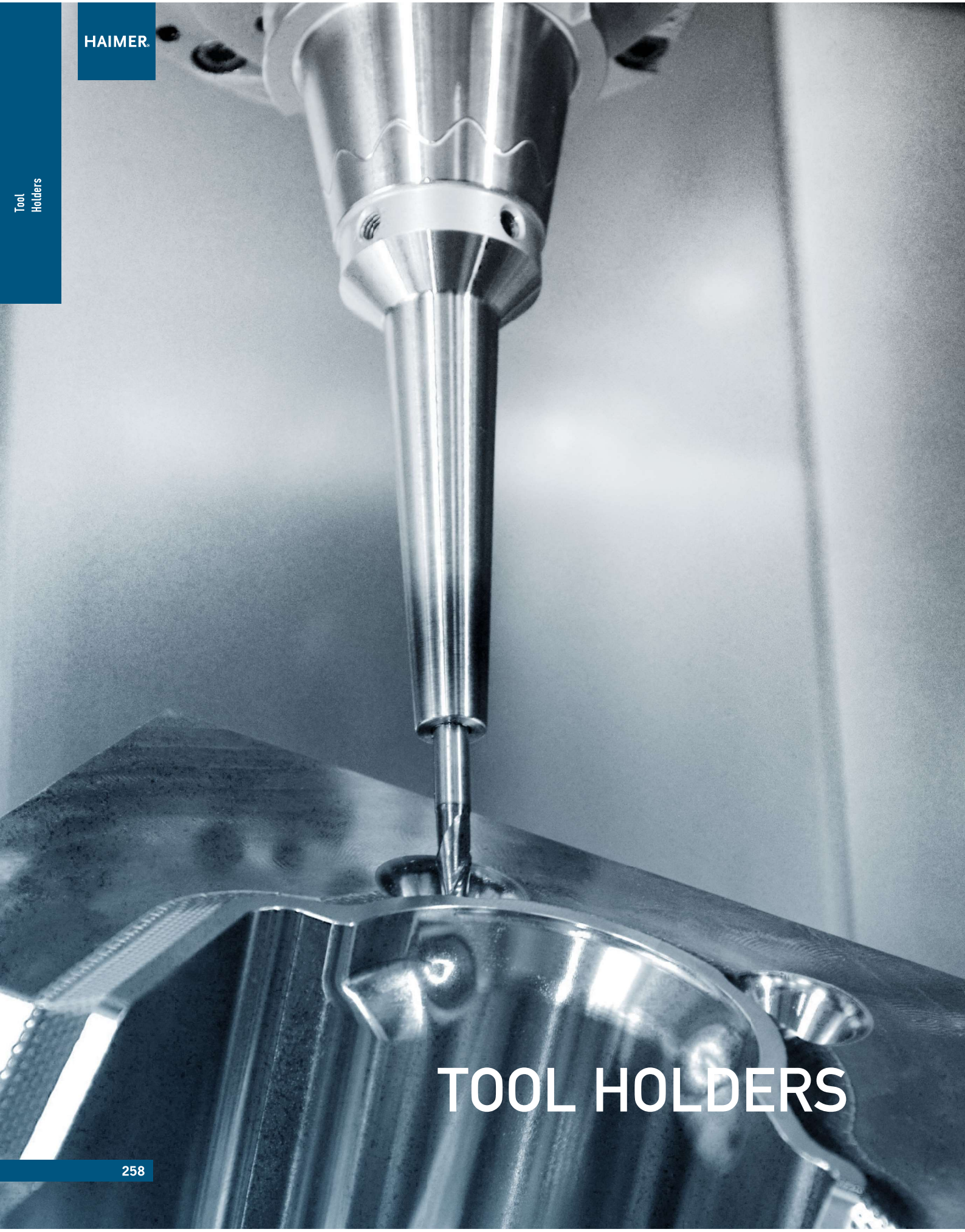
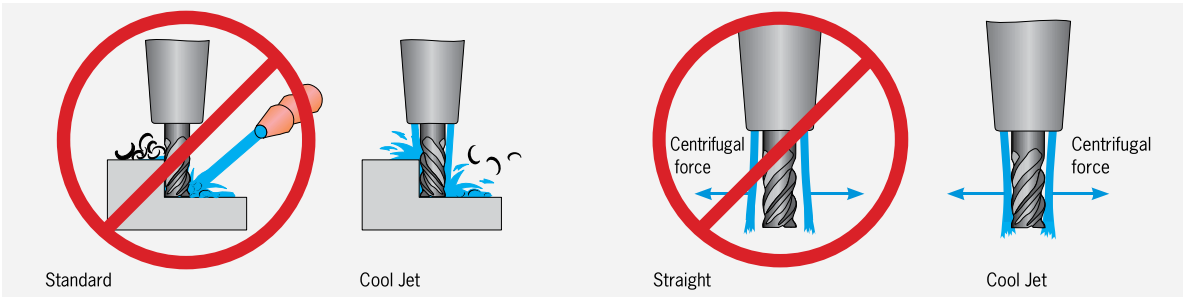
MASTER CATALOG

HAIMER®



TOOL HOLDERS

COOL JET – CUT THE CHIP ONLY ONCE!

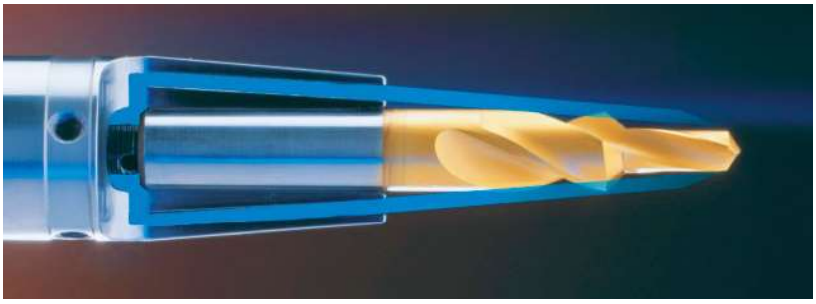


– Coolant directly to the cutting edge
– Extended tool life up to 100%
– Higher reliability of cutting process
– Eliminates chips packing and chip welding

Function at high spindle speed

Previous coolant bores: straight
Optimized coolant bores: aimed at center

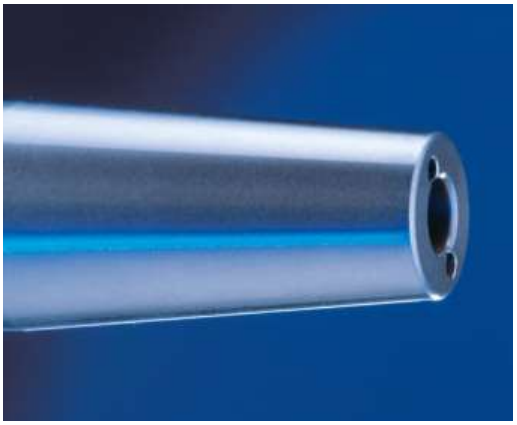
Cool Jet available in following versions	Order No.
Cool Jet with 2 Coolant bores for Shrink fit chucks (Ø 6–14mm), Weldon (Ø 6–20mm) and HG Collets	**91.100.24**
Cool Jet with 3 Coolant bores (Shrink fit chuck Ø 16mm–32mm)	**91.100.25**
Cool Jet with 4 Coolant bores for Weldon (Ø 25–40mm) and Whistle Notch (Ø 25–40mm)	**91.100.26**



Shrink Fit Chuck

Examples

For use in:
– Shrink Fit Chuck
– High-Precision Chuck
– Face Mill Arbor
– Weldon Chucks
– Power Collets
– Duo-Lock Collets
– Duo-Lock Extensions

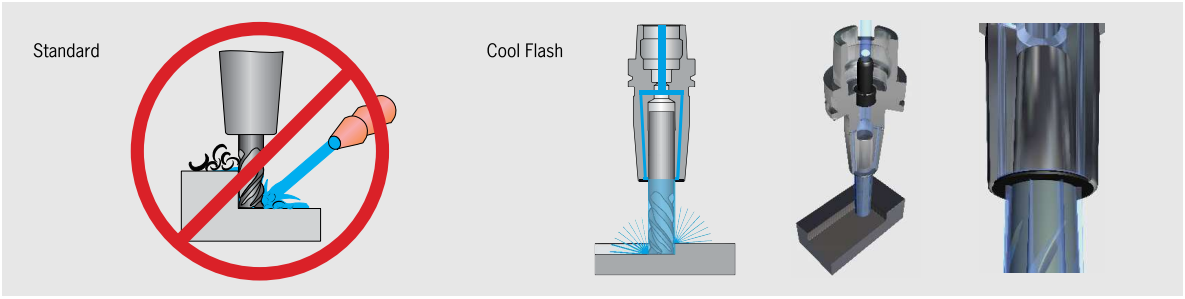


Coolant bores aimed at center
Cool Jet by HAIMER

Weldon

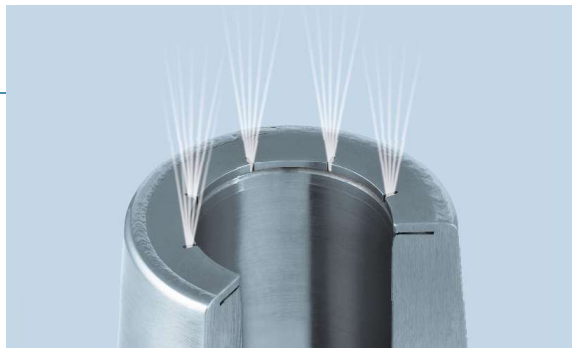
HAIMER

COOLING SYSTEM COOL FLASH – COOLANT TAKEN TO THE TOP



True to the slogan “make good things even better”, HAIMER has developed the Cool Flash system out of the existing Cool Jet system. The Cool Flash design directs coolant into T-slots at the nose of the holder and works with the centrifugal force of the rotating tool to lead the coolant along the shank of the cutter and directly to the flutes at any speed.

- Coolant directly to the cutting edge
- Extended tool life up to 100%
- Eliminates chip packing and chip welding
- Also for high rpm
- Optimized runout accuracy! No additional unbalance! No disturbing clearance!
- Low acquisition costs & can be added later
- For tools from diam. ¼"–1" (6 mm up to diam. 25 mm)



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

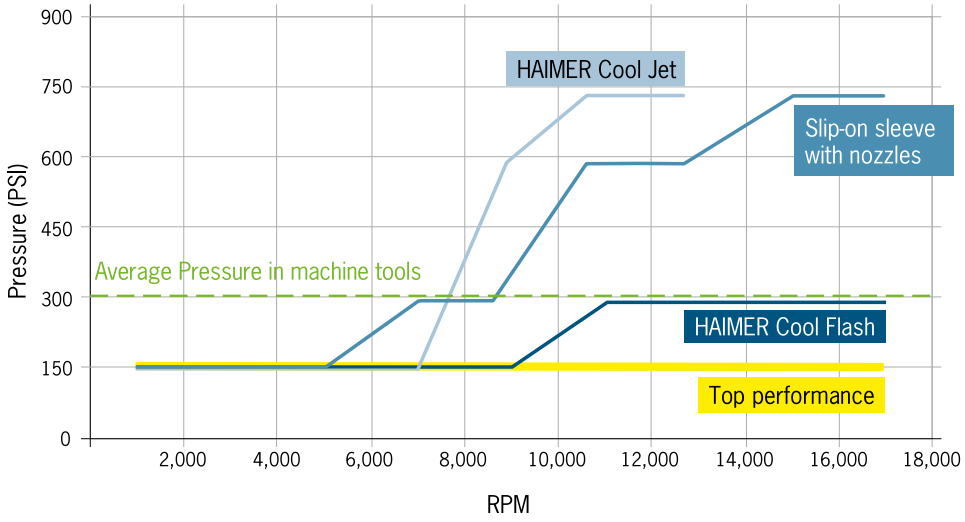
Cool Flash Order No. **91.100.40**
Cool Flash Upgrade incl. Cool Jet Order No. **91.100.41**

COOLING SYSTEM COOL FLASH – SIMULATION

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. 290 psi, 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.

Optimized coolant supply to the top of the cutting tool
(Protruding length: 28 mm, Tool Ø 6 mm)



COOL FLASH COMPARED TO COMPETITIVE SYSTEMS

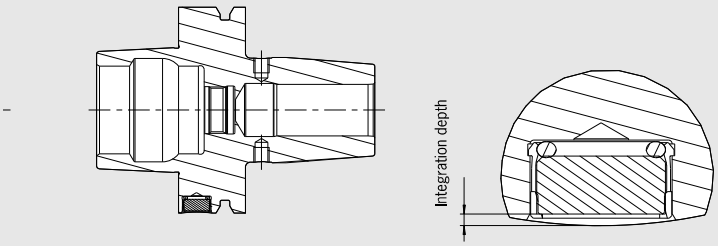
Test Results

Tool:	Endmill (two flutes)
Tool diameter:	20 mm
Protruding length:	50 mm
Pressure:	290 psi (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

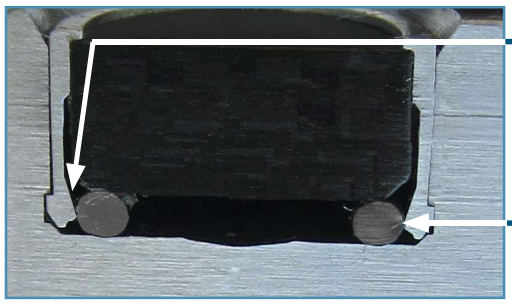
DATA-LOCK
MECHANICAL DATA CARRIER LOCKING SYSTEM



The mechanical data carrier locking system locks the data carrier by a form and press fit into the tool holder. Especially for higher rpm ranges the new system provides high process reliability.

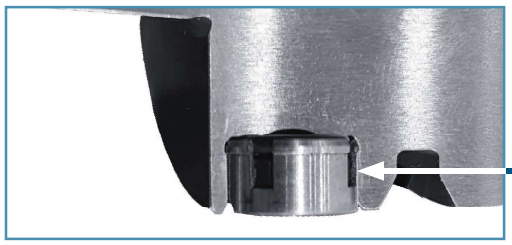
Advantages:
- Process reliability even at high rotations thanks to mechanical locking (60,000 – 120,000 rpm)
- Less integration depth than comparable mechanical locking systems
- Process reliability at the reading/writing process thanks to the reduced integration depth
- Fine balanced tool holder after data carrier assembly
- Immediately ready to use
- Possible also for non-HAIMER holders
- Patent pending

Delivery includes:
- Modification of the data carrier bore
- Sleeve for the data carrier
- Seal ring
- Mounting of data carrier
- Fine balancing



Sleeve is clamped by form and press fit into the tool holder

Seal ring locks data carrier in the sleeve



Detail Data-Lock cut-away model

	Order No.
Mounting on HAIMER holders incl. fine balancing	**91.100.06**
Mounting on different holders incl. fine balancing	**91.100.07**

ULTRA-PRECISION SHRINK FIT CHUCK WITH RUNOUT <0.001MM

CERTIFICATE OF QUALITY

- ☑ Chuck body ultra fine balanced G2.5 33,000 rpm or U<0.5 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

HAIMER offers the opportunity to supply Ultra-Precision Shrink Fit Chucks with a runout accuracy < 1 µm.
The Ultra-Precision Shrink Fit Chucks with additional ultra fine balancing are ideal for ultra high speed and high precision machining centers to achieve even better surface finish.

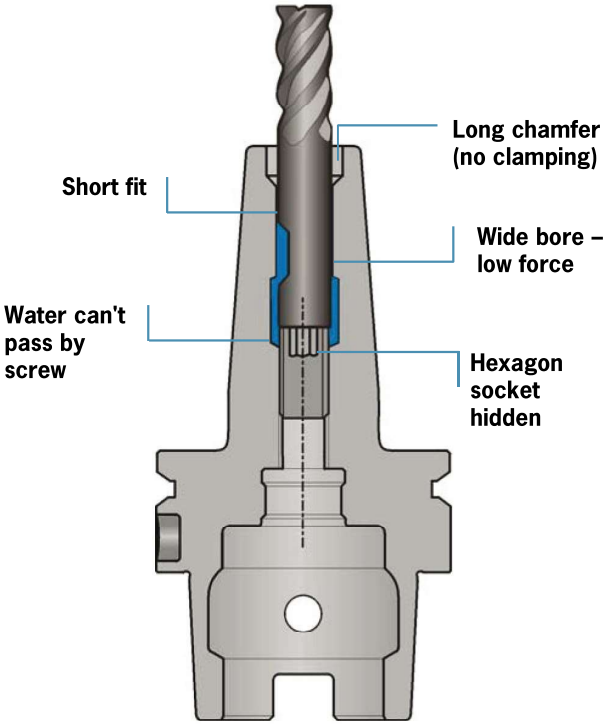
Your advantages are:
- No extra wear of the tool
- Higher accuracy
- Better surface finish
- Higher cutting volume
- Smooth running, low vibration
- Optional available for all shrink chucks
- With additional ultra fine balancing G2.5 33,000 rpm or U < 0.5 gmm

	Order No.
Ultra-Precision Shrink Fit Chuck	**91.100.45**

Now available: Ultra-Precision Shrink Fit Chuck with runout accuracy < 1 µm

COMPARISON SHRINK FIT CHUCKS – HAIMER VS. COMPETITOR

Competitor



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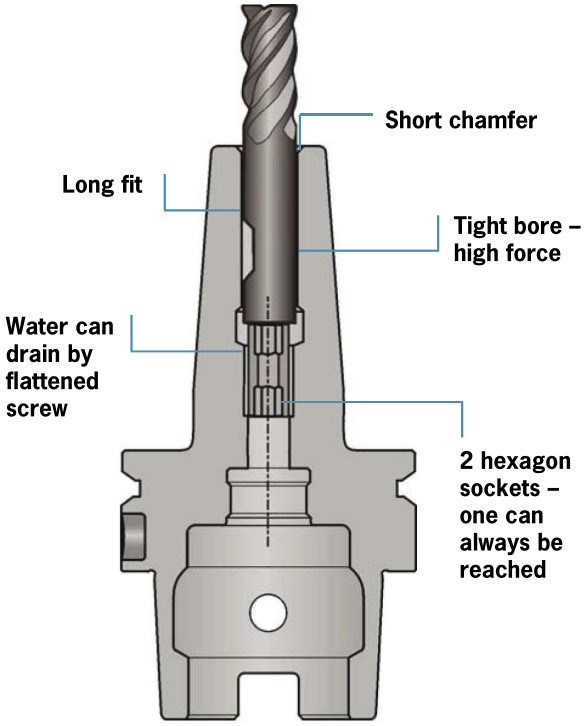
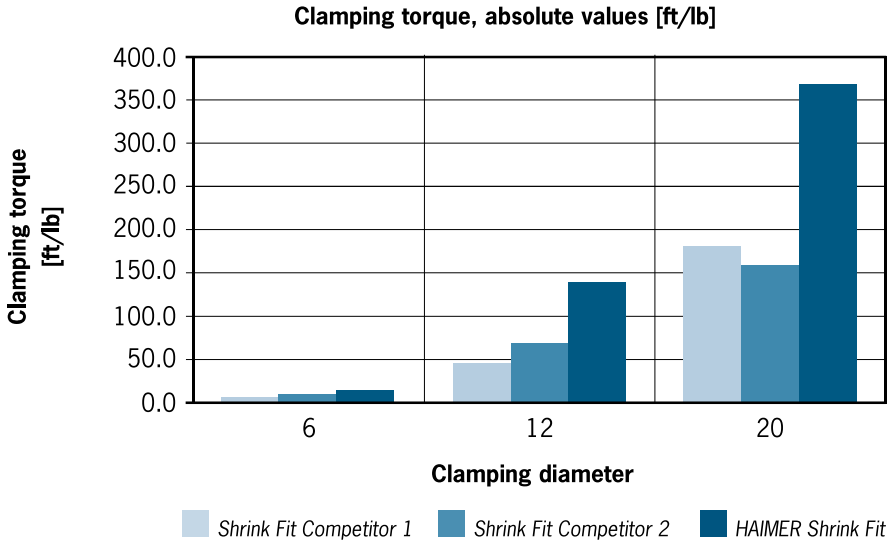


Comparison Shrink Fit Clamping Torque



HAIMER SHRINK FIT CHUCKS ADVANTAGES

Total quality control

– All shrink chucks built by HAIMER in-house
– HAIMER is a true innovator – making shrink fit an even better solution for everyone
– Shrinking of carbide and HSS tools from diameter 3 – 50 mm (1/8" to 2") in tolerance h6
– Even small clamping diameter 3 – 5 mm (1/8", 3/16") suitable for HSS tools with shank tolerance h6

Highest clamping force due to extreme pressure on shank

– Highest pull out force
– Highest torque (See diagram)
– Secure clamping even when tool shank is at lower range of tolerance
– Optimum process security

Optimum support of tool

– Short chamfer for inserting tool – clamping up to the top (See sketch)
– Long fit – support of tool on whole length (See sketch)
– Extreme rigidity
– Long tool life
– No movement of tool in tool holder

Patented security set screw (See sketch)

– No dangerous development of steam when heating due to total drainage of water
– Precise length adjustment due to fine pitch thread (small clearance)
– Hexagon socket on both ends
– Simple tool removal after breakage (on hexagon socket always can be reached)

Long life of tool holder

– High-temperature resistant special steel (tested more than 2,000 times)
– No wear of clamping bore due to high clamping forces and short chamfer
– No distortion due to special hardening method

More

– For heavy-duty machining reinforced chucks type Power Shrink or Heavy Duty
– Flexible tool length with shrink fit extensions – no more special tool holders
– Optimum coolant supply by Cool Jet or Cool Flash system (no interruption of the bore)
– Balanced to G2.5 at 25,000 RPMs or under 1 gmm of unbalance (dependent upon taper)
– Fine balancing with set screws possible
– Several lengths in stock
– Slender shape – “Mini-Shrink” available
– Outer shape can be machined by user
– Dimensions according to DIN 69882-8 - Inch and metric bore diameters standard
– TIR 0.00012" (0.003 mm) at 3 times diameter
– Steep taper in tolerance AT 3, form AD/AF (coolant through center and through collar)
– All DIN and HSK-A include pocket for data chip
– CAT40 and CAT50 holders have ground pilot for pull-stud connection
– CAT40 and CAT50 standard with DIN-B coolant delivery option