THERMOTRON®

SE-3000 TEST CHAMBERS

Engineered to provide the most reliable test results in the marketplace, the SE Series Chambers extend our reputation for exceptional reliability and long life.

■ **High Performance Product Testing**

Thermotron's SE-3000 Environmental Test Chambers incorporate a wide range of application-specific compressor selections ranging from 6 to 20 Hp and are capable of providing very rapid product temperature change rates. Faster product temperature transitions reduce test cycle times and boost lab productivity. Providing conditioning in the center of the workspace where it is needed most, Thermotron's optimized airflow system improves gradient control providing tighter uniformity, greater accuracy, and better performance on products being tested.

■ **8800 Programmer Controller**

With a brilliant 12" color touch screen display, the powerful 8800 Programmer Controller is *Thermotrak II*™ ready, making operations and data collection easier and more reliable than ever before. Our controller has a Windows look and feel to support familiar and robust operations. The 8800 is ethernet-compatible and web-enabled with an Internet-ready front end for virtual anytime/anywhere access. Data collection is now even better with Thermotron's 8800 Data Acquisition (DAQ) system. This system greatly increases the 8800's capabilities for product monitoring, control and data collection without the need for additional software or test equipment.The 8800 can be easily retrofitted on-site to existing chambers.

■ **Patented, Innovative Universal Port**

The versatile universal port in the sidewall of our popular SE-Series Chambers interfaces with slide-up modules expanding your chamber's ability to perform thermal shock tests, HALT and HASS, product test system integration and remote conditioning applications. The universal port can be added to new or existing SE-Series Chambers, increasing the flexibility and productivity of your investment.

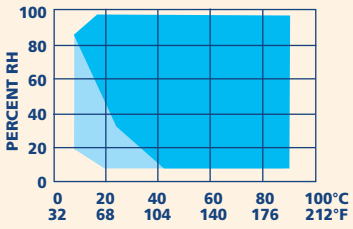
Standard Features for all Models

- USB Port with Flash Drive Replaces Floppy Disk.
- 40 Gigabyte Hard Drive.
- Paperless Recorder Generates Tamper-Proof Data.
- Pre-Programmed Test Profiles (IEC, MIL STD, etc.).
- Electronic Refrigeration Gauges and Pressure Switches.
- Product Temperature Control Software.
- System Monitor Provides Continual Diagnostics.
- Clean Top and Sides, Nothing Mounted Externally.
- Top Exhaust for Cooling Air.
- Right Hand Side Port for Convenient Access to Test Items.
- Lift-Off Panels For Easy Access.
- Extensive Direct Factory-Trained Service Force.
- Electronic Humidity Sensor Requires Minimal Maintenance and Increases Accuracy (Humidity Models Only).
- Main Power Disconnect Switch.
- Therm-Alarm® Over/Under Temperature Protection Instrument.
- Casters for Mobility Into and Throughout Lab.
- Adjustable Stainless Steel Shelf Increases Product Loading Capacity.

Optional Features

- Modular Humidity System.
- Low Humidity System.
- Humidity Water Recirculation System (Humidity Models Only).
- Humidity Water Purification System (Humidity Models Only).
- Remote Conditioning Blower.
- Universal Port.
- Product Loading Carts.
- Dry Air Purge System.
- Liquid Nitrogen Boost and Extra Heat.
- Air or Water-Cooled Condenser.
- Additional Access Ports.

SE-3000 HUMIDITY RANGE



STANDARD HUMIDITY RANGE

-10°C (14°F) DEWPOINT

FULL RANGE HUMIDITY SPECIFICATIONS*

Humidity Range[3]	10% to 98% RH
Dry Bulb Temperature Range	7°C to 88°C (45°F to 190°F)
Dewpoint Temperature Range	7°C to 87°C (45°F to 188°F)
Extended Dewpoint Condition	-10°C (14°F)
Humidity Control[4]	±2.5% RH
Humidity Uniformity[5]	±1.5% RH

* *Except 15hp Cascade Chamber models*

A full range, modular humidity system can be added to SE-Series Test Chambers either at the time of purchase or as a field retrofit. Performance specifications for the humidity module are characterized by a wide range, precise uniformity and tight control.

1 Standard deviation from mean, measured at -25°C (-13°F) or at +100°C (+212°F).

2 Noise Level: A-weighted sound pressure level measured at a distance of 1.0 meter (39.4 inches) from the surface of the equipment at a height of 1.6 meters (63 inches) from the floor in free-field conditions, using a calibrated instrument.

3 Limited by a +7°C (+45°F) minimum dew point temperature and a maximum dry bulb temperature of +88°C (+190°F).

4 At a dry bulb temperature above +20°C (+68°F).

5 Based upon temperature uniformity specifications.

Relative humidity indication at or near the physical limits may be affected by sensor accuracy and control tolerance. An optional humidity package can be added for applications requiring humidity levels lower than those covered by the full range humidity system.

SE-3000 SPECIFICATIONS — CASCADE CHAMBERS

Model	SE-3000-6-6	SE-3000-10-10	SE-3000-15-15	SE-3000-20-20
Interior Dimensions — W x D x H Inches / Centimeters	All Models **48** x **72** x **52** / **122** x **183** x **132**			
Volume — Cubic Ft / Liters	All Models **104** / **3,000**			
Exterior Dimensions — W x D x H Inches / Centimeters	All Models **56** x **116** x **95** / **142** x **295** x **241**			
Temperature Range	All Models **180°C to -70°C (356°F to -94°F)**			
Temperature Control	All Models **±0.3°C (±0.5°F)**			
Temperature Uniformity[1]	All Models **±0.7°C (±1.3°F)**			
Airflow	All Models **2,000 cfm**			
Window Size — W x H Inches / Centimeters	All Models **15** x **19** / **38** x **48**			
Compressor Size — Hp	Two **6**	Two **10**	Two **15**	Two **20**
Noise Level[2] — dBA Heating / Cooling	**60 / 76**	**60 / 76**	**60 / 76**	
Approximate Shipping Weight — Lbs / Kg	**2,395 / 1,089**	**2,655 / 1,207**	**2,730 / 1,241**	**3,500 / 1588**
Cooling Performance Capacity — Minutes Air Temperature (Empty Chamber)				
180°C to -65°C (356°F to -85°F)	**85**	**50**	**38**	**28**
71°C to -65°C (160°F to -85°F)	**54**	**30**	**25**	**15**
85°C to -40°C (185°F to -40°F)	**42**	**21**	**16**	**10**
Cooling Product Temperature — Minutes 50Lb / 23Kg Aluminum				
71°C to -65°C (160°F to -85°F)	**70**	**42**	**35**	**32**
85°C to -40°C (185°F to -40°F)	**61**	**35**	**31**	**28**
Heating Performance Capacity — Minutes Air Temperature (Empty Chamber)				
-65°C to 180°C (-85°F to 356°F)	**64**	**30**	**17**	**19**
-65°C to 71°C (-85°F to 160°F)	**31**	**14**	**9**	**9**
-40°C to 85°C (-40°F to 185°F)	**29**	**12**	**8**	**8**
Heating Product Temperature — Minutes 50Lb / 23Kg Aluminum				
-65°C to 71°C (-85°F to 160°F)	**58**	**34**	**31**	**31**
-40°C to 85°C (-40°F to 185°F)	**54**	**32**	**30**	**30**
Live Load Capacity — Watts, Temp. Mode				
0°C (32°F)	**4500**	**6000**	**6000**	**6000**
-54°C (-65.2°F)	**2500**	**4000**	**4000**	**4000**
Electrical Service — No Humidity / Humidity				
208 / 3 / 60 (Full Load Amps)	**71 / 71**	**92 / 92**	**125 / 125**	**180 / 180**
230 / 3 / 60 (Full Load Amps)	**65 / 65**	**83 / 83**	**119 / 119**	**171 / 171**
460 / 3 / 60 (Full Load Amps)	**32 / 32**	**42 / 42**	**76 / 76**	**86 / 86**
400 / 3 / 50 (Running Load Amps)	**33 / 33**		**61 / 61**	**90 / 90**
Inlet Water — Gal / Liters per Minute				
29°C / 85°F	Air-Cooled	**16 / 60**	**24 / 91**	**40 / 151**
24°C / 75°F	Air-Cooled	**9 / 24**	**14 / 53**	**22 / 83**
18°C / 65°F	Air-Cooled	**7.5 / 28**	**11 / 42**	**18 / 68**
13°C / 55°F	Air-Cooled	**6 / 23**	**8 / 31**	**14 / 53**

Performance is based upon laboratory ambient conditions of 23.9°C (75°F), and may vary slightly at other temperature and humidity levels. Chambers are designed for use under normal laboratory operating conditions. For other applications, please consult Thermotron.

It is Thermotron's understanding that the unit will be used in a non-hazardous environment. The unit is not designed for use with or for the purpose of processing hazardous materials. If hazardous materials are involved, please consult the factory for an alternative quote for a properly designed unit.

The addition of accessories may impact performance.

Specifications subject to change without notice.

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