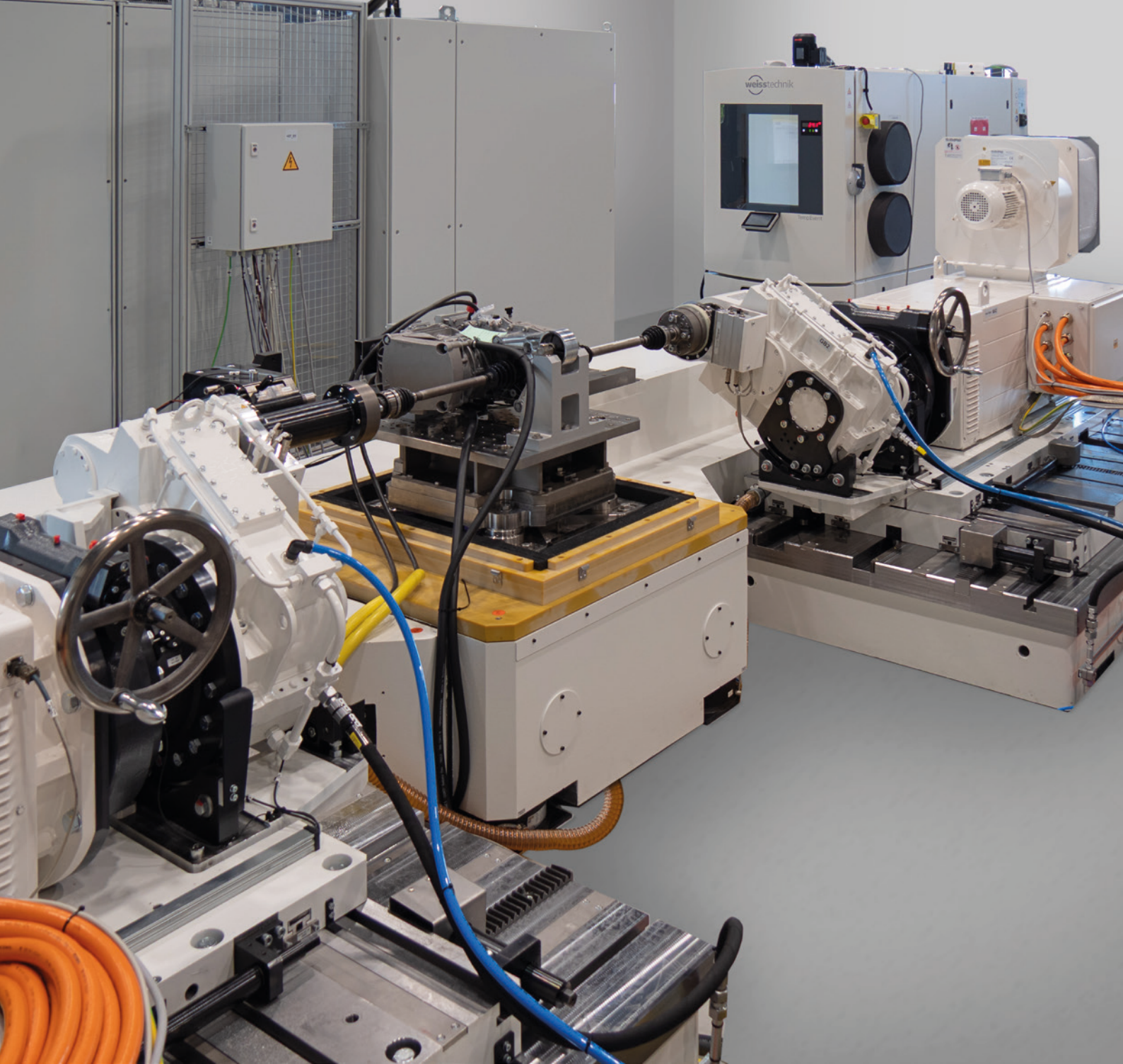




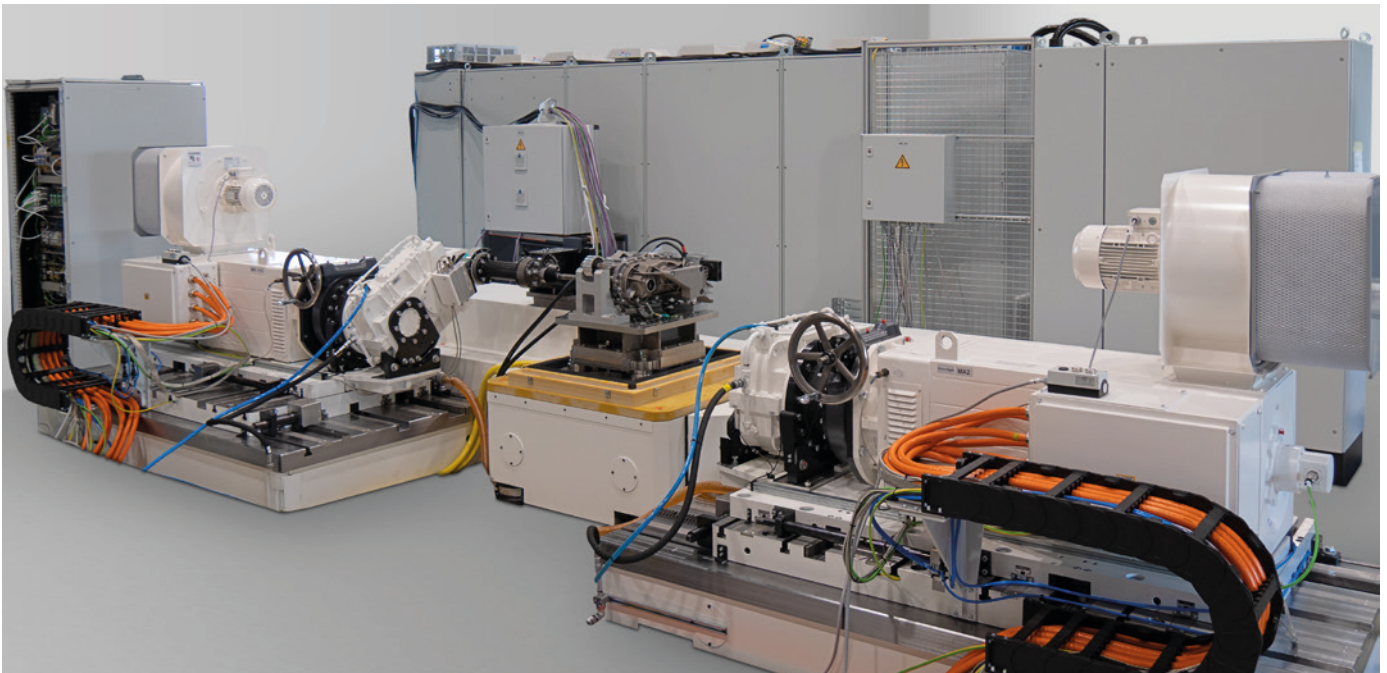
TEST BENCH

FOR E-DRIVE & HIGH-SPEED GEARBOX

BLUM
NOVOTEST



TEST BENCH FOR E-DRIVE & HIGH-SPEED GEARBOX



The e-Drive & High-Speed Gearbox Test Bench was specifically developed as a flexible solution for e-drive powertrain and high-speed gearboxes. The test bench enables characterization, validation, and endurance testing of new prototypes as well as production-ready systems. Its high level of flexibility allows for quick reconfiguration between an e-drive powertrain and a gearbox without its own electric drive, and vice versa. In the e-drive configuration, the test specimen is supplied by an integrated DC power source or, optionally, a battery simulation. Cooling water is conditioned via an additional unit. In the gearbox configuration, an additional high-speed motor is connected to simulate the electric motor, capable of operating at speeds up to 25,000 rpm. This auxiliary motor can be mounted on either side to ensure maximum flexibility.



Temperature chamber for test specimens

Equipment

- 2x machine beds with output units (load machine)
- Machine bed made of special cast material for optimal damping with drive unit (drive machine)
- Chiller unit for watercooled drive machine
- Temperature test chamber with external modular climate box for the test specimen
- 2x oil lubrication units for output units
- Liquid temperature control unit for e-drive test specimens
- Direct current source for e-drive test specimens
- Height-adjustable axes

Technical data drive machine:

Speed	max. 25.000 rpm
Power	max. 400 KW
Torque	max. 400 Nm

Technical data load machines:

Speed	max. 3.000 rpm
Power	max. 225 KW
Torque	max. 3.000 Nm

Specimen Temperature Control

- Ambient air conditioning from -40 °C to +150 °C, chamber volume 1 m³ with 9 K/min heating and cooling ramp
- Fluid temperature from -30 °C to +130 °C, with flow rates from 0.5 l/min to 12 l/min