CORROSION Test Cabinets
**Lab Corrosion Testing Equipment**

**Innovative Laboratory Corrosion Testing**

Our line of lab corrosion testing equipment is designed to help our customers achieve their ultimate goals – a quality product, a competitive edge, a faster time to market.

Testing should replicate the “worst case” environmental conditions that cause corrosion, leading to the selection of materials with the best service life. Atlas offers three models of corrosion cabinets, one for each approach to corrosion testing:

- **Atlas SF** — Traditional Salt Fog and Humidity Testing
- **Atlas BCX** — Basic Cyclic Corrosion Testing
- **Atlas CCX** — Advanced Cyclic Corrosion Testing

Atlas cabinets are “backward compatible.” That is, a CCX can also perform basic cyclic and traditional salt fog tests, and a BCX can also perform traditional salt fog tests.

**Atlas Products and Services**

Atlas’ mission is to help our customers worldwide provide the most reliable and durable product solutions through our combined experience and expertise in weathering instruments and testing, custom capabilities, consulting and global support. In addition, our accelerated and natural weathering capabilities allow testing of materials along every step of the product development cycle – from small samples of materials, to complete product components, to entire end products.

**Worldwide Technical Support**

One of the benefits of working with the global leader in weathering is the availability of a highly trained, experienced technical service staff. Just about anywhere you are in the world, there is an Atlas technical service representative nearby.

**A2LA Accredited Lab**

Atlas calibration services are accredited by A2LA to meet ISO 17025 requirements. This includes calibrations performed on-site using state-of-the-art temperature and relative humidity measuring equipment, as well as calibrations of equipment for both Atlas and competitors’ corrosion cabinets by our experienced, factory trained technical service staff.
The CCX is the most advanced, sophisticated and versatile laboratory corrosion testing cabinet. With installed options, it can replicate up to 15 environmental conditions, placing powerful capabilities in the hands of the user.

**Test conditions replicated in the CCX**: 

**Basic Cyclic Steps**
- Salt (electrolyte) fog at saturated RH
- Water fog at saturated RH
- Dry-off
- Dwell
- Non-condensing humidity (i.e. “moist heat”)
- Direct spray of salt (electrolyte solution)
- High temperature, up to 71º C
- SO₂ injection

*Some test standards or testing capabilities may require installed options.

**Advanced Cyclic Steps**
- Salt and water fog, switched automatically
- Controllable humidity, ambient to saturated RH
- Automatic immersion
- Second electrolyte for fogging or direct spray
- Automatic ambient temperature and RH
- Very low temperature, to –30º C
- Very high temperature, to 90º C
CCX – Advanced Cyclic Corrosion Cabinet

CCX – Fiberglas® Cabinets for Advanced Cyclic Corrosion Tests

Advanced cyclic tests are used to qualify a specific coating or material for a wide range of end uses, to quickly qualify a coating or material on a pass-fail basis, and to predict service life or determine the probability of corrosion of a specific material.

- Meets the following technical standards: SAE J2334, ASTM G85 A4, Nissan CCT III/V, VW1210, Ford BI 123-01, Ford CETP L-467, GMW 14872 as well as automotive CCT, immersion and variable humidity. The CCX will also perform all basic cyclic tests as well as all traditional salt fog (spray) and humidity tests.

- Available in five standard sizes from 20 ft³ to 110 ft³ (565 L to 3115 L).

- Custom sizes and optional features are available for specialized test applications.

Clear Cover

- Allows viewing of test conditions without opening the cover.
- The cover angle prevents dripping onto samples.

60 Gallon / 227 Liter Solution Reservoir

- The largest standard solution reservoir available for longer unattended testing.
- Larger custom reservoirs available upon request.
Corrosion Cabinet

Widest Temperature Range
Controls temperature in the exposure zone from ambient to 71°C and optional low/high temp kit extends range from -30°C to 90°C

Automatic Operating Cycles
Pre-installed test standards for salt (electrolyte) fog, water fog, dry-off, dwell and optional cycles — any combination

Widest Temperature Range
Controls temperature in the exposure zone from ambient to 71°C and optional low/high temp kit extends range from -30°C to 90°C

Options

- Automated Immersion System
  Immereses samples in place automatically

- Adjustable, Controllable RH
  Setpoint-adjustable RH from lab ambient to saturated

- Very High Temperature
  Up to 90°C

- Very Low Temperature
  As low as -30°C

- SO₂ Injection System
  Simulates industrial pollution

- Solution Spray
  Direct impingement of samples with choice of electrolytes

- Air-Actuated Cover Lifters
  Opens cover to automatically achieve lab ambient temperature and humidity

- Pass-Through Mechanical and Electrical Ports
  Allows samples to be tested under load; outputs can be monitored and recorded

CCX Applications:
- Aerospace
- Automotive
- Government
- Military
- Electronics
- Robotics
- Telecommunications
- Paints/ Coatings

Optional Computer Controls
Optional computer-controlled cycles include immersion, controlled humidity, freezing/cooling, very high/very low temperature, spray

UL, CSA
Conformance certificates*

*CE conformance option available
BCX – Basic Cyclic

Features

BCX – Fiberglas® Cabinets for Basic Cyclic Corrosion Tests*

Basic Cyclic Tests are used to qualify a coating or material for a specific end use on a pass-fail basis, or determine the probability of corrosion of a specific material.

- Meets the following technical standards: ASTM G85, ASTM D5894, ISO 11997-2, Prohesion®️, SO₂ Injection, Solution Spray; will also perform traditional salt fog (spray) and humidity tests

- Available in five standard sizes from 20 ft³ to 110 ft³ (565 L to 3115 L)

- Custom sizes and optional features are available for specialized test applications

* Some test standards or testing capabilities may require installed options.

Clear Cover

- Allows viewing of test conditions without opening cover
- Cover angle prevents dripping onto samples

35 Gallon / 132 Liter Solution Reservoir

- The largest standard reservoir for basic cyclic corrosion cabinets for longer unattended testing
- Larger custom reservoirs available upon request
Corrosion Cabinet

Options

For Extended Testing Capabilities

■ Solution Spray
  Direct impingement of samples

■ Air-Actuated Cover Lifters
  Opens cover to automatically achieve lab ambient temperature and humidity

■ SO₂ Injection System
  Simulates industrial pollution

■ Pass-Through Mechanical and Electrical Ports
  Allows samples to be tested under load; outputs can be monitored and recorded

■ Highest Operating Temperature
  Controls temperature in the exposure zone from ambient to 55º C; optional high temp kit extends range to 71º C

■ Automatic Operating Cycles
  Salt (electrolyte) fog, dry-off, purge, dwell and optional cycles – any combination, any length of time

■ Operator Touch Screen
  Easy to use controls with pre-installed test programs

■ CE, UL, CSA
  Conformance certificate

BCX Applications:

Aerospace  Government  Research
Appliances  Marine Craft  Telecommunications
Automotive  Paints/Coatings
SF – Salt Fog Corrosion Cabinet

SF – Steel Cabinets for Traditional Salt Fog (Spray) and Humidity Tests

SF Cabinets are used to quickly qualify a coating or material on a pass-fail basis, or determine the probability of corrosion of a specific material.

- ASTM B117, ASTM D1735, ISO 9227, ISO 11997-1, JIS Z 2371, GM 4465P, CASS, SWAAT, Acetic Acid Salt Spray, and many others
- Available in six standard sizes from 15 ft³ to 130 ft³ (425 L to 3680 L)
- Custom sizes for special testing needs available upon request

* Some test standards or testing capabilities may require installed options.

- Dual Digital Temperature Controllers
  Ensures precise temperature in exposure zone and bubble tower; each controller is independently alarmed

- 55 Gallon / 208 Liter Solution Reservoir
  The largest standard reservoir for salt fog (spray) and humidity cabinets for longer unattended testing; includes mixing system

- Highest Operating Temperature
  Controls temperature in the exposure zone from ambient to 50º C; optional high temp kit extends range to 65º C

Options for Extended Testing Capabilities

- Humidity Test Kit
  For ASTM B380 and D2247, FLTM BQ4-2, Corrodkote, fungus and other tests requiring non-condensing humidity

- SO₂ Injection System
  Simulates industrial pollution

- Precision Control Package
  Allows basic cyclic test operation (fog/purge) according to ASTM G85, NADC, Prohesion®, ISO requirements

- Pass-through Mechanical and Electrical Ports
  Allows samples to be tested under load; outputs can be monitored and recorded

SF Applications:

- Architectural
- Chrome Plating
- Fasteners
- Government
- Military
- Laminated/Coated Plastics
- Paintes/Coatings
- Steel Structures
Walk-In Corrosion Testing Chambers

Testing of assembled components provides an advantage for evaluating the combination of potentially incompatible materials. An Atlas Walk-In testing chamber allows testing of oversized samples and assembled components, such as motorcycles, electrical panels for outdoor use, household appliances, vehicle seats, pressurized cylinders, bicycles, military items, ranch and farm machinery, snowmobiles, window/door assemblies, etc.

The Atlas Walk-In chamber will perform all traditional salt fog and humidity tests: ASTM B117 and D1735, CASS, ISO 9227, SWAAT, JIS Z 2371, etc.

When equipped with optional microprocessor-based cycling controls, the Walk-In chamber becomes a large scale "basic cyclic" (BCX) cabinet, and can perform Prohesion® (ASTM G85 Annex 5), and other wet:dry (purge) tests.

When equipped with computer controls, the Walk-In chamber becomes a large scale "advanced cyclic" (CCX) chamber, capable of performing SAE J2334, GMW 14872, and many other cyclic tests.

Other SF Options

- **Shutdown Timer**
- **External Condensate Collection Kit**
- **Low or High Profile Design for Specific Testing Applications**
- **Heavy Duty Support Shelves**

Plexiglas® Window

Allows viewing of test conditions without opening door

Raised Floor

For improved drainage

Sloped Ceiling

Prevents dripping of condensation onto samples
# Corrosion Test Cabinet Features

<table>
<thead>
<tr>
<th>Feature</th>
<th>SF</th>
<th>BCX (Std Controls)</th>
<th>CCX (Std Controls)</th>
<th>CCX (Computer Controls)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Durable steel cabinet, exposure zone lined with uniform PVC sheets</td>
<td>●</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Reinforced Fiberglas® cabinet, exposure zone lined with gel coat</td>
<td>N/A</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Solution reservoir</td>
<td>208L (55 gal)</td>
<td>132L (35 gal)</td>
<td>227L (60 gal)</td>
<td>227L (60 gal)</td>
</tr>
<tr>
<td>Solution mixing system</td>
<td>●</td>
<td>optional</td>
<td>optional</td>
<td>optional</td>
</tr>
<tr>
<td>Exposure zone heated by water jacket</td>
<td>●</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Exposure zone heated by titanium rod heater</td>
<td>N/A</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Clear cover with water seal</td>
<td>●</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Clear cover with glass front and dual magnetic Santoprene® gaskets</td>
<td>N/A</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Peaked cover prevents dripping onto samples</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Heated humidifying (bubble) tower with air relief valve</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Exposure zone temperature with high temperature option</td>
<td>50° C</td>
<td>55° C</td>
<td>71° C</td>
<td>71° C</td>
</tr>
<tr>
<td>SO₂ injection</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>High voltage kit</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>High capacity oil:water separator</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>External condensate collection system</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Exhaust recirculation system</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Air-actuated cover, automatic ambient</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Solution spray (direct impingement)</td>
<td>N/A</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Power exhaust kit</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Water fog, manual changeover</td>
<td>●</td>
<td>●</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Water fog, automatic</td>
<td>N/A</td>
<td>N/A</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Controlled RH</td>
<td>N/A</td>
<td>N/A</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Automatic retractable housing for RH sensor</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>●</td>
</tr>
<tr>
<td>Immersion</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>LN₂ freezing/cooling to −30° C</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Mechanical refrigeration to −30° C and controlled RH</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

*Opaque cover used on the BCX/CCX9000

- ● Standard
- ■ Optional
### SF Specifications/Dimensions

<table>
<thead>
<tr>
<th>Model</th>
<th>Testing Volume</th>
<th>Exposure Zone Dimensions L x W x H</th>
<th>External Dimensions L x W x H</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF260</td>
<td>420 L (15 ft³)</td>
<td>78cm x 56cm x 99cm (30” x 22” x 39”)</td>
<td>1.07m x 0.97m x 1.52m (42” x 38” x 60”)</td>
</tr>
<tr>
<td>SF500</td>
<td>555 L (20 ft³)</td>
<td>78cm x 74cm x 99cm (30” x 29” x 39”)</td>
<td>1.22m x 1.07m x 1.52m (48” x 42” x 60”)</td>
</tr>
<tr>
<td>SF850</td>
<td>860 L (30 ft³)</td>
<td>114cm x 76cm x 99cm (45” x 30” x 39”)</td>
<td>1.57m x 1.07m x 1.52m (62” x 42” x 60”)</td>
</tr>
<tr>
<td>SF2000</td>
<td>1,930 L (60 ft³)</td>
<td>1.83m x 1.07m x 0.99m (72” x 42” x 39”)</td>
<td>2.44m x 1.37m x 1.60m (96” x 54” x 63”)</td>
</tr>
<tr>
<td>SF3600</td>
<td>2,850 L (100 ft³)</td>
<td>2.36m x 1.22m x 0.99m (93” x 48” x 39”)</td>
<td>3.08m x 1.52m x 1.60m (120” x 60” x 63”)</td>
</tr>
<tr>
<td>SF4200</td>
<td>3,680 L (130 ft³)</td>
<td>3.05m x 1.22m x 0.99m (120” x 48” x 39”)</td>
<td>3.81m x 1.52m x 1.60m (150” x 60” x 63”)</td>
</tr>
</tbody>
</table>

1 Testing volumes shown are actual, usable testing space; neither the space below the heavy-duty bottom supports, nor the space within the angled cover are included in the stated figures.

### BCX Specifications/Dimensions

<table>
<thead>
<tr>
<th>Model</th>
<th>Testing Volume</th>
<th>Exposure Zone Dimensions L x W x H</th>
<th>External Dimensions L x W x H</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCX2000</td>
<td>565 L (20 ft³)</td>
<td>1.27m x 0.74m x 0.63m (50” x 29” x 25”)</td>
<td>1.93m x 0.9m x 1.4m (76” x 35” x 56”)</td>
</tr>
<tr>
<td>BCX3000</td>
<td>850 L (30 ft³)</td>
<td>1.91m x 0.74m x 0.63m (75” x 29” x 25”)</td>
<td>2.46m x 0.9m x 1.4m (97” x 35” x 56”)</td>
</tr>
<tr>
<td>BCX4000</td>
<td>1,130 L (40 ft³)</td>
<td>1.91m x 0.94m x 0.63m (75” x 37” x 25”)</td>
<td>2.46m x 1.1m x 1.4m (97” x 43” x 56”)</td>
</tr>
<tr>
<td>BCX9000</td>
<td>2,550 L (90 ft³)</td>
<td>1.93m x 1.14m x 1.16m (76” x 45” x 45.5”)</td>
<td>2.89m x 1.32m x 2.16m (110” x 52” x 85”)</td>
</tr>
<tr>
<td>BCX11000</td>
<td>3,115 L (110 ft³)</td>
<td>2.77m x 1.06m x 0.76m (89.25” x 42” x 30”)</td>
<td>3.02m x 2.28m x 1.83m (111” x 90” x 72”)</td>
</tr>
</tbody>
</table>

### CCX Specifications/Dimensions

<table>
<thead>
<tr>
<th>Model</th>
<th>Testing Volume</th>
<th>Exposure Zone Dimensions L x W x H</th>
<th>External Dimensions L x W x H</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCX2000</td>
<td>565 L (20 ft³)</td>
<td>1.27m x 0.74m x 0.63m (50” x 29” x 25”)</td>
<td>2.4m x 0.9m x 1.4m (84” x 35” x 56”)</td>
</tr>
<tr>
<td>CCX3000</td>
<td>850 L (30 ft³)</td>
<td>1.91m x 0.74m x 0.63m (75” x 29” x 25”)</td>
<td>3m x 0.9m x 1.4m (118” x 35” x 56”)</td>
</tr>
<tr>
<td>CCX4000</td>
<td>1,130 L (40 ft³)</td>
<td>1.91m x 0.94m x 0.63m (75” x 37” x 25”)</td>
<td>3m x 1.1m x 1.4m (118” x 44” x 56”)</td>
</tr>
<tr>
<td>CCX9000</td>
<td>2,550 L (90 ft³)</td>
<td>1.93m x 1.14m x 1.16m (76” x 45” x 45.5”)</td>
<td>3.05m x 1.3m x 2.16m (124” x 52” x 85”)</td>
</tr>
<tr>
<td>CCX11000</td>
<td>3,115 L (110 ft³)</td>
<td>2.27m x 1.06m x 0.76m (89.25” x 42” x 30”)</td>
<td>3.12m x 2.59m x 2.13m (123” x 102” x 84”)</td>
</tr>
</tbody>
</table>

### Walk-In Specifications/Dimensions

<table>
<thead>
<tr>
<th>Model</th>
<th>Testing Volume</th>
<th>Exposure Zone Dimensions L x W x H</th>
<th>External Dimensions L x W x H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlas 7000</td>
<td>7,136 L (252 ft³)</td>
<td>1.83m x 1.03m x 2.13m (6’ x 6’ x 7”)</td>
<td>2.13m x 2.13m x 2.74m (7’ 7” x 9’)</td>
</tr>
<tr>
<td>Atlas 9500</td>
<td>9,514 L (336 ft³)</td>
<td>2.44m x 1.03m x 2.13m (8’ x 6’ x 7”)</td>
<td>2.74m x 2.13m x 2.74m (9’ 7” x 9’)</td>
</tr>
<tr>
<td>Atlas 12000</td>
<td>11,883 L (420 ft³)</td>
<td>3.05m x 1.03m x 2.13m (10’ x 6’ x 7”)</td>
<td>3.25m x 2.13m x 2.74m (11’ 7” x 9’)</td>
</tr>
</tbody>
</table>