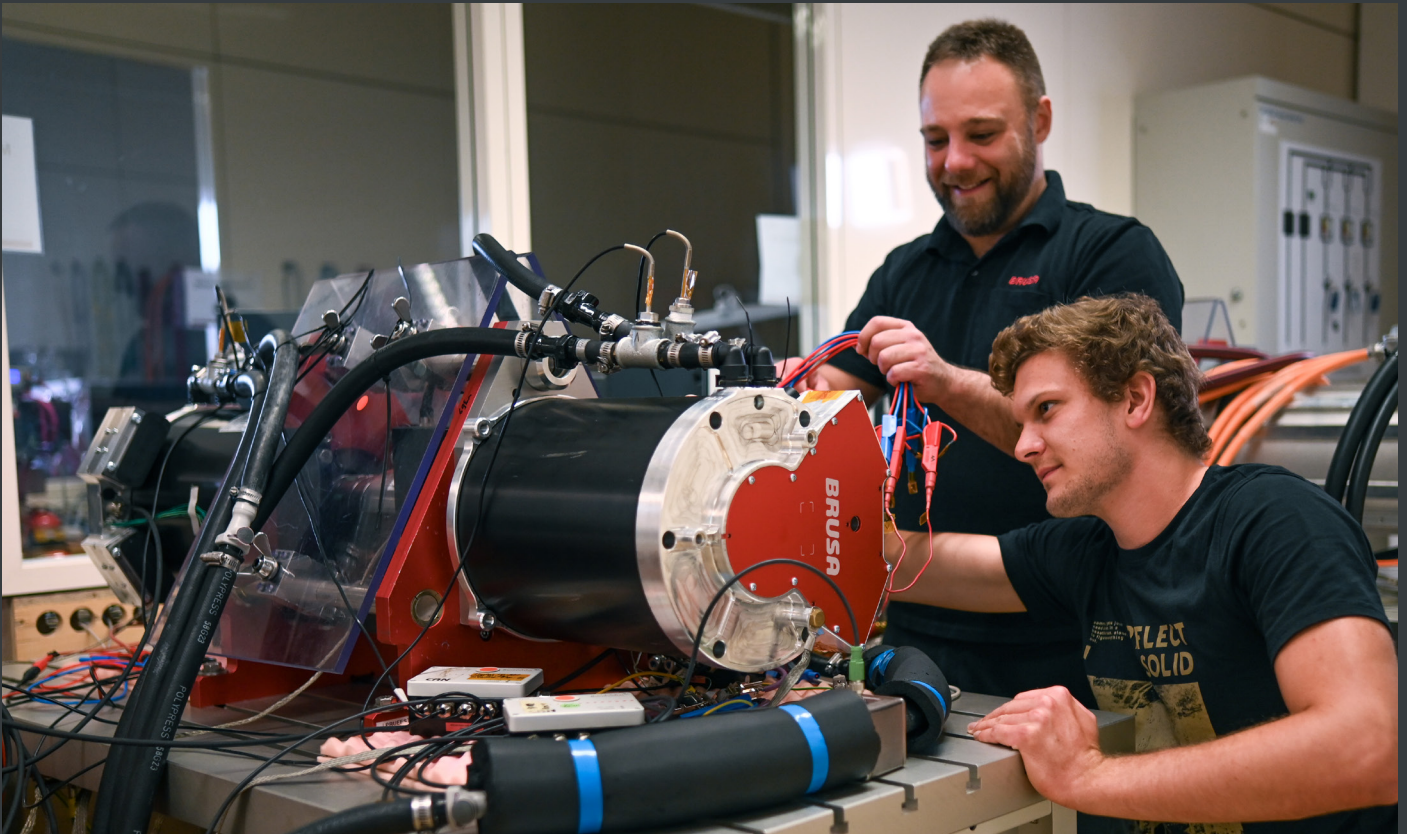


Test bench applications

e-Motor and drivetrain test bench

We carry out performance and thermal measurements for eMotors and inverters on our highly flexible test bench.



Test bench functions and applications

- High-quality measurements of motors, inverters and complete systems with variable size, power, and voltage
- Customer-specific test bench modifications and adaptations
- Device commissioning and failure analysis
- Motor parameterization
- Model validation and optimization
- Low-loss back-to-back measurements
- Individually customizable test bench automation data analysis
- System loss optimization possible through variable frequencies
- Measurements of torque, power, speed, efficiency, DC/AC power, currents and voltages incl. characteristic diagrams
- Benchmark and teardown analysis

High-precision test bench equipment for multiple measurement capabilities

- 4x Power Analyzer Fluke Norma 5000 with current measurement boxes (1000 A / 1000 VDC)
 - Voltage & current measurement accuracy 0.3%, power 0.6%
 - Frequency measurement accuracy 0.01%
- 5 torque meters
 - 3x 500/1000 Nm torque meter (0.05%) / 16'000 rpm
 - 1x 200 Nm torque meter (0.1%) / 24'000 rpm
 - 1x 50 Nm torque meter (0.1%) / 30'000 rpm
- Rotor telemetry system with 8 channels
- 136 channel logic analyzer
- Multiple bidirectional power supplies

Test bench e-Motors*

- Max. speed 23'000 rpm
- Max. torque 1'000 Nm
- Max. power 320 kW

**other specifications on request*

Test bench inverters

- Max. current 800 Arms
- DC voltage 250-850 VDC
- Max. motor frequency 3 kHz
- Max. PWM frequency 32 kHz

Cooling equipment

- Cooling equipment with ≤ 10 kW power
- Climatic chamber 100 L, -40...+180 °C
- Climatic shock chamber

Standardised norms with our Chroma 61815 network simulator

- IEC61000-4-13
Frequency variations and harmonics
- IEC61000-4-11
Voltage variations and interruptions
- IEC61000-4-14
Immunity to voltage variations
- IEC61000-4-28
Immunity to power frequency variations

EMC pre-measurements, such as harmonic currents, can also be performed. Our grid simulator can be used as a test bench or as a mobile application.

