

THERMOTRON®

SE-300 SERIES 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-300 Series Environmental Test Chambers incorporate a wide range of application-specific compressor selections ranging from 2 to 6 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™* and *Direct Link* 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. Multi-level, password-based security protects sensitive data. The 8800 can be easily retrofitted on-site to existing chambers.



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.
- 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.
- Humidity Water Recirculation System (Humidity Models Only).
- Humidity Water Purification System (Humidity Models Only).

Optional Features

- Modular Humidity System.
- Low Humidity System.
- Remote Conditioning Blower.
- Product Loading Carts.
- Dry Air Purge System.
- Liquid Nitrogen Boost and Extra Heat.
- Air or Water-Cooled Condenser.
- 2 Ports for Convenient Access to Test Items, One Each Side.
- Adjustable Stainless Steel Shelf Increases Product Loading Capacity.

All features subject to change without notice. CE compliant models available.

SE-300 SERIES SPECIFICATIONS SINGLE STAGE CHAMBERS

Interior Dimensions — W x D x H		
Inches / Centimeters	All Models 24 x 26.25 x 28 / 61 x 67 x 71	
Volume — Cubic Ft / Liters		
	All Models 10.2 / 289	
Exterior Dimensions — W x D x H		
Inches / Centimeters	All Models 35 x 70 x 78 / 89 x 178 x 198	
Temperature Range		
	All Models 180°C to -40°C (356°F to -40°F)	
Temperature Control		
	All Models ±0.3°C (±0.5°F)	
Temperature Uniformity ¹		
	All Models ±0.5°C (±0.9°F)	
Airflow		
	All Models 500 cfm	
Window Size — W x H		
Inches / Centimeters	All Models 15 x 19 / 38 x 48	
Compressor Size — Hp		
	2.5	4
Noise Level ² — dBA		
Heating / Cooling	60 / 68	60 / 74
Approximate Shipping Weight — Lbs / Kg		
	1,260 / 571	1,300 / 590
Cooling Performance Capacity — Minutes		
Air Temperature (Empty Chamber)		
180°C to -35°C (356°F to -31°F)	54	42
71°C to -35°C (160°F to -31°F)	33	28
85°C to -20°C (185°F to -4°F)	22	17
Cooling Product Temperature — Minutes		
50Lb / 23Kg Aluminum		
71°C to -35°C (160°F to -31°F)	60	50
85°C to -20°C (185°F to -4°F)	46	40
Heating Performance Capacity — Minutes		
Air Temperature (Empty Chamber)		
-35°C to 180°C (-31°F to 356°F)	32	18
-35°C to 71°C (-31°F to 160°F)	13	7
-20°C to 85°C (-4°F to 185°F)	13	7
Heating Product Temperature — Minutes		
50Lb / 23Kg Aluminum		
-35°C to 71°C (-31°F to 160°F)	30	25
-20°C to 85°C (-4°F to 185°F)	30	25
Live Load Capacity — Watts, Temp. Mode		
0°C (32°F)	1250	1500
-20°C (-4°F)	500	750
Electrical Service — No Humidity / Humidity		
208 / 3 / 60 (Full Load Amps)	44 / 44	44 / 54
230 / 3 / 60 (Full Load Amps)	40 / 40	40 / 53
460 / 3 / 60 (Full Load Amps)	16 / 24	22 / 28
400 / 3 / 50 (Running Load Amps)	14 / 20	20 / 26
Inlet Water — Gal / Liters per Minute		
29°C / 85°F	Air-Cooled	Air-Cooled
24°C / 75°F	Air-Cooled	Air-Cooled
18°C / 65°F	Air-Cooled	Air-Cooled
13°C / 55°F	Air-Cooled	Air-Cooled
Model	SE-300-2	SE-300-4

SE-300 SERIES SPECIFICATIONS CASCADE CHAMBERS

Interior Dimensions — W x D x H			
Inches / Centimeters	All Models 24 x 26.25 x 28 / 61 x 67 x 71		
Volume — Cubic Ft / Liters			
	All Models 10.2 / 289		
Exterior Dimensions — W x D x H			
Inches / Centimeters	All Models 35 x 70 x 78 / 89 x 178 x 198		
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 ±0.5°C (±0.9°F)		
Airflow			
	All Models 500 cfm		
Window Size — W x H			
Inches / Centimeters	All Models 15 x 19 / 38 x 48		
Compressor Size — Hp			
	Two 2.5	Two 4	Two 6
Noise Level ² — dBA			
Heating / Cooling	60 / 68	60 / 76	60 / 76
Approximate Shipping Weight — Lbs / Kg			
	1,330 / 603	1,410 / 640	1,450 / 658
Cooling Performance Capacity — Minutes			
Air Temperature (Empty Chamber)			
180°C to -65°C (356°F to -85°F)	75	45	33
71°C to -65°C (160°F to -85°F)	48	26	21
85°C to -40°C (185°F to -40°F)	35	17	12.5
Cooling Product Temperature — Minutes			
50Lb / 23Kg Aluminum			
71°C to -65°C (160°F to -85°F)	90	52 (25 lb)	39 (25 lb)
85°C to -40°C (185°F to -40°F)	72	36 (25 lb)	28 (25 lb)
Heating Performance Capacity — Minutes			
Air Temperature (Empty Chamber)			
-65°C to 180°C (-85°F to 356°F)	36	22	22
-65°C to 71°C (-85°F to 160°F)	17	9	9
-40°C to 85°C (-40°F to 185°F)	16	8	8
Heating Product Temperature — Minutes			
50Lb / 23Kg Aluminum			
-65°C to 71°C (-85°F to 160°F)	40	33 (25 lb)	33 (25 lb)
-40°C to 85°C (-40°F to 185°F)	38	31 (25 lb)	31 (25 lb)
Live Load Capacity — Watts, Temp. Mode			
0°C (32°F)	1250	1500	1500
-54°C (-65.2°F)	750	1000	1000
Electrical Service — No Humidity / Humidity			
208 / 3 / 60 (Full Load Amps)	45 / 45	55 / 55	61 / 61
230 / 3 / 60 (Full Load Amps)	41 / 41	54 / 54	54 / 54
460 / 3 / 60 (Full Load Amps)	19 / 28	27 / 27	28 / 28
400 / 3 / 50 (Running Load Amps)	18 / 22	29 / 29	30 / 30
Inlet Water — Gal / Liters per Minute			
29°C / 85°F	Air-Cooled	Air-Cooled	12 / 46
24°C / 75°F	Air-Cooled	Air-Cooled	7 / 26
18°C / 65°F	Air-Cooled	Air-Cooled	5 / 20
13°C / 55°F	Air-Cooled	Air-Cooled	3.5 / 14
Model	SE-300-2-2	SE-300-4-4	SE-300-6-6



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

The addition of accessories may impact performance.

Specifications subject to change without notice.

THERMOTRON INDUSTRIES

291 Kollen Park Drive
Holland, Michigan, USA 49423
Mktg: (616) 393-4580
Main: (616) 392-1491
Fax: (616) 392-5643
E-mail: info@thermotron.com

THERMOTRON INDUSTRIES, U.K.

Newton House
Winch Road
Sittingbourne Research Centre
Sittingbourne, Kent
ME9 8EF England
Phone: 01795 436333
Fax: 01795 436777
Email: sales@thermotron.co.uk

Visit us on the Internet

www.thermotron.com

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
Humidity Control ⁴	±2.5% RH
Humidity Uniformity ⁵	±1.0% RH

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.

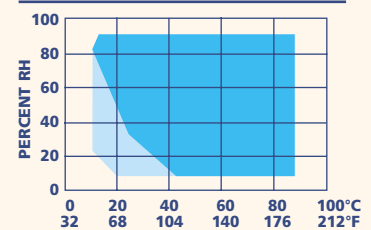
3 Limited by a +7°C (+45°F) minimum dew point temperature and a maximum dry bulb temperature of +88°C (+190°F).

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.

300 SERIES HUMIDITY RANGE



STANDARD HUMIDITY RANGE

-10°C (14°F) DEWPOINT