



## Altitude Chambers

# Altitude Chambers

Our Commercial Altitude Chambers combine temperature and altitude or optional temperature and humidity to test basic components or sub-assemblies for variety of industries. With CSZ Altitude chambers, you can control the temperature environment while simulating various altitudes from site level to 65,000 feet (42 Torr). Altitude testing may be continued without temperature control up to 200,000 feet (.169 Torr). **This same chamber may also be used for temperature / humidity testing (site level only) for greater return on your investment.** Optional extended ranges are available to simulate sea level testing when your site is significantly above sea level.



Customized altitude chambers may be designed to meet the test requirements for RTCA DO-160E rapid decompression.

**Below is a list of features and benefits included with your CSZ altitude test chamber.**

- **Easy Operation - Saves Time**  
The CSZ EZT-570i Touch Screen Controller offers a 7" or optional 10" touch screen and the latest in test chamber programming for ease of use. Comes standard with data logging, data file access via memory stick or PC, Ethernet control and monitoring, alarm notification via email or phone text message, data file backup, full system security, online help & voice assistance in multiple languages and more.
- **Reliable Performance**  
Heavy-duty, solid components, and proven chamber design provide many years of trouble-free operation.
- **Product Protection**  
A variety of electronic, refrigeration, and cabinet safeties are incorporated into the design, protecting both your product and chamber.
- **Extensive Product Offering**  
Sizes range from 8 to 64 cu. ft. with a variety of performance options to meet your testing need. Larger, custom chambers may also be designed for your application requirements.
- **Dual Purpose for Greater ROI**  
Operates as an altitude chamber and separate temperature/humidity chamber.
- **Robust Vacuum System**  
Heavy duty, high capacity vacuum pumps provide reliable performance. System is equipped for controlling altitude setpoints automatically with a regulating rate of ascent and descent by using manual adjustable valves. Flexible section in vacuum lines also prevents transmission of adverse vibration.

# CSZ EZT-570i Controller

Time-Saving Features to Test Faster  
EZ→Programming    EZ→Datalogging  
EZ→To be Connected to Your Test World



CSZ's EZT-570i controller offers a 7" or 10" (18 cm or 25 cm) touch screen and the latest in test chamber programming. Flexible configurations along with a full range of user-friendly features combine to simplify programming and save valuable time for greater return on your investment. Intuitive controller includes built-in data security & safeties to protect your chamber and product under test.

## Communications & Connectivity

- Ethernet capability to remotely monitor and control multiple test chambers. Wired, wireless, local area network or World Wide Web Ethernet connectivity provides anytime, anywhere access using a PC or PDA device.
- Alarm notification system sends email and/or text phone messages saving valuable tests while reducing downtime.
- Integrated email sends data files directly from the controller with a touch of a button.

## Data Logging

- Data logging with custom file names, batch & lot numbers, operator events & digital signatures.
- Automated "Ethernet" back-up of data files provides "hassle free" file management.
- Easily download profiles, alarm files, audit trail files and data files to a USB memory stick in a compatible .CSV file format. Also import profiles to other chambers saving valuable profile entry time.
- Access data files directly from controller or PC.

## User Convenience & Flexibility

- Real time & historical trend graphs. Print graphs directly to a printer.
- Profile status view provides details on the profile with stop date and time.
- Profile autostart allows profiles to begin at a date, day and time.
- Help menu provides text and voice assistance in multiple languages (English, Spanish, French or Chinese).

## Enhanced Functionality

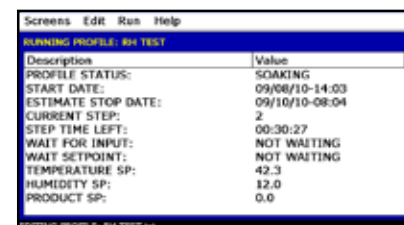
- Adapt-a-tune technology provides the ultimate in chamber performance and control stability.
- Product control feature accelerates temperature cycling of the device under test.
- Product high/low limit protects product.
- Selectable power failure/recovery options.
- Fully configurable alarm settings.
- Full system security allows up to 30 different users with three different levels of security.



Remote control from smart phone or tablet



File utility screen



Profile status screen



# Altitude Chamber Specifications

CSZ altitude test chambers are available in a variety of sizes and temperature ranges. Custom sizes and performance packages are also available to meet your specific application.

Model	CA-8	CA-16	CA-32	CA-64
Workspace Volume	8 cu. ft. (227 L)	16 cu. ft. (453 L)	32 cu. ft. (906 L)	64 cu. ft. (1812)
*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			
Altitude Range	100,000 ft. (8.2 Torr) Standard 200,000 ft (.169 Torr) Optional			
Internal Dimensions W x D x H Inches (cm)	24" x 24" x 24" (61 x 61 x 61)	30" x 30" x 30" (76 x 76 x 76)	38" x 38" x 38" (97 x 97 x 97)	48" x 48" x 48" (122 x 122 x 122)
External Dimensions W x D x H Inches (cm)	58" x 69" x 89" (147x 175 x 226)	62" x 69" x 98" (157 x 175 x 249)	75" x 69" x 105" (191 x 175 x 267)	80" x 84" x 116" (203 x 213 x 295)

\*High temperature range limited to 170° C when operating in altitude ranges above 40,000 ft. (141 Torr)

Model No.	Performance Minutes from 24° C				Altitude Minutes in Ft x 1000			Live Load Capacity Watts			Heater (KW)	Air Flow (CFM)	Recommended Minimum Service Amps	
	-68° C	-18° C	93° C	190° C	50	75	100	-18° C	-40° C	-54° C				
CA-8-3-3	60	20	20	50	10	20	30	2560	2050	1660	6.0	600	35	70
CA-8-6-6	45	16	20	50	10	20	30	3600	3000	2800	6.0	600	45	90
CA-16-3-3	95	35	25	60	10	20	30	2560	2050	1660	9.0	1200	40	80
CA-16-6-6	80	28	25	60	10	20	30	3600	3000	2400	9.0	1200	60	100
CA-16-7.5-7.5	55	20	25	60	10	20	30	5260	4080	3000	9.0	1200	60	125
CA-32-3-3	150	50	30	75	10	20	30	2560	2050	1660	12.0	1400	45	100
CA-32-6-6	115	40	30	75	10	20	30	3600	3000	2400	12.0	1400	60	125
CA-32-7.5-7.5	85	30	30	75	10	20	30	5260	4080	3300	12.0	1400	70	150
CA-64-3-3	250	85	40	95	15	20	30	2560	2050	1660	15.0	2400	50	100
CA-64-6-6	180	60	40	95	15	20	30	3600	3000	2400	15.0	2400	70	125
CA-64-7.5-7.5	140	50	40	95	15	20	30	5260	4080	3300	15.0	2400	70	150
CA-64-10-10	95	35	40	95	15	20	30	6400	5340	4320	15.0	2400	90	125
CA-64-15-15	90	30	40	95	15	20	30	7000	6100	5420	15.0	2400	100	150

CSZ offers a large selection of standard features and optional features with the flexibility to design the chamber to meet your specific requirements.



## Features & Options meet your Needs

### Standard Features

- Welded Steel Frame Construction
- Brushed Stainless Steel Interior
- 3" Access Port
- Removable Service Panels
- Non-Settling Low "k" Factor Foam or Fiberglass Insulation
- Fan Guards
- EZT-570i Touch Screen Controller
- Digital Display Temp. Limit & Alarm
- EIA-232/485 Computer Interface
- Vapor Proof Light with Switch
- Solid State Humidity Sensor\*
- Fused Electrical Components
- Oil Pressure Switches
- High and Low Pressure Switches
- Refrigeration Reset
- Refrigeration High Temperature Protection
- Refrigeration Pressure Gauges
- Compressor Overload Protection
- Humidity Demineralizer System\*
- Water-Cooled Condenser
- Zero Ozone Depletion Refrigerants
- Compressor Crankcase Heater
- Pressure Relief Devices

### Optional Accessories & Custom Capabilities

- Additional Access Ports
- Stainless Steel Shelves
- Custom-Size Chambers
- IEEE-488 Computer Interface
- Chart Recorders
- EZ-View Software
- Main Power Disconnect
- Reverse Osmosis Humidity Water Filtration\*
- Running Time Meter
- Compliance to all Wiring Standards
- Automatic Altitude Control Valve
- Ultra High & Low Temperatures
- Remote Refrigeration
- Refrigeration Sound Deadening
- Recirculation Humidity Water System
- LN<sub>2</sub>/CO<sub>2</sub> Boost Cooling
- Dry Air Purge System

\*Humidity units only



## The Experience you Rely on...

Cincinnati Sub-Zero (CSZ) Products, Inc. is an ISO-9001 certified company with over 70 years of industry experience designing and manufacturing temperature-controlled products of the highest quality, with a commitment to total customer satisfaction.

At CSZ, we offer a complete line of both standard and custom-designed environmental simulation chambers including:

- Temperature Cycling
- Humidity
- Stability Cabinets & Rooms
- Thermal Shock
- Stress-Screening
- Altitude
- AGREE Vibration
- HALT/HASS
- Freezers
- Liquid Chillers
- Wind & Rain
- Sand & Dust
- Other Temperature Management Solutions

*Sizes range from benchtop to full walk-in/drive-in chambers.*

## TESTING SERVICES

CSZ Testing Services is an A2LA Accredited Test Laboratory utilizing the latest test technology. CSZ is 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, Altitude, Vibration, Shock, Salt Spray, and Cyclic Corrosion test. 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](http://www.csztesting.com).



## CSZ is your one stop solution for ...

Environmental Chambers  
Freezers  
System Upgrades  
Preventative Maintenance  
Calibration Services  
Contract Testing Services

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