



Environmental Walk-in Rooms



TPS[™]
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.

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Environmental Testing

Custom and standard environmental rooms to match your application and facility needs.



Special Features

- Standard integrated conditioning equipment or bolt up self contained systems to meet every need.
- Redundant over temperature protection and alarms
- Optional Heavy duty floor supports up to 5,000 PSF of equally distributed weight
- Refrigeration taps and pressure transducers
- Optional External or Internal Door Ramp
- Optional dry bulb temperature range to 85°C with RH control.
- Optional water filtration available
- Optional external dryers to achieve very low humidity levels
- Optional chart recorder

Efficient Tenney Humidity and Conditioning System

- Durable and reliable construction
- High quality compressors
- Tenney Vapor Flow Humidification System
- Easy access panel for maintenance
- Quiet operation

Tenney Environmental Room Options

When your testing requires walk-in rooms, choose Tenney. Our test rooms feature automated process control, energy efficiency, and a vast range of features and options. Every Tenney environmental room features state-of-the-art equipment that reliably produces required conditions, structural integrity that keeps the room working properly through years of demanding test cycles, and measuring/monitoring equipment that precisely records all test data.

Tenney environmental rooms are used world-wide for many testing applications. Almost every tool, product or component that is used in the home, factory or field is tested with environmental simulation equipment. Tenney's engineering experience can deliver environmental rooms to meet your exact requirements:

- Automotive
- Microbiology
- Microelectronics
- Energy Technologies
- Appliance Testing
- Medical Research
- Electrical

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

Standard Panelized Walk-In Chambers

The interlocking panelized chambers can be quickly shipped and assembled for less cost than a non-panelized chamber. The chamber panels interlock using a tongue and groove assembly that can be secured using cam latches and silicone sealant. The latches connect to metal banding links that are embedded in the panels to create a structurally strong chamber.

Flexibility

Each chamber panel consists of 4" (100mm) thick urethane foam between a stainless steel interior wall and a galvanized exterior wall. After the chamber panels are assembled, the walk-in room is self-supporting, eliminating the need for additional structure supports. The chambers can be ordered with different door sizes, access ports, and options as necessary.



Construction

- Temperature range: -68°C to 85°C
- Humidity range: 20% to 95%
- Extended Temperature and Humidity ranges available upon request
- Modular design for easy transport and setup
- 4" (100mm) insulated wall panels
- Interior lighting
- Optional 3" or 6" ports
- Thermally Insulated and Heated Windows
- Various door sizes available
- Insulated Flooring with Overlays Available
- Standard duty floor supports up to 750 PSF of equally distributed weight
- Optional Windows
- External or Internal Ramps Available
- Remote Refrigeration Systems
- Airflow and Humidity Control
- Temperature Control
- Lighting
- Room Air Exhaust and Fresh Air Input
- Safety Systems (heat overload, fire, gas monitoring, door locks, sound levels)
- Optional CO2 and LN2 Boost Cooling Available
- Optional Solid Type Frame Construction with Hermetically Welded Interior



Synergy Quattro

Controls

The microprocessor-based controller allows the operator to program up to 40 profiles, including the common steps of ramp, soak, and guaranteed soak. The user-friendly 7" touch screen display also includes ports for Ethernet, USB, serial, and SD card connections. The controller provides data logging, alarm and event monitoring, and remote access from any computer with internet access. The included dual alarm relays can be programmed as either process or deviation alarms.



Features included with Synergy Quattro:

- User-friendly LCD graphical 320 x 240 color display/touch screen programmer with simple English language prompts for program entry
- Real time clock
- Near infinite number of programs and steps
- PID control with auto-tune and operator adjustable to match special chamber loading conditions (2-channel capability)
- Tenney's exclusive state of the art logic circuits automatically select the necessary refrigeration and heating capacities as well as humidification operating modes, as required to achieve the desired chamber environment
- The controller incorporated communication capabilities for the "Connected Factory" of the future
- Storage and retrieval of programs and test data from USB Port, local flash disk and/or removal PCMCIA flash card
- Separate I/O controller (Olympic) for machine interface, machine diagnostics
- RS-232 serial communications
- Advanced Ethernet (10/100) communications capabilities using TCP/IP networking protocols
- USB Port for data collection of set point temperature and humidity, actual for air temperature and humidity
- Built in limit alarms
- Flash disk on chip storage
- Microsoft's advanced Windows TM CE operating system
- Serial communications are standard and wired externally to the cabinet with a DB9 port

Standard Panelized Environmental Room Specifications

Customizable to fit your specific testing requirements

| Model Number | Exterior Dimensions (WxDxH) | Interior Dimensions (WxDxH) | Cubic Feet | Standard Door Sizes |
|--------------|-----------------------------|-----------------------------|------------|---------------------|
| WIT-316 | 81.5"x104.5"x104.5" | 73.5"x77.5"x96" | 316 | 36" x 77" |
| | | | | 48" x 77" |
| WIT-366 | 93"x104.5"x104.5" | 85"x77.5"x96" | 366 | 36" x 77" |
| | | | | 48" x 77" |
| WIT-477 | 104.5"x116"x104.5" | 96.5"x89"x96" | 477 | 36" x 77" |
| | | | | 48" x 77" |
| | | | | 72" x 77" |
| WIT-539 | 104.5"x127.5"x104.5" | 96.5"x100.5"x96" | 539 | 36" x 77" |
| | | | | 48" x 77" |
| | | | | 72" x 77" |
| WIT-603 | 116"x127.5"x104.5" | 108"x100.5"x96" | 603 | 36" x 77" |
| | | | | 48" x 77" |
| | | | | 72" x 77" |
| WIT-744 | 127.5"x139"x104.5" | 119.5"x112"x96" | 744 | 36" x 77" |
| | | | | 48" x 77" |
| | | | | 72" x 77" |
| WIT-820 | 127.5"x150.5"x104.5" | 119.5"x123.5"x96" | 820 | 36" x 77" |
| | | | | 48" x 77" |
| | | | | 72" x 77" |
| WIT-983 | 139"x162"x104.5" | 131"x135"x96" | 983 | 36" x 77" |
| | | | | 48" x 77" |
| | | | | 72" x 77" |
| WIT-1069 | 150.5"x162"x104.5" | 142.5"x135"x96" | 1069 | 36" x 77" |
| | | | | 48" x 77" |
| | | | | 72" x 77" |
| WIT-1160 | 150.5"x173.5"x104.5" | 142.5"x146.5"x96" | 1160 | 36" x 77" |
| | | | | 48" x 77" |
| | | | | 72" x 77" |
| WIT-1351 | 162"x185"x104.5" | 154"x158"x96" | 1351 | 36" x 77" |
| | | | | 48" x 77" |
| | | | | 72" x 77" |

IMPORTANT NOTES: Refrigeration is available in air-cooled or water-cooled configuration. Chambers are available as temperature only or temp-humidity configuration. For units with Humidity, Humidity Range: 20% to 95% over the temperature range of 20°C to 70°C, limited by a 5°C dew point. Voltage Configuration Available: 208V-3Ph-60Hz / 230V-3Ph-60Hz / 460V-3Ph-60Hz - Please consult factory for 50Hz applications.



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Additional Features & Options

Our walk-in environmental 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

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.



PID OUTPUT



PRESSURE



TEMPERATURE



VIBRATION



AMBIENT CONDITIONS

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.