CorroFlex

Flexible Size Corrosion Test Chambers

Front loading chambers for testing large/heavy samples

In response to customer demand for larger test chambers to test large samples, in a wide variety of shapes, sizes and weights, Ascott are pleased to introduce their latest range of CorroFlex flexible size corrosion test chambers.

These chambers all feature the convenience of a front loading door, which fully opens and closes at the push of a button, giving unimpeded access to the chamber interior. The door slides up to close and down to open, minimising the floor space required when installed.

CorroFlex corrosion test chambers offer the user flexibility in specifying the perfect size of chamber to suit their application. The width and depth dimensions are variable and can be selected in 0.5m increments.

ascott

Corrosion Test Chambers

Testing climate resistance **to the limit**

Truely flexible corrosion testing

The CorroFlex range of front loading corrosion chambers are available in two model specifications:

CFS

CFS models are salt spray only test chambers and can perform single temperature, continuous salt spray tests in accordance with international standards such as: ASTM B117, ISO 9227, JIS Z 2371 and many more.
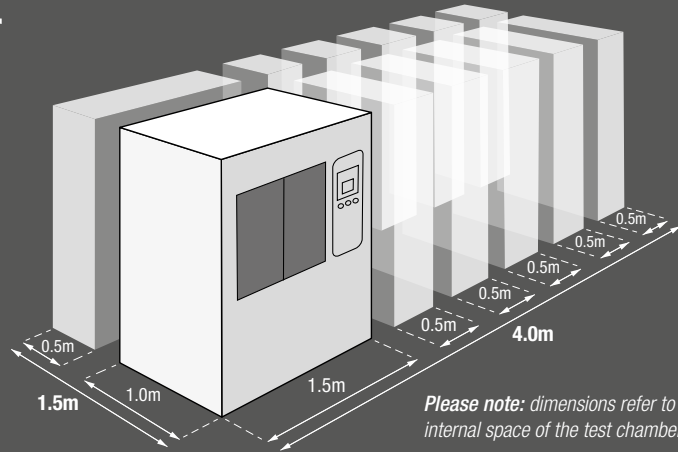
CFX

CFX models are cyclic corrosion chambers and can be programmed to create any of 4 distinct climates: salt spray, controlled humidity, air drying and condensation humidity. These climates can be programmed to occur in any sequence for any period of time and repeat automatically. The CFX models also have the ability to automatically open and close their door as part of the test cycle if required, exposing the samples to laboratory ambient conditions as well.

A wide range of optional accessories are available for both model types which can extend the testing performance and number of climates and conditions that can be created.

Choose the size to suit your specific application

As the CorroFlex name implies, these corrosion test chambers offer the user flexibility in specifying the perfect size of chamber to suit their application.

The internal width and depth dimensions are variable and can be selected in 0.5m increments.

0.5m 0.5m 0.5m 0.5m 0.5m 0.5m

1.5m 1.0m 1.5m 4.0m 1.5m

Please note: dimensions refer to the internal space of the test chamber.

CorroFlex Specifications

The CorroFlex range of front loading corrosion chambers are available in two model specifications.

	Part Number	Internal Width (mm)	Internal Depth (mm)	Internal Apex Height (mm)	Capacity (Litres)	Capacity (Metres^3)	External Width (mm)	External Depth (mm)	External Height (mm)	Door Width (mm)	Door Height (mm)
1m Deep System	CFX&CFS1600	1500	1000	1245	1600	1.6	2652	1300	2230	1176	791
	CFX&CFS2200	2000	1000	1245	2200	2.2	3152	1300	2230	1276	791
	CFX&CFS2700	2500	1000	1245	2700	2.7	3652	1300	2230	2276	791
	CFX&CFS3300	3000	1000	1245	3300	3.3	4152	1300	2230	2776	791
	CFX&CFS3800	3500	1000	1245	3800	3.8	4652	1300	2230	3276	791
	CFX&CFS4400	4000	1000	1245	4400	4.4	5152	1300	2230	3776	791

	Part Number	Internal Width (mm)	Internal Depth (mm)	Internal Apex Height (mm)	Capacity (Litres)	Capacity (Metres^3)	External Width (mm)	External Depth (mm)	External Height (mm)	Door Width (mm)	Door Height (mm)
1.5m Deep System	CFX&CFS2400+	1500	1500	1280	2400	2.4	2652	1800	2230	1176	791
	CFX&CFS3200+	2000	1500	1280	3200	3.2	3152	1800	2230	1276	791
	CFX&CFS4000+	2500	1500	1280	4000	4	3652	1800	2230	2276	791
	CFX&CFS4800+	3000	1500	1280	4800	4.8	4152	1800	2230	2776	791
	CFX&CFS5600+	3500	1500	1280	5600	5.6	4652	1800	2230	3276	791
	CFX&CFS6400+	4000	1500	1280	6400	6.4	5152	1800	2230	3776	791

CorroFlex

Key features to all models

- Front loading system for ease of loading large/ heavy test samples in a wide range of shapes and sizes.
- High strength GRP panel front door available in 9 standard colours with windows for viewing samples during testing.
- Pneumatically operated door for ease of opening and closing (door slides up to close and down to open).
- Interior illumination fitted as standard.
- High load capacity mesh racking supplied as standard.
- Large external, portable salt solution tank with wheels, for ease of access to a water source, and an integral drain system for ease of cleaning.
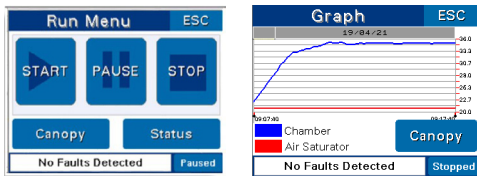- Exterior shell is fully resistant to corrosion.

Mesh racking for Ascott CorroFlex

Large portable salt solution tank

CorroFlex **CFS** key features

- True colour 3.5" Touch-screen controller interface, for ease of programming and control, with graphical display of temperature.

- Centrally located viewing window/s for good visual access to chamber interior and test samples when door closed.
- Timed canopy lock and purge of the chamber interior with fresh air after testing and before the chamber is opened, preventing corrosive salt fog escaping.
- Peristaltic pumping system for precise control and delivery of the salt solution.
- Chamber heated by externally mounted heater mats, protecting them against damage from the corrosive climate inside the chamber, and ensuring uniform heat distribution inside the chamber.
- Base castors and integrated fork lift truck runners, for ease of transportation.
- Calibration certificate.
- Consumables spares kit.
- Easily accessible salt spray atomizer(s) in transparent, durable acrylic with integral filter, for ease of maintenance.
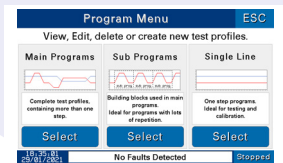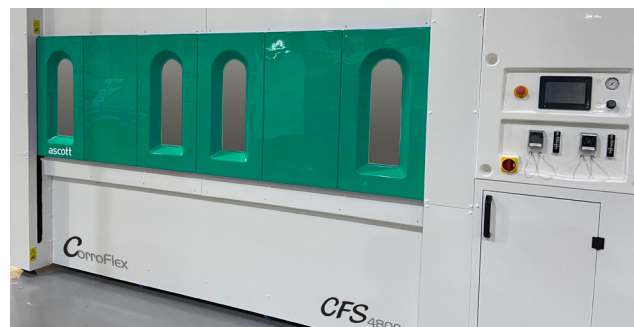
CorroFlex **CFX** key features

CFX Models have the same features as CFS models plus:

- CFX combines salt spray with other environmental conditions such as controlled humidity, air drying and condensation humidity modes.
- True colour, 7" wide screen WVGA Screen user control interface, using the latest version of our highly intuitive operating software.

- 480p (0.38 megapixel) high resolution icon based interface available in multiple languages for ease of understanding and use.
- Large capacity memory, allowing for extensive customer programs to be stored, 254 main programs of up to 200 steps, 100 sub programmes and 254 single line programs.
- Integrated immersion heater to create condensation humidity, for testing to a wider range of 'modified' salt spray tests.
- Temperature and Humidity monitoring in SCADA using OPC-UA.
- RJ45 communications port enabling the chamber to be wire or wirelessly connected to a local area network (LAN) for logging and remote programming via a computer running optional software.
- A real-time, user configurable 'clock' to enable different test samples to be batched and have their exposure time monitored separately, with alarms to warn when a pre-set test period has been completed.

Ascott Salt Spray Atomiser

Ascott CFX Control Panel

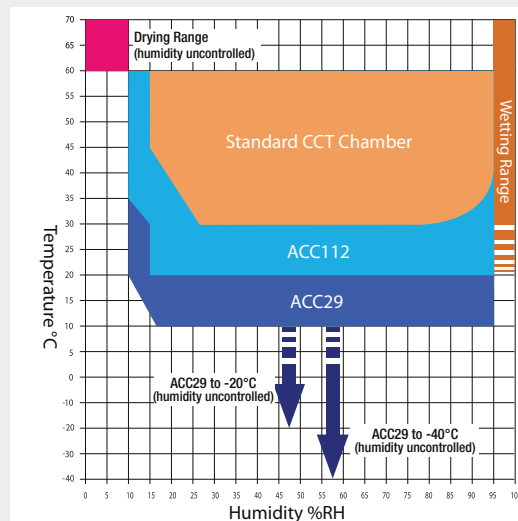*Ascott Corroflex CFS4800+ Salt Spray Chamber*

CorroFlex Chamber Performance

CFS PERFORMANCE

- **Salt Spray Mode**
  Adjustable from ambient to +50°C/+122°F.†

- **Salt Spray Fall-out Rates**
  Adjustable from 0.5 to 2.5 ml per 80 cm^2 per hour.

CFX PERFORMANCE

- **Salt Spray Mode**
  Temperature range - Adjustable from ambient to +60°C/+140°F.
  Salt spray fall-out rates - Adjustable from 0.5 to 2.5 ml per 80 cm^2 per hour.*

- **Wetting Mode**
  Temperature range - Adjustable from ambient to +70°C/+158°F.
  Humidity range - Fixed at 95% - 100% RH.

- **Drying Mode**
  Temperature range - Adjustable from ambient to +70°C/+158°F.

- **Controlled Humidity Mode**
  Temperature/humidity range - See adjacent graph.

†Option ACC03 increases temperature range up to +60°C / +140°F. *Option ACC01 or ACC25 increases the fallout rate upto 5.5ml per 80 cm^2 per hour.

Graph showing standard range of temperature/humidity control for a CCT chamber and how this may be extended by the addition of optional accessories.

Ascott chambers require ambient conditions of 18°C to 23°C to perform in line with standards requirements.

Optional Accessories

Accessories required for CCT tests
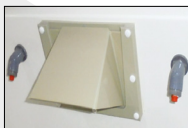
To find the right chamber for your test requirements visit
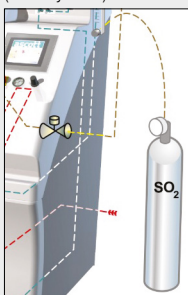**www.ascott-analytical.com**

△ = Factory Fit Only
○ = Available Separately

ACC29 Ref & Hum Control Unit

ACC30 Salt Spray (Vertically Down)

ACC46 Gas Dosing

Optional Facility	Code	Description	Salt Spray (CFS)	Cyclic Chambers (CFX)
Kit for Renault D17 2028 (ECC-1) compliance	ACC01*	A comprehensive kit of all necessary accessories to equip an Ascott chamber for compliance with ECC-1. Different versions of this kit are offered, featuring choices of climate control unit.		▲
Extra Heater Mats	ACC03*	Additional heater mats to enable chambers to be able to achieve 60 Degrees Celcius during the salt spray phase.	▲	
Additional Atomisers	ACC25*	Additional atomisers to allow compliance with VDA 233-102.		▲
Refrigeration & Humidity Control Unit	ACC29*	Air temperature and humidity conditioning unit, capable of refrigerating a cyclic chamber. Available in a variety of options; refrigerating to -20 or -40 degrees, with or without psychrometric humidity measurement and with or without water cooling.		▲
Salt Spray (Vertically Down)	ACC30*	High level, multiple spray nozzles which spray salt water directly down onto the samples under test. Spray time and duration are both user programmable. A separate holding tank holds salt water at ambient temperature. Required by SAEJ2334 and some GM tests.		▲
Water Fog Humidity Generation	ACC32*	Provides high humidity conditions (95 -100% RH) by spraying water as a fog. Includes an additional reservoir for water, fog atomizer(s) and associated pumping equipment.		▲
Wall wash	ACC42*	A water spray system to automatically wash the internal walls of the chamber with water. Both wash time and duration are user programmable. Requires the chamber to be connected to a continuous pressurized water supply of suitable quality and temperature.		▲
SO2 Gas Dosing	ACC46*	Designed to meet the requirements of ASTM G85 annex A4, this optional accessory comprises of a chamber mounted dispersion tube, through which SO2 gas is introduced, at a user adjustable rate and for a programmable duration. **Note:** The provision of the SO2 gas cylinder and connector are the users responsibility and are not included as part of this option. The ACC46 is not suitable for use with options: ACC01, ACC10, ACC20, ACC34/INTERFACE, ACC92.		▲

*Exact part number dependent on chamber size.

Optional Accessories

External Service Utilities

△ = Factory Fit Only
○ = Available Separately

ACC06/1 Water Deioniser System (Small)

ACC20 Waste Water Trough & Pump

ACC59/1 Salt Solution Reservoir (80L)

ACC59/13 Salt Solution Tub With Lid

ACC92/3 Exhaust Salt Scrubber (without circulation pump)

Optional Facility	Code	Description	Salt Spray (CFS)	Cyclic Chambers (CFX)
Air Compressor	ACC04/2	A large free standing compressor, to provide a continuous supply of clean, dry and oil free compressed air, to enable the chamber to function without requiring connection to a local compressed air supply. • Electrical supply: 220-240VAC single phase, 50Hz	●	●
Water Deioniser System (Large)	ACC06/3	To provide water of suitable purity for topping up a salt spray/cyclic corrosion chamber air saturator, and for making up salt solution to be sprayed. Requires connection to a continuous mains water supply of maximum pressure 5.0 bar. This system comprises of a regenerable cylinder deioniser and an electronic conductivity indicator. Must be regenerated or replaced when exhausted. Life expectancy approx. 4400 Litres / 1162.3 US Gal.	●	●
Waste Water Trough & Pump	ACC20	Where a floor level drain connection is unavailable this option provides a holding tank into which the chamber drain outlet is terminated. When full, waste water is automatically pumped to an existing remote drain/effluent tank, up to 10m/32ft horizontally & 3m/10ft vertically from the chamber. **Note:** Not suitable for use with option ACC46.	△	△
Chamber installation kit	ACC58*	3M drain / 9.8 ft / exhaust tubing with a selection of couplers, and 3M / 9.8 ft / compressed air hose with hose clips.	●	●
Deluxe Salt Solution Resevoir (Small)	ACC59/1	An 80 Litre / 21 US gal capacity salt solution reservoir, with a graduatedscale in litres, a hinging lid for ease of filling and cleaning and mounted on wheels for mobility.	●	●
	ACC59/2	As ACC59/1, but with air agitation.	●	●
	ACC59/3	As ACC59/1, but with low level alarm.	△	△
	ACC59/4	As ACC59/1, but with low level alarm and air agitation.	△	△
Deluxe Salt Solution Resevoir (Medium)	ACC59/5	A 115 Litre / 30 US gal capacity salt solution reservoir, with a graduated scale in litres, a hinging lid for ease of filling and cleaning and mounted on wheels for mobility. 115 Litres / 30.3 US Gal.	●	●
	ACC59/6	As ACC59/5, but with air agitation.	●	●
	ACC59/7	As ACC59/5, but with low level alarm.	△	△
	ACC59/7	As ACC59/5, but with low level alarm and air agitation.	△	△
Deluxe Salt Solution Resevoir (Large)	ACC59/9	A 160 Litre / 42.2 US gal capacity salt solution reservoir, with a graduated scale in litres, a hinging lid for ease of filling and cleaning and mounted on wheels for mobility. 160 Litres / 42.2 US Gal.	●	●
	ACC59/10	As ACC59/9, but with air agitation.	●	●
	ACC59/11	As ACC59/9, but with low level alarm.	△	△
	ACC59/12	As ACC59/9, but with low level alarm and air agitation.	△	△
Basic Salt Solution Reservoir (Small)	ACC59/14	Basic 73L / 19.2 US gal salt solution reservoir with lid. 1 supplied as standard with each 450L chamber.	●	●
Basic Salt Solution Reservoir (Medium)	ACC59/13	Basic 90L / 23.7 US gal salt solution reservoir with lid. 1 supplied as standard with each 1000L chamber and over.	●	●
Exhaust salt scrubber (without circulation Pump)	ACC92/1	Removes highly corrosive salt fog from the chamber exhaust where it is not convenient or possible to vent to the outside of the building. Removes salt through condensation and by spraying with water. **Note:** Not suitable for use with option ACC46.	●	
Exhaust salt scrubber (without circulation Pump)	ACC92/2	Removes highly corrosive salt fog from the chamber exhaust where it is not convenient or possible to vent to the outside of the building. Removes salt through condensation and by spraying with water. **Note:** Not suitable for use with option ACC46.		●
Exhaust salt scrubber (with circulation Pump)	ACC92/3	Removes highly corrosive salt fog from the chamber exhaust where it is not convenient or possible to vent to the outside of the building. Removes salt through condensation and by spraying with water. **Note:** Not suitable for use with option ACC46.	●	
Exhaust salt scrubber (with circulation Pump)	ACC92/4	Removes highly corrosive salt fog from the chamber exhaust where it is not convenient or possible to vent to the outside of the building. Removes salt through condensation and by spraying with water. **Note:** Not suitable for use with option ACC46.		●

Optional Accessories

Additional Chamber Fittings

To find the right chamber for your test requirements visit
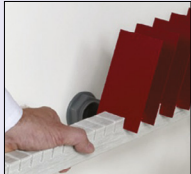**www.ascott-analytical.com**

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ACC05/1 Guardian Angel System - Standard LED Version

ACC10/1 35mm Entry Port

ACC16 Slotted Sample Racks

Optional Facility	Code	Description	Salt Spray (CFS)	Cyclic Chambers (CFX)
Guardian Angel System - Standard LED Version	ACC05/1	Modular traffic light alarm system fitted to the top of chambers, to provide visual notification of chamber status.		△
Guardian Angel System - LED Version, with USB Connectivity	ACC05/2	Modular traffic light alarm system fitted to the top of chambers, to provide visual notification of chamber status, with USB connectivity for remote monitoring.		△
Guardian Angel System - LED Version, with Ethernet Connectivity	ACC05/3	Modular traffic light alarm system fitted to the top of chambers, to provide visual notification of chamber status, with Ethernet connectivity for remote monitoring.		△
Guardian Angel System - USB add on only	ACC05/4	Retrofit add on for Guardian Angel, allows addition of USB connectivity for remote monitoring.		●
Guardian Angel System - Ethernet add on only	ACC05/5	Retrofit add on for Guardian Angel, allows addition of Ethernet connectivity for remote monitoring.		●
Entry ports	ACC10/ see below ACC10/1 ACC10/2*	Sealable entry port through the chamber's left hand wall to enable the connection of external equipment. 35mm/1.37" diameter 110mm/4.33" diameter **Note:** Not suitable for use with option ACC46.	△	△
Fixed angle slotted sample racks	ACC16*	Each slot is 3mm/1/8" wide and a fixed angle of 15 degrees from vertical. Typically used for testing standard panels/coupons.	●	●
General Motors Test Plate Kit	ACC16/6	10 specially designed Polycarbonate test plate holders and nylon fixings, for mounting General Motors test plates in accordance with the requirements of GMW14872 - in an existing Ascott slotted sample rack, ref ACC16. **Note:** The slotted sample rack is not included.	●	●
Rod type sample racks	ACC17*	For suspending small test samples hung beneath, or supporting larger test samples placed on top.	●	●
Manual filling air saturator	ACC66	Enables air saturator to be manually filled and periodically topped up with water by hand as an alternative to the automatic fill and top up provided as standard. **Note:** Adds 75mm/3" to chamber external width.	△	△
Compressed air coupling	ACC94	A control panel mounted, quick release coupling for connection of an air pressure gauge (not supplied) for checking/calibrating the chamber's air pressure gauge.	△	△

*Exact part number dependent on chamber size.

Sample preparation and recording

△ = Factory Fit Only
○ = Available Separately

ACC49 Sikkens Scratch Tool

ACC100 Hand-held Salinity Refractometer

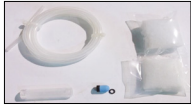ACC108 Fallout Measuring Kit

ACC121 Data Logging Software

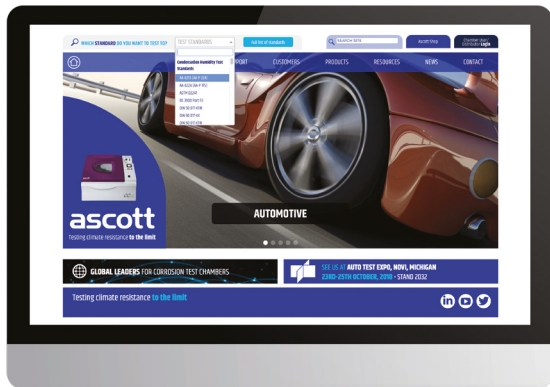| Optional Facility	Code	Description	Salt Spray (CFS)	Cyclic Chambers (CFX)
Hand held pH meter	ACC11	Digital pH meter, for measuring the pH of salt solution fallout over range 0-14 pH with a resolution of 0.01 pH.	●	●
Hand held temperature and humidity probe	ACC28	A hand-held thermo-hygrometer for checking the chamber temperature and humidity. Range: -40 to +85°C & 0 to 100% RH. **Note:** Requires any size entry port (see ACC10).	●	●
Re-transmission of temperature and humidity signals	ACC36	Re-transmission of chamber temperature & humidity as 2 x 0-10VDC signals via external socket. For remote data logging.		△
Sikkens® Scratch Tool	ACC49	This scratching tool is specially designed to perform scribes on coated steel panels or test substrates prior to salt spray testing for example as described in ISO 9227. As standard, the scratch tool is supplied with 3 tungsten carbide cutting blades; • 1 blade @ 0.5mm thick, the Daimler Chrysler version • 1 blade @ 1mm thick, the original Sikkens® version • 1 blade @ 2mm thick, requirement for 2018 update of ISO 12944-6.	●	●
Temperature data logger	ACC50	A battery powered, chamber mounted temperature data logger. Continuously records chamber air temperature. Logs can be downloaded to a computer with appropriate software (provided).	△	△
Hand-held salinity refractometer	ACC100	A drop of the salt solution is placed on the viewing window, and its salinity read against a scale, graduated in % sodium chloride, to give an accurate reading in the range 0 to 28%.	●	●
Fallout measuring kit	ACC108	Comprises of 4 x 100ml measuring cylinders and 4 x 100mm funnels, for manually collecting and measuring salt spray fall-out inside the chamber, during salt spray testing.	●	●
SIM card connectivity	ACC114	A SIM card reader, integrated into the chamber. Can be configured to send SMS messages to user nominated cellular phones, when specified alarm conditions arise. **Note:** Excludes SIM card which user must procure and fit.		△
Data Logging Software	ACC121	This software allows remote logging of chamber variables and editing of chamber programs. The software communicates via an Ethernet network adaptor from chamber to PC / Laptop. The Workstation / Laptop also requires a USB port to load the software and to accommodate the Dongle that is needed to run this software.		●
CR4 Grade Steel Corrosion Test Coupon	ACC131	CR4 Steel Test panels are used to check the reproducibility and repeatability of the test results for Salt Spray or Cyclic Corrosion Test Chambers, before being used to run ISO 9227 or VDA 233-102.	●	●

Service and Spares

△ = Factory Fit Only
◯ = Available Separately

ACC57/2 12 Month
Consumables Spares Kit

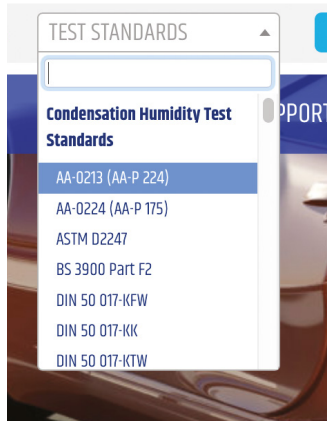| Optional Facility	Code	Description	Salt Spray (CFS)	Cyclic Chambers (CFX)
12 Month Consumables Kit	ACC57/1	A kit of consumables sufficient for operating an Ascott chamber for up to 1 year. Note: a consumables spares kit is supplied as standard with every new chamber.	●	●
12 Month Consumables Kit	ACC57/2	A kit of consumables sufficient for operating an Ascott chamber for up to 1 year. Note: a consumables spares kit is supplied as standard with every new chamber.	●	●
36 Month Service & Spares Kit	ACC12/2	An initial kit of spare parts for servicing and maintaining a chamber for up to 3 years from its first use.	●	●
72 Month Service & Spares Kit	ACC12/3	A comprehensive kit for servicing and maintaining a chamber for up to 6 years from its first use, or its last service.	●	●

For everything you need to know

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Find the exact chamber for your requirements

- Select a standard to test to, and find the perfect Ascott chamber

TEST STANDARDS

Condensation Humidity Test Standards

AA-0213 (AA-P 224)
AA-0224 (AA-P 175)
ASTM D2247
BS 3900 Part F2
DIN 50 017-KFW
DIN 50 017-KK
DIN 50 017-KTW

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Find details of the latest corrosion test standards

- Summary details of well over a 100 key corrosion test standards
- Visit www.ascott-analytical.com/ ...and select the standard from the drop down menu

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- Optional accessories

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- **Salt Spray** Test Chambers
- **Cyclic Corrosion** Test Chambers
- **Atmosfär** Test Chambers

www.ascott-analytical.com/ how-chambers-work/

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Ascott are represented worldwide by a network of authorized distributors/agents, who have been fully trained in all aspects of our products, including technical support and maintenance. Please contact us for further details.

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30 YEARS OF INNOVATION

ascott
Corrosion Test Chambers

Testing climate resistance **to the limit**