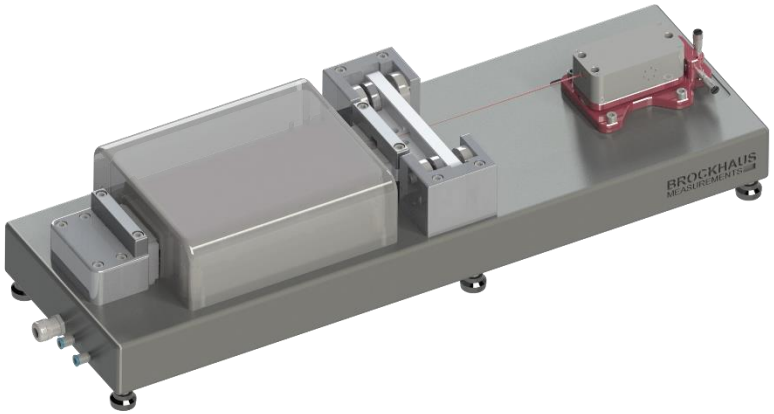
Amorphous Magnetostriction under Tensile Stress System



- **System Description:**

Magnetostriction measurement sensor for amorphous materials corresponds to the draft of IEC-standard 60404/X “Amorphous SST”. Magnetic flux induced in a sample by primary windings, and measured by three secondary coils distributed along the sample, is closed through the bottom yoke. Magnetic field is measured by two H-coils located below and above the sample surface as well as by the current method.
For the compensation of the air-flux a mutual induction, the air-flux coil, is used in a separate housing. The single sheet measuring sensor is protected against electrical overloading.
Measurement can be performed under no stress or tensile stress condition. A Laser interferometer is used for magnetostriction measurements with resolution of 0.3 nm.

- **Conditions**
  - Sinusoidal flux density
    Frequency range: 10 Hz - 1 kHz
    Peak of flux density up to 2 T
    Field strength: 1A/m up to 10,000A/m
  - PWM
    Switching frequency of 100 kHz
  - High Harmonics and Free Curves
- **Mechanical Conditions**
  - Applied Tension
    Load: 200 N
- **Sample Type:**
  - Amorphous material
  - Sample size 60mm x 300mm
  - Sample thickness up to 0.1 mm
- **Additional Sensors**
  - Laser Interferometer (resolution of 0.3 nm)
  - Load Cell

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