ENVIRONMENTAL
WALK-IN / DRIVE-IN CHAMBERS

www.cszindustrial.com
Walk-in chambers are used for testing or storing products that require a large capacity chamber. Applications include full vehicle testing, automotive components, solar panels, electronic components, packaging, stability testing, biological research, industrial applications and more. CSZ offers a broad selection of various types of walk-in chambers to meet almost any test requirement.

WM-Series Modular Walk-In Temperature/Humidity Chambers

Provides flexibility for testing larger volumes at an economical price

Modular Walk-In chambers offer flexibility to meet virtually any size or configuration by using pre-fabricated panels. Modular chambers are constructed of 4” thick polyurethane-foamed panels that lock together to form a tightly sealed chamber with stainless steel interior and aluminum or white embossed exterior. Available in a variety of temperature ranges to meet your specific testing needs.

<table>
<thead>
<tr>
<th>Size</th>
<th>200 to 8,000 cu. ft. (Custom Sizes Available)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature Range*</td>
<td></td>
</tr>
<tr>
<td>Single Stage:</td>
<td>-34°C to +85°C (-30°F to +185°F)</td>
</tr>
<tr>
<td>Tundra®:</td>
<td>-45°C to +85°C (-49°F to +185°F)</td>
</tr>
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</tr>
<tr>
<td>Cascade:</td>
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</tr>
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<td>Humidity Range</td>
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* Higher temperatures available upon request
Modular Plenum Conditioning Systems

CSZ walk-In chambers feature our standard conditioning systems, which include refrigeration, air circulation, electrical components, instrumentation and optional humidification needed to control your chamber environment. A variety of different conditioning systems are available to meet your temperature and humidity requirements. Our applications specialists will select the most appropriate, cost-effective system for your application.

These conditioning systems are designed to interface with an assembled Walk-In box without taking up valuable workspace in your chamber. Each conditioning system unit includes hinged service panels for easy access and may be located on either side or the back of your walk-in box.

These systems may also be incorporated with existing Walk-In boxes. They can be ordered separately to replace existing conditioning systems or add additional capacity to current walk-in chambers.
WW-Series Welded Walk-In (Solid Construction) Chambers

Rugged construction with higher temperatures and faster cycling

Welded Walk-In chambers provide wider temperature and humidity ranges. These welded walk-in chambers consist of one solid piece, simplifying installation. Welded Walk-In chambers are constructed using a zinc-coated exterior, polyurethane enamel finish and a type 304 stainless steel interior. Fiberglass insulated walls are 6” thick with seams that are continuously welded to form a hermetically sealed chamber. Ideal for rapid temperature change rates, higher temperatures or applications that combine multiple environments.

Which type of walk-in room is most appropriate for your application?

<table>
<thead>
<tr>
<th>Feature</th>
<th>Modular Panel</th>
<th>Welded</th>
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<tbody>
<tr>
<td>Economical</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Easy Move-In</td>
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<td></td>
</tr>
<tr>
<td>Easy Installation</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Choice of Interior and Exterior Finishes</td>
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<td></td>
</tr>
<tr>
<td>Extended Temperature Range</td>
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<tr>
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<td></td>
<td>X</td>
</tr>
<tr>
<td>Fast Change Rate</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Combined Environments</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Altitude Simulation</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Vibration Integration</td>
<td>X</td>
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Size 200 to 8,000 cu. ft. (Custom Sizes Available)

Temperature Range

- **Single Stage**: -34°C to +190°C (-30°F to +375°F)
- **Tundra®**: -45°C to +190°C (-49°F to +375°F)
- **Tundra® II**: -50°C to +190°C (-58°F to +375°F)
- **Cascade**: -68°C to +190°C (-90°F to +375°F)

Humidity Range 10% to 95% RH
Drive-In Series Chambers

CSZ provides drive-in chambers for combined environmental testing to simulate a variety of road conditions and climates. These chambers are designed to test items from an automotive sub-system assembly to a full vehicle.

Our drive-in chambers can be constructed by either utilizing an insulated modular panelized system or as a fully welded construction, depending on performance requirements. Each chamber can be tailor-designed to meet various requirements and specifications. Applications include quarter buck to full buck assemblies, automotive components, electronic components, instrument panels, diurnal solar simulation, infrared lighting. Full vehicle testing may be integrated with a four post road simulator and dynamometers.

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*Note: High temperature available on Welded Walk-in chambers to 190°C
Drive-In Chamber for Semi-Truck

This drive-in chamber was 33,750 cu. ft. with exterior dimensions of 48’W x 65’D x 27’H. To meet the specific testing requirements, this vast chamber required an extensive refrigeration system. The system included a total of (6) modular plenums, (6) 30-30 cascade refrigeration systems and (6) remote air cooled condensers with a combined airflow of 24,000 cfm.

Combined Environments

- Solar Simulation
- Infrared Lighting
- Vibration Simulation
- Altitude Simulation
- Freezing Rain Simulation
Walk-In Chambers are configured to meet your requirements with conditioning systems that may be mounted in your location of choice, remote instrument consoles, custom fixtures, and more.

**Walk-In Chambers Customized to Meet Your Needs**

A variety of options are available for enhanced performance and combined environments with custom configurations designed to meet your specific requirements.

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### Standard Features

- Modular Panel or Welded Construction
- Stainless Steel Interior
- Safety Release Latches
- Heated Windows
- Vapor Proof Interior Lights
- EZT-570S Programmable Controller
- Temperature Limit & Alarm
- RS-232/485 Computer Interface
- Solid State Humidity Sensor*
- Refrigeration High Temperature Protection
- Refrigeration Pressure Gauges
- Compressor Overload Protection
- Refrigeration Service Taps
- Zero Ozone Depletion Refrigerants
- High and Low Pressure Switches (3HP & Over)

### Optional Accessories & Custom Capabilities

- Access Ports
- Additional/Oversize Doors
- Automatic Door Operation
- Entry Ramp
- Reinforced Treaded Floor
- Remote Refrigeration System
- Explosion-Proof Electrical
- LN2/CO2 Boost Cooling
- Ultra Low Temperature
- Ultra High Temperature
- Custom Control Interface
- Reverse Osmosis Water System
- Dry Air Purge System
- Windows-Based Software
- Redundant Temp. Limit & Alarm
- IEEE-488 Computer Interface
- Running Time Meter
- 50 Hz. Operation
- Temperature Recorders
- Electrical Disconnect Switch
- Remote Instrument Console
- Hydro Carbon/Carbon Monoxide Monitor
- Refrigeration Sound Deadening Package
- Extended Relative Humidity Range
- Compliance to Special Wiring Standards
- Internal or External Emergency Stop Switch
- Temperature Recorders
- Hydro Carbon/Carbon Monoxide Monitor

* Humidity Units Only

Certain options not available on stability rooms

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The Next Generation Controller with Smartphone Technology

Save valuable time with the ease of use of the EZT-570S featuring fewer steps to accomplish your daily testing needs while incorporating simplified operation and programming to test faster.

All features are built into the controller interface so no additional software or internet is required for access to all the features the controller has to offer.

Manually control, run or stop a profile directly from the home screen and view a snap shot of current activity like actual/setpoint values, alarm, datalogging, profile, security, IP address information and more.

Communications & Connectivity

- Monitor and/or Control the chamber remotely for anytime, anywhere access from any device (PC, smartphone or tablet) using LAN/VNC.
- Alarm notification system sends email and/or text phone messages in the event of a test chamber alarm, saving valuable tests while reducing downtime.
- Email built-in to send data, alarm, audit trail files directly from controller. Also create and send new emails.

Profiling

- Profiling includes up to 99 steps and 1000 cycles.
- Program ramp steps entering time or °C/min.
- Programs may be written using product control function.
- Easily review profile using trend chart or review list of steps before running profile.
- Profile status view displays current step, estimated start/stop date and time and more.
- Profiles may be transferred to different chambers via USB or optional EZ-View software.
- Automated delay profile start.

Data Logging

- Configurable log interval, data file length, filename, operator entered batch & lot information as well as an unlimited number of operator notes saved to the data file.
- Access data files directly from controller or PC.
- Easily download profiles, alarm files, audit trail files and data files using LAN (FTP, email) and/or USB in a compatible .csv file format for ease of use. Files may also be automatically backed up daily for hassle-free file management.
Users can choose to operate like a smart device with icons and slide-navigation or windows-navigation with drop down menus similar to our previous EZT controllers.

**User Convenience & Flexibility**

- Controller may be configured in any of one of 28 languages - one setting up dates icons, menus and help screen.
- Selectable power failure/recovery options.
- Full system security allows up to 30 different users with four different levels of security.
- Audit trail files track changes in settings by each user.
- Import/export configuration settings to other controllers saving time. (Personalized to your use)
- Configure alarm setting and maintenance alerts.

**Graphing Technology**

- Real-time trend display graph with adjustable time and min/max values.
- Up to eight configurable trend graphs with left & right axis
- Graph historical data files
- Zoom in/out graphs

**Enhanced Communications & Control Options**

- Digital input option provides 8 inputs that can be configured for various control functions including starting, stopping and pausing a profile. “Wait for” function allows the user to pause a profile during a particular step of the profile until a specific digital input is turned on or off.
- Digital output “customer event” feature provides 15 programmable outputs. Each output can be configured to perform other operations including alarm or profile status indicators for more control over your testing.
- Optional refrigeration monitor package displays and data logs temperatures and refrigeration system compressor suction/discharge pressures.
- Condensation control option helps prevent condensation from collecting on the part by automatically managing the air dewpoint.
- Bar code option allows user to scan barcode to start profile and to add notes to current data file when datalogging.
CSZ is committed to your satisfaction every step of the way. We are dedicated to our customers from the initial point of contact, fully understanding your unique needs, developing the right solution and delivering outstanding products and post-sale support.

Testing Services
CSZ Testing Services is an A2LA Accredited Test Laboratory utilizing the latest test technology. We are your one stop source for all of your environmental simulation testing needs. Our testing laboratory is here to help with your product qualification testing, overflow testing and/or third party product validation. Testing capabilities include Temperature, Humidity, and/or Vibration, Thermal Shock, Burn-in, Radiator Testing, Altitude, Vibration, HALT/HASS, Shock, Salt Spray, Cyclic Corrosion test, and Drop Testing. Serving you from two locations in Cincinnati, OH and Sterling Heights, MI.

FOR MORE INFORMATION please call CSZ Testing headquarters at 513-793-7774 or visit www.csztesting.com.