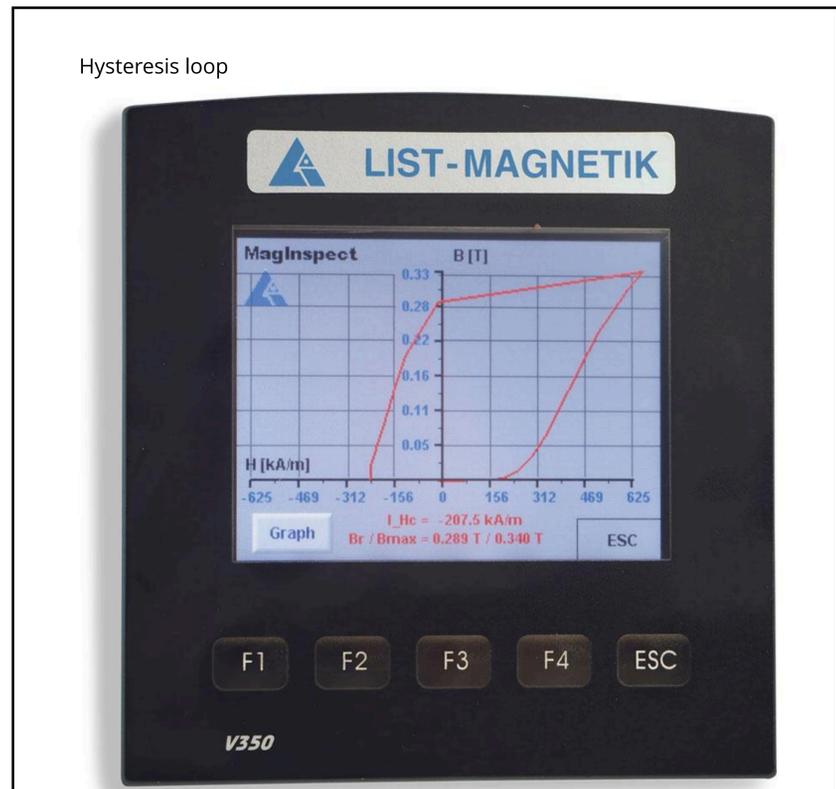


LM-MAGINSPECT Magnet Analyzer

www.list-magnetik.com

MagInspect - the innovative and cost-effective solution for measuring the magnetic quality of hard magnetic materials such as AlNiCo, ferrite or rare earth materials. MagInspect is optimized for industrial applications and rapid quality inspection. MagInspect is particularly suitable when cost, flexibility and ease of use are paramount. MagInspect is an easy-to-use test instrument that can measure the hysteresis curve of magnetic materials using a pulse method. MagInspect consists of a control unit and an external pulse probe with innovative measurement electronics. A particular advantage of MagInspect is that the geometry of the object to be measured is largely free.



Material testing and quality control

Determination of the magnetic properties of materials

Research and development

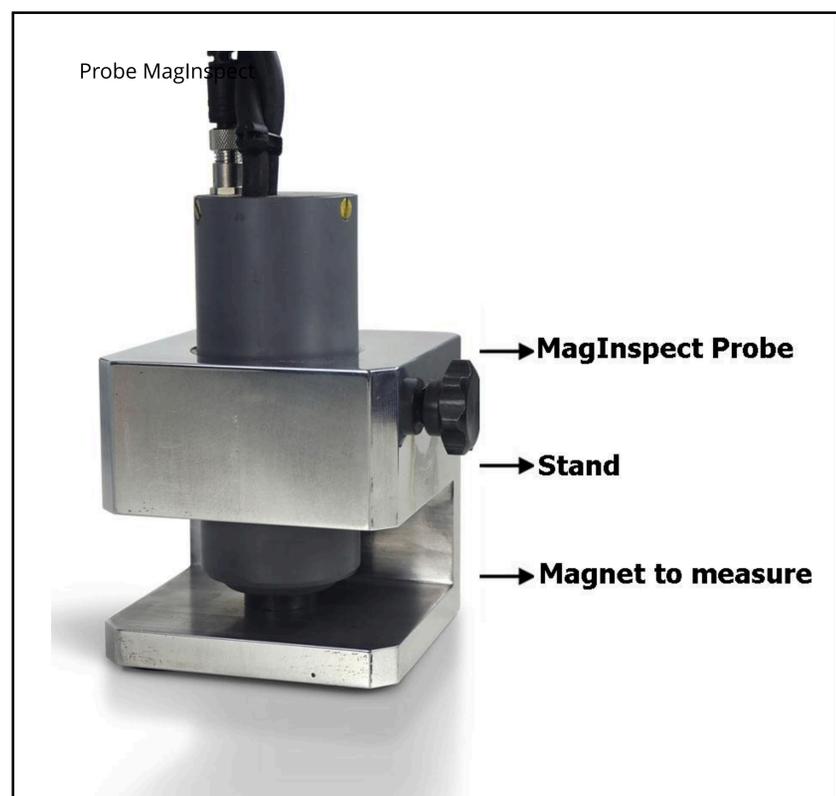
Testing new materials/alloys for magnetic properties

Production control

Monitoring the magnetisation of components during production

Documentation

Recording the hysteresis curve in magnet production



Key terms

Coercivity (I_{Hc}): magnetic field strength required to reduce the magnetization of a material to zero

Remanence (Br): Residual magnetization that remains in a material after the external magnetic field has been removed.

Saturation magnetisation (M_s): Maximum achievable magnetization of a material

Hysteresis loop: Curve representing the relationship between magnetic field strength and magnetization

MagInspect measuring method

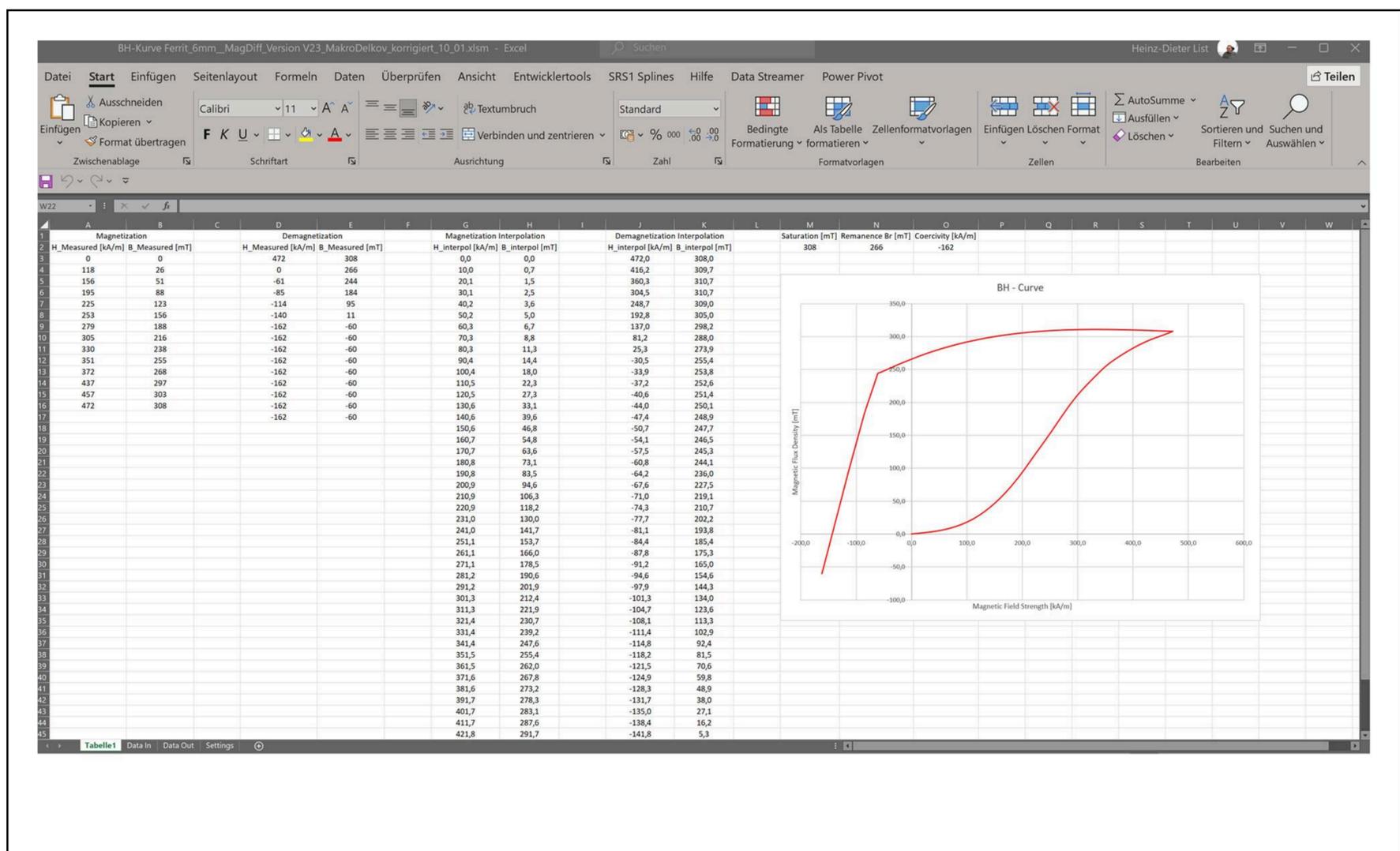
The pulse measuring probe has a built-in Hall probe with newly developed measuring electronics that can record the measured values of the Hall probe very accurately at up to 10 KHz using a 16-bit A/D converter. At the same time, a magnetizing and demagnetizing point coil is installed to generate the magnetizing and demagnetizing pulses. The control unit generates the individual magnetizing or demagnetizing pulses, while the probe's measurement electronics record the peak magnetic field strength (H value) and the flux value (B value) of the magnetic material.

The magnetic material can be selected in the control unit in order to use the correct magnetizing and demagnetizing parameters.

The entire measurement sequence is automatic, 10-13 pulses are generated for the magnetization and demagnetization processes.

Based on the individual H and B values, the controller generates the hysteresis curve in steps, which is shown on the color display.

The coercivity I_{Hc} and the remanence B_r are a result of the hysteresis curve.



Quick Method

for determining the I_{Hc} and B_r value without hysteresis curve in manual mode

MagInspect also offers the option of a quick method for comparing the H_c values of a material for quality control in mass production.

The quick method can be used to manually trigger a fixed magnetizing and demagnetizing pulse matched to the magnetic material; the I_{Hc} and B_r values are displayed directly on the control unit as a result.



Technical Data Magnet Analyzer LM-MAGINSPECT

- Measurement parameters: Automatic measurement of the hysteresis curve of permanent magnets, determination of the remanence B_r , coercive field strength I_{Hc} and maximum energy product
- Dimensions: 560 x 210 x 420 (19' housing) - 19 kg
- Supply voltage: 230 V / 50-60 Hz / 16 A
- Protection class: IP 20
- Probe dimensions: d=43 x 105 mm
- Stand dimensions: 80 x 80 x 80 mm
- Magnetization field strength: 50 - 1,800 kA/m
- Magnetic flux value B: 0 - 2 T
- Measuring electronics of the probe: Digital with 16-bit A/D conversion / up to 10 kHz serial data transmission

