

# Testing services

Electric motor test bench

Bosch Engineering



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Invented for life



## PRODUCT BENEFITS

- ▶ Optimize the powertrain by testing e-mobility components under realistic conditions
- ▶ Develop and validate hardware and software for the power electronics even prior to vehicle integration
- ▶ Develop safe battery management systems based on stress tests and aging tests
- ▶ Improve the efficiency and driving behavior by optimizing electric motor management

# faster development times

by reducing lengthy, labor-intensive tests on the road

## TASK

With our electric motor test bench, our expertise in electrified drive systems and the related infrastructure, we offer comprehensive support in the development of pioneering drive concepts. Together with our customers, we develop innovative technologies for hybrid and electric vehicles to address the growing demand for mobility as well as the limited supply of fossil fuels. The testing of e-mobility components and powertrain systems on our electric motor test bench replaces lengthy, expensive road tests. It also plays a key role in implementing new concepts and speeding up development times.

## SCOPE OF SERVICES

We provide you with products and services tailored to your needs in the development, validation, and application of e-mobility components and powertrain systems. Our portfolio includes:

- ▶ Testing of individual components and taking measurements of the electric motor, battery, and integrated electric drives and transmissions
- ▶ Calibrating the power electronics for different electric drive systems
- ▶ Calibrating and testing performance and safety functions

# up to 20,000 rpm

can be simulated in order to test electric motors with high power density.

# 50 – 1,000 V

is the range covered by the battery simulations for testing the drive technologies of today and tomorrow.

## BRAKING DYNAMOMETER

	Type 1	Type 2
Speed	20,000 rpm	10,000 rpm
Power output	250 kW	380 kW
Torque	500 Nm	815 Nm
with intermediate transmission	2,100 Nm	3,400 Nm

## BATTERY SIMULATION

	Type 1	Type 2
Voltage	50 – 1,000 V	50 – 600 V
Current	600 A	400 A
Power output	250 kW	150 kW

## MEASURING EQUIPMENT

Measurement channels	64 × analogue/digital
Power analyzer	Yokogawa Wt3000
NVH equipment	Noise transmitted by the structure or by air

## System overview

