

weathering

2017



Model : Hi-1405-C2

Labhitech

11/10/2017

Model: Hi-1405-C2**دستگاه شرایط محیطی weathering**

System: Balanced Temperature & Humidity control system

Control Panel : HMI (User Friendly)

Controller: PLC

Temp. Range: 0~100 °C (optional)

Humid. Range: 20~95% R.H (10~98% R.H optional)

Temp. Fluctuation: $\pm 0.3^{\circ}\text{C}$

Temp. Tolerance: 100°C within $\pm 1.0^{\circ}\text{C}$

Temp. Uniformity: 2 °C

Humid. Fluctuation: $\pm 2.5\%$ R.H

Humid. Tolerance: $\pm 2.0\%$ R.H

Humid. Uniformity: 3.0% R.H

Heating Up Time: 0~100 °C within 15 min

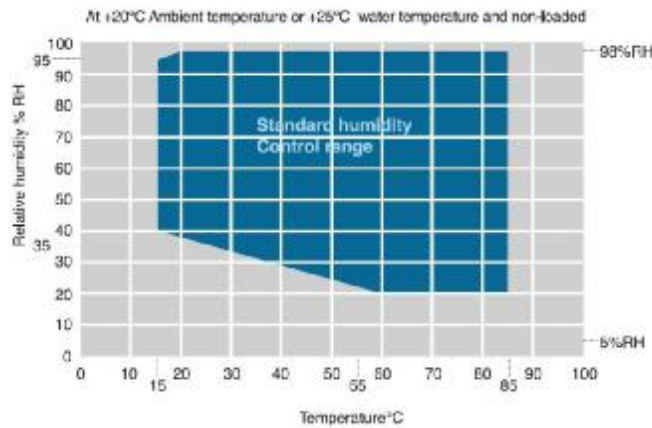
Interior Dimensions (W × H× D)cm: 50 × 60× 50

Interior Material: Frosty stainless steel

Exterior Material: Stainless steel baking finish

Refrigeration System: Air cooled, Hermetic compressor, single stage refrigeration system

Standard Humidity Control Range Graph

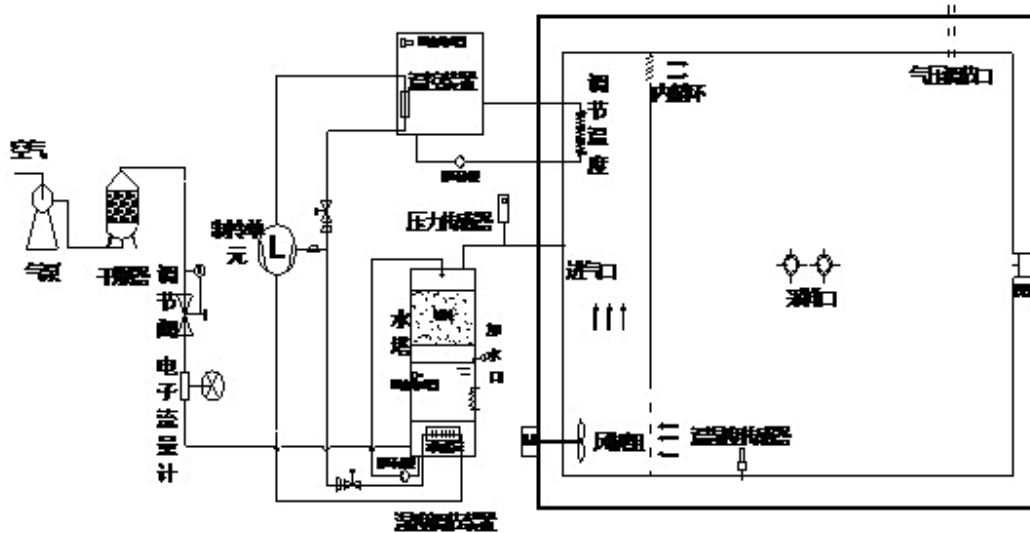


Feature

1. Through patented technology (ZL2009 2 0210186.8) dew temperature humidity-control method, to control the working space relative humidity, humidity stability, fluctuation range <2% Rh., and bulkhead will not produce water droplets, also it does not adsorb formaldehyde.
2. Energy-saving design: adopts South Korea's instrument control technology, gas supply and temperature & humidity control part adopt energy saving design, use imported electromagnetic pump, big gas supply capacity, low energy consumption, low noise. Using imported Italian refrigeration compressors, oil-free, quiet, low energy consumption, continuous working life up to seven years. The energy consumption is equated to 60% of ordinary products.
3. The selected materials ensure that the background value of formaldehyde in working space. The seals, circulating fans, pipe, etc. adopt non-releasing formaldehyde material. (Below is climate chamber liner chart)
4. Intelligent instrument Controller: Adopts South Korea's temperature & humidity controller, can control cabin temperature, relative humidity, working hours, etc.

5.The in-wall of test cabin adopts overall welding SUS304 stainless-steel material, all surface is smooth, all edges and corners are made with a certain arc, will not adsorb formaldehyde.

Climate chamber process flow diagram:



Standard:

ASTMD6007-02, ENV717-1, ASTMD5116-97, ASTMD3237-00, ASTMD6803-02

ASTMD6007-02, ASTMD6330-98, ISO16000-6INDOORAIR-PART6

Technical Specifications

1. Box volume (m³): $1 \pm 0.02\text{m}^3$
2. The inside temperature range (°C): 15 ~ 40, fluctuation: $\leq \pm 0.5 \text{ }^\circ\text{C}$
3. Inside humidity range: 30% ~ 70% RH, fluctuation: $\leq \pm 3\% \text{ RH}$
4. Temperature and humidity sensor Resolution: (0.1 °C, 0.1%)
5. Temperature and humidity uniformity: $\leq 1 \text{ }^\circ\text{C}$, $\leq 2\% \text{ R.H}$

6. Air exchange rate (cycles / hour): $\leq (2 \pm 0.05)$
7. Air velocity (m / s): 0.1 ~ 2 (can be set)
8. Clean air formaldehyde concentration: $\leq 0.006\text{mg/m}^3$
9. No load compartment background concentration of formaldehyde: $\leq 0.010\text{mg/m}^3$
10. Working space dimensions (m): $1.1 \times 1.1 \times 0.85$
11. Climate Cabinet Size (m): $1.65 * 1.45 * 1.30$
12. Climate Box Weight (KG): 350

Process Description

1) clean air source

Clean air includes oil pump, water filter. After clearing formaldehyde in the air by water-washing, formaldehyde of the air into the cabinets background concentration $<0.006\text{mg/m}^3$.

Meanwhile, large wind volume magnetic pump can meet the test chamber air exchange rate (0.2 to 2 times / hour) and cabin cleaning needs, the maximum daily capacity is $4\text{m}^3/\text{h}$.

2) Temperature and humidity control technology:

1, the dew temperature humidity control method: after water washing through spray tower under the certain temperature, saturated gas get into higher temperature environment to make the climate chamber get the status of constant temperature and constant humidity. So that it could ensure that the climate chamber in-wall does not produce water droplets, formaldehyde detection reliable data .

2, the temperature uniformity is good: Test cabin air with a variable frequency air circulation device and six sides for sufficient contact for heat exchange, heat exchange efficiency, short settling time, good temperature uniformity.

3, simple structure, easy to clean: the heating, cooling, heat exchangers and other components are installed outside the test chamber, so testing equipment decreased in cabin, structural simplicity, integration, and easy purification desorption, clean maintenance.

3) cabin:

1, In-wall of test cabin adopts SUS304 stainless-steel material, overall welding technology, each corner is R = 20mm chamfered corners for easy cleaning and air circulation.

2, the system equipped with frequency circulating fan, the touch screen can any speed within the range. And full-section circulating air technology to ensure uniform air circulation throughout the cabin, there is no dead ends.

3, the use of formaldehyde-free fluorine rubber, while ensuring that when there is 1000Pa overpressure, the gas leakage $\leq 1 \times 10^{-3} \text{m}^3/\text{min}$.

Work environment:

Environmental conditions

- a) Temperature: 15 ~ 28 °C;
- b) Atmospheric pressure: 86 ~ 106kPa
- c) no strong vibration around;
- d) no strong magnetic fields around;
- e) around the non-release of high concentrations of organic matter source

Supply conditions

- a) Voltage: 220/380V \pm 4%
- b) Frequency: 50 \pm 0.5Hz
- c) current: not less than 16A

Water conditions: water temperature no higher than 30 °C distilled water