



**WORLD CLASS
INNOVATION**

**First climate test chamber
with integrated measuring
robotic system
WK BM 1000**



extreme and sensitive

Battenberg ROBOTIC and Weiss Umwelttechnik present the first climate test chamber with integrated measuring robotic system

Recognising characteristic qualities – making assessments palpable, measurable and reproducible

Form, material and design are often among the essential criteria that support purchasing decisions. The way it feels to enter a car or touch its knobs - the way it smells, the way it sounds - these qualities are significantly harder to grasp. Measuring Robotic systems provide the data for this. The cooperation between Battenberg and Weiss allows a whole new range of application possibilities.



Now even under extreme climatic conditions



The WK BM 1000 represents the first complete solution in the form of a combined measuring robotic and climate test chamber – for function-dependent component tests under extreme climatic conditions (-40 °C to +85 °C) and with rapid temperature changes in testing and production.

The WK BM 1000 fulfils the requirements for a compact climate test chamber with an increased rate of temperature change, for cockpit components, such as touch panels, navigation systems, HMIs and air vents in a special way.

Programming of the entire test procedures of the measuring robotic systems, including the required climate profiles, is performed by means of the RobFlow software.

Measuring Robotic systems

The measuring robotic system constitutes the fulfillment of measurement, testing and movement functions through robotic sensors, image processors and the in-house developed measuring robotic software RobFlow® (Battenberg). The system measures haptic, visual and acoustic qualities of control panels such as switches, knobs and key pads on air

conditioning systems, information, entertainment and communication centers, in automotive engineering, medical technology equipment and home appliances.

Specific sensors, grippers or tactile tools are used to measure, evaluate and document characteristics such as force-displacement, torques and angles, offsets

on surfaces, colour accuracy, etc. The results are logged into standard PC programs and made available for statistical purposes.

The resulting data can be reconstructed anytime and serves as benchmark for production briefings, quality testing during production or fault analysis.

Measuring, testing and moving products in the climate chamber in the temperature range from -40 °C to +85 °C

With the "Road to Lab" process, realistic environmental conditions in the laboratory are simulated, to determine the influence of environmental impact that a product is exposed to. This is applicable in the sectors of automotive and supply industry, medical engineering, IT and household device industry.

The outstanding test possibilities provided by the robotic measuring systems in the field of quality control are continued in the climate chamber with the WK BM 1000. The robot in the climate chamber is protected by an air-conditioned protective cover.

Reliability and quality tests under extreme ambient temperatures

The functional reliability and quality of vehicle components or other operating components are tested in the climate chamber. With the aid of an air-conditioned robot, vehicle or operating components can be simultaneously moved, and location-dependent functions can be flexibly, precisely and efficiently measured. All measured values are recorded for subsequent analyses, and hysteresis curves can be documented.

Especially for the automotive industry

Analysis of the entire vehicle, whereby the operating components of the vehicle interior can be measured, analysed and evaluated, and even comparative quality analyses (benchmarks) can be performed.

Measuring robotic systems for measurement, analysis and evaluation of the product quality along the entire value chain

- Flexible use for various measuring applications
- Reproducible measuring results
- Transparent and comparable measuring results
- Anytime, anywhere availability and deployability
- Location independent comparison
- Standardisation of test and quality features
- Systematic detection of quality failures
- Reduction of quality failures and fewer rejections



Reduction of costs and time / zero-fault quality



Customer satisfaction



Advantages:

1. Measuring robotic systems for component tests and function tests in the climate chamber in the temperature range from -40 °C to +85 °C.
2. Monitoring of temperature and air flow.
3. The integrated measuring platform enables fast assembly of the test components.
4. The manual, haptic programming of robot paths and measuring points is optionally possible via the force and torque sensor.
5. Monitoring and control functions for the climate chamber can be optionally integrated e.g. webcam.

With us you can

- + Set quality standards
- + Optimise quality assurance
- + Reduce quality costs



Measuring Robotic systems for extreme climates

Technical description

Measuring robotic systems

Operating range: 900 mm
Haptic sensor: integrated
Measurable in forces: Fx, Fy, Fz
3 torques: Mx, My, Mz
Measuring plate: integrated

Test chamber dimensions

Height: Approx. 800 mm
Width: 1150 mm
Depth: 1150 mm
Volume: 1000 l

Outer housing overall

Height: approx. 2300 mm
Width: 1600 mm
Depth: 2500 mm
Door: hinged on left side

Performance data

Temperature range: -40 °C bis +85 °C
Temperature change rate (heating and cooling) in accordance with IEC 60068-3-5: approx. 5.0 K/min
Humidity: 5 to 95 % r. h.

Electrical connection

3/N/PE AC 400 V ±10 % 50 Hz

Mains supply

CEE plug, 63 A

max. connection power

approx. 27 kW

Condenser

Water-cooled refrigeration unit

Compressed air supply

Operating pressure 6 bar



Battenberg ROBOTIC

Battenberg ROBOTIC from Germany is a pioneer and market leader in the field of Measuring Robotic systems. Over 25 years ago Battenberg was the first company to combine sensors, robots and intelligent software packages, for objective appraisal of quality interior components. Committed to being the "standard and reference" in Measuring Robotics, we have been developing a closed value chain from R&D over quality assurance and 100% end-of-line tests, up to inside car quality measurements.

Today, most OEMs and suppliers are working with our systems to measure, analyze and evaluate the interior components to improving the impression and function quality for the customer. As Leader in Measuring Robotic we provide you the highest quality in robotic, sensor technology and software RobFlow.



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Weiss Umwelttechnik

Weiss Umwelttechnik is one of the leading manufacturers of environmental simulation systems for research, development, quality assurance and production.

A complete product range for temperature and climate testing, weather, temperature shock, corrosion and long-term testing of proven test systems is available.

From economical series devices to walk-in systems process-integrated systems built to customer specification Weiss Umwelttechnik sets standards with the development of these test systems.



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