

Automotive Engineering

1. Testing Facilities (System)



MASTER: Four-Roller Power Dynamometer

Modern vehicles are equipped with an increasing number of technical functions in order to enhance safety, comfort and performance. Despite the increasing complexity, manufacturers expect short development cycles with a constant price-performance ratio. Therefore the four-wheel power dynamometer was integrated as a MASTER node in a real-time test and development environment, which allows to test products from different development stages. This leads to a faster and more effective development of automobiles.



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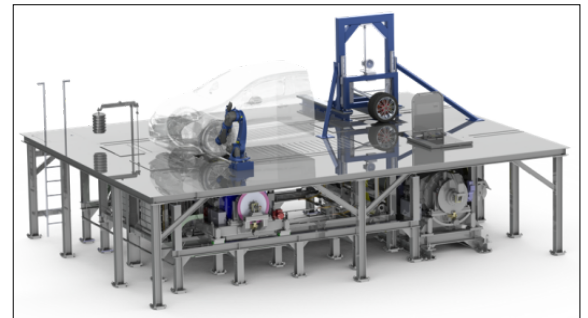
Technical Properties

- Test chamber (LxBxH) 12x7, 5x4,5 m
- Air conditioning -20 bis 45 °C
- Max. power 4x230 kW
- Roller diameter front 48", rear 75"
- Wheel and axle load operation possible



Corner Module

- Examination of longitudinal-, transverse- and vertical-dynamic tire characteristics
- Analysis of electric drives up to 250 kW
- Experimental analysis of spring, damper and suspension characteristics



Environmental Analysis of Emissions

- Environmental analysis of exhaust and non exhaust particle emissions
- Automated measuring head positioning using an industrial robot
- Efficiency optimization / friction reduction on the subsystem level for reduced CO² emissions



Vehicle Properties

- Speed up to 250 km / h
- Spreading width 0.8 to 2.3 m
- Wheelbase 2.1 to 4.4 m
- Max. Wheel load 1.25 t

