

Permeability Meter

List-Magnetik Ferromaster

for easy measurements of the magnetic permeability of materials and workpieces, measuring range $\mu_r = 1.001$ to 1.999

Features

- Easy use
- Measuring range $\mu_r = 1.001$ to 1.999
- Permeability test in conformance with ASTM A342 and EN 60404-15
- Calibrated to reference standards of the National Physical Laboratory, UK
- Calibration material supplied
- 3 ½ digit LC display
- Automatic zeroing
- Waterproof enclosure (protection IP65)

Applications

- Quality control of stainless steel
- Non-destructive testing of materials and workpieces
- Material selection for electron-/ion-beam equipment and NMR instruments
- Detection of ferromagnetic inclusions in materials
- Investigation of magnetically anisotropic materials
- Detection of material defects induced by stress



Description

The **List-Magnetik Ferromaster** is a compact hand-held instrument made for easy measurements of the relative magnetic permeability μ_r of materials and workpieces with μ_r between 1.001 and 1.999. The relative permeability is measured by touching the workpiece with the probe tip and reading the result from the LC display. Automatic zeroing is performed by simply pressing a button.

The permeability probe contains a small permanent magnet which magnetizes the sample to be investigated in the vicinity of the probe tip. Two sensitive magnetic field sensors in difference connection measure the distortion of the magnetic field introduced by the

magnetized sample. The instrument is calibrated to precise standards manufactured by the National Physical Laboratory (NPL, Teddington, UK). The calibration can be easily readjusted. A sample of low permeability material is supplied with each instrument for easy check of the calibration.

As a special feature the **Ferromaster** is provided with a robust waterproof case (protection IP65) and is therefore well suited to applications in harsh industrial environments. The built-in battery serves for approx. 50 hours operating time.

Technical Data

Measurement range	$\mu_r = 1.000$ to 1.999
Resolution	0.001
Display	LCD 3½ digits
Zeroing	automatically
Accuracy at 20 °C	$(\mu_r - 1) \times 5\%$
Operating temperature	0 to 50 °C
Field strength at probe tip	~ 35 kA/m
Power supply	9 V PP3 battery
Operation time	~ 50 h
Environmental protection	IP65
Standards	Permeability measurement compliant with ASTM A342 and EN 60404-15 standards
Traceability	Calibrated to reference standards of National Physical Laboratory, UK
Dimensions of unit	151 mm x 82 mm x 33 mm
Length of probe	35 mm
Diameter of probe	19 mm
Length of connection cable	1.5 m
Weight of complete instrument	280 g



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