

Single sensor or sensor array

Mobile Test Bench

For development, prototyping, and flexible series production.

A mobile standalone workstation for magnetic field scans of rotors, with either a single 3D sensor for ultra high-resolution scans or a custom sensor array with up to 60 sensors for cycle times of 8–15 seconds.



At a glance

- ✓ Two sensor setups: single sensor for maximum resolution, sensor array for faster measurement
- ✓ Mobile standalone workstation
- ✓ Automatic pass/fail evaluation
- ✓ Magnetic imbalance analysis for each individual pole
- ✓ Fault localization even in multilayer embedded magnet structures
- ✓ Suitable for prototyping, development, or flexible testing in series production

Sensor setups

Single sensor · Maximum resolution

Speed: **approx. 30 s – 5 min**

- ✓ Full scan in approx. 30 seconds to 5 minutes, depending on resolution
- ✓ 3D magnetic field sensor for detecting B_x , B_y , B_z
- ✓ Laser distance measurement with 1.4 μm resolution
- ✓ All metrological components are DAkkS-calibratable

Sensor array · Faster measurement

Cycle time: **8–15 s**

- ✓ Custom sensor array with up to 60 sensors
- ✓ Multi-rotor design measurement (array length = max. part length)
- ✓ Minimal specimen heating due to short cycle time
- ✓ Optionally extended to a fully automated test bench for inline measurement

Specifications

Technical details

- Measurement range: $\pm 0.5 / 1 / 2$ T
- Vertical resolution: 24-bit quantization interval
- Rotor axis resolution: 5.5 arc seconds
- Linear measurement resolution: 50 nm
- Rotation speed: 10 variable speed settings from 30°/s to 500°/s
- Rotor temperature range: 20 °C – 55 °C
- Automatic test plan selection via serial number scan
- Unlimited rotor contour storage
- Measurement of rotor shaft magnetization / resolver influence
- Flexible sensor positioning
- Variable air gap
- Optimized for crane loading and industrial handling

SINGLE SENSOR ONLY

- 3D magnetic field sensor for detecting B_x , B_y , B_z
- Laser distance measurement resolution: 1.4 μm
- Linear speed: 250 mm/s
- All metrological components are DAkkS-calibratable
- Runout and temperature monitoring
- Sensor collision monitoring

SENSOR ARRAY ONLY

- Custom sensor array with up to 60 sensors
- Variable active length
- Automatic deactivation of unused sensors

Data processing

- 3D visualization of the magnetic field
- Automatic generation of test reports
- Automatic data archiving
- Database connectivity available
- Trend analysis across multiple measurements

Optional features

- Programmable external excitation in various current and voltage modes
- Automatic and interchangeable slip ring contacting for different rotor variants
- Recording of current/voltage/temperature profiles
- Four-wire resistance measurement

SENSOR ARRAY ONLY

- 2D/3D laser contour measurement of the stack
- Runout and temperature monitoring
- Fully automated test bench for inline measurement

Get in touch

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Subject to technical changes. Specifications depend on the configuration; the values in our quotation are binding.