Specifications

ZPHE-32-2-2-SC/AC
Z-Plus Express Temperature/Humidity

FEATURES

Cabinet Items:

- One (1) 21.25" (540 mm) high x 14.75" (375 mm) wide fog-free heated viewing window
- Single-handed, lockable door latch
- Heavy duty casters, 4" wheel and leveling legs
- Two (2) 4" (102 mm) circular access ports, centered on the right-hand side and left hand-side of the chamber (additional ports optional)
- One (1) adjustable, slide-out stainless steel shelf with two (2) support brackets on 2" centers (additional shelves optional)
- Chamber pressure relief/equalization vent
- Stainless steel interior and BLUE/BEIGE powder-coated exterior

Electrical Items:

- Safety relay to protect your device under test by removing power to it when the chamber is not running
- UL-508A listed sub-panel
- Interior Chamber Light

Refrigeration Items:

- 2HP R-404A, 2HP R-508B Cascade Refrigeration System
- Scroll Compressor, Integral Air-Cooled Condenser
- Liquid filled refrigeration gauges and refrigeration service taps for ease of servicing

Instrument Items:

- EZT-570 7" touch screen controller. View Video: https://youtu.be/CXoYiOzw_TE
- Solid state humidity sensor

Other:

- Watch the Z-Plus Product Feature Video: https://youtu.be/4gU9Vn8Ac9k
- CSZ Manuals downloadable online; documents, parts lists, and drawings ship with the chamber
- View the Z-Plus Chamber Brochure: https://sales.cszproducts.com/literature/ZPlusBrochure.pdf
- NIST Traceable Instrumentation Calibration Report

DIMENSIONAL DATA

Test Space Volume   32 Cubic Ft (905 L)

Test Space Dimensions   38"W x 38"D x 38"H (965mm x 965mm x 965mm)
(clear usable workspace)

Shelving Information   Distributed shelf load capacity is 100 lbs. (45 kg) and concentrated load is 50 lbs. (28 kg); maximum number of shelves is thirteen (13) with maximum total weight of 250 lbs. (113kg)

Floor Rating   Maximum floor load per chamber is 200 lbs (91 kg), evenly distributed, including shelves with 20 lbs/ft2; maximum total weight in the chamber is 450 lbs (204 kg)

Overall Exterior Dimensions   50.5"W x 70.5"D x 91.5"H (1283mm x 1791mm x 2324mm)
(approximate)

Shipping Dimensions   Domestic: 56"W x 80"D x 93"H (1422mm x 2032mm x 2362mm)
(approximate)   International: 59"W x 84"D x 99"H (1498mm x 2133mm x 2514mm)

Shipping Weight   Approximately 2,000 lbs (907 kg)
(Approximate. Certain options can increase these values)

PERFORMANCE DATA – TEMPERATURE

Temperature Range: -70°C to +190°C (-94°F to +375°F)

Control & Stability: ±0.5°C (±1°F); ±3% relative humidity at steady state conditions after stabilization.
Note: Humidity control will be affected by the addition of live load.

Chamber Airflow: 900 CFM

Temperature Performance

60 Hertz:
Performance is based on 230V, 60 hertz operation, measured at air control sensor

Pull-Down Performance:
+24°C (+75°F) to -54°C (-65°F) in 28 minutes
+24°C (+75°F) to -65°C (-85°F) in 38 minutes
+85°C (+185°F) to -40°C (-40°F) in 40 minutes
+24°C (+75°F) to -40°C (-40°F) in 20 minutes

Heat-Up Performance:
+24°C (+75°F) to +93°C (+200°F) in 20 minutes
+24°C (+75°F) to +190°C (+375°F) in 72 minutes
-34°C (-30°F) to +24°C (+75°F) in 15 minutes
-68°C (-90°F) to +24°C (+75°F) in 25 minutes

Live Load Capacity:
1,100 watts at -54°C (-65°F)
1,500 watts at -40°C (-40°F)
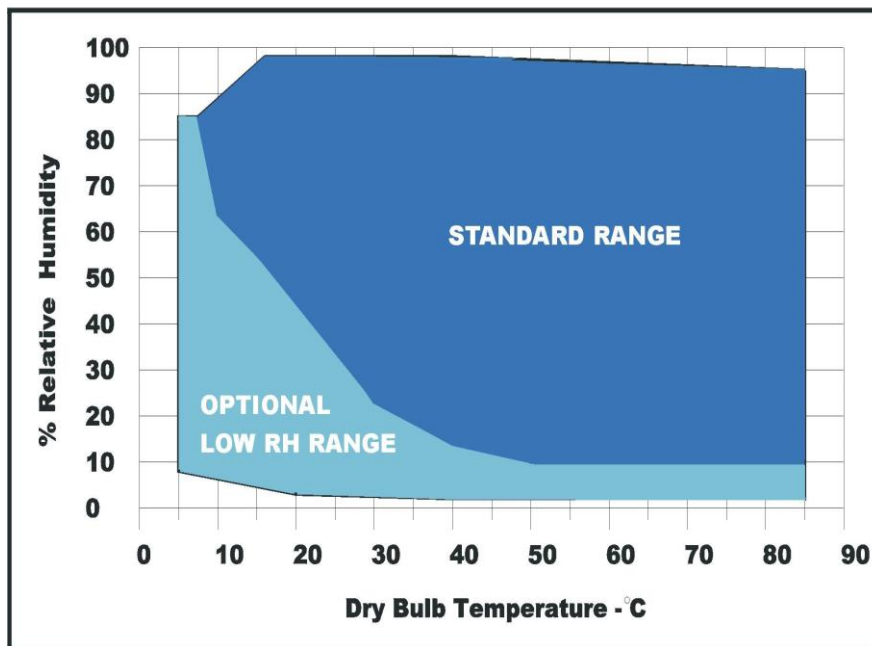600 watts at -68°C (-90°F)

Notes: The above performance is based on 230V, 60 Hz. operation. Lower voltages will extend heating performance. Designed to operate in a commercial environment with a temperature of +24°C ± 6°C (+75°F ±10°F), maximum dew point of +12.8°C (+55°F) and a maximum altitude of 7,000ft (2,133.6 M). Performance at average (non-linear) transition rates, non-humidity operation and empty chamber. This product is intended for indoor use only. If you are planning to place this in a location which does not meet these criteria, please consult factory so the proper product can be quoted. Note: Condensation on exterior surfaces is normal when operating at cold temperatures for an extended period of time. Certain options will affect performance.

PERFORMANCE DATA – HUMIDITY

Humidity Range: 10% to 98% relative humidity as limited by a +85°C (+185°F) maximum dry bulb and a +7°C (+45°F) minimum dewpoint. Approximate humidity consumption: .5 gallon of water per hour dependent upon live load.

Control & Stability: ±3% relative humidity at steady state conditions after stabilization
Note: Humidity control will be affected by the addition of live load

Std. Humidity Performance

FACILITIES & UTILITIES DATA

Humidity Water Requirements & Information:

- De-ionized (DI) water is recommended for use with our humidity systems
- Water should be provided within 0.05 to 2 megaohms resistivity
- Distilled water or reverse osmosis (RO) water outside of these limits may cause corrosion
- Tap water may be used with the optional *Demineralizer Filtration System
- A Recirculating Humidity Water Supply System is also available (see options)
- Inlet water pressure should be 25 PSI, use Water Pressure Regulator (see options)
- Connection Size: 0.25" (6.35mm) N.P.T.
- Drain Size: 0.5" (12.7mm)
- Water Consumption: Approximately 0.5 GPH (1.9 LPH) of water (dependent upon live load)

Note: When operating at high temperature and humidity etching of the glass may occur and is a normal occurrence

Heat Rejection:
(into your building's room)

Approximately 8,800 watts (30,000 BTU/hr) maximum during cooling operation

Heat Rejection Note:

Integral air-cooled models require an ambient temperature range between +21.1°C (+70°F) TO +29.4°C (+85°F) for proper operation and performance.

Operational Sound Level (Front):
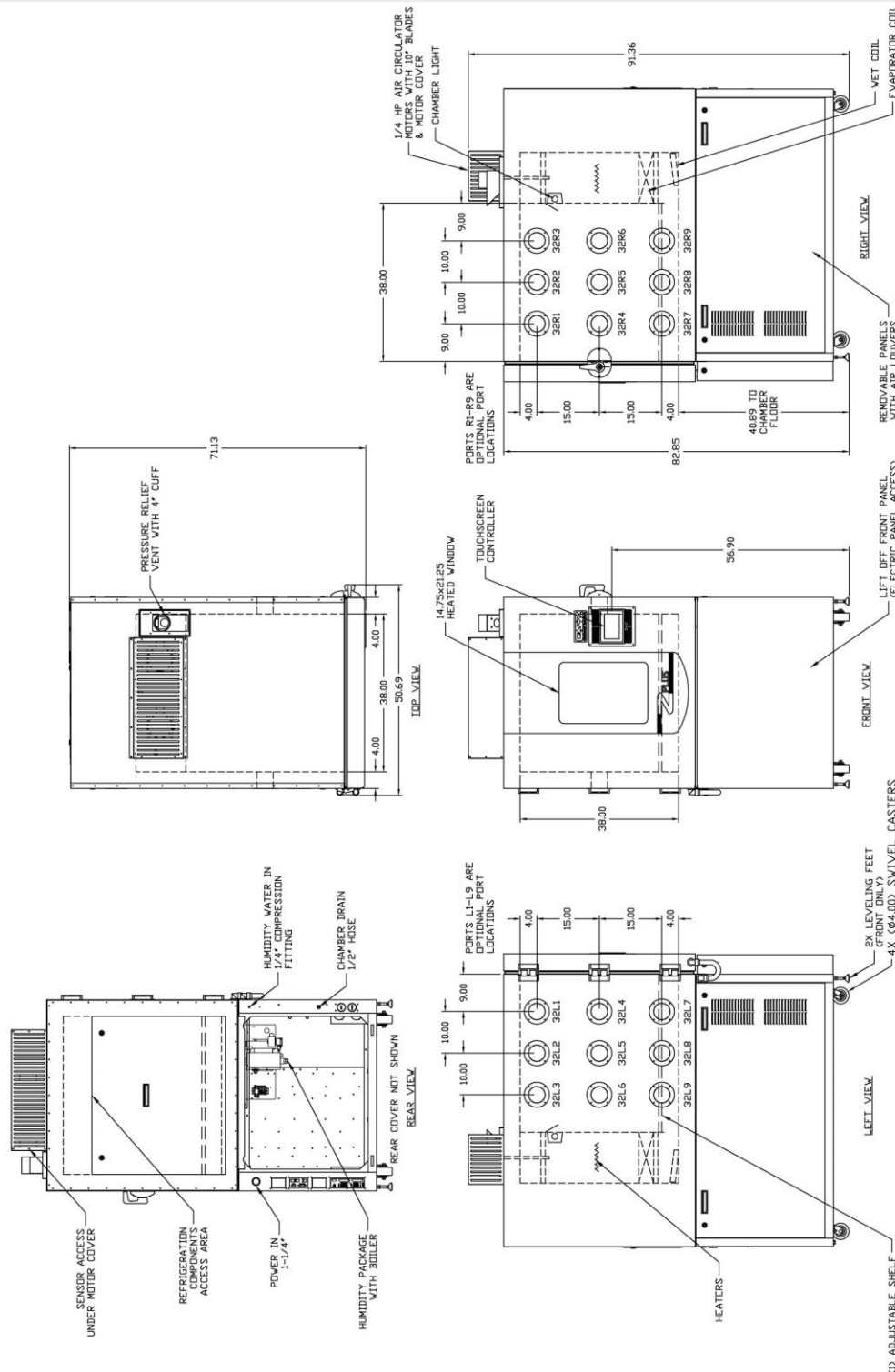
≤73dBA

Operational Sound Level (Rear):

≤76dBA

Electrical Information:
(±5%)

208 or 230 volt (±5%), 60 hertz (customer to provide power cord and plug)
-1 phase, 49 FLA, 70 amp minimum service
-3 phase, 36 FLA, 45 amp minimum service
380-415 volt (±5%), 50 hertz (customer to provide power cord and plug)
-3 phase, 28 FLA, 35 amp minimum service
***Refer to option list other available standard input voltages*

Notes:
 - All values are approximate (if provided)
 - Please contact factory for final values when determining your required utilities or refer to chamber's layout/approval drawing
 - 50 hertz also available, contact factory for details

GENERAL ARRANGEMENT

CONTROLLER

**The Next Generation Controller
with Smartphone Technology**

Includes trend graphing, data logging, data file access with USB, Ethernet control and monitoring, email alarm notifications and/or text message, data file backup system, full system security, audit trail, digital signatures, power recovery options & more.

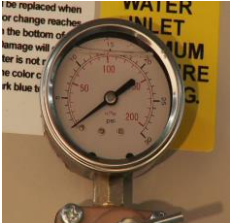|	
Touch Panel	7" (178mm) Ergonomic height.
Program Controller	Start parameters for programs: start, stop, pause, delayed autostart, Program ramp steps entering time or °C/min, 99 steps, 1,000 cycles maximum. Profile status view.
PID controller	Special control algorithms, define/change per output demands.
Data-Logging	Custom file names, batch/lot numbers, operator notes & digital signatures.
File Management/Email	Easily download profiles, alarm files, audit trail files and data files to USB stick. Also import profiles for easy transfer among multiple chambers. Email data, alarm history & audit trail files directly from the controller with a touch of a button.
Product Control	Accelerates temperature cycling of the device under test.
Password Protection	3 levels of security.
Diagnostic System	Fully configurable alarm settings and maintenance alerts.
Communication	Control by Ethernet TCP/IP, EIA-232/485 Modbus communication.
Ethernet Interface	Remotely monitor and control with VNC Server.
Multi-Language Display	Configurable for 10+ different languages.

VOLTAGE OPTIONS AVAILABLE
MUST SELECT OPTION FOR YOUR ORDER

☐ 208 or 230 volt (±5%), 60 hertz (customer to provide power cord and plug)
  -1 phase, 49 FLA, 70 amp minimum service
  -3 phase, 36 FLA, 45 amp minimum service
	☐ 380-415 volt (±5%), 50 hertz (customer to provide power cord and plug)
	  -3 phase, 28 FLA, 35 amp minimum service

CHAMBER OPTIONS

☐		ZP-32 Adjustable Slide-Out Shelf, Stainless Steel Welded Wire, each (distributed load capacity 100 lbs. (45Kg))
☐		LN2 Boost Cooling System for rapid cooling transitions. For ultimate low temperature range, please refer to the quoted temperature range for your chamber. Option includes automatic demand control from chamber instrument with delay timer, solenoid and vent port. LN2 must be ducted outdoors to prevent asphyxiation. The LN2 tank should have a maximum supply pressure of 25 psi. Note: Customer is responsible for supply & exhaust piping. Vacuum jacket piping is recommended.
☐		Dry Air Purge System, 3 CFM with flow meter (20 to 200 SCFH). Customer must provide >=5SCFM (+10°C dewpoint) compressed air that is free of oil and entrained water. Requires connection to customer's compressed air source at 90 psig. Note: This option adds approximately 6" (15cm) to the chamber width.
☐		Low RH Option to obtain 5% RH at 11°C or 8% RH at 4.4°C (lowest dew point -27°C). Option includes Dry Air Purge flow meter (20 to 200 SCFH) and Frozen Coil. Note: Requires connection to customer's compressed air source (5SCFM, ~90psig). This option adds approximately 6" (15cm) to the chamber width.
☐		Humidity Water Demineralizer Filtration System (this option adds approximately 4.75" (121mm) to the chamber width (this is not needed for those customers that already have a de-ionized or RO water supply)

CHAMBER OPTIONS

☐		Spare Humidity Demineralizer Cartridge
☐		Recirculating Humidity Water Supply System, 5 U.S. gallons (18.9 liters); Note: Includes Humidity Water Demineralizer Filtration System. This option adds appropriately 8" (203mm) to the chamber width.
☐		Water Regulator to regulate incoming water to 25 psig (not required with Recirculating Water Option). Note: This is not required with recirculating water option.
☐		ZP-32 Sound Deadening Quiet Package (included as std accessory on 10HP & 15HP tundra and cascade models)
☐		CSZ EZ-View Software (for use with customer provided computer with RS-232 port). Designed to allow you to monitor, control and create profiles through the chamber RS-232 port. One copy can be used with multiple CSZ EZT controllers when using an RS-485 connection with converter. A PC-E converter at the computer is needed to use Ethernet.
☐		Model 100, Reverse Osmosis Water System. This option is shipped separate. Customer is responsible for installation. Contact Factory for more detailed information. Please note: For use with city/tap water. Do not use this option in conjunction with Demineralizer filter systems.

CHAMBER OPTIONS

☐		Start-up and Training by CSZ factory technician or ISO (Independent Service Organization), non-union. Sales tax is not included. Customer must have all required utilities connected to the chamber prior to start-up and training session. Note: please complete the "Start-up Training Survey" and send to CSZ Service Department to request described service.
☐		Estimated Shipping Cost -Customer must have loading dock & forklift to properly receive chamber -Shipping terms are F.O.B. Origin, Cincinnati, OH -Freight prepaid and add or (Air-Ride Equipped, LTL Service) -Sales tax is not included Note: Note: Customer is responsible to check the condition of the shipment and make written notation on the transport document before accepting the shipment. Failure to make notations on the carrier's Bill of Lading will limit your claim. The title to this equipment has been transfer to you from the CSZ Products and the shipper (CSZ Products) is not responsible for filing of damage claims with the carrier.
☐		ZP(H)-32, IPPC closed crate

QUALITY

The quality design and engineering of our products are 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-9001:2015 certification, combined with our quality processes ensures you are purchasing the most reliable chamber in the industry.

NSF ISR Certificate of Registration

This certifies that the Quality Management System of

Weiss Technik North America, Inc.

12011 Mosteller Road
Cincinnati, Ohio, 45241, United States

has been assessed by NSF-ISR and found to be in conformance to the following standard(s):

ISO 9001:2015

Scope of Certification:

The design, manufacture, distribution and service of mechanically refrigerated production chilling chambers, calibration baths, thermal shock, temperature cycling units and environmental stress screening systems as well as customized production, test equipment, fabricated products, and OEM replacement parts.

Certificate Number:	C0554509-IS2
Certificate Decision Date:	09-NOV-2022
Certificate Issue Date:	09-NOV-2022
Cycle Effective Date:	17-DEC-2022
Certificate Expiration Date*:	16-DEC-2025

Sameer Vachani
Senior Director, NSF-ISR

Issued by:
NSF International Strategic Registrations (NSF-ISR)
789 N. Dixboro Road, Ann Arbor, MI 48105 USA

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