THERMOTRON®

WALK-IN ENVIRONMENTAL TEST CHAMBERS

Multiple Configuration for Versatile Applications

From aerospace and avionics to refrigerators and automobiles, Thermotron walk-in chambers are the test sites for a wide range of components, assemblies and finished products. These chambers can be used for testing and storage as well as a versatile laboratory environment for conducting test procedures in the telecommunications, defense, pharmaceutical, automotive, and electronics industries. Whatever the situation, Thermotron has the solution that works.

THERMOTRON®

Leading the Industry

Thermotron has been making environmental chambers for more than 45 years. This means generations of testing knowledge working for you. We provide you with the most experienced staff of engineers in the field and the most collective array of testing solutions available. With this wide base of problem-solving experience, chances are we have an application solution for you.

Assessing Your Needs

Here at Thermotron, we are dedicated to supplying you with testing equipment designed to meet your needs. Understanding the size, quantity, and testing requirements of the product under test help in determining the chamber size that is needed. The quality, reliability, and safety of your product is as important to us as it is to you. If our standard equipment does not address your testing requirements, we will create a custom test facility that can.

Modular Design Equals Easy Installation

Thermotron walk-in chambers are made for fast and easy installation. Panels are light-weight and easily handled. Locating pins assure an accurate fit and the "cam over center" locks securely join panels in place. The corner posts are built at a defined 90° angle in order to strengthen and align the entire chamber. With their sturdy construction and top-quality parts these chambers are designed and built to last.

8800 Touch Screen Programmer Controller

With a brilliant 12" color touch screen display, the powerful 8800 Programmer Controller. 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. An extensive multi-level, password-based security system that protects sensitive data and generates tamper-proof data print outs. A real-time system schematic displays actual refrigeration temperatures and pressures, simplifying trouble shooting and maintenance. The 8800 is *Thermotrak II*™ ready, making operations and data collection easier and more reliable than ever before. *Thermotrak II*™ also allows for the monitoring of several chambers simultaneously.

Solid Testing Solutions

Due to the urethane panel construction, the high temperature limitation of the panel box is +85°C. If your testing needs requires a higher temperature range, Thermotron designs and manufactures solid-welded construction chambers. These chambers are ideal for extended temperature testing and high temperature and humidity testing applications. The solid-welded construction is also used for large altitude chambers.

Flexible Interface and Custom Conditioning

Thermotron has a wide variety of standard conditioning module configurations ready for interface to a panel assembly. This flexible interface allows you to mix and match the box size and module in order to meet your individual test requirements. Conditioning modules are predesigned and prepackaged with conditioning plenum and refrigeration machinery mounted on a common base. If the standard module sizes fail to meet your needs, custom configurations are available as well.

Committed to Quality

The construction of your chamber, and the design and assembly of your conditioning equipment are closely supervised. Operation verification tests are run on every chamber prior to shipping from our manufacturing facility. This ensures a high-quality piece of testing equipment will arrive at your site fully operational and ready to go.

Pre-Fabricated Panels Features and Benefits

■ **Exterior Surface Finish Options**

Choose a patterned aluminum or painted surface to better coordinate with your lab environment.

■ **4" (10.16 cm) Rigid Urethane Foamed-in-Place Insulation**

Insulation ensures locked in temperature during testing.

■ **Cam Action Speed Lock**

Allows for a tight fit and locked in humidity.

■ **Embedded Steel Straps Around Perimeter**

Provides a positive seal around the chamber and increases chamber rigidity.

■ **Interior Surface Finish Options**

Choose from aluminum or stainless steel for the interior metal surface. Stainless steel for protection of interior during optional humidity testing.

■ **Heavy Duty Inside Floor Surface**

The 16 gauge stainless steel for is able to support product loads up to 600-pounds (272 Kg)per square foot.

Additional Options / Benefits

■ **Air-Cooled Condenser**
Eliminates the requirement for cooling water.

■ **Shelving**

Free-standing, foldable, and wall-attached shelves are available.

■ **Dry Air Purge**
Utilizes compressed air as the supply source. Helpful in minimizing moisture in the chamber.

■ **Multiple Door Sizes**

Choose from several sizes of hinged, sliding, vertical lift, and bi-parting hinged doors.

■ **Humidity Purification System**

A five-micron pre-filter and demineralizer for purifying the humidity inlet water.

■ **LN2 Injection**
Liquid nitrogen injection through a cooling coil located in the conditioning plenum. Note: Direct injection of the nitrogen will displace the oxygen.

■ **Interior Lighting**
Incandescent or fluorescent, mounted on the interior ceiling.

■ **Electrical Outlets**

Outlets installed on the interior side walls, customer provides power drop.

■ **Refrigeration Quiet Package**

Reduces noise levels produced by the machinery, internal and external available.

■ **Internal and External Ramps**

Assists in bringing products into the walk-in.

■ **Remote Refrigeration Package**

Machinery package can be remotely located up to 50 line feet from the chamber.

■ **Spreader Plate**

Increases point load capabilities and rolling loads.

Multiple Customized Solutions

■ Ante rooms maintain environmental conditions of the test when entry to the chamber is necessary.

■ Custom port sizes and shapes allow for easier testing.

■ Defrosting Capabilities

■ Special panel sizes are available to custom configure your chamber.

■ Water Spray for Moisture Testing

■ Non-sparking interior has been designed to minimize spark in the workplace.

■ Low Humidity Applications makes a Thermotron Walk-In suitable for electrostatic reliability testing.

■ Special electrical standards and various power configurations available.

■ Interior suspended ceiling reduces air supply velocity and controls distribution of air.

■ "CE" Mark is offered on units being installed in Europe.

■ Product feedthrough, electrical feedthrough, product connector internal raceways.

■ Various floor reinforcement such as stainless steel spreader plate, heavy-duty welded construction or design using existing floor for versatility.

■ Variable speed control of airflow delivery from ceiling, wall, or floor.

PANEL WALK-IN CHAMBER

CONDITIONING MODULE INTERFACE

Standard Available Chambers

Model	Interior Dimensions Inches W	D	H	Centimeters W	D	H	Volume Cu. Ft.	Liters
WP-286	62	85	94	158	216	239	286	8,100
WP-323	62	85	106	158	216	269	323	9,147
WP-364	62	108	94	158	274	239	364	10,308
WP-410	62	108	106	158	274	269	410	11,611
WP-499	85	1081	94	216	274	239	499	14,132
WP-563	85	08	106	216	274	269	563	15,944
WP-605	85	131	94	216	333	239	605	17,134
WP-683	85	131	106	216	333	269	683	19,343
WP-769	108	131	94	274	333	239	769	21,778
WP-867	108	131	106	274	333	269	867	24,553
WP-904	108	154	94	274	391	239	904	25,601
WP-1020	108	1541	106	274	391	269	1020	28,886
WP-1097	131	54	94	333	391	239	1097	31,067
WP-1237	131	154	106	333	391	269	1237	35,032
WP-1261	131	177	94	333	450	239	1261	35,712
WP-1422	131	177	106	333	450	269	1422	40,271

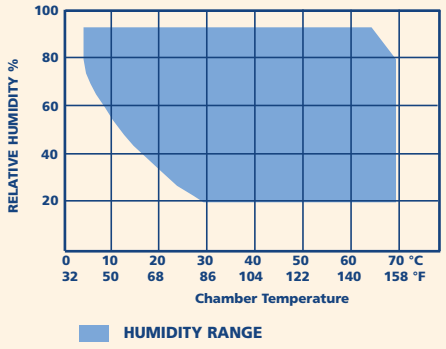
The specifications reflect the workspace prior to plenum interface. Some of the interior workspace will be used by the conditioning module plenum.

Standard Available Modules

Model	Compressor Horsepower	Heater Wattage,KW	Air Flow CFM
TCM 1-3	3 HP Single	4.5	1,500
TCM 1-3-3	6 HP Cascade	4.5	1,500
TCM 1-5	5 HP Single	4.5	1,500
TCM 1-5-5	10 HP Cascade	4.5	1,500
TCM 2-5	5 HP Single	7.5	3,000
TCM 2-5-5	10 HP Cascade	7.5	3,000
TCM 2-705	7.5 HP Single	12	3,000
TCM 2-705-705	15 HP Cascade	12	3,000
TCM 2-10	10 HP Single	15	3,000
TCM 2-10-10	20 HP Cascade	15	3,000
TCM 3-10	10 HP Single	15	4,500
TCM 3-10-10	20 HP Cascade	15	4,500
TCM 3-15	15 HP Single	18	4,500
TCM 3-15-15	30 HP Cascade	18	4,500
TCM 4-25	25 HP Single	24	6,000
TCM 4-25-25	50 HP Cascade	24	6,000

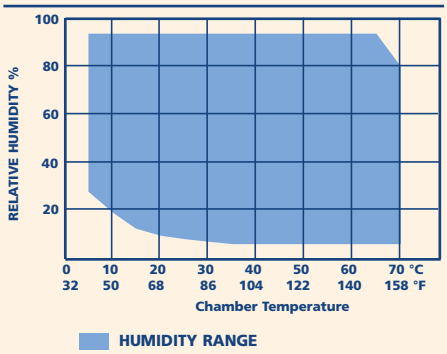
Single Stage Refrigeration Performance: Temperature Range= -34°C to +85°C (-29°F to +185°F)
Cascade Refrigeration Performance: Temperature Range= -68°C to +85°C (-90°F to +185°F)

STANDARD HUMIDITY RANGE



Standard Humidity Range:
20% to 95% relative humidity, limited by a dewpoint range of +5°C to +65°C (+41°F to +149°F) and a maximum drybulb temperature of +70°C (158°F).

OPTIONAL LOW HUMIDITY RANGE



Optional Low Humidity Range:
5% to 95% relative humidity, limited by a dewpoint range of -10°C to +65°C (-14°F to +149°F) and a drybulb temperature of +5°C to +70°C (+41°F to +158°F).

- ***Low humidity capability expanded down to 5% RH primarily for the purposes of electrostatic reliability testing. Accomplished by utilizing an electrical desiccant drier.***
- ***Utilizing an electronic humidity sensor, the need for the traditional wet bulb has been eliminated.***
- ***Specifications subject to change. The addition of accessories may impact performance.***

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