

- Measurement of elongation in soft magnetic materials due to external magnetic field
- Supplementary module for BROCKHAUS electrical sheet measuring systems
- Optical measurement with laser unit
- Highly accurate measurement and repeatability
- Comprehensive software programme for measurement and evaluation
- Integration into superordinated QM-systems

Measuring categories

Elongation

Zero-to-zero magnetostriction

Peak-to-peak magnetostriction

Magnetostriction vs field strength

Magnetostriction vs polarization

Magnetostriction Tester MST 500

Operating principle

The magnetostriction tester is a supplementary module for connection to BROCKHAUS electrical sheet measuring systems.

Magnetostriction is one of the causes of buzzing which arises during the operation of transformers.

In a single sheet sensor the measuring sample is exposed to a defined external magnetic field. Magnetic domains within the sample change with increasing magnetization which results in elongation.

With the aid of a laser-supported longitudinal measuring system the elongation is recorded and displayed via a software programme.

A vibration-free table is used to avoid external interference factors.

The laser technology used enables the implementation of this device both in research and development and for industrial applications.

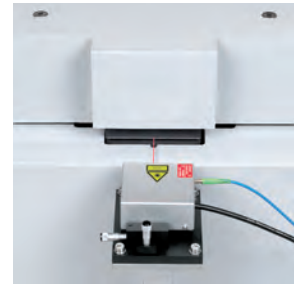
The length information measured by the laser system is sampled simultaneously together with the voltage and current signals of the electrical field. This avoids phase differences between polarisation and magnetostriction effect. The length information can be shown graphically or exported to ASCII and Excel.

Technical Data

Application	testing electrical steel, e.g in the construction of transformers
Strip coil	field strength up to 10,000 A/m; polarization up to 2 Tesla
Dimensions of samples	600 mm x 100 mm x 1.5 mm (L x W x H)
Laser Interferometer	operating distance 230 mm; laser beam \varnothing 12 – 30 μ m, 100 μ m
Measuring table	pneumatic system, 550 Pa; working area 900 mm x 1200 mm
Contents	single sheet sensor 500 x 100, laser interferometer, vibration-free table, electrical supply kit, software programme
Power supply	220 V, 50 Hz



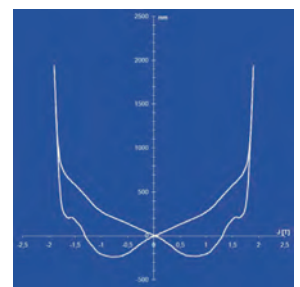
Magnetostriction tester with vibration-free table



Laser unit



Magnetostriction tester for amorphous material



Butterfly curve

Other measuring systems

Electrical Steel: C 510

Inline: EBA

Surface Resistance: Franklin Tester

Product divisions

Measuring Technology for Hard Magnetic Materials

Magnetizing Technology

Services

BROCKHAUS
MEASUREMENTS

Dr. Brockhaus Messtechnik GmbH & Co. KG
Gustav-Adolf-Str 4 · D-58507 Lüdenscheid
Germany

Phone: +49 (0) 2351 3644-0
Fax: +49 (0) 2351 3644-44
measurements@brockhaus.com

WWW.BROCKHAUS.COM