Quality is more than a word

ESPEC

Temperature and Humidity Chambers

Platinous H-Series

W5 ENGINEERING

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Made in America 25 Years

ESPEC NORTH AMERICA, INC.

The best test chambers ...

It's not just what we think, it is what our customers say.

As ESPEC North America's flagship product line for twenty five years, Platinous chambers have continually impressed test engineers with long-term reliability and user-friendliness.

Available in 32, 14, and 8 cubic foot interior volumes

Features

ESPEC Platinous series have advanced features for quality and reliability

If you have ever used an environmental chamber before, you'll be quick to appreciate the unique design and friendly features of ESPEC Platinous chambers. First time users will enjoy the ease of use, low maintenance requirements, and high reliability of these chambers.

You can select from a variety of sizes, ranges, and options to meet your specific testing requirements.

In addition to being much more functional, Platinous chambers have a sleek, contemporary appearance that adds a professional touch to your testing operation.

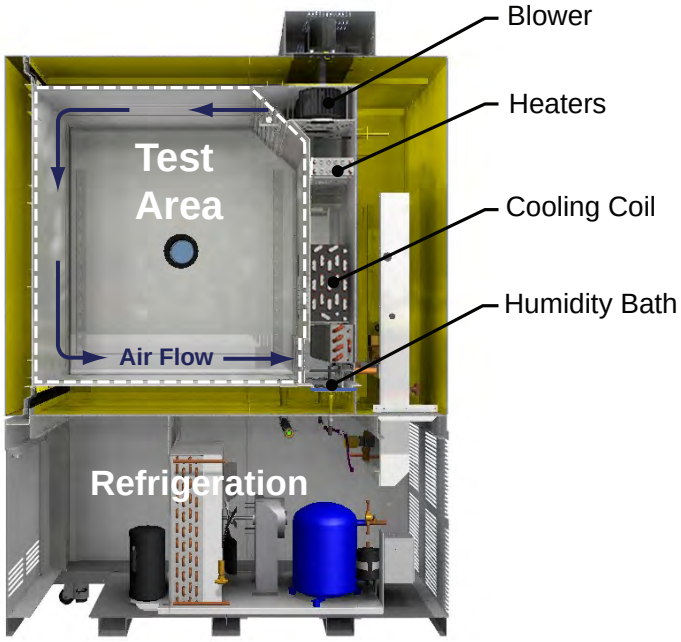
Innovative operation and control

Invisible to the end-user, the Platinous H-series refrigeration has been improved with unique 'forward looking' algorithms and electronic expansion valves for faster ramping, better stabilization, and energy savings.

ESPEC makes operating an environmental test chamber easier than ever with the new P-300 controller. An updated 'tabbed' user interface allows faster access to any screen. Standard USB and optional Ethernet interfaces make programming and data acquisition much simpler.

Standard Features

- Stainless steel exterior and interior
- Energy-efficient refrigeration with exclusive electronic expansion valve system
- Specialized humidity generation and control
- Hinged service panels for easy access
- Unique thermal break construction for extreme testing
- 4" cable port, one shelf & casters included
- New USB port for uploading and downloading programs and test data
- ETL-listed electrical panel conforming to UL 508A



Cutaway image shows detail of chamber construction, including how the recirculating airflow is conditioned for optimum performance.

A humidity bath heats water right in the chamber for faster response, and is easier to maintain than traditional steam generators.

Rounded interior corners and black resin thermal breaks around the door and doorframe are unique features found only on ESPEC chambers.

P-300 Controller

Get improved performance, energy savings, plus USB or Ethernet access

The exclusive ESPEC P-300 programmer/controller brings energy savings, user-friendly operation, and expanded data access to the Platinous chambers. Tabs on the updated user interface allow faster access to any screen. Standard USB and optional Ethernet interfaces make programming and data acquisition much simpler. In addition, improved algorithms make operation more energy efficient, as well as faster and smoother.

The P-300 is built on the success of 25 years of in-house hardware design and thousands of installed units around the world. The system is still built on a dedicated PLC controller for robustness and long-term reliability.

Expanded capabilities

- Store up to forty programs, as well as three constant-mode configurations.
- Multilingual display in English, Japanese, Chinese, or Korean.
- Alarm diagnostics and history, plus a 'back trace' feature for troubleshooting.
- Three programmable timers allow the user to set reminders for maintenance or other actions.
- Energy savings by using only one compressor when testing above -10°C (for cascade refrigeration models).

Standard USB port for upload/download of programs and test data

- Testing programs can uploaded or downloaded from the P-300 via USB thumb drive.
- Create, edit, and store programs on a PC using the included Pattern Manager Lite software.
- Accurate, repeatable testing by uploading the same program to multiple chambers.
- Create your own back-up archive of programs, and get additional profiles from ESPEC's library.
- Retrieve and download test operation data via USB thumb drive. Data timeframe is selectable.
- Pattern Manager Lite software is included for editing programs, as well as viewing test data and exporting to Excel.

Easy to understand screens allow access to chamber and test configuration settings. The P-300 now can save three different constant setups, as well as 40 test programs.

New: Upload and download programs via USB thumb drive.

P-300 Controller

Learn more about ESPEC's Web Controller option for Ethernet access at www.espec.com/wc

Standard P-300 Programmer/Controller Specification	
Display	Color touch-screen, 6.5 inch diagonal, 640x480 resolution Multilingual display in English, Japanese, Chinese, or Korean
Communications	Standard: USB external memory port Optional: RS-232, RS-485, GP-IB, Ethernet
Operating Modes	STOP: chamber off, programmer on PROGRAM: RUN runs selected test profile CONSTANT: runs at set value continually
Program Capacity	40 programs, 99 steps per program
Control Method	PID (Proportional. Integral, Derivative) plus WRTC(Window Reference Trajectory Control)
Programming Capabilities	• Create or copy programs • Upload and download programs via USB • Copy, edit, insert, and delete steps • Two nested loops repeat up to 999 times • Selectable end-of-test modes • Create pause steps within programs • Soak control delays timer until setpoint is reached
Additional Functions	• Alarm report details last 1000 alarms • Time signal relay control (with naming capability) • High/low limit alarm functions • Audible alarm with on-screen help • Selectable restart modes after power failure • Automatic start and stop functions • Keylock protection and configuration lock-out • Service guide and help screens • Three settable reminder alarms for PM • Integrated running time meter • RoHS directive lead-free compliant

Remote data and programming

Beyond the standard USB access, the P-300 can be configured with optional interfaces for remote access to suit your lab operation.

Ethernet/LAN remote operation is possible via ESPEC's Web Controller. The straight-forward web-browser interface allows remote monitoring, programming and data logging via your local network. Email notice of alarms is also possible.

The Web Controller allows direct access to P-300 command protocol, bypassing the web interface. Custom programming and integration with other test equipment are now possible via Ethernet.

RS-232 or RS-485 serial interfaces allow full access to the P-300 via a command protocol.

GP-IB/IEEE-488 interface is suitable for use with LabView programs, allowing integration with other equipment.

Advanced operation, energy savings

The P-300 uses advanced cooling control via an electronic expansion valve that adjusts proportionally based on demand, saving energy and improving temperature stability.

Sophisticated future-looking algorithm (WRTC) makes temperature ramping faster and smoother. It also improves energy efficiency and makes tests more repeatable.

These high-end features are unique to ESPEC, which, along with additional improvements in refrigeration and heater operation, make the newest generation of ESPEC Platinous chambers the most energy efficient ever.

Product temperature control

Optional product temperature control is available on the P-300 for improved performance. It drives air temperature beyond the desired final setpoint during ramping, speeding recovery of the product temperature. A separate thermocouple is included for placement on your sample.

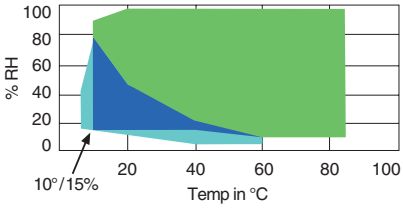
Specification

EPU and EPL Models: Low Temperature to -35°C (and Humidity)

Temp-only	EPU-2H	EPU-3H	EPU-4H
Temp/Humidity	EPL-2H	EPL-3H	EPL-4H
Workspace volume:	225 L (8 cu. ft.)	408 L (14 cu. ft.)	900 L (32 cu. ft.)
Performance			
Temperature Range:	-35°C to 180°C (-31°F to 356°F)		
Temperature Fluctuation:	±0.3°C (up to 100°C)		±0.5°C (up to 100°C)
Temperature Gradient:	±0.5°C (up to 100°C)		±1.0°C (up to 100°C)
Heating Rate†:	5.5°C/min.	3.25°C/min.	5°C/min.
Cooling Rate†:	5°C/min.	3°C/min.	1.4°C/min.
Humidity Range:	10 to 98% RH (see chart at right, EPL models)		
Humidity Fluctuation:	±2.5%		±3%
Humidity Gradient:	±3%		±5%
Airflow	400 CFM		800 CFM
Dimensions			
Workspace dimensions (WxDxH):	50 x 60 x 75 cm (19.7" x 23.6" x 29.5")	60 x 80 x 85 cm (23.6" x 31.5" x 33.5")	100 x 90 x 100 cm (39.4" x 35.5" x 39.4")
Exterior dimensions (WxDxH):	95 x 122 x 193 cm (37" x 48" x 76")	104 x 143 x 204 cm (41" x 56" x 80")	146 x 152 x 219 cm (57" x 60" x 86")
Site Requirements			
Electrical Supply:	208V 3Ø 60Hz or 230V 3Ø 60Hz		
Breaker: (EPU/EPL)	30/40 Amps	30/40 Amps	40/60 Amps
Condensate Drain:	1/2" hose connection (gravity drain)		

†Rates are between -20 and 85°C with an empty chamber in a 23°C ambient room and 60 Hz power.

Humidity Range for EPL & EPX Models



Green = standard range
Blue = optional low humidity range
Aqua = optional ultra-low range

EPZ and EPX Models: Ultra-Low Temperature to -70°C (and Humidity)

Temp-only	EPZ-2H	EPZ-3H	EPZ-4H
Temp/Humidity	EPX-2H	EPX-3H	EPX-4H
Workspace volume:	225 L (8 cu. ft.)	408 L (14 cu. ft.)	900 L (32 cu. ft.)
Performance			
Temperature Range:	-70°C to 180°C (-94°F to 356°F)		
Temperature Fluctuation:	±0.3°C (up to 100°C)		±0.5°C (up to 100°C)
Temperature Gradient:	±0.5°C (up to 100°C)		±1.0°C (up to 100°C)
Heating Rate†:	6°C/m.	5°C/m.	6°C/m.
Cooling Rate†:	4°C/m.	2.5°C/m.	1.2°C/m.
Humidity Range:	10 to 98% RH (see chart at right, EPX models)		
Humidity Fluctuation:	±2.5%		±3%
Humidity Gradient:	±3%		±5%
Airflow	400 CFM		800 CFM
Dimensions			
Workspace dimensions (WxDxH):	50 x 60 x 75 cm (19.7" x 23.6" x 29.5")	60 x 80 x 85 cm (23.6" x 31.5" x 33.5")	100 x 90 x 100 cm (39.4" x 35.5" x 39.4")
Exterior dimensions (WxDxH):	95 x 122 x 193 cm (37" x 48" x 76")	104 x 143 x 204 cm (41" x 56" x 80")	146 x 152 x 219 cm (57" x 60" x 86")
Site Requirements			
Electrical Supply:	208V 3Ø 60Hz or 230V 3Ø 60Hz		
Breaker: (EPZ/EPX)	40/40 Amps	40/40 Amps	50/60 Amps
Condensate Drain:	1/2" hose connection (gravity drain)		

†Rates are between -40 and 125°C with an empty chamber in a 23°C ambient room and 60 Hz power.

Standard Accesories

- One wire shelf with rails
- Two flexible plugs for standard port, plus cover
- Specimen power safety interlock relay
- External alarm output
- Two time signal relays
- Lock-out breaker
- Maintenance kit
- Wicks & cleaning brush for humidity models
- Replacement light bulb and fuses
- Manuals and software on CD-ROM

Options

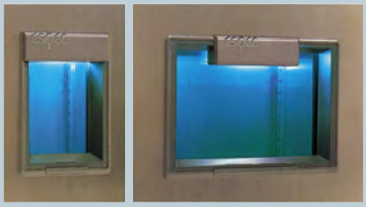
Cabinet Options

- Additional adjustable shelves, capacity 35 lbs.
- Heavy duty shelves, up to two, 100 lbs. each

- Additional cable ports with cover and flexible silicone plug

2", 4", or 6" diameters available

- Viewing window



8 & 14 cu. ft.: 7" x 10" window
32 cu. ft.: 17" x 9.5" window

- Inner glass door

Includes hand ports to manipulate samples (14 cu. ft. size shown)

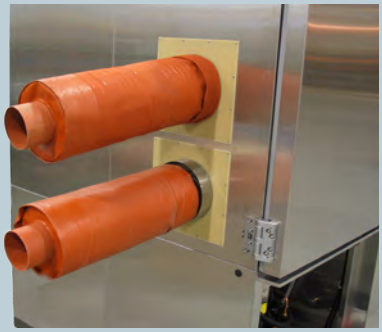
Operational Options

- Water cooling (requires 3 GPM water supply at 75°F or less)
- Water purifying filter for humidity models
- 460/480V power supply instead of standard voltage
- Liquid nitrogen (LN_2) cooling boost for faster cool-downs.
- Dry air purge (dries compressed air, reducing the humidity levels)
- Refrigeration gauges
- Spare parts kit
- Low and ultra-low humidity control systems (see chart on previous page for range)
- Emergency-stop button

- Humidity water supply tank

System has a recirculation mode and holds 5 gallons

- Remote environmentally conditioned air (ECA)



14 & 32 cu. ft. models can be modified to supply conditioned air to a remote chamber

Instrumentation Options

- RS-232 or RS-485 serial interface
- IEEE-488 (GP-IB) interface
- Product temperature control
- Solid state humidity sensor
- Additional six time signal relays

- Recorders

  - Chino paperless recorders with Ethernet
  - Circular or strip chart recorders

- Web Controller for Ethernet/ web access

Learn more about ESPEC's Web Controller option in our detailed brochure, or try a live demo. Go to: www.espec.com/wc

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DANGER

Not for use with specimens which are explosive or flammable, or which contain such substances. To do so could be hazardous, as this may lead to fire or an explosion.

PLATINOUS

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