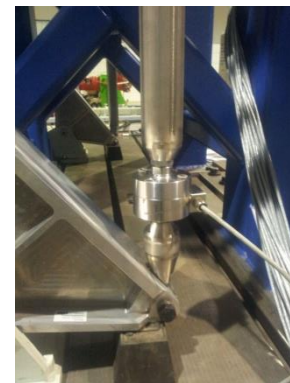


# Road-Load-Simulator



## Main Application

- Static and dynamic tests on axle systems of vehicles
- Tests with longitudinal and vertical force applications at the wheel hub
- Determination of the transmission behavior of wheel hub to connection points of the body
- Validation measurements using static characteristics, step excitation, Sinusoidal excitation up to 25Hz, reproducing experiments of any road profiles

## Technical Data

- Load range:

vertical	20 kN per cylinder
longitudinal	15 kN per cylinder
lateral	15 kN per cylinder
- Travel distance :

vertical	max. +/- 135 mm
longitudinal	max. +/- 30 mm
lateral	max. +/- 30 mm
- Accuracy: 0,01 mm
- Testing speed: max. 4 m/s

## Specimens

- Axles of vehicles
- Double-Wishbone, McPherson - strut, Multi-link, trap-ezoidal-link

## Special features

- with appropriate adapters any axles are possible, also front or rear axles

## Location

Fahrzeugtechnisches Versuchszentrum der TU Dresden, August-Bebel-Str. 32, 01219 Dresden

### Measured values

- Force: coupling rods excitation  
l/r triaxial  
(longitudinal, lateral und vertical)  
Topmount l/r six-axled  
Subframe 4 x triaxial  
Upper link l/r triaxial  
(optional extension with strain gauges possible)
- Displacement: Wheelcenter l/r triaxial  
(longitudinal, lateral und vertical)  
Damper l/r uniaxial  
(optional extension possible)
- Beschleunigung: Wheelcenter l/r triaxial  
(optional extension possible)

### Measuring device

- Loadcell: vertical/lateral 20 kN  
longitudinal 15 kN  
accuracy class: 0,1
- Position sensors: measuring length: 250 mm
- Inductive displacement measuring system in the hydraulic cylinder
- In addition, there is an extensive range of measuring systems in various sizes and accuracies for measuring:
  - Force
  - Moment
  - Displacement
  - Acceleration
  - Pressure
  - Temperature
  - electricity/voltage

### Equipment

- Universal test frame
- Axle mount Double-Wishbone, McPherson - strut, Multi-link, trapezoidal-link
- Hydraulic unit (p = 207 bar, Q = 300 l/min)
- Hydraulic connection unit (max. operating pressure: 210 bar, max. nominal flow: 190 l/min per HSM)
- Pressure accumulator
- Cooling system
- Hänchen hydraulic cylinder with Pressure accumulator (320 bar, stroke 270 mm)
- MOOG servovalve 2 – stufig
- HBM Loadcell (20 kN)
- MTS Loadcell (15 kN)
- Digital controller FlexTest 100
- Measuring computer

### Software for control and data collection

- MTS Multi Purpose Testing (MPT) mit Amplitude - Phase - Control (APC)
- DIADem – portable measurement system from National Instruments
- LABView - portable measurement system from National Instruments
- DEWESoft – portable measurement system from DEWETRON

### Provided connections in the test room

- Electrical connection 16 A (possibly 32 A)
- Compressed air supply 6 bar
- Cooling water temperature: 23 - 60 °C
- Hydraulic oil HLP 46

### Reference projects

Various examinations for OEM

### Contact Person

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