Cincinnati Sub-Zero



CA-Series Altitude Chambers





ISO-9001
CERTIFIED

Pre-Engineered Performance

CA-Series Test Chambers

In CA-Series Commercial Altitude Chambers, temperature and humidity are combined with vacuum to test basic components and sub-assemblies designed for use in the aeronautical, space engineering, and meteorological fields. Altitude chambers are designed to meet the requirements of MIL-STD 810, 202, 883 and other military standards. All units feature a water-cooled cascade refrigeration system, automatic altitude control and all necessary safety devices.

Control the temperature environment for testing your product while simulating various altitudes from site level to 30,000 feet. Higher altitudes may also be achieved with limited temperature ranges. Continue altitude testing without temperature control up to 200,000 feet. Use the same chamber for humidity testing (site level only). We also offer an optional extended range to simulate sea level testing when your site is significantly above sea level. Standard Sizes Range from 8 to 64 cubic feet of interior workspace. However, custom sizes are available.

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 prevent transmission of adverse vibration.

STANDARD FEATURES INCLUDED WITH YOUR ALTITUDE CHAMBER

Chamber

- ☑ Welded Steel Frame Construction
- ☑ Brushed Stainless Steel Interior
- ☑ Non-Settling Low “K” Factor Foam or Fiberglass Insulation
- ☑ Removable Service Panels
- ☑ Fan Guards
- ☑ 3” Access Port

Electrical

- ☑ CSZ Programmable 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

- ☑ Refrigeration High Temperature Protection
- ☑ Refrigeration Pressure Gauges
- ☑ Refrigeration Reset
- ☑ Compressor Overload Protection
- ☑ Refrigeration Service Taps
- ☑ *Humidity Demineralizer Cartridge
- ☑ Water-Cooled Condenser
- ☑ Zero Ozone Depletion Refrigerants
- ☑ Compressor Crankcase Heater
- ☑ Pressure Relief Devices

*Humidity units only

Optional Accessories & Custom Capabilities

- ☑ Selection of Programmable Controllers
- ☑ IEEE-488 Computer Interface
- ☑ Windows-Based Software Packages
- ☑ Running Time Meter
- ☑ Chart Recorders
- ☑ Main Power Disconnect
- ☑ LN_2/CO_2 Boost Cooling
- ☑ Dry Air Purge System
- ☑ Recirculating Humidity Water System
- ☑ Remote Refrigeration
- ☑ Refrigeration Sound Deadening Package
- ☑ Stainless Steel Shelves
- ☑ Additional Access Ports
- ☑ Automatic Altitude Control Valve
- ☑ Explosion-Proof Chambers
- ☑ Custom-Size Chambers
- ☑ Custom Application Chambers
- ☑ Ultra High Temperatures
- ☑ Ultra Low Temperatures
- ☑ Compliance to all Wiring Standards
- ☑ Custom Control Interface
- ☑ CE Approval

BASIC SPECIFICATIONS:

Temperature Range

-73ºC to +190ºC (-100ºF to +375ºF)

Altitude Range

100,000 FT Standard, 200,000 FT Optional

Humidity Range

10% to 95% RH

Control

Air temperature control as measured at the control sensor ±1ºC and relative humidity ±4% after stabilization.

Specifications - Here's what the CA-Series can do...

Model Number	Interior Dimensions			Exterior Dimensions			PERFORMANCE						
							With Empty Chamber Minutes from +24ºC to				Altitude Minutes in FT x 1000		
	W	D	H	W	D	H	-68ºC	-18ºC	+93ºC	+190ºC	50	75	100
CA-8-3-3	24	24	24	69	60	87	60	20	20	50	10	20	30
CA-8-6-6	24	24	24	69	60	87	45	16	20	50	10	20	30
CA-16-3-3	30	30	30	79	67	93	95	35	25	60	10	20	30
CA-16-6-6	30	30	30	79	67	93	80	28	25	60	10	20	30
CA-16-705-705	30	30	30	79	67	93	55	20	25	60	10	20	30
CA-32-3-3	38	38	38	85	75	101	150	50	30	75	10	20	30
CA-32-6-6	38	38	38	85	75	101	115	40	30	75	10	20	30
CA-32-705-705	38	38	38	85	75	101	85	30	30	75	10	20	30
CA-64-3-3	48	48	48	70	84	91	250	85	40	95	15	20	30
CA-64-6-6	48	48	48	70	84	91	180	60	40	95	15	20	30
CA-64-705-705	48	48	48	70	84	91	140	50	40	95	15	20	30
CA-64-10-10	48	48	48	70	84	91	95	35	40	95	15	20	30
CA-64-15-15	48	48	48	70	84	91	90	30	40	95	15	20	30

Model Number	Live Load Capacity Watts			Heater Wattage (KW)	Vacuum Pump CFM	Air Flow CFM	Recommended Minimum Service	
	-18ºC	-40ºC	-54ºC				460V	230V
CA-8-3-3	2560	2050	1660	6.0	3.5	600	35	70
CA-8-6-6	3600	3000	2800	6.0	3.5	600	45	90
CA-16-3-3	2560	2050	1660	9.0	5.6	1200	40	20
CA-16-6-6	3600	3000	2400	9.0	5.6	1200	60	100
CA-16-705-705	5260	4080	3000	9.0	5.6	1200	60	125
CA-32-3-3	2560	2050	1660	12.0	10.6	1400	45	100
CA-32-6-6	3600	3000	2400	12.0	10.6	1400	60	125
CA-32-705-705	5260	4080	3300	12.0	10.6	1400	70	150
CA-64-3-3	2560	2050	1660	15.0	17.7	2400	50	100
CA-64-6-6	3600	3000	2400	15.0	17.7	2400	70	125
CA-64-705-705	5260	4080	3300	15.0	17.7	2400	70	150
CA-64-10-10	6400	5340	4320	15.0	17.7	2400	90	125
CA-64-15-15	7000	6100	5420	15.0	17.7	2400	100	150

Performance based on 60 Hz. operation and +27ºC (+80ºF) ambient air. For 50 Hz. operation, stated performance and air flow will be approximately 17% less. Specifications are subject to change. The addition of live load will affect humidity control. The addition of certain options may also affect chamber specifications or delivery time.

Meeting the needs of our customers...

Cincinnati Sub-Zero has designed thousands of test chambers for special applications. We can custom design the right environmental testing system for you. Whether you require environmental test chambers, thermal shock/temperature cycling units or special calibration bath systems, CSZ is prepared to design and build the test chamber to fit all your needs.

Parts

CSZ maintains a complete parts inventory that are readily available for overnight delivery - increasing your uptime.

Service

Our factory-trained dealer service organizations throughout the world are supported by CSZ field service technicians. This combination of experts assures timely, professional and cost-effective installation, start-up, and service.

With Sales and Service locations across the United States, we can provide complete customer support for all of your environmental simulation needs.



CSZ
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INTERTECHNOLOGY INC.
1-800-465-1600

Tel: 416-445-5500
Fax: 416-445-1170
E-Mail: sales@intertechnology.ca
Website: www.intertechnology.com