



EMISSIONS



ELECTRIFICATION



CAV



DATA

BRAKE TEST CENTER

HORIBA
Automotive



Brake Test Center

HORIBA's Brake Test Center in Floersheim near Frankfurt, Germany is a state-of-the-art facility, equipped with the latest generation of Inertia Type Brake Dynamometers.

Our engineering specialists facilitate complex tests on vehicle friction brakes in alignment with regulatory standards and customer specifications.

All dynamometers are equipped with capable measuring, control and automation technology. Test applications include foundation brakes performance, wear and NVH test as well as brake emissions measurement, ranging from light duty passenger car up to medium duty van and truck brakes.

THE TEST CENTER IS EQUIPPED WITH

- HORIBA Brake Dynamometers
- Full spectrum Brake Dust measurement solution – meeting the requirements from latest Global Technical Regulation draft UN GTR-GRPE 2023/4
- STARS Brake Control and Automation System
- STAC EventScan NVH measurement
- Parking Brake Test (mechanical actuation & EPB)
- Static Brake Test Device
- Residual Drag Brake Torque measurement
- Dynamic Ventilation and Climatic Air Handling Systems
- Saltwater, wet and fog testing directly in the brake enclosure, automated with STARS Brake

Applications

The comprehensive portfolio of brake dynamometers enables performance, wear, durability, NVH and brake emissions tests according to public standard and OEM regulations. Friction mapping as well as special measurements for noise and vibration, DTV, residual drag torque, rotor deformation and crack tests are possible.

Brake Testing

The Floersheim Test Center is equipped with different brake dynamometer systems, providing inertia from 5 - 250 kgm² and allowing brake torque of 0 - 8,000 Nm at 3,200 rpm maximum test speed, covering the full range of passenger car and van brakes. Our flexible universal dynamometers handle performance tests, as well as fundamental NVH measurements on hydraulic friction brakes. More detailed NVH investigations can be run on our specialized NVH dynamometer, whose core module and power unit is mechanically isolated from the testing area. With our climate chambers, we are prepared for a climatic simulation range of -40°C to +50°C and at 5 to 90 % relative humidity. An additional dynamometer offers the possibility to test electronic parking brakes.



Brake Dust Measurements

As a member of Europe's Particulate Measurement Program (PMP) working groups, HORIBA has helped set the framework for test procedures outlined in Euro 7. The Brake Test Center is equipped with particle counters and particle mass measurement devices that meet the requirements from latest Global Technical Regulation draft UN GTR-GRPE 2023/4.

The particle measurement devices are fully integrated into the STARS Brake Automation System, which enables complete data synchronization and seamless reporting once the test is complete. The report structure is based on decades of emissions experience and contains all relevant criteria defined in Euro 7.



KEY BENEFITS

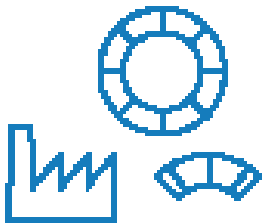
- Wide range of brake dynamometers equipped with environmental simulation
- Control and automation system, compatible with OEM & Tier 1
- Wide range of various test cycles and application suites
- Data acquisition and representation as per public and OEM standards
- More than 90 years of experience in brake dynamometer testing and emissions measurement
- Customizable test runs and reports based on individual needs and requirements

Environmental Simulation

Brakes need to withstand various different weather conditions, some of which may be difficult to test. Our new water system is equipped with automated testing for water, saltwater, and fog on traditional brake dynamometers, allowing testing in various weather conditions. All three tests can be done on the same dynamometer with one testing system. Two spray heads are installed in the brake enclosure to simulate the weather conditions directly during the test cycle. Precise flow sensors are installed to regulate the amount of (salt-)water that is sprayed during the tests, ranging from two to five liters per minute. All components are designed to withstand even fully saturated saltwater solutions. The control of the salt water - wet and fog system is fully automated via our STARS Brake Software. Additionally, a corrosion test chamber allows for combined shock corrosion tests that fulfill the ISO9227 and similar norms.



TARGET GROUPS



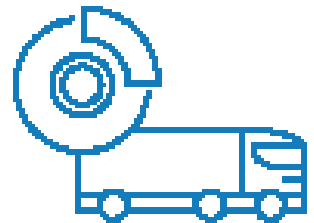
FRICTION MATERIAL
MANUFACTURERS



INTERNATIONAL VEHICLE
MANUFACTURERS



DEVELOPMENT
PARTNERS
AND UNIVERSITIES



AUTOMOTIVE
BRAKE SUPPLIERS

HORIBA Automotive, a business segment within the HORIBA Group, provides advanced mobility leadership and comprehensive engineering and measurement expertise to support the gradual shift from traditional propulsion, to fully electrified solutions.

horiba.com/automotive

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