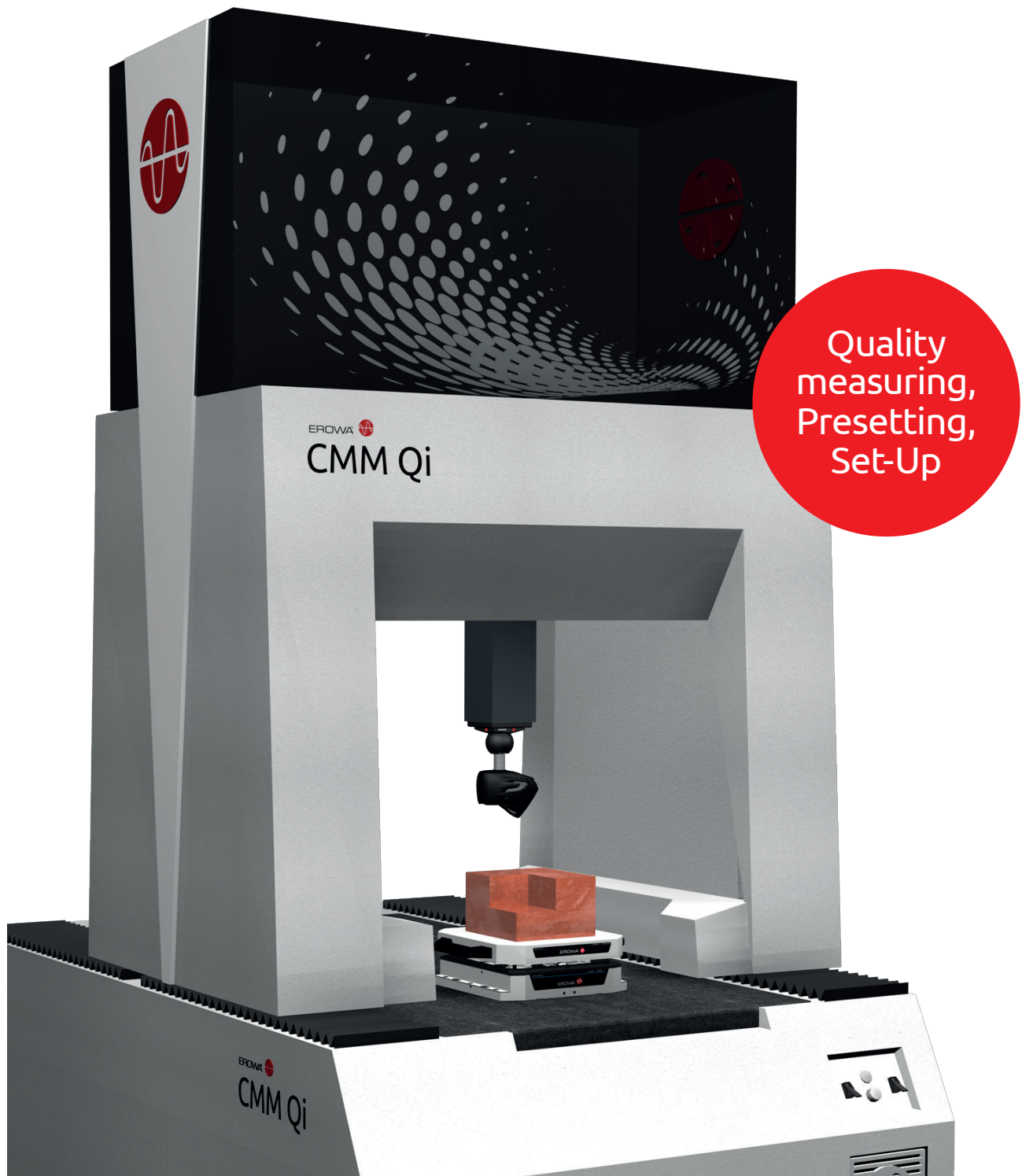


EROWA 3D Coordinate Measuring Machines

Measuring at the highest level



Variety with highest precision

With EROWA's 3D measurement technology solutions, you are optimally equipped for all challenges in quality assurance and for the future. Depending on the requirements, the operator is provided with a device optimally designed for this task. Manually or CNC controlled, high-precision 3D quality measuring and presetting systems. State-of-the-art and user-friendly software. Prepared for automatic use in production processes.





Quality measuring

From importing from various CAD systems to the output of graphically designed measurement reports to tactile scanning or the use of laser scanners, everything is possible. The system is perfectly configurable according to the customer's wishes.



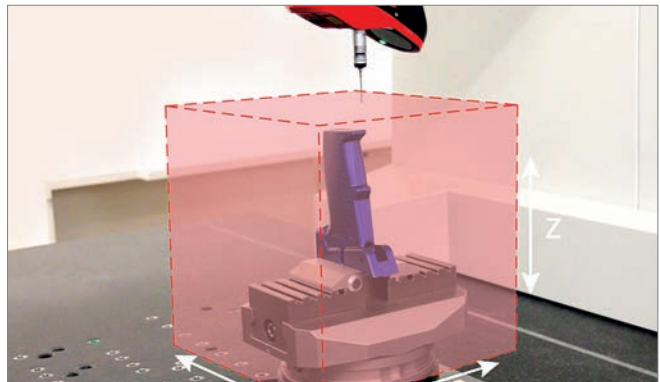
In process measurement

Always keep an eye on your process quality. With the EROWA measuring machines you have the possibility to inspect your components at any process step. With the optional automation kit, the EROWA measuring machines can be easily integrated into the automated process chain. In this way, you can also carry out your in-process measurements fully automatically in unmanned shifts.



Simple presetting

Presetting is one of the decisive process steps for the automation of individual parts and small batches. Thanks to EROWA's pre-setting software and more than 100 predefined macros, you can carry out measurements quickly and easily even without any previous metrological knowledge. Afterwards, you have the option of automatically transmitting your offset data to your processing machine or control system.



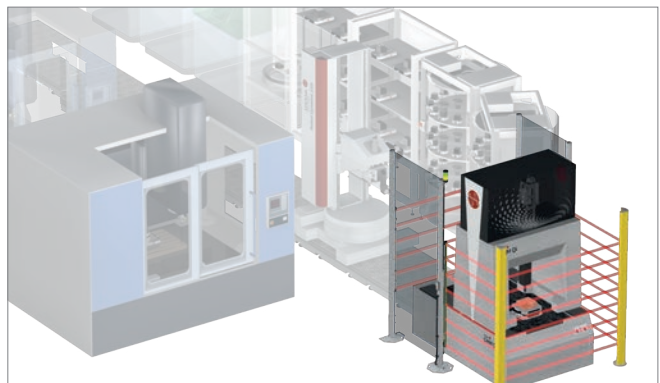
Reverse Engineering

With the help of the EROWA applications, you can easily and quickly generate CAD data from existing components and thus obtain a digital reproduction of your workpiece.



Versatile software

The EROWA software solutions range from the presetting software which guides the operator step by step through the manual measurement to the high-end measurement software where the measurement programmes are generated automatically.



Modularly expandable

All EROWA measuring systems are modularly expandable and can be extended as required. Customer-specific solutions can also be realised with the EROWA measuring machines.

Highly precise, extremely flexible, maximum user-friendly and ready for Industry 4.0

The EROWA measurement technology solutions open up undreamt-of possibilities in quality assurance. From automated single part measurement to classic stand-alone applications, there are no limits!



Stand-Alone

Stand-alone in production or classic in the measuring room. Benefit from the high accuracy of the EROWA measuring systems and measure components even with the tightest manufacturing tolerances.

The user-friendly and intuitively guided user information in our software applications also enable workshop personnel to carry out simple intermediate measurements independently.

**Line solution**

Optimise your processes and create a complete documentation of your process and component quality for 100% traceability.

With fully automated in-process measurements, you always have your product quality and process reliability in view. Relieve your measuring room and carry out random sample measurements directly where they are manufactured.

Cell solution

Automate your inspection lot measurement in incoming goods, the presetting of tools and components or carry out in-process measurements.

By connecting an EROWA handling device to the measuring machine, you have the possibility to carry out quality and pre-setting work even in unmanned shifts or off-peak times.



EROWA CMM Qi

Quality measuring in highest precision

The EROWA CMM Qi portal measuring machine offers the highest mechanical accuracy. The measuring system is particularly suitable for quality measuring and pre-setting of complex and demanding geometries. Due to its high precision, the CMM Qi is excellently suited for checking workpieces with tight tolerances. The measuring machine is prepared for automatic loading and can thus be easily integrated into the automated process chain.



FACTS

- Basic mechanical accuracy
- Solid natural granite plate and guides
- Insensitive to dirt thanks to interconnected axes
- Symmetrical portal design
- Centrally guided axes
- Prepared for EROWA clamping systems
- Can be automated with EROWA handling devices
- All axes temperature compensated

1.5µm + L*/500

The EROWA CMM Qi is excellently suited for the production environment. Due to the basic mechanical accuracy and the interconnected axes, it is insensitive to environmental influences such as dirt and temperature fluctuations. Even under adverse conditions, the Qi guarantees high precision for quality measurements or presetting work.

0.7µm + L*/500

The HP version of the CMM Qi unfolds its true potential in a climate-controlled environment. Due to the high precision of 0.7µm, even components with very tight tolerances can be measured accurately and repeatably. Whether it's first article measurements or intermediate inspections, with the CMM Qi you have a reliable partner in your measuring room.

**Symmetrical design**

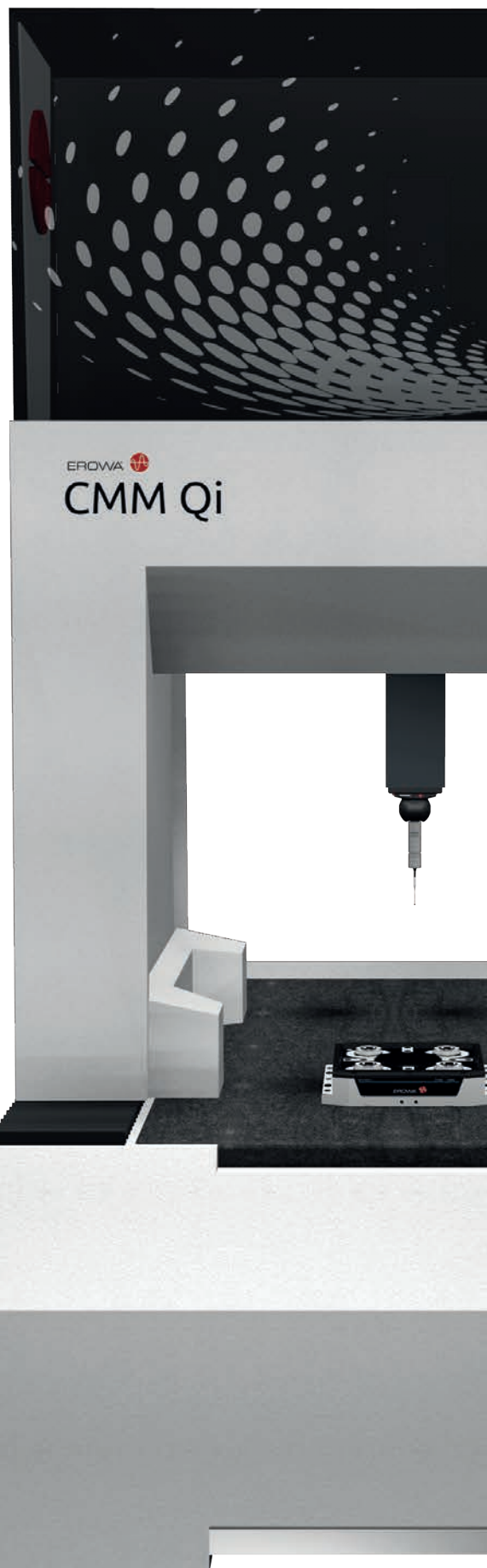
The symmetrical and robust design of the portal makes the Qi less sensitive to environmental influences such as temperature fluctuations.

**Central drives**

All drives are positioned centrally to the axes and thus ensure precise and torsion-free movement of the gantry.

**Granite axes**

All axes are made of natural granite, increasing the rigidity of the system and making the Qi less sensitive to environmental influences such as temperature or vibration.



EROWA PreSet 3D CNC / MAN

Allround Measuring Machine

The PreSet 3D CNC is an economical all-rounder measuring machine that is ideally suited for common standard applications such as productive presetting, automated series measurement, intermediate inspections and final sampling.

FACTS

- Available in different sizes
- Flexible in use
- Good accessibility from all sides
- All axles with air bearings
- Integrated hole pattern for fastening of the EROWA chucks
- Temperature control
- Can be automated with EROWA handling devices



EROWA PreSet 3D CNC

The EROWA PreSet 3D measuring machine is the optimal solution for relieving machining centres of unproductive set-up work. Workpieces and electrodes can be preset and measured on the PreSet 3D measuring machine in a time-saving and precise manner. The measuring machine is easy to operate, offers high accuracy and is also suitable for automated series measurement, intermediate inspections and final inspection measurements.



Various sizes

The PreSet3D CNC is available in different sizes. This means you get a measuring machine that is optimally adapted to your components and space conditions.



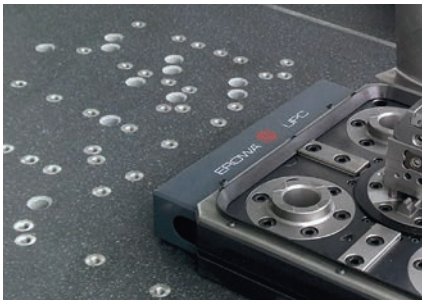
Joystick control

The operator benefits from the simple, practical and precise joystick control. All axes are moved precisely with the control lever. Thus, manual measurements such as presetting and intermediate checks can be done quickly and easily.



EROWA Hole pattern

Thanks to the standard EROWA hole pattern, it is possible to install all EROWA clamping systems on the measuring machine. This means that several EROWA systems can be operated simultaneously.



EROWA PreSet 3D MAN

The compact manual, measuring machine

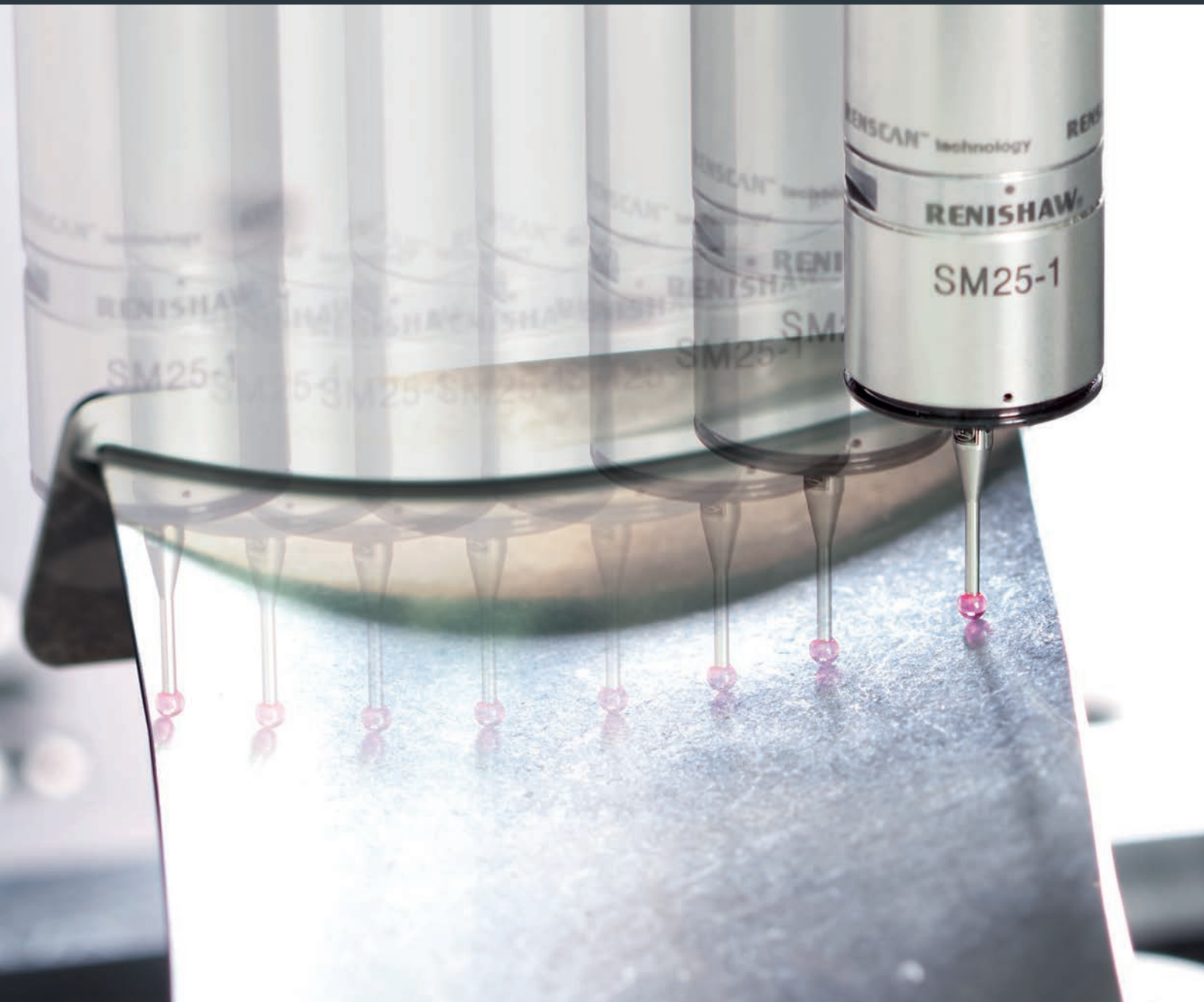
The PreSet 3D MAN measuring machine is ideally suited for productive presetting and precise intermediate inspections. The modular principle allows the system to be flexibly adapted and expanded. We take over system responsibility for the project, from commissioning to training and maintenance, comfortably and competently.



Software

As diverse as the tasks

EROWA's measurement software solutions open up new possibilities for you in quality assurance and reverse engineering. Thanks to our strong partnership with renowned measuring software manufacturers, we can offer you the right software solution for your needs. Whether simple intermediate inspections, presetting of tools and components or demanding measurements on complex components up to reverse engineering, everything is possible.





Simply preset and measure

The software applications PreSet Configurator and PreSoft developed by EROWA contain over 100 different macros for presetting and simple measurement of tools and components. Thanks to the detailed graphical user guidance, it is possible for every user to carry out simple measuring and presetting work. Knowledge of 3D measurement technology is not necessary.



Quality measurement for every requirement

The two measuring software solutions MetrologX4 and Arco-CAD offer you the possibility to measure from simple control measurements up to highly complex geometry evaluations in the μ -range. The software options can be optimally adapted to the customer's needs and thus the best solution at the best price can be selected for the respective requirements.



Reverse engineering and inline controls at the highest level

EROWA CMM CubeScan and EROWA QMeasure will revolutionise your in-process measurements. With **EROWA CMM CubeScan**, several thousand measurement points of complex free-form surfaces can be captured within a very short time with the help of a laser scanner, and this without writing a measurement programme. Thanks to the automated programme generation, you only need to provide the component dimensions and the CAD model. CMM CubeScan does the rest. With **EROWA QMeasure** you have the possibility to create tactile measurement programs in your familiar CAD environment. QMeasure is ideally suited for components with regular geometries and few measuring points.

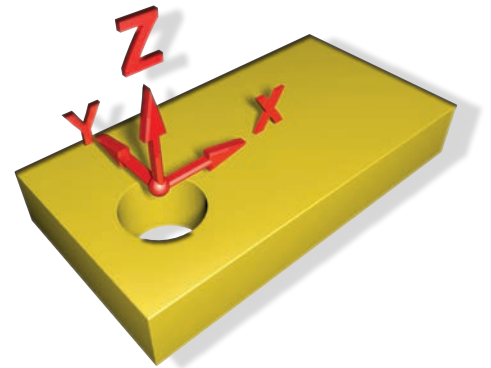
Software

Presetting and measuring made easy

Create more capacities: In future, carry out presetting work and simple control measurements on your measuring machine without blocking your processing machine or having to wait for the control in the measuring room. With EROWA's software solutions, you get powerful tools that enable every user to carry out these activities independently and in a user-friendly manner.

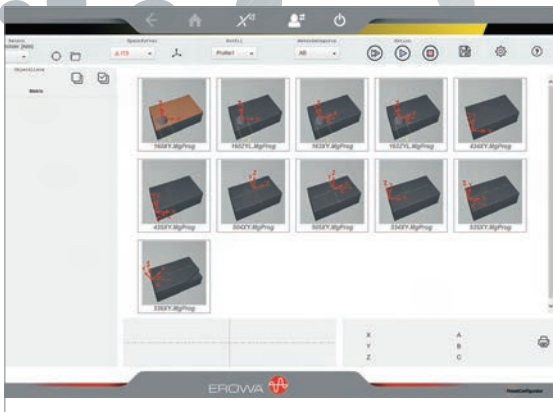
EROWA PreSet-Software Simple presetting and measuring

Presetting provides more productive time on the processing machines. The EROWA presetting software meets this demand. Thanks to the PreSet software from EROWA, you can realise setup and presetting in parallel with machining time and thus gain up to 600 productive hours per year. The complex measuring technology is packaged under a simple user interface. Thanks to the visual operator support, a short introduction is sufficient and every operator can efficiently preset and measure electrodes and workpieces, even without knowledge of 3D measuring technology.

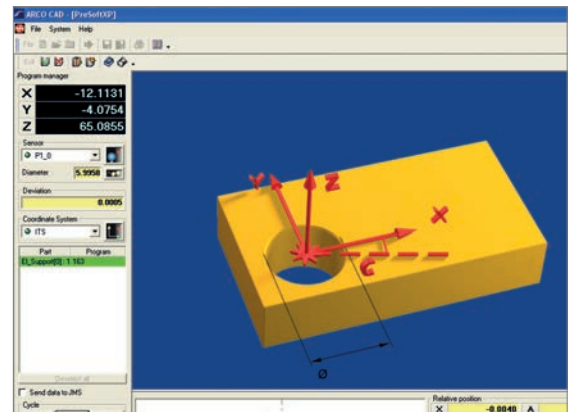


FACTS

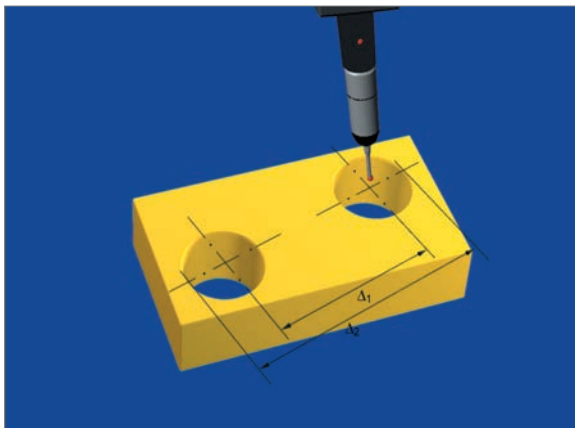
- Simple and logical operation
- Operator guidance with animated graphics
- Integrated in the EROWA process control system JMS 4.0
- Program suitable macros and measuring programs yourself
- Innovative software solution with focus on metrological challenges of the future
- Knowledge of 3D measurements not necessary



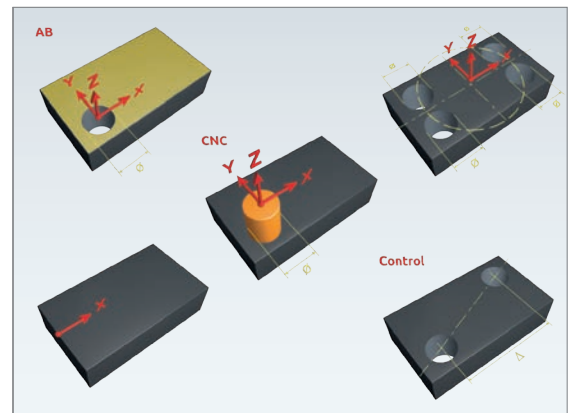
01 | The clear display and graphical user guidance allow every user to set up the system correctly within a short time. The processes can be learned intuitively. Knowledge of 3D measurements is not necessary.



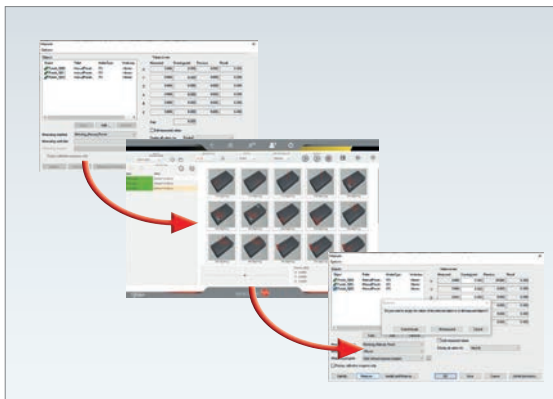
02 | The animated graphics during the measurement support the operator in executing the macros.



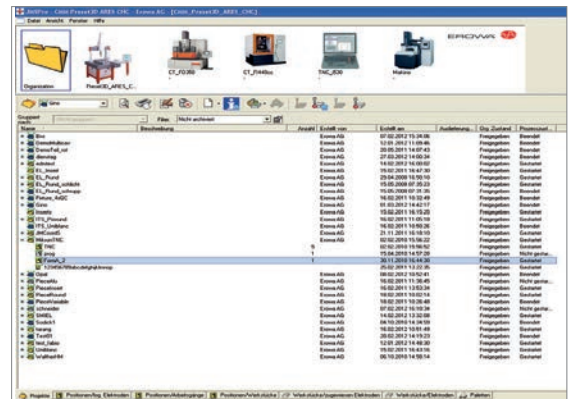
03 | Quick intermediate checks of diameters, distances or angles, for example, can be easily carried out thanks to the predefined measuring macros.



04 | Create your own macros for fast and safe measurements. In addition, over 100 frequently used measurement sequences are already predefined as macros and can be selected as required.



05 | EROWA PreSet Configurator and EROWA PreSoft are integrated into the JMS 4.0 process control system. The presetting functions are called up with one click. The determined offset data is automatically transferred to the system.

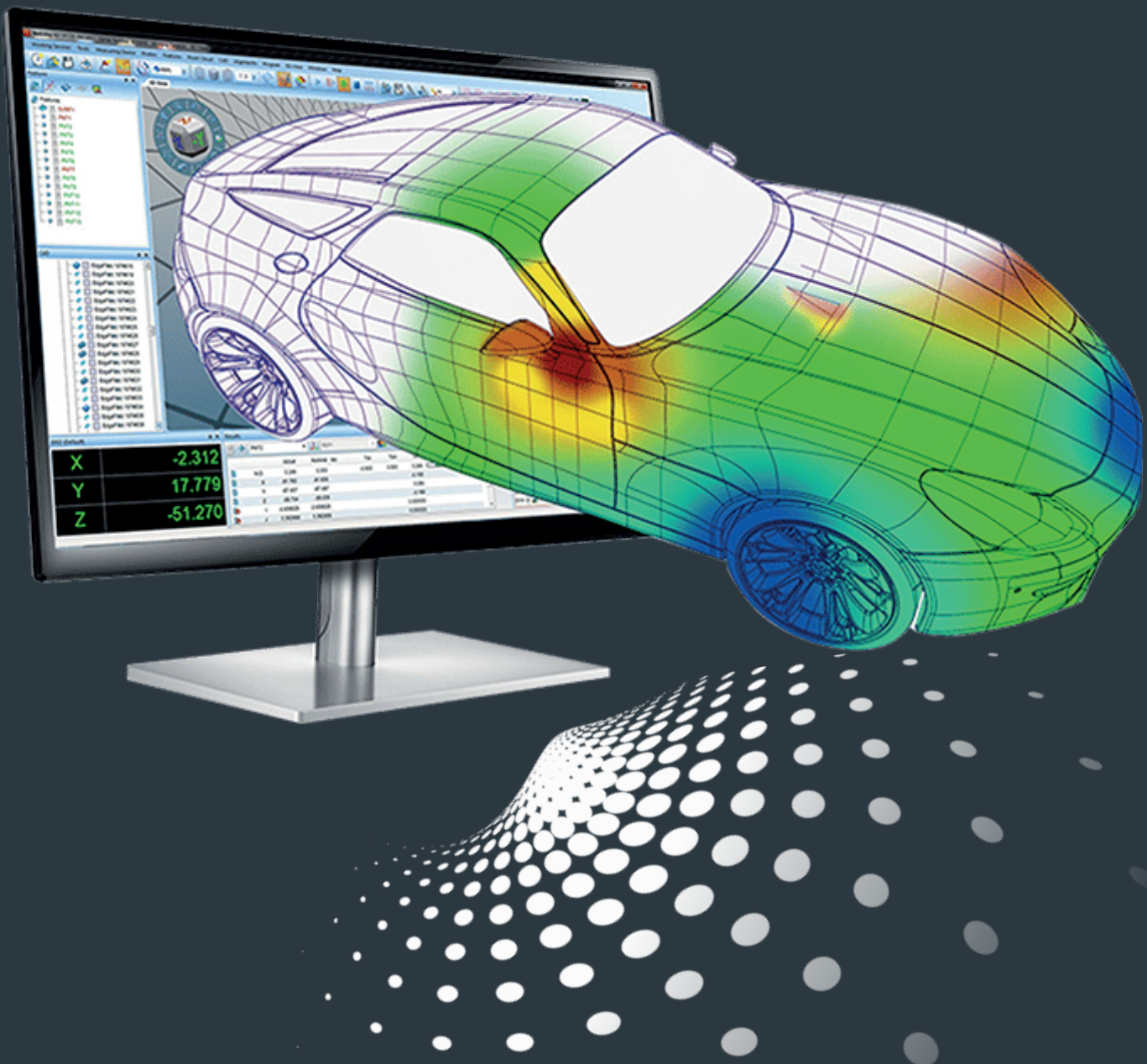


06 | The automatic assignment of the offset values to the ID numbers of the electrodes or workpieces results in a high level of process reliability.

Software

Measuring software for every demand

With the extensive range of measurement software solutions from EROWA, no wishes remain unfulfilled. The software options can be optimally adapted to the customer's needs. This means that the best solution can be selected for the respective requirements at the best price.

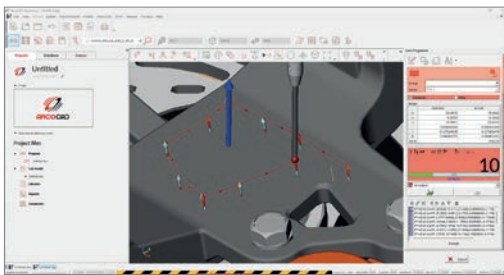


ARCO-CAD Measuring-Software Import - Measure - Compare - Log

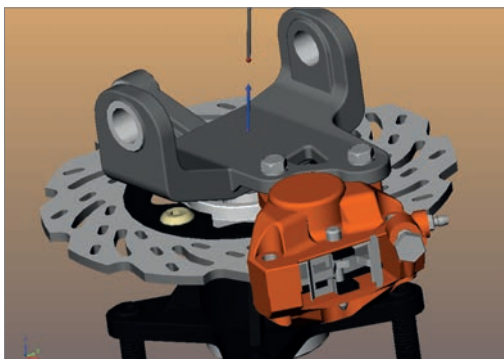
ARCO-CAD is a cost-effective measurement software for entry-level measurement technology or for simpler measurement applications. It contains all the functions for importing CAD models and using them to create measuring programmes or also to measure directly against CAD nominal values. This makes real quality measurements with full-fledged protocol management possible after appropriate training.

FACTS

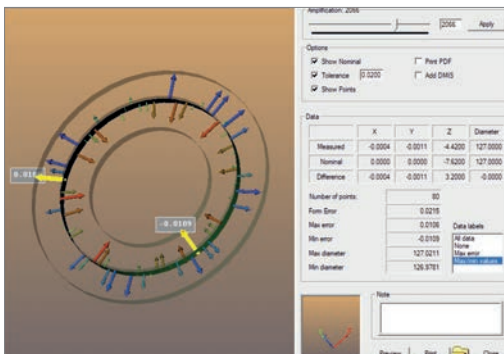
- Full-fledged software for quality control
- Data import: Catia, UG, Pro Eng, Solid Works, VDA, STEP
- Define measuring points directly in the CAD file with "Teach-and-Learn"



The operator guidance with animated symbols is based on ARCO-CAD. All operators move intuitively and safely in this programme with the pictorial representation of the measuring tasks.



ARCO-CAD allows the integration of CAD data. Based on the imported data, the areas to be measured are selected and calculated. This function is especially suitable for measuring complex 3D shapes.



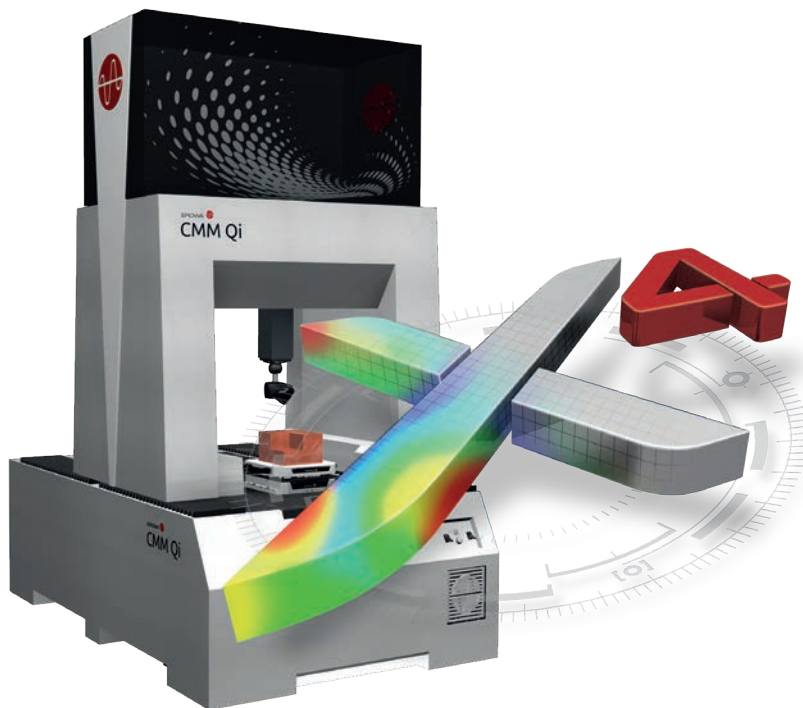
With the help of the ARCO-CAD reporter, individual and complex reports can be easily generated.

Whether using CAD, images or tables, all measured elements can be output graphically. Individual templates facilitate the creation of reports.

Metrolog X4 Measuring-Software

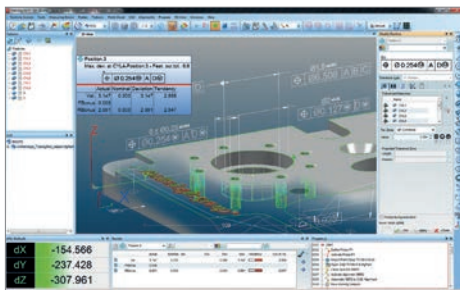
High-end software for the highest demands

The **Metrolog X4 3D-Measuring-Software** offers advanced technology and know-how for even faster and more efficient measurements. Rely on an optimal user interface for outstanding ease of use, as well as high performance even with large amounts of data.



FACTS

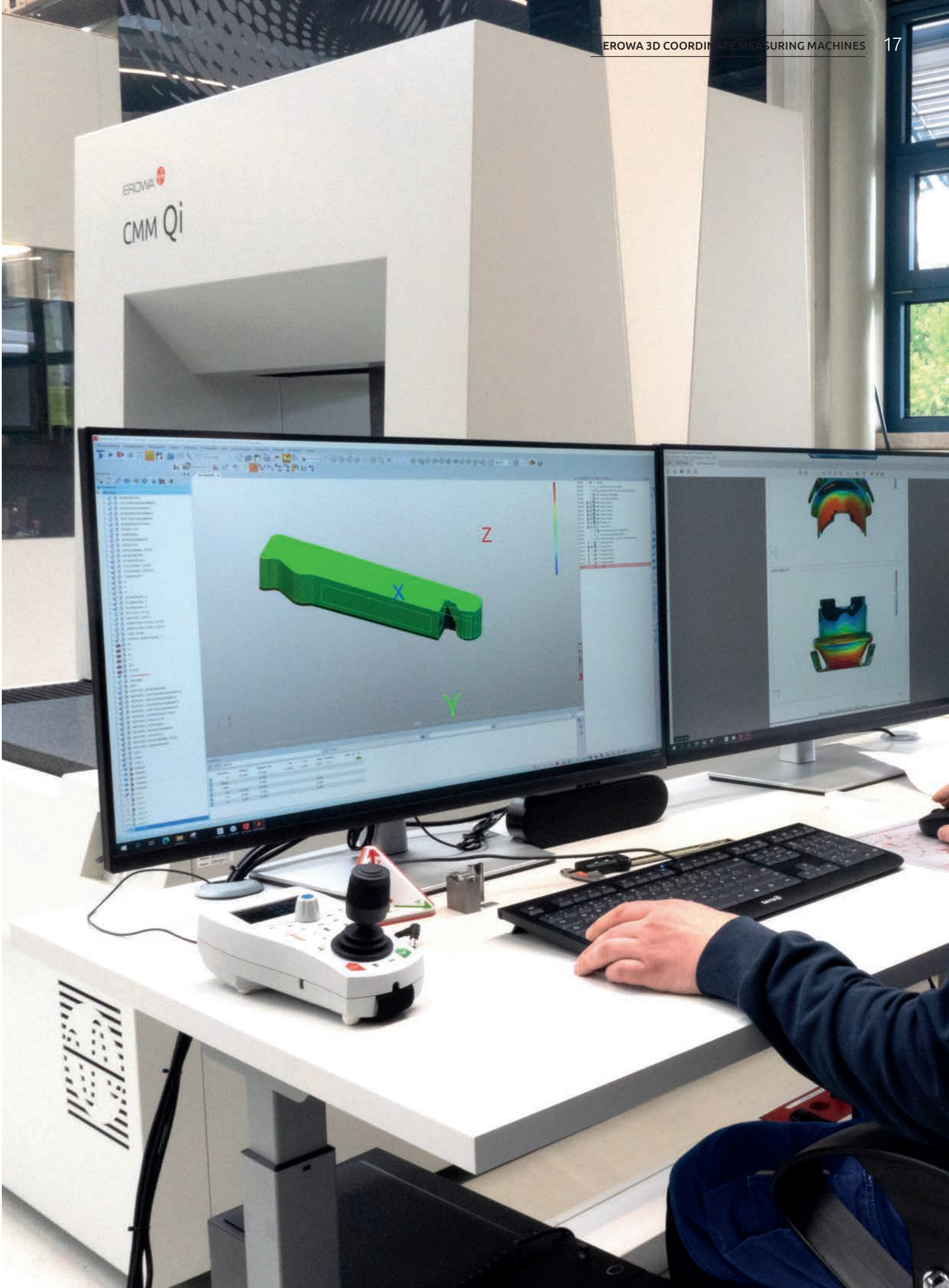
- Optimal user interface for outstanding ease of use
- Efficiency increase through highest flexibility and functionality
- Unsurpassed compatibility with tactile and optical measurement systems
- High performance even with large data volumes
- Large selection of different languages directly selectable



Easy handling of form and position tolerances of the most complex kind in record time. Facilitated definition of form and position tolerances. The software offers comprehensive support for tolerance evaluation in accordance with the applicable standard (ANSI and ISO).

Easy-to-use graphical user interface, fully customisable to the operator's needs, according to the respective machine types and measurement types. Wizard for manual measurements. Automatic adjustment of the view during point acquisition. Customisable information windows.





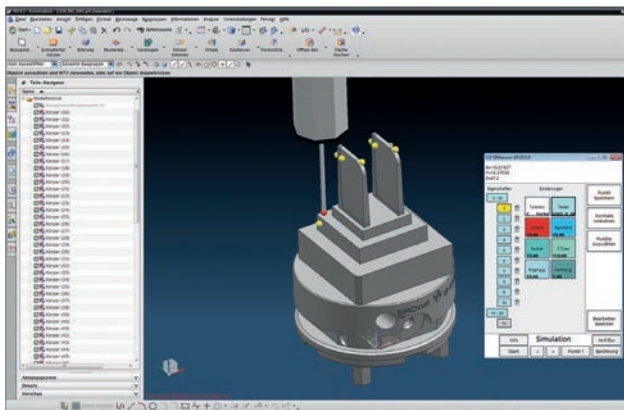
Software

In-process control and reverse engineering at the highest level

With the extensive range of measurement software solutions from EROWA, no wishes remain unfulfilled. The software options can be optimally matched to the customer's needs. Thus, the best solution at the best price can be selected for the respective requirements.

EROWA Q-Measure Measuring-Software Quality fairs directly from the CAD system

You determine the important properties for quality measurement quickly and easily in your familiar CAD system. With **EROWA Q-Measure** you define the measuring points and tolerances. The electrode is identified on the measuring machine, the programme is automatically created and the measurement is started.



Planning

Workpiece and electrode design. Interactive definition of measuring points and tolerances directly in your familiar CAD system.

FACTS

- Interactive definition of measuring points and tolerances
- Automatic electrode identification
- Automatic generation of measuring programmes
- Release or blocking according to measurement result
- Documentation with 3D measurement report



Data transfer

Full integration into the JMS 4.0 ML process control system, ensuring the simplest possible data transfer and user-friendly data handling.



Quality measuring / PreSetting

After defining measuring points in the planning step, the measuring programme is automatically generated & transferred to measuring machine. As soon as the piece has been identified, the presetting/measuring process is carried out automatically.



Report

Interactive 3D measurement reports for easy data evaluation are automatically created by the software and assigned to the corresponding measured part. This ensures guaranteed traceability.

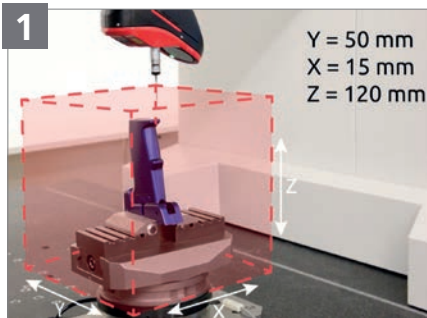
EROWA CMM CubeScan Technology

Fast, simple and cost-effective quality control

With the help of a laser scanner, workpieces can be measured without contact within a very short time using the **EROWA Cu-beScan Software**. And this without having to create an additional measuring programme. The result is fed directly back into the control system. Faulty workpieces are automatically blocked.

FACTS

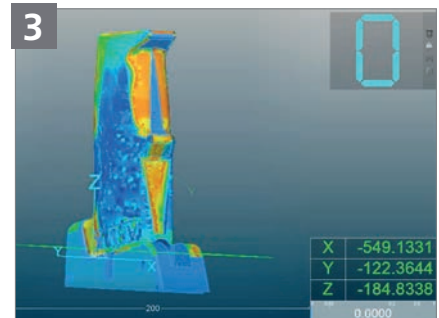
- Fast data analysis
- No programming effort
- Full process control
- Cost-effective application
- Digitise component quickly and easily
- Easy handling
- Fully automatable even for single parts and small series



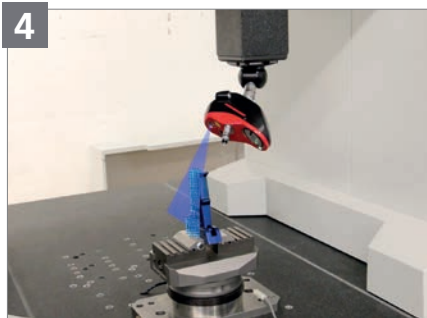
01 | Determine workpiece dimensions in X-Y-Z dimension.



02 | Import order and workpiece data into JMS 4.0.



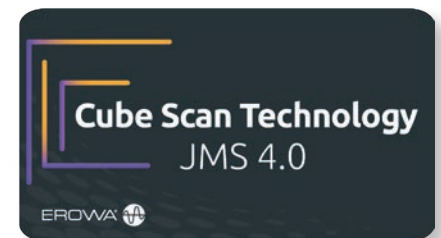
03 | The measuring programme is automatically generated in JMS 4.0 and sent to the measuring machine.



04 | The measurement is carried out automatically and the measurement data is compared with the target in a report.



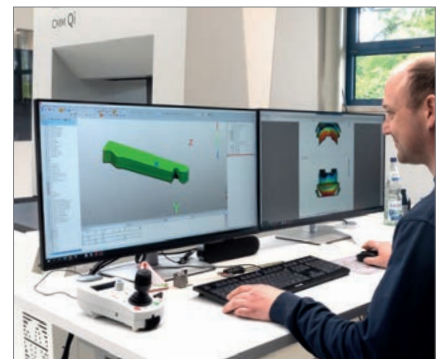
05 | The result „within tolerance“ or „incorrect workpiece“ is automatically stored in the process control system.



Reverse Engineering

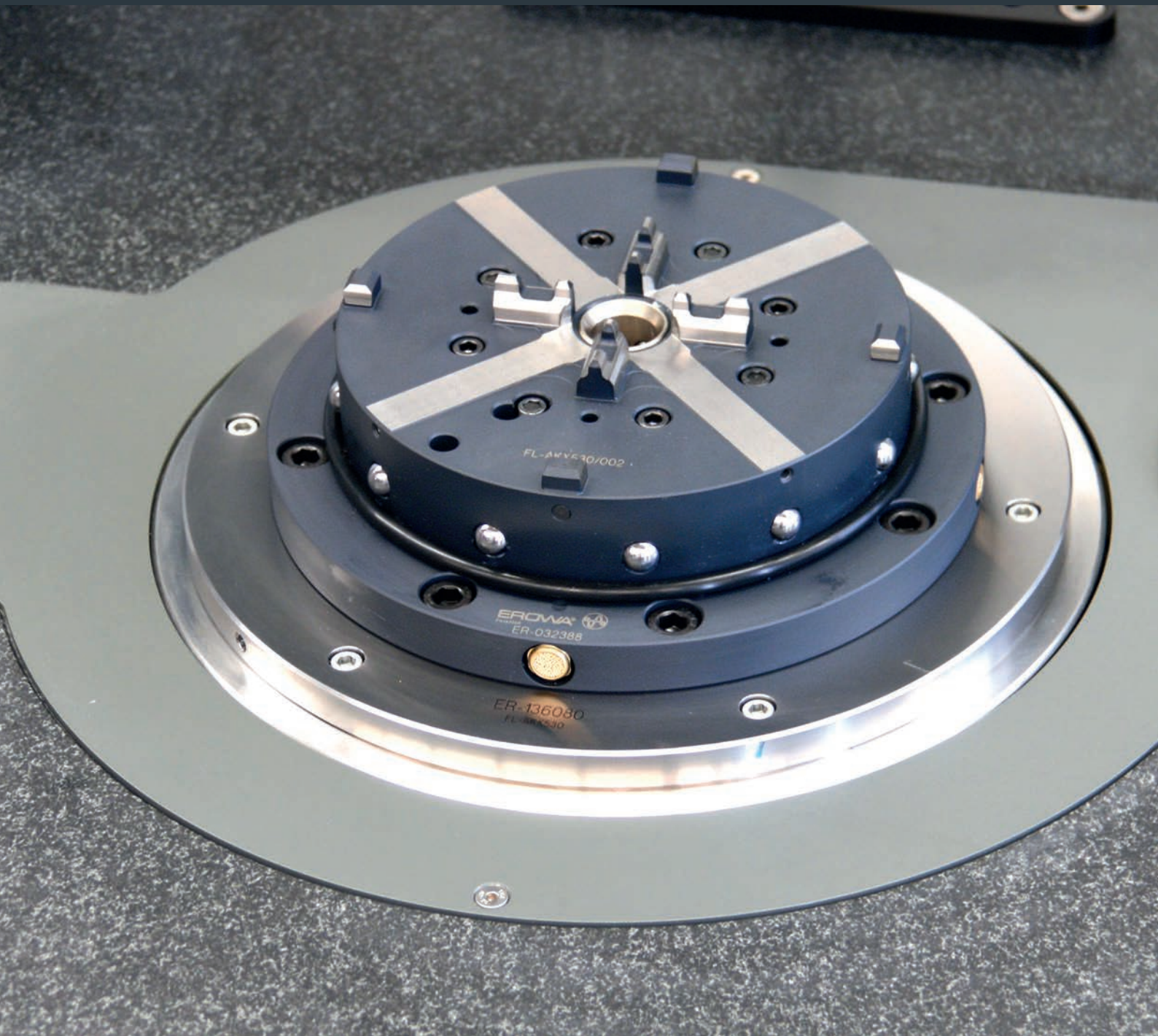
Digitise components quickly and easily

The **reverse engineering** function of the Cube Scan software is just as easy to use as the in-process controls. Simply enter the component mass manually or automatically via a parameter file. Then your component can be digitised to create a 3D model. Here, too, the measuring programme is automatically generated in the control system.



Demand-driven Options

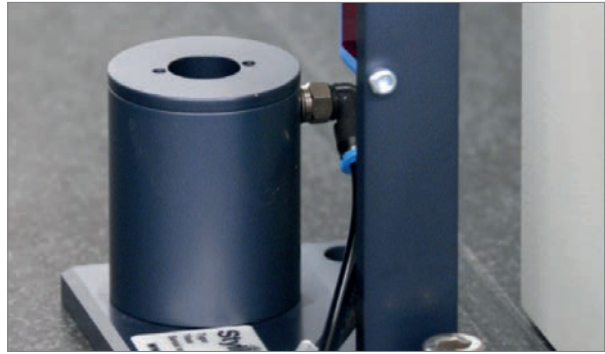
A wide range of accessories tailored to your needs round off the EROWA measurement technology portfolio.





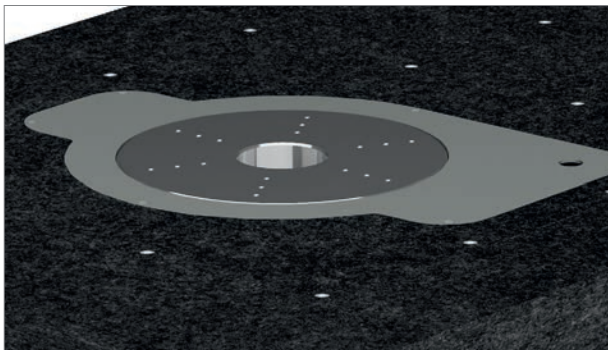
Interior lighting for CMM Qi

With the interior lighting, your measuring place is always optimally illuminated. The special cold light lamps ensure that the lighting has no influence on your measurement.



Stylus cleaner

In automated quality control, it is difficult to ensure the cleanliness of the stylus systems. With the stylus cleaner you have the possibility to clean your stylus system before each measurement to avoid unwanted incorrect measurements.



Turntable - measuring in another dimension

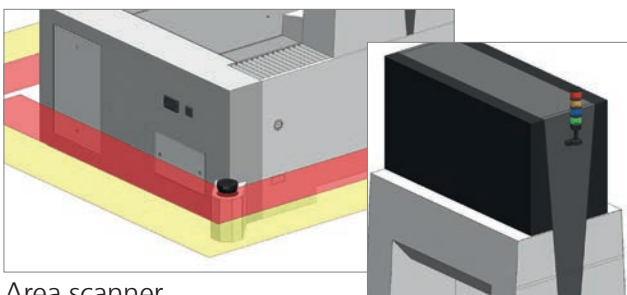
The rotary table, which is completely integrated in the measuring machine, enables measurements in a 4th axis. This means that in addition to prismatic components, rotationally symmetrical parts can also be measured quickly and efficiently.



Maintenance contracts hardware / software

Tailor-made maintenance contracts for hardware and software are available for an all-round carefree package. Periodic updates ensure that your software is always up to date and supports the latest technologies. Furthermore, prompt support is guaranteed for all challenges. Regular maintenance also guarantees high availability of the equipment.

With the corresponding maintenance contracts, you thus ensure the compatibility and operational reliability of your measuring system at all times.



Area scanner

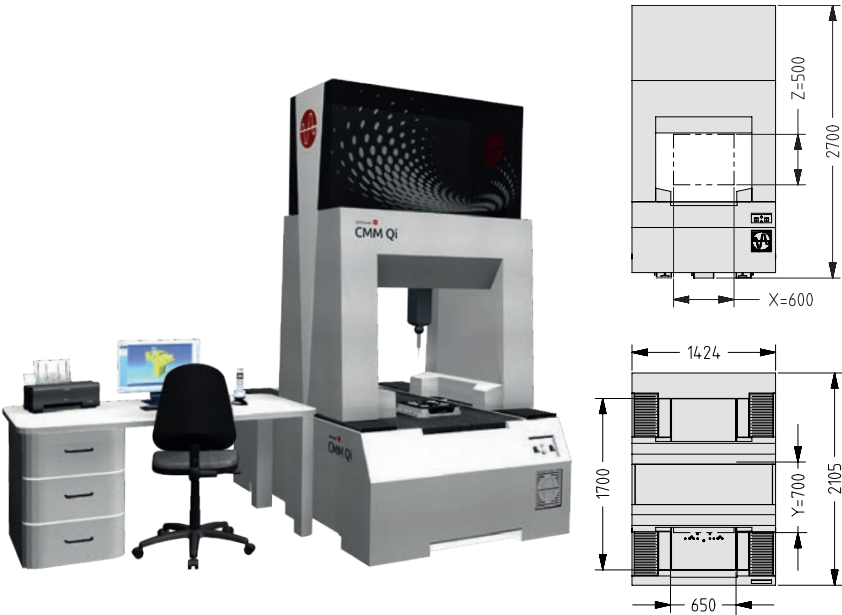
Status LED Lamp

Happy to fulfil individual customer wishes

Whether dial gauge holder, chuck assembly, status LED, hour counter or area scanner, we configure the measuring system according to your needs.

Technical data

Quality in detail



Technical data	
	CMM Qi
Travel X-axis	600 mm
Travel Y-axis	700 mm
Travel Z-axis	500 mm
Maximum dimension between table and probe holder (without probe)	668 mm
Maximum distance between columns at table height	650 mm
Usable area of the granite slab (with EROWA hole pattern)	650 x 1700 mm
Measurement inaccuracy in volume (acc.ISO 10360/2)	
Standard	1.5 µm + L/500
High Precision	0.7 µm + L/500
	(L in mm)
Machine dimensions	
Dimensions LxWxH	2100 x 1500 x 2700 mm
Maximum loadable workpiece weight	650 kg
Machine weight (without load)	2350 kg

Other travels available on request. The values may deviate from the data given here depending on the machine type..



Technical data	
Travel X-axis	
Travel Y-axis	
Travel Z-axis	
Maximum dimension between table and probe holder (without probe)	
Max. distance between columns at table	
Usable area of the granite slab (with EROWA	
Measurement inaccuracy in volume (acc. ISO	
Machine dimensions	
Dimensions LxWxH	
Maximum loadable workpiece weight	
Machine weight (without load)	

Other available sizes	
Travel X-axis	
Travel Y-axis	
Travel Z-axis	



	PreSet 3D CNC
	650 mm
	700 mm
	500 mm
	688 mm
height	819 mm
hole pattern)	819 x 1330 mm
10360/2)	2.5 μ m + L/300
	1380 x 1160 x 2429 mm
	650 kg
	775 kg

	PreSet 3D CNC
	500 mm - 1500 mm
	600 mm - 3000 mm
	400 mm / 1300 mm

Technical data

	PreSet 3D MAN
Travel X-axis	500 mm
Travel Y-axis	600 mm
Travel Z-axis	440 mm
Maximum dimension between table and probe holder (without probe)	585 mm
Maximum distance between columns at table height	720 mm
Usable area of the granite slab (with EROWA hole pattern)	720 x 960 mm
Measurement inaccuracy in volume (acc. to ISO 10360/2)	3.2 μ m + L/300
Machine dimensions	
Dimensions LxWxH	1044 x 1018 x 2411 mm
Maximum loadable workpiece weight	300 kg
Machine weight (without load)	390 kg

Other available sizes

	PreSet 3D MAN
Travel X-axis	650 mm
Travel Y-axis	700 mm
Travel Z-axis	500 mm

The next step

Important things need to be planned. And your next step is certainly one of the important things. Because it is your departure into a new, rational era.

We will be happy to accompany you. In an advisory capacity, in practice. So that you always know what you are getting into. The next EROWA branch is not far away - **take the step.**



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