

All-round solution for professional heavy duty vehicle testing

DLG chassis dynamometer

Innovative testing equipment for heavy duty vehicles

With support from



by decision of the German Bundestag

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International leader in testing vehicles and vehicle components

With a roller diameter of 2 meters, the chassis dynamometer offers you realistic and simple testing options for heavy duty wheeled vehicles. The chassis dyno is particularly suitable for testing vehicles with high wheel torques at low driving speeds. Due to the temperature control option, the vehicles can be tested in different temperature scenarios. Driving conditions that are difficult to reproduce in driving tests on the road or off-road can be precisely set and repeated on the chassis dyno.

Technical specifications

- **Vehicle dimensions and weights**
 - Wheelbase: 2,050 – 6,000 mm
 - Max. vehicle width: 4,500 mm
 - Max. wheel load: 15 t
 - Max. total vehicle mass: 60 t
- **Driveline load unit**
 - Max. performance: 700 kW
 - Max. force: 135 kN/roll
 - Speed range: ± 105 km/h
 - Engine driven and generator driven
 - Roller diameter: 2,000 mm
 - Direct drive per roller
 - Supports tandem axles
- **Power take-off load unit**
 - Asynchronous motor
 - Max. output: 700 kW
 - Max. torque: (left/right hand rotation): 7,000 Nm
 - Engine driven and generator driven
- **Hydraulic load unit**
 - Load applied by a combination of hydraulic and asynchronous motors
 - Max. power applied: 150 kW
 - Max. flow: 500 l/min.
 - Max. pressure: 300 bar
- **Air conditioning**
 - Standard temperature: 25 ± 2 °C
 - Supported temperature range: 15 - 45 °C
 - Face area: 3,000 x 3,000 mm
- **Measurement equipment**
 - Fuel consumption
 - AdBlue/reagent consumption
- **Maximum gate width:**
 - Overhead clearance: 4.90 m
 - Clearance width: 4.53 m
- **Maximum widths on rolling testbed:**
 - Width without frame insert: 5.00 m
 - Width over rollers/tyres: 3.90 m

Tests in accordance with your requirements

Key features of the DLG chassis dynamometer

■ Output and drawbar power measurements

- Determination of drawbar pull and power under full load and in a driving speed range from 0 until 105 km/h forward and reverse
- Performance measurements:
 - Drawbar power (up to 700 kW)
 - Power take-off power (up to 700 kW) using a separate load unit
 - Hydraulic output of up to 150 kW by using a separate load unit
- Simultaneous load at the driveline, the power-take-off, and the hydraulic system
- Either synchronous running of the rollers or the wheels
- Influence of the ballasting concept on the driveline efficiency (e.g. traction force distribution, wheel slip)

■ Consumption, emission rates and range measurements

- Fuel consumption
- Reagent/AdBlue consumption
- Exhaust emissions are measured by PEMS (Portable Emission Measurement System)
- Comparative measurements of performance and consumption using different fuels or lubricants at a consistent room temperature
- Range determination of electric and hybrid vehicles
- Power consumption tests on electric or hybrid vehicles

■ Data collection and recording

- Temperature measurement: 8 standard channels, more channels on request
- Engine speed measurement: 4 standard channels
- CAN data recording: J1939, Isobus

■ Simulation of various driving conditions

- Driving simulation, driving cycles, driving profiles according to customer specifications
- Coastdown tests, load adjustment
- Trailer load simulation
- Cooling modulation testing
- Acceptance tests of retrofitted engines and gearboxes
- Simulation of uphill and downhill runs
- Testing of the retarder (Type II, type IIa according to UN ECE-R 13)
- Simulation of load conditions, up to 10t pull-down per axle



DLG Test Center Technology and Farm Inputs

We test for the farming world

DLG has been testing agricultural machinery and farm inputs for over 130 years. Today, we also provide further services in addition to these traditional services. Based on this long-standing experience, the DLG Test Center Technology and Farm Inputs is one of the most distinguished testing organisations in the world.

The DLG-developed test methods and test profiles are primarily applied in usability tests. Developed by an unbiased and independent test commission, they reflect typical applications of the product and are carried out by independent engineers. Apart from applying these DLG standards in its tests, the DLG Test Center also offers extensive testing services that apply national and international standards and regulations as a part of quality assessment programmes and customer-specific R&D requirements.

All testing services are carried out by the DLG TestService which is based in Groß-Umstadt near Frankfurt but also by agencies that test on behalf of the DLG Test Center Technology and Farm Inputs in order to provide a comprehensive test programme. All these DLG tests are carried out by applying and using state-of-the-art test techniques and facilities.

The tractor and vehicle test lab is accredited to ISO 17025 and is appointed by the Federal Motor Transport Authority (KBA) to conduct homologation and approval tests of vehicles and vehicle parts.

Further DLG test services

We also offer the following additional testing services for the automotive and commercial vehicle sectors:

- Homologation / type-approvals (EU, UN ECE, StVZO)
- Vibration behavior of seats for tractors and construction machinery
- ROPS, FOPS, truck cabs
- Rear underrun protection devices of trucks and trailers
- Whole vehicle homologation, testing of braking and steering systems
- Drive-by noise measurement, noise at the driver's ear
- Camera monitor systems
- Driver assistance systems
- Functional safety and cyber security
- Trainings
- Conformity assessments

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