



Atmosfär[®]

Fully automatic laboratory-accelerated atmospheric corrosion testing to:

- Ford CETP 00.00-L-467
- Volvo VCS 1027,149 (ACT-1)
- Volvo VCS 1027,1449 (ACT-2)
- Volvo STD 423-0014
- Volvo STD 1027,1375
- ISO 16701

Atmosfär at'møs-fær, n. is a Swedish word derived from the Greek words atmos (steam) and sfaira (sphere) and is used to describe the surrounding environment of a product or a place.

ascott

testing corrosion resistance to the limit

Atmosfär®

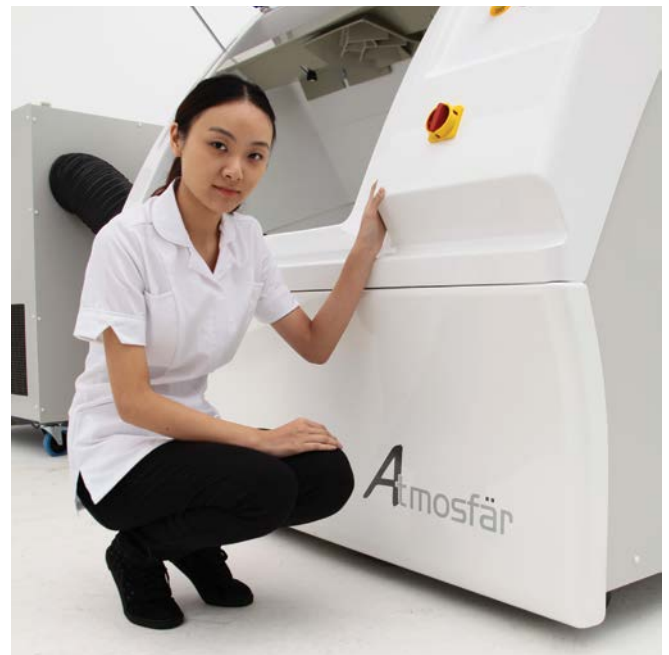


The Atmosfär test chamber has been specifically designed to facilitate fully automatic testing in accordance with highly demanding laboratory-accelerated corrosion tests, which have become increasingly popular, **particularly in the automotive industry**. These tests are cyclic in nature and comprise of exposure under controlled and varying conditions of temperature and humidity, with intermittent spraying of a salt solution.

Such testing can be used to:

- (a) develop and qualify new corrosion resistant products,
- (b) develop new pre-treatments and finishing processes,
- (c) select materials and,
- (d) perform quality control of the finished product.

In addition, Atmosfär chambers have been designed so that a wide variety of other corrosion tests can be conducted within them.



Atmosfär designed for more standard tests

Flexibility – due to the innovative design, the oscillating spray bar and air delivery system can all easily be removed to enable the chamber to comply with many other popular corrosion test standards.

Testing to:

Ford CETP 00.00-L-467

Volvo VCS 1027,149 (ACT-1)

Volvo VCS 1027,1449 (ACT-2)

Volvo STD 423-0014

Volvo STD 1027,1375

ISO 16701

Atmosfär also complies with other corrosion test standards including:

SALT SPRAY/MIST/FOG CORROSION TESTING
ASTM, DEF/MIL, IEC, ISO, JIS and others

CYCLIC CORROSION TESTING (CCT)
GM, ISO, JIS, P-VW, SAE, VDA and others

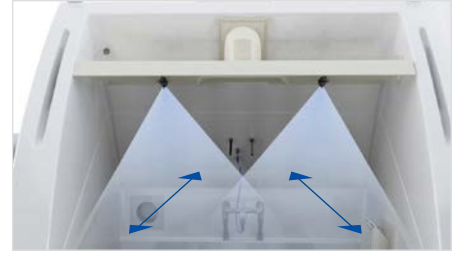
For more information about the other test standards complied with by the Atmosfär chamber, please refer to our dedicated Atmosfär website:
www.atmosfar.eu.



Atmosfär key features

Oscillating spray bar

- Set high up in the center of the chamber, above the test samples.
- Multiple spray nozzles deliver the salt solution spray directly and uniformly on to the test samples beneath.
- Spray bar nozzles oscillate backwards and forwards inside the chamber.
- Fan-shaped spray pattern, in-line with the spray bar, with carefully controlled overlaps ensures test samples are 'swept' with a uniform spray of salt solution from above,
- All plastic, corrosion resistant construction, running in glass bearings.
- Driven by a magnetic coupling to maintain the integrity of the chamber.
- Easily removed to swiftly convert the chamber for compliance with other corrosion tests, including conventional salt spray, if required.



Separate air conditioning unit

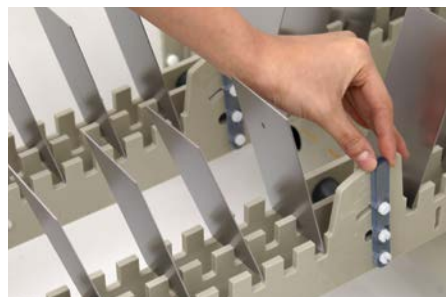
- Coupled to the Atmosfär chamber by insulated flexible hoses.
- The air conditioning unit can be located behind or to the left of the Atmosfär chamber, depending on available space.
- Provides the source of precisely controlled temperature and humidity conditioned air during the climate controlled phase of testing. Mechanical refrigeration enables rapid rates of change of temperature and humidity inside the chamber
- Also extends the range of operation below normal ambient conditions (down to $-20^{\circ}\text{C}/-4^{\circ}\text{F}$) should the need arise.



Adjustable sample racks

- Accommodates variable thickness test panels (up to 6mm/0.25" thick).
- User adjustable angles from vertical up to 20° from vertical (depending on test panel thickness) using a hand operated lever, graduated with the angle of inclination.
- Manufactured from inert plastic materials.
- Open-form design does not impede the flow of free air around the samples during testing.
- Designed minimizes opportunities for standing moisture to collect.
- A convenient, removable handle is provided to enable safe carrying of the racks when loaded with samples.

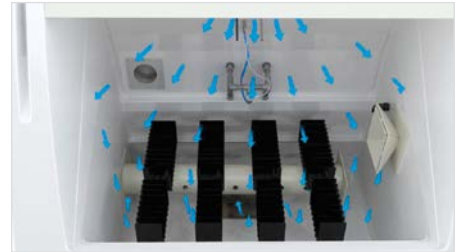
Note: The adjustable racks are designed to be accommodated at the lower sample rack position inside the chamber. A set of non-adjustable slotted sample racks are also supplied - for use when conventional salt spray testing at the upper sample rack position, if required.



Atmosfär key features

High velocity vertical air-flow

- High velocity air – pre-conditioned by a separate air conditioning unit, is delivered to the chamber and passes vertically through the test samples, evenly, from top to bottom during the climate controlled testing phase.
- High air flow and uniform distribution, coupled with open form sample support racks, ensures homogeneous distribution of temperature and humidity controlled air throughout the chamber and test samples.



Air system collection tube



Magnetically coupled drive system

- No drive shaft passing through the wall of the chamber, so no risk of highly corrosive salt solution leaking.
- Much safer than a directly driven shaft since it will simply stall should the spray nozzles meet with any obstruction.
- Easily removed for swiftly converting the chamber for conventional salt spray testing.



Magnetic drive disc on the end of the removable oscillating spray bar



Atmosfär quickly and easily converts

Innovative design, the oscillating spray bar and air delivery system are quickly and easily removed to enable the chamber to comply with other CCT test standards.

Atmosfär also complies with other corrosion test standards including:

SALT SPRAY/MIST/FOG CORROSION TESTING
ASTM, DEF/MIL, IEC, ISO, JIS and others

CYCLIC CORROSION TESTING (CCT)
GM, ISO, JIS, P-VW, SAE, VDA and others

1

The air system collection tube is easily removed.



2

The combined air dispersal and oscillating spray bar unit simply lifts out.

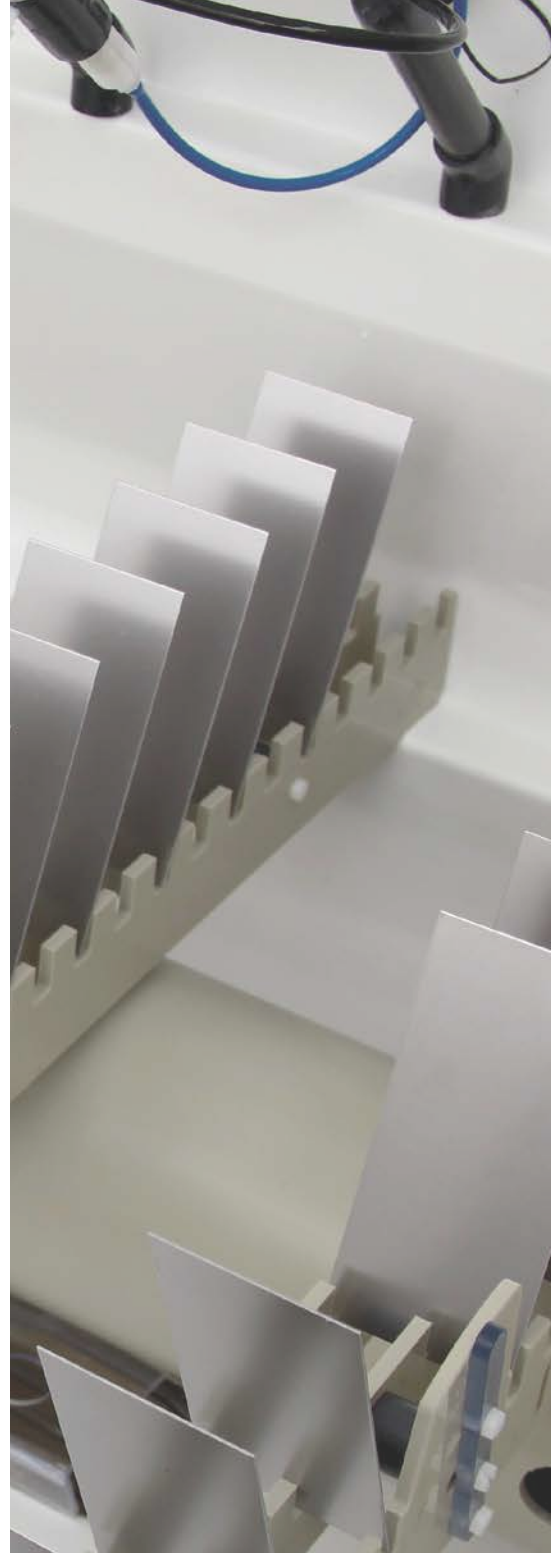


3

The Atmosfär chamber is now ready for other types of corrosion test.



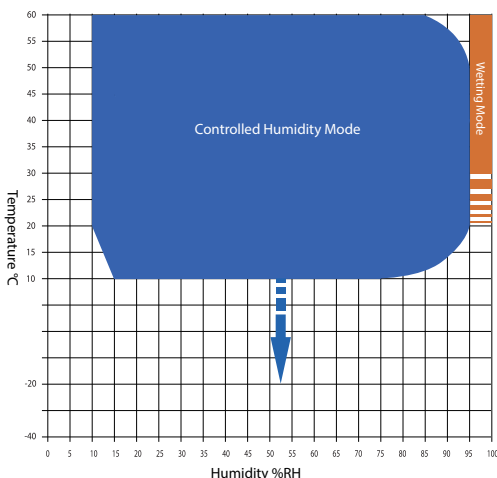
Specifications



Test chamber performance

Wetting mode	Temperature range Humidity range	Adjustable from ambient to +60°C/+140°F Fixed at 95% - 100% RH
Oscillating salt spray mode	Temperature range Salt spray fall-out rates	Adjustable from ambient to +50°C/+122°F Adjustable from 5 to 10 Ltrs/m ² per hour
Conventional salt spray mode	Temperature range Salt spray fall-out rates	Adjustable from ambient to +50°C/+122°F Adjustable from 0.5 to 2.5 ml per 80 cm ² per hour
Drying mode	Temperature range Humidity range	Adjustable from ambient to +70°C/+158°F Uncontrolled
Controlled humidity mode	Temperature/humidity range	See graph below

Chamber capacity	1300 Ltrs/45.9 cu.ft
Loading threshold	800mm/31.5"
Chamber external dimensions, max	2025 x 1205 x 1850mm (80.0" x 47.5" x 72.8") w x d x h
Chamber internal dimensions, max with oscillating spray system, etc. in place	1300 x 980 x 1220mm (51.2" x 8.5" x 48.0") w x d x h
Chamber internal dimensions, max with oscillating spray system, etc. removed	1300 x 980 x 1500mm (51.2" x 8.5" x 59.0") w x d x h
Salt solution reservoir ext. dimensions	900 x 620 x 830mm (35.4" x 24.5" x 32.7") w x d x h
Salt solution reservoir capacity	Mixed as required automatically, when connected to a suitable continuous water supply (maximum instantaneous capacity 35Ltrs/9.2 US gal.).
Adjustable slotted sample racks	1 set of 8 racks, each has 24 slots which are adjustable for width (up to 6mm/0.25") and angle (up to 20° from vertical) and overall length to suit the lower sample rack mounting position inside the chamber. These are for use when testing with the oscillating salt spray system.
Non-adjustable slotted sample racks	1 set of 8 racks, each rack has 46 slots with a fixed width (3mm/0.12") and fixed angle (15° from vertical), and overall length to suit the upper sample rack mounting position inside the chamber. These are for use when testing with the conventional salt spray atomizer.
Chamber construction	Glass reinforced plastic, Polypropylene & PVC parts
Canopy color	9 standard colors to choose from
Electricity supply	Two 3-phase electrical supplies are required (one for the chamber and one for the separate air conditioning unit) and one single phase electrical supply for the separate salt solution reservoir. The voltage (VAC) and frequency (Hz) are dependent on country/region of installation (to be confirmed at the time of ordering).
Water	Deionized/distilled for topping up air saturator and making salt solution. The air saturator and salt solution reservoir both require separate connections to a continuous, pressurized water supply of 0.5–5.0 bar (7.3–73 psi).
Air	Clean dry & oil free compressed air, 4.0 to 6.0 bar (58-87psi) with 240 Ltrs (8.5cu.ft) per minute flow. Two separate supplies are required, one for the chamber and one for the separate salt solution reservoir.
Exhaust	3m (10ft) exhaust pipe is provided which should be terminated outside building
Drain	3m (10ft) drain pipe provided which should be terminated into floor level drain
Operating environment conditions	+15 to +30°C (+59 to +86°F), 85% max RH (non-condensing) when chamber is used with air conditioning unit. +15 to +23°C (+59 to +73°F) & 50% max RH when used without the air conditioning unit. The separate air conditioning unit requires space around it and a free flow of such ambient air.



Operating range graph

Optional Accessories

To enable users to customize their Atmosfär chambers a complete range of optional accessories is available. Full details are available from the dedicated Atmosfär website www.atmosfar.eu.



The separate, free standing salt solution reservoir will automatically mix and continuously generate sufficient salt solution, to meet the requirements of Ford CETP 00.00-L-467, Volvo VCS 1027,1449 (ACT-2), Volvo VCS 1027,149 (ACT-1), Volvo STD 423-0014, Volvo STD 1027,1375 & ISO 16701 – providing it is connected to the external service utilities listed and periodically topped-up by hand with salt and buffer solutions.

All Ascott chambers are  marked.

It is the policy of Ascott Analytical Equipment Ltd to protect its products by means of patents, registered trademarks and registered designs. The information contained herein was correct at time of going to press and is subject to change without notice.

© 2013 Ascott Analytical Equipment Ltd

Issue A

Local representative/supplier

ascott

North American Office

Ascott Analytical Equipment
39830 Grand River Avenue, Suite B3
Novi, MI 48375, USA
phone: +1 248 306 0394
fax: +1 248 306 0396
email: info@ascott-analytical.com
web: www.ascott-analytical.com

European Office

Ascott Analytical Equipment Limited
Unit 6 Gerard, Lichfield Road Industrial Estate
Tamworth, Staffordshire, B79 7UW, Great Britain
phone: +44 (0) 1827 318040
fax: +44 (0) 1827 318049
email: info@ascott-analytical.com
web: www.ascott-analytical.co.uk