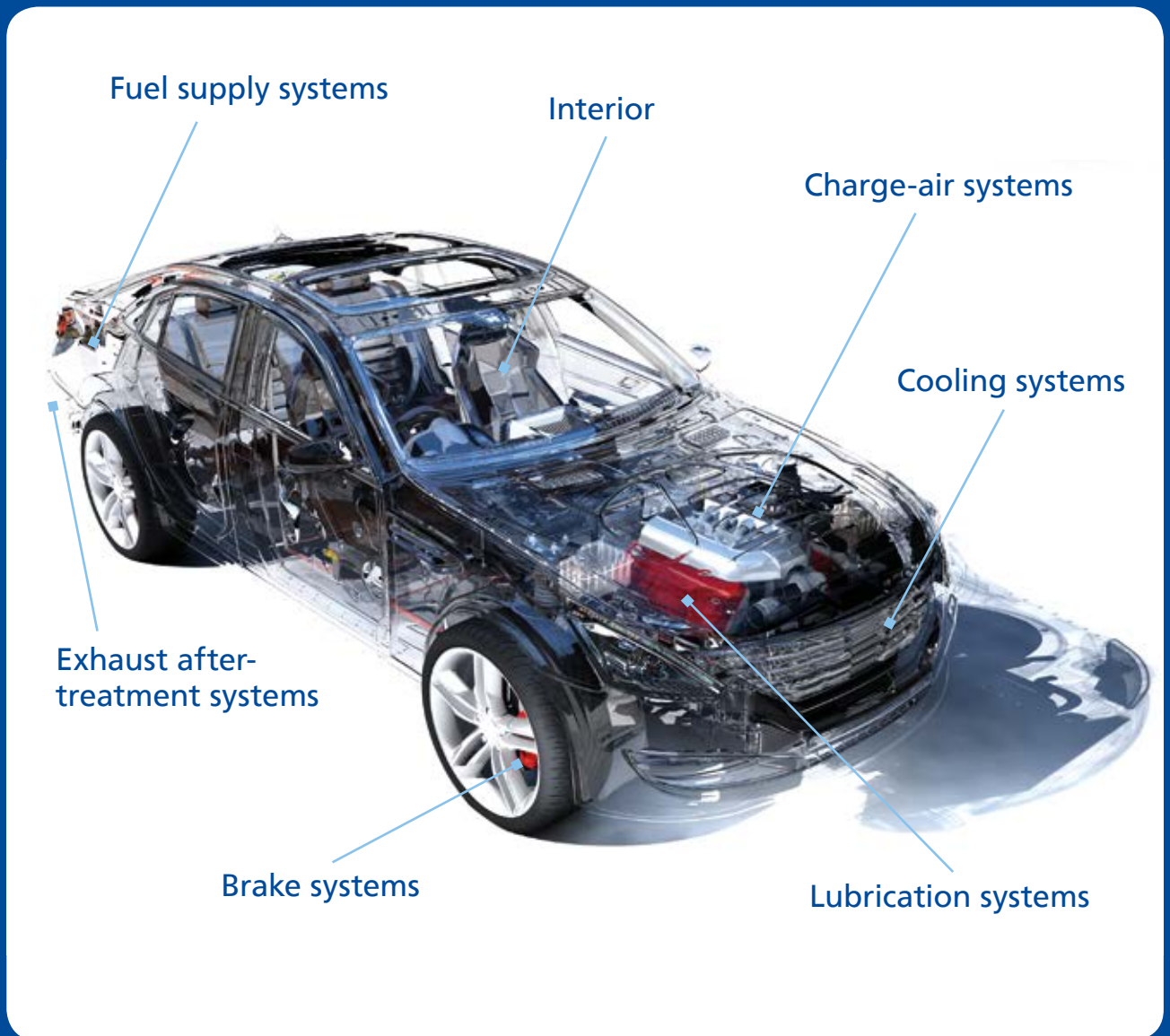




## COMPONENT AND MATERIAL TESTING MEDIA CONDUCTING SYSTEMS

A nationally and internationally accredited provider of testing services, we test whether your materials and components can withstand and operate under the effects of internal and external stresses.

## RANGE OF SUBSYSTEMS TESTED IN LINE WITH OEM SPECIFICATIONS



From the fuel system to the interior or the exhaust system, the operational dependability of whole components and units depends on the functioning of individual ducts or complex subsystems. Our engineers will be happy to help you plan, run and evaluate your testing programs. Based on this, we can also assist you in improving your products.

# FLUID TECHNOLOGY

In our high-performance, state-of-the-art laboratories, we determine how your test specimen reacts under the stress of changes in pressure and volume flow. We can equally test individual ducts, components, units (creating or requiring pressure) or whole systems, using special media according to your instructions.

## TEST MEDIA

- Air: -1 to 300 bar rel.
- Fuels
- Liquid coolants
- Lubricants
- Special media

## TEST METHODS

- Leak test for underpressure overpressure
- Test for internal high pressure in fuel supply systems
- Leak test using total pressure change method (Group D-DIN EN 13184)
- Flow rate metering
- Pressure fluctuation test
- Burst pressure test
- Motion simulation
- Function test

# OPERATING AND ENVIRONMENTAL SIMULATION



Over its lifetime, every product is subjected to various operational and environmental influences which may affect its reliability and operating life.

In our test laboratory, we check that your products can stand up to real-life and extreme conditions, in line with generally recognised standards or with your individual instructions.

## VIBRATIONS

- Vibration testing: sine sweep, random, overlapped simulations, resonance dwell
  - Frequency range: 1 to 3,500 Hz
  - Force vector: up to 60 kN
  - Test acceleration: up to 140 g
- Shock testing
  - Shock length: 1 to 50 ms
  - Peak acceleration: up to 200 g

## CLIMATIC SIMULATION

- Temperature: from -80°C to 300°C
- Thermal shocks
- Humidity: RH = 10 to 98%
- Chamber capacity: V = 0.17 to 70 m<sup>3</sup>

## FLUID STRESSES

- Flow rate/volume flow
- Pressure pulses/fluctuating compressive loading

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## ELECTRICAL TESTING

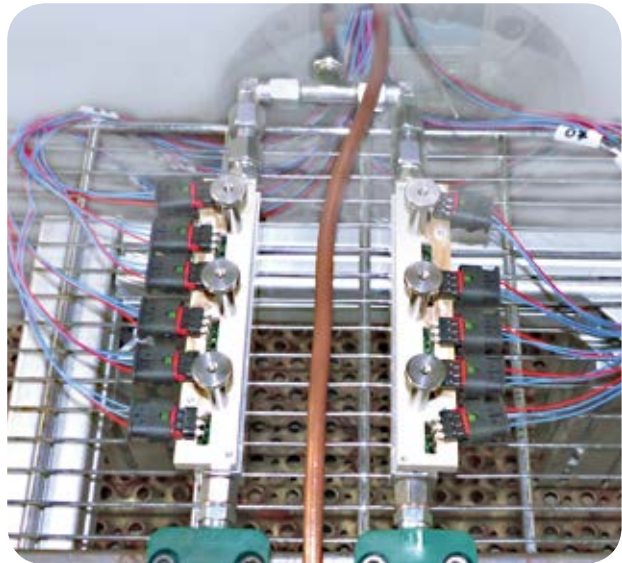
In fluids technology, operating performance is significantly affected by the increasing use of electrical and electronic systems and components peripherally related to sensor and actuator technology.

This makes it all the more important for these components to work safely and reliably. We can test their performance for you when subjected to the stresses you indicate.

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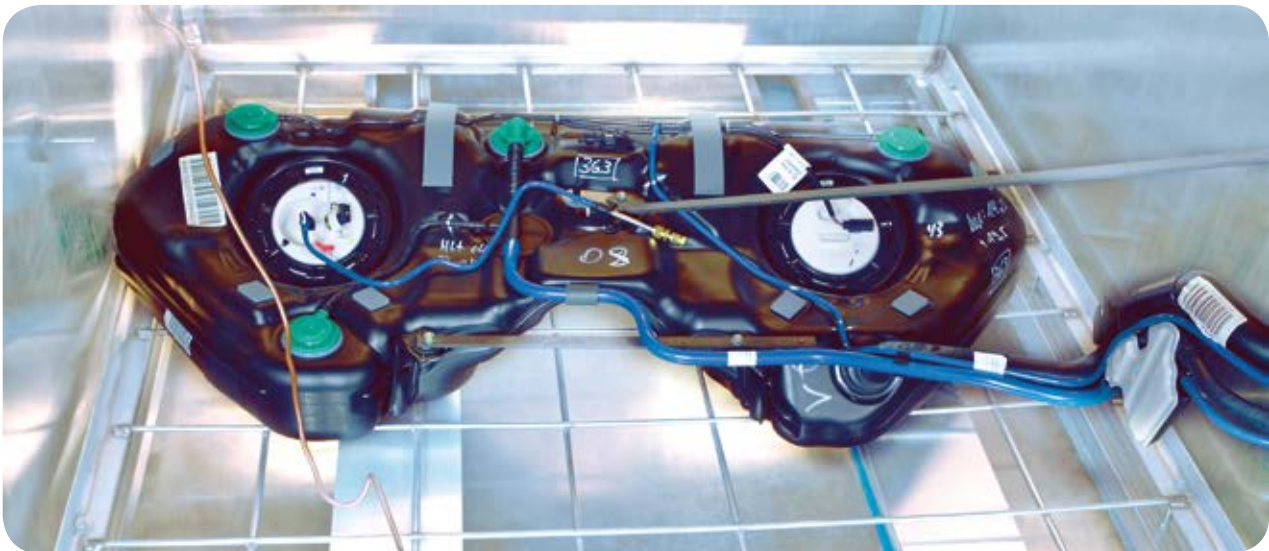
### TYPICAL TESTS

- Electrical power supply of components according to specifications at a voltage up to 24V/ high voltage up to 1,000V
- Recording signals
- Determination of characteristic lines



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## TANK AND TANK SYSTEM TESTING



Fuels and lubricants damage the environment. That makes it all the more important that nothing should escape into the surroundings. In our laboratory, we test that not just the tank but also valves, fittings, interfaces etc. are strong, leak-proof and fully functioning.

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### TYPICAL TESTS

- Fuel permeation of tank systems according to GS 97014 (SHED-Test)
- Pressure/vacuum test
- Resistance to changes in pressure
- Slosh-Test of automotive tank systems (stop and go)
- Vibration testing
- Leak tests, e.g. with helium
- System ventilation

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## MATERIAL STRESSES

While your product is in use, or even while it is in production, all kinds of external stresses affect it and may corrode, deform and degrade the material, or make it brittle. In our test halls, we subject your product to precisely these stresses and check how they affect its properties and functions.

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### AREAS TESTED

- Medial loading with testing of the chemical resistance and/or corrosion behavior
- Combined stresses of pressure, temperature and mechanical influences
- Chemical stresses, e.g. in line with ISO 16750-5

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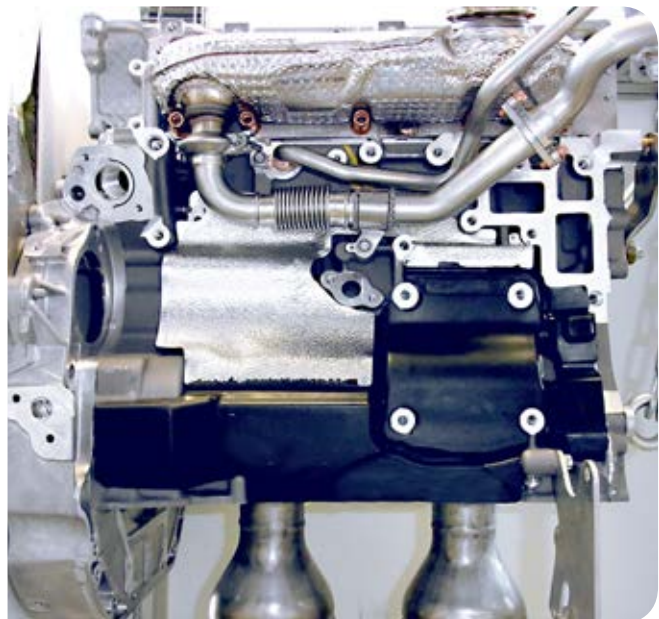
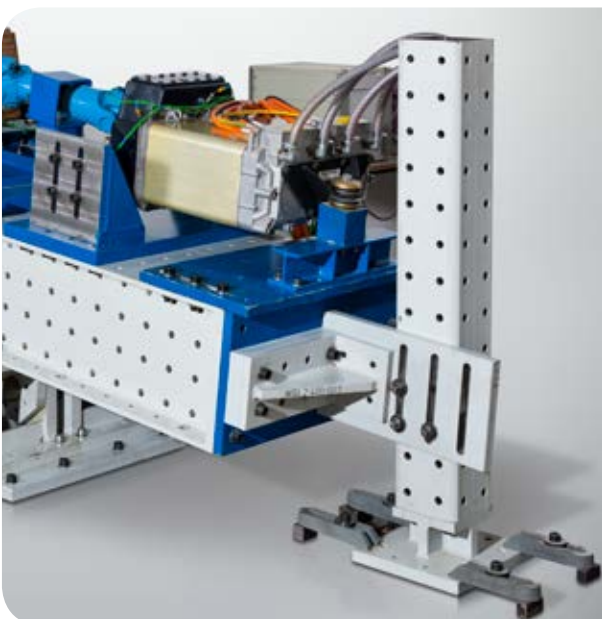
## SPECIAL TESTS

We are known for carrying out more than just standard tests. We are also happy to equip our test rigs according to your requirements and develop a test series in consultation with you.

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### AREAS TESTED

- Component and system testing, with an emphasis on developing and constructing test rigs according to customers' specific instructions
- Assembling/disassembling units and connectors
- Determining reaction force of coupler-plug-connectors (creating force /distance graph)
- Determining reaction forces while components are in operation
- Climatic testing under combined mechanical and fluid influences
- Hot gas test
- Component emission testing (HC emission)
- Splash water test
- Steam jet test
- Damage analysis



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## PUTTING THE WORLD TO THE TEST

IMA Materialforschung und Anwendungstechnik GmbH (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. As we work in many sectors involving traffic engineering, plastics and metal industry and others, we can offer you a head-start with our comprehensive know-how.

We work according to German, international standards and we are certified according to DIN EN 9100 and ISO 14001. Nearly all relevant test laboratories are accredited according to DIN EN ISO/IEC 17025. The test labs have most modern test-, measure- and control technology over an area of more than 10,000 m<sup>2</sup> test field.



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## BENEFIT FROM THE COMPETENCE OF IMA DRESDEN FOR YOUR COMPONENT AND MATERIAL TESTING.

As an independent test provider we guarantee reliable results and strict confidentiality. Our credo of thinking and acting like our customers was not carelessly formulated. It contains an earnest pursuit of engineering perfection, which merges intelligent solutions with sustainable usable result at fair prices. This, of course, also includes the flexibility to respond to all kinds of request and, in doing so, to provide peak performances which are not possible elsewhere. Each of our employees bears a portion of this responsibility.

Please do not hesitate to contact us for any questions or inquiries at [ima@ima-dresden.de](mailto:ima@ima-dresden.de)

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