

# Lab Companion<sup>®</sup>

## High temperature and high humidity Test Chamber PHP-80

Custom solutions

High temperature and high humidity Test Chamber is suitable for the adaptability test of electricians, electronics, instruments and other products, parts and materials for storage, transportation and use in high and low temperature alternating humidity and humidity environment; It is the reliability test equipment for cold resistance, heat resistance, humidity resistance, dry resistance, and high temperature resistance of optical fiber, LCD, crystal, inductance, PCB, battery, computer, mobile phone and other products.



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## Technical characteristics

### Performance:

Type: PHP-80

Temperature range: RT~ + 150°C

Temperature fluctuation degree:  $\pm 0.5^{\circ}\text{C}$

Temperature deviation:  $\pm 2.0^{\circ}\text{C}$

Temperature uniformity:  $2^{\circ}\text{C}$

Temperature rise rate: + 25°C ~150°C, the average temperature increase during the whole process is  $3^{\circ}\text{C} / \text{min}$ , under no load

Humidity range: 70 ~ 98% RH

Relative humidity deviation: + 2 ~ 3% RH

Uniformity of relative humidity:  $\pm 3\%$  RH

Working volume: 80L

Dimensions (mm)	w	h	d
Use full	400	500	400
Over all	700	1580	1100

### operational principle

#### air conditioning

1. Air regulation mode: forced ventilation internal circulation balance temperature regulation;
2. Air circulation device: built-in air conditioning device, circulating air duct, long axis axial flow fan;
3. Heating method: high-quality nickel-chromium alloy electric heater.

#### Room structure

1. Box structure: the box adopts the overall structure;
2. Shell material: high quality cold rolled steel sheet electrostatic spraying;
3. Inner wall materials: stainless steel plate coated with iron fluorine dragon;
4. Insulation material: ultrafine glass fiber;
5. Door seal: use environmentally friendly silicone rubber strip.



Inner Bbox coated with anti-rust coating iron fluorine dragon  
Ensure that the machine does high humidity test for a long time and the box does not rust

## ▶ **TT&C system**

1. Temperature measurement: PT100 Platinum resistance;

2. Control device: use the intelligent digital temperature controller

Temperature control mode: automatic set two-bit PID control

Temperature setting mode: make the digital setting in the controller

Temperature display mode: the set temperature and the measured temperature are displayed in the controller

The product has a self-setting function to ensure that the temperature is constant at each set point

The product has a linear compensation function to avoid the inconvenience of display errors

3. The product is separately equipped with an over temperature protection instrument, which is used to set the upper limit alarm of the working temperature to prevent the damage caused to the test product and Test Chamber due to failure

4. Operation mode: constant operation

## ▶ **safety precautions**

1. Over temperature protection setting: triple over temperature protection setting

2. Set temperature of the over temperature dial = set temperature + 15°C. When the temperature in the box is out of control and exceeds the set temperature of the over temperature dial, the buzzer in the box alarms, the box is in standby state, and should be reused after manual reset.

3. Over temperature alarm of the controller: when the product in the box continues to heat up and exceeds the temperature set by the internal parameters of the controller, the buzzer in the box will alarm, which should be manually reset and then reused.

4. The third level of protection is controlled by the anti-dry burning protector. When the heating pipe is uncontrolled and continuously heated, the anti-dry burning protector senses the temperature and then transmits the signal to the controller for alarm.

5. Phase sequence protection: the reverse phase connection or the missing phase connection of the main power supply is detected, and the device stops running

6. Humid air burning protection switch

The humidity generator can generate humidity normally during operation and has the function of avoiding air burning. The humidity air burning protection switch on the machine switchboard is adjusted to between 250-300°C to maintain the normal operation of the humidity generator