



Advanced Test Equipment Corp.

www.atecorp.com 800-404-ATEC (2832)



## Specifications

# ZPH-64-3.5-3.5-SC/AC

## Z-Plus Temperature & Humidity

Reference Quotation 20250522-72874



## 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:

- 3.5HP R-404A, 3.5HP 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](https://youtu.be/CXoYiOzw_TE)

### 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

<b>Test Space Volume</b>	64 Cubic Ft (1,812)
<b>Test Space Dimensions</b> <i>(clear usable workspace)</i>	48"W x 48"D x 48"H (1219mm x 1219mm x 1219mm)
<b>Shelving Information</b>	Distributed shelf load capacity is 100 lbs. (45 kg) and concentrated load is 50 lbs. (28 kg); maximum number of shelves is eighteen (18) with maximum total weight of 250 lbs. (113kg)
<b>Floor Rating</b>	Maximum floor load per chamber is 200 lbs (91 kg), evenly distributed, including shelves with 12.5 lbs/ft <sup>2</sup> ; maximum total weight in the chamber is 450 lbs (204 kg)
<b>Overall Exterior Dimensions</b> <i>(approximate)</i>	59"W x 84"D x 101.5"H (1499mm x 2134mm x 2578mm)
<b>Shipping Dimensions</b> <i>(approximate)</i>	Domestic: 66"W x 90"D x 103"H (1676mm x 2286mm x 2616mm) International (ocean): 70"W x 94"D x 99"H (1752mm x 2387mm x 2514mm)
<b>Shipping Weight</b> <i>(Approximate. Certain options can increase these values)</i>	Approximately 2,500 lbs (1,134 kg)

## PERFORMANCE DATA – TEMPERATURE

<b>Temperature Range:</b>	-70°C to +190°C (-94°F to +375°F)	
<b>Control &amp; Stability:</b>	±0.5°C (±1°F) at temperatures > 0°C ±1.1°C (±2°F) at temperatures < 0°C ±1% to 5% relative humidity Notes: At steady state condition after stabilization; humidity control will be affected by the addition of live load	
<b>Chamber Airflow:</b>	1197 CFM	
<b>Temperature Performance</b>	<b>Pull-Down Performance:</b>	<b>Heat-Up Performance:</b>
<u>60 Hertz:</u> <i>Performance is based on 240V, 60 hertz operation, measured at air control sensor</i>	+24°C (+75°F) to -40°C (-40°F) in 30 minutes +24°C (+75°F) to -54°C (-65°F) in 42 minutes +24°C (+75°F) to -65°C (-85°F) in 65 minutes +85°C (+185°F) to -40°C (-40°F) in 65 minutes	+24°C (+75°F) to +93°C (+200°F) in 25 minutes +24°C (+75°F) to +190°C (+375°F) in 75 minutes -34°C (-30°F) to +24°C (+75°F) in 20 minutes -68°C (-90°F) to +24°C (+75°F) in 30 minutes
<b>Live Load Capacity:</b>	500 watts at -68°C (-90°F) 1,100 watts at -54°C (-65°F) 1,500 watts at -40°C (-40°F)	

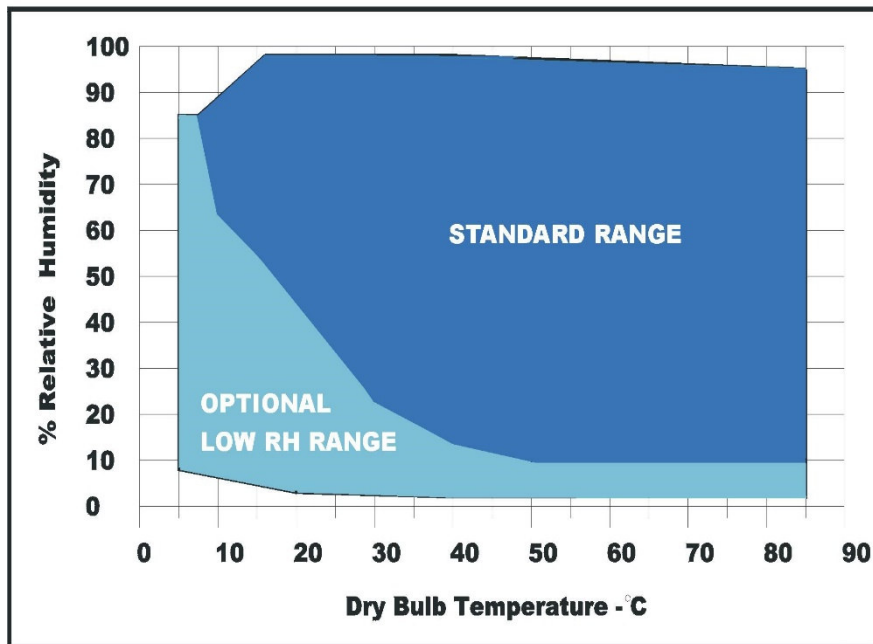
*Notes: The above performance is based on 240V, 60 Hz. operation. Lower voltages will extend heating performance. Designed to operate in a commercial environment with a temperature of +24°C ± 6°C (+75°F ±10°F), maximum dew point of +12.8°C (+55°F) and a maximum altitude of 7,000ft (2,133.6 M). Performance 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: 1 gallon of water per hour dependent upon live load.

**Control & Stability:** ±1% to 5% 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 our 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 1 GPH (3.8 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 9085 watts (31,000 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):

≤74dBA

### Operational Sound Level (Rear):

≤78dBA

### Electrical Information: (±5%)

- 208 or 240 volt (±5%), 60 hertz (customer to provide power cord and plug)
- 3 phase, 48 FLA, 60 amp minimum service
- 480 volt (±5%) 60 hertz (customer to provide power cord and plug)
- 3 phase, 31 FLA, 40 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



**CONTROLLER**









**The Next Generation Controller with Smartphone Technology**





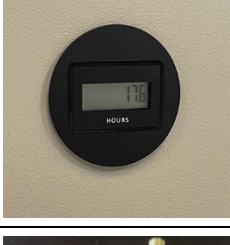
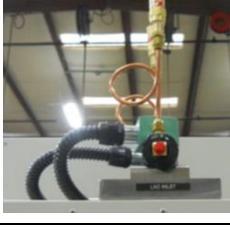
Includes trend graphing, data logging, data file access with USB, Ethernet control and monitoring, email alarm notifications and/or text message, data file backup system, full system security, audit trail, digital signatures, power recovery options & more.

<b>Touch Panel</b>	7" (178mm) Ergonomic height.
<b>Program Controller</b>	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.
<b>PID controller</b>	Special control algorithms, define/change per output demands.
<b>Data-Logging</b>	Custom file names, batch/lot numbers, operator notes & digital signatures.
<b>File Management/Email</b>	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.
<b>Switch Inputs (Digital)</b>	(Optional) 8 inputs for configuring controller functions.
<b>Switch Outputs (Digital)</b>	(Optional) 15 event outputs with connection panel & plug connectors.
<b>Product Control</b>	Accelerates temperature cycling of the device under test.
<b>Password Protection</b>	3 levels of security.
<b>Diagnostic System</b>	Fully configurable alarm settings and maintenance alerts (optional).
<b>Communication</b>	Control by Ethernet TCP/IP and EIA-232 (optional EIA-485) Modbus communication.
<b>Ethernet Interface</b>	Remotely monitor and control with VNC Server.
<b>Multi-Language Display</b>	Configurable for 10+ different languages.

## CHAMBER OPTIONS

<input type="checkbox"/>		<p>3" (76mm) additional circular feed-through port with plug (if port intersects with the standard port additional charges may occur)</p>
<input type="checkbox"/>		<p>4" (102mm) additional circular feed-through port with plug (if port intersects with the standard port additional charges may occur)</p>
<input type="checkbox"/>		<p>6" (152mm) additional circular feed-through port with plug (if port intersects with the standard port additional charges may occur)</p>
<input type="checkbox"/>		<p>ZP-64 Adjustable Slide-Out Shelf, Stainless Steel Welded Wire, each (distributed load capacity 100 lbs. (45Kg))</p>
<input type="checkbox"/>		<p>ZP-64 Heavy Duty Shelf (250 lbs. (114kg) max dist load))</p>
<input type="checkbox"/>		<p>Customer Event Option, for EZT Controller, includes fifteen (15) event outputs with connection panel &amp; removable plug connectors. Designed to turn customer's electronic DUT's (devices under test) ON or OFF at various stages of the customer programmed test profile. Each output may also be configured to perform other operations including alarm or profile status indicators</p>

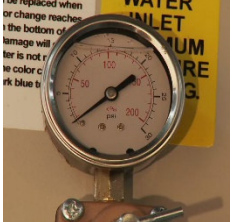





## CHAMBER OPTIONS

<input type="checkbox"/>		Cable Notch, 2" x 6" (51mm x 152mm) at door edge for ease of pre-wired DUT placement.
<input type="checkbox"/>		Honeywell DR-4500 Truline 1-Channel Recorder (draws own chart) (Note: Standard location is on the lower front panel, optional side mount box available for additional charge)
<input type="checkbox"/>		Honeywell DR-4500 Truline 2-Channel Recorder (draws own chart) (Note: Standard location is on the lower front panel, optional side mount box available for additional charge)
<input type="checkbox"/>		Honeywell DR-4500 Truline 3-Channel Recorder (draws own chart) (Note: Standard location is on the lower front panel, optional side mount box available for additional charge)
<input type="checkbox"/>		Running Time Meter
<input type="checkbox"/>		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.




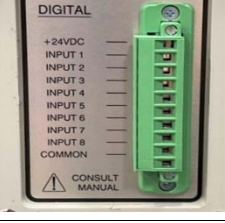


## CHAMBER OPTIONS

<input type="checkbox"/>		<p>GN2 Purge with flow meter (20 to 200 SCFH range) (Customer must provide <math>\leq</math> to 200 SCFH of gaseous dry nitrogen at <math>\sim</math>80psig)</p>
<input type="checkbox"/>		<p>Dry Air Purge System, 3 CFM with flow meter (20 to 200 SCFH). Customer must provide <math>\geq</math>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.</p>
<input type="checkbox"/>		<p>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, <math>\sim</math>90psig). This option adds approximately 6" (15cm) to the chamber width.</p>
<input type="checkbox"/>		<p>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)</p>
<input type="checkbox"/>		<p>Spare Humidity Demineralizer Cartridge</p>
<input type="checkbox"/>		<p>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.</p>





## CHAMBER OPTIONS

<input type="checkbox"/>		<p>Water Regulator to regulate incoming water to 25 psig (not required with Recirculating Water Option). Note: This is not required with recirculating water option.</p>
<input type="checkbox"/>		<p>Digital High/Low Temperature Limit and Alarm (Model L-91) both Independent from chamber's controller. Designed to shut down chamber if temperature exceeds customer limit set points</p>
<input type="checkbox"/>		<p>IEEE-488 (GPIB) Interface (Note that serial communications can not be used at same time with GPIB interface)</p>
<input type="checkbox"/>		<p>ZP-64 Sound Deadening Quiet Package (included as std accessory on 10HP &amp; 15HP tundra and cascade models)</p>
<input type="checkbox"/>		<p>ZP-32, IPPC closed crate (non-ocean)</p>
<input type="checkbox"/>		<p>ZP-44, IPPC closed crate (non-ocean)</p>



## CHAMBER OPTIONS

<input type="checkbox"/>		<p>ZP-64, IPPC closed crate (non-ocean)</p>
<input type="checkbox"/>		<p>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.</p>
<input type="checkbox"/>		<p>RS/EIA-485 to USB Converter with Cable</p>
<input type="checkbox"/>		<p>Digital input option includes connection panel and eight (8) inputs that can be configured to perform various controller functions (i.e. start, hold, resume or terminate a profile, advance steps, control customer event outputs, etc.)</p>
<input type="checkbox"/>		<p>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.</p>
<input type="checkbox"/>		<p>Designed to consist of eight (8) "T" type thermocouples (TC's) for temperature readout with individual alarms, displays, and data logging for each input that can be monitored by the EZT-570 and the EZ-View software. Option will be mounted to the rear side of the chamber and the eight TC's will pass through one of the existing side ports. These are TC's only (no RH sensors or PT100-RTD's) and are used for product temperature monitoring or temperature uniformity check within the chamber. (For monitoring only, no control.)</p>

## CHAMBER OPTIONS

<input type="checkbox"/>		<p>Hard copy manual, printed &amp; bound in addition to digital media. Printed manual includes Installation, Operation, and Maintenance manual along with all printed controller manuals, including parts lists, diagrams and calibration report.</p>
<input type="checkbox"/>		<p>Main Power Disconnect Switch</p>
<input type="checkbox"/>		<p>Main Power Disconnect Switch</p>
<input type="checkbox"/>		<p>Spare parts kit consisting of one large vibration hammer, one small vibration hammer and two spare accelerometer cables</p>
<input type="checkbox"/>		<p>Start-up &amp; Training - One (1) Chamber by CSZ factory technician or ISO (Independent Service Organization), non-union labor. Sales tax is not included. Customer must have all required utilities connected to the chamber prior to start-up &amp; training session. Note: Please complete the "Start-up / Training Survey" and send to CSZ Service Department to request described service.</p>
<input type="checkbox"/>		<p>CSZ models are not CSA, UL-C, or ONTARIO hydro marked. Please budget appropriately and obtain local inspection if required. Add appropriate electrical devices and disconnects if required.  Note: If any additional work/cost is required to pass CSA inspection, CSZ will not be held responsible.</p>
<input type="checkbox"/>		<p>Reinforced chamber floor utilizing an interior 1" floor grate that is rated for a maximum load of 500 lbs. (227kg)</p>

## CHAMBER OPTIONS

<input type="checkbox"/>		Extended Warranty
<input type="checkbox"/>		Level 2 Calibration, A2LA 17025 (must be performed on-site, at customer's facility)
<input type="checkbox"/>		Annual PM & Calibration (Calibration performed on chamber's controller)
<input type="checkbox"/>		4" (102mm) additional circular feed-through port with plug (if port intersects with the standard port additional charges may occur)
<input type="checkbox"/>		ZP-64, IPPC closed crate
<input type="checkbox"/>		Level 1 Calibration, to NIST Standards. Calibration performed on chamber's controller (No annual PM included)

## 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.

*Sameer Vachani*  
 Senior Director, NSF-ISR

<b>Certificate Number:</b>	C0554509-IS2
<b>Certificate Decision Date:</b>	09-NOV-2022
<b>Certificate Issue Date:</b>	09-NOV-2022
<b>Cycle Effective Date:</b>	17-DEC-2022
<b>Certificate Expiration Date:</b>	16-DEC-2025

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