

# Technical Description

## S120xp Salt spray corrosion test chamber



### Features of the S120xp **PREMIUM** chamber

*Salt spray and high condensation humidity testing, cycling between modes and easy controls*

- Accessible – low entry for loading
- Clean – dry seal ... *no* wet-sealed surfaces, *no* wet operators  
–salt fog vent before opening .. *no* room damage
- Durable – body and chamber of marine-grade fiber glass

and

Touch Screen Display of Control Parameters  
Humidity Controlled Air Drying  
Condensation Humidity Testing Capability  
Temperature & Humidity Graphical Logging Facility  
Digital Set & Display of Temperature  
Automatic Air Purge Facility With Canopy Interlock  
Timed Test Stop Facility

Catchpots® Remote Salt Fog Collection Facility  
Digital Set & Display of Temperature  
One Year Consumable Spares Kit  
Interior Viewing Window  
Set of Sample Racks  
Hours Counter  
Calibration Certificate

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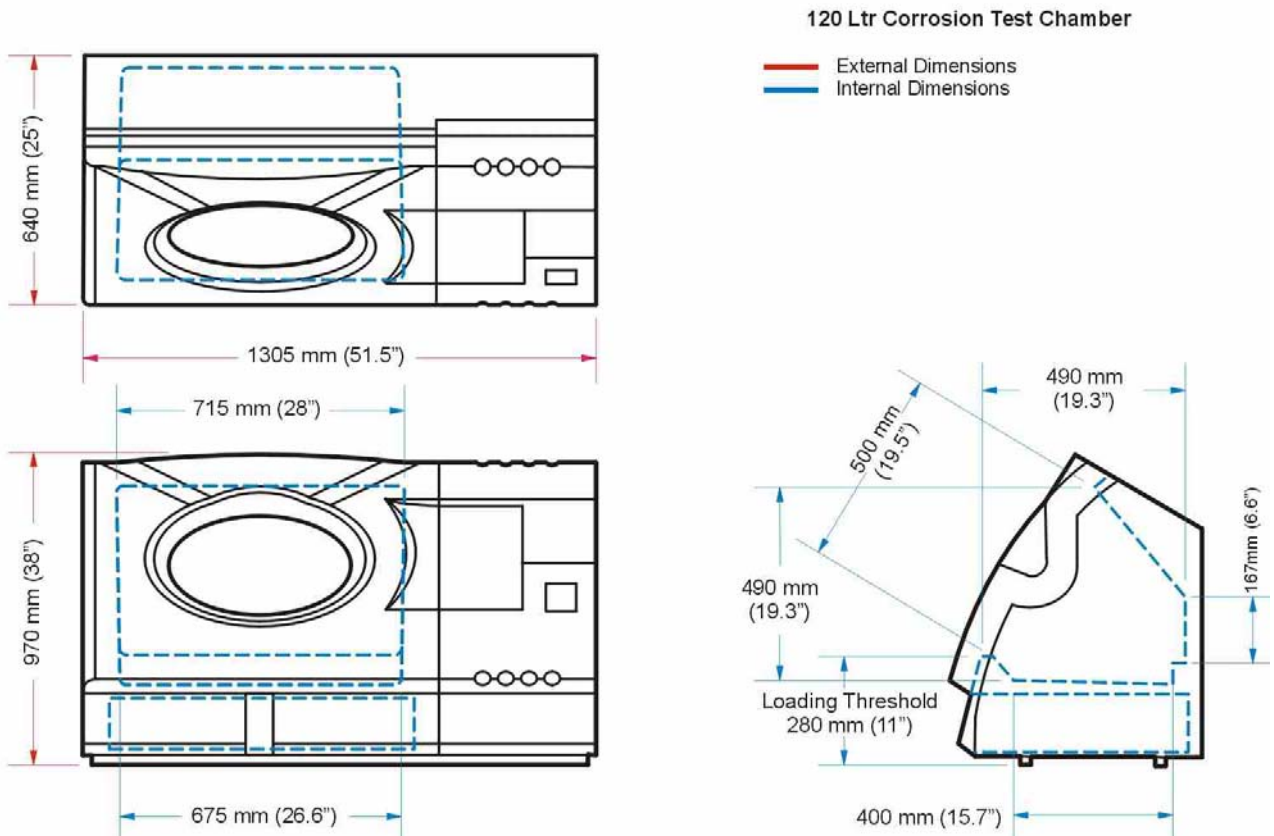
### Technical Specification



*This model will pass through a 850mm wide door aperture for ease of installation*

<b>Model:</b>	<b>PREMIUM</b> S120xp
<b>Product Description</b>	Bench top salt spray chamber
<b>Nominal Capacity:</b>	120 Liters / 4.2 cu.ft.

**Dimensions:**



<b>Salt Solution Reservoir capacity</b> <i>(additional capacity can be provided)</i>	<b>40 Liters / 10.5 Gallons — Built in</b>
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### Performance

<i>Chamber Temperature Range:</i>	Adjustable from ambient to +50°C
<i>Air Saturator Temperature Range:</i>	Adjustable from ambient to +63°C
<i>Humidification Range:</i>	Fixed at 95 to 100% RH
<i>Salt Fog Fallout Rates:</i>	Adjustable from 0.5 to 3.0ml per 80cm <sup>2</sup> per hour.

### Test Standards

Test Standard Number	Country/Industry/ Company of Origin													Required Optional accessories
		Standard				Plus				Premium				ACC46
		S120s	S450s	S1000s	S2000s	S120+	S450+	S1000+	S2000+	S120xp	S450xp	S1000x	S2000x	
<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 A4	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	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

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### Test Standards

Test Standard Number	Country/Industry/ Company of Origin													Required Optional accessories
		Standard				Plus				Premium				ACC46
		S120s	S450s	S1000s	S2000s	S120+	S450+	S1000+	S2000+	S120xp	S450xp	S1000x	S2000x	
BS EN 60068-2-52	Great Britain	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
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 H 8502 – Method 5	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	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

**Notes:**

- ✓ = 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 with indicated accessories, 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.

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## S120xp Salt spray corrosion test chamber

### Construction

- ✓ A low front loading threshold, to ease loading and unloading of samples, especially from the back of the chamber.
- ✓ All plastic construction giving a high quality, durable and corrosion resistant finish.
- ✓ The canopy is pneumatically operated for ease of opening and closing the chamber safely, at the push of a button.
- ✓ Removable load support racks to enable a large number of samples to be either placed onto the racks or suspended beneath.
- ✓ The chamber automatically purges before the canopy opens to minimise the risk of highly corrosive salt fog escaping into the laboratory.
- ✓ Dry seal canopy gasket, so no more wet clothes when loading and unloading chamber!

### Operation & Control

- ✓ Salt spray pre-humidification via an air saturator, ensuring salt spray is moist and will not clog atomiser jet. The reservoir is filled automatically for continuous unattended testing.
- ✓ Peristaltic pumping of salt solution enabling salt to be delivered at a precisely metered rate.
- ✓ Digital precision temperature controls, guarantees accuracy and repeatability of results.
- ✓ Graduated salt solution flowmeter for quickly assessing and adjusting the salt solution flowrate.
- ✓ Wall mounted heater mats enabling uniformity of temperature through the chamber with maintenance free durability.
- ✓ Air saturator low water and over temperature protection for fail safe operation.
- ✓ User programmable for modified salt spray tests.
- ✓ Automatic cycling between two different conditions and or temperatures: for example, salt spray and condensation humidity

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## S120xp Salt spray corrosion test chamber

### Standard Features

#### Touch screen display of Control Parameters



This Human Machine Interface (HMI) features a fully pixelated 'touch' activated screen, with a high definition display, and a 'menu' driven command structure. In addition to standard continuous salt spray testing, this enables it to be readily programmed for automatic testing to 'modified' salt spray test standards such as [ASTM G85](#), annexes; A2 (MASTMAASIS), A3 (SWAAT), A5 (PROHESION) and condensation humidity testing to [ASTM D 2247](#), [DIN 50 017](#) etc.

*Note: [ASTM G85 Annex A4](#) tests can also be programmed, but a separate SO2 gas dosing facility (Ascott optional accessory ref: ACC46) is required.*

Up to 10 main programs, each comprising of up to 15 different steps and temperatures can be programmed and run automatically. In addition, up to 5 single function programs are also available for steady state control at a single set temperature.

#### Humidity measuring sensor with %RH display

This chamber is now fitted with a state of the art electronic humidity sensor which measures the relative humidity inside the chamber and displays this at the HMI as %RH.

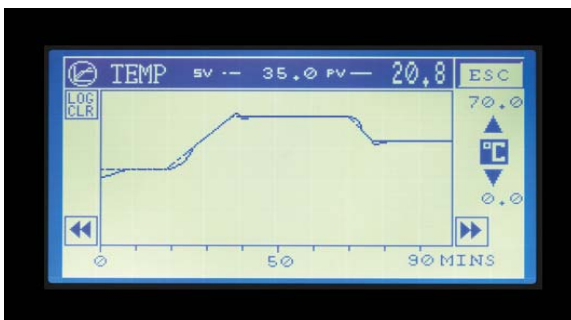
#### Humidity controlled air drying

This chamber uses the new humidity measuring capability (mentioned above) in conjunction with an evaporative humidity generation system, to enable the operator to program and control the relative humidity level (%RH) during air drying. The %RH can be controlled at a steady state level, or rising and falling over time, with or without a changing chamber temperature.

#### Condensation humidity testing capability

Enables the chamber to be used for condensation humidity testing, as well as salt spray testing. Includes a display of relative humidity (%RH) in HMI, measured using a novel design of salt resistant humidity probe.

#### Temperature & Humidity graphical logging facility



Graphical logging of actual temperature and humidity achieved in the chamber, compared to the set temperature and humidity required, over time (up to 24 hours). This provides at-a-glance monitoring of chamber performance and the ability to play back and review the chambers performance over the past 24 hours, at the control panel HMI.

# Technical Description

## S120xp Salt spray corrosion test chamber

### Standard Features (cont.)

#### Digital Set & Display of Temperature

The chamber and air saturator temperatures are monitored by PT100 precision temperature sensors and displayed digitally, to a resolution of 0.1°C, alongside the desired set temperatures.

#### Automatic Air Purge Facility With Canopy Interlock

At the touch of a button on the control panel HMI, automatic purging of the chamber interior is initiated. This disperses any salt fog, to minimise the risk of highly corrosive salt fog escaping from chamber into the laboratory. After a pre-set period of purging the chamber canopy can be opened.

#### Timed test stop facility

Allows the convenience of pre-programming a stop time, at which point the chamber automatically stops testing.

#### Calibration Certificate

The Ascott calibration laboratory is A2LA accredited to ISO 17025 standards. Fully traceable single point temperature and humidity calibration is provided free of charge, as standard. Additional points may be available on request at extra cost.

#### Catchpots ® Remote Salt Fog Collection Facility



This comprises of two 80cm<sup>2</sup> collecting vessels mounted on adjustable supports within the chamber and linked to two transparent measuring cylinders, mounted externally. This system allows salt fog fall-out to be collected and measured continuously without the need to open the chamber canopy and interrupt the test.

#### One year consumable spares kit

A pack of consumable spares, sufficient to last for approximately 1 year of continuous use comprising of: *5 salt solution filters, 1m peristaltic pump tubing & selection ties.*

#### Interior Viewing Window

The chamber canopy incorporates a window, as standard, which enables visual checking of the samples inside the chamber, while under test. Interior illumination is also available as an optional accessory (ACC26).

#### Spray atomizer



The unique Ascott salt spray atomizer features an in-line salt solution filter, which was developed to eliminate atomizer blockages due to undissolved salt crystals, and other debris, a frequent issue.

- Easy monitoring – due to its transparent housing.
- Easy cleaning/replacement – due to its convenient location

# Technical Description

## S120xp Salt spray corrosion test chamber

### Standard Features (cont.)

#### Set of Sample Racks



The 120L / 4.2 cu.ft. chambers are supplied with 4 removable slotted sample racks, as standard. Each rack has with 3mm wide slots angled at 15° to the vertical. There are 24 slots/rack, room for 96 samples. Different slot sizes and angles may be specified on the purchase order, as desired.

Racks can be supplied to fit the lower mounting position as standard, if desired. Alternative sizes are available on request.

#### Hours Counter

An hours counter for logging the number of hours a program has been running

## Requirements

**Deionized water.** The salt water reservoir must be filled with 10.5 gallons (US). When running continuously, the system can use about 6 gallons of fresh water every 24 hours (depending on test operation choices), supply pressure for the DI water must be between 8 and 87 psi.

**Pressurized air.** Clean dry air is required at pressure between 20 and 85 psig, and capable of providing flow rate at 2.5 cfm. Plant compressed air is acceptable, if strongly filtered for oil and water.

**Power.** The S120 requires 220-240 VAC, single phase, 5 A. GFI protection is advised.

**Vent.** A vent line for the salt fog, not to exceed 10 vertical feet, is required to the outside (the CC450 should be located next to an outside wall). Do not vent into room. 10 feet of exhaust pipe is provided.

**Drain.** A floor drain is required for the salt solution. 10 feet of drain pipe is provided.

**Ambient conditions.** The S120 should be located inside in a room with temperature between 5°–30° C (40°–85° F), and RH ≤ 85%. Not for outside operation.

**Installation accessibility.** The shipping crate for the S120 will fit through a passageway that can accommodate a box 56"x32" by 38" high. Shipping weight is 275 lbs (approx, depends on options).

### North American Distributor



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