



Z-Plus Chambers

Z-Plus Series Temperature/Humidity Chambers

- Reliability You Expect
- Features You Want
- Value You Need

Z-Plus chambers are used to test and store products by subjecting them to various temperature & humidity conditions. Designed for ease-of-use, reliability and performance, this line of chambers incorporates customer-requested features with extended performance for faster ramp rates.

Features

All Z-Plus chambers include your most requested chamber features.

- CSZ EZT-560 Touch Screen Controller
- RS-232/RS-485 Serial Communications
- Ethernet Compatability
- Temperature Limit and Alarm
- Two 4" Access Ports
- Casters
- Leveling Legs
- Adjustable, Slide-Out Shelf
- Single-Handed Latch
- Fog-Free Viewing Window
- Interior Light
- Easily Removable Access Panels
- Enhanced Air Flow
- Extended Performance

Features At-A-Glance



Z-Plus Series

Chambers
Temperature/Humidity

Cabinet Features

The contemporary and smooth cabinet design is aesthetically pleasing to fit the style of your laboratory. The standard color is pearl gray finished with a durable oven-baked powder coat, contrasting trim and hardware.



- Two, 4" access port centered on the left-hand and right-hand sides for ease of cable routing. Ports are fully welded to eliminate leaks and increase chamber life.
- Compact size and casters allow you to move the chamber throughout your lab with leveling legs to secure and level your chamber
- One adjustable product shelf slides out to provide easier access to your product. The new shelf design is non-tipping and supports large product loads
- Single-handed latch operation for ease of use
- Fog-free viewing window provides product viewing
- Interior light illuminates chamber workspace and product
- Removable side panels allow for easy access to all systems



- Lower workspace allows for easy product loading
- The workspace interior is heliarc-welded with type 304 brushed stainless liner that is easy to clean
- Double gasketing assures a vapor tight seal and non-settling low "K" factor fiberglass insulation minimizes heat loss
- Each chamber is fully pressure tested along with fully welded ports to eliminate potential leaks and prolong chamber life
- New gasket design allows for easy replacement in the event of future wear

Air Flow System

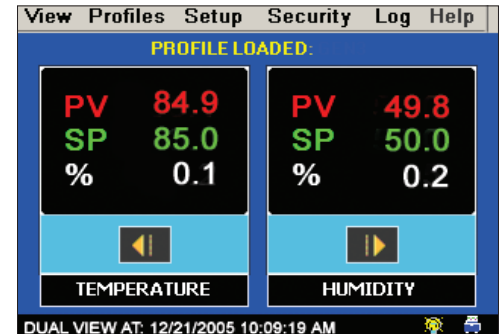
Our high volume airflow system includes robust air circulator motors that provide better airflow that improves controllability within the chamber. Better airflow minimizes temperature gradients and accelerates temperature change rates of the device under test.

Z-Plus Series Temperature/Humidity Chambers

Instrumentation

EZT-560 Touch Screen Controller

CSZ's EZT-560 controller offers 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. The EZT-560 intuitive controller includes built-in safeties to protect your chamber and product under test.



FEATURES

User Convenience

- Real time & historical trend graphs with the drag-n-zoom feature provides the ability to touch and zoom into specific areas of the graph saving time.
- Print real time and historical trend graphs directly to a printer.
- On-line help provides menu specific information for user convenience.
- Profile status view provides details on the profile with stop date and time.
- Profile autostart and "wait for" functions.
- Easily download profiles, alarm files, audit trail files and data files to a removable I-stick via USB port. Also imports profiles via removable I-stick for easy transfer among multiple chambers.
- Access alarm history files and view detail for troubleshooting.
- System monitor displays run time and cycles of all major components.
- Wireless compatibility using web-enabled, hand-held devices.

Computer Interface

- EIA-232/485 Serial Communications
- Ethernet Compatibility
- GPIB (IEEE-488) Optional

Featured Software

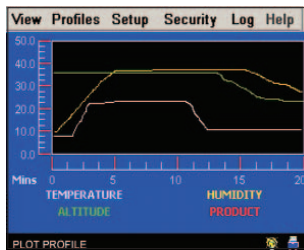
- Monitor and control up to 20 chambers from any location with CSZ's EZ-View™ software

Flexibility

- Data logging capabilities with user-selectable features.
- Fully configurable alarm settings.
- Configurable maintenance messages and audible alarms.
- Full system security allows up to 30 different users with three different levels of security.
- Audit trail tracks changes in settings by each user.

Enhanced Functionality

- 6" Color touch screen with windows-based menu navigation.
- Unlimited profiles with up to 99 steps each.
- 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.
- Monitor option provides up to 8 inputs for monitoring with individual alarms, displays, and data logging for each input.



Description	Value
PROFILE STATUS:	OFF
START DATE:	10/22/05 - 10:15
ESTIMATE STOP DATE:	10/22/05 - 15:44
CURRENT STEP:	3
STEP TIME LEFT:	2:22:00
WAIT FOR INPUT:	NONE
WAIT SETPOINT:	NONE

File Utilities

Profile Files Import Profiles

Alarm Files Audit Trail Files

Data Files

Copy To I-Stick Delete From Internal Storage

Data Transfer Information:

Alarm Settings

Alarm Type: NO ALARM

Alarm Modes: SELF CLEARS, CLOSE ON ALM, AUDIBLE OFF, CONTINUE

Output Assign: NOT USED

Low SP: 0 Hi SP: 0 DB: 0

Z-Plus Series

Refrigeration Features

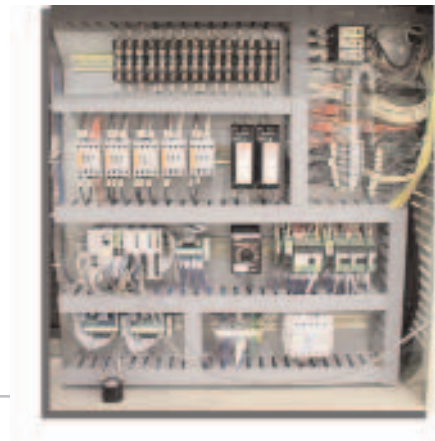
- Extended performance with a selection of three refrigeration systems and multiple performance packages are available to meet your product testing requirements.
- Environmentally safe refrigerants are non-flammable, and have a zero Ozone Depletion Potential (ODP).
- Refrigeration service taps and refrigeration pressure gauges are included for easy maintenance.
- Refrigeration system saves energy costs and prevents coil frost up for efficient operation.

Humidification System (ZPH Models)

- The Z-Plus features our fast response, tight control, humidity system. Humidification systems allow for humidity and moisture resistance testing meeting a variety of commercial and military standards.
- These systems include an electronic, solid-state humidity for accuracy and minimal maintenance.

Electrical & Safety Features

- All wiring between the electrical panel and the various components pass through terminal strips for easy maintenance. Wiring is color-coded and identified with numbers that correspond to system schematics.
- Multiple safety devices include a primary over-temperature limit to protect your product and an over-temperature safety limit to protect the chamber. All branch power and control circuits are individually fused.
- External DUT connection allows you to easily power your device under test in addition to optional customer event connections.



Communications

- Z-Plus models come equipped with EIA-232, EIA-485 communications, ethernet connectivity, and optional IEEE-488 GPIB.



Standard Z-Plus Features



Options for Flexibility and Performance

Choose from a complete selection of standard and custom options for flexibility and increased performance not found in other competitive models such as the ability to incorporate both left and right side ports/slots.

Windows Software for your chamber controller...

Using our optional windows software, from one central PC you are able to monitor, control, datalog, create profiles, and receive alarm notifications. This software package allows you to control up to 20 chambers. Contact your CSZ salesperson for additional information.

Standard Options

- Dry Air Purge
- Recirculating Water Supply System
- Humidity Water Filtration System
- Demineralizer Cartridge Filters
- LN2 Boost Cooling
- Low RH
- Running Time Meter
- Event Relays for Controller
- IEEE-488 Computer Interface
- Windows-Based Software
- Chart Recorder
- Additional Shelves
- Additional Ports
- Cable Notch
- Stainless Steel Exterior
- Glove Ports (ZP-16 & above)
- Water Pressure Regulator
- Redundant Product Hi/Low Limit

Custom Options

- CO2 Boost Cooling
- CO2 Cooling Only
- LN2 Cooling Only
- GN2 Purge
- Heat Only
- Water Cooled Condenser (std. on 6HP)
- Air Cooled Condenser (6HP)
- Extra Heat for Faster Transitions
- Blank Door without window
- Temperature Limited Sheathed Heaters
- Extended Temperature Range up to 200°C
- Temperature-Controlled Door Lock
- Main Power Cord
- Main Power Disconnect
- Reinforced Chamber Floor
- Reinforced Shelf

Z-Plus Specifications

	ZP(H) - 8	ZP(H) - 16	ZP(H) - 32	ZP(H) - 44	ZP(H) - 64
Workspace Volume	8 Cubic Ft (227 L)	16 Cubic Ft (453 L)	32 Cubic Ft (905 L)	44 Cubic Ft (1,246 L)	64 Cubic Ft (1,812)
Exterior Dimensions	35.5"W x 56.6"D x 75.7"H (90cm x 144cm x 192cm)	41.5"W x 62.6"D x 81.8"H (106cm x 159cm x 208cm)	49.5"W x 70.7"D x 91.5"H (126cm x 180cm x 232cm)	55.5"W x 70.9"D x 99.5"H (141cm x 180cm x 253cm)	59.5"W x 80.9"D x 101.5"H (151cm x 205cm x 258cm)
Workspace Dimensions	24"W x 24"D x 24"H (61cm x 61cm x 61cm)	30"W x 30"D x 30"H (76cm x 76cm x 76cm)	38"W x 38"D x 38"H (97cm x 97cm x 97cm)	44"W x 38"D x 46"H (112cm x 97cm x 117cm)	48"W x 48"D x 48"H (122cm x 122cm x 122cm)
Temperature Ranges	Single Stage: -34°C to +190°C (-30°F to 375°F) Tundra®: -45°C to +190°C (-49°F to 375°F) Cascade: -73°C to +190°C (-100°F to 375°F)				
*Temperature Control Tolerance	±0.5°C at steady state condition after stabilization				
Humidity Range	10% to 98% RH				
Optional Range	5% to 98% RH				
*Humidity Control Tolerance	±3% RH at steady state conditions after stabilization				
Distributed Shelf Load Capacity	110 lbs.	110 lbs.	100 lbs.	70 lbs.	50 lbs.

* Tolerances are based upon the full temperature range of the chamber. Better control will be achieved across a limited range.

Z-Plus Performance Data

Single Stage -34°C to 190°C					
	Cooling Performance		Heating Performance		
	with Empty Chamber in Minutes from:		with Empty Chamber in Minutes from:		
	24°C		24°C	-34°C	24°C
	-18°C	-34°C	93°C	190°C	24°C
ZP-8-1.5-H/AC	10	20	8	25	10
ZP-16-1.5-H/AC	15	25	15	38	10
ZP-32-1.5-H/AC	22	58	20	60	10
ZP-44-3-H/AC	14	38	15	45	12
ZP-64-3-H/AC	18	48	20	60	15

Value and Economy

The best warranty and our extensive list of standard features make the Z-Plus the highest valued chamber in the industry.

	Live Load Capacity		Electrical Power Requirements	
	Watts		Minimum Amp Service	
	-18°C	-34°C	208/230V, 1Phase	208/230V, 3Phase
ZP-8-1.5-H/AC	1200	250	40	35
ZP-16-1.5-H/AC	1200	250	40	35
ZP-32-1.5-H/AC	1200	250	40	35
ZP-44-3-H/AC	2000	300	60	55
ZP-64-3-H/AC	2000	300	60	55

Tundra® Cooling System

The CSZ Tundra is a patented, single-stage refrigeration system that can efficiently operate at the low temperature of -45°C and can be included in almost any CSZ environmental chamber. This system provides additional performance for fast transition rates and increased live load capacity.

The Tundra systems offers these benefits:

- Increased Performance
- High Reliability
- Quiet Operation
- Energy Efficient
- Improved Serviceability
- Reduced Utility and Maintenance Cost
- Increased Value

tundra™ REFRIGERATION SYSTEM

Tundra® -45°C to 190°C							
	Cooling Performance				Heating Performance		
	with Empty Chamber in Minutes from:				with Empty Chamber in Minutes from:		
	24°C		85°C		24°C		-34°C
	-18°C	-34°C	-40°C	-40°C	93°C	190°C	24°C
ZP-8-2-SCT/AC	6	12	18	30	10	30	10
ZP-8-3.5-SCT/AC	5	8	10	26	5	10	8
ZP-16-3.5-SCT/AC	5	10	12	30	15	40	10
ZP-16-6-SCT/WC	3	7	10	15	10	25	6
ZP-32-3.5-SCT/AC	8	15	20	35	20	60	10
ZP-32-6-SCT/WC	5	9	12	30	10	30	8
ZPS-32-10-SCT/WC	3	6	8	18	7	20	6
ZPS-32-15-SCT/WC	2	4	6	10	6	16	5
ZP-44-3.5-SCT/AC	10	25	30	50	15	45	12
ZP-44-6-SCT/WC	7	15	20	30	15	45	12
ZPS-44-10-SCT/WC	4	8	12	15	8	20	7
ZPS-44-15-SCT/WC	3	6	10	12	6	15	5
ZP-64-3.5-SCT/AC	14	33	38	60	20	60	15
ZP-64-6-SCT/WC	10	20	25	40	20	60	15
ZPS-64-10-SCT/WC	5	10	18	20	10	25	8
ZPS-64-15-SCT/WC	4	8	12	15	8	20	6

	Live Load Capacity			Electrical Power Requirements		
	Watts			Minimum Amp Service		
	-18°C	-34°C	-40°C	208/230V, 1Phase	208/230V, 3Phase	460V, 3 Phase
ZP-8-2-SCT/AC	1800	950	725	45	40	-
ZP-8-3.5-SCT/AC	2100	1100	925	-	50	-
ZP-16-3.5-SCT/AC	3000	1700	1300	-	50	-
ZP-16-6-SCT/WC	3600	2300	1800	-	70	35
ZP-32-3.5-SCT/AC	3000	1700	1300	-	50	-
ZP-32-6-SCT/WC	3600	2300	1800	-	70	35
ZPS-32-10-SCT/WC	6000	3500	2300	-	-	45
ZPS-32-15-SCT/WC	8000	5000	3000	-	-	55
ZP-44-3.5-SCT/AC	2800	1500	1100	-	50	-
ZP-44-6-SCT/WC	3300	2000	1500	-	70	35
ZPS-44-10-SCT/WC	6000	3500	2300	-	-	45
ZPS-44-15-SCT/WC	8000	5000	3000	-	-	60
ZP-64-3.5-SCT/AC	2600	1300	800	-	50	-
ZP-64-6-SCT/WC	3100	1800	1300	-	70	35
ZPS-64-10-SCT/WC	6000	3500	2300	-	-	45
ZPS-64-15-SCT/WC	8000	5000	3000	-	-	60

Whether you need to do basic temperature cycling or fast temperature cycling, the Z-Plus offers a variety of sizes, temperature ranges and performance packages that meet your testing needs.

Cascade -73°C to 190°C										
	Cooling Performance						Heating Performance			
	with Empty Chamber in Minutes from:						with Empty Chamber in Minutes from:			
	24°C					85°C	24°C		-34°C	-68°C
	-18°C	-34°C	-40°C	-54°C	-68°C	-40°C	93°C	190°C	24°C	24°C
ZP-8-1.5-1-H/AC	8	15	18	25	38	50	8	25	10	15
ZP-8-2-2-H/AC	5	8	10	12	18	35	8	25	10	15
ZP-16-2-2-H/AC	8	10	12	18	25	28	10	30	10	20
ZP-16-3.5-3.5-SC/AC	6	8	11	17	23	25	10	30	10	20
ZP-16-6-6-SC/WC	4	6	7	10	15	15	10	25	6	12
ZP-32-2-2-H/AC	10	16	20	28	38	55	20	60	10	20
ZP-32-3.5-3.5-SC/AC	8	14	18	25	35	35	20	60	10	20
ZP-32-6-6-SC/WC	5	8	10	15	25	25	10	30	8	15
ZPS-32-10-10-SC/WC	4	6	7	10	15	15	7	20	6	10
ZPS-32-15-15-SC/WC	3	4	5	7	10	8	6	16	5	8
ZP-44-3.5-3.5-SC/AC	15	22	28	40	50	50	12	45	12	20
ZP-44-6-6-SC/WC	8	12	15	20	25	30	12	45	12	20
ZPS-44-10-10-SC/WC	5	7	8	12	18	15	8	20	7	10
ZPS-44-15-15-SC/WC	4	5	6	8	12	10	6	15	5	8
ZP-64-3.5-3.5-SC/AC	15	25	30	40	60	60	20	60	15	25
ZP-64-6-6-SC/WC	10	15	20	25	35	35	20	60	15	25
ZPS-64-10-10-SC/WC	6	8	9	15	22	20	10	25	8	12
ZPS-64-15-15-SC/WC	5	6	7	9	15	12	8	20	6	10

	Live Load Capacity					Electrical Power Requirements		
	Watts					Minimum Amp Service		
	-18°C	-34°C	-40°C	-54°C	-68°C	208/230V, 1 Phase	208/230V, 3 Phase	460V, 3 Phase
ZP-8-1.5-1-H/AC	-	-	650	450	200	50	35	-
ZP-8-2-2-H/AC	-	-	1200	900	600	70	55	-
ZP-16-2-2-H/AC	-	-	1800	1200	600	70	55	-
ZP-16-3.5-3.5-SC/AC	-	-	2000	1600	1000	-	70	-
ZP-16-6-6-SC/WC	-	-	3000	2400	1500	-	100	45
ZP-32-2-2-H/AC	-	-	1500	1100	600	70	55	-
ZP-32-3.5-3.5-SC/AC	-	-	2000	1600	1000	-	70	-
ZP-32-6-6-SC/WC	-	-	3000	2400	1500	-	100	45
ZPS-32-10-10-SC/WC	-	-	4500	3500	1700	-	-	70
ZPS-32-15-15-SC/WC	-	-	5500	4500	2500	-	-	90
ZP-44-3.5-3.5-SC/AC	-	-	1700	1300	700	-	70	-
ZP-44-6-6-SC/WC	-	-	2700	2100	1200	-	100	45
ZPS-44-10-10-SC/WC	-	-	4500	3500	2000	-	-	70
ZPS-44-15-15-SC/WC	-	-	5500	4500	3000	-	-	90
ZP-64-3.5-3.5-SC/AC	-	-	1500	1100	500	-	70	-
ZP-64-6-6-SC/WC	-	-	2500	2100	1000	-	100	45
ZPS-64-10-10-SC/WC	-	-	4500	3500	2000	-	-	70
ZPS-64-15-15-SC/WC	-	-	5500	4500	3000	-	-	90

The Experience you Rely on...

Cincinnati Sub-Zero (CSZ) Products, Inc. is an ISO-9001 certified company with over 65 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
- Thermal Shock
- Stress-Screening
- Altitude
- AGREE Vibration
- Freezers
- Liquid Chillers
- Wind & Rain
- Dust
- Other Custom Chambers

Custom fixtures may also be designed and fabricated for your product needs. Chamber sizes range from small benchtop units to full walk-in/drive-in rooms.

QUALITY

The quality design and engineering of our products is known throughout the industry. We ensure the quality and reliability of every product we manufacture with design review meetings, incoming and in-process inspections, vendor auditing, and validation testing. Our ISO-9001 certification combined with our quality processes ensure that you are purchasing the most reliable chamber in the industry.

SERVICE

Service is the cornerstone at Cincinnati Sub-Zero. Matched by none, CSZ provides a comprehensive service organization to assure product performance. CSZ has factory-trained representatives to provide on-site maintenance and repair of your CSZ products. From the first contact with our customer service department, you will be provided with prompt, courteous, and knowledgeable assistance.

CSZ offers extended product warranties, preventative maintenance programs, upgrades, and calibration services. Contact CSZ's service department today for more details.

- Protect your investment*
- Reduce cost of ownership*
- Save valuable maintenance time*
- Assure prompt qualified service*
- Enable planned limited expenditures*
- Keep your equipment performing to today's latest standards*

