



# Q-FOG Cyclic Corrosion Tester

## Q-FOG Overview

Q-FOG® cyclic corrosion chambers from Q-Lab can run traditional salt spray, Prohesion, and most cyclic automotive tests. Q-FOG chambers are available in two sizes to fulfill a wide range of testing requirements.

## Features

Q-FOG chambers are constructed of reinforced fiberglass and there is no internal steel framework to corrode. They feature precise control of fog volume through the use of a variable speed peristaltic pump. Variable humidity control and shower capabilities are available as options. A remarkably simple user interface allows for easy user programming and operation. The Q-FOG controller includes complete self-diagnostics, including warning messages, routine service reminders, and safety shut down. Purified water is required for proper operation.

|  | SSP | CCT | CRH |
|--|-----|-----|-----|
| Two model sizes available (600 and 1100 liter)                               | ●   | ●   | ●   |
| Internal 120 liter salt solution reservoir                                   | ●   | ●   | ●   |
| Internal chamber heaters for fast temperature cycling                        | ●   | ●   | ●   |
| Salt fog (atomizing mist)  | ●   | ●   | ●   |
| Dry-Off <sup>1</sup> (controlled temperature with forced air)                | ●   | ●   | ●   |
| Dwell <sup>1</sup> (controlled temperature without forced air)               | ●   | ●   | —   |
| Monitoring window & internal viewing light                                   | —   | ●   | ●   |
| Humid <sup>1</sup> (95-100% relative humidity)                               | —   | ●   | ●   |
| RH <sup>1</sup> (Variable relative humidity control via air pre-conditioner) | —   | —   | ●   |
| Shower (with self-cleaning spray nozzles)                                    | —   | —   | ●   |
| Access Port (100 mm diameter for wiring access in chamber)                   | ◐   | ◐   | ◐   |
| External Fog Collection Cylinders  | ◐   | ◐   | ◐   |
| Wall Wash Kit (for compliance with Renault ECC1)                             | —   | —   | ◐   |

● Standard Feature    ◐ Optional Feature

<sup>1</sup> In model CRH, the fully adjustable RH feature replaces the Dwell, Humid, and Dry-Off functions. Model SSP does not feature humidity control; CCT features 95-100% humidity control. See technical manual for more detailed information, including RH performance versus lab conditions.

## Model SSP for Prohesion or Conventional Salt Spray Tests

Numerous accelerated corrosion tests may be performed in a Q-FOG SSP corrosion tester including Prohesion, ASTM B117 and G85, BS 3900 F4 and F9, DIN 50.021, and ISO 9227. The Prohesion test uses fast cycling, rapid temperature changes, a low humidity dry-off cycle, and a different corrosive solution to provide a more realistic test. Most of these tests are performed to particular specifications such as ASTM B117 (Salt Spray), and BS 3900 F4. These tests are widely used for relative corrosion testing. They are typically run at an elevated temperature and do not incorporate a dry-off cycle. They require heated, humidified air for the spray.

## Model CCT for Corrosion Research and Cyclic Automotive Tests

The Q-FOG model CCT has all the advantages of the model SSP, but adds the flexibility of including a 95-100% Humid Function. Today's automotive corrosion test methods typically call for exposing specimens to a repetitive cycle of salt spray, high humidity, low humidity dry-off, and ambient conditions. Model CCT units come equipped with a viewing window in the side of the lid and an internal light to allow easy monitoring of specimens.

## Model CRH for Research and Cyclic Automotive Tests with Variable Relative Humidity (RH) Control

The Q-FOG model CRH has all the advantages of the model CCT, but adds full variable relative humidity control through the use of an innovative air pre-conditioner. Additionally, this model includes an optional programmable shower feature. The model is compatible with most major automotive corrosion test standards, such as GMW 14872, SAE J2334 and others from Ford, ISO, VW, Volvo, Chrysler, Renault, etc.



## Q-FOG Tester Model Operating Specifications:

| Models   | SSP600 & CCT600   | CRH600   | SSP1100 & CCT1100  | CRH1100  |                                    |
|--|---|--|--|--|------------------------------------|
| <b>Chamber Size</b><br>Volume (excluding lid)<br>Volume (including lid)<br>Built-in salt solution reservoir                          | 511 liters (18.0 ft <sup>3</sup> )<br>640 liters (22.6 ft <sup>3</sup> )<br>120 liters (31.6 gal) |  | 857 liters (30.2 ft <sup>3</sup> )<br>1103 liters (38.9 ft <sup>3</sup> )<br>120 liters (31.6 gal) |  |                                    |
| <b>Chamber Temperature Range<sup>1</sup></b><br>Fog or Dwell <sup>2</sup><br>Dry-Off <sup>2</sup><br>Humid/RH <sup>2</sup><br>Shower | 20-60°C<br>20-70°C<br>25-60°C<br>-  | 20-60°C<br>20-70°C<br>20-60°C<br>20-50°C       | 20-60°C<br>20-70°C<br>25-60°C<br>-   | 20-60°C<br>20-70°C<br>20-60°C<br>20-50°C       |                                    |
| <b>Specimen Panel Capacity</b><br>100 x 300 mm (4 x 12 in)<br>75 x 150 mm (3 x 6 in)   | 128 (8 panel racks x 16 slots ea)<br>160 (10 panel racks x 16 slots ea)                           |  | 200 (10 panel racks x 20 slots ea)<br>240 (12 panel racks x 20 slots ea)                           |  |                                    |
| <b>Specimen Load Capacity</b><br>Each panel rack<br>Each hanging rod<br>Total chamber (distributed)                                  | 113 kg (250 lbs) max<br>45 kg (100 lbs) max<br>544 kg (1200 lbs) max                              |  | 113 kg (250 lbs) max<br>45 kg (100 lbs) max<br>544 kg (1200 lbs) max                               |  |                                    |
| <b>Inlet Water Purity<sup>3</sup></b>  | >200 kΩ-cm; <5 μS/cm<br><2.5 ppm TDS  | >5 MΩ-cm; <0.2 μS/cm<br><0.1 ppm TDS, Silica   | >200 kΩ-cm; <5 μS/cm<br><2.5 ppm TDS   | >5 MΩ-cm; <0.2 μS/cm<br><0.1 ppm TDS, Silica   |                                    |
| <b>Inlet Water Pressure<sup>4</sup></b>  | 0.2-3.8 bar (3-56 psi)  | 0.6-3.8 bar (9-56 psi)                         | 0.2-3.8 bar (3-56 psi)   | 0.6-3.8 bar (9-56 psi)                         |                                    |
| <b>Water Consumption<sup>5</sup></b>   | 2 liters/hr max   | 5 liters/hr max                                | 2 liters/hr max  | 5 liters/hr max                                |                                    |
| <b>Drain<sup>6</sup></b>   | 32 mm (1-1/4 in) tubing with trap   |  |  |  |                                    |
| <b>Air Vent<sup>6</sup></b>  | 102 mm (4 in) inner diameter min  |  |  |  |                                    |
| <b>Compressed Air</b>  | 1.7 lps (3.5 cfm) max<br>3-8 bar (40-120 psi)   | 1.7 lps (3.5 cfm) max<br>4-10 bar (60-150 psi) | 1.7 lps (3.5 cfm) max<br>3-8 bar (40-120 psi)  | 1.7 lps (3.5 cfm) max<br>4-10 bar (60-150 psi) |                                    |
| <b>Chamber Internal Dimensions</b><br>w x d x h (excluding lid)<br>w x d x h (including lid)   | 109x66x46 cm (43x26x18 in)<br>109x66x72 cm (43x26x29 in)  |  | 146x82x46 cm (57x32x18 in)<br>146x82x78 cm (57x32x31 in)   |  |                                    |
| <b>External Dimensions<sup>7</sup></b><br>w x d x h (lid closed)   | 188x102x122 cm<br>(74x40x48 in)   | 275x102x122 cm<br>(108x40x48 in)               | 225x119x127 cm<br>(88x47x50 in)  | 311x119x127 cm<br>(122x47x50 in)               |                                    |
| <b>Weight (dry)</b>  | 224 kg (494 lbs)  | 333 kg (734 lbs)                               | 269 kg (594 lbs)   | 378 kg (834 lbs)                               |                                    |
| <b>Electrical Requirements<sup>8</sup></b>   | 208V (230V)   | 1-Φ @ 16A (14A)                                | 1-Φ @ 32A (32A)<br>3-Φ @ 25A (25A)   | 1-Φ @ 20A (18A)                                | 1-Φ @ 38A (38A)<br>3-Φ @ 30A (30A) |
|  | 400 V   | —  | 3-Φ @ 15A  | —  | 3-Φ @ 21A                          |

1 Temperatures based upon ambient lab conditions of 20°C. Other lab conditions may result in different limits.

2 In model CRH, the fully adjustable RH feature replaces the Dwell, Humid, and Dry-Off functions. Model SSP does not feature humidity control; CCT features 95-100% humidity control. See technical manual for more detailed information, including RH performance versus lab conditions.

3 Water purity requirements can be met by most reverse osmosis, deionization, or distillation systems. Ensure pH is 6-8.

4 CRH requires slightly higher minimum water pressure to accommodate self-cleaning spray nozzle feature.

5 Max consumption values are during Humid/RH function in CCT and CRH models; typical consumption will be much lower. Additionally, water system must be sized to accommodate maximum peak demand during short duration bubble tower refill step at 0.4 liters/min.

6 See technical manual for important information regarding proper drain and vent setup requirements; failure to follow will impact tester performance.

7 Width calculated with CRH air pre-conditioner situated on right-hand side of CRH tester with a gap of at least 5 cm (2 in). The air pre-conditioner may alternatively be positioned behind the CRH tester. Air pre-conditioner dimensions (w x d x h) are 82x93x101 cm (32x37x39 in).

8 Voltages shown are +/-10% and 50/60 Hz.

## Warranty

Q-FOG cyclic corrosion testers are guaranteed against defects in workmanship or materials for one year. Liability is limited to replacing or repairing any part or parts which are defective in materials or workmanship and are returned to our factory, shipping costs pre-paid. Liability in all events is limited to the purchase price paid. Damage due to accident or abuse is not covered. Labor and travel costs are not covered. Q-Lab Corporation makes no other warranties, including implied warranties of merchantability or fitness for a particular purpose, except as may be expressly provided by Q-Lab Corporation in writing. Q-Lab Corporation shall not be liable for any incidental, consequential, special, or contingent damages arising out of the sale or use of any product.

## Q-Lab Corporation

[www.q-lab.com](http://www.q-lab.com)



**Q-Lab Headquarters**  
Westlake, OH USA  
Tel: +1-440-835-8700  
info@q-lab.com

**Q-Lab Florida**  
Homestead, FL USA  
Tel: +1-305-245-5600  
q-lab@q-lab.com

**Q-Lab Europe, Ltd.**  
Bolton, England  
Tel: +44-1204-861616  
info.eu@q-lab.com

**Q-Lab Arizona**  
Buckeye, AZ USA  
Tel: +1-623-386-5140  
q-lab@q-lab.com

**Q-Lab Deutschland GmbH**  
Saarbrücken, Germany  
Tel: +49-681-857470  
vertrieb@q-lab.com

**Q-Lab China** 中国代表处  
Shanghai, China 中国上海  
电话: +86-21-5879-7970  
info.cn@q-lab.com

