



# 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 :

**Standard 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.

### Optional :

**PLC with HMI:** Provides Precise Temperature, Relative Humidity And Illumination Maintain Uniform And Accurate, Timer, Alarm, Auto-Tuning And Auto Start Stop Function. Shall have feature to run in real time or elapsed time., feature for multiple programs. Temp. Will rise gradually to reach the temp. in fixed time, remain in fixed temp. For Known period of time & then decreased back to initial temp, in fixed time internal gradually.

Stepwise Programmable Controller with 10 or more programs Provides Automatic Operation of Variable Temperature & Humidity Value, 50 Or More Cycles With Minimum 100 Sections in Each Cycle, for E.g. the temp. shall rise gradually as 32.1,32.2... to the desired temp by the end of set time. 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. Multiple programs linked together to simulate natural condition. Control system shall have audio/audiosvisual 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 produces through an atomizer.

## Temp. Range :

Ambient to 60°C

Accuracy : Better than + / - 1 Deg . C.

## Humidity Range :

95% to 98% will be provided during salt spray Depending on saturation of salt Solution.

## Ecocentric System :

Chamber runs on the basis of Dewpoint control. Less deviations during short-term door opening & power failure. Less utility area Increased storage area. Low operating cost. Minimum power & water consumption. Reduced deviations. Less breakdowns due to standby refrigeration & humidification system. Due to PLC HMI & controlling through microprocessor based PID Temp. & RH operations the on time of both Temp. & RH system is reduced & efficiency of this system is increased with reduced energy consumption.

## Refrigeration : (Air Cooled)

**Emerson /Danfoss/Tecumseh:** make compressors, 1 stage cooling system for TEMP. & Humidity Control. All accessories such as HPCO/LPCO, Oil Separators, Dryers, Relays, OLP etc. of **Danfoss/Tecumseh** Emerson Make. CFC free refrigerant to be used to comply with the New Environmental Regulation. Will have suitable tonnage compressor for maintain temperature with lights on. Will have hermetically sealed condensing unit compressor coupled with Evaporation coil and condenser, safe guarded by time delay circuit. Cabinet shall be supplied with air-cooled condensing unit with extended compressor life and close temperature control. Cooling system will be split type to place condenser unit in a ventilated area to avoid hot air in growth chamber. Cooled air shall be delivered in such a way to reduce or eliminate condensation within media dishes and to provide maximum uniformity In different research vessels. This may be through silent and durable fan motors or through any kind of advanced air diffusers. Air Cooled Condenser with solenoid & LP to pass hot gas to the chamber for uniformity & long life of compressor for continuous usage. Phenolic coating for cooling & condensing coils (All weather proof).

# SALT SPRAY CHAMBER

## Construction :

The Chamber will be mono block construction that comprise all system necessary for operation. The internal & External made of non-corrosive FRP. The Insulation material will be low k factor, high density and non Hygroscopic nature of mineral fiber.

**Door :** The door will be made of non corrosive acrylic 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. Option of pneumatic Door lifting arrangement of user comfort for sample loading and unloading.

## Air Compressor :

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 Collection Rate :

1-2ml / hr / 80cm area.

## 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.

## Accessories :

Intermittent spray operation system, Timer, time totalizer, Air purging system.

## Certification :

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

ISO 14001:2015 & WHO-GMP

NSIC & MSME registered

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.

## Instrumentation :

The display of set values & actual value of Temperature Automatic water level controller with Heater protection systems. Pt-100 'A' Class rotroic make hygroclip sensors for RH (Non condensing type) will be provided with non corrosive glass.

## Test Standard :

As per - JIS-Z 2371, DIN 50021, IS 5528, IS 6910, ISO 3768

## 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.