



ZPH(HP)-32-15-15-SC/WC

Model Overview

Product Type	Temperature and humidity chamber
Model	ZPH(HP)-32-15-15-SC/WC
Test Space Volume	32 cu ft (905 L)
Temperature Range	-70 deg C to +190 deg C (-94 deg F to +375 deg F)
Humidity Range	10% to 98% RH, limited by +85 deg C maximum dry bulb and +7 deg C minimum dew point
Controller	EZT-570 7 in. touch screen controller
Chamber Airflow	825 CFM

Standard Features

Cabinet

- 21.25 in. (540 mm) high x 14.75 in. (375 mm) wide fog-free heated viewing window
- Single-handed, lockable door latch
- Heavy-duty casters, 4 in. wheel with leveling legs
- One adjustable, slide-out stainless steel shelf with two support brackets on 2 in. centers
- Two 4 in. (102 mm) circular access ports, centered on the right and left sides of the chamber
- Sound deadening quiet package
- Chamber pressure relief/equalization vent
- Stainless steel interior and blue/beige powder-coated exterior

Electrical & Instrumentation

- Safety relay to remove power to the device under test when the chamber is not running
- UL-508A listed sub-panel
- Interior chamber light
- EZT-570 7 in. touch screen controller
- Solid state humidity sensor
- NIST traceable instrumentation calibration report

Refrigeration

- 15HP R-404A / 15HP R-508B cascade refrigeration system
- Scroll compressor with integral water-cooled condenser
- Liquid-filled refrigeration gauges and refrigeration service taps

Dimensional & Load Data

Test Space Dimensions	38 in. W x 38 in. D x 38 in. H (965 mm x 965 mm x 965 mm), clear usable workspace
Overall Exterior Dimensions	Approx. 50.5 in. W x 70.5 in. D x 91.5 in. H (1283 mm x 1791 mm x 2324 mm)
Shelf Load Capacity	Distributed shelf load: 100 lb (45 kg); concentrated load: 50 lb (28 kg)
Maximum Number of Shelves	13 shelves; maximum total shelf weight 250 lb (113 kg)
Floor Rating	Maximum floor load per chamber: 200 lb (91 kg), evenly distributed, including shelves at 20 lb/ft2
Maximum Total Interior Weight	450 lb (204 kg)

Temperature Performance

Control & Stability	+/-0.5 deg C (+/-1 deg F); +/-3% RH at steady state after stabilization
Performance Basis	60 Hz operation, measured at air control sensor

Pull-Down Performance	Result	Time
+24 deg C to -40 deg C	+75 deg F to -40 deg F	4 min
+85 deg C to -40 deg C	+185 deg F to -40 deg F	8 min
+24 deg C to -54 deg C	+75 deg F to -65 deg F	6 min
+24 deg C to -65 deg C	+75 deg F to -85 deg F	10 min

Heat-Up Performance	Result	Time
+24 deg C to +93 deg C	+75 deg F to +200 deg F	6 min
-68 deg C to +24 deg C	-90 deg F to +75 deg F	8 min
+24 deg C to +190 deg C	+75 deg F to +375 deg F	16 min
-34 deg C to +24 deg C	-30 deg F to +75 deg F	5 min

Live Load Capacity	2,500 W at -68 deg C (-90 deg F); 4,500 W at -54 deg C (-65 deg F); 5,500 W at -40 deg C (-40 deg F)
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Humidity Performance

Humidity Range	10% to 98% RH, limited by +85 deg C (+185 deg F) max dry bulb and +7 deg C (+45 deg F) min dew point
Control & Stability	+/-3% RH at steady state after stabilization
Approximate Water Consumption	0.5 gal/hr, dependent upon live load

Facilities & Utilities

Humidity Water	DI water recommended; water should be 0.05 to 2 megaohms resistivity
Humidity Water Connection	0.25 in. (6.35 mm) NPT
Drain Size	0.5 in. (12.7 mm)
Inlet Water Pressure	25 PSI recommended using water pressure regulator
Cooling Water Supply	60 psig maximum supply pressure with 40 psig minimum differential
Cooling Water Connector	1 in. NPT
Heat Rejection	Approx. 2,340 W (8,000 BTU/hr) maximum during cooling operation
Operational Sound Level	Front: <=71 dBA; rear: <=74 dBA, with sound abatement package
Electrical	480 V (+/-5%), 60 Hz, 3 phase, 53 FLA, 70 A minimum service

Cooling Water Temp.	Flow Rate	Flow Rate
+7 deg C (+45 deg F)	7.79 GPM	29.56 LPM
+13 deg C (+55 deg F)	9.73 GPM	36.95 LPM
+18 deg C (+65 deg F)	12.98 GPM	49.26 LPM
+24 deg C (+75 deg F)	19.46 GPM	73.89 LPM
+29 deg C (+85 deg F)	38.93 GPM	147.78 LPM

Controller & Data Functions

Touch Panel	7 in. (178 mm), ergonomic height
Program Controller	Start, stop, pause, delayed autostart, ramp steps in time or deg C/min, 99 steps, 1,000 cycles maximum, profile status view
PID Controller	Special control algorithms with per-output demand definition/change
Data Logging	Custom file names, batch/lot numbers, operator notes, and digital signatures
File Management / Email	Download profiles, alarm files, audit trail files, and data files to USB; email data, alarm history, and audit trail files directly from the controller with optional touch feature
Communication	Ethernet TCP/IP and EIA-232 control; optional EIA-485 Modbus communication
Ethernet Interface	Remote monitoring and control with VNC server
Password Protection	Three levels of security
Multi-Language Display	Configurable for 10+ languages

Available Technical Options

- Additional 3 in. (76 mm), 4 in. (102 mm), or 6 in. (152 mm) circular feed-through ports with plugs
- Additional ZP-32 adjustable slide-out shelf, stainless steel welded wire, 100 lb (45 kg) distributed load capacity
- Customer event option for EZT controller with fifteen event outputs and connection panel
- Cable notch, 2 in. x 6 in. (51 mm x 152 mm), at door edge for pre-wired DUT placement
- Honeywell DR-4500 Truline 1-, 2-, or 3-channel recorder
- Running time meter
- LN2 boost cooling system for rapid cooling transitions
- GN2 purge with flow meter, 20 to 200 SCFH range
- Dry air purge system, 3 CFM, with flow meter, 20 to 200 SCFH
- Low RH option to obtain 5% RH at 11 deg C or 8% RH at 4.4 deg C, lowest dew point -27 deg C
- Humidity water demineralizer filtration system, spare cartridge, recirculating humidity water supply, and water regulator
- Digital high/low temperature limit and alarm, Model L-91
- IEEE-488 (GPIB) interface
- CSZ EZ-View software; RS/EIA-485 to USB converter with cable
- Digital input option with eight inputs for controller functions
- Model 100 reverse osmosis water system
- Eight T-type thermocouples for temperature readout, alarms, displays, and data logging
- Main power disconnect switch
- Emergency stop button
- Reinforced chamber floor with interior 1 in. floor grate rated for a maximum load of 500 lb (227 kg)

Notes

- Performance values are based on the supplied specification document and may be affected by live load, options, operating environment, and customer utilities.