FOERSTER

SENSOR SYSTEM M

For the eddy current testing of round and profiled ferromagnetic material with encircling coils and electrical dc-field magnetization

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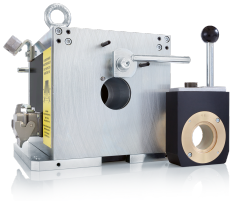


Sensor system for testing ferromagnetic semi-finished products. For nondestructive eddy current testing of cold ferromagnetic and austenitic semi-finished products, magnetization is required in many applications. Sensor System M combines eddy current testing with DC field magnetization, providing optimal conditions for sensitive and stable defect detection.

The main application is continuous testing of tubes, bars and wires with round or profiled cross-sections. For ferromagnetic materials, magnetization reduces interference caused by variations in material permeability. Combined with DEFECTOMAT testing and evaluation electronics, Sensor System M enables reliable inspection across a wide range of material dimensions.

Robust LMD encircling coils are primarily used for defect detection. In multi-differential configuration, they detect short surface defects extending steeply into the material with high sensitivity. An additional absolute winding supports the detection of elongated defects and can also be used for basic material mix-up testing.

Five system sizes from M 40 to M 240, together with different test coils, protective nozzles and adapters, allow flexible adaptation to the material and testing task. In addition to standard round coils, special coils are available for profiled materials. Segment coils and DEFECTOARRAY sensors can also be used.

Non-ferromagnetic semi-finished products can also be tested with Sensor System M – without the need for magnetization.

YOUR ADVANTAGES AT A GLANCE

Stable defect detection: DC field magnetization reduces interference caused by variations in material permeability.

High defect sensitivity: Multi-differential coils detect short surface defects with high sensitivity.

Wide diameter range: Five system sizes for material diameters up to 240 mm.

Flexible configuration: Compatible with encircling coils, segment coils and DEFECTOARRAY sensors.

For round and profiled materials: Different test coils, protective nozzles and adapters allow optimal adaptation to the testing task.

Wide range of materials: Austenitic and non-ferromagnetic materials can also be tested.

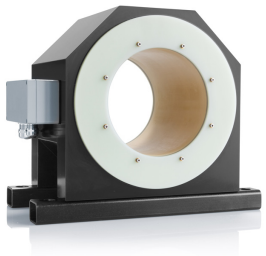
NORMS

DIN EN ISO 15549: Describes the general bases of eddy current testing.

TECHNICAL INFORMATION

TEST MATERIAL DIAMETER:	1.0 – 240 mm*
TEST FREQUENCY RANGE – LMD ENCIRCLING COILS:	1 – 100 kHz
TEST FREQUENCY RANGE – HMD ENCIRCLING COILS:	10 – 1,000 kHz
TEST MATERIAL:	Primarily ferromagnetic and austenitic materials; also suitable for fully austenitic and non-ferrous metals
MAX. TEST MATERIAL TEMPERATURE:	80 °C for continuous testing; 100 °C for individual part testing
MAX. AMBIENT TEMPERATURE:	45 °C
DETECTABLE DEFECT TYPES ACCORDING TO DIN EN ISO 15549:	Transverse defects and point defects
SENSOR SYSTEM SIZES:	— M 40: 1.0 – 40 mm — M 90: 1.0 – 90 mm — M 140: 1.0 – 140 mm — M 170: 1.0 – 170 mm — M 240: 1.0 – 240 mm
COMPATIBLE FOERSTER TESTING ELECTRONICS:	DEFECTOMAT DA, DEFECTOMAT CI / DI, DEFECTOMAT ECM
COMPATIBLE FOERSTER SENSORS:	Encircling coils, segment coils and DEFECTOARRAY

ACCESSORIES



EMAG
Demagnetization unit for ferromagnetic wires, rods, and tubes

MAG
Magnetization supply for ferromagnetic wires, rods, and tubes

FOERSTER

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