

S/SM-SERIES ENVIRONMENTAL TEST CHAMBERS



Thermotron's S-Series Environmental Test Chambers deliver the quality and accuracy you expect from a premier worldwide environmental test equipment manufacturer. Featuring the 8200+ Controller, wide temperature and humidity ranges, and multiple chamber sizes and performance configurations, Thermotron's S-Series Environmental Test Chamber is the ideal choice for quality and customizable simulated environmental testing.

S-Series Environmental Test Chambers are designed in multiple sizes, ranging from 4–32 cubic feet, and performance configurations. Both temperature only (S models) and temperature humidity (SM models) chambers utilize hermetically sealed compressors that provide moderate temperature change rates while consuming less power than comparable test chambers. Advanced features, such as an Electronic Humidity Sensor and Product Temperature Control, add value, increase efficiency, and reduce test chamber maintenance.

FEATURES



Additional Chamber Options*

- Additional Access Ports
- Additional Shelving
- Auxiliary Event Relay Board
- Cable Notch
- CE and CSA Compliant
- Chart Recorders
- Custom Shape, Size, and Placement of Access Ports
- Dry Air or Nitrogen Purge
- Extra Heat
- Glove Ports
- GPIB or RS-232/485 Computer Interface
- Humidity Water Purification and Recirculation System
- Inner Glass Doors
- LN2 or CO2 Boost
- Low Humidity Package
- Minimal Spark
- Refrigeration Gauges
- Single-Stage and Larger Compressor Systems
- ThermAlarm™
- ThermoTrak II™
- Water-Cooling

8200+ Controller

S-Series Environmental Test Chambers feature the robust and intuitive 8200+ Controller. The controller's software and hardware are designed by Thermotron engineers, specifically for programming and controlling environmental chambers. Operation and data collection are easy with a 7-inch color touchscreen display and familiar Windows® look and feel. Test data can be exported securely, quickly, and easily with a USB port. Built-in ethernet capabilities give the 8200+ Controller network-wide accessibility.



Worldwide Service and Support

Thermotron's comprehensive service department supports your equipment purchase for years after the sale. Our worldwide service professionals are available and ready to help over the phone or in person.

Technical advisors are available to answer questions and offer advice regarding start-up, service, operation, troubleshooting, and repair of your equipment.

Factory-trained Field Service Engineers are located across the United States and throughout the world to assist with equipment start-up, after-delivery service, preventive maintenance, and calibration contracts. From phone support to overnight parts delivery, Thermotron can support you for the life of your equipment.

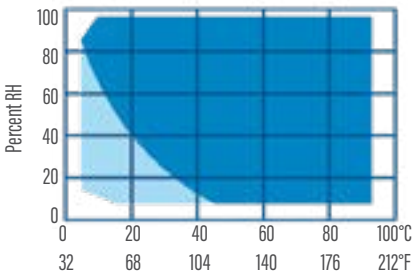
**Specifications subject to change. The addition of accessories may affect performance. Certain options may increase move-in dimensions.*

GENERAL SPECIFICATION

S/SM Cascade Systems

Temperature Range	Temperature Only (S Models)					-70°C to 180°C (-94°F to 356°F)				
	Temperature and Humidity* (SM Models)					-68°C to 180°C (-90°F to 356°F)				
Model	S-4	S-8	SM-8	S-16	SM-16	S-27	SM-27	S-32	SM-32	
Compressor Sizes	1-1			2-2			2-3		2-2	2-3
Workspace Dimensions — W x D x H	20 x 20 x 20		24 x 24 x 24		30 x 30 x 30		36 x 36 x 36		38 x 38 x 38	
Inches	51 x 51 x 51		61 x 61 x 61		76 x 76 x 76		91 x 91 x 91		97 x 97 x 97	
Centimeters	51 x 51 x 51		61 x 61 x 61		76 x 76 x 76		91 x 91 x 91		97 x 97 x 97	
Exterior Dimensions — W x D x H	31 x 42 x 68		35 x 49 x 73		45 x 59 x 81		51 x 65 x 88		53 x 68 x 90	
Inches	79 x 107 x 173		89 x 124 x 185		114 x 150 x 206		130 x 165 x 224		135 x 173 x 229	
Centimeters	79 x 107 x 173		89 x 124 x 185		114 x 150 x 206		130 x 165 x 224		135 x 173 x 229	
Volume	4		8		16		27		32	
Cubic Feet	4		8		16		27		32	
Liters	113		227		453		764		906	
Temperature Control Tolerance	±0.3°C (±0.5°F)									
Temperature Uniformity**	±0.7°C (±1.3°F)									
Shipping Weight (Approx.)	700		800		875		1,320		1,395	
Pounds	700		800		875		1,320		1,395	
Kilograms	318		363		397		599		633	
Cooling Change Rates — Minutes	50		66		72		68		80	
180°C to -65°C (356°F to -85°F)	50		66		72		68		80	
71°C to -65°C (160°F to -85°F)	30		44		54		50		54	
85°C to -40°C (185°F to -40°F)	14		26		32		28		31	
Heating Change Rates — Minutes	27		42		43		52		54	
-65°C to 180°C (-85°F to 356°F)	27		42		43		52		54	
-65°C to 71°C (-85°F to 160°F)	11		16		17		22		22	
-40°C to 85°C (-40°F to 185°F)	10		15		16		20		21	
Electrical Service — Full Load Amps	30		29		29		50		50	
208/1/60	30		29		29		50		50	
208/3/60	22		22		22		35		35	
230/1/60	30		30		30		49		49	
230/3/60	23		23		23		35		35	
460/3/60	—		—		—		15		17	
220/1/50	25		24		27		—		—	
400/3/50	12		11		11		17		21	
Live Load Capacity — Watts	600		550		1,000		1,500		1,000	
-18°C (0°F)	600		550		1,000		1,500		1,000	
-40°C (-40°F)	400		350		700		1,050		700	
-54°C (-65°F)	300		200		400		600		400	
Noise Level ¹ — dBA	60		68		70		60		70	
Heating	60		68		70		60		70	
Cooling	60		68		70		60		70	

Humidity Specifications*



Humidity Range ¹	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)
Humidity Control Tolerance ²	±2.5% RH

¹ Limited by a 7°C (45°F) minimum dewpoint temperature and a maximum dry bulb temperature of 88°C (190°F).

² At a dry bulb temperature above 20°C (68°F).

*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.

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

¹Noise 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.

Performance is based on 60Hz and 23.9°C (75°F) ambient air, and may vary slightly at other ambient temperatures. Chambers are designed for use under normal laboratory conditions. For other applications, please consult Thermotron.

Specifications subject to change without notice.

GENERAL SPECIFICATION

S/SM Single-Stage Systems

Temperature Range	Temperature Only (S Models)		-40°C to 180°C (-40°F to 356°F)	
	Temperature and Humidity* (SM Models)		-40°C to 180°C (-40°F to 356°F)	
Model	S-4S	SM-4S	S-8S	SM-8S
Compressor Sizes: Hp Single Stage	2-0			
Workspace Dimensions — W x D x H				
Inches	20 x 20 x 20		24 x 24 x 24	
Centimeters	51 x 51 x 51		61 x 61 x 61	
Exterior Dimensions — W x D x H				
Inches	31 x 42 x 68		35 x 49 x 73	
Centimeters	79 x 107 x 173		89 x 124 x 185	
Volume				
Cubic Feet	4		8	
Liters	113		227	
Temperature Control Tolerance	±0.3°C (±0.5°F)			
Temperature Uniformity**	±0.7°C (±1.3°F)			
Shipping Weight (Approx.)				
Pounds	700	775	800	875
Kilograms	318	350	363	397
Cooling Change Rates — °C / Minutes				
85°C to -20°C (185°F to -4°F)	14	14	20	20
180°C to -35°C (356°F to -31°F)	40	40	50	50
Heating Change Rates — °C / Minutes				
-20°C to 85°C (-4°F to 185°F)	8	8	13	13
-35°C to 180°C (-31°F to 356°F)	22	22	38	38
Electrical Service — Full Load Amps				
208/1/60	26	33	26	33
208/3/60	23	23	23	23
230/1/60	25	33	25	33
230/3/60	23	23	23	23
460/3/60	12	12	12	12
400/3/50	15	15	15	15
Noise Level† — dBA				
Heating			60	
Cooling			68	

*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.

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

†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.

Performance is based on 60Hz and 23.9°C (75°F) ambient air, and may vary slightly at other ambient temperatures. Chambers are designed for use under normal laboratory conditions. For other applications, please consult Thermotron.

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For more than 55 years, Thermotron has provided quality environmental test equipment. We've worked to establish a trusted reputation among our peers, and when people hear the name *Thermotron*, they have confidence in the testing of their own product. We've been building our name since 1962; now it's your turn.

QUALITY. TRUST. CONFIDENCE.

— BUILD YOURS WITH A —

THERMOTRON.

T H E R M O T R O N . C O M

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