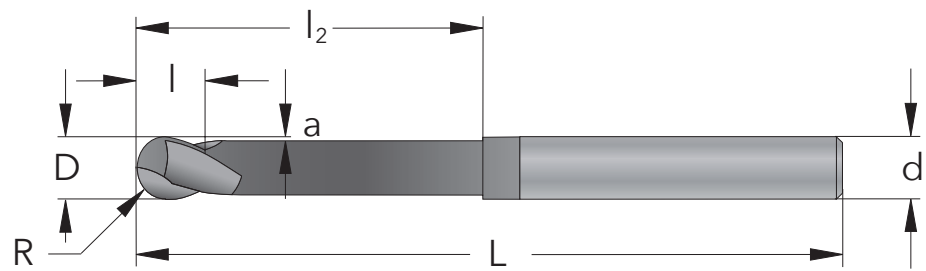
Cylindrical h5, DIN6535 HA

**Flute**

40° right hand spiral

**Field of application**

Graphite



D mm	d mm	R mm	Part Number	l mm	l <sub>2</sub> mm	L mm	a mm	Cutting edges
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





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