

Comprehensive bar testing

Surface and volumetric testing of bars



Your partner for bar testing: FOERSTER

Need to thoroughly inspect your bars for surface defects like overlaps and internal ones like inclusions? Then our new test line for round bars is ideal!

The test begins with MAGNATEST checking for material mix-ups; an (optional) optical unit then takes the bars' dimensions. This lays the foundation for high-quality inspections – right from the start.

Next, we examine both the outside and the inside of the bars using the proven CIRCOFLUX flux leakage instrument (surface testing) in tandem with our new BARPROOF phased-array ultrasonic device (internal defects). This ensures complete bar inspection – all in the highest FOERSTER quality. Lastly, a color-marking unit marks the defective areas found by the system with precisely located, colored markings.

And there's no need to set up each instrument individually: FOERSTER designed and developed the higher-level instrumentation software so that orders and settings are managed centrally across the entire test line. Even third-party devices from other manufacturers can be integrated. For documentation purposes, a common test report is created for all instruments under management. The test results from all the instruments are summarized and stored in a central database, enabling easy access for higher-level systems.

From planning the test line to final acceptance, we are your single point of contact. We take you by the hand through the whole process and stand by your side for the entire service life of your system.

Everything from a single source – the new solution for bar testing from FOERSTER

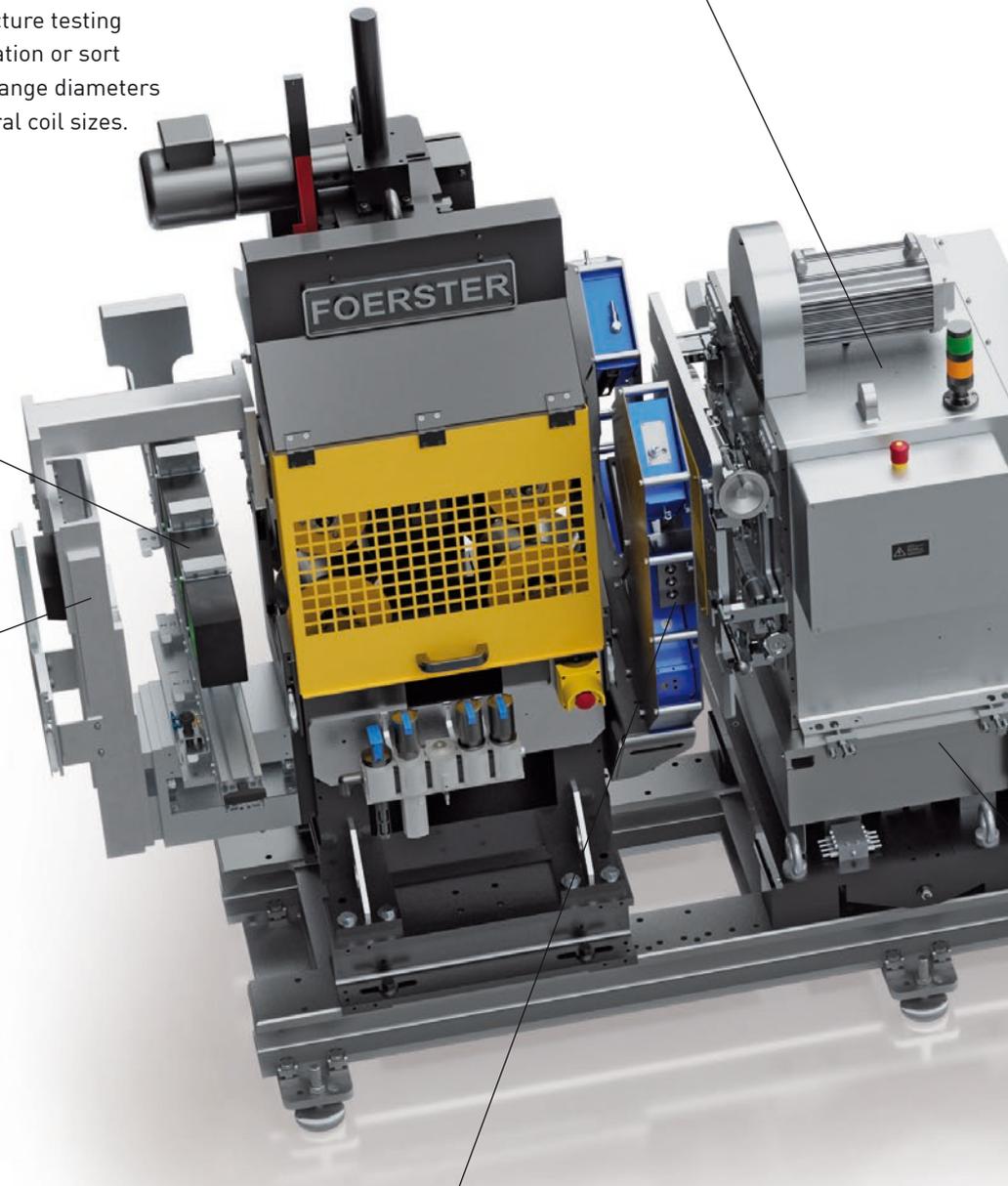


CIRCOFLUX Ro 130

Proven AC flux leakage sensor system, suitable for bar diameters 15–130 mm. Detects longitudinal cracks as shallow as 0.1 mm deep. Optionally with automatic dimension adjustment.

MAGNATEST D

Automated microstructure testing for material differentiation or sort separation. Quickly change diameters with sliding unit, several coil sizes.

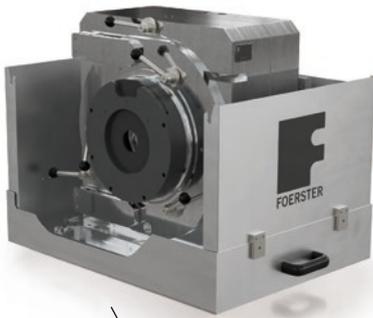


Entry protection

Limits the maximum material diameter, to protect downstream devices from too-large bars damaging them as they enter.

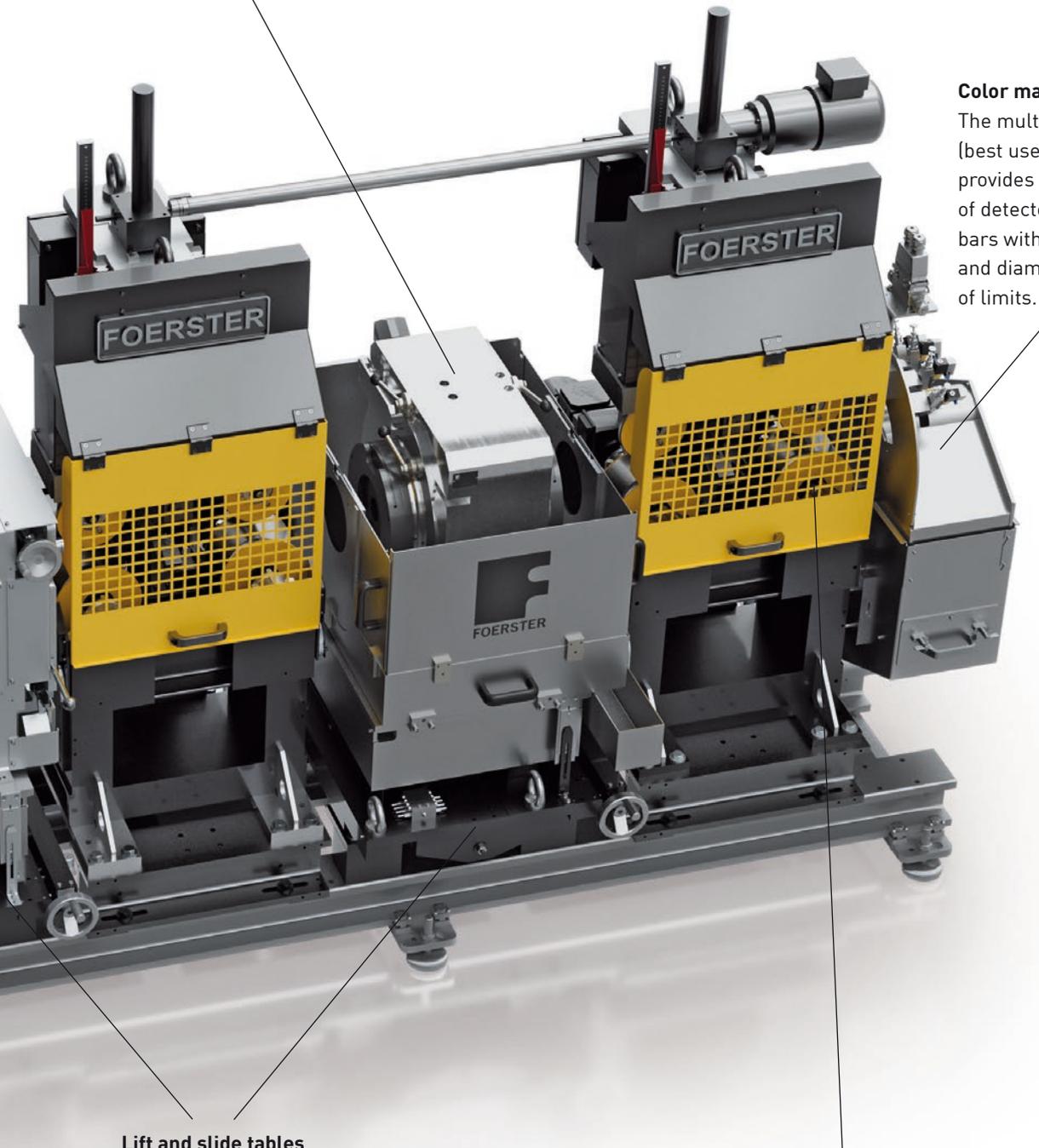
Dimension measurement with laser technology

High-precision optical measuring device for non-contact measurement of ovality and diameter.



BARPROOF 140

Compact phased-array ultrasonic inspection. Low-wear with rotating water jacket for bars in the 10–140 mm diameter range. Ideal for detecting internal defects such as inclusions and small, point-shaped defects.



Color marking

The multi-channel color marking (best used with an extraction system) provides a clear and precise indication of detected defects, and it marks bars with incorrect material structure and diameter deviations that are out of limits.

Lift and slide tables

Solid, low-vibration base for holding test instruments. User-friendly automatic height adjustment for centric material guidance. Manual positioning of the instruments into a service position allows for adjustments and maintenance work to take place outside the test section.

V-roller transport guides

Robust transport units with V-roller guides for safe, low-vibration transportation and guidance of the test material. The instruments are integrated into the test section control system for automatic operation.

Making quality visible.

The stringent quality requirements for bars require efficient ways to comprehensively inspect product quality; these same efforts facilitate the optimization of production processes! With customized test lines, FOERSTER offers the perfect solutions for testing and quality assessment of bright bars and bars with a hot-rolled surface.

As soon as the bars enter the test line, powerful instruments automatically start checking the properties – one after the other – and recording any deviations. From material verification and diameter measurement to the uncovering of surface and internal defects: nothing goes undetected by the FOERSTER test line.

Testing for surface defects with CIRCOFLUX DS

The CIRCOFLUX sensor system uses the proven AC flux leakage method to inspect ferromagnetic bars for longitudinal crack-like defects – starting at just 0.1 mm deep – and make them visible. The Ro 130 sensor system covers a diameter range of 15–130 mm at a maximum throughput speed of up to 4 m/s. The extended long-life test shoes, each with up to 12 probes, display near-surface defects in a reproducible and high-resolution manner with

minimal wear. The simple and safe operation of the sensor system and the evaluation software also provides maximum operational reliability.

Testing for internal defects with BARPROOF 140

The BARPROOF 140 test instrument uses proven phased-array ultrasonic technology to inspect the bars in a single pass for typical defects, both on the material surface and especially on the interior. The compact sensor system is designed for the 10–140 mm diameter range and can be easily integrated into test lines. Different probe sets facilitate the optimal test sensitivities and ensure fast test speeds for different bar diameters: Simply swap out the probe sets to adapt the instrument to a new range of bar dimensions.

To assure maximum availability and minimum maintenance times, there isn't a single rotating component in the entire sensor system. Three guiding bushes in the sensor system optimise the centric guidance of the bars and contribute significantly to the excellent reproducibility of the ultrasonic inspection. The BARPROOF has thus been designed to provide many years of reliable use.

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