

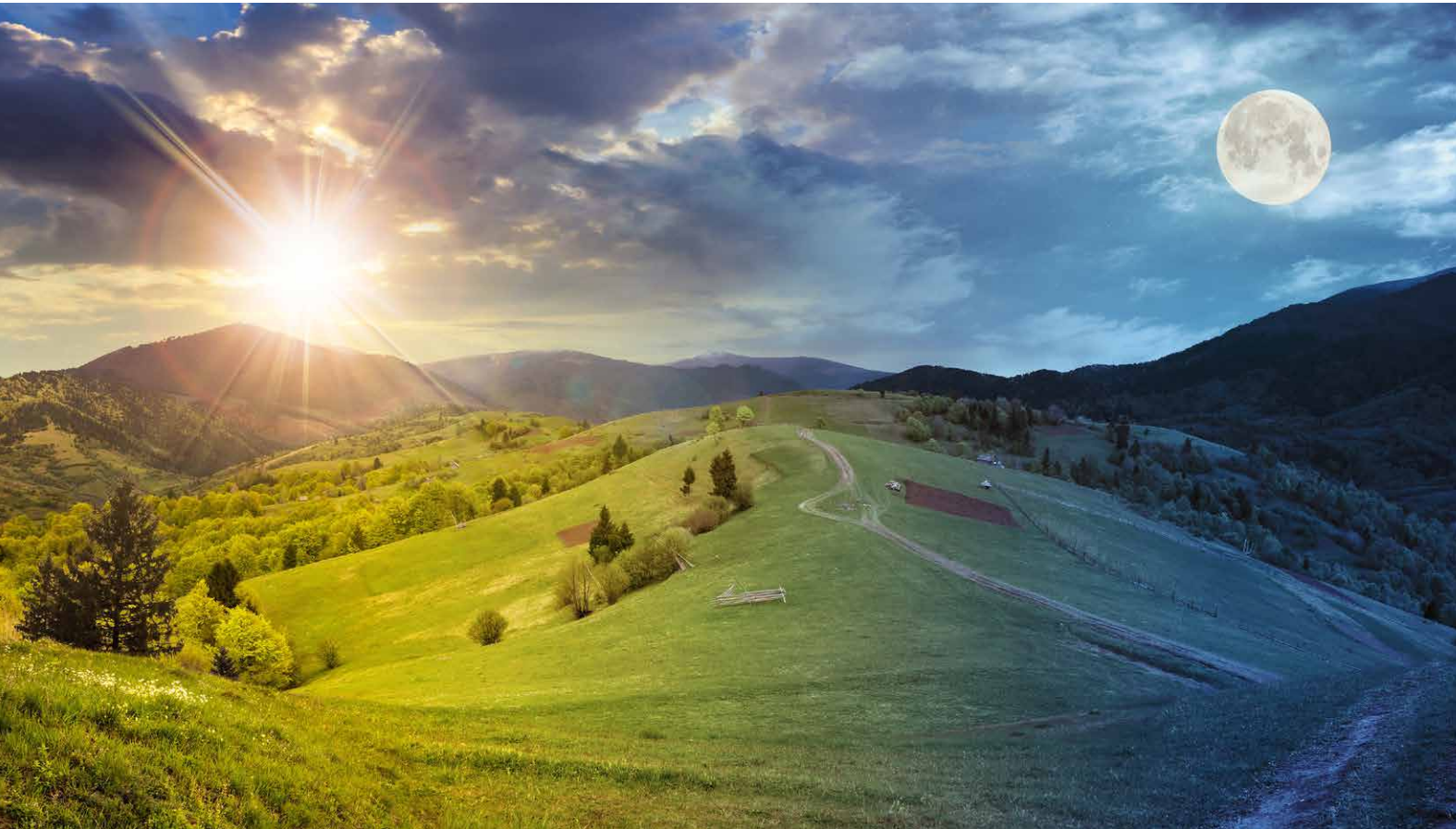
Solar Simulation Chambers SunEvent



Illustration is similar, contains additional equipment

Test whatever you like.

From garden chair to hardtop - in research, development and quality control you won't want to take any chances. We'll support you.



Putting the sun in a box

Direct exposure to the sun, heat, cold, humidity - small and large things in daily life are exposed to environmental effects that affect more than just their operating and service life: painted surfaces fade and the ageing of materials is accelerated. For many products, light resistance tests - also in combination with other environmental factors - are indispensable. The Solar Simulation Chambers SunEvent help you to simulate the effect of sunlight, temperature and humidity on the properties and the service life 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.

Solar Simulation Chambers SunEvent.

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.

Highlights at a glance:

- New, eco-friendly refrigerant
- Optimised airflow and temperature distribution
- Web-based user interface **WEBSeason®**
- Irradiation unit with high irradiation uniformity (made in Germany)
- BBA Sun Simulator (according to IEC 60904-9:2007)

More equipment, right from the start.



Basic equipment setting standards.



Illustration is similar, contains additional equipment

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

i Our innovative Test Chambers are available as **weisstechnik** or **vötschtechnik**.

Exterior



- **Move safely into the future - using the new refrigerant**

The new refrigerant R449A is used in all Test Chambers SunEvent. The GWP value of just 1397 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.

- **Speeding up the ageing process with solar radiation**

Solar radiation is simulated with the help of an irradiation unit installed on top of the test chamber. Metal halide lamps are used as light sources, the emitted spectrum is based on global radiation according to CIE publication no. 85, table 4. The irradiation intensity is fully adjustable. Radiation passes through pre-aged, heated, double-glazed filter glass integrated into the ceiling of the test space. Lamp housings are equipped with improved heat dissipation and an optimised reflector.

Interior



- **No chance for dirt or corrosion**

The test chamber floor is made of highly-alloyed, extra corrosion-resistant stainless steel 1.4404. Thanks to special welding, smooth surfaces, rounded corners and complex stamped grid layers, the test chamber is easy to clean. Standard humidity bath flushing prevents contamination of humidification water.

Regulation & Control



- **Into the age of connectivity - with WEBSeason®**

You can use the innovative user interface **WEBSeason** 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, **WEBSeason** provides a new dimension of flexibility and efficiency.



Reliable control as standard:
Digital measurement and control system for operating and monitoring the test chamber.



Tailor-made testing.

Additional equipment for individual solutions.

Exterior



- **If desired, with indoor filter**
For simulations of the indoor spectrum, the filter system can be equipped with an indoor filter glass. The test chamber is prepared for this enhancement in the standard configuration.
- **Mobile and flexible**
Two fixed and two swivel castors allow for sufficient flexibility in the mobile version.

Interior



- **Tropical atmosphere in the laboratory**
Thanks to the sprinkler system, you can also simulate extreme climate zones.
- **Particularly precise**
With the help of a black standard temperature sensor and a pyranometer, you can take exact measurements of the temperature and irradiation intensity inside the test chamber.

Regulation & Control



- **Set standards in communication**
With SIMPATI® software, operating, documenting and archiving your test sequences is very easy.



Illustration is similar, contains additional equipment

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



Our innovative Test Chambers are available as **weisstechnik** or **vötschtechnik**.

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

SIM PATI®

XXL quality.

Test Chambers for large components.



Illustration is similar, contains additional equipment

Higher, wider, bigger. Sometimes, it just has to be bigger: in the automotive supply, electrical and electronics industries and in material testing, both large components and complete assemblies are tested. For these tests, we have developed a Test Chamber with an extra wide test space. So that your XXL test specimens can easily fit and ease of use is ensured.

Basic equipment setting standards.

Exterior



- **Move safely into the future - using the new refrigerant**
Just as with the Test Chambers in the compact series, we are also focussing on the new R449A refrigerant for SunEvent SUN/3600. In this way, we guarantee the environmentally friendly and safe testing of your XXL test specimens.

Regulation & Control



- **Into the age of connectivity - with WEBSeason®**
You can use the innovative user interface **WEBSeason** 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, **WEBSeason** provides a new dimension of flexibility and efficiency.



Optional equipment for individual solutions.

Exterior



- **Everything in view**
An observation window with an integrated tinted window ensures that you have the best possible view. It can be installed on the right- or left-hand test space door as required.

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

i Our innovative Test Chambers are available as **weisstechnik** or **vötschtechnik**.

Reliable control as standard:
Digital measurement and control system for operating and monitoring the test chamber.



Convincing technology. Reliable results.

The performance data at a glance.

Type		SunEvent SUN/340	SunEvent SUN/600	SunEvent SUN/1000	SunEvent SUN/3600
Test space volume	l	340	600	1000	3600
Test space dimensions, H x W x D	mm	775 x 580 x 765	975 x 800 x 800	975 x 1100 x 950	1510 x 1990 x 1200
Test space, H x D	mm	400 x 400	600 x 600	800 x 700	1700 x 900
Distance to the ceiling glazing	mm	480	600	600	900
Irradiation intensity ¹	W/m ²	400 to 1150	400 to 1150	400 to 1150	500 to 1150
Irradiation uniformity ²	%	±5			
Performance data for temperature tests with irradiation					
Maximum temperature	°C	+100			
Minimum temperature ³	°C	-20			
Temperature deviation in time ⁴	K	±0.3 to ±1.0			
Maximum heat compensation at +20 °C	W	2000	2000	3500	on demand
Performance data for temperature tests without irradiation					
Maximum temperature ^{3,5}	°C	+100			
Minimum temperature ^{3,5}	°C	-30			
Temperature-changing rate cooling ⁶	K/min	2.5	2.5	2.5	2.0
Temperature-changing rate heating ⁶	K/min	3.0	4.0	4.0	2.0
Temperature deviation in time ⁴	K	±0.1 to ±0.5	±0.1 to ±0.5	±0.1 to ±0.5	±0.3 to ±1.0
Temperature homogeneity in space	K	±0.5 to ±1.5	±0.5 to ±1.5	±0.5 to ±1.5	±0.5 to ±2.0
Maximum heat compensation at +20 °C	W	2300	2500	4500	5000
Factory calibration values ¹⁰		-25 °C and +80 °C			
Performance data for climate tests with irradiation					
Maximum temperature	°C	+80			
Minimum temperature	°C	+15			
Temperature deviation in time ⁴	K	±0.1 to ±0.5	±0.1 to ±0.5	±0.1 to ±0.5	±0.3 to ±1.0
Dewpoint temperature range	°C	+5.0 to +74.0			
Humidity range	%RH	10.0 to 80.0	10.0 to 80.0	10.0 to 80.0	15.0 to 80.0
Humidity deviation in time ⁷	%RH	±3.0 to ±5.0			
Performance data for climate tests without irradiation					
Maximum temperature	°C	+90			
Minimum temperature	°C	+10			
Temperature deviation in time ⁴	K	±0.1 to ±0.3	±0.1 to ±0.3	±0.1 to ±0.3	±0.1 to ±0.5
Temperature homogeneity in space ⁸	K	±0.5 to ±1.0	±0.5 to ±1.0	±0.5 to ±1.0	±1.0 to ±1.5
Dewpoint temperature range	°C	+5.0 to +87.0			
Humidity range	%RH	10.0 to 90.0			
Humidity deviation in time ⁷	%RH	±1.0 to ±3.0	±1.0 to ±3.0	±1.0 to ±3.0	±3.0 to ±5.0
Maximum heat compensation ⁹	W	400	500	500	500
Factory calibration values ¹⁰		+23 °C/50% RH		+47 °C/70% RH	

¹ With regard to the test space, infinitely adjustable. In accordance with DIN 75220, an irradiation intensity of 1000 W/m² with regard to the test space (reference level) is factory set and proven. It is possible to set other values within the stated area by entering a value of % irradiation intensity on the control console. An appropriate measuring device (pyranometer) is required to measure the irradiation intensity in the reference level or for measurements outside of the reference level. This measuring device is not part of the standard scope of delivery, but it is available as additional equipment.

² With regard to the test space.

³ Temperatures >+5 °C are permitted in continuous operation; temperatures <+5 °C are permitted discontinuously or with the additional equipment "compressed air dryer".

⁴ In the middle of the test space when it is empty and at steady state, without specimen, without heat radiation and without additional equipment, depending on temperature.

⁵ Expandable up to -40 °C to +120 °C with inlaid isolation cover (additional equipment).

⁶ According to IEC 60068-3-5; average, measured in the supply air.

⁷ In the middle of the test space when it is empty and at steady state, without specimen, without heat radiation and without additional equipment, depending on climate value.

⁸ Relative to the selected set point at humidity >20% RH.

⁹ In the range of +25 °C to +90 °C with a relative humidity up to 90% RH.

¹⁰ The factory calibration of the temperature and humidity values is carried out with DAKKS-calibrated measuring equipment in the middle of the test space and documented with a certificate. A DAKKS calibration, as well as a spatial factory or a spatial DAKKS calibration, can be provided on request. DAKKS calibration is carried out by Vötsch Industrietechnik GmbH. DAKKS is a member of the European co-operation for Accreditation (EA) and the International Laboratory Accreditation Cooperation (ILAC).

The performance data refer to +25 °C ambient temperature and +18 °C cooling water temperature, 400 V/50 Hz nominal voltage, without specimen, without irradiation, without additional equipment and without heat compensation.

The product needs fluorinated greenhouse gases for functioning. It contains the refrigerant R449A.

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

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 SIMPATI® software package.

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- Traceability of process data for seamless quality control



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Test it. Heat it. Cool it.



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.



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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.

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