BROCKHAUS
MEASUREMENTS

- Fully-automatic stator tester with open-close split-coil for fast magnetic measurements within seconds
- Easy to integrate with industrial and collaborating robots
- 100% quality check of stators for EV-motors
- Sorting out of bad stators
- Measurement of power loss and permeability
- Short measurement cycles
- Comprehensive software for defining measurement sequence and analysis of results
- Rotating table enabling increased time efficiency of multiple stator testing
- Optical sensors for detection of stators in loading and measurement positions
- Split-coil comprising electrical circuits of the primary and secondary windings connected using copper pins and sockets
- Split-coil pins configured in various combinations of primary/secondary turns for optimized measurements within broad frequency range
- Integrated air-flux compensation allows testing of wide range of stator sizes
- Measurements performed in accordance with international standard IEC 60404-6
- Results include absolute magnetic properties such as specific power loss, polarization, magnetic field strength, permeability, etc.
- Caster wheels provide full mobility
- Compatible with MPG200 measurement unit

Measurement results

Polarization J [T]

Magnetic Field Strength H [A/m]

Specific Power Loss Ps (W/kg)

Coercivity Hc [A/m]

Remanence Jr [T]

Relative permeability µr

JH loops

JH magnetization curves

Stator Tester BST-FA

Stator Tester BST-FA

Operating principle

The BST-FA system allows fast fully-automated testing of stators in production of electric motors. It is easy to integrate with industrial and collaborative robots, as well as directly in the manufacturing lines.

The stator core is placed by the robotic arm in the loading position of the table. The presence of stator is detected by the optical sensors and table rotates to bring the stator into measurement position.

When the measured position is reached the pneumatic actuator closes the split coil and testing is initialized. During testing the robotic arm loads the next stator core on the opposite side of the table.

When measurement is completed the split-coil opens and table rotates to bring the next stator for testing. The tested stator can be now unloaded and replaced. Full synchronisation of rotating table, split-coil and robotic arm allows continuous operation monitored by the MPG200 communicating with PLC controller.

Technical Data

Dimensions of stators that can be tested with BST-FA

Minimum ID of measured stator	95mm
Maximum OD of measured stator	300mm
Maximum height of measured stator	280mm
Maximum weight of measured stator	40kg
Magnetization options	Sinusoidal polarization Arbitrary polarization waveforms (free curves) Higher harmonic

Measurement ranges

Magnetic field strength H	up to 5.000 A/m (depending on stator size)
Magnetic polarization J	up to 2.3T (depending on stator size and permeability)
Frequency range	AC 3Hz – 20kHz
Maximum current (AC)	52A
Maximum voltage	100V

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