Lightning Speed

Vötsch Industrietechnik

small and competent ...

Temperature Shock VT³ 7006 S2

Temperature Shock Test Chamber ...

A cool technology with many innovative extras

In addition to temperature stressing, extremely rapid temperature cycling rates in the range of -80 °C to +220 °C result in the extremely high mechanical stressing of test specimens.
If electronic components are exposed to this severe temperature cycling, weak points are revealed rapidly.

By assigning our shock test chamber, you not only reduce the number of premature failures but also increase the reliability of your products. It goes without saying that our systems fulfil the requirements of international testing standards such as DIN, IEC and MIL.

The small shock test chamber (60 l test space) has been especially designed for use in development and/or quality control laboratories.

The powerful little “shocky” is particularly suitable for users who have to test either small test specimens or only a small number of test specimens.

The principle of the vertical arrangement of the test zones of our shock test chamber has proved to be highly successful. A ball spindle drive ensures reliable guidance of the cradle.

Air guidance facilities, designed according to experience gained from the field, combined with high air circulating rates result in rapid temperature cycles and a uniform distribution of temperature in the test space.

This chamber guarantees fast temperature adjustment of the air and the test specimens, which results in shorter cycle times and thus, reduced test times.

1000 cycles are possible **without defrosting**. This means we can guarantee virtually constant availability of the system.

The specimens in the cradle with removable guards on all sides are as well protected as in a safe. The integrated safety systems wrap up the image of this application-oriented shock test system.

Thanks to appropriate design techniques (water cooling, sound absorption, sound insulation), a relatively low noise level for this type of system has been achieved.

A shock test chamber with unrivalled power spectrum and space requirements of only 1.9 m² is absolutely unique.

Other Features:

- Minimum energy consumption
- Multifunctional application:
  - **Hot chamber** as temperature storage chamber,
  - **Cold chamber** as chamber for rapid temperature changing tests.

Modern design and increased performance

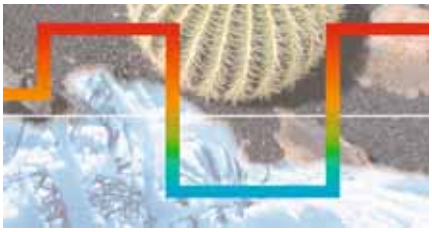
We expand our shock test series by our new shock test chamber **VT³ 7006 S2.**

State-of-the-art technical details combined with technical improvements reflect the know-how of our technology.

We have developed a shock test chamber offering a performance range that goes far beyond standard.

- A system that not only offers high performance but that is also extremely quiet, a sound level of 58 dB(A)
- Entry port 80 mm Ø
- Cradle load 20 kg
- Temperature conditioning of the hot zone from +50 °C to +220 °C Temperature conditioning of the cold zone from -80 °C to +70 °C
- Volume compensation system for long-term operation integrated in the machine compartment
- PC terminal with 12”-colour touch and software S!MCONTROL* with easy menue-guided surface for comfortable operation
- Optionally available are e.g. water-cooled refrigeration unit and further ports





Standard equipment

- Powder-coated housing made of galvanized sheet steel
- Window 355 mm x 355 mm in the hot zone
- 1 ultra-lightweight shelf incl. rails
- Cradle in loading position locked
- Max. loading capacity of cradle 20 kgs
- Test space, cradle and insert shelves made of corrosion-resistant stainless steel
- Entry port 80 mm Ø
- Volume compensation system for long-term operation (air bag)
- Air-cooled refrigeration unit
- Hermetically sealed CFC-free refrigeration circuits
- PC terminal with 12” colour touch and software S!MCONTROL* for comfortable operation
- CONTROLPAD* for indication of actual values
- Highly efficient 32 bit control and monitoring system S!MPAC*
- Interfaces RS 232/USB/Ethernet
- Digital I/O, potential-free, 24 V, 4 freely available inputs/outputs
- Independent adjustable temperature limiter t_{min}/t_{max} for hot and cold zone
- Potential-free contact for switching-off of test specimens
- Adjustable software temperature limiter min./max.
- Signal lamp
- Cycle counter, total no. of cycles/remaining run time
- Operating hour counter
- Temperature control via sensor in cradle or in hot or cold zone
- Defrosting cycles automatic and programable
- Dwell time start programable
- Programmed and recallable: MIL 883 E, method 1010.7 severity of test A, B, C, D, F
- Mobile version
- Calibration of two temperature values

Technical data

Temperature Shock Test Chamber		**Type**	**VT³ 7006 S2**
Test space volume		Litre	60
Amount of zones			2
Temperature range hot zone		°C	+50 to +220
Temperature range cold zone		°C	-80 to +70
Temperature deviation in time		K	±0.3 to ±1.0
Temperature homogeneity		K	±0.5 to ±2.0
Calibrated values	cold zone	°C	-40
	hot zone	°C	+125
Test space dimensions	Width	mm	380
	Depth	mm	430
	Height	mm	370
External dimensions	Width	mm	875
	Depth	mm	1970
	Height (...) [1]	mm	1895 (2330)
Loading capacity, max.		kg	20
Sound pressure level [2]		dB(A)	58
Refrigeration unit			air-cooled
Electrical connection			3/N/PE AC 400 V
Rated power		kW	8.5

Standards - VT³ 7006 S2
MIL STD 883 E, meth. 1010.7, severity of test A,B,C,D,F - MIL STD 810 E, meth. 503
MIL STD 202 F, meth. 107 G - IEC 68-2-14, test Na - BS 2011 - DIN 40046, test Na
JESD22 - A101-A

[1] height of installation room necessary for operation of chamber
[2] free field measurement at 1 m distance from the front and at 1.6 m height above floor level

Options

- Software S!MPATI*
- Temperature measuring on test specimen
- Temperature range extension to +250 °C
- Interface RS 232 <--> IEEE 488 or RS 232 <--> RS 422/485
- Interface RS 422/485 (network card for test cabinet)
- Analogue transducer I/O
- Wire mesh and insert shelves
- Additional entry port 80 mm Ø
- Connection for GN_2-inertisation/compressed air dryer
- Shock cooling with LN_2
- Water-cooled refrigeration unit
- Special voltages
- WKD or DKD calibrations

Comfortable, user-friendly operation ...

The control and communication system provides the highest level of operating convenience.

A high-performance 32 bit control system provides the basis for the monitoring and control of the test systems.

The S!MPAC* control system opens the possibility to shorten test duration considerably. The dwell time required by test regulations at the desired specified temperatures are, naturally enough, adhered to.

The S!MPAC* control system offers 3 operating modes:

- Normal mode
- Optimized time mode
- Economy mode

Our test chambers are equipped with an integrated industrial computer system S!MPAC* with a 12" colour touch screen monitor to facilitate operation, monitoring and documentation. The Windows S!MCONTROL* software package provides maximum user comfort, transforming the test chamber into a communication wizard.

Simulation programs and test results are saved on the hard disk and can be exchanged via Ethernet or USB stick (option). Complete test information is given with a simple touch and the function is explained in an easily understanding manner on the integrated process visualisation system.

The interaction between compressors, heating systems and valves is clearly illustrated.

Programming of tests is realised with a shock test editor.

S!MPATI*

What would a highly developed, high-performance system be without software which is clear and easy to operate, enabling you to master the flow of information. It is called S!MPATI* and determines the optional operating parameters for system and test specimens. In addition to the well-known Windows standards, the software can also be integrated into networks.

Operation of test systems becomes simple and time-saving. System operating reliability is assured, thanks to the integrated monitoring routines. Evaluation and documenting of test cycles and the integration of special measuring data guarantees an improved standard.

We plan and manufacture tailor-made solutions to meet all requirements.

We are your competent partner in environmental test technology.

We reserve the right of changes in construction resulting from technical progress. Some of the illustrated systems contain optional extras.

Vötsch Industrietechnik

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Environmental Simulation

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