



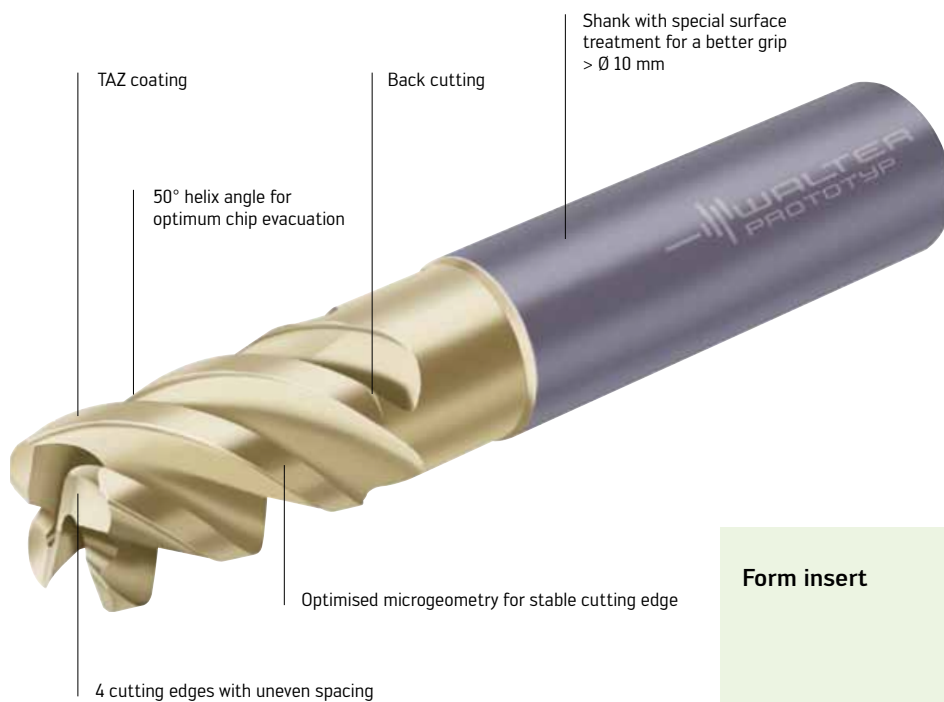
Product innovations
Edition 2012-2

Turning, drilling, threading,
milling, adaptors

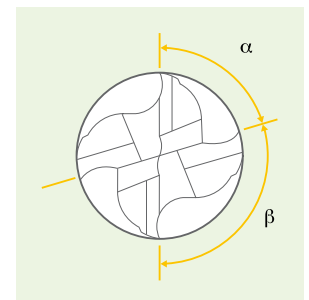


_INNOVATIONS

**New products,
convincing performance.**

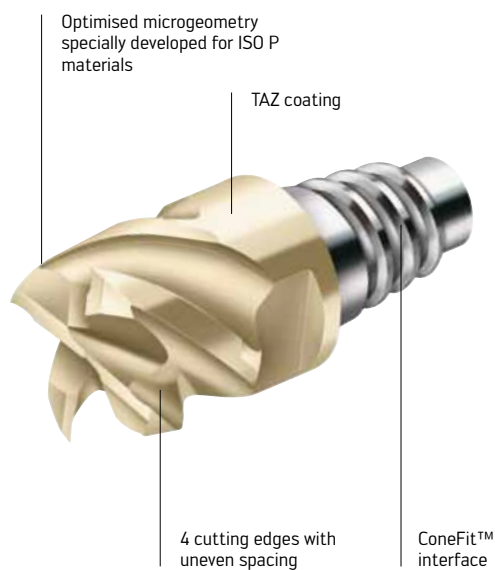


Uneven cutting edge spacing $\alpha < \beta$



Proto-max™ ST – high-performance end mill

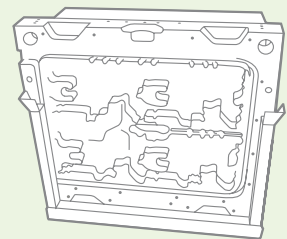
H4034217 metric
H4038217 metric
with corner radius



Proto-max™ ST with ConeFit™ interface

H4E34217 metric
H4E38217 metric with corner radius

Form insert

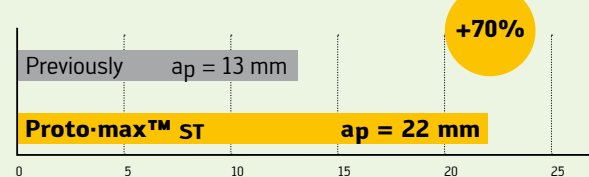


Workpiece material: X33CrS16 (1.2085)
Tensile strength: 1000 N/mm²
Tool: Proto-max™_{ST}
H4034217-16

Cutting data

	Previously	Proto-max™ _{ST}
Ø	16 mm	16 mm
z	4	4
a _e	16 mm	16 mm
a _p	13 mm	22 mm
v _c	160 m/min	160 m/min
N	3180 rpm	3180 rpm
f _z	0.08 mm	0.08 mm
v _f	1018 mm/min	1018 mm/min

Machined volume Q [cm³/min]



The result:

High level of process stability and productivity due to reduced wear with higher metal removal rates.

_ ORDERING INFORMATION

Proto-max™_{ST} – 4-flute with corner radius – metric

	D_c h9 mm	R mm	L_c mm	d_2 mm	l_1 mm	l_3 mm	l_4 mm	d_1 h6 mm	z	TAZ DIN 6535 HA Designation H4038217	TAZ DIN 6535 HB Designation H4138217
	3	0,2	5	2,9	57	8,5	21	6	4	-3-0,2	–
	3	0,5	5	2,9	57	8,5	21	6	4	-3-0,5	–
	4	0,2	7	3,8	57	11	21	6	4	-4-0,2	–
	4	0,5	7	3,8	57	11	21	6	4	-4-0,5	–
	5	0,5	8	4,75	57	14	21	6	4	-5-0,5	–
	5	1	8	4,75	57	14	21	6	4	-5-1	–
	6	0,5	10	5,7	57	16	21	6	4	-6-0,5	–
	6	1	10	5,7	57	16	21	6	4	-6-1	–
	8	0,5	13	7,6	63	22	27	8	4	-8-0,5	–
	8	1	13	7,6	63	22	27	8	4	-8-1	–
	8	2	13	7,6	63	22	27	8	4	-8-2	–
	10	0,5	16	9,5	72	28	32	10	4	-10-0,5	-10-0,5
	10	1	16	9,5	72	28	32	10	4	-10-1	-10-1
	10	2	16	9,5	72	28	32	10	4	-10-2	-10-2
	12	0,5	19	11,4	83	33	38	12	4	-12-0,5	-12-0,5
	12	1	19	11,4	83	33	38	12	4	-12-1	-12-1
	12	2	19	11,4	83	33	38	12	4	-12-2	-12-2
	16	0,5	26	15,2	92	42	44	16	4	-16-0,5	-16-0,5
	16	1	26	15,2	92	42	44	16	4	-16-1	-16-1
	16	2	26	15,2	92	42	44	16	4	-16-2	-16-2
	20	1	32	19	104	52	54	20	4	-20-1	-20-1
	20	2	32	19	104	52	54	20	4	-20-2	-20-2
	20	4	32	19	104	52	54	20	4	-20-4	-20-4