



WSS Steady State Walk In Rooms



TPSTM
Thermal Product Solutions

»Blue M »Gruenberg »Lindberg/MPH »Lunaire
»Redline Chambers »Tenney »Wisconsin Oven

www.tenney.com

Tenney Environmental is a brand of Thermal Product Solutions, LLC.

2821 Old Route 15 | New Columbia, PA 17856-9396 | USA | P: (570) 538-7200 | F: (570) 538-7380

Walk-in Stability Test Chamber

Lunaire offers walk-in environmental rooms in both standard and custom configurations to meet your process requirements.

These walk-in stability rooms can accommodate a variety of applications and provide multiple temperatures and humidity features. The conditioning system is designed to maintain customer-specific conditions over extended periods of time. The Lunaire environmental walk-in stability chambers are commonly used for steady-state and shelf-life testing, package testing, accelerated aging, drying burn-in, reliability testing, controlled temperature storage, incubation, medical equipment, and cold room applications as well as research and development, and ICH Q1A pharmaceutical testing, including clinical trials.



Benefits

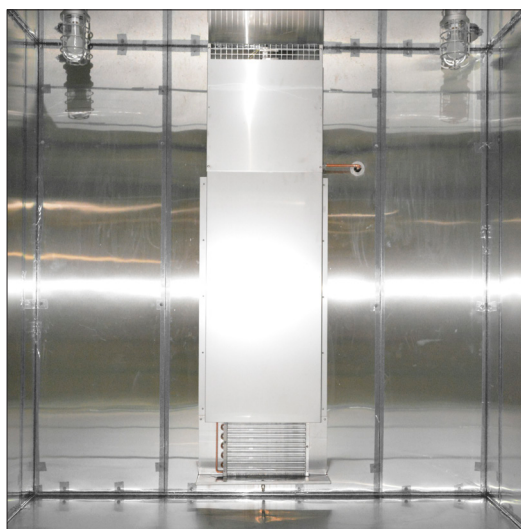
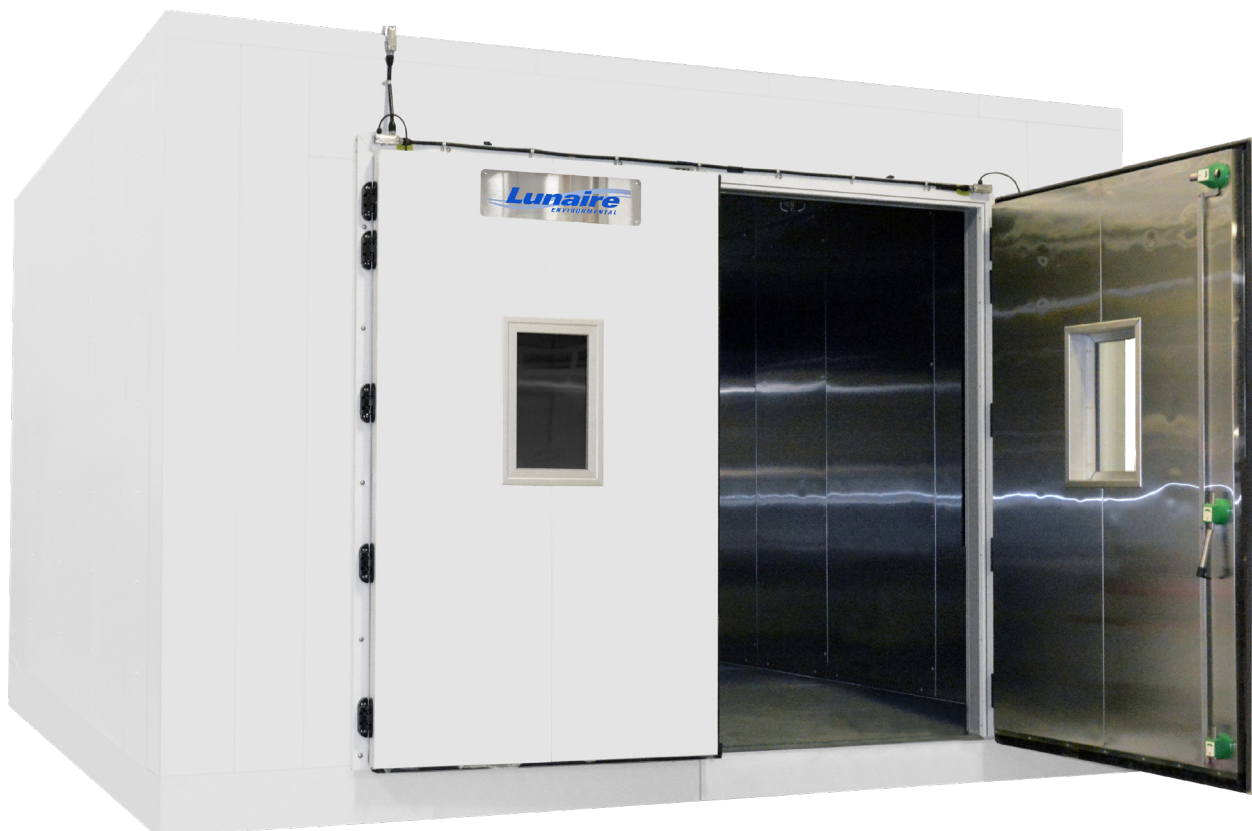
- Smart 1.2 Touchscreen Controller with Datalogging and Remote Interface
- Flexible sizing
- Large, walk-in workspace
- Interlocking panel construction allows for easy rearranging and expansion
- Accommodates a variety of applications and provides multiple temperature and humidity features
- Capable of controlling common ISTA packaging conditions including 23°C & 50%RH, 38°C & 85%RH, 60°C & 30%RH, 50°C, and 18°C

Options

- Watlow F4T Controller
- Reverse osmosis system
- Ramp for main door
- Ethernet communications & software for controller
- Deionizer system
- Relative Humidity Control
- Dehumidification System

The Lunaire WSS walk-in stability chamber offers a large, walk-in workspace and flexible sizes.

Chamber Sizes: 300 to 1500+ cubic feet (Additional sizes available upon request)



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Features and Controls

The conditioning system is supplied with the Smart 1.2 touch screen control system which provides total programming capabilities.

Main features of the Windows CE 7.0 Pro based PLC Smart 1.2 include a WSVGA 1024 X 600 high resolution graphical 7-inch touch screen, Smart 1.2 graphical user interface, 800 MHz Cortex A9 central processing unit, 4 GB (SD Card) flash storage, capable of storing up to 100 profiles with 100 steps each. Test Data retrieval and profile data transfer/sharing is accomplished through a local USB flash drive. Individual PID control loops allow for precise process control. A 100-ohm platinum RTD is used for temperature measurement and a dry capacitance type sensor is used for humidity measurement.



Get smart results with the
TPS Smart 1.2 Process Controller

Smart 1.2 Process Controller Features

- Real-time and historical color graph displays for temperature and humidity as well as set point values
- System can run in Single set point or Programmed modes
- Alarm, Program, and Datalog files can be easily transferred to and from controller via USB.
- Built-in TCP/IP networking via Ethernet 10/100 communication port
- Ethernet and RS485 communications are standard. RS232, & IEEE GPIB are all available as options.
- Built-in peripheral support expansion using the USB, providing an effective and flexible interface, for use with USB Keyboards, mouse and barcode scanners
- Analog signal re-transmit out to peripheral devices such as optional chart recorders
- Remote access via Smartphone, Ipad, etc. with internet connection and VNC phone application
- 16 million display colors with a contrast ratio of 850:1
- 512MB DRAM and 1GB of Flash Memory

Optional Watlow F4T Controller Features

- 4.3-inch, color touch panel with high-resolution, graphical user-interface
- 1 to 4 control loops with TRU-TUNE+ adaptive control algorithm for superior controllability
- 40 ramp and soak profiles with real-time clock and battery backup.
- Ethernet Modbus® TCP connectivity
- High-speed USB 2.0 host port
- Modular design, which offers numerous types of field pluggable modules for maximum flexibility and easiest compatibility
- Optional Data Logging capability
- Optional Graphical Trend Chart
- TPS provides panel mounted USB and Ethernet ports located on the front control panel of the equipment



The Watlow F4T Temperature Controller with INTUITION™ temperature process controller combines the flexibility of a modular I/O controller with best-in-class ease of use.



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Standard Panelized Room Specifications

Customizable to fit your specific testing requirements

Model Number	Interior Dimensions (WxDxH)	Cubic Feet
WSS-300	73.5" x 73.5" x 96'	300
WSS-347	73.5" x 85" x 96'	347
WSS-579	96.5" x 108" x 96'	579
WSS-793	119.5" x 119.5" x 96'	793
WSS-869	119.5" x 131" x 96'	869
WSS-1317	154" x 154" x 96'	1317
WSS-1415	154" x 165.5" x 96'	1415
WSS-1514	154" x 177" x 96'	1514

IMPORTANT NOTES: Additional sizes available upon request. Please consult your Tenney/Lunaire Sales Representative for assistance. Voltage Configuration Available: 208V-1Ph-60Hz / 230V-1Ph-60Hz. Loading ramp available upon request.

Features

- Vertical down air circulation
- Tongue and groove constructed chamber panels
- Stainless steel interior walls and galvanized exterior walls
- 4-inch urethane foam insulated wall panels, and insulated/heated window in chamber door
- Interior Lighting
- 36" x 77" door standard, larger options available
- Insulated floor 750 lb/ft² equally distributed weight
- Ceiling mounted conditioning system
- Ethernet communications
- USB Port

Performance Specifications

- Temperature Range: 0°C to 60°C
- Humidity Range: 20% to 95% in the dry bulb range of 20°C to 60°C limited by a 5°C dewpoint
- Extended temperature and humidity ranges available upon request

Performance Specifications are based on an ambient environment of 20°C and 50% RH. Deviation from this ambient may affect performance.

Additional Features & Options

Our walk-in stability chambers are offered with a vast range of features and options. Ask your Sales Representative about any of the following.

DataSense[™] TECHNOLOGIES PERFORMANCE MONITORING & PREDICTIVE MAINTENANCE SENSORS



CURRENT



PID OUTPUT



PRESSURE



TEMPERATURE



VIBRATION



AMBIENT CONDITIONS

WHAT IS MONITORED?

The DataSense[™] Technologies system continuously records important data points to make sure your equipment is running at peak performance levels. The DataSense Performance Monitoring System uses **IoT (Internet of Things) technology** to collect information from predictive maintenance sensors that track the performance and health of a variety of components in your environmental chamber. It then wirelessly transmits the data to a cloud platform. From there it can be displayed on dashboards designed for easy viewing and monitoring.

PREDICT POTENTIAL FAILURE - Predict component failures and take preventative measures prior to the failure occurring.

REDUCE DOWNTIME - Through continuous monitoring of the chamber operation, component failures can be diagnosed and corrected quickly.

PLAN MAINTENANCE - Preempts chamber failures so maintenance downtime can be scheduled.

DIAGNOSE REMOTELY - Diagnose chamber problems quickly without waiting for a service technician to be scheduled.

INTERNATIONAL SUPPORT



- All models available in 50 & 60 Hertz configurations
- CE, CUL, & UL-508A available
- Authorized reps / servicers in most countries
- UKCA available upon factory request

AFTERMARKET SERVICES

Optimize. Revitalize. Maximize.

From installation, parts and global support to servicing, testing and yearly maintenance, we're here to ensure your TPS product achieves its maximum performance. GAMP Documentation includes FRS, HDS, SDS, FAT, SAT, and IQ/OQ. Services include:

- Installation Supervision
- Start-up & Training
- Turn-key Installation
- Preventative Maintenance
- Temperature Uniformity
- Instrument Calibration
- GAMP Documentation
- Water Quality Analysis



ACCREDITED CALIBRATION SERVICES

Instrument Calibration Certificates & Accreditations
Tenney Environmental offers complete Calibration Services which include NIST Calibration Certificates and ISO17025 Accreditations from A2LA for all makes of environmental test chambers, walk in chambers and a variety of other lab equipment.



The **TPS MAX PROGRAM** allows the customer to purchase future service and/or parts without the need to have a purchase order approved and released when parts or service are needed. These funds are available to be used on parts or service in the future, saving you and your company costly down-time. Enrollment with an initial deposit of \$5,000.00 unlocks discounts on parts, service, and travel. No subscription fees.

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