JW FROEHLICH

Test and Assembly
Solutions for Powertrain

Customised solutions as a standard **Inverter testing**

The project of a German OEM: End-of-line test field for EV traction inverters

Customisation

This inverter test field was developed for a German automotive manufacturer and integrated into the existing production line layout over the course of an 18-month project, taking into account the client's specific requirements. Leak testing or customised sensor calibration can be seamlessly integrated into the automated product inspection, tailored to specific requirements. The process is further streamlined by an advanced data handling solution. With a cycle time of just 30 seconds, the system ensures high output—a crucial factor for the client's competitiveness in the automotive market.

JW Froehlich is where decades of experience with the development of highly complex test stands meet extensive e-mobility expertise. Our test systems are developed and customised in close consultation with our clients to meet their exact requirements. The combined technological know-how of our in-house experts and cooperation partners enables the development of complete, user-oriented testing solutions. The result is a one-stop-shop for the total design, simulation, implementation and on-site commissioning.

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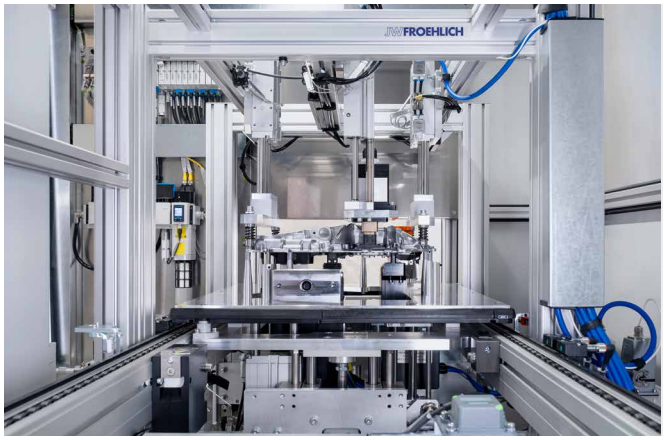

Leak testing expertise

Leak testing is one of JW Froehlich's core competences. To start with, the inverter's interior and the coolant container are tested for leaks.

Simultaneous process steps

To keep the cycle time to a minimum, the flash test, sensor calibration, load test and HV test are carried out simultaneously in independent stations.

Unambiguous results

To achieve a reliable end-of-line test, the electric drive is emulated using an active or passive load. The HV measurement determines the test part's voltage strength and insulation resistance.
The various measurements provide a wealth of data that is collected, evaluated and stored according to the necessary security aspects. The client has listed cybersecurity as a special requirement, and the data handling has been customised to meet those needs.
The final step of the load test involves screening in a climate chamber, utilising a conditioning unit with a temperature range of -30°C to +65°C.

Test characteristics

- Active and passive discharging
- Calibration of current and voltage sensors
- EOL load testing
- Leak testing

Have we piqued your interest?
For questions about the project and its technical details, please refer to your direct contact:

JW Froehlich Maschinenfabrik GmbH
Sales Team
Tel.: +49 (0) 71179766-0
sales@jwf.com

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JW FROEHLICH
Test and Assembly Solutions for Powertrain
Germany | UK | USA | China
www.jwf.com