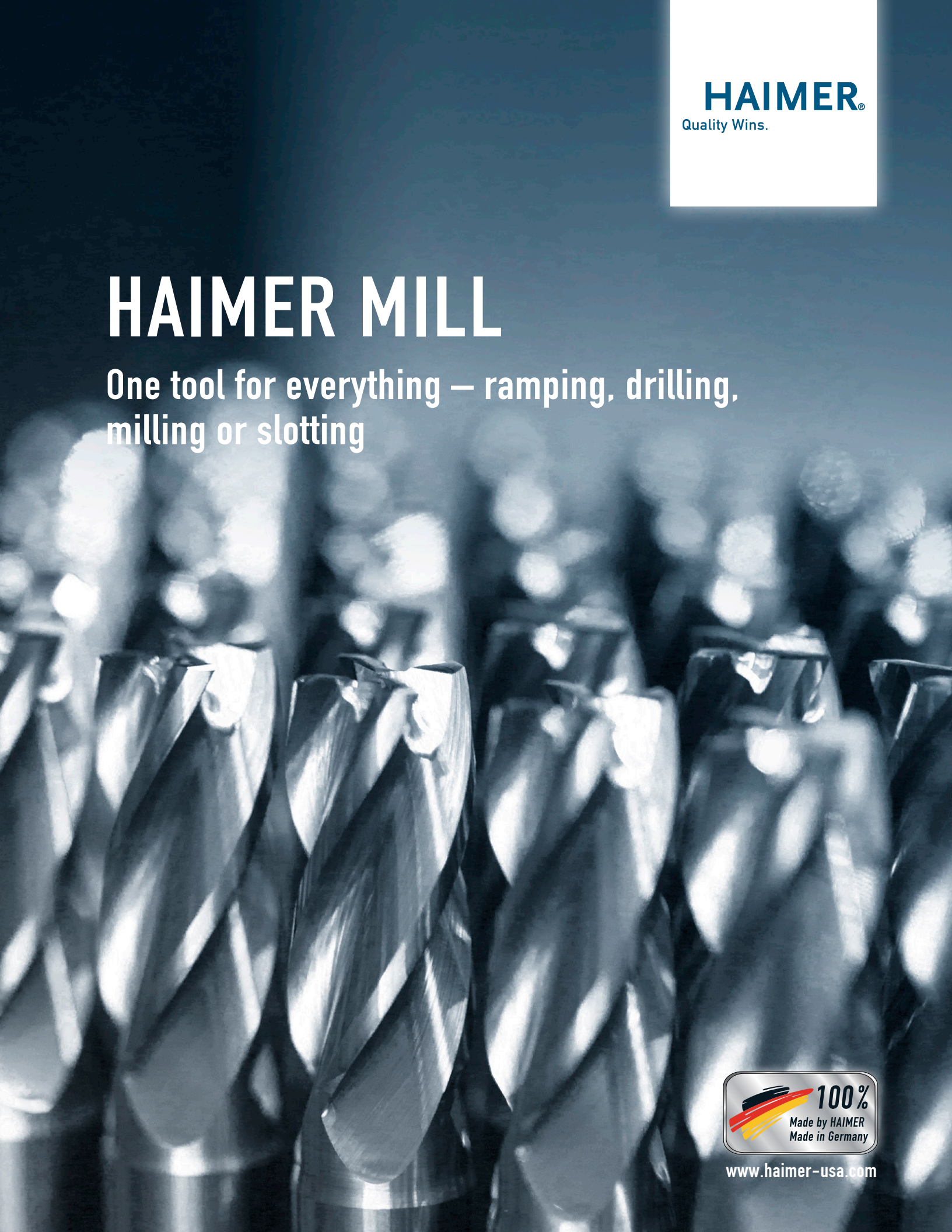
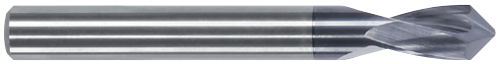
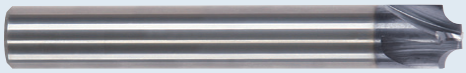
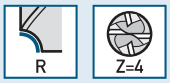
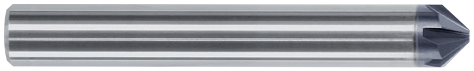
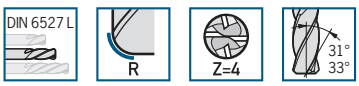
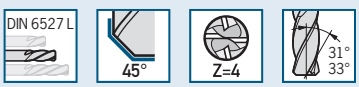

HAIMER
Quality Wins.
HAIMER MILL
One tool for everything – ramping, drilling, milling or slotting
100%
Made by HAIMER
Made in Germany
www.haimer-usa.com

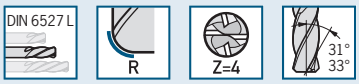
OVERVIEW SOLID CARBIDE END MILLS

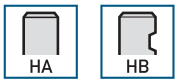
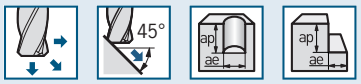
Products		ø D1	Page	Characteristics
E1012 – HAIMER MILL MULTIFUNCTION END MILL 	METRIC	ø 4 – ø 10	9	
E1014UN – HAIMER MILL QUADRANT END MILL 	METRIC	ø 6 – ø 10	10	
E1014UN/E1016UN – HAIMER MILL CHAMFERING END MILL 	METRIC	ø 4 – ø 10	11	
F2004MN – HAIMER MILL 	INCH	ø 3/32" – ø 3/4"	14	
F2004MN – HAIMER MILL 	INCH	ø 3/32" – ø 3/4"	15	
F2004NN – HAIMER MILL 	METRIC	ø 2 – ø 20	16	
F2004NN – HAIMER MILL UNDERSIZE 	METRIC	ø 5,7 – ø 19,5	17	
F2004NN – HAIMER MILL 	METRIC	ø 2 – ø 20	18	
F2004NN – HAIMER MILL 	METRIC	ø 2 – ø 20	19 – 21	

Shank	Application	Material: Main Material	Material: also suitable for
HA		P	K, S, N, M, H
HA	ap, ae	P	K, S, N, M, H
HA	ap, ae	P	K, S, N, M, H
HA, S-λ, HB	45°; ap, ae; ap, ae	P, M	K, S, N, H
HA, S-λ, HB	45°; ap, ae; ap, ae	P, M	K, S, N, H
HA, S-λ, HB	45°; ap, ae; ap, ae	P, M	K, S, N, H
HA, S-λ, HB	45°; ap, ae; ap, ae	P, M	K, S, N, H
HA, S-λ, HB	45°; ap, ae; ap, ae	P, M	K, S, N, H
HA, S-λ, HB	45°; ap, ae; ap, ae	P, M	K, S, N, H

HAIMER

OVERVIEW SOLID CARBIDE END MILLS

Products		ø D1	Page	Characteristics
F2004LL – HAIMER MILL				
	METRIC	ø 6 – ø 20	22	
	INCH	ø 1/4" – ø 3/4"	23	
F2014KK – HAIMER MILL				
	METRIC	ø 2 – ø 20	24	
	INCH	ø 3/32" – ø 3/4"	25	
F2014 – HAIMER MILL				
	INCH	ø 1/4" – ø 3/4"	26	

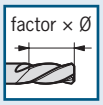
Shank	Application	Material
		Main Material: P, M also suitable for: K, S, N, H
		Main Material: P, M also suitable for: K, S, N, H
		Main Material: P, M also suitable for: K, S, N, H

EXPLANATION ICONS/ARTICLE CODE/MATERIAL LIST

Explanation Icons

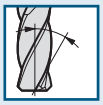
Characteristics

Cutting length



Similar DIN

Helix angle



Sharp cutting edge

Corner chamfer

Corner radius

Ball Nose

Spot

Edge radius

Teeth 2

Teeth 3

Teeth 4

Teeth 5

Teeth 6

Safe-λock®

Straight shank

Weldon shank

All three shanks available

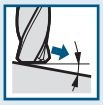
Application

Feed direction

Feed direction

Feed direction

Ramping



Slotting

Side milling

Rounding

Chamfering

Drilling

3D Milling

V-slotting

Contouring

Chamfering

Side milling

Coolant

Emulsion

Cold air

Dry machining

Minimal lubrication

Central inner cooling

Explanation article code

F	1	0	0	2	M	N	L
Tool type	Group	Type	Modification	No. of teeth	Length of cut	Overall length	Shank type
F- Cylindrical end mill E- Chamfering end mill V- Ball nose end mill	1- Universal 2- Steel < 52HRC 4- Alu 6- Titanium/ Inconel	0- Plain cutter 1- Chip breaker 3- Roughing	0- With neck 1- No Neck	2- Z2 3- Z3 4- Z4 5- Z5 6- Z6 8- Z8 0- Z10	N- DIN (1.75-2.5xD) L- 2.6-3.5xD M- 1.5xD K- 1.25xD U- 0.75xD	N- DIN6527 L- Long K- Short U- Ultra short	L- Safe-Lock H- Straight B- Weldon

Material list

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/Hardness
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 116,000 PSI, 800MPA	up to 25 HRC
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 116,000 PSI, 800MPA	up to 45 HRC
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 94,275 PSI, 650MPA	
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 94,275 PSI, 650MPA	
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 65,265 PSI, 450MPA	
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 65,265 PSI, 450MPA	
S1	Titanium & titanium alloys	Ti6Al4V	3.7165		
S2	High Temp alloys	Inconel, Nimonic			
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%
H1	Hardened steels				45 - 55 HRC
H1	Hardened steels				>- 55 HRC

	1000	R	1.00	A	A	0001	KR
	Diameter	Cutting edge transition	Size transition	Material	Coating	Special number	Cooling
	1200- Metric 1/2Z- Inch	S- Sharp cutting edge C- Chamfer R- Radius W- Chamfer angle	1.00- Metric .03- Inch 90- Chamfer angle 60- Chamfer angle 120- Chamfer angle	A- HF10 h5 D- HF10 h6	A- HAIMER-UNI C- HAIMER-ALU T- HAIMER-HARD - none	0000 - 9999	KR- Cooling radial KZ- Cooling central KS- Cooling special

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Roughing Vc (m/min)	Finishing Vc (m/min)
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	**160 – 220**	**220 – 280**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	**120 – 160**	**160 – 200**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		80 – 120	120 – 160
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 650 N/mm²		60 – 90	90 – 120
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		120 – 180	180 – 240
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 450 N/mm²		80 – 160	160 – 220
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			40 – 80	40 – 80
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/ mm²		30 – 40	30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	500 – 900	500 – 900
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 350	120 – 350
H1	Hardened steels				45 – 55 HRC	40 – 60	60 – 80

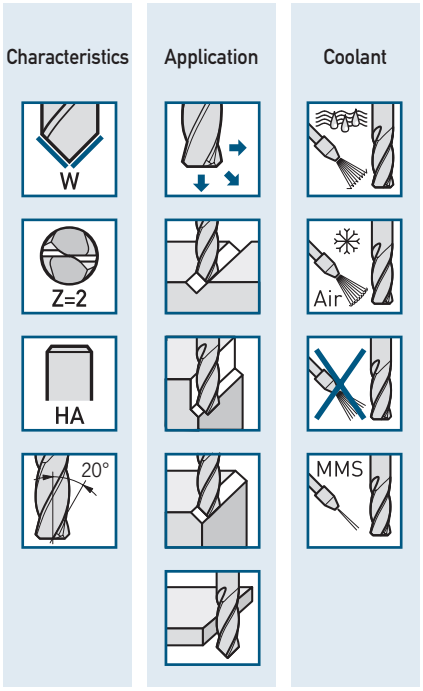
Cutting data are reference values and need to be adjusted according to the application area.

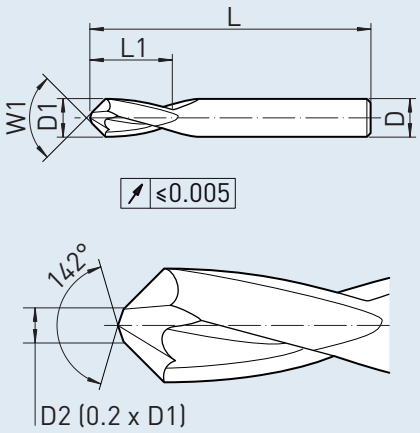
Feed per tooth (mm/tooth) in relation with D1 and cutting width ae				
	ø 4	ø 6	ø 8	ø 10
fz	0.01 – 0.04	0.015 – 0.06	0.02 – 0.08	0.03 – 0.10

METRIC

E1012 – HAIMER MILL MULTIFUNCTION END MILL

Technical data and product characteristics





Fine balanced

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Cone angle 60/90/120/142°
- Center spot
- Multi functional tool
- Circumference cutting

Article-Code	Quality	D1 (h6) [mm]	Chamfer	Angle W1	L1 max. [mm]	L [mm]	D2 [mm]	Shank
E1012NNH0400W60..	DA	4.00	W	60°	11	51	4.00	HA
E1012NNH0400W90..	DA	4.00	W	90°	11	51	4.00	HA
E1012NNH0400W120..	DA	4.00	W	120°	11	51	4.00	HA
E1012NNH0400W142..	DA	4.00	W	142°	11	51	4.00	HA
E1012NLH0600W60..	DA	6.00	W	60°	13	66	6.00	HA
E1012NLH0600W90..	DA	6.00	W	90°	13	66	6.00	HA
E1012NLH0600W120..	DA	6.00	W	120°	13	66	6.00	HA
E1012NLH0600W142..	DA	6.00	W	142°	13	66	6.00	HA
E1012NLH0800W60..	DA	8.00	W	60°	19	79	8.00	HA
E1012NLH0800W90..	DA	8.00	W	90°	19	79	8.00	HA
E1012NLH0800W120..	DA	8.00	W	120°	19	79	8.00	HA
E1012NLH0800W142..	DA	8.00	W	142°	19	79	8.00	HA
E1012NLH1000W60..	DA	10.00	W	60°	22	89	10.00	HA
E1012NLH1000W90..	DA	10.00	W	90°	22	89	10.00	HA
E1012NLH1000W120..	DA	10.00	W	120°	22	89	10.00	HA
E1012NLH1000W142..	DA	10.00	W	142°	22	89	10.00	HA

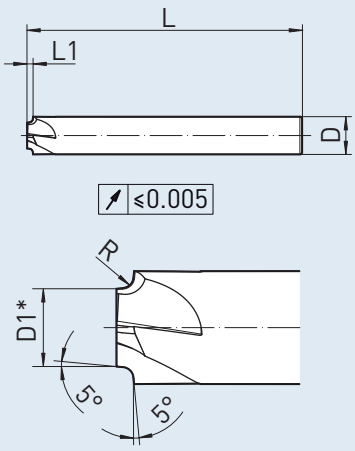
Order No. = Article Code + Quality.

Technical data and product characteristics

Characteristics

Application

Coolant



Fine balanced
* diameter not center cutting

Material – characteristics

Main Material

P

also suitable for

K S N M H

- For contour rounding
- 5° tangential release
- Positive rake angle without profile displacement

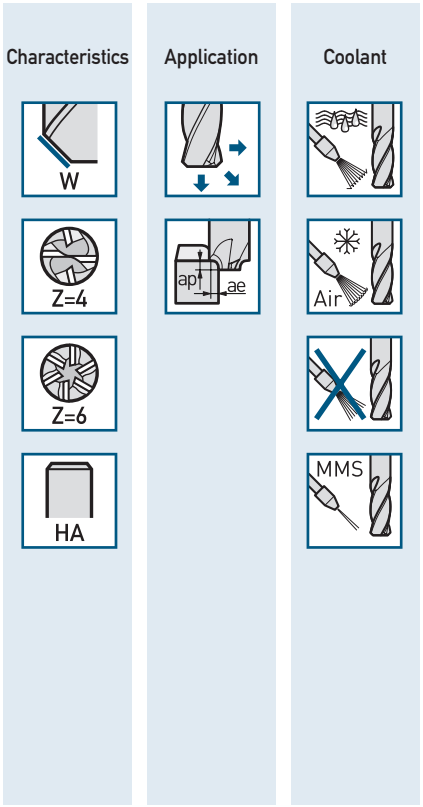
Article-Code	Quality	D1 [mm]	Cutting edge	Edge radius [mm]	L1 max. [mm]	L [mm]	D (h6) [mm]	Shank
E1014UNH0600R0.25..	DA	5.0	R	0.25	0.50	58	6	HA
E1014UNH0600R0.50..	DA	4.5	R	0.50	0.75	58	6	HA
E1014UNH0800R0.75..	DA	6.0	R	0.75	1.00	64	8	HA
E1014UNH0800R1.00..	DA	5.0	R	1.00	1.50	64	8	HA
E1014UNH1000R1.50..	DA	6.0	R	1.50	2.00	73	10	HA
E1014UNH1000R2.00..	DA	5.0	R	2.00	2.50	73	10	HA

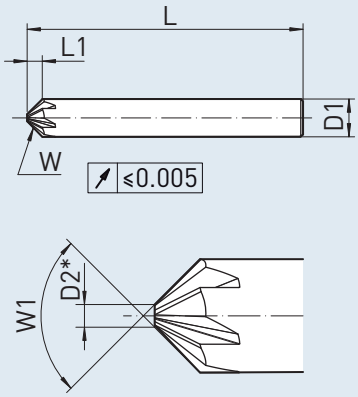
Order No. = Article Code + Quality.

METRIC

E1014UN/E1016UN – HAIMER MILL CHAMFERING END MILL

Technical data and product characteristics





Fine balanced
* diameter not center cutting

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Cone angle 60/90/120°
- Flat tip
- Multi functional tool
- Straight fluted

Article-Code	Quality	D1 (h6) [mm]	Chamfer	Angle W1	L1 max. [mm]	L [mm]	D2 [mm]	Shank
E1014UNH0400W60..	DA	4.00	W	60°	2.8	51	0.8	HA
E1014UNH0400W90..	DA	4.00	W	90°	1.6	51	0.8	HA
E1014UNH0400W120..	DA	4.00	W	120°	0.9	51	0.8	HA
E1016UNH0600W60..	DA	6.00	W	60°	4.2	51	0.8	HA
E1016UNH0600W90..	DA	6.00	W	90°	2.4	58	1.2	HA
E1016UNH0600W120..	DA	6.00	W	120°	1.3	58	1.2	HA
E1016UNH0800W60..	DA	8.00	W	60°	5.5	64	1.6	HA
E1016UNH0800W90..	DA	8.00	W	90°	3.2	64	1.6	HA
E1016UNH0800W120..	DA	8.00	W	120°	1.8	64	1.6	HA
E1016UNH1000W60..	DA	10.00	W	60°	6.9	73	2.0	HA
E1016UNH1000W90..	DA	10.00	W	90°	4	73	2.0	HA
E1016UNH1000W120..	DA	10.00	W	120°	2.3	73	2.0	HA

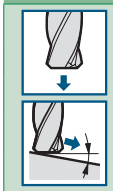
Order No. = Article Code + Quality.

Cutting data inch

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width Ramping	ae = 100% D1 ap = 1 x D1 Cutting Speed (SFM)	ae = 15% D1 ap = L1 max.	ae = 5% D1 ap = L1 max.
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 116,000 PSI, 800MPA	up to 25 HRC	**45°**	**836 – 902**	**1049 – 1115**	**1311 – 1377**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 116,000 PSI, 800MPA	up to 45 HRC	**30°**	**623 – 689**	**721 – 787**	**951 – 1016**
M1	**Stainless steels**	303, 304	1.4305, 1.4301, 1.4034	≤ 94,275 PSI, 650MPA		**10°**	**311 – 361**	**377 – 443**	**492 – 557**
M2	**Stainless steels**	316Ti, 316L	1.4571, 1.4404, 1.4418	> 94,275 PSI, 650MPA		**5°**	**246 – 295**	**311 – 344**	**361 – 426**
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 65,265 PSI, 450MPA		45°	525 – 590	590 – 656	689 – 754
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 65,265 PSI, 450MPA		20°	426 – 492	492 – 557	590 – 656
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			10°	164 – 197	197 – 262	262 – 295
S2	High Temp alloys	Inconel, Nimonic				5°	98 – 131	98 – 131	98 – 131
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si > 9%	30°	1541 – 1607	1967 – 2066	2557 – 2689
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	30°	1115 – 1180	1377 – 1443	1770 – 1902
H1	Hardened steels				45 - 55 HRC	10°	131 – 197	197 – 262	197 – 262

Cutting data are reference values and need to be adjusted according to the application area.
Chip removal recommended for drilling depth 0.5 – 1 x D.

Feed per tooth (inch/tooth) in relation with D1 and cutting width ae

ae		3/32	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4
to 50% ø		0.0006	0.0008	0.0012	0.0016	0.0020	0.0024	0.0033	0.0041	0.0049
100% ø		*0.0005	*0.0007	*0.0011	*0.0014	*0.0017	*0.0021	*0.0028	*0.0034	*0.0041
	P	0.0004	0.0006	0.0009	0.0011	0.0014	0.0017	0.0023	0.0028	0.0034
	M	0.0002	0.0003	0.0005	0.0006	0.0008	0.0009	0.0013	0.0016	0.0019
	K	0.0004	0.0005	0.0008	0.0010	0.0013	0.0015	0.0020	0.0025	0.0030
	S	0.0002	0.0003	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0015
	N	0.0004	0.0006	0.0009	0.0011	0.0014	0.0017	0.0023	0.0028	0.0034

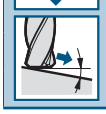
* For Slotting (100% Ø) in material M1, M2 and S1 reduce fz by 30%.

Cutting data metric

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width Ramping	ae = 100% D1 ap = 1 x D1 Cutting speed Vc (m/min)	ae = 15% D1 ap = L1 max.	ae = 5% D1 ap = L1 max.
P1	**General construction steels**	A252, A50-2, 1045	1.0038. 1.0050. 1.0503	≤ 800 N/mm²	up to 25 HRC	**45°**	**255 – 275**	**320 – 340**	**400 – 420**
P2	**Heat treated steels**	D2, 4140	1.2367. 1.2379. 1.2363. 1.7225	> 800 N/mm²	up to 25 HRC	**30°**	**190 – 210**	**220 – 240**	**290 – 310**
M1	Stainless steels	303, 304	1.4305. 1.4301. 1.4034	≤ 650 N/mm²		**10°**	**95 – 110**	**115 – 135**	**150 – 170**
M2	Stainless steels	316Ti, 316L	1.4571. 1.4404. 1.4418	> 650 N/mm²		**5°**	**75 – 90**	**95 – 105**	**110 – 130**
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020. 0.6040. 0.7040	≤ 450 N/mm²		45°	160 – 180	180 – 200	210 – 230
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060. 0.7070	> 450 N/mm²		20°	130 – 150	150 – 170	180 – 200
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			10°	50 – 60	60 – 80	80 – 90
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/ mm²		5°	30 – 40	30 – 40	30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	30°	470 – 490	600 – 630	780 – 820
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	30°	340 – 360	420 – 440	540 – 580
H1	Hardened steels				45 – 55 HRC	10°	40 – 60	60 – 80	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.
Chip removal recommended for drilling depth 0.5 – 1 x D.

Feed per tooth (mm/tooth) in relation with D1 and cutting width ae

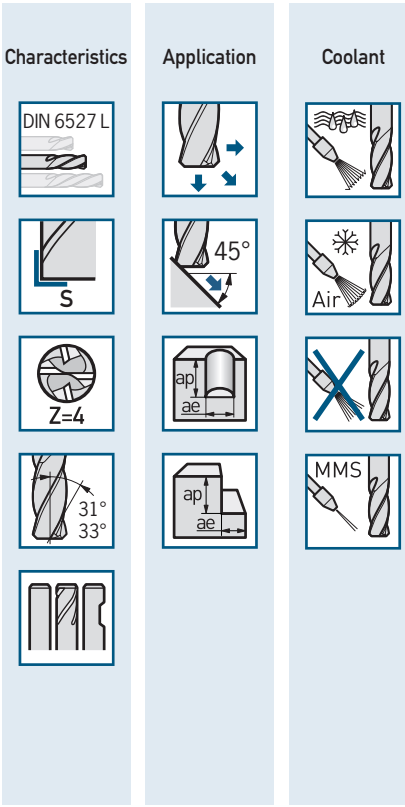
ae		ø 2	ø 3	ø 4	ø 5	ø 6	ø 8	ø 10	ø 12	ø 14	ø 16	ø 18	ø 20
to 50% ø		0.013	0.020	0.026	0.033	0.039	0.052	0.065	0.078	0.091	0.104	0.117	0.13
100% ø		*0.011	*0.017	*0.022	*0.028	*0.033	*0.044	*0.055	*0.066	*0.077	*0.088	*0.099	*0.11
	P	0.007	0.011	0.014	0.018	0.021	0.028	0.035	0.042	0.049	0.056	0.063	0.07
	M	0.004	0.006	0.008	0.010	0.012	0.016	0.020	0.024	0.028	0.032	0.036	0.04
	K	0.007	0.011	0.014	0.018	0.021	0.028	0.035	0.042	0.049	0.056	0.063	0.07
	S	0.004	0.006	0.008	0.010	0.012	0.016	0.020	0.024	0.028	0.032	0.036	0.04
	N	0.009	0.014	0.018	0.023	0.027	0.036	0.045	0.054	0.063	0.072	0.081	0.09

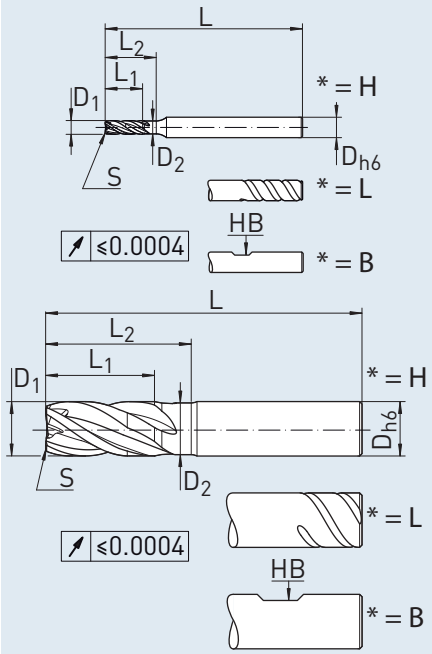
*For Slotting (100% Ø) in material M1, M2, S1 and S2 reduce fz by 30%.

Technical data and product characteristics

Optional:

- Straight shank DIN 6535-HA
- Safe-Lock shank (S-λ)
- Weldon shank similar DIN 6535-HB





Material – characteristics

Main Material: P, M

also suitable for: K, S, N, H

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Cutting length L1 max. 2.25 x D1

Article-Code	Quality	D1 (f9) [inch]	Cutting edge	L1 [inch]	L [inch]	L2 [inch]	D2 [inch]	D (h6) [inch]	Shank
F2004MN*3/32ZS..	DA	3/32	S	0.211	2	9/32	0.090	1/4	HA/S-λ/HB
F2004MN*1/8ZS..	DA	1/8	S	0.281	2	3/8	0.121	1/4	HA/S-λ/HB
F2004MN*3/16ZS..	DA	3/16	S	0.422	2 1/2	9/16	0.180	1/4	HA/S-λ/HB
F2004MN*1/4ZS..	DA	1/4	S	0.563	2 1/2	3/4	0.231	1/4	HA/S-λ/HB
F2004MN*5/16ZS..	DA	5/16	S	0.703	2 1/2	15/16	0.297	5/16	HA/S-λ/HB
F2004MN*3/8ZS..	DA	3/8	S	0.844	3	1 1/8	0.355	3/8	HA/S-λ/HB
F2004MN*1/2ZS..	DA	1/2	S	1.125	3 1/2	1 1/2	0.476	1/2	HA/S-λ/HB
F2004MN*5/8ZS..	DA	5/8	S	1.406	4	1 7/8	0.594	5/8	HA/S-λ/HB
F2004MN*3/4ZS..	DA	3/4	S	1.688	4 1/2	2 1/4	0.711	3/4	HA/S-λ/HB

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + Quality.

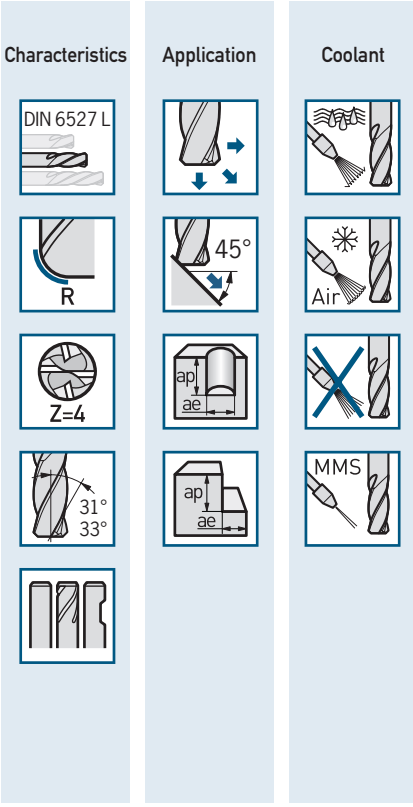
INCH

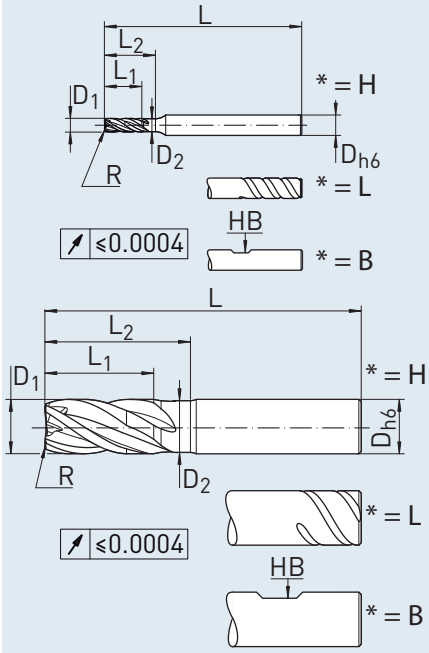
F2004MN – HAIMER MILL CORNER RADIUS

Technical data and product characteristics

Optional:

- Straight shank DIN 6535-HA
- Safe-Lock shank (S-λ)
- Weldon shank similar DIN 6535-HB





Material – characteristics

Main Material: P, M

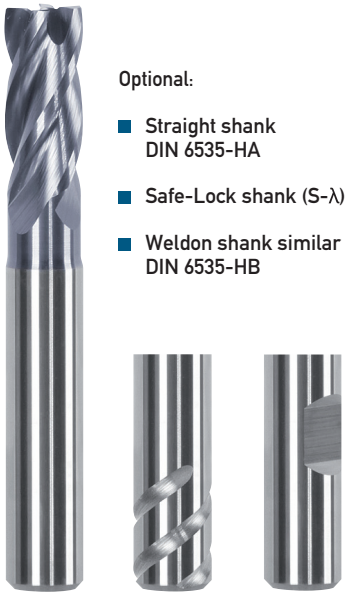
also suitable for: K, S, N, H

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Cutting length L1 max. 2.25 x D1

Article-Code	Quality	D1 (f9) [inch]	Cutting edge	Size [inch]	L1 [inch]	L [inch]	L2 [inch]	D2 [inch]	D (h6) [inch]	Shank
F2004MN*3/32ZR.010..	DA	3/32	R	0.010	0.211	2	9/32	0..090	1/4	HA/S-λ/HB
F2004MN*1/8ZR.010..	DA	1/8	R	0.010	0.281	2	3/8	0.121	1/4	HA/S-λ/HB
F2004MN*3/16ZR.015..	DA	3/16	R	0.015	0.422	2 1/2	9/16	0.180	1/4	HA/S-λ/HB
F2004MN*1/4ZR.030..	DA	1/4	R	0.030	0.563	2 1/2	3/4	0.231	1/4	HA/S-λ/HB
F2004MN*5/16ZR.030..	DA	5/16	R	0.030	0.703	2 1/2	15/16	0.297	5/16	HA/S-λ/HB
F2004MN*3/8ZR.015..	DA	3/8	R	0.015	0.844	3	1 1/8	0.355	3/8	HA/S-λ/HB
F2004MN*3/8ZR.030..	DA	3/8	R	0.030	0.844	3	1 1/8	0.355	3/8	HA/S-λ/HB
F2004MN*1/2ZR.015..	DA	1/2	R	0.015	1.125	3 1/2	1 1/2	0.476	1/2	HA/S-λ/HB
F2004MN*1/2ZR.020..	DA	1/2	R	0.020	1.125	3 1/2	1 1/2	0.476	1/2	HA/S-λ/HB
F2004MN*1/2ZR.060..	DA	1/2	R	0.060	1.125	3 1/2	1 1/2	0.476	1/2	HA/S-λ/HB
F2004MN*5/8ZR.060..	DA	5/8	R	0.060	1.406	4	1 7/8	0.594	5/8	HA/S-λ/HB
F2004MN*3/4ZR.060..	DA	3/4	R	0.060	1.688	4 1/2	2 1/4	0.711	3/4	HA/S-λ/HB
F2004MN*3/4ZR.090..	DA	3/4	R	0.090	1.688	4 1/2	2 1/4	0.711	3/4	HA/S-λ/HB
F2004MN*3/4ZR.125..	DA	3/4	R	0.125	1.688	4 1/2	2 1/4	0.711	3/4	HA/S-λ/HB

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + Quality.

Technical data and product characteristics

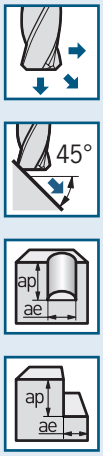


Optional:

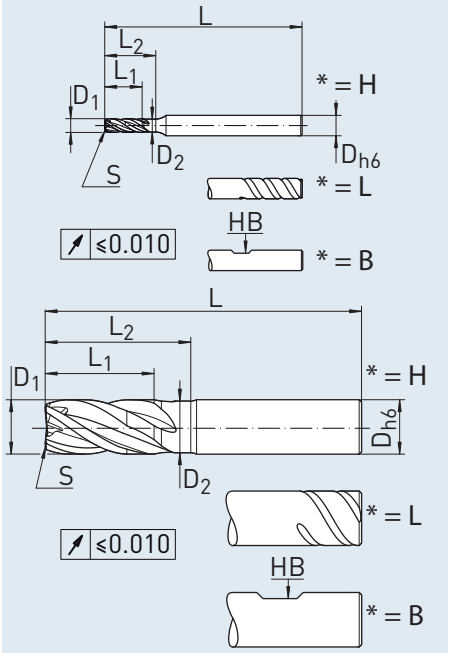
- Straight shank DIN 6535-HA
- Safe-Lock shank (S-λ)
- Weldon shank similar DIN 6535-HB

Characteristics

Application



Coolant



Material – characteristics

Main Material

also suitable for

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge

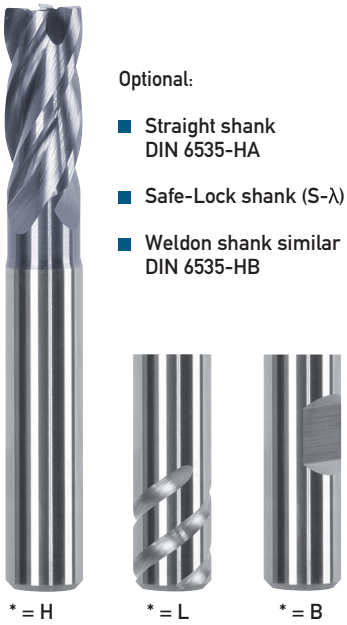
Article-Code	Quality	D1 (f9) [mm]	Cutting edge	L1 max. [mm]	L [mm]	L2 [mm]	D2 [mm]	D (h6) [mm]	Shank
F2004NN*0200S..	DA	2.00	S	7	58	9	1.9	6	HA/S-λ/HB
F2004NN*0300S..	DA	3.00	S	8	58	10	2.9	6	HA/S-λ/HB
F2004NN*0400S..	DA	4.00	S	11	58	15	3.8	6	HA/S-λ/HB
F2004NN*0500S..	DA	5.00	S	13	58	18	4.8	6	HA/S-λ/HB
F2004NN*0600S..	DA	6.00	S	13	58	20	5.7	6	HA/S-λ/HB
F2004NN*0800S..	DA	8.00	S	19	64	26	7.6	8	HA/S-λ/HB
F2004NN*1000S..	DA	10.00	S	22	73	30.5	9.5	10	HA/S-λ/HB
F2004NN*1200S..	DA	12.00	S	26	84	36.5	11.4	12	HA/S-λ/HB
F2004NN*1400S..	DA	14.00	S	26	84	36.5	13.3	14	HA/S-λ/HB
F2004NN*1600S..	DA	16.00	S	32	93	42.5	15.2	16	HA/S-λ/HB
F2004NN*1800S..	DA	18.00	S	32	93	42.5	17.1	18	HA/S-λ/HB
F2004NN*2000S..	DA	20.00	S	38	105	52	19	20	HA/S-λ/HB

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + Quality.

METRIC

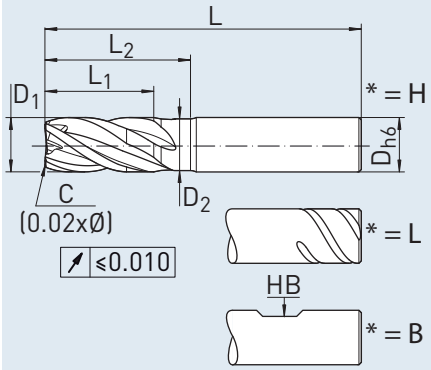
F2004NN – HAIMER MILL CHAMFER UNDERSIZE

Technical data and product characteristics



Optional:

- Straight shank DIN 6535-HA
- Safe-Lock shank (S-λ)
- Weldon shank similar DIN 6535-HB



Material – characteristics

Main Material: P, M

also suitable for: K, S, N, H

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge

Article-Code	Quality	D1 (f9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	L2 [mm]	D2 [mm]	D (h6) [mm]	Shank
F2004NN*0570C..	DA	5.70	C	0.12	13	58	20	5.7	6	HA/S-λ/HB
F2004NN*0770C..	DA	7.70	C	0.16	19	64	26	7.6	8	HA/S-λ/HB
F2004NN*0970C..	DA	9.70	C	0.20	22	73	30.5	9.5	10	HA/S-λ/HB
F2004NN*1170C..	DA	11.70	C	0.24	26	84	36.5	11.4	12	HA/S-λ/HB
F2004NN*1370C..	DA	13.70	C	0.28	26	84	36.5	13.3	14	HA/S-λ/HB
F2004NN*1560C..	DA	15.60	C	0.32	32	93	42.5	15.2	16	HA/S-λ/HB
F2004NN*1950C..	DA	19.50	C	0.40	38	105	52	19	20	HA/S-λ/HB

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + Quality.

Technical data and product characteristics

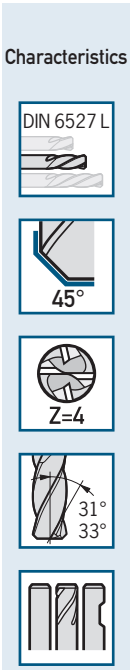
* = H

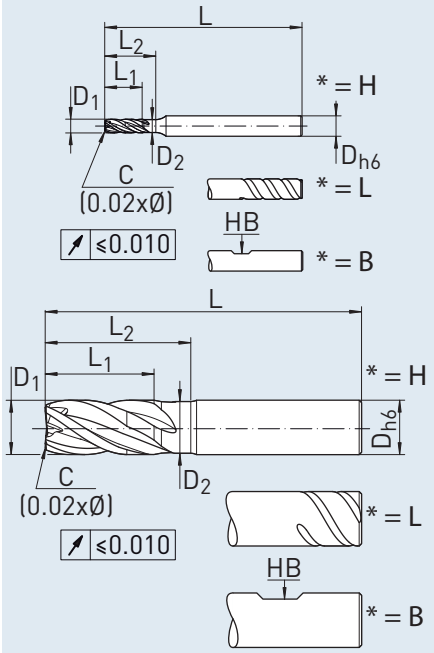
* = L

* = B

Optional:

- Straight shank DIN 6535-HA
- Safe-Lock shank (S-λ)
- Weldon shank similar DIN 6535-HB





Material – characteristics

Main Material

P

M

also suitable for

K S

N H

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge

Article-Code	Quality	D1 (f9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	L2 [mm]	D2 [mm]	D (h6) [mm]	Shank
F2004NN*0200C..	DA	2.00	C	0.04	7	58	9	1.9	6	HA/S-λ/HB
F2004NN*0300C..	DA	3.00	C	0.06	8	58	10	2.9	6	HA/S-λ/HB
F2004NN*0400C..	DA	4.00	C	0.08	11	58	15	3.8	6	HA/S-λ/HB
F2004NN*0500C..	DA	5.00	C	0.10	13	58	18	4.8	6	HA/S-λ/HB
F2004NN*0600C..	DA	6.00	C	0.12	13	58	20	5.7	6	HA/S-λ/HB
F2004NN*0800C..	DA	8.00	C	0.16	19	64	26	7.6	8	HA/S-λ/HB
F2004NN*1000C..	DA	10.00	C	0.20	22	73	30.5	9.5	10	HA/S-λ/HB
F2004NN*1200C..	DA	12.00	C	0.24	26	84	36.5	11.4	12	HA/S-λ/HB
F2004NN*1400C..	DA	14.00	C	0.28	26	84	36.5	13.3	14	HA/S-λ/HB
F2004NN*1600C..	DA	16.00	C	0.32	32	93	42.5	15.2	16	HA/S-λ/HB
F2004NN*1800C..	DA	18.00	C	0.36	32	93	42.5	17.1	18	HA/S-λ/HB
F2004NN*2000C..	DA	20.00	C	0.40	38	105	52	19	20	HA/S-λ/HB

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + Quality.

METRIC

F2004NN – HAIMER MILL CORNER RADIUS

Technical data and product characteristics

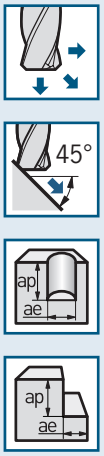
* = H * = L * = B

Optional:

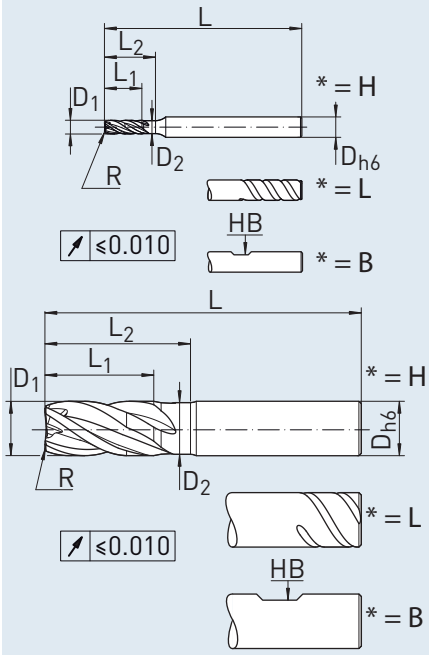
- Straight shank DIN 6535-HA
- Safe-Lock shank (S-λ)
- Weldon shank similar DIN 6535-HB

Characteristics

Application



Coolant



Material – characteristics

Main Material: P, M

also suitable for: K, S, N, H

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge

Article-Code	Quality	D1 (f9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	L2 [mm]	D2 [mm]	D (h6) [mm]	Shank
F2004NN*0200R0.20..	DA	2.00	R	0.20	7	58	9	1.9	6	HA/S-λ/HB
F2004NN*0300R0.30..	DA	3.00	R	0.30	8	58	10	2.9	6	HA/S-λ/HB
F2004NN*0400R0.30..	DA	4.00	R	0.30	11	58	15	3.8	6	HA/S-λ/HB
F2004NN*0400R0.40..	DA	4.00	R	0.40	11	58	15	3.8	6	HA/S-λ/HB
F2004NN*0400R0.50..	DA	4.00	R	0.50	11	58	15	3.8	6	HA/S-λ/HB
F2004NN*0500R0.30..	DA	5.00	R	0.30	13	58	18	4.8	6	HA/S-λ/HB
F2004NN*0500R0.50..	DA	5.00	R	0.50	13	58	18	4.8	6	HA/S-λ/HB
F2004NN*0500R1.00..	DA	5.00	R	1.00	13	58	18	4.8	6	HA/S-λ/HB
F2004NN*0600R0.30..	DA	6.00	R	0.30	13	58	20	5.7	6	HA/S-λ/HB
F2004NN*0600R0.50..	DA	6.00	R	0.50	13	58	20	5.7	6	HA/S-λ/HB
F2004NN*0600R0.80..	DA	6.00	R	0.80	13	58	20	5.7	6	HA/S-λ/HB
F2004NN*0600R1.00..	DA	6.00	R	1.00	13	58	20	5.7	6	HA/S-λ/HB

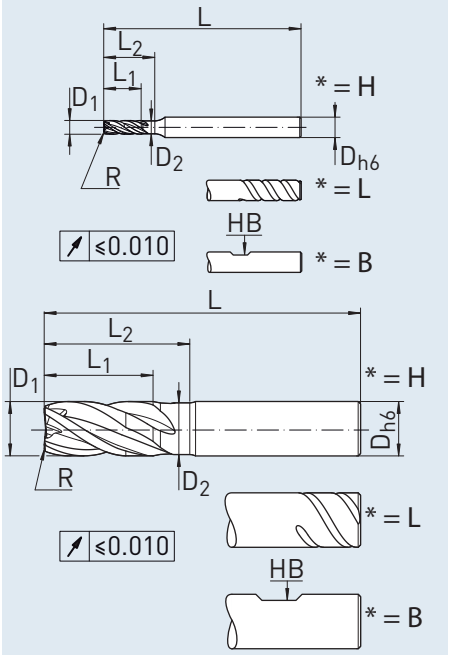
Turn page for more articles

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + Quality.

Technical data and product characteristics

Optional:

- Straight shank DIN 6535-HA
- Safe-Lock shank (S-λ)
- Weldon shank similar DIN 6535-HB



Material – characteristics

Main Material

also suitable for

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge

Article-Code	Quality	D1 (f9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	L2 [mm]	D2 [mm]	D (h6) [mm]	Shank
F2004NN*0600R1.50..	DA	6.00	R	1.50	13	58	20	5.7	6	HA/S-λ/HB
F2004NN*0600R2.00..	DA	6.00	R	2.00	13	58	20	5.7	6	HA/S-λ/HB
F2004NN*0800R0.30..	DA	8.00	R	0.30	19	64	26	7.6	8	HA/S-λ/HB
F2004NN*0800R0.50..	DA	8.00	R	0.50	19	64	26	7.6	8	HA/S-λ/HB
F2004NN*0800R0.80..	DA	8.00	R	0.80	19	64	26	7.6	8	HA/S-λ/HB
F2004NN*0800R1.00..	DA	8.00	R	1.00	19	64	26	7.6	8	HA/S-λ/HB
F2004NN*0800R1.50..	DA	8.00	R	1.50	19	64	26	7.6	8	HA/S-λ/HB
F2004NN*0800R2.00..	DA	8.00	R	2.00	19	64	26	7.6	8	HA/S-λ/HB
F2004NN*1000R0.30..	DA	10.00	R	0.30	22	73	30.5	9.5	10	HA/S-λ/HB
F2004NN*1000R0.50..	DA	10.00	R	0.50	22	73	30.5	9.5	10	HA/S-λ/HB

⇨ *Turn page for more articles*

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + Quality.

METRIC

F2004NN – HAIMER MILL CORNER RADIUS

Article-Code	Quality	D1 (f9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	L2 [mm]	D2 [mm]	D (h6) [mm]	Shank
F2004NN*1000R0.80..	DA	10.00	R	0.80	22	73	30.5	9.5	10	HA/S-λ/HB
F2004NN*1000R1.00..	DA	10.00	R	1.00	22	73	30.5	9.5	10	HA/S-λ/HB
F2004NN*1000R1.50..	DA	10.00	R	1.50	22	73	30.5	9.5	10	HA/S-λ/HB
F2004NN*1000R2.00..	DA	10.00	R	2.00	22	73	30.5	9.5	10	HA/S-λ/HB
F2004NN*1000R2.50..	DA	10.00	R	2.50	22	73	30.5	9.5	10	HA/S-λ/HB
F2004NN*1200R0.30..	DA	12.00	R	0.30	26	84	36.5	11.4	12	HA/S-λ/HB
F2004NN*1200R0.50..	DA	12.00	R	0.50	26	84	36.5	11.4	12	HA/S-λ/HB
F2004NN*1200R0.80..	DA	12.00	R	0.80	26	84	36.5	11.4	12	HA/S-λ/HB
F2004NN*1200R1.00..	DA	12.00	R	1.00	26	84	36.5	11.4	12	HA/S-λ/HB
F2004NN*1200R1.50..	DA	12.00	R	1.50	26	84	36.5	11.4	12	HA/S-λ/HB
F2004NN*1200R2.00..	DA	12.00	R	2.00	26	84	36.5	11.4	12	HA/S-λ/HB
F2004NN*1200R2.50..	DA	12.00	R	2.50	26	84	36.5	11.4	12	HA/S-λ/HB
F2004NN*1200R3.00..	DA	12.00	R	3.00	26	84	36.5	11.4	12	HA/S-λ/HB
F2004NN*1200R4.00..	DA	12.00	R	4.00	26	84	36.5	11.4	12	HA/S-λ/HB
F2004NN*1400R0.50..	DA	14.00	R	0.50	26	84	36.5	13.3	14	HA/S-λ/HB
F2004NN*1400R1.00..	DA	14.00	R	1.00	26	84	36.5	13.3	14	HA/S-λ/HB
F2004NN*1400R2.00..	DA	14.00	R	2.00	26	84	36.5	13.3	14	HA/S-λ/HB
F2004NN*1600R0.30..	DA	16.00	R	0.30	32	93	42.5	15.2	16	HA/S-λ/HB
F2004NN*1600R0.50..	DA	16.00	R	0.50	32	93	42.5	15.2	16	HA/S-λ/HB
F2004NN*1600R0.80..	DA	16.00	R	0.80	32	93	42.5	15.2	16	HA/S-λ/HB
F2004NN*1600R1.00..	DA	16.00	R	1.00	32	93	42.5	15.2	16	HA/S-λ/HB
F2004NN*1600R1.50..	DA	16.00	R	1.50	32	93	42.5	15.2	16	HA/S-λ/HB
F2004NN*1600R2.00..	DA	16.00	R	2.00	32	93	42.5	15.2	16	HA/S-λ/HB
F2004NN*1600R3.00..	DA	16.00	R	3.00	32	93	42.5	15.2	16	HA/S-λ/HB
F2004NN*1600R4.00..	DA	16.00	R	4.00	32	93	42.5	15.2	16	HA/S-λ/HB
F2004NN*1800R0.50..	DA	18.00	R	0.50	32	93	42.5	17.1	18	HA/S-λ/HB
F2004NN*1800R1.00..	DA	18.00	R	1.00	32	93	42.5	17.1	18	HA/S-λ/HB
F2004NN*1800R2.00..	DA	18.00	R	2.00	32	93	42.5	17.1	18	HA/S-λ/HB
F2004NN*2000R0.30..	DA	20.00	R	0.30	38	105	52	19	20	HA/S-λ/HB
F2004NN*2000R0.50..	DA	20.00	R	0.50	38	105	52	19	20	HA/S-λ/HB
F2004NN*2000R0.80..	DA	20.00	R	0.80	38	105	52	19	20	HA/S-λ/HB
F2004NN*2000R1.00..	DA	20.00	R	1.00	38	105	52	19	20	HA/S-λ/HB
F2004NN*2000R1.50..	DA	20.00	R	1.50	38	105	52	19	20	HA/S-λ/HB
F2004NN*2000R2.00..	DA	20.00	R	2.00	38	105	52	19	20	HA/S-λ/HB
F2004NN*2000R3.00..	DA	20.00	R	3.00	38	105	52	19	20	HA/S-λ/HB
F2004NN*2000R4.00..	DA	20.00	R	4.00	38	105	52	19	20	HA/S-λ/HB

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + Quality.

Technical data and product characteristics

* = H

* = L

* = B

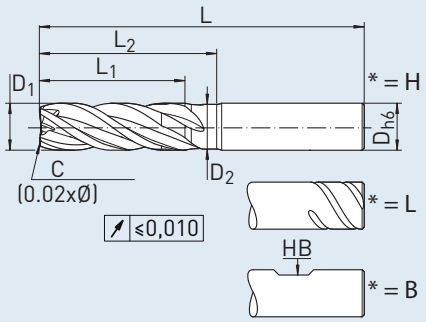
Optional:

- Straight shank DIN 6535-HA
- Safe-Lock shank (S-λ)
- Weldon shank similar DIN 6535-HB

Characteristics

Application

Coolant



Material – characteristics

Main Material

also suitable for

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge

Article-Code	Quality	D1 (f9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	L2 [mm]	D2 [mm]	D (h6) [mm]	Shank
F2004LL*0600C..	DA	6.00	C	0.12	18	62	24	5.7	6	HA/S-λ/HB
F2004LL*0800C..	DA	8.00	C	0.16	24	70	32	7.6	8	HA/S-λ/HB
F2004LL*1000C..	DA	10.00	C	0.20	30	82	40	9.5	10	HA/S-λ/HB
F2004LL*1200C..	DA	12.00	C	0.24	36	95	48	11.4	12	HA/S-λ/HB
F2004LL*1400C..	DA	14.00	C	0.28	42	105	56	13.3	14	HA/S-λ/HB
F2004LL*1600C..	DA	16.00	C	0.32	48	115	64	15.2	16	HA/S-λ/HB
F2004LL*2000C..	DA	20.00	C	0.40	60	133	80	19.0	20	HA/S-λ/HB

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + Quality.

INCH

F2004LL – HAIMER MILL CHAMFER

Technical data and product characteristics

* = H * = L * = B

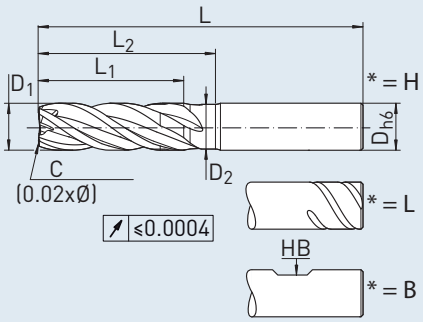
Optional:

- Straight shank DIN 6535-HA
- Safe-Lock shank (S-λ)
- Weldon shank similar DIN 6535-HB

Characteristics

Application

Coolant



Material – characteristics

Main Material: P, M

also suitable for: K, S, N, H

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Cutting length L1 max. 3 x D1

Article-Code	Quality	D1 (f9) [inch]	Cutting edge	Size [inch]	L1 [inch]	L [inch]	L2 [inch]	D2 [inch]	D (h6) [inch]	Shank
F2004LL*1/4ZC..	DA	1/4	C	0.0050	0.750	2 1/2	1	0.238	1/4	HA/S-λ/HB
F2004LL*5/16ZC..	DA	5/16	C	0.0064	0.938	3	1 1/4	0.296	5/16	HA/S-λ/HB
F2004LL*3/8ZC..	DA	3/8	C	0.0075	1.125	3 1/2	1 1/2	0.355	3/8	HA/S-λ/HB
F2004LL*1/2ZC..	DA	1/2	C	0.0100	1.500	4	2	0.476	1/2	HA/S-λ/HB
F2004LL*5/8ZC..	DA	5/8	C	0.0125	1.875	4 1/2	2 1/2	0.593	5/8	HA/S-λ/HB
F2004LL*3/4ZC..	DA	3/4	C	0.0150	2.250	5	3	0.710	3/4	HA/S-λ/HB

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + Quality.

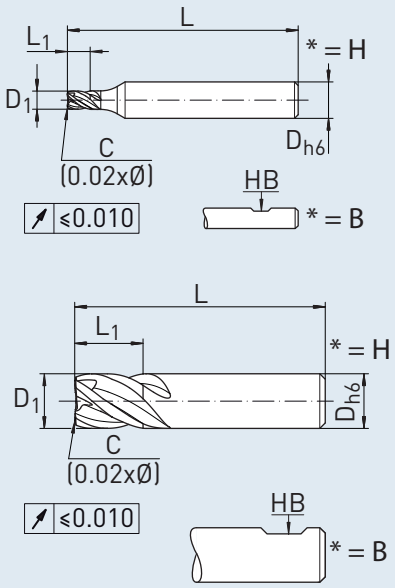
Technical data and product characteristics

Optional:

- Straight shank DIN 6535-HA
- Weldon shank similar DIN 6535-HB

* = H

* = B



Material – characteristics

Main Material: P, M

also suitable for: K, S, N, H

- Center cutting
- Unequal cutting edge
- Cutting length L1 max. 1.25 x D1
- No neck
- Shortened shank for ideal length in some applications

Article-Code	Quality	D1 (f9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	D (h6) [mm]	Shank h6
F2014KK*0200C..	DA	2.00	C	0.04	2.50	38	6	HA/HB
F2014KK*0300C..	DA	3.00	C	0.06	3.75	38	6	HA/HB
F2014KK*0400C..	DA	4.00	C	0.08	5.00	38	6	HA/HB
F2014KK*0500C..	DA	5.00	C	0.10	6.25	38	6	HA/HB
F2014KK*0600C..	DA	6.00	C	0.12	7.50	38	6	HA/HB
F2014KK*0800C..	DA	8.00	C	0.16	10.00	42	8	HA/HB
F2014KK*1000C..	DA	10.00	C	0.20	12.50	50	10	HA/HB
F2014KK*1200C..	DA	12.00	C	0.24	15.00	55	12	HA/HB
F2014KK*1400C..	DA	14.00	C	0.28	17.50	58	14	HA/HB
F2014KK*1600C..	DA	16.00	C	0.32	20.00	63	16	HA/HB
F2014KK*2000C..	DA	20.00	C	0.40	25.00	75	20	HA/HB

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + Quality.

INCH

F2014KK – HAIMER MILL CHAMFER

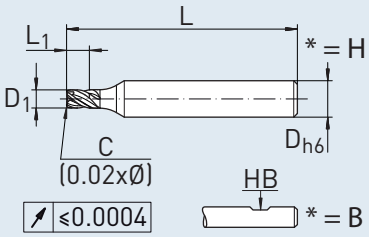
Technical data and product characteristics

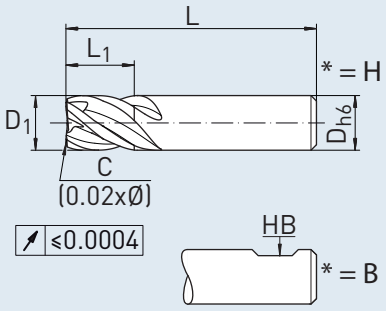
Optional:

- Straight shank DIN 6535-HA
- Weldon shank similar DIN 6535-HB

* = H

* = B





Material – characteristics

Main Material

P

M

also suitable for

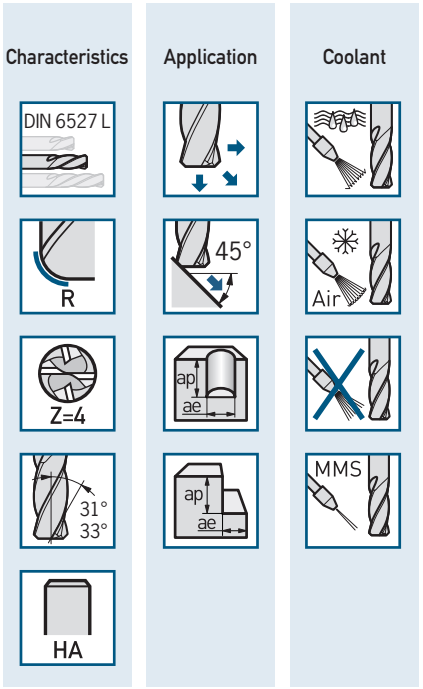
K S N H

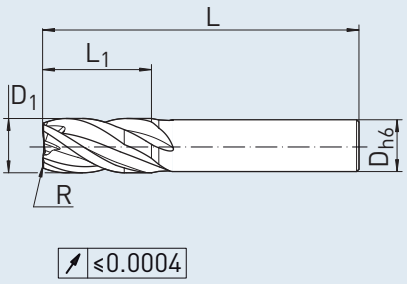
- Center cutting
- Unequal cutting edge
- Cutting length L1 max. 1.25 x D1
- No neck
- Shortened shank for ideal length in some applications

Article-Code	Quality	D1 (f9) [inch]	Cutting edge	Size [inch]	L1 [inch]	L [inch]	D (h6) [inch]	Shank
F2014KK*3/32ZC..	DA	3/32	C	0.0018	0.117	1 1/2	1/4	HA/HB
F2014KK*1/8ZC..	DA	1/8	C	0.0025	0.156	1 1/2	1/4	HA/HB
F2014KK*3/16ZC..	DA	3/16	C	0.0038	0.234	1 1/2	1/4	HA/HB
F2014KK*1/4ZC..	DA	1/4	C	0.0050	0.313	1 1/2	1/4	HA/HB
F2014KK*5/16ZC..	DA	5/16	C	0.0064	0.391	2	5/16	HA/HB
F2014KK*3/8ZC..	DA	3/8	C	0.0075	0.469	2	3/8	HA/HB
F2014KK*1/2ZC..	DA	1/2	C	0.0100	0.625	2 1/2	1/2	HA/HB
F2014KK*5/8ZC..	DA	5/8	C	0.0125	0.781	2 1/2	5/8	HA/HB
F2014KK*3/4ZC..	DA	3/4	C	0.0150	0.938	3	3/4	HA/HB

* = H - Straight shank / B - Weldon shank. Order No. = Article Code + Quality.

Technical data and product characteristics





Material – characteristics

Main Material: **P** **M**

also suitable for: **K** **S** **N** **H**

- Center cutting
- Unequal cutting edge

Article-Code	Quality	D1 (f9) [inch]	Cutting edge	Size [inch]	L1 [inch]	L [inch]	D (h6) [inch]	Shank
F2014NNH1/4ZR.015..	DA	1/4	R	0.015	7/16	2 1/2	1/4	HA
F2014NNH1/4ZR.030..	DA	1/4	R	0.030	7/16	2 1/2	1/4	HA
F2014LNH1/4ZR.015..	DA	1/4	R	0.015	3/4	2 1/2	1/4	HA
F2014LNH1/4ZR.030..	DA	1/4	R	0.030	3/4	2 1/2	1/4	HA
F2014LNH5/16ZR.015..	DA	5/16	R	0.015	13/16	2 1/2	5/16	HA
F2014LNH5/16ZR.030..	DA	5/16	R	0.030	13/16	2 1/2	5/16	HA
F2014KNH3/8ZR.030..	DA	3/8	R	0.030	1/2	2 1/2	3/8	HA
F2014NNH3/8ZR.030..	DA	3/8	R	0.030	7/8	2 1/2	3/8	HA
F2014KKH1/2ZR.015..	DA	1/2	R	0.015	5/8	2 1/2	1/2	HA
F2014KKH1/2ZR.030..	DA	1/2	R	0.030	5/8	2 1/2	1/2	HA
F2014NNH1/2ZR.030..	DA	1/2	R	0.030	1	3	1/2	HA
F2014NNH1/2ZR.060..	DA	1/2	R	0.060	1	3	1/2	HA
F2014NLH1/2ZR.015..	DA	1/2	R	0.015	1 1/4	3 1/2	1/2	HA
F2014NLH1/2ZR.030..	DA	1/2	R	0.030	1 1/4	3 1/2	1/2	HA
F2014NLH1/2ZR.060..	DA	1/2	R	0.060	1 1/4	3 1/2	1/2	HA
F2014NNH5/8ZR.030..	DA	5/8	R	0.030	1 1/4	4	5/8	HA
F2014NNH5/8ZR.060..	DA	5/8	R	0.060	1 1/4	4	5/8	HA
F2014NNH3/4ZR.030..	DA	3/4	R	0.030	1 1/2	4	3/4	HA
F2014NNH3/4ZR.060..	DA	3/4	R	0.060	1 1/2	4	3/4	HA
F2014NNH3/4ZR.090..	DA	3/4	R	0.090	1 1/2	4	3/4	HA
F2014NNH3/4ZR.125..	DA	3/4	R	0.125	1 1/2	4	3/4	HA

Order No. = Article Code + Quality

HAIMER MILL SUCCESS STORIES

Application Area: General Engineering

Application at a medium sized job shop:
Due to the intense competition the customer is steadily looking for more productivity. By using the HAIMER Power Shrink Chuck in combination with the HAIMER MILL the cycle times could be reduced significantly.

Application: Side milling

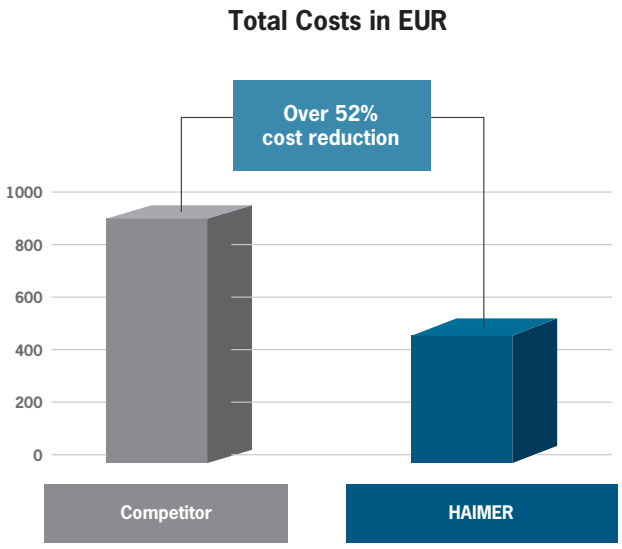
Material:	1.4301 / Stainless steel
Machine:	DMG MORI CTX Gamma 1250 TC
Interface:	HSK-A63
Tool:	HAIMER MILL Z4 Chamfer (Order No. F2004NNH1000CDA)
Tool holder:	Power Shrink Chuck ultrashort with Cool Flash

Cutting data

Cutting speed (vc):	120 (m/min)
Feed per tooth (fz):	0.05 mm/tooth
Width of cut (ae):	1.4 mm
Depth of cut (ap):	10 mm

Benefits

- Double tool life
- Cycle time reduced from 15 to 7 minutes



Test result: Over 52% cost reduction due to increased performance and tool life

Application Area: Die and Mold

Application at a die and mold company:
While searching for a universal cutting tool with best tool life and available for all production sites, the HAIMER MILL has proven to be the best solution. The HAIMER MILL outperformed established competition with significant longer tool life.

Application: Slotting

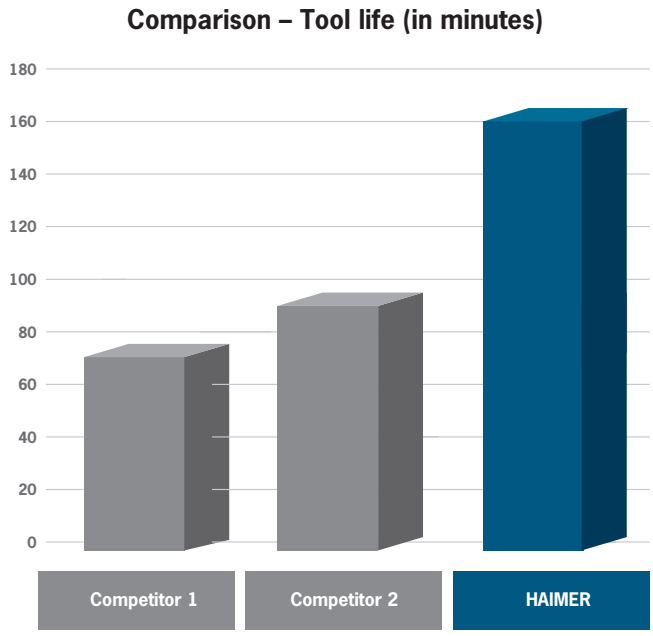
Material:	1.2343 / Tool steel
Machine:	MECOF
Interface:	SK50
Tool:	HAIMER MILL Z4 Chamfer (Order No. F2004NNH2000CDA)
Tool holder:	HAIMER Standard Shrink Chuck
Coolant:	Air

Cutting data

Cutting speed (vc):	50 (m/min)
Feed per tooth (fz):	0.07 mm/tooth
Width of cut (ae):	20 mm
Depth of cut (ap):	30 mm

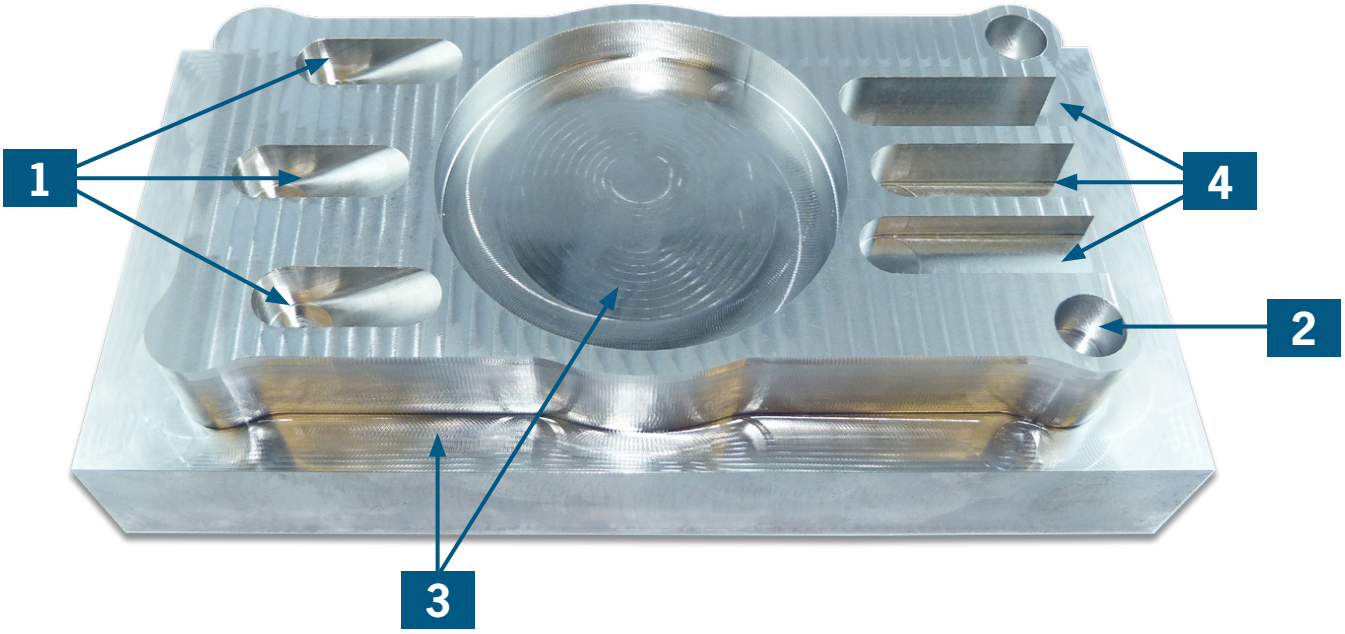
Benefits

- HAIMER MILL with best tool life in cutting test
- Extreme smooth cutting sound at 1.5xD full slotting



Test result: Highest tool life in slotting

APPLICATION EXAMPLES HAIMER MILL

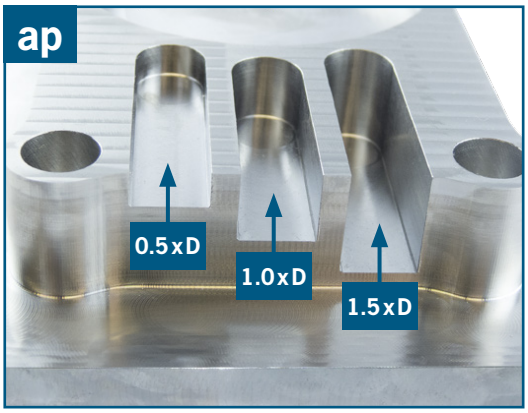


Universal applications of HAIMER MILL in 42CrMo4

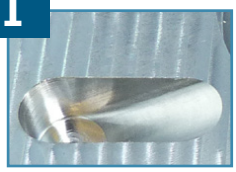
The 42CrMo4 steel workpiece with tensile strength of 104,427 PSI is machined within 1 min and 41 sec.
All applications (ramping, drilling, trochoidal milling and slotting) were done by Basic Mill F2014NNH1200CDA in diam. 12 mm.

Universality is no problem for HAIMER MILL!

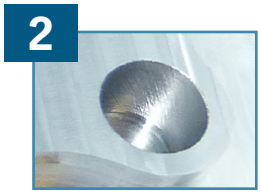
The workpiece was clamped with a mechanical bench vice. During the milling operation air was blown through the spindle nozzles for cooling.



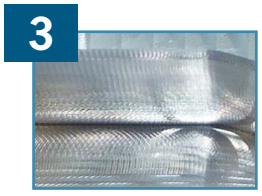
Scan and see the HAIMER MILL in Action!



Application:
Ramping 30°
Cutting Speed (SFM): 656
Feed per tooth fz: 0.0012"
Cutting width ae: 0.472"
Cutting depth ap: 0.472"



Application:
Drilling 1xD
Cutting Speed (SFM): 656
Feed per tooth fz: 0.0012"
Cutting width ae: 0.472"
Cutting depth ap: 0.472"



Application:
Trochoidal Milling
Cutting Speed (SFM): 1411
Feed per tooth fz: 0.0073"
Cutting width ae: 0.094"
Cutting depth ap: 0.827"

Application:
Slotting 0.5 – 1.5xD
Cutting Speed (SFM): 656
Feed per tooth fz: 0.0019"
Cutting width ae: 0.472"
Cutting depth ap: up to 0.709"

HAIMER MILL – SOLID CARBIDE ENDMILLS MADE IN IGENHAUSEN

With a multi million dollar investment, HAIMER established a new tool grinding production facility that incorporates truly unique technology and equipment. Solid carbide end mills “made by HAIMER” are ground there.

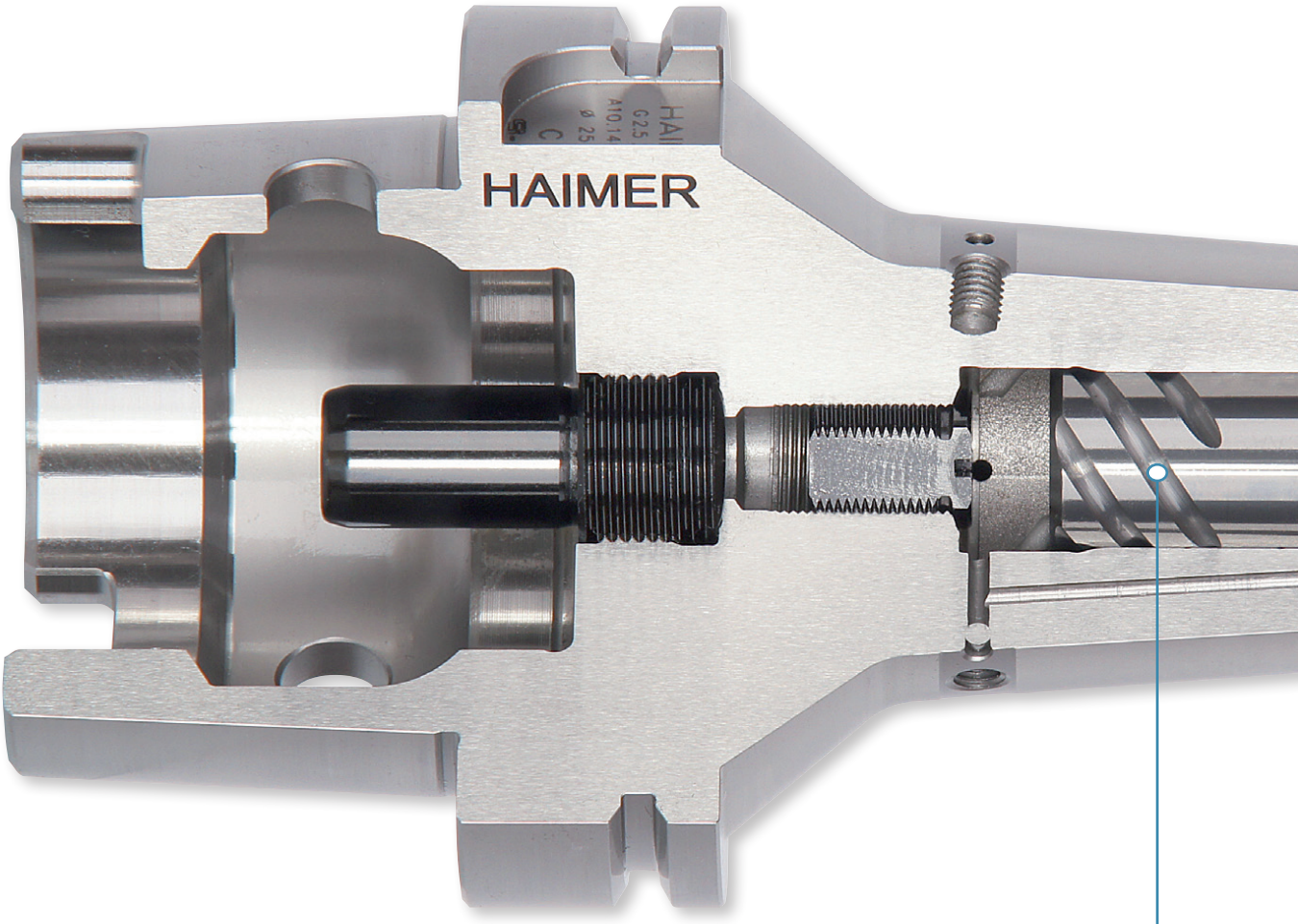
Thanks to many decades of experience with cutting tools in our own machine shop, testing and developing geometries by German experts, HAIMER was able to transfer the know-how and knowledge from tool holders to the cutting tools.

The customer can only take full advantage of the accuracy of our tool holders if the runout accuracy of the cutting tool features a correspondingly high quality grade.

The solid carbide endmills of the HAIMER MILL and HAIMER MILL Power Series, can be equipped with the Straight Shank, Weldon Shank or our well-known Safe-Lock Shank.
Convince yourself and unite best runout accuracy, vibration-free running and best cutting parameters with absolute process reliability by using HAIMER tool holders and end mills.

HAIMER MILL Power Series

Solid Carbide End Mills – Unique Advantages



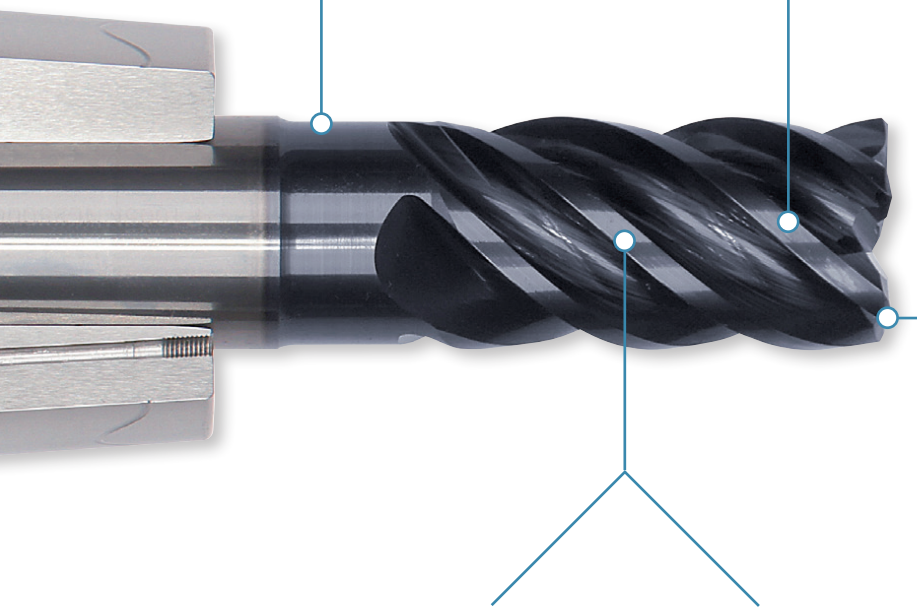
HAIMER Quality – 100% guarantee:

→ Consistent cutting tool performance
→ Maximized process reliability

Safe-Lock shank:
→ Maximum pull-out protection
→ Best run-out accuracy
→ Maximum cutting volume
→ Even in tool holders without Safe-Lock consistent clamping forces and torques
→ h5 shank tolerance

Recessed Neck:
→ Greater reach capability (ap)
→ Expanded application range

Fine-balanced to < 1gmm
→ Smooth vibration-free rotation
→ Spindle Bearing Protection



Max. 5 µm run-out accuracy
→ Optimized repeatability
→ Better machining quality
→ Reduced chatter
→ Increased tool life thanks to equal tool wear

High precision rounding of cutting edges
→ Less prone to chipping
→ Wide application range

Polished Surfaces:
→ Optimized chip removal
→ Increased tool life

Shock-resistant packaging
→ Top quality in each delivery

SAFE-λOCK® – The safety belt for your tools

In high performance cutting (HPC), it is possible for the cutting tool to be pulled out of the chuck. The reason is a slow micro-creeping motion. It happens when cutting at high speeds and with high pull out forces. Even chucks with extremely high clamping force cannot prevent micro-creeping. High-quality work pieces become scrap as a result.
The Safe-λock® system offers a solution.

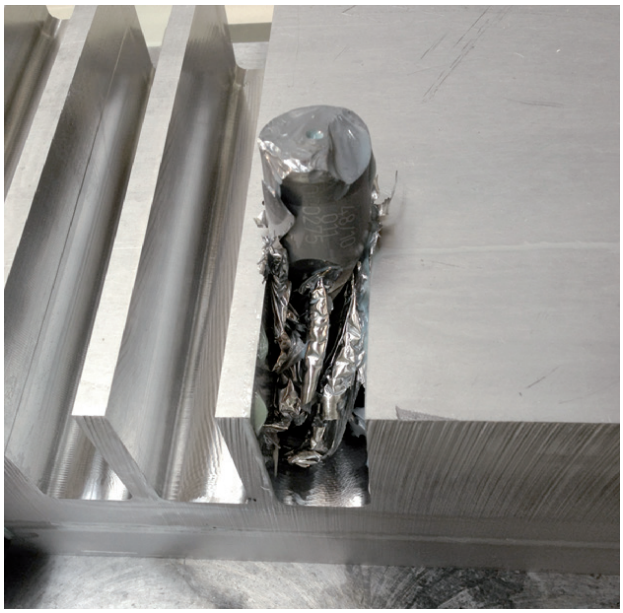
The revolutionary system secures the cutting tool via the high accuracy frictional clamping in conjunction with a positive locking form fit connection.

This is accomplished by means of grooves in the cutting tools and the corresponding form fit in the tool holder. Resulting in a connection in which all potential movements of the cutting tool are prevented.

Your advantages On the safe side with SAFE-λOCK®:

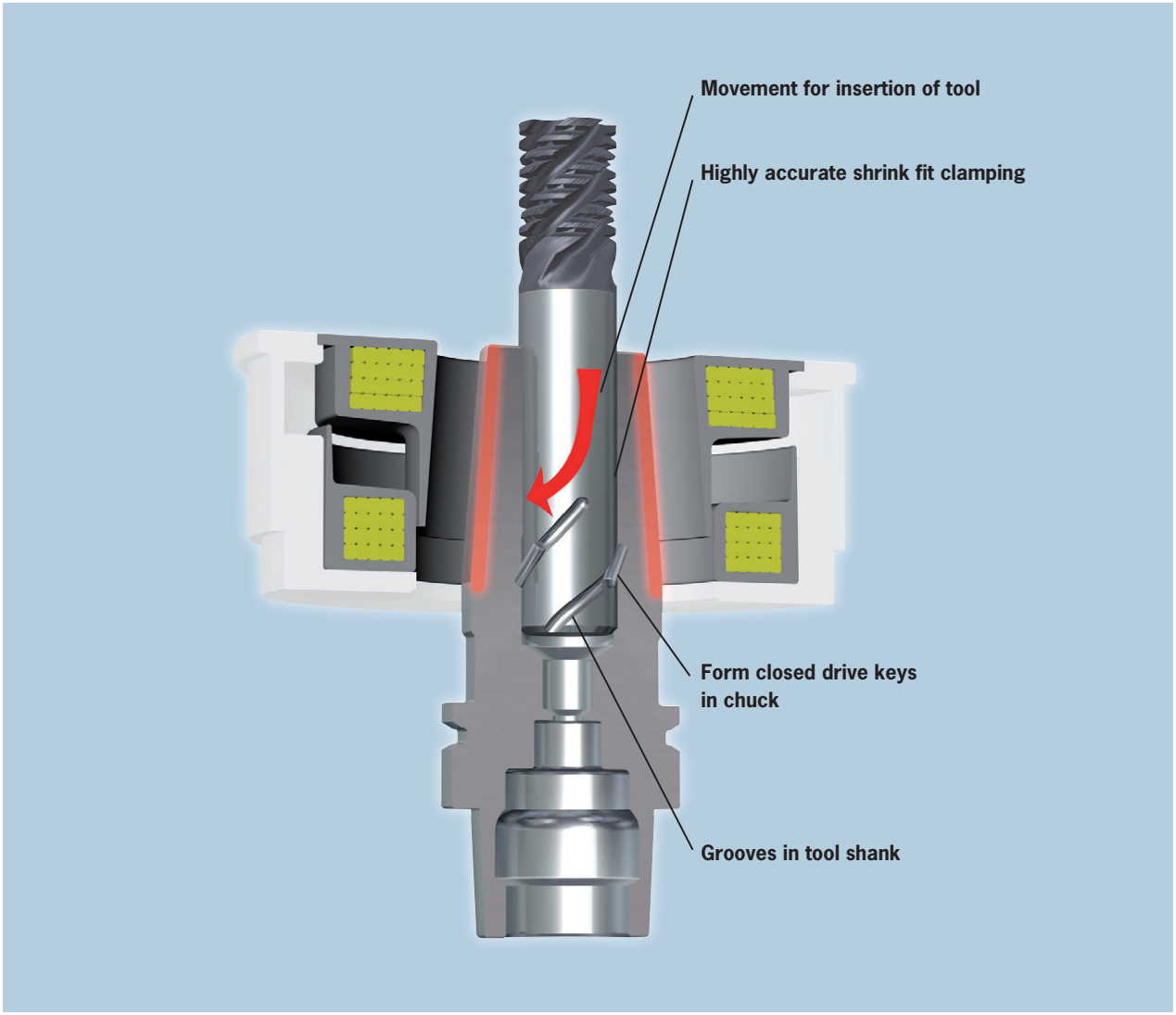
- For High Performance Cutting
- Highly accurate clamping due to shrink fit or collet chuck technology
- High torque due to form closed clamping
- No tool pull out (see image on the lower left)
- No twisting
- Patent granted: licensing possible

→ Maximum metal removal rate with absolute process reliability

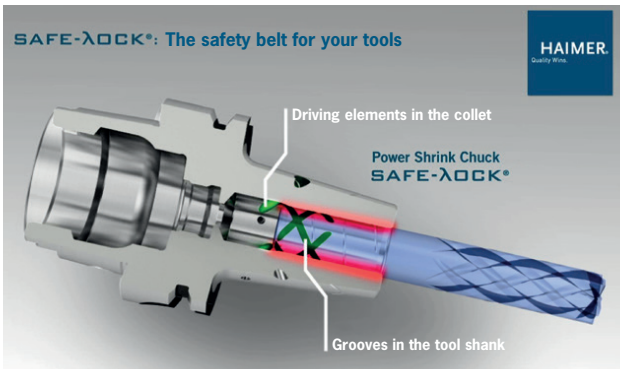


No tool pull out with Safe-Lock

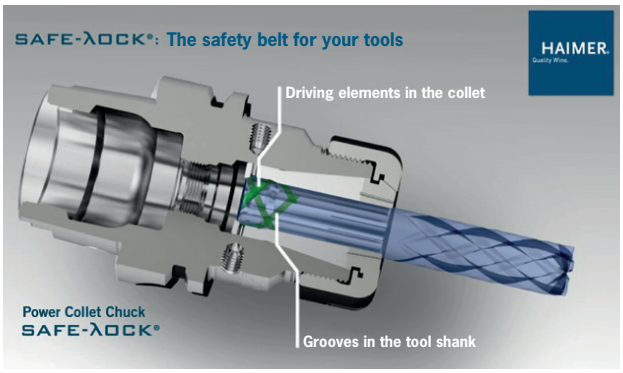
SAFE-λOCK® PULL OUT PROTECTION – FUNCTIONALITY



POWER SHRINK CHUCK WITH SAFE-LOCK



POWER COLLET CHUCK WITH SAFE-LOCK



DUO-LOCK®

Advanced Materials Require Advanced Manufacturing.

The continuing development of high-strength, lightweight materials such as titanium alloys, Inconel, and new aluminum alloys are eagerly sought by manufacturers in many industries, including aerospace and defense, energy, and transportation. These new materials present significant machining challenges in themselves. Add the competitive pressures in these global industries, and finding advanced manufacturing solutions becomes a top priority.

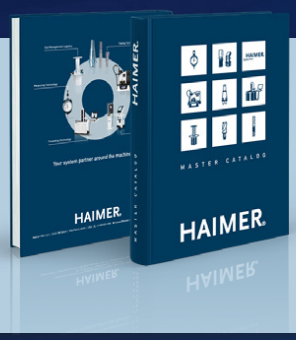
DUO-LOCK®

The Duo-Lock technology addresses the issue of the increasing cost of carbide by delivering a modular interface for cutting tool heads. Duo-Lock provides maximum stability and load capacity through a proprietary thread design with a double cone bond. The results are unmatched precision and productivity, with a connection that is virtually unbreakable in the most demanding applications.

SAFE-LOCK®

The Safe-Lock anti-pullout interface is also available with modular Duo-Lock extensions to take advantage of long reach and aggressive cuts.

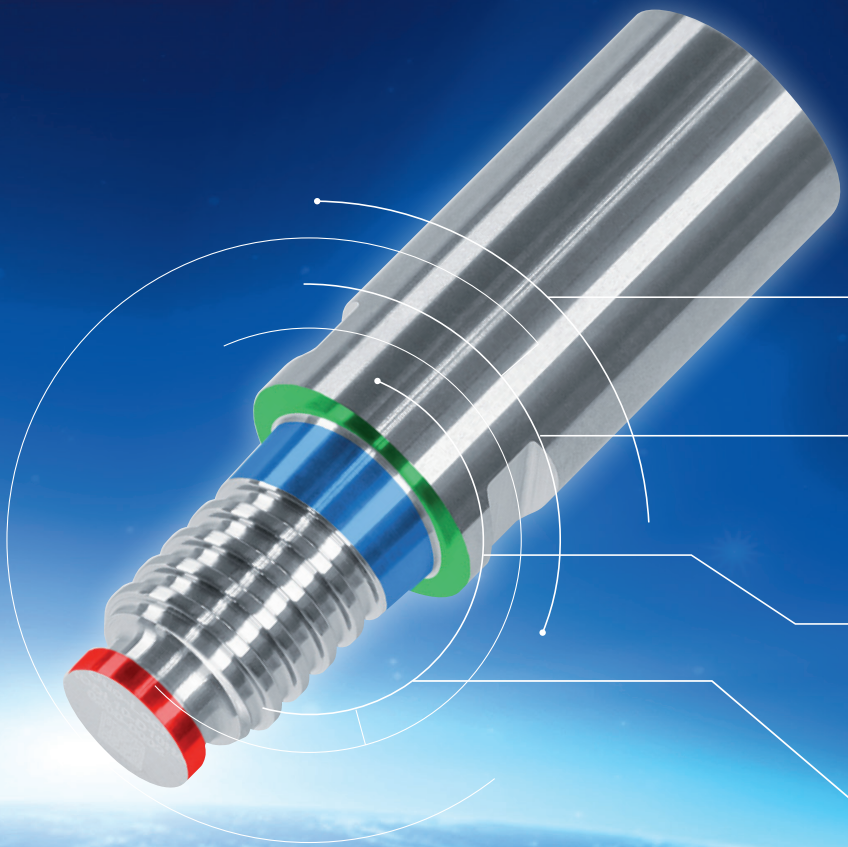
See Master Catalog for more details.



For the first time, a modular milling system can achieve the similar high performance of the latest generation solid carbide end mill.

To deliver groundbreaking joint technology, Duo-Lock combines the innovative histories of two leaders in the world of manufacturing – Kennametal and HAIMER.

Duo-Lock maximizes a carbide tool's full potential with productivity gains in both roughing and finishing. It provides high load capacity and rigidity when machining at high metal removal rates. When combined with high-performance cutting tools, Duo-Lock provides more than double the metal removal rate in common milling applications.



Superior rigidity of the interface that allows for unique d.o.c. capability of up to 1.5xD and 1xD in full slotting.

Geometric parameters of the connection have been optimized and thoroughly tested leading to the most robust modular system ever developed.

FEA based design ensures that stress levels in the interface remain below critical values even at elevated loads.

The double cone surfaces combined with the third contact area in the back delivers high stiffness and accuracy.

HAIMER®
Quality Wins.

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