weisstechnik®
a schunk company

Temperature Shock Test Chambers ShockEvent

Test whatever you like.

From components to gearboxes and semiconductors – in research, development and quality control, you won't want to take any chances. We'll support you.

A load test for your products.

Environmental conditions have a great influence on the functionality and reliability of the electronic components, devices and systems. A normal temperature test is often not sufficient to detect latent weak points as quickly as possible. Samples must be subjected to multiple, shock-like temperature changes. With our Temperature Shock Test Chambers ShockEvent extremely fast temperature changes from –80 °C to +220 °C can be achieved. This helps you to reduce early failures and to increase the reliability of your products. Reproducible, certified and under accelerated conditions.

Lots to test? No problem!

When testing your products, you must adhere to numerous test standards and carry out long-term tests. Our test chambers are designed for these situations. Our models cover a wide range of applications and satisfy every need. For specific requirements, you can upgrade every system with many options based on your individual needs.

Perfection in performance, equipment and design.

Temperature Shock Test Chambers Shock Event.

Precisely engineered.

We know what matters for your tests: reliable, precise and reproducible results. That's why we design our test chambers to meet exactly these demands. Because incorrect results lead to incorrect conclusions. With your needs in mind, we already eliminate any interference factors during the design phase, relying on our comprehensive expertise and years of experience.

Perfectly manufactured.

For us, quality is our daily business. We use only high-quality materials and manufacture many of the components for our test chambers in-house. In addition, we have regular quality checks in place throughout the entire production process.

Absolutely low maintenance.

Set up, plug in, start the test. The intelligent, compatible control elements and intuitive user interface guarantee easy operation. Easily accessible maintenance elements ensure minimal service times. Diagnostics and inspection systems in every machine additionally shorten downtimes and optimise maintenance periods.

Our highlights:

- New, eco-friendly refrigerant R464A (WT69)
- **WEB**Season® web-based user interface
- Alternative test methods for test specimens: vertical shock and damper shock

weisstechnik vötschtechnik

Our innovative Test Chambers are available as **weiss**technik or **vötsch**technik.

More equipment, right from the start.

Basic equipment setting standards.

Interior

- **Testing without defrosting**
  The integrated volume compensation system prevents icing in the cold chamber and makes a compressed air dryer unnecessary. Endurance tests with over 1,000 cycles can be run without defrosting.
- **Freedom for your specimen**
  To prevent the test specimen from being caught between the lifting basket and the container wall, the movable basket is secured on all sides by removable mesh panels.

Exterior

- **Move safely into the future – using the new refrigerant**
  The new refrigerant R449A is used in all Temperature Shock Test Chambers ShockEvent. The GWP value of just 1,397 ensures safe usage even after 2030 and the refrigerant does not have to be replaced. As a result, we are already surpassing the future statutory standards today therefore future-proofing your tests, making the equipment easier to maintain and more environmentally friendly.

Communication

- **Networking that matches**
  Test and diagnostics information are sent to the PC via Ethernet interface or can be saved on a USB stick via the USB interface. Monitoring and checking are possible from any workplace computer.

Regulation & Control

- **Into the age of connectivity – with WEB**Season®
  You can use the innovative user interface to program, control and monitor your tests at any time and anywhere, even from your tablet or smartphone. Language and units can be set to suit the user and the settings can be saved. In this way, **WEB**Season provides a new dimension of flexibility and efficiency.

You can find further details on equipment in our technical descriptions. **Contact us.**

Our innovative Test Chambers are available as **weiss**technik or **vötsch**technik.

Thanks to greenmode®**, which comes as standard, ShockEvent is the most energy-efficient device in its class.**

Tailor-made testing.

Optional equipment for individual solutions.

Interior

- **Hotter? No problem**
  The standard temperature range can be extended from +220 °C to +250 °C if necessary.
- **For easy placement**
  An access port with a diameter of 125 mm can be installed for placing cables, connections and additional equipment in the cage.
- **Optimal stress for your test specimens**
  The variable transfer time for the cage between cold/hot chamber makes it easy to determine the optimal stress condition for the test specimens, which makes particular sense for screening applications.

Regulation & Control

- **Set standards in communication**
  The software **S!M**PATI® makes operating, documenting and archiving your test sequences very easy.

You can find further details on equipment in our technical descriptions. **Contact us.**

Our innovative Test Chambers are available as **weiss**technik or **vötsch**technik.

Developed exclusively for you:
The unique software simulation package for the perfect test process.

For particularly sensitive ones.

Nothing moves here – not even the test specimen.

Interior

- **One chamber for everything**
  Using the damper shock method, 3 temperature zones (cold, hot, ambient) can be simulated in the same chamber. This makes optimum stress conditions possible without having to move the test specimen.
- **Load test equipment easily**
  The basic version has an access port on the left with a 50 mm diameter for the placement of cables and connections. Movements of the loaded cables are avoided by the stationary test space.
- **Well distributed, efficiently tested**
  The test specimens can be distributed on up to seven insert grids, making an increased test throughput of up to 150 kg possible.

Exterior

- **Move safely into the future – with award-winning refrigerant R469A**
  The refrigerant R469A (WT69) especially developed by **weiss**technik delivers uncompromising results down to -70 °C with a minimum GWP value of just 1,357. The jury of the German Innovation Award (GIA) honoured the refrigerant twice in 2020: In the Chemical Industry sector with the Gold award as winner and in the Energy Solutions sector as “Winner”.

Regulation & Control

- **Into the age of connectivity – with WEB**Season®
  You can use the innovative user interface to program, control and monitor your tests at any time and anywhere, even from your tablet or smartphone. Language and units can be set to suit the user and the settings can be saved. In this way, **WEB**Season provides a new dimension of flexibility and efficiency.

You can find further details on equipment in our technical descriptions. **Contact us.**

Explained in brief: Damper Shock Temperature Test Chamber
The process of a damper shock testing method, vividly animated in a short video.

Convincing technology. Reliable results.

Performance data at a glance.

Vertical Shock Test Chambers ShockEvent		T/60/V2	T/120/V2	T/120/V2/P	T/300/V2	T/300/V2/P
Test space volumes	**l**	60	120	120	300	300
Exterior housing dimensions test chamber[1], H x W x D, approx.	**mm**	2330 x 900 x 2020	2450 x 1000 x 2400	2450 x 1000 x 2675	2900 x 1350 x 2160	2900 x 1350 x 2160
Exterior housing dimensions machine unit[2], H x W x D, approx.	**mm**	-	-	-	1950 x 800 x 2100	2080 x 1000 x 2400
Test space dimensions, H x W x D, approx.	**mm**	370 x 380 x 430	410 x 470 x 650	410 x 470 x 650	610 x 770 x 650	610 x 770 x 650
Temperature range hot chamber	**°C**	+50 to +220	+50 to +220	+50 to +220	+50 to +220	+50 to +220
Temperature range cold chamber[3]	**°C**	-80 to +100	-80 to +100	-80 to +100	-80 to +100	-80 to +100
Heating rate hot chamber[4]	**K/min**	17.0	14.0	18.0	11.0	23.0
Cooling rate cold chamber[4]	**K/min**	3.7	6.3	7.5	5.0	12.0
Heating rate cold chamber, single chamber operation[4]	**K/min**	3.2	2.0	2.0	1.5	1.5
Temperature deviation in time[5]	**K**	±0.3 to ±1.0	±0.3 to ±1.0	±0.3 to ±1.0	±0.3 to ±1.0	±0.3 to ±1.0
Temperature homogeneity in space[6]	**K**	±0.5 to ±2.0	±0.5 to ±2.0	±0.5 to ±2.0	±0.5 to ±2.0	±1.0 to ±2.0
Maximum load movable basket	**kg**	20	50	50	100	100
Total weight	**kg**	800	1000	1200	1630[7]	2040[8]
Factory calibration hot chamber	**°C**	+125	+125	+125	+125	+125
Factory calibration cold chamber	**°C**	-40	-40	-40	-40	-40
Adaptation time temperature change tests	**min**	<15[9]	<15[10]	<12[11]	<15[12]	<15[13]
Changeover time between hot/cold chamber	**sec**	<10	<10	<10	<10	<10

[1]Overall dimensions in set-up state. For size 300 l without machine unit. Components can be dismounted (separate service) for loading.
[2]Size 300 l comprises the test chamber and a separate machine unit located at the side.
[3]Temperatures >+5 °C are permitted continuously, temperatures <+5 °C are permitted discontinuously or with the addition of a compressed air dryer.
[4]According to IEC 60068-3-5.
[5]In the centre of test space in steady state.
[6]Related to the set nominal value; in the temperature range from -65 to +200 °C.
[7]Incl. separate machine unit (680 kg).
[8]Incl. separate machine unit (850 kg).
[9]MIL-STD-883 E, method 1010.9, severity level D with 4.5 kg ICs distributed over 2 inlay shelves, measurements in the specimen.
[10]MIL-STD-883 J, method 1010.9, severity level D with 12 kg ICs distributed over 3 inlay shelves, measurements in the specimen.
[11]MIL-STD-883 F, method 1010.9, severity level D with 20 kg ICs distributed over 3 inlay shelves, measurements in the specimen.
[12]MIL-STD-883 J, method 1010.9, severity level F with 25 kg ICs distributed over 3 inlay shelves, measurements in the specimen.
[13]MIL-STD-883 F, method 1010.9, severity level F with 50 kg ICs distributed over 3 inlay shelves, measurements in the specimen.

Damper Shock Test Chambers ShockEvent		D/210/a/V1	D/210/e/V1
Test space volumes	**l**	210	210
Exterior housing dimensions, H x W x D, approx.	**mm**	1595 x 1765 x 1970	1595 x 1765 x 1970
Test space dimensions, H x W x D, approx.	**mm**	700 x 600 x 500	700 x 600 x 500
Pre-tempering hot chamber	**°C**	+50 to +225	+50 to +225
Pre-tempering cold chamber	**°C**	-70 to 0	-80 to 0
Temperature test space[1]	**°C**	-65 to +200	-70 to +200
Temperature deviation in time[2]	**K**	± 0.3 to ± 0.5	± 0.3 to ± 0.5
Temperature homogeneity in space[3w]	**K**	± 0.5 to ± 1.5	± 0.5 to ± 1.5
Maximum load test space floor	**kg**	100	100
Maximum load grid shelf	**kg**	50	50
Total weight	**kg**	1350	1350
Factory calibration hot chamber	**°C**	+125	+125
Factory calibration cold chamber	**°C**	-40	-40
Adaptation time temperature change tests[4]	**min**	≤15	≤15
Adaptation time temperature change tests[5]	**min**	≤5	≤5

[1]Temperatures >+5 °C are permitted continuously, temperatures <+5 °C are permitted discontinuously or with the addition of a compressed air dryer.
[2]In the centre of test space in steady state.
[3]Related to the set nominal value; in the temperature range from -65 to +200 °C (D/210/a/V1) or -70 to +200 °C (D/210/e/V1).
[4]MIL-STD-883L-1, method 1010.9, severity level B with 15 kg ICs distributed over 2 inlay shelves, measurement in the specimen.
[5]MIL-STD-202G, method 107G, severity level A with 13.6 kg ICs distributed over 2 inlay shelves, measurements in the specimen.

All stated performance data listed are based on +25 °C ambient temperature, 400 V/50 Hz rated voltage, without test specimens, additional equipment and heat compensation.

The product needs fluorinated gases for functioning. Depending on the device type, it contains the refrigerant R449A (all), R469A (D/210/a/V1) and R23 (all except D/210/a/V1).

We reserve the right to make any technical changes without prior notice.

Our products – your standards.

Standardised temperature stress tests.

ShockEvent	T/60/V2	T/120/V2	T/120/V2/P	T/300/V2	T/300/V2/P	D/210/a/V1	D/210/e/V1
Standards for shock operation							
IEC 60068-2-14 Na	✓	✓	✓	✓	✓	✓	✓
MIL-STD-810H, Method 503.7	✓	✓	✓	✓	✓	–	–
MIL-STD-883L-1, Method 1010.9	A, B, C, D, F	A, B, C, D, F	A, B, C, D, F	A, B, C, D, F	A, B, C, D, F	A, B	A, B
JASO D 014-4	✓	✓	✓	✓	✓	✓	✓
Standards for 3-zone shock test							
MIL-STD-202G, Method 107G	–	–	–	–	–	A	A, B, C, F
EIAJ ED-2531B Na	✓	✓	✓	✓	✓	✓	✓
Standards for single chamber operation[1]							
IEC 60068-2-1, Test A	✓	✓	✓	✓	✓	–	–
JEDEC JESD22-A119	✓	✓	✓	✓	✓	–	–
MIL-STD-810H, Method 502.7	✓	✓	✓	✓	✓	–	–
ETSI EN 300019-2-4, Test Ab/Ad	✓	✓	✓	✓	✓	–	–

[1]Only valid in the cold chamber of the vertical shock test chamber in the restricted temperature range and with restricted rates of temperature changing rate.

The temperature values (severity levels) specified in the standards are restricted by maximum and minimum test chamber temperature. The appropriate test chamber must be selected in accordance with the required rates of temperature change for alternating tests. The regulations are fulfilled if the performance is such that the influence of the DUT and its heat emission can be compensated for in the performance range under consideration. Please contact us to check the feasibility with your test specimens.

Reference point for the test values and tolerance specifications is the centre of the test space. Verification documentation for individual test values is available as a fee-based option.

Your test standard is not included in the list? Contact us!

Become more efficient.

Our solutions will save you time and money.

Get the most out of your test facility.

Create your own perfect testing process with the software package S!MPATI®.

Process management/documentation/networking

- Up to 99 systems can be connected
- Programs for automated processes
- Documentation, visualisation and management of process data
- Traceability of process data for seamless quality control

We measure ourselves by our service!

24/7-Service-Helpline: +49 1805 666 556

Our services – lots of good reasons:

- Global service network
- Wide selection of preventive maintenance
- Reliable spare part supply
- Special deployments available any time
- Certified proper disposal of outdated devices

Our Service Experts are always near you.

Passionately innovative.

We work in partnership to support companies in research, development, production and quality assurance. With 22 companies in 15 countries at 40 locations.

weisstechnik
For a safe future.

Environmental Simulation

The first choice for engineers and researchers for innovative, safe environmental simulation facilities. In fast motion, our test systems can simulate all the influences in the world as well as for instance in space. In temperature, climate, corrosion, dust or combined stress tests. With a very high degree of reproducibility and precision.

Air Solutions

As the leading provider of clean rooms, climate technology and air dehumidification, we consistently ensure optimal climatic conditions for people and machines. For industrial production processes, in hospitals, mobile operation tents or in the field of information and telecommunications technology. From project planning to implementation.

Heat Technology

Experienced engineers and designers develop, plan and produce high-quality, reliable heat technology systems for a broad range of applications from heating and drying cabinets to microwave systems and industrial furnaces.

Pharma Technology

With decades of experience and know-how, we guarantee the most sophisticated clean air and containment solutions. Our comprehensive and innovative range of products includes barrier systems, laminar flow systems, safety workbenches, isolators and airlocks.

Weiss Technik GmbH
Greizer Straße 41-49
35447 Reiskirchen/Germany
T +49 6408 84-0
info@weiss-technik.com

Weiss Technik GmbH
Beethovenstraße 34
72336 Balingen/Germany
T +49 7433 303-0
info@weiss-technik.com

www.weiss-technik.com

UT-ShockEvent-01.2E/PP 1.0/03 2021

Test it. Heat it. Cool it.