

## MULTIAXIAL VIBRATION TEST WITH OPTIONAL THERMAL LOADING

We bring the environment into our laboratories: Operational loads or transport loads can be tested by us within the scope of operational strength tests. For this purpose, we specifically use the hexapod -a Multi-axial Simulation Table (MAST).

## TEST RANGE

The multiaxial vibration test is particularly suitable for testing components, modules, assemblies and subsystems such as, for example, tanks, attachment and dismantling parts, exhaust systems, roof and rear-mounted carrier systems, front-end modules, cooling systems and much more.

The multiaxial shaker table (MAST) makes it possible to generate the loads from mechanical oscillations:

- Strength tests on all vehicle components
- Simulation of the operating loads such as road bumps, steering and braking loads, load interchanging, vertical and roll motions
- Special environmental conditions (for example hot gas flow, simulation of driving through puddles)

### ACCOMPANYING:

- Measurement data acquisition during test drives with subsequent analysis and test load generation
- Damage analysis and non-destructive testing
- Strength assessment, FE-Analysis

## PERFORMANCE DATA OF HEXAPOD

Table size	Diameter 2.2 m
Payload	max. 680 kg
Frequency range	0.5 - 100 Hz
Linear acceleration	up to 20 g
Linear velocity	max. 1 m/s
Linear displacement	max. +/- 145 mm

## PERFORMANCE DATA OF HOT GAS GENERATOR

Hot gas mass flow	max. 0,850 kg/s
Hot gas temperature	max. 850 °C
Burner capacity	max. 700 kW

## COMBINED TESTS

For load simulation or transport stress, the multi-axial shaker table is optionally combined with a hot gas generator.

This combination is particularly for testing exhaust systems and exhaust gas-carrying components. Due to their function and position in the vehicle, they are subject to complex loading conditions.

In addition, the components have to withstand mechanical vibration loads, resulting from vehicle movements or suggestions by engine vibrations. The hot gas generator is able to generate alternating thermomechanical loads on components. By combination of both systems, an overlay of stresses can be experimentally simulated.

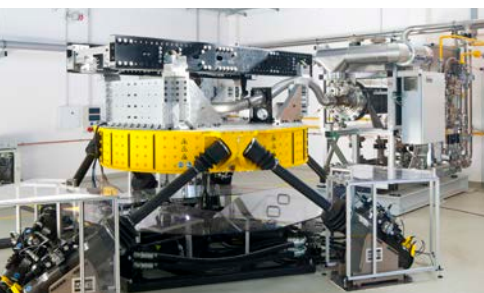
Both systems can be operated independently.

## USE THE EXPERTISE OF APPLUS+ IMA DRESDEN

IMA Materialforschung und Anwendungstechnik GmbH (Applus+ IMA Dresden) is an internationally operating company for engineering services and scientific technical consulting around qualification, validation and monitoring of materials, components and products. Located between research and industry, we

will accompany you, if desired, along the entire development of a product with comprehensive engineering competence.

We work according to German and international standards and we are certified according to DIN EN 9100 and ISO 14001. Nearly all our test laboratories are accredited according to DIN EN ISO/IEC 17025. The test labs use modern test-, measure- and control technology on an area of more than 10.000 m<sup>2</sup> test field.



## CONTACT

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