HAIMER®
以质取胜.

MICROSET

翰默刀具预调仪 (对刀仪)
Tool Presetters

100%
Made by HAIMER
Made in Germany

www.haimer.cn

目录
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备注：刀具预调仪=对刀仪；适配器=转换套=变径套；

翰默 – 为您的机床配套的系统供应商／
HAIMER – Your system provider
around the machine tool

HAIMER 翰默已经发展为数控机床全方位刀具管理系统供应商。HAIMER Microset 翰默的刀具预调技术完美的补充了我们原有的产品技术系列：刀具夹持技术、热缩机技术、动平衡机技术、刀具管理和物流技术、3D 测量技术和整体硬质合金刀具技术。最终，作为一个独立的供应商，我们能够为您的金属切削加工提供完美的系列产品。

HAIMER evolved to an entire system provider for tool management around the machine tool. HAIMER Microset tool presetting technology complements the existing HAIMER portfolio of an extensive tool holding program, shrinking and balancing technology, tool management logistics as well as 3D measuring devices and solid carbide cutting tools. As a result, we can offer you a perfectly matching product range from a single source.

刀具管理和物流技术
Tool Management Logistics

刀具和刀柄技术
Tooling Technology

测量技术
Measuring Technology

热缩机技术
Shrinking Technology

对刀技术
Presetting Technology

动平衡机技术
Balancing Technology

生产中的精度和效率
Precision and productivity in production

无论是刀具预调、热缩装拆刀具、动平衡、检查还是测量——我们为各种刀具和加工环境提供完美的解决方案。用我们的经验和丰富的产品为您提高产品质量和精度。

Whether it is presetting, shrinking, balancing or checking and measuring – we offer the perfect solutions for all tool sizes and machine environments. Improve the quality and precision of your workpieces with our know-how and wide range of products.

UNO系列产品–具有高科技特征的入门级刀具预调仪
UNO series – unique high-tech features in entry level tool presetters.

技术数据变更恕不通知
Technical data subject to change without prior notice

节约时间和金钱，提高工件质量
Save time and money, improve workpiece quality

HAIMER Microset 翰默提供的高效刀具预调设备协助。 您优化加工流程、提高刀具寿命、获得更好的工件表面质量和提高您生产中各种流程的工艺稳定性。

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

– 将减少您的停机时间
– 将减少您的刀具成本和废品率
– 提高您生产流程中的工艺稳定性
– 提高您的刀具寿命
– 获得稳定的产品质量

– Minimise the idle time of your machines
– Minimise rejects and tool costs
– Increase process reliability in your production
– Improve your tool life
– Generate consistent quality in your products

最多减少您的70%的调试时间！
Reduce up to 70 % of your setup time!

没有刀具预调仪时的调试时间-
总时间为 250 秒
Setup time without tool presetting –
total time of 250 seconds

70秒/seconds

输入修正值；测量孔径；
夹紧刀具
Enter correction value,
measure hole, clamp tool

180秒/seconds

镗孔至深度；测量孔径和孔深；计算修正值；
调整刀具
Sizing of the diameter and length of the bore,
measure the depth and diameter of the hole,
calculate correction, adjust tool

使用刀具预调仪时的调试时间–
总时间为 70 秒
Setup time with tool presetting –
total time of 70 seconds

70秒/seconds

输入修正值；测量孔径；
夹紧刀具
Enter correction value,
measure hole, clamp tool

省去下列工序/Setup time reduction
镗孔至深度；测量孔径和孔深；计算修正值；
调整刀具
Avoided: Sizing of the diameter and length of the
bore, measure the depth and diameter of the hole,
calculate correction, adjust tool

UNO-系列产品-具有独特的高科技特征的入门级 对刀仪/UNO series – unique high-tech features in entry level tool presetters


除了精度，速度和可靠性，UNO系列产品根据配置的不同，还有一些特征。全新的符合先进的人机工程学的设计为对刀仪设置了新的标准。该对刀仪使用了高品质的配件，例如：来自SMC, Bosch, Heidenhain, IDS的配件。

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. High quality components are used, e.g. from SMC, Bosch, Heidenhain, IDS.
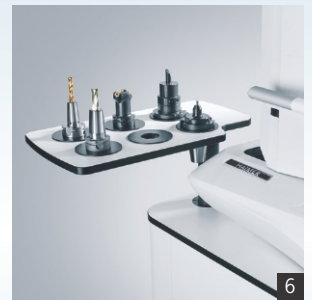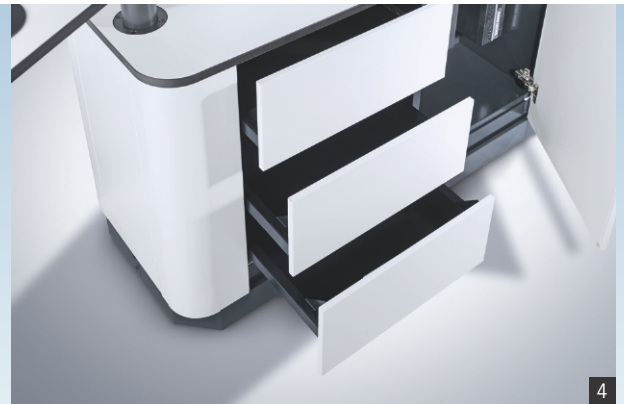
1: 用于设置车刀中心高的的摄像头系统/Camera system for setting the centre of rotation
2: 用于设置车刀中心高的的接触式测量系统/Tactile measurement of the centre of rotation
3: 触摸释放系统，无需按钮，易于操作/
Release-by-touch function, easy to operate without buttons
4: 实用的系统工作台带有3个抽屉，一扇门和内置油盘，还有3个维修孔（在各个外立面上）/ Useful system cabinet with 3 drawers, 1 door and internal oil tray. Plus 3 maintenance openings (on all sides)
5: 按键区和微米精度级的微调系统/Keypad and μm-precise adjustment
6: 可以旋转150°的适配器（转换套）托盘/150° swivelling adapter storage
7 + 8: 基于卡规原理的最大测量直径为 Ø 100 mm/Measuring based on the snap gauge principle for diameters up to 100 mm

UNO 自动聚焦和自动驱动-高效和精确
UNO autofocus & automatic drive – effi cient and precise
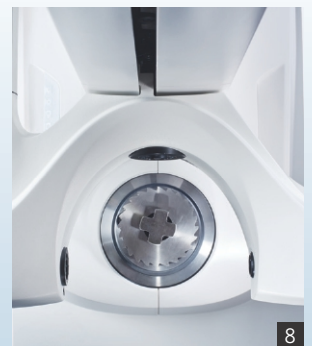
UNO自动聚焦和自动驱动系列产品为高级的测量提供决定性的优势。
选择您的对刀仪–满足您的需求。

The autofocus and automatic drive models of the UNO series provide decisive advantages for tool measurement at the highest level. Choose your presetter – to meet your requirements.

autofocus 自动聚焦

可以自动聚焦于刀刃。电机驱动的主轴，24英寸10点触摸屏和实用的系统工作台是标配。
For automatically focusing the cutting edge. Motor-driven spindles. With useful system cabinet and 24", 10 point touch screen as standard.

automatic drive 自动驱动

可以无人全自动的对刀和测量，CNC-3轴数控。24英寸触摸屏和实用的系统工作台是标配。
For fully automatic tool presetting and measurement independent of the operator (CNC-controlled, 3 axes). With useful system cabinet and 24" touch screen as standard.

VIO——功能全面和使用方便
VIO linear – maximum convenience and functionality

全自动的测量流程协助您在生产中优化工艺稳定性。整体配置的理念使该对刀仪易于融入各种生产流程，包括您现有的。

稳定及精确
VIO系列产品的FEM热优化的稳定的铸铁结构确保精确的测量结果和设备的耐用性。除此之外，高动态和无磨损的直线驱动确保了长期的精度和品质。平行的驱动和导向系统确保了力的传导和±2 μm的重复测量精度。

亮点
– 由于刚性很好，即使在最大的允许负荷下，变形量仍然很小
– FEM热优化的稳定的铸铁结构
– 最大的刀具重量为160公斤
– 独特的线性驱动确保快速，安静和高精度的接近刀刃

Optimise process reliability in your production with fully automatic measurement processes. The holistic device concept allows for integration in all production processes, including existing ones.

Maximum stability and precision
The FEM-optimised, thermally stable cast iron construction of the VIO linear series ensures accurate measuring results and equipment longevity. In addition, highly dynamic, wear-free linear drives ensure accurate long-term quality. The parallel drive and guidance system ensures optimal distribution of forces and guarantees measurement repeatability of ±2 μm.

Highlights
– Low distortion even under the maximum permissible load thanks to its high rigidity
– FEM-optimised and thermally stable cast iron construction
– Maximum tool weight 160 kg
– Fast, silent and high accurate cutting edge approach by unique linear drive

linear **▌▌DRIVE**

行业的标杆体现在：
– **全自动**的测量循环带来简便的操作
– **高品质的零件**来自Heidenhain, Bosch Rexroth
– **免维护的线性驱动**实现**快速**和高精度的定位
– 用户友好型**操作控制板**非常灵活
– **强大的软件**Microvision VIO软件
– 触摸释放功能
– 触摸测量功能（选配）

Worldwide leaders through:
– Fully automatic measuring cycles for maximum operating convenience
– High quality components Heidenhain, Bosch Rexroth
– Maintenance free linear drives for higher speed, low noise and highly accurate positioning
– Operating panel flexible and user-friendly
– High power software Microvision VIO
– Release-by-touch
– Measure-by-touch (optional)
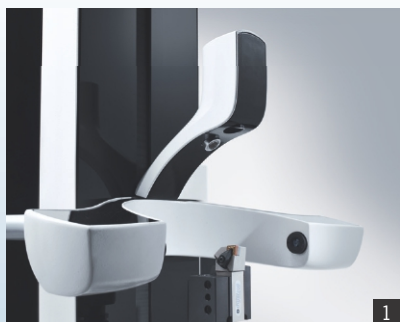
1: 第二摄像头用于测量车刀的中心高度(选配)/Second camera for measuring the centre of rotation (optional)
2 + 3: 先进的线性电机技术协助全自动的驱动各轴/Fully automatic axis drive through modern linear technology

技术数据变更恕不通知
Technical data subject to change without prior notice

数据交换和传输至机床
Data exchange and data transfer to the machine tool

后处理器/网络/USB优盘
经过后处理的数据通过网络、优盘或者RS232接口传输至相关的数据交换盘

双向接口
通过双向接口，翰默对刀仪可以将刀具数据提供给各种软件（刀具管理软件；数据库；CAD/CAM），不管它是标准方案还是定制方案。（UNO SMART系列对刀仪无法提供）

后处理器和双向接口
HAIMER翰默对刀仪*兼容各个机床商生产的机床。测量数据可以被快速的传输至机床。（UNO SMART系列对刀仪无法提供）

*对刀仪可以通过优盘、网络或者RS232接口将测量数据快速地传输至Siemens, Heidenhain, FANUC, MAPPS或者其他的数控机床的控制系统。

Post-processor / Ethernet / USB
Post-processed data is transferred to the relevant data exchange drive either via USB, Ethernet LAN or RS232 Interface.

Bidirectional interface
All equipment can provide tool data to almost any software (tool management, databases, CAD / CAM) via a bidirectional interface – irrespective of whether it is a standard solution or a customised 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 directly to the machine tool. Control systems from Siemens,Heidenhain, FANUC, MAPPS and many others can be connected by USB data storage, Ethernet LAN or RS232

RFID – 数据传输系统
RFID – data carrier system

– 客户特定数据的存储
– 测量过程中的综合数据检索和存储
– 各种流行的 RFID 系统的整合
– 针对各种流行的刀柄系统，读写头能够自动或者手动定位

– 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
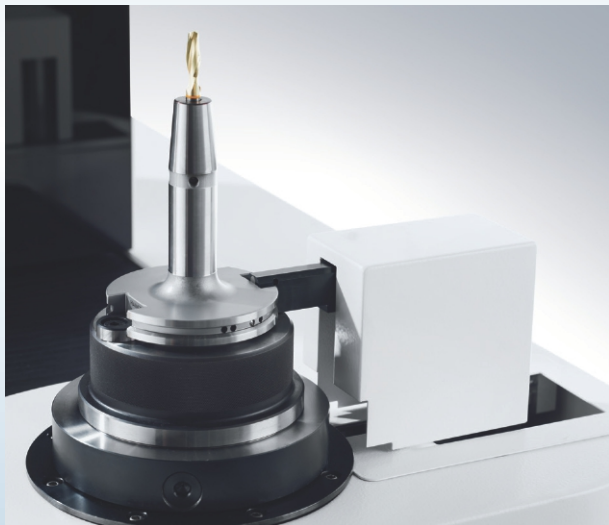
读写头的自动定位
Automatic positioning of the read / write head

读写头的手动定位
Manual positioning of the read / write head

UNO smart
智能入门级刀具预调仪
Smart entry into tool presetting

刀具预调设备 – 手动版
TOOL PRESETTERS – MANUAL

UNO smart智能型对刀仪是我们的入门级设备，它占用空间更少并且更易于操作，同时保留高精度。此设备适用于生产过程中的测量工作，其拥有无与伦比的性价比优势。

The UNO smart is our entry-level machine featuring a small footprint, user-friendly operation and high precision. It is ideal for measurement during production and has an unbeatable price-performance ratio.

标准配置/Standard Equipment

– 图像处理系统 Microvision SMART

– 手动 SK50 高精密主轴

– 稳固耐用的铸铁结构

– 热优化的混合材料，更
  高的重复测量精度

– 手动操作

– 提供节能模式

– 7.5 英寸多触点触摸屏

– 可存储 99 个零点的内存

– 重复测量精度 ± 5 μm

– Microvision SMART image processing system

– SK50 high-precision spindle, manual

– Robust, long-life cast iron construction

– Thermally optimised material combination
  for improved repeatability

– Manual operation

– Energy-saving mode

– 7,5" multi-touch display

– Memory for 99 zero points

– ± 5 μm repeatability

测量范围/Measurement range

UNO smart

– X 轴方向可测量的最大刀具直径/ Maximum tool diameter on X-axis	400 mm
– Z 轴方向可测量的最大刀具长度/ Maximum tool length on Z-axis	400 / 700 mm
– 最大刀具重量/Max. tool weight	20 kg
– 重量/Weight	95 kg (20|40), 105 kg (20|70)

选项/Options

– 技术包：检测光，触摸释放/
  Technology package: Tool inspection light, edgefinder, release-by-touch

– "smart pro"-包：检测光，快速寻边器，触摸释放功能，标准工作台配备
  3 个可装载刀具或适配器的插孔/"smart pro" package: tool inspection
  light, edgefinder, release-by-touch, base cabinet incl. adapter tray for 3 tools
  or adapters

– 4×90°分度功能和主轴制动/Indexing 4 × 90° and spindle brake

– 车刀包：配置百分表并带气动分度功能/Turning package: dial gauge
  inclusive pneumatic indexation

– 手动微调/Manual fine adjustment

– 标签打印机/Label printer

– 校准调试包/Alignment and calibration-set

– Sigma 功能/Sigma function

Abbildung zeigt UNO Smart mit "Smart-Pro Paket" (optional)
图片显示的是包含"Smart-Pro"选项包的UNO Smart对刀仪

UNO premium

作为您机床补助的高品质产品/The bestseller with high-quality components complementing your machine tool

刀具预调仪 – 手动
TOOL PRESETTERS – MANUAL

UNO Premium -几乎所有用户的正确解决方案。
高标准的手动刀具预调仪。

UNO Premium – The right solution for almost every user – the highest standard of manual tool presetting.
Perfect measuring results and direct data transfer.

标准配置/Standard Equipment

– 图像处理系统 Microvision UNO	– Microvision UNO image processing system
– 手动SK50超高精密主轴	– SK50 ultra-high precision spindle, manual
– 稳固耐用的铸铁结构	– Robust, long-life cast iron construction
– 热优化的混合材料，更高的 重复测量精度	– Thermally optimised material combination for improved repeatability
– 手动控制	– Manual operation
– 22英寸薄膜显示屏	– 22" TFT screen
– Sigma功能	– Sigma function
– 可存储1000个零点和刀具的内存	– Memory for 1.000 zero points and tools
– USB/网线数据输出	– USB / LAN data output
– 重复测量精度 ± 2 μm	– ± 2 μm repeatability

测量范围/Measurement range
UNO premium

– X 轴方向可测量的最大刀具直径/ Maximum tool diameter on X-axis	400 mm
– X 轴方向可使用卡规原理测量的最大刀具直径/ Maximum snap gauge tool diameter on X-axis	100 mm
– Z 轴方向可以测量的最大刀具长度/ Maximum tool length on Z-axis	400 / 700 mm
– 最大刀具重量/Max. tool weight	30 kg
– 重量/Weight	140 kg (20 | 40), 155 kg (20 | 70)

选项/Options

– ISS-U 手动通用型超高精度主轴/ISS-U universal ultra-highprecision spindle, manual

– 技术包：检测光，快速寻边器，触摸释放功能/Technology package: Incident light, Edgefinder, release-by-touch

– 高级专业包：检测光，快速寻边器，触摸释放功能，带六个用于放置 刀具或者适配器的插孔的标准工作台/premium-pro package Tool inspection light, edgefinder, release-by-touch, system cabinet premium incl. adapter tray for 6 tools and adapters

– 车床包：4 × 90° 和 3 × 120° 分度功能，第二摄像机/ Turning package: 4 × 90° and 3 × 120° indexing, second camera

– 手动微调/Manual fine adjustment

– 标签打印机/Label printer

– 使用者管理/User management

– 手动RFID系统（仅限于和高级专业包一起订购）/ Manual RFID system (only combined with premium pro-package)

– 双向接口/Bi-directional interface

– 后处理软件/Post processor

图片显示的是带高级专业包选项的 *UNO Premium* 对刀仪
Picture shows UNO Premium with Premium-Pro package (optional)

UNO autofocus
适用于多刃刀具测量
Ideal for multi-edge tools

刀具预调仪–半自动
TOOL PRESETTERS – SEMI AUTOMATIC

UNO autofocus - 高档次的测量仪器。利用半自动主轴进行同一平面的多刀刃测量

UNO autofocus – The right presetter for demanding measurements. Take advantage of semi-automatic spindle operation at multiple tool measuring on one plane.

标准设备/Standard Equipment

– 图像处理系统Microvision UNO	– Microvision UNO image processing system
– SK50超高精密主轴，自动聚焦	– SK50 ultra-high precision spindle, autofocus
– 稳固耐用的铸铁结构	– Robust, long-life cast iron construction
– 热优化的混合材料导致更好的重复测量精度	– Thermally optimised material combination for improved repeatability
– 电机驱动C轴微调	– Motorised fine adjustment of the C-axis
– 24"触摸显示屏	– 24" touch screen
– 电机分度4 × 90 °和3 × 120 °	– 4 × 90° and 3 × 120° motor-driven indexing
– 真空吸紧	– Vacuum clamping
– 气动主轴制动功能	– Pneumatic spindle brake
– 高级工作台带6个适配器孔	– Premium base cabinet including storage for six adapters
– Sigma功能	– Sigma function
– 1000个零点，刀具和刀具清单的内存	– Memory for 1.000 zero points, tools and tool lists
– 通过优盘或者网络USB / LAN 输出数据	– USB / LAN data output
– 触摸释放功能	– Release-by-touch
– 快速寻边器	– Edgefinder
– 检测光	– Incident light
– 主轴跳动精度2 µm	– 2 µm spindle runout
– 重复测量精度± 2 µm	– ± 2 µm repeatability
– 标签打印机	– Label printer
– Windows 10	– Windows 10

测量范围/Measurement range

UNO autofocus

– X 轴方向可测量的最大刀具直径/ Maximum tool diameter on X-axis	400 mm
– X 轴方向可使用卡规原理测量的最大刀具直径/ Maximum snap gauge tool diameter on X-axis	100 mm
– Z 轴方向可以测量的最大刀具长度/ Maximum tool length on Z-axis	400 / 700 mm
– 最大刀具重量/Max. tool weight	30 kg
– 重量/Weight	240 kg (20｜40), 255 kg (20｜70)

选配/Options

– 带自动识别适配器功能的ISS超高精度主轴/
ISS-U universal ultra-high precision spindle with automatic adapter identification
– 手动微调/Manual fine adjustment
– 车床包：电机驱动的 4 × 90° 和 3 × 120° 分度功能，第二摄像机/
Turning package: Second camera incl. indexing, 4 x 90 °, and 3 x 120° motor driven
– 手动RFID系统/Manual RFID system
– 双向接口/Bi-directional interface
– 后处理软件/Post processor

自动聚焦切削刃
Automatic cutting edge focusing

技术数据变更恕不通知
Technical data subject to change without prior notice

UNO automatic drive
非常方便的全自动化测量/
Fully automatic measuring for unrivalled convenience

刀具预调仪 – 全自动
TOOL PRESETTERS – FULLY AUTOMATIC

结合其全自动测量操作，UNO系列的最高版本——UNO automatic drive可进行无人测量，并对操作人员无专业技术要求。这保证了高质量及节省操作时间，并且适用于多平面的复合刀具测量。

With it´s fully automated measurement operation, UNO automatic drive, the high-end model of the UNO series is fully independent of the operator and can be used with minimal user expertise. This guarantees maximum quality and time saving, even with complex tools on several planes.

标准配置/Standard Equipment

– 图像处理系统Microvision UNO	– Microvision UNO image processing system
– 在3轴上自动测量刀具	– Automatic tool measurement in 3 axes
– SK50超高精密主轴，自动聚焦	– SK50 ultra-high precision spindle, autofocus
– 电机驱动各轴的微调	– Motorised fine adjustment of all axes
– 24"触摸显示屏	– 24" touch screen
– 电机分度4 × 90° 和 3 × 120°	– 4 × 90° and 3 × 120° motor-driven indexing
– 气动的主轴制动功能	– Pneumatic Spindle brake
– 真空吸紧	– Vacuum clamping
– 高级工作台带6个适配器孔	– Premium base cabinet including storage for 6 adapters
– Sigma功能	– Sigma function
– 1000个零点，刀具和刀具清单的内存	– Memory for 1.000 zero points, tools and tool lists
– USB／LAN输出口	– USB / LAN data output
– 触摸释放功能	– Release-by-touch
– 快速寻边器	– Edgefinder
– 标签打印机	– Label printer
– 检测光	– Incident light
– 主轴跳动精度2 μm	– 2 μm spindle runout
– 重复测量精度± 2 μm	– ± 2 μm repeatability

测量范围/Measurement range
UNO automatic drive

– X 轴方向可测量的最大刀具直径/ Maximum tool diameter on X-axis	400 mm
– X 轴方向可使用卡规原理测量的最大刀具直径/ Maximum snap gauge tool diameter on X-axis	100 mm
– Z 轴方向可测量刀具最大高度/ Maximum tool length on Z-axis	400 / 700 mm
– 最大刀具重量/Max. tool weight	30 kg
– 重量/Weight	240 kg (20|40), 255 kg (20|70)

选项/Options

– ISS超高精密主轴带自动适配器识别功能/ ISS-U universal ultra-high precision spindle with automatic adapter identification
– 车床包：包含第二摄像机、电机驱动的4 × 90°和3 × 120°分度 Turning package: Second camera incl. indexing, 4 x 90 °, and 3 x 120° motor driven
– 手动RFID系统/Manual RFID system
– 双向接口/Bi-directional interface
– X/Y轴的分别单独释放/individual release of X/Y-axis
– 后处理软件/Post processor

全自动独立刀具预调及测量
Fully automatic tool presetting and measurement independent of the operator

VIO basic
适用于大型的重刀具
Suitable for large and heavy tools

刀具预调仪 – 半自动
TOOL PRESETTERS – SEMI AUTOMATIC

VIO basic 选配半自动（自动聚焦）或者手动操作，是新式的刀具预调仪，拥有非常多的产品特点及标准配置。

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 wide standard equipment.

标准配置/Standard Equipment

– 图像处理系统Microvision VIO	– Microvision VIO image processing system
– SK50超高精密主轴，手动	– SK50 ultra-high precision spindle, manual
– 稳固耐用的铸铁结构	– Robust, long-life cast iron construction
– 热优化的混合材料导致更好的重复测量精度	– Thermally optimised material combination for improved repeatability
– 手动调节	– Manual fine adjustment
– 23"多点触摸显示屏	– 23" multi-touch screen
– 气动的主轴制动功能	– Pneumatic spindle brake
– 高级工作台最多可以储存九个适配器	– Premium base cabinet incl. storage for up to 9 adapters
– 真空吸紧	– Vacuum clamping
– 1000个零点的内存	– Memory for 1.000 zero points
– Sigma功能	– Sigma function
– 无刀具存储数量限制	– Unlimited tool memory
– 使用者权限管理	– User management
– 可选择操作面板	– Swivelling operating panel
– 快速寻边器	– Edgefinder
– 检测光	– Incident light
– 主轴跳动精度2 μm	– 2 μm spindle runout
– 重复测量精度± 2 μm	– ±2 μm repeatability

测量范围/Measurement range
VIO basic

– X 轴方向可测量的最大刀具直径/ Maximum tool diameter on X-axis	420 / 700 / 1000 mm
– X 轴方向可使用卡规原理测量的最大刀具直径/ Maximum snap gauge tool diameter on X-axis	100 mm
– Z 轴方向可以测量的最大刀具长度/ Maximum tool length on Z-axis	500 / 700 / 1000 mm
– 最大刀具重量/Max. tool weight	160 kg
– 重量/Weight	400 kg – 550 kg

选配/Options
– 带自动识别适配器功能的超高精度ISS-U通用型主轴，带机械式夹紧功能，带主轴的气动制动功能，带电机驱动的 4 × 90° 或 3 × 120°分度/
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
– 气动4 × 90 °和3 × 120 °分度/Pneumatic indexing: 4 × 90 ° and 3 × 120 °
– 车床包：包含第二摄像机、电机驱动4 x 90°和3 x 120°分度
Turning package: Second camera incl. indexing, 4 x 90° and 3 x 120°
– 手动和自动RFID系统/Manual + automatic RFID system
– 双向接口/Bi-directional interface
– 27" 多点触摸显示屏/27" multi-touch screen
– 标签打印机/Label printer
– 后处理软件/Post processor

VIO *linear*

快速测量的完美解决方案，亦适用于高级别复合刀具/Perfect for rapid measurements, even on highly complex tools

刀具预调仪 – 全自动
TOOL PRESETTERS – FULLY AUTOMATIC

VIO Linear - 高端全自动刀具预调仪的优先选择，可根据客户需求配置。独有的模块化设计使刀具可测量范围达到直径1000mm和长度1000mm。

VIO linear – The complete solution: for fully automatic high-end tool presetting with customisable options.
The modular concept makes it possible to preset tools up to 1,000 mm in length and diameter.

标准配置/Standard Equipment

– 通过直线电机驱动保持高精度和快速轴向定位	– High precision and fast axis-positioning through linear motion
– 图像处理系统 Microvision VIO	– Microvision VIO image processing system
– SK50 超高精密主轴，自动聚焦	– SK50 ultra-high precision spindle, autofocus
– 4 × 90° 和 3 x 120°的电子分度	– 4 × 90° and 3 x 120° electronic indexing
– 气动的主轴制动	– Pneumatic Spindle brake
– 稳固耐用的铸铁结构	– Robust, long-life cast iron construction
– 热优化的混合材料，更高的重复测量精度	– Thermally optimised material combination for improved repeatability
– 电机驱动微调各轴	– Motorised fine adjustment of all axes
– 24 英寸多点触摸显示屏	– 24" multi-touch screen
– 高级工作台最多可以储存九个适配器	– Premium base cabinet incl. storage for up to 9 adapters
– Sigma 功能	– Sigma function
– 1000 个零点的内存	– Memory for 1.000 zero points
– 无限制的刀具存储数量	– Unlimited tool memory
– 使用者管理	– User management
– 可旋转操作面板	– Swivelling operating panel
– 快速寻边器	– Edgefinder
– 检测光	– Incident light
– 主轴跳动精度 2 μm	– 2 μm spindle runout
– 重复测量精度 ± 2 μm	– ± 2 μm repeatability

测量范围/Measurement range

VIO linear

– X 轴方向可测量的最大刀具直径/ Maximum tool diameter on X-axis	420 / 700 / 1000 mm
– X 轴方向可使用卡规原理测量的最大刀具直径/ Maximum snap gauge tool diameter on X-axis	100 mm
– Z 轴方向可以测量的最大刀具长度/ Maximum tool length on Z-axis	500 / 700 / 1000 mm
– 最大刀具重量/Max. tool weight	160 kg
– 重量/Weight	400 kg – 550 kg

选项/Options

– 带自动识别适配器功能的超高精度ISS-U通用型主轴，带机械式夹紧功能，带主轴的气动制动功能，带电机 驱动的 4 × 90° 或 3 × 120°分度/
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
– 第二摄像机用于测量车刀的中心高/Second camera for rotation centre measuring
– 双向接口/Bi-directional interface
– 手动+自动RFID系统 /Manual + automatic RFID system
– 标签打印机/Label printer
– 27" 多触点触摸屏/27" multi-touch screen
– 后处理 软件/Post processor
– Vio 比对/扫描/Vio Fit/Scan
– 角度头系统，可转的摄像头支架，用于测量各种螺 旋角度的齿轮刀具的Y轴移动功能/Angular head system, swiveling camera carrier, Y-axis offset for measuring multiple slewing gear witness

技术数据变更恕不通知
Technical data subject to change without prior notice

VIO linear toolshrink

结合刀具热缩和刀具预调功能的仪器
Shrinking and presetting combined

刀具预调 – 附件
TOOL PRESETTING – ACCESSORIES

满足各种要求的适配器（转换套）和主轴
Adapters and spindles for all requirements

对精密的刀具预调工作而言，高品质和高精度的适配器和主轴是成功的重要的因素。

特别是超高精度的通用型 ISS-U 主轴，在不使用适配器时可以实现高精度的直接夹持，获得很大的夹持力和 < 0.002mm 的跳动精度。

我们为您提供丰富的选择，让您能快速和轻松地达到目的。我们非常高兴为您的个性化应用和需求提供咨询服务。

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

Especially the ISS-U universal ultra-high precision spindle enables high precision direct clamping without adapters at highest clamping force and runout accurancy < 0,002 mm.

We have an extraordinary wide range in order that you can generate the results you want quickly and easily. We will gladly provide consultation regarding your individual requirements and applications.

适配器（转换套）举例/Examples of Adapters

我们为您提供满足每一种应用需求的解决方案，范围包括从标准刀柄到客户定制的刀柄。您将获益于我们在非标刀具设计领域中长期积累的经验。

We offer solutions for every situation, from a standard tool holder to customer-specific special tool holders. You benefit from our many years of experience of tool design.

SK50 超精密适配器/SK50 Ultra precision adapter
1: 带夹紧机构的HSK 63适配器/HSK 63 adapter with integrated clamping
2: 带夹紧机构的VDI 40适配器/VDI 40 adapter with manual clamping
3: 带夹紧机构的PSC适配器/PSC adapter with integrated manual clamping system

主轴举例/Examples of spindles

我们提供：通用夹具系统，它能高精度且可靠地夹持刀具，适用于任何刀柄的几何特性。也包括市场上各种常见刀柄系统的附加刀座。

Our offer: Universal clamping system, which clamps the tools precisely and reliably independent of the tool holders geometry. Also attachment holder for all common tool holder systems on the market.

通用夹具系统/Universal clamping system
1: 超高精度的通用型ISS-U主轴/ISS-U universal ultra-high precision spindle
2: 附加刀座（SK，HSK，PSC，VDI）/Attachment holder (SK, HSK, PSC, VDI)
3: 整个系统/Complete system

Microvision简单直观
Microvision – easy and intuitive

Microvision 软件能让使用者在工作准备阶段尽可能地节省时间

它通过快速，精确及独立的测量和设置刀具，保证客户节省操作时间。先进的图像处理系统保证刀具测量的快效及精准，亦保证您生产过程中产品达到很高的质量。可以在很短的时间内使用新型的测量方法测量复杂的刀具。

Microvision software enables users to generate quickly time savings potential during the job setup and preparation.

It does so by measuring and setting tools, quickly, precisely and independently. 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 the shortest period of time with the latest measuring techniques.

亮点

– 通过直观操作快速及精准地得出测量结果
– 通过准确聚焦窗口得出复合和螺旋切刃精确的测量数值
– 使用者管理及权限
– 显示格式16:9
– 自动十字交叉线可固定/移动进行自动轮廓投影测量
– 针对各种等级设备的同类型软件设计
– 基于Windows视窗系统
– 测量宏指令有助于快速的创建自动测量的次序
– 模板系统有助于快速和简便的创建类似刀具的测量循环
– 可以创建客户自定义的测量循环

Highlights

– Quick and precise measurement results thanks to intuitive operation
– Accurate measurement values for 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 design for the software of all equipment classes
– Windows based
– Measuring macros for fast creation of automatic measuring sequences
– Template-System, for fast and easy creation of measuring cycles with similar tools
– Creation of customized master measuring cycles possible

刀具预调
TOOL PRESETTING
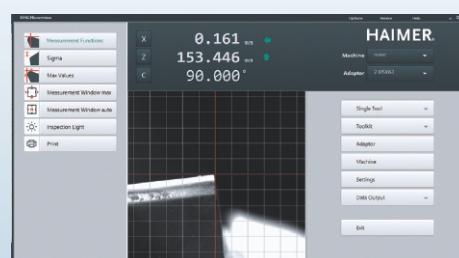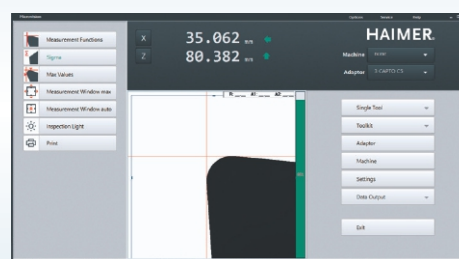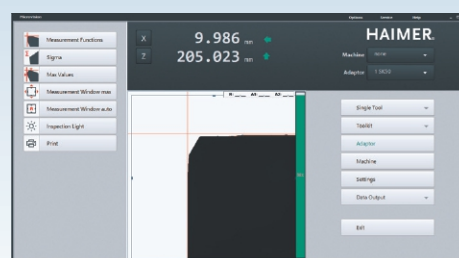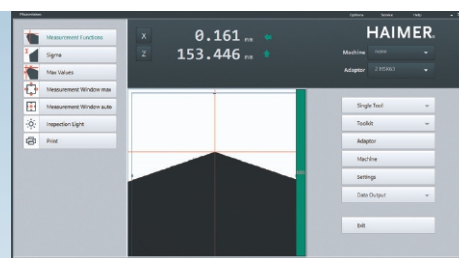
技术参数
Technical data

		UNO smart	UNO premium
测量范围/Measurement range			
最大可测的刀具直径/Maximum tool diameter	mm	400	400
依据卡规测量原理可以检测的最大刀具直径/Max. tool diameter for measuring using the snap gauge principle	mm	–	100
Z 轴方向的最大刀具长度/Maximum tool length on Z-axis	mm	400 / 700	400 / 700
操作/Operation			
手动/Manual		●	●
自动对焦/Autofocus		–	–
全自动/Fully automatic		–	–
热缩型/Shrinking		–	–
系统柜/Base cabinet			
标准的系统柜，包含可以存放 3 个适配器的搁架/Standard base cabinet smart including storage for three adapters		○	–
高级的系统柜，包含可以存放 6 个适配器的搁架/Premium system base cabinet including storage for six adapters		–	○
主轴/Spindle			
SK50 手动高精度主轴/SK50 high-precision spindle, manual		●	–
SK50 手动超高精度主轴/SK50 ultra-high precision spindle, manual		–	●
SK50 自动聚焦的超高精度主轴/SK50 ultra-high precision spindle, autofocus		–	–
ISS-U 手动通用型超高精度主轴/ISS-U universal ultra-high precision spindle, manual		–	○
ISS-U 自动聚焦的通用型超高精度主轴/ISS-U universal ultra-high precision spindle, autofocus		–	–
自动识别适配器/Automatic adapter recognition		–	–
机械式夹紧/Mechanical clamping		–	○
真空夹紧/Vacuum clamping		–	●
主轴制动/Spindle brake		○	●
4 × 90 °和 3 × 120 °分度/4 × 90° and 3 × 120° indexing		○	○
精度/Accuracy			
主轴径向跳动/Spindle runout	μm	3	2
重复精度/Repeatability	μm	± 5	± 2
车削中心的测量项目/Turning centre measurement			
4 × 90 ° 分度和百分表/Dial gauge incl. 4 × 90° indexing		○	–
带 4X90° 分度功能的摄像头/Camera incl. 4 × 90° indexing		–	○
其他功能/Miscellaneous			
检测光/Incident light		○	○
寻边器/Edgefinder		○	○
磁力板/Magnet board		–	○
7.5" 触摸屏/7.5" touch screen		●	–
22" TFT/22" TFT		–	●
24" 触摸屏/24" touch screen		–	○
27" 触摸屏/27" touch screen		–	–
触摸测量/Measure-by-touch		–	–
触摸释放/Release-by-touch		○	○
X/Z 轴可以单独的释放和锁紧/Individual release and clamping of X/Z-axis		–	○
操纵杆/Joystick		–	–
软件/Software			
图像处理/Image processing		Microvision SMART	Microvision UNO
零点/Zero points		99	1000
刀具存储单元/Tool storage unit		–	1000
Sigma 功能/Sigma function		○	●
用户管理/User management		–	○
数据输出/Data output			
标签打印/Label printing		○	○
USB/USB		–	●
LAN/网络/LAN/network		–	●
后处理器/Post-processor		–	○
双向接口/Bidirectional interface		–	○
RFID 手动系统/Manual RFID system		–	○
RFID 自动系统/Automatic RFID system		–	–

●标准/Standard　　○选配/Optional　　–不能提供/Not available

技术数据变更恕不通知
Technical data subject to change without prior notice

UNO autofocus	UNO automatic drive	VIO	VIO linear	VIO linear toolshrink	
					测量范围
400	400	420 / 700 / 1000	420 / 700 / 1000	420 / 700 / 1000	最大可测的刀具直径
100	100	100	100	100	依据卡规测量原理可以检测的最大刀具直径
400 / 700	400 / 700	500 / 700 / 1000	500 / 700 / 1000	500 / 700 / 1000	Z 轴方向的最大刀具长度
					操作
●	●	●	●	●	手动
●	●	○	●	●	自动对焦
–	●	–	●	●	全自动
–	–	–	–	●	热缩型
					系统柜
–	–	●	●	●	标准的系统柜，包含可以存放 3 个适配器的搁架
●	●	–	–	–	高级的系统柜，包含可以存放 6 个适配器的搁架
					主轴
–	–	–	–	–	SK50 手动高精度主轴
–	–	●	–	–	SK50 手动超高精度主轴
●	●	○	●	–	SK50 自动聚焦的超高精度主轴
–	–	○	–	–	ISS-U 手动通用型超高精度主轴
○	○	○	○	●	ISS-U 自动聚焦的通用型超高精度主轴
○	○	○	○	○	自动识别适配器
○	○	○	○	●	机械式夹紧
●	●	●	●	–	真空夹紧
●	●	●	●	●	主轴制动
○	○	○	●	●	4 × 90 °和 3 × 120 °分度
					精度
2	2	2	2	2	主轴径向跳动
± 2	± 2	± 2	± 2	± 2	重复精度
					车削中心的测量项目
–	–	–	–	–	4 × 90 ° 分度和百分表
○	○	○	○	○	带 4X90° 分度功能的摄像头
					其他功能
●	●	●	●	●	检测光
●	●	●	●	●	寻边器
●	●	–	–	–	磁力板
–	–	–	–	–	7.5" 触摸屏
–	–	–	–	–	22" TFT
●	●	●	●	●	24" 触摸屏
–	–	○	○	○	27" 触摸屏
–	–	–	○	○	触摸测量
●	●	●	●	●	触摸释放
○	○	●	●	●	X/Z 轴可以单独的释放和锁紧
–	–	–	●	●	操纵杆
					软件
Microvision UNO	Microvision UNO	Microvision VIO	Microvision VIO	Microvision VIO	图像处理
1000	1000	1000	1000	1000	零点
1000	1000	无限	无限	无限	刀具存储单元
●	●	●	●	●	Sigma 功能
●	●	●	●	●	用户管理
					数据输出
●	●	○	○	○	标签打印
●	●	●	●	●	USB
●	●	●	●	●	LAN
○	○	○	○	○	后处理器
○	○	○	○	○	双向接口
○	○	○	○	○	RFID 手动系统
–	–	○	○	○	RFID 自动系统

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以质取胜.

刀具管理和物流技术
Tool Management Logistics

刀具和刀柄技术
Tooling Technology

测量技术
Measuring Technology

热缩机技术
Shrinking Technology

对刀技术
Presetting Technology

动平衡机技术
Balancing Technology

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