

Presetting
Shrinking
Balancing
Testing
Accessories
Service

Maximum precision & productivity for your production

Tool presetting



Shrinking & balancing equipment

Test and measurement equipment

Servic

Floor plans / technical data



Competence

Precision and productivity in production.

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



Product overview

The right solution for every requirement.

Tailor-made solutions for highest productivity. We offer you allround support, from machine supply to service, including financing, courses and training.



1a: UNO



1b: VIO, VIO linear



1c: VIO linear toolshrink



2: Adapters and spindles



3: Power Clamp



4: VIO tool dynamic



5: Equator 300

Presetting

Universal solutions:

UNO (1a)

Premium solutions:

VIO, VIO linear (1b)

Combined solutions:

VIO linear toolshrink (1c)

Accessories

Adapters and spindles (2)

Shrinking

Power Clamp (3)

Balancing

VIO tool dynamic (4)

Testing

Equator 300 (5)

Software

Microvision (6)

Service

Maintenance, support, 24/7 Service Hotline and training (7)





Floor plans / technical data

External tool presetting

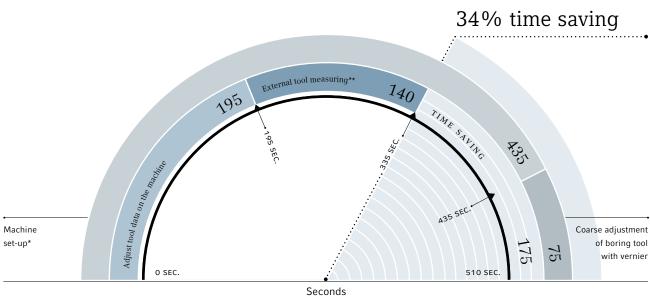
External presetting equipment – save cost and time.

Efficient tool presetting and measuring equipment ensures highest productivity and economy. Improved quality in the supply of pre-set tools and safe and early detection of damaged tools reduces the number of reject parts and significantly increases the quality of components. Off-line set-up allows significant time saving:

- + Set-up times are optimised
- + Machine downtime is reduced significantly
- + Tool life-span is increased

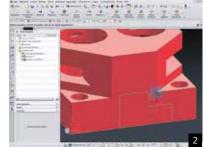
Time saving

Set-up of boring tool with tool presetting equipment from DMG MORI Set-up of boring tool without tool presetting equipment



- * Define tools // mark length and diameter // enter diameter correction in the control system
- ** Measure length and diameter on set-up equipment // define control-specific tool parameters // transfer tool data to the machine





Post processor / Ethernet

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

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.

Tool management

Modern data structures (XML and others) allow smooth transfer of your CAD / CAM data.



Data transfer to the machine – for absolute process safety.

We offer you data transfer to the machine for each of your tool presetters. Besides machines with Siemens, Heidenhain or MAPPS control systems, many other control systems can be connected via post processor.

→ UNO

Shrinking & balancing equipment

Test and measurement equipment

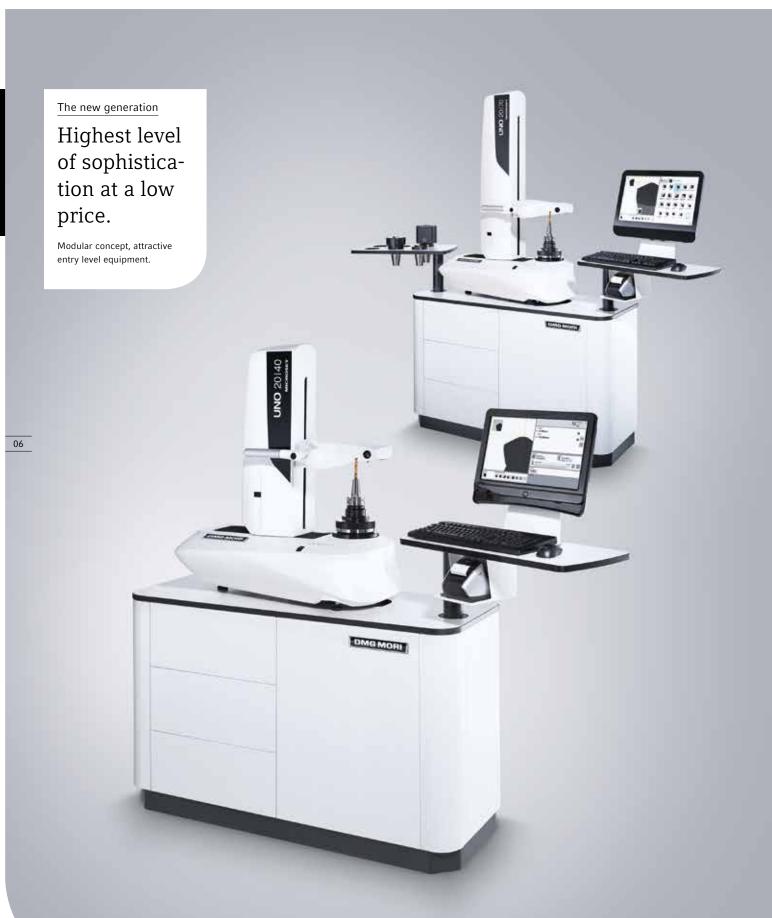
Service

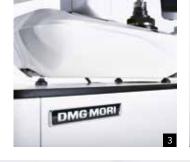
Floor plans / technical data

1: Releasing the axes by means of release-by-touch operation 2: Snap gauge principle up to diameters of 100 mm (traverse up to X –50 mm)















3: Stable positioning through 3-point support 4: Integrated fine adjustment 5: 47 cm (18.5") screen as standard, optional 61 cm (24") touch screen 6: Second camera

NEW // UNO – entry level with professional features.

Tool presetting at a high level at an attractive price. The UNO works exceptionally accurately and offers perfect results for tool dimensions with a diameter of up to 400 mm and measuring lengths of up to 400 mm (optional: 700 mm). This is ensured by a thermo-stable construction, high quality measuring systems and a high-performance software.



Highlights

- + New design, improved ergonomics
- + FEM-optimised and thermo-stable gray cast iron construction
- + Individual design through modular concept
- + Pre-setting of micro-adjustable reamers up to diameters of 100 mm (traverse up to X –50 mm)
- + 47 cm (18.5") screen with 16:9 format with 45-fold magnification
- + Incident light for visual cutting edge inspection

Options

- + 61 cm (24") touch screen with 50-fold magnification
- + Pneumatic indexing and spindle brake
- + Second camera for set-up of turning tools
- + Release-by-touch operation
- + Convenient base cabinet
- + Adapter / tool shelf
- + High quality adapter
- + Thermal label printer
- + Manual RFID chip system
- + Post processors for all common control systems

- Microvision UNO
- UNO equipment

Shrinking & balancing equipment

Test and measurement equipment

Service

Floor plans / technical data

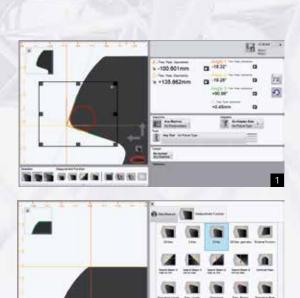
Tool presetting / software

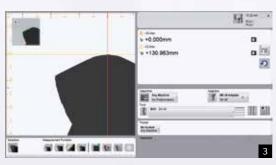
Microvision UNO

The new generation of Microvision software offers users more convenience and precise measuring results. Set-up and measurement is fast, independent of the operator and intuitive. Measuring results are highly accurate, even for the most complex tools.

Highlights

- + Fast measuring results thanks to intuitive operation
- + Focusing window: highly accurate measuring values even for the most complex and spiral tools
- + MicroDock: up to 5 favourite measuring routines can simply be added by drag & drop from the measuring browser
- + Teach-in function for the fastest set-up of widely differing tools
- + QuickMeasure: pre-defined measuring procedures for the most common tools
- + User management
- + Graphic machine management





OF CASE OF SERVICE





Microvision UNO

Optimal equipment for every situation. You can get the new UNO according to your own preference as inexpensive bench-top equipment or with a convenient base cabinet. For customers who want to combine holistic functionality with exclusive design, the configuration with the base cabinet is optimal. Possible configurations are, for example:



UNO 20140

Table equipment (1)

- + Incident light
- + 47 cm (18.5") screen
- + Thermo-stable gray cast iron construction
- + Infinite fine adjustment

UNO 20140

With convenient base cabinet (2)

- + Thermal printer
- + Indexing and spindle brake

UNO 20170

With convenient base cabinet (3)

- + Base cabinet with adapter shelf
- + 61 cm (24") touch screen
- + Vacuum clamping
- + Second camera

Shrinking & balancing equipment

Test and measurement equipment

Service

Floor plans / technical data

Tool presetting

VIO – absolutely reliable and flexible.

The VIO series is designed for measuring all tools. It is compatible with the machine tools of all manufacturers and covers the most individual requirements with its numerous options. This version with a manual operating concept ensures high quality components and the high power software Microvision VIO as standard.



Figure: VIO 20|50 with tailstock option.

VIO – highly efficient and simple manual operation. Perfect – also for large tools. Strong – through high power software Microvision VIO.





Manual operation and long traverses.

VIO offers numerous advantages to operators, like long traverses in the X- and Y-axis, as well as extremely user-friendly and simple handling through manual operation. The vibration-dampening gray cast iron construction ensures maximum stability and exact measuring.

Highlights

- + Simple manual operation
- + Tool diameters up to 1,000 mm and tool lengths up to 1,000 mm
- + Vibration-damping gray cast iron construction
- + High power software Microvision VIO

→ VIO linear

Shrinking & balancing equipment

Test and measurement equipment

Service

Floor plans / technical data

Tool presetting

VIO *linear* – the premium solution for highest precision and speed.

Better than $\pm 2~\mu m$ repeatability, up to 25 % faster measuring cycles and unique ergonomics are market leading features. This outstanding performance is made possible by the linear drives, which are used for the first time in tool presetting. The series also makes its mark in the field of image processing – and also for a high degree of customisation. The concept was awarded the prestigious "iF product design award".

Worldwide leaders through:

- Fully automatic measuring cycles for maximum operating comfort
- High quality components
 (Heidenhain, Bosch Rexroth)
- Linear drives for speed and highly accurate positioning
- Operating panel flexible and user-friendly
- High power software
 Microvision VIO

Sizes / series (X-, Z-axis in mm):

20: 210/500, 210/700, 210/1,000

35: 350/500, 350/700, 350/1,000 **50:** 500/500, 500/700, 500/1,000









1 + 2: Fully automatic axis drive through modern linear technology3: Optional: Second camera for turning tool presetting

Maximum stability and precision

The thermo-optimised gray cast iron construction of the VIO *linear* series also allows long-term accurate measuring results. In addition, highly dynamic, wear-free linear drives ensure accurate long-term quality. The parallel drive and guidance system ensures an optimal distribution of forces and guarantees a repeatability of ±2 µm.

Highlights

- + Unrivalled low distortion at maximum allowable loading
- + Robust, long-life gray cast iron construction
- + Thermo-optimised combination of materials
- + High installed weight
- + Max. tool weight 160 kg

Excellent ergonomics

The VIO *linear* also sets new standards regarding ergonomics. The design of the overall construction is future-oriented with swivelling operating panel, free access to the spindle and intuitive and simple handling.

Highlights

- + Swivelling operating panel
- + Servo-manual traversing
- + Central control unit
- + Integrated tool shelf
- + Attached operating panel with vibration damping



RFID chip system

- + Writing of tool data to RFID chip
- + Data transfer to the machine tool

· VIO *linear* toolshrink

Shrinking & balancing equipment

Test and measurement equipment

Service

Floor plans / technical data

Tool presetting

VIO *linear* toolshrink – measurement presetting and shrinking of tools.

The VIO *linear* in the toolshrink configuration leads to time advantages compared to conventional equipment. The linear drives allow very fast and μ -accurate positioning of the axes and at the same time they protect the induction coil. In the same way, the now obsolete exchange of coil elements and automatic shrink release of tools with larger cutting diameter than shaft diameter ensures easiest handling in its sector. Intuitive operator guidance ensures quick operational integration and long-term advantages for the user.





$\frac{\text{Automatic and adjustable induction}}{\text{unit as standard}}$

- + Motorised adjustable diameter
- Pinpoint positioning through motorised inductor axis, equipped with measuring system





1: Integrated operator support pick-by-light
2: Optimal process – shrinking and presetting in one work step

Highlights

- + New design for higher operating ergonomics
- + Optimal shrinking, irrespective of the holder make
- + More precise axis positioning through linear drives
- + Protection of the induction unit
- + Pick-by-light for correct selection of all accessories
- + Automatic monitoring of shrinking parameters
- + Automated parameter adaptation

Technical data

+ Maximum tool length: 700 mm

+ Shrink chuck temperature: max. 350°C

+ Heat-up time: approx. 4 seconds

+ Tools: HM and HSS of Ø 3-32 mm

+ Induction shrinking power: 13 / 20 kVA

+ Cool-down times: 30-90 seconds

Shrinking and presetting for maximum precision

Whether it is the automotive industry or tool making, almost every production benefits from tools which can be shrunk to length exactly. The VIO *linear* toolshrink offers a unique solution for higher precision in production.

Your benefits

- + Better true running and less imbalance
- + Optimal for series production with sister tools
- + Fully automatic coil as standard
- + Exact shrinking to the specified length (tolerance < 10 μ m)

- Microvision VIO
- · Adapters and spindles

Shrinking & balancing equipment

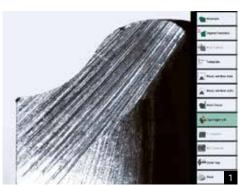
Test and measurement equipment

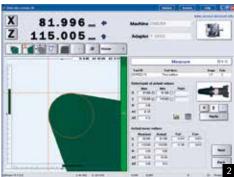
Service

Floor plans / technical data

Microvision VIO

1: Inspecting the tool cutting edge 2: Simplified presetting of precision tools 3: X- and Z-measurement 4: Incident light









Tool presetting / software

Microvision VIO – perfect in precision and data handling.

The Microvision VIO software makes high savings potential available to users in work preparation through quick, exact and operator-independent measurement and presetting of tools. The high efficiency of image processing ensures maximum quality in the production process. Complex tools can be measured within the shortest period of time with the most modern measuring techniques.

Highlights

- + 48 cm (19") screen, up to 60-fold magnification
- + Extensive measuring functions
- + Cross hair fixed / floating (automatic measurement)
- + Automatic contour evaluation
- + Multi-cutter tools and cutter heads can be measured

Accessories

Adapters and spindles for all requirements and applications.

High quality adapters and spindles are important elements for precise tool presetting. In this area we offer you an exceptionally wide product range in order for your handling of these components to be simple and efficient. We will gladly provide consultation regarding your individual requirements and applications.

Adapter // examples







We offer you the solution for every situation, from a standard tool holder to customer-specific special tool holders. You benefit from our experience over many years in the area of special tool design.

Spindles // examples







Universal clamping system

1: Basic spindle 2: Attachment
holder (SK, HSK, Capto, VDI)

3: Complete system

1: HSK63 adapter with manual clamping 2: VDI 40 adapter with manual clamping 3: Capto adapter with integrated manual clamping system

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

Floor plans / technical data

Shrinking and balancing equipment

Ideal auxiliary equipment for tool presetting.

As a fitting supplement to tool presetting we offer you high quality shrinking and balancing equipment. Both the Power Clamp and the VIO tool dynamic provide innovation, operating convenience and quality.



Power Clamp - shrinking equipment

- + High precision tool clamping for all application fields of drilling, finishing or roughing
- + Process-safe shrink grip and shrink release of TCT and HSS tools (D = 3-32 mm) in under 1 min.
- + Fast, precise and efficient tool change at the push of a button
- + Highest rotational accuracy with simplest operation

Equipment and technical data

- + With standard coil or with innovative NG coil
- Turntable with 3 stations
- + With integrated contact cooling
- + Output: 13 kW
- Connection: 3 × 400 V / 16 A
- + Tools: HM and HSS of Ø 3-32 mm



VIO tool dynamic - Balancing equipment

- Protection of the machine tool from undue vibration and forces
- Prolongs the service life of spindle and tools
- + Higher surface quality of the workpiece
- + Guarantees safe processes without downtime of your machine tool

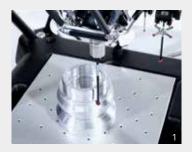
Measuring ranges

- Maximum tool length: 700 mm
- Maximum tool diameter 380 / 425 mm



Highlights

- + Allows close-to-the-process inspection of all workpieces directly in production
- + Can be used individually as a flexible (programmable) gauge
- + Temperature fluctuations are compensated by re-mastering
- + Every inspection process is recorded and archived
- + Comparison uncertainty of 4 μm
- + Scanning measuring sensor system SP25M including 6-fold changer
- + Interface to automation (optional)
- + Maintenance-free test equipment including hardware and software





The Equator 300 compares manufactured parts to a master, which was previously qualified on coordinate measuring equipment.

Parallel kinematics offer a high degree of repeatability and are backlash-free.

- 1: The automatic stylus changer system allows automatic changing of styli without compromising repeatability.
- **2:** Simple operation of the software through a graphical user interface.

Test and measuring equipment - Equator 300

Perfect testing of your workpieces.

This intelligent test equipment can be programmed individually and used for parts up to a maximum of X = 300 mm, Y = 300 mm, Z = 150 mm. Components from production can be tested immediately and directly by the operator under temperature-controlled conditions. With the EquatorTM test system you can guarantee your customers 100% testing including a test report!

Equator 300

The following tolerances can be tested with the Equator 300 in terms of DIN EN ISO 1101.

- Straightness tolerance
- // Planarity tolerance
- Roundness tolerance
- Cylindrical tolerance
- # Parallelism tolerance*
- ⊥ Squareness tolerance*
- ∠ Gradient tolerance*
- Positional tolerance
- Coaxial tolerance of an axis
- True running tolerance
- / Axial run-out tolerance

^{*} e.g. in relation to a reference plane

Shrinking & balancing equipment Test and measurement equipment

Tool presetting

Floor plans / technical data



Service

Your all-round service over the entire life cycle.

Support with all steps to achieve maximum economic efficiency and quality in production through precise tool presetting. At your request we will analyse your individual production environment in order to optimise processes and will professionally commission your tool presetting equipment. In addition we offer you individual financing packages, courses, training options as well as service and maintenance after commissioning, tailored exactly to your requirements.



Optimal care of your presetting equipment by booking a maintenance call or via one of our maintenance packages guarantees you maximum availability in your production process, cost effectively preventing the risk of failure.

Your benefits

- + Optimal timing and cost planning
- + Preventive avoidance of repair costs
- + Longer service life of equipment
- + Optimally coordinated inspection
- + Price advantage for spare parts





Consultation

1: Analysis of workflows, special measuring tasks. Live presentation and consultation regarding financing.

Presetting

2: Testing of measuring accuracy and geometry, set-up of data transfer. Training as required.

After-sales

3: On-site service, original spare parts, maintenance, calibration, maintenance packages, laser calibration, geometry measurement.





24/7 Service Hotline

Available to you around the clock. Our service experts are available by phone 24 hours a day, 7 days a week. If problems arise, call us!

Training

Increased efficiency through targeted learning of proper operation of our presetting equipment. We offer a multitude of training packages on various topics by qualified technical staff on our premises.

Your benefits

- + Practical courses on specific presetting equipment
- + Flexible course structure for your individual requirements
- + High degree of learning success due to small groups

Repair service

Our qualified technicians are available for service or repair assignments, quickly and without fuss. You can also send your equipment directly to our factory in order to avoid downtime. We will immediately provide you with an exchange unit.

Your benefits

- + Fast response times
- + Favourable conditions
- + Original, top quality spare parts (also for older equipment)

Shrinking & balancing equipment

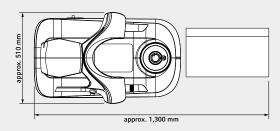
Test and measurement equipment

Service

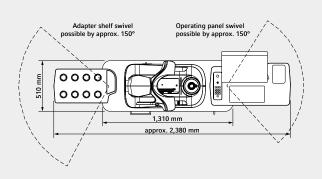
Floor plans / technical data

Floor plans / technical data

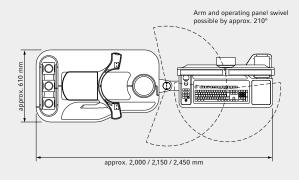
Working space UNO as table equipment



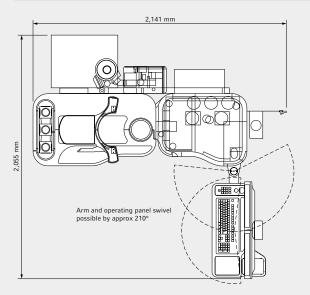
Working space UNO with base cabinet



Working space VIO, VIO linear



Working space VIO linear toolshrink



		UNO	VIO	VIO linear	VIO toolshrink
Measuring range					
Max. tool diameter	mm	400	420 / 700 / 1,000	420 / 700 / 1,000	420 / 700 / 1,000
Max. tool diameter for measuring according to snap gauge principle	mm	100	100	100	100
Max. tool length Z-axis mm	mm	400 / 700	500 / 700 / 1,000	500 / 700 / 1,000	700
Max. tool length shrinking	mm	-	-	-	700
Operation					
Manual		•	•	•	
Auto focus (motorised C-axis)		_	0	_	
Fully automatic (motorised X-, Z- and C-axis)		_	_	•	
Fine adjustment		•	•	•	
Joystick		-	-	•	
Accuracy					
True running at the spindle nose	μm	2	2	2	
Repeatability	μm	± 2	± 2	± 2	±
Spindle	·				
Precision spindle SK50		•	•	•	
Vacuum clamping		0	•	•	
Universal spindle ISS			0	0	
Universal tool clamp		_	0	0	
Spindle brake		0	•	•	
4 × 90° indexing for turning tools (e.g.: VDI)		0	0	•	
Turning centre measurement equipment			•	-	
Dial gauge		0			
			0		
Camera PEID ohim sustant		0	0	0	
RFID chip system					
Manual		0	0	0	
Automatic			_	0	
Other options					
Incident light / cutter inspection		•	•	•	
Base cabinet		0	•	•	
Adapter shelf		0	0	0	
Label printer		0	0	0	
47 cm (18.5") screen		•			
61 cm (24") screen		0			
48 cm (19") screen			•	•	
Touch screen		0	0	0	
Release-by-touch		0	_		
Individual release and clamping of X / Z axis		0			
Linear drives				•	
Tailstock 500 / 700 / 1,000 mm		-	0	0	
Adapters / spindles					
Magnetboard		0	-	-	
SK50: SK30, SK40, SK45		0	0	0	
SK50: HSK-32/40/50/63/80/100 without clamping		0	0	0	
SK50: HSK-32/40/50/63/80/100 with clamping		0	0	0	
SK50: VDI Ø 16/20/25/30/40/50/60 mm without clamping		0	0	0	
SK50: VDI Ø 16/20/25/30/40/50/60 mm with clamping		0	0	0	
SK50: Capto C3/4/5/6/8 without clamping		0	0	0	
SK50: Capto C3/4/5/6/8 with clamping		0	0	0	
SK50: KM-32/40/50/63/80 with clamping		0	0	0	
ISS adapter taper shank SK30/40/45/50 with automatic clamping		_	0	0	
ISS adapter HSK-32/40/50/63/80/100 with automatic clamping		_	0	0	
ISS adapter Capto C4/5/6/8 with automatic clamping		_	0	0	
ISS adapter VDI 16/20/25/30/40/50/60 mm		_	0	0	
Software					

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