



INNOTECH ENGINEERING DEVICES PVT.LTD.

(AN ISO 9001:2015 & CE CERTIFIED CO.)



Make-IEDPL
Model No.ISSI-550L



SALT SPRAY INSTRUMENT



Technical Specifications

Applicable Standards

The chamber shall be designed to perform corrosion and condensation humidity testing in accordance with the following standards:

- ASTM B117 – Standard Practice for Operating Salt Spray (Fog) Apparatus
- ASTM D2247 – Standard Practice for Testing Water Resistance of Coatings in 100% Relative Humidity

1. Chamber Capacity

- Chamber working volume: Approx. 450–550 Litres minimum
- testing panels/coupons as specified below.

2. Temperature Range

- Temperature range: Ambient to +50°C
- Temperature accuracy/stability: $\pm 1^\circ\text{C}$ of set temperature after attainment of the set condition.

4. Humidity Range – Condensation Humidity Mode

- Relative Humidity range: 95%–100% RH
- The chamber shall be capable of maintaining the required condensation humidity conditions in accordance with ASTM D2247.

5. Chamber Construction & Material

- Chamber construction shall be made of Glass Reinforced Plastic (GRP) or equivalent corrosion-resistant material.
- Interior surfaces shall be non-corrosive, scratch-resistant and suitable for continuous salt spray operation.
- Interior construction shall prevent damage/scratching during loading and unloading of specimens.
- Chamber shall be provided with double-wall insulation for thermal stability.
- Chamber floor shall be robust enough to support approximately 125 kg specimen load.



6. Brine / Salt Solution Tank

- External salt solution/brine reservoir capacity: 100–120 Litres minimum
- Reservoir shall be located outside the test chamber.
- Easy facility for:
 - Filling and draining of salt solution
 - Inspection and cleaning
 - Checking and adjustment of pH
 - Monitoring of salt solution level
- Salt solution reservoir shall be suitable for independent operation and easy handling.

7. Slotted Sample Racks

- Number of racks: 4 Nos.
- Slotted sample racks shall be suitable for testing panels/coupons.
- Minimum specimen holding capacity: 70 coupons at a time, subject to specimen dimensions and standard test arrangement.
- Rack construction shall be corrosion-resistant and suitable for salt spray exposure.

8. Temperature Measurement & Control

- Temperature measurement shall be through Pt100 Platinum Resistance Temperature Sensor.
- Actual temperature variation/fluctuation after stabilization shall be maintained within $\pm 1^{\circ}\text{C}$ of the set temperature.
- Separate control and monitoring of test temperature shall be provided.

9. Control Panel & HMI

- 7-inch Full HD Touch Panel Display mounted at the front of the chamber.
- PLC-based control and monitoring system.
- Chamber shall be capable of independent operation without a PC.
- The system shall provide:
 - Manual operation mode
 - Programmable/automatic test mode
 - Set and actual temperature display
 - Set and actual humidity display
 - Test time display
 - Chamber ON/OFF indication
 - Alarm/fault indication
 - Fault diagnostic facility
 - Test status indication



10. Programming & Data Logging

- Large-capacity internal memory for storage of multiple test programs.
- Capability to create and store complex multi-step test profiles.
- Parameters including Temperature, Humidity and Time shall be programmable.
- Test data shall be recorded and stored.
- Data transfer facility shall be provided.
- Real-time monitoring and data logging shall be available.
- Temperature and Humidity versus Time shall be capable of being displayed/plotted on a single graph.

11. PC / Laptop Communication

- Chamber shall have LAN/Ethernet communication interface.
- Provision shall be available for connection to a PC/Laptop.
- PC interface shall support:
 - Remote monitoring
 - Control/operation of chamber parameters
 - Real-time data logging
 - Data storage and retrieval
 - Test profile management

12. Door & Safety Features

- Chamber door shall be easy to open and close.
- Door operation shall be pneumatically operated through HMI/control system, as applicable.
- Automatic purging of the cabinet interior with fresh air shall be provided after completion of testing and before opening the chamber door.
- Appropriate interlocks shall be provided to ensure safe operation.

13. Mobility

- Chamber base shall be fitted with heavy-duty lockable castors for ease of positioning.
- Castors shall be capable of safely supporting the complete chamber and specimen load.

14. Salt Spray Generation System

- Equipment shall be provided with a peristaltic pump for controlled dosing of salt solution.
- Flow meter shall be provided for monitoring and controlling salt solution flow.
- Atomizing nozzle system shall be suitable for producing the required salt fog.
- Pressure regulator and pressure gauge shall be provided for controlling and monitoring nozzle air pressure.
- Clean, dry and oil-free compressed air shall be used for salt spray generation.



15. Fog Outlet & Drainage

- Separate excess fog outlet shall be provided.
- Separate drain outlet shall be provided.
- Both outlets shall be suitably positioned for safe and convenient connection to the customer's drainage/exhaust arrangement.

16. Observation Window

- A suitable viewing/observation window shall be provided.
- The operator shall be able to visually observe specimens inside the chamber during running and pause conditions.

17. Salt Spray Fall-Out / Collection

- The chamber shall be designed to achieve the required salt spray concentration and fall-out/collection rate specified in ASTM B117.
- Suitable salt spray collection/measurement arrangements shall be provided.
- Salt concentration and fall-out rate shall be capable of being verified as required by the applicable test standard.

18. Finish & Appearance

- External chamber finish shall be suitable for laboratory/industrial use.
- Paint, coating, surface finish and overall appearance shall be of high-quality industrial/laboratory grade.
- All exposed materials shall be suitably resistant to the operating environment.

19. Standards Compliance

The equipment shall be capable of performing tests strictly in accordance with the applicable procedures and requirements of:

- ASTM B117 – Salt Spray (Fog) Testing
- ASTM D2247 – Condensation Humidity Testing
- Any other applicable corrosion/conditioning test procedure specified by the purchaser.
- The supplier shall demonstrate compliance with the selected test standards during commissioning/inspection.



20.Spares & Maintenance Kit

- Necessary consumable spares and maintenance items required for one year of operation shall be supplied free of cost.
- All essential spares required during the warranty period shall be within the supplier's scope.
- Supplier shall ensure availability of critical spares to minimize equipment downtime.

21.Site Utilities / Customer Requirements

- Electrical Supply
- Voltage: 230 VAC
- Phase: Single Phase
- Frequency: 50 Hz
- Compressed Air
- Clean, dry and oil-free compressed air
- Maximum available pressure: Up to 6.0 bar
- Ambient Laboratory Conditions
- Temperature: +20°C to +25°C
- Relative Humidity: Maximum 85% RH
- Condition: Non-condensing

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