

Quality is more than a word



COMPANY PROFILE



**Now including Qualmark HALT/HASS Chambers**

ESPEC NORTH AMERICA, INC.

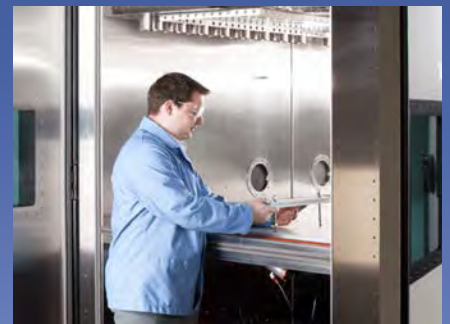


# Quality is more than a word

ESPEC NORTH AMERICA builds test chambers in the United States as part of the ESPEC Group, which is the largest organization solely dedicated to the manufacture of environmental test and conditioning systems, allowing us to concentrate on quality construction and innovative designs.

The ESPEC group helps clients confidently develop products that can safely and reliably carry out their intended use.

The ESPEC product line now includes the Qualmark brand of HALT/HASS chambers for accelerated reliability testing and screening.









# Committed to Quality Manufacturing

ESPEC North America continually improves quality, controls costs, and speeds manufacturing time to better serve our customers.

Over 35 years of experience building test chambers in America goes into everything we create, from smaller standard equipment, to large custom chambers. Quality is designed into our processes and built into our equipment.

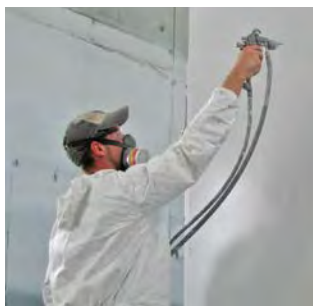
ESPEC North America's recent merger with Qualmark further expands our product line, as well as our engineering and support infrastructure.

To bring North America the widest selection of test chambers, some models are manufactured at our parent company in Japan. Started 65 years ago, ESPEC CORP. quality is renowned worldwide.

- Standardization — Modular construction and standardized processes have enabled ESPEC to improve quality and control costs.
- Lean-manufacturing — Following lean manufacturing principles has increased capacity and improved quality.
- ESPEC equipment from Hudsonville, Michigan is manufactured in a plant whose Quality Management System is certified as being in conformity with ISO 9001:2015 by Intertek.
- Specialized facilities — Our factory was built in 2003 and expanded in 2015 to 136,000 square feet for manufacturing test chambers.
- New Colorado office with sales, support, and manufacturing of the Qualmark HALT product lines.



*Construction*



*Painting*



*Electrical*



*Assembly*



*Engineering*





# Widest Selection of Test Chambers

Over 450 standard chambers and ovens, plus custom construction

ESPEC test chambers create environments of hot or cold, dry or humid, as well as cycling between those extremes. The chambers can simulate real situations, or create artificial stress, helping improve our clients' product safety and reliability. ESPEC offers the size and performance you need, from the world's smallest humidity chamber to custom drive-in systems.

Attention to detail shows in our equipment's eye-pleasing looks. But more than just being beautiful, our chambers are made to be durable, reliable, and easy to use. We are constantly evolving our designs to meet the latest testing requirements and customer expectations.

- Stainless steel exterior on most of our reach-in models for long-term beauty.
- Touchscreen controllers with USB or Ethernet access (on most models) makes our chambers the easiest to use.
- Special thermal breaks around doorframes and other critical locations minimize thermal transfer and the potential for frost or condensation on the exterior.
- Exclusive ESPEC OEM parts and uni-body construction improve quality and overall appearance.
- Three levels of overheat protection on all models for safety.
- Wet/dry bulb measurement systems for reliable and easy maintenance on humidity models. (Solid-state systems optional.)
- Willingness and capability to customize and/or integrate other test systems for your application.



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**Over 70 Reach-in Models**  
**For Temperature and Humidity Testing**





## Platinous

ESPEC Platinous models are a great choice for basic temperature or temperature/humidity testing, either steady-state or cycling conditions.

- Stainless steel exterior & interior construction for long life
- Energy-efficient refrigeration control (see page 22)
- Custom-molded thermal breaks for thermal integrity
- USB upload/download of programs and test data

### Platinous Sizes and Capabilities

Interior Sizes	8, 14, or 32 cu. ft.
Temperature Range	up to -70 to 180°C
Optional Humidity	10 to 98% RH
Change Rate	1.5 to 6°C/min.
Models	Twenty-eight

## Global-N

The Global-N series chambers come in four interior volumes and require the least amount of floorspace for this level of performance. Models are available with temperature cycling as fast as 20°C per minute.

### Global-N Sizes and Capabilities

Interior Sizes	12, 16, 28, or 35 cu. ft.
Temperature Range	up to -70 to 180°C
Optional Humidity	10 to 95% RH
Change Rate	3 to 20°C/min
Models	Seventy-three

## ZoneOne

The ZoneOne temperature/humidity chambers provide outstanding stability testing performance for manufacturers of pharmaceuticals, biologics, food, and materials.

- Refrigeration configured for frost-free, continuous operation
- Heated, full-view doors for easy viewing
- Horizontal airflow for uniform sample exposure

### ZoneOne Sizes and Capabilities

Interior Sizes	28 or 56 cu. ft.
Temperature Range	10 to 65°C
Humidity Range	20 to 90% RH
Models	Four

## Platinum

The larger Platinum chambers provide greater performance capabilities, while incorporating the features of our Platinous and Global-N lines. The refrigeration systems on most models utilize modern, high performance scroll compressors that allow a small footprint and fast temperature changes, even with significant test loads.

### Platinum Sizes and Capabilities

Interior Sizes	42, 48 or 60 cu. ft.
Temperature Range	up to -70 to 180°C
Optional Humidity	10 to 95% RH
Change Rate	3 to 15°C/min
Models	Thirty-seven

## Agree

The Agree chamber's flexible design can easily be modified to suit specific applications.

- Temperature changes rates to 25°C/m.
- Removable floor allows integration with electrodynamic vibration shakers, including combo-base systems.



*Flexible diaphragm floor for use with vibration shaker.*

### Agree Sizes and Capabilities

Interior Sizes	15 to 114 cu. ft.
Temperature Range	-70 to 180°C
Optional Humidity	10 to 95% RH
Change Rate	5 to 25°C/min
Models	Six std. sizes



Big Chamber Performance  
From **18** Small Test Chambers





## Criterion Temperature-only

The ESPEC Criterion temperature chambers provide an economical and space-saving solution for cramped labs needing to do a variety of temperature testing. All Criterion models have a 19.5 inch (500 mm) wide interior.

- Space-saving footprint, designed for installation against a wall
- Full thermal break around doorframe and door
- One 2" (50 mm) diameter cable port, with a flexible silicone plug

### BTU/BTZ Sizes and Capabilities

Interior Sizes	1.5 or 4 cu. ft.
Temperature Range	up to -70 to 180°C
Humidity Range	NA
Change Rate	up to 5°C/min.
Models	Five

## Criterion Temperature/Humidity

Adding to our popular Criterion benchtop series, our humidity models offer the same quality features and expanded capabilities.

The four cubic foot workspace is the largest to be found in a benchtop unit, while requiring less footprint than even smaller comparable chambers. The extended temperature and humidity ranges allow for testing at more extreme conditions.

### BTL/BTX Sizes and Capabilities

Interior Sizes	4 cu. ft.
Temperature Range	up to -70 to 180°C
Humidity Range	10 to 95% RH
Change Rate	up to 2.5°C/min
Models	Two

## SU Temperature-only

The SU series benchtop temperature chambers are extremely compact, but with a wide testing range. They make it possible for smaller companies and laboratories to perform environmental testing without compromises.

- Touch-screen programmable control with USB and Ethernet access
- Optional viewing window or inner glass door

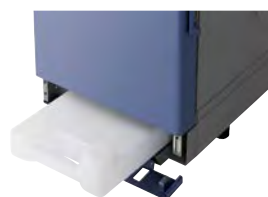
### SU Sizes and Capabilities

Interior Sizes	0.8 or 2.2 cu. ft.
Temperature Range	up to -60 to 150°C
Humidity Range	NA
Change Rate	up to 3°C/min
Models	Five

## SH Temperature/Humidity

The SH series offer accurately controlled humidity testing in one of the smallest test chambers possible. Same as SU series, but with humidity control.

- Accurate wet/dry bulb humidity measurement for easy, low-cost maintenance.



*The SH has its own water tank, so no plumbing is needed.*

### SH Sizes and Capabilities

Interior Sizes	0.8 or 2.2 cu. ft.
Temperature Range	up to -60 to 150°C
Humidity Range	30 to 95% RH
Change Rate	up to 3°C/min
Models	Five

## Compact Temperature Cycling

Despite its compact size, the BTZ-4200 can achieve ramp rates up to 15°C/min, the fastest in the industry for its class. In addition to the unmatched cycling performance, this unique system has a built-in air-cooled refrigeration system for flexible installation.

### BTZ-4200 Size and Capabilities

Interior Sizes	4 cu. ft.
Temperature Range	up to -70 to 180°C
Humidity Range	NA
Change Rate	up to 15°C/min
Models	One

# Extreme Temperature Changes From 14 Thermal Shock Models



## Thermal Shock Chambers



### TSE-12-A Two-Zone

Did you think that getting a thermal shock chamber was too expensive, required special utilities and half your lab-space? The TSE-12-A is the solution. It is only 26 inches wide and has built-in air-cooled refrigeration.

- Two-zone elevator style
- Requires no cooling water or liquid nitrogen

#### TSE-12-A Size and Capabilities

Interior Size	0.4 cu. ft.
Temperature Range	-65 to 200°C
Mil-Std 883 1010.8	up to 4 kg.
Models	One



### TSA Two/Three-Zone

The TSA series has just one work area and no transfer elevator, saving space and cost. Extended testing up to 1000 cycles is possible.

- Preheat/prechill capability speeds recovery time
- Can be used for two-zone or three-zone tests
- Energy saving refrigeration (see below)

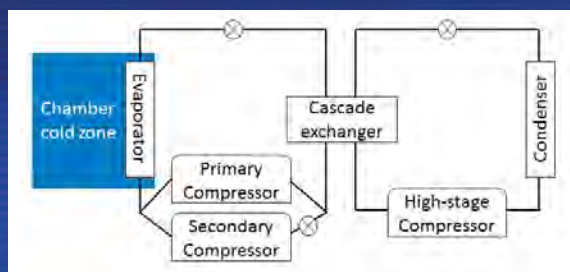
#### TSA Sizes and Capabilities

Interior Sizes	1.5 to 10 cu. ft.
Temperature Range	up to -70 to 200°C
Test Capacity	up to 40 kg.
Models	Eleven

## ESPEC Patented Technology Reduces Energy Usage Up To 50%

The TSA series includes a patented "Eco operation mode" that automatically minimizes operation of heaters and refrigeration during standby, prior to switching zones.

Patented parallel refrigeration technology further improves energy savings by pairing two compressors on the low side, so one can be turned off during soaks or standby periods. An electronic expansion valve further improves energy usage and control.







## TSD Two-Zone

ESPEC developed the TSD-101-W with a 40% smaller footprint and 60% lower electricity usage, compared with our previous series. The Specimen Temperature Trigger advances the cycling once the product has reached the desired temperature.

- Two-zone elevator style
- Only 44 inches wide

### TSD-101-W Size and Capabilities

Interior Size	3.5 cu. ft.
Temperature Range	-65 to 200°C
Mil-Std 883 1010.8	up to 11 kg.
Models	One



## TCC Rapid Rate Single-Zone

The TCC-150 chamber utilizes a unique specimen temperature control system that maintains linear change rates, even up to 15°C/min. or more. Designed to meet the strict requirements of JESD22 A104D, the TCC-150 also provides uniform temperature exposure on the test load during transitions.



## TSB Liquid-to-Liquid

Liquid-to-liquid thermal shock testing provides extreme stress and test-time savings. The chambers require expensive liquids, which our models conserve and recycle, resulting in pay-back in as little as 18 months.

- Robotic transfer mechanism
- Multiple liquid-recovery systems

### TSB Sizes and Capabilities

Basket Sizes	0.08 or 0.15 cu. ft.
Temperature Range	-65 to 200°C
Mil-Std 883 1011.9	up to 2 kg.
Models	Two



## **HALT Systems with Repetitive Shock Environmental Testing on Steroids**





# Qualmark HALT/HASS Chambers

## HALT

Qualmark HALT (Highly Accelerated Life Test) chambers combine extreme temperature cycling and repetitive shock/vibration for the ultimate in accelerated reliability testing.

The Omni-Axial six-degree-of-freedom, repetitive shock table delivers consistent power spectral density. The thermal system features vacuum-jacketed liquid nitrogen cooling and nichrome wire heating, resulting in ramp rates of up to 100°C per minute.

### HALT Sizes and Capabilities

Table Size	2-33 sq.ft
Repetitive Shock	5-75 gRMS
Temperature Range	up to -100 to 250°C
Change Rate	60 to 100°C/min.
Models	Eight

## EQ HALT (Non-Nitrogen)

These new Qualmark HALT systems combine repetitive shock/vibration with cascade refrigeration. The elimination of liquid nitrogen and overall cost savings makes basic HALT testing possible for customers and locations where traditional HALT systems are not feasible. Our smallest size is suitable for entry-level applications, prototyping, and initial characterization.

### EQ HALT Sizes and Capabilities

Table Size	2 or 6 sq.ft
Repetitive Shock	5-75 gRMS
Temperature Range	up to -70 to 180°C
Change Rate	8 to 15°C/min.
Models	Five

## HASS

The Qualmark HASS (Highly Accelerated Stress Screening) system features six separate repetitive shock/vibration tables and rapid thermal cycling in an extremely efficient, quiet system with a small footprint. HASS screens completed assemblies/products for failure modes inadvertently introduced during manufacturing.

### HASS Sizes and Capabilities

Six Tables	2.5 sq. ft. each
Repetitive Shock	5-40 gRMS
Temperature Range	-60 to 120°C
Change Rate	up to 60°C/min
Models	One

## Lab HALT

HALT is the most beneficial early in the development process so that product designs may be improved during the prototyping phases. This entry-level system is quiet, vibration-isolated, and easy to use in lab environments. It uses portable liquid nitrogen tanks for flexibility and low cost.

### Lab HALT Sizes and Capabilities

Table Size	1.3 sq.ft
Repetitive Shock	4-40 gRMS
Temperature Range	-100 to 200°C
Change Rate	up to 35°C/min.
Models	One

## Tabletop Shock

This stand-alone, tabletop, repetitive-shock system is great for quick vibration tests during product development. It can also be placed in a thermal chamber for combined environment testing by removing the cover and detaching the console.

### Tabletop Shock Sizes and Capabilities

Table Size	1.5 to 2 sq. ft.
Repetitive Shock	4-40 gRMS
Models	Two



## Custom Drive-in Chambers

Environmental testing of automobiles requires additional consideration of the facility where the chamber will be installed, and its planned use.

Test methods for vehicles can include additional conditions besides temperature and humidity to better simulate real-world conditions.



# Walk-In Chambers

## Panelized Construction

ESPEC North America builds dozens of walk-in chambers every year for top companies testing automotive, electronics, communications, aerospace, and other products.

Our panelized walk-in chambers use urethane-foam panels that lock together during assembly. The panels have a stainless steel interior skin and durable painted-steel exterior.



### Panelized Construction Standard Sizes

Interior Sizes	183 to 1372 cu. ft.
Temperature Range	up to -65 to 85°C
Humidity Range	optional 10 to 95%RH
Change Rate	up to 10°C/min

## Solid Construction

Standard ESPEC solid construction walk-ins can go up to 150°C to accommodate extreme test conditions (custom up to 300°C). It is the preferred construction type for testing large loads at 85°C/85%, or for cycling faster than 10°C/min.

The chambers are one-piece construction, using fiber-glass insulation and an angle-iron frame. The Modular Air Plenum separates from the chamber for easier shipping and installation.



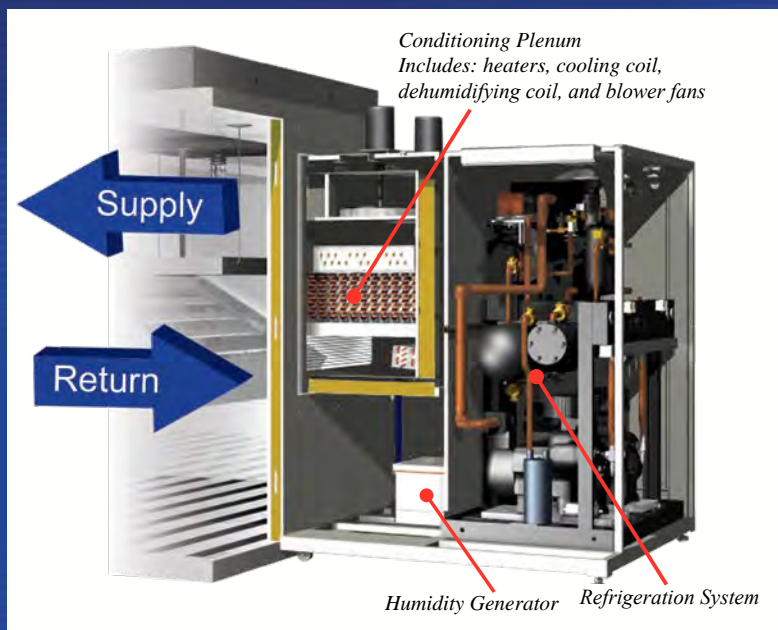
### Solid Construction Standard Sizes

Interior Sizes	183 to 499 cu. ft.
Temperature Range	up to -65 to 150°C
Humidity Range	optional 10 to 95%RH
Change Rate	up to 20°C/min

## Modular Air Plenum

ESPEC walk-in chambers use our standard air conditioning systems called Modular Air Plenums (MAP). These MAPs are built with the proper heating, refrigeration, and humidity control to achieve your desired performance. The MAP simply rolls-up to an assembled walk-in chamber to complete installation.

- MAP I — Two blower fans and larger 'C-frame' refrigeration layout (shown)
- MAP II — Two blower fans and compact refrigeration
- Stability MAP — Two smaller fans and minimal refrigeration for steady-state applications
- Drive-in MAP — Three blower wheels and larger 'C-frame' refrigeration





## Specialized Systems



### Highly Accelerated Stress Test

HAST chambers reduce the time it takes to complete humidity testing for semiconductors. By elevating temperatures above 100°C and increasing the pressure, simulation of normal humidity tests can be made while maintaining the same failure mechanisms. Tests can be completed in days, not weeks, compared to traditional 85°C/85%.



### Chambers for Solar Panel Testing

Photovoltaic solar panels need to pass strict test standards to ensure their long-term effectiveness. ESPEC solar panel test chambers are sized to fit common module sizes, as well as providing the temperature and humidity performance capabilities that can speed up test time, or conserve energy.



### Safety Modifications for Battery Testing

Lithium-ion batteries (and other products) need to be tested with consideration of potential leaking, bursting, fire, or even explosion. ESPEC can modify standard chambers or build custom systems that ensure safe testing.

- Explosion venting
- Non-sparking interior
- Gas detection systems
- Fire suppression systems
- Integration with other test systems



### Special Platinous Models

ESPEC has developed special variations on our Platinous temperature/humidity models for specific applications.

- Ultra-view models with a large window, suitable for testing displays
- Clean-room models with class-100 HEPA filter
- Extended range for testing up to 95°C/95%



# Standard Solutions for Special Requirements



## Rain Simulation

ESPEC's rain/spray test systems have multiple possible features, depending on the type of tests required, such as shower or light-spray, temperature and humidity conditioning, hot/cold water spray, and car wash simulation. Rotating spray heads and tables ensure full exposure.



## Environmentally Conditioned Air

For situations where the test sample cannot be placed in a chamber, our Environmentally Conditioned Air (ECA) systems can circulate conditioned air to a remotely located test fixture. In some cases this is accomplished by modifying a Platinous or Global-N chamber, so it becomes a dual-purpose unit.



## Altitude

ESPEC can provide custom-built chambers for simultaneous testing of temperature and low-pressure altitude conditions, up to 100,000 feet. Two common applications are:

- Testing of avionics or other aerospace equipment to simulate actual conditions as might be experienced during flight.
- Simulation of high-altitude conditions that can be found in mountainous regions.

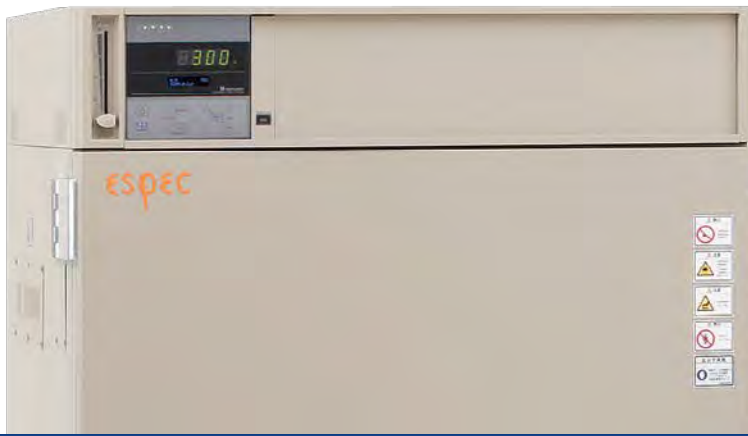


## Settling Dust

ESPEC dust chambers provide a ready-made solution to common settling dust test standards for automotive and electronic-cabinet requirements. Often specified for use with "Arizona fine dust," these units can also be used with talcum or concrete powder.

## Tensile Test Conditioning

Increased interest in varying temperature and humidity during tensile testing of materials has led ESPEC to develop chambers that fit the unique needs of tensile test machines.



**Over 55 Ovens  
with Precise Control**

## Industrial Ovens



### Standard Oven

ESPEC offers two types of standard models: the space-saving PV vertical ovens and the PH horizontal ovens. Both provide horizontal airflow for even exposure to all samples. Temperature fluctuation to  $\pm 0.1^{\circ}\text{C}$  and uniformity to  $\pm 0.5^{\circ}\text{C}$  for accurate operation.

#### Standard Ovens Sizes and Capabilities

Interior Sizes	up to 35 cu. ft.
Temperature Range	45 up to 200, 300, 500, or $700^{\circ}\text{C}$
Models	Twenty



### Rotating Rack Oven

Based on our PH temperature ovens, these models incorporate a rotating specimen rack and are especially designed for accelerated heat deterioration testing of rubbers and plastics including polyesters and vinyl. There are two interior sizes of this model, 3.2 or 7.6 cu. ft.



### Anaerobic (Inert) Oven

The IPH models are hermetically sealed ovens, allowing them to be filled with non-oxidizing gas such as carbon dioxide or nitrogen for anaerobic heat treatment or temperature-characteristics testing.

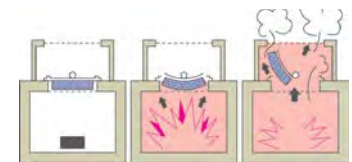
#### Standard Ovens Sizes and Capabilities

Interior Sizes	7.6 cu. ft.
Temperature Range	up to 45 to $350^{\circ}\text{C}$
Models	Two



### Safety Oven

These safety ovens, based on our PH temperature ovens, include special features for drying, heat-treatment and temperature characteristic testing of flammable synthetic resins or volatile solvents. Safety features for potential explosive conditions include low temperature heating elements.



*An explosion vent in the ceiling allows the explosion to be safely channeled through the top.*



### Class 100 Clean Oven

These models are used extensively in heat treatment/drying or burn-in of semiconductor wafers, liquid crystals, disks and other components and devices requiring clean air conditions. These units can also be prepared for installation in clean-room environments.

#### Standard Ovens Sizes and Capabilities

Interior Sizes	up to 27 cu. ft.
Temperature Range	45 to $300^{\circ}\text{C}$
Models	Eight



## Custom Construction for Unique Applications

## Custom Chambers

For thirty-five years ESPEC has been providing custom-designed test chambers for companies worldwide. This experience, combined with our standardized sub-assemblies, provides quick, reasonably priced, and high-quality custom equipment.

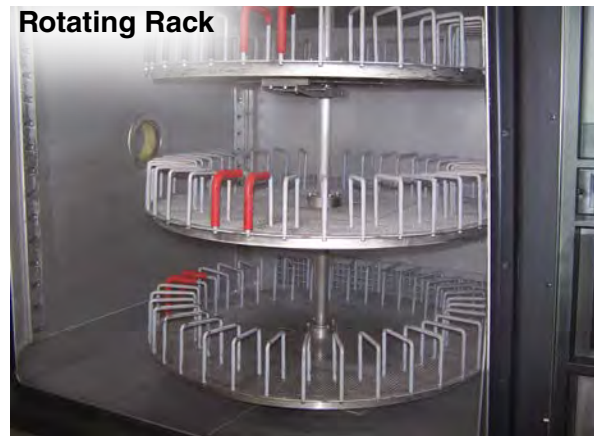
In addition to temperature and humidity control, custom chambers often need to be integrated with other equipment to provide real-world simulation.

### Rain Spray Chamber



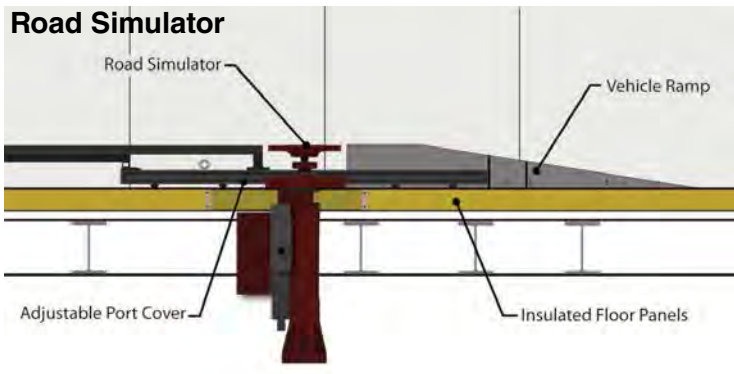
*Our automotive clients often have to simulate rain conditions. ESPEC has designed unique rain/spray test systems for components and whole vehicles, including hot/cold water, high-pressure car wash, and road-salt. Moveable nozzles enable targeting spray based on the vehicle model.*

### Rotating Rack



*An electronics supplier needed to lower the cost of a rotating rack system for preconditioning of boards prior to functional testing. ESPEC redesigned the rack system, added control systems to ensure first-in-first-out, and reduced the overall cost by several thousand dollars.*

### Road Simulator



*ESPEC has a unique insulated floor system that allows a road vibration simulator to integrate with a drive-in chamber. This floor moves to allow the simulator to adjust for vehicles with different wheelbases.*

### Solar Simulation



*ESPEC has integrated full-spectrum lighting with our test chambers for automotive and solar panel manufacturers. The high heat created by this type of lighting creates unique engineering challenges to ensure control of chamber temperature.*

# ESPEC Advanced Technology

## Modern Control System Designed for Test Chambers



*The user-friendly interface is just the start of this exclusive control system.*

The entire ESPEC Group relies on the “N-instrumentation” control system, including ESPEC North America’s P-300 version. This programmer/controller brings energy savings, user-friendly operation, and expanded data access to most of our standard and custom chambers. Improved algorithms make operation more energy efficient, as well as faster and smoother.

- USB for upload/download of programs and data
- Alarm history and diagnostics, plus a ‘back trace’ feature for troubleshooting.

## Proportional Refrigeration Valves for Efficiency and Reliability

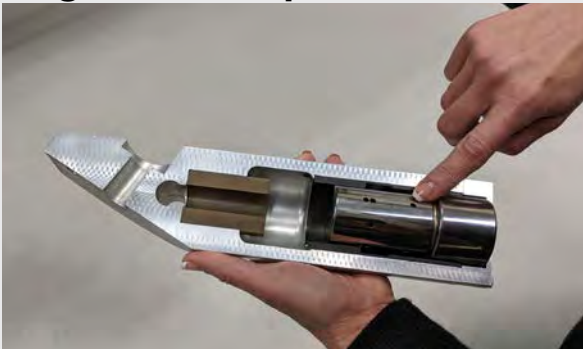


*The needle valve in an ELV is opened by a stepper motor based on refrigeration demand by the chamber controller.*

The P-300 controller includes our unique Balanced Temperature (and Humidity) Control algorithm, which takes advantage of the benefits of proportional refrigeration control using electronic expansion valves (ELVs).

- Better control during ramping and steady-state
- No on/off cycling of solenoid valves
- Less use of heaters to balance temperature control
- Better energy efficiency

## Engineered Repetitive-Shock Actuator for HALT/HASS Systems



*This cut-away of our table actuator shows the main pneumatic hammer, which is programmed for maximum random vibration.*

The xLF2 table system for our Qualmark HALT/HASS test chambers relies on an exclusive repetitive-shock actuator design. This actuator is built for optimum power spectral density, providing superior consistency at all vibration levels. Each table may have from two to eight actuators.

The repetitive shock actuator is a pneumatic hammer that repeatedly impacts the table to create random vibration stress to your test sample.



## Applying modern technology for Functionality and Quality

### Remote Chamber Management with ESPEC's Web Controller



*See all your chambers from one screen with the Network View and a proper Web Controller set-up.*

Our Web Controller is an embedded software/server that allows monitoring and programming your chamber via a web browser. It works with most ESPEC North America chambers built since 1997. Independent of the chamber's controller, the Web Controller brings modern "Internet of Things" (IoT) functionality to environmental testing labs.

The Web Controller leapfrogs competitive solutions by hosting the software at the chamber. No local software to install, just a web browser and access to the network is required. No need for a USB thumb-drive either, as all data files can be downloaded and uploaded from the web browser (or automatically).

#### **Advanced "Internet of Things" capabilities:**

The Network View feature allows you to see all of your chambers and their status on a customizable screen.

The RESTful API allows your custom web apps to access your chamber without worrying about specific protocols.

The Macro Editor automates outbound actions such as emails, data downloads, or API commands to other applications. Actions can be triggered by time, chamber or program modes, alarms, or control parameters such as current temperature or humidity level.

Try the Web Controller at [ESPEC.com/demo](http://ESPEC.com/demo)



## Customer Support

### Worldwide Support

The complex control, refrigeration, humidity, and vibration systems on a test chamber need specialized care. ESPEC Customer Support helps make caring for these systems as painless as possible.

Centralized phone/email support and parts inventory at ESPEC North America's factories assures fast, helpful response.

Our network of factory-trained field service technicians, both direct staff and authorized contractors, assure flexibility to get your equipment up and running quickly.

Repairs are backed by a ninety-day warranty for your confidence. ESPEC also provides worldwide service support through our sister companies and sales/service agents.

With the addition of the Qualmark brand, ESPEC has expanded training of technicians to include HALT/HASS systems maintenance and repair.

ESPEC has factory-trained technicians across North America and around the globe.



ESPEC service support available in the following countries:

Australia	Luxembourg
Austria	Netherlands
Belgium	Malaysia
Brazil	Mexico
Canada	Philippines
China	Poland
Czech Republic	Russia
Finland	Singapore
France	South Africa
Germany	South Korea
Hong Kong	Spain
Hungary	Switzerland
India	Taiwan
Indonesia	Thailand
Ireland	Turkey
Japan	United Kingdom
	Vietnam





## Warranty Support

All ESPEC products include a one year parts and labor warranty throughout the continental USA. The Qualmark HALT/HASS product line has a two year worldwide warranty.

Our warranty covers potentially costly items that others may not, including: windows, refrigerant, and express shipment. No need to secure a PO for uncovered items in time-critical repair situations.

### Easy diagnosis:

Our ESPEC brand controllers are integrated into the complete operation of the chamber. Failures or alarms are much easier to diagnosis and repair with on-screen diagnostic information. ESPEC support staff is available via phone or internet to help with questions or repair diagnosis.

### Customer Support Services

ESPEC Customer Support services include:

- Installation
- Training
- Calibration
- Preventative maintenance
- Replacement parts
- Assistance via phone or internet
- On-site diagnosis and repair

## Chamber Care Program

The ESPEC Chamber Care program is an affordable, comprehensive subscription service aimed at keeping your test chambers in top condition and protect you from unexpected expenses.

We have built a program that encourages chamber maintenance, while keeping costs lower and more predictable. Chamber Care is an extended warranty plan, while also ensuring reliability and uptime by including regular preventative maintenance and calibration.



# World's largest manufacturer of test chambers

ESPEC NORTH AMERICA is part of the world-wide ESPEC Group, the largest organization dedicated to the manufacture of environmental test systems. Our high volume of sales and established reputation allow us to concentrate on quality construction and innovative designs.

In addition to North America, the ESPEC Group manufactures test chambers in Japan, Korea, and China, as well as sales and service support around the world.



Fukuchiyama Plant



Utsunomiya Technocomplex



ESPEC Environmental Equipment

## Global Operations:

- ESPEC CORP., Japan
  - World Headquarters, Sales, Manufacturing, Support
- ESPEC NORTH AMERICA, INC.
  - Sales, Manufacturing, Support
- ESPEC ENVIRONMENTAL EQUIPMENT SHANGHAI CO. LTD.
  - China Sales, Manufacturing, Support
- ESPEC ENGINEERING THAILAND CO. LTD.
  - Sales and Support
  - Asia-Pacific, India
- ESPEC EUROPE GmbH
  - Sales and Support
  - Europe, Middle East, Russia
- SHANGHAI ESPEC ENVIRONMENTAL EQUIPMENT CORP.
  - China Manufacturing
- ESPEC KOREA CORP.
  - Manufacturing
- World-wide dealer and service network





World Headquarters

## **ESPEC NORTH AMERICA, INC.**

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