Mobile Test Bench

# Mobile Test Bench with Sensor Array

For flexible series production, prototyping, and development.

A mobile standalone workstation for magnetic field scans of rotors with a custom sensor array of up to 60 magnetic field sensors. It scans the rotor across its entire surface in just a few rotations, for cycle times of 8–15 seconds. It is a line-scan magnetic field camera. As the rotor turns, the array builds up a field image of the entire surface line by line.



## At a glance

- ✓ Custom sensor array with up to 60 sensors
- ✓ Cycle time: 8 s – 15 s
- ✓ Mobile standalone workstation
- ✓ Automatic pass/fail evaluation
- ✓ Magnetic imbalance analysis for each individual pole
- ✓ Fault localization even in multilayer embedded magnet structures
- ✓ Multi-rotor design measurement (array length = max. part length)
- ✓ Minimal specimen heating due to short cycle time

## Specifications

### Technical details

- Custom sensor array with up to 60 sensors
- Variable active length
- Automatic deactivation of unused sensors
- Max. rotor diameter (PSM, EESM): 250 mm
- Max. part length: 500 mm (PSM, EESM), 400 mm (linear motor magnet tracks)
- Measurement range: ±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
- No magnetic components that add noise to the measurement

### 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
- 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.