



东莞环仪仪器科技有限公司

DONGGUAN HUANYI INSTRUMENTS TECHNOLOGY CO.,LTD

## **HY-103 Water Shower Test Chamber (IPX3&IPX4)**

### **Operation Manual**

**Survival by quality**

**Seek development with integrity**

**Seek efficiency by management**

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## **Preface**

Thank you for purchasing our rain environment test equipment!


Before using this equipment, please read this manual carefully, and follow the prescribed procedures, so that you can use it smoothly. Please keep in mind the precautions, can avoid the machine failure due to misoperation, the correct maintenance method can prolong the service life of the machine.


All the products of the company have been inspected, so you can rest assured to use them. If you have any difficulties or questions, please contact the agent or directly inform the after-sales service department of the company.


## 1.Attention to safety


### 1. matters need attention

In this manual, regarding the safety precautions and to prevent accidents and hazards, please observe the following hazard warning notes:



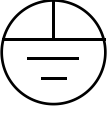
	<p><b>Dangerous:</b></p> <p>The item displayed in this way means that if not followed, the operator may be harmed.</p>
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	<p><b>Warn:</b></p> <p>The item shown may damage the instrument if not followed.</p>
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	<p><b>Pay attention to:</b></p> <p>The items shown are expressed as having the potential to affect the test results and quality.</p>
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<p>[pour]</p> 	<p>The item displayed indicates the auxiliary statement of the product in its operation and use.</p>
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2. On this instrument, the following marks indicates a attention warning.

	warning sign	This mark indicates where reference to the operating manual is necessary.
	Dangerous voltage mark	This mark is indicated as high pressure hazard.
	Ground protection mark	Represents the ground terminal on the instrument.

## **2.Summary**

Water Shower Test Chamber has a great impact on the aging of products, pigment fading, metal corrosion, so the aging test is more and more valued by rubber, plastic, chemical industry, automobile, textile and other industries, there are many factors of climate environment, such as temperature, humidity, rain, etc., waterproof test box is an environmental test equipment simulating rain.

This product is suitable for the test of whether the shell and seal can guarantee the good performance of the equipment and components in the rain environment. The product adopts scientific design, so that the equipment can simulate a realistic water spraying environment. Using digital and frequency conversion control technology, the rainfall, the rotation Angle of the test frame, the swing Angle of the water spray swing rod and the swing frequency of the swing tube can be adjusted automatically.

Standard: GB 4208-2008, GB10485-2006, GB4942-2006, GB / T 2423.38, GB / T 2424.23

### **3.Technical Parameter**

1. Internal dimension: 1500 \* 1500 \* 1000mm (W \* D \* H)
2. External dimension: About 1900\*1560\*1950mm (W \* D \* H)
3. Test table transfer (rpm): 1~7 Adjustable
4. Turntable Diameter : 600mm
5. Pipe swing radius : 400mm
6. Bearing: 20 KG
7. Radius of the water spray ring: 400mm
8. Swing range of water spray pipe:120° 320° (Setable)
9. Jet diameter:φ0.4mm
10. Flow rate of water: 0.07 L/min +5%
11. Water spray pressure :80-150Kpa
12. Swing tube amplitude: Maximum of ± 160°
13. IP grade: IPX3 - 15R/min; IPX4 - 5R/min
14. Distance between sample and equipment: 200mm
15. Water source and consumption: Purified water or distilled water, 8L / day
16. Controller: Independently developed PLC touch screen controller
17. Spray system: IP3: 16PCS IP4: 25PCS Spitheads
18. Internal material: SUS304 # Stainless steel

## **4.Electrical Control**

1. Electrical controller: LCD display touch key controller
2. Test time: 999S Adjustable
3. Rotary table speed control: Adopt deceleration motor, manual adjustable turntable speed, high control accuracy
4. Pressure gauge: The dial pressure gauge shows the pressure for each single test grade
5. Flow meter: Digital water flow measurement, showing the flow of each single test grade
6. Flow and pressure control: Use manual valve to control the flow and pressure, digital flow meter indicates the flow, and stainless steel case spring type pressure gauge indicates the pressure
7. Preset test time: 0S~99H59M59S is arbitrarily adjustable

## **5.Use The Environment**

1. Ambient temperature: RT~50℃ (average temperature of 28℃ within 24H)
2. Environment humidity: ≤85%RH
3. Power supply: AC220V single-phase three-wire system and protection wire grounding resistance is less than 4 Ω; users are required to configure corresponding air or power switch for the equipment at the installation site, and the switch must be independently designed for the equipment
4. Power: About 3KW
5. Protection system: leakage, short circuit, water shortage, motor overheating protection, alarm warning

## **6.Safety Protection Device**

1. Power overload, short-circuit protection
2. Ground protection
3. Water shortage protection
- 4, The alarm sound prompt

## **7.Work Environment**

1. Operating voltage: single-phase three-line system: 220V 50HZ
2. Ambient temperature: 15°~40°C
3. Relative humidity: <70%. R.h

## **8.Structure and Principle**

The shell of the test machine is made of high quality stainless steel drawing plate, and the workshop part is made of high quality 304 stainless steel plate. The test box is composed of the main part, transmission mechanism and electrical part.

### **Overview of principle:**

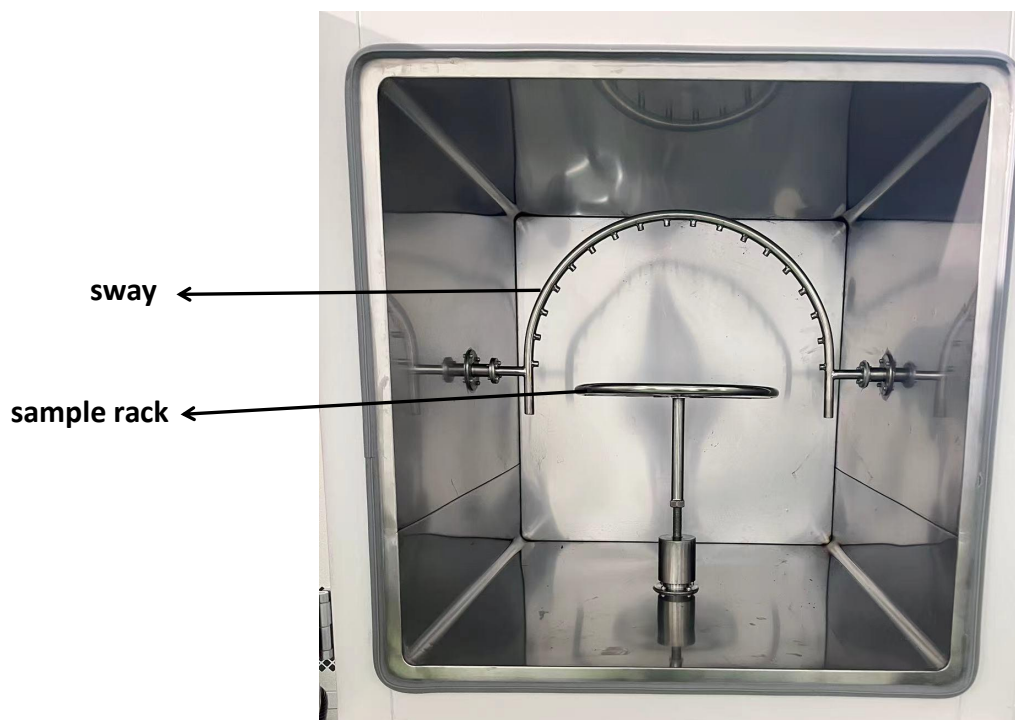
This test box is designed by mechanical transmission. The turntable transmission mechanism is to drive the worm through the motor and the worm wheel to reach the specified speed. The swing rod is the motor to drive the reducer to slow down and drive the tooth rod to drive the passive gear to make the swing rod move.

Machine structure: 1, the whole machine





**Equipment Structure**



## 9.Methods Of Use

### 1. Press the following figure to operate



1. After the equipment arrives at the use site, remove the outer package first.
2. The equipment is 220v single-phase three-line system. After the equipment is connected to power, please only connect the power and not start the machine
3. Press the following figure to connect the waterway
4. The circuit breaker is with a leakage protector

### 2. Press the figure below to operate

Connect the water pipe with the drainage, rotate the red valve when the drainage, and the inner tooth mouth is 4 minutes



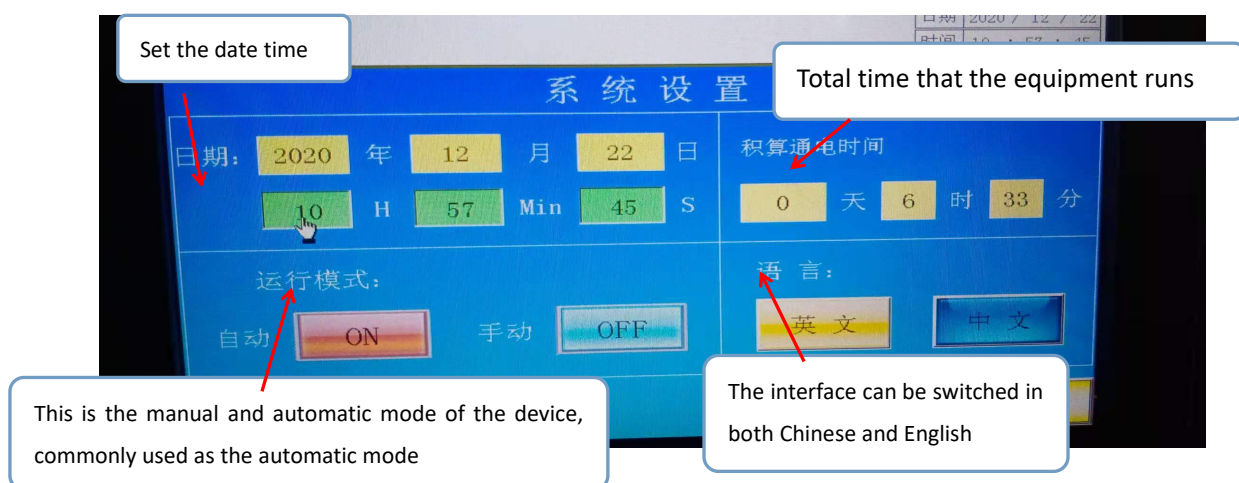
The overflow mouth is to prevent the floating ball switch does not work to avoid the water level of the water tank is too high, resulting in water overflow or cause other hazards, the inner tooth mouth is 4 points

Connect the water pipe with the water inlet, and then open the water switch. The water tank is equipped with a floating ball switch. When the water tank is filled, the float will stop adding water, the water level is too low, the float will automatically add water, and the inner tooth mouth is 4 points

3. After the power connection, after the water tank is filled, the circuit breaker is powered on, and then press the start button in the control panel to start the interface of the device, and enter the home page of the controller, as shown in the figure below



4. Enter the operating system, as shown below

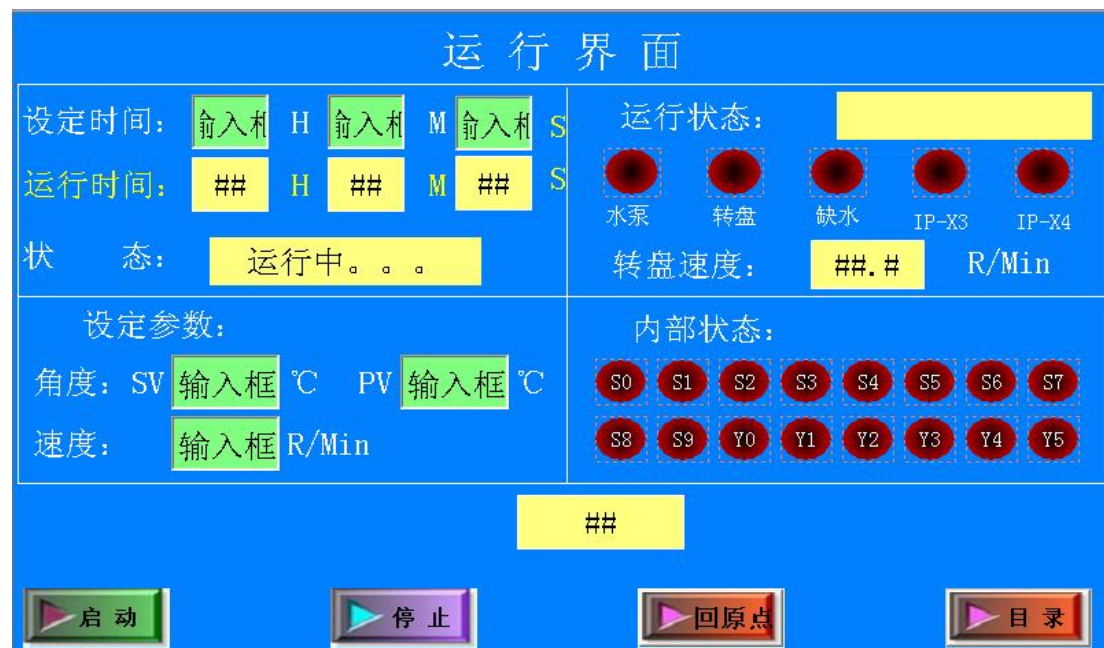


5. Click on the parameter screen as shown below



1	Set the time settings for times, minutes, and seconds
2	Run time display time, minutes, and seconds
3	Test level setting
4	Level angle display (free angle can set angle)
5	Level speed display (free angle can be set manually)
6	Start button (start test level in running state)
7	Stop button
8	Manual swing forward and back (system setting must be manually valid)
9	The turntable starts or stops
10	Manual speed is used to swing the tube back to the origin speed or on the manual running speed
11	The le display shows the current pendulum angle
12	The origin button is to improve the accuracy of the pendulum tube and reach the test standard to find the original point
13	Return to the open interface

6. The operation interface is shown as below



After entering the running screen set the test time set, click the running screen start button, hour maximum 999999, minutes: 999999, click the test speed input required test speed, can set 20-40 times per minute per hour, click the test Angle set test Angle, Angle: maximum 320 degrees, press the shutdown alarm time, equipment alarm time often do 30 points. Then press the test Start key for testing.

7. Enter the running screen, if you want to stop the test, press the stop key on the interface, and if the second test needs, first click back to the origin, and then set the parameters.

**Note: When conducting IP4 test is required, if IP3 is running, remember to stop running IP3 test before conducting IP4 test to avoid failure.**

## 8. Running methods

(1) Turn on the main power supply.

(2) Open the start button.

(3) Set the touch screen parameters

<1> The touch screen displays the main menu when powered up

<2> Set the parameters in the settings menu

<3> After setting, press the running screen and press the start button to start

running.

9. After the test, please turn off the total power supply back to the control price surface.

## **10.Precautions**

- 1.The transmission mechanism must be refueling regularly, and the reducer must add clean 20 # oil.
- 2.If you hear an abnormal sound during operation, please stop the machine for inspection, and restart the machine after the fault is solved, so as not to affect the service life of the equipment.
- 3.After the equipment is positioned, the support frame should be supported to prevent the caster from being shaken during the equipment test.
- 4.If the equipment runs for a long time, if the water hole is blocked, the pipe must be removed and washed with tap water before assembling.
- 5.If the equipment is not used for a long time, it is necessary to empty the water tank to avoid stains in the tank for a long time
- 6.This equipment has been installed with a filter element. If the filter element has been found yellow for a long time, it is necessary to change the filter element

## EX-factory Inspection

Product name: Water Shower Test Chamber IPX3&IPX4

Product model: HY-103

Factory number : 250215-01

Manufacture Date: Feb ,2025

Inspection result: Qualified

Inspector: Fu Deng

Auditor: Den Hongyan

Thank you for using our products, our company will provide you with excellent quality and efficient service to bring convenience to your work. Our greatest wish and goal is to make you satisfied!

Dongguan Huanyin Instrument Technology Co., LTD



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