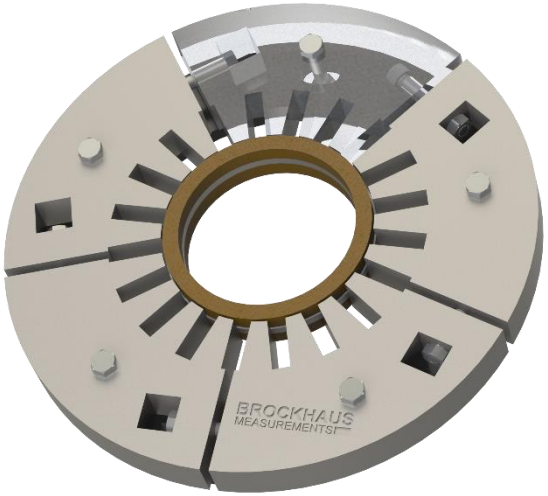
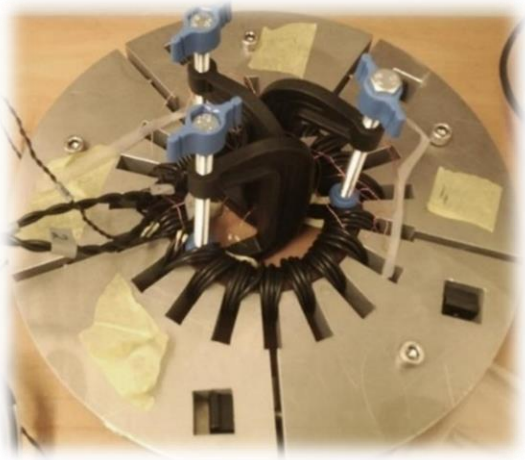
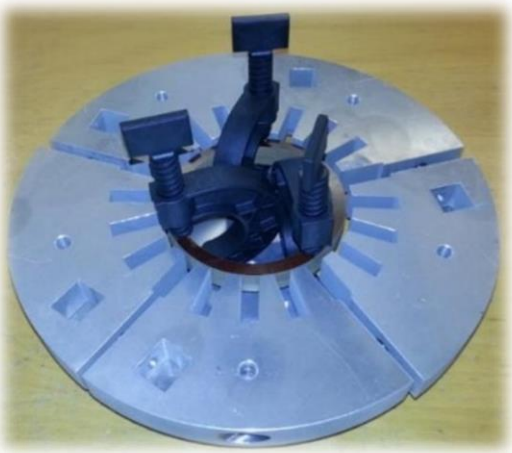
Radial Compression System







- **System Description:**

A stressing rig was manufactured to apply radial compression to a stack of ring samples. A set of primary and secondary windings to be wound on the stack is used to introduce a magnetic field and measure flux in the rings stack under stress. To protect rings from bending g-clamps with two supporting rings placed on the top and bottom surface of the stack are used. The rig applies compressive stress by tightening of a set of screws placed between aluminium parts. Also between the top surface of the stack and the top protection ring, a set of strain gauges can be placed to measure radial stress in the top ring.

- **Magnetization Conditions**
  - Sinusoidal flux density
    Frequency range: 10 Hz - 20 kHz
    Peak of flux density up to 2.3 T
  - PWM
    Switching frequency of 100 kHz
  - High Harmonics and Free Curves
- **Mechanical Conditions**
  - Applied stress
    Radial compression: 100 MPa
- **Sample Type:**
  - Silicon iron electrical steel with thickness of 0.2 - 0.5 mm
  - Sample size: OD=120mm and ID=100mm
- **Additional Sensors**
  - Embedded strain gauges for load monitoring

Dr. Brockhaus Messtechnik GmbH & Co. KG | Gustav-Adolf-Strasse 4 | 58507 Lüdenscheid | Germany
Phone: +49-2351-3644-0 | Fax: +49-2351-3644-44 | brockhaus.com/measurements/research-development/?lang=en