



For Price & Availability Contact  
LR Technologies  
800-574-2748 323-770-0634  
email: [sales@LRE.com](mailto:sales@LRE.com)  
Web Site: [LRE.com](http://LRE.com)

## Model LH-1.5 (1.5 CuFt Interior) Temperature Humidity Test Chamber



### **Specifications:**

<b>Working Volume:</b>	1.5 cu. ft.
<b>Inside Working Dimensions:</b>	13”H x 14”W x 13”D
<b>Overall Dimensions:</b>	33”H x 27”W x 26”D
<b>Weight:</b>	240 lbs.
<b>Power Requirements:</b>	120 Volts, 1 Phase, 60 Hz 14 Full Load Amps
<b>Temperature Range:</b>	+5°C to +94°C +41°F to +200°F
<b>Temperature Stability:</b>	+/- ½°C (+/-1°F) at sensor after stability
<b>Relative Humidity Range:</b>	10% to 98% +/-2% RH at sensor limited by +4°C dew point, see table 1
<b>Certification:</b>	UL/CSA 61010-1

## Standard Features

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- **Cabinet**

- Interior: Stainless steel type 304 with 2B finish
- Exterior: Heavy gauge cold rolled steel with Powder Coat paint
- 3” access port & plug on left side wall
- Full opening door, left hand hinge, with manual door latch
- Fully Adjustable stainless steel wire grid shelf

- **Conditioning System**

- Watlow EZ-Zone PM controllers, one each for temperature and humidity control with Modbus RTU via RS-485 communications
- 100 ohm platinum RTD temperature sensor
- Rotronics solid state humidity sensor
- Air cooled mechanical refrigeration conditioning unit with R-134a refrigerant
- 6’ power cable and plug type NEMA 5-15P
- Steam generating humidification system
- Mechanical dehumidification system

- **Safety**

- High temperature limit switch
- Low water steam generator over temperature circuit
- Refrigeration system over pressure safety circuit

Power Cord



NEMA 5-15P

Controller



Humidity Sensor



Temperature Sensor  
100 ohm Platinum RTD



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## Facility Requirements


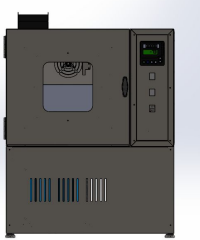

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- Power
  - Electrical supply: 120V, 1 Phase, 60 Hz (optimal performance)
  - Full load amps: 14
  - Acceptable voltage range 108 to 126 volts
- Power Connection
  - 4' power cable and plug, type NEMA 5-15P included
- Humidity Water
  - single distilled, demineralized water
  - 1/4" diameter compression fitting
  - 50,000 and 100,000 Ohms/cm resistance
  - Do not use double or triple distilled water
- Condensate Drain
  - 3/8" diameter copper drain connection for gravity drain
- Clearance
  - 18" in front and rear of chamber
- Room Temperature
  - 20 °C (68 °F) for optimal performance
  - 15°C to 30°C (60°F to 85°F) acceptable range






## Optional Features

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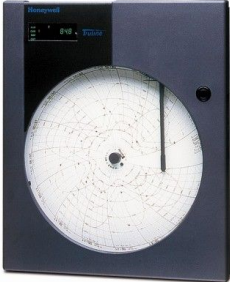
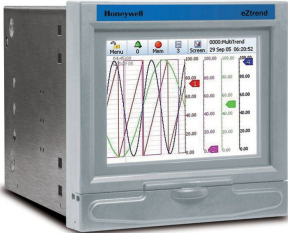
### Cabinet Options

Additional Shelves		Available Option
7/8" Diameter access port & plug		Available Option
2" Diameter access port & plug		Available Option
3" Diameter access port & plug		Available Option
4" Diameter access port & plug		Available Option
5" Diameter access port & plug		Available Option
6" Diameter access port & plug		Available Option
8" x 8" Multi-pane viewing window in door with internal vapor-proof light and external switch		Available Option
Floor Stand with casters		Available Option


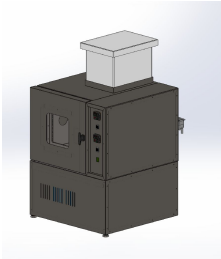
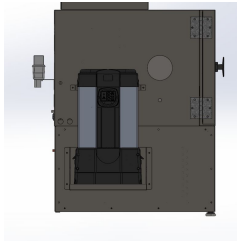
## Instrumentation Options

<p>Watlow F4 Programmable Controller</p> <ul style="list-style-type: none"> <li>● RS232 serial interface</li> <li>● Modbus RTU</li> </ul>		<p>Available Option</p>
<p>Watlow F4T</p> <ul style="list-style-type: none"> <li>● 4.3" capacitive touchscreen</li> <li>● Modbus over TCP</li> <li>● Modbus RTU over RS-485 or RS-232</li> </ul>		<p>Available Option</p>
<p>AES One</p> <ul style="list-style-type: none"> <li>● 4.3" capacitive touchscreen</li> <li>● XChange dashboard <ul style="list-style-type: none"> <li>○ Web interface</li> <li>○ Continuous data logging and real time graphic display</li> <li>○ Chamber control</li> </ul> </li> </ul>		<p>Available Option</p>
<p> GPIB IEEE-488 Computer Interface</p>		<p>Available Option</p>
<p>High/Low Temperature Limit</p> <ul style="list-style-type: none"> <li>● Shuts down chamber operation in the event of an over/under temperature limit is reached</li> <li>● User programmable high and low temperature limits</li> </ul>		<p>Available Option</p>

## External Data Logging Options

<p>Honeywell Truline Chart Recorder</p> <ul style="list-style-type: none"><li>• Two channel temperature and humidity</li><li>• 12" diameter thermal paper recorder</li><li>• Mounted on top of the chamber in an enclosure</li></ul>	 A photograph of a Honeywell Truline Chart Recorder. It is a dark-colored, rectangular device with a large circular dial in the center. The dial has a white face with a grid and a pen that is currently recording a trace on the paper.	<p>Available Option</p>
<p>EZ Trend Digital Chart Recorder</p> <ul style="list-style-type: none"><li>• 5" LCD</li><li>• Mounted on top of the chamber in an enclosure</li></ul>	 A photograph of a Honeywell EZ Trend Digital Chart Recorder. It is a light-colored, rectangular device with a 5-inch LCD screen. The screen displays a digital chart with multiple colored lines representing data trends. The device has a small keypad below the screen.	<p>Available Option</p>

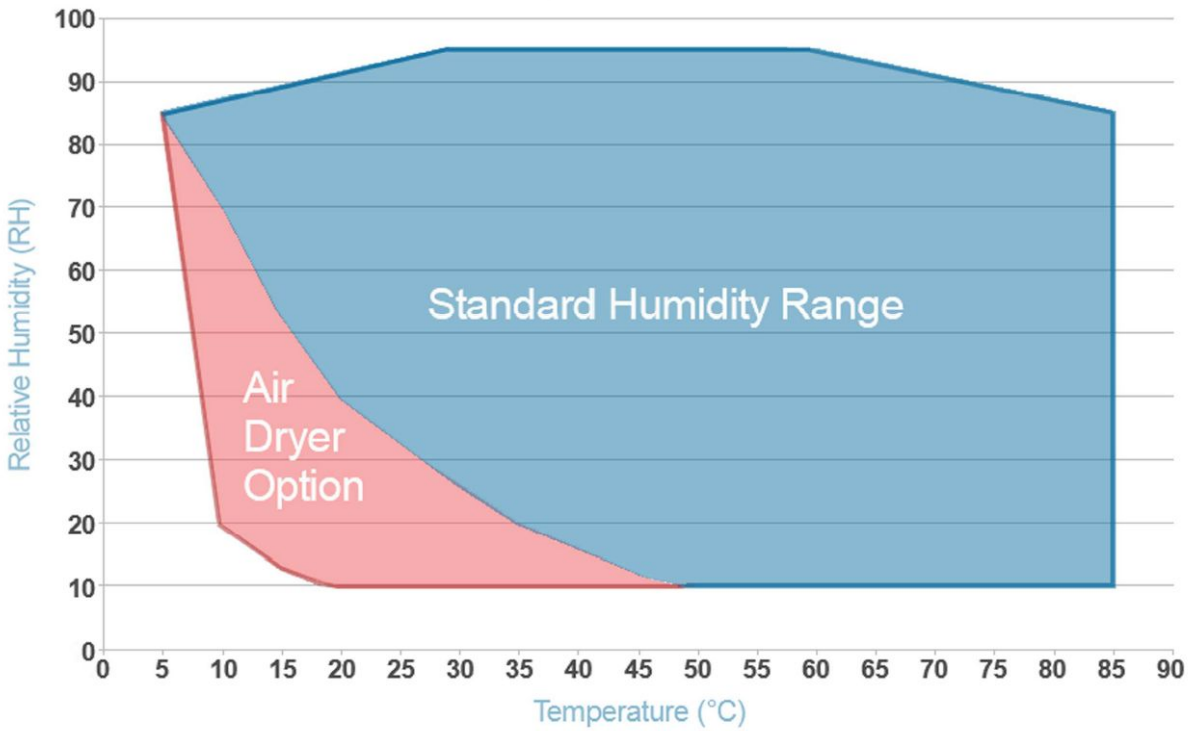
## Conditioning System Options

<p>Extended Temperature Range to -20°C</p>		<p>Available Option</p>
<p>Water Demineralizer System (Mounted on back of the chamber)</p>	<p style="text-align: center; font-size: small;">Water Demineralizer System</p> 	<p>Available Option</p>
<p>Self Contained Recirculating Humidity System Includes the following components:</p> <ul style="list-style-type: none"> <li>• 6 gallon reservoir mounted on top of the chamber</li> <li>• Demineralizer mounted on back of the chamber</li> <li>• Recirculation pump mounted internally in the chamber base frame</li> </ul>		<p>Available Option</p>
<p>Extra Water Demineralizer Cartridge</p>		<p>Available Option</p>
<p>Desiccant Dehumidifier (Mounted on back or side of the chamber)</p>		<p>Available Option</p>

# Chart 1

## Humidity Chamber Capability

Applies to AES Humidity Chamber Models BHD, HD, LH, SHD



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