B-SST-90 型盐雾试验箱

B-SST-90 Salt mist test box

操 作 说 明 书

Operation Manual of Salt Spray Tester

一． 在使用本机台前，请仔细阅读本手册。

二． 在使用本机台前，请熟悉所有安全注意事项。

三． 请把本手册放在手边，以供随时参考。

1. Please read this manual carefully before using the machine.

2. Please familiarize yourself with all the safety precautions before using the machine.

3.Please keep this manual handy for your reference.

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1. Scope of application

   The standard specifies the method of salt spray (fog) anticorrosion test for base metal materials after all kinds of surface finishing, such as electroplate, organic or inorganic coating.

2. Test method

   It is a kind of corrosion test method, which applies salt spray test machine to spray sodium chloride solution onto electroplate coating film. The main test conditions are listed as table1.

Table1 The main test conditions

Item	Preparation	In test	Note
Sodium chloride solution concentration (g/L)	50	40~60	Better to calibrate the concentration once a day
PH	6.5	6.5~7.2	Measure the pH value in test after collecting
Compressed air pressure (kgf/cm^2)	……	1.00±0.01	No interruption
Spray amount (ml/80 cm^2/h)	……	1.0~2.0	At least collect 16 hours, calculate the average value.
Temperature in pressure tank (℃)	……	47±1	
Temperature in saline water tank (℃)	……	35±1	
Temperature in test room (℃)	……	35±1	At least measure two times everyday and the interval should be not less than 7 hours.
Relative humidity in test room	……	More than 85%	The other requirements on temperature should be negotiated by the buyer and seller.
Test time			The continuous time from starting spray to ending spray, or negotiated by the buyer and seller.

3. Preparing test solution

   Dissolve reagent level sodium chloride (1) in distilled water (or in the water whose total dissolved solids are less than 200ppm) to prepare test solution (2) whose concentration is 5±1%. The test solution is spraying at 35℃, the pH value of collecting liquid should be 6.5~7.3 (3). Furthermore, the test solution should not contain suspended matter (4) before spraying.

   Note: (1) The sodium chloride should not contain copper and nickel impurities, and the sodium iodide content in the solid should be less than 0.1%. Because the impurities might contain corrosion inhibitor, the total content of impurities should less than 0.3%.

   (2) The specific gravity of test solution should be 1.0258~1.0402 when measuring at 33~35℃, and 1.0292~1.0443 when measuring at 25℃. The concentration of test solution can also be calibrated by silver nitrate solution titration method or other method.

   (3) The pH value of test solution should be adjusted by hydrochloric acid or sodium hydroxide diluted solution, and measured by pH meter or other dependable methods. Because the water used to prepare test solution contains carbon dioxide, and whose solubility in the water is changed to affect the pH value of the solution when the temperature changing, the pH

value should be controlled carefully. The pH value can be adjusted by one of the below methods:

A. Prepare test solution at normal temperature, and spray at 35℃. Because higher temperature can urge some of carbon dioxide escaping from the solution and cause the pH value to increase, the pH value of test solution should be adjusted to 6.5 when preparing at normal temperature, so that the pH value of the collection liquid can be 6.5~7.2.

B. Before adjusting pH value, boil the test solution then cool down to 35℃, or keep the temperature at 35℃ for 48 hours. So the adjusted pH value will not change too much when spraying at 35℃.

C. Heat the water to above 35℃ first to remove dissolved carbon dioxide, then prepare test solution and adjust the pH value. Therefore, the adjusted pH value will not change too much when spraying at 35℃.

(4) To avoid blocking the nozzles, the test solution should be filtered or carefully pour slantways into the saline water tank, or install glass filter or appropriate gauze at the front end of spray suction pipe.

4. Facilities

The facilities needed in the test include nozzle, saline water tank, test piece shelf, collection container for spraying liquid, test room (5), saline water supply tank, pressure tank, equipment producing compressed air and exhaust facility. The device is shown as figure1, and test is carried out according to below conditions.

Note: (5) The volume of test room should be more than 0.43m^3.

4.1 The salt spray test machine and other needed pipelines should use inert materials, which will not affect the spray corrosion test or be corroded.

4.2 The nozzle should not directly spray the test solution onto the samples; the solutions congregated on the top of spraying room should not drop onto the test pieces.

4.3 The test solution dropped from test pieces should not flow back to the saline water tank, or used for test again.

4.4 The compressed air should not contain grease and dust, so there should be air cleaner. The air pressure should be kept at 1.00±0.01kgf/cm^2. Because the compressed air will absorb heat when expanding, it should be preheated (6), just as attached list 1, to obtain homogeneous temperature spraying.

Note: (6) Preheat to increase the temperature and humidity of the compressed air.

4.5 The spray sampler is placed near the test pieces (close to the nearest and far most places away from the nozzle), the sampling area is about 80cm^2, and the diameter is about 10cm.

4.6 The spray amount is calculated with the total time, averagely, the sampling container should be able to collect 1.0~2.0ml saline water solution every hour. The spray liquid should be collected at least 16 hours, and the spray amount is represented by the average value.

4.7 The concentration of sodium chloride solution in the saline water tank should be kept at 40~60g/L during the test.

4.8 The temperature of pressure tank should be kept at 47±1℃ while that of the saline water tank should be kept at 35±1℃.

4.9 The relative humidity in the test room should be kept more than 85%; the requirement on higher relative humidity can be negotiated by the seller and the buyer.

5. Sample

5.1 Sampling place: The sample can be sampled from the main surface of the product or use the product

as a sample. But when the product can't be tested or make the judgment, the two parties can negotiate to replace it with test piece. The test piece must be able to represent the product.

5.2 Size: The standard size of the test piece is 150×70mm, or 100×65mm.

5.3 Number: The number of sample can be negotiated by the buyer and seller.

5.4 Test pretreatment

5.4.1 The sample should be properly washed according to the properties of plating debris and the cleanliness, and can not be washed by abradant (7) and corrosive or inhibitory solutions; furthermore, the washing method should not injury the surface. The stainless steel sample can be washed and inactivated with nitric acid negotiated by the buyer and seller. After cleaning (pass the water splashing test), the water on the sample should be wiped off by clean cloth or absorbent paper, or be blown to dry by non-oil and dry air.

Note (7): When necessary, magnesium oxide cream can be used, the cream is prepared by adding 10g reagent level magnesium oxide into 10ml distilled water.

5.4.2 Unless there are other stipulations, the sample cut and bare parts of the base materials caused by hanger, or the defect places on the plating caused by distinguish mark should be covered with proper protection layer when testing, for example, insulation materials such as ceresin wax, ethane adhesive tape.

5.4.3 Hand pollution will cause critical adverse test results. The cleaned samples should not be polluted by hand.

6. The placement of samples: During the test, the location of samples in test room should accord with the below conditions

6.1 The main surface of sample should be 15^{o} ~30^{o} angle to the vertical line, and be paralleled with the main flow direction of spraying when looking down from upside of test room. When special parts need to be tested on main surfaces in many directions at the same time, many samples should be placed to let every main surface to be spraying with saline water at the same time.

6.2 The arrange of samples should let the spraying to fall down freely onto all test pieces, should not interfere the free fall of spraying.

6.3 Samples should not contact with each other, metallic conductor or matters acted by capillarity, and other matters except supporting shelf.

6.4 Saline water should not flow or drop from one sample to other samples.

6.5 The sample marks or assembly holes should be covered underside.

7. Operation: Adjust the temperature in the test room and saline water tank to 35℃, the temperature in the pressure tank is 47℃, when spray pressure is kept at 1.00±0.01kgf/cm^2, spraying can be started.

7.1 Test conditions: The test conditions are listed as table1.

7.2 Test time: The continuous time between starting spraying and ending spraying. Test time is an important quality data of electroplating debris. The needed time can be negotiated by the buyer and seller.

7.3 Treatment after test: When completing the spray test and opening the upper cover of test room, the sample is carefully take out so as not to drop the solutions and injure the main surface. Wash the adhesive particles off with fresh water lower than 38℃ as quickly as possible, remove the corrosive products except corrosive points with hairbrush or sponge, and dry them with clean compressed air right away.

8. Recording: Unless there is contract between the seller and the buyer, otherwise the test should record below content: (Attached list 2 is the recording form for reference)

8.1 The quality of used salt and water when preparing saline water.

8.2 Test temperature

8.3 Device of spray sampler, below contents should be recorded everyday:

8.3.1 Spray amount

8.3.2 Specific gravity and concentration of collected solution at room temperature

8.3.3 pH value of collected solution

8.4 Sample type, shape, dimensions and numbers.

8.5 Washing method for sample pretreatment and post treatment.

8.6 Place method of samples in test room.

8.7 All cover methods according to section 5.4.2.

8.8 Spray time

8.9 Record the reasons and time when the test time is interrupted.

8.10 All results of other inspections

9. Judging method: The judgment on the measured corrosive conditions can be carried out according to the grade number standard chart showed in figure 2~13. When difficult to judge with standard chart, i.e., foaming and crack, they can be judged with magnifying glass with scales, or with the method contracted beforehand by the seller and the buyer.

Attached list 1 the compressed air pressure and needed preheating temperature when the spray test is carried out at 35℃

Compressed air pressure	(Kpa)	84	98	111	126
	(kgf/cm^2)	0.86	1.00	1.14	1.29
Needed preheat temperature (℃)		46	47	48	49

For reference: 1Kpa=0.14psi

Attached list 2 Recording form for salt spray test

Test Date Day Month Year Test No.	
Test Time Day to Day In all hours (Spray time) If the test is interrupted, the reason is:	
1. Quality of sodium chloride	
2. Quality of distilled water	
3. Spray sampler: 3.1 Spray amount	ml/80cm /h
3.2 Specific gravity or concentration of collected solution at room temperature	
3.3 pH	
4. Sample: 4.1 Type	
4.2 Shape	
4.3 Dimension	
4.4 Number	
5. Compressed air pressure	Kgf/cm^2
6. Relative humidity in test room	
7. Temperature in test room	℃
8. Temperature in pressure tank	℃
9. Temperature in saline water tank	℃

10. Others	
Judgment 1. Judge according to standard charm 2. Judge according to other method	
Tested by:	

Part 1.Structure Brief Introduction

1. Test Chamber Inside

Spray tower: Inner type glass muzzle that put in spray cannula.

Spray adjuster: adjust spray quantum, which can increase or decrease spray quantum. Brine warm-up slot in the bottom of spray tower in which the brine injected by brine supplement to warm-up slot which water level controlled by float ball which can control water lever automatically.

Collect apparatus:spray quantum which spray from muzzle fall into 80cm2 filler in a free falling way and flow into jigger through pipeline.

Wet ball cup: L shape wet ball cup belong to the filling container.

Goods deposit shelf: the shelf made by light steel which cannot bear the weight over 2kg, which within 10kg can be bear if separate deposited.

Filter: leach impurity from brine to avoid muzzle plugged up by impurity

Calefaction flume: it attach on the bottom of lab which used in filling water to keep lab humidity and temperature steady.

2. Test Chamber Outside

Dry and wet ball thermometer: read humidity and temperature of inner lab

Metric bucket: collect spray quantum of every time experiment, and score in every 50ml.

Hermetic flume: using hermetic principle to avoid salt spray released.

Saturation air bucket: it put on the bottom of control unit which made up by SUS#304 stainless steel, which function is that warm and damp air to make air achieve saturated humidity before be sprayed from muzzle.

Brine supplement:supplement brine automatically.

Experiment cover: it is clairvoyant cover that 100℃ bevel like housetop which used in mantle the top of lab.

Pressure adjust valve: this valve through pressure to adjust lab pressure when air pressure is too high of low.

Pressure meter: pressure showed by finger of the meter is that the air warmed by saturation air bucked and deliver to muzzle.

Vent-pipe: 21/2“diameter ,connect the spray fog outside, prevent from water, make the air fog discharge automatically.

Drain-pipe: 1/2“diameter, connect the drain-pipe with drain-water trough, discharge the crap water.

Water entrance: supplement water of lab and saturation bucket automatically to natural using state.

3. Control System

Lab room-temperature control: setting temperature according to standard, brine experiment should be 35℃, and erode-resistant 50℃.

Saturation air bucket control apparatus: it control Saturation air bucket temperature, which setting brine experiment temperature 47℃, and erode-resistant 63℃.

Calculagraph: it is adjustable 0.1s-99hr which setting the time that experiment needed.

Flume temperature warm control apparatus: control water temperature of Flume. It is the apparatus that when test machine around condition temperature in great change difference which can able to control the machine temperature.

Brine spray experiment: set lab temperature control apparatus to 35℃, and that of flume to 47℃（40℃-50℃）。

Erode-resistant experiment: setting lab room-temperature control apparatus to 50℃, and that of flume to 65℃（60℃-70℃）。

Saturation air bucket security control apparatus: the safety temperature setting value 5℃ higher than actual temperature.

Electrical source switch: it is that control the whole machine electrical.

Operate switch: it is that control warm system of slot and air bucket.

Timer switch: control electrical of time control apparatus.

Spray switch: control spray system.

Spray eliminating switch: control spray eliminating system and clean out salt spray.

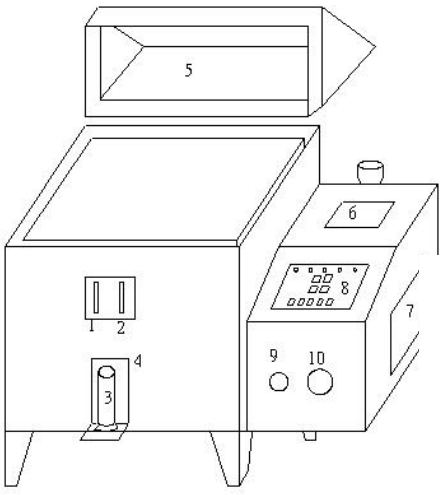
Temperature exceed alarm light: the light will shine and cut off electric while temperature of warm slot exceed 65℃,

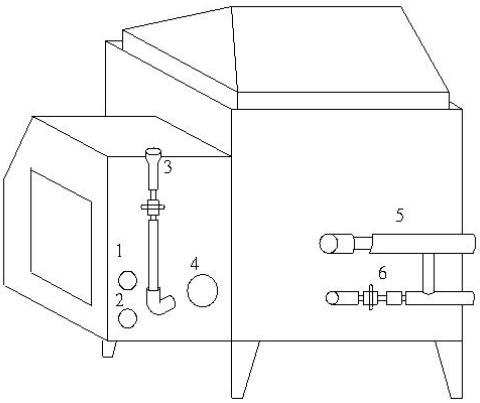
Low brine alarm light: the light will shine and electric be cut off while brine warm-up flume under than lower limit.

End indicator light：the light will shine and machine stop automatically when time is up.

Left low water level alarm light: the light will shine and electric be cut off electric when water level of warm flume under lower limit.

right low water level alarm light: the light will shine and operate system be cut off when water level of saturation bucket under lower limit.



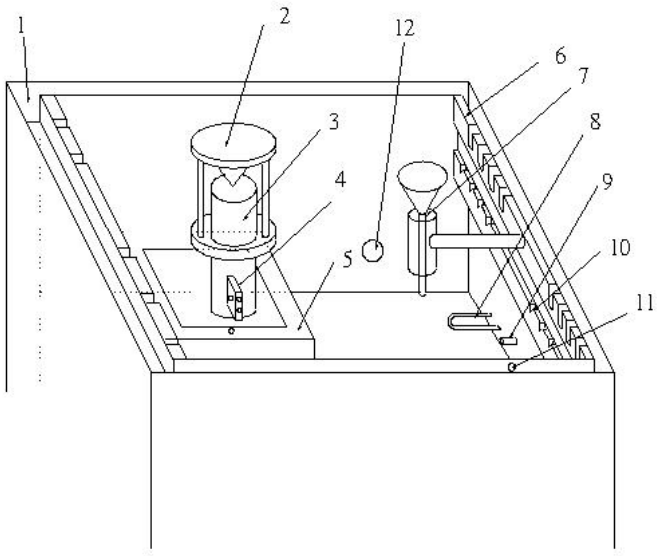


1	Dry Bulb Thermometer
2	Wet Bulb Thermometer
3	Metering Cylinder
4	Metering Cylinder Base Fixed Seat
5	Test Room Top Cover
	ater Feed Inlet
	tem Access Door
	ıtrol Plate
	sure Gage
	Regulating Valve

Drawing A

1	Air Compressor Power Port
2	Main Power Port
3	Saturation Barrel Inlet
4	Pressure Regulating Filter
5	Exhaust Pipe
6	Exhaust Water Pipe

Drawing B



1	Insolation Tank
2	Spray Adjuster
3	Spray Tower
4	Nozzel
5	Saline Water Storage Tank
6	Round Bar Supporter
7	Collector
8	Test Room Heater
9	Test Room Temperature Probe
10	Steel Angel Support Shelf
11	Insolated Water Tank Rubber Stopper
12	Test Room Outlet

Drawing C

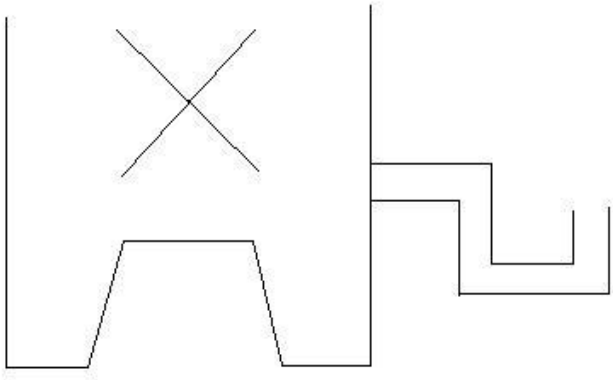
Part 2.Installation Instruction

1. Power supply: AC 220V, single phase, current 15A.

2. The location is behind of wall about 50cm, and two sides of space can be left for maintaining .

3. The outer wire of machine is power wire (2.5mm), please install a switch without melt wire or sword switch (16-25A) before the power wire. The black wire is air compressor machine power, should be connected with air compressor machine. The air compressor pipe should be connected with supply air valve before air compressor machine.

The drain-pipe can choose PVC1/2 hard pipe, the pipe must toward below, stretch to outdoor to discharge. When installed the drain-pipe, parallels the machine,up to down.



4. The install location should avert the sunshine directly, in order to avoid the effect of test condition.

5. The machine install location should not close to other electrical equipments、 precision instruments or Inflammable goods, avoid danger.

6. The machine is made of PVC plastic, please do not strength crash , prevent from fracture. The operation temperature should not exceed the scope of the test standard, avoid transformation caused by overheating.

Part 3.Operation Instruction

1. Please connect the power wire, air compressor pipe behind the machine firstly.
2. Connect the water pipe to supply water entrance. The machine has automatic water supply instrument，so must connect with water pipe, or can not work normally. If there is not automatic water supply pipe ， please operate by manually supply water instrument.

   Attention : Please cover the test top cover ,in order to avoid breakage.

3. Finished the connect of drain-pipe and vent-pipe, like the last page example.
4. Add water up to the location of the base plate in the sealed trough , then modulate the test liquor.
5. Modulate method: decant 9.5 L pure distilled water, text the PH whether between 6.5 to 7.2.

a) If the PH greater than 7.2，please add a litter glacial acetic acid.

b) If the PH less than 6.5, please add a litter sodium hydroxide.
(if using the pure water, ,both item b and c do not need test)

c) Add 500g NaCl,stir well-distributed.

6. Pour salt water into salt liquid supplement bottle, add salt water into Lab beforehand heat trough automatically, make the liquid medicine flow into salt beforehand heat trough, economical type 15L, standard type 30L.

Add water to the wet ball cup ,cover gauze with wet ball thermometer, place the end of the gauze into the wet ball cup.

7.Put the sample on the top of the established frame.

The lay up angle according to the standard of the provision, like the standard sample 130×70（mm）,can use the angle of 15 dgree30 degree inclined placed.

8．Setting the test temperature.

★depending on standard to set.(the key“∨” means reduction, the key“△”means increase)

A．salt water test: Lab inside temperature 35℃

Saturation air bucket temperature 47℃

B．corrosion test: Lab inside temperature 50℃

Saturation air bucket temperature 63℃

9. Setting test time: 0.1S-99HR

（H:hour M:minute S:second the key”＋”means increase, the key”-”means decrease）(please refer to the timer operation instruction)

When interval spraying fog, turn to the transition switch on the panel to the “cycle”, set the spraying fog time and pause spraying time respectively, then interval spraying fog can start.

Press the electrical power key, heat in advanced, till to the setting temperature.

10.Press the spraying fog key

A．Open the vent air valve before the air compressor machine, adjust he pressure to 2kg/cm2 , once pressure.

B． Adjust the accommodation air valve to 1kg/cm2, acquaint the volume from the pressure gage.(clockwise means increase, anticlockwise means decrease),twice preesure.

11.Press the timer key, according the setting time to time.

12.Finished the test, turn off the switches by sequence.

13.If there is some fault in test, please refer to the function unusual judgement and disposal.

Part 4.Failure Indication

A. Exceed temperature indication lights: the left and the right both have exceed temperature indication lights(the left means the Lab, the right means saturation bucket). When the lights turn on, there are maybe three status like below:

1． The alarm device of safe temperature controller set inaccurately.

2． Check the setting temperature whether too low, or re-set again.

3． Inform to our company to deal with if the lights persistently turn on.

B. Low water level indication lights: if the lights turn on, please turn off the electrical power, then add water to the Lab or saturation bucket till the lights turn off.(please check the entrance of

the water supply is open or not)

C. Finished indication light: when the light turns on, meaning the test time is over.

Part 5.Judging and Treating on Abnormal Conditions

Condition	Reason	Treatment
The Lab temperature Can not up to the setting temperature	The Lab temperature setting too low The Lab safety protect switch temperature setting too low. Heating system fault Electromagnetism relay fault Controller fault	Adjust the temperature to the setting temperature Setting the temperature of safety protect switch to the needed temperature Inform our company Inform our company Inform our company
The saturation bucket temperature can not reach to the setting temperature	The saturation bucket temperature controller setting too low The saturation bucket safety protect switch temperature setting too low 加热 Heating system fault Electromagnetism relay fault Controller fault	Setting the temperature controller to the needed temperature Setting the temperature of safety protect switch to the needed temperature Inform our company Inform our company Inform our company
Spraying fog shortage	Spraying fog regulator lay up too low The glass filter inside beforehand heat trough blocked The pressure setting too low	Adjust the spraying fog place to up Clean up the glass filter Adjust the accommodation air valve to 1kg/cm2，on the top of the air compressor machine,remarked accomodate the pressure valve to 2kg/cm2
Can not spray fog	1.the air compressor can not run	1，Press the air compressor key

PS: the nozzle of air pipe and water sucking pipe installation methods （ --type is water sucking pipe，L type is air pipe）	2.the head switch of air compressor exit can not turn on 3. solenoid valve fault 4.pressure gage fault or pressure is too low 5. Electromagnetism relay fault 6. Nozzle blocked	2，Turn on the head switch of the air compressor 3，Inform our company 4，Inform our company 5，Inform our company 6，dismantle the nozzle and clean up(please take care to install)
Water vel shortage, the alarm light turn on	The water level is too low Check the water entrance source whether the water can enter into or not	
When spraying fog normally but the air compressor can not run	The air compressor has the function of self-protect.	Operation as usual
Turn on the electrical power but can not run	The water level of heating water channel is too low to cut off the power	Add the water to the heating water channel to recover the normal level.
When the temperature controller displays: EEE	1. temperature controller fault. 2. sense temperature stick fault	1. Inform us 2. Inform us
Spraying fog volume over top	1 . The location of spraying fog regulator too high 2. the nozzle diameter is too big by long time used.	1. Regulate the spraying fog place to a low location 2. Change a new glass nozzle

Part 6.SERVICE NOTES

1. Please change the water in the heat flume if it has been used more than one month.
2. In order to ensure the accuracy of test result ,please do not use the saline water if it hasn't been used for more than one week.
3. Please clean the test room and drain off the water in the heat flume after testing if it will not be used for a long time.

   a) Q:How to drain off the water in the heat water tank?

A: Open the drainage valve

b) Q:How to drain off the water in the isolate water tank?

A: Pull up the central rubber(silicon) stopper.

c) Q:How to drain off the water in the preheat water tank?

A: Pull up the inner rubber(silicon) stopper

In order to ensure the accuracy of test result,please change the glass nozzle every 2,000 hours.

Part 7.Qualification Certification of Product Inspection

Product name : Salt Spray Tester
Model:YLD-90
Product number:20110619

Item	Normalized Value	Measured Value	Result
Pressure gage (kgf/cm^2)	1.00±0.01	1.00±0.01	PASS
Spray quantity(ml/80cm^2/h)	1.0~2.0	1.2	PASS
Pressure barrel temperature（℃）	47±1	47±1	PASS
Test room temperature（℃）	35±1	35±1	PASS

Part 8.Guide to Quick Operation

1. Starting up
   1) connecting to the outer power source and gas source of salt spray tester;
   2) checking if the automatic feed water valve is open or not, the pressure barrel and test room draw off valve are closed or not, and the pressure gauge reached 2Kg;
   3) turn on the power and operation switch on operation plate of salt spray tester;
   4) observing the control center indication if there is red light and alarm due to low water level and low saline water.If yes,please add water and saline water to eliminate light and alarm.(dissolve sodium chloride to distilled water or dissolve sodium chloride to water to whose total dissolved solids is less than 200ppm, prepare test liquid that the density is 5±1%;

5) putting the specimen in the test room (the angle between the surface of the products and plumb line is 15~30° Meantime adjust the test time
6) regulating timer.

MODEL B: compiler of spray time is needed according to test needing→Turn the time switch on (Set model B:step one:press “MODE”until “A”show on the screen.step two:press NO.1 until A-3 appear .Step three:press “DISPLAY”once and press “MODE”,then press 1,H will show on the screen then press DISPLAY once to set the time the test needed per test .press reset to finish the set .Remark NO.1、2、3、4 is in the name of bits、ten、hundred、thousand)、turn the spray switch on→pressure gauge move fast(set the spray pressure :1Kg)→the instrument is begain to work. When the instrument is working:Ensure the power supply 、water feeder 、gas feeder is on the rails;

总溶解固体量小于 200 ppm 以下的水中），调配成浓度为 5±1%的试验液）→将需测试物品放置到实验箱内（试样之主要表面与铅垂线成 15 度至 30 度之倾斜）、同时调整试验产品需测试时间—调整记时器

如果是 B 型盐雾机同时根据产品测试需求给予编写喷雾时间程序→开启控制版面记时开关。（B 型盐雾试验机设置步骤：第一：先按 MODE 直到表内显示大写 A。第二：按数字 1 键直到显示 A-3 第三步：按 DISPLAY 一次接着按 MODE 一次再按 1 表内显示----H 接着按 DISPLAY 一次设置每次所需试验时间。最后按 RESET,设置完成。备注：可程式表上 1 2 3 4 代表是个位 十位 百位 千位）、开启喷雾开关→控制版面压力表迅速动作（喷雾压力需设定为 1 Kg）—盐雾机喷雾工作开始；

The temperature of pressure bucket should hold out 47±1℃, and that is 35±1℃ for salt water.

Relatively humidity of laboratory should hold out 85%,

Spray liquid quantity calculated by whole time on collect container, which can collect1.0 to 2.0ml salt water per hour for average. Collect time must much more than 16H so that the average value express that no spray quantity.

Three:others

Shuttdown:Turn the spray switch off on the operate area →turn on the fog cleaner switch、open the cover of the test box after the fog is cleaned

Mainten

中国国家标准	表面处理用盐水喷雾试验法	总号	4158
CNS		类号	H2040

Method of Salt Spray（Fog）Test for Surface Finishing

1. 适用范围：本标准规定为各项金属底材于电镀后、有机或无机涂装后等各项表面处理用之盐水喷雾耐触性试验方法。
2. 试验方法：本法是使用盐水喷雾试验机将氯化纳溶液，以雾状喷于电镀被覆膜上之一种腐蚀试验方法。试验的主要条件如表 1 所示。

表 1　主要的试验条件

项　　目	配制时	试验中	备　　注
氯化钠溶液浓度（g/L）	50	40~60	最好每天标定浓度一次
PH	6.5	6.5-7.2	收集后测定试验中的 pH 值
压缩空气压力（kgf/cm^2）	……	1.00±0.01	连续不得中断
喷雾量（ml/80cm^2 /h）	……	1.0~2.0	应至少收集 16 小时，求其平均值
压力桶温度（℃）	……	47±1	
盐水桶温度（℃）	……	35±1	
试验室温度（℃）	……	35±1	每天至少测试两次，其间隔至少 7 小时
试验室相对湿度	……	85%以上	其它湿度要求由买卖双方协议之
试验时间			即由开始喷雾至终了的连续时间，或由买卖双方协议之。

3. 试验液之配制：溶解试药级氯化纳于蒸馏水（或总溶解固体量小于 200　ppm 以下的水中），调配成浓度为 5±1%的试验液。此试验液在 35℃喷雾后，其收集液 PH 值应为 6.5~7.3。且喷雾前，此试验液不能含有态浮物。

注（[1]）：氯化钠不能含有铜兴镍的不纯物，固体内的碘化钠含量小于 0.1%。因为不纯物中可能含有腐蚀抑制剂，所以不纯物总含量须小于 0.3% 。

（2）：在 33~35℃间测量比试验液的比重应为 1.0258~1.0402，在 25℃测量时的比重则为 1.0292~1.0443。此试验液的浓度亦可得用硝酸银液滴定法或其它方法标定。

（3）：试验液须以试药级的盐酸或氢氧化钠稀溶液调整 pH 值,・并以 pH 仪或其它可靠方法测量之・由于配制试验液的水中含有二氧化碳,二氧化碳在水中的溶解度随温度改变而影响溶液的 pH 值，故须小心控制 pH 值，・pH 值则可依下列任一方法调整：

①常温配制试验液，・于 35℃喷雾，因为温度的升高而使部份二氧化碳逸出溶液而升高 pH 值。故在常温配制试验液时・pH 值应调整在 6.5 内・才可以使收集液的 pH 值在 6.5~7.2 之间。

②pH 值调整前，使试验液先煮沸再冷至 35℃，或维持在 35℃温度 48 小时。如此调整的 pH 值在 35℃喷雾时，将不会产生太大的变化。

③先将水加热至 35℃以上，以去除溶解的二氧化碳，而后再调制试验液并调整 pH 值，如此在 35℃喷雾时，所调整的 pH 值也不会产生太大的变化。

（4）：为避免喷雾嘴阻塞，此试验液须过滤或小心倾斜注人盐水桶，或于喷雾吸水管前端处装上玻璃筛过滤。

4、 设 备：本试验所需之设备为喷雾嘴、盐水桶、试验片支架、喷雾液收集容器、试验室、盐水[补给桶、压力桶、压缩空气之供给设备与排气设备等所构成，其装置如图 1 所示，并依照如下条件试验。

4．1 盐水喷雾试验机与其所需的管路应采用钝性材料，不能对喷雾之腐蚀试验有影响或本身被腐蚀者。

4．2 喷雾嘴不可直接将试验液喷向试样，喷雾室顶部聚集之溶液不得滴落在试验片上。

4．3 试验片滴下之试验液不可流回盐水桶，而再用于试验。

4．4 压缩空气不能含有油脂及灰尘，所以须有空气清净器。空气压力须保持在 1.00±0.01kgf/cm^2,因为压缩空气于膨胀时，有吸热现象，所以须事先有预热（[6]），如附表 1，以获取均一温度的喷雾。

注（[6]）：预热以增加压缩空气的温度与湿度。

4．5 喷雾采取器其水平采取面积为 80cm^2,直径约为 10 cm，置于试验片附近（靠近喷嘴最近与最远之处的两个地方）。

4．6 喷雾液量以整个时间计算，在采取容器上，应每小时平均可收集 1.0 至 2.0ml 之盐水溶液.喷雾液至少应收集 16 小时,以其平均值表不喷雾量.

4.7 试验中盐水桶,其氯化钠溶液浓度应维持 40~60g/L

4.8 压力桶之温度须保持在 47±1℃,盐水桶之温度在 35±1℃.

4.9 试验室的相对湿度须保持在 85%以上,更高的相对湿度的要求可由卖买双方协议之.

5. 试样

5.1 采取位置:试样可从制品之主要表面采取或以制品本身做为试样.但如无法以制品试验或判定时,可由当事者双方协议以试验片代替.此试验片必须能代表该制品者.

5.2 尺度:试验片之标准尺寸为 150×70mm,或为 100×65mm.

5.3 数目:试样之数目由卖买双方协议之.

5.4 试验前处理

5.4.1 试样依镀层性质与清洁程度而须做适当清洗,不能使研磨剂及具有腐蚀或抑制作用之溶剂清洗,且清洗方法不得损伤表面.至于不锈钢试样可由卖买双方协议使用硝酸清洗与钝化,.试样经清净后(通过拔水性试验),以干净之布或吸水将水份擦干,或用无油之干燥空气吹干.不得已时,可使用氧化镁膏.此膏状物乃 10g 试药级氧化镁加入 100mL 的蒸馏水中。

5.4.2 若非另有规定,否则试样切口及因挂色而造成底材露出部份，或因识别记号所造成镀层缺陷处。于试验时应覆以合适之保护层。如硬蜡(ceresin wax),乙烯胶带等绝缘物.

5.4.3 手纹污染会造成严重的不良试验结果，试样于清净后不得有任何手纹的污染。

6．试样之置放：试验中，试验室内之试样的位置符合以下列条件：

6．1 试样之主要表面与铅垂线成 15 度至 30 度之倾斜，又自试验室上方俯视时应与喷雾之主要流动方向平行。特殊零件具有很多方向的主要表面，需要同时测试时,可取多件试样置放,务必使每个主要表面能同时接受盐水的喷雾。

6．2 试样之排列，应使喷雾自由地落至全部试片上，不应防碍喷雾之自由落下。

6．3 试样不可互相接触，也不可接触到金属性导体或有毛细现象作用之物质，以及其它支持架以外之物。

6．4 盐水溶液勿从一个试样滴流至其它试样上。

6．5 试样识别记号或装配孔应覆于下方。

7. 操 作：试验室及盐水桶之温度调整至摄氏 35 度，压力桶之温度为摄氏 47 度，喷雾压力保持在 1.00±0.01kgf/cm^2 时,即可开始喷雾。

7．1 试验条件：试验条件如表 1。

7．2 试验时间：为自喷雾开始至终了之连续时间。试验时间为电镀层的一重要质量数据，其所需时间可由买卖双方协议之。

7．3 试验后处理：喷雾试验完毕，开启试验室上盖时，勿使溶液滴下而小心取出试样，不得损伤主要表面，迅速以低于 38℃之清水洗去粘附之盐粒，用毛刷或海棉去除腐蚀点以外之腐蚀生成物，并立即以干净压缩空气干燥之。

8．记 录：若非卖买双方另有协议，否则本试验应有下列之记录：（附表 2 为参考性记录表）

8．1 配制盐水时，所使用的盐与水的质量。

8．2 试验温度记录。

8．3 喷雾采取器的装置，每天应如下列记录：

8．3．1 喷雾量

8．3．2 收集溶液在室温时的比重或浓度

8．3．3 收集溶液的 PH 值

8．4 试样的种类、形状、尺度与数目。

8．5 试样的前处理清洗与处理清洗的方法。

8．6 试样于试验室内的置放方法。

8．7 依第 5.4.2 节所用的被覆方法。

8．8 喷雾时间。

8．9 试验时间若有中断，则须记录其中断的原因与时间。

8．10 其它检查的所有结果。

9．判定方法：测定面腐蚀状况判定。起泡、裂痕等使用标准难以判定者，可用附有标尺的放大镜判定，或由卖买双方事先协议之方法判定之。

附表 1　35℃喷雾试验时，压缩空气的压力与所需的预热温度

压缩空气压力	(k P a)	84	98	111	126
	(kgf/cm^2)	0．86	1．00	1．14	1．29
所需.预热温度(℃).		46	47	48	49

备考:1kpa-0.4 psi

附表 2：盐水喷雾试验纪录表

试验日期　　年　　月　　日　　试验号码：		
试验时间:_____日_____：_____至_____日　　：　　共计　　小时 （喷雾时间） 试验若有中断，其原因为：		
1．氯化钠品质		
2．蒸馏水品质		
3．喷雾采取器:		mL /80cm/h
	3.1　喷雾量	
	3.2　收集溶液在室温的比重或浓度	
	3.3　PH	
4．试样：		
	4.1　种类	
	4.2　形状	
	4.3　尺度	
	4.4　数目	
5．压缩空气压力		Kgf/cm
6．试验室相对湿度		
7．试验室温度		˚C
8．压力桶温度		˚C
9．盐水桶温度		˚C
10．其它		˚C
判定：	1.依标准图判定:	
	2.依其它方法判定:	
试验员：		

壹：构造简介

1．实验室内部

喷　　塔：内藏式玻璃喷头置于喷管内部，喷雾经由塔管引道再经锥形分散器分散到实验室内部。

喷雾调节器：调整喷雾量的大小，调高喷雾量增加，调低喷雾量减少。盐水预热槽位于喷塔底部，此槽之盐水是经由盐水补充瓶注入预热槽，预热槽之水位是由浮球控制，可自动控制水位，槽内底部有清洗用之排水口由硅胶塞控制。

收　集　器：喷嘴所喷出之落雾量，以自有落体方式于 80cm 之漏斗杯内，再由道管流至计量杯内。

湿　球　杯：L 形湿球杯乃属运用湿度时装水之容器。

置　物　架：此架乃是由塑钢制成，故集中点重量以不超过 2kg 为限，如分散放置尚可承受 10kg 以内。置物架两旁有上下二排圆孔，是放置置物棒以垂直面分 15 度，30 度角用。

过　滤　器：用于过滤盐液中之杂质，确保喷嘴不被杂物堵塞。

加 热 水 槽：此水槽附着于实验室底部，用于装水加热保持实验温湿度平稳，其功能加热，保温。

2．实验室外部

干湿球温度计： 读取试验室内之温湿度。

计　量　桶： 收集每次试验之喷雾量，50ml 之刻画

密　封　水　槽： 利用水封原理，以避免盐雾外泄

饱 和 空 气 桶： 放置于控制箱底部，采用 SUS#304 不锈钢板制成。其功能在于空气经由此桶加温、加湿，使空气达到饱和湿度后至喷嘴喷雾。

盐 水 补 充 瓶：自动补充盐水预热槽之盐液

试　　验　　盖：屋顶式斜角 100 度透视盖，用于覆盖于试验室上方结合为一体。

调　　压　　阀：此阀是空气压力过高过低时，藉压力表显示来调整试验室压力（试验条件 1kg/cm2）。

压　力　表： 此表指针所显示之压力是空气经由饱和空气桶加温，传达喷嘴时所达到的压力（试验条件 1kg/cm2）。

排　气　管：21/2“口径管线，结合此排雾于室外，不可有积水之现象，使其雾气自然排出。

排　水　管：1/2“口径管线，结合排水管于水排沟，使其废水由此排出。

入　水　口： 自动补充试验室及饱和桶之水至正常使用状况。

3．控制系统：

试验室温度控制：乃控制实验室之温度，依标准温度设定，盐水试验 35℃，耐腐蚀试验 50℃。

饱和空气桶温度控制器：乃控制饱和空气桶之温度，温度设定盐水试验 47℃， 耐腐蚀试验 63℃。

计　时　器：可调式 1s-99hr　可任意设定实验所需时间，终了自动停机。

加热水槽温度控制器：控制加热水槽之水温，此控制器是配合实验室温度控制本试验机四周之环境温度变化差异过大时，亦需配合调整，其设定方式位于控制箱内。

盐水喷雾试验：实验室温度控制器设定为 35℃，加热水槽温度控制器设定为 47℃（40℃-50℃）。

耐腐蚀试验：试验室温度控制器设定为 50℃，加热水槽温度控制器设定为 65℃（60℃-70℃）。

饱和空气桶安全温度控制器：饱和空气桶安全保护装置，温度安全设定值比实际温度高 5℃（位于控制箱内）。

电源开关：照光翘板式，控制全机之总电源。

操作开关：照光翘板式，控制试验室加热槽及饱和空气桶之加热系统。

定时器开关: 照光翘板式,控制时间控制器之电源。

喷雾开关：照光翘板式，控制喷雾系统。

除雾开关：照光翘板式，控制除雾系统，清除箱内盐雾。

超温警报灯：加热槽之温度超出 65o，则此灯亮并切断电源。

低盐水警报灯：盐水预热槽之水位低于下限，则此灯亮，并切断操作系统。

结束指示灯：计时设定所需时间终了，此灯亮并自动停机。

左方低水位警报灯：加热槽之水位低于下限，则此灯亮并切断电源。

右方低水位警报灯：饱和桶之水位低于下限，则此灯亮，并切断操作系统。

贰：安装须知及注意事项

1. 电源 220V 单相 15A
2. 机器放置位置后面离墙约 50cm 左右两侧则留维修之空间。
3. 机器外线为总电源线 2.5mm² 电源线之前，请再加装一只无熔丝开关或门刀开关（约 16-25A）。
   排水管可用 PVC1/2“硬管排放，须注意水管应往下。
   排气管需用硬管 PVC2½“硬管，沿伸至室外排放，须注意排气管之安装，可由机器平行向下。
4. 机器之安装位置，请避免阳光直照射，以免影响测试之条件。
5. 机器之安装位置，应尽量勿靠近其它电器设备、精密仪器或易燃物品，以免危险。
6. 本机器为 PVC 塑料制成，请勿用力碰撞，以免破裂，使用温度请勿超出试验标准范围，以免因过热而变形。

安 装 说 明

在使用本司盐雾试验机前，我们应做一些相应的准备工作，比如装支架、接进气管等等，下面将逐一介绍盐雾试验机的安装步骤和安装方法，请您参照本安装说明对盐雾试验机进行安装。

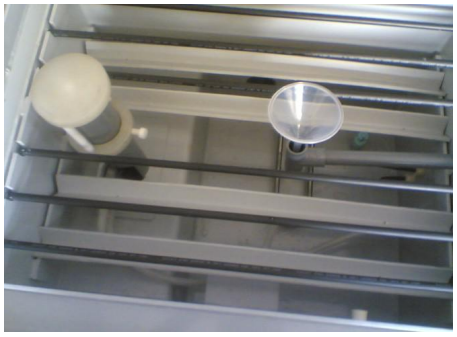
一、装支架：

1. 将捆绑着支架和 V 形支撑杆、O 形支撑杆的胶带解开，使之各自分散；

二、装盖子

将盖子装到箱体上，这时可以把盖子打开靠到支架上。

★注意将实验上盖盖上并小心轻放以免破损。



三、装 V 形/O 形支撑杆

1. 将 V 形支撑杆、O 形支撑杆按右图所示方式装到盐雾试验机箱体里，有各自相对应的位置，O 形支撑杆在上方，V 形支撑杆在下方；
2. 右图为 60 盐雾试验机的 V 形支撑杆和 O 形支撑杆。

四、接进气管

1. 进气管必须接，否则盐雾试验无法进行；
2. 将进气管好按右图所示方式接好，将进气压力调到 0.2Mpa。

五、接排气管

1. **盐雾试验机单独放置的必要性：**在盐雾试验过程中，盐雾试验机后面的排气口始终会往外排出盐雾气体，如果在盐雾试验机的周边有其它金属物品，久而久之，金属物品必定会因受到盐雾气体侵蚀而腐烂。因此，我们建议您将盐雾试验机单独安放在一个的小房间里，旁边不要放任何金属物品，或者在实验室里单独安装一个密封性能良好的“塑钢+钢化玻璃”的小房间，如右图。以起到隔绝盐雾试验机与外界的作用；

2. 按上述方式单独放置盐雾试验机后，需将排气口排出的盐雾气体排到室外或下水管道（建议排到室外）。排气口外径径为 52mm，接一根内径为 52mm 的管子（建议用软管，也可以用 PPR 或 PVC 管），在墙体后面低于盐雾试验机排气口高度的地方打一个外径 55mm 左右的孔，将排气管的一端接到排气口上，另一端通到墙体外；
3. 排气管接到排气口处要用卡管卡紧，接到墙体外的一端可以不做任何处理，管子与墙壁上的孔有很大空隙的可以用海绵或其它物品堵上。

六、接排水管

1. 在盐雾试验机箱体后有一处排水口，以方便在长期不使用盐雾试验机前将箱体里的盐水和试验室里的自来水清干；
2. 排水口的外径为 25mm，排水管接到排水口的一端要用卡管卡紧，另一端可以接到下水道或墙体外。

七、接进水管

1. 盐雾试验机都具备自动进水功能，在箱体后面有一处“自动进水入口”。如果在此处接通自来水，按下电源开关后，盐雾试验机将自动往试验室和压力桶加水，其中加到压力桶中的水还会经过一道过滤。在实验过程中一旦压力桶的水消耗到“低水位”灯亮，则实验暂停，只要自动进水一直处于通水状态，设备都将自动往压力桶加水，直至“低水位”灯灭，实验继续进行；
2. 进水管也可以不接，如果不接进水管，需要手工往试验室和压力桶加水，直至这两处相对应的灯灭掉。

经过上面几个步骤之后，您已经将盐雾试验机成功的安装好了，接下来只要参照《操作说明》，您就可以使用本盐雾试验机了。

如果您在使用本司盐雾试验机的过程当中有任何的疑问或者碰到任何问题，请致电本公司：0512-36875408 我们将实时安排工作人员指导解决

三：操作说明

一． 盐雾试验的溶液配制：

（一） 中性盐雾试验 NSS 的溶液配比

1. 配制氯化钠溶液。每 1L 蒸馏水（或纯净水）兑 50g 氯化钠，即浓度为 50g/L±5g/L，搅拌直至氯化钠完全溶解；
2. 用酸度计测量氯化钠溶液的 pH 值，使其在 6.4-7.0 之间
3. **通常情况下使用蒸馏水或纯净水直接将氯化钠溶解即可，不用另外调 PH 值**。PH 值可用氢氧化钠和冰乙酸调整，少量氢氧化钠或冰乙酸就能使溶液 PH 值发生重大变化：氢氧化钠使 PH 值变高，冰乙酸使 PH 值变低。

（二） 乙酸盐雾试验 AASS 的溶液配比

1. 配制氯化钠溶液，浓度同中性盐雾试验 NSS；

（三） 在氯化钠溶液中加入少量冰乙酸，搅拌均匀，并用酸度计测量溶液的 pH 值，直至其为 3.0-3.1 之间

（四） 铜加速乙酸盐雾试验 CASS 的溶液配比

1. 配制氯化钠溶液，浓度同中性盐雾试验 NSS；
2. 在氯化钠溶液中加入氯化铜，其浓度为 0.26g/L±0.02g/L（即 0.205g/L±0.015g/L 无水氯化铜）；
3. 搅拌直至氯化钠与氯化铜完全溶解；

二． 在氯化钠溶液中加入少量冰乙酸，搅拌均匀，并用酸度计测量溶液的 pH 值，直至其为 3.0-3.1 之间

三． 盐雾试验机的操作

1. 检查盐雾试验机电源是否插好，供水、供气装置是否正常连接并处于打开状态，排水阀是否处于关闭状态，排气装置是否连接到室外或下水管道上；
2. 试验室加水：

   1）如果供水装置已经正常连接，打开供水阀，按下“电源”键，设备将自动往试验室加水，直至操作面板最左边的“低水位”灯灭（该“低水位”灯对应试验室水位）。

   2）如果未连接供水装置，按下“电源”键后手工往试验室里倒入自来水，直到试验室“低水位”灯灭掉。

3. 压力桶加水：

   1）如果供水装置已经正常连接，并且供水阀处于打开状态，按下“电源”键后，设备将自动往压力桶加水（加入压力桶的水会经过一道过滤），直至操作面板最右边的“低水位”灯灭（该“低水位”灯对应压力桶水位）。在实验过程中最好使设备一直处于供水状态，以免因压力桶缺水而导致实验暂停；

   注：第一次使用盐雾试验机或者将压力桶水清空后再次注水，需在低水位灯灭掉之后再通过“压力桶手动加水处”往里加入 150ml 纯净水！

   2）如果未连接供水装置，按下“电源”键后，打开“压力桶手动加水处”下文的红色阀门，手工往压力桶里倒入纯净水，操作面板最右边的“低水位”灯灭掉后可继续往里加水 1500ml，然后关掉阀门。因为是手动加水，在实验过程中，应间隔一断时间去看看压力桶低水位灯是否亮起，如果亮起，实验将会暂停，需及时往里加水。最好每天上班前和下班前都往压力桶加一次水，以免实验暂停。 **注：在实验过程中往压力桶加水需先将“喷雾”按钮关闭，否则打开红色阀门时此处将喷水，加完水后再打开“喷雾”按钮。**

4. 水封：将密封水槽加水至垫板位置，以起到隔绝试验室的水封作用；

5. 添加氯化钠溶液：将配制好的氯化钠溶液倒入盐液补充箱中（盐雾试验机右边操作面板的上方有一个“试药入口”的标牌), 药水即可自动填充流至盐水预热槽, 经济型 15 公升，标准型 30 公升。

6. 将试件正确放入试验室中（★被测面朝上,摆设角度依所需标准规定摆设，如标准试片试 130×70（mm）可用 15 度 30 度斜置。），并按下“操作”按钮，压力桶和试验室同时加温，达到试验所需设定温度时自动停止加温。温度到达设定值后，设定好定时器，并按下“喷雾”和“计时”按钮开始试验；

A．设定试验温度

★依所需标准设定（按键“∨”为减少，按键“△”为增加）

a. 盐水试验：试验室温度　　35℃
　　饱和空气桶温度　47℃

b. 腐蚀试验：试验室温度　　50℃
　　饱和空气桶温度　63℃

B．设定试验时间：　0.1S-99HR）

（H:时　　M:分　　S:秒　　T1 工作时间 T2 休息时间。如需设置 24 小时休息 30 分钟请在 TI 区设置 24 小时，T2 区设置 30 分钟。　）(请参照定时器操作说书)

7. 测试时间

测试时间可根据客户的要求或产品标准的规定进行设定。测试时间若设置的较长，应经常留意压力桶和盐水箱里的溶液是否过少，并实时添加相应的溶液。

8. 试验条件：

项　目	中性盐雾试验 NSS	酸性盐雾试验 AASS	铜加速乙酸盐雾试验 CASS
压缩空气压力(kgf/cm^2)	1.00±0.01	1.00±0.01	1.00±0.01
喷雾量(ml/80 cm^2·H)	1.0～2.0	1.0～2.0	1.0～2.0
配制溶液的 PH 值	6.4～7.0	3.0～3.1	3.0～3.1
试验室温度度(℃)	35±1℃	35±1℃	50±1℃
压力桶温度 (℃)	47±1℃	47±1℃	63±1℃
氯化钠溶液浓度(g/L)	50±5	50±5	50±5
氯化铜浓度(g/L)	——	——	0.26±0.02

9. 调整喷雾量：

A．将空压机前方之出气阀打开，压力调整为 2kg/cm2 一次压力。

B．将调压阀调至 1kg/cm2 之压力，其压力可由压力表得之（顺时针增加，逆时针减少）二次压力。

如果喷雾量小于 1 ml/80 cm^2·H 或大于 2 ml/80 cm^2·H，可通过调节喷雾塔上方的白色锥形扩散器进行调整：锥形扩散器往上调，喷雾量加大；锥形扩散器往下调，喷雾量减小。调节锥形扩散器高度，直至喷雾量在 1～2 ml/80 cm^2·H 之间。

10. 试验完成后，取出试件，观察试验结果。依次关闭“计时”、“喷雾”、“操作”、“电源”等按钮。若长时间不用盐雾机，还须将盐雾机中的盐水溶液以及试验室中的水清干。

11. 试验中如有异常之现象，请参照功能异常判断表处理。

肆：故障指示

A. 超温指示灯：左右两方皆有超温指示灯（左方为试验室，右方为饱和桶）。当超温灯亮起，有下列三种情况。

1. 安全温度控制器警报装置设定错误

2. 检查温度设定是否过低,请重新设定

3. 如超温指示灯持续亮时,通知本公司处理

B. 低水位指示灯：此灯亮时，将切断操作电源，此时应在试验室或饱和桶内自动加水直至低水位灯熄灭为止(检查入水口水源是否打开)。

C. 结束指示灯：此灯亮时，表示试验时间至此结束。

伍：功能异常判断及处理

状　　况	原　　因	处　　理
试验室无法上升到所设定之温度	试验室温度控制器温度设定过低 试验室安全保护开关设定过低 加热系统故障 电磁继电器故障 控制器故障	将温度控制器设定于所需温度 将安全保护开关设定于所需温度 通知本公司 通知本公司 通知本公司
饱和桶温度无法上升到所设定温度	饱和桶温度控制器过低 饱和桶安全保护开关设定过低 加热系统故障 电磁继电器故障 控制器故障	将温度控制器设定于所需温度 将安全保护开关设定于所需温度 通知本公司 通知本公司 通知本公司
喷雾量不足	喷雾调节器放置过低 预热槽内之玻璃过滤器阻塞 压力设定过低	将喷雾调节器调高 将玻璃过滤器清洗干净 将调压阀调至 1kg/cm2 之压力，空压机上标有一调压阀调整至 2kg/cm2 之压力
无法喷雾时 PS:喷嘴之空气管与吸水管之装置方法（--型管为吸水管，L 型为空气管）	1.空气压缩机没有运转 2.空气压缩机出口之总开关没有打开 3.电磁阀故障 4.压力表故障或压力过低 5.电磁接触器故障 6．喷嘴阻塞	1，将空压机按键打开 2，将空压机总开关打开 3，通知本公司 4，通知本公司 5，通知本公司 6，将喷嘴拆下清洗（请小心拆装）
水位不足警报灯亮时	表示水位过低	检查入水口源是否有水源进入
有正常喷雾而空压机没有运转	空压机本身有自保之功能	照常使用
打开电源后无法运转	加温水槽内水位太低时将会切断操作之电源	将加温水槽之水位加至正常状况即可
当温度控制器显示 EEE	1．温度控制器故障 2. 感温棒故障	1．通知本公司处理 2. 通知本公司处理
喷雾量过高时	1．喷雾调节器放置过高 2. 玻璃喷嘴经长期使用，喷嘴口径过大	1．喷雾调节器调低 2．更换新的玻璃喷嘴

陆：维护事项

1. 试验期间如超过 1 个月，请将加热水槽内的水更换。

2. 试验用之盐液如超过一星期未使用，请勿再使用，以免影响测验之质量。

3. 如离下次试验时间间隔较长，请于此次试验完毕后清洗实验室内部，

并将加热水槽内之水排放。

※加热水槽内之水排放----------打开排水阀。

隔绝水槽内之水排放----------将中间硅胶塞拔起。

预热水槽内之水排放----------将内部硅胶塞拔起。

为确保测试质量之标准，每用 2000 小时之内，请定期更换玻璃喷嘴。