



SALT SPRAY CHAMBER

AN ISO 9001 : 2015 / 14001 : 2015 / WHO-GMP CERTIFIED CO. & CE MARK PRODUCT

Model No : SRL / SC-54

Standard : ASTM B117



Controller : [PLC with HMI TFT screen]

Action PID: Provides Precise Temperature, Maintain Uniform And Accurate Environment, Timer, Alarm, Auto-Tuning And Auto Start Stop Function. Technical Design and Construction Silent Fan Motor to Maintain Uniform Temperature. Over Temperature and Current Protection Capability Ensure User Safety, Adjustable Sliding Rack, Alert Unexpected Interruption Of Electrical Power Or Unauthorized Change.

PLC with HMI: Provides Precise Temperature, Maintains Uniform And Accurate Environment, Timer, Alarm, Auto-Tuning And Auto Start Stop Function. Technical Design and Construction Silent Fan Motor to Maintain Uniform Temperature Over Temperature and Current Protection Capability Ensure User Safety, Adjustable Sliding Rack, Alert Unexpected Interruption Of Electrical Power Or Unauthorized Change. Shall have feature to run in real time or elapsed time. Feature for multiple programs. Data logger with RS 485/232 port for logging & transfer of data. Auto restart, power failure event logging. Technical Design and Construction Silent Fan Motor to Maintain Uniform Temperature and Humidity. Data collected from each logger shall be transferred to central data storage unit. Shall provide central data storage unit with facility to retrieve the stored data at any time. Control system shall have audio/visual warning/alarm when set temperature/RH is below or above the set values. Ethernet communication port. Ambient temp. monitoring. Alert Unexpected Interruption of Electrical Power or Unauthorized Change. 4 digit password lock.

Application :

These chambers are used to study the deterioration in painted films when put under exposure to salt solution & to test the corrosion resistance of protective coating of on ferrous non ferrous material. This apparatus consists of perspex chemically inert container (Acrylic) with a close fitting cover in which a fine mist of the spray solution is produced through an atomizer.

[Optional] : US FDA Approved 21 CFR Compliance Software

PLC Control system with touch screen display & HMI for data Storage, data logger reading & audit trail, Door access, SMS & Email alert. Data Logger 1 temp + 1 RH. Data Logger with LCD display window capable to store nonvolatile data memory up to 5000 readings with audit trail facility complies 21 CFR Part 11. Change over to stand by system automatically as per schedule or on detecting fault with current system Temperature & Humidity overshoot and under shoot protection Mobile Alarm system, Door Access, system setting reset , etc. In built PC port for connectivity for PC base operation of data management. Protection of ups system in built with the controller for safe and uninterrupted functioning.

Temp. Range :

Ambient +5°C to +65°C / $\pm 2^\circ\text{C}$.

Ambient +5°C to +75°C / $\pm 2^\circ\text{C}$.

Sensor :

Sensors : Rotronic Make Hygroclip non condensing type sensor for RH and PT-100 'A' class for temp. calibrated from ERTL / NABL accredited labs.

Humidity Range :

85% to 98% will be provided during salt spray Depending on saturation of salt Solution.

Bubble tower :

Made out of AISI SS316 with float valve.

Water heating system :

Chamber water heating shall be done using immersion heater.

Atomizer :

Fine fog of size 20-30 micron droplets.

SALT SPRAY CHAMBER

Construction :

The Chamber will be mono block construction that comprise all system necessary for operation. The internal made of non-corrosive FRP & Outer of CRCA epoxy powder coated. The Insulation material will be low k factor, high density and non Hygroscopic nature of mineral fiber. The test chamber will be capable of moved easily to different locations. Using 4 Nylon bullet fitting or Floor standing type with lockable & movable wheels.

Door : The door will be made of non corrosive transparent canopy with hinges in the rear. The door will be designed having inclined ceiling provided with side wall baffles to avoid droplets falling on to specimen as per ASTM Standard, Pneumatic Door lifting arrangement of user comfort for sample loading and unloading.

Canopy on top : Transparent.

Canopy (Door) sealing: Adopt water seal / jacket/ layer around the CANOPY / DOOR to make the chamber air leak proof.

Air Compressor : [Optional]

Motor: 1.0 HP, single / three phase

Control : Automatic pressure switch which maintains the pressure in Air Storage Tank.

Tank Pressure:100 PSI.

Pressure Gauge: 1 to 3 Bar

Safety: Mechanical pressure release valve.

Fog Fallout Rate :

0.5 to 2.5 ml/hour fog residual collected (average of 16 hour collection) in a 80 cm² (10 cm diameter) pan.

Heating of Test Space :

The heating of the chamber will be done by using ss heaters of suitable capacity. The heaters will be embedded in the chamber such that there is uniformity.

Test Standard :

As per - JIS-Z 2371, DIN 50021, IS 5528, IS 6910, ISO 3768, ASTM B 117, ASTM G85 Part A1 , A2 , A3 additionally ASTM G85 annex A4, this optional accessory provides a chamber mounted dispersion tube , through which SO₂ gas can be introduced , ISO: 9227 , ASTM- B368, Jss 55555, MIL-STD-810-D

Certification :

ISO 9001:2015 Certified Co. D&B registered & CE mark product.

ISO 14001:2015 & WHO-GMP

ISO 45001:2018 & ISO/IEC 17025: 2017

NSIC & MSME registered / ROHS Compliance / UL Compliance

Calibration & validation certificates traceable to NABL / ERTL accredited labs.

Safety Features

- 2 minute compressor "on" delay timer to safeguard the compressor.
- Compressors overload relay protector.
- Electronic low water level cut off device to cut off the supply to boiler heater in case of low water level. Safety Temp. Controller. MCB for mains.
- (i)Unit will be provided with safety devices for temperature and humidity overshoot in case of malfunction.
- (ii)Built-in temp. Deviation, audio/visual alarms. Safety thermostat for over shooting of temp. Safety circuit to cut off the whole system.
- (iii) OLP (Overload Protector) & Time delay Circuit for safety of compressors.
- (iv) HRC fuses for compressor, heaters & mains.

Specimen Placement :

FRP Acrylic blocks will be provided for hanging the specimen.

Air Regulator :

A moisture and oil filter cum regulator ranging for 0-30 psi.

Power Supply :

Single phase 230V AC, 50 Hz.

Accessories :

- RH indicator: Direct RH sensor non condensing type.
- PH indicator: For PH inside cabinet.
- (ASTM B – 117 : 8.2 which can be set with the help of flow regulator provided in the Salt solution Line)
- Over Temperature : Provided for Cabinet And Humidifying Tank.
- Protection Air Pressure Gauge : Incorporated.
- Nozzle : Made of Acrylic as per ASTM Standard.
- Panel Holding : Acrylic / Nylon Rod or Acrylic racks.

Documentation :

To comply with the documentation requirements, we provide IQ, OQ & PQ protocols to be executed before taking the chamber in to for regular use, and support the supply with the following documents with the detail operational and service manual.

- Standard Operating Procedure (SOP)
- Operational Manual for Controller
- IQ,PQ,OQ protocols certificate.
- Calibration certificate of all controlling modules with traceability.
- Certificate of MOC.
- Test Report of chamber prior to supply with mapping certificate.
- wiring diagram for ease of service maintenance.