

## Product Details

**Product Name**      Salt Spray Test Chamber

### Performance

Temperature Range: RT +5 °C ~55°C  
 Humidity Range: 85~98%RH  
 Salt Fog Fall-out Rate: 1~2ml/80cm<sup>2</sup>.h(16 hours average)  
 Material: Propene Polymer  
 Heater: Nickel-Chrome heater

**Parts**                      Main electrical components-Schneider; Touch screen Controller: Unique from Japan

### Test Standard and Test Methods

**Test Standard :**  
 ASTM B117/IEC60068-2-11/ISO9227/ MIL-STD-202/ASTM G85 A1/ASTM B368/ JISZ2371/ Fiat 50180/ DIN50021 etc.

**Test Methods:**  
 Neutral Salt Spray Test & Acetic Acid Salt Spray Test-A. Laboratory: 35°C±1°C; B. Saturated air cylinder: 47°C±1°C  
 Copper Accelerated Acetic Acid Salt Spray Test (CASS)-A.Laboratory:50°C±1°C; B. Saturated air cylinder: 63°C±1°C.

**Single set point controller chamber**



**Programmable touch screen controller**

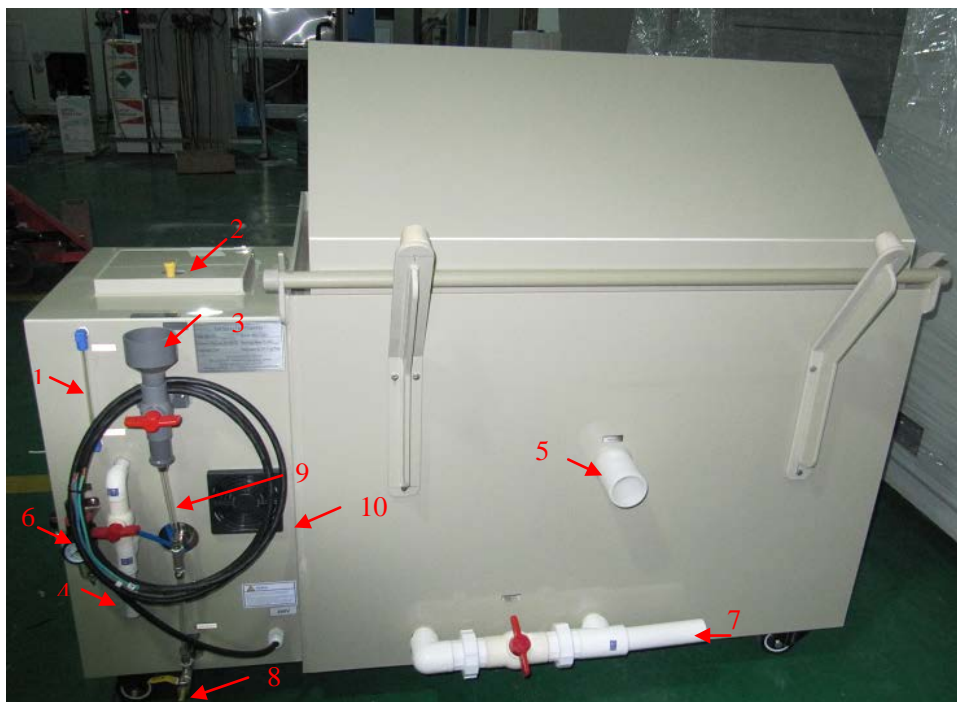


**Power Supply:**      220V/50HZ 3/Single phase

**Documents:**        Manual/ Mechanical drawing/Circuit drawing/Warranty card etc.

## 1. Standard Configuration

1) Please check the picture description below first



- 1) Salt water barrel external indicator
- 2) Salt Water Barrel
- 3) Inlet of water in saturated barrel
- 4) Outlet valve of salt water barrel
- 5) Fog exhaust
- 6) Pressure gage & Air compressor inlet
- 7) Outlet valve from chamber
- 8) Outlet valve of saturated barrel
- 9) Saturated barrel water level checking pipe.
- 10) Exhaust Fan for electric control cabinet.



- 11) Observing Window (Material-Polycarbonate)
- 12) Door handle
- 13) Touch screen controller
- 14) Main Circuit Breaker
- 15) Power distribution Cabinet
- 16) EMO (Optional configuration)

Attention:

Our main circuit breaker is designed outside. It is convenient for customer to operate.

For safety considerations, If not professional person, please don't open the distribution cabinet.

**2) Accessories**

- V-shape sample holders
- Round bar sample holders
- Glass nozzles
- Filter
- Metering cylinder
- Spray Tower



V-shaped and round bar sample holders



Glass nozzle

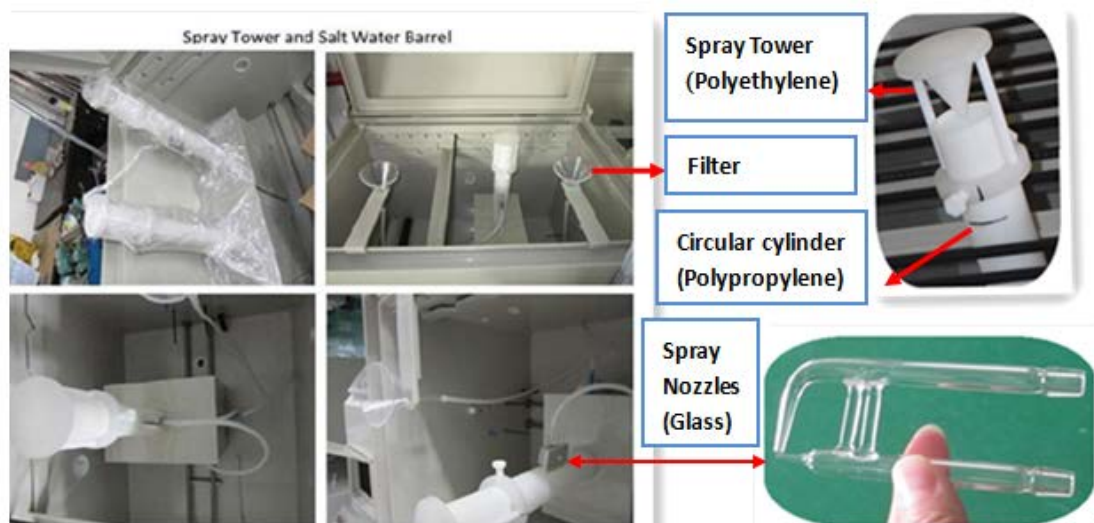


Metering cylinder and cover



funnel





(Remark: The materials that we adopt like glass, Polyethylene, Polypropylene are both very high temperature and corrosion resistant)

### 3) Optional Controller

(Remark: The models above differ in the controller way. One for push button controller, the other for touch screen controller. Please check their difference below.

#### Push Button Controller:

- 1) Setting testing temperature manually
- 2) When make alarm warn, light will on.
- 3) Price is cheaper.

#### Touch Screen Controller:

- 1) Showing alarm reason and solution
- 2) Historical alarm record
- 3) Power-off memory function
- 4) Easier to operate

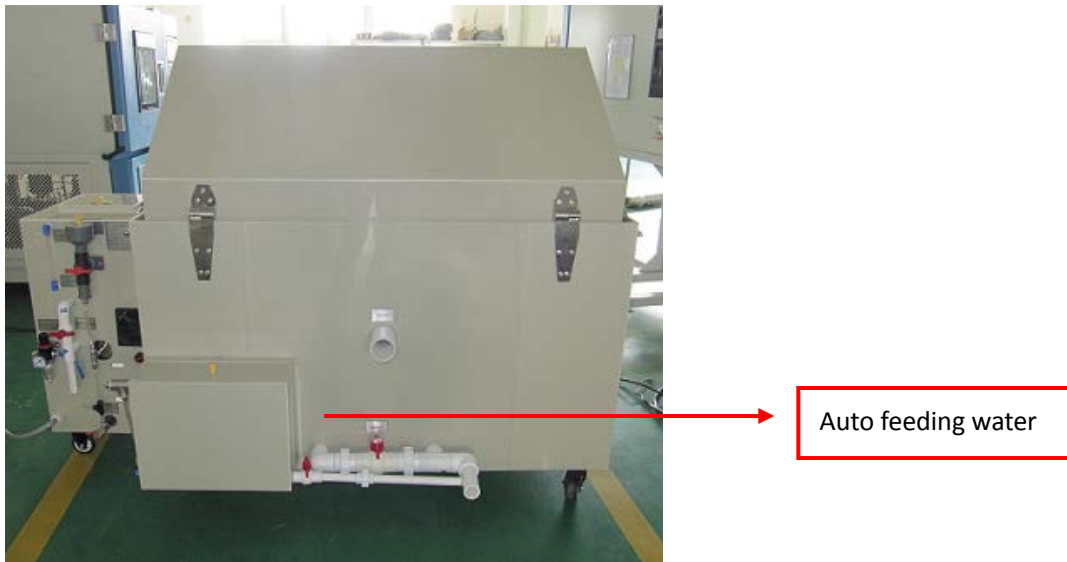
## 2. Optional Configuration (If have any requirement on below item, please contact me for quotation)

### 1) Exterior water tank for auto feeding water to the chamber and saturated barrel The exterior water tank has 3 advantages:

A: Customers don't need to add water separately to the chamber and saturated barrel.

B: The tank could keep some spare water that supply the chamber and saturated barrel. There are water level floating ball in it, when the water that feeding the water level needed, the machine will stop feeding.

C: The water tank could connect the purified machine to produce purified water.



### 2) The purified water machine

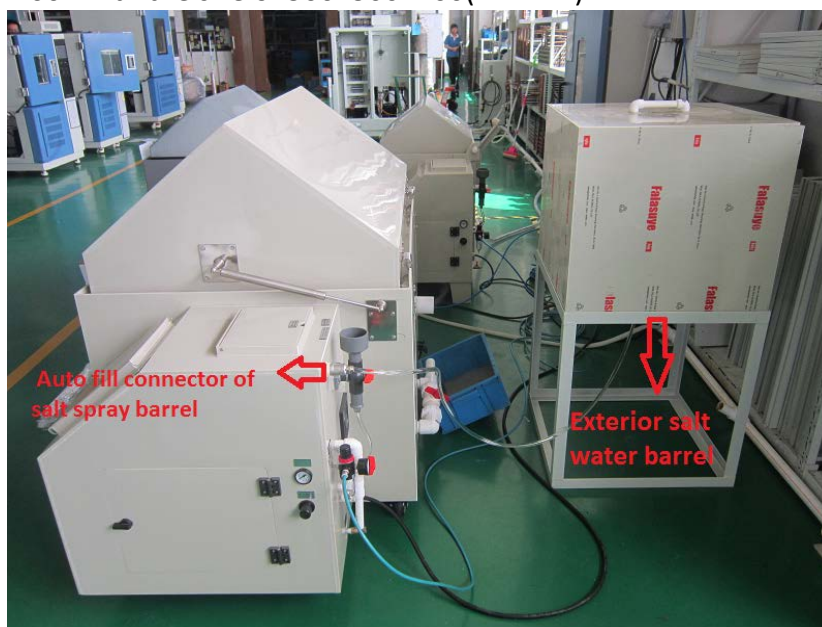
Our standard machine adopts adding water manually, purified water is preferred. The purified machine could connect the tap water directly to produce purified water. This optional configuration includes the item 1) exterior water tank.



**3) Exterior salt spray barrel (Include a connecting value to connect the chamber and barrel)**

The volume of our standard 108L interior salt water barrel is 15.7L. Some customers think this volume is small. If customer's testing time is very long that need consuming much water. We recommend them to buy an exterior salt water barrel, connecting by flexible hose.

It also can be customized. Our standard size for the exterior salt water barrel is 100L with the size of 500\*500\*400(D\*W\*H) mm.



**4) Air compressor**

As the air compressor is easy to get in customer's local place, generally our foreign customer we don't suggest them to purchase from us. As this machine is not expensive, but need to pay the additional sea freight,so it is not cost effective.

Anyway, if customer have requirement, we could also provide.

**5) EMO Button**

EMO is emergency button on the controller, when any emergency situation happened, push this button, all the power is off.

**6) Sample holder board**

If customer's sample is big and heavy that can't hang on the V shaped and round bar, the sample could be put on the board directly.



**3. Model of Standard Size for Salt Spray Chamber**

Model	Volume (L)	Interior Size (D*W*H)mm	Exterior Size (D*W*H)mm
LRHS-108-RJY	108	450*600*400	700*1200*1080
LRHS-270-RJY	270	600×900×500	850* 1450*1120
LRHS-412-RY	412	750×1100×500	1000* 1700*1300
LRHS-663-RJY	663	850×1300×600	1100*1980*1400
LRHS-816-RJY	816	850×1600×600	1120*2250*1430
LRHS-1080-RY	1080	900×2000×600	1200×2700×1460

## 4. Main Safety Protection

1) Over temperature protection for the chamber and the saturator barrel

The chamber intalled 2 over temperature protector, one for the chamber, other for the saturator barrel. We set the protection temperature separately, the probes will sense the temperature in the chamber and saturator barrels separately, if over the setting one will produce alarm, and the machine stop running.

2) Low water level protection for the the chamber,the saturator barrel and salt water barrel.

If the water lever of the chamber and the saturator barrel is too low, it will produce alarm, and machine stop running.

3) Dry burn protection of the heating pipe.

If without water on the button of the chamber, and the situation of heating pipe dry burn happened, it will produce alarm, and machine stop running.

4) Lacking air protection.

When make salt spray test, if without the air coming from the air compressor or the inlet pressure is very small. It will produce alarm, and machine stop running.

## 5. Technical Improvement of Salt Spray Test Chamber

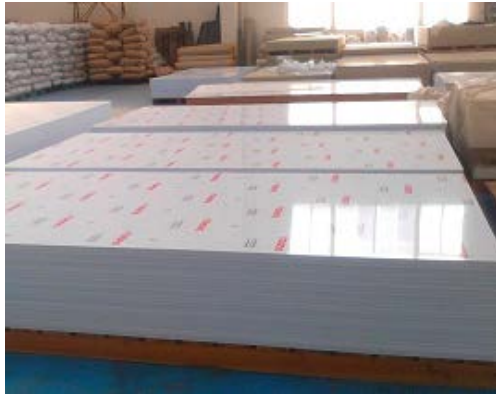
Our salt spray test chamber mainly get through the innovation of material , controller and design.

### 1) Material:

Before we adopt PVC board material, it is suitable for making the test method with 35C chamber temperature like NSS, ACSS,AASS test, but the material can't resist 50C high temperature test longtime, it will cause the transformation of the chamber and cover, so customer can't make longtime CASS (50C) test.

A couple of years ago, we abandon the PVC material and start to adopt PP board. The highest temperature that PP material can resist is 70C, and 25C (The lowest temperature). Meanwhile, PP is more corrosion resistant.





## 2) Controller

Touch screen controller is a new design based on push button controller, except the controller, we also add some functions slowly like designing the USB and internet connector for customer to connect the data to the computer, and operate on it. It adds to the user experience.

## 3) Design

In our power distribution cabinet, there is no design for the water road. It will bring much safety for operators to operate.



In the electronics board, just design the electronic components and air.



All the water roads are in the chamber and at the back of the machine.

Electrical System and Waterway System are designed separately to guarantee safety

Please check the pictures description below, we take the picture of our 270L size chamber as a reference:



→ **Early stage:**  
Keyboard controller  
Transparent cover  
PVC material  
35C temperature test



→ Transparent cover  
PVC material  
35C temperature test  
**Improved version:**  
1) Touch Screen controller  
But can't connect the PC  
2) Movable castors-4 PCS



→ **Improved Version:**  
Polypropylene material  
Both 35C+50C salt spray test  
Touch Screen Controller  
(USB + Internet connector)



**Improved Version:**

**EMO**

(Emergency Switch Button)

When meet emergency issue,  
could press this button.

All power is off.



**Improved Version:**

**Auto feeding water barrel**

Auto feeding water to

- 1) Saturated barrel
- 2) Chamber

## 6. The Preparing before Using Salt Spray Chamber

The machine we send to our customer has almost already installed well . The rest item customer need to prepare have 3 points:

1)Purified/Distilled/Deionized water.

2)Salt solution.

Take ASTM B117 test standard as a reference: The salt solution shall be prepared by dissolving  $5\pm 1$  parts by mass of sodium chloride in 95 parts of water. We could match the salt solution accordingly to the Nacl concentration as  $50\text{g}\pm 5\text{g/L}$

Different test method has different way for matching solute, then to change the PH valve, finally to reach different accelerated solution effect.

—For Neutral Salt Spray Test (NSS), the PH value is  $6.5\sim 7.2$  /  $50\text{g}\pm 5\text{g/L}$  Nacl concentration.

—For Acetic Acid Salt Spray Test (AASS), it bases on  $50\text{g}\pm 5\text{g/L}$  Nacl concentration of NSS, then adding some glacial acetic acid, and stirring evenly and finally making the PH value for  $3.0\sim 3.1$ .

—For Copper Accelerated Acetic Salt Spray Test(CASS), It based on AASS, to add some Copper Chloride, its concentration is  $0.26\text{g/L}\pm 0.02\text{g/L}$ , and finally to stir until the Nacl and Copper Chloride dissolve completely. Finally to add less glacial acetic acid, then stirring evenly and making its PH value to  $3.0\sim 3.1$ .

3) Air compressor.

Air compressor is providing inlet pressure to the chamber. We suggest customer to adjust to  $0.2\sim 0.4\text{Mpa}$ .

## 7. After-sale Guarantee

From machine's R&D, drawing, parts purchase, production are both controlled by LENPURE. LENPURE is familiar with every production step, every parts' installation place, every possible breakdown and solution. The main after sell service procedure please check below:

- 1) Customer email LENPURE about the breakdown description(Pictures or video is preferred)
- 2) Within 1 working days, LENPURE give feedback or solution (If LENPURE needs customer to take pictures about some part of the machine, customer's reply is very helpful for LENPURE to make troubleshooting.
- 3) By LENPURE engineer's troubleshooting, if checked that some part(except glass nozzle) is possible broken by non-artificial reason, If necessary, customer make delivery to LENPURE about the broken part, later LENPURE send the repaired part or new part to customer. If unnecessary, LENPURE will make delivery for the new part to customer directly.

Remark:

During warranty, LENPURE is responsible for delivery fees both ways and parts fees. After warranty, Customer is responsible for the delivery fees both ways, LENPURE will provide the part to customer by cost price.

LENPURE provide whole life's technical support to customers.