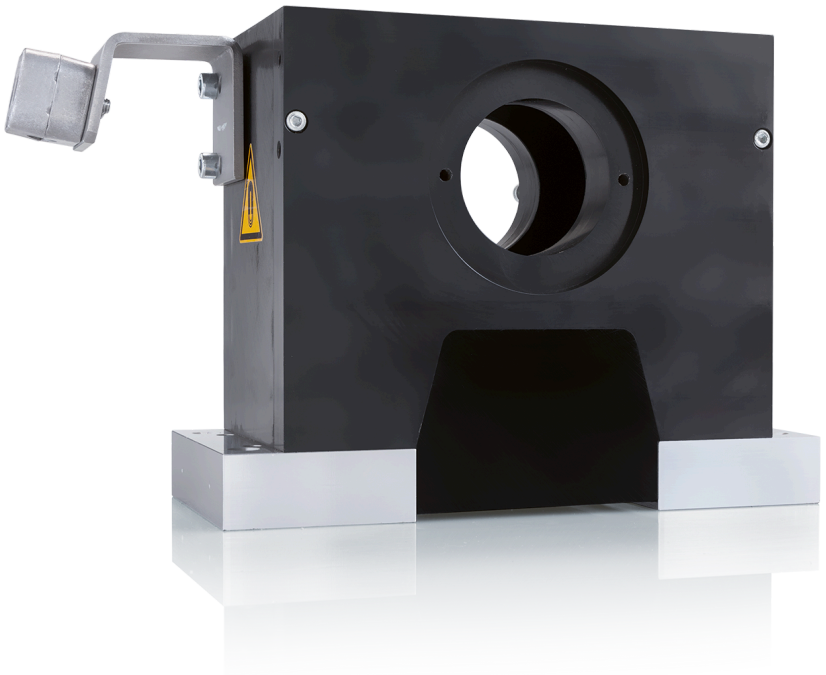
FOERSTER

SENSOR SYSTEM P

For the eddy current testing of slightly ferromagnetic material with through-type coils and permanent magnetization



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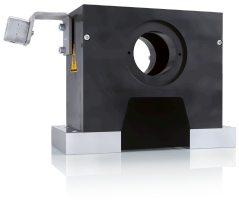

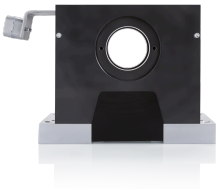

Flexible testing with permanent magnetization. Sensor System P is designed for contactless testing of austenitic and non-ferromagnetic as well as slightly ferromagnetic materials that can be sufficiently homogenized by permanent magnetization. Bars and tubes can be reliably inspected for surface defects in both individual part and continuous testing applications.

Depending on the testing task, LMD, HD or high-temperature encircling coils can be used. LMD encircling coils enable sensitive eddy current testing at frequencies from 1 to 100 kHz, while HD encircling coils support test frequencies up to 1 MHz. A finely graduated range of test coils and protective nozzles allows optimal adaptation to the material diameter and testing requirements.

Combined with a FERROMAT channel, Sensor System P also enables ferrous inclusion detection in non-ferromagnetic materials. Ferromagnetic particles embedded in the material are magnetized and detected via the voltage they induce in the test coil. With the appropriate testing electronics, eddy current testing and ferrous inclusion detection can be performed simultaneously using a single test coil.

Three compact versions – P 12, P 40 and P 40T – are available for different applications. With high-temperature encircling coils, Sensor System P 40T also enables testing of hot material at temperatures up to 400 °C.

YOUR ADVANTAGES AT A GLANCE

Wide range of materials: For austenitic, non-ferromagnetic and slightly ferromagnetic materials with sufficient magnetization

Two testing functions: Eddy current testing and ferrous inclusion detection – simultaneously with a single test coil when appropriately equipped

High flexibility: LMD, HD and high-temperature encircling coils for different material diameters and testing requirements

Finely matched testing equipment: Test coils and protective nozzles for optimal adaptation to the test material

For cold and hot material: P 40T enables testing at material temperatures up to 400 °C

System compatibility: Compatible with encircling coils, segment coils and DEFECTOARRAY sensors

NORMS

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

TECHNICAL INFORMATION

DEFECT TYPES:	Transverse defects and point defects
TEST MATERIAL DIAMETER:	1 – 40 mm
SENSOR SYSTEM VERSIONS:	— P 12 — P 40 — P 40T
NOMINAL DIAMETER RANGE – LMD ENCIRCLING COILS:	— P 12: 0.3 – 15 mm — P 40: 0.3 – 44 mm — P 40T: 5 – 44 mm
TEST FREQUENCY RANGE – LMD ENCIRCLING COILS:	1 – 100 kHz
TEST FREQUENCY RANGE – HD ENCIRCLING COILS:	10 kHz – 1 MHz, up to 5.6 mm Ø
TEST FREQUENCY RANGE – HIGH-TEMPERATURE ENCIRCLING COILS:	P 40T: 1 – 100 kHz up to 29 mm; 1 – 30 kHz above 29 mm
MAX. TEST MATERIAL TEMPERATURE:	— P 12 / P 40: 100 °C — P 40T: 400 °C
MAX. AMBIENT TEMPERATURE:	45 °C
FERROUS INCLUSION DETECTION:	In combination with FERROMAT channel on DEFECTOMAT DA, DEFECTOMAT DI / CI
COMPATIBLE FOERSTER SENSORS:	Encircling coils, segment coils and DEFECTOARRAY
PROTECTION RATING:	IP65

FOERSTER

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The FOERSTER Group is represented by subsidiaries and representatives in over 60 countries worldwide. You can find a complete overview on our website.

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