

HAIMER®
Quality Wins.



M A S T E R C A T A L O G

HAIMER®

SHRINKING TECHNOLOGY

HAIMER



HAIMER

Shrinking
Technology

HAIMER Power Clamp
Premium i4.0

See the HAIMER Power Clamp
Shrink Fit System in Action:



Top 10 Reasons to Use HAIMER Shrink Fit Technology

1

Unsurpassed machining accuracy

We guarantee $< 0.00012''$ ($3\mu\text{m}$) run-out at $3\times D$.

This degree of accuracy is consistently repeatable for any number of operators from shift to shift.

2

Slim profiles – perfect for 5-axis machining

HAIMER Shrink Fit tool holders have very slim profiles.

They can also be modified to a straight-walled design if needed in order to prevent tool holder collision with the work piece.

3

Gripping torque

Our shrink fit chucks grip the cutting tool 360° around the shank on multiple planes, delivering very high gripping torque that prevents chatter during roughing or finishing operations.

4

Consistency of setup

A unique benefit of HAIMER shrink fit is that it eliminates any variation between tool changes.

Removing these variables means regardless of the operator and their experience level, you will get repeatable uniformity in tooling setup and equally consistent results.

5

Extended reach options

Shrink fit extensions provide many options. For example, when machining deep cavities, you can place shrink fit extensions into standard shrink fit chucks, getting unsurpassed gage lengths with minimal run-out.

6

Balance accuracy and repeatability

We hold our shrink fit holders to the highest balance accuracy standards ($G2.5 @ 25,000 \text{ RPM}$).

Since shrink fit holders have no moving parts, it offers the best balance repeatability of any tool holding system on the market.

7

Reduction of tool changing time & less tool holder accessory inventory

Nothing beats the tool change time of our shrink fit chucks when combined with the HAIMER Power Clamp shrink fit machines. Tool changes can be done in less than 5 seconds.

8

Clean bores

Run-out accuracy is often compromised if contaminants are introduced to the bore of a tool holder during machining. A shrink fit chuck is a sealed system by design. This minimizes the introduction of contaminants.

9

Coolant options

Our shrink fit chucks are available with a variety of coolant options, including our Cool Jet and Cool Flash technology, which delivers coolant down to the cutting edge of the tool.

This helps clean out chips and can aid in providing better part finishes.

10

Availability

Bestseller machines are available and stocked locally.

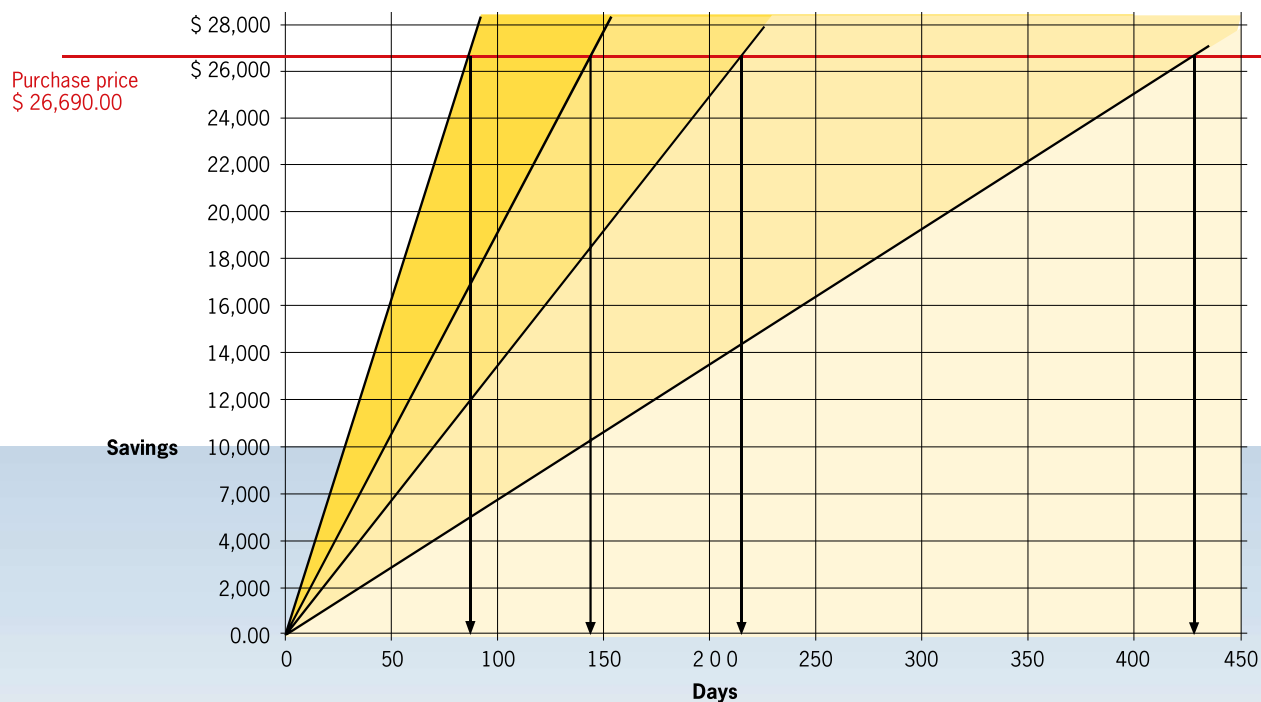
All other configurations and modifications are available per order within just a couple of weeks.

Shrink fit holders are available in stock in a wide variety of lengths in the most common spindle interfaces.

THE POWER CLAMP SYSTEM

Amortization HAIMER Power Clamp

The following diagram shows the amortization of the Power Clamp Comfort NG with Speed Cooler in relation to the number of shrink cycles per day.



Time Savings: 5 min. per cycle
Cost per Employee/Hour: \$50.00/h

50 jobs/day

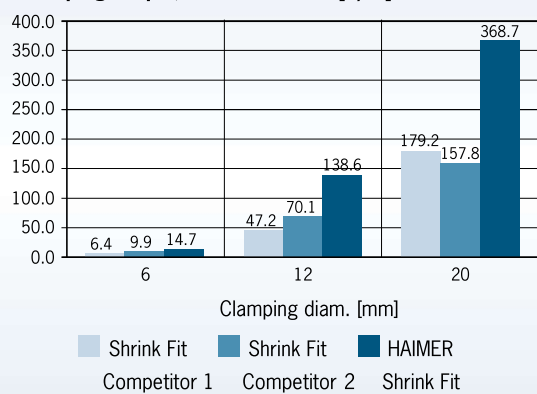
30 jobs/day

20 jobs/day

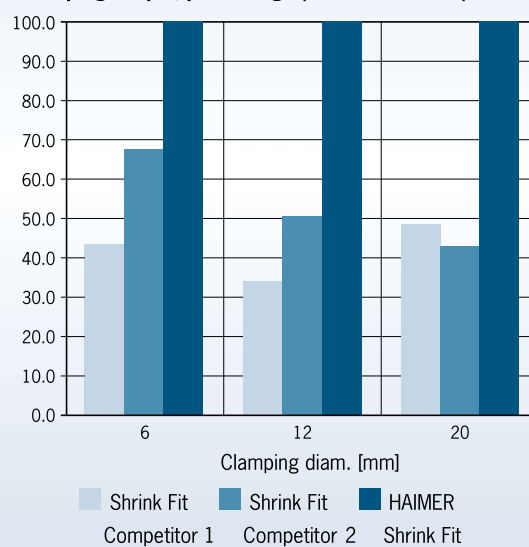
10 jobs/day

Gripping Torque Data:

Clamping torque, absolute values [ft/lb]



Clamping torque, percentage (HAIMER = 100%)



THE POWER CLAMP SYSTEM

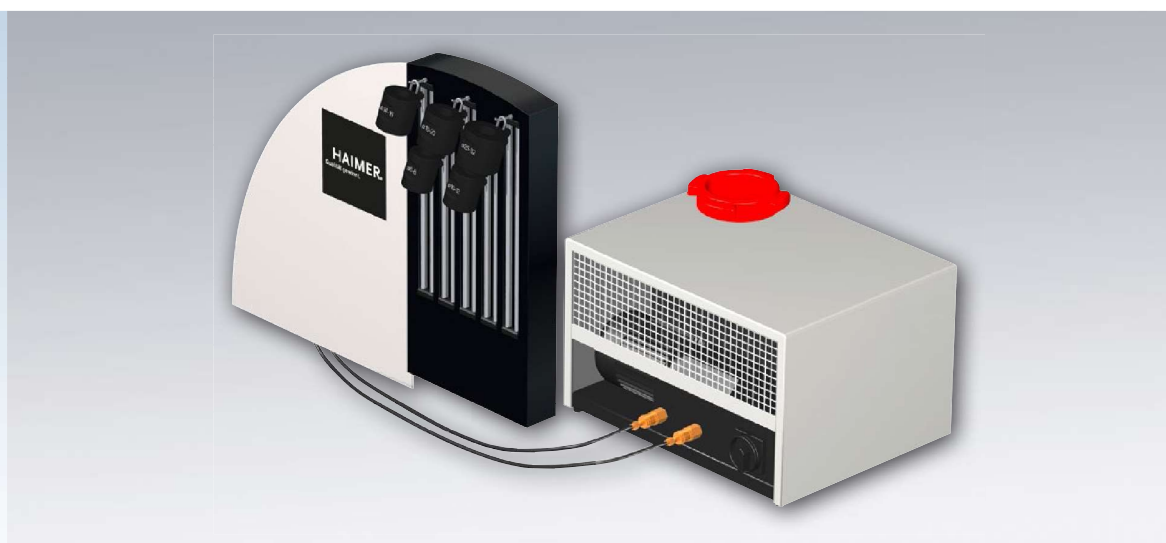
The Contact Cooling

The patented cooling system from HAIMER is the quickest and cleanest method of cooling shrink fit chucks.

There is a suitable cooling body for every chuck.

The cooling body has full surface contact with the shrink fit chuck and extracts the heat smoothly. A water cycle cools the cooling body.

The cooling procedure takes place evenly and gently. There is no deformation of the chuck. The runout accuracy is preserved. The chucks do not come into contact with the water. They remain dry and do not rust. The work place also remains clean and dry.



Cooling body for rapid cooling

- Cooling in record time: approx. 30 sec.
- Tool holders remain dry
- No build-up of rust
- No time lost through drying process
- Even cooling, runout accuracy is maintained
- Hot points are always covered, no risk of injury
- Hot parts don't need to be touched
- Gentle handling of chuck, no shocking
- No heating of cooling body, even after lots of shrink fit procedures: heat is removed with contact cooling
- 5 cooling bodies for all standardized chucks
- No messy water = a clean work space

THE POWER CLAMP SYSTEM

The Coil Technology

The induction coil is the core of inductive shrink fit technology. HAIMER has been the leading developer of inductive shrink fit technology for tool holders for years. A number of patents, predominantly in the field of induction coils, is the visible proof of our innovation and advancement.

Power electronics

The second component of shrink fit technology is power electronics. It supplies the coil with power. Frequency and current must be exactly coordinated with one another to do this. Heating must take place within seconds, without overheating the chuck. A specially developed procedure

for power regulation makes sure this is the case, independent of the main voltage. HAIMER offers shrink fit equipment with an output of 10 to 20 kW.

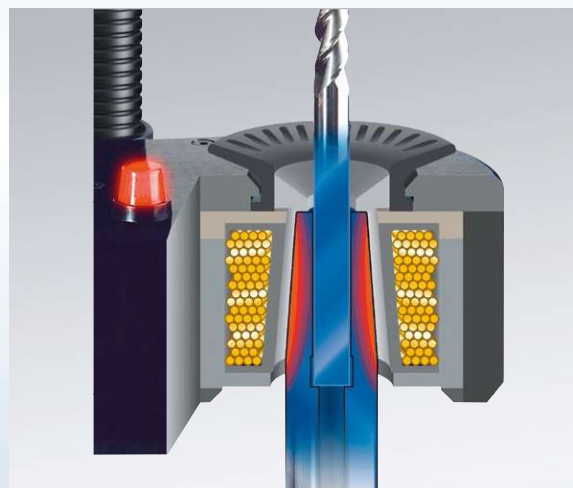
Operation

Equally decisive for the success of an investment is its acceptance among your employees. A machine, which is used happily and frequently, pays for itself within a short period of time. HAIMER shrink fit equipment can be equipped for any purpose and need. From a simple device with one shrink fit station and no cooling, up to fully equipped machines with rotary table, integrated contact cooling and system cart.



The standard coil

The standard coils have been proven for years with interchangeable stop disks. All shrink fit chucks with a diameter of 1/8" – 1 1/4" (3 to 32 mm) can be heated with a single coil. Just 5 stop disks are enough to adapt the coil to each chuck, from the smallest to the largest.



The standard coil

With over 20 years of experience in making inductive shrink fit machine coils, HAIMER has evolved our standard coil to be a very solid and efficient component on our machines. Through our intelligent control, the coil only activates the inductive zones that will most effectively heat up the shrink fit chuck in order to give long lasting tool holder life.

THE POWER CLAMP SYSTEM

The New Generation Coil Technology

**The NG (New Generation) coils**

The intelligent NG coils are particularly flexible, comfortable and adjustable. With one turn, you can set the coil to the size of the shrink fit chucks, both in length and diameter. Stop disks are no longer necessary. This means the chuck is only heated where it is intended, even with special sizes.

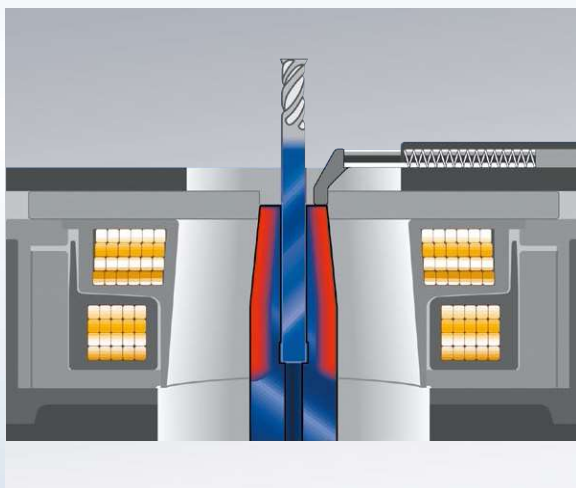


Picture shows motorized coil with auxiliary fume extraction unit

The motorized New Generation (NG) coil

For the most convenient and automated shrinking process the motorized NG coil on a HAIMER i4.0 shrink machine is highly recommended in conjunction with a hand scanner. The intelligent, motorized NG coil adjusts automatically to the correct tool diameter and length for heating up the tool holder / shrink fit collet with the right parameters. Just scan the tool holder or shrink fit collet's data-matrix code and the coil's motor starts to move the coil to the right position.

Place the motorized NG coil on the shrink fit chuck / collet and start inductive heating at the push of a button. This leads to a very smooth, consistent and operator independent shrinking process.

**The NG Coils have two heating zones**

In an effort to maximize the efficiency of the heating process, HAIMER has a revolutionary two heating zone design in their NG (New Generation) intelligent coils. This allows for even and efficient heating across the nose of the shrink fit chuck – leading to longer tool holder life. These coils also can adapt themselves to ultra-short shrink fit chucks easily and ultra-short shrink fit chucks can often provide a benefit in the machining process.

THE POWER CLAMP SYSTEM

Basic Line / Profi Line / i4.0 Line

HAIMER has the right shrink fit technology for any need. Take advantage of the largest range of shrink fit equipment and coils in the world.



Basic Line: Concentrating on the basics.

The Basic Line is the economical entrance into inductive shrink fit technology. The power electronics enables problem free shrinking. The mechanical construction of the equipment has been kept deliberately simple and functional. There are just single chuck solutions.

The Basic Line equipment is exclusively designed for operation with standard coils. It is not possible to upgrade.

The Basic Line is ideal for the price-conscious user, who only wants to shrink a few tools on a daily basis.

For micro machining purposes, the special horizontal shrink fit machine Power Clamp Nano is part of the program. It combines perfectly easy tool handling of small diameters and fast tool exchange.

THE POWER CLAMP SYSTEM



Profi Line: Modular Versatility.

The Profi Line offers the full range of performance and is unbeatable in efficiency. High performance coils, contact cooling and a rotary table guarantees simultaneous shrinking and cooling in record time. No wishes remain unfulfilled.

The machines of the Profi Line work with both the standard coils and the intelligent, comfortable NG coils. Of course, the equipment recognizes each coil and chooses the correct shrink fit parameters automatically.

The shrink fit machines of the Profi Line form a modular system. The start-up Power Clamp Economic machine can gradually be upgraded to the high-end Power Clamp Comfort NG.

i4.0 Line: Network-compatible and communicative.












In addition to the well-known machines of the Basic and Profi line, the all-new Industry 4.0-ready and network-compatible series was developed with its Power Clamp Premium i4.0, Sprint i4.0, Preset i4.0, Air i4.0, Comfort i4.0 and Nano i4.0 models.

The machines are equipped with a workshop friendly 7" touch display and new intuitive software, which makes machine operation with or without gloves even easier. Upon request, the Power Clamp i4.0 devices can also be equipped with a hand-held scanner that is able to read the shrinking parameters of Data-Matrix codes. This way automated shrinking is easier than ever before.

The new and ergonomic shrinking stations have a modern and high-quality design. Due to their patented NG coil, they are suited for both solid carbide and HSS tools with diameters from 1/8" – 1 1/4" (3 to 32 mm).

EQUIPMENT FEATURES

Symbol	Line	Basic Line			Profi Line				
	Feature	Nano	Mini	Basic	Economic	Economic NG	Economic Plus	Economic Plus NG	Comfort
									
	Single chuck version	●	●	●	●	●	●	●	—
	Cooling and Shrinking simultaneously	—	—	—	○	○	○	○	●
	Rotary table	—	—	—	○	○	○	○	●
	Cooling	●	—	—	○	○	●	●	●
	Speed Cooler with Cooling Manager	—	—	—	○	○	●	●	●
	TME Cooling system	—	—	—	—	—	○	○	○
	Modular system	—	—	—	●	●	●	●	●
	Standard coil	—	●	●	●	○	●	○	●
	Variable NG coil	—	—	—	○	●	○	●	○
	Intelligent motor coil	—	—	—	○	○	○	○	○
	13 kW HD coil	—	—	—	○	○	○	○	○
	20 kW coil	—	—	—	—	—	—	—	—
	5 keys membrane keypad	●	●	●	●	●	●	●	●
	Industry 4.0 ready	—	—	—	—	—	—	—	—
	7" Touchscreen	—	—	—	—	—	—	—	—
	Hand-held scanner	—	—	—	—	—	—	—	—
	Length presetting	●	—	—	○*	○*	○*	○*	○*
	System cart	○	○	○	○	○	○	○	○
	Auxiliary fume extraction unit	—	○	○	○	○	○	○	○

				i4.0 Line						
Comfort NG	Profi Plus NG	Preset NG	Premium Plus	Nano NG i4.0	Air i4.0 Eco	Air i4.0 Comfort	Comfort i4.0	Preset i4.0	Premium i4.0	Sprint i4.0
										
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