



Laboratorio Elettrofisico
LE GROUP



SOFT MAGNETIC MATERIALS

AMH-DC-T-S

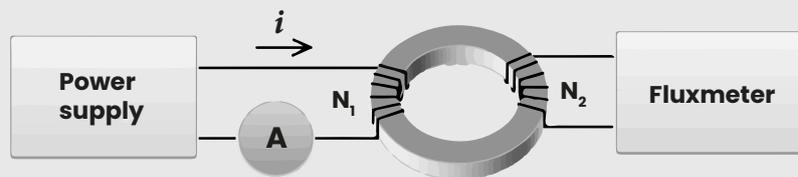
AMH-DC-T-S Permeameter is an automatic DC measuring system to characterize toroid shaped soft magnetic materials. Rings are the best shapes for such magnetic characterization: due to the naturally closed magnetic circuit, the demagnetizing field inside the material is zero.

PERMEAMETER AMH-DC-T-S

DESCRIPTION

The sample must be wound with a primary set of N_1 turns for excitation. A secondary set of N_2 turns must also be wound around the sample to record the magnetic flux. The H field is determined measuring the current i in the primary winding: $H = N_1 \cdot i / l$, where l is the length of the magnetic path (i.e. the averaged ring circumference, when the ring O.D and I.D. are not too different). The B field is determined measuring the magnetic flux Φ from the secondary winding: $B = \Phi / (N_2 A)$, where A is the cross section of the ring specimen.

The measuring cycle is fully automatic and is controlled by Laboratorio Elettrofisico exclusive software (Argon), resulting in complete characterization of the material under test.



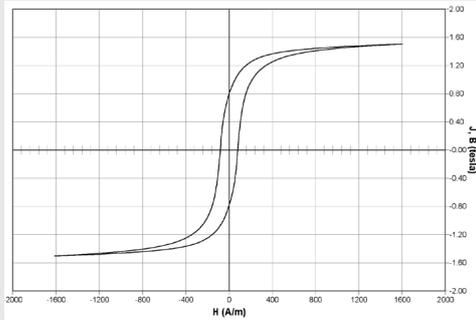
KEY BENEFITS

- Automatic measurement of complete hysteresis loop, normal magnetization curve, permeability curve
- Remanence B_r , coercivity H_c , saturation values H_{sat} , B_{sat} , J_{sat} , cycle area, relative permeability, etc.
- Differential permeability
- The AMH-DC-T-S meets the International Standards IEC 60404-4, ASTM A341 and ASTM A596.

STANDARD CONFIGURATION

- Fluxmeter
- 2 DC Power Supplies (incorporating precision current meter)
- Polarity switch
- Reference ring for day-to-day control
- Connection tool for ring samples
- Dedicated software Argon
- PC and printer

AMH-DC-T-S SOFTWARE ARGON



Argon software automatically controls the measurements of the AMH-DC-T-S and AMH-DC-TB-S permeameters.

FEATURES

TYPE OF MEASUREMENT

- Hysteresis loop, normal magnetization curve and relative permeability
- Demagnetization of the sample

SETTING OF MEASURING PARAMETERS

- Manual or automatic settings of magnetizing and demagnetizing field, speed, resolutions and many other parameters

RESULTS

- Hsat, Bsat, Jsat, Br, Hc, loop area, relative permeability
- Magnetic units in SI and CGS, dimensions in mm and inches, temperature in °C and °F

DATA ELABORATION

- Curve comparison
- Curve's interpolation
- Automatic control of the fluxmeters
- Merging of different curves

PRINTING A REPORT

- Customized report or single and multiple measures output in PDF, graphical files, text file

DATA BASE AND FILE SEARCHING

- Data base of measuring files with fast search options, ordering, selection, etc.
- Full compatibility with other programs, such as Microsoft Excel™

PROTECTION

- Password protection for restricting access according to selected parameters.

SET OF MEASURES

- Ability to group together different measurements in the same graph. The software recognizes the group type and provides additional results such as statistical data, i.e. the average, standard deviation, etc.

TECHNICAL SPECIFICATIONS 1/2

GENERAL

MEASURABLE MATERIALS

Soft Magnetic Materials

MEASURABLE QUANTITIES

Bsat, Jsat, Hsat, Br, Hr, cycle area, μ_{rel}

MEASURABLE SHAPES

Rings

SAMPLE SIZE RING

No physical limits (size affects max H field achievable)

TYPICAL ACCURACY RING

Hsat, Bsat: 1%; Hc: $\pm 2\%$, Br: $\pm 2\%$; μ : $\pm 3\%$

TEST TIME

60-120 seconds (typical)

OPERATING TEMPERATURE RANGE

15÷40°C

FREQUENCY

DC

MAIN CABINET

POWER SUPPLY

220 Vac, 50/60 Hz, 16 A max absorption

UNITS

16 U

DIMENSIONS

543 x 710 x 628 mm - 21.3" x 28" x 24.7"

WEIGHT

60 kg (132 lb)

POWER SUPPLY LPS

POWER OUTPUT

200 W: 8V/20 A or 20 V/10 A

RESOLUTION

1 mV/ 1 mA

CURRENT ACCURACY (READING)

0.15% + 5 mA

POWER SUPPLY HPS

POWER OUTPUT

1500 W: 60 V/25 A

RESOLUTION

1,2 mV/1.25 mA

CURRENT ACCURACY (READING)

0,3% \pm 75 mA

TECHNICAL SPECIFICATIONS 2/2

FLUXMETER

MODEL

Digital Flux

RANGES

2000 x (1, 2, 5, 10, 20, 50,100) μ Wb

RESOLUTION

1/2000 of range

ACCURACY

$\pm 0,5$ % of reading, ± 1 digit

PC AND SOFTWARE

PC

PC, monitor, printer and connection cables

OPERATIVE SYSTEM

Windows O.S.

SOFTWARE

Argon (English or Italian)

CONNECTION

LAN

MANUALS & DOCS

Calibration certificate, CE mark



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