WEBER
Technik pur

# AUTOMATION.
# Test rigs

**WEBER GMBH**

*...so that technology works.*

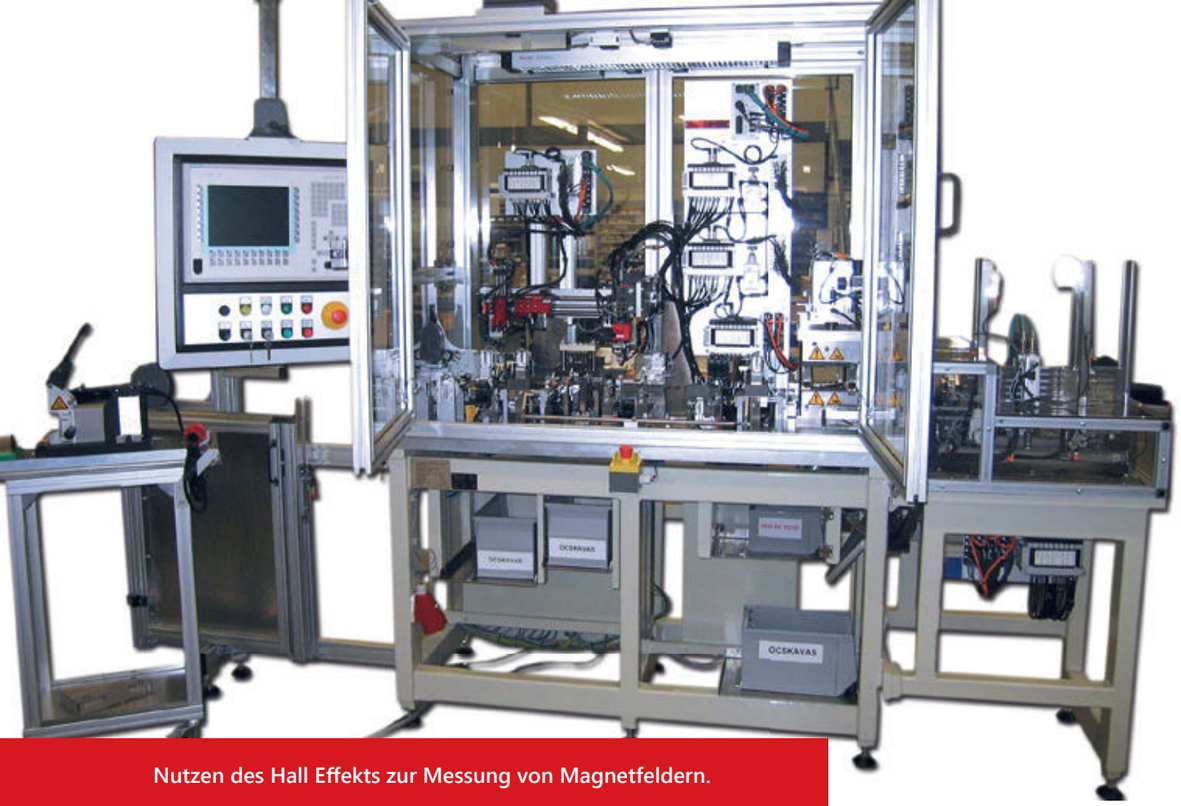
# Test rigs

*Many users in the fields of automotive, medical technology and system rely on our long-term experience. For these and other target audiences, we design and construct user-specific test rigs for development, testing and series production.*

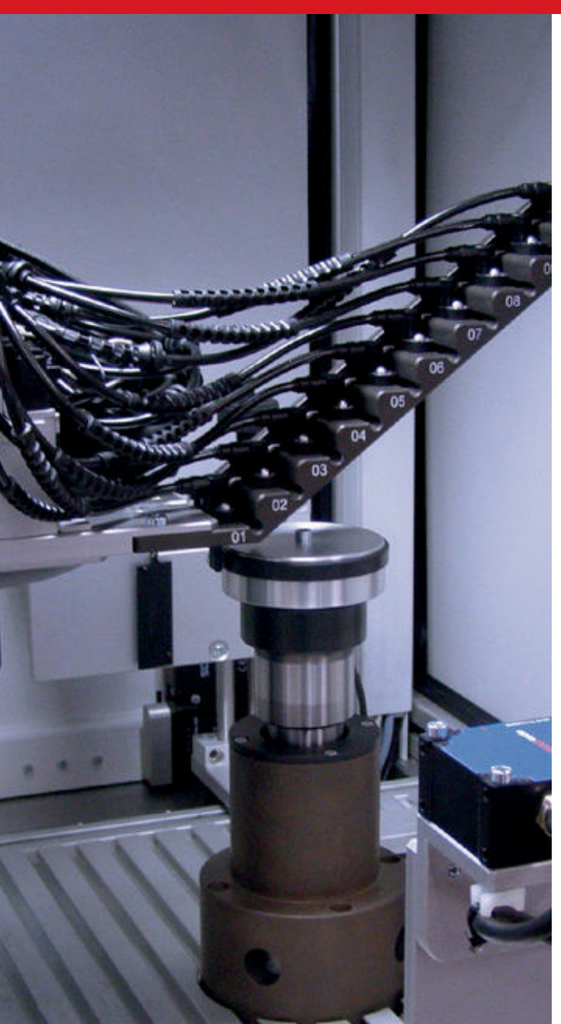
Our expertise includes design and manufacturing of test rigs (single workstations, inline and end-of-line), measuring/testing adapters and automatic test systems, as well as test rigs for measuring of mechanical and electronic values

## Our services at a glance

- Measurement of all mechanical and electronic values
- Data acquisition and evaluation of measurement results
- Control of the systems via:LabWindows/CVI, LabVIEW, Teststand, MCD, PLC etc.
- Noise test
- Flow measurement of various fluids
- Torque measurement
- Displacement and force measurement
- Functional test rigs
- End-of-Line test rigs
- Magnetic field measurement
- Optical inspection



Nutzen des Hall Effekts zur Messung von Magnetfeldern.

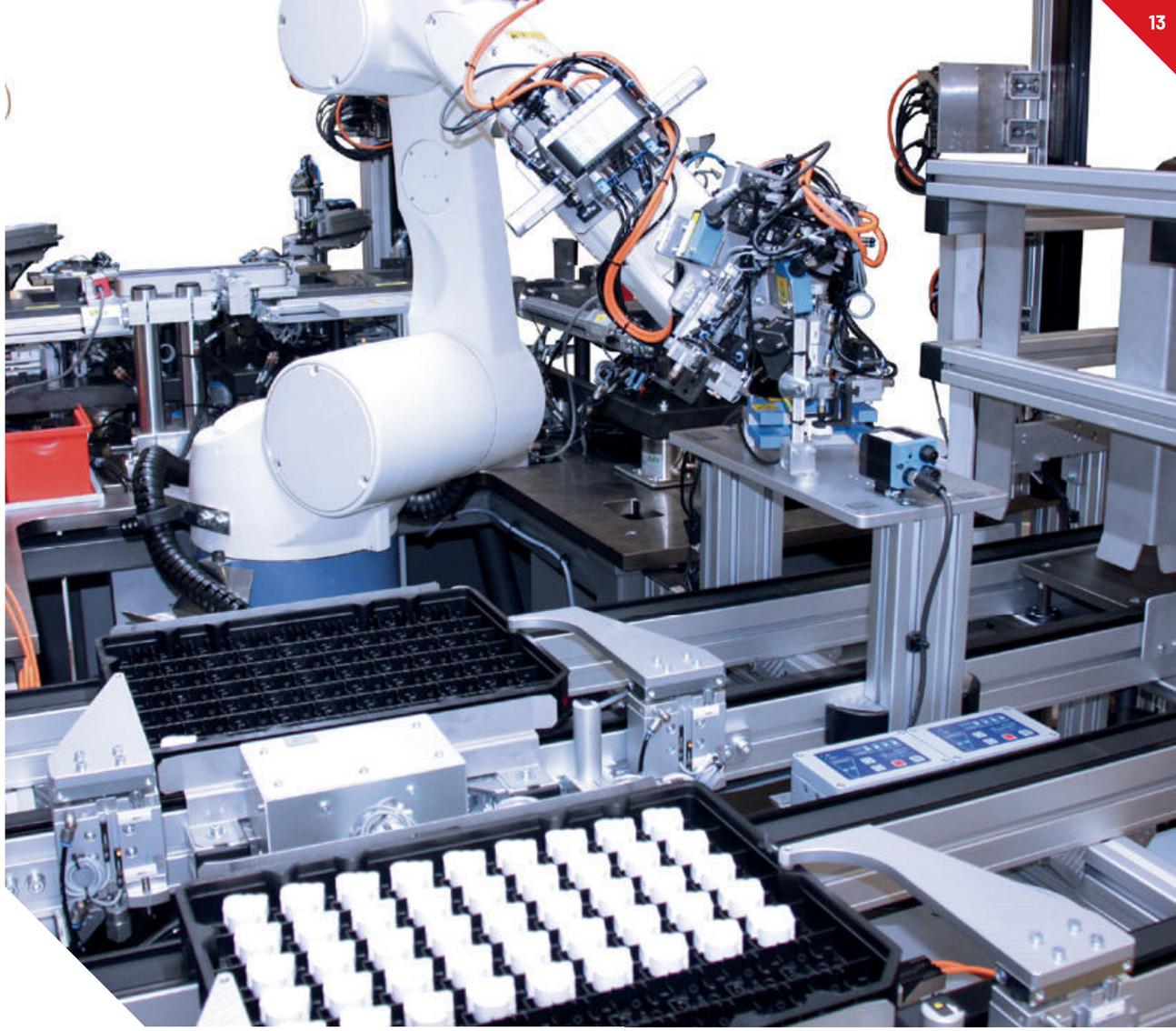



# Fully automatic test rig for speed sensors

*Development of test rigs – from planning and design to construction and qualification testing of sensors. The function control of speed sensors is carried out in random samples and as an intermediate test after climate tests.*

## Technical description

- Currently, there are three different versions with different functional ranges, all types are based on the Hall sensor principle
- Programming of test programs in LabVIEW
- Sensor positioning opposite multipole transmitter wheel
- Frequency and pulse width measurement
- Evaluation of information and voltage measurement
- Automatic testing and positioning of any number of test steps on up to ten sensors via a test sequencer



# Fully automatic testing machine for stepper motors

*Additional to design, development and commissioning of the testing machine, we developed the special structure-borne sound testing technology.*

## Technical description

- Cycle time 25 seconds
- 4 different types
- Infeed and discharge conveyor with integrated palletiser
- Robot loading via Denso robot with double gripper system
- 4 test nests with pneumatic decoupling during measurement
- Stepper motor synchronisation check via Canon laser system
- Measurement of structure-borne noise while testing
- Selection of the movements in different quality classes
- Greasing the contact points of the measuring units

# Automatic function test rig for gear pumps

*Maximum load test of gear pumps.*

Design, construction and assembly of an automatic function test rig for gear pumps.

## Technical description

- Cycle time 20 seconds
- Testing at 100 °C in 4 different oil circuits
- Load test from up to 40 bar oil pressure
- Leak test of oil channels in their own circuit
- Check of hydraulic tension
- The gear pump is driven to 8,000 rpm by a water-cooled servomotor
- Measurement data acquisition via a real-time system from National Instrument
- Programming of the test software in Lab Windows
- Storing measurement data in an SQL database
- Recording of measured values while testing torque, pressure, temperature and volume flow
- Pressure pulsation test (FFT) with conversion of the amplitude spectrum (p[bar]) to the level spectrum (p[dB])
- Evaluation of level addition of 24 pump frequencies
- Trumpf laser marking and verification of the DMC code with camera system
- Continuous filtering and testing of the test oil with particle monitor
- Cleaning station for gear pump

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