



Laboratorio Elettrofisico
LE GROUP



SOFT MAGNETIC MATERIALS

CR/03

The automatic DC measuring system made for irregularly shaped samples in a fast and easy way. The CR-03 Coercimeter measures the coercivity for soft magnetic materials.

CR/03 COERCIMETER

DESCRIPTION

The Laboratorio Elettrofisico coercimeter facilitates measurement of samples that are not in the standard toroidal, strip or bar shapes. The CR/03 measures irregular shapes when closed-circuit measurements are not possible or convenient, which is the case in most applications.

No longer do you need to cut the material which alters the sample testing and often has a negative effect on the magnetic characteristics.

The working principle is based on the detection of the stray field coming from the sample under test. A Hall probe, positioned near the sample, measures the transverse component of this field. The stray field reduces as the axial field of the solenoids demagnetizes the sample. When the transverse field is zero, the axial field coincides with the coercivity of the material.

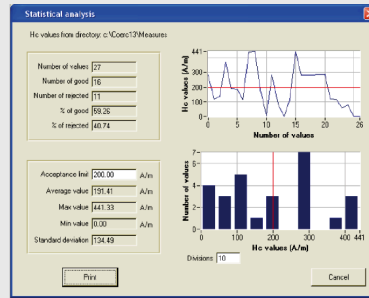
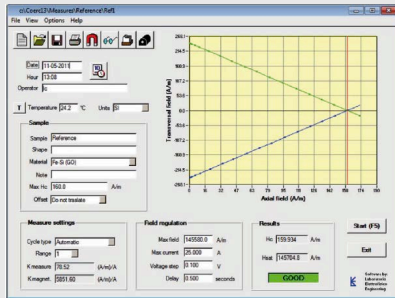
KEY BENEFITS

- Manual or automatic settings of parameters
- Magnetizing field up to 140 kA/m
- Coercivity Hc and Hsat
- Double-polarity measurements

STANDARD CONFIGURATION

- Cabinet with DC power supplies and gaussmeter
- Hall probe
- Solenoid with positioning tool for samples
- Mu-metal shield (optional)
- Dedicated software Krypton
- PC and printer
- Sample holder (accessory)
- Probe holder (accessory)

CR/03 COERCIMETER SOFTWARE KRYPTON



File name	Sample	Material	Hc (A/m)	Max. width H (B/A/m)
1 - C:\Coerc\T\MMeasure\COEF000.png	Filamento	Soft steel	281.53	100000.00
2 - C:\Coerc\T\MMeasure\COEF000.PNG	Filamento	Soft steel	118.81	39761.60
3 - C:\Coerc\T\MMeasure\COEF000.PNG	Filamento 1	Soft steel	176.50	39761.60
4 - C:\Coerc\T\MMeasure\COEF000.PNG	Filamento 2	Soft steel	267.76	39761.60
5 - C:\Coerc\T\MMeasure\COEF000.PNG	Filamento 3	Soft steel	191.60	39761.60
6 - C:\Coerc\T\MMeasure\COEF000.PNG	Filamento 4	Soft steel	195.46	39761.60
7 - C:\Coerc\T\MMeasure\COEF000.PNG	Filamento 5	Soft steel	115.81	39761.60
8 - C:\Coerc\T\MMeasure\COEF000.PNG	Filamento 6	Soft steel	148.84	39761.60
9 - C:\Coerc\T\MMeasure\COEF007.PNG	Filamento 6	Iron	441.33	39761.60
10 - C:\Coerc\T\MMeasure\COEF008.PNG	Filamento 2,25	Soft steel	162.84	39761.60
11 - C:\Coerc\T\MMeasure\COEF009.PNG	Elemento 2,25	Material	9186	100000.00
12 - C:\Coerc\T\MMeasure\COEF010.PNG	Filamento	Soft steel	281.53	100000.00
13 - C:\Coerc\T\MMeasure\COEF011.PNG	Elemento 2,25	Fe-Si (oriented)	867.43	100000.00

LE's proprietary coercivity software Krypton automatically controls the measurement process.

KEY BENEFITS

TYPE OF MEASUREMENT

- Coercivity Hc and Hsat
- Double-polarity measurements

SETTING OF MEASURING PARAMETERS

- Manual or automatic settings of parameters
- Magnetic units in SI and CGS

DATA ELABORATION

- Limit setting for good/rejected results
- Statistical evaluation of the results

PRINTING A REPORT

- Customized print options for information and language
- Direct print of a graphical report on printer or file
- The report can be opened and saved with other word processor programs

DATA BASE AND FILE SEARCHING

- Data base of measuring file with fast search capability, ordering and selection
- Full compatibility with other spread sheet programs, such as Microsoft Excel™

PROTECTION

- Password protection for restricting access according to selected parameters

TECHNICAL SPECIFICATIONS 1/2

GENERAL

MEASURABLE MATERIALS

Soft Magnetic Materials

MEASURABLE QUANTITIES

Hcj, Hsat

MEASURABLE SHAPES

Regular or irregular

HCJ RANGE

from 0.5 A/m to 144 kA/m

HCJ RESOLUTION (MAX)

6 mOe to 1800 Oe

SAMPLE SIZE (MAX)

20 mm diameter x 110 mm lenght

TEST TIME

30 seconds (typical)

OPERATING TEMPERATURE RANGE

15 ÷ 40 °C

FREQUENCY

DC

ACCURACY

HCJ

± 1%

HSAT

± 1%

TRANSVERSAL FIELD

± 0.5%

MAIN ELECTRICAL CABINET

POWER SUPPLY

200 Vac, 50-60 Hz, 16 A max absorption

DIMENSIONS

535 x 655 x 550 mm (21 x 26 x 22")

WEIGHT

55 kg (121 lb)

GAUSSMETER

RANGES

35 G, 350 G, 5 kG, 35 kG

RESOLUTION

from 100µG to 1 G

ACCURACY

± 0.075% of reading, ±0.005% of range

COMMUNICATION PORT

RS232

TECHNICAL SPECIFICATIONS 2/2

HALL PROBE

TYPE	Transverse
STEM MATERIAL	Aluminium
DIMENSIONS	200 x 4.6 x 1.5 mm (8 x 0.8 x 0.06)
LINEARITY	0.20% to 30 kG
CABLE LENGHT	2 m (6,5 ft)

SOLENOID

MAX FIELD	1800 Oe (144 kA/m)
MAX CURRENT	25 A
DIAMETER	53 mm - 2.09"
1% UNIFORMITY LENGHT	110 mm - 4.33"
DIMENSIONS	L280 x W225 x H410 mm - L11.02 x W8.86 x H16.14"

SHIELD

MATERIAL	Mu metal
THICKNESS	1.5 mm (0.06")
DOMENSIONS	L300 x W300 x H545 mm - L11.81 x W11.81 x H21.46"

PC AND SOFTWARE

PC	PC, monitor, printer and connection cables
OPERATIVE SYSTEM	Windows
SOFTWARE	Krypton (English or Italian)
CONNECTION	Ethernet/USB



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