

**FOGmaster<sup>salt</sup>**

***In-focus***



## Introduction:

The Sheen FOGmaster<sup>salt</sup> range of Salt Spray Cabinets are designed to give complete flexibility in the simulation of real life weathering conditions.

By incorporating the versatility of both Prohesion and Condensation Humidity test methods, these systems give the user a powerful tool in the analysis of corrosion resistance for a wide variety of sample types.

With industry's demands for more stringent testing solutions the FOGmaster<sup>salt</sup> gives complete compliance to all major national standards including ISO, ASTM and DIN.

*Quality Testing Solutions for the Coatings Industry - Worldwide*

## Features of the Salt Spray Corrosion cabinets:

### FOGmaster<sup>salt</sup> models:

- User programmable interface:  
2 Line, 16 character alphanumeric display.
- Chamber viewing window.
- Corrosion resistant sample racks.
- Hours Counter, to monitor and display the time elapsed within a specified test cycle.
- Automatic & manual filling of air saturator.
- Air purge facility – Ensures salt fog is quickly and safely exhausted from the cabinet interior following the completion of the test.



### FOGmaster<sup>salt pro</sup> models:

- All features as outlined for the salt spray introductory models
- Touch screen, menu driven controller is provided as standard
- Fully programmable for automatic temperature cycling
- Condensation humidity test facility
- Humidity Probe for displaying %RH
- Pneumatically Actuated roof



### Additional Methods and applications for the FOGmaster<sup>salt pro</sup> Cabinets:

#### Intermittent test.

This test comprises of an automatic cycle of salt spray followed by a high humidity dwell time at an elevated isothermal temperature.

#### Prohesion test.

This test comprises of an automatic cycle of salt spray at ambient temperature, followed by air drying at an elevated temperature.

#### Condensation Humidity Test.

This test requires an elevated isothermal temperature and high humidity (95% - 100% RH) levels within the cabinets test chamber.



## Technical Specifications:

Model Reference	FOGmaster <sup>salt &amp; salt pro</sup>	FOGmaster <sup>salt &amp; salt pro</sup>	FOGmaster <sup>salt &amp; salt pro</sup>
Siting Requirements	Bench or floor standing	Floor standing	Floor standing
Nominal Capacity	120 Litres	450 Litres	1000 Litres
External cabinet width	1350mm / 53.2"	1525mm / 60.0"	2125mm / 83.7"
External cabinet depth	680mm / 26.8"	900mm / 35.4"	1200mm / 47.2"
External cabinet height	780mm / 30.7"	1055mm / 41.5"	1396mm / 55.0"
Internal cabinet width	715mm / 28.2"	800mm / 31.5"	1250mm / 49.2"
Internal cabinet depth	490mm / 19.3"	645mm / 25.4"	935mm / 36.8"
Internal cabinet height	485mm / 19.1"	835mm / 32.9"	1175mm / 46.3"
Salt solution reservoir capacity	40 Litres	100 Litres	100 Litres
Removable slotted sample racks	4 racks each with 25 angled slots	6 racks each with 32 angled slots	8 racks each with 47 angled slots
Cabinet Temperature Range	Adjustable, ambient to +50°C	Adjustable, ambient to +50°C	Adjustable, ambient to +50°C
Air Saturator Temperature Range	Adjustable, ambient to +63°C	Adjustable, ambient to +63°C	Adjustable, ambient to +63°C
Cabinet Humidity Range	Fixed at 95% to 100% RH	Fixed at 95% to 100% RH	Fixed at 95% to 100% RH
Salt Fog Fallout Rates	Adjustable from 0.5 to 3.0ml / 80cm <sup>2</sup> / hour	Adjustable from 0.5 to 3.0ml / 80cm <sup>2</sup> / hour	Adjustable from 0.5 to 3.0ml / 80cm <sup>2</sup> / hour
Approximate net weight	90kgs / 198lbs	180kgs / 397lbs	395kgs / 871lbs

## Accessories:

### Salt Solution Reservoir (FM101)

Additional free standing 120 Litre capacity reservoir.

### Chart Recorder (FM102)

Single pen, strip chart recorder, for continuously recording the cabinet temperature.

### Independent PT100 (FM103)

Provides auxiliary temperature recordings.

### Entry Port (FM104)

35mm (1.4") diameter, seal-able cabinet entry port. Allows connection to external monitoring equipment.

### Trolley (FM106)

Allows this cabinet to be switched from a bench standing to floor standing unit. *NOTE: 120 Litre models only.*

### Internal illumination (FM107)

Illuminates the interior of the cabinet.

### Spares Kit (FM109)

Comprises of 1 x solenoid valve, 5 x salt solution filters, 1m of peristaltic pump tube, 1 x indicator.

### Reinforced False Floor (FM110)

For supporting large / heavy test samples. 120 Litre models only.

### Reinforced False Floor (FM111)

For supporting large / heavy test samples. 450 Litre models only.

### Reinforced False Floor (FM112)

For supporting large / heavy test samples. 1000 Litre models only.

### Chart Recorder (FM114)

Two pen, strip chart recorder, for continuously recording the cabinet temperature and humidity. *NOTE: FOGmaster<sup>Salt Pro</sup> units only.*

**External service requirements:**

<b>Power Requirements</b>	Single phase 220 – 240VAC, 50Hz, switched electrical supply, rated to 13 Amps for 120L & 450L models, 16 Amps for 1000L models.
<b>Water</b>	De-ionised or distilled for topping up the cabinet humidity system. Connection to a continuous de-ionised / distilled water supply pressurised to within the limits 0.5 – 6.0 bar (7.3 – 87 psi) is recommended.
<b>Compressed Air</b>	A clean, dry and oil free compressed air supply, pressurised between 1.4 to 6.0 bar (20 to 87 psi)
<b>Exhaust</b>	An exhaust vent is required to an outside location to ventilate excess salt fog from the cabinet
<b>Drain</b>	A floor level drain is required to discharge salt fog condensate.

**General**

This equipment is designed for internal use only, in an environment controlled to within the following limits.

**Ambient Temperature: +5 to +30°C (+41° to +86°F) (no icing)**

**Ambient Humidity: 85% RH maximum (no condensation)**

*Note: that the actual minimum operating temperature of the equipment will vary upon the specific ambient temperature of the environment in which it is located.*

**Ordering Information:**

		Part Number
Ref: FOGmaster <sup>salt</sup>	120 Litre capacity	FMS120
Ref: FOGmaster <sup>salt pro</sup>	120 Litre capacity	FMSP120
Ref: FOGmaster <sup>salt</sup>	450 Litre capacity	FMS450
Ref: FOGmaster <sup>salt pro</sup>	450 Litre capacity	FMSP450
Ref: FOGmaster <sup>salt</sup>	1000 Litre capacity	FMS1000
Ref: FOGmaster <sup>salt pro</sup>	1000 Litre capacity	FMSP1000

Prohesion ® is a registered trademark of Croda Mebon

Owing to continuous development. we reserve the right to introduce improvements and modify specifications without prior notice.

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# Sheen Instruments Limited

## FOGmaster Corrosion Test Cabinets

### TEST STANDARDS SUMMARY

Test Standard Number	Country / Industry / Company of Origin	Humidity Cabinets			Salt Spray Cabinets			CCT Cabinets					
		FOGmaster Humidity	FOGmaster Standard	FOGmaster Pro	FOGmaster Standard	FOGmaster Pro	FOGmaster Pro	FOGmaster Cyclic	FOGmaster Cyclic	FOGmaster Cyclic			
		FMH120	FMH460	FMH1000	FMS120	FMS460	FMS1000	F MSP 120	F MSP 460	F MSP 10000	FM C 120	FM C 460	FM C 1000
<b>Condensation Humidity Test Standards</b>													
ASTM D2247	USA	✓	✓	✓				✓	✓	✓	✓	✓	✓
BS 3900 Part F2	Great Britain	✓	✓	✓				✓	✓	✓	✓	✓	✓
DIN 50 017-KK	Germany	✓	✓	✓				✓	✓	✓	✓	✓	✓
DIN 50 017-KFW	Germany	✓	✓	✓				✓	✓	✓	✓	✓	✓
DIN 50 017-KTW	Germany	✓	✓	✓				✓	✓	✓	✓	✓	✓
RES.30.CT.900	Rover	✓	✓	✓				✓	✓	✓	✓	✓	✓
VDA 621-421	Germany	✓	✓	✓				✓	✓	✓	✓	✓	✓
<b>Water Fog Humidity Test Standards</b>													
ASTM D1735	USA				✓	✓	✓	✓	✓	✓	✓	✓	✓
GM4465P	General Motors				✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>Salt Spray/Mist/Fog Test Standards</b>													
50180 method A1	Fiat				✓	✓	✓	✓	✓	✓	✓	✓	✓
50180 method A2	Fiat				✓	✓	✓	✓	✓	✓	✓	✓	✓
50180 method A3	Fiat				✓	✓	✓	✓	✓	✓	✓	✓	✓
AS 2331 method 3.1	Australia					✓	✓		✓	✓	✓	✓	✓
AS 2331 method 3.2	Australia					✓	✓		✓	✓	✓	✓	✓
AS 2331 method 3.3	Australia					✓	✓		✓	✓	✓	✓	✓
ASTM B117	USA				✓	✓	✓	✓	✓	✓	✓	✓	✓
ASTM B287	USA				✓	✓	✓	✓	✓	✓	✓	✓	✓
ASTM B368	USA				✓	✓	✓	✓	✓	✓	✓	✓	✓
ASTM G43	USA					✓	✓	✓	✓	✓	✓	✓	✓
ASTM G85 annex A1	USA				✓	✓	✓	✓	✓	✓	✓	✓	✓
ASTM G85 annex A2	USA					✓	✓	✓	✓	✓	✓	✓	✓
ASTM G85 annex A3	USA					✓	✓	✓	✓	✓	✓	✓	✓
ASTM G85 annex A5	USA					✓	✓	✓	✓	✓	✓	✓	✓
ASTM G5894	USA					✓	✓	✓	✓	✓	✓	✓	✓
BS2011 Part2.1 Ka	Great Britain				✓	✓	✓	✓	✓	✓	✓	✓	✓
BS2011 Part2.1 Kb	Great Britain				✓	✓	✓	✓	✓	✓	✓	✓	✓
BS 3900 Part F4	Great Britain				✓	✓	✓	✓	✓	✓	✓	✓	✓
BS 3900 Part F12	Great Britain				✓	✓	✓	✓	✓	✓	✓	✓	✓
BS 5466 Part 1	Great Britain					✓	✓	✓	✓	✓	✓	✓	✓
BS 5466 Part 2	Great Britain					✓	✓	✓	✓	✓	✓	✓	✓
BS 5466 Part 3	Great Britain					✓	✓	✓	✓	✓	✓	✓	✓
BS 7479	Great Britain					✓	✓	✓	✓	✓	✓	✓	✓
BS EN ISO 7253	Great Britain					✓	✓	✓	✓	✓	✓	✓	✓
BS EN 60068-2-11	Great Britain				✓	✓	✓	✓	✓	✓	✓	✓	✓
BS EN 60068-2-52	Great Britain				✓	✓	✓	✓	✓	✓	✓	✓	✓

Test Standard Number	Country / Industry / Company of Origin	Humidity Cabinets			Salt Spray Cabinets			CCT Cabinets					
		FOGmaster Humidity			FOGmaster Standard			FOGmaster Pro			FOGmaster Cyclic		
		FMH120	FMH450	FMH1000	FMS120	FMS450	FMS1000	FMSP120	FMSP450	FMSP10000	FMC120	FMC450	FMC1000
D17 1058	Renault					✓	✓		✓	✓	✓	✓	✓
DEF STAN 00-35 Part 3 test CN2	Great Britain - Defence				✓	✓	✓				✓	✓	✓
DEF STAN 133 method 14	Great Britain - Defence				✓	✓	✓				✓	✓	✓
DEF STAN 1053 method 24	Great Britain - Defence				✓	✓	✓	✓	✓	✓	✓	✓	✓
DEF STAN 1053 method 36	Great Britain - Defence							✓	✓	✓	✓	✓	✓
DIN 50 021-SS	Germany					✓	✓		✓	✓	✓	✓	✓
DIN 50 021-ESS	Germany					✓	✓		✓	✓	✓	✓	✓
DIN 50 021-CASS	Germany					✓	✓		✓	✓	✓	✓	✓
FLTM BI 103-01	Ford				✓	✓	✓	✓	✓	✓	✓	✓	✓
GM4298P	General Motors				✓	✓	✓	✓	✓	✓	✓	✓	✓
IEC 68-2-11	Europe				✓	✓	✓	✓	✓	✓	✓	✓	✓
IEC 68-2-52	Europe				✓	✓	✓	✓	✓	✓	✓	✓	✓
IEC 60068-2-11	Europe				✓	✓	✓	✓	✓	✓	✓	✓	✓
IEC 60068-2-52	Europe				✓	✓	✓	✓	✓	✓	✓	✓	✓
ISO 3768	Europe					✓	✓		✓	✓	✓	✓	✓
ISO 3769	Europe					✓	✓		✓	✓	✓	✓	✓
ISO 3770	Europe					✓	✓		✓	✓	✓	✓	✓
ISO 7253	Europe					✓	✓		✓	✓	✓	✓	✓
ISO 9227	Europe					✓	✓		✓	✓	✓	✓	✓
JIS H 8502 – Method 1	Japan					✓	✓		✓	✓	✓	✓	✓
JIS H 8502 – Method 2	Japan					✓	✓		✓	✓	✓	✓	✓
JIS H 8502 – Method 3	Japan					✓	✓		✓	✓	✓	✓	✓
JIS H 8502 – Method 4	Japan					✓	✓		✓	✓	✓	✓	✓
JIS Z 2371	Japan					✓	✓		✓	✓	✓	✓	✓
JNS 30.16.03	Jaguar					✓	✓		✓	✓	✓	✓	✓
MIL-STD-202	USA - Military				✓	✓	✓	✓	✓	✓	✓	✓	✓
MIL-STD-750	USA - Military				✓	✓	✓	✓	✓	✓	✓	✓	✓
MIL-STD-810	USA - Military				✓	✓	✓	✓	✓	✓	✓	✓	✓
NFX 41-002	France				✓	✓	✓	✓	✓	✓	✓	✓	✓
RES.30.CT.117	Rover				✓	✓	✓	✓	✓	✓	✓	✓	✓
RTCA/DO-160	RTCA Inc.				✓	✓	✓	✓	✓	✓	✓	✓	✓
VG 95 210	Germany				✓	✓	✓	✓	✓	✓	✓	✓	✓

<b>Notes:</b>
✓ = This chamber, together with any optional accessories indicated, can fully comply with all requirements of this test standard.
✓= This chamber, together with any optional accessories indicated, can fully comply with the salt spray requirements of this test standard, but a separate controlled humidity test chamber may be required to fully comply with all parts of this test standard.
✓ = This chamber, together with any optional accessories indicated, can fully comply with the salt spray requirements of this test standard, but a separate combined condensation/UV test chamber will be required to fully comply with all parts of this test standard.