Stability & Humidity Chambers

ICH GUIDELINES

PSI chambers are specialized designed to carry out stability & shelf list test on drug & drugs substance according ICH Guidelines.

APPLICATIONS

- Conditioning of samples.
- Accelerated shelf life studies.
- Stability testing for Drugs & Pharma industries.
- Climate conditioning.
- Defense and Aerospace industries.
- Testing electronic/ Electrical components as per IS, IES, JSS,& Mil standards.

CHAMBER DESIGN

- As per GMP guidelines for long duration test.
- Control Accuracy of temperature & humidity.
- Uniformity of conditions through out the chamber.
- Direct display of humidity in % RH.
- Pt 100 sensor for dry / wet bulb or capacitance type humidity sensor available.
- Printer interface compatibility.
- PC interface with RS 232-C / or RS-485 for multiple networking of controller.
- Built in high / low conditions alarm.
- Low water level cut off device.
- Complete stainless steel chamber also available.

CONSTRUCTION

- Inner S. Steel heavy gauge, outer CRCA powder and coated finish.
- PUF in-situ foam about 3” thick.
- Viewing window (Std) / full view inner door. ( To select while ordering. )
- Castor Wheel for easy movability.
- High efficiency Refrigeration system (CFC Free)
- Humidity Injection System with low water level cut off.
- Microprocessor based controller with PID action for Dry/Wet, Direct % RH, safety alarm.

SAFETY FEATURES

- Control system with inbuilt temp. deviation audio video alarm.
- A wet heater safety device.
- A dry heater safety device.
- Individual HRC fuses for Compressor, Air heater, Wet Heater and Mains.
- Validation : HMH Offers Validation Protocols for DQ, IQ, OQ & PQ Documentation complete with reports, calibration and test certificates.

<table>
<thead>
<tr>
<th>TYPE OF CONTROLLER</th>
<th>Order Code</th>
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<tbody>
<tr>
<td>mP PID Controller with direct % RH setting (Pt 100 Sensor for Dry / Wet or Capacitance sensor.)</td>
<td>HETC_S</td>
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</table>
mP PID Controller - do - but with Printer Interface (centronic port)  

mp P PID Controller - do - but with PC Interface through RS 232-C/RS 485 for multiple networking  

mP PID Profile Controller for Ramp / Soak for cyclic applications.

TECHNICAL SPECIFICATIONS:

<table>
<thead>
<tr>
<th>Working Size</th>
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<tbody>
<tr>
<td>Humidity Range: 40% RH to 98% RH</td>
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<tr>
<td>Temp. Range: 100°C to 600°C</td>
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<tr>
<td>Accuracy Temp. / RH: + 0.20°C &amp; + 3% RH</td>
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<tr>
<td>(Low temp. Range: -250°C / -150°C / -100°C &amp; 0°C &amp; 35% RH on request.)</td>
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Double walled in construction, gap between the two walls filled with high insulation glass wool. Full-length inner glass/acrylic door with Lock & Key arrangement and outside metal door with SILICON GASKET and S. S. lock with keys. Removable Stainless Steel Rod type trays at variable distance are provided. Unit consists of main switch, fuse, and pilot lamps for all controls. Microprocessor based PID controller with direct display of Process Values of Temperature & Humidity. In the event of power failure, Non-Volatile memory allows chamber to return to original set point when power is restored. Incorporated with Factory certified IMPORTED ROTRONIC AG [SWITZERLAND] make Humidity Sensor for greater Accuracy. Forced air circulation for uniform temperature. Cooling by hermetically sealed compressors utilizing R-134A an eco-friendly refrigerant coupled with evaporation coil and condenser, safeguarded by time delay circuit. Redundant high temperature safety system automatically cuts-off power to heaters if temperature exceeds 70°C incorporated in the Units. Provided with castor wheels for easy movability. Electrically operated on 230 V AC, 50 Hz.

Temperature range | 10°C to 60°C | Humidity range | 40% to 95% RH |
-------------------|---------------|---------------|---------------|
Temperature accuracy | ± 0.1°C     | Humidity accuracy | ± 2% RH     |
Temperature uniformity | ± 0.5°C      | Humidity uniformity | ± 3% RH     |

STANDARD MODEL: PSI-020
• Outer chamber made of Mild Steel [20 swg.] duly powder coated and inner chamber made of Stainless Steel LM-304 grade [20 swg.] Mirror finish.
• DIGITAL High Temperature Safety Cut off provided.
• Rod type Shelves provided are made of Stainless Steel

STANDARD MODEL: PSI-020A

• Outer chamber made of Mild Steel [20 swg.] duly powder coated and inner chamber made of Stainless Steel LM-304 grade [20 swg.] Mirror finish.
• DIGITAL High Temperature Safety Cut off provided.
• Rod type Shelves provided are made of Stainless Steel

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<tr>
<th>Capacity</th>
<th>Internal Dimension W x D x H [cms]</th>
<th>External Dimension W x D x H [cms]</th>
<th>Shelves</th>
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<tbody>
<tr>
<td>4 Cu.Ft. [120 Ltrs]</td>
<td>45 x 45 x 60</td>
<td>64 X 97 X 140</td>
<td>02</td>
</tr>
<tr>
<td>6 Cu.Ft. [165 Ltrs]</td>
<td>50 x 50 x 70</td>
<td>69 X 102 X 150</td>
<td>02</td>
</tr>
<tr>
<td>10 Cu.Ft. [280 Ltrs]</td>
<td>55 x 55 x 90</td>
<td>74 X 107 X 170</td>
<td>03</td>
</tr>
<tr>
<td>12 Cu.Ft. [324 Ltrs]</td>
<td>60 x 60 x 90</td>
<td>79 X 112 X 170</td>
<td>03</td>
</tr>
<tr>
<td>16 Cu.Ft. [440 Ltrs]</td>
<td>60 x 60 x 125</td>
<td>79 X 112 X 205</td>
<td>04</td>
</tr>
<tr>
<td>29 Cu.Ft. [800 Ltrs]</td>
<td>80 x 80 x 125</td>
<td>99 X 132 X 205</td>
<td>05</td>
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OPTIONAL

• Microprocessor based PROGRAMMABLE PID Controller cum Indicator with Printer Interface to connect Dot Matrix Printer. Print interval program can print Date, Time, Temperature & Humidity With print interval stable between 1 to 99 minutes [without Printer]
• Same as above but with PC software & connectivity
• Standby Refrigeration System for above Chambers
• Standby Humidity System for above Chambers