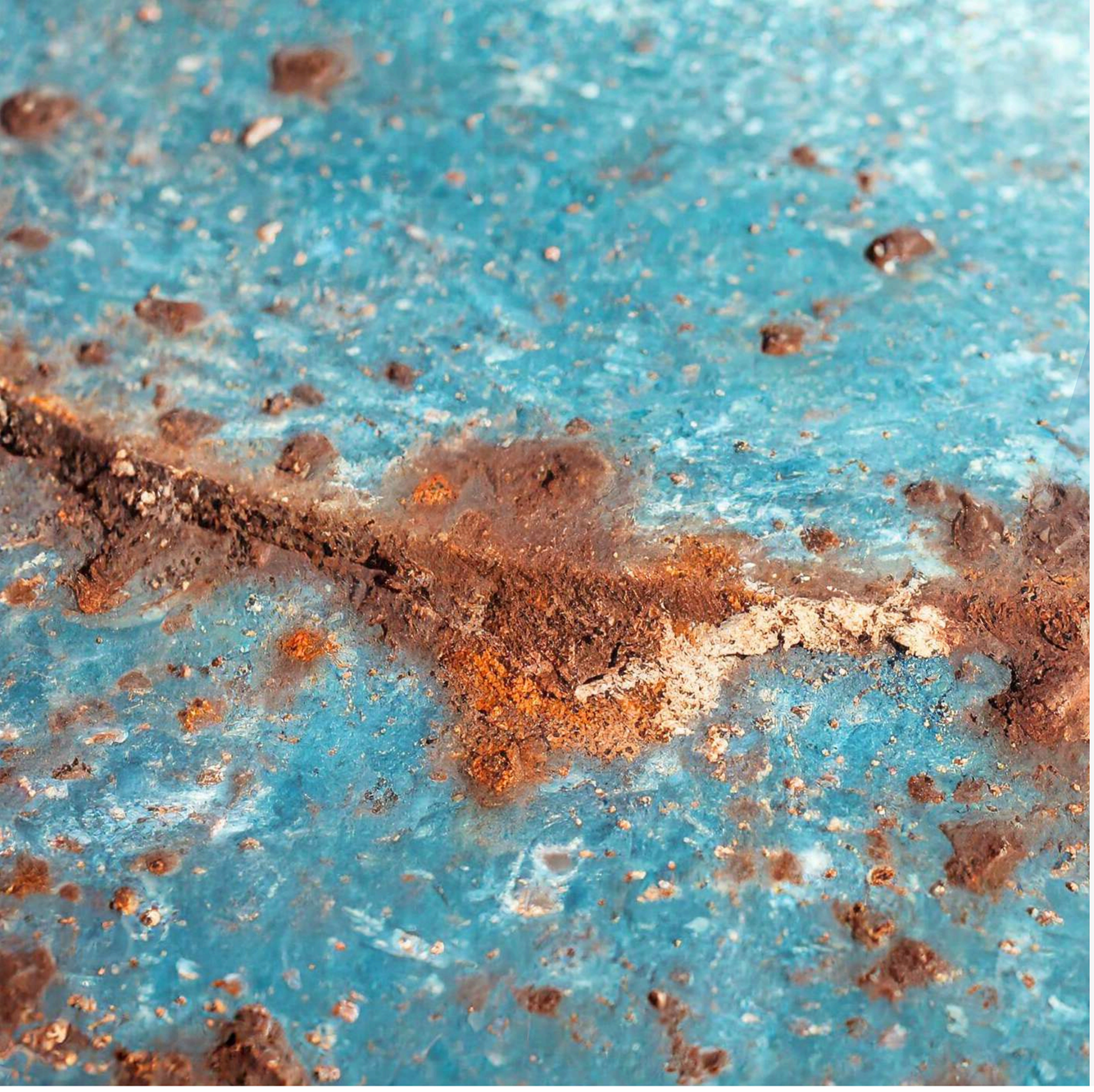
QUALITEST™

ADVANCED TESTING TECHNOLOGIES

SALT SPRAY TESTER – CYCLIC CORROSION TEST CABINETS



SALT SPRAY TESTER - CYCLIC CORROSION TEST CHAMBER

The salt spray tester (or salt spray chamber / fog cabinet) is a standardized and popular corrosion test apparatus, used to check **corrosion resistance of materials and surface coatings.**

Usually, the materials to be tested are metallic (although stone, ceramics, and polymers may also be tested) and finished with a surface coating which is intended to provide a degree of corrosion protection to the underlying metal.

Salt spray testing is an **accelerated corrosion test** that produces a corrosive attack to coated samples in order to evaluate (mostly comparatively) the suitability of the coating for use as a protective finish. The appearance of corrosion products (rust or other oxides) is evaluated after a pre-determined period of time. Test duration depends on the corrosion resistance of the coating; generally, the more corrosion resistant the coating is, the longer the period of testing before the appearance of corrosion or rust.

The salt spray tester and fog cabinet range from **Qualitest** meets and exceeds most of the North American and International standard requirements. The salt spray method is one of the most widespread and long-established corrosion tests. **ASTM B117** was the first internationally recognized salt spray standard, originally published in 1939. Other important relevant standards are **ISO 9227, JIS Z 2371** and **ASTM G85.**

Qualitest offers a range of **Salt Spray Cabinets** and **Cyclic Corrosion Test Cabinets,** from **108L** up to **1280L** capacities and customized solutions capable of conducting NSS, CASS, or ASS tests.

QSST Models

PQSST Models

QCCT Machines

SALT SPRAY TESTER / CHAMBERS – FOG CABINETS

APPLICATION

Salt spray testing is popular because it is relatively inexpensive, quick, well standardized, and reasonably repeatable. Although there may be a weak correlation between the duration in salt spray test and the expected life of a coating in certain coatings such as hot-dip galvanized steel, this test has gained worldwide popularity due to low cost and quick results.

Most Salt Spray Chambers today are being used not to predict the corrosion resistance of a coating, but to maintain coating processes such as pre-treatment and painting, electroplating, galvanizing, and the like, on a comparative basis. For example, pre-treated + painted components must pass 96 hours Neutral Salt Spray, to be accepted for production. Failure to meet this requirement implies instability in the chemical process of the pre-treatment, or the paint quality, which must be addressed immediately so that the upcoming batches are of the desired quality. The longer the accelerated corrosion test, the longer the process remains out of control, and larger is the loss in the form of non-conforming batches.

The principal application of the salt spray tester is, therefore, **enabling quick comparisons to be made between actual and expected corrosion resistance.** Most commonly, the time taken for oxides to appear on the samples under test is compared to expectations, to determine whether the test is passed or failed.

For this reason, the salt spray tester is most often used in a quality control role, where, for example, it can be used to check the effectiveness of a production process, such as the surface coating of a metallic part. The salt spray tester has little application in predicting how materials or surface coatings will resist corrosion in the real world, because it does not create, replicate or accelerate real-world corrosive conditions. Cyclic corrosion testing is better suited to this and you can check **Qualitest's** Cyclic Corrosion Test Cabinet range for such requirements.

APPLICATION

The Salt Spray Tester apparatus for testing consists of a closed testing cabinet/chamber, where a salt water (5% NaCl) solution is atomized by means of spray nozzle(s) using pressurized air. This produces a corrosive environment of dense salt water fog (also referred to as a mist or spray) in the chamber, so that test samples exposed to this environment are subjected to severely corrosive conditions. Chamber volumes vary from supplier to supplier. If there is a minimum volume required by a particular salt spray test standard, this will be clearly stated and should be complied with. There is a general historical consensus that larger chambers can provide a more homogeneous testing environment.

Variations to the salt spray test solutions depend upon the materials to be tested. The most common test for steel based materials is the Neutral Salt Spray test (often abbreviated to NSS) which reflects the fact that this type of test solution is prepared to a neutral pH of 6.5 to 7.2. To maintain a neutral pH, hydrochloric acid or sodium hydroxide are added to reduce or increase pH into the required range. Results are represented generally as testing hours in NSS without appearance of corrosion products (e.g. 720 h in NSS according to ISO 9227).

Synthetic seawater solutions are also commonly specified by some companies and standards. Other test solutions have other chemicals added including acetic acid (often abbreviated to ASS) and acetic acid with copper chloride (often abbreviated to CASS) each one chosen for the evaluation of decorative coatings, such as electroplated copper-nickel-chromium, electroplated copper-nickel or anodized aluminum. These acidified test solutions generally have a pH of 3.1 to 3.3

Some sources do not recommend using ASS or CASS test cabinets interchangeably for NSS tests, due to the risk of cross-contamination. It is claimed that a thorough cleaning of the cabinet after CASS test is very difficult. ASTM does not address this issue, but ISO 9227 does not recommend it and if it is to be done, advocates a thorough cleaning.

Although the majority of salt spray testers need to perform a continuous test procedure, i.e.; the samples under test are exposed to the continuous generation of salt fog for the entire duration of the test, a few do not require such exposure. Such tests are commonly referred to as modified salt spray tests. ASTM G85 is an example of a test standard which contains several modified salt spray tests which are variations to the basic salt spray test.

APPLICATION

Modified Salt Spray Tests

ASTM G85 is the most popular global test standard covering **modified salt spray tests.** There are five such tests altogether, referred to in ASTM G85 as annexes A1 through to A5. Many of these modified tests originally arose within particular industry sector, in order to address the need for a corrosion test capable of replicating the effects of naturally occurring corrosion and accelerate these effects.

This acceleration arises through the use of chemically altered salt spray solutions, often combined with other test climates and in most cases, the relatively rapid cycling of these test climates over time. Although popular in certain industries, modified salt spray testing has in many cases been superseded by cyclic corrosion testing (CCT) The type of environmental test chambers used for modified salt spray testing to ASTM G85 are generally similar to the chambers used for testing to ASTM B117, but will often have some additional features, such as an automatic climate cycling control system.

STANDARDS

- **ISO 4611** Plastics Determination of the effects of exposure to damp heat, water spray and salt mist
- **ISO 7253** Paints and varnishes -- Determination of resistance to neutral salt spray (fog)
- **ISO 9227** Corrosion tests in artificial atmospheres -- Salt spray tests
- **ASTM B 117** Standard Practice for Operating Salt Spray (Fog) Apparatus
- **ASTM B368** Standard Test Method for Copper-Accelerated Acetic Acid-Salt Spray (Fog) Testing (CASS Test)
- **ASTM B 380** Standard Test Method for Corrosion Testing of Decorative Electrodeposited Coatings by the Corrodkote Procedure
- **ASTM G85 - 11** Standard Practice for Modified Salt Spray (Fog) Testing
- **ASTM D 1735** Standard Practice for Testing Water Resistance of Coatings Using Water Fog Apparatus
- **DIN 50021** Salt Spray Testing

Qualitest offers various Salt Spray Cabinets ranging from 108L capacity to customized cabinets based on different requirements. These cabinets can conduct not only NSS tests but also CASS or ASS tests.

QSST-270L

QSST-480L

QSST-800L

TECHNICAL SPECIFICATIONS

- Working Room Temperature Range: RT to 50℃
- Humidifying Tower Temperature Range: RT to 63℃
- Temperature Uniformity: ≤ ±2℃ (No-load)
- Temperature Stability: ≤ ±0.5℃ (No-load)
- Temperature Deviation of Working Room: ±1.0℃
- Temperature Increasing Rate:
- RT to 55℃: Less than 60 minutes (working room)
- RT to 63℃: Less than 60 minutes (saturated barrel)
- Compressed Air Supply:
- Customers should prepare an air compressor capable of offering clean, waterless, and oilless compressed air.
- Pressure: 0.4MPa to 0.8MPa

OPTIONAL ACCESSORIES:

- QSST 1356 - Glass Spray Nozzle
- QSST 2309 - CR-4 Steel Panels for Calibration of Salt Spray（Conforms ISO 3574, 20 pcs for one package）

Ordering Information → Technical Parameters ↓	QSST-108L	QSST-270L	QSST-480L	QSST-800L
Working Room Size (W×H×D) mm	600×400×450	900×500×600	1200×500×800	1600×800×1000
Working Room Capacity (no including V shape cover)	108 L	270 L	480 L	800 L
V Shape Cover Volume	Appr. 50 L	Appr. 140 L	Appr. 250 L	Appr. 380 L
Overall Size W×H×D) mm	1150×1090×672	1550×1240×900	1980×1350×1100	2480×1450×1250
Qua. of V Shape sample holder/pole	4/6	6/12	8/16	10/22
Tank capacity for Salt Solution	15	25	40	45
Collectors	1	2	2	2
Max. Sample Capacity（15cm×7cm）	28 pcs	70 pcs	108 pcs	120 pcs
Method of Opening Cover	Manual	Manual	Pneumatic	Pneumatic
Total Power	2.2 KW	2.2 KW	3.8 KW	3.8 KW
Salt Solution Consumption	15 L/d	15 L/d	25 L/d	25 L/d
Water for heating Consumption	30 L/d	30 L/d	40 L/d	40 L/d
Compressed Air Consumption	1m3/h	1m3/h	2m3/h	2m3/h
Voltage	220V；50/60HZ (110V is also available upon request)			

PROGRAMMABLE SALT SPRAY TEST CHAMBERS

APPLICATION

Precise Temperature Control: The working room temperature is accurately controlled using air heating technology. Electric heating wires embedded in the inner plate rapidly heat the chamber to the desired temperature, ensuring the concentration and pH value of the spray solution remain unaffected. Utilizing P.I.D heating control, the heater achieves optimal temperature balance.

Robust Construction: Designed and manufactured with durable materials and a sleek design, these Programmable Salt Spray Tester and corrosion cabinets feature a titanium inner plate and a stainless steel outer plate with a protective paint treatment. A concealed water gauge facilitates easy salt solution replenishment without risk of breakage. The inclined plane cabinet cover prevents water from collecting on the sample surface. The seal cover, driven by an air cylinder, effortlessly opens and closes with the press of a button. Silica gel seal strips prevent corrosion gas leakage, while the complete separation of water and electricity within the cabinet safeguards against damage to electrical components.

Innovative Sample Holder Design: A newly designed standard sample holder comprises a plane dividing rack atop the working room. The rack includes circular rods and V-shaped glass fiber brackets for sample placement, with the ability to adjust angles for optimal positioning. The lower layer features a plane mesh plate capable of supporting large samples with a distributed weight capacity exceeding 200 kg/m2.

Spray Solution Delivery System: A high-capacity external tank supplies salt water to the nozzle via a peristaltic pump, preventing traditional siphon spray nozzle crystallization. The peristaltic pump's flow rate is adjustable, ensuring consistent spray solution delivery.

Programmable Controller: All testing parameters are customizable using the TEMI 880 programmable controller with a user-friendly touchscreen interface. Set parameters include spraying methods and cycles, with fog spray capabilities allowing for continuous or interval testing.

Advanced Communication Features: Equipped with an RS 232 interface, the testers support local and remote communication, compatible with the RAS-2003 monitor software for up to 16 simultaneous connections. Included software enables users to edit and save test programs, facilitating seamless transfer between the controller and PC.

Curve Recording Capability: Featuring battery-protected RAM, the testers can store machine settings, sampling data, and times for up to 360 days (with a 2-minute sampling cycle).

TECHNICAL SPECIFICATIONS

Parameter	Value
Working Room Temperature Range	RT+5℃～55℃
Humidifying Tower Temperature Range	RT+5℃～65℃
Temperature Uniformity	≤ ±2℃（No-load）
Temperature Stability	≤ ±0.5℃ （No-load）
Temperature Deviation of Working Room	±1.0℃
Temperature Increasing Rate	RT→50℃ less than 45 minutes (working room) RT→63℃ less than 45 minutes (saturated barrel)
Air Supply Requirements	Filtered dry, waterless, and oil-less pressure air, pressure 0.4～0.8Mpa

TECHNICAL SPECIFICATIONS

Ordering Information → Technical Parameters ↓	QPSST-450L	QPSST-960L	QPSST-1280L
Working Room Size（W×H×D)	1000 × 650 × 720 (mm) 39.37 × 25.59 × 28.35 (inches)	1200 × 800 × 1000 (mm) 47.24 × 31.50 × 39.37 (inches)	1600 × 800 × 1000 (mm) 62.99 × 31.50 × 39.37 (inches)
Working Room Capacity (no including V shape cover)	450 L	960 L	1280 L
Overall Size（W×H×D)	1700 × 1400 × 1000 (mm) 66.92913 × 55.11811 × 39.3701 (inches)	1900 × 1600 × 1200 (mm) 74.80315 × 62.99213 × 47.24409 (inches)	2300 × 1600 × 1200 (mm) 90.55118 × 62.99213 × 47.24409 (inches)
Max. Sample Capacity (15cm×7cm)	65 pcs	152 pcs	190 pcs
Sprayed solution tank Capacity（L)	120	300	300
Collectors	2	2	2
Total Power	3.6 kW	4.2 kW	4.6 kW
Salt Solution Consumption	60 L/d	60 L/d	70 L/d
Compressed Air Consumption	2 m3/h	3 m3/h	3 m3/h
Water Consumption in working room and saturator	20 L/d	20 L/d	20 L/d
Salt Solution Consumption	15 L/d	15 L/d	25 L/d

CYCLIC CORROSION TEST CHAMBER

APPLICATION

QCCT-450L, QCCT-960L, and QCCT-1280L are **advanced Cyclic Corrosion Test Chambers** developed for various testing applications. They are designed for assessing the corrosion resistance of materials and coatings in different industries.

In most artificial accelerated tests conducted in laboratories, achieving consistent testing results with outdoor conditions is paramount. Before cyclic corrosion testing, the conventional method involved continuous salt spray at 35°C, which was the most popular way to simulate corrosion in a lab. However, because conventional salt spray methods failed to replicate the natural wet/dry cycles of the outdoors, test results often showed poor correlation with outdoor conditions. To better mimic the complex and variable external natural environment, cyclic corrosion testing has gradually been recognized as an important and effective method for assessing the lifespan of industrial products.

Cyclic Corrosion Test Cabinets are also known as CCT Cabinets. Some industrial products need to undergo repeated cycles of salt spray, dry conditions, and high/low humidity environments. Initially, these tests were manually switched between several test chambers. The multi-functional Cyclic Corrosion Test Cabinets effectively address this issue by automating the testing of these cycles within a single chamber.

In a typical cyclic corrosion cabinet, all specimens undergo a series of different environments in a repetitive cycle that simulates outdoor conditions. Simple cycles, such as Prohesion, may involve alternating between salt fog and dry conditions. More complex automotive methods may require multi-step cycles that include humidity, dry air or condensation, salt spray, and dry-off.

Within one chamber, users can easily cycle through a series of the most significant corrosion environments. Even highly complex test cycles can be easily programmed with the controller. QCCT Cabinets can conduct salt spray and prohesion, and maintain 100% humidity for most cyclic automotive tests.

Cyclic Corrosion Test Cabinets set and control various parameters via a touch screen, combining multiple tests such as salt spray corrosion, humidity variations (high temperature/high humidity, low temperature/low humidity), and air drying (hot air drying and natural air drying) to simulate various cyclic corrosion scenarios. Specialized cyclic corrosion tests can also be simulated through the combination of other accessories. Additionally, the instrument can perform neutral salt spray tests (NSS), acetic acid salt spray tests (AASS), copper accelerated acetic acid salt spray tests (CASS), water spray tests, damp heat tests, drying tests, and standard atmospheric environment tests separately.

STANDARDS

- GB/T 1771-2007: "Paints and varnishes - Determination of resistance to neutral salt spray (fog)"
- ISO 11997-1:2005/GB/T 31588.1-2015: "Paints and varnishes—Determination of resistance to cyclic corrosion conditions—Part 1: Wet (salt fog)/dry/humidity"
- GB/T 2423.17-2008: "Environmental testing for electric and electronic products - Part 2: Test method - Test Ka: Salt mist"
- GB/T 2423.18-2000: "Inspection methods for environmental testing equipment for electric and electronic products—Part 2: Test methods—Test Kb: Salt mist, cyclic (sodium chloride solution)"
- IEC 6008-2-78-2001/GB/T 2423.3-2006: "Inspection methods for environmental testing equipment for electric and electronic products—Part 2: Testing method—Test Cab: Damp heat, steady state"
- GB/T 5170.8-2008: "Inspection methods for environmental testing equipment for electric and electronic products - Salt mist testing equipment"
- GB/T 10125-1997: "Corrosion tests in artificial atmospheres--Salt spray tests"
- GB/T 10586-2006: "Specifications for damp heat testing chambers"
- GB/T 10587-2006: "Specifications for salt mist testing chambers"
- GB/T 10593.2-2012: "Method of measuring environmental parameters for electric and electronic products - Part 2: Salt mist"
- GB/T 12000-2003: "Determination of the effects of exposure to damp heat, water spray, and salt mist for plastics"
- ISO 16701:2003/GB/T 20853-2007: "Corrosion of metals and alloys - corrosion in artificial atmosphere - accelerated corrosion test involving exposure under controlled conditions of humidity cycling and intermittent spraying of a salt solution"
- ISO 14993:2001/GB/T 20854-2007: "Corrosion of metals and alloys - accelerated testing involving cyclic exposure to salt mist, 'dry' and 'wet' conditions"
- ISO 16151:2005/GB/T 24195-2009: "Corrosion of metals and alloys - Accelerated cyclic tests with exposure to acidified salt spray, 'dry' and 'wet' conditions"

FEATURES

Cabinet Material

- The inner box is constructed with a 1mm high-corrosion-preventive pure titanium panel, while the outer box is crafted from stainless steel treated with surface finishing.
- The sealing cover of the working room consists of an inner layer welded with a pure titanium panel and an outer layer made of stainless steel with surface treatment. It is set at a 110° angle to prevent condensate water from falling onto the specimen surface during testing. Additionally, there is a transparent observation window made of tempered glass (400mm×280mm).
- The lifting of the box cover is controlled by an air cylinder, with adjustable lifting speed based on air pressure, ensuring easy operation.
- Sealing of the outer box is achieved with thermostability and corrosion-preventive silicone strips to prevent leakage of corrosive gas.
- Thermostability and flame-retardant insulation panels surround the test cabinets to create an insulation layer.
- The instrument features a desktop structure with a frame welded at the bottom using channel steel. It includes mobile casters and positioning foot cups for easy movement and positioning.
- The upper sample holder is a U-shaped slot strip made of corrosion-preventive insulating resin material, featuring evenly distributed bayonets on both sides of each slot strip to ensure the correct angle of the placed test piece.
- The lower sample holder is designed to accommodate various types of samples and features a solid mesh platform above the heating layer at the bottom of the instrument. The platform surface is perforated to prevent solution accumulation after fog falling, facilitating air circulation. The mesh panel is removable and made of reinforced glass fiber-reinforced plastic with a bearing capacity of ≥ 600kg/m2.
- The 200L supplement box is made of transparent food-grade PVC externally.
- Constructed with SUS304# stainless steel, the barrel ensures purity and constant temperature of compressed air used for spray. It includes air filtering and heating devices, water level control, heating, and temperature control systems, as well as liquid level monitoring and alarm functions.
- Utilizes a thermostability, long shaft motor with heat insulation measures and a heat dissipation system for improved safety.
- The electrical control part and the working room are integrated into a left and right structure. The water and electricity separation structure effectively prevents water damage to accessories, ensuring safety and reliability.
- A cylindrical three-color sound-light alarm (with LED lamp beads) indicates different states: yellow light for startup or operation completion, green light for normal operation, and red light for emergency stop or instrument fault alarm, accompanied by a buzzer.

FEATURES

Spray Fog System

- Spray Fog Principle: Utilizes Bernoulli's principle to absorb salt solution and atomize it, ensuring uniform atomization without salt crystallization at the spray nozzle, thus guaranteeing a uniform fog distribution throughout the working room for continuous testing.
- Spraying Apparatus: One or two atomizer towers are positioned in the middle of the working room to ensure a uniform fog distribution.
- Spray Nozzle: Made of special glass, the spray nozzle can control fog amount and spraying angle while preventing crystallization during testing.
- Fog Collectors: Two fog collectors (tapered funnels with diameters of 100mm) are utilized to monitor spray fog amount, with one placed near the atomizer tower and the other positioned farther away. A silicone pipe at the bottom of each funnel connects to a graduated cylinder installed outside, allowing operators to check the spray fog amount and ensure the accuracy of test samples.
- Spray Fog or Drain-away Fog: Spray fog can be manually activated or set through a program. Draining-away fog can also be manually operated or programmed to quickly remove fog from the working room by feeding fresh compressed air and draining away the fog.

FEATURES

Operation System

- Programmable Controller (Touch screen): Features a 7-inch, 800×480 lattice, TFT colorized LCD screen. It supports various functions including constant temperature salt water spray fog, salt water spraying, high-temperature drying, constant damp heat, alternating damp heat, salt spray damp heat cycles, and more. The operation mode can be program mode, constant value mode, or timed start and stop.
- Programmable: Allows for setting spray time and interval time freely, with maximum continuous spraying time of 9999 hours, maximum spraying time for discontinuous spray of 99 hours and 59 minutes, and maximum interval time (no spray) of 99 hours and 59 minutes. It can edit 120 programs, with each program consisting of 1 to 99 segments. Memory capacity is 1,200 segments and can execute commands repeatedly (each command can be executed for 999 times). Different program times can be combined to run, with segment time adjustable from 1 minute to 999 hours.
- Power Failure Memory Function: Allows for setting the power failure recovery mode as hot start, cold start, or stop.

- Data Recording Method: Utilizes RAM with battery protection, providing 8-10 years of memory for storing set values, sampling values, and time of sampling. The curve recording cycle can be set to 30 to 180 seconds, with maximum memory time storage capable of continuously storing historical curves for 90 days. Historical data (at a sampling time of 1 minute) can be stored for more than 10 years without continuous use.
- Communication Function: Equipped with RS-485/RS-232 interface, RJ45 Ethernet interface, and USB2.0 interface, allowing for remote control and assistance after connecting to a computer through professional software. It can display test curves, collect data (1G-16G U disk can be inserted to download historical curves, historical data, control system parameters, and supports hot plug function), enabling monitoring and remote control functions, as well as synchronous control of multiple machines.
- Reserved Startup Function: Enables setting the startup time, with the machine automatically running upon powering on at the specified time.
- Open Software Function: Supports third-party upper computer to send codes, allowing control of start, stop, and data recording functions of the instrument. The controller provides function code, and users can edit upper computer software programs to achieve unified monitoring and control.

FEATURES

Other Main Control Systems

- Air Circulation System: Consists of an air room and a stainless steel circulating fan, with air blown out through ventilation doors and air diffusers. This system ensures that air, adjusted to the required temperature and humidity, is evenly distributed throughout the working room, achieving a stable working environment with uniform temperature and humidity.
- Damp Heat Cycle Heating System: Utilizes a titanium tube fin heater and circulating fan for forced air supply and circulation, with P.I.D control regulating the heating amount to achieve temperature balance.
- Salt Spray Cycle Heating System: Adopts a thermal radiation heating mode with heating amount controlled by PID, achieving temperature balance.
- Saturation Barrel Heating System: uses an Armoured SUS316# stainless steel heating tube to heat water, with a pressure barrel featuring a water level control device, heating device, and temperature control system. Pressurized air enters the hot water, overflows as bubbles, and supplies the spray nozzle from the top, maintaining constant temperature and pure air for spraying.

- Humidification System: Uses an Armoured SUS316# stainless steel heating tube to heat water, with water vapor humidification mode and P.I.D control regulating the humidification amount to achieve the required humidity.
- Cooling and Dehumidification System: Incorporates a compressor-based cooling system with components including a low-temperature cooling compressor, fined tube radiator, air-cooled scale-type condensation evaporator, and throttle device. The evaporator, made of pure titanium tube and titanium heat fin, uses environment-friendly refrigerant R404a/R23. Heating and cooling systems are completely separated, with all cooling system programs controlled by a micro-computer. The compressor includes a PTC temperature sensor for self-protection against temperature overages, as well as high or low-pressure protection devices to monitor refrigerant pressure during operation and issue alarms in case of abnormalities.
- Safety Protection System: Includes various protections for different components such as compressor, chamber, humidifying system, heating system, power, and circulating fan, ensuring safe and reliable operation.

TECHNICAL SPECIFICATIONS

Ordering Information	QCCT-960L	QCCT-1280L	QCCT-1920L
Working room size (W×H×D, mm)	1200×800×1000	1600×800×1000	2000×800×1200
Working Room Capacity (no including V shape cover)	960 L	1280 L	1920 L
Overall Size W×H×D, mm)	2500×1650×1220	2900×1650×1220	3300×1720×1420
Power / Max. Current	30.8KW/37A	30.8KW/37A	32.8KW/40A
Power Supply	AC 380V 3 phase 37A	AC 380V 3 phase 37A	AC 380V 3 phase 40A
Temperature Range (℃)	20℃ ~ 70℃ (Continuously adjustable)		
Temperature Uniformity (℃)	≤ 2℃ (When RH ≥ 75%); ≤ 3℃ (When RH < 75%)		
Temperature Stability	± 0.5℃		
Temperature Rise and Fall Rate of Working Room / Saturation Barrel (℃/min)	≥ 1℃/min (Whole process average)		

Ordering Information	QCCT-960L	QCCT-1280L	QCCT-1920L
Humidity Range (%)	20% ~ 98%		
Humidity Uniformity	≤ 2%RH ~ 3%RH (When RH ≥ 75%); ± 5% RH (When RH < 75%)		
Humidity Stability	± 2% RH		
Salt Fog Precipitation (ml/80cm².h)	1.0 ~ 2.0		
Spray Form	Continuous / Periodic		
Compressed Air Pressure (Mpa)	0.4 ~ 0.6		
Laboratory Volume (W×H×D, mm)	1100×1500×1200		
Volume of Salt Water Barrel (W×H×D, mm)	1300×400×800		
Volume of Collecting Barrel (W×H×D, mm)	600×450×350		
Temperature Control	PID SSR Control		
Temperature Sensor	PTR platinum resistance		

AUTOMATIC SCRIBE MARKING MACHINE FOR SALT SPRAY AND CORROSION TESTING

QUALISCRIBE100

APPLICATION

In the corrosion testing of various coatings, it's crucial to create precise scribe marks on the coating surface. Manual cutting often results in defects like non-straight scribe marks, damaged edges, and inconsistent damage to the substrate. These defects can introduce random variables into test results.

Moreover, cutting scribe marks on multilayer coatings manually becomes increasingly challenging, consuming more time and yielding uneven marks. ASTM D1654 details the method for evaluation of corrosion performance of painted or coated specimens subject to the salt spray environment dictated in ASTM B117.

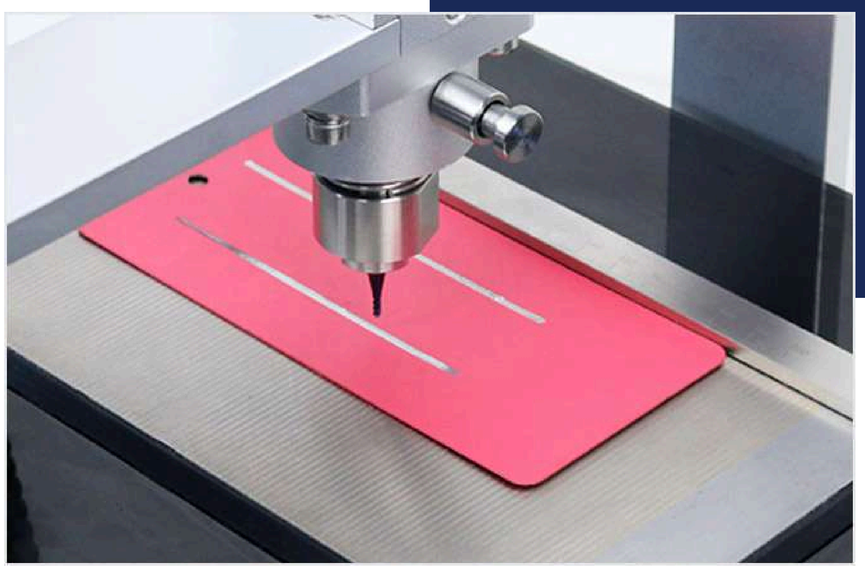
Painted specimens are typically scribed through the paint film to expose the basis metal. For corrosion-resistant coatings, neutral salt spray testing requires a vertical 2mm scribe mark.

The QualiScribe100 Automatic Scribe Marking Machine for Corrosion Testing effortlessly creates this mark while offering the following features:

- Produces a 2mm wide vertical scratch, fully compliant with standards.
- Uses a rotary cutting principle for the cutting blade to ensure a neat edge without damage.
- Features a floating design cutting blade, accommodating various thicknesses of test panels while minimizing substrate damage.
- Equipped with scale indication for easy adjustment to cut different-sized scratches.

TECHNICAL SPECIFICATIONS

Working Distance	0~150mm
Scribe Mark Depth	0~2000μm
Test Panel Thickness	0~5mm (include the thickness of the coating)
Overall Size	374mm × 320mm × 410mm
Working Platform Size	250mm × 125mm
Ordering information	QualiScribe100---Automatic Scribe Marking Machine for Corrosion Testing



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