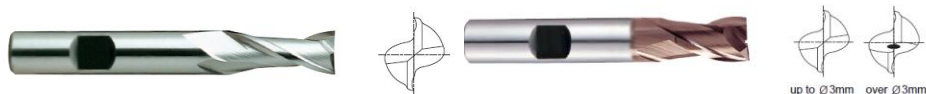


Fresas HSS 8%Co 2 navalhas

HSSCo8, 2 FLUTE



HSS
END MILLS

TiAIN

HSSCo8

HSS
Co8

DIN
844

N

2

30°

DIN
1835B

1

2

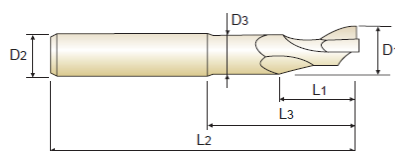
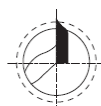
Hssco8%	€	Hssco/tiain	€	Diam.	Cabo	Corte	Total
E2571015	5.77 €	EQ571015	7.17 €	1.5	6	7	51
E2571020	5.33 €	EQ571020	6.71 €	2	6	7	51
E2571025	5.33 €	EQ571025	6.71 €	2.5	6	8	52
E2571030	5.33 €	EQ571030	6.71 €	3	6	8	52
E2571035	5.33 €	EQ571035	6.71 €	3.5	6	10	54
E2571040	5.33 €	EQ571040	6.71 €	4	6	11	55
E2571045	5.33 €	EQ571045	6.71 €	4.5	6	11	55
E2571050	5.33 €	EQ571050	6.71 €	5	6	13	57
E2571055	5.33 €	EQ571055	6.71 €	5.5	6	13	57
E2571060	5.33 €	EQ571060	6.71 €	6	6	13	57
E2571065	7.28 €	EQ571065	9.60 €	6.5	10	16	66
E2571070	7.28 €	EQ571070	9.60 €	7	10	16	66
E2571075	7.28 €	EQ571075	9.60 €	7.5	10	16	66
E2571080	7.28 €	EQ571080	9.60 €	8	10	19	69
E2571085	7.28 €	EQ571085	9.93 €	8.5	10	19	69
E2571090	7.28 €	EQ571090	9.93 €	9	10	19	69
E2571095	7.28 €	EQ571095	9.93 €	9.5	10	19	69
E2571100	7.28 €	EQ571100	9.93 €	10	10	22	72
E2571110	9.66 €	EQ571110	12.57 €	11	12	22	79
E2571120	9.66 €	EQ571120	12.57 €	12	12	26	83
E2571130	10.65 €	EQ571130	13.64 €	13	12	26	83
E2571140	10.65 €	EQ571140	13.89 €	14	12	26	83
E2571150	13.01 €	EQ571150	16.38 €	15	12	26	83
E2571160	13.01 €	EQ571160	16.49 €	16	16	32	92
E2571180	16.07 €	EQ571180	20.31 €	18	16	32	92
E2571200	19.21 €	EQ571200	25.73 €	20	20	38	104
E2571220	21.41 €	EQ571220	28.41 €	22	20	38	104
E2571240	30.85 €	EQ571240	38.27 €	24	25	45	121
E2571250	30.85 €	EQ571250	38.51 €	25	25	45	121
E2571260	38.36 €	EQ571260	46.02 €	26	25	45	121
E2571270	48.60 €	EQ571270	56.34 €	27	25	45	121
E2571280	48.60 €	EQ571280	56.36 €	28	25	45	121
E2571300	52.03 €	EQ571300	59.86 €	30	25	45	121
E2571320	58.63 €	EQ571320	70.73 €	32	32	53	133
E2571400	97.89 €	EQ571400	119.26 €	40	40	63	155

Fresas HSS 5%Co 1 navalha

HSS-E, 1 FLUTE for ALUMINUM



Refª	€	Diam.	Cabo	Corte	Total
EL612030	5.33 €	3	8	12	60
EL612040	5.33 €	4	8	12	60
EL612050	5.33 €	5	8	14	60
EL612060	5.77 €	6	8	14	60
EL612070	5.77 €	7	8	14	60
EL612080	5.77 €	8	8	14	80
EL612090	7.86 €	9	8	14	80
EL612100	7.86 €	10	8	14	80



Refª	€	D1	D2	L1	L3	L2	D3
EL612904	7.29 €	5	8	18	35	80	4.8
EL612909	10.50 €	5	8	40	40	100	
EL612932	12.06 €	8	8	14	68	120	7.5



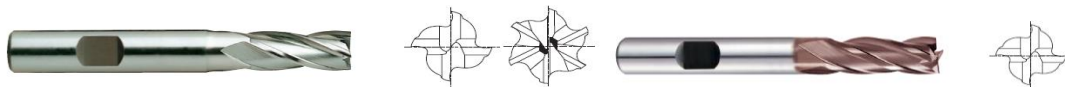
Refª	€	D1	D2	L3	L2
EL623030	5.33 €	3	8	12	60
EL623040	5.33 €	4	8	12	60
EL623050	5.33 €	5	8	12	60
EL623060	5.77 €	6	8	14	60
EL623070	5.77 €	7	8	14	60
EL623080	5.77 €	8	8	14	80
EL623090	7.86 €	9	8	14	80
EL623100	7.86 €	10	8	14	80

⊙ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
○									⊙			



Fresas HSS 8%Co 4 navalhas



HSSCo8, 4&6 FLUTE



Hssco8%	€	Hssco/tiain	€	Diam.	Cabo	Corte	Total	NºNav
E2595020	5.33 €	EQ595020	6.71 €	2	6	7	51	4
E2595030	5.33 €	EQ595030	6.71 €	3	6	8	52	4
E2595040	5.33 €	EQ595040	6.71 €	4	6	11	55	4
E2595050	5.33 €	EQ595050	6.71 €	5	6	13	57	4
E2595060	5.33 €	EQ595060	6.71 €	6	6	13	57	4
E2595070	5.33 €	EQ595070	9.60 €	7	10	16	66	4
E2595080	7.28 €	EQ595080	9.60 €	8	10	19	69	4
E2595090	7.28 €	EQ595090	9.93 €	9	10	19	69	4
E2595100	7.28 €	EQ595100	9.93 €	10	10	22	72	4
E2595110	7.28 €	EQ595110	13.03 €	11	12	22	79	4
E2595120	10.12 €	EQ595120	13.03 €	12	12	26	83	4
E2595130	10.12 €	EQ595130	14.19 €	13	12	26	83	4
E2595140	11.20 €	EQ595140	14.44 €	14	12	26	83	4
E2595150	11.20 €	EQ595150	16.38 €	15	12	26	83	4
E2595160	13.01 €	EQ595160	17.14 €	16	16	32	92	4
E2595170	13.64 €	EQ595170	20.82 €	17	16	32	92	4
E2595180	16.88 €	EQ595180	21.10 €	18	16	32	92	4
E2595190	16.88 €	EQ595190	25.62 €	19	16	32	92	4
E2595920	20.16 €	EQ595920	26.65 €	20	16	38	98	4
E2595200	20.16 €	EQ595200	26.65 €	20	20	38	104	4
E2595220	22.52 €	EQ595220	29.49 €	22	20	38	104	4
E2595250	32.37 €	EQ595250	40.05 €	25	25	45	121	4
E2596220	32.37 €	EQ596220	29.49 €	22	20	38	104	6
E2596240	20.16 €	EQ596240	39.77 €	24	25	45	121	6
E2596250	22.52 €	EQ596250	40.05 €	25	25	45	121	6
E2596260	32.37 €	EQ596260	49.74 €	26	25	45	121	6
E2596280	32.37 €	EQ596280	58.81 €	28	25	45	121	6
E2596300	42.01 €	EQ596300	62.42 €	30	25	45	121	6
E2596320	51.04 €	EQ596320	73.71 €	32	32	53	133	6
E2596340	54.67 €	EQ596340	89.33 €	34	32	53	133	6
E2596350	61.62 €	EQ596350	92.41 €	35	32	53	133	6
E2596360	75.49 €	EQ596360	95.52 €	36	32	53	133	6
E2596380	77.82 €	EQ596380	110.30 €	38	32	63	143	6
E2596901	80.18 €	EQ596901	114.80 €	40	32	63	143	6
E2596400	93.45 €	EQ596400	112.04 €	40	40	63	155	6

Mil Dia Tolerance (mm)						Shank Dia Tolerance						
0 - +0.04						h6						
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
○	○	○				○			○			

Fresas HSS 8%Co 4 navalhas Longa



HSSCo8, 4&6 FLUTE LONG



Hssco8%	€	Hssco/tiain	€	Diam.	Cabo	Corte	Total	NºNav
E2597020	6.96 €	EQ597020	8.34 €	2	6	10	54	4
E2597025	6.96 €	EQ597025	8.34 €	2.5	6	12	56	4
E2597030	6.96 €	EQ597030	8.34 €	3	6	12	56	4
E2597035	6.96 €	EQ597035	8.34 €	3.5	6	15	59	4
E2597040	6.96 €	EQ597040	8.34 €	4	6	19	63	4
E2597045	6.96 €	EQ597045	8.34 €	4.5	6	19	63	4
E2597050	6.96 €	EQ597050	8.34 €	5	6	24	68	4
E2597055	6.96 €	EQ597055	8.34 €	5.5	6	24	68	4
E2597060	6.96 €	EQ597060	8.34 €	6	6	24	68	4
E2597070	9.86 €	EQ597070	12.24 €	7	10	30	80	4
E2597080	9.86 €	EQ597080	12.43 €	8	10	38	88	4
E2597090	9.86 €	EQ597090	12.46 €	9	10	38	88	4
E2597100	9.86 €	EQ597100	12.46 €	10	10	45	95	4
E2597110	13.65 €	EQ597110	16.57 €	11	12	45	102	4
E2597120	13.65 €	EQ597120	16.86 €	12	12	53	110	4
E2597130	15.63 €	EQ597130	18.84 €	13	12	53	110	4
E2597140	15.63 €	EQ597140	19.01 €	14	12	53	110	4
E2597150	18.18 €	EQ597150	21.63 €	15	12	53	110	4
E2597160	19.12 €	EQ597160	23.07 €	16	16	63	123	4
E2597170	23.66 €	EQ597170	27.77 €	17	16	63	123	4
E2597180	23.66 €	EQ597180	28.61 €	18	16	63	123	4
E2597190	28.24 €	EQ597190	33.91 €	19	16	63	123	4
E2597200	28.24 €	EQ597200	36.07 €	20	20	75	141	4
E2598220	31.51 €	EQ598220	39.50 €	22	20	75	141	6
E2598240	45.23 €	EQ598240	57.57 €	24	25	90	166	6
E2598250	45.23 €	EQ598250	57.73 €	25	25	90	166	6
E2598260	48.22 €	EQ598260	60.72 €	26	25	90	166	6
E2598280	61.23 €	EQ598280	73.86 €	28	25	90	166	6
E2598300	65.54 €	EQ598300	78.22 €	30	25	90	166	6
E2598320	73.99 €	EQ598320	97.08 €	32	32	106	186	6
E2598360	96.24 €	EQ598360	124.37 €	36	32	106	186	6
E2598400	123.36 €	EQ598400	164.56 €	40	40	125	217	6

Mill Dia. Tolerance(mm)		Shank Dia. Tolerance
up to Ø6	0~+0.04	h6
over Ø6	0~+0.05	

Fresas de raio HSS 8%Co



HSSCo8, BALL NOSE



Hssco	€	Hsscotiain	€	Raio	Diam	Cabo	Corte	Total
E2535020	6.85 €	EQ535020	8.23 €	R1.0	2	6	4	48
E2535025	6.85 €	EQ535025	8.23 €	R1.25	2.5	6	5	49
E2535030	6.85 €	EQ535030	8.23 €	R1.5	3	6	5	49
E2535035	6.85 €	EQ535035	8.23 €	R1.75	3.5	6	6	50
E2535040	6.85 €	EQ535040	8.23 €	R2.0	4	6	7	51
E2535045	6.85 €	EQ535045	8.23 €	R2.25	4.5	6	7	51
E2535050	6.85 €	EQ535050	8.23 €	R2.5	5	6	8	52
E2535055	6.85 €	EQ535055	8.23 €	R2.75	5.5	6	8	52
E2535060	6.85 €	EQ535060	8.23 €	R3.0	6	6	8	52
E2535070	8.69 €	EQ535070	11.09 €	R3.5	7	10	10	60
E2535080	8.69 €	EQ535080	11.09 €	R4.0	8	10	11	61
E2535090	8.69 €	EQ535090	11.31 €	R4.5	9	10	11	61
E2535100	8.69 €	EQ535100	11.31 €	R5.0	10	10	13	63
E2535110	11.36 €	EQ535110	14.15 €	R5.5	11	12	13	70
E2535120	11.36 €	EQ535120	14.15 €	R6.0	12	12	16	73
E2535130	12.87 €	EQ535130	15.65 €	R6.5	13	12	16	73
E2535140	12.87 €	EQ535140	15.80 €	R7.0	14	12	16	73
E2535150	14.33 €	EQ535150	17.36 €	R7.5	15	12	16	73
E2535160	14.85 €	EQ535160	18.24 €	R8.0	16	16	19	79
E2535170	18.33 €	EQ535170	22.10 €	R8.5	17	16	19	79
E2535180	18.33 €	EQ535180	22.43 €	R9.0	18	16	19	79
E2535190	20.95 €	EQ535190	25.92 €	R9.5	19	16	19	79
E2535923	20.95 €	EQ535923	26.63 €	R10.0	20	16	22	82
E2535200	20.95 €	EQ535200	27.23 €	R10.0	20	20	22	88
E2535220	23.51 €	EQ535220	30.13 €	R11.0	22	20	22	88
E2535922	31.43 €	EQ535922	38.45 €	R11.0	22	25	22	98
E2535240	31.43 €	EQ535240	38.84 €	R12.0	24	25	26	102
E2535250	31.43 €	EQ535250	39.09 €	R12.5	25	25	26	102
E2535260	42.21 €	EQ535260	49.91 €	R13.0	26	25	26	102
E2535280	48.57 €	EQ535280	56.34 €	R14.0	28	25	26	102
E2535300	51.43 €	EQ535300	59.27 €	R15.0	30	25	26	102
E2535320	57.11 €	EQ535320	69.26 €	R16.0	32	32	32	112

Tolerances according to DIN 7160 & 7161

Toleranzen nach DIN 7160 & 7161

	Tolerance range in μm / Toleranzwerte in μm					
	Nominal-Diameter in mm / Nennmaßbereich in mm					
	from 1 to 3 von 1 bis 3	over 3 to 6 über 3 bis 6	over 6 to 10 über 6 bis 10	over 10 to 18 über 10 bis 18	over 18 to 30 über 18 bis 30	over 30 to 50 über 30 bis 50
e8	14 — 28	20 — 38	25 — 47	32 — 59	40 — 73	50 — 89
h6	0 — 6	0 — 8	0 — 9	0 — 11	0 — 13	0 — 16

Fresas de raio Longa HSS 8%Co



HSSCo8, 2 FLUTE LONG BALL NOSE



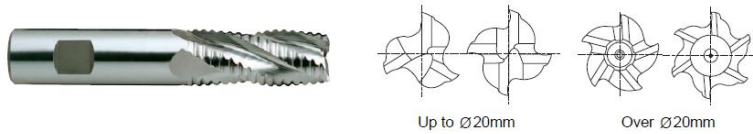
Hssco8%	€	Raio	Diam.	Cabo	Corte	Total
E2492020	8.45 €	R1.0	2	6	7	54
E2492030	8.45 €	R1.5	3	6	8	56
E2492040	8.45 €	R2.0	4	6	11	63
E2492050	8.45 €	R2.5	5	6	13	68
E2492060	8.45 €	R3.0	6	6	13	68
E2492070	10.85 €	R3.5	7	10	16	80
E2492080	10.85 €	R4.0	8	10	19	88
E2492090	10.85 €	R4.5	9	10	19	88
E2492100	10.85 €	R5.0	10	10	22	95
E2492110	14.24 €	R5.5	11	12	22	102
E2492120	14.24 €	R6.0	12	12	26	110
E2492130	16.46 €	R6.5	13	12	26	110
E2492140	16.46 €	R7.0	14	12	26	110
E2492150	18.55 €	R7.5	15	12	26	110
E2492160	19.32 €	R8.0	16	16	32	123
E2492170	23.75 €	R8.5	17	16	32	123
E2492180	23.75 €	R9.0	18	16	32	123
E2492190	27.51 €	R9.5	19	16	32	123
E2492200	27.51 €	R10.0	20	20	38	141
E2492220	30.77 €	R11.0	22	20	38	141
E2492240	41.92 €	R12.0	24	25	45	166
E2492250	41.92 €	R12.5	25	25	45	166
E2492260	48.71 €	R13.0	26	25	45	166
E2492280	59.88 €	R14.0	28	25	45	166
E2492300	63.54 €	R15.0	30	25	45	166

Tolerances according to DIN 7160 & 7161

Toleranzen nach DIN 7160 & 7161

Tolerance range in μm / Toleranzwerte in μm						
Nominal-Diameter in mm / Nennmaßbereich in mm						
	from 1 to 3 von 1 bis 3	over 3 to 6 über 3 bis 6	over 6 to 10 über 6 bis 10	over 10 to 18 über 10 bis 18	over 18 to 30 über 18 bis 30	over 30 to 50 über 30 bis 50
e8	— 14 — 28	— 20 — 38	— 25 — 47	— 32 — 59	— 40 — 73	— 50 — 89
h6	0 — 6	0 — 8	0 — 9	0 — 11	0 — 13	0 — 16

Fresas de desbaste HSS 8%Co



HSSCo8, MULTI FLUTE ROUGHING



Hssco8%	€	Hsscotiain	€	Diam	Cabo	Corte	Total	NºNAV
E2751060	11.49 €	EQ751060	12.92 €	6	6	13	57	3
E2751070	12.28 €	EQ751070	14.63 €	7	10	16	66	3
E2751080	12.28 €	EQ751080	14.63 €	8	10	19	69	3
E2751090	12.28 €	EQ751090	14.86 €	9	10	19	69	3
E2751095	12.28 €	EQ751095	14.86 €	9.5	10	19	69	3
E2751100	12.28 €	EQ751100	14.86 €	10	10	22	72	4
E2751110	13.64 €	EQ751110	16.55 €	11	12	22	79	4
E2751120	13.64 €	EQ751120	16.55 €	12	12	26	83	4
E2751125	17.37 €	EQ751125	20.25 €	12.5	12	26	83	4
E2751130	17.37 €	EQ751130	20.36 €	13	12	26	83	4
E2751140	17.37 €	EQ751140	20.58 €	14	12	26	83	4
E2751145	18.57 €	EQ751145	21.83 €	14.5	12	26	83	4
E2751150	18.57 €	EQ751150	21.96 €	15	12	26	83	4
E2751160	19.46 €	EQ751160	23.00 €	16	16	32	92	4
E2751170	20.42 €	EQ751170	24.34 €	17	16	32	92	4
E2751180	20.42 €	EQ751180	24.65 €	18	16	32	92	4
E2751190	23.57 €	EQ751190	29.01 €	19	16	32	92	4
E2751200	23.57 €	EQ751200	30.04 €	20	20	38	104	4
E2751901	23.57 €	EQ751901	30.04 €	20	16	38	98	4
E2751220	29.71 €	EQ751220	36.71 €	22	20	38	104	5
E2751240	35.94 €	EQ751240	43.38 €	24	25	45	121	5
E2751250	35.94 €	EQ751250	43.58 €	25	25	45	121	5
E2751260	40.23 €	EQ751260	47.96 €	26	25	45	121	6
E2751280	45.82 €	EQ751280	53.61 €	28	25	45	121	6
E2751300	53.26 €	EQ751300	61.09 €	30	25	45	121	6

Tolerances according to DIN 7160 & 7161
Toleranzen nach DIN 7160 & 7161

Tolerance range in μm / Toleranzwerte in μm					
Nominal-Diameter in mm / Nennmaßbereich in mm					
from 1 to 3 von 1 bis 3	over 3 to 6 über 3 bis 6	over 6 to 10 über 6 bis 10	over 10 to 18 über 10 bis 18	over 18 to 30 über 18 bis 30	over 30 to 50 über 30 bis 50
js12	± 50	± 60	± 75	± 90	± 105
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13

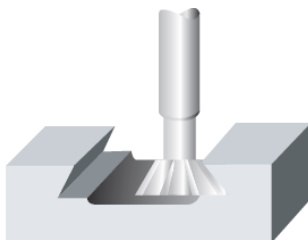
Fresas HSS -E



**MILLING
CUTTERS**

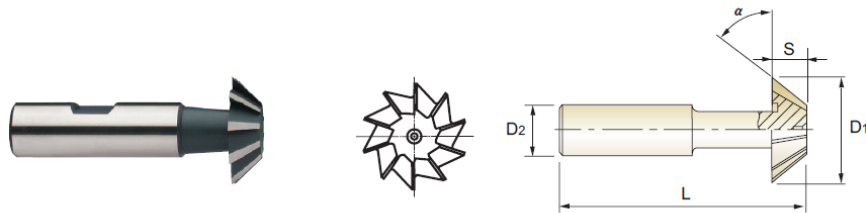


		Diameter	Taper Angle	Diameter	Length	Teeth
PLAIN	€	D1(js16)	α(±15')	D2(h6)	L(js18)	Z
ML01201601	14.28 €	16	45°	12	60	6
ML01202001	18.13 €	20	45°	12	63	6
ML01202201	26.20 €	22	45°	12	67	6
ML01202501	26.87 €	25	45°	16	67	8
ML01202801	29.85 €	28	45°	16	67	8
ML01203201	32.82 €	32	45°	16	71	10
ML01203801	48.42 €	38	45°	16	80	12
ML02201601	14.28 €	16	60°	12	60	6
ML02202001	18.13 €	20	60°	12	63	6
ML02202201	26.20 €	22	60°	12	67	6
ML02202501	26.87 €	25	60°	16	67	8
ML02202801	29.85 €	28	60°	16	67	8
ML02203201	32.82 €	32	60°	16	71	10
ML02203801	48.42 €	38	60°	16	80	12
ML02204001	55.48 €	40	60°	25	85	12
ML02205001	112.55 €	50	60°	25	100	16

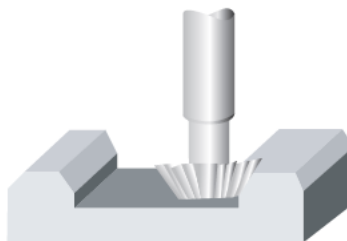


Tolerances according to DIN 7160 & 7161
Toleranzen nach DIN 7160 & 7161

Nominal-Diameter in mm / Nennmaßbereich in mm							
	over 3 to 6 über 3 bis 6	over 6 to 10 über 6 bis 10	over 10 to 18 über 10 bis 18	over 18 to 30 über 18 bis 30	over 30 to 50 über 30 bis 50	over 50 to 80 über 50 bis 80	over 80 to 120 über 80 bis 120
Tolerance range in mm / Toleranzwerte in mm							
js16	± 0.375	± 0.45	± 0.55	± 0.65	± 0.80	± 0.95	± 1.10
js14	± 0.15	± 0.18	± 0.215	± 0.26	± 0.31	± 0.37	± 0.435
js18	± 0.90	± 1.10	± 1.35	± 1.65	± 1.95	± 2.30	± 2.70
Tolerance range in µm / Toleranzwerte in µm							
h6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16	0 - 19	0 - 22

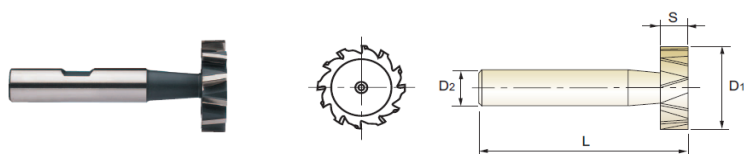


PLAIN	€	D1(js16)	S(js14)	α(±15°)	D2(h6)	L(js18)	Z
ML03201601	14.28 €	16	4	45°	12	60	6
ML03202001	18.13 €	20	5	45°	12	63	6
ML03202201	26.20 €	22	6	45°	12	67	6
ML03202501	26.87 €	25	6.3	45°	16	67	8
ML03202801	29.85 €	28	7.5	45°	16	67	8
ML03203201	32.82 €	32	8	45°	16	71	10
ML03203801	48.42 €	38	10	45°	16	80	12
ML04201601	14.28 €	16	6.3	60°	12	60	6
ML04202001	18.13 €	20	8	60°	12	63	6
ML04202201	26.20 €	22	9	60°	12	67	6
ML04202501	26.87 €	25	10	60°	16	67	8
ML04202801	29.85 €	28	11	60°	16	67	8
ML04203201	32.82 €	32	12.5	60°	16	71	10
ML04203801	48.42 €	38	16	60°	16	80	12

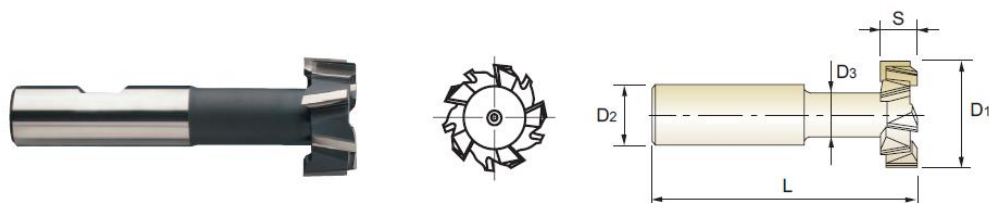


Tolerances according to DIN 7160 & 7161
Toleranzen nach DIN 7160 & 7161

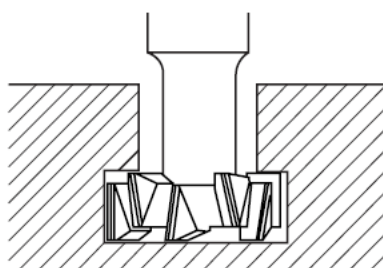
Nominal-Diameter in mm / Nennmaßbereich in mm						
	over 3 to 6 über 3 bis 6	over 6 to 10 über 6 bis 10	over 10 to 18 über 10 bis 18	over 18 to 30 über 18 bis 30	over 30 to 50 über 30 bis 50	over 50 to 80 über 50 bis 80
Tolerance range in mm / Toleranzwerte in mm						
js16	± 0.375	± 0.45	± 0.55	± 0.65	± 0.80	± 0.95
js14	± 0.15	± 0.18	± 0.215	± 0.26	± 0.31	± 0.37
js18	± 0.90	± 1.10	± 1.35	± 1.65	± 1.95	± 2.30
Tolerance range in µm / Toleranzwerte in µm						
h6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16	0 - 19



Cod.	€	D1(h11)	S(e8)	D2(h6)	L(js18)	Z
ML06210E01	11.90 €	10.5	2	6	50	8
ML06210E02	11.90 €	10.5	2.5	6	50	8
ML06210E03	11.90 €	10.5	3	6	50	8
ML06213E01	13.82 €	13.5	2	10	56	8
ML06213E02	13.82 €	13.5	2.5	10	56	8
ML06213E03	13.82 €	13.5	3	10	56	8
ML06213E04	13.82 €	13.5	4	10	56	8
ML06216E01	15.08 €	16.5	2.5	10	56	8
ML06216E02	15.08 €	16.5	3	10	56	8
ML06216E03	15.08 €	16.5	4	10	56	8
ML06216E04	15.08 €	16.5	5	10	56	8
ML06219E01	19.25 €	19.5	3	10	56	8
ML06219E02	19.25 €	19.5	4	10	63	8
ML06219E03	19.25 €	19.5	5	10	63	8
ML06219E04	19.25 €	19.5	6	10	63	8
ML06222E01	20.57 €	22.5	4	10	63	10
ML06222E02	20.57 €	22.5	5	10	63	10
ML06222E03	20.57 €	22.5	6	10	63	10
ML06222E04	20.57 €	22.5	8	10	63	10
ML06225E01	25.98 €	25.5	5	10	63	10
ML06225E02	25.98 €	25.5	6	10	63	10
ML06225E03	25.98 €	25.5	7	10	63	10
ML06225E04	25.98 €	25.5	8	10	63	10
ML06228E01	28.27 €	28.5	5	10	63	10
ML06228E02	28.27 €	28.5	6	10	63	10
ML06228E03	28.27 €	28.5	7	10	63	10
ML06228E04	28.27 €	28.5	8	10	63	10
ML06228E05	28.27 €	28.5	10	12	71	10
ML06232E01	31.13 €	32.5	5	12	71	12
ML06232E02	31.13 €	32.5	6	12	71	12
ML06232E03	31.13 €	32.5	7	12	71	12
ML06232E04	31.13 €	32.5	8	12	71	12
ML06232E05	31.13 €	32.5	10	12	71	12
ML06238E01	45.73 €	38.5	7	12	71	12
ML06238E02	45.73 €	38.5	8	12	71	12
ML06238E03	45.73 €	38.5	9	12	71	12
ML06238E04	45.73 €	38.5	10	12	71	12
ML06245E01	55.83 €	45.5	10	12	71	14

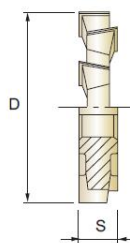
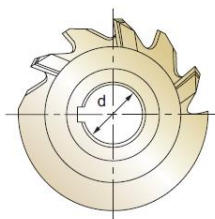


Cod.	€	D1(d11)	S(d11)	D2(h6)	D3(h12)	L(js18)	Z
ML07212E01	14.05€	12.5	6	10	5	57	6
ML07201601	17.61€	16	8	10	6.5	62	6
ML07201801	18.57€	18	8	12	8	70	6
ML07201901	19.46€	19	9	12	8	71	6
ML07202101	24.12€	21	9	12	10	74	6
ML07202201	25.32€	22	10	12	10	75	6
ML07202501	30.56€	25	11	16	12	82	6
ML07202801	34.03€	28	12	16	13	83	6
ML07203201	36.45€	32	14	16	15	90	8
ML07203601	51.92€	36	16	25	17	103	8
ML07204001	65.92€	40	18	25	19	108	8



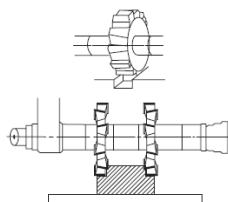
Tolerances according to DIN 7160 & 7161 Toleranzen nach DIN 7160 & 7161

Nominal-Diameter in mm / Nennmaßbereich in mm							
	over 3 to 6 über 3 bis 6	over 6 to 10 über 6 bis 10	over 10 to 18 über 10 bis 18	over 18 to 30 über 18 bis 30	over 30 to 50 über 30 bis 50	over 50 to 80 über 50 bis 80	over 80 to 120 über 80 bis 120
Tolerance range in mm / Toleranzwerte in mm							
h12	0 - 0.12	0 - 0.15	0 - 0.18	0 - 0.21	0 - 0.25	0 - 0.30	0 - 0.35
js18	± 0.90	± 1.10	± 1.35	± 1.65	± 1.95	± 2.30	± 2.70
Tolerance range in µm / Toleranzwerte in µm							
d11	- 30 - 105	- 40 - 130	- 50 - 160	- 65 - 195	- 80 - 240	- 100 - 290	- 120 - 340
h6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16	0 - 19	0 - 22



Cod.	€	D(js14)	S(k11)	d(H7)	Z
ML10205001	31.96 €	50	3	16	14
ML10205002	28.11 €	50	4	16	14
ML10205003	28.11 €	50	5	16	14
ML10205004	28.11 €	50	6	16	14
ML10205005	28.11 €	50	7	16	14
ML10205006	29.80 €	50	8	16	14
ML10205007	31.17 €	50	9	16	14
ML10205008	31.17 €	50	10	16	14
ML10206301	40.61 €	63	3	22	16
ML10206302	33.35 €	63	4	22	16
ML10206303	33.35 €	63	5	22	16
ML10206304	33.35 €	63	6	22	16
ML10206305	34.52 €	63	7	22	16
ML10206306	34.52 €	63	8	22	16
ML10206307	35.34 €	63	9	22	16
ML10206308	39.23 €	63	10	22	16
ML10206309	40.90 €	63	12	22	16
ML10206310	43.66 €	63	14	22	16
ML10206311	46.73 €	63	16	22	16
ML10206312	48.95 €	63	18	22	16
ML10208001	48.11 €	80	3	22	18
ML10208002	39.49 €	80	4	22	18
ML10208003	39.49 €	80	5	22	18
ML10208004	39.49 €	80	6	22	18
ML10208005	43.98 €	80	7	22	18
ML10208006	43.98 €	80	8	22	18
ML10208007	48.42 €	80	9	22	18
ML10208008	48.42 €	80	10	22	18
ML10208009	50.90 €	80	12	22	18
ML10208010	54.27 €	80	14	22	18
ML10208011	58.40 €	80	16	22	18
ML10208012	61.16 €	80	18	22	18
ML10208013	65.09 €	80	20	22	18
ML10208014	39.49 €	80	4	27	18
ML10208015	39.49 €	80	5	27	18
ML10208016	39.49 €	80	6	27	18
ML10208017	43.98 €	80	7	27	18
ML10208018	43.98 €	80	8	27	18

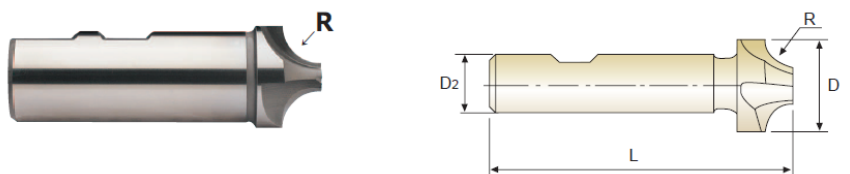
ML10208019	48.42 €	80	9	27	18
ML10208020	48.42 €	80	10	27	18
ML10208021	50.90 €	80	12	27	18
ML10208022	54.27 €	80	14	27	18
ML10208023	58.40 €	80	16	27	18
ML10208024	61.16 €	80	18	27	18
ML10208025	65.09 €	80	20	27	18
ML10210001	65.92 €	100	3	27	20
ML10210002	54.27 €	100	4	27	20
ML10210003	54.27 €	100	5	27	20
ML10210004	54.27 €	100	6	27	20
ML10210005	54.27 €	100	7	27	20
ML10210006	60.63 €	100	8	27	20
ML10210007	60.63 €	100	9	27	20
ML10210008	63.98 €	100	10	27	20
ML10210009	70.97 €	100	12	27	20
ML10210010	72.84 €	100	14	27	20
ML10210011	80.65 €	100	15	27	20
ML10210012	81.51 €	100	16	27	20
ML10210013	84.83 €	100	18	27	20
ML10210014	90.95 €	100	20	27	20
ML10210015	54.27 €	100	4	32	20
ML10210016	54.27 €	100	5	32	20
ML10210017	54.27 €	100	6	32	20
ML10210018	54.27 €	100	7	32	20
ML10210019	60.63 €	100	8	32	20
ML10210020	60.63 €	100	9	32	20
ML10210021	63.98 €	100	10	32	20
ML10210022	70.97 €	100	12	32	20
ML10210023	72.84 €	100	14	32	20
ML10210024	80.65 €	100	15	32	20
ML10210025	81.51 €	100	16	32	20
ML10210026	84.83 €	100	18	32	20
ML10210027	90.95 €	100	20	32	20
ML10212501	77.06 €	125	5	32	22
ML10212502	77.06 €	125	6	32	22
ML10212503	79.03 €	125	8	32	22
ML10212504	88.45 €	125	10	32	22



Tolerances according to DIN 7160 & 7161
Toleranzen nach DIN 7160 & 7161

Nominal-Diameter in mm / Nennmaßbereich in mm									
	over 3 to 6 über 3 bis 6	over 6 to 10 über 6 bis 10	over 10 to 18 über 10 bis 18	over 18 to 30 über 18 bis 30	over 30 to 50 über 30 bis 50	over 50 to 80 über 50 bis 80	over 80 to 120 über 80 bis 120	over 120 to 180 über 120 bis 180	over 180 to 250 über 180 bis 250
Tolerance range in mm / Toleranzwerte in mm									
js14	± 0.15	± 0.18	± 0.215	± 0.26	± 0.31	± 0.37	± 0.435	± 0.50	± 0.575
Tolerance range in µm / Toleranzwerte in µm									
k11	+ 75 0	+ 90 0	+ 110 0	+ 130 0	+ 160 0	+ 190 0	+ 220 0	+ 250 0	+ 290 0
H7	+ 12 0	+ 15 0	+ 18 0	+ 21 0	+ 25 0	+ 30 0	+ 35 0	+ 40 0	+ 46 0

Fresas ¼ raio HSS 8%Co



HSSCo8, 4 FLUTE CORNER ROUNDING



Cod.	€	R(H11)	D	D2(h6)	L
E2498010	15.95 €	R1.0	8	10	60
E2498015	15.95 €	R1.5	9	10	60
E2498020	15.95 €	R2.0	10	10	60
E2498025	16.57 €	R2.5	11	10	60
E2498030	18.34 €	R3.0	12	12	60
E2498035	18.34 €	R3.5	13	12	60
E2498040	19.54 €	R4.0	14	12	60
E2498045	20.59 €	R4.5	15	12	60
E2498050	21.25 €	R5.0	16	12	60
E2498055	21.25 €	R5.5	19	16	67
E2498060	23.27 €	R6.0	20	16	67
E2498065	27.36 €	R6.5	21	16	71
E2498070	27.36 €	R7.0	22	16	71
E2498075	27.36 €	R7.5	23	16	71
E2498080	30.59 €	R8.0	24	16	71
E2498085	39.48 €	R8.5	25	25	85
E2498090	39.48 €	R9.0	26	25	85
E2498095	39.48 €	R9.5	27	25	85
E2498100	39.48 €	R10.0	28	25	85
E2498105	55.44 €	R10.5	31	25	90
E2498110	55.44 €	R11.0	32	25	90
E2498120	55.44 €	R12.0	34	25	90
E2498125	66.54 €	R12.5	41	25	100
E2498130	66.54 €	R13.0	42	25	100
E2498140	66.54 €	R14.0	44	25	100
E2498150	96.93 €	R15.0	46	25	100
E2498160	96.93 €	R16.0	48	25	100
E2498180	96.93 €	R18.0	52	32	112
E2498200	137.95 €	R20.0	56	32	112

Tolerances according to DIN 7160 & 7161 Toleranzen nach DIN 7160 & 7161

Nominal-Diameter in mm / Nennmaßbereich in mm						
	from 1 to 3 von 1 bis 3	over 3 to 6 über 3 bis 6	over 6 to 10 über 6 bis 10	over 10 to 18 über 10 bis 18	over 18 to 30 über 18 bis 30	over 30 to 50 über 30 bis 50
Tolerance range in µm / Toleranzwerte in µm						
H11	+ 60 0	+ 75 0	+ 90 0	+ 110 0	+ 130 0	+ 160 0
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16