# **Salt Spray Test Machine**

**Model: JG-9015** 



(For reference only)



Technical Specifications						
Model	JG-9015-60	JG-9015-90	JG-9015-120	JG-9015-160	JG-9015-200	
Studio (L*W*H)cm	60x45x40	90x60x50	120x80x50	160x90x60	200x100x60	
Volume of outer box	110x67x118	141x90x120	175x115x125	230x125x145	280x135x145	
Test room volume	108L	270L	480L	864L	1200L	
Volume of brine box	13L	18L	25L	35L	50L	
Power supply	Single Phase AC220V 50Hz 2.0KW	Single Phase AC220V 50Hz 2.5KW	Single Phase AC220V 50Hz 3.5KW	Three Phase AC380V 50Hz 5.0KW	Three Phase AC380V50Hz 7.0KW	
Technical parameter	Test room temperature	RT+5°C~50°C (Set according to the test standard)				
	Temperature fluctuation	≤±1.0°C				
	Salt mist settlement	1 ~ 2ml/h/80cm2				
Spray	Spray tower	The characteristic cone type disperser adjusts the size of the spray and makes the mist fogging averages.				
	Injector	PYREX Precision nozzle of glass				
	Spray mode	Neutral, acid and copper accelerated salt spray test types are selected, and custom type can also be chosen, but the parameters must conform to the relevant standard requirements of salt spray test. In the program test, more test types can be defined.				
Mist removal	The mist is discharged by air extrusion, and the box lid is conical designed to form a top corner of 120 degrees, which is favorable for the droplet produced by salt spray not directly dropping on the sample, which ensures the accuracy of the test.					
	Test room temperature control: RT + 5 C ~50 C, precision 0.1 C (double digital display) system VT4810 PID automatic calculation.					
	Liquid expansion super temperature protection controller 0~110 C (Korea)					
Intelligent touch screen controller	Saturated barrel temperature controller: 47~70 degrees, 0~1 degrees of accuracy (even display) PID automatic calculation.					
	Time total time: 0~99999 min gap timing: 0~99999 min.					
	Pressure adjustment: a pressure regulating valve (coarse adjustment, on the back), two pressure regulating valve (fine adjustment, on the front)					
Material Science	PVC new class A, transparent observation window					
	1. Temperature: in order to give full play to the function and performance of the laboratory, the place where the annual temperature is 5 ~35 C should be selected.					
	2. Relative humidity: no more than 85%R H.3 atmospheric pressure: 86 ~ 106kPa.					
	3.There is no strong vibration around					
Experimental Environment	4. Direct radiation without direct sunlight or other heat sources.					
	5. There is no strong air flow around it. When the ambient air needs to flow strongly, the air flow should not be blown directly into the box.					



	6. There is no strong electromagnetic field around it.	
	7. No high concentration of dust and corrosive substances around.	
Note	Special requirements for non-standard, can be customized	

Please compare the table carefully so that the model needs to be selected correctly

### **Equipment Description**

## **Introduction Of Equipment**

The 9015 series intelligent salt spray box has highly automated and high-precision test methods. Compared with the ordinary button type salt spray box, it can not only save a lot of management time, but also minimize the test error caused by human factors. Innovative man-machine interaction management mode, accurate test temperature area setting, intelligent automatic water replenishment function, hope to get your approval.

## **Equipment Description**

This equipment is an intelligent touch screen salt spray test machine. The following is the front and back diagram of the equipment.

## **Description**



- 1. The two pressure regulating valve, showing the pressure of the nozzle and pressure barrel, it is necessary to adjust the pressure size and display the pressure value in the spray state.
- 2. Intelligent touch screen controller
- 3. Box cover, do not open the working state
- 4. Pneumatic braces: (60 and 90 type non pneumatic braces, 120 type pneumatic braces, 160 and above is cylinder opening box cover.)
- 5. The cylinder (salt fog settlement for display)
- 6. Salt fog collecting funnel
- 7. The spray tower (the atomization of the salt mist)



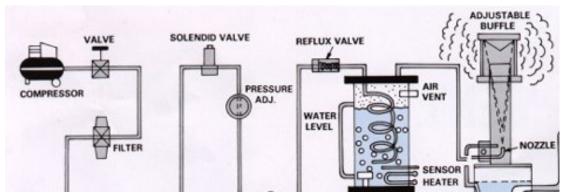
## Description



- 1. Test room water release valve (test finish the back row waste water)
- 2. Brine drain valve (for discharge or excess brine); part of the brine outlet is located in the side wall of the test room; the 60 type salt spray test machine is located at the bottom of the spray tower under the brine outlet, and the silica gel is used to drain the brine.
- 3. Box cover
- 4. First grade pressure regulating valve (this valve is intake pressure valve, normal test pressure adjustment 0.2KPa)
- 5. Pressure bucket manual inlet valve
- 6. The saltwater storage tank (the whole salt spray tester only needs to add brine here)

Working Environment				
Using ambient temperature	0 to 35° C			
The use of environmental humidity	less than 85%RH			
Technical Parameters				
The temperature range of 1. DEG ~50 DEG laboratory	RT5 (set value cannot be lower than the ambient temperature at the time)			
Saturation bucket temperature	+40°C ~ +63°C			
Saltwater temperature	preheating through the test room temperature			
Temperature uniformity	less than 2°C			
Temperature fluctuation	less than 1°C			
Test time	0 - 99999 M adjustable			
Settlement	1-2ml/80cm - /h			
Spray methods	NSS (neutral) test, AASS (acid) test, CASS (copper acceleration) test, custom test Test, program test, each test can independently select continuous spray or intermittent spray (according to the industry standard. Quasi)			
Sample holder	between 15 to 30 degrees with the vertical angle (standard sample case). Other irregular sample			





(Equipment Schematic)

## **Intelligent Touch Screen Salt Spray Test Machine Advantage**

#### Remote Management

This machine comes with WiFi, boot automatically networking, without user pay, users can use mobile phone or computer to check the running state of the equipment (including temperature, water level, time history curve), can query the history curve and support the download, it will generate the Excel table, can greatly save management time, lift test efficiency.

# **High Temperature Resistant Box**

The shell is made of high temperature resistant PP sheet (melting point of 130°C, much higher than traditional PVC salt spray box), and corrosion resistance. Numerical control welding and equipment will never leak.

#### **Reliable Touch Screen**

Industrial touch screen, easy to touch and sensitive, can touch more than 400 thousand times normally.

#### **Closed Circuit Design**

All closed circuit design, any fine salt spray particles cannot enter the main circuit box, compared with the open box of ordinary salt spray box, it has a fairly strong anti-corrosion function, meanwhile, the whole machine life will be greatly extended. The core circuit is designed by separate electric box, and the stability is better.

# **Modular Design**

Modular design is adopted in the whole machine, and the plug type connection is used in various functional modules. Maintenance and maintenance are not only very convenient, but also more cost saving.

#### **Water Shortage Automatic Protection**

Automatic low water level protection, when there is water state, if there is access to tap water pipe, water solenoid valve will automatically open the corresponding; if the user does not have access to tap water pipe, the salt spray test machine will be in the standby state (automatic suspend current test, protect the machine dry burning test, not) when the user manually fill the corresponding water level the machine will continue to run.

#### **One Key Energy Saving Function**

The salt spray test machine has a key energy saving function, in the test, if the user has chosen a key energy saving function, the machine will be based on the situation, timely adjust the output, to ensure the accuracy of the test at the same time, can reduce the waste of energy, energy saving and environmental protection truly.



#### The setting of "temperature zone" to improve the accuracy of the test

The test machine can set the test temperature area, for example, we carry out the neutral salt spray test. According to the national standard, the temperature of the lab is set to 35 degrees, and the temperature of the pressure barrel is set to 47 degrees. In user settings, if we set the temperature zone to 2 degrees. So the test only when the temperature of the test room is stable at  $33 \sim 37^{\circ}$ C. Meanwhile, when the temperature of the pressure barrel is stable at  $45 \sim 49$ , the salt spray test machine will be automatically tested. Otherwise, the equipment will not be timed or sprayed because the temperature is outside the test range. This setting can greatly reduce the test error, improve the reliability of the test and the test accuracy.

## **Test Type Setting**

The salt spray test machine can be used for the NSS (neutral salt fog), AASS (acid salt spray (CASS) and copper accelerated salt spray test), each test has been preset in the main interface of the "test set", the user only needs to choose any one of them can be tested, the corresponding ratio of sample introduction the test type interface has current test and related matters needing attention, at the same time, the default temperature value and the test time, the test time can be modified by the user, including the user decide whether continuous test or cyclic test. Help the customer to improve the efficiency of the test.

#### **Alarm Clock Alarm Function**

It is convenient for many batches to put in the product's customer management test samples, so that the test is orderly and the many batches of products are easy to be confused.

#### Windows Underlying Code

The program of this salt mist tester controller is based on the Microsoft windows bottom code, and the program compatibility and stability are very reliable.

## **Implementation Criteria**

This salt spray corrosion test equipment is applicable. China promulgated the national salt spray test standard CNS, JIS, ASTM.NSS, CASS and GB 2423.17-2008 electric and electronic products salt spray test method.

Technical Parameters				
	Neutral and acid brine spray test	Test room: 35 C + 1 c		
Temperature range	(NSS, AASS)	Saturated air bucket: 47 C + 1 c		
Temperature range	Copper accelerated corrosion	Test room: 50 C + 1 c		
	resistance test (CASS)	Saturated air bucket: 63 C + 1 c		
Temperature uniformity	+ 2 centigrade			
Temperature fluctuation	0.1 degrees centigrade			
Spray deposition	$1 \sim 2\text{ml} / 80\text{cm}2 / \text{h}$			
Mode of spray	Continuous, intermittent and programmable			
Compressed air pressure	1 + 0.01 (kg/cm2)			
Test time	0~99999 H, M (adjustable)			
Sample rack	Two layers, standard mold forming one time, can meet about 15 degree to 30 degree tilt test (ensure the experimental solution is not deposited on the test)			



#### **Salt Spray Test Machine Structure**

- 1. The test box of the salt spray corrosion test is beautiful, the structure is reasonable, the line is smooth and the natural flow is smooth. Case material is made of class a environmental protection PP plastic plate (more than traditional PVC board, high temperature resistance, melting point up to 130 degrees Celsius). Its appearance is bright, clean, bright, scratch free, corrosion resistant and easy to clean and no leakage. The internal bladder is the same PVC plastic sheet with a maximum temperature of 70 degrees. All kinds of auxiliary fittings are also corrosion-resistant, and the design of the structure is reasonable.
- 2. Box cover material is imported transparent sheet (large salt mist box can be accompanied by transparent observation window), it is also corrosion resistant, easy to clean, no leakage. In the process of testing, the laboratory conditions can be clearly observed from the outside without affecting the test results. And the box cover is designed to be the best 120 degree angle, so that the condensate produced in the test process will not drop to the sample and influence the test result. The box cover and the box body are sealed by water, so as to prevent the overflow of the salt fog, thus affecting the test results and the damage to other equipments and even operators.
- 3. The box heating is heated to the inner tank, the heating is fast, and the temperature and humidity are evenly distributed. Saturated air using titanium alloy high speed heating tube, heating up fast, compressed air can quickly transition to the appropriate temperature, and filtered to remove impurities and keep moist salt solution through the quartz glass nozzle special will be prepared easily lead, mist was diffused in the test chamber. The settlement can be adjusted by the spray height and spray pressure of the tip's size to meet the standards.
- 4. The sample frame is designed to be upper and lower two layers according to the national standard, which is inclined at 15 degrees and 30 degrees, and can also be used as a hook.
- 5. The brine tank is set up in the bottom of the box body, which is super large capacity, and is heated at the same time when the tank is heated, so that the temperature of the brine is close to the temperature inside the box, avoiding the temperature fluctuation caused by spray in the box.
- 6. The equipment adopts an annular water seal; ensure the salt fog does not leak out.
- 7. With the power outage time memory function, it can make the remaining time after the incoming call continue according to the original time. It attaches double over temperature protection, and the water level is not enough to warn, so as to ensure the safety of use.
- 8. Air supply system: air pressure is 1Kg/cm2 two section adjustments to ensure stable and reliable spray pressure. The first section is to adjust 2Kg/cm2, with imported air filter, with drainage function. The two sections is a precise adjustment of 1Kg/cm2, which is accurate and accurate.
- 9. Spray mode:
  - (a) The principle of "nuit from brine by salt spray and atomization, standard mould disperser, the atomization degree, test the test results at different points in the room were more average and more accurate.
  - (b) The nozzle is made of toughened glass. It can adjust the size of the spray and the precise angle of the nozzle (PYREX) for 4000 hours to ensure that there is no crystallization blocking.
  - (c) The measuring tube is embedded in the installation, the appearance is beautiful and tidy, the operation observation is convenient, reduce the installation space of the instrument.
- 10. Security protection: The pressure saturated bucket of the test room is made of SUS304# stainless steel, which is stronger in compression and corrosion resistance. The heating tank adopts the liquid expansion safety temperature controller 0~120 C (Italy EGO). It is equipped with two kinds of automatic and manual water feeding system, automatic detection of low water level, automatic protection of water shortage, until the corresponding water level is full, so as to prevent water shortage and ultra-high temperature damage instrument. Leakage protection function to prevent personal injury and instrument failure caused by leakage or short circuit of line. When the temperature is overheated, the heater is automatically cut off, and the safety warning lamp device is dynamically displayed.

Surrounding environment				
Power	220V/380V 15A~45A (visual size) 50HZ			
Ambient temperature	5~35 C			
Use water quality	Test liquid allocation - distilled water (pure water) (its pH value should be between 6.5~7.2)			
	The rest of water - tap water or pure water			
	Spray pressure - 1 + 0.1kg/cm2			
Air pressure setting	Air compressor voltage regulator filter 2.0~2.5kg/cm2			
Is installed at the edge of the window, which is good for exhaust and drainage				

#### A brief introduction to the touch screen controller

Main control pages are divided into 4 options: real-time monitoring, test setup, user settings and help documents



The test machine is open, if the PLC did not finish the test on the save time, then you will be prompted whether to continue the last test, you can choose to have completed the test, you can click on cancel. If you click continue, will direct the last test interrupt (this feature requires in the last test need to open the "power down memory" will pop up confirmation box set)



#### **Neutral test setting**

Click on the test button of the main directory and enter the test setup directly. You can set spray time, stop fog time and the total time of test, and choose whether to turn off the electricity and restart.



Please click on the lower right corner of the "start test", wait for the countdown, PLC will start the experiment. The touch screen automatically enter the "monitor", "acid salt spray" and "CASS test" setting method and "neutral salt spray" principle is completely consistent, is different with each test solution ratio is not the same as each test, we have the solution ratio corresponding prompt for reference.

#### **Program Test Setup**

Salt spray test machine test program provides rich function, can save 10 sets of test parameters, each test set 20, 10 cycles of choice. You can choose the temperature of each section, the running time and whether the spray. Can also choose any 20 sections in separate test, can also extract a few section of the cycling test.



