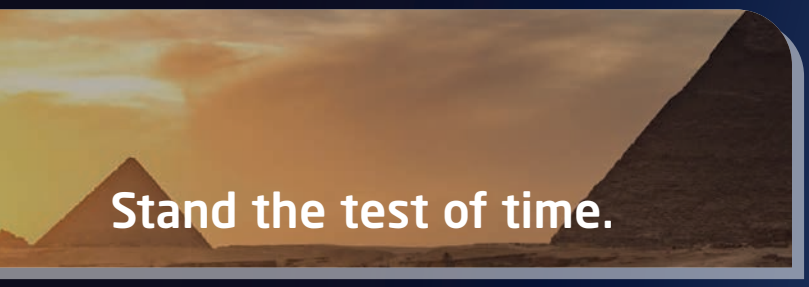

weisstechnik®
a schunk company
Pre-engineered and custom environmental test chambers
Stand the test of time.
www.weiss-na.com

Your global partner for environmental test chambers.



At Weiss Technik we're thinking ahead—for your business, your people, and the innovative ideas you'll eventually put to the test. Rest assured, as standards change and technology advances, your long-lasting testing equipment won't hold you back. In fact, when you partner with Weiss Technik, it will only propel you into the future.

We design innovative testing solutions with the future in mind, engineering for products and technologies that don't even exist yet. Some call this future-proofing. We call it a serious competitive advantage for your business.

With 22 subsidiaries in 15 countries, we employ hundreds of engineers and service technicians throughout North America, Europe, and Asia. This ensures that we maintain a local presence you can always turn to—wherever you are, for whatever the future may bring.

Our unique energy efficient designs and extremely low GWP (Global Warming Potential) refrigerants protect the planet while boosting your bottom line. It's a win-win—for the future of the earth and the future of your business.

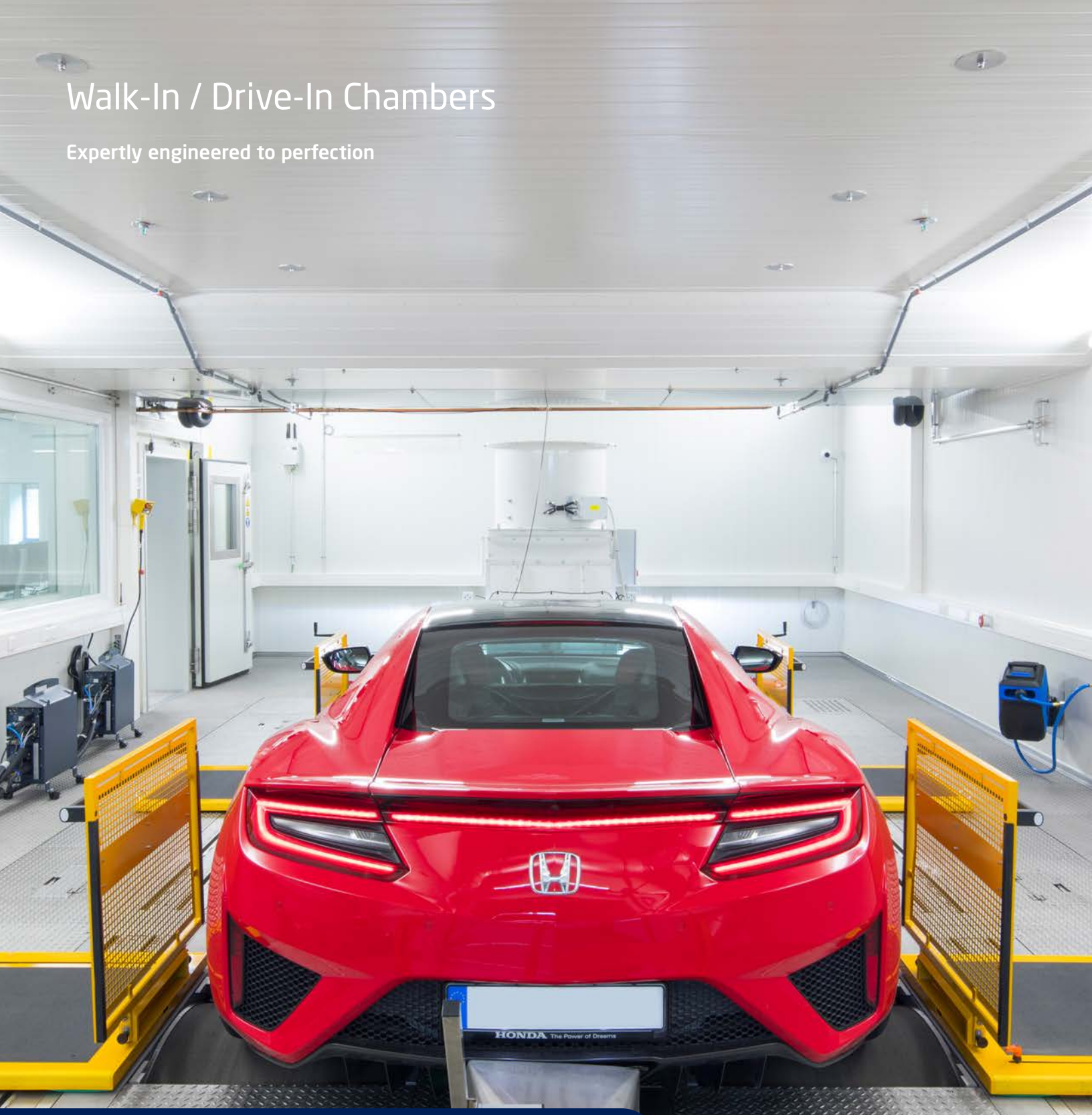
The industry's largest product portfolio belongs to Weiss Technik. And we customize everything, meaning your options are truly endless. By asking the right questions, we build a system based on your business, its unique needs, and the needs you'll encounter in years to come.

Innovation at full speed.

At Weiss Technik, we specialize in delivering advanced engineering solutions, state-of-the-art technology, and cutting-edge designs to cater to the diverse needs of our clients. Our comprehensive offerings are tailored to meet precise testing requirements across various industries, whether you're testing extreme temperatures, humidity, altitude, vibration, or a combination of these. Leveraging our extensive global reach and industry expertise, we provide access to seasoned professionals, empowering your testing department to achieve optimal results.

Walk-In / Drive-In Chambers

Expertly engineered to perfection



Walk-in and drive-in test chambers provide ample space for testing large-scale equipment and products, accommodating everything from automotive parts to entire aerospace components. These chambers simulate diverse environmental conditions, including temperature, humidity, solar, vibration and altitude, ensuring thorough testing and validation of critical systems across a range of industries.

Walk-In / Drive-In Chambers

Test safely with repeatable results

Panel Walk-In / Drive-In WP Series

The WP Series pre-fabricated walk-in/drive-in test chambers offer modular construction, to facilitate move-in and installation. WP Series chambers are well suited for many testing applications and offer a wide selection of performance features.

- Temperature Range: -68°C (-90°F) to +85°C (+185°F)
- Humidity Range: 20%RH to 95%RH

Welded Walk-In / Drive-In WW Series

The WW Series offers superior strength and durability. The sloped floor and integrated drains provide proper drainage within the test space. The continuously welded interior liner allows for wide temperature and humidity ranges. The one-piece construction makes for easy installation. Large chambers can be assembled from multiple sections on site.

- Temperature Range: -70°C (-94°F) to +180°C (+356°F)
- Humidity Range: 20%RH to 95%RH

Walk-In / Drive-In Chambers

Step into comprehensive testing solutions

Weiss Technik's walk-in and drive-in chambers are meticulously crafted with premium materials and expert engineering, ensuring unparalleled reliability and durability. The interior of these chambers provides ample space for testing large components and vehicles, making them an ideal solution for automotive, battery and aerospace climate testing.

Walk-In / Drive-In Chambers

Simulating harsh environments for automotive, aerospace, and industrial applications

Walk-In Battery Test Chamber

Drive-in and walk-in chambers are ideal for testing large EV battery packs used in electric and hybrid vehicles and our commitment to energy storage system safety is at the forefront of every test chamber we design. External loads caused by high or low temperatures, fast temperature changes, humidity, mechanical loads or corrosive influences, must be safe and not lead to failure or unintended reactions.

Drive-In Climate Test Chamber with Dynamometer

These drive-in chambers interface with a dynamometer test platform and simulate temperature or humidity conditions for full vehicle testing where power, exhaust measurements and fuel consumption tests are conducted under pre-defined ambient conditions by transferring the driving or braking torque of the wheels onto a roller.

- Temperature Range: -68°C (-154°F) to +85°C (+185°F)
- Humidity Range: 20%RH to 95%RH

Drive-In Emission Test Chamber

Drive-in emission test chambers provide a convenient solution for assessing vehicle emissions by allowing cars to be tested while stationary. Emissions tests are conducted under pre-defined climate conditions which can be set using the control system for the sealed, drive-in environmental simulation.

- Temperature Range: -68°C (-154°F) to +85°C (+185°F)
- Humidity Range: 20%RH to 95%RH

Stability Walk-In Chamber

Stability walk-in chambers provide GMP compliant, ICH Q1A stability storage test conditions from -20°C to +40°C and 40 – 75% RH. These chambers can be built in a wide range of sizes and are a great solution for testing and storing raw pharmaceutical materials (API) and final packaged products. Standard stability chambers come with a range of stock features or work with our design team to build a custom stability environment to meet your needs.

- Temperature Range: -20°C (-68°F) to +45°C (+113°F)
- Humidity Range: 20%RH to 80%RH

Reach-In Temperature & Humidity Chambers

Expertly designed, engineered for perfection

Endurance Series

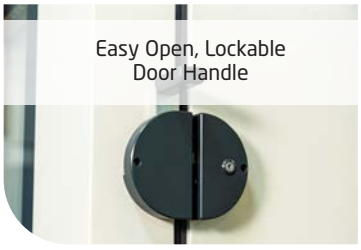
The Endurance® Series from Weiss Technik: the Temperature and Humidity chamber that stands alone. Designed and engineered to give you lasting value, performance and reliability for all your testing applications. The intelligently engineered test space design allows for maximum airflow coverage and accurate gradients. With a variety of size options, a small footprint, and its mobile design, the Endurance Series allows for greater testing flexibility and mobility for your testing laboratory.

7, 12, 21, 35, 54 cubic feet models available.

- Temperature Range: 180°C (356°F) to -40°C (-40°F)
- Temperature Range: 180°C (356°F) to -70°C (-94°F)
- Humidity Range: 10%RH to 98%RH

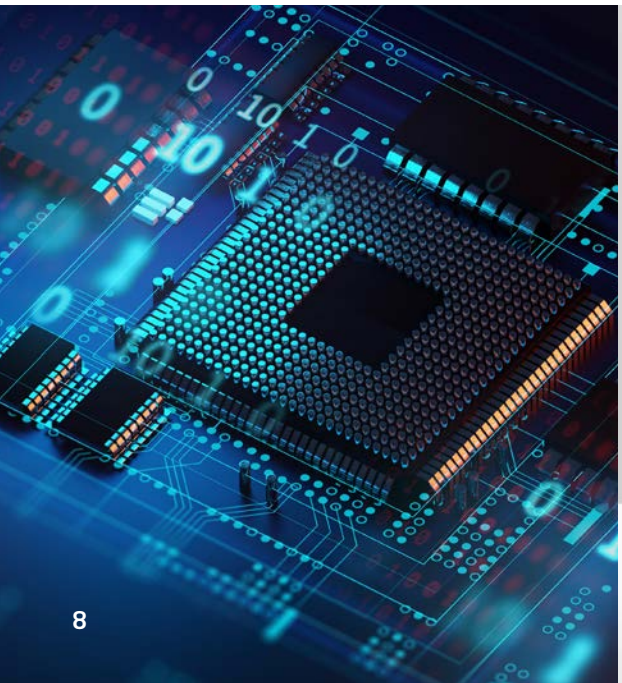
Intelligently Engineered Test Space Design for Accurate Airflow Gradients

WEBSeason® Larger 10" Adjustable Touchscreen Controller



Easy Open, Lockable Door Handle

R-449A Refrigerant Impacts the Environment Less



Custom Reach-In Chambers

Completely customizable to meet your testing requirements

Xceed® Series

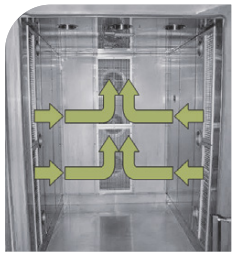
The Xceed® Custom Reach-In Series is the environmental test chamber from Weiss Technik offering unlimited options. Designed, engineered, and built to your specifications, the Xceed Series offers flexible temperature and humidity ranges, sizes to meet your exact testing requirement and options to provide unmatched product testing applications.

- Temperature Range: -70C (-94°F) to +180°C (+356°F)
- Humidity Range: 20%RH to 98%RH (EH Models)

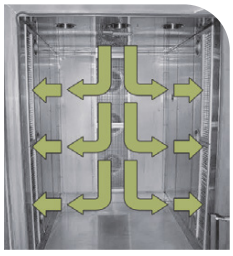
Air Flow Options

The Xceed® Series offers multiple air flow configurations tailored for various testing applications.

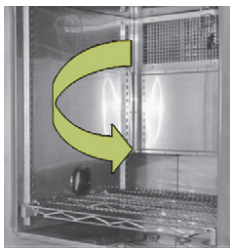
FBA
Front-to-Back Air Flow



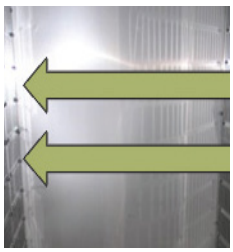
FBAR
Front-to-Back with Reversible Air Flow



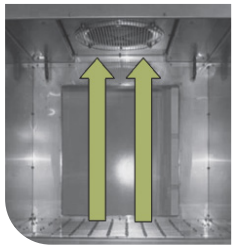
STANDARD
Rear-Wall Air Flow



HAF
Horizontal Air Flow



VAF
Vertical Air Flow



AGREE
Ceiling Plenum Style Airflow

Thermal Shock Chambers

Transition rapidly between hot and cold temperature zones

Thermal Shock TS Series

These chambers are available in two or three zones in vertical and horizontal configurations. Other types of chambers include liquid thermal shock which provides immediate thermal shock of your product and uses perfluorinated fluid.

Thermal shock chambers are used in all industries to help find product defects in electronic components and product assemblies. These thermal shock chambers meet common test specifications including MIL-STD 883, MIL -STD 202 and a variety of other test standards such as IEC and JEDEC.

- ±0.3 to ±1.0 °C temperature deviation
- <10 second basket transfer time
- <15 minute recovery time
- Air cooled (TS60) and water cooled options
- Temperature Range (Hot Chamber): 50°C (122°F) to +220°C (428°F)
- Temperature Range (Cold Chamber): -80°C (-112°F) to +70°C (158°F)

Vertical

The TS-series large vertical thermal shock chamber is ideal for testing large products or batches of products. The products undergoing testing travel via a vertical lift elevator, alternating between the hot and cold zones for rapid product temperature changes. Guaranteed part temperature recovery/soak monitors the worst-case part thermocouple and allows transfer only when the set-point temperature has been reached.

Horizontal

Horizontal thermal shock test chambers, available in a variety of configurations, provide the ideal solution for thermal shock testing, especially large products or batches. The TS Series is specifically designed to cater to these testing requirements.

Liquid

TS Series liquid thermal shock chambers are ideal for testing IC chips, circuit boards, and semiconductor devices. The chambers utilize a robotic arm to transfer the basket between the hot and cold liquid baths for immediate temperature shock, designed to ensure optimal temperature distribution.

Vibration Test Chambers

Shaking up reliability

AGREE Vibration EV Series

The EV Series AGREE chambers are offered in various sizes and accommodate electro-dynamic, mechanical vibration systems or roll-in product carts. The EV Series offers flexibility to be used as a test chamber with or without vibration tables.

Features:

- Engineered to adapt to all vibration tables in the market
- Dual door design available for easy loading/unloading
- Gantry and Cantilever styles available for greater testing flexibility
- Easy access side panels
- Multiple door options available

- Temperature Range: -70C (-94°F) to +180°C (+356°F)
- Humidity Range: 10%RH to 98%RH (EVH Models)

Cantilever Option

Gantry Option

Battery Production & Testing

Powering innovation

Battery production and testing are critical processes that involve the careful manufacturing of high-quality cells followed by rigorous evaluation to ensure reliability and safety. These processes are essential for delivering dependable power solutions for a wide range of applications, from portable electronics to electric vehicles.

Battery Production & Testing

Testing the future of energy

Dry Room Systems

The production of Li-Ion batteries requires special care in the environment. Rely on Weiss Technik's experience and knowledge developing dry room systems featuring optimal clean dry air environments for lithium-ion battery production. We know the quality of the manufacturing space has a direct impact on the safety and quality of the product being produced. Our ultra-low humidity environments give customers confidence in their process.

Temperature-Vacuum Test

Vacuum ovens are ideal for coil-drying during the production of lithium-ion batteries and fuel-cells for electric vehicles. Thanks to our many years of cross-sector experience in industrial heating technology, we can develop customized heating and vacuum oven systems that are perfectly matched to your product application. This enables us to provide product-oriented, reliable and highly precise drying processes.

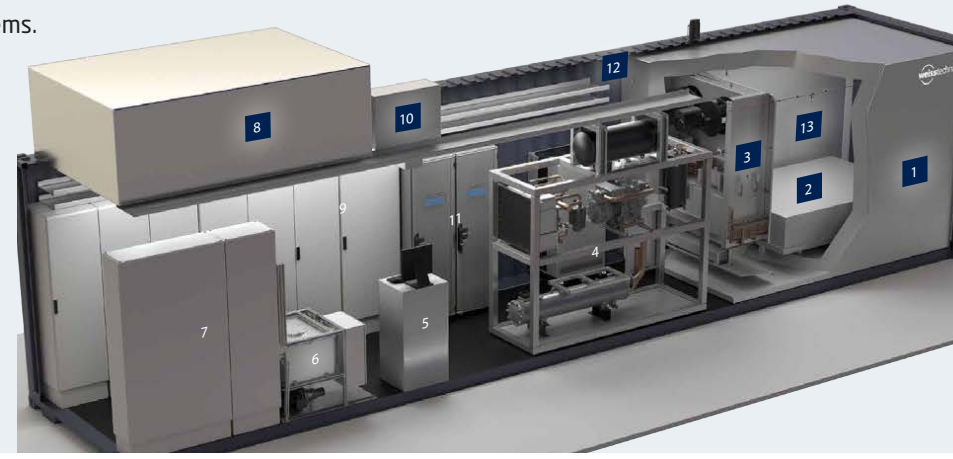
Battery Test Chambers

Many industry standards and EUCAR safety level standards are necessary for battery production and testing. Weiss Technik's battery testing systems ensure your products meet or exceed a long list of international standards and norms. Our test chambers can measure the safety, performance and reliability of batteries based on standards established by the International Electrotechnical Commission (IEC) and other international manufacturing associations. We also can test, measure and assess products based on the exacting and stringent requirements requested by our clients.

Mobile Test Lab

The Weiss Technik mobile test lab is the perfect solution for customers needing a completely built out testing solution. We'll do the legwork and heavy lifting by developing your entire lab for you. Built in a trailer, the mobile test lab can be easily transported and enables standards-compliant testing by fulfilling all necessary safety specifications for electrical energy storage systems.

1 Test chamber
2 Specimen (battery pack)
3 Air-treatment system
4 Cooling machines
5 Operator station
6 Extinguishing system
7 Switch cabinet cooling
8 External liquifier
9 Cycler
10 Split air-conditioner
11 Central automation system
12 Battery conditioning system
13 Decentral automation system



Altitude & Vacuum Chambers

Elevating testing standards

Altitude and vacuum chambers provide controlled environments for simulating high altitude conditions. Aircraft modules and equipment, automotive parts, electronic devices, and medical equipment undergo rigorous testing within these chambers to assess their performance and durability under high altitude environments.

Altitude & Vacuum Chambers

Simulate the highest peaks on earth or the atmosphere in space

EA Series Altitude Test Chamber

Weiss Technik altitude test chambers, EA (temperature/altitude) and EAH (temperature/altitude/humidity), are designed to allow the user to perform temperature, humidity, and altitude testing simultaneously in one chamber, satisfying many testing requirements.

- Designed to simulate altitude conditions up to 100,000 feet
- Offer simultaneous temperature/altitude testing from site altitude to 65,000 feet
- Humidity test can be conducted at site altitude only
- Temperature Range: -70C (-94°F) to +180°C (+356°F)
- Humidity Range: 10%RH to 98%RH

Vacuum Test Chamber

Simulate extreme environmental conditions for products utilized in the aerospace industry with Weiss Technik vacuum test chambers. From planes to satellites, space shuttles to helicopters – aircraft are exposed to extreme temperature fluctuations and humidity along with vacuum. Our vacuum chambers facilitate accurate and efficient tests on these highly stressed components for quality and durability before use.

- Temperature Range: -70C (-94°F) to +180°C (+356°F)
- Vacuum: ≥ 400 mbar

Space Simulation Systems

Pushing boundaries beyond earth

Space simulation systems replicate the unforgiving conditions of the cosmos within controlled environments, enabling rigorous testing of spacecraft and satellite components. By subjecting equipment to extreme temperatures, vacuum, and radiation, these systems ensure the reliability and resilience of technology destined for the final frontier.

Space Simulation Systems

Creating the environment for mission success with unrivaled support and confidence

Dynavac

Dynavac, now part of the Weiss Technik family of brands, offers highly configurable standard platforms and fully custom systems tailored to meet unique test requirements.

Thermal Vacuum Chambers

Our thermal vacuum systems expertly simulate the extreme conditions of space. As a trusted partner in the aerospace sector, we support every facet of flight testing and space simulation—from hardware space qualification and bakeout to testing for small satellites, large spacecraft, and manned space capsules. Our systems are engineered to replicate a diverse range of environmental conditions, ensuring precise testing and qualification of space flight hardware. With flexible options for pumping systems, thermal control, and instrumentation, each system can be tailored to meet your specific testing requirements.

These systems and applications include:

- Thermal vacuum chambers in standard and custom-designed solutions from small vacuum chambers to large field-constructed systems.
- Electric propulsion test systems to develop, test and qualify electric thrusters.
- Vacuum bakeout systems remove volatiles and contaminants in preparation for flight.
- Heat flux enclosures precisely replicate the temperatures of extreme space conditions.
- A variety of thermal control systems are available from mechanical refrigeration, liquid cooling systems, cold plates and temperature-controlled platens.

Specialty Test Chambers

A test chamber for every application

Weiss Technik offers a complete portfolio of specialty and custom test chambers that provides solutions for all your unique testing requirements. Whether you need a test chamber for battery applications, spray/splash applications, an explosion-resistant test chamber or a test chamber for something else entirely, our product and application engineers will help find the right solution for your product. At Weiss Technik we offer advanced technology, reliability, and superior quality for all your testing needs.

Corrosion & Salt Spray Weathering Test Chambers

Corrosion and salt spray test chambers are specifically designed to test anti-corrosion qualities of products, components, and materials that are subjected to harsh conditions. Corrosion and salt can have adverse effects on metals, painted surfaces, alloys, and other materials. Corrosion and salt spray test chambers can help assure your products withstand these elements and are reliable and safe. Our test chambers will help you meet ASTM, ISO, IEC, and other international standards test methods.

Dust Test Chambers

The Weiss Technik D Series Dust Chamber is designed to test a resistance to a dust-filled environment as defined in SAE Dust Test Specification J-575, subparagraph "G". The product is placed on the specimen rack and dust is agitated throughout the chamber by injecting compressed air into each of the dust troughs. The dust then settles, covering the product under test.

Cement & Concrete Test Chambers

The Weiss Technik EC Series Moist Cabinet/Cement Curing Chambers are specifically designed for use in the curing of hydraulic cement and concrete test specimens. Combined insight into the curing process and chamber maintenance has led to many design features which add to the ease of operation, and simplify the cleaning and maintenance of this chamber.

Specialty Test Chambers

A test chamber for every application

Water Spray & Splash Test Chambers

Spray and splash test chambers offer precise testing for products and components, assessing the impact of water and liquid exposure. These test chambers facilitate tailored testing that meets specific standards including ISO, DIN EN, SAE, MIL-STD, IEC and more.

Solar and Photovoltaic Test Chamber Solutions

Solar and photovoltaic test chambers are designed to test the effects of solar and UV properties on various products and components. Our chambers are designed to meet many solar panel and photovoltaic testing specifications including IEC, UL and ASTM for temperature cycling, damp heat, and humidity freeze tests.

Volatile Organic Compounds (VOC) and Formaldehyde

Volatile organic compounds (VOC) and formaldehyde can have an adverse reaction on technical products, components, humans, and the environment. Weiss Technik provides reach-in, walk-in, drive-in, and custom VOC and emissions test chambers and rooms solutions designed to ensure the safety and integrity of products, components, and personnel.

Additional Specialty Test Chambers:

- EMC Test Chambers
- Explosion Resistant Test Chambers
- Remote Conditioning Units
- Emissions Test Chambers
- Textiles Test Chambers
- Plant & Insect Growth Test Chambers

Heat Technology Production Ovens

Efficiency in every degree

HeatEvent Industrial Curing Ovens

HeatEvent offers spacious interiors in a compact design. With iE3 motors, enhanced insulation, and reliable door seals, our ovens maximize energy efficiency. The SiMPAC® control system and WEBSeason® interface come standard on HeatEvent ovens, ensuring easy operation, temperature programming, and process automation compliant with standards like AMS 2750E or CQI-9.

Vacuum Drying Ovens

Weiss Technik Vacuum Drying Ovens effectively dry temperature-sensitive products and extract residual moisture from capillary tubes. Through vacuum drying, liquids evaporate at lower temperatures due to reduced boiling points, preserving product integrity. This process reaches inaccessible areas within product geometries, ensuring thorough dehumidification. In addition, air and vapor trapped in the product are reliably removed, and re-condensation is avoided.

Continuous Conveyor Ovens

Continuous conveyor ovens offer versatile and efficient heating for industrial processes. With seamless product movement on a conveyor belt, they ensure uninterrupted production and consistent, high-quality outputs. These ovens provide precise temperature control and uniform heat distribution, ideal for heat treatments in automation lines. Available as modules or customized to your production needs, they offer flexibility and reliability.

VHM Hephaistos Microwave Heating & Drying Chamber

Microwave heating and drying chambers/systems are versatile tools for various applications like heating, drying, and hardening during production. They cut processing times and save energy, a significant advantage for your production and testing needs.

Infrared IR

Infrared technology transfers energy via electromagnetic radiation without direct contact or a carrier medium, making it suitable for diverse applications including challenging environments like vacuums and clean rooms. Industries such as paper, printing, textiles, glass, ceramics, plastics, composites, and coatings benefit from its versatility.

Controllers & Software

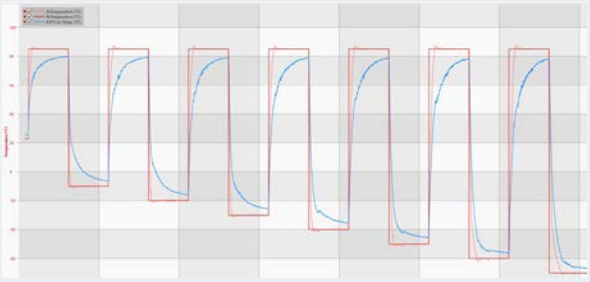
Streamlined operations, elevated performance

WEBSeason® Chamber Control

The WEBSeason® control system is the latest technology in digital chamber control and programming. With the simple, easy-to-use touchscreen and menu-guided user interface, no programming knowledge is necessary. WEBSeason® offers many features including USB and Ethernet interfaces, remote control and remote monitoring, networking with other test systems, and a 32- bit control and monitoring system to ensure accurate control of temperature and humidity.

Complete Remote Access with S!MPATI

The Simulation Package for Test System Integration (S!MPATI) software enables full chamber control and operation via remote access. The operation of test systems becomes easy and time-saving while increasing reliability. The integrated monitoring feature enhances the reliability of your test systems. The simple user-friendly operation and menu-guided interface does not require user training. S!MPATI offers the user the ability to control up to 99 chambers at the same time. A single user can control up to 99 chambers at the same time using S!MPATI.



S!MPATI TimeLabs - A Picture Says More Than a Thousand Measurements

S!MPATI TimeLabs provides simultaneous documentation of digital images and measured data to give you precise and accurate product testing. TimeLabs assures reliability and provides exact visual evaluation of your testing processes while the data-protected documentation feature of your test sequence adds security to your results.

Integration

Weiss Technik controllers and software are the most advanced in the industry. WebSeason® and with Simpati can be integrated with BMS Systems, battery cyclers, and other equipment and are compatible with many protocols including:

- EtherCAT
- ProfiNET
- ProifBUS
- ASCII/SimServ
- Modbus RTU
- Modbus TCP/IP & more

Contact us for information on integration with other controller platforms.

Sustainability in Test Chambers

Impact your business more...and the environment less

The Future of Test Chamber Refrigeration Technology - Today

To truly help you stand the test of time, Weiss Technik now applies its ground-breaking LEEF Technology in all environmental chambers using cascade refrigeration systems. Compared to the classic refrigeration technology offered by many of our competitors, LEEF Technology allows you to benefit from reduced test time, up to 70% improved test accuracy and up to 40% energy savings.

Prepare yourself for more stringent future standards and regulations. Weiss Technik is the first environmental test chamber manufacturer to apply low-GWP (Global Warming Potential) R-449A refrigerants in all its test chambers formerly using R-404A. It's 64% lower GWP value is great news for the environment and helps your company support both corporate & federal sustainability programs. Weiss Technik has redesigned and extensively tested its refrigeration systems to make sure that the use of R-449A comes with no loss of performance and reliability.

Customer Benefits

- Reliability of test results: Up to 70% improved accuracy of temperature and humidity settings
- Productivity: Reduce test time thanks to up to 60% faster temperature pull down rates
- Cost Savings: 20% energy savings
- Sustainability: LEEF and LOW GWP actively supports policies to reduce the Carbon Footprint
- LOW GWP (Global Warming Potential): R-449A Refrigerant
- R-449A was specifically designed to replace R-404A (a common test chamber refrigerant)
- R-449A supports the EPA's hydrofluorocarbon (HFC) phasedown, Docket ID: EPA-HQ OAR-2021-0044, as part of the American Innovation and Manufacturing (AIM) Act

Service Support

We're here to help

Our products are backed by our global factory trained service department. With over 400 service technicians located throughout the globe.

We offer our customers a wide variety of services including the following:

- After hours support helpline
- Preventive maintenance program
- Chamber start-up
- Installations
- Emergency service
- Technical support
- Spare parts & materials
- Calibrations per ISO 17025 (instrument and chamber)
- Chamber diagnostics, troubleshooting and evaluations
- Equipment upgrades and retrofits
- Refrigerant removal and disposal
- Chamber liner leak test
- Chamber modifications
- Equipment relocations
- Training on proper equipment use and programming
- Rental programs /used equipment
- Service on all makes and models

Quality - Count on Weiss Technik

Weiss Technik helps make the task of compliance with the QS9000 3rd Edition Calibration Mandate much simpler. There is no need for you to take the time to actively seek an accredited laboratory. Weiss Technik, certified ISO9001 in 1997, can provide the latest required ISO/IEC 17025 (A2LA accredited) calibration services at your facility. These services meet 17025 requirements and ensure that your company is in compliance with the most recent changes in the QS9000 3rd Edition mandate.

A2LA ACCREDITED CALIBRATION LABORATORY Certificate No. 1276-01

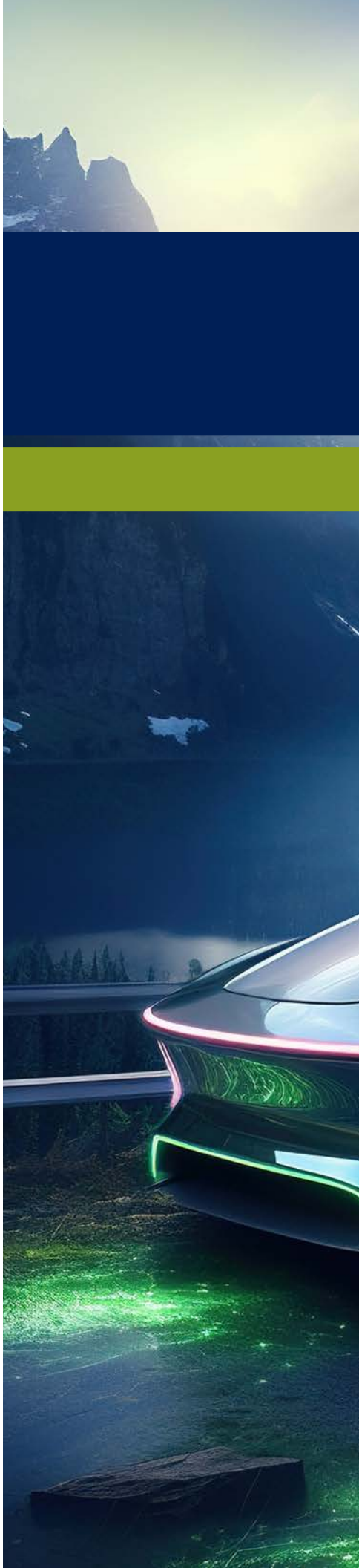
Weiss Technik North America, Inc. Calibration Services are accredited by A2LA to ISO/IEC 17025

Quality System Registered to ISO 9001

Weiss Technik North America, Inc. Quality System is registered to ISO9001:2015

Passionately innovative.

We work in partnership to support companies across the globe in research, development, production and quality assurance.



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Stand the test of time.

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