



















## HSS-E END MILLS

### HSS-E PM

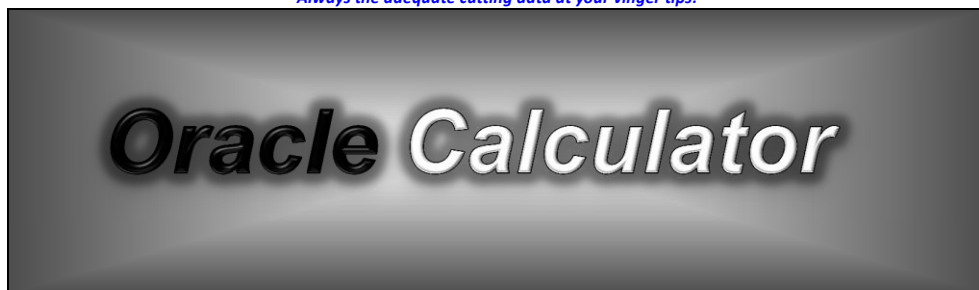
							Page
	PM-Slotting end mills	HSS-E PM	Z 2	DIN 327	30°	AICrN	7.3
	PM-Slotting end mills	HSS-E PM	Z 3	DIN 844	30°	AICrN	7.3
	PM-Square end mills, short	HSS-E PM	Z 4	DIN 844	30°	AICrN	7.4
	PM-Square end mills, long	HSS-E PM	Z 4	DIN 844L	30°	AICrN	7.4
	PM-Ball nose end mills	HSS-E PM	Z 2	DIN 327	30°	AICrN	7.5
	PM-Roughing end mills, short	HSS-E PM	Z 3-5	DIN 844	30°	HR	7.5
	PM-Roughing end mills, long	HSS-E PM	Z 3-5	DIN 844L	30°	HR	7.6
	PM-Roughing end mills	HSS-E PM	Z 3-6	DIN 844	45°	HR	7.6

### HSS-E 8% Co

	1 edged end mill	HSS-E	Z 1		30°		7.7
	Square mini end mills, short	HSS-E Co8	Z 3		30°		7.8
	Square mini end mills, long	HSS-E Co8	Z 3		30°		7.8
	Slotting end mills, short	HSS-E Co8	Z 2	DIN 327	30°		7.9
	Slotting end mills, long	HSS-E Co8	Z 2	DIN 844	30°		7.9
	Slotting end mills, short	HSS-E Co8	Z 3	DIN 327	30°		7.10
	Slotting end mills, long	HSS-E Co8	Z 3	DIN 844	30°		7.10
	Ball nose end mills, short	HSS-E Co8	Z 2	DIN 327	30°		7.11
	Ball nose end mills, long	HSS-E Co8	Z 2	DIN 844	30°		7.11
	Square end mills, short	HSS-E Co8	Z 4-6	DIN 844	30°		7.12
	Square end mills, long	HSS-E Co8	Z 4-6	DIN 844	30°		7.12
	Square end mills for Alu, short	HSS-E Co8	Z 2	DIN 844	42°		7.13
	Square end mills for Alu, long	HSS-E Co8	Z 2	DIN 844	42°		7.13
	Roughing end mills, NR, short	HSS-E Co8	Z 3-6	DIN 844	30°	NR	7.14
	Roughing end mills, NR, long	HSS-E Co8	Z 3-6	DIN 844	30°	NR	7.14
	Roughing end mills, HR, short	HSS-E Co8	Z 3-6	DIN 844	30°	HR	7.15
	Roughing end mills, HR, long	HSS-E Co8	Z 3-6	DIN 844	30°	HR	7.15

	400 001 - 017 <b>P M K N</b>		340 030 - 100 / 341 050 - 080 <b>N</b>
	400 031 - 047 <b>P M K N</b>		342 030 - 100 <b>P N</b>
	400 051 - 067 <b>P M K N</b>		300 095 - 113 / 300 114 - 130 <b>P N</b>
	400 071 - 087 <b>P M K N</b>		300 001 - 012 / 300 013 - 024 <b>P N</b>
	400 131 - 147 <b>P M K N</b>		300 025 - 036 / 300 037 - 047 <b>P N</b>
	410 001 - 012 <b>P M K N</b>		300 131 - 142 / 300 143 - 154 <b>P N</b>
	410 021 - 032 <b>P M K N</b>		300 048 - 059 / 300 072 - 082 <b>P N</b>
	410 039 - 051 <b>P M K N</b>		300 060 - 071 / 300 083 - 094 <b>N</b>
			310 001 - 008 / 310 009 - 016 <b>P N</b>
			310 017 - 024 / 310 025 - 032 <b>P N</b>

*Always the adequate cutting data at your vinger tips:*

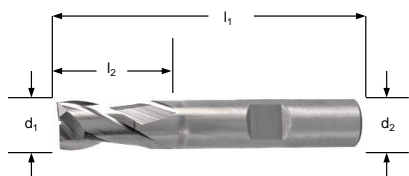


*\* On the first net purchase in value of € 500 on end mills the calculator including USB 2.0 stick for free !!!*

- P** Steel
- M** Stainless steel
- K** Cast iron
- N** Non-ferritic materials
- S** Heat resistant alloys (nickel, cobalt, titanium)
- H** Hardened steel
- G** Graphite

### PM-Slot end mill

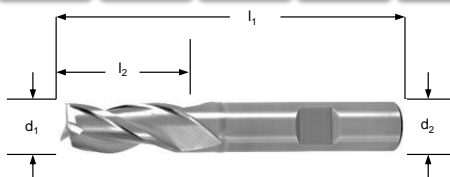
Right hand cutting



Article-No.	Dimensions [mm]						Edges Z	Price/piece € 1 - 4 pcs	Price/piece € 5 - 9 pcs	Price/piece € ≥ 10 pcs
	d1 (e8)	d3	l2	l3	d2 (h6)	l1				
400 001	1		2,5		6	47	2	10,90	10,20	9,60
400 002	2		4		6	48	2	9,60	9,00	8,50
400 003	3		5		6	49	2	9,60	9,00	8,50
400 004	4		7		6	51	2	9,60	9,00	8,50
400 005	5		8		6	52	2	9,60	9,00	8,50
400 006	6		8		6	52	2	9,60	9,00	8,50
400 007	7		10		10	60	2	15,20	14,30	13,40
400 008	8		11		10	61	2	15,20	14,30	13,40
400 009	9		11		10	61	2	15,80	14,80	13,80
400 010	10		13		10	63	2	15,80	14,80	13,80
400 011	12		16		12	73	2	19,90	18,70	17,50
400 012	14		16		12	73	2	21,60	20,30	19,10
400 013	16		19		16	79	2	26,20	24,60	23,00
400 014	18		19		16	79	2	32,70	30,70	28,70
400 015	20		22		20	88	2	42,90	40,20	37,70
400 016	22		22		20	88	2	48,30	45,30	42,40
400 017	25		26		25	102	2	63,30	59,40	55,60

### PM-Slot end mill

Right hand cutting

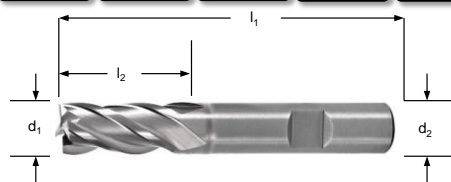


Article-No.	Dimensions [mm]						Edges Z	Price/piece € 1 - 4 pcs	Price/piece € 5 - 9 pcs	Price/piece € ≥ 10 pcs
	d1 (e8)	d3	l2	l3	d2 (h6)	l1				
400 031	1		3		6	49	3	12,30	11,50	10,80
400 032	2		7		6	51	3	11,10	10,50	9,80
400 033	3		8		6	52	3	11,10	10,50	9,80
400 034	4		11		6	55	3	11,10	10,50	9,80
400 035	5		13		6	57	3	11,10	10,50	9,80
400 036	6		13		6	57	3	11,10	10,50	9,80
400 037	7		16		10	66	3	16,80	15,80	14,80
400 038	8		19		10	69	3	16,80	15,80	14,80
400 039	9		19		10	69	3	17,40	16,30	15,30
400 040	10		22		10	72	3	17,40	16,30	15,30
400 041	12		26		12	83	3	23,10	21,70	20,30
400 042	14		26		12	83	3	25,70	24,10	22,60
400 043	16		32		16	92	3	30,50	28,60	26,80
400 044	18		32		16	92	3	38,20	35,80	33,60
400 045	20		38		20	104	3	49,70	46,60	43,50
400 046	22		38		20	104	3	55,00	51,70	48,40
400 047	25		45		25	121	3	73,50	69,00	64,50

Construction steel - Alloyed steel - Cast iron - Stainless steel - Tempered steel - copper

### PM-Square end mill

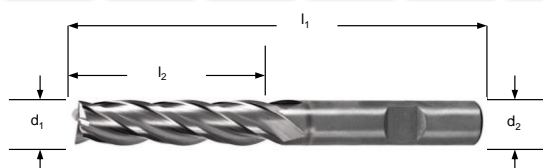
Right hand cutting



Article-No.	Dimensions [mm]						Edges Z	Price/piece € 1 - 4 pcs	Price/piece € 5 - 9 pcs	Price/piece € ≥ 10 pcs
	d1 (e8)	d3	l2	l3	d2 (h6)	l1				
400 051	1		3		6	49	4	12,30	11,50	10,80
400 052	2		7		6	51	4	11,10	10,50	9,80
400 053	3		8		6	52	4	11,10	10,50	9,80
400 054	4		11		6	55	4	11,10	10,50	9,80
400 055	5		13		6	57	4	11,10	10,50	9,80
400 056	6		13		6	57	4	11,10	10,50	9,80
400 057	7		16		10	66	4	16,80	15,80	14,80
400 058	8		19		10	69	4	16,80	15,80	14,80
400 059	9		19		10	69	4	17,40	16,30	15,30
400 060	10		22		10	72	4	17,40	16,30	15,30
400 061	12		26		12	83	4	23,10	21,70	20,30
400 062	14		26		12	83	4	25,70	24,10	22,60
400 063	16		32		16	92	4	30,50	28,60	26,80
400 064	18		32		16	92	4	38,20	35,80	33,60
400 065	20		38		20	104	4	49,70	46,60	43,50
400 066	22		38		20	104	4	55,00	51,70	48,40
400 067	25		45		25	121	4	73,50	69,00	64,50

### PM-Square end mill

Right hand cutting

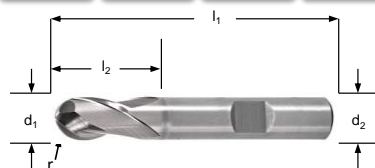


Article-No.	Dimensions [mm]						Edges Z	Price/piece € 1 - 4 pcs	Price/piece € 5 - 9 pcs	Price/piece € ≥ 10 pcs
	d1 (e8)	d3	l2	l3	d2 (h6)	l1				
400 071	2		10		6	54	4	13,70	12,90	12,00
400 072	3		12		6	56	4	13,70	12,90	12,00
400 073	4		19		6	63	4	13,70	12,90	12,00
400 074	5		24		6	68	4	13,70	12,90	12,00
400 075	6		24		6	68	4	13,70	12,90	12,00
400 076	7		30		10	80	4	21,50	20,30	18,90
400 077	8		38		10	88	4	21,50	20,30	18,90
400 078	9		38		10	88	4	21,80	20,40	19,10
400 079	10		45		10	95	4	21,80	20,40	19,10
400 080	12		53		12	110	4	30,20	28,30	26,50
400 081	14		53		12	110	4	34,00	32,00	29,80
400 082	16		63		16	123	4	41,60	39,10	36,60
400 083	18		63		16	123	4	53,00	49,80	46,60
400 084	20		75		20	141	4	69,20	65,00	60,80
400 085	22		75		20	141	4	75,60	71,00	66,40
400 086	25		90		25	166	4	112,00	105,20	98,40

Construction steel - Alloyed steel - Cast iron - Stainless steel - Tempered steel - copper

### PM-Ball nose end mill

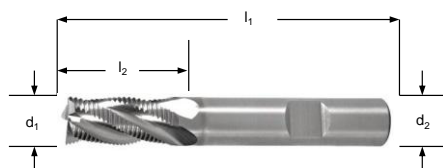
Right hand cutting



Article-N.	Dimensions [mm]						Radius r	Price/piece € 1 - 4 pcs	Price/piece € 5 - 9 pcs	Price/piece € ≥ 10 pcs
	d1	d3	l2	l3	d2 (h6)	l1				
400 131	1		2,5		6	47	0,5	14,10	13,20	12,40
400 132	2		4		6	48	1	12,80	12,00	11,20
400 133	3		5		6	49	1,5	12,80	12,00	11,20
400 134	4		7		6	51	2	12,80	12,00	11,20
400 135	5		8		6	52	2,5	12,80	12,00	11,20
400 136	6		8		6	52	3	12,80	12,00	11,20
400 137	7		10		10	60	3,5	18,30	17,20	16,00
400 138	8		11		10	61	4	18,30	17,20	16,00
400 139	9		11		10	61	4,5	18,90	17,70	16,60
400 140	10		13		10	63	5	18,90	17,70	16,60
400 141	12		16		12	73	6	24,00	22,50	21,10
400 142	14		16		12	73	7	26,60	25,00	23,40
400 143	16		19		16	79	8	31,00	29,20	27,30
400 144	18		19		16	79	9	48,00	45,00	42,20
400 145	20		22		20	88	10	49,00	46,00	43,00
400 146	22		22		20	88	11	56,30	52,80	49,40
400 147	25		26		25	102	12,5	71,30	66,90	62,60

### PM-Roughing end mill

Right hand cutting

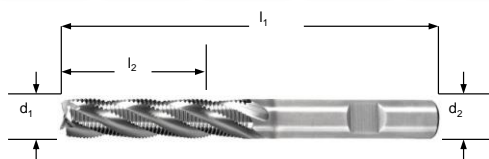


Article-No.	Dimensions [mm]						Edges Z	Price/piece € 1 - 4 pcs	Price/piece € 5 - 9 pcs	Price/piece € ≥ 10 pcs
	d1 (js12)	d3	l2	l3	d2 (h6)	l1				
410 001	6		13		6	57	3	17,90	16,80	15,70
410 002	7		16		10	66	3	24,20	22,70	21,20
410 003	8		19		10	69	3	24,20	22,70	21,20
410 004	9		19		10	69	3	24,70	23,30	21,80
410 005	10		22		10	72	4	24,70	23,30	21,80
410 006	12		26		12	83	4	29,50	27,70	25,90
410 007	14		26		12	83	4	36,30	34,10	31,90
410 008	16		32		16	92	4	40,80	38,30	35,90
410 009	18		32		16	92	4	45,70	42,90	40,10
410 010	20		38		20	104	4	57,20	53,80	50,30
410 011	22		38		20	104	5	70,50	66,30	62,00
410 012	25		45		25	121	5	84,40	79,20	74,10

Construction steel - Alloyed steel - Cast iron - Stainless steel - Tempered steel - copper

### PM-Roughing end mill, long

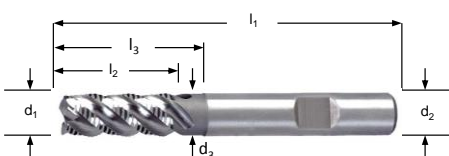
Right hand cutting



Article-No.	Dimensions [mm]						Edges Z	Price/piece € 1 - 4 pcs	Price/piece € 5 - 9 pcs	Price/piece € ≥ 10 pcs
	d1 (js12)	d3	l2	l3	d2 (h6)	l1				
410 021	6		24		6	68	3	26,00	24,40	22,80
410 022	7		30		10	80	3	31,70	29,70	27,80
410 023	8		38		10	88	3	31,70	29,70	27,80
410 024	9		38		10	88	3	31,80	29,90	27,90
410 025	10		45		10	95	4	31,80	29,90	27,90
410 026	12		53		12	110	4	38,90	36,50	34,20
410 027	14		53		12	110	4	51,40	48,30	45,20
410 028	16		63		16	123	4	56,00	52,50	49,20
410 029	18		63		16	123	4	67,10	63,00	58,90
410 030	20		75		20	141	4	81,30	76,40	71,40
410 031	22		75		20	141	5	106,40	99,90	93,50
410 032	25		90		25	166	5	130,20	122,30	114,40

### PM-Roughing end mill

Right hand cutting

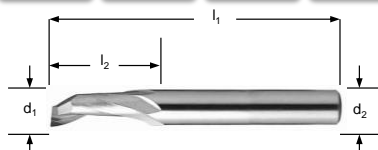


Article-No.	Dimensions [mm]						Edges Z	Price/piece € 1 - 4 pcs	Price/piece € 5 - 9 pcs	Price/piece € ≥ 10 pcs
	d1 (js12)	d3	l2	l3	d2 (h6)	l1				
410 039	4	-	11	-	6	57	3	19,40	18,20	17,00
410 040	5	-	13	-	6	57	4	19,40	18,20	17,00
410 041	6	-	13	-	6	57	4	19,40	18,20	17,00
410 042	7	-	16	-	10	66	4	25,80	24,30	22,70
410 043	8	-	19	-	10	69	4	25,80	24,30	22,70
410 044	9	-	19	-	10	69	4	26,60	24,90	23,30
410 045	10	9,5	22	31	10	72	4	26,60	24,90	23,30
410 046	12	11,5	26	37	12	83	4	32,40	30,50	28,50
410 047	14	-	26	-	12	83	5	38,80	36,50	34,10
410 048	16	15	32	44	16	92	5	44,70	42,00	39,30
410 049	18	-	32	-	16	92	6	48,50	45,50	42,60
410 050	20	19	38	54	20	104	6	61,90	58,20	54,40
410 051	25	24	45	63	25	121	6	91,10	85,60	80,10

Construction steel - Alloyed steel - Cast iron - Stainless steel - Tempered steel - copper

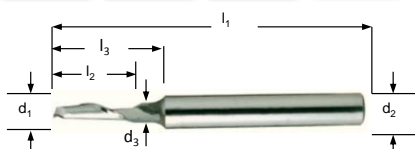
### End mill 1 cutting edge for Aluminium

Right hand cutting



N

Article-No.	Dimensions [mm]						Edges Z	Price/piece € 1 - 4 pcs	Price/piece € 5 - 9 pcs	Price/piece € ≥ 10 pcs
	d1 (js14)	d3	l2	l3	d2 (h6)	l1				
340 030	3		12		8	60	1	6,60	6,30	5,90
340 040	4		12		8	60	1	6,60	6,30	5,90
340 050	5		14		8	60	1	6,60	6,30	5,90
340 060	6		14		8	60	1	7,20	6,70	6,30
340 070	7		14		8	60	1	7,20	6,70	6,30
340 080	8		14		8	60	1	7,20	6,70	6,30
340 090	9		14		8	60	1	9,70	9,10	8,50
340 100	10		14		8	60	1	9,70	9,10	8,50



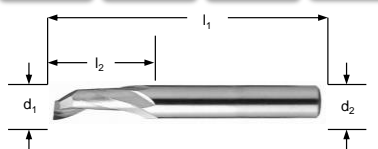
N

Article-No.	Dimensions [mm]						Edges Z	Price/piece € 1 - 4 pcs	Price/piece € 5 - 9 pcs	Price/piece € ≥ 10 pcs
	d1 (js14)	d3	l2	l3	d2 (h6)	l1				
341 050	5	4,8	18	35	8	80	1	9,00	8,50	8,00
341 051	5	-	40	40	8	100	1	13,00	12,20	11,40
341 080	8	7,5	14	68	8	120	1	15,00	14,10	13,20

Aluminium - Construction steel

### End mill 1 cutting edge for steel

Right hand cutting



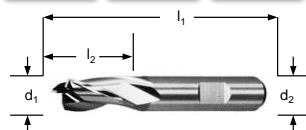
P

Article-No.	Dimensions [mm]						Edges Z	Price/piece € 1 - 4 pcs	Price/piece € 5 - 9 pcs	Price/piece € ≥ 10 pcs
	d1 (js14)	d3	l2	l3	d2 (h6)	l1				
342 030	3		12		8	60	1	6,60	6,30	5,90
342 040	4		12		8	60	1	6,60	6,30	5,90
342 050	5		12		8	60	1	6,60	6,30	5,90
342 060	6		14		8	60	1	7,20	6,70	6,30
342 070	7		14		8	60	1	7,20	6,70	6,30
342 080	8		14		8	60	1	7,20	6,70	6,30
342 090	9		14		8	60	1	9,70	9,10	8,50
342 100	10		14		8	60	1	9,70	9,10	8,50

Construction steel - Alloyed steel - Aluminium

### Mini end mill, short

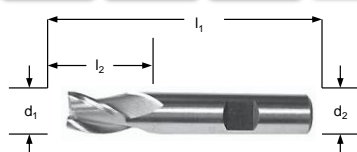
Right hand cutting



Article-No.	Dimensions [mm]						Edges Z	Price/piece € 1 - 4 pcs	Price/piece € 5 - 9 pcs	Price/piece € ≥ 10 pcs
	d1 (e8)	d3	l2	l3	d2 (h6)	l1				
300 095	1		2		6	34	3	4,20	4,00	3,80
300 096	1,5		3		6	34	3	4,20	4,00	3,80
300 097	2		4		6	35	3	4,20	4,00	3,80
300 098	2,5		5		6	36	3	4,20	4,00	3,80
300 099	3		5		6	36	3	4,20	4,00	3,80
300 100	3,5		6		6	37	3	4,20	4,00	3,80
300 101	4		7		6	38	3	4,20	4,00	3,80
300 102	4,5		7		6	38	3	4,20	4,00	3,80
300 103	5		8		6	39	3	4,20	4,00	3,80
300 104	5,5		8		6	39	3	4,20	4,00	3,80
300 105	6		8		6	39	3	4,20	4,00	3,80
300 106	6,5		10		8	42	3	5,00	4,70	4,30
300 107	7		10		8	42	3	5,00	4,70	4,30
300 108	7,5		10		8	42	3	5,00	4,70	4,30
300 109	8		11		8	43	3	5,00	4,70	4,30
300 110	8,5		11		10	48	3	6,40	6,00	5,60
300 111	9		11		10	48	3	6,40	6,00	5,60
300 112	9,5		11		10	48	3	6,40	6,00	5,60
300 113	10		13		10	50	3	6,40	6,00	5,60

### Mini end mill, long

Right hand cutting



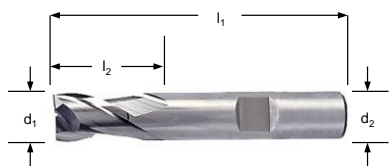
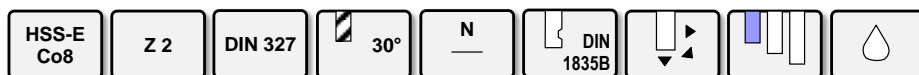
Article-No.	Dimensions [mm]						Edges Z	Price/piece € 1 - 4 pcs	Price/piece € 5 - 9 pcs	Price/piece € ≥ 10 pcs
	d1 (e8)	d3	l2	l3	d2 (h6)	l1				
300 114	2		7		6	38	3	4,80	4,50	4,20
300 115	2,5		8		6	39	3	4,80	4,50	4,20
300 116	3		8		6	39	3	4,80	4,50	4,20
300 117	3,5		10		6	41	3	4,80	4,50	4,20
300 118	4		11		6	42	3	4,80	4,50	4,20
300 119	4,5		11		6	42	3	4,80	4,50	4,20
300 120	5		13		6	44	3	4,80	4,50	4,20
300 121	5,5		13		6	44	3	4,80	4,50	4,20
300 122	6		13		6	44	3	4,80	4,50	4,20
300 123	6,5		16		8	48	3	5,60	5,20	4,90
300 124	7		16		8	48	3	5,60	5,20	4,90
300 125	7,5		16		8	48	3	5,60	5,20	4,90
300 126	8		19		8	51	3	5,60	5,20	4,90
300 127	8,5		19		10	56	3	7,20	6,70	6,30
300 128	9		19		10	56	3	7,20	6,70	6,30
300 129	9,5		19		10	56	3	7,20	6,70	6,30
300 130	10		22		10	59	3	7,20	6,70	6,30

Construction steel - Alloyed steel - Tempered steel - copper - aluminium



### Slotting end mill, short

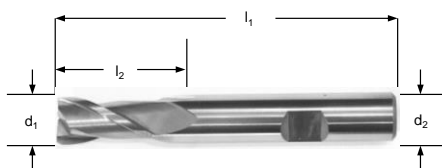
Right hand cutting



Article-No.	Dimensions [mm]						Edges Z	Price/piece € 1 - 4 pcs	Price/piece € 5 - 9 pcs	Price/piece € ≥ 10 pcs
	d1 (e8)	d3	l2	l3	d2 (h6)	l1				
300 001	2		4		6	48	2	4,50	4,20	3,90
300 002	3		5		6	49	2	4,50	4,20	3,90
300 003	4		7		6	51	2	4,50	4,20	3,90
300 004	5		8		6	52	2	4,50	4,20	3,90
300 005	6		8		6	52	2	4,50	4,20	3,90
300 006	8		11		10	61	2	6,50	6,00	5,70
300 007	10		13		10	63	2	6,50	6,00	5,70
300 008	12		16		12	73	2	8,50	8,10	7,50
300 009	14		16		12	73	2	9,50	8,90	8,30
300 010	16		19		16	79	2	11,00	10,40	9,60
300 011	18		19		16	79	2	14,30	13,40	12,50
300 012	20		22		20	88	2	17,00	16,00	15,00
380 220	22		22		20	88	2	18,90	17,80	16,70
380 250	25		26		25	102	2	27,20	25,60	24,00
380 300	30		26		25	102	2	45,80	43,10	40,30

### Slotting end mill, long

Right hand cutting

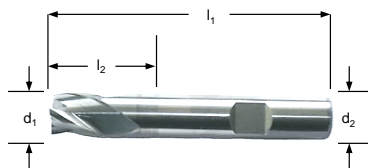


Article-No.	Dimensions [mm]						Edges Z	Price/piece € 1 - 4 pcs	Price/piece € 5 - 9 pcs	Price/piece € ≥ 10 pcs
	d1 (e8)	d3	l2	l3	d2 (h6)	l1				
300 013	2		7		6	51	2	5,60	5,30	5,00
300 014	3		8		6	52	2	5,60	5,30	5,00
300 015	4		11		6	55	2	5,60	5,30	5,00
300 016	5		13		6	57	2	5,60	5,30	5,00
300 017	6		13		6	57	2	5,60	5,30	5,00
300 018	8		19		10	69	2	7,60	7,10	6,70
300 019	10		22		10	72	2	7,60	7,10	6,70
300 020	12		26		12	83	2	10,10	9,50	8,90
300 021	14		26		12	83	2	11,10	10,40	9,80
300 022	16		32		16	92	2	13,50	12,80	11,90
300 023	18		32		16	92	2	16,70	15,70	14,70
300 024	20		38		20	104	2	20,00	18,80	17,60
390 220	22		38		20	104	2	22,30	20,90	19,60
390 250	25		45		25	121	2	32,00	30,00	28,20

Construction steel - Alloyed steel - Tempered steel - copper - aluminium

### Slotting end mill, short

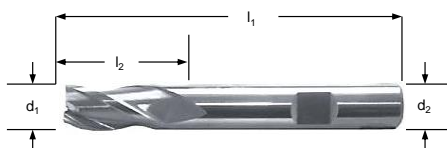
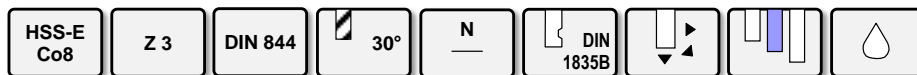
Right hand cutting



Article-No.	Dimensions [mm]						Edges Z	Price/piece € 1 - 4 pcs	Price/piece € 5 - 9 piece	Price/piece € ≥ 10 piece
	d1 (e8)	d3	l2	l3	d2 (h6)	l1				
300 025	2		5		6	48	3	5,40	5,10	4,70
300 026	3		6		6	49	3	5,40	5,10	4,70
300 027	4		7		6	51	3	5,40	5,10	4,70
300 028	5		8		6	52	3	5,40	5,10	4,70
300 029	6		8		6	52	3	5,40	5,10	4,70
300 030	8		11		10	61	3	7,80	7,20	6,90
300 031	10		13		10	63	3	7,80	7,20	6,90
300 032	12		16		12	73	3	8,60	8,10	7,50
300 033	14		16		12	73	3	9,50	8,90	8,30
300 034	16		19		16	79	3	11,60	10,80	10,10
300 035	18		19		16	79	3	14,30	13,40	12,50
300 036	20		22		20	88	3	17,00	16,00	15,00
331 220	22		22		20	88	3	18,90	17,80	16,70
331 250	25		26		25	102	3	27,20	25,60	23,90
331 300	30		26		25	102	3	45,80	43,10	40,30

### Slotting end mill, long

Right hand cutting

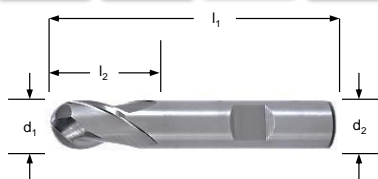
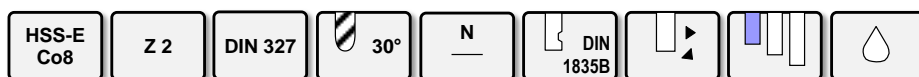


Article-No.	Dimensions [mm]						Edges Z	Price/piece € 1 - 4 pcs	Price/piece € 5 - 9 pcs	Price/piece € ≥ 10 pcs
	d1 (e8)	d3	l2	l3	d2 (h6)	l1				
300 037	2		7		6	51	3	5,60	5,30	5,00
300 038	4		11		6	55	3	5,60	5,30	5,00
300 039	5		13		6	57	3	5,60	5,30	5,00
300 040	6		13		6	57	3	5,60	5,30	5,00
300 041	8		19		10	69	3	7,60	7,10	6,70
300 042	10		22		10	72	3	7,60	7,10	6,70
300 043	12		26		12	83	3	10,10	9,50	8,90
300 044	14		26		12	83	3	11,10	10,40	9,80
300 045	16		32		16	92	3	13,50	12,80	11,90
300 046	18		32		16	92	3	16,70	15,70	14,70
300 047	20		38		20	104	3	20,00	18,80	17,60
350 220	22		38		20	104	3	22,30	20,90	19,60
350 250	25		45		25	121	3	32,00	30,00	29,40
350 300	30		45		25	121	3	54,10	50,80	47,60

Construction steel - Alloyed steel - Tempered steel - copper - aluminium

### Ball nose end mill, short

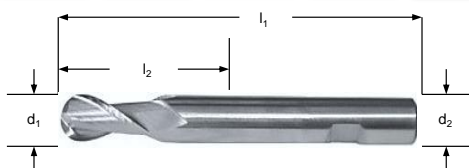
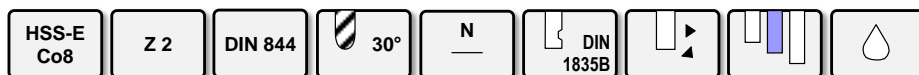
Right hand cutting



Article-No.	Dimensions [mm]						Edges Z	Price/piece € 1 - 4 pcs	Price/piece € 5 - 9 pcs	Price/piece € ≥ 10 pcs
	d1 (e8)	r	l2	l3	d2 (h6)	l1				
300 131	2	1	4		6	48	2	7,20	6,70	6,30
300 132	3	1,5	5		6	49	2	7,20	6,70	6,30
300 133	4	2	7		6	51	2	7,20	6,70	6,30
300 134	5	2,5	8		6	52	2	7,20	6,70	6,30
300 135	6	3	8		6	52	2	7,20	6,70	6,30
300 136	8	4	11		10	61	2	9,10	8,60	8,00
300 137	10	5	13		10	63	2	9,10	8,60	8,00
300 138	12	6	16		12	73	2	11,80	11,10	10,40
300 139	14	7	16		12	73	2	13,30	12,60	11,70
300 140	16	8	19		16	79	2	15,50	14,52	13,60
300 141	18	9	19		16	79	2	19,00	17,90	16,80
300 142	20	10	22		20	88	2	21,80	20,50	19,20
360 250	25	12,5	26		25	102	2	32,70	30,70	28,70

### Ball nose end mill, long

Right hand cutting

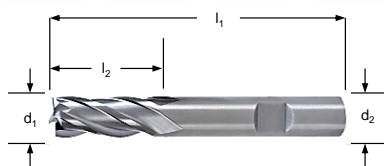
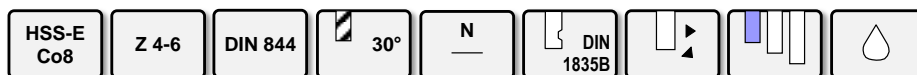


Article-No.	Dimensions [mm]						Edges Z	Price/piece € 1 - 4 pcs	Price/piece € 5 - 9 pcs	Price/piece € ≥ 10 pcs
	d1 (e8)	r	l2	l3	d2 (h6)	l1				
300 143	2	1	7		6	54	2	8,80	8,30	7,70
300 144	3	1,5	8		6	56	2	8,80	8,30	7,70
300 145	4	2	11		6	63	2	8,80	8,30	7,70
300 146	5	2,5	13		6	68	2	8,80	8,30	7,70
300 147	6	3	13		6	68	2	8,80	8,30	7,70
300 148	8	4	19		10	88	2	11,30	10,70	9,90
300 149	10	5	22		10	95	2	11,30	10,70	9,90
300 150	12	6	26		12	110	2	14,80	13,90	13,00
300 151	14	7	26		12	110	2	17,10	16,10	15,10
300 152	16	8	32		16	123	2	20,10	18,90	17,70
300 153	18	9	32		16	123	2	24,80	23,30	21,70
300 154	20	10	38		20	141	2	28,60	26,80	25,80

Construction steel - Alloyed steel - Tempered steel - copper - aluminium

### Square end mill, short

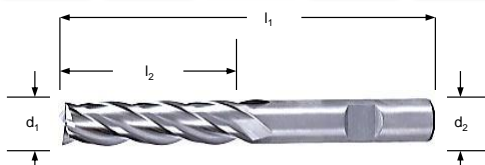
Right hand cutting



Article-No.	Dimensions [mm]						Edges Z	Price/piece € 1 - 4 pcs	Price/piece € 5 - 9 pcs	Price/piece € ≥ 10 pcs
	d1 (e8)	d3	l2	l3	d2 (h6)	l1				
300 048	2		7		6	51	4	5,60	5,30	4,90
300 049	3		8		6	52	4	5,60	5,30	4,90
300 050	4		11		6	55	4	5,60	5,30	4,90
300 051	5		13		6	57	4	5,60	5,30	4,90
300 052	6		13		6	57	4	5,60	5,30	4,90
300 053	8		19		10	69	4	7,60	7,10	6,70
300 054	10		22		10	72	4	7,60	7,10	6,70
300 055	12		26		12	83	4	10,50	9,90	9,30
300 056	14		26		12	83	4	11,70	10,90	10,20
300 057	16		32		16	92	4	14,20	13,30	12,50
300 058	18		32		16	92	4	17,50	16,50	15,50
300 059	20		38		20	104	4	20,90	19,70	18,50
381 220	22		38		20	104	6	23,40	22,00	20,60
381 250	25		45		25	121	6	33,60	31,60	29,60
381 300	30		45		25	121	6	56,80	53,40	49,90

### Square end mill, long

Right hand cutting

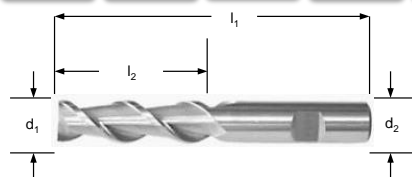
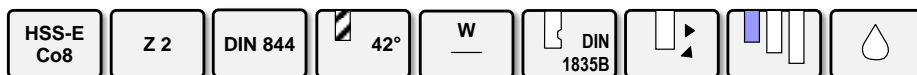


Article-No.	Dimensions [mm]						Edges Z	Price/piece € 1 - 4 pieces	Price/piece € 5 - 9 pieces	Price/piece € ≥ 10 pcs
	d1 (e8)	d3	l2	l3	d2 (h6)	l1				
300 072	3		12		6	56	4	7,30	6,90	6,40
300 073	4		19		6	63	4	7,30	6,90	6,40
300 074	5		24		6	68	4	7,30	6,90	6,40
300 075	6		24		6	68	4	7,30	6,90	6,40
300 076	8		38		10	88	4	10,20	9,60	9,00
300 077	10		45		10	88	4	10,20	9,60	9,00
300 078	12		53		12	110	4	14,30	13,40	12,50
300 079	14		53		12	110	4	16,30	15,30	14,30
300 080	16		63		16	123	4	19,90	18,70	17,50
300 081	18		63		16	123	4	24,60	23,10	21,60
300 082	20		75		20	141	4	29,40	27,60	25,80
370 220	22		75		20	141	6	32,70	30,70	28,80
370 250	25		90		25	166	6	47,10	44,20	41,40
370 300	30		90		25	166	6	68,10	64,00	59,90

Construction steel - Alloyed steel - Tempered steel - copper - aluminium

### Square end mill for aluminium, short

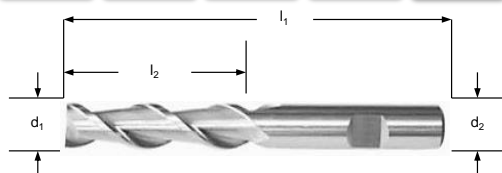
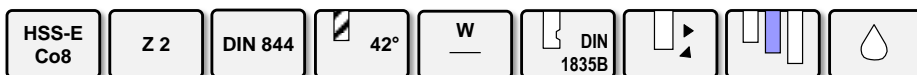
Right hand cutting



Article-No.	Dimensions [mm]						Edges Z	Price/piece € 1 - 4 pcs	Price/piece € 5 - 9 pcs	Price/piece € ≥ 10 pcs
	d1 (e8)	r	l2	l3	d2 (h6)	l1				
300 060	2		7		6	51	2	7,30	6,90	6,40
300 061	3		8		6	52	2	7,30	6,90	6,40
300 062	4		11		6	55	2	7,30	6,90	6,40
300 063	5		13		6	57	2	7,30	6,90	6,40
300 064	6		13		6	57	2	7,30	6,90	6,40
300 065	8		19		10	69	2	9,90	9,30	8,70
300 066	10		22		10	72	2	9,90	9,30	8,70
300 067	12		26		12	83	2	13,10	12,30	11,50
300 068	14		26		12	83	2	14,40	13,50	12,70
300 069	16		32		16	92	2	17,50	16,50	15,40
300 070	18		32		16	92	2	21,70	20,40	19,20
300 071	20		38		20	104	2	25,90	24,40	22,80

### Square end mill for aluminium, long

Right hand cutting

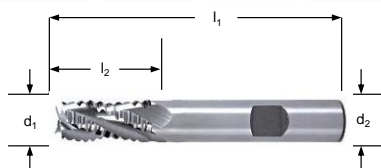


Article-No.	Dimensions [mm]						Edges Z	Price/piece € 1 - 4 pcs	Price/piece € 5 - 9 pcs	Price/piece € ≥ 10 pcs
	d1 (e8)	r	l2	l3	d2 (h6)	l1				
300 083	2		10		6	56	2	9,50	8,80	8,30
300 084	3		12		6	63	2	9,50	8,80	8,30
300 085	4		19		6	63	2	9,50	8,80	8,30
300 086	5		24		6	68	2	9,50	8,80	8,30
300 087	6		24		6	68	2	9,50	8,80	8,30
300 088	8		38		10	88	2	13,30	12,50	11,70
300 089	10		45		10	95	2	13,30	12,50	11,70
300 090	12		53		12	110	2	17,60	16,50	15,50
300 091	14		53		12	110	2	20,10	18,90	17,70
300 092	16		63		16	123	2	24,60	23,10	21,60
300 093	18		63		16	123	2	36,30	34,10	31,90
300 094	20		75		20	141	2	32,10	30,10	28,20

Aluminium - Construction steel

### Roughing end mill, short

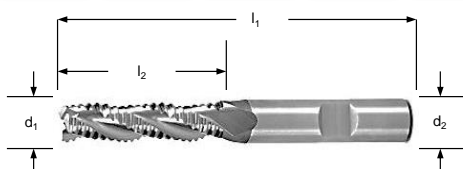
Right hand cutting



Article-No.	Dimensions [mm]						Edges Z	Price/piece € 1 - 4 pcs	Price/piece € 5 - 9 pcs	Price/piece € ≥ 10 pcs
	d1 (js12)	d3	l2	l3	d2 (h6)	l1				
310 001	6		13		6	57	3	11,40	10,70	10,00
310 002	8		19		10	69	3	12,10	11,40	10,70
310 003	10		22		10	72	4	12,10	11,40	10,70
310 004	12		26		12	83	4	13,50	12,60	11,80
310 005	14		26		12	83	4	17,10	16,00	15,00
310 006	16		32		16	92	4	19,20	18,00	16,80
310 007	18		32		16	92	4	20,10	18,90	17,70
310 008	20		38		20	104	4	23,20	21,80	20,40
311 220	22		38		20	104	5	29,30	27,50	25,80
311 250	25		45		25	121	5	35,40	33,30	31,10
311 300	30		45		25	121	6	52,50	49,30	46,10

### Roughing end mill, long

Right hand cutting

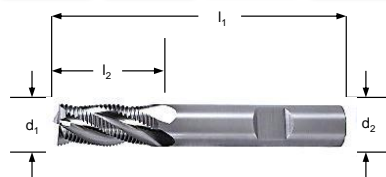


Article-No.	Dimensions [mm]						Edges Z	Price/piece € 1 - 4 pcs	Price/piece € 5 - 9 pcs	Price/piece € ≥ 10 pcs
	d1 (js12)	d3	l2	l3	d2 (h6)	l1				
310 009	6		34		6	68	3	14,70	13,80	12,90
310 010	8		38		10	88	3	15,90	14,90	14,00
310 011	10		45		10	95	4	15,90	14,90	14,00
310 012	12		53		12	110	4	18,30	17,20	16,10
310 013	14		53		12	110	4	26,70	24,10	22,50
310 014	16		63		16	123	4	26,90	25,20	23,60
310 015	18		63		16	123	4	30,50	28,60	26,80
310 016	20		75		20	141	4	33,60	31,50	29,50
310 220	22		75		20	141	5	46,40	43,60	40,80
310 250	25		90		25	166	5	51,30	48,10	45,00
310 300	30		90		25	166	6	78,20	73,50	68,70

Construction steel - Alloyed steel - Tempered steel - copper - aluminium

### Roughing end mill, short

Right hand cutting

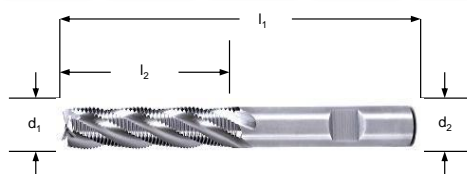


Article-No.	Dimensions [mm]						Edges Z	Price/piece € 1 - 4 pcs	Price/piece € 5 - 9 pcs	Price/piece € ≥ 10 pcs
	d1 (js12)	d3	l2	l3	d2 (h6)	l1				
310 017	6		13		6	57	3	12,50	11,70	11,00
310 018	8		19		10	69	3	13,30	12,50	11,70
310 019	10		22		10	72	4	13,30	12,50	11,70
310 020	12		26		12	83	4	14,80	13,90	13,00
310 021	14		26		12	83	4	18,80	17,70	16,50
310 022	16		32		16	92	4	21,10	19,80	18,50
310 023	18		32		16	92	4	22,20	20,80	19,50
310 024	20		38		20	104	4	25,50	24,00	22,40
390 223	22		38		20	104	5	35,40	33,30	31,20
390 253	25		45		25	121	5	42,80	40,20	37,60
390 303*	30		45		25	121	6	57,70	54,20	50,70

\* not centre cutting

### Roughing end mill, long

Right hand cutting



Article-No.	Dimensions [mm]						Edges Z	Price/piece € 1 - 4 pcs	Price/piece € 5 - 9 pcs	Price/piece € ≥ 10 pcs
	d1 (js12)	d3	l2	l3	d2 (h6)	l1				
310 025	6		24		6	68	3	16,10	15,10	14,20
310 026	8		38		10	88	3	17,50	16,40	15,30
310 027	10		45		10	95	4	17,50	16,40	15,30
310 028	12		53		12	110	4	20,10	18,90	17,70
310 029	14		53		12	110	4	28,20	26,50	24,80
310 030	16		63		16	123	4	29,50	27,70	25,90
310 031	18		63		16	123	4	33,60	31,50	30,70
310 032	20		75		20	141	4	36,90	34,62	32,40
390 221*	22		75		20	141	5	51,00	47,90	44,80
390 261*	25		90		25	166	5	56,40	53,00	49,50
390306*	30		90		25	166	6	86,00	80,80	75,60

\* not centre cutting

Construction steel - Alloyed steel - Tempered steel - copper - aluminium