



TESCOR

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ENVIRONMENTAL ROOMS

Tescor manufactures custom environmental chambers for use in Industrial Testing and Life Science Applications. These chambers can range from walk-in type used for the storage of temperature sensitive pharmaceuticals, to large drive-in chambers used in testing automobiles. Tescor has utilized its experience



in refrigeration and air conditioning technologies to manufacture chambers which can maintain -100°F on a continuous basis or chambers which can reach as high as 250°F . These systems can be supplied with temperature and humidity PID controls or with fully computerized data acquisition and control systems.

Insulation

The room will be constructed of various quantities of standard, pre-molded, modular panels, depending on the size of the room. The insulated panels can be supplied in a wide variety of interior and exterior metal finishes with foamed-in-place urethane insulation. Panels can be

supplied in 4" (R-34), 5" (R-42) or 6" (R-50) thickness. Panel edges will have tongue and groove interfaces to assure a tight joint. A flexible vinyl gasket will be fitted on the interior and exterior of each panel along each tongue edge to provide an airtight gasketing at each joint. All panels will lock together from the interior by self-contained cam-lock fasteners. The insulated panels will be UL fire test approved and will have a low flame spread rating of 25 or less. Panels will be tested and approved by Factory Mutual Number 4880, for Class I building type insulated wall and ceiling construction in combination.

Conditioning Systems

Tescor offers single stage, two-stage and cascade refrigeration systems in either water-cooled or air-cooled options. The condensing units supplied by Tescor are of industrial construction and utilize either semi-hermetic or scroll compressors. Tescor offers fan & coil, wall plenum or remote air handlers to condition the air as required by a particular application. All refrigerants used are non-CFC.

Controls

All operating controls, instrumentation, functional switches and indicator lights will be located at a single control panel center mounted at operator eye level. All operating modes and functions will be clearly indicated by pilot lights and legibly identified by engraved nameplates. The recessed control panel section of the enclosure will be hinged for easy opening by authorized maintenance personnel. Once this panel is swung open and the top section of the control center is removed, all relays, contactors, and other enclosed control circuit devices will be readily exposed for simple maintenance purposes. The control console will be provided with a clear acrylic cover and a lock with 2 keys. Tescor typically provides all solid state, bridge type, proportional, electronic controllers for temperature and humidity control. Automatic reset and rate functions will be incorporated to compensate for error due to load variations. Operating set-points are adjustable and set by means of the pushbuttons on the face of the controller. Both set-point and process variable will be displayed on a large, bright, digital L.E.D. read-out.



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Environmental Room
Typical Specifications

Room Size: (External)

Length:

Width:

Height:

Wall Thickness: 4" 5" 6"

Doors:

36" x 78"

48" x 84"

Other:

Windows:

14" x 24"

Other:

Ramp:

Closure Panels

Floor:

0.080" Textured Aluminum

0.100" Smooth Aluminum

16 Ga. Stainless Steel

14 Ga. Galvanized

Condensing Unit Location:

Room Top Mount Mechanical Room

Outdoor

Temperature Range:

Cold Room: +4°C

Freezer Room: Ambient to -40°C

Incubator Room: 35°C to 60°C

Environmental Room: 0°C to 60°C

Custom Range Room:

Humidity Range:

Ambient to 95% RH as limited by 50°C dewpoint

20% to 95% RH as limited by 5°C and 50°C dewpoints

Other:

Transition Rates

Temperature: 0.5°C/minute, average

Humidity: 0.5% /minute, non-condensing, average

Special:

Recorders:

Single Pen, 10", 7 day, 24 hr per revolution

Two Pen, 10", 7 day, 24 hr per revolution

Special Requirements:

Room Surface Finish:

Interior:

26 Ga. Galvalume

Embossed Aluminum .032"/.040"

24 Ga. Embossed White Galvanized

0.040 White Embossed Aluminum

Stainless Steel 20 Ga./22 Ga.

Exterior:

26 Ga. Galvalume

Embossed Aluminum .032"/.040"

24 Ga. Embossed White Galvanized

0.040 White Embossed Aluminum

Stainless Steel 20 Ga./22 Ga.

Refrigeration:

Air-Cooled Water-Cooled

Redundant Systems

Refrigerants:

R-134a R-22 R-507

Temperature Control Stability:

± 0.2°C

± 0.5°C

± 1.0°C

Temperature Uniformity:

± 0.5 C ± 1.0 C

Humidity Control Stability:

± 2% ± 5%

Forced Ventilation:

15 CFM 50 CFM 75 CFM

Other:

Alarms:

High/Low Temp Alarms

High/Low Humidity Alarms

Remote Contacts

Power Failure Alarm

Inside "Panic" Alarm