

HAIMER[®]
Quality Wins.

MICROSET

Tool Presetters



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CONTENTS



HAIMER – YOUR SYSTEM PROVIDER AROUND THE MACHINE TOOL

03



PRECISION AND PRODUCTIVITY IN PRODUCTION

04



TOOL PRESETTERS – YOUR BENEFITS

05



UNO SERIES – EQUIPMENT AND FUNCTIONALITY

06



VIO SERIES – EQUIPMENT AND FUNCTIONALITY

08



DATA EXCHANGE AND DATA TRANSFER TO THE MACHINE

09



OUR PRODUCTS

10

- UNO SMART
- UNO PREMIUM
- UNO AUTOFOCUS
- UNO AUTOMATIC DRIVE
- VIO BASIC
- VIO *LINEAR*
- VIO *LINEAR* TOOLSHRINK



TOOL PRESETTING – ACCESSORIES

24



TOOL PRESETTING – SOFTWARE

25



TECHNICAL DATA

26

CAPABILITIES

HAIMER – Your system provider around the machine tool

HAIMER evolved to become a complete system provider for tool management centered around the machine tool. HAIMER Microset tool presetting technology complements the existing HAIMER portfolio, which consists of an extensive tool holding program, shrinking and balancing technology, tool management logistics as well as 3D measuring devices and solid carbide cutting tools. This allows us to offer you a perfectly complementary product portfolio – all under one roof.



Haimer USA Chicago, Illinois



Precision and productivity in production



Whether presetting, shrinking, inspecting and correcting balance, or measuring – we offer the perfect solution for all tool sizes and work environments. Improve the quality and precision of your workpieces with our know-how and wide range of products.



UNO series – entry level tool presetters include high-tech options as standard

TOOL PRESETTERS – YOUR BENEFITS

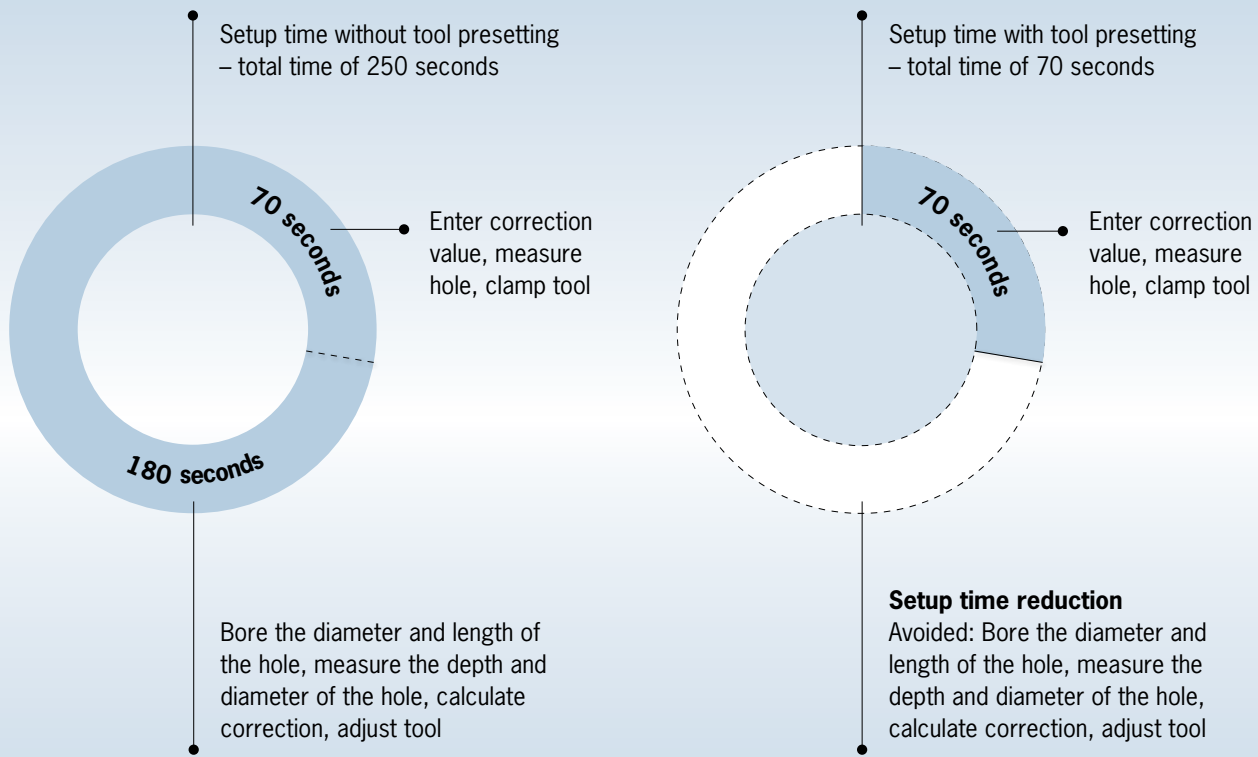
Save time and money, improve workpiece quality

The efficient tool presetting equipment from HAIMER Microset optimizes your machining processes from the ground up. Improve your tool life, achieve better surface finishes and boost overall process reliability in your production.

- Minimize the idle time of your machines
- Reduce scrap and tooling costs
- Increase process reliability in your production
- Improve your tool life
- Generate consistent quality in your products

Reduce up to 70% of your set up time!

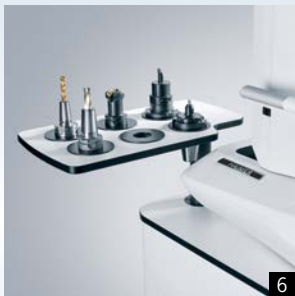
Boring Head Example:



UNO SERIES – EQUIPMENT AND FUNCTIONALITY

UNO series – entry level tool presetters include high-tech options as standard

In addition to precision, speed and reliability, the UNO series also includes numerous features in terms of its equipment. The new design and improved ergonomics set new standards.

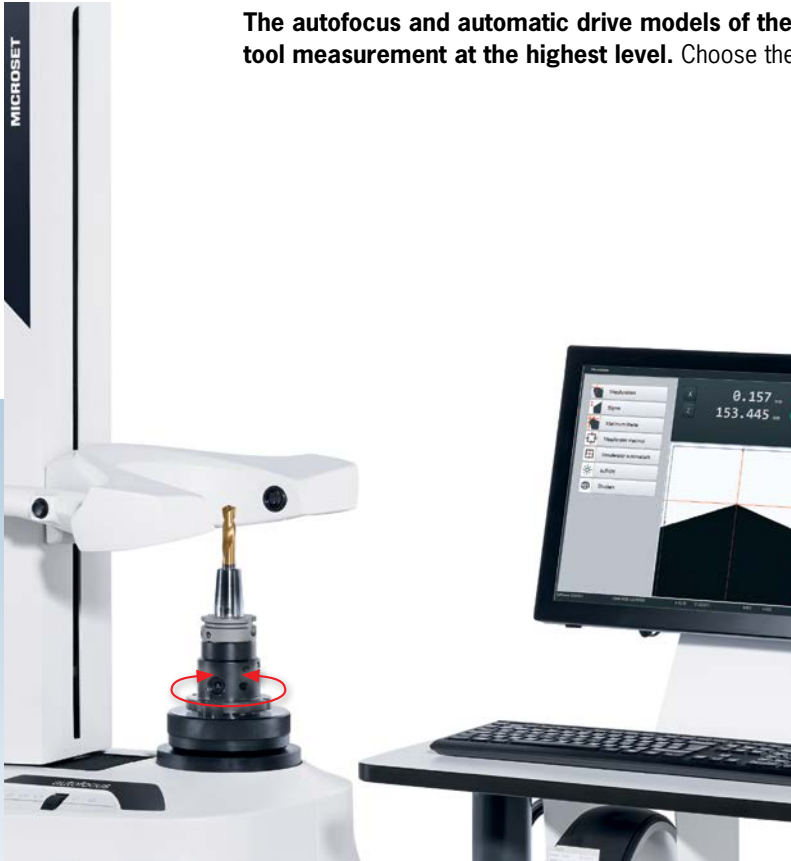


- 1: Camera system for setting the center of rotation
- 2: Tactile measurement of the center of rotation
- 3: Release-by-touch function, easy to operate without buttons
- 4: Useful system cabinet with 3 drawers, 1 door and internal oil tray.
Also includes 3 maintenance doors (on all sides)
- 5: Keypad and μm -precise adjustments
- 6: 150° swiveling adapter storage
- 7+8: Measuring based on the snap gauge principle for diameters up to 100 mm

UNO SERIES – NEW AUTOFOCUS AND AUTOMATIC DRIVE FEATURES

UNO autofocus & automatic drive – efficient and precise

The autofocus and automatic drive models of the UNO series provide unique advantages for tool measurement at the highest level. Choose the presetter that meets your needs.

**autofocus**

Automatically focuses on the cutting edge. Motorized spindles with convenient system cabinet and 22" touch display standard.

**automatic drive**

Fully automatic tool presetting and measurement independent of the operator (CNC-controlled, 3-axis), with convenient system cabinet and 22" touch display standard.

VIO linear – maximum ease of use and functionality

Optimize process reliability in your production with fully automatic measurement capabilities. The open device platform allows for the integration of both new and existing production processes.

Maximum stability and precision

The FEM-optimized, thermally stable cast iron construction of the VIO *linear* series ensures accurate measuring results and equipment longevity. Additionally, highly dynamic, wear-free linear drives ensure accurate long-term quality. The parallel drive and guidance system ensures optimal distribution of forces and guarantees $\pm 2 \mu\text{m}$ measurement repeatability.

Highlights

- High rigidity ensures low distortion even at the maximum permissible load
- FEM-optimized and thermally stable cast iron construction
- Maximum tool weight 352 lbs (160 kg)
- Fast, silent and highly accurate cutting edge approach via unique linear drive



linear **DRIVE**

Leader in innovation:

- **Fully automatic measuring cycles** for maximum operating convenience
- **High quality components** from Heidenhain, Bosch Rexroth
- **Fast linear drive technology** and highly accurate positioning
- **User-friendly operating panel** ensures ultimate flexibility
- **High power software** Microvision VIO



1: Second camera for presetting the center of rotation (optional)
2 + 3: Fully automatic axis drive via modern linear technology

DATA EXCHANGE AND DATA TRANSFER

Data exchange and transfer to the machine tool

Post-processor / Ethernet / USB

Post-processed data is transferred to the relevant data exchange drive either via the network or via USB.

Bidirectional interface

All presetting units can send and receive tool data to nearly all software (tool management, databases, CAD / CAM) via a bidirectional interface – regardless of whether it is a standard or a customized solution.

Post processor and bidirectional interface

HAIMER Microset tool presetting devices are compatible with machine tools from all manufacturers. The measured data is quickly transferred direct to the machine tool. Control systems from Siemens, Heidenhain, FANUC, MAPPS and many others can be connected via USB data storage, Ethernet LAN or RS232.

RFID – data carrier system

- Customer-specific data storage
- Measurement processes with integrated data retrieval and storage
- Integration of all popular RFID systems
- The read/write head can be positioned automatically and manually for all popular tool holder systems



Automatic positioning of the read/write head



Manual positioning of the read/write head

UNO smart

Smart entry into tool presetting



TOOL PRESETTERS – MANUAL

The UNO smart is our entry-level machine featuring a small footprint, user-friendly operation and high precision. It is particularly well suited for measurements right on the shop floor and has all this at an unbeatable price-performance ratio.

Standard Equipment

- | | |
|---|-------------------------------------|
| – Microvision SMART image processing system | – Manual operation |
| – SK50 high-precision spindle, manual | – Energy saving mode |
| – Robust, long-life cast iron construction | – 5.7" touch screen |
| – Thermally optimized material combination for improved repeatability | – 99 zero points |
| | – $\pm 5 \mu\text{m}$ repeatability |

Measurement Range

UNO smart

- | | |
|---------------------------------|--|
| – Maximum tool diameter | 15.75 in
(400 mm) |
| – Maximum tool length on Z-axis | 15.75 / 27.56 in
(400 / 700 mm) |
| – Maximum tool weight | 66 lbs
(30 kg) |
| – Weight | 20 40: 529 lbs (240 kg)
20 70: 562 lbs (255 kg) |

Options

- Technology package: Tool inspection light, edgefinder, release-by-touch
- "Smart Pro" package: tool inspection light, edgefinder, release-by-touch, base cabinet with adapter tray for 3 tools or adapters
- "Smart X Pro" package: SK50 Ultra-high precision spindle, manual, vacuum tool clamping, pneumatic spindle brake, tool inspection light, edgefinder, release-by-touch, sigma function, base cabinet with adapter tray for 3 tools or adapters
- $4 \times 90^\circ$ indexing and spindle brake
- Turning package: dial gauge included with pneumatic indexing
- Manual fine adjustment
- Label printer
- Alignment and calibration-set



UNO premium

The bestseller with high-quality components that complement your machine tool



TOOL PRESETTERS – MANUAL

UNO Premium – The right solution for nearly every user – the highest standard of manual tool presetting.

Highly precise measuring results and direct data transfer.

Standard Equipment

– Microvision UNO image processing system	– 19" TFT screen
– SK50 ultra-high precision spindle, manual	– Sigma function
– Robust, long-life cast iron construction	– 1,000 zero points
– Thermally optimized material combination for improved repeatability	– 1,000 tool data storage
– Manual operation	– USB / LAN data output
	– ± 2 µm repeatability

Measurement Range

UNO premium

– Maximum tool diameter	15.75 in (400 mm)
– Maximum snap gauge tool diameter	3.93 in (100 mm)
– Maximum tool length on Z-axis	15.75 / 27.56 in (400 / 700 mm)
– Maximum tool weight	66 lbs (30 kg)
– Weight	20 40: 529 lbs (240 kg) 20 70: 562 lbs (255 kg)

Options

- Premium Pro package: Tool inspection light, edgefinder, release-by-touch, premium system cabinet with adapter tray for 6 tools and adapters
- Technology package: Incident light, Edgefinder, release-by-touch
- Turning package: 4 × 90° or 3 × 120° indexing, second camera
- Label printer
- User management
- Manual fine adjustment
- RFID interface (only in combination with Premium Pro package)



UNO autofocus

Ideal for multi-edge tools



Picture shows UNO autofocus with premium system cabinet (optional)

TOOL PRESETTERS – SEMI AUTOMATIC

UNO autofocus – The right presetter for demanding measurements.

Take advantage of semi-automatic spindle operation with multiple tool measurements on one plane.

Standard Equipment

- | | |
|---|--|
| <ul style="list-style-type: none"> – Microvision UNO image processing system – SK50 ultra-high precision spindle, autofocus – Robust, long-life cast iron construction – Thermally optimized material combination for improved repeatability – Motorized fine adjustment of the C-axis – 22" touch screen – 4 × 90° motorized indexing – Spindle brake – Vacuum clamping – Premium base cabinet includes storage for six adapters | <ul style="list-style-type: none"> – Sigma function – Unlimited zero points – Unlimited tool data storage – User management – USB / LAN data output – Release-by-touch – Edgefinder – Incident light – 2 µm spindle runout – ± 2 µm repeatability – Label printer |
|---|--|

Measurement Range

UNO autofocus

– Maximum tool diameter	15.75 in (400 mm)
– Maximum snap gauge tool diameter	3.93 in (100 mm)
– Maximum tool length on Z-axis	15.75 / 27.56 in (400 / 700 mm)
– Maximum tool weight	66 lbs (30 kg)
– Weight	20 40: 529 lbs (240 kg) 20 70: 562 lbs (255 kg)

Options

- ISS-U universal ultra-high precision spindle with automatic adapter identification
- Manual fine adjustment
- Turning package: Second camera with 4 × 90° or 3 × 120° indexing
- Bidirectional interface
- RFID interface
- 3 × 120° motorized indexing



Automatic focus on the cutting edge

UNO automatic drive

Fully automatic measuring for unrivalled convenience



Picture shows UNO automatic drive with premium system cabinet premium (optional)

TOOL PRESETTERS – FULLY AUTOMATIC

With fully automated measurement capabilities, the UNO automatic drive is the high-end model of the UNO series. The UNO automatic drive is fully independent of the operator and can be used with minimal user expertise. This guarantees maximum quality and time savings, even with complex tools on multiple planes.

Standard Equipment

- | | |
|--|-------------------------------|
| – Microvision UNO image processing system | – Unlimited zero points |
| – Automatic tool measurement in 3 axes | – Unlimited tool data storage |
| – SK50 ultra-high precision spindle, autofocus | – User management |
| – Motorized fine adjustment | – USB / LAN data output |
| – 22" touch screen | – Release-by-touch |
| – 4 × 90° motorized indexing | – Edgefinder |
| – Spindle brake | – Label printer |
| – Vacuum clamping | – Incident light |
| – Premium base cabinet includes storage for 6 adapters | – 2 µm spindle runout |
| – Sigma function | – ± 2 µm repeatability |

Measurement Range

UNO automatic drive

- | | |
|------------------------------------|--|
| – Maximum tool diameter | 15.75 in
(400 mm) |
| – Maximum snap gauge tool diameter | 3.93 in
(100 mm) |
| – Maximum tool length on Z-axis | 15.75 / 27.56 in
(400 / 700 mm) |
| – Maximum tool weight | 66 lbs
(30 kg) |
| – Weight | 20 40: 529 lbs (240 kg)
20 70: 562 lbs (255 kg) |

Options

- ISS-U universal ultra-high precision spindle with automatic adapter identification
- 3 × 120° motorized indexing
- Turning package: Second camera with indexing
- Bidirectional interface
- RFID interface
- Individual release of X/Y-axis
- 23" touch screen



Fully automatic tool presetting and measurement - independent of the operator

VIO basic

Absolute reliability with high quality components



TOOL PRESETTERS – SEMI AUTOMATIC

The **VIO basic, with optional semi-automatic (autofocus) or manual operation**, is one of the most modern presetting devices in its class, with many features and an extensive set of standard equipment.

Standard Equipment

- | | |
|---|---------------------------------|
| – Microvision VIO image processing system | – Sigma function |
| – SK50 ultra-high precision spindle, manual | – Unlimited tool data storage |
| – Robust, long-life cast iron construction | – User management |
| – Thermally optimized material combination for improved repeatability | – Swiveling operating panel |
| – Manual fine adjustment | – Edgefinder |
| – 22" multi-touch screen | – Incident light |
| – Spindle brake | – 2 μ m spindle runout |
| – Premium base cabinet includes storage for 9 adapters | – \pm 2 μ m repeatability |

Measurement Range

VIO basic

- | | |
|------------------------------------|---|
| – Maximum tool diameter | 16.53 / 27.56 / 39.17 in
(420 / 700 / 1000 mm) |
| – Maximum snap gauge tool diameter | 3.93 in
(100 mm) |
| – Maximum tool length on Z-axis | 19.69 / 27.56 / 39.37 in
(500 / 700 / 1000 mm) |
| – Maximum tool weight | 352 lbs
(160 kg) |
| – Weight | 903 – 1113 lbs
(410 – 505 kg) |

Options

- SK50 ultra-high precision spindle, autofocus
- ISS-U universal ultra-high precision spindle with automatic adapter identification
- Label printer
- 4 \times 90° pneumatic indexing
- Second camera for measuring the center of rotation
- Bidirectional interface
- RFID interface
- 27" multi-touch screen



VIO *linear*

Fast measuring, even for highly complex tools



TOOL PRESETTERS – FULLY AUTOMATIC

VIO linear – The complete solution: for fully automatic high-end tool presetting with customizable options.

The modular concept makes it possible to preset tools up to 39.37" in length and diameter.

Standard Equipment

- | | |
|---|---|
| <ul style="list-style-type: none"> – High precision and fast axis-positioning via linear motion – Microvision VIO image processing system – SK50 ultra-high precision spindle, autofocus – Robust, long-life cast iron construction – Thermally optimized material combination for improved repeatability – Motorized fine adjustment – 23" multi-touch screen – Premium base cabinet includes storage for 9 adapters | <ul style="list-style-type: none"> – Sigma function – Unlimited tool data storage – User management – Swiveling operating panel – Edgefinder – Incident light – 2 μm spindle runout – ± 2 μm repeatability |
|---|---|

Measurement Range

VIO linear

- | | | | | | | |
|---|---|---|---------------------|---|---------------------|----------------------------------|
| <ul style="list-style-type: none"> – Maximum tool diameter – Maximum snap gauge tool diameter – Maximum tool length on Z-axis – Maximum tool weight – Weight | <table border="0"> <tr> <td>16.53 / 27.56 / 39.17 in
(420 / 700 / 1000 mm)</td> </tr> <tr> <td>3.93 in
(100 mm)</td> </tr> <tr> <td>19.69 / 27.56 / 39.37 in
(500 / 700 / 1000 mm)</td> </tr> <tr> <td>352 lbs
(160 kg)</td> </tr> <tr> <td>903 – 1113 lbs
(410 – 505 kg)</td> </tr> </table> | 16.53 / 27.56 / 39.17 in
(420 / 700 / 1000 mm) | 3.93 in
(100 mm) | 19.69 / 27.56 / 39.37 in
(500 / 700 / 1000 mm) | 352 lbs
(160 kg) | 903 – 1113 lbs
(410 – 505 kg) |
| 16.53 / 27.56 / 39.17 in
(420 / 700 / 1000 mm) | | | | | | |
| 3.93 in
(100 mm) | | | | | | |
| 19.69 / 27.56 / 39.37 in
(500 / 700 / 1000 mm) | | | | | | |
| 352 lbs
(160 kg) | | | | | | |
| 903 – 1113 lbs
(410 – 505 kg) | | | | | | |

Options

- ISS-U universal ultra-high precision spindle with automatic adapter identification, mechanical tool clamping, pneumatic spindle brake and 4 \times 90° or 3 \times 120° motorized indexing
- Second camera for measuring the center of rotation
- Label printer
- Bidirectional interface
- RFID interface
- 27" multi-touch screen



VIO *linear* toolshrink

Shrinking and presetting combined



SHRINKING/PRESETTING

The combination of shrinking and presetting technology with precise length adjustment on the μm scale makes the VIO *linear* top of its class, which includes the toolshrink variant. The VIO *linear* toolshrink is the ideal choice, especially when using shrink fit holders, duplicate assemblies, or multi-spindle machines.

Standard Equipment

- | | |
|--|--|
| <ul style="list-style-type: none"> – Microvision VIO image processing system – ISS-U universal ultra-high precision spindle with automatic adapter identification, mechanical clamping and $4 \times 90^\circ$ or $3 \times 120^\circ$ motorized indexing – Best shrinking results, regardless of the holder brand – Highly accurate axial positioning with the linear drive – Fully automatic HAIMER induction unit – Automatic detection of shrinking parameters | <ul style="list-style-type: none"> – Automatic length adjustment within $\pm 10 \mu\text{m}$ – Extractor – Contact cooling – 23" touch screen – Ideally used with HAIMER shrink fit holders for best results |
|--|--|

Measurement Range

VIO *linear* toolshrink

- | | |
|---|--|
| <ul style="list-style-type: none"> – Maximum tool diameter – Maximum snap gauge tool diameter – Maximum tool length on Z-axis – Maximum tool weight – Weight | <p>16.53 / 27.56 / 39.17 in
(420 / 700 / 1000 mm)</p> <p>3.93 in
(100 mm)</p> <p>17.72 / 25.59 in
(450 / 650 mm)</p> <p>352 lbs
(160 kg)</p> <p>1,587 - 1,764 lbs
(720 – 800 kg)</p> |
|---|--|

Options

- Second camera for measuring the center of rotation
- Post-processor
- Bidirectional interface
- VIO FIT
- VIO Scan
- Manual RFID system
- Automatic RFID system
- Label printer
- 27" multi-touch screen



Adapters and spindles for every taper

High-quality, precise adapters and spindles are important elements for precise tool presetting.

We offer an extraordinarily wide range of adapters and spindles so that you can quickly and easily get the results you need. We will gladly provide consultation regarding your individual requirements and applications.

The ISS-U universal ultra-high precision spindle enables incredibly high-precision direct clamping. The ISS-U spindle utilizes the highest clamping forces with runout accuracy < 0.002 mm, all without need for adapters.

Examples of Adapters



1



2



3

1: HSK 63 adapter with integrated clamping
2: VDI 40 adapter with manual clamping
3: Capto adapter with integrated manual clamping system

We offer solutions for all requirements, from standard tool holders to customer-specific special tool holders. You benefit from our many years of experience of tool design.

Examples of spindles



1



2



3

Universal clamping system
1: ISS-U universal ultra-high precision spindle
2: Attachment holder (SK, HSK, Capto, VDI)
3: Complete system

Our offer: the Universal clamping system clamps tools precisely and reliably, regardless of the tool holder's geometry. This also applies to the Attachment holder (2), which was designed for all common tool holder systems on the market.

TOOL PRESETTING – SOFTWARE

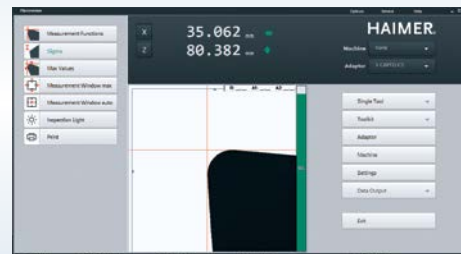
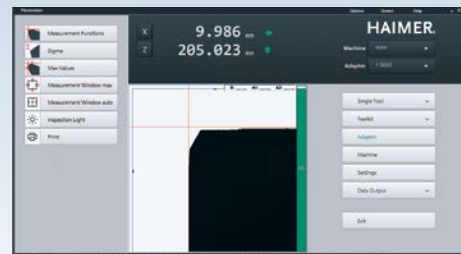
Microvision – easy and intuitive

Microvision software enables fast and easy inspection of complex shapes and features, creating even more time savings potential during setup.

These savings are achieved due to the machine's ability to quickly and precisely measure and set tools, independent from the operator. Modern image processing ensures that the tools are quickly and accurately measured and in turn guarantees the highest quality in your production processes. Complex tools can be measured within an incredibly short period of time with the latest measuring techniques.

Highlights

- Intuitive operation ensures quick and precise measurement results
- Accurate measurement of complex and helical cutters with the precise focus window
- User administration and access privileges
- Display currently in 16:9 format
- Cross hair fixed / floating with automatic measurement lines and automatic contour evaluation
- Identical software design for all Microset models
- Windows 7 Professional or Ultimate, whatever you need



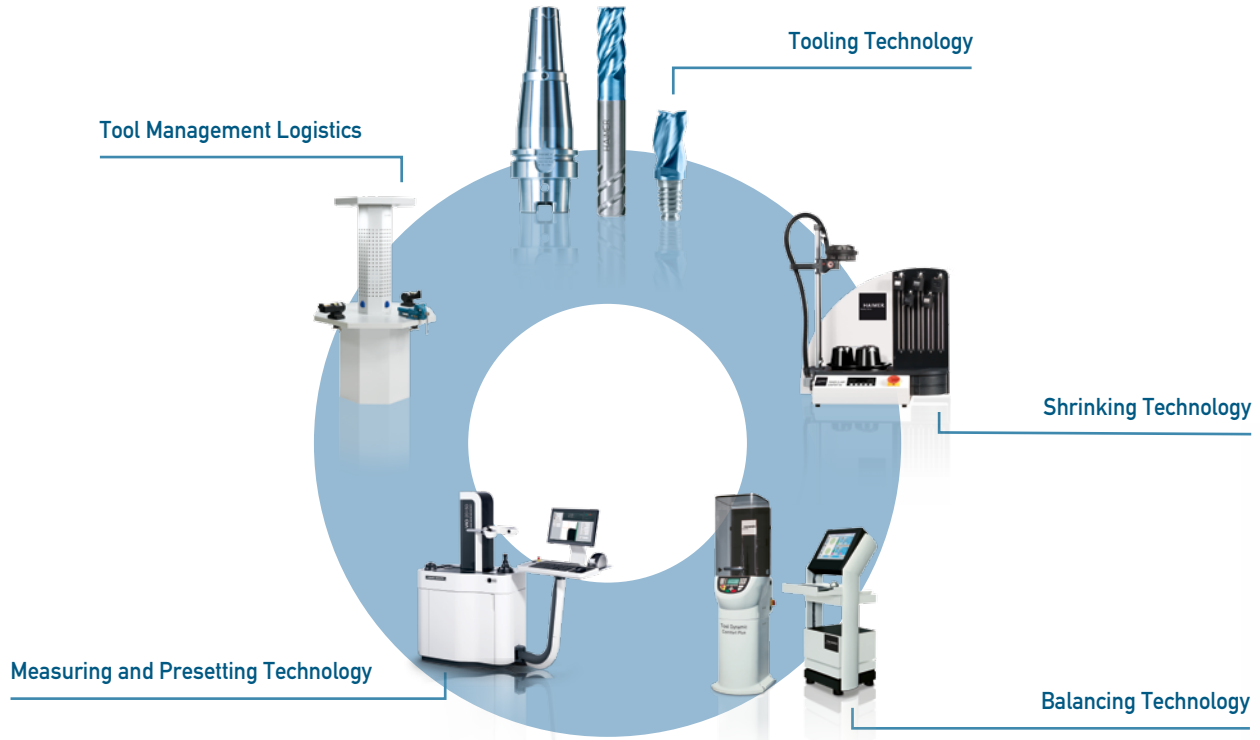
Technical data

		UNO smart	UNO smart Optional Pro package
Measurement range			
Maximum tool diameter	mm	400	400
Max. tool diameter for measuring using the snap gauge principle	mm	–	–
Maximum tool length on Z-axis	mm	400 / 700	400 / 700
Operation			
Manual		•	•
Autofocus		–	–
Fully automatic		–	–
Shrinking		–	–
Base cabinet			
Standard base cabinet including storage for three adapters		–	•
Premium system base cabinet including storage for six adapters		–	–
Spindle			
SK50 high-precision spindle, manual		•	•
SK50 ultra-high precision spindle, manual		–	–
SK50 ultra-high precision spindle, autofocus		–	–
ISS-U universal ultra-high precision spindle ¹⁾		–	–
Automatic adapter recognition		–	–
Mechanical clamping		–	–
Vacuum clamping		–	–
Spindle brake		–	–
4 × 90° or 3 × 120° indexing		◦	◦
Accuracy			
Spindle runout	µm	–	–
Repeatability	µm	± 5	± 5
Turning center measurement			
Dial gauge with 4 × 90° indexing		◦	◦
Camera with 4 × 90° indexing		–	–
Miscellaneous			
Incident light		–	•
Edgefinder		–	•
Magnet board		–	–
5.7" touch screen		•	•
19" TFT		–	–
22" touch screen		–	–
23" touch screen		–	–
27" touch screen		–	–
Release-by-touch		–	•
Individual release and clamping of X/Z-axis		–	–
Joystick		–	–
Software			
Image processing		Microvision SMART	Microvision SMART
Zero points		99	99
Tool storage unit		–	–
Sigma function		◦	◦
User management		–	–
Data output			
Label printing		◦	◦
USB		–	–
LAN/network		–	–
Post-processor		–	–
Bidirectional interface		–	–
Manual RFID system		–	–
Automatic RFID system		–	–

• Standard ◦ Optional – Not available

¹⁾ISS-U spindle featuring mechanical clamping, automatic adapter identification and autofocus

UNO smart Optional X Pro package	UNO premium	UNO premium Optional Pro package	UNO autofocus	UNO automatic drive	VIO	VIO linear	VIO linear toolshrink
400	400	400	400	400	420 / 700 / 1000	420 / 700 / 1000	420 / 700 / 1000
100	100	100	100	100	100	100	100
400 / 700	400 / 700	400 / 700	400 / 700	400 / 700	500 / 700 / 1000	500 / 700 / 1000	450 / 650
•	•	•	•	•	•	•	•
-	-	-	•	•	◦	•	•
-	-	-	-	•	-	•	•
-	-	-	-	-	-	-	•
•	◦	-	-	-	•	•	•
-	-	•	•	•	-	-	-
-	-	-	-	-	-	-	-
•	•	•	-	-	•	-	-
-	-	-	•	•	◦	•	-
-	-	-	◦	◦	◦	◦	◦
-	-	-	◦	◦	◦	◦	◦
•	•	•	•	•	•	-	-
•	•	•	•	•	•	•	•
◦	◦	◦	◦	◦	◦	•	•
2	2	2	2	2	2	2	2
± 5	± 2	± 2	± 2	± 2	± 2	± 2	± 2
◦	-	-	-	-	-	-	-
-	◦	◦	◦	◦	◦	◦	◦
•	-	•	•	•	•	•	•
•	-	•	•	•	•	•	•
-	-	◦	•	•	-	-	-
•	-	-	-	-	-	-	-
-	•	•	-	-	-	-	-
-	-	-	•	•	•	-	-
-	◦	◦	◦	◦	◦	•	•
-	-	-	-	-	◦	◦	◦
•	-	•	•	•	-	-	-
-	-	-	◦	◦	•	•	•
-	-	-	-	-	-	•	•
Microvision SMART	Microvision UNO	Microvision UNO	Microvision UNO	Microvision UNO	Microvision VIO	Microvision VIO	Microvision VIO
99	1000	1000	unlimited	unlimited	unlimited	unlimited	unlimited
-	1000	1000	unlimited	unlimited	unlimited	unlimited	unlimited
•	•	•	•	•	•	•	•
-	◦	◦	•	•	•	•	•
◦	◦	◦	•	•	•	•	•
-	•	•	•	•	•	•	•
-	•	•	•	•	•	•	•
-	◦	◦	◦	◦	◦	◦	◦
-	-	◦	◦	◦	◦	◦	◦
-	-	◦	◦	◦	◦	◦	◦
-	-	-	-	-	-	◦	◦



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