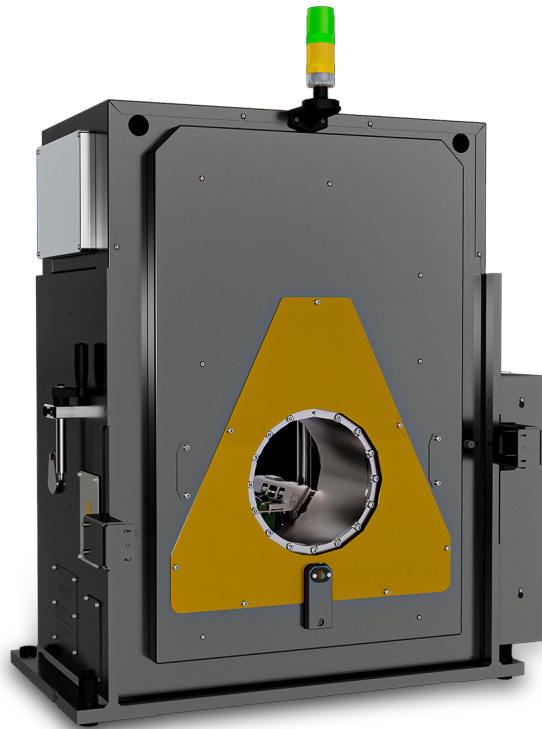




CIRCOFLUX DA SENSOR SYSTEM R0 220

High-precision flux leakage testing for large-diameter bars



CIRCOFLUX DA R0220

CIRCOFLUX DA SENSOR SYSTEM RO 220

High-precision flux leakage testing for large-diameter bars



Maximum precision for large bar diameters. The Ro 220 sensor system extends the application range of the CIRCOFLUX DA product family specifically for large material diameters and demanding rolling mill environments. It enables reliable surface inspection of hot-rolled ferromagnetic bars even with large cross-sections and high process requirements.

Based on the AC magnetic flux leakage method (AC-MFL) in accordance with DIN EN ISO 9443, the system enables reproducible detection of longitudinal, crack-like surface defects from depths of 0.10 mm. Visual inspection methods and magnetic particle testing can therefore be replaced by an automated and fully documented inspection solution.

With an inspection range from 20 mm to 220 mm, the sensor system is particularly suitable for applications where large bar diameters must be inspected during or after production.

The robust design of the sensor system, together with maintenance-free inductive signal transmission, supports stable continuous operation under industrial conditions. In combination with the FOERSTER DA platform electronics, the system provides automatic calibration routines, integrated diagnostic tools, and intuitive operation via the FOERSTER touchscreen interface.

YOUR ADVANTAGES AT A GLANCE

Reliable defect detection: Reliable detection of longitudinal surface defects from depths of 0.10 mm

Wide diameter range: Designed for large diameter ranges from 20 mm to 220 mm

High process stability: High process stability when inspecting large material cross-sections

High throughput: Feed speeds up to 2,5 m/s

Future-proof technology: AI-ready for future AI-based analysis and assistance functions

Maintenance-free signal transmission: Maintenance-free inductive signal transmission

Reproducible results: Automatic calibration routines for reproducible inspection results

Unified user interface: Intuitive operation via the FOERSTER DA user interface

Seamless integration: Easy integration into existing production systems

NORMS

DIN EN ISO 9443: Describes the technical delivery conditions for hot-rolled steel bars and wire rod. The magnetic leakage flux method with probes is recommended.

TECHNICAL INFORMATION

DIAMETER RANGE:	20 – 220 mm Ø
MAXIMUM NOISE LEVEL:	70 dB (A)
DRIVE MOTOR POWER:	4,1 kW
VARIABLE ROTATIONAL SPEED:	0 – 960 U/min
SLOW-DOWN TIME WITH BREAKING (DEPENT ON ROTATIONAL SPEED):	approx. 60 seconds at maximum rotational speed
SCANNING TRACK WIDTH:	160 mm
MAX. TRANSPORTATION SPEED (DEPENDENT ON TEST MATERIAL DIAMETER):	2.5 m/s
SET-UP TIME WITH ROLLER GUIDE:	approx. 5 minutes
ADDITIONAL SET-UP TIME FOR INNER ROLLER GUIDE:	approx. 5 minutes
WEIGHT WITHOUT ROLLER GUIDE:	approx. 910 kg
NUMBER OF TEST HEADS:	2
MAX. NUMBER OF TESTING CHANNELS	2 × 40
SIGNAL TRANSMISSION:	inductive transmitter
FREQUENCY OF MAGNETIZING CURRENT:	7,5 kHz
TRANSMISSION OF THE MAGNETIZING CURRENT:	inductive transmitter
POWER CONSUMPTION:	4,2 kVA (230 V) and 7,5 kVA (400 V)
CONNECTION TO ELECTRICITY NETWORK:	TN system
SPECIFICATION OF TEST MATERIAL:	Ferromagnetic bars and tubes with a round surface (bright, peeled, or hot-rolled), free of loose scale, chips, and protruding burrs. Test piece ends must be burr-free, cut square to the bar axis, and free of cross-sectional deformation. Liquids and grease are not permitted.
SPECIFICATION OF TEST MATERIAL – AMBIENT TEMPERATURE:	5 °C bis 45 °C
SPECIFICATION OF TEST MATERIAL – MAXIMUM RELATIVE HUMIDITY:	85 %
SPECIFICATION OF TEST MATERIAL – TEMPERATURE OF TEST MATERIAL:	5 °C to 80 °C



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