

MAGNAGATE



Compact (semi-)automatic device for non-destructive microstructure- and materials-testing on components



Test your components – quickly and reliably

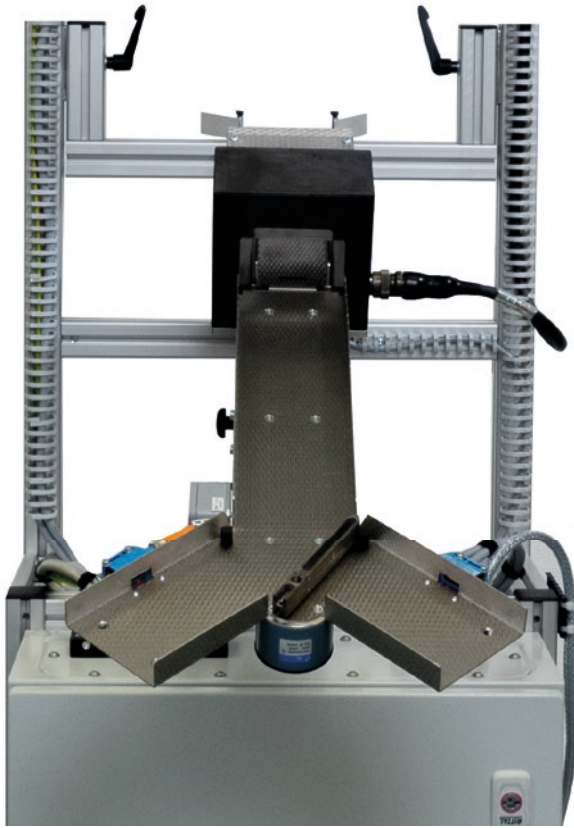
With MAGNAGATE, FOERSTER offers a simple and economical solution for (semi-)automatic, non-destructive verification of component microstructure and material to prevent mix-ups. The test system can be used in-line for automated 100% inspection and/or alongside the line for random manual sampling, as well as for external contract inspection.

Loading is either manual (by qualified personnel) or automatic by integrating the device into the production line. The parts are tested via magneto-induction for their properties as they pass through an encircling coil; rejects are separated out by a sorting gate.

The parts then proceed – either manually or automatically – to the next processing step.

The benefits

- **Reliable assessment** using proven MAGNATEST D technology with harmonic testing
- **Easy loading and unloading**
- **Automatic trigger** starts the test
- **Monitoring of the test track** to avoid faulty measurements
- **Automatic sorting** into good parts and rejects
- **Various encircling test coils available** depending on the shape of the parts
- **Documentation** of results



Integrated MAGNATEST technology ensures only good parts pass the gate

Even with fully automated production processes, material mix-ups can occur during the manufacture of components and semi-finished products. If undetected, such errors can induce considerable costs in production and lead to additional losses once at the end user. To detect such errors before they can cause damage, the integrated MAGNATEST system performs an automated, non-destructive microstructure test. A wide range of sensors allow for perfect adaptation to the sample.

The test utilizes the effect that different materials or their microstructures have different electrical conductivity (and/or magnetic permeability) – which is exactly the property detected by the sensors and analyzed by the instrument. In this way, the components can be sorted by their chemical composition (e.g. free-machining steel 9S20, case-hardening steel C15, quenched and tempered steel or structural steel St37), their microstructure (e.g. ferritic, pearlitic or austenitic) or their heat-treatment state (e.g. unhardened, hardened, tempered, or quenched and tempered).

Interference stemming from the manufacturing process, such as temperature differences or batch effects, can also be minimized using harmonic analysis.

MAGNAGATE tests and sorts automatically or manually – your choice

Because correct positioning of the samples is important, the ideal solution is automated, reproducible testing during production, which ensures both the highest throughput and optimum control of the test sequence. MAGNAGATE's modular design makes it easy to integrate it directly into the manufacturing process. But the device can also be used for semi-automatic, cost-effective testing of specific batches or random samples alongside the production line.

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