HAIMER®
Quality Wins.

POWER MILL

WITH SAFE-LOCK®

Solid Carbide Endmills

100%
Made by HAIMER
Made in Germany

www.haimer-usa.com

HAIMER

CONTENTS

HAIMER Power Mill

100 % designed and made by HAIMER in Igenhausen, Germany

HAIMER is a family run, medium size company located in Igenhausen, Bavaria near Augsburg, Germany. HAIMER designs, produces and sells innovative, high precision products for metal cutting for almost 40 years.

More than 300 of our approx. 400 employees worldwide work at our production facility in Igenhausen together with the most modern of machines and a high level of automation. Our experienced, dynamic and highly qualified employees guarantee the known highest quality "made by HAIMER." As the European market leader in the area of tool holding technology, with a daily capacity of approx. 2,000 tool holders, keeping the technological edge of our products is very important to us. Because of this, every year we invest between 8 and 10% of our revenue in research and development. Our daily drive to be better fits perfectly with our corporate philosophy: **Quality Wins.**

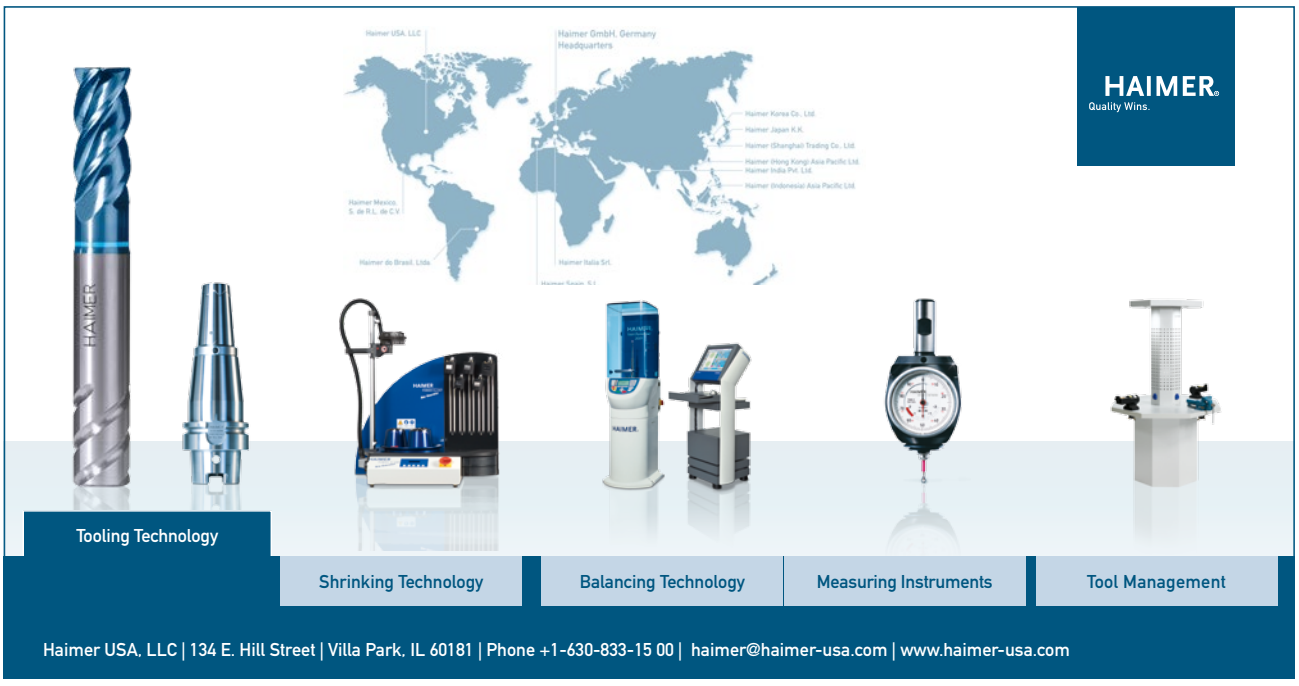
HAIMER's product offering includes tool holders in all common interfaces and lengths, balancing machines, shrink fit machines, 3D measuring devices and most recently, also **solid carbide endmills – all produced in Igenhausen.**

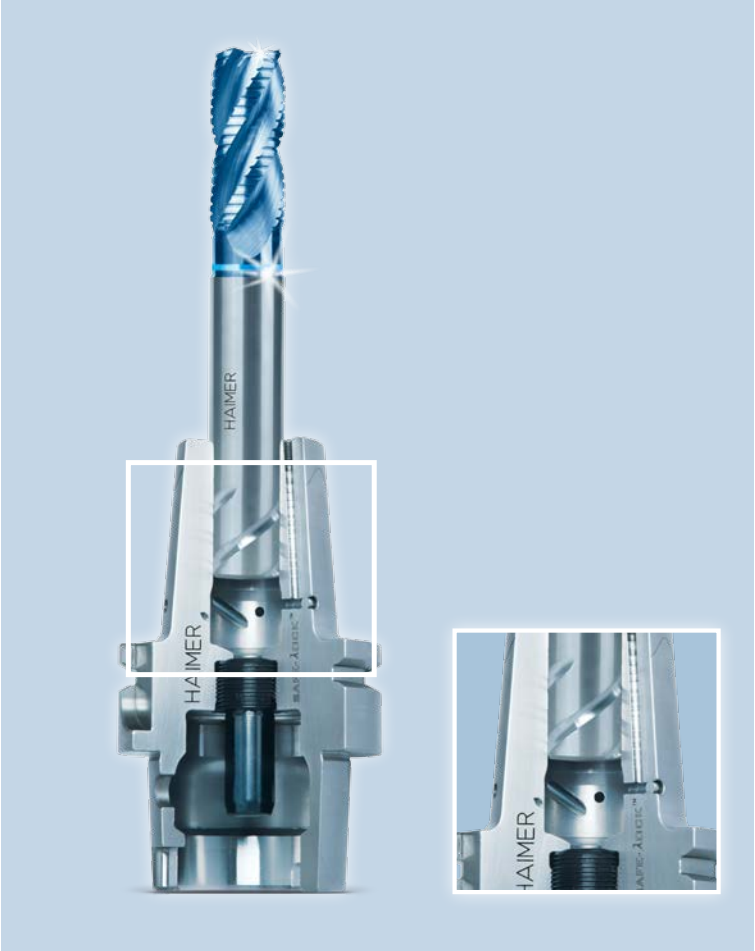
With an **investment of eight-figure sums, HAIMER established a new tool grinding production** that is unique in regards to technology and equipment. Solid carbide endmills "made by HAIMER" are grinded there.

Thanks to many decades of experience in our own machine shop and to many years of 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. Thus HAIMER becomes more and more a **system provider in the field of metal cutting.**

The HAIMER Power Mill series from diameter 6 mm to 20 mm and 1/4" to 1" respectively, is by default equipped with the well-known Safe-Lock™ shank. Convince yourself and unite best runout accuracy, vibration-free running and best cutting parameters with absolute process reliability due to the patented Safe-Lock™ system by using HAIMER tool holders and Power Mill endmills.





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-Lock™ system offers a solution.**

Drive keys in the chuck / collet grip in grooves in the tool shank. In addition to the frictional clamping forces of the tool holder, the tool is held using positive locking. As a result, micro-creeping is effectively prevented and your tool is clamped safely.

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

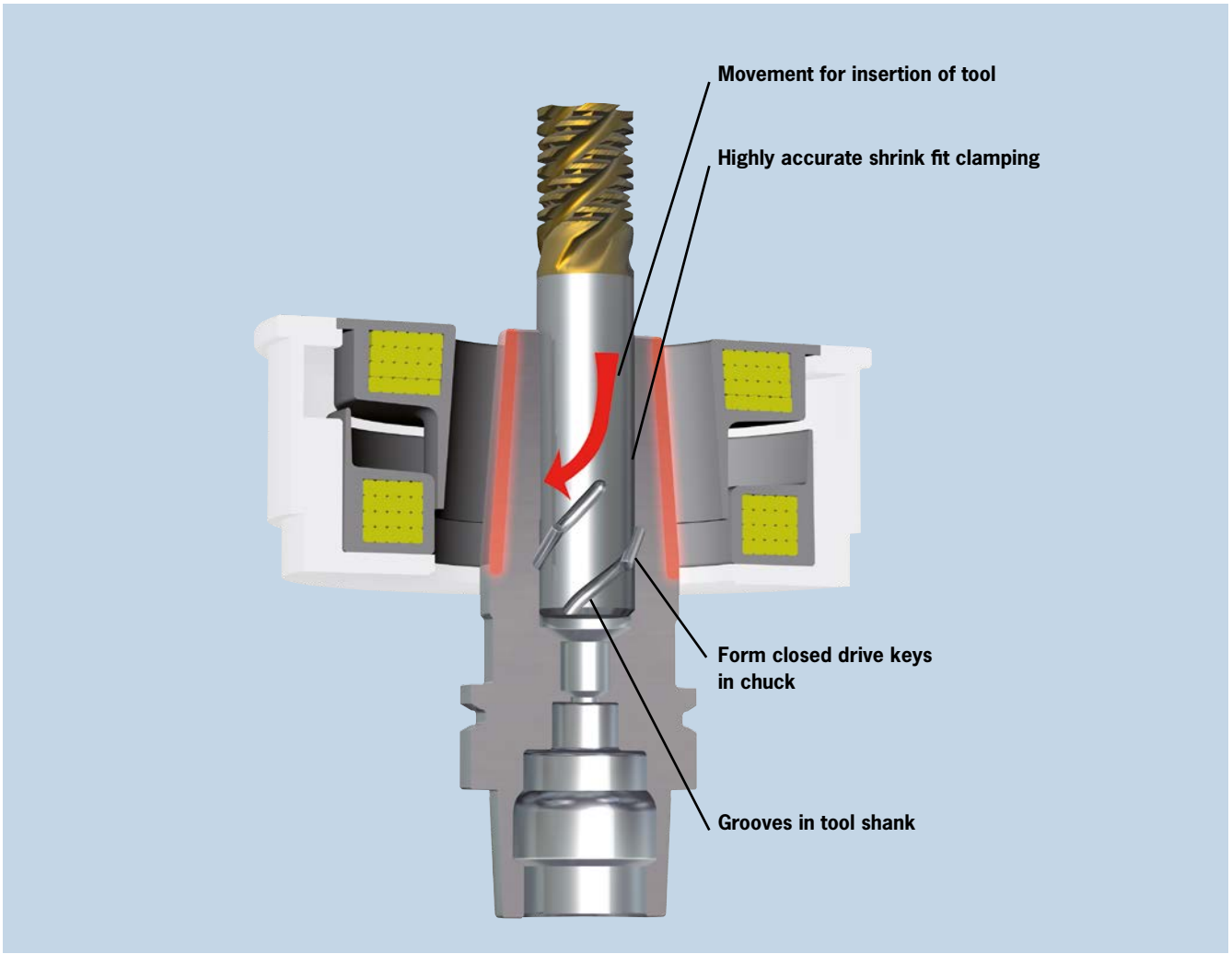
- For High Performance Cutting (HPC)
- Highly accurate clamping due to shrink fit or collet chuck technology, runout accuracy < 0.003 mm (see image 1)
- High torque due to form closed clamping
- No pull out of the tool, thus no damages on work piece or machine (see image 2)
- No spinning of the tool
- The groove on the tool shank is directed so that the tool will be pulled into the chuck (depending on direction of rotation)
- Patent granted: licensing possible

Maximum metal removal rate with absolute process reliability

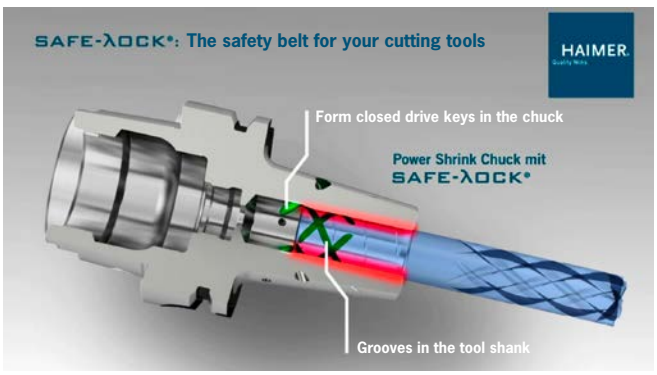
Image 1: Best runout accuracy < 0.003 mm

Image 2: No pull out of the tool with Safe-Lock™

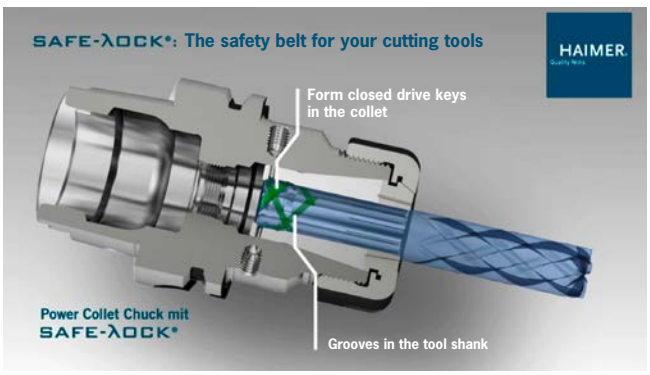
SAFE-λOCK® PULL OUT PROTECTION – FUNCTIONALITY



POWER SHRINK CHUCK WITH SAFE-LOCK™



POWER COLLET CHUCK WITH SAFE-LOCK™



SAFE-ΛOCK® – FAQ

QUESTION:
Can an endmill with Safe-Lock™ shank also be clamped into a tool holder without Safe-Lock™ pins?

ANSWER:
Yes, tools with Safe-Lock™ shank can be clamped in every tool holder that is suitable for shanks according to DIN 6535.

QUESTION:
Is the length of tools with Safe-Lock™ shank adjustable?

ANSWER:
Yes, the pull out protection Safe-Lock™ allows shifting the tool within the Safe-Lock™ groove without any problems, thus adjusting the demanded Z-length easily and quickly.

QUESTION:
How can I shrink in tools with Safe-Lock™?

ANSWER:
Corresponding to the application of tools with HA-shank, tools with Safe-Lock™ shank are put in the heated tool holder and are then shrinked in with a twisting movement.

QUESTION:
How can I get out broken tools with Safe-Lock™ shank from a Safe-Lock™ tool holder?

ANSWER:
The HAIMER unshrinking device helps to get out broken tools despite the spiral-shaped Safe-Lock™ grooves without any problems.

QUESTION:
What advantages does the Safe-Lock™ system offer compared to the well-tried Weldon-clamping system?

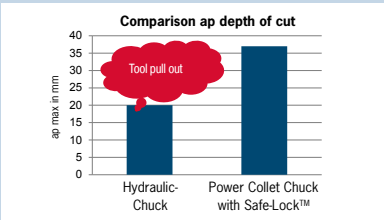
ANSWER:
Due to the side clamping of the Weldon system, the tool is pushed off center, which causes reduced tool life, poor runout accuracy of up to 0.05 mm and therefore insufficient work piece surface finish. In comparison, HAIMER Safe-Lock™ provides, in addition to the pull out security, a very high runout accuracy of < 0.003 mm. Only Safe-Lock™ allows a maximum metal removal rate combined with absolute process reliability and precision!

SAFE-ΛOCK® APPLICATION EXAMPLES

Power Collet Chuck with Safe-Lock™

Maximum metal removal rate and best surface finish without risk of pullout

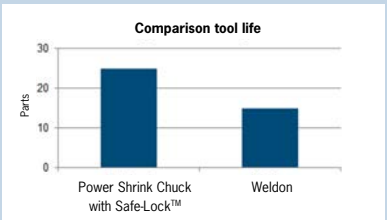
Application:	Slot milling
Work piece:	Titanium block
Material:	Ti6Al4V
Tool Holder:	Power Collet Chuck with Safe-Lock™
Machine:	DMG MORI, DMU 80 P duoBLOCK®
Machine tool:	HSK-A 100
Cooling / pressure:	Emulsion/100 bar
Tool:	Safe-Lock™ solid carbide endmill, Z4, Ø 20mm
Cutting data:	ae: 20 mm
	ap: 20/32.5/35/37.5 mm
	fz: 0.07 mm
	vc: 60 m/min



Power Shrink Chuck with Safe-Lock™

66 % more tool life with Safe-Lock™ compared to Weldon

Application:	Pocket milling
Work piece:	Mould
Material:	1.2312/40CrMnMoS 8-6, 40 HRC
Tool Holder:	Power Shrink Chuck with Safe-Lock™
Machine:	Mazak FH7800
Machine tool:	HSK-A 100
Cooling:	Air
Tool:	Safe-Lock™ solid carbide endmill, Z4, Ø 20mm
Cutting data:	ae: 2 mm
	ap: 35 mm
	fz: 0.25 mm
	vc: 180 m/min



HAIMER Power Mill
Solid Carbide Endmills

CHARACTERISTICS AND ADVANTAGES AT A GLANCE

Substrate:

– Submicron carbide grade with excellent impact strength and high T.R.S.

Tool Shank:

– h5 shank tolerance
– Safe-Lock™ shank for pull out protection and productivity improvement

Coatings:

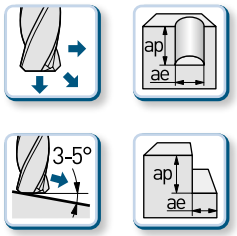
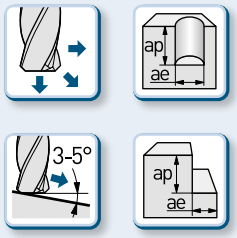
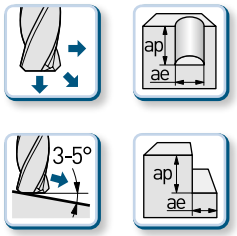
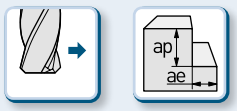
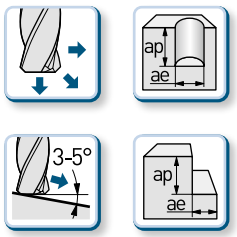
– Latest PVD coating for maximum wear protection, AlTiN-based HAIMER high-performance coating
– Pre and post treatment of tool surfaces for optimized chip removal

Geometry:

– Unequal cutting edge end helix slitting for vibration reduced machining
– 3, 4 and 5 cutting edges with different lengths of cut based on application requirements
– Cutting edge design (sharp, chamfer or radius) for maximum flexibility
– HAIMER cord cutting edge design for cutting force reduction
– Power Mill endmills are fine balanced
– Highest run-out accuracy (< 0.0002", market comparison: 0.0006")
– Accurate overall length tolerance (+/- 0.002"), thus tool measurement is not always necessary
– Diameter tolerance h9

Maximum metal removal rate and accuracy at the work piece only with a combination of HAIMER tool holding technology and HAIMER Power Mill!

Products	Page	Characteristics
UNI Z3 – F1003NN 	INCH 10–11 METRIC 20–21	35° 36° 37° · S-λ · Z=3 · S
UNI Z4 – F1004NN CHAMFER 	INCH 12–13 METRIC 22–23	41° 43° · S-λ · Z=4 · 45°
UNI Z4 – F1004NN RADIUS 	INCH 14–15 METRIC 24–25	41° 43° · S-λ · Z=4 · R
UNI Z5 – F1005LL CHAMFER 	INCH 16–17 METRIC 26–27	46° 47° · S-λ · Z=5 · 45°
UNI Z4 – F1304NN CORD PROFILE 	INCH 18–19 METRIC 28–29	32° 35° · S-λ · Z=4 · 45°

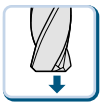
Application	Material	Features
	Main Material: P also suitable for: M K N	■ Shank tolerance: h5 ■ Neck for higher cutting depth ■ Center cutting ■ Fine balanced
	Main Material: P also suitable for: M K S	■ Shank tolerance: h5 ■ Neck for higher cutting depth ■ Center cutting ■ Fine balanced ■ Roughing and finishing
	Main Material: P also suitable for: M K S	■ Shank tolerance: h5 ■ Neck for higher cutting depth ■ Center cutting ■ Fine balanced ■ Roughing and finishing
	Main Material: P also suitable for: M K S	■ Shank tolerance: h5 ■ Neck for higher cutting depth ■ Fine balanced ■ HPC finishing up to 3xD1
	Main Material: P also suitable for: M K	■ Shank tolerance: h5 ■ Neck for higher cutting depth ■ Center cutting ■ Fine balanced ■ For low power machines ■ For applic. with chip evacuation issues ■ Roughing

Cutting Data

HAIMER Material Groups		Example Material ANSI	Material Information Tensile Strength	Content/ Hardness	Cutting width ae ae = 100% D1 ap = 1 x D1 Cutting Speed SFM	 ae = 50% D1 ap = 1.5 x D1	 ae = 25% D1 ap = L1 max.
P1	General steels	1015, 1045	≤116,000 PSI, 800 MPA	up to 25 HRC	560 – 655	690 – 785	820 – 885
P2	Heat treated steels	D2, A2, 4140	>116,000 PSI, 800 MPA	up to 45 HRC	295 – 360	360 – 425	425 – 495
M1	Stainless steels	303, 304,	≤ 94,275 PSI, 650 MPA		195 – 265	295 – 360	360 – 425
M2	Stainless steels	316Ti, 316L,	>94,275 PSI, 650 MPA		130 – 195	195 – 265	265 – 325
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, ASTM A536 60-40-18	≤ 65,265 PSI, 450 MPA		295 – 360	425 – 495	655 – 720
K2	Cast iron	ASTM A536 80-55-06 ASTM A536 100-70-03	> 65,265 PSI, 450 MPA		295 – 360	360 – 425	525 – 590
N1	Wrought aluminium alloys	A5005 ‘6061			1965 – 5900	1965 – 5900	1965 – 5900
N2	Aluminium cast alloys	A413.0		Si > 12%	985 – 1965	985 – 1965	985 – 1965

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

Feed per tooth (in/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 “	1 “
25% ø	0.0008	0.0011	0.0016	0.0021	0.0027	0.0032	0.0043	0.0053	0.0064	0.0080
50% ø	0.0006	0.0008	0.0011	0.0016	0.0020	0.0024	0.0031	0.0039	0.0047	0.0060
100% ø	0.0005	0.0006	0.0009	0.0013	0.0016	0.0019	0.0025	0.0031	0.0037	0.0050



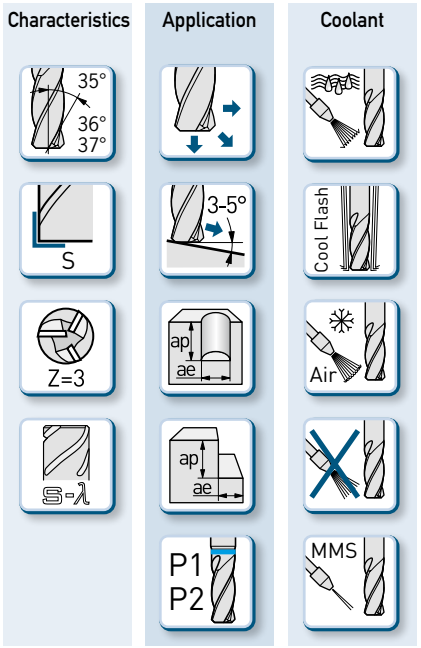
Plunging fz 0.0004”

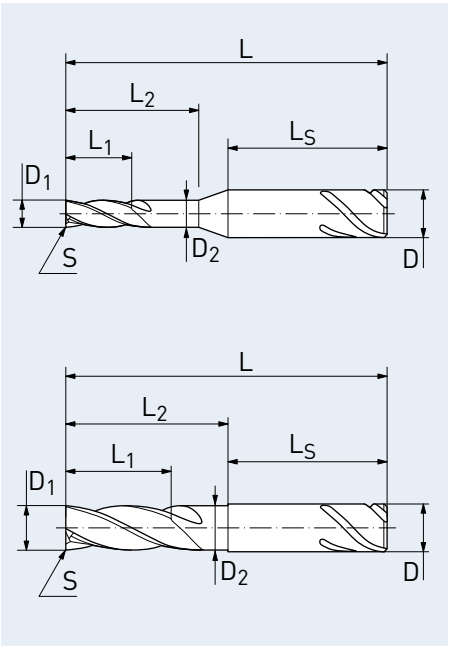
INCH

HAIMER POWER MILL UNI
UNI Z3 – F1003NN

Technical Data and Product Characteristics

- Shank tolerance: h5
- Neck for higher cutting depth
- Center cutting
- Fine balanced
- Runout < 0.0002"





Application Range - Material*

Main Material: P

also suitable for: M K N

- For all steel materials
- For roughing and finishing

*see HAIMER material page 31

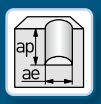
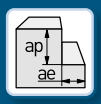
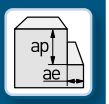
Part Number	HAIMER Quality	D1 (h9)	Cutting edge	L1 max.	L (+/- 0.002")	L2	D2	D (h5)	LS	Shank
F1003NNL3/32ZS..	AA	3/32	S	3/16	2	1/4	0.089	1/4	1.562	S-λ
F1003NNL1/8ZS..	AA	1/8	S	1/4	2	5/16	0.121	1/4	1.531	S-λ
F1003NNL3/16ZS..	AA	3/16	S	3/8	2	1/2	0.179	1/4	1.375	S-λ
F1003NNL1/4ZS..	AA	1/4	S	1/2	2	5/8	0.238	1/4	1.343	S-λ
F1003NNL5/16ZS..	AA	5/16	S	5/8	2 3/16	13/16	0.296	5/16	1.312	S-λ
F1003NNL3/8ZS..	AA	3/8	S	3/4	2 1/2	1	0.355	3/8	1.437	S-λ
F1003NNL1/2ZS..	AA	1/2	S	1	3	1 1/4	0.476	1/2	1.687	S-λ
F1003NNL5/8ZS..	AA	5/8	S	1 1/4	3 3/8	1 9/16	0.593	5/8	1.750	S-λ
F1003NNL3/4ZS..	AA	3/4	S	1 1/2	3 3/4	1 7/8	0.710	3/4	1.812	S-λ
F1003NNL1ZS..	AA	1	S	2	4 1/2	2 1/2	0.960	1	1.937	S-λ

SAFE-LOCK®

Order code = Part number + HAIMER Quality.

Subject to change

Cutting Data

HAIMER Material Groups		Example Material ANSI	Material Information Tensile Strength	Content/ Hardness	Cutting width ae  ae = 100% D1 ap = 1 x D1 Cutting Speed SFM	 ae = 50% D1 ap = 1.5 x D1	 ae = 25% D1 ap = L1 max.
P1	General steels	1015, 1045	≤116,000 PSI, 800 MPA	up to 25 HRC	560 – 655	690 – 785	820 – 885
P2	Heat treated steels	D2, A2, 4140	>116,000 PSI, 800 MPA	up to 45 HRC	295 – 360	360 – 425	425 – 495
M1	Stainless steels	303, 304,	≤94,275 PSI, 650 MPA		195 – 265	295 – 360	360 – 425
M2	Stainless steels	316Ti, 316L,	> 94,275 PSI, 650 MPA		130 – 195	195 – 265	265 – 325
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, ASTM A536 60-40-18	≤ 65,265 PSI, 450 MPA		295 – 360	425 – 495	655 – 720
K2	Cast iron	ASTM A536 80-55-06, ASTM A536 100-70-03	>65,265 PSI, 450 MPA		295 – 360	360 – 425	525 – 590
S1	Titanium & titanium alloys	B265, B338, B348			195 – 265	195 – 265	195 – 265
S2	High Temp alloys	Inconel	116,000 - 246,500 PSI		95 – 130	95 – 130	95 – 130

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

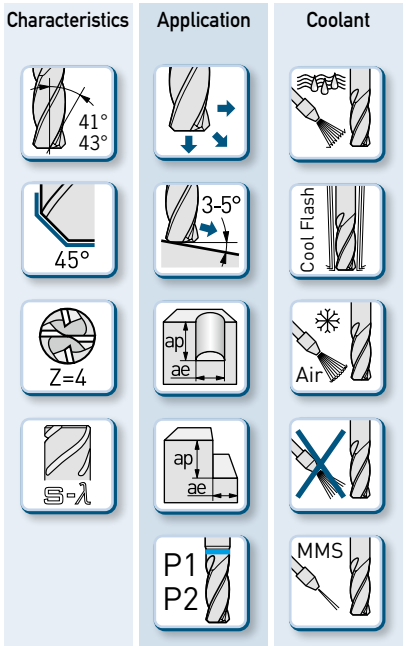
Feed per tooth (in/tooth) in relation with D1 and cutting width ae										
ae	3/32 "	1/8 "	3/16 "	1/4 "	5/16 "	3/8 "	1/2 "	5/8 "	3/4 "	1 "
25% ø	0.0008	0.0011	0.0016	0.0021	0.0027	0.0032	0.0043	0.0053	0.0064	0.0080
50% ø	0.0006	0.0008	0.0011	0.0016	0.0020	0.0024	0.0031	0.0039	0.0047	0.0060
100% ø	0.0005	0.0006	0.0009	0.0013	0.0016	0.0019	0.0025	0.0031	0.0037	0.0050

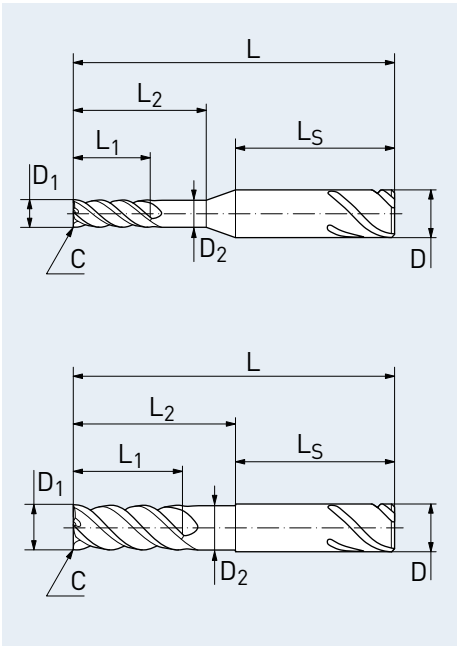
INCH

HAIMER POWER MILL UNI
UNI Z4 – F1004NN CHAMFER

Technical Data and Product Characteristics

- Shank tolerance: h5
- Neck for higher cutting depth
- Center cutting
- Fine balanced
- Roughing, finishing
- Runout < 0.0002"





Application Range - Material*

Main Material: P

also suitable for: M K S

- For all steel materials
- For roughing and finishing

*see HAIMER material page 31

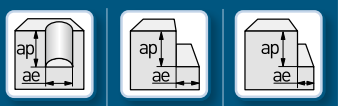
Part Number	HAIMER Quality	D1 (h9)	Cutting edge	Size	L1 max.	L (+/- 0.002")	L2	D2	D (h5)	LS	Shank
F1004NNL3/32ZC..	AA	3/32	C	0.004	3/16	2	1/4	0.089	1/4	1.562	S-λ
F1004NNL1/8ZC..	AA	1/8	C	0.004	1/4	2	5/16	0.121	1/4	1.531	S-λ
F1004NNL3/16ZC..	AA	3/16	C	0.006	3/8	2	1/2	0.179	1/4	1.375	S-λ
F1004NNL1/4ZC..	AA	1/4	C	0.008	1/2	2	5/8	0.238	1/4	1.343	S-λ
F1004NNL5/16ZC..	AA	5/16	C	0.008	5/8	2 3/16	13/16	0.296	5/16	1.312	S-λ
F1004NNL3/8ZC..	AA	3/8	C	0.012	3/4	2 1/2	1	0.355	3/8	1.437	S-λ
F1004NNL1/2ZC..	AA	1/2	C	0.012	1	3	1 1/4	0.476	1/2	1.687	S-λ
F1004NNL5/8ZC..	AA	5/8	C	0.020	1 1/4	3 3/8	1 9/16	0.593	5/8	1.750	S-λ
F1004NNL3/4ZC..	AA	3/4	C	0.024	1 1/2	3 3/4	1 7/8	0.710	3/4	1.812	S-λ
F1004NNL1ZC..	AA	1	C	0.032	2	4 1/2	2 1/2	0.960	1	1.937	S-λ

SAFE-LOCK®

Order code = Part number + HAIMER Quality.

Subject to change

Cutting Data

HAIMER Material Groups		Example Material ANSI	Material Information Tensile Strength	Content/ Hardness	Cutting width ae  ae = 100% D1 ap = 1 x D1	ae = 50% D1 ap = 1.5 x D1	ae = 25% D1 ap = L1 max. Cutting Speed SFM
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P2	Heat treated steels	D2, A2, 4140	>116,000 PSI, 800 MPA	up to 45 HRC	295 – 360	360 – 425	425 – 495
M1	Stainless steels	303, 304,	≤94,275 PSI, 650 MPA		195 – 265	295 – 360	360 – 425
M2	Stainless steels	316Ti, 316L,	> 94,275 PSI, 650 MPA		130 – 195	195 – 265	265 – 325
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, ASTM A536 60-40-18	≤65,265 PSI, 450 MPA		295 – 360	425 – 495	655 – 720
K2	Cast iron	ASTM A536 80-55-06, ASTM A536 100-70-03	> 65,265 PSI, 450 MPA		295 – 360	360 – 425	525 – 590
S1	Titanium & titanium alloys	B265, B338, B348			195 – 265	195 – 265	195 – 265
S2	High Temp alloys	Inconel	116,000 - 246,500 PSI		95 – 130	95 – 130	95 – 130

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

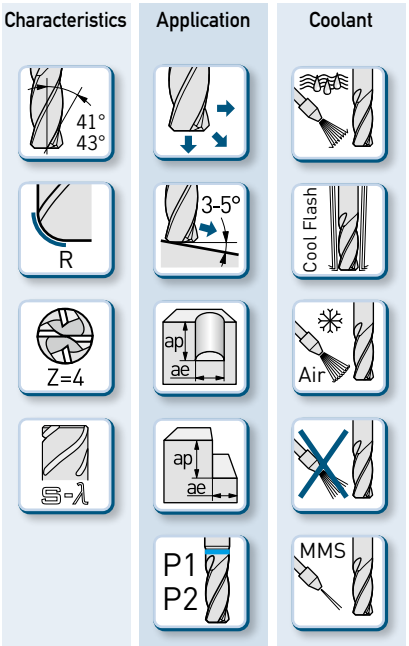
Feed per tooth (in/tooth) in relation with D1 and cutting width ae										
ae	3/32 "	1/8 "	3/16 "	1/4 "	5/16 "	3/8 "	1/2 "	5/8 "	3/4"	1 "
25% ø	0.0008	0.0011	0.0016	0.0021	0.0027	0.0032	0.0043	0.0053	0.0064	0.0080
50% ø	0.0006	0.0008	0.0011	0.0016	0.0020	0.0024	0.0031	0.0039	0.0047	0.0060
100% ø	0.0005	0.0006	0.0009	0.0013	0.0016	0.0019	0.0025	0.0031	0.0037	0.0050

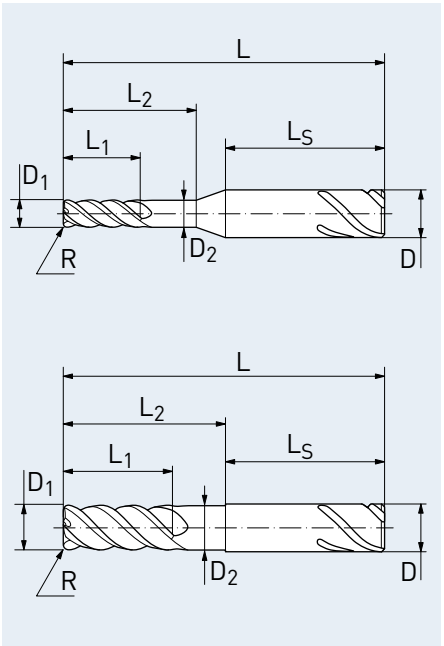
INCH

HAIMER POWER MILL UNI
UNI Z4 – F1004NN RADIUS

Technical Data and Product Characteristics

- Shank tolerance: h5
- Neck for higher cutting depth
- Center cutting
- Fine balanced
- Roughing, finishing
- Runout < 0.0002"





Application Range - Material*

Main Material: P

also suitable for: M K S

- For all steel materials
- For roughing and finishing

*see HAIMER material page 31

Part Number	HAIMER Quality	D1 (h9)	Cutting edge	Size	L1 max.	L (+/- 0.002")	L2	D2	D (h5)	LS	Shank
F1004NNL3/32ZR.010..	AA	3/32	R	0.010	3/16	2	1/4	0.089	1/4	1.562	S-λ
F1004NNL1/8ZR.010..	AA	1/8	R	0.010	1/4	2	5/16	0.121	1/4	1.531	S-λ
F1004NNL3/16ZR.015..	AA	3/16	R	0.015	3/8	2	1/2	0.179	1/4	1.375	S-λ
F1004NNL1/4ZR.015..	AA	1/4	R	0.015	1/2	2	5/8	0.238	1/4	1.343	S-λ
F1004NNL5/16ZR.015..	AA	5/16	R	0.015	5/8	2 3/16	13/16	0.296	5/16	1.312	S-λ
F1004NNL3/8ZR.020..	AA	3/8	R	0.020	3/4	2 1/2	1	0.355	3/8	1.437	S-λ
F1004NNL1/2ZR.030..	AA	1/2	R	0.030	1	3	1 1/4	0.476	1/2	1.687	S-λ
F1004NNL5/8ZR.030..	AA	5/8	R	0.030	1 1/4	3 3/8	1 9/16	0.593	5/8	1.750	S-λ
F1004NNL3/4ZR.030..	AA	3/4	R	0.030	1 1/2	3 3/4	1 7/8	0.710	3/4	1.812	S-λ
F1004NNL1ZR.030..	AA	1	R	0.030	2	4 1/2	2 1/2	0.960	1	1.937	S-λ

SAFE-LOCK®

Order code = Part number + HAIMER Quality.

Subject to change

Cutting Data

HAIMER Material Groups		Example Material ANSI	Material Information Tensile Strength	Content/ Hardness	Cutting width ae  ae = 5% D1 ap = L1 max. Cutting Speed SFM		
P1	General steels	1015, 1045	≤ 116,000 PSI, 800 MPA	up to 25 HRC		820 – 885	
P2	Heat treated steels	D2, A2, 4140	>116,000 PSI, 800 MPA	up to 45 HRC		425 – 490	
M1	Stainless steels	303, 304,	≤ 94,275 PSI, 650 MPA			360 – 425	
M2	Stainless steels	316Ti, 316L,	>94,275 PSI, 650 MPA			265 – 325	
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, ASTM A536 60-40-18	≤65,265 PSI, 450 MPA			655 – 720	
K2	Cast iron	ASTM A536 80-55-06, ASTM A536 100-70-03	> 65,265 PSI, 450 MPA			525 – 590	
S1	Titanium & titanium alloys	B265, B338, B348				195 – 265	
S2	High Temp alloys	Inconel	116,000 - 246,500 PSI			95 – 130	

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

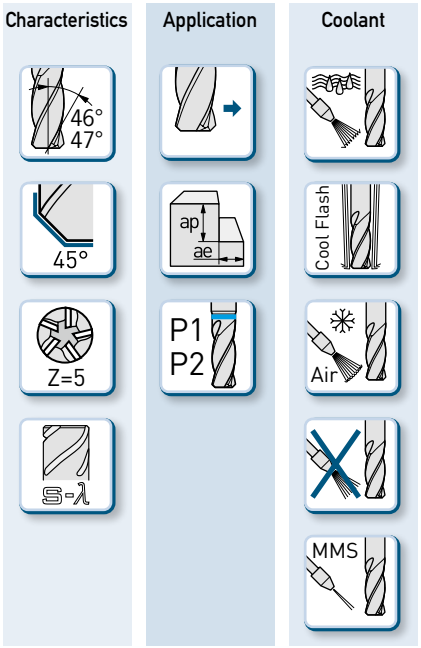
Feed per tooth (in/tooth) in relation with D1 and cutting width ae							
ae	1/4 "	5/16 "	3/8 "	1/2 "	5/8 "	3/4 "	1 "
5% ø	0.0021	0.0027	0.0032	0.0043	0.0053	0.0064	0.0080

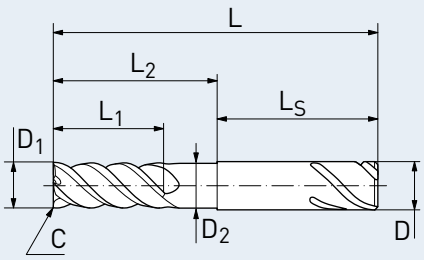
INCH

HAIMER POWER MILL UNI
UNI Z5 – F1005LL CHAMFER

Technical Data and Product Characteristics

- Shank tolerance: h5
- Neck for higher cutting depth
- Fine balanced
- HPC finishing up to 3xD1
- Runout < 0.0002"





Application Range - Material*

Main Material: P

also suitable for: M K S

- For all steel materials
- For finishing

*see HAIMER material page 31

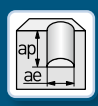
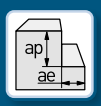
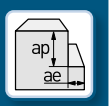
Part Number	HAIMER Quality	D1 (h9)	Cutting edge	Size	L1 max.	L (+/- 0.002")	L2	D2	D (h5)	LS	Shank
F1005LLL1/4ZC..	AA	1/4	C	0.008	3/4	2 3/8	1	0.238	1/4	1.343	S-λ
F1005LLL5/16ZC..	AA	5/16	C	0.008	15/16	2 5/8	1 1/4	0.296	5/16	1.312	S-λ
F1005LLL3/8ZC..	AA	3/8	C	0.012	1 1/8	3	1 1/2	0.355	3/8	1.437	S-λ
F1005LLL1/2ZC..	AA	1/2	C	0.012	1 1/2	3 3/4	2	0.476	1/2	1.687	S-λ
F1005LLL5/8ZC..	AA	5/8	C	0.020	1 7/8	4 5/16	2 1/2	0.593	5/8	1.750	S-λ
F1005LLL3/4ZC..	AA	3/4	C	0.024	2 1/4	4 7/8	3	0.710	3/4	1.812	S-λ
F1005LLL1ZC..	AA	1	C	0.032	3	6	4	0.960	1	1.937	S-λ

SAFE-LOCK®

Order code = Part number + HAIMER Quality.

Subject to change

Cutting Data

HAIMER Material Groups		Example Material ANSI	Material Information Tensile Strength	Content/ Hardness	Cutting width ae  ae = 100% D1 ap = 1 x D1	 ae = 50% D1 ap = 1.5 x D1	 ae = 25% D1 ap = L1 max. Cutting Speed SFM
P1	General steels	1015, 1045	≤116,000 PSI, 800 MPA	up to 25 HRC	560 – 655	690 – 785	820 – 885
P2	Heat treated steels	D2, A2, 4140	>116,000 PSI, 800 MPA	up to 45 HRC	295 – 360	360 – 425	425 – 495
M1	Stainless steels	303, 304,	≤ 94,275 PSI, 650 MPA		195 – 265	295 – 360	360 – 425
M2	Stainless steels	316Ti, 316L,	> 94,275 PSI, 650 MPA		130 – 195	195 – 265	265 – 325
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, ASTM A536 60-40-18	≤ 65,265 PSI, 450 MPA		295 – 360	425 – 495	655 – 720
K2	Cast iron	ASTM A536 80-55-06, ASTM A536 100-70-03	> 65,265 PSI, 450 MPA		295 – 360	360 – 425	525 – 590

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

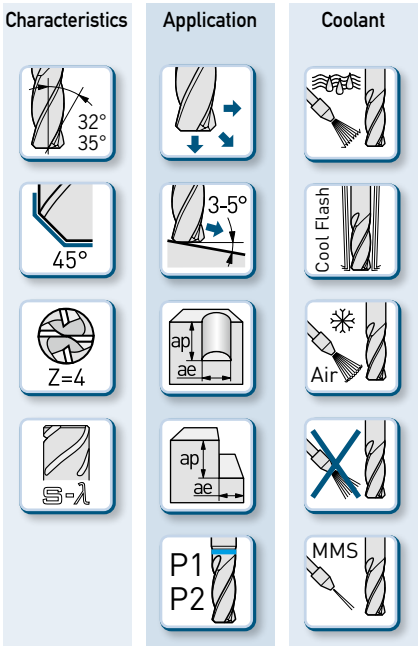
Feed per tooth (in/tooth) in relation with D1 and cutting width ae							
ae	1/4 "	5/16 "	3/8 "	1/2 "	5/8 "	3/4 "	1 "
25% ø	0.0021	0.0027	0.0032	0.0043	0.0053	0.0063	0.0080
50% ø	0.0016	0.0020	0.0024	0.0031	0.0039	0.0047	0.0060
100% ø	0.0013	0.0016	0.0019	0.0025	0.0031	0.0037	0.0050

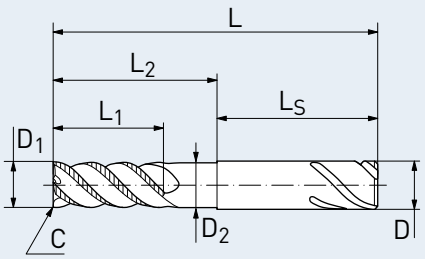
INCH

HAIMER POWER MILL UNI
UNI Z4 – F1304NN CORD PROFILE

Technical Data and Product Characteristics

- Shank tolerance: h5
- Neck for higher cutting depth
- Center cutting
- Fine balanced
- For low power machines
- For applic. with chip evacuation issues
- Roughing
- Runout < 0.0002"





Application Range - Material*

Main Material: P

also suitable for: M, K

- For all steel materials
- For roughing

*see HAIMER material page 31

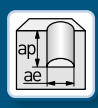
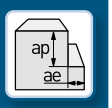
Part Number	HAIMER Quality	D1 (h9)	Cutting edge	Size	L1 max.	L (+/- 0.002")	L2	D2	D (h5)	LS	Shank
F1304NNL1/4ZC..	AA	1/4	C	0.008	1/2	2	5/8	0.238	1/4	1.343	S-λ
F1304NNL5/16ZC..	AA	5/16	C	0.008	5/8	2 3/16	13/16	0.296	5/16	1.312	S-λ
F1304NNL3/8ZC..	AA	3/8	C	0.012	3/4	2 1/2	1	0.355	3/8	1.437	S-λ
F1304NNL1/2ZC..	AA	1/2	C	0.012	1	3	1 1/4	0.476	1/2	1.687	S-λ
F1304NNL5/8ZC..	AA	5/8	C	0.020	1 1/4	3 3/8	1 9/16	0.593	5/8	1.750	S-λ
F1304NNL3/4ZC..	AA	3/4	C	0.024	1 1/2	3 3/4	1 7/8	0.710	3/4	1.812	S-λ
F1304NNL1ZC..	AA	1	C	0.032	2	4 1/2	2 1/2	0.960	1	1.937	S-λ

SAFE-LOCK®

Order code = Part number + HAIMER Quality.

Subject to change

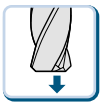
Cutting Data

HAIMER Material Groups		Example Material DIN	Material no.	Material Information Tensile Strength	Content/ Hardness	Cutting width ae  ae = 100% D1 ap = 1 x D1	 ae = 50% D1 ap = 1.5 x D1	 ae = 25% D1 ap = L1 max.
						Cutting Speed Vc (m/min)		
P1	General steels	S235JR (RST37-2), E295 (St 50-2), C45	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	170 – 200	210 – 240	250 – 270
P2	Heat treated steels	X38CrMoV5-3, X153CrMoV12, X100CrMoV5, 42CrMo4	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	90 – 110	110 – 130	130 – 150
M1	Stainless steels	X8CrNiS18-9, X5CrNI18-10, X46Cr13	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		60 – 80	90 – 110	110 – 130
M2	Stainless steels	X6CrNiMoTi17-12-2, X2CrNiMo17-12-2, X4CrNiMo16-5-1	1.4571, 1.4404, 1.4418	> 650 N/mm²		40 – 60	60 – 80	80 – 100
K1	Cast iron	EN-GJL200 (GG20), EN-GJLZ (GG40), EN-GJS-400-15 (GGG40)	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		110 – 130	130 – 150	200 – 220
K2	Cast iron	EN-GJS-600-3 (GGG60), EN-GJS-700-2 (GGG70)	0.7060, 0.7070	> 450 N/mm²		90 – 110	110 – 130	160 – 180
N1	Wrought aluminium alloys	AlMg1	3.3315			600 – 1800	600 – 1800	600 – 1800
N2	Aluminium cast alloys	G-Alsi12	3.2581		Si > 12%	300 – 600	300 – 600	300 – 600

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

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
25% ø	0.017	0.026	0.034	0.043	0.051	0.068	0.085	0.102	0.119	0.136	0.153	0.170
50% ø	0.013	0.019	0.025	0.031	0.038	0.050	0.063	0.075	0.088	0.100	0.113	0.125
100% ø	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.070	0.080	0.090	0.100



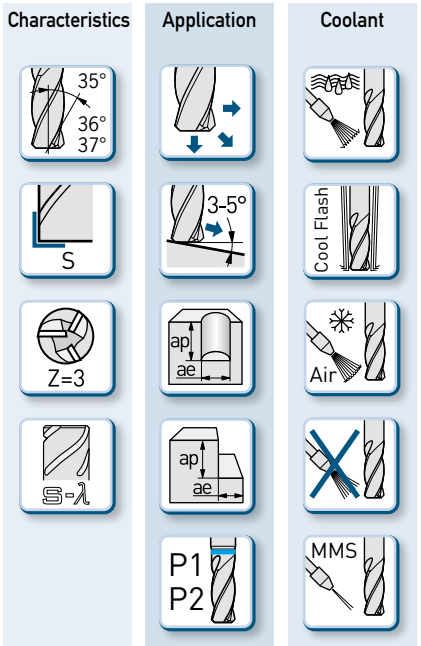
Plunging fz 0.01.

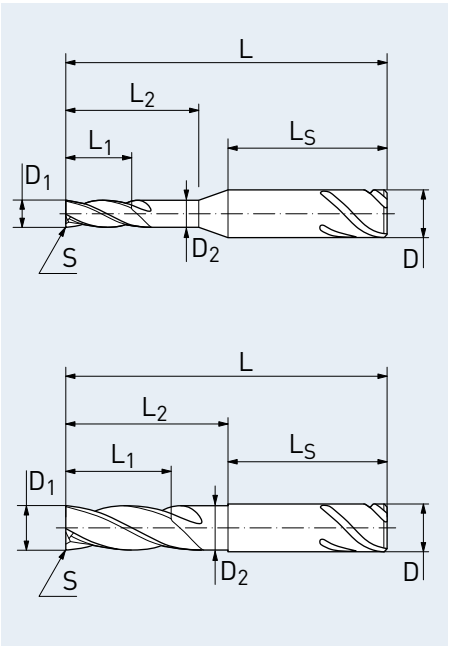
METRIC

HAIMER POWER MILL UNI
UNI Z3 – F1003NN

Technical Data and Product Characteristics

- Shank tolerance: h5
- Neck for higher cutting depth
- Center cutting
- Fine balanced
- Runout < 5 µm





Application Range - Material*

Main Material: P

also suitable for: M K N

- For all steel materials
- For roughing and finishing

*see HAIMER material page 31

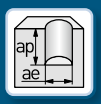
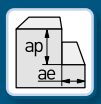
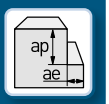
Part Number	HAIMER Quality	D1 (h9)	Cutting edge	L1 max.	L (+/- 0.05)	L2	D2	D (h5)	LS	Shank
F1003NNL0200S..	AA	2.00	S	7	58	9	1.9	6	45.5	S-λ
F1003NNL0300S..	AA	3.00	S	8	58	10	2.9	6	44.8	S-λ
F1003NNL0400S..	AA	4.00	S	11	58	15	3.8	6	40.2	S-λ
F1003NNL0500S..	AA	5.00	S	13	58	18	4.8	6	37.8	S-λ
F1003NNL0600S..	AA	6.00	S	13	58	20	5.7	6	36.5	S-λ
F1003NNL0800S..	AA	8.00	S	19	64	26	7.6	8	36.5	S-λ
F1003NNL1000S..	AA	10.00	S	22	73	31	9.5	10	40.5	S-λ
F1003NNL1200S..	AA	12.00	S	26	84	36	11.4	12	45.5	S-λ
F1003NNL1400S..	AA	14.00	S	26	84	36	13.3	14	45.5	S-λ
F1003NNL1600S..	AA	16.00	S	32	93	42	15.2	16	48.5	S-λ
F1003NNL1800S..	AA	18.00	S	32	93	42	17.1	18	48.5	S-λ
F1003NNL2000S..	AA	20.00	S	38	105	52	19	20	50.5	S-λ

SAFE-LOCK®

Order code = Part number + HAIMER Quality.

Subject to change

Cutting Data

HAIMER Material Groups		Example Material DIN	Material no.	Material Information Tensile Strength	Content/ Hardness	Cutting width ae  ae = 100% D1 ap = 1 x D1	 ae = 50% D1 ap = 1.5 x D1	 ae = 25% D1 ap = L1 max.
						Cutting Speed Vc (m/min)		
P1	General steels	S235JR (RST37-2), E295 (St 50-2), C45	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	170 – 200	210 – 240	250 – 270
P2	Heat treated steels	X38CrMoV5-3, X153CrMoV12, X100CrMoV5, 42CrMo4	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	90 – 110	110 – 130	130 – 150
M1	Stainless steels	X8CrNiS18-9, X5CrNI18-10, X46Cr13	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		60 – 80	90 – 110	110 – 130
M2	Stainless steels	X6CrNiMoTi17-12-2, X2CrNiMo17-12-2, X4CrNiMo16-5-1	1.4571, 1.4404, 1.4418	> 650 N/mm²		40 – 60	60 – 80	80 – 100
K1	Cast iron	EN-GJL200 (GG20),EN-GJLZ (GG40), EN-GJS-400-15 (GGG40)	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		110 – 130	130 – 150	200 – 220
K2	Cast iron	EN-GJS-600-3 (GGG60), EN-GJS-700-2 (GGG70)	0.7060, 0.7070	> 450 N/mm²		90 – 110	110 – 130	160 – 180
S1	Titanium & titanium alloys	TiAl6V4	3.7165			60 – 80	60 – 80	60 – 80
S2	High Temp alloys	Inconel; NIMONIC		800 – 1700 N/ mm²		30 – 40	30 – 40	30 – 40

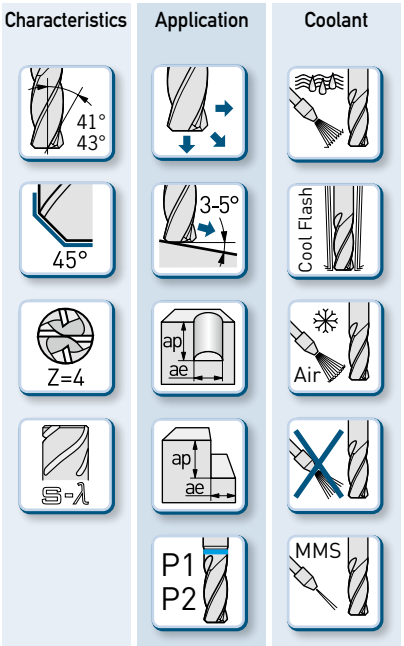
Cutting Data are reference values and need to be adjusted according to the application area.

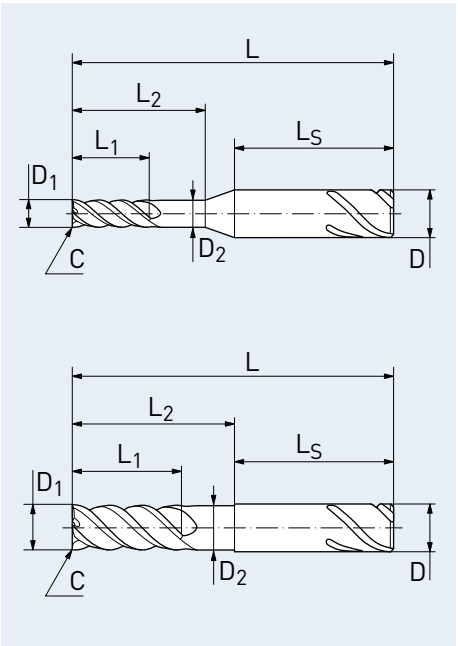
Feed per tooth (mm/tooth) in relation with D1 and cutting width ae

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
25% ø	0.017	0.026	0.034	0.043	0.051	0.068	0.085	0.102	0.119	0.136	0.153	0.170
50% ø	0.013	0.019	0.025	0.031	0.038	0.050	0.063	0.075	0.088	0.100	0.113	0.125
100% ø	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.070	0.080	0.090	0.100

Technical Data and Product Characteristics

- Shank tolerance: h5
- Neck for higher cutting depth
- Center cutting
- Fine balanced
- Roughing, finishing
- Runout < 5 µm





Application Range - Material*

Main Material: P

also suitable for: M K S

- For all steel materials
- For roughing and finishing

*see HAIMER material page 31

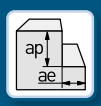
Part Number	HAIMER Quality	D1 (h9)	Cutting edge	Size	L1 max.	L (+/- 0.05)	L2	D2	D (h5)	LS	Shank
F1004NNL0200C..	AA	2.00	C	0.10	7	58	9	1.9	6	45.5	S-λ
F1004NNL0300C..	AA	3.00	C	0.10	8	58	10	2.9	6	44.8	S-λ
F1004NNL0400C..	AA	4.00	C	0.15	11	58	15	3.8	6	40.2	S-λ
F1004NNL0500C..	AA	5.00	C	0.15	13	58	18	4.8	6	37.8	S-λ
F1004NNL0600C..	AA	6.00	C	0.20	13	58	20	5.7	6	36.5	S-λ
F1004NNL0800C..	AA	8.00	C	0.20	19	64	26	7.6	8	36.5	S-λ
F1004NNL1000C..	AA	10.00	C	0.30	22	73	31	9.5	10	40.5	S-λ
F1004NNL1200C..	AA	12.00	C	0.30	26	84	36	11.4	12	45.5	S-λ
F1004NNL1400C..	AA	14.00	C	0.40	26	84	36	13.3	14	45.5	S-λ
F1004NNL1600C..	AA	16.00	C	0.50	32	93	42	15.2	16	48.5	S-λ
F1004NNL1800C..	AA	18.00	C	0.50	32	93	42	17.1	18	48.5	S-λ
F1004NNL2000C..	AA	20.00	C	0.60	38	105	52	19	20	50.5	S-λ

SAFE-LOCK®

Order code = Part number + HAIMER Quality.

Subject to change

Cutting Data

HAIMER Material Groups		Example Material DIN	Material no.	Material Information Tensile Strength	Content/ Hardness	Cutting width ae  ae = 100% D1 ap = 1 x D1	 ae = 50% D1 ap = 1.5 x D1	 ae = 25% D1 ap = L1 max.
						Cutting Speed Vc (m/min)		
P1	General steels	S235JR (RST37-2), E295 (St 50-2), C45	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	170 – 200	210 – 240	250 – 270
P2	Heat treated steels	X38CrMoV5-3, X153CrMoV12, X100CrMoV5, 42CrMo4	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	90 – 110	110 – 130	130 – 150
M1	Stainless steels	X8CrNiS18-9, X5CrNI18-10, X46Cr13	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		60 – 80	90 – 110	110 – 130
M2	Stainless steels	X6CrNiMoTi17-12-2, X2CrNiMo17-12-2, X4CrNiMo16-5-1	1.4571, 1.4404, 1.4418	> 650 N/mm²		40 – 60	60 – 80	80 – 100
K1	Cast iron	EN-GJL200 (GG20),EN-GJLZ (GG40), EN-GJS-400-15 (GGG40)	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		110 – 130	130 – 150	200 – 220
K2	Cast iron	EN-GJS-600-3 (GGG60), EN-GJS-700-2 (GGG70)	0.7060, 0.7070	> 450 N/mm²		90 – 110	110 – 130	160 – 180
S1	Titanium & titanium alloys	TiAl6V4	3.7165			60 – 80	60 – 80	60 – 80
S2	High Temp alloys	Inconel; NIMONIC		800 – 1700 N/ mm²		30 – 40	30 – 40	30 – 40

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

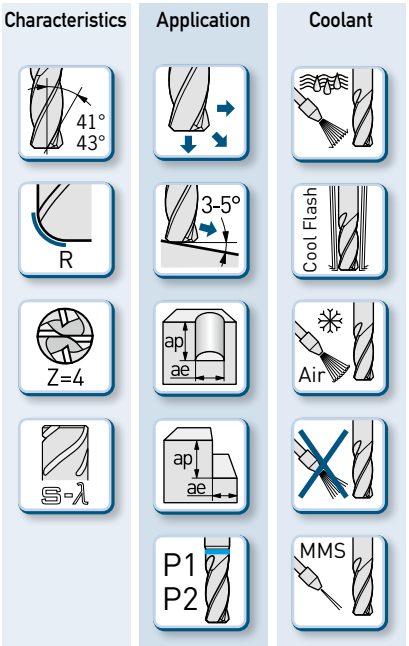
ae	ø 2	ø 3	ø 4	ø 5	ø 6	ø 8	ø 10	ø 12	ø 14	ø 16	ø 18	ø 20
25% ø	0.017	0.026	0.034	0.043	0.051	0.068	0.085	0.102	0.119	0.136	0.153	0.170
50% ø	0.013	0.019	0.025	0.031	0.038	0.050	0.063	0.075	0.088	0.100	0.113	0.125
100% ø	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.070	0.080	0.090	0.100

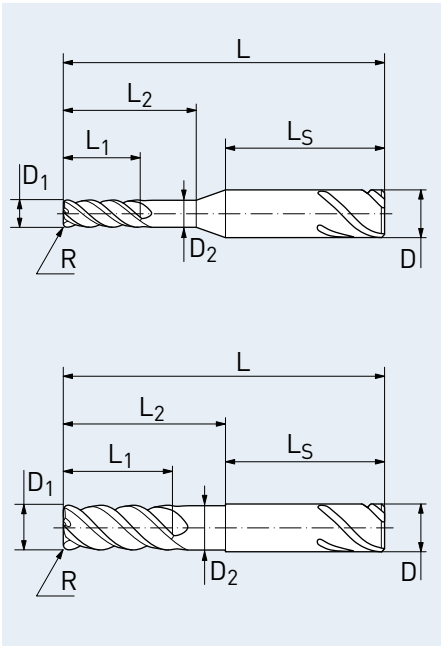
HAIMER POWER MILL UNI
UNI Z4 – F1004NN RADIUS

Technical Data and Product Characteristics

- Shank tolerance: h5
- Neck for higher cutting depth
- Center cutting
- Fine balanced
- Roughing, finishing
- Runout < 5 µm

SAFE-LOCK®





Application Range - Material*

Main Material: P

also suitable for: M K S

- For all steel materials
- For roughing and finishing

*see HAIMER material page 31

Part Number	HAIMER Quality	D1 (h9)	Cutting edge	Size	L1 max.	L (+/- 0.05)	L2	D2	D (h5)	LS	Shank
F1004NNL0200R0.20..	AA	2.00	R	0.20	7	58	9	1.9	6	45.5	S-λ
F1004NNL0300R0.30..	AA	3.00	R	0.30	8	58	10	2.9	6	44.8	S-λ
F1004NNL0400R0.50..	AA	4.00	R	0.50	11	58	15	3.8	6	40.2	S-λ
F1004NNL0500R0.50..	AA	5.00	R	0.50	13	58	18	4.8	6	37.8	S-λ
F1004NNL0600R0.50..	AA	6.00	R	0.50	13	58	19	5.7	6	36.5	S-λ
F1004NNL0800R0.50..	AA	8.00	R	0.50	19	64	25	7.6	8	36.5	S-λ
F1004NNL1000R0.50..	AA	10.00	R	0.50	22	73	30	9.5	10	40.5	S-λ
F1004NNL1200R0.50..	AA	12.00	R	0.50	26	84	36	11.4	12	45.5	S-λ
F1004NNL1400R0.50..	AA	14.00	R	0.50	26	84	36	13.3	14	45.5	S-λ
F1004NNL1600R0.50..	AA	16.00	R	0.50	32	93	42	15.2	16	48.5	S-λ
F1004NNL1800R0.50..	AA	18.00	R	0.50	32	93	42	17.1	18	48.5	S-λ
F1004NNL2000R0.50..	AA	20.00	R	0.50	38	105	52	19	20	50.5	S-λ

SAFE-LOCK®

Order code = Part number + HAIMER Quality.

Subject to change

Cutting Data

HAIMER Material Groups		Example Material DIN	Material no.	Material Information Tensile Strength	Content/ Hardness	Cutting width ae  ae = 5% D1 ap = L1 max. Cutting Speed Vc (m/min)		
P1	General steels	S235JR (RST37-2), E295 (St 50-2), C45	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC		250 – 270	
P2	Heat treated steels	X38CrMoV5-3, X153CrMoV12, X100CrMoV5, 42CrMo4	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC		130 – 150	
M1	Stainless steels	X8CrNiS18-9, X5CrNI18-10, X46Cr13	1.4305, 1.4301, 1.4034	≤ 650 N/mm²			110 – 130	
M2	Stainless steels	X6CrNiMoTi17-12-2, X2CrNiMo17-12-2, X4CrNiMo16-5-1	1.4571, 1.4404, 1.4418	> 650 N/mm²			80 – 100	
K1	Cast iron	EN-GJL200 (GG20), EN-GJLZ (GG40), EN-GJS-400-15 (GGG40)	0.6020, 0.6040, 0.7040	≤ 450 N/mm²			200 – 220	
K2	Cast iron	EN-GJS-600-3 (GGG60), EN-GJS-700-2 (GGG70)	0.7060, 0.7070	> 450 N/mm²			160 – 180	
S1	Titanium & titanium alloys	TiAl6V4	3.7165				60 – 80	
S2	High Temp alloys	Inconel; NIMONIC		800 – 1700 N/ mm²			30 – 40	

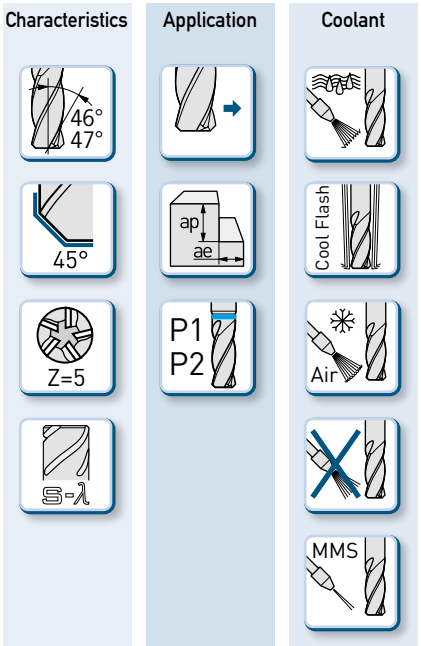
Cutting Data are reference values and need to be adjusted according to the application area.

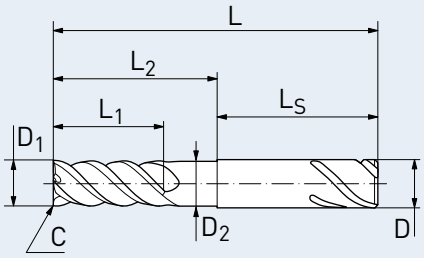
Feed per tooth (mm/tooth) in relation with D1 and cutting width ae

ae	ø 6	ø 8	ø 10	ø 12	ø 14	ø 16	ø 18	ø 20
5% ø	0.051	0.068	0.085	0.102	0.119	0.136	0.153	0.170

Technical Data and Product Characteristics

- Shank tolerance: h5
- Neck for higher cutting depth
- Fine balanced
- HPC finishing up to 3xD1
- Runout < 5 µm





Application Range - Material*

Main Material: P

also suitable for: M K S

- For all steel materials
- For finishing

*see HAIMER material page 31

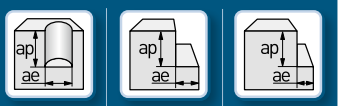
Part Number	HAIMER Quality	D1 (h9)	Cutting edge	Size	L1 max.	L (+/- 0.05)	L2	D2	D (h5)	LS	Shank
F1005LLL0600C..	AA	6.00	C	0.20	18	62	24	5.7	6	36	S-λ
F1005LLL0800C..	AA	8.00	C	0.20	24	70	32	7.6	8	36	S-λ
F1005LLL1000C..	AA	10.00	C	0.30	30	82	40	9.5	10	40	S-λ
F1005LLL1200C..	AA	12.00	C	0.30	36	95	48	11.4	12	45	S-λ
F1005LLL1400C..	AA	14.00	C	0.40	42	105	56	13.3	14	46	S-λ
F1005LLL1600C..	AA	16.00	C	0.50	48	115	64	15.2	16	48	S-λ
F1005LLL1800C..	AA	18.00	C	0.50	54	123	72	17.1	18	48	S-λ
F1005LLL2000C..	AA	20.00	C	0.60	60	133	80	19.0	20	50	S-λ

SAFE-LOCK®

Order code = Part number + HAIMER Quality.

Subject to change

Cutting Data

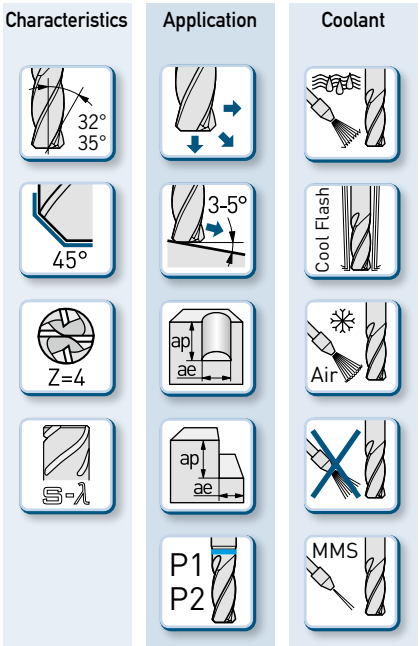
HAIMER Material Groups		Example Material DIN	Material no.	Material Information Tensile Strength	Content/ Hardness	Cutting width ae  ae = 100% D1 ap = 1 x D1 | ae = 50% D1 ap = 1.5 x D1 | ae = 25% D1 ap = L1 max. Cutting Speed Vc (m/min)		
P1	General steels	S235JR (RST37-2), E295 (St 50-2), C45	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	170 – 200	210 – 240	250 – 270
P2	Heat treated steels	X38CrMoV5-3, X153CrMoV12, X100CrMoV5, 42CrMo4	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	90 – 110	110 – 130	130 – 150
M1	Stainless steels	X8CrNiS18-9, X5CrNI18-10, X46Cr13	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		60 – 80	90 – 110	110 – 130
M2	Stainless steels	X6CrNiMoTi17-12-2, X2CrNiMo17-12-2, X4CrNiMo16-5-1	1.4571, 1.4404, 1.4418	> 650 N/mm²		40 – 60	60 – 80	80 – 100
K1	Cast iron	EN-GJL200 (GG20),EN-GJLZ (GG40), EN-GJS-400-15 (GGG40)	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		110 – 130	130 – 150	200 – 220
K2	Cast iron	EN-GJS-600-3 (GGG60), EN-GJS-700-2 (GGG70)	0.7060, 0.7070	> 450 N/mm²		90 – 110	110 – 130	160 – 180

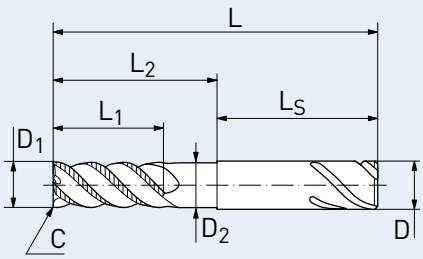
Cutting Data are reference values and need to be adjusted according to the application area.

Feed per tooth (mm/tooth) in relation with D1 and cutting width ae								
ae	ø 6	ø 8	ø 10	ø 12	ø 14	ø 16	ø 18	ø 20
25% ø	0.051	0.068	0.085	0.102	0.119	0.136	0.153	0.170
50% ø	0.038	0.050	0.063	0.075	0.088	0.100	0.113	0.125
100% ø	0.030	0.040	0.050	0.060	0.070	0.080	0.090	0.100

Technical Data and Product Characteristics

- Shank tolerance: h5
- Neck for higher cutting depth
- Center cutting
- Fine balanced
- For low power machines
- For applic. with chip evacuation issues
- Roughing
- Runout < 5 µm





Application Range - Material*

Main Material: P

also suitable for: M, K

- For all steel materials
- For roughing

*see HAIMER material page 31

Part Number	HAIMER Quality	D1 (h9)	Cutting edge	Size	L1 max.	L (+/- 0.05)	L2	D2	D (h5)	LS	Shank
F1304NNL0600C..	AA	6.00	C	0.20	13	58	20	5.5	6	36.5	S-λ
F1304NNL0800C..	AA	8.00	C	0.20	19	64	26	7.5	8	36.5	S-λ
F1304NNL1000C..	AA	10.00	C	0.30	22	73	31	9.5	10	40.5	S-λ
F1304NNL1200C..	AA	12.00	C	0.30	26	84	36	11.4	12	45.5	S-λ
F1304NNL1400C..	AA	14.00	C	0.40	26	84	36	13.3	14	45.5	S-λ
F1304NNL1600C..	AA	16.00	C	0.50	32	93	42	15.2	16	48.5	S-λ
F1304NNL1800C..	AA	18.00	C	0.50	32	93	42	17.1	18	48.5	S-λ
F1304NNL2000C..	AA	20.00	C	0.60	38	105	52	1	20	50.5	S-λ

SAFE-LOCK®

Order code = Part number + HAIMER Quality.

Subject to change

Material List

HAIMER Material Groups		Example Material DIN	Material no.	Material Information Tensile Strength	Content/Hardness
P1	General steels	S235JR (RST37-2), E295 (St 50-2), C45	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC
P2	Heat treated steels	X38CrMoV5-3, X153CrMoV12, X100CrMoV5, 42CrMo4	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC
M1	Stainless steels	X8CrNiS18-9, X5CrNI18-10, X46Cr13	1.4305, 1.4301, 1.4034	≤ 650 N/mm²	
M2	Stainless steels	X6CrNiMoTi17-12-2, X2CrNiMo17-12-2, X4CrNiMo16-5-1	1.4571, 1.4404, 1.4418	> 650 N/mm²	
K1	Cast iron	EN-GJL200 (GG20),EN-GJLZ (GG40), EN-GJS-400-15 (GGG40)	0.6020, 0.6040, 0.7040	≤ 450 N/mm²	
K2	Cast iron	EN-GJS-600-3 (GGG60), EN-GJS-700-2 (GGG70)	0.7060, 0.7070	> 450 N/mm²	
N1	Wrought aluminium alloys	AlMg1	3.3315		
N2	Aluminium cast alloys	G-Alsi12	3.2581		Si > 12%
S1	Titanium & titanium alloys	TiAl6V4	3.7165		
S2	High Temp alloys	Inconel; NIMONIC		800 – 1700 N/mm²	
H1	Hardened steels				45 – 55 HRC
H2	Hardened steels				> 55 HRC

Explanation Icons

Characteristics

Helix angle | Sharp cutting edge | Corner chamfer | Corner radius | Teeth 3 | Teeth 4 | Teeth 5 | Safe-λock®

Explanation Part number

F	1	0	0	4	N	N
Tool type	Group	Group type	Variant	No. of teeth	Length of cut	Overall length
F- Milling cutter-VHM	1- Uni	0- plain cutter zyl.. 3- Roughing cutter	0- V0	2- Z2 3- Z3 4- Z4 5- Z5	N- Normal (Ap1=1.8-2.75xD1) L- Long (Ap1=3xD1; Werksnorm)	N- Normal L- Long

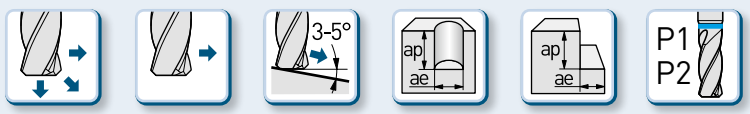
INCH

Material List

HAIMER Material Groups		Example Material ANSI	Material Information Tensile Strength	Content/Hardness
P1	General steels	1015, 1045	≤ 116,000 PSI, 800 MPA	up to 25 HRC
P2	Heat treated steels	D2, A2, 4140	>116,000 PSI, 800 MPA	up to 45 HRC
M1	Stainless steels	303, 304,	≤ 94,275 PSI, 650 MPA	
M2	Stainless steels	316Ti, 316L,	> 94,275 PSI, 650 MPA	
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, ASTM A536 60-40-18	≤ 65,265 PSI, 450 MPA	
K2	Cast iron	ASTM A536 80-55-06, ASTM A536 100-70-03	> 65,265 PSI, 450 MPA	
N1	Wrought aluminium alloys	A5005 ‘6061		
N2	Aluminium cast alloys	A413.0		Si>12%
S1	Titanium & titanium alloys	B265, B338, B348		
S2	High Temp alloys	Inconel	116,000 - 246,500 PSI	
H1	Hardened steels			45 – 55 HRC
H2	Hardened steels			> 55 HRC

Application

Feed direction | Feed direction | Ramping | Slotting | Side milling | Main application material steel



Coolant

Emulsion | Cool Flash | Cold air | Dry machining | Minimal lubri-cation

L	0600	R	1.00	A	A
Shank	Diameter	Cutting edge	Cutting edge size	Substrate	Coating
L- Safe-Lock™	0600- metric 1/4z- inch	S- sharp cutting edge C- Corner chamfer R- Corner radius	1.00- metric 0.015- inch	A- Finegrain carbide	A- PVD

THE EVOLUTION OF COLLET CHUCK TECHNOLOGY

HAIMER has developed the existing technology of Collet Chucks further.

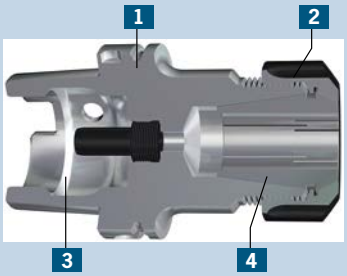
The Power Collet Chucks are Collet Chucks designed for high speed cutting (HSC) – an alternative to the reinforced shrink fit chucks of the Power Series. **Power Collet Chucks** offer a reinforced wall thickness and extra rigid outer contour and are therefore stable and resistant to vibrations. The chucks achieve maximum performance with even more precision of < 0.003 mm runout accuracy and higher cutting capacity when using the specifically developed HAIMER high-precision collets.

The Power Collets can optionally be equipped with Safe-Lock™.

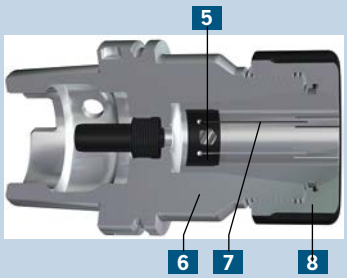
With the **Heavy Duty Collet Chuck** which was especially developed for heavy duty roughing in the heavy machinery industry as well as in the aerospace industry, a new standard has been set. It disposes highest runout accuracy of less than 0.005 mm, enormous clamping forces and thanks to its robust geometry an extremely low vibration tendency. All Heavy Duty Collets can be equipped with Safe-Lock™.

The most important features

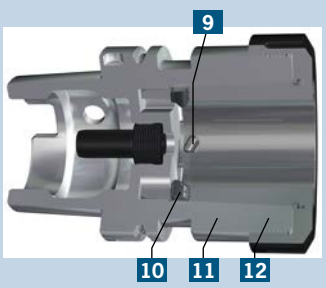
1. Fine balanced at G2.5 at 25.000 rpm
2. Fine balanced clamping nut
3. All functional surfaces grinded
4. High runout accuracy (< 0.003 mm)
5. Safe-Lock™ in the high precision collet (on option)
6. Low tendency towards vibrations by a rigid shank
7. High precision collet
8. Fine balanced Power Collet clamping nut
9. Safe-Lock™
10. Anti-rotation pins in the collet
11. Highest rigidity
12. Highest clamping forces



HAIMER Standard Collet Chuck



HAIMER Power Collet Chuck

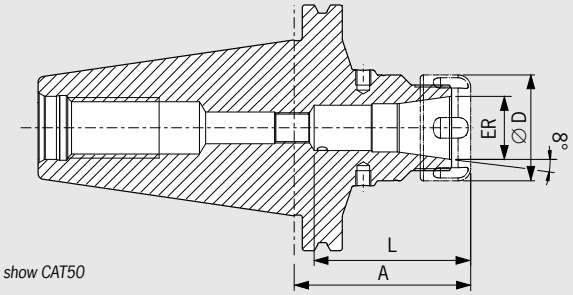


HAIMER Heavy Duty Collet Chuck

Collet Chuck Technology

Power Collet Chuck

POWER COLLET CHUCK
CAT 40/50 · ASME B5.50



Pictures show CAT50

CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 25.000 1/min
- ☑ All functional surfaces fine-machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form ADB

The Power Collet Chuck is the collet chuck for the highest machining capacity in high-speed manufacturing. The optimized design with better construction combines high rigidity with vibration dampening features, giving more protection to machines, spindles and tools.
The universal Power Collet Chuck is a unique high performance chuck that can also be used with standard collets.

– High runout accuracy: 0.003 mm at 3×D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (formerly DIN 6499) (Attention: When using standard ER collets, the A-Dimension will increase)
– High rigidity
– Smoother running thanks to vibration absorbing geometry, therefore better surface quality and protection of tools, spindles and machines
– Increased machining capacity due to higher spindle speeds, higher feed and larger cutting depths
– Shorter processing times, higher machining accuracy, higher clamping forces
– Equally suited to high-speed manufacturing and heavy milling
– With threaded holes in order to balance with balancing screws
– Optional: With Safe-Lock™ Power Collets from ER 25
– Optional: Cool Jet Bores on Power Collets from ER 25 diam. 1/4“

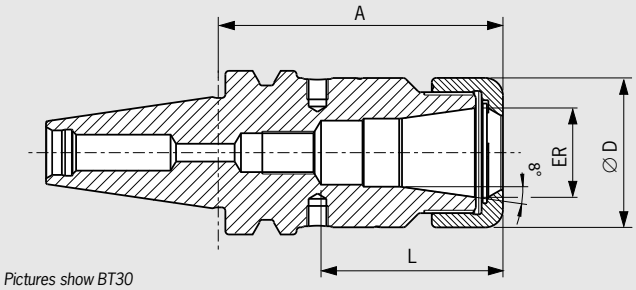
INCH	ER	25	32
	∅ D [inch]	1.65	1.97
	Clamping range [inch]	1/8"–5/8"	1/8"–3/4"
Form CAT40			
	L [inch] short	2.42	2.44
Gage length A [inch] **Order No.**	short **40.720...**	2.76 **...25.3**	2.76 **...32.3**
	L [inch]	2.01	2.09
Gage length A [inch] **Order No.**	long **40.721...**	3.94 **...25.3**	3.94 **...32.3**
Gage length A [inch] **Order No.**	oversize **40.722...**	6.30 **...25.3**	6.30 **...32.3**
Form CAT50			
	L [inch] short	2.44	2.46
Gage length A [inch] **Order No.**	short **50.720...**	2.76 **...25.3**	2.76 **...32.3**
	L [inch]	2.01	2.09
Gage length A [inch] **Order No.**	long **50.721...**	.94 **...25.3**	3.94 **...32.3**
Gage length A [inch] **Order No.**	ZG130 **50.724...**	5.12 **...25.3**	5.12 **...32.3**
Gage length A [inch] **Order No.**	oversize **50.722...**	6.30 **...25.3**	6.30 **...32.3**

Accessories

Power collets with Safe-Lock™	**See pages 40/41**

POWER COLLET CHUCK
BT 30/40/50 · JIS B 6339

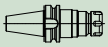
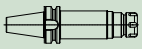
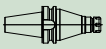
CERTIFICATE OF QUALITY
- ☑ *Chuck body fine balanced G2.5 25.000 1/min*
- ☑ *All functional surfaces fine-machined*
- ☑ *Taper tolerance AT3*
- ☑ *Coolant supply form ADB*



Pictures show BT30

The Power Collet Chuck is the collet chuck for the highest machining capacity in high-speed manufacturing. The optimized design with better construction combines high rigidity with vibration dampening features, giving more protection to machines, spindles and tools.
The universal Power Collet Chuck is a unique high performance chuck that can also be used with standard collets.

– High runout accuracy: 0.003 mm at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (formerly DIN 6499) (Attention: When using standard ER collets, the A-Dimension will increase)
– High rigidity
– Smoother running thanks to vibration absorbing geometry, therefore better surface quality and protection of tools, spindles and machines
– Increased machining capacity due to higher spindle speeds, higher feed rates and larger cutting depths
– Shorter processing times, higher machining accuracy, higher clamping forces
– Equally suited to high-speed manufacturing and heavy milling
– With threaded holes in order to balance with balancing screws
– Optional: With Safe-Lock™ Power Collets from ER 25
– Optional: Cool Jet Bores on Power Collets from ER 25 diam. 1/4“

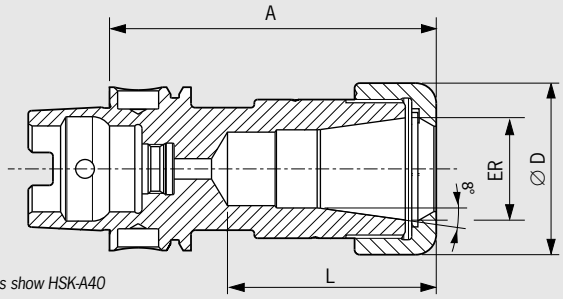
INCH	ER		25	32
	∅ D [inch]		1.65	1.97
	Clamping range [inch]		1/8"–5/8"	1/8"–3/4"
	L [inch]		2.01	2.09
Form BT30				
Gage length A [inch]	ultra short		2.1[1)]	2.16[1)]
Order No.	**30.525...**		**...25.3**	**...32.3**
Gage length A [inch]	short		3.15	3.15
Order No.	**30.520...**		**...25.3**	**...32.3**
Form BT40				
Gage length A [inch]	short		2.76	2.76 (L=2.52 inch)
Order No.	**40.520...**		**...25.3**	**...32.3**
Gage length A [inch]	long		3.94	3.94
Order No.	**40.521...**		**...25.3**	**...32.3**
Gage length A [inch]	oversize		6.30	6.30
Order No.	**40.522...**		**...25.3**	**...32.3**
Form BT50				
Gage length A [inch]	short		3.94	3.94
Order No.	**50.520...**		**...25.3**	**...32.3**
Gage length A [inch]	ZG130		5.12	5.12
Order No.	**50.524...**		**...25.3**	**...32.3**
Gage length A [inch]	oversize		6.30	6.30
Order No.	**50.522...**		**...25.3**	**...32.3**

Accessories

Power collets with Safe-Lock™	**See pages 40/41**

1) Without threaded holes

POWER COLLET CHUCK
HSK-A 40/50 · DIN 69893-1



Pictures show HSK-A40

CERTIFICATE OF QUALITY
- ☑ Chuck fine balanced G2.5 25.000 1/min or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

The Power Collet Chuck is the collet chuck for the highest machining capacity in high-speed manufacturing. The optimized design with better construction combines high rigidity with vibration dampening features, giving more protection to machines, spindles and tools.
The universal Power Collet Chuck is a unique high performance chuck that can also be used with standard collets.

- High runout accuracy: 0.003 mm at 3×D with HAIMER Power Collets
- Also for standard collets ER according to ISO 15488 (formerly DIN 6499) (Attention: When using standard ER collets, the A-Dimension will increase)
- High rigidity
- Smoother running thanks to vibration absorbing geometry, therefore better surface quality and protection of tools, spindles and machines
- Increased machining capacity due to higher spindle speeds, higher feed rates and larger cutting depths
- Shorter processing times, higher machining accuracy, higher clamping forces
- Equally suited to high-speed manufacturing and heavy milling
- Without thread for back up screw
- Optional: With Safe-Lock™ Power Collets from ER 25
- Optional: Cool Jet Bores on Power Collets from ER 25 diam. 1/4“

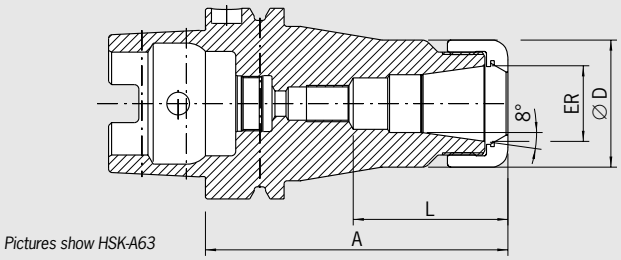
INCH	ER		25	32
	∅ D [inch]		1.65	1.97
	Clamping range [inch]		1/8"–5/8"	1/8"–3/4"
Form A40				
	L [inch]		1.51	1.85
Gage length A [inch] **Order No.**	ultra short **A40.025...**		2.36 **...25.3**	2.76 **...32.3**
	L (inch)		2.01	2.09
Gage length A [inch] **Order No.**	short **A40.020...**		3.15 **...25.3**	3.15 **...32.3**
Form A50				
	L [inch]		1.53	1.89
Gage length A [inch] **Order No.**	ultra short **A50.025...**		2.56 **...25.3**	2.95 **...32.3**

Accessories

Power collets with Safe-Lock™	**See pages 40/41**

POWER COLLET CHUCK
HSK-A 63 · DIN 69893-1

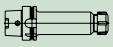
CERTIFICATE OF QUALITY
- ☑ Chuck fine balanced G2.5 25.000 1/min or U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN



Pictures show HSK-A63

The Power Collet Chuck is the collet chuck for the highest machining capacity in high-speed manufacturing. The optimized design with better construction combines high rigidity with vibration dampening features, giving more protection to machines, spindles and tools.
The universal Power Collet Chuck is a unique high performance chuck that can also be used with standard collets.

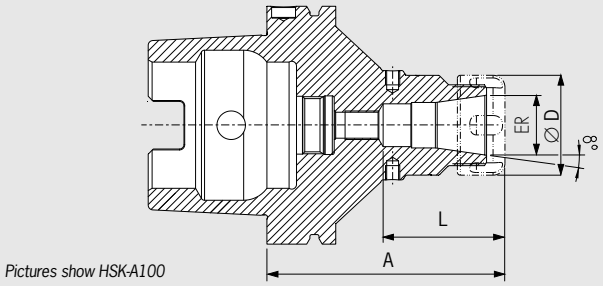
– High runout accuracy: 0.003 mm at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (formerly DIN 6499) (Attention: When using standard ER collets, the A-Dimension will increase)
– High rigidity
– Smoother running thanks to vibration absorbing geometry, therefore better surface quality and protection of tools, spindles and machines
– Increased machining capacity due to higher spindle speeds, higher feed rates and larger cutting depths
– Shorter processing times, higher machining accuracy, higher clamping forces
– Equally suited to high-speed manufacturing and heavy milling
– With threaded holes in order to balance with balancing screws
– Optional: With Safe-Lock™ Power Collets from ER 25
– Optional: Cool Jet Bores on Power Collets from ER 25 diam. 1/4“

INCH	ER		25	32
	∅ D [inch]		1.65	1.97
	Clamping range [inch]		1/8"–5/8"	1/8"–3/4"
	L [inch] ultra short		1.97	1.87
Form A63				
Gage length A [inch]	ultra short		2.95	2.95
Order No.	**A63.025...**		**...25.3**[1)]	**...32.3**[1)]
	L [inch]		2.01	2.09
Gage length A [inch]	short		3.94	3.94
Order No.	**A63.020...**		**...25.3**	**...32.3**
Gage length A [inch]	oversize		6.30	6.30
Order No.	**A63.022...**		**...25.3**	**...32.3**

Accessories

Power collets with Safe-Lock™	**See pages 40/41**

POWER COLLET CHUCK
HSK-A 100/125 · DIN 69893-1



Pictures show HSK-A100

CERTIFICATE OF QUALITY
- ☑ Chuck fine balanced G2.5 25.000 1/min or U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

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The universal Power Collet Chuck is a unique high performance chuck that can also be used with standard collets.

– High runout accuracy: 0.003 mm at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (formerly DIN 6499) (Attention: When using standard ER collets, the A-Dimension will increase)
– High rigidity
– Smoother running thanks to vibration absorbing geometry, therefore better surface quality and protection of tools, spindles and machines
– Increased machining capacity due to higher spindle speeds, higher feed rates and larger cutting depths
– Shorter processing times, higher machining accuracy, higher clamping forces
– Equally suited to high-speed manufacturing and heavy milling
– With threaded holes in order to balance with balancing screws
– Optional: With Safe-Lock™ Power Collets from ER 25
– Optional: Cool Jet Bores on Power Collets from ER 25 diam. 1/4“

INCH	ER		25	32
	∅ D [inch]		1.65	1.97
	Clamping range [inch]		1/8"–5/8"	1/8"–3/4"
	L [inch]		2.01	2.09
Form A100				
Gage length A [inch]	ultra short		3.35	3.35
Order No.	**A10.025...**		**...25.3**	**...32.3**
Gage length A [inch]	short		3.93	3.93
Order No.	**A10.020...**		**...25.3**	**...32.3**
Gage length A [inch]	ZG130		5.12	5.12
Order No.	**A10.024...**		**...25.3**	**...32.3**
Gage length A [inch]	oversize		6.30	6.30
Order No.	**A10.022...**		**...25.3**	**...32.3**
Form A125				
Gage length A [inch]	short		4	4
Order No.	**A125.020...**		**...25.3.I**	**...32.3.I**
Gage length A [inch]	ZG5 inch		5	5
Order No.	**A125.024...**		**...25.3.I**	**...32.3.I**
Gage length A [inch]	oversize		7	7
Order No.	**A125.022...**		**...25.3.I**	**...32.3.I**
Gage length A [inch]	ZG9 inch		9	9
Order No.	**A125.026...**		**...25.3.I**	**...32.3.I**

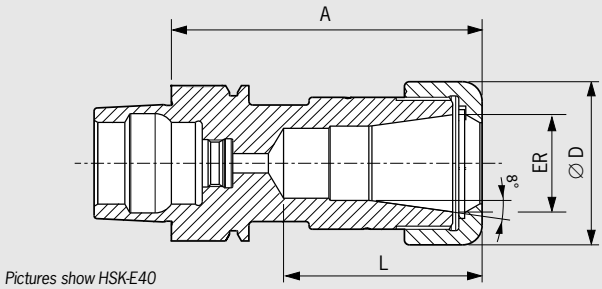
Accessories

Power collets with Safe-Lock™	**See pages 40/41**

1) Without threaded holes in order to balance with balancing screws

POWER COLLET CHUCK
HSK-E 40/50 · DIN 69893-5

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25.000 1/min
- ☑ All functional surfaces machined
- ☑ More accurate than DIN



Pictures show HSK-E40

The Power Collet Chuck is the collet chuck for the highest machining capacity in high-speed manufacturing. The optimized design with better construction combines high rigidity with vibration dampening features, giving more protection to machines, spindles and tools.
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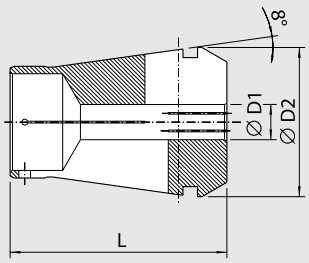
– High runout accuracy: 0.003 mm at 3×D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (formerly DIN 6499) (Attention: When using standard ER collets, the A-Dimension will increase)
– High rigidity
– Smoother running thanks to vibration absorbing geometry, therefore better surface quality and protection of tools, spindles and machines
– Increased machining capacity due to higher spindle speeds, higher feed rates and larger cutting depths
– Shorter processing times, higher machining accuracy, higher clamping forces
– Equally suited to high-speed manufacturing and heavy milling
– Without thread for set screw
– Optional: With Safe-Lock™ Power Collets from ER 25

INCH	ER		25	32
	∅ D [inch]		1.65	1.97
	Clamping range [inch]		1/8"–5/8"	1/8"–3/4"
Form E40				
	L [inch]		1.51	1.85
Gage length A [inch]	ultra short		2.36	2.76
Order No.	**E40.025...**		**...25.3**	**...32.3**
	L (inch)		2.01	2.09
Gage length A [inch]	short		3.15	3.15
Order No.	**E40.020...**		**...25.3**	**...32.3**
Form E50				
	L [inch]		1.53	1.89
Gage length A [inch]	ultra short		2.56	2.95
Order No.	**E50.025...**		**...25.3**	**...32.3**

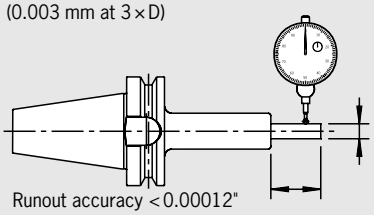
Accessories

Power collets with Safe-Lock™	**See pages 40/41**

COLLETS FOR HAIMER POWER COLLET CHUCKS
INCH



Power ER Collet
– For ultra precision machining
– High runout accuracy
(0.003 mm at 3×D)

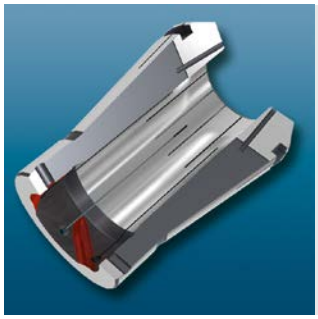


– High runout accuracy: 0.00012" at 3×D
– Superior clamping strength
– Fits HAIMER Power Collet Chucks

– For cylindrical shanks with tolerance h10
– Optional: Cool Jet bores from diam. 1/4" in ER 25 and ER 32

ER 25		∅ D1 [inch]	∅ D2 [inch]	L [inch]
Order No.	81.253.1/8z	1/8	1.001	1.46
	81.253.3/16z	3/16	1.001	1.46
	81.253.1/4z	1/4	1.001	1.46
	81.253.5/16z	5/16	1.001	1.46
	81.253.3/8z	3/8	1.001	1.46
	81.253.7/16z	7/16	1.001	1.46
	81.253.1/2z	1/2	1.001	1.46
	81.253.9/16z	9/16	1.001	1.46
	81.253.5/8z	5/8	1.001	1.46

ER 32		∅ D1 [inch]	∅ D2 [inch]	L [inch]
Order No.	81.323.1/8z	1/8	1.28	1.77
	81.323.3/16z	3/16	1.28	1.77
	81.323.1/4z	1/4	1.28	1.77
	81.323.5/16z	5/16	1.28	1.77
	81.323.3/8z	3/8	1.28	1.77
	81.323.7/16z	7/16	1.28	1.77
	81.323.1/2z	1/2	1.28	1.77
	81.323.9/16z	9/16	1.28	1.77
	81.323.5/8z	5/8	1.28	1.77
	81.323.3/4z	3/4	1.28	1.77



POWER COLLET WITH SAFE-LOCK®

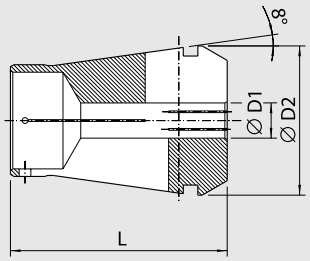
Optional: Cool Jet for Power Collets
– Optimized coolant bores, aimed at center in the collet
– Coolant directly to the cutting edge
– Extended tool life up to 100%
– Higher reliability of cutting process
– No more balls of chips on tools

ER 25 (0.47–0.63)		∅ D1 [inch]	∅ D2 [inch]	L [inch]
Order No.	81.253.3/8z.7	3/8	1.001	1.46
	81.253.1/2z.7	1/2	1.001	1.46
	81.253.5/8z.7	5/8	1.001	1.46

ER 32 (0,63–0.79)	∅ D1 [inch]	∅ D2 [inch]	L [inch]
81.323.3/8z.7	1/2	1.28	1.77
81.323.1/2z.7	1/2	1.28	1.77
81.323.5/8z.7	5/8	1.28	1.77
81.323.3/4z.7	3/4	1.28	1.77

Accessories
Cool Jet bores for Power Collets
Order No. 91.100.27

COLLETS FOR HAIMER POWER COLLET CHUCK METRIC



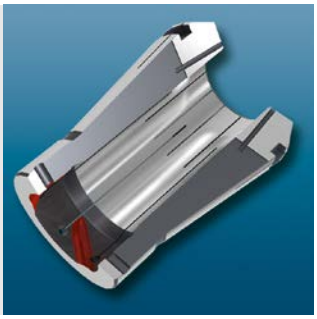
– High runout accuracy: 0.003 mm at 3 × D
– Superior clamping strength
– Fits HAIMER Power Collet Chucks
– For cylindrical shanks with tolerance h10
– Optional: Cool Jet bores from Ø 6 mm at ER 25 and ER 32

ER 25 Clamping Ø [mm]	D1	D2	L
Order No. 81.253.02	2	25.45	37
81.253.03	3	25.45	37
81.253.04	4	25.45	37
81.253.05	5	25.45	37
81.253.06[1)]	6	25.45	37
81.253.08[1)]	8	25.45	37
81.253.10[1)]	10	25.45	37
81.253.12[1)]	12	25.45	37
81.253.14[1)]	14	25.45	37
81.253.16[1)]	16	25.45	37

ER 32 Clamping Ø [mm]	D1	D2	L
Order No. 81.323.02	2	32.48	45
81.323.03	3	32.48	45
81.323.04	4	32.48	45
81.323.05	5	32.48	45
81.323.06[1)]	6	32.48	45
81.323.08[1)]	8	32.48	45
81.323.10[1)]	10	32.48	45
81.323.12[1)]	12	32.48	45
81.323.14[1)]	14	32.48	45
81.323.16[1)]	16	32.48	45
81.323.18[1)]	18	32.48	45
81.323.20[1)]	20	32.48	45

POWER COLLET WITH SAFE-LOCK®

Optional: Cool Jet for Power Collets
– Optimized coolant bores, aimed at center in the collet
– Coolant directly to the cutting edge
– Extended tool life up to 100%
– Higher reliability of cutting process
– No more balls of chips on tools



ER 25 (6,0-16,0)	Clamping ∅ D1 [mm]	06	08	10	12	14	16		
Order No.	**81.253...**	**...06.7**	**...08.7**	**...10.7**	**...12.7**	**...14.7**	**...16.7**		
ER 32 (6,0-20,0)	**Clamping ∅ D1 [mm]**	**06**	**08**	**10**	**12**	**14**	**16**	**18**	**20**
Order No.	**81.323...**	**...06.7**	**...08.7**	**...10.7**	**...12.7**	**...14.7**	**...16.7**	**...18.7**	**...20.7**

Accessories
Cool Jet bores for Power Collets
Order No. 91.100.27

1) Sealed for internal coolant

TORQUE WRENCH FOR HAIMER POWER COLLET CHUCK

Clamping wrench and torque wrench for Collet Chucks:
– For highest runout accuracy, no one-sided clamping
– Optimal power transmission by constant force application
– Torque wrench for highest clamping and repeatability with dial gauge
– Maximum torque for highest clamping force
– No overloading of smaller clamping diameters
– Changeable inserts, useable also for standard ER-Collets

Power Collet torque wrench	
Order No.	Size
84.600.00	ER 16/ER 25/ER 32

POWER COLLET TORQUE WRENCH INSERTS

Torque wrench inserts	
Order No.	Size
84.610.16	ER 16
84.610.25	ER 25
84.610.32	ER 32

THE EVOLUTION OF SHRINK FIT TECHNOLOGY

Starting with the **Standard Shrink Fit Chuck** which is suitable for a broad range of applications, the close cooperation with customers of the aerospace industry has led to the development of the **Power Shrink Chuck.**

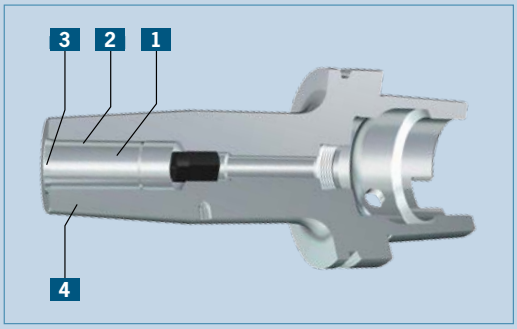
Thus a much higher cutting volume, better surface finish and a significantly higher tool life can be achieved. With the Power Shrink Chucks the area of applications for shrinking technology is extended to roughing (still with a runout accuracy of <0.003 mm and vibration resistance due to optimized outer geometry).

The extremely rigid outer geometry and the reinforced wall thickness at the clamping bore make the **Heavy Duty Chuck** a profitable chuck for highest performances e. g. for titanium machining in the aerospace and heavy industry.

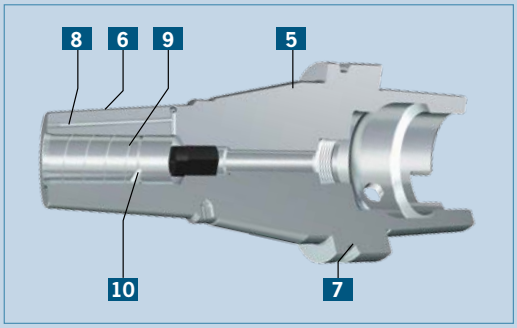
Power Shrink and Heavy Duty Shrink Chucks can be equipped with Safe-Lock™ from diam. 12 mm and with the cooling system Cool Flash from diam. 6 mm to 25 mm (on option).

The most important features

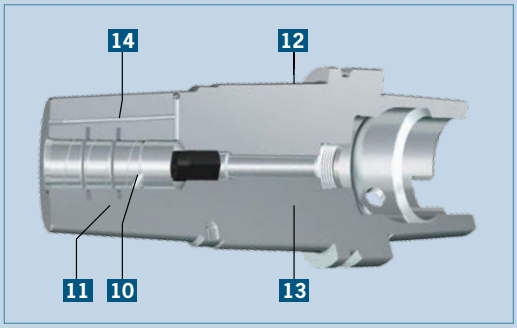
1. High runout accuracy
2. Extreme clamping torque
3. Short chamfer
4. Cool Jet on request
5. Low tendency towards vibrations
6. Slim design at the top
7. Very rigid shank
8. Standard with Cool Jet/Cool Flash optional
9. Oil groove in the clamping bore
10. Mounting of Safe-Lock™ possible
11. Reinforced wall thickness
12. Extremely rigid outer geometry
13. High rigidity
14. Expansion grooves in the clamping bore



HAIMER Standard Shrink Fit Chuck



HAIMER Power Shrink Chuck

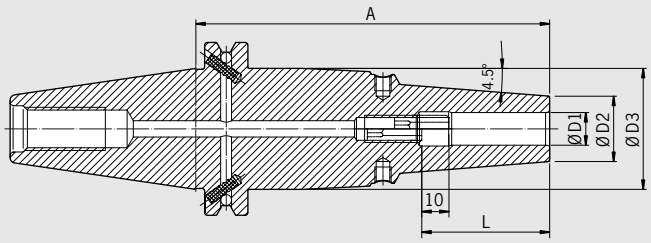


HAIMER Heavy Duty Chuck

Shrink Fit Technology

Power Shrink Chuck

POWER SHRINK CHUCK
CAT 40 · ASME B5.50

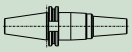
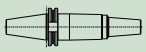


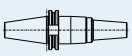
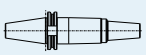
CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25.000 1/min or U<1 gmm
- ☑ All functional surfaces machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form ADB
- ☑ Cool Jet, can be sealed

The Power Shrink Chuck is the shrink fit chuck for highest machining capacity in high-speed manufacturing. The optimized design combines high rigidity with dampening vibrations, therefore giving more protection to machines, spindles and tools.
- – Increased machining capacity due to higher spindle speeds, higher feed rates and larger cutting depths
- – Shorter processing times
- – Quieter running, therefore better surface quality and protection of tools, spindles and machines
- – Higher machining accuracy
- – With threaded holes in order to balance with balancing screws
- – Cool Jet coolant bores that can be sealed included

The long versions with slim tips are especially versatile to use.
- – High rigidity
- – Slim at the tip
- – Dampen vibrations
- – Higher clamping forces
- – Equally suited to high-speed manufacturing and heavy milling
- – Universal usage, saves space in tool magazine

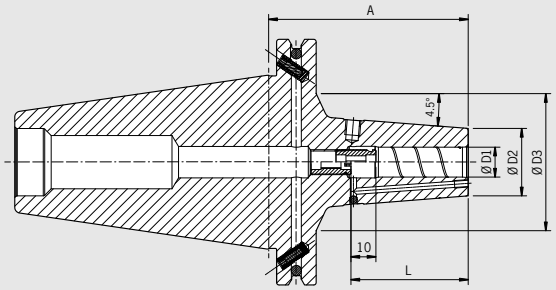
Optional:
- – Safe-Lock™ Pull out protection (See pages 4–6)
- – Cooling with Cool Flash from 1/4"–1" for an extra charge (See pp. 62/63)

INCH	∅ D1 [inch]	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"
	∅ D2 [inch] ultra short	0.87	0.87	1.04	1.04	1.16	1.40	1.79
	∅ D3 [inch] ultrashort	1.75	1.75	1.75	1.75	1.75	1.75	1.75
	L [inch] ultra short	1.42	1.42	1.65	1.85	1.97	2.05	2.28
Gage length A [inch]	ultra short 	2.56	2.56	2.56	2.56	2.56	2.56	2.95
Standard Order No.	**40.845...**	**...1/4z.3**	**...5/16z.3**	**...3/8z.3**	**...1/2z.3**	**...5/8z.3**	**...3/4z.3**	**...1z.3**
Safe-Lock™ Order No.	**40.845...**	—	—	—	**...1/2z.37**	**...5/8z.37**	**...3/4z.37**	**...1z.37**
	∅ D2 [inch] ZG130/oversize	0.83	0.83	0.94	0.94	1.06	1.30	—
	∅ D3 [inch] ZG130/oversize	1.75	1.75	1.75	1.75	1.75	1.75	—
	L [inch] ZG130/oversize	1.42	1.42	1.65	1.85	1.97	2.05	—
Gage length A [inch]	ZG130 	5.12	5.12	5.12	5.12	5.12	5.12	—
Standard Order No.	**40.844...**	**...1/4z.3**	**...5/16z.3**	**...3/8z.3**	**...1/2z.3**	**...5/8z.3**	**...3/4z.3**	
Safe-Lock™ Order No.	**40.844...**	—	—	—	**...1/2z.37**	**...5/8z.37**	**...3/4z.37**	
Gage length A [inch]	oversize 	6.30	6.30	6.30	6.30	6.30	6.30	—
Standard Order No.	**40.842...**	**...1/4z.3**	**...5/16z.3**	**...3/8z.3**	**...1/2z.3**	**...5/8z.3**	**...3/4z.3**	
Safe-Lock™ Order No.	**40.842...**	—	—	—	**...1/2z.37**	**...5/8z.37**	**...3/4z.37**	

METRIC	∅ D1 [mm]	6	8	10	12	16	20	25
	∅ D2 [mm] ultra short	22	22	26.5	26.5	29.5	35.5	45.5
	L [mm] ultra short	36	36	42	47	50	52	58
Gage length A [mm]	ultra short 	65	65	65	65	65	65	75
Standard Order No.	**40.845...**	**...06.3**	**...08.3**	**...10.3**	**...12.3**	**...16.3**	**...20.3**	**...25.3**
Safe-Lock™ Order No.	**40.845...**	—	—	—	**...12.37**	**...16.37**	**...20.37**	**...25.37**
	∅ D2 [mm] ZG130/oversize	21	21	24	24	27	33	—
	∅ D3 [mm] ZG130/oversize	44.45	44.45	44.45	44.45	44.45	44.45	—
	L [mm] ZG130/oversize	36	36	42	47	50	52	—
Gage length A [mm]	ZG130 	130	130	130	130	130	130	—
Standard Order No.	**40.844...**	**...06.3**	**...08.3**	**...10.3**	**...12.3**	**...16.3**	**...20.3**	
Safe-Lock™ Order No.	**40.844...**	—	—	—	**...12.37**	**...16.37**	**...20.37**	
Gage length A [mm]	oversize 	160	160	160	160	160	160	—
Order No.	**40.842...**	**...06.3**	**...08.3**	**...10.3**	**...12.3**	**...16.3**	**...20.3**	
Safe-Lock™ Order No.	**40.842...**	—	—	—	**...12.37**	**...16.37**	**...20.37**	

POWER SHRINK CHUCK
CAT 50 · ASME B5.50

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25.000 1/min or U<1 gmm
- ☑ All functional surfaces machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form ADB
- ☑ Cool Jet, can be sealed



The Power Shrink Chuck is the shrink fit chuck for highest machining capacity in high-speed manufacturing. The optimized design combines high rigidity with dampening vibrations, therefore giving more protection to machines, spindles and tools.
- Increased machining capacity due to higher spindle speeds, higher feed rates and larger cutting depths
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- Quieter running, therefore better surface quality and protection of tools, spindles and machines
- Higher machining accuracy
- With threaded holes in order to balance with balancing screws
- Cool Jet coolant bores that can be sealed included

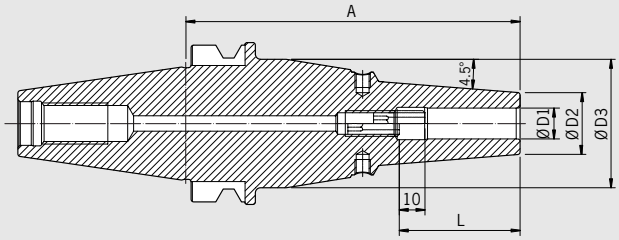
The long versions (A=160 and 200) with slim tips are especially versatile to use.
- High rigidity
- Slim at the tip
- Dampen vibrations
- Higher clamping forces
- Equally suited to high-speed manufacturing and heavy milling
- Universal usage, saves space in tool magazine

Optional:
- Safe-Lock™ Pull out protection (See pages 4–6)
- Cooling with Cool Flash from 1/4"–1" for an extra charge (See pp. 62/63)

INCH	Clamping ∅ D1 [inch]	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"
	∅ D2 [inch] short	0.83	0.83	1.06	1.06	1.31	1.76	1.73
	∅ D3 [inch] short	2.68	2.68	2.17	2.17	—	—	—
	L [inch]	1.42	1.42	1.65	1.85	1.97	2.05	2.28
Gage length A [inch]	short	3.15	3.15	3.15	3.15	3.15	3.15	3.94
Order No.	**50.840...**	**...1/4z.3**	**...5/16z.3**	**...3/8z.3**	**...1/2z.3**	**...5/8z.3**	**...3/4z.3**	**...1z.3**
Safe-Lock™ Order No.	**50.840...**				**...1/2z.37**	**...5/8z.37**	**...3/4z.37**	**...1z.37**
	∅ D2 [inch] oversize/ZG200	0.83	0.83	1.06	1.06	1.30	1.73	1.73
	∅ D3 [inch] oversize/ZG200	2.75	2.75	2.75	2.75	2.75	2.75	2.75
Gage length A [inch]	oversize	6.30	6.30	6.30	6.30	6.30	6.30	6.30
Order No.	**50.842...**	**...1/4z.3**	**...5/16z.3**	**...3/8z.3**	**...1/2z.3**	**...5/8z.3**	**...3/4z.3**	**...1z.3**
Safe-Lock™ Order No.	**50.842...**				**...1/2z.37**	**...5/8z.37**	**...3/4z.37**	**...1z.37**
Gage length A [inch]	ZG200	7.87	7.87	7.87	7.87	7.87	7.87	7.87
Order No.	**50.846...**	**...1/4z.3**	**...5/16z.3**	**...3/8z.3**	**...1/2z.3**	**...5/8z.3**	**...3/4z.3**	**...1z.3**
Safe-Lock™ Order No.	**50.846...**				**...1/2z.37**	**...5/8z.37**	**...3/4z.37**	**...1z.37**

METRIC	∅ D1 [mm]	06	08	10	12	14	16	18	20	25
	∅ D2 [mm] short	21	21	27	27	33.3	33.3	44.7	44.7	44
	∅ D3 [mm] short	68	68	55	55	—	—	—	—	—
	L [mm]	36	36	42	47	47	50	50	52	58
Gage length A [mm]	short	80	80	80	80	80	80	80	80	100
Order No.	**50.840...**	**...06.3**	**...08.3**	**...10.3**	**...12.3**	**...14.3**	**...16.3**	**...18.3**	**...20.3**	**...25.3**
Safe-Lock™ Order No.	**50.840...**				**...12.37**	**...14.37**	**...16.37**	**...18.37**	**...20.37**	**...25.37**
	∅ D2 [mm] oversize/ZG200	21	21	27	27	33	33	44	44	44.7
	∅ D3 [mm] oversize/ZG200	69.85	69.85	69.85	69.85	69.85	69.85	69.85	69.85	69.85
Gage length A [mm]	oversize	160	160	160	160	160	160	160	160	160
Order No.	**50.842...**	**...06.3**	**...08.3**	**...10.3**	**...12.3**	**...14.3**	**...16.3**	**...18.3**	**...20.3**	**...25.3**
Safe-Lock™ Order No.	**50.842...**				**...12.37**	**...14.37**	**...16.37**	**...18.37**	**...20.37**	**...25.37**
Gage length A [mm]	ZG200	200	200	200	200	200	200	200	200	200
Order No.	**50.846...**	**...06.3**	**...08.3**	**...10.3**	**...12.3**	**...14.3**	**...16.3**	**...18.3**	**...20.3**	**...25.3**
Safe-Lock™ Order No.	**50.846...**				**...12.37**	**...14.37**	**...16.37**	**...18.37**	**...20.37**	**...25.37**

POWER SHRINK CHUCK
BT 40 · JIS B 6339



CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 25.000 1/min or U < 1 gmm
- ☑ All functional surfaces machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form ADB
- ☑ Cool Jet, can be sealed

The Power Shrink Chuck is the shrink fit chuck for highest machining capacity in high-speed manufacturing. The optimized design combines high rigidity with dampening vibrations, therefore giving more protection to machines, spindles and tools.

– Increased machining capacity due to higher spindle speeds, higher feed rates and larger cutting depths
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– Higher machining accuracy
– With threaded holes in order to balance with balancing screws
– Cool Jet coolant bores that can be sealed included

The long versions (A=130 and 160) with slim tips are especially versatile to use.

– High rigidity
– Slim at the tip
– Dampen vibrations
– Higher clamping forces
– Equally suited to high-speed manufacturing and heavy milling
– Universal usage, saves space in tool magazine

Optional:
– Safe-Lock™ Pull out protection (See pages 4–6)
– Cooling with Cool Flash from 1/4"–1" for an extra charge (See pp. 62/63)

INCH	Clamping ∅ D1 [inch]	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"
	∅ D2 [inch]	0.87	0.87	1.04	1.04	1.16	1.39	1.79	1.79
	L [inch]	1.42	1.42	1.65	1.85	1.97	2.05	2.28	2.28
Gage length A [inch]	ultra short	2.76	2.76	2.76	2.76	2.95	2.95	3.35	3.35
Order No.	**40.645...**	**...1/4z.3**	**...5/16z.3**	**3/8z.3**	**...1/2z.3**	**...5/8z.3**	**...3/4z.3**	**...1z.3**	**...1 1/4z.3**
Safe-Lock™ Order No.	**40.645...**				**...1/2z.37**	**...5/8z.37**	**...3/4z.37**	**...1z.37**	**...1 1/4z.37**

METRIC	Clamping ∅ D1 [mm]	06	08	10	12	14	16	18	20	25	32
	∅ D2 [mm] ultra short	22	22	26.5	26.5	29.5	29.5	35.5	35.5	45.5	45.5
	L [mm] ultra short	36	36	42	47	47	50	50	52	58	58
Gage length A [mm]	ultra short	70	70	70	70	75	75	75	75	85	85
Order No.	**40.645...**	**...06.3**	**...08.3**	**...10.3**	**...12.3**	**...14.3**	**...16.3**	**...18.3**	**...20.3**	**...25.3**	**...32.3**
Safe-Lock™ Order No.	**40.645...**				**...12.37**	**...14.37**	**...16.37**	**...18.37**	**...20.37**	**...25.37**	**...32.37**
	∅ D2 [mm] ZG130/oversize	21	21	24	24	27	27	33	33	—	—
	∅ D3 [mm] ZG130/oversize	50	50	50	50	50	50	50	50	—	—
	L [mm]	36	36	42	47	47	50	50	52	—	—
Gage length A [mm]	ZG130	130	130	130	130	130	130	130	130	—	—
Order No.	**40.644...**	**...06.3**	**...08.3**	**...10.3**	**...12.3**	**...14.3**	**...16.3**	**...18.3**	**...20.3**		
Safe-Lock™ Order No.	**40.644...**				**...12.37**	**...14.37**	**...16.37**	**...18.37**	**...20.37**		
Gage length A [mm]	oversize	160	160	160	160	160	160	160	160	—	—
Order No.	**40.642...**	**...06.3**	**...08.3**	**...10.3**	**...12.3**	**...14.3**	**...16.3**	**...18.3**	**...20.3**		
Safe-Lock™ Order No.	**40.642...**				**...12.37**	**...14.37**	**...16.37**	**...18.37**	**...20.37**		

POWER SHRINK CHUCK
BT 50 · JIS B 6339

CERTIFICATE OF QUALITY
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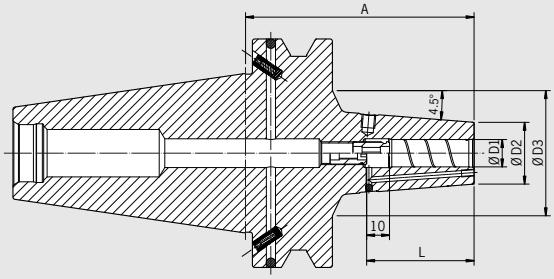
- ☑ All functional surfaces machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form ADB
- ☑ Cool Jet, can be sealed



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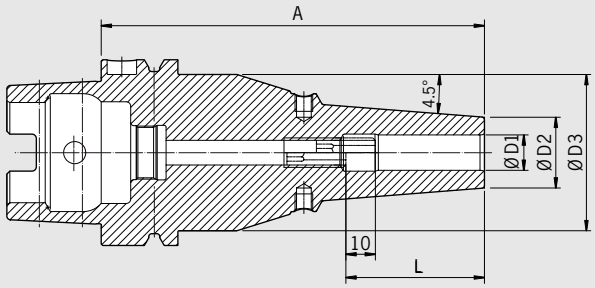
- Universal usage, saves space in tool magazine

Optional:
- Safe-Lock™ Pull out protection (See pages 4–6)
- Cooling with Cool Flash from 1/4"–1" for an extra charge (See pp. 62/63)

INCH	Clamping ∅ D1 [inch]	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"
	∅ D2 [inch]	0.83	0.83	1.06	1.06	1.31	1.76	1.76
	∅ D3 [inch]	2.76	2.76	2.17	2.17	–	–	–
	L [inch]	1.42	1.42	1.65	1.85	1.97	2.05	2.28
Gage length A [inch]	short	3.94	3.94	3.94	3.94	3.94	3.94	3.94
Order No.	**50.640...**	**...1/4z.3**	**...5/16z.3**	**...3/8z.3**	**...1/2z.3**	**...5/8z.3**	**...3/4z.3**	**...1z.3**
Safe-Lock™ Order No.	**50.640...**				**...1/2z.37**	**...5/8z.37**	**...3/4z.37**	**...1z.37**

METRIC	Clamping ∅ D1 [mm]	06	08	10	12	14	16	18	20	25
	∅ D2 [mm] short	21	21	27	27	33.3	33.3	44.7	44.7	44.7
	∅ D3 [mm] short	70	70	55	55	–	–	–	–	–
	L [mm]	36	36	42	47	47	50	50	52	58
Gage length A [mm]	short	100	100	100	100	100	100	100	100	100
Order No.	**50.640...**	**...06.3**	**...08.3**	**...10.3**	**...12.3**	**...14.3**	**...16.3**	**...18.3**	**...20.3**	**...25.3**
Safe-Lock™ Order No.	**50.640...**				**...12.37**	**...14.37**	**...16.37**	**...18.37**	**...20.37**	**...25.37**
	∅ D2 [mm] oversize/ZG200	21	21	27	27	33	33	44	44	44
	∅ D3 [mm] oversize/ZG200	83	83	83	83	83	83	83	83	83
Gage length A [mm]	oversize	160	160	160	160	160	160	160	160	160
Order No.	**50.642...**	**...06.3**	**...08.3**	**...10.3**	**...12.3**	**...14.3**	**...16.3**	**...18.3**	**...20.3**	**...25.3**
Safe-Lock™ Order No.	**50.642...**				**...12.37**	**...14.37**	**...16.37**	**...18.37**	**...20.37**	**...25.37**
Gage length A [mm]	ZG200	200	200	200	200	200	200	200	200	200
Order No.	**50.646...**	**...06.3**	**...08.3**	**...10.3**	**...12.3**	**...14.3**	**...16.3**	**...18.3**	**...20.3**	**...25.3**
Safe-Lock™ Order No.	**50.646...**				**...12.37**	**...14.37**	**...16.37**	**...18.37**	**...20.37**	**...25.37**

POWER SHRINK CHUCK
HSK-A 63 · DIN 69893-1

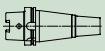


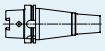
CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25.000 1/min or U<1 gmm
- ☑ All functional surfaces machined
- ☑ More accurate than DIN
- ☑ Cool Jet, can be sealed

The Power Shrink Chuck is the shrink fit chuck for highest machining capacity in high-speed manufacturing. The optimized design combines high rigidity with dampening vibrations, therefore giving more protection to machines, spindles and tools.
- Increased machining capacity due to higher spindle speeds, higher feed rates and larger cutting depths
- Shorter processing times
- Quieter running, therefore better surface quality and protection of tools, spindles and machines
- Higher machining accuracy
- With threaded holes in order to balance with balancing screws
- Cool Jet coolant bores that can be sealed included

The ZG130 and oversize versions (A=130 and 160) with slim tips are especially versatile to use.
- High rigidity
- Slim at the tip
- Dampen vibrations
- Higher clamping forces
- Equally suited to high-speed manufacturing and heavy milling
- Universal usage, saves space in tool magazine

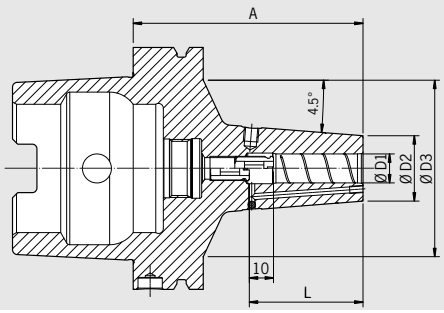
Optional:
- Safe-Lock™ Pull out protection (See pages 4–6)
- Cooling with Cool Flash from 1/4"–1" for an extra charge (See pp. 62/63)

INCH	Clamping ∅ D1 [inch]	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"	11/4"
	∅ D2 [inch] ultra short	0.87	0.87	1.04	1.04	1.16	1.40	1.77	1.77
	∅ D3 [inch] ultra short	—	—	—	—	—	—	2.01	2.01
	L [inch] ultra short	1.49	1.49	1.70	1.81	1.93	1.93	2.24	2.32
Gage length A [inch]	ultra short 	2.76	2.76	2.76	2.76	2.95	2.95	3.35	3.35
Order No.	**A63.145...**	**...1/4z.3**	**...5/16z.3**	**...3/8z.3**	**...1/2z.3**	**...5/8z.3**	**...3/4z.3**	**...1z.3**	**...1 1/4z.3**
Safe-Lock™ Order No.	**A63.145...**				**...1/2z.37**	**...5/8z.37**	**...3/4z.37**	**...1z.37**	**...1 1/4z.37**
	∅ D2 [inch]	0.83	0.83	0.94	0.94	1.06	1.30	1.73	1.73
	∅ D3 [inch]	2.09	2.09	2.09	2.09	2.09	2.09	2.09	2.09
	L [inch]	1.42	1.42	1.65	1.85	1.97	2.05	2.28	2.28
Gage length A [inch]	ZG130 	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12
Order No.	**A63.144...**	**...1/4z.3**	**...5/16z.3**	**...3/8z.3**	**...1/2z.3**	**...5/8z.3**	**...3/4z.3**	**...1z.3**	**...1 1/4z.3**
Safe-Lock™ Order No.	**A63.144...**				**...1/2z.37**	**...5/8z.37**	**...3/4z.37**	**...1z.37**	**...1 1/4z.37**
Gage length A [inch]	oversize 	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30
Order No.	**A63.142...**	**...1/4z.3**	**...5/16z.3**	**...3/8z.3**	**...1/2z.3**	**...5/8z.3**	**...3/4z.3**	**...1z.3**	**...1 1/4z.3**
Safe-Lock™ Order No.	**A63.142...**				**...1/2z.37**	**...5/8z.37**	**...3/4z.37**	**...1z.37**	**...1 1/4z.37**

METRIC	Clamping ∅ D1 [mm]	06	08	10	12	14	16	18	20	25	32
	∅ D2 [mm] ultra short	22	22	26.5	26.5	29.5	29.5	35.5	35.5	45	45
	∅ D3 [mm] ultra short	—	—	—	—	—	—	—	—	51	51
	L [mm] ultra short	38	38	43	46	48	49	49	49	57	59
Gage length A [mm]	ultra short 	70	70	70	70	75	75	75	75	85	85
Order No.	**A63.145...**	**...06.3**	**...08.3**	**...10.3**	**...12.3**	**...14.3**	**...16.3**	**...18.3**	**...20.3**	**...25.3**	**...32.3**
Safe-Lock™ Order No.	**A63.145...**				**...12.37**	**...14.37**	**...16.37**	**...18.37**	**...20.37**	**...25.37**	**...32.37**
	∅ D2 [mm]	21	21	24	24	27	27	33	33	44	44
	∅ D3 [mm]	53	53	53	53	53	53	53	53	53	53
	L [mm]	36	36	42	47	47	50	50	52	58	58
Gage length A [mm]	ZG130 	130	130	130	130	130	130	130	130	130	130
Order No.	**A63.144...**	**...06.3**	**...08.3**	**...10.3**	**...12.3**	**...14.3**	**...16.3**	**...18.3**	**...20.3**	**...25.3**	**...32.3**
Safe-Lock™ Order No.	**A63.144...**				**...12.37**	**...14.37**	**...16.37**	**...18.37**	**...20.37**	**...25.37**	**...32.37**
Gage length A [mm]	oversize 	160	160	160	160	160	160	160	160	160	160
Order No.	**A63.142...**	**...06.3**	**...08.3**	**...10.3**	**...12.3**	**...14.3**	**...16.3**	**...18.3**	**...20.3**	**...25.3**	**...32.3**
Safe-Lock™ Order No.	**A63.142...**				**...12.37**	**...14.37**	**...16.37**	**...18.37**	**...20.37**	**...25.37**	**...32.37**

POWER SHRINK CHUCK
HSK-A 100 · DIN 69893-1

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25.000 1/min or U<1 gmm
- ☑ All functional surfaces machined
- ☑ More accurate than DIN
- ☑ Cool Jet, can be sealed



The Power Shrink Chuck is the shrink fit chuck for highest machining capacity in high-speed manufacturing. The optimized design combines high rigidity with dampening vibrations, therefore giving more protection to machines, spindles and tools.
- Increased machining capacity due to higher spindle speeds, higher feed rates and larger cutting depths
- Shorter processing times
- Quieter running, therefore better surface quality and protection of tools, spindles and machines
- Higher machining accuracy
- With threaded holes in order to balance with balancing screws
- Cool Jet coolant bores that can be sealed included

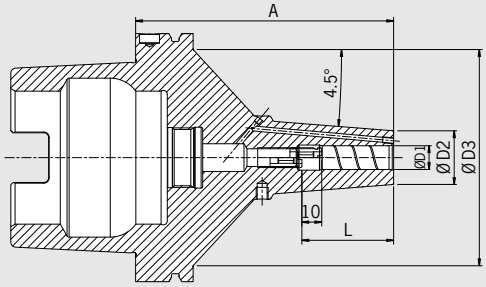
The long versions (A=160 and 200) with slim tips are especially versatile to use.
- High rigidity
- Slim at the tip
- Dampen vibrations
- Higher clamping forces
- Equally suited to high-speed manufacturing and heavy milling
- Universal usage, saves space in tool magazine

Optional:
- Safe-Lock™ Pull out protection (See pages 4–6)
- Cooling with Cool Flash from 1/4"–1" for an extra charge (See pp. 62/63)

INCH	Clamping ∅ D1 [inch]	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"
	∅ D2 [inch]	0.83	0.83	1.06	1.06	1.3	1.73	1.73
	∅ D3 [inch] ultra short	2.36	2.36	2.09	2.87	3.07	3.35	3.35
	∅ D3 [inch]	3.27	3.27	3.27	3.27	3.27	3.27	3.27
	L [inch]	1.42	1.42	1.65	1.85	1.97	2.05	2.28
Gage length A [inch]	short	3.35	3.35	3.54	3.74	3.94	4.13	4.53
Standard Order No.	**A10.140...**	**...1/4z.3**	**...5/16z.3**	**...3/8z.3**	**...1/2z.3**	**...5/8z.3**	**...3/4z.3**	**...1z.3**
Safe-Lock™ Order No.	**A10.140...**				**...1/2z.37**	**...5/8z.37**	**...3/4z.37**	**...1z.37**
Gage length A [inch]	oversize	6.30	6.30	6.30	6.30	6.30	6.30	6.30
Standard Order No.	**A10.142...**	**...1/4z.3**	**...5/16z.3**	**...3/8z.3**	**...1/2z.3**	**...5/8z.3**	**...3/4z.3**	**...1z.3**
Safe-Lock™ Order No.	**A10.142...**				**...1/2z.37**	**...5/8z.37**	**...3/4z.37**	**...1z.37**
Gage length A [inch]	ZG200	7.87	7.87	7.87	7.87	7.87	7.87	7.87
Standard Order No.	**A10.146...**	**...1/4z.3**	**...5/16z.3**	**...3/8z.3**	**...1/2z.3**	**...5/8z.3**	**...3/4z.3**	**...1z.3**
Safe-Lock™ Order No.	**A10.146...**				**...1/2z.37**	**...5/8z.37**	**...3/4z.37**	**...1z.37**

METRIC	Clamping ∅ D1 [mm]	06	08	10	12	14	16	18	20	25
	∅ D2 [mm]	21	21	27	27	33	33	44	44	44
	∅ D3 [mm] ultra short	60	60	53	73	60	78	76	85	85
	∅ D3 [mm]	83	83	83	83	83	83	83	83	83
	L [mm]	36	36	42	47	47	50	50	52	58
Gage length A [mm]	short	85	85	90	95	95	100	100	105	115
Standard Order No.	**A10.140...**	**...06.3**	**...08.3**	**...10.3**	**...12.3**	**...14.3**	**...16.3**	**...18.3**	**...20.3**	**...25.3**
Safe-Lock™ Order No.	**A10.140...**				**...12.37**	**...14.37**	**...16.37**	**...18.37**	**...20.37**	**...25.37**
Gage length A [mm]	oversize	160	160	160	160	160	160	160	160	160
Standard Order No.	**A10.142...**	**...06.3**	**...08.3**	**...10.3**	**...12.3**	**...14.3**	**...16.3**	**...18.3**	**...20.3**	**...25.3**
Safe-Lock™ Order No.	**A10.142...**				**...12.37**	**...14.37**	**...16.37**	**...18.37**	**...20.37**	**...25.37**
Gage length A [mm]	ZG200	200	200	200	200	200	200	200	200	200
Standard Order No.	**A10.146...**	**...06.3**	**...08.3**	**...10.3**	**...12.3**	**...14.3**	**...16.3**	**...18.3**	**...20.3**	**...25.3**
Safe-Lock™ Order No.	**A10.146...**				**...12.37**	**...14.37**	**...16.37**	**...18.37**	**...20.37**	**...25.37**

POWER SHRINK CHUCK
HSK-A 125 · DIN 69893-1



CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25.000 1/min or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN
- ☑ Cool Jet, can be sealed

The Power Shrink Chuck is the shrink fit chuck for highest machining capacity in high-speed manufacturing. The optimized design combines high rigidity with dampening vibrations, therefore giving more protection to machines, spindles and tools.

– Increased machining capacity due to higher spindle speeds, higher feed rates and larger cutting depths
– Shorter processing times
– Quieter running, therefore better surface quality and protection of tools, spindles and machines
– Higher machining accuracy
– With Cool Jet bores that can be sealed (Thread M4) and 6 bores
– With internal groove in the clamping bore
– Higher coolant flow rate due to optimized coolant bores
– With threaded holes in order to balance with balancing screws

The long versions (A = oversize and ZG9 inch) with slim tips are especially versatile to use.

– High rigidity, slim at the tip, dampen vibrations
– Higher clamping forces
– Equally suited to high-speed manufacturing and heavy milling
– Universal usage, saves space in tool magazine

Optional:
– Safe-Lock™ Pull out protection (See pages 4–6)
– Cooling with Cool Flash from 3/8"–1" for an extra charge (See pp. 62/63)

INCH	Clamping Ø D1 [inch]		3/8"	1/2"	5/8"	3/4"	1"
	Ø D2 [inch]		1.06	1.06	1.30	1.73	1.73
	Ø D3 [inch]		4.29	4.29	4.29	4.29	4.29
	L [inch]		1.65	1.85	1.97	2.05	2.28
Gage length A [inch]	ZG5 inch		5[1]	5[1]	5[1]	5	5
Order No.	**A125.140...**		**...3/8Z.3.I**	**...1/2Z.3.I**	**...5/8Z.3.I**	**...3/4Z.3.I**	**...1Z.3.I**
Safe-Lock™ Order No.	**A125.140...**			**...1/2Z.37.I**	**...5/8Z.37.I**	**...3/4Z.37.I**	**...1Z.37.I**
Gage length A [inch]	oversize		7[1]	7[1]	7[1]	7	7
Order No.	**A125.142...**		**...3/8Z.3.I**	**...1/2Z.3.I**	**...5/8Z.3.I**	**...3/4Z.3.I**	**...1Z.3.I**
Safe-Lock™ Order No.	**A125.142...**			**...1/2Z.37.I**	**...5/8Z.37.I**	**...3/4Z.37.I**	**...1Z.37.I**
Gage length A [inch]	ZG9 inch		9[1]	9[1]	9[1]	9	9
Order No.	**A125.146...**		**...3/8Z.3.I**	**...1/2Z.3.I**	**...5/8Z.3.I**	**...3/4Z.3.I**	**...1Z.3.I**
Safe-Lock™ Order No.	**A125.146...**			**...1/2Z.37.I**	**...5/8Z.37.I**	**...3/4Z.37.I**	**...1Z.37.I**

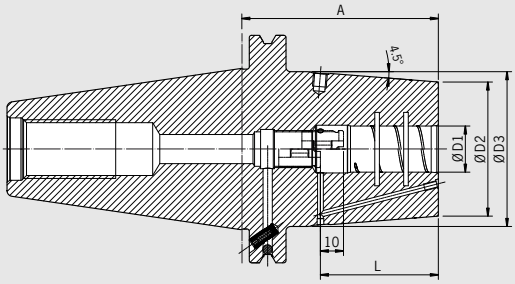
METRIC	Clamping Ø D1 [mm]		10	12	16	20	25
	Ø D2 [mm]		27	27	33	44	44
	Ø D3 [mm]		109	109	109	109	109
	L [mm]		42	47	50	52	58
Gage length A [mm]	ZG130		130[1]	130[1]	130	130	130
Order No.	**A125.140...**		**...10.3**	**...12.3**	**...16.3**	**...20.3**	**...25.3**
Safe-Lock™ Order No.	**A125.140...**			**...12.37**	**...16.37**	**...20.37**	**...25.37**
Gage length A [mm]	oversize		160[1]	160[1]	160	160	160
Order No.	**A125.142...**		**...10.3**	**...12.3**	**...16.3**	**...20.3**	**...25.3**
Safe-Lock™ Order No.	**A125.142...**			**...12.37**	**...16.37**	**...20.37**	**...25.37**
Gage length A [mm]	ZG200		200[1]	200[1]	200	200	200
Order No.	**A125.146...**		**...10.3**	**...12.3**	**...16.3**	**...20.3**	**...25.3**
Safe-Lock™ Order No.	**A125.146...**			**...12.37**	**...16.37**	**...20.37**	**...25.37**

1) Thread M3, 2 bores

Shrink Fit Technology

Heavy Duty Shrink Chuck

HEAVY DUTY CHUCK
CAT 50 · ASME B5.50



CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 25.000 1/min or U<1 gmm
- ☑ All functional surfaces machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form ADB
- ☑ Cool Jet, can be sealed

For heavy machining applications it is now finally possible to replace the Weldon tool holders. The Heavy Duty Chuck is the shrink fit chuck for extreme cases. The contour is optimized for highest rigidity and clamping force.

– Smooth clamping of the tool shank
– No deformation at the tool shank after shrink process
– High runout accuracy: 3 µm
– Reinforced outer contour
– To shrink with 13 kW HD Coil or with high performance shrink fit unit HAIMER Power Clamp Profi Plus (20 kW)
– With internal groove in the clamping bore
– Cool Jet coolant bores that can be sealed included
– With threaded holes in order to balance with balancing screws

Optional:
– Safe-Lock™ Pull out protection (See pages 4–6)
– Cooling with Cool Flash from 5/8"–1" for an extra charge (See pp. 62/63)

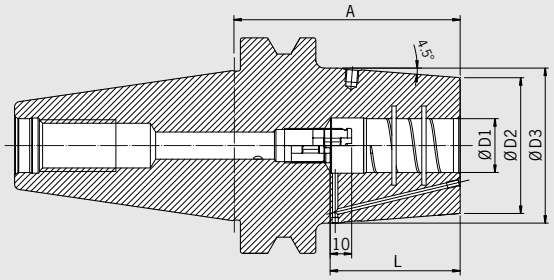
INCH	Clamping ∅ D1 [inch]	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"
	∅ D2 [inch]	2.01	2.28	2.48	2.76	3.23	3.23
	∅ D3 [inch]	—	2.64	—	3.07	3.54	3.70
	L [inch]	1.97	2.05	2.28	2.40	3.46	3.46
Gage length A [inch]	short	3.15	3.35	3.54	3.54	3.94	5.51
Order No.	**50.850...**	**...5/8z.6**	**...3/4z.6**	**...1z.6**	**...11/4z.6**	**...11/2z.6**	**...2z.6**
Safe-Lock™ Order No.	**50.850...**	**...5/8z.67**	**...3/4z.67**	**...1z.67**	**...11/4z.67**	**...11/2z.67**	**...2z.67**

METRIC	Clamping ∅ D1 [mm]	16	20	25	32	40	50
	∅ D2 [mm]	51	58	63	70	82	82
	∅ D3 [mm] short	—	67	—	78	90	94
	L [mm]	50	52	58	61	88	88
Gage length A [mm]	short	80	85	90	90	100	140
Order No.	**50.850...**	**...16.6**	**...20.6**	**...25.6**	**...32.6**	**...40.6**	**...50.6**
Safe-Lock™ Order No.	**50.850...**	**...16.67**	**...20.67**	**...25.67**	**...32.67**	**...40.67**	**...50.67**
	∅ D3 [mm] oversize/ZG200	69,85	69,85	78	85	94	94
Gage length A [mm]	oversize	160	160	160	160	160	160
Order No.	**50.852...**	**...16.6**	**...20.6**	**...25.6**	**...32.6**	**...40.6**	**...50.6**
Safe-Lock™ Order No.	**50.852...**	**...16.67**	**...20.67**	**...25.67**	**...32.67**	**...40.67**	**...50.67**
Gage length A [mm]	ZG200	200	200	200	200	200	200
Order No.	**50.856...**	**...16.6**	**...20.6**	**...25.6**	**...32.6**	**...40.6**	**...50.6**
Safe-Lock™ Order No.	**50.856...**	**...16.67**	**...20.67**	**...25.67**	**...32.67**	**...40.67**	**...50.67**

HEAVY DUTY CHUCK
BT 50 · JIS B 6339

CERTIFICATE OF QUALITY

- ☑ *Chuck body fine balanced G2.5 25.000 1/min or U<1 gmm*
- ☑ *All functional surfaces machined*
- ☑ *Taper tolerance AT3*
- ☑ *Coolant supply form ADB*
- ☑ *Cool Jet, can be sealed*



For heavy machining applications it is now finally possible to replace the Weldon tool holders. The Heavy Duty Chuck is the shrink fit chuck for extreme cases. The contour is optimized for highest rigidity and clamping force.

– Smooth clamping of the tool shank
– No deformation at the tool shank after shrink process
– High runout accuracy: 3 µm
– Reinforced outer contour
– To shrink with 13 kW HD Coil or with high performance shrink fit unit HAIMER Power Clamp Profi Plus (20 kW)
– With internal groove in the clamping bore
– With threaded holes in order to balance with balancing screws
– Cool Jet coolant bores that can be sealed included

Optional:
– Safe-Lock™ Pull out protection (See pages 4–6)
– Cooling with Cool Flash from 5/8"–1" for an extra charge (See pp. 62/63)

INCH	Clamping Ø D1 [inch]	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"
	Ø D2 [inch]	2.01	2.28	2.48	2.76	3.24	3.24
	Ø D3 [inch]	—	2.63	2.83	3.07	—	—
	L [inch]	1.97	2.05	2.28	2.40	3.46	3.46
Gage length A [inch]	short	3.94	3.94	4.13	4.13	4.53	4.72
Order No.	**50.650...**	**5/8z.6**	**3/4z.6**	**...1z.6**	**...11/4z.6**	**...11/2z.6**	**...2z.6**
Safe-Lock™ Order No.	**50.650...**	**5/8z.67**	**3/4z.67**	**...1z.67**	**...11/4z.67**	**...11/2z.67**	**...2z.67**

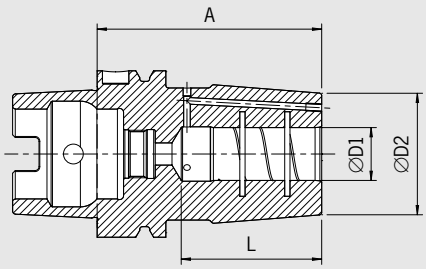
METRIC	Clamping Ø D1 [mm]	16	20	25	32	40	50
	Ø D2 [mm]	51	58	63	70	82	82
	Ø D3 [mm] short	—	67	72	78	—	—
	L [mm]	50	52	58	61	88	88
Gage length A [mm]	short	100	100	105	105	115[1)]	120
Order No.	**50.650...**	**...16.6**	**...20.6**	**...25.6**	**...32.6**	**...40.6**	**...50.6**
Safe-Lock™ Order No.	**50.650...**	**...16.67**	**...20.67**	**...25.67**	**...32.67**	**...40.67**	**...50.67**
	Ø D3 [mm] oversize/ZG200	**85**	**85**	**85**	**85**	**94**	**94**
Gage length A [mm]	oversize	160	160	160	160	160	160
Order No.	**50.652...**	**...16.6**	**...20.6**	**...25.6**	**...32.6**	**...40.6**	**...50.6**
Safe-Lock™ Order No.	**50.652...**	**...16.67**	**...20.67**	**...25.67**	**...32.67**	**...40.67**	**...50.67**
Gage length A [mm]	ZG200	200	200	200	200	200	200
Order No.	**50.656...**	**...16.6**	**...20.6**	**...25.6**	**...32.6**	**...40.6**	**...50.6**
Safe-Lock™ Order No.	**50.656...**	**...16.67**	**...20.67**	**...25.67**	**...32.67**	**...40.67**	**...50.67**

Heavy Duty Chuck – For 13 kW shrink fit machine

Clamping	Ø D1 [mm]	16
	Ø D2 [mm]	46
	L [mm]	50
Gage length A [mm]	short	100
Order No.	**50.640...**	**...16.6**
Safe-Lock™ Order No.	**50.640...**	**...16.67**

1) Clamping diam. D2 = 82.3 mm

HEAVY DUTY CHUCK
HSK-A 63 · DIN 69893-1



CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25.000 1/min or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN
- ☑ Cool Jet, can be sealed

For heavy machining applications it is now finally possible to replace the Weldon tool holders. The Heavy Duty Chuck is the shrink fit chuck for extreme cases. The contour is optimized for highest rigidity and clamping force.

– Smooth clamping of the tool shank
– No deformation at the tool shank after shrink process
– High runout accuracy: 3 µm
– Reinforced outer contour
– To shrink with HAIMER Power Clamp **13 kW shrink fit machine**
– With internal groove in the clamping bore
– With threaded holes in order to balance with balancing screws
– Cool Jet coolant bores that can be sealed included

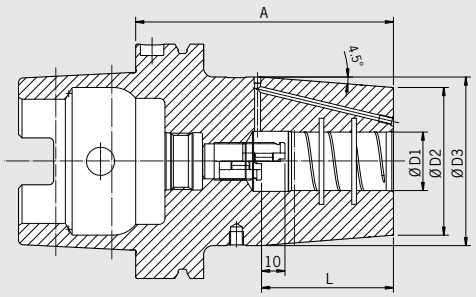
Optional:
– Safe-Lock™ Pull out protection (See pages 4–6)
– Cooling with Cool Flash from 5/8"–3/4" for an extra charge (See pp. 62/63)

INCH	Clamping ∅ D1 [inch]	5/8"	3/4"
	∅ D2 [inch]	1.81	1.81
	L [inch]	2.01	2.08
Gage length A [inch]	ultra short	3.15	3.15
Order No.	**A63.145…**	**…5/8z.6**	**…3/4z.6**
Safe-Lock™ Order No.	**A63.145…**	**…5/8z.67**	**…3/4z.67**
Gage length A [inch]	short	3.35	3.35
Order No.	**A63.140…**	**…5/8z.6**	**…3/4z.6**
Safe-Lock™ Order No.	**A63.140…**	**…5/8z.67**	**…3/4z.67**

METRIC	Clamping ∅ D1 [mm]	16	20
	∅ D2 [mm]	46	46
	L [mm]	51	53
Gage length A [mm]	ultra short	80	80
Order No.	**A63.145…**	**…16.6**	**…20.6**
Safe-Lock™ Order No	**A63.145…**	**…16.67**	**…20.67**
Gage length A [mm]	short	85	85
Order No.	**A63.140…**	**…16.6**	**…20.6**
Safe-Lock™ Order No	**A63.140…**	**…16.67**	**…20.67**

HEAVY DUTY CHUCK
HSK-A100 · DIN 69893-1

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25.000 1/min or U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN
- ☑ Cool Jet, can be sealed

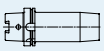


For heavy machining applications it is now finally possible to replace the Weldon tool holders. The Heavy Duty Chuck is the shrink fit chuck for extreme cases. The contour is optimized for highest rigidity and clamping force.

– Smooth clamping of the tool shank
– No deformation at the tool shank after shrink process
– High runout accuracy: 3 µm
– Reinforced outer contour
– To shrink with 13 kW HD Coil or with high performance shrink fit unit HAIMER Power Clamp Profi Plus (20 kW)
– With internal groove in the clamping bore
– With threaded holes in order to balance with balancing screws
– Cool Jet coolant bores that can be sealed included

Optional:
– Safe-Lock™ Pull out protection (See pages 4–6)
– Cooling with Cool Flash from 5/8"–1" for an extra charge (See pp. 62/63)

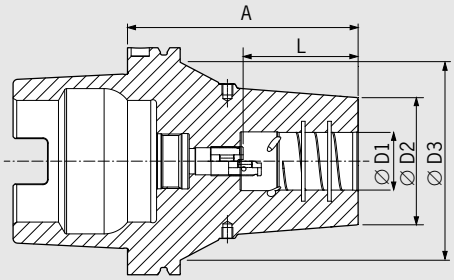
INCH	Clamping ∅ D1 [inch]	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"
	∅ D2 [inch]	2.01	2.28	2.48	2.76	3.22	3.22
	∅ D3 [inch]	—	2.64	2.83	3.07	3.70	3.70
	L [inch]	1.97	2.05	2.28	2.4	3.46	3.46
Gage length A [inch]	short 	3.94	3.94	4.33	4.33	5.51	5.51
Order No.	**A10.150...**	**...5/8z.6**	**...3/4z.6**	**...1z.6**	**...11/4z.6**	**...11/2z.6**	**...2z.6**
Safe-Lock™ Order No.	**A10.150...**	**...5/8z.67**	**...3/4z.67**	**...1z.67**	**...11/4z.67**	**...11/2z.67**	**...2z.67**

METRIC	Clamping ∅ D1 [mm]	16	20	25	32	40	50
	∅ D2 [mm]	51	58	63	70	82	82
	∅ D3 [mm] short	—	67	72	78	94	94
	∅ D3 [mm]	85	85	85	85	94	94
	L [mm]	50	52	58	61	88	88
Gage length A [mm]	short 	100	100	110	110	140	140
Order No.	**A10.150...**	**...16.6**	**...20.6**	**...25.6**	**...32.6**	**...40.6**	**...50.6**
Safe-Lock™ Order No.	**A10.150...**	**...16.67**	**...20.67**	**...25.67**	**...32.67**	**...40.67**	**...50.67**
Gage length A [mm]	oversize 	160	160	160	160	160	160
Order No.	**A10.152...**	**...16.6**	**...20.6**	**...25.6**	**...32.6**	**...40.6**	**...50.6**
Safe-Lock™ Order No.	**A10.152...**	**...16.67**	**...20.67**	**...25.67**	**...32.67**	**...40.67**	**...50.67**
Gage length A [mm]	ZG200 	200	200	200	200	200	200
Order No.	**A10.156...**	**...16.6**	**...20.6**	**...25.6**	**...32.6**	**...40.6**	**...50.6**
Safe-Lock™ Order No.	**A10.156...**	**...16.67**	**...20.67**	**...25.67**	**...32.67**	**...40.67**	**...50.67**

Heavy Duty Chuck – For 13 kW shrink fit machine

Clamping	∅ D1 [mm]	16	20
	∅ D2 [mm]	46	46
	L [mm]	51	53
Gage length A [mm]	short 	100	100
Order No.	**A10.140...**	**...16.6**	**...20.6**
Safe-Lock™ Order No.	**A10.140...**	**...16.67**	**...20.67**

HEAVY DUTY SHRINK CHUCK
HSK-A 125 · DIN 69893-1



CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25.000 1/min or U<1 gmm
- ☑ All functional surfaces machined
- ☑ More accurate than DIN
- ☑ Cool Jet, can be sealed

For heavy machining applications it is now finally possible to replace the Weldon tool holders. The Heavy Duty Chuck is the shrink fit chuck for extreme cases. The contour is optimized for highest rigidity and clamping force.

– No deformation at the tool shank after shrink process
– High runout accuracy: 3 µm
– Reinforced outer contour
– To shrink with 13 kW HD Coil or with high performance shrink fit unit HAIMER Power Clamp Profi Plus (20 kW)
– With internal groove in the clamping bore
– With Cool Jet bores that can be sealed (Thread M4) and 6 bores
– Higher coolant flow rate due to optimized coolant bores
– With threaded holes in order to balance with balancing screws

Optional:
– Safe-Lock™ Pull out protection (See pages 4–6)
– Cooling with Cool Flash from 5/8"–1" for an extra charge (See pp. 62/63)

INCH	Clamping ∅ D1 [inch]	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"
	∅ D2 [inch]	2.01	2.28	2.48	2.76	3.23	3.23
	∅ D3 [inch]	4.29	4.29	4.29	4.29	4.29	4.29
	L [inch]	1.97	2.05	2.28	2.28	3.46	3.46
Gage length A [inch]	ZG5 inch 	5	5	5	5	3.43[1)2)]	3.43[1)2)]
Order No.	**A125.150...**	**...5/8Z.6.I**	**...3/4Z.6.I**	**...1Z.6.I**	**...11/4Z.6.I**	**...11/2Z.6.I**	**...2Z.6.I**
Safe-Lock™ Order No.	**A125.150...**	**...5/8Z.67.I**	**...3/4Z.67.I**	**...1Z.67.I**	**...11/4Z.67.I**	**...11/2Z.67.I**	**...2Z.67.I**
Gage length A [inch]	oversize 	7	7	7	7	7	7
Order No.	**A125.152...**	**...5/8Z.6.I**	**...3/4Z.6.I**	**...1Z.6.I**	**...11/4Z.6.I**	**...11/2Z.6.I**	**...2Z.6.I**
Safe-Lock™ Order No.	**A125.152...**	**...5/8Z.67.I**	**...3/4Z.67.I**	**...1Z.67.I**	**...11/4Z.67.I**	**...11/2Z.67.I**	**...2Z.67.I**
Gage length A [inch]	ZG9 inch 	9	9	9	9	9	9
Order No.	**A125.156...**	**...5/8Z.6.I**	**...3/4Z.6.I**	**...1Z.6.I**	**...11/4Z.6.I**	**...11/2Z.6.I**	**...2Z.6.I**
Safe-Lock™ Order No.	**A125.156...**	**...5/8Z.67.I**	**...3/4Z.67.I**	**...1Z.67.I**	**...11/4Z.67.I**	**...11/2Z.67.I**	**...2Z.67.I**

METRIC	Clamping ∅ D1 [mm]	16	20	25	32	40	50
	∅ D2 [mm]	51	58	63	70	82	82
	∅ D3 [mm]	109	109	109	109	109	109
	L [mm]	50	52	58	61	88	88
Gage length A [mm]	ZG130 	130	130	130	130	130[1)2)]	130[1)2)]
Order No.	**A125.150...**	**...16.6**	**...20.6**	**...25.6**	**...32.6**	**...40.6**	**...50.6**
Safe-Lock™ Order No.	**A125.150...**	**...16.67**	**...20.67**	**...25.67**	**...32.67**	**...40.67**	**...50.67**
Gage length A [mm]	oversize 	160	160	160	160	160	160
Order No.	**A125.152...**	**...16.6**	**...20.6**	**...25.6**	**...32.6**	**...40.6**	**...50.6**
Safe-Lock™ Order No.	**A125.152...**	**...16.67**	**...20.67**	**...25.67**	**...32.67**	**...40.67**	**...50.67**
Gage length A [mm]	ZG200 	200	200	200	200	200	200
Order No.	**A125.156...**	**...16.6**	**...20.6**	**...25.6**	**...32.6**	**...40.6**	**...50.6**
Safe-Lock™ Order No.	**A125.156...**	**...16.67**	**...20.67**	**...25.67**	**...32.67**	**...40.67**	**...50.67**

1) Without back-up screws
2) Gage L = 87.5 mm /3.43"

HAIMER®
Quality Wins.

HAIMER Power Clamp:

Reliable shrinking – Fastest in the galaxy.

Shrinking Technology

Tooling Technology | Balancing Technology | Measuring Instruments

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POWER CLAMP ECONOMIC PLUS NG

High performance shrink fit machine for all tools.
- With intelligent NG coil
- Single chuck version
- With integrated contact cooling and Cooling Manager
- With 1 base holder
- With 1 chuck support

- Power: 13 kW
- Mains voltage: 3x400–480V, 16A
- Tools: solid carbide and HSS from ∅ 3–32 mm

POWER CLAMP COMFORT NG

High performance shrink fit machine for all tools.
- With intelligent NG coil
- Rotary table with 3 stations
- With integrated contact cooling and Cooling Manager
- With 1 chuck support for rotary table

- Power: 13 kW
- Mains voltage: 3x400–480V, 16A
- Tools: solid carbide and HSS from ∅ 3–32 mm

Technical details		Order No.
Power Clamp Economic Plus NG		**80.110.01NG**
Power Clamp Comfort NG		**80.100.01NG**
Mains voltage	3x400–480 Volt, 16 Ampere, 13 kW	
Tools	solid carbide and HSS	
Tool diameter	3–32 mm	
Maximum Length of shrink fit chuck	570 mm	
Dimensions WxDxH	860x600x990 mm	
Weight	70 kg	

Accessories

Type	SK30	SK40	SK50	HSK32	HSK40	HSK50	HSK63	HSK80	HSK100
Chuck support for single-chuck system (for Economic Plus NG)									
Order No. 80.11...	**...2.30**	**...2.40**	**...2.50**	**...3.32**	**...3.40**	**...3.50**	**...3.63**	**...3.80**	**...3.10**
Chuck support for rotary table (3 adapter discs each, for Comfort NG)									
Order No. 80.10...	**...2.30**	**...2.40**	**...2.50**	**...3.32**	**...3.40**	**...3.50**	**...3.63**	**...3.80**	**...3.10**

POWER CLAMP PREMIUM

High-end shrink fit device for perfect handling and simultaneous cool-down at max. five cooling stations.

- With standard coil V2008, NG coil optional
- Integrated contact cooling with five cooling bodies
- No damage at the edges of the cutting tool
- Incl. Speed Cooler
- Incl. Cooling Manager
- Incl. 2 base holders
- Incl. 2 precision chuck supports
- Integrated drawer

- Power: 13 kW
- Mains voltage: 3x400–480V, 16A
- Tools: solid carbide and HSS from ∅ 3–32 mm

Picture shows 80.170.00NG with optional length presetting

POWER CLAMP UPGRADE KIT 13KW HD COIL

Use:
For shrinking of Heavy Duty Shrink Chucks up to Ø 50 mm.

Upgrade only possible for existing shrink fit unit Power Clamp Economic Plus (NG) or Comfort (NG) that were produced after 01/2012.

Delivery includes:

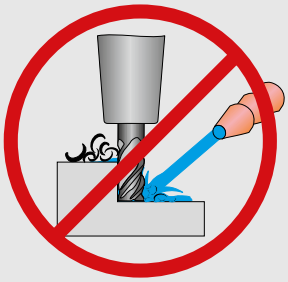
- 13 kW HD coil
- Set of stop discs
- Latest software
- HD cooling body Ø 40–50 mm
- hose set for HD cooling body
- Coolant Manifold Connection
- Optional: cooling adapter for HD cooling body

Technical details		Order No.
Power Clamp Premium NG		**80.170.01NG**
Mains voltage	3x400–480Volt, 16Ampere, 13kW	
Tools	solid carbide and HSS	
Tool diameter	3–32 mm	
Maximum Length of shrink fit chuck	Premium: 475 mm/Premium NG: 535 mm	
Dimensions WxDxH	1130x800x2000 mm	
Weight	300 kg	

Accessories									
Type	SK30	SK40	SK50	HSK32	HSK40	HSK50	HSK63	HSK80	HSK100
Precision chuck support Order No. 80.13...	**...2.30**	**...2.40**	**...2.50**	**...3.32**	**...3.40**	**...3.50**	**...3.63**	**...3.80**	**...3.10**
Upgrade Kit 13 kW HD coil									**80.151.30.10**

COOL FLASH COOLING SYSTEM – COOLANT TAKEN TO THE TOP

Standard

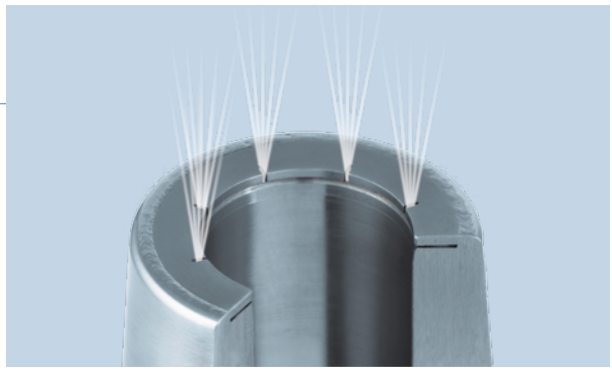


Cool Flash

True to the slogan “make good things even better” HAIMER has developed the Cool Flash system out of the existing Cool Jet system. The coolant is pressed out by several slots, floats around the cutting tool and cools up to the cutting edge!

- Coolant directly to the cutting edge
- Extended tool life up to 100 %
- Eliminates balls of chips on the cutting tool
- Also for high rpm
- Optimized runout accuracy! No additional unbalance! No disturbing clearance!
- Low acquisition costs & can be added later
- For tools from diam. 1/4"–1" (6 mm up to diam. 25 mm)

Cool Flash		
Cool Flash		**Order No. 91.100.40**
Cool Flash Upgrade incl. Cool Jet		**Order No. 91.100.41**



Optimized coolant bores with coolant outlet through slots Cool Flash by HAIMER

Cool Flash vs. internal tool cooling		
	Cool Flash	**internal tool cooling**
Cooling range at the cutting edge	✔ 100%	✘ max. 30–40%
Tool stability	✔ maximum	✘ reduced
Application range	✔ variable	✘ per cutting tool
Diameter area	✔ from 6 mm	✘ from 12 mm
Acquisition cost	✔ per tool holder	✘ per cutting tool

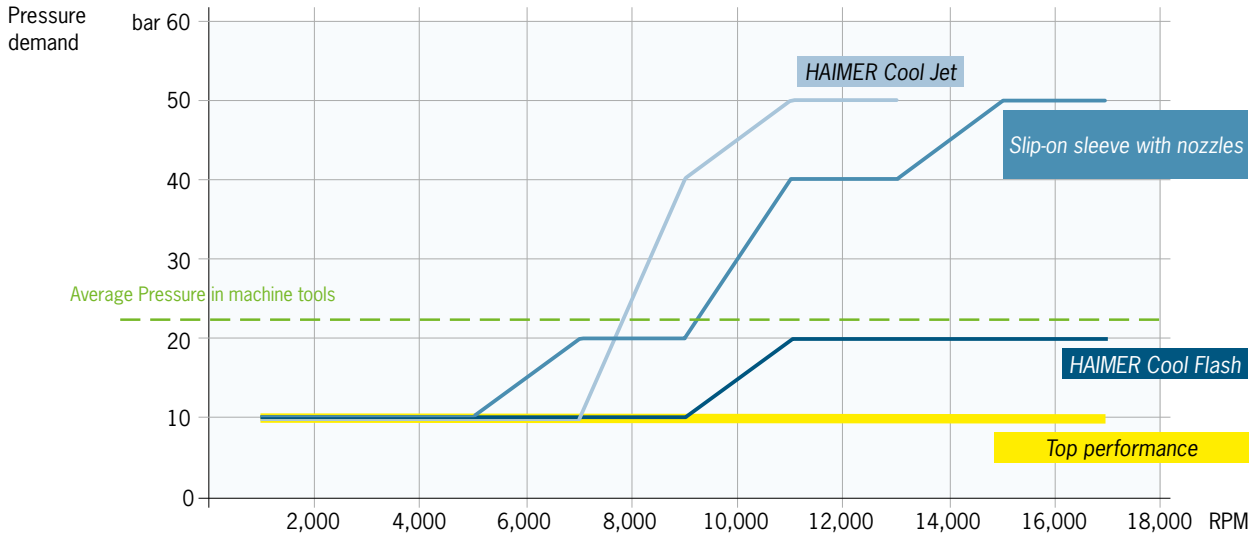
COOL FLASH COOLING SYSTEM – SIMULATION

Graphic shows:

The goal of the development of the Cool Flash system was to transport the coolant directly to the cutting edges. Even for existing machine tools with an average pressure of approx. 20 bar, Cool Flash allows for reliable and precise cooling without any changes to the cooling system of the machine tool.

The graphic shows the optimized coolant supply to the cutting edges for different systems by comparing dependence of pressure and rpm. Even at low pressure and high rpm Cool Flash assures precise cooling. On competitive systems, higher rpm require higher pressure to generate effective cooling.

Protruding length: 28 mm, Tool ∅ 6 mm



COOL FLASH COMPARED TO COMPETITIVE SYSTEMS

Test Results

Tool:	Endmill (two flutes)
Tool diameter:	20 mm
Protruding lenght:	50 mm
Pressure:	20 bar
RPM:	12,000

Cool Flash –
effective cooling at the cutting edges

Slip-on sleeve with nozzles –
ineffective cooling, coolant does not reach the cutting edges

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Quality Wins.

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