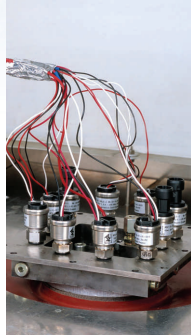


SPEKTRA – Your Proficient Partner – Also When Acting as Your General Contractor



Vibration testing of small modules under ThermoStream®



Vibration testing with monitoring of function

SPEKTRA - Your partner in quality assurance in research, development, production.

Far-seeing companies include environmental testing in the development of a product already at the stage of planning as a step of optimizing the costs of the product.

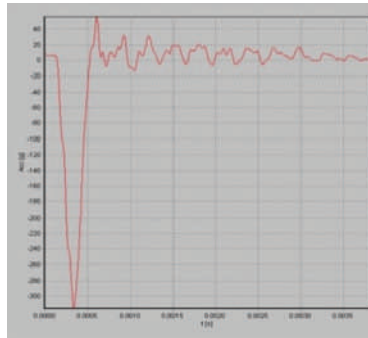
Automobile sub-suppliers, manufacturers of electronic modules, sensors and instruments for measurement and testing have utilized our proficiency, expressed by our wide range of services on offer.

We respond to your efforts to reduce the duration of testing in a flexible manner. Different tests are performed in parallel. Additional demands, e.g. for function monitoring during a test, will be implemented as desired.

If need be, we will co-operate with reliable partners if you want additional tests to be performed in the framework of a general contract.

Mechanical Tests, e.g. According to DIN EN 60068 or Factory Standard

- **Vibration tests**
 - Sine, resonance search
 - Noise
- **Single and repeated shock tests**
- **Extreme shock tests** on small and lightweight modules of up to approx. 1,000 g_n by means of Shock-Test-System STS 100



Single shock 318 g_n by STS 100



Shock-Test-System STS 100

Climatic Tests, e.g. According to DIN EN 60068 or Factory Standard

- **Coldness**
- **Dry heat**
- **Moist heat, constant**
- **Moist heat, cyclic**

The **payload bay volume** of our climatic chambers is 0.4 m³, their dimensions, mm:
720 x 860 x 620.

Temperature range for constant and cyclic tests:
-75°C ... +140°C

Range of relative humidity:
10 % ... 95 %

The volume of the test object should not exceed 0.15 m³.



Climatic testing or combined testing of vibration / temperature

Combined Mechanical / Climatic Tests, e.g. According to DIN EN 60068

- **Vibration testing** (Sine, noise, shock) under temperature (heat, cold) and climatic load

We advise our customers on how to specify the test severity and carry out the tests in all cases where there are no product or company standards for mechanical and environmental testing. The test report includes all results and an illustrated documentation of the test.