

# Accelerated Weathering Chamber

## Technical Solution



**BOTO GROUP LTD.**

Add:Room 2304, Fortune Plaza, No.5616 Caoan , Anting Town, Jiading District, Shanghai, China

[www.botomachine.com](http://www.botomachine.com)

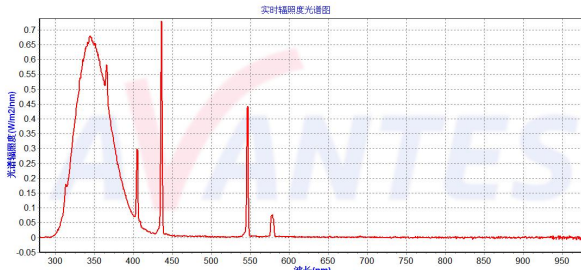
# Introduction

**Name: BT-08 UV aging testing machine**

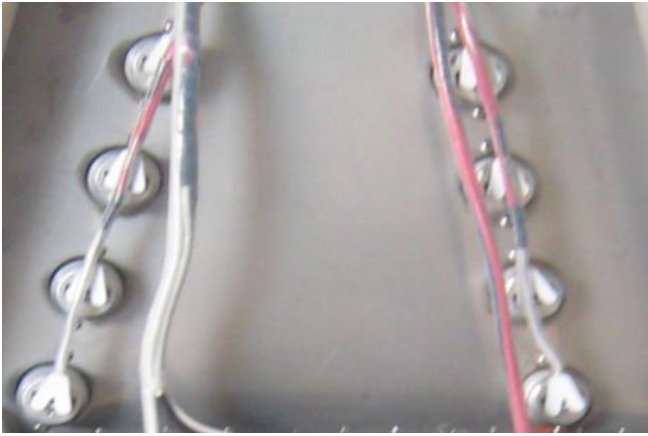
## Equipment summary :

This testing chamber can simulate the harm caused by sunlight, rain, and dew. UV uses fluorescent ultraviolet UV lamps to simulate the effect of sunlight, and uses condensed moisture to simulate rain and dew. The tested materials are exposed to light and moisture at a certain temperature. Test in alternate cyclic programs. UV can reproduce the hazards that occur outdoors in months to years in a few days or weeks. UV test data can help you choose new materials and evaluate how changes in formulations affect the durability of new products.



Model	BT-08 UV
Studio size	1170*500*450(mm)
Sample form size	75*280(mm) inner size sample; You can fit 24 at the same time
External size	About 1400*1750*750 (mm) W × H × D
Center distance inside the lamp	70mm
Distance between test surface and center	50±3 mm
Nozzle number	4 in total
Spray pressure	70 ~ 200Kpa adjustable
Irradiation distribution of UV-A lamp	 <p>1. Irradiation intensity of standard machine 0.1-2W/m; 2. 340nm.</p>
Lamp length	1220mm
Lamp power	40W/piece
Service life of the lamp	About 1600h
Number of lamps	Total of 8 branches of 4 before and after the life of about 1600 hours
Weight	120KG
Maximum power	2KW
Maximum current	15A
Power supply conditions and power supply	<p>AC 220V single-phase two-wire + protection grounding; Allowable voltage fluctuation range ±10%V; The frequency fluctuation range is 50±0.5HZ; Power supply in TN-S mode or TT mode</p> <p>The grounding resistance of the PGND cable is less than 4 ohms The user is required to configure the air or power switch of the corresponding capacity for the device at the installation site, and the switch must independently control the use of the device</p>
<b>Performance</b>	
Environmental condition	The value is measured when the ambient temperature is +25°C, the relative humidity is less than 85%, and there is no sample in the test box.
Temperature/humidity range	Irradiation temperature: 50 ~ 70°C Condensing temperature: RT ~ 60°C

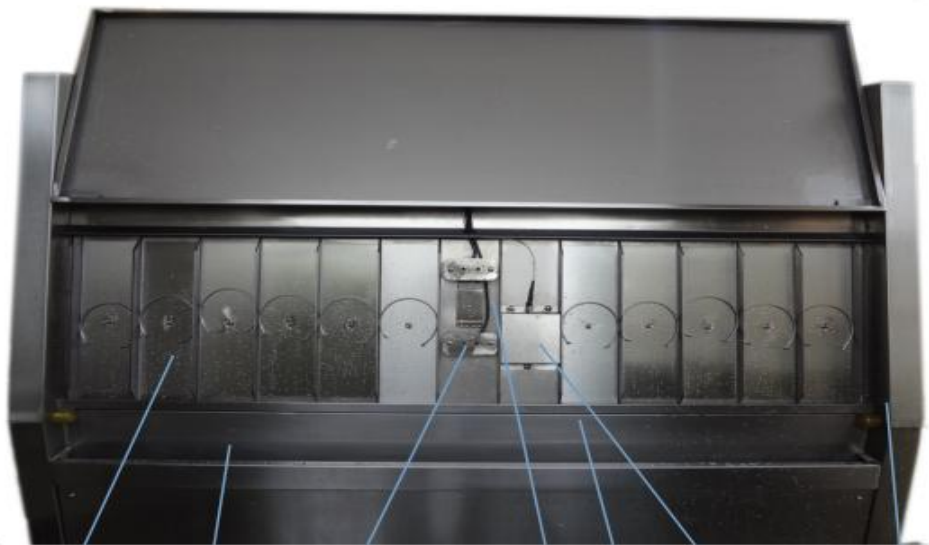
	Spray temperature: room temperature Relative humidity: condensation period $\geq 85\%RH$ ; Irradiation period $\leq 75\%RH$
Main technical parameters	Temperature resolution: 0.01 °C Temperature deviation: $\pm 1^\circ C$ Temperature uniformity: 2°C Temperature fluctuation: $\pm 1^\circ C$ UV lamps can be selected UV-A/UV-B lamps, if there is no special instructions, the factory timing station is equipped with UV-A lamps
Standard	1.GB/T23987-2009/ISO 11507:2007 Artificial weathering exposure (UV) to paints and varnishes 2.GB/T14522-2008 Mechanical industry products for plastics, coatings, rubber materials artificial weathering test methods fluorescent ultraviolet lamp; 3.GB/T16422.3-2014/ ISO4892-3:2006 Exposure test methods for laboratory light sources for plastics - Part 3 Fluorescent ultraviolet lamps; 4.ASTM G154-2006 5.ASTM G153 6.GB/T9535-2006/IEC 61215:2005 Crystalline silicon photovoltaic modules for ground use - Design identification and fining (10.10 UV pretreatment test part)
Heating rate	Irradiation temperature $RT \rightarrow +70^\circ C \leq 45 \text{ min}$ Condensation temperature $RT \rightarrow +60^\circ C \leq 45 \text{ min}$
<b>Structural feature</b>	
Chamber structure	The inner box is made of SUS304# stainless steel. The machine outer box is made of brushed stainless steel; The irradiation lamp is evenly arranged on both sides to ensure uniform irradiation of the tested part, and the effect is obvious. Sink depth 25mm, water depth can be controlled; The test sample frame is made of stainless steel welding; The test sample is fixed by spring buckle, easy to install; The bottom of the test chamber is equipped with fixed casters and foot cups for easy movement and positioning; Water supply mode can be selected manual or automatic mode, easy to use; Special isolated irradiation heating device and air supply system to ensure uniform heat in the test space; The surface of the test sample is directly composed of the inner wall

	<p>of the test chamber, and there is more cold condensation.          Specially made spray device and automatic nozzle, water pressure can be adjusted;          The lid of the case is bidirectional clamshell type, which can open and close easily</p>
Control panel	Power switch, alarm, irradiation accumulator, irradiation ammeter, irradiation intensity adjustment knob, controller
Distribution control cabinet	Cooling fan, switchboard, controller
Light tube arrangement	
Irradiation heating system	Adopts flake heating tube, multi-wing centrifugal fan to supply air circulation, temperature controller output control non-contact SSR, to achieve temperature balance, long-term stable operation
Condensing heating system	Temperature balance is achieved by steam heating and a nickel alloy heating tube P.I.D
Water refill system	<p>Manual, automatic two kinds of water refill control system, only need to connect the water pipe can be automatically controlled, easy to use          Note: If the tap water has too much impurities or acid alkaline, it is necessary to install a filter at the water inlet</p>
Drainage system	<p>Drainage valve control device, manual drainage mode          Automatic overwater overflow control system</p>
Spray system	<p>A booster pump is used to control the spray water pressure          Fully automatic control of its spray time and spray cycle          Accurate overwater overflow device</p>
<b>Electrical control system</b>	
Controller	<p>Imported LCD touch screen temperature controller TEMI880          The irradiation temperature, condensation temperature and irradiation time were respectively controlled          Condensing time, spray time and working cycle</p>

Temperature input mode	Man-machine interface, touch input
Program capacity and control functions	<p>The number of programs that can be used: up to 120 groups, 1 program can be combined by 1~99 segments;</p> <p>Available memory capacity: 1200 segments, repeatable commands: each command can be up to 999 times, the program slope setting can be set by the timeline, the connection between programs can be set, the production of the program is simple</p> <p>With editing, clearing, insertion and other functions, 4 groups of time signal output control (can control the ON/OFF action of the object to be measured)</p> <p>With 9 groups of PID parameter setting, program execution with skip segment, hold function, can display curve, data acquisition; Date and time adjustment function; Key and screen LOCK (LOCK) function, can be connected to the computer</p>
Communication	RS-232 communication interface, can be used as monitoring and remote control system, record test data
Mode of operation	Program mode/Fix mode
Setting mode	Chinese/English interface, touch input
Set range	The maximum temperature range is 5°C
Display resolution	Temperature: 0.01°C; Time: 1min;
Power-off memory function	The power recovery mode can be set to hot start/cold start/stop
Booking power on function	The startup time can be set at will, and the time will run automatically after the power is turned on
Temperature measuring body	Type PT100 platinum resistor
Curve recording function	With RAM with battery protection, it can save the set value, sampling value and sampling time of the device;
Software use environment	IBM PC compatible machine, PII or above CPU, 128M or above memory, simplified Chinese Windows2000 or simplified Chinese WindowsXP operating system
Temperature control mode	Anti-integral saturation PID, BTC balanced temperature control mode (temperature test equipment)
<b>Safety protection device</b>	
Test chamber	Extreme overtemperature protection, water shortage protection
Booster pump	Water shortage protection, high water pressure protection
Heating system	The heating pipe is dry burning, the water supply is abnormal, and the drainage is abnormal
Power source	Leakage protection, overload and short circuit protection
Environment requirements	The ambient temperature of the device should be within 0 ° C to +45 ° C

Installation site requirements

The distance between the left and right side of the test box and the rear side wall panels shall not be less than 600mm, and the distance between the front side and the wall shall not be less than 800mm. When the equipment is being transported, whether it can be entered into the door, passage, elevator, etc., so as not to affect the progress of your company's project.



304 stainless steel  
sample holder

Solar Eye  
Irradiation Sensor  
Water contact tank

Calibration hole  
Humidifvina water tank

Blackboard  
thermometer

Cushion



Some patents (nearly 100) and certificates



Some patents (nearly 100) and certificates



Hot & Cold test chamber

- 2017 Annual News Stone Hero List Quality Award



China Printed Circuit Industry Association



Joint Laboratory of Power Battery Safety Testing

Shanghai BOYI & Beijing Jiaotong University



China quality club enterprise member



## 2. Shanghai Office :



## 3. Factory environment area



**Work shop**



**Our team**



#### 4. Spot exhibition hall area\finished product area

#### 5. BOTO GROUP Factory located in Hunan Yueyang Industrial Park.

The industrial park is constructed by Shanghai Boyi Test Equipment Co., LTD with a total investment of RMB 400 million. Mainly engaged in the research and development and manufacturing of the whole chain of laboratory equipment; It is located next to yueyang section of Wuhan-Guangzhou high-speed railway, adjacent to Lotus Airport, and has very convenient transportation. The industrial park covers an area of 40 mu, consisting of a comprehensive office building and two standard factories, with a total construction area of nearly 20,000 square meters



**Showroom 1**



**Showroom 2**



6. On December 23, 2021, Li Aiwu, deputy Secretary of CPC Committee and Mayor of Yueyang city, Hunan Province, led the participants of Yueyang City industrial project construction mobile site meeting to inspect our company and observe the construction of industrial projects.



7. After the industrial park is fully put into operation, it can meet the annual output of new energy 3C semiconductor electronic circuit optical communication industry laboratory testing room environment simulation box 1200 sets; Another company has an independent sheet metal production and processing center, can independently undertake manufacturing business



## 8. Standard size machine

225L High and Low Temperature Humidity  
and Heat Alternating Test Chamber



225L

20 L constant temperature  
and humidity test chamber

Overlapping Temperature and humidity chamber



B-TH-432



Thermalshock test chamber

Double layer constant temperature test chamber

Salt spray test chamber



**150L Vertical high and low  
temperature test chamber**



**Ventilation type aging test chamber**

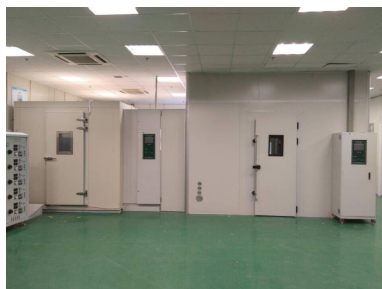


**Leaning tower ultraviolet aging  
test chamber**

**9 .Large non-standard real pictures display area**



**3.6 m3 constant temperature  
and humidity laboratory**



**9 cubic meters low temperature room,  
13 cubic meters high temperature room**



**Three comprehensive  
test chamber**



## 10.Shipment



Self-produced and sold No dealer link



Save you 30%



Quality and after-sales are recognized by customers

