weisstechnik®
a schunk company

Our Climate Test Chambers.

Shaping the future together.

With the new ClimeEvent.

weiss-technik.com

You develop new ideas.
We provide their future.

As passionate engineers, we design products with a vision for future developments, with attention to every detail and with absolute dedication to service. Allowing you to concentrate on your core business.

Pioneering.

Our materials and engineering expertise make us a technology leader. With this and our pragmatic approach, we pave the way for ideas and identify new growth potential and goals together with you for achieving or exceeding them sustainably.

Idea-driven.

We are continuously developing and improving and are passionately innovative. Based on this motivation, we advise you, offering new ideas and inspiration and securing early competitive advantages in tomorrow's growing markets for you.

Cooperative.

We believe in entrepreneurial spirit and personal commitment in our customer relationship rather than anonymous corporate structures: this is what makes us a reliable partner for successfully implementing defined goals – together. All this has shaped our brand **weiss**technik and established it worldwide.

Testing for a future worth living.

Anyone who develops new perspectives, creates value and launches innovations will be sustainably successful if they consequently play it safe during research, development and quality assurance. We will support you in this as your partner!

From hot to cold.

Your products have to withstand different thermal and climatic conditions during production, transport, storage and use. We support you to test the influence of temperature and humidity on the properties, function and service life of your products.

Whether short or long.

Lots to test? What about lightning fast? No problem! When testing your products, you must adhere to numerous test standards and carry out long-term tests. Today, we are the first choice among engineers and researchers for innovative and safe environmental simulation systems. With customised solutions: reproducible, certified and in fast motion.

Engineers for engineers.

weisstechnik – a brand with a uniquely broad range.

You shape the future. With vision.
We support you. With certainty.

The new ClimeEvent sets innovative standards in environmental simulation.

With our latest generation of climate test chambers, you can test your ideas for tomorrow even more efficiently, comfortably and safely. The modern, functional design makes it even easier to operate. Smart technical features ensure reproducible results reliably. The new ClimeEvent can also be individually configured and integration into test laboratories is extremely simple. Discover it!

Excellent in performance, equipment and design.

Precisely engineered.

We know what matters to you during your testing: reliable, precise and reproducible results.

Instantly ready.

We ensure intelligent and intuitive operation: simply set up, connect, start.

Perfectly manufactured.

We only use high-quality materials and manufacture most of the components for our test chambers in-house.

Individually configurable.

Our test chambers can be individually expanded with numerous options. Fully according to your needs.

Perfect in shape. Better in handling.

New

1 **Visual status bar**
Operating status and test progress always in view

2 **Homogeneous test space illumination**
Optimal lighting conditions, even with the door open

3 **Smart test specimen protection**
To ensure that secrets remain secret

4 **Flexible test space**
Highly adaptable rail system

5 **Integrated web panel**
Larger (10"), fold-out, faster and easy to use

6 **Precise absolute humidity control**
Highest control accuracy for climate change tests

7 **Intelligent water management**
Always the fill level in view

8 **Ergonomic door handle**
Venting the test space easily

9 **Extra large water bath**
For increased humidification and dehumidification performance

10 **Practical storage and accessories packages**
Where everything finds its place

The new ClimeEvent live!

Our solutions for your applications:

- **Explosion protection and ATEX**
  We can modify our equipment to comply with ATEX directives.
- **Battery testing**
  We provide the necessary equipment to ensure that people and products are safely protected from danger.
- **Standard-compliant tests**
  Standards such as PV 1200, PV 2005 or extracts from LV 124 are reliably met.

Enhanced into the future. **We support you. Reliably.**

The automotive industry is facing major challenges. Innovative concepts are needed to achieve lower fuel consumption and reduced emissions with increased performance, enhanced safety and more entertainment. At the same time, it wants to expedite the development of alternative drive systems and autonomous driving. Whoever is to succeed in these tasks must be developing tomorrow's automotive trends today. And requires a strong partner. Get on board!

For sustainable mobility. Future-proof testing.

Whether sun, rain or snow, de-icing salt or a sea breeze, stopped or at full throttle, it's all the same: before a vehicle goes on the road, it must be ensured that built-in materials and components will work and remain intact long-range under all conditions. Quality for tomorrow, without compromise.

Standards finder

Our test chambers are suitable for a wide range of tests. We reliably meet the standards of car manufacturers, including PV 1200, PV 2005, LV 124. Here you can find which test chambers fit your needs:

Reliable and future-proof.
Our options and modifications.

ATEX-compliant, no ifs, no buts.

Many components containing flammable substances such as brake fluid, batteries, paints with solvents, engine oil, fuels and lubricants have to pass very specific environmental simulation tests. The challenge: in a closed system like ClimeEvent, the gases of these substances can accumulate and lead to dangerous explosive atmospheres. But don't worry, our experts will take care of modifying, supplementing or equipping the units with special protective devices to make them ATEX-compatible.
Our safety concept – primary: avoid danger, secondary: prevent ignition.

Further information:

Good to know!

- ATEX = ATmosphères EXplosibles.
- Liquids with "flammable" warnings will most likely require ATEX protection.
- Unsure? Our checklist will assist you with the risk assessment in the form of an explosion protection document in accordance with the ATEX operational directive.

Well equipped against fire.

When testing electrical energy storage systems, things can quickly become highly dangerous. For fire suppression, we offer customised systems from our modular safety system:

- Fire detection equipment: carbon monoxide gas, smoke gas and temperature sensors
- Purging device in the event of fire: nitrogen or carbon dioxide displaces the oxygen and inhibits the spread of fire. ATEX-compliant permanent nitrogen inerting is also possible.
- Cooling: the temperature in the test chamber is rapidly reduced within a very short time by flooding it with water or by means of a high-pressure water fogger.

Heavy weights? No problem!

To test heavy goods, we'll install special heavy-duty rails for you. Up to 500 kg floor load are possible as a surface load.

Good to know!

- EUCAR (European Council for Automotive R&D) has studied hazardous situations and divided them into eight risk classes.
- Unsure? Our checklist for electrical energy storage systems supports your risk assessment.

Challenges? Manage them easily.

Even the highly demanding BMW dewing test (also known as K-15 of the LV 124 or BMW GS 95011-4) is reliably met by the new ClimeEvent! Electronic components installed in vehicles are tested for condensation resistance.

Would you like to see a case study?

Danger recognised, danger averted.

The EUCAR Hazard Levels are an evaluation basis for the selection of appropriate safety equipment for lithium-ion testing. Our modular safety system allows you to safely test according to your specific application – in compliance with the specifications of the machine and ATEX directives. We will work with you to determine what safety equipment is required for this.

Example: safety options for EUCAR Hazard Level 5

- Electrical door lock
- Status bar with signal lamp and horn
- Reversible pressure release flap
- Mechanical door lock and plug retaining clamp
- Particle blocker on the door
- Fire detection via CO gas measuring with two alarm levels
- Flushing device in the event of fire with nitrogen or carbon dioxide
- Interface matrix including potential-free contacts

Further information:

Our solutions for your applications:

- **ESD version**
  Our protective equipment ensures stress-free handling of highly sensitive electronic components.
- **EMC version**
  Our range for interference-free testing.
- **Optimal supply of test specimens**
  No problem with our flexible access ports.
- **Industrie 4.0, IoT, 5G**
  Testing the future today.

Smarter into the future. **We support you. Imaginative.**

The future is digital: visions such as the Internet of Things, cars as supercomputers, wearables and 3D printing are gradually becoming reality. These developments are based on electronic components such as sensors, optoelectronic components and processors. The increasingly extensive recording and processing of data is only possible with the interaction of these electronic components. We support you in partnership also with our ideas. Switch it on!

For intelligent solutions. Future-proof testing.

Simulate the future today – so that your product passes the day-to-day tests of tomorrow. Our lives are increasingly determined by electronics: whether smartphone, games console, navigation system or smart household appliances, there is a chip in almost every device. From sensors in cars to LED lights for minimally invasive surgery – we need to and must be able to rely on the quality and function of all components under all conditions. Every day, everywhere and in every weather.

Standards finder

Our test chambers are suitable for a wide range of tests.
Here you can find which test chambers fit your needs:

Imaginative and future-proof.
Our options and modifications.

Here's how your cables can pass through safely.

Lots of flexible access ports:

- In the ceiling area: for tests where access ports at the side are not sufficient, an additional access port of up to 125 mm can be positioned in the ceiling of the test space.
- Notch port: for inserting lines and cables, a notch port of approx. 50 x 50 mm can be welded on the right. This makes it very easy to connect fitted cables for energised test specimens before introducing them into the test space.
- Flat notch port: an insert with a flat notch port is fitted in the masking frame. It holds up to 5 cables with a maximum diameter of 8 mm each, also suitable for the convenient insertion of energised test specimens or additional sensor technology.

Testing for all it's worth.

Interference frequencies from electronic components can affect the functioning of other devices. To prevent this, they must show a certain frequency tolerance, but also stay within the limits themselves. A real challenge for EMC testing, because interference frequencies can be found everywhere. We have developed the EMC series for exactly this purpose: due to the special design, we can keep frequencies from the outside away as well as minimise those that arise within the test space. The result: a low-interference environment for reproducible and reliable results.

Good to know!

EMC (electromagnetic compatibility) refers to electromagnetic waves that can cause interference in electronic components. These include radio and microwaves.

Keep calm and relaxed.

For manufacturers of electronic components it is particularly important to protect their products as much as possible against electrostatic discharge. ESD can destroy the microscopic structures of chips and processors. Today's chipsets and components can already suffer premature damage from electrostatic discharge at 5 to 20 volts. As humans, we can only feel electrostatic voltage above 3,000 volts.

To guarantee the quality of your sensors, control units and PCBs, we design all relevant production processes to be ESD-safe.

Good to know!

ESD means electrostatic discharge. It can destroy or damage electrical components. Everyone knows the feeling: you walk across a carpet, touch a door handle and get an electric shock. The voltage that flows through your body can be between 1,500 and 35,000 volts, depending on the humidity.

Outgassing? No, thanks.

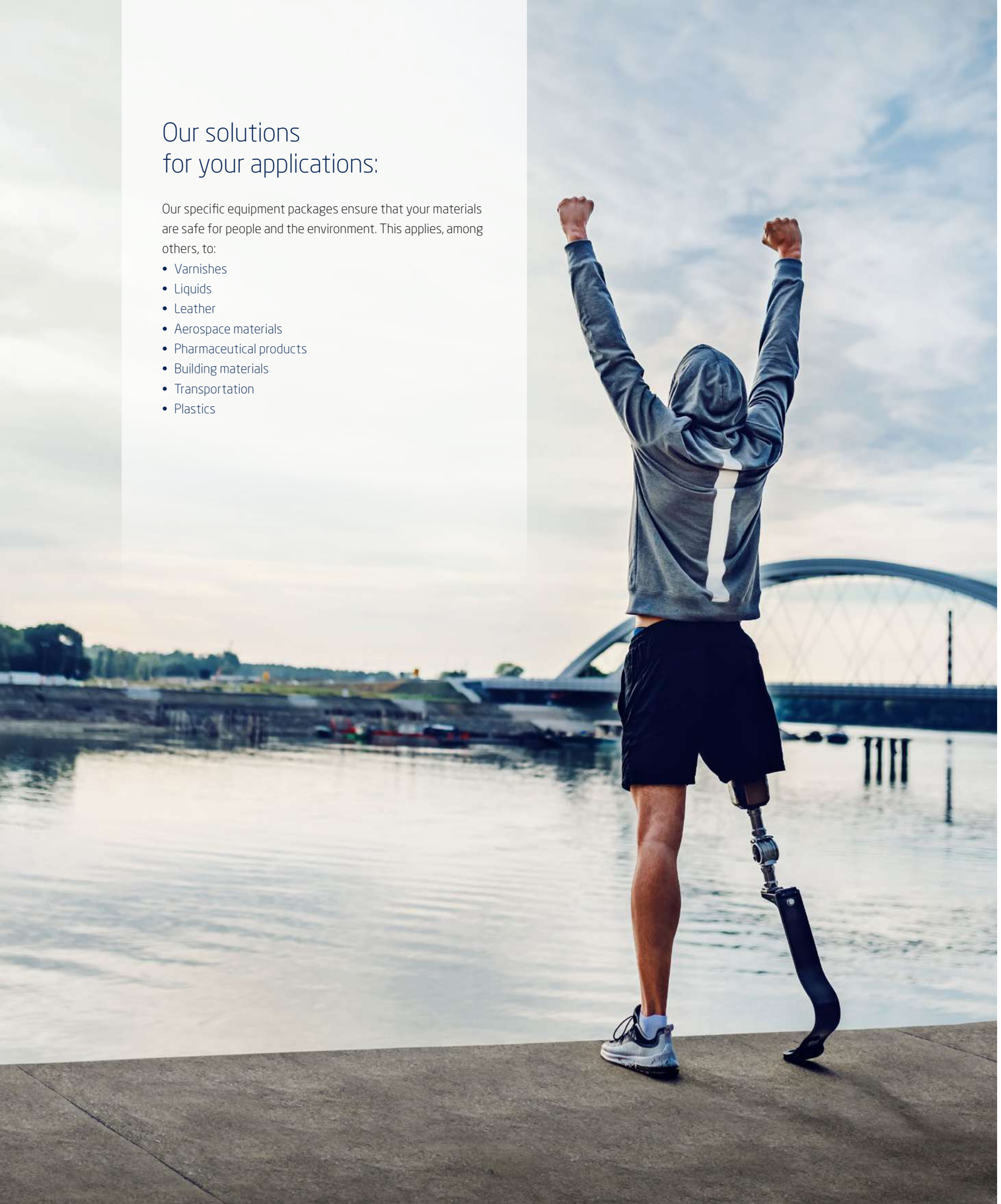
Silicone vapours can cause corrosion of various test specimens by emitting acetic acid. For this reason, i.e. circuit boards or cable connections require low-silicone or silicone-free versions of the test space in order to avoid malfunctions.

For reducing the silicone share in the test space, movable temperature sensors with Teflon cables or V2A protective tubes are installed. To achieve this, the inner door seal is replaced by a Viton seal. The standard access ports are already equipped with stainless steel flanges (inside) as standard, the slotted silicone plug is not required. In addition, the test space is degassed for 72 hours at the maximum temperature value of the unit.

Our solutions for your applications:

Our specific equipment packages ensure that your materials are safe for people and the environment. This applies, among others, to:

- Varnishes
- Liquids
- Leather
- Aerospace materials
- Pharmaceutical products
- Building materials
- Transportation
- Plastics



Advanced into the future. **We support you. Accountable.**

A wide variety of materials, from aluminium to plastic to cement stone, are used in a multitude of products. They must be safe for humans and the environment, be shaped into the desired form and fulfil their function over the long term. With **weiss**technik systems you can safely and reliably test the durability and stability of your materials. In all weathers.

For next-generation materials. Future-proof testing.

Legislation places special requirements on the production of medical technology products such as implants with regard to quality and hygiene. The production processes require the highest precision and standard-compliant safety to ensure maximum protection against quality deviations and contamination. **weiss**technik offers the ideal solutions specifically for this purpose – from a single source.

Are your use cases varied? Is your test specimen demanding?
Even in specific cases, we will certainly find the right solution for you.

Responsible and future-proof.
Our options and modifications.

The sun in the box.

All products that are operated outdoors or indirectly exposed to the sun must pass sun simulation tests. Ultraviolet and infrared irradiation systems simulate the natural sunlight spectrum, both short-wave and long-wave radiation similar to sunlight are possible.

This allows their effects on the test specimen to be examined under laboratory conditions and the ageing caused by solar irradiation, temperature and humidity to be determined. This enables reproducible measurements under defined, continuous conditions, independent from day and season.

Good to know!

While the short-wave components have a destructive effect that should not be underestimated, the long-wave components can lead to intense warming of the irradiated bodies and therefore to overheating.

Superbly qualified and demonstrably compliant.

Particularly strict rules apply in the pharmaceutical industry for the proof of suitability of a system. In order for you to demonstrate the necessary compliance, we offer all the necessary qualification and re-qualification services.

Test whatever you like.

Whether leather, chlorine-bleached paper or plastic cards – our durable, robust test chamber is made of high-quality stainless steel and can be optionally equipped with an aluminium evaporator. This means that even products with corrosive properties such as tanning agents in leather products cannot harm it.

From scorching hot to freezing cold, but safe.

In space, technical equipment must withstand extreme temperature fluctuations. Depending on the solar radiation, they can be exposed to high temperatures of over +150 °C or, in the Earth's shadow, to cryogenic values of around –180 °C. Our liquid nitrogen cooling system enables very precise temperature control down to –185 °C. With the special equipment package, you can check the correct functioning of your valuable high-tech equipment through thermal cycles before it is sent into orbit.

Everything at a glance. Everything under control.
Everything perfect.

Head towards the future with **weiss**technik.

Smart. Proven. Compatible.

S!MPATI®

Top performance with mature technology.

Our control software for environmental simulation, heat and climate technology is ready for the requirements of industry 4.0. Maximum flexibility and networking capability, simple operation and reliability always guarantee easy integration into automated processes. The S!MPATI range is rounded off by additional modules such as camera transmission, barcode applications or OPC UA support.

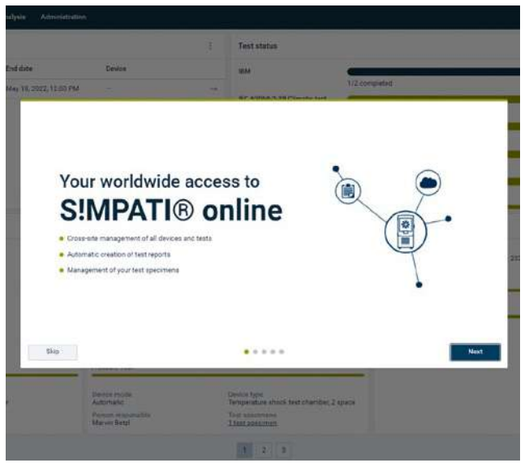
Step by step towards digitalisation.

S!MPATI® online

The platform-based extension for global access.

S!MPATI online expands your software functions and enables access to your systems across locations with automated generation of test reports. The secure cloud service runs via Microsoft Azure and thanks to the automatic updates you are always in the latest state. In addition, S!MPATI online is downward compatible with weisstechnik test chambers from 1987 onwards.

Download now free of charge:



A picture is worth 1000 measurements.

S!MPATI® time labs

Keeping an eye on the essentials with a warning and reporting system.

In addition to and in correlation with the capture of traditional measured data, digital camera images are generated by a special software at set intervals and filed in a general archives folder. A combined analysis of measured data and images brings new and valuable findings to light. Especially when a specific event has occurred.

Programmed for industry 4.0.

OPC UA Server

Intelligent OPC UA solutions for smart processes.

With the software S!MPATI, you now get an uncomplicated upgrade for the optimal industry 4.0 integration of your **weiss**technik systems. The simple data exchange runs via OPC UA server into a Manufacturing Execution System (MES), a Supervisory Control and Data Acquisition (SCADA) or the Enterprise Resource Planning (ERP). A software-only upgrade for S!MPATI, convenient and affordable:

- Implementation of individual customer requirements supported by **weiss**technik
- Year of manufacture of the equipment does not matter

Would you **like some more?**

Our solutions for challenging demands.

The product configurator. Your digital adviser.

Configure your desired model to suit your application.

Customising the new ClimeEvent? Fast and simple – with our product configurator. The online tool guides you through the configuration in just a few steps. Select and combine the options to suit your requirements. Find out more with no obligation or send us your configuration for a quotation.

Just give it a try:

Thinking about tomorrow today.

-70 °C without compromise. Ready for the future – with a new refrigerant.

The new refrigerant R469A (WT69) is used in all Climate Test Chambers ClimeEvent. With a GWP value of only 1,397, we chieve a reduction of over 90 % compared to R23 and already exceed the legal standards of tomorrow. Allowing you further future-proof and highly environmentally and service-friendly testing, even after 2030.

Practical and individual – Weiss Technik Academy.

Know-how for your technology – 24 hours, 7 days a week.

Advanced training as informative experience: for many years, Weiss Technik Academy represents successful applications, technical and product trainings: at your premises, at ours or even online:

- Free webinars on current trends and products
- Technical and user training for increased efficiency
- Individual trainings for special challenges

Click here for the offer:

We measure ourselves by our service.

We think and act as partners.

We set a high benchmark for you. With our service departments, we offer sustainable solutions for long-term, reliable unit operation:

- Expert advice with 24/7 helpline
- Maintenance and spare part management
- Calibration and qualification

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 echnology. 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.

Pharmaceutical 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, airlocks and stability test systems.

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Click here
to see the product.

TÜV NORD CERT GmbH
DIN EN ISO 9001/14001/DIN ISO 45001
Freiwillige Zertifizierung

FSC www.fsc.org
MIX
Paper from responsible Sources
FSC® C001704

Test it. Heat it. Cool it.

weisstechnik®
a schunk company

Data sheet

Climatic Test Chamber ClimeEvent

Abbildung ähnlich (enthält Optionen)

weiss-technik.com

STANDARDS

Low-temperature tests
IEC 60068-2-1, Test A
ISO 16750-4, Low temperature
ETSI EN 300019-2-4, Test Ab/Ad
MIL-STD-810 G, Meth. 502.5
JESD22-A119

High-temperature tests
IEC 60068-2-2, Test B
ISO 16750-4, High-temperature test
ETSI EN 300019-2-4, Test Bb/Bd
MIL-STD-202 G, Meth. 108A
MIL-STD-810 G, Meth. 501.5
MIL-STD-883 J, Meth. 1008.2
JESD22-A103D

Alternating temperature tests
IEC 60068-2-14, Test Nb
ISO 16750-4, Temp. steps
ISO 16750-4, Temp. cycling
ETSI EN 300019-2-4, Test Nb
MIL-STD-331 C, Test C6
JESD22-A105C

Constant climates
IEC 60068-2-67
IEC 60068-2-78
ISO 16750-4, Damp heat steady
ETSI EN 300019-2-4, Test Cab
MIL-STD-202 G, Meth. 103B
JESD22-A101C

Alternating climates
IEC 60068-2-30, Test Db, Var. 1
IEC 60068-2-30, Test Db, Var. 2
IEC 60068-2-38
ISO 16750-4, Damp heat cyclic
ISO 16750-4, Temp/Humid, cyclic
ETSI EN 300019-2-4, Test Db
VG 95210, Blatt 7, Meth. 106C
MIL-STD-202 G, Meth. 106D
MIL-STD-331 C, Test C1
MIL-STD-750-1, Change 3
MIL-STD-810 G, Meth. 507.5
MIL-STD-883 J, Meth. 1004.7
JESD22-A100D

OUR STANDARD FINDER

The right support for every test.
Various industry and factory standards are safely met. You can find a selection of test specifications and standards by using the specially developed standards finder on our website. The standards finder will help you find the right product to suit your needs.

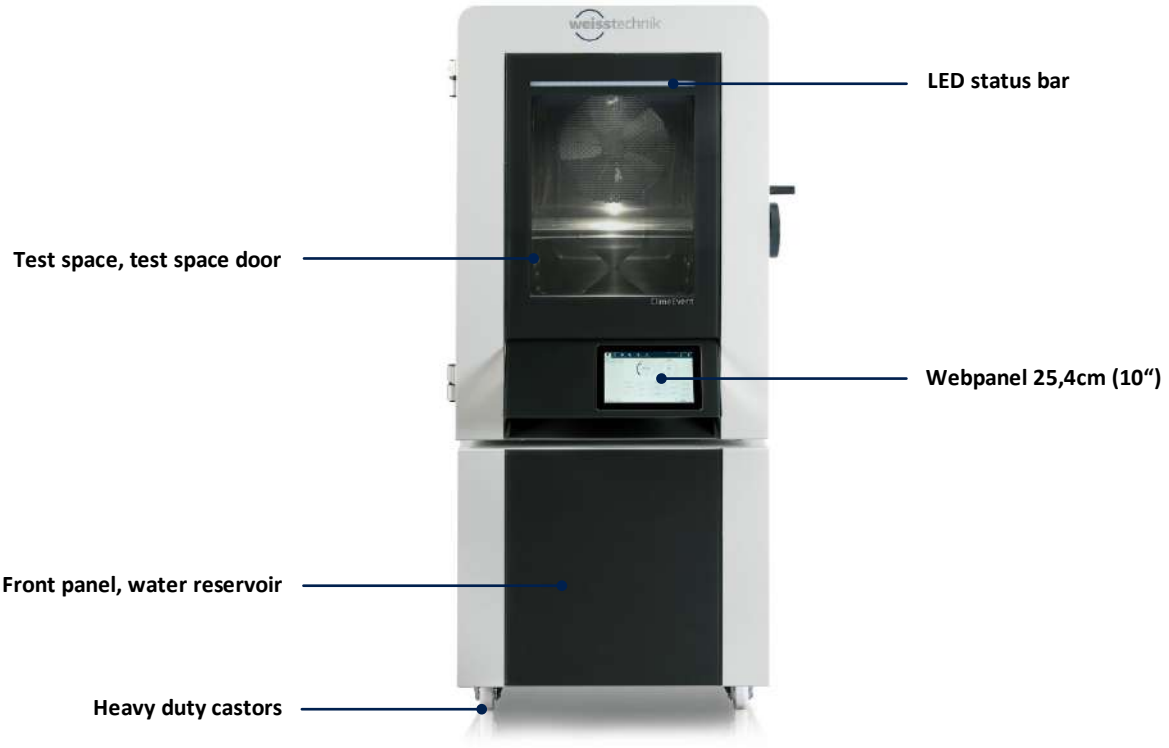
Click here to find the right support:

The temperature values specified in the standards (severity levels) are limited by the highest and lowest test space temperature. The choice of the appropriate test system depends on the temperature change rates during alternating tests. The requirements are met if the test system capacity is large enough to compensate for the influence of the specimen and its heat dissipation in the relevant capacity range. Please contact us to test the feasibility with your test specimen.

The reference point for test values and tolerance specifications is the middle of the test space. Verifying documentation for individual test values is optionally available at additional cost.

Do you not see your testing standard? Contact us!

STRUCTURE | ClimeEvent



View from front

View from front/ lateral

STRUCTURE | Master switch panel

Independent, adjustable temperature limiter

Main switch

Analog I/O

Digital I/O

Measuring sensor temperature Pt 100

Ethernet

USB-interface

Error message potential-free contact

Control measure[1]

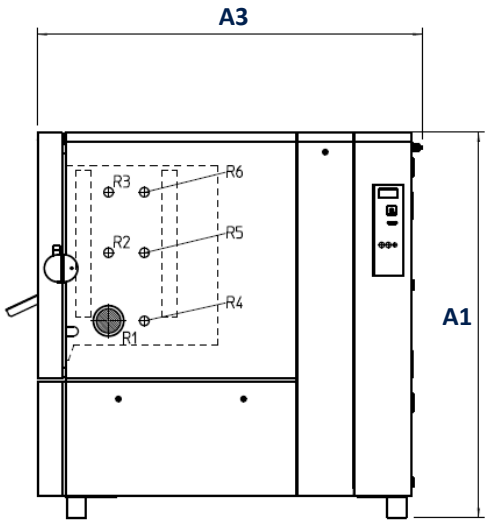
Power socket[1]

RS 485/RS 422[1]

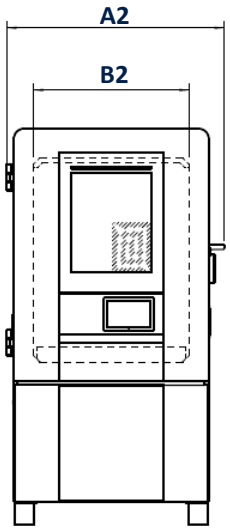
RS 232[1]

[1] *Option/ Additional equipment*

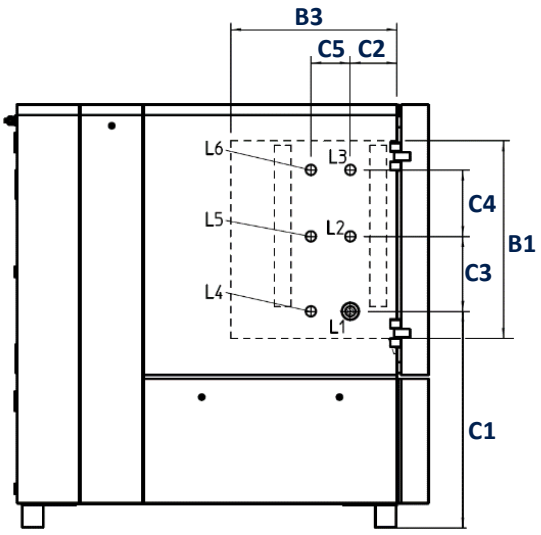
INSTALLATION DRAWINGS | ClimeEvent



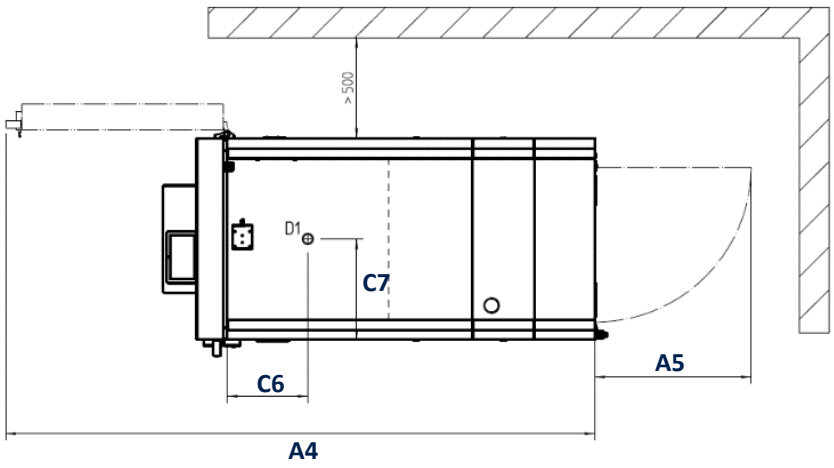
View from right



View from front



View from left



View from above

Standard access ports R & L	
R1	Installation position right Ø 125mm (standard)
L1	Installation position left Ø 50mm (standard)
R2-R12	Additional installation position right
L2-L12	Additional installation position left

	A1	A2	A3	A4	A5	B1	B2	B3	C1	C2	C3	C4	C5	C6	C7
	Test chamber[1]					Test space			Standard access ports R & L [2,3]						
Test space	Dimensions in mm														
180 Litres	1830	900	1575	2369	560	750	580	450	1030	225	250	250	-	230	390
340 Litres	1830	900	1890	2677	560	750	580	765	1030	225	250	250	170	380	390
600 Litres	2040	1120	1925	2939	777	950	800	800	1040	225	360	320	190	400	500
1000 Litres	2040	1420	2075	3275	777	950	1100	950	1040	225	360	320	320	480	650
1500 Litres	2040	1420	2600	3780	777	950	1100	1475	1040	225	360	320	425	740	650
2000 Litres	2040	1420	3275	4455	777	950	1100	2150	1040	225	360	320	675	1415	650

[1] Overall external dimensions when erected

[2] Only the standard access ports R1-R3 and L1-L3 are available for the 180 liter versions

[3] Additional feedthroughs are possible for the 1500 and 2000 litre variants.

TECHNICAL DATA | 180-600 Litres Temperature change rate: 3 K/min

			C2/180/40/3	C2/180/70/3	C2/340/40/3	C2/340/70/3	C2/600/40/3	C2/600/70/3
DIMENSIONS, LOAD, WEIGHT								
External dimensions[1]	Height	mm	1830				2040	
	Weight	mm	900				1120	
	Depth	mm	1575		1890		1925	
Test chamber dimensions	Height	mm	750				950	
	Weight	mm	580				800	
	Depth	mm	450		765		800	
Test space capacity		Litres	190		335		600	
Load, maximum		kg	130		140		160	
Load per grid		kg	30			40		
Maximum number of grid shelves		pieces	5			7		
Weight[2]		kg	425	460	490	500	620	680
PERFORMANCE DATA FOR TEMPERATURE TESTS								
Maximum temperature		°C	+180					
Minimum temperature[3]		°C	-42	-70	-42	-70	-42	-70
Temperature change rate[4], Cooling		K/min	4,0	3,8	4,0	3,8	3,5	3,5
Temperature change rate[4], Heating		K/min	4,0	3,5	3,2	3,0	4,0	4,0
Temperature deviation[5] over time		K	±0,1 … ±0,5					
Temperature homogeneity[6], spatial		K	±0,5 … ±1,0					
Temperature gradient[7]		K	≤2,0					
Heat compensation[8] max.		W	2300	2000	2300	2000	2500	3000
Factory calibration[9]		°C	+80 and -25 (devices down to -42°C) +80 and -40 (devices down to -70°C)					
PERFORMANCE DATA FOR CLIMATE TESTING								
Temperature range		°C	+10 … +95					
Dew point temperature range[10]		°C	-3 … +94					
Humidity range		°C	10 … 98					
Humidity deviation[11], over time		% r. F	±1 … ±3					
Temperature deviation over time		% r. F	±0,1 … ±0,3					
Temperature homogeneity, spatial		K/min	±0,5 … ±1,0					
Heat compensation max.		K	400				500	
Factory calibration		W	+23°C/50% r.F. to +55°C/93% r.F and +90°C/90% r.F.					
CONSUMPTION AND CONNECTION DATA								
Supply voltage[12]		V	3/N/PE AC 400 V ±10% 50 Hz					
Nominal power		kW	4,4	5,3	4,4	5,3	6,8	9
Nominal current [13]		A	13	15	13	15	16	20
Fuse protection provided by customer		A gG	16		32			
Sound pressure level[14]		dB(A)	56	57	56	57	60	60
Heat dissipation to the installation room max.[15]		kW	3,7	4,7	3,7	4,7	7,1	9

Subject to technical changes.
All stated performance data refer to +25 °C ambient temperature, 400 V/50 Hz nominal voltage, without additional equipment.

TECHNICAL DATA | 1000-2000 Litres Temperature change rate: 3 K/min

			C2/1000/40/3	C2/1000/70/3	C2/1500/40/3	C2/1500/70/3
DIMENSIONS, LOAD, WEIGHT						
External dimensions[1]	Height	mm	2040			
	Weight	mm	1420			
	Depth	mm	2075		2600	
Test chamber dimensions	Height	mm	950			
	Weight	mm	1100			
	Depth	mm	950		1475	
Test space capacity		Litres	990		1540	
Load, maximum		kg	250			
Load per grid		kg	50			
Maximum number of grid shelves		pieces	7			
Weight[2]		kg	840	1010	1020	1070
PERFORMANCE DATA FOR TEMPERATURE TESTS						
Maximum temperature		°C	+180			
Minimum temperature[3]		°C	-42	-70	-42	-70
Temperature change rate[4], Cooling		K/min	3,0	2,8	2,5	2,7
Temperature change rate[4], Heating		K/min	4,0	4,0	3,5	3,5
Temperature deviation[5] over time		K	±0,1 … ±0,5			
Temperature homogeneity[6], spatial		K	±0,5 … ±1,0			
Temperature gradient[7]		K	≤2,0			
Heat compensation[8], max.		W	4500	5000	4200	5000
Factory calibration[9]		°C	+80 and -25 (devices down to -42°C) +80 and -40 (devices down to -70°C)			
PERFORMANCE DATA FOR CLIMATE TESTING						
Temperature range		°C	+10 … +95			
Dew point temperature range[10]		°C	-3 … +94			
Humidity range		°C	10 … 98			
Humidity deviation[11] over time		% r. F	±1 … ±3			
Temperature deviation over time		% r. F	±0,1 … ±0,3			
Temperature homogeneity, spatial		K/min	±0,5 … ±1,0			
Heat compensation, max.		K	500			
Factory calibration		W	+23°C/50% r.F. to +55°C/93% r.F and +90°C/90% r.F.			
CONSUMPTION AND CONNECTION DATA						
Supply voltage[12]		V	3/N/PE AC 400 V ±10% 50 Hz			
Nominal power		kW	9,9	12,2	9,9	12,2
Nominal current[13]		A	18	22	18	22
Fuse protection provided by customer		A gG	32			
Sound pressure level[14]		dB(A)	62	60	62	60
Heat dissipation to the installation room max.[15]		kW	8,9	14,1	8,9	14,1

Subject to technical changes.
All stated performance data refer to +25 °C ambient temperature, 400 V/50 Hz nominal voltage, without additional equipment.

TECHNICAL DATA | 180-600 Litres Temperature change rate: 5 K/min

			C2/180/40/5	C2/180/70/5	C2/340/40/5	C2/340/70/5	C2/600/40/5	C2/600/70/5
DIMENSIONS, LOAD, WEIGHT								
External dimensions[1]	Height	mm	1830			2040		
	Weight	mm	900			1120		
	Depth	mm	1575		1890		1925	
Test chamber dimensions	Height	mm	750			950		
	Weight	mm	580			800		
	Depth	mm	450		765		800	
Test space capacity		Litres	195		332		608	
Load, maximum		kg	130		140		160	
Load per grid		kg	30			40		
Maximum number of grid shelves		pieces	5			7		
Weight[2]		kg	425	460	490	500	620	680
PERFORMANCE DATA FOR TEMPERATURE TESTS								
Maximum temperature		°C	+180					
Minimum temperature[3]		°C	-42	-70	-42	-70	-42	-70
Temperature change rate[4], Cooling		K/min	8	7,5	6,8	6,7	6,5	6
Temperature change rate[4], Heating		K/min	8	8	7	7	6	6
Temperature deviation[5] over time		K	±0,1 … ±0,5					
Temperature homogeneity[6], spatial		K	±0,5 … ±1,0					
Temperature gradient[7]		K	≤2,0					
Heat compensation[8] max.		W	4000	3000	4000	3000	5000	4000
Factory calibration[9]		°C	+80 and -25 (devices down to -42°C) +80 and -40 (devices down to -70°C)					
PERFORMANCE DATA FOR CLIMATE TESTING								
Temperature range		°C	+10 … +95					
Dew point temperature range[10]		°C	-3 … +94					
Humidity range		°C	10 … 98					
Humidity deviation[11] over time		% r. F	±1 … ±3					
Temperature deviation over time		% r. F	±0,1 … ±0,3					
Temperature homogeneity, spatial		K/min	±0,5 … ±1,0					
Heat compensation max.		K	400				500	
Factory calibration		W	+23°C/50% r.F. to +55°C/93% r.F and +90°C/90% r.F.					
CONSUMPTION AND CONNECTION DATA								
Supply voltage[12]		V	3/N/PE AC 400 V ±10% 50 Hz					
Nominal power		kW	7,7	8,6	7,7	8,6	9,9	13,0
Nominal current[13]		A	18	21	18,0	21,0	18,0	23,0
Fuse protection provided by customer		A gG	32					
Sound pressure level[14]		dB(A)	56	57	56	57	59	60
Heat dissipation to the installation room max.		kW	1,2	1,5	1,2	1,5	1,5	2

Subject to technical changes.
All stated performance data refer to +25 °C ambient temperature, 400 V/50 Hz nominal voltage, without additional equipment.

TECHNICAL DATA | 1000-2000 Litres Temperature change rate: 5 K/min

			C2/1000/40/5	C2/1000/70/5	C2/1500/40/5	C2/1500/70/5	C2/2000/40/5	C2/2000/70/5
DIMENSIONS, LOAD, WEIGHT								
External dimensions[1]	Height	mm	2040					
	Weight	mm	1420					
	Depth	mm	2075		2600		3275	
Test chamber dimensions	Height	mm	950					
	Weight	mm	1100					
	Depth	mm	950		1475		2150	
Test space capacity		Litres	990		1540		2250	
Load, maximum		kg	250					
Load per grid		kg	50					
Maximum number of grid shelves		pieces	7					
Weight[2]		kg	840	1010	1020	1070	1260	1500
PERFORMANCE DATA FOR TEMPERATURE TESTS								
Maximum temperature		°C	+180					
Minimum temperature[3]		°C	-42	-70	-42	-70	-42	-70
Temperature change rate[4], Cooling		K/min	6,7	6,0	6,3	5,0	4,0	4,0
Temperature change rate[4], Heating		K/min	8,0	8,0	7,0	7,0	6,0	6,0
Temperature deviation[5] over time		K	±0,1 … ±0,5					
Temperature homogeneity[6] , spatial		K	±0,5 … ±1,0					
Temperature gradient[7]		K	≤2,0					
Heat compensation[8] max.		W	5000				3500	5000
Factory calibration[9]		°C	+80 and -25 (devices down to -42°C) +80 and -40 (devices down to -70°C)					
PERFORMANCE DATA FOR CLIMATE TESTING								
Temperature range		°C	+10 … +95					
Dew point temperature range[10]		°C	-3 … +94					
Humidity range		°C	10 … 98					
Humidity deviation[11] over time		% r. F	±1 … ±3					
Temperature deviation over time		% r. F	±0,1 … ±0,3					
Temperature homogeneity, spatial		K/min	±0,5 … ±1,0					
Heat compensation max.		K	500					
Factory calibration		W	+23°C/50% r.F. to +55°C/93% r.F and +90°C/90% r.F.					
CONSUMPTION AND CONNECTION DATA								
Supply voltage[12]		V	3/N/PE AC 400 V ±10% 50 Hz					
Nominal power		kW	18,0	23,0	18,0	23,0	18,0	23,0
Nominal current [13]		A	29,0	37,0	29,0	37,0	29,0	37,0
Fuse protection provided by customer		A gG	63					
Sound pressure level[14]		dB(A)	61,0	62,0	61,0	62,0	62,0	62,0
Heat dissipation to the installation room max.[15]		kW	25,0	31,0	25	31,0	25,0	31,0

Subject to technical changes.
All stated performance data refer to +25 °C ambient temperature, 400 V/50 Hz nominal voltage, without additional equipment.

TECHNICAL DATA | Explanation of Notes

[1] Overall dimensions when installed. For size 300 l excluding machine unit. Deviating delivery dimensions; components for delivery can be dismantled (service performance).

[2] Basic device, excluding additional equipment

[3] Temperatures >+5 °C can be run in continuous operation, temperatures <+5 °C can be run intermittently or with additional equipment in the form of a compressed air dryer.

[4] According to IEC 60068-3-5

[5] In the center of the test chamber in a steady condition, without test specimen, without irradiation and without additional equipment, depending on the temperature.

[6] Related to the adjusted setpoint in the temperature range from minimum temperature to +150 °C or at humidities >20 % r.F.

[7] Up to +150 °C according to IEC 60068-3-5:2001 or JJF 1101-2003.

[8] At +20 °C for temperature tests / In the range from +25 °C to +95 °C at a relative humidity of up to 90 % RH for climatic tests.

[9] The factory calibration of the temperature and humidity values is carried out with DAkkS-calibrated measuring equipment in the center of the test space and documented using a factory calibration certificate. Optionally, a DAkkS calibration as well as a spatial factory or DAkkS calibration can be performed.

[10] Intermittent operation (+4 °C to -3 °C).

[11] In the center of the utility room under steady-state conditions, depending on the climate value.

[12] Other voltages and frequencies optional

[13] Neutral conductor burdened

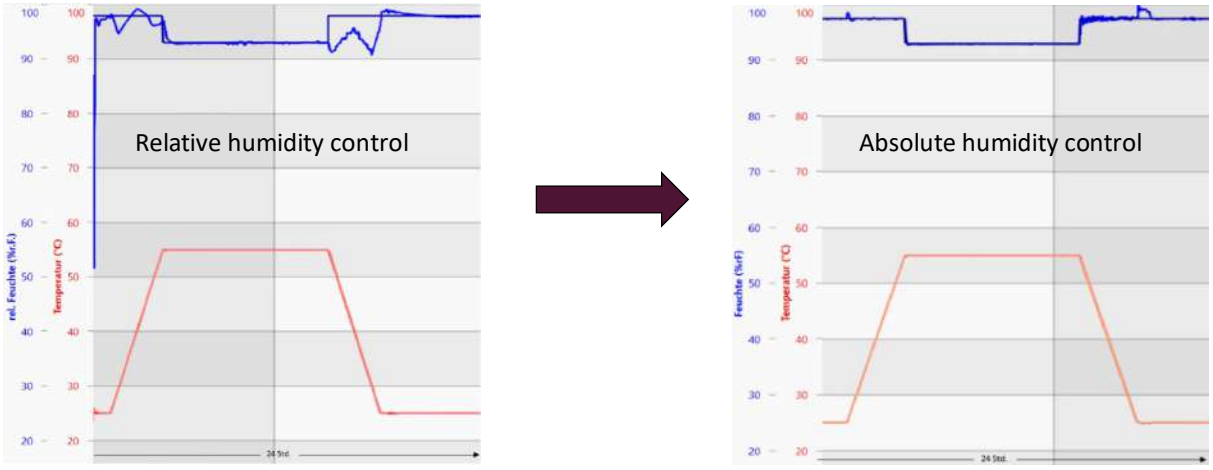
[14] Measured at 1.6 m height and 1 m away from front; free-field measurement in accordance with DIN EN ISO 11201.

ABSOLUTE HUMIDITY CONTROL

The aim is to adapt the humidity control for the climate test chambers from **weiss**technik in such a way that a qualitative improvement in humidity accuracy and transient response is achieved. Theoretically, both temperature and relative humidity can be used as control variables.

The idea: Control via the absolute water content in the test chamber.

The figure below shows a direct comparison of the two types of control. With absolute humidity control, the control accuracy is significantly increased and the transient amplitudes are almost completely eliminated. In the future, this innovation will ensure even more accurate and reproducible test results with the climate test chambers from **weiss**technik.



Comparison between relative humidity control and absolute humidity control

Further technical information on absolute humidity control can be found here:

BASIC EQUIPMENT

EXTERIOR		
External housing	Material	Galvanized steel sheet
	Paint	Light gray (RAL 7035) & anthracite gray (RAL 7016); solvent-free; powder-coated.
Door		Single-hand operation, lockable, door hinge left, with LED status bar
Adjustable feet		Adjustable, vibration absorbing
Climate system	Humidification water	Water reservoir (approx. 25 l), pre-installed device for automatic water replenishment, warning message in the event of a low water level, display of water consumption
Purge device		The high quality of the humidification water is guaranteed by periodic water exchange
INTERIOR		
Test space[1]	Material	Walls: stainless steel 1.4301, surface III D glossy Floor: stainless steel 1.4404, surface II B matt
Insertion system		Stainless steel rail system for easy change of grid positions incl. M5 female thread for mounting of test setups
Access ports		1 piece right, stainless steel, inner dimension[2]: 125 mm Ø 1 piece left, stainless steel, inner dimension[2]: 50 mm Ø
Silicone plug	closed	1 piece per stainless steel access port (ø 125 mm and 50 mm)
Foam silicone plug	slotted	1 piece per stainless steel access port (ø 125 mm and 50 mm)
Measuring sensor	Temperature	Platinum temperature sensor Pt 100S
	Climate	Psychrometric humidity measurement with force-wetted self-cleaning wet bulb sensor
GreenMode[3]	Consumption	Automated energy saving function for constant operation, without air conditioning mode due to shutdown of the refrigeration machine. The energy saving can be up to 30% depending on the test cycle, type and quantity of the test specimen.
REGULATION & CONTROL		
S!MPAC®		Digital measuring and control system with I/O unit and **WEB**Season® control software, can be controlled remotely through integration into a network. Operating/programming and monitoring unit with 25.4 cm (10") web panel integrated in the door, can be folded forward up to 60°.
COMMUNICATION		
Interfaces		Ethernet interface 10/100/1000 megabit USB interface[3] for direct documentation of measurement data on USB stick
Switch outputs		4 potential-free outputs for activation of the customer's own equipment Max. load 24 V-DC; 0.5 A.
Switch inputs		4 digital inputs for responses from the customer's own equipment. Max. load 24 V-DC; approx. 30 mA
SAFETY		
Test specimen safety		Independent, adjustable temperature limiter t_{min} / $t_{max,}$ sensor installed in test space, individually adjustable fixed value Software temperature limiter t_{min} / $t_{max,}$ individually adjustable fixed value
Test chamber fuse		Safety temperature limiter STL for protection against excessive temperature in the test chamber
Test specimen shutdown		Potential-free contact specifically for heat-emitting test specimen, connected to socket, max. load 24 V, 0.5 A

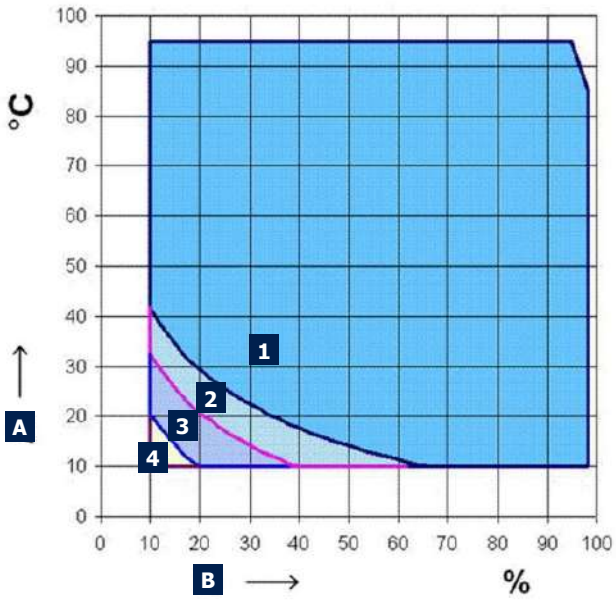
[1] Due to the use of annealed silicone parts, the test space is low in emissions. If the test space is to be emission-free, this will require technical clarification which can be offered on request.

[2] Production-related tolerances of up to ± 3 mm are possible.

[3] Only possible for devices with a temperature range of -70°C to 180°C.

Subject to technical changes!

HUMIDITY CHART



A Test space temperature

B Relative humidity

1 Standard humidity range for continuous operation

2 Standard humidity range with intermittent operation, dew point 3 °C to +4 °C

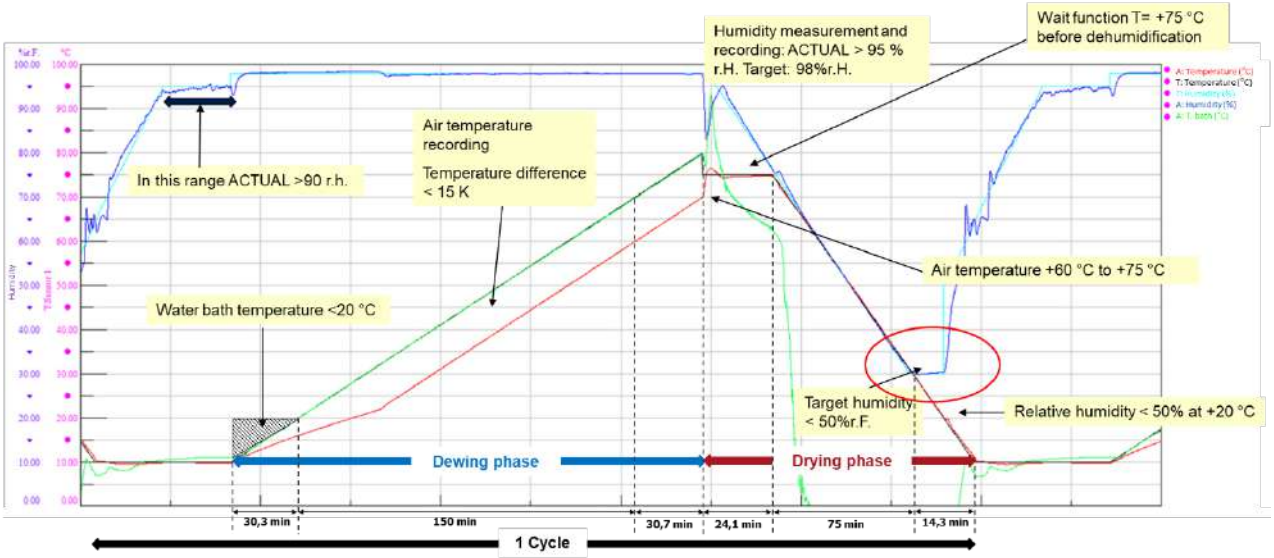
3 Extended humidity range with compressed air dryer (optional), dew point regulated down to -12 °C

4 Extended humidity range with compressed air dryer (optional) and capacitive humidity measurement system (optional), dew point regulated down to -20°C

DEWING TEST ACCORDING TO GS 95011-4 (K-15 OF LV 124)

The dewing test according to standard **GS 95011-4** (also known as K-15 of LV 124) describes the sequence for a dewing procedure used to test electronic assemblies in the automotive sector.

The climate test chambers of **weiss**technik are prepared as standard for carrying out the dewing test. With the ClimeEvent, even the area marked in red, that is critical in the drying phase, is not a problem, since the appropriate dehumidification capacity is installed, for humidity values <50% RH.



Further technical information on the dewing test can be found here:

OPTIONS

INSTALLATION

Mobile version

Mobile base with swivel castors and lockable fixed castors.

Vibration damping feet

Reducing the transmission of vibrations to the floor.

STORAGE PACKAGE

Storage package, small

Two hooks and a magnetic holding rail to store and stow the grid shelves and small test equipment.

Storage package, large

Two hooks and a magnetic holding rail. Additional alternative side panel for the outer housing including a document tray, a tray table and a support rail.

WEBPANEL

Web panel under the door latch

The operating/programming and monitoring unit with 25.4cm (10") web panel is mounted under the door latch.

Web panel in any position on the side

The operating/programming and monitoring unit with 25.4cm (10") web panel can be mounted anywhere on the side panel.

Note: The exact positioning must be specified when ordering.

ACCESS PORTS

Stainless steel access port with silicone plug

Standard (see installation drawing):

- Ø 125 mm at position R1
- Ø 50 mm at position L1

Additional access ports:

- Ø 50 mm
- Ø 80 mm
- Ø 125 mm

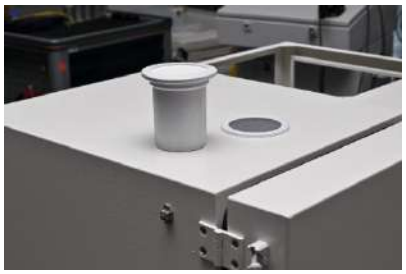
Notched access port welded

There is a notched port of about 50 mm x 50 mm in the housing panel on the right for inserting cables.

Access port in the ceiling

Possible access ports:

- Ø 50 mm
- Ø 80 mm
- Ø125 mm



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Flat notched port

To feed through individual cables, an insertion piece is inserted into the housing cover, which can be used to feed several cables into the test chamber.

DOOR

Window in the door

Multi-insulated, heated viewing window in the door.

Format: 520 mm x 418 mm.

Door stop right

Version of the device door with door hinge on the right side. The notched port option is not possible. The flat notch port option is possible at the top left.

Test specimen privacy screen

The window pane of the test chamber can be made opaque through a digital switching channel via the light switch.

Note: Only in conjunction with "window in Door" option.

Door seals replaceable for tests with hydraulic oil

If a medium-resistant version for hydraulic oils is required.

DEMINERALIZATION

Demineralization unit

To replenish water for the humidification device. Pressure resistant up to 6 bar overpressure.

Replacement cartridge for activated carbon filter

Replacement cartridge for activated carbon filter cartridge for the reduction of chlorine content in demineralized water.

Aqua Top pack of 6

Prevents algae growth

Activated carbon filter for demineralized water

Filter housing with activated carbon insert for reduction of chlorine content in fully demineralized water.

TEST SPECIMEN SUPPORT

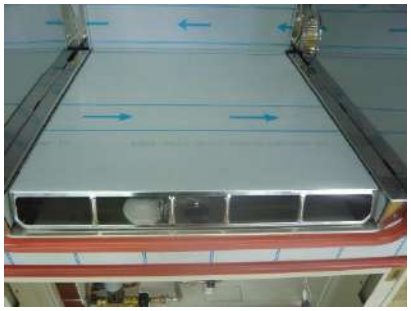
Drawer on telescopic rails (stainless steel)

Drawer on telescopic rails, can be extended by about 80%. A total of 5 drawers are possible.

Maximum load per drawer: 30 kg

Heavy duty rails

The mass of the test specimen is transferred from the test chamber to the instrument frame via special heavy-duty rails.
Permissible floor load up to 500 kg as surface load

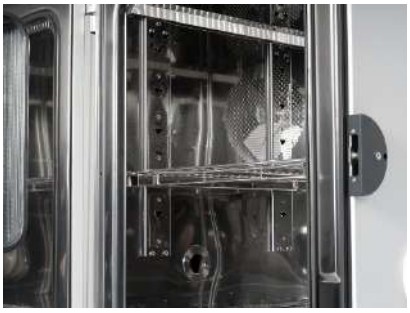


Heavy duty grid shelf

A stainless steel grid placed on the heavy duty rails.
Permissible test space load up to 500 kg as surface load

Additional grid shelf

Additional insert grid including support rail for placing test specimens. A grid shelf is included as standard.



Reinforced shelf

Reinforced shelf, loadable up to 200 kg surface load. The load on the test space as a whole is limited to 280 kg.

DEHUMIDIFICATION

Compressed air dryer regulated for dew points down to -12 °C and -20 °C

For climatic test cabinets, regulated operation down to a dew point of -12 °C is possible. Dehumidification device for climatic test chambers incl. capacitive humidity measuring system for condensation points down to -20 °C with regulated operation.

Air conditioning extension with on-site compressed air

Dehumidification device to prevent condensation on the test material in regulated operation for dew points down to -12 °C. In combination with a capacitive humidity measurement system, regulated operation down to -20 °C is possible.

GN² / Compressed air connection

For operation with a customer-supplied compressed air dryer or for feeding an inert gas into the test space.

CALIBRATION / STANDARDS

Additional factory calibration

Calibration according to specific temperature and climate values.

DAkkS calibration

Calibration according to DAkkS requirements for specific temperature and climate values.

VW 2005 / VW PV 1200 / BMW PR 308.2

Compressed air connection is set up, compressed air dryer with adsorption dryer included. The humidity measurement system is capacitive. Test programs are stored on the control unit. Functional test in accordance with the factory standard.

Note: BMW PR 303.5 is fulfilled by the standard unit without additional equipment.

Pharma package

- Qualification documentation (IQ/OQ)
- Door contact switch for registration of door openings
- Tolerance band monitoring for stability tests according to ICH-Q1A
- Alarm system according to GAMP

Automotive standards

- VW 80000 LV 124 K15
- BMW-GS 95011-4 (2010-06)
- Daimler-MBN LV 124-2 K15

Scope of Services:

- The unit's climate system is extended for the above test specification
- Test programs stored in the control system.

AUDI regulations

Marking in accordance with the operating equipment regulations, proof of tightness of the refrigeration circuit, test certificate in accordance with BGV A3, control cabinet with E1 lock, a heating of the test space for 72 hours at 180 C, a program CD with control data backup, 2x documentation on CD and single documentation in paper form.

Standards on request

Various versions are available to meet specific standards.

Modification for Bosch

The adaptation includes the use of the main switch as EMERGENCY OFF, the installation of various information signs, installation of a protective cover, as well as 1 program CD.

Similar to image

TEST SPACE INSTALLATIONS

Stainless steel test space reservoir 1.4404 with stainless steel aluminum evaporator

For increased corrosion protection, the complete test space reservoir is made of high-alloy stainless steel 1.4404 matt.

Note:
This design results in a power loss of approx. 10 % - 15 %.

Test space low in silicone

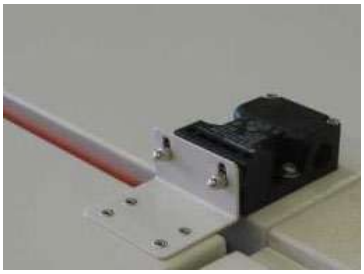
For specific tests to reduce the amount of silicone in the test space. Furthermore, the inner door seal is replaced by a Viton seal.

Sprinkler system

Spray nozzles are installed in the test space through which mineralized water is sprayed into the test space. The equipment can be operated from +5 to +80 °C (without defined humidity) in temperature mode.

Fan shutdown via digital switching channel

If the digital switching channel is activated, the fan and the temperature control are switched off immediately.



IR irradiation equipment

For drying and heating the test specimen by infrared irradiation. Can only be used in a temperature range of +10 to +50 °C and a relative humidity of greater than/equal to 75 %.

Irradiation equipment for drying tests

For irradiation testing especially in the UV range. Can only be used in a temperature range of +10 to +50 °C and a relative humidity of greater than/equal to 75 %.

Fan switch-off via door contact switch

If the door is opened, the fan and the temperature control are switched off immediately.

RECIRCULATING AIR

Recirculating air volume adjustable

To reduce the amount of recirculated air, the speed of the recirculation fan can be adjusted from 30% to 100%.

SENSOR

Temperature measurement on the test specimen

Movable temperature sensor Pt 100 with flexible cable for temperature measurement at any point in the test space or on the test specimen.

Humidity control with capacitive sensor

A capacitive moisture measuring system is installed instead of or in addition to the psychrometric measuring device included with the basic equipment.

Temperature measurement on the test specimen can be switched over to a control sensor

Switching is performed via a digital switching channel. The measured value can be retrieved via the interfaces or displayed on the control panel.

CONTROL SYSTEM

Additional 4 Digital I/O

Four additional digital inputs and outputs each for controlling additional functions. Four are already available as standard.

Analog value measurement card I/O

For processing and output of analog measuring signals, 5 outputs from 0 to 10 V and 4 inputs for Pt 100 are available.

Temperature range extension up to +200 °C

The test chamber can be extended for a temperature range up to +200°C.

Energy meter

Professional energy analysis with a calibrated energy meter. Also in connection with data acquisition via the optional S!MPATI® software. For all units with > 63 A.

Flexible operation when the program is paused

Function for flexible operation of the test chamber when interrupting the program.

- Digital switching channels can be switched off or on.
- Setpoints can be changed.

SAFETY EQUIPMENT

Safety package for Hazard Level 3 - 5

Safety of the test system during tests of lithium-ion energy storage devices by matching EUCAR hazard levels 3 - 5.

ESD-Protection

Potential differences and associated electrostatic discharges onto the test specimen are avoided by means of a common ground. ESD protection can be configured by the customer through various options.

Test chamber release via digital input

The test can only be started if the digital input has a voltage signal or if the adapter plug is plugged into the D-Sub socket Digital I/O.

Door contact switch to indicate that the door is open on the control panel / S!MPATI®

The components of the door contact switch are mounted on the test chamber and on the test chamber door.
When the test chamber door is opened, the message "Door open" appears on the control panel.

2-color signal lamp

The two-color signal light on the test chamber indicates the operating status.

Function indicator:

- green = operating
- red = fault

Electric door tumbler, normally open

The components of the electric door locking device are mounted on the test chamber and the test chamber door. When the test chamber door is opened, the message "Door open" appears on the control panel. The test space door is unlocked at the end of a test, when a test is stopped, in the event of a power failure and when the main switch is turned off.

Electric door tumbler, normally closed

The components of the electric door locking device are mounted on the test chamber and the test chamber door. The test space door cannot be opened during a test, during a power failure and when the main switch is turned off.

Fault signal on potential-free switching contact

If a fault occurs in the test chamber, a potential-free switching contact is actuated.

Emergency stop switch on the test space housing

The emergency stop switch is located on the outside of the test chamber. When pressed, the test is stopped.

COOLING

Water cooling

A water-cooled unit is installed instead of the air-cooled refrigeration unit. A cooling water regulator ensures the lowest water consumption.

Special measures are required for operation with well or pond water, please inquire

Pump system in the absence of a floor drain

The integrated pumping system pumps the water in the system (condensate, humidification water, cleaning water) against the gradient into a drain provided by the customer

Hose set for cooling water network

Two flexible hoses are supplied for connection to a cooling water network.

Insulation of the water inlet pipe

Pipes carrying cooling water in the test chamber are also insulated in order to maintain the water supply temperature.

Deep freeze stage with refrigerant R23

Refrigerant R23 is used instead of refrigerant R469A for the deep-freeze stage down to -70 °C.

Electronic cooling water controller

By using an electronically controlled valve, the adjustment to different flow temperatures and pressure differences can be made within certain limits.

Air cooled condenser

Cable length about 1.5 m, extendable up to a maximum of 5 m. Waste heat routed to external condenser.
The condenser is on the same level behind the test chamber, horizontal block position with vertical air flow.

SPECIAL VOLTAGE

Special voltage on request

Various special voltages are available

WEBSeason & S!MPATI | Simple control and monitoring

Whether you're using the S!MPATI PC software or the WEBseason system-integrated operating software, you can program, control, and monitor your tests from anywhere, at any time – even using your tablet or smartphone. Both are unified software and hardware solutions for all **weiss**technik brand systems.

S!MPATI is the **PC software** for controlling, recording and analysing up to 99 **weiss**technik systems within your network environment. The functionality can be expanded with add-ons such as **S!M**PATI **Time**Labs® for camera recording.

WEBseason is the **integrated operating software** for the Event series. **WEB**Season's innovative web-based **interface** allows you to programme, control and monitor your system's tests anytime, anywhere - even from a tablet or smartphone.

Interfaces from **WEB**Season & **S!M**PATI

S!MPATI | The benchmark in communication

S!MPATI® features an optimised menu navigation and practical evaluation options. This was developed to program, monitor and network climatic test chambers and sets new standards in operating efficiency and performance.

Visualisation with greater clarity

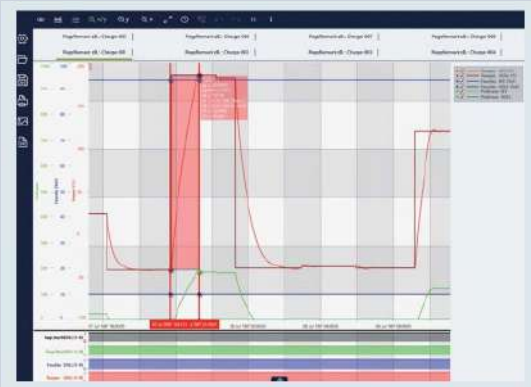
S!MPATI controls, archives and evaluates tests. The software offers a range of new features to make work even faster, easier and clearer. For example, through the Zoom and measurement functions of the new evaluation, as well as the option to integrate or export images from the test cabinet using **S!M**PATI TimeLabs® (optional). The menu navigation is optimised for the needs of the laboratory.

Warnings and information are easily accessible and can also be delivered by mail. If required, the laboratory floor plan can be uploaded to provide a realistic view of the test facility layout. The system overview makes it easy to control, programme and evaluate all test chambers centrally from one computer.

S!MPATI® is suitable for all current **weiss**technik devices and downward compatible to almost all models going back to 1987. Third-party systems can also be integrated and the OPC-UA communication standard is supported, for example for Industry 4.0 applications.

The **S!M**PATI TimeLabs software module is used to retrieve and record images from a camera. **S!M**PATI measurement data and images are recorded simultaneously and displayed in correlation with the evaluation software included in S!MPATI. The recording rate can be adjusted. Up to 1500 images are stored in a Windows directory.

A clear overview of your systems



Evaluation is easier than ever before

Easily configure alerts by mail

S!M PATI®

Our highlights:

- Up to 99 systems can be networked together
- to ensure optimum use of your test equipment
- Almost identical operation of different test facilities
- Email alerts in the event of faults
- provides various communication interfaces to other systems
- OPC-UA support for Industry 4.0 applications
- Free of charge for 6 months

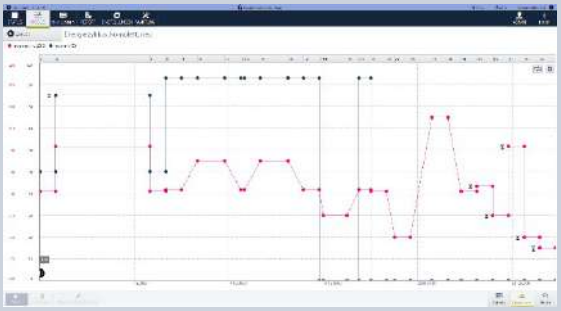
Find out more:

WEBSeason | The device controller by and for end users

WEBSeason - the end user designed controller that uses the latest web technology to exceed the requirements of today's industry standards. The appearance is comparable to that of a mobile device - with swiping, 2-finger zoom and quick response, making it easier to use.

Up to six users can simultaneously connect to the control unit via any web-based device (e.g. smartphones, tablets or laptops), in their own language and with their chosen units of measurement. Multiple users can simultaneously create a test programme, view tests in progress, change setpoints and more. Each user also has remote access to information such as remaining test time, number of cycles, current steps and actual values, and warning and alarm messages.

An overview can be found on the **Web**season main page



Real-time profiling - always up to date.

Evaluations | Inquire today - start testing next week

- Program memory for a maximum of 100 programs
- Program cycles/loops - maximum 9999/ (250 nested)
- Diagnostic system - for operating times and malfunctions

Access | No matter when, no matter where, no matter how! Access at any time via your **Web**Season

- **Web**Season provides a real-time interface
- Connect from any web-based device
- Access from anywhere in the world

Security | It's not just your tests that are secure with **Web**Season.

- 3-level password protection
- Multi-User
- Diagnostic system - for operating times and malfunctions

THE PRODUCT CONFIGURATOR | Your digital advisor

Configure your desired model to fit your application.

Simply test it:

Would you like to customize your new chamber? This can be done quickly and easily with our product configurator. The online tool guides you through the configuration in just a few steps. Select and combine the options to suit your requirements. Please contact us for more information without obligation or send us your configuration for a quotation.

DEVICES AVAILABLE AT SHORT NOTICE | Request today - test next week

Extensive pool of stock and rental equipment

Click here for the devices:

These include temperature and climatic test chambers as well as stability test chambers, corrosion test chambers and thermal shock test chambers. Take a look around - the right device for you is just a few clicks away.

SERVICE | Sustainable solutions for long-term safe plant operation

Our approach is to think and act as partners.

More information:

We set high standards. Thanks to our service departments, we offer sustainable solutions for long-term reliable plant operation:

- Expert advice with 24/7 helpline
- Maintenance and spare parts management
- Calibration and qualification

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 echnology. 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.

Pharmaceutical 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, airlocks and stability test systems.

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Click here
to see the product.

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Freiwillige Zertifizierung

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Test it. Heat it. Cool it.