

# SL-2500 Environmental Test Chamber

## THERMOTRON®

### Increased Capacity for Large Test Requirements

Temperature and humidity testing plays a critical role in the development and production of highly reliable products. When throughput expectations are high, or the test article is large, a chamber with increased capacity is required. Thermotron's SL-Series chambers rise to meet the challenge. With increased internal dimensions each of these chambers is capable of handling product loads with dimensions in excess of 48". Selectable compressor sizes from 6 Hp to 25 Hp are available to tailor operating performance to meet individual client or industry specific needs.

### Temperature Testing With Added Flexibility

A chamber with this much capacity won't go to waste. Large compressors capable of delivering rapid product temperature change rates can be chosen for those applications requiring high performance. Smaller compressors are available for testing needs that focus on simulating individual temperature and humidity conditions. Each refrigeration system integrates a power saver function that optimizes utility and system demand based on predicted performance levels. Setpoint conditions in an empty chamber are typically maintained with an accuracy of +/- 0.1°C to +/- 0.3°C.

### Humidity - Reliable, Accurate, and Efficient

A wide humidity range is accurately controlled with an advanced and highly reliable humidity system. One of the breakthrough advantages of this system is its ability to control high humidity conditions with reduced demands on the heating and cooling circuits, resulting in lower operating costs, tighter control, and decreased maintenance demands. This highly evolved system represents thousands of hours of research, development, and testing in actual lab environments. Electronic humidity sensors provide superior long-term testing results and reduce the maintenance requirements inherent to dry bulb/wet bulb systems.

### ThermoTrak II with DirectLink

ThermoTrak II software is designed to simplify lab management and improve performance by saving time, increasing productivity, and cutting costs. It links multiple chamber controllers to a central personal computer and lets you run several tests on several chambers simultaneously. ThermoTrak II is now available with DirectLink, a remote systems monitoring package that delivers real-time, on-line insight into the operating conditions and behavior of your chambers, correlates and compares data, and identifies potential problem areas.



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## Top-of-Class Control System

At the heart of the 7800 programmer is the industry's most sophisticated control module. Developed through years of application-specific experience, the 7800 control module quickly and accurately executes all of the critical input and output functions that are vital to chamber temperature and humidity performance. The instrument incorporates a disk drive for data logging and convenient program storage. Product Temperature Control software is a resident feature that will maximize thermal stress on the product and reduce testing time. The graphical user interface is intuitive to operate. A large display presents all essential operating information in an easy to read format. The 7800 is a multi-lingual controller narrowing the communication barriers of the international community.

## Accountability and Dedication

Thermotron prides itself on providing benchmark-quality application, sales and service support. Our direct approach to handling business before and after the sale strengthens our dedicated commitment to solve problems and stand behind our equipment.

## Modular Humidity System Specifications

A full range, modular humidity system can be added to any of the SL-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, a precise uniformity, and tight control.

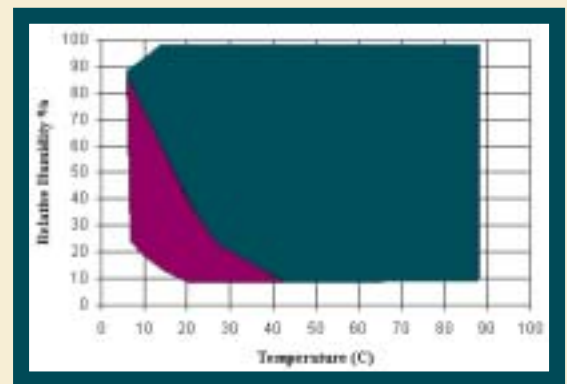
MODEL	SL-2500-6-6	SL-2500-15-15	SL-2500-25-25
Temperature Range	+180°C TO -70°C (+356°F TO -94°F)	+180°C TO -70°C (+356°F TO -94°F)	+180°C TO -70°C (+356°F TO -94°F)
Cooling Change Rate* +180°C to -65°C (+356°F to -85°F)	96 minutes	41 minutes	24 minutes
+71°C to -65°C (+160°F to -85°F)	57 minutes	24 minutes	14 minutes
+85°C to -40°C (+185°F to -40°F)	45 minutes	19 minutes	8.5 minutes
Heating Change Rate* -65°C to +180°C (-85°F to +356°F)	64 minutes	32 minutes	18 minutes
-65°C to +71°C (-85°F to +160°F)	32 minutes	16 minutes	7.5 minutes
-40°C to +85°C (-40°F to +185°F)	30 minutes	14 minutes	7 minutes
Temperature Control Tolerance	+/-0.3°C (+/-0.5°F)	+/-0.3°C (+/-0.5°F)	+/-0.3°C (+/-0.5°F)
Temperature Uniformity**	+/-0.5°C (+/-0.9°F)	+/-0.5°C (+/-0.9°F)	+/-0.5°C (+/-0.9°F)
Window Inches (cm)	27x30 (69x76)	27x30 (69x76)	27x30 (69x76)
Workspace Dimension	W x D X H	W x D X H	W x D X H
Inches	52x61x48	52x61x48	52x61x48
Cm	132x155x122	132x155x122	132x155x122
Move-in Dimension			
Inches	62x106x94	62x106x94	62x106x94
Cm	157x269x239	157x269x239	157x269x239
Electrical Service (full load amps)			
208/3/60	70	126	NA
230/3/60	63	121	NA
400/3/50	34	72	115
460/3/60	31	68	108
Cooling Water @ 24°C (75°F)	7GPM (26 l/min)	14GPM (53 l/min)	28GPM (106 l/min)

FULL RANGE HUMIDITY SPECIFICATIONS	
Humidity Range	10% RH 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 †	+/-2.5% RH
Humidity Uniformity ††	+/-1.0%RH

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

†† Humidity Uniformity: Standard Deviation from the mean, measured at either 85°C (185°F) @ 85%RH or 50°C (122°F) @ 20%RH.

An optional low humidity package can be added for applications requiring humidity levels lower than those covered by the full range humidity system.



Standard Humidity Range  
-10°C (14°F) Dewpoint

\* Change rates are for air temperature in an empty chamber.  
\*\* Temperature Uniformity: Standard deviation from mean, measured at -25°C (-13°F) or at +100°C (+212°F).

Performance is based upon operation at 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 conditions. For other applications, please consult Thermotron.

- Specifications subject to change.
- The addition of accessories may impact performance.
- Certain options may increase move-in dimensions. Contact Thermotron if dimensions are critical.
- Special order options are available, please check with Thermotron.