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.
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.
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

Save time and money, improve workpiece quality

**TOOL PRESETTERS – YOUR BENEFITS**

**Reduce up to 70% of your set up time!**

_Boring Head Example:_

**Setup time without tool presetting**
- Total time of 250 seconds

- Bore the diameter and length of the hole, measure the depth and diameter of the hole, calculate correction, adjust tool

**Setup time with tool presetting**
- Total time of 70 seconds

- Enter correction value, measure hole, clamp tool

**Setup time reduction**
_Avoided:_ Bore the diameter and length of the hole, measure the depth and diameter of the hole, calculate correction, adjust tool
UNO series – entry level tool presetters include high-tech options as standard

In addition to its precision, speed, and reliability, the UNO series also includes numerous features in hardware. The new design and improved ergonomics set the standard, by using high-quality components from SMC, Bosch, Heidenhain, and IDS.

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

Technical data subject to change without prior notice
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 23”, 10 point touch screen as standard.

**automatic drive**
Fully automatic tool presetting and measurement independent of the operator (CNC-controlled, 3-axis), with convenient system cabinet and 23” touch display standard.
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 ±2 µm 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

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

**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
- Release-by-touch
- Measure-by-touch

**Technical data subject to change without prior notice**
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 USB, network or RS232 interface. (Not available for UNO Smart)

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. (Not available for UNO Smart)

Post processor and bidirectional interface *
HAIMER Microset tool presetting devices are compatible with machine tools from all manufacturers. (Not available for UNO Smart)

* 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

Technical data subject to change without prior notice
UNO smart
Smart entry into tool presetting
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
- SK50 high-precision spindle, manual
- Robust, long-life cast iron construction
- Thermally optimized material combination for improved repeatability
- Manual operation
- Manual fine adjustment
- Energy saving mode
- 5.7" color touch screen
- Memory for 99 zero points
- ± 5 µm repeatability
- Label printer

**Measurement Range**

**UNO smart**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum tool diameter on X-axis</td>
<td>15.75 in (400 mm)</td>
</tr>
<tr>
<td>Maximum tool length on Z-axis</td>
<td>15.75 / 27.56 in (400 / 700 mm)</td>
</tr>
<tr>
<td>Maximum tool weight</td>
<td>66 lbs (30 kg)</td>
</tr>
<tr>
<td>Weight</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>20</td>
</tr>
</tbody>
</table>

**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
- 4 x 90° indexing and spindle brake
- Turning package: Dial gauge included with pneumatic indexing
- Alignment and calibration-set
- Sigma function

Picture shows UNO Smart with Smart Pro package (optional)
UNO premium
The bestseller with high-quality components that complement your machine tool
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
- SK50 ultra-high precision spindle, manual
- Robust, long-life cast iron construction
- Thermally optimized material combination for improved repeatability
- Manual operation
- Spindle brake
- Manual fine adjustment

Measurement Range
UNO premium
- Maximum tool diameter on X-axis 15.75 in (400 mm)
- Maximum snap gauge tool diameter on X-axis 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: 309 lbs (140 kg)
  20|70: 342 lbs (155 kg)

Options
- Technology package: Incident light, edgefinder, release-by-touch
- Premium Pro package: Tool inspection light, edgefinder, release-by-touch, premium system cabinet with adapter tray for 6 tools and adapters
- Turning package: 4 x 90° and 3 x 120° indexing, second camera
- User management
- Manual RFID system (only combined with premium Pro package)
- Bidirectional interface
- Post-processor

Picture shows UNO Premium with premium Pro package (optional)

Technical data subject to change without prior notice
UNO autofocus
Ideal for multi-edge tools
UNO autofocus – The right presetter for demanding measurements.
Take advantage of semi automatic spindle operation with multiple tool measurements on one plane.

**Standard Equipment**

- 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
- 24” touch screen
- 4 × 90° and 3 × 120° motorized indexing
- Pneumatic spindle brake
- Vacuum clamping
- Premium base cabinet includes storage for six adapters
- Sigma function
- Memory for 1,000 zero points and 1,000 tool data
- User management
- Release-by-touch
- Edgefinder
- Incident light
- 2 µm spindle runout
- ± 2 µm repeatability
- Manual fine adjustment of the X/Y-axis
- Label printer
- Windows 10

**Measurement Range**

**UNO autofocus**

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum tool diameter on X-axis</td>
<td>15.75 in (400 mm)</td>
</tr>
<tr>
<td>Maximum snap gauge tool diameter on X-axis</td>
<td>3.93 in (100 mm)</td>
</tr>
<tr>
<td>Maximum tool length on Z-axis</td>
<td>15.75 / 27.56 in (400 / 700 mm)</td>
</tr>
<tr>
<td>Maximum tool weight</td>
<td>66 lbs (30 kg)</td>
</tr>
</tbody>
</table>
| Weight | 20|40: 529 lbs (240 kg)  
20|70: 562 lbs (255 kg) |

**Options**

- ISS-U universal ultra-high precision spindle with mechanical pull system and automatic adapter identification
- Turning package: Second camera incl. indexing, 4 × 90° and 3 × 120° motor driven
- Bidirectional interface
- USB / LAN data output
- Manual RFID system
- Post-processor

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Technical data subject to change without prior notice
UNO automatic drive
Fully automatic measuring for unrivalled convenience
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
- Automatic tool measurement in 3 axes
- SK50 ultra-high precision spindle, autofocus
- Motorized fine adjustment of all axes
- 24” touch screen
- 4 × 90° and 3 × 120° motor-driven indexing
- Pneumatic spindle brake
- Vacuum clamping
- Premium base cabinet includes storage for 6 adapters
- Sigma function
- Memory for 1,000 zero points and 1,000 tool data
- User management
- USB / LAN data output
- Release-by-touch
- Edgefinder
- Incident light
- 2 µm spindle runout
- ± 2 µm repeatability
- Label printer

**Measurement Range**

**UNO automatic drive**

- Maximum tool diameter on X-axis: 15.75 in (400 mm)
- Maximum snap gauge tool diameter on X-axis: 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
- Turning package: Second camera incl. indexing, 4 × 90° and 3 × 120° motor driven
- Bidirectional interface
- Manual RFID system
- Individual release of X/Y-axis
- Post-processor

Fully automatic tool presetting and measurement - independent of the operator
VIO basic
Suitable for large and heavy tools
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
- SK50 ultra-high precision spindle, manual
- Robust, long-life cast iron construction
- Thermally optimized material combination for improved repeatability
- Manual fine adjustment
- 24” multi-touch screen
- Vacuum clamping
- Pneumatic spindle brake
- Integrated base cabinet Premium includes storage for up to 9 adapters
- Sigma function
- Memory for 1,000 zero points
- Swiveling operating panel
- Edgefinder
- Incident light
- 2 µm spindle runout
- ± 2 µm repeatability
- Label printer

**Measurement Range**

**VIO basic**

- Maximum tool diameter on X-axis 16.53 / 27.56 / 39.17 in (420 / 700 / 1000 mm)
- Maximum snap gauge tool diameter on X-axis 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 20|50: 849 lbs (385 kg)
  20|70: 1,058 lbs (480 kg)

**Options**

- SK50 ultra-high precision spindle, autofocus
- ISS-U universal ultra-high precision spindle with automatic adapter identification, mechanical tool clamping, spindle brake pneumatically and 4 × 90° or 3 × 120° indexing motorized
- 4 × 90° pneumatic indexing
- Turning package: Second camera incl. indexing, 4 × 90° and 3 × 120°
- Bidirectional interface
- Unlimited tool data storage
- User management
- Manual RFID system
- 27” multi-touch screen
- Post-processor
VIO linear
Fast measuring, even for highly complex tools
**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
- Microvision VIO image processing system
- High-precision and fast axis-positioning via linear motion
- SK50 ultra-high precision spindle, autofocus
- 4 × 90° and 3 × 120° electronic indexing
- Pneumatic spindle brake
- Robust, long-life cast iron construction
- Thermally optimized material combination for improved repeatability
- Motorized fine adjustment of all axes
- 24” multi-touch screen
- 4 × 90° motorized indexing
- Premium base cabinet includes storage for 9 adapters
- Label printer
- Sigma function
- Memory for 1,000 zero points
- Unlimited tool memory
- User management
- Swiveling operating panel
- Edgefinder
- Incident light
- 2 µm spindle runout
- ± 2 µm repeatability

### Measurement Range
**VIO linear**
- Maximum tool diameter on X-axis 16.53 / 27.56 / 39.17 in (420 / 700 / 1000 mm)
- Maximum snap gauge tool diameter on X-axis 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 20|50: 904 lbs (410 kg)
  20|70: 1,113 lbs (505 kg)

### Options
- ISS-U universal ultra-high precision spindle with automatic adapter identification, mechanical tool clamping, pneumatic spindle brake and 4 × 90° or 3 × 120° motorized indexing
- Second camera for measuring the center of rotation
- Bidirectional interface
- Manual or automatic RFID system
- 27” multi-touch screen
- Post-processor
- VIO Scan
- Angular head system, swiveling camera carrier, Y-axis offset for measuring multiple slewing gear witness

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Technical data subject to change without prior notice
VIO linear toolshrink
Shrinking and presetting combined
The combination of shrinking and presetting technology with precise length adjustment on the \( \mu \text{m} \) 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**

- Microvision VIO image processing system
- ISS-U universal ultra-high precision spindle with automatic adapter identification, mechanical clamping and \( 4 \times 90^\circ \) and \( 3 \times 120^\circ \) motorized indexing
- Best shrinking results, regardless of the holder brand
- Highly accurate axial positioning with the linear drive
- Fully automatic HAIMER induction unit 13 kw coil
- Automatic detection of shrinking parameters
- Automatic length adjustment within \( \pm 10 \mu \text{m} \)
- HAIMER contact cooling
- Label printer
- 24" touch screen
- Ideally used with HAIMER shrink fit holders for best results
- Dynamic shrinking for short process times

**Measurement Range**

**VIO linear toolshrink**

- Maximum tool diameter on X-axis 16.53 in (420 mm)
- Maximum snap gauge tool diameter on X-axis 3.93 in (100 mm)
- Maximum tool length on Z-axis 17.72 / 25.59 in (450 / 650 mm) shrinking
- Maximum tool length on Z-axis 19.69 / 27.56 / 39.37 in (500 / 700 / 1000 mm) measuring
- Maximum tool weight 352 lbs (160 kg)
- Weight 1,587 – 1,764 lbs (720 – 800 kg)

**Options**

- Second camera for measuring the center of rotation
- Post-processor
- Bidirectional interface
- VIO Scan
- Manual RFID system
- Automatic RFID system
- Extractor with HEPA filter
- List printer
- TME cooling system with actice temperature monitoring
- 27" multi-touch screen

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Technical data subject to change without prior notice
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: HSK 63 adapter with integrated clamping
2: VDI 40 adapter with manual clamping
3: Capto adapter with integrated manual clamping system

Examples of spindles

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.
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 based
- Measuring macros for fast creation of automatic measuring sequences
- Template-System, for fast and easy creation of measuring cycles with same tools
- Creation of customized master measuring cycles possible
## Technical data

<table>
<thead>
<tr>
<th>Measurement range</th>
<th>UNO smart</th>
<th>UNO premium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum tool diameter</td>
<td>mm 400</td>
<td>400</td>
</tr>
<tr>
<td>Max. tool diameter for measuring using the snap gauge principle</td>
<td>mm</td>
<td>– 100</td>
</tr>
<tr>
<td>Maximum tool length on Z-axis</td>
<td>mm</td>
<td>400 / 700</td>
</tr>
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<table>
<thead>
<tr>
<th>Operation</th>
<th>UNO smart</th>
<th>UNO premium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Autofocus</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Fully automatic</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Shrinking</td>
<td>–</td>
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<table>
<thead>
<tr>
<th>Base cabinet</th>
<th>UNO smart</th>
<th>UNO premium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard base cabinet including storage for three adapters</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Premium system base cabinet including storage for six adapters</td>
<td>–</td>
<td>●</td>
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<table>
<thead>
<tr>
<th>Spindle</th>
<th>UNO smart</th>
<th>UNO premium</th>
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<tbody>
<tr>
<td>SK50 high-precision spindle, manual</td>
<td>●</td>
<td>–</td>
</tr>
<tr>
<td>SK50 ultra-high precision spindle, manual</td>
<td>–</td>
<td>●</td>
</tr>
<tr>
<td>SK50 ultra-high precision spindle, autofocus</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>ISS-U universal ultra high precision spindle[1]</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Automatic adapter recognition</td>
<td>–</td>
<td>–</td>
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<tr>
<td>Mechanical clamping</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Vacuum clamping</td>
<td>–</td>
<td>●</td>
</tr>
<tr>
<td>Spindle brake</td>
<td>–</td>
<td>●</td>
</tr>
<tr>
<td>4 × 90° or 3 × 120° indexing</td>
<td>–</td>
<td>●</td>
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<table>
<thead>
<tr>
<th>Accuracy</th>
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<tr>
<td>Spindle runout</td>
<td>µm +/- 3</td>
<td>2</td>
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<tr>
<td>Repeatability</td>
<td>µm ± 5</td>
<td>± 2</td>
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</table>

<table>
<thead>
<tr>
<th>Turning center measurement</th>
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<th>UNO premium</th>
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<tbody>
<tr>
<td>Dial gauge with 4 × 90° indexing</td>
<td>●</td>
<td>–</td>
</tr>
<tr>
<td>Camera with 4 × 90° indexing</td>
<td>–</td>
<td>●</td>
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</table>

<table>
<thead>
<tr>
<th>Miscellaneous</th>
<th>UNO smart</th>
<th>UNO premium</th>
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<tbody>
<tr>
<td>Incident light</td>
<td>●</td>
<td>●</td>
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<tr>
<td>Edgefinder</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Magnet board</td>
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</tr>
<tr>
<td>5.7” touch screen</td>
<td>–</td>
<td>●</td>
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<tr>
<td>21” TFT</td>
<td>–</td>
<td>●</td>
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<tr>
<td>24” touch screen</td>
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<td>●</td>
</tr>
<tr>
<td>27” touch screen</td>
<td>–</td>
<td>●</td>
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<tr>
<td>Measure-by-touch</td>
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<tr>
<td>Release-by-touch</td>
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<tr>
<td>Individual release and clamping of X/Z-axis</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Joystick</td>
<td>–</td>
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<table>
<thead>
<tr>
<th>Software</th>
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<tr>
<td>Image processing</td>
<td>Microvision SMART</td>
<td>Microvision VIO</td>
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<tr>
<td>Zero points</td>
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<td>Tool storage unit</td>
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<tr>
<td>Sigma function</td>
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<td>User management</td>
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<table>
<thead>
<tr>
<th>Data output</th>
<th>UNO smart</th>
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<tbody>
<tr>
<td>Label printing</td>
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<tr>
<td>USB</td>
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<tr>
<td>LAN/network</td>
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<tr>
<td>Post-processor</td>
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<tr>
<td>Bidirectional interface</td>
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<tr>
<td>Manual RFID system</td>
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<tr>
<td>Automatic RFID system</td>
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</tbody>
</table>

* Standard ● Optional — Not available

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

Technical data subject to change without prior notice
<table>
<thead>
<tr>
<th>UNO autofocus</th>
<th>UNO automatic drive</th>
<th>VIO basic</th>
<th>VIO linear toolshrunk</th>
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<tbody>
<tr>
<td>400</td>
<td>400</td>
<td>420 / 700 / 1000</td>
<td>420 / 700 / 1000</td>
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<td>500 / 700 / 1000</td>
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<td></td>
<td></td>
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<td>450 / 650</td>
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</table>

- autofocus
- automatic drive
- basic
- linear toolshrunk

**Measurement range**

- **Maximum tool diameter**: mm
  - UNO: 400
  - UNO: 400
  - UNO: 420 / 700 / 1000
  - UNO: 420 / 700 / 1000
  - UNO: 420

**Max. tool diameter for measuring using the snap gauge principle**: mm

- UNO: –
  - UNO: 100
  - UNO: 100
  - UNO: 100
  - UNO: 100
  - UNO: 100

**Maximum tool length on Z-axis**: mm

- UNO: 400 / 700
  - UNO: 400 / 700
  - UNO: 400 / 700
  - UNO: 400 / 700
  - UNO: 500 / 700 / 1000
  - UNO: 500 / 700 / 1000
  - UNO: 450 / 650

**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**

2) **Mechanical clamping**

3) **Vacuum clamping**

**Spindle brake**

**4 × 90° or 3 × 120° indexing**

**Accuracy**

- **Spindle runout**: µm
  - ± 3
  - ± 2
  - ± 2
  - ± 2
  - ± 2
  - ± 2
  - ± 2

- **Repeatability**: µm
  - ± 5
  - ± 2
  - ± 2
  - ± 2
  - ± 2
  - ± 2
  - ± 2

**Turning center measurement**

- Dial gauge with 4 × 90° indexing
- Camera with 4 × 90° indexing

**Miscellaneous**

- Incident light
- Edgefinder
- Magnet board
- 5.7" touch screen
- 21" TFT
- 24" touch screen
- Measure-by-touch
- Release-by-touch
- Individual release and clamping of X/Z-axis
- Joystick

**Software**

- Image processing
- Microvision SMART
- Microvision UNO
- Microvision UNO
- Microvision VIO
- Microvision VIO
- Microvision VIO

**Zero points**

- 99
- 1000
- 1000
- 1000
- 1000
- 1000
- 1000

**Tool storage unit**

- –
- 1000
- 1000
- 1000
- unlimited
- unlimited
- unlimited

**Sigma function**

**User management**

**Data output**

- Label printing

**USB**

**LAN/network**

**Post-processor**

**Bidirectional interface**

**Manual RFID system**

**Automatic RFID system**

Technical data subject to change without prior notice
Tooling Technology

Measuring Technology

Presetting Technology

Balancing Technology

Shrinking Technology

Tool Management Logistics