

CC450T

Specification

Product Description Cyclic Corrosion Test Cabinet (also known as CCT Cabinet).

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| Type: | CC450t & CC1000t |
| Cabinet Capacities: | 450Litres & 1000Litres |
| Controlled parameters: | Temperature, relative humidity, and salt fog. |
| Sequential control: | Programmable |
| Drying Temp' Range: | Ambient to +60°C |
| Salt Spray Temp' Range: | Ambient to +55°C |
| Humidity Temp' Range: | Ambient to +50°C |
| Humidification Range: | > 95% RH during humidification and salt spraying phases, for cabinet temperatures >ambient +10°C. Active dehumidification during air-drying phase. |
| Salt Fog Fallout Rates: | Adjustable from 0.5 to 3.0ml per 80cm ² per hour. |
| Construction: | Cabinet constructed from corrosion resistant materials with a transparent roof. |
| Safety: | Fused for electrical overload. Over temperature and over pressure protection of the air saturator. |

Principles of Operation

1. General

The cabinet has been designed to enable either salt fogging, humidification or air-drying to be selected, either manually for steady state control, or automatically for sequential/cyclic control.

2. Temperature Control

The cabinet's working chamber is heated indirectly via heater mats attached to the sidewalls and base of the working chamber.

The cabinet temperature controller enables either steady state control or automatic multi-level temperature cycling.

3. Salt Fog

Salt solution is pumped from the salt solution reservoir to the atomiser within the temperature controlled working chamber. Here, compressed air is introduced to atomise the salt solution into a spray/fog, which precipitates down evenly through the chamber and onto the samples under test.

Most test Programs call for pre-humidification of the compressed air prior to atomisation of the salt solution. This ensures that the resultant fog is wet and does not clog the atomiser at elevated temperatures.

During pre-humidification, air is passed through the air saturator, where it is bubbled through the temperature controlled water reservoir and humidified to the correct level.

4. Humidity

High humidity levels are required during both the salt fogging and humidification phases of the test cycle.

A humidity level of 95% - 100% RH is obtained at the atomiser nozzle by humidifying the compressed air used to atomise the salt solution. The compressed air passes through an air saturator situated within the right hand compartment of the cabinet.

The air saturator is fitted with a heater, controlled by the "air saturator" temperature controller. Specifications which require the compressed air for the atomiser to be humidified usually require the air saturator to be heated to 10-15°C above the cabinet air temperature. In addition, the base of the working chamber is allowed to partially fill with condensate, to assist in maintaining high humidity levels within the chamber.

During the humidification only phase, humidity levels of up to 95% RH are obtained within the cabinet by heating the water reservoir in the base of the cabinet. This in turn evaporates moisture into the cabinet atmosphere.

5. Air Drying

In this mode of operation the base of the cabinet is automatically drained of water and the cabinet interior purged with air at low pressure.

Provided the cabinet has been connected to a good quality air supply, the humidity level within the cabinet will fall.

The cabinet temperature controller can be set as required up to +60°C during this mode to assist in the drying process.