

Permeability Meter FERROMASTER

for easy measurements of the magnetic permeability of materials and workpieces, meas. range $\mu = 1.001$ to 1.999



Features

- Easy use
- Meas. range $\mu = 1.001$ to 1.999
- Permeability test in conformance with ASTM A342 and EN 60404-15
- Calibrated to ref. standards of the National Physical Laboratory, UK
- Calibration material supplied
- $3\frac{1}{2}$ 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

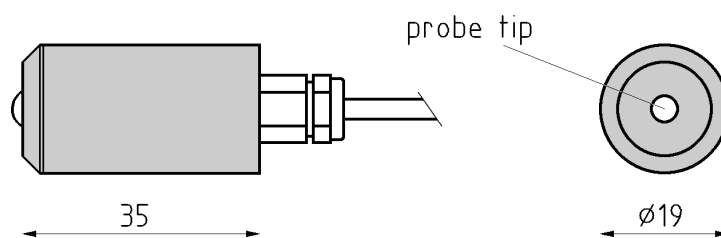
The FERROMASTER is a compact hand-held instrument made for easy measurements of the relative magnetic permeability μ_r of materials and workpieces with μ_r between 1.001 and 1.999. The relative permeability is measured by touching the workpiece with the sensor tip and reading the result from the LC display. 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 ~ 50 hours operating time.

Specifications

Measurement range	$\mu = 1.001$ to 1.999
Resolution	0.001
Accuracy of calibration @ $20\text{ }^{\circ}\text{C}$	$(\mu - 1) \times 5\%$, ref. to NPL calibration standards, can be readjusted
Operating temperature	0 to $50\text{ }^{\circ}\text{C}$
Field strength at probe tip	$\sim 35\text{ kA/m}$
Battery	9 V (PP3, Alkaline)
Operation time with one battery	$\sim 50\text{ h}$
Dimensions of electronics unit	$151\text{ mm} \times 82\text{ mm} \times 33\text{ mm}$
Environmental protection	IP65
Length of connection cable	1.5 m
Weight of complete instrument	280 g



Dimensions of the permeability probe in mm

Subject to alterations.