weisstechnik®
a schunk company

Temperature Shock Test Chambers TS

Check whatever you like.

From bricks to circuit boards – where research, development and quality control are concerned, you won't want to take any chances. We'll support you in that.

A stress test for your products.

Environmental conditions have a major influence on the functionality and reliability of electronic components, devices and systems. In order to discover latent weaknesses in the shortest possible time, a typical temperature test is often insufficient; test specimens must be subjected to multiple, abrupt temperature changes. With the **weiss**technik Temperature Shock Test Chamber TS, it is possible to realise extremely rapid temperature changes in the range from –80 °C to +220 °C. This allows you to reduce the incidence of early failures and increase the reliability of your products. Reproducible, certified and in time lapse.

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 exactly that. The production models have a wide range of applications and satisfy every need. For specific requirements, you can upgrade with many options. According to your needs.

Perfection in performance, equipment and design.

Temperature Shock Test Chambers TS.

Well thought out.

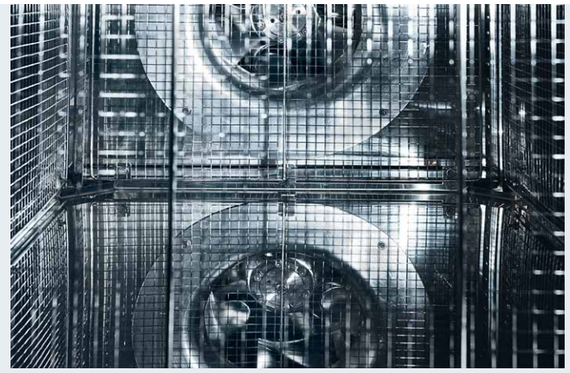
We know what matters to you for your tests: reliable, precise and reproducible measurement results. That's why we construct our test chambers so that you can achieve this. Because incorrect results lead to incorrect conclusions. We consider this and eliminate possible disturbances during development. And build on our comprehensive know-how and years of experience.

Perfectly manufactured.

For us, quality is the order of the day. We only work with high-quality materials and process almost all of the components for our test chambers ourselves. Not only that, but we also have regular quality checks which continue throughout the entire production process.

Absolutely low maintenance.

Set up, plug in, get going. The intelligent, compatible control elements and intuitive user interface make for easy use. Good accessible maintenance elements allow for short servicing times. Diagnostics and an inspection system installed as standard also optimise maintenance and repair times.



Reliable measurement results are possible thanks to:

- Integrated volume-compensation system for sustained operation
- High air-circulation rate and optimal airflow in the test chamber
- Fast-lifting basket motion
- Broad, overlapping temperature ranges in the cold and hot chambers
- Configurable preliminary temperature control in both temperature zones
- Perfect, environmentally-friendly isolation

More, right from the start.

Basic equipment which sets standards.

Interior

- **Volume compensation system**
  The integrated volume compensation system prevents icing of the cold chamber and makes a compressed air dryer unnecessary. Endurance tests with over 1,000 cycles can be implemented without defrosting.

- **Securing of the basket on all sides**
  To prevent the test specimen from being caught between the lifting basket and the container wall, the travel basket is secured on all sides by removable mesh panels.

Exterior

- **Green Mode®**
  With Green Mode®, you can realise energy savings of up to 40% – to save you money as well! Not to mention many tons of CO_2. We achieve these savings through additional optimisation of the system functionality and software.

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.

Safety

- **Protection for your tests, safety for you**
  No need to worry about loss or excess of temperature: Test-chamber and test-object protection and test object shutdown are installed as standard. The test chamber itself is designed for operation at ambient temperatures of up to +35 °C, complying with the current VDE regulations and satisfying the EMV, low voltage and machine directives.

Image contains optional equipment

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

Reliable control in series:
Digital measurement and control system for using and monitoring of the test chamber.

S!M PAC® controlled I.I

Tailor-made testing.

Optional equipment for individual solutions.

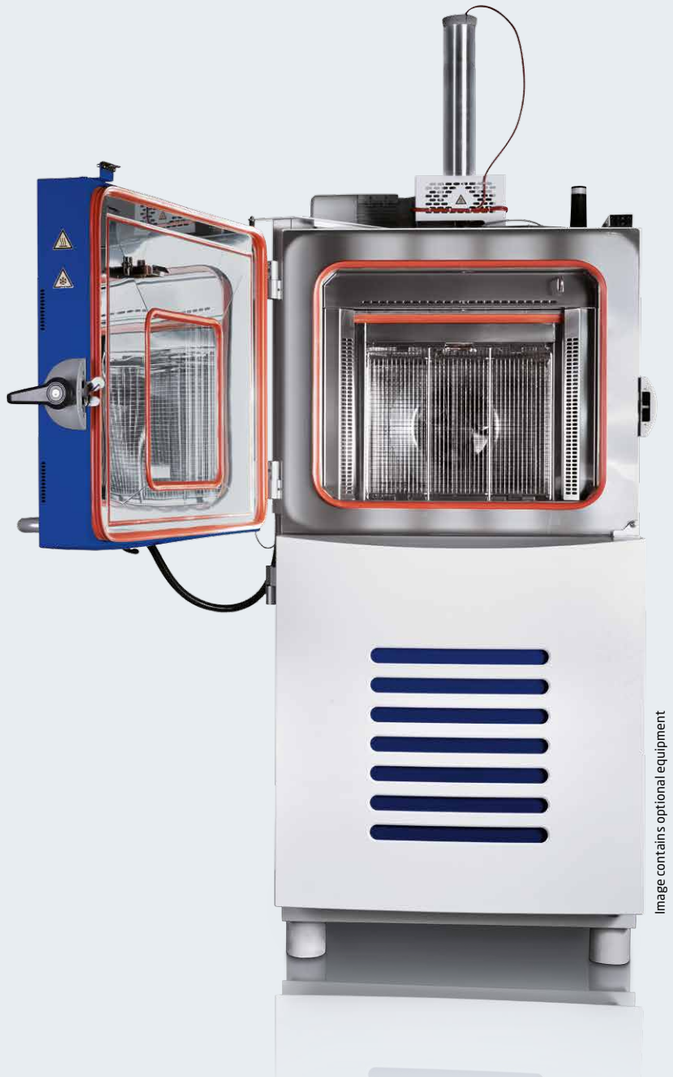


Image contains optional equipment

Interior

- **Extended temperature range**
  If necessary, the standard temperature range of +220 °C can be extended to +250 °C.
- **Get involved**
  A port with 125 mm diameter can be installed for introducing connections or additional devices into the basket.
- **Variable basket**
  The variable transfer time of the basket between the hot and cold chamber makes it easy to determine the optimal stress condition for the test specimen, which is particularly useful for screening applications.

Regulation & Control

- **Set standards in communication**
  With S!MPATI® software, using, documenting and archiving your test sequences is easy. All temperature shock test chambers built from 1993 onwards can be upgraded and connected with S!MPATI®.

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

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

S!MPATI®

Impressive technology. Reliable results.

The performance data at a glance:

Type		TS 60	TS 120	TS 120 P	TS 300	TS 300 P
Test basket volume	**l**	60	120	120	300	300
Test basket 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	**°C**	-80 to +70	-80 to +70	-80 to +70	-80 to +70	-80 to +70
Heating-up speed hot chamber[1]	**K/min**	17.0	14.0	18.0	11.0	23.0
Cooling-down speed cold chamber[1]	**K/min**	3.7	6.3	7.5	5.0	12.0
Heating-up speed cold chamber, single-chamber operation[1]	**K/min**	3.2	2.0	2.0	1.5	1.5
Temperature deviation, in time[2]	**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[3]	**K**	± 0.5 to ± 2.0	± 0.5 to ± 2.0	± 1.0 to ± 2.0	± 0.5 to ± 2.0	± 1.0 to ± 2.0
Changing time between hot/cold chamber	**sec**	< 10	< 10	< 10	< 10	< 10
Adjusting time for temperature-changing tests	**min**	< 15[4]	< 15[5]	< 12[6]	< 15[7]	< 15[8]
Calibration value hot chamber[9]	**°C**	+125	+125	+125	+125	+125
Calibration value cold chamber[9]	**°C**	-40	-40	-40	-40	-40

[1] As per IEC 60068-3-5. Temperature change rates can be increased by selecting higher/lower temperatures in the hot/cold chamber.
[2] In the middle of the chamber.
[3] Depending on adjusted set point value in the temperature range -65 °C to +200 °C.
[4] MIL-STD-883 E Method 1010.8, degree of intensity D with 4.5 kg ICs distributed over 2 shelves, measurement in specimen.
[5] MIL-STD-883 J Method 1010.8, degree of intensity D with 12 kg ICs distributed over 3 shelves, measurement in specimen.
[6] MIL-STD-883 F Method 1010.8, degree of intensity D with 20 kg ICs distributed over 3 shelves, measurement in specimen.
[7] MIL-STD-883 J Method 1010.8, degree of intensity F with 25 kg ICs distributed over 3 shelves, measurement in specimen.
[8] MIL-STD-883 F Method 1010.8, degree of intensity C with 50 kg ICs distributed over 3 shelves, measurement in specimen.
[9] Factory calibration.

The performance data refer to +25 °C ambient temperature, 400 V nominal voltage, without specimen, optional equipment and heat compensation.

The product needs fluorinated gases for functioning.
Depending on the type, it contains refrigerants R404A and R23.

We reserve the right to make any technical alterations.

Become more efficient.

You'll save time and money with our solutions.

Get the most out of your test facility.

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

Process management/Documentation/Networking

- Up to 99 systems can be networked
- Programmes for automatic processes
- Documenting, visualising and managing 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 – plenty of good arguments:

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

You can always find a **weiss**technik expert near you.

weisstechnik®

Test it. Heat it. Cool it.

Our solutions are deployed around the world in research, development, production and quality assurance of numerous products. Our experts from 21 companies are at your service in 14 countries, ready to provide support to ensure high operational reliability of your systems.

Weiss Umwelttechnik is one of the most innovative and significant manufacturers of environmental simulation systems. With these testing systems, we can simulate all climatic conditions around the globe and beyond, under accelerated conditions. Whether temperature, climate, corrosion, dust or combined shock testing: We have the proper solution. We supply systems in all sizes, from standard versions up to customised, process-integrated facilities – for high reproducibility and precise test results.

Vötsch Industrietechnik, a subsidiary of Weiss Umwelttechnik, offers a wide product portfolio in the field of heating technology. With an experienced team of engineers and designers, we develop, plan and produce high-quality and reliable heating technology systems for virtually any field of application. Products include heating/drying ovens, clean room drying ovens, hot-air sterilisers, microwave systems and industrial ovens. The portfolio reaches from technologically sophisticated standard versions to customised solutions for individual production operations.

A further Weiss Technik company, Weiss Klimatechnik, also offers reliable climate solutions wherever people and machinery are challenged: in industrial production processes, hospitals, mobile operating tents or in the area of IT and telecommunications technology. As one of the leading providers of professional clean room and climate solutions, we deliver effective and energy-saving solutions. Our experts will guide you from the planning to the implementation of your projects.

Weiss Pharmatechnik, a subsidiary of Weiss Klimatechnik, is a competent provider of sophisticated clean room and containment solutions. The product range includes barrier systems, laminar flow facilities, security workbenches, isolators and double door systems. The company emerged from Weiss GWE and BDK Luft- und Reinraumtechnik and has decade-long experience in clean room technology.

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