



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 Function (< 30% relative humidity)	●	●	●
Humid Function (95-100% relative humidity)	—	●	●
RH Function (relative humidity control via air pre-conditioner)	—	—	●
Shower (with self-cleaning spray nozzles)	—	—	●
Monitoring window & internal viewing light	—	●	●
Rapid Ramp Heaters (for fast temperature/RH transition)	—	—	◐
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

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).

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. Additionally, the CCT model is able to run Copper-Accelerated Acetic-Acid Salt Spray (CASS) tests such as ASTM B368 or ISO 9227 CASS.

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

The Q-FOG model CRH meets most major modern automotive corrosion test standards, such as GMW 14872, SAE J2334, Renault ECC1, and others from Ford, ISO, VW, Volvo, Chrysler, etc. It allows for full variable relative humidity control through the use of an innovative air pre-conditioner and features an optional programmable shower feature to quickly apply salt solution. The Rapid Ramp heater option allows for fast transitions between different chamber conditions to comply with difficult-to-meet test methods like JASO M609, even with a fully loaded chamber.



Q-FOG Tester Model Operating Specifications:

Models	SSP600 & CCT600	CRH600	SSP1100 & CCT1100	CRH1100	
Chamber Size Volume (excluding lid) Volume (including lid) Built-in salt solution reservoir	511 liters (18.0 ft ³) 640 liters (22.6 ft ³) 120 liters (31.6 gal)		857 liters (30.2 ft ³) 1103 liters (38.9 ft ³) 120 liters (31.6 gal)		
Chamber Temperature Range¹ Fog or Dwell ² Dry-Off ² Humid/RH ² Shower	20-60°C 20-70°C 25-60°C -	20-60°C 20-70°C 20-60°C 20-50°C	20-60°C 20-70°C 25-60°C -	20-60°C 20-70°C 20-60°C 20-50°C	
Specimen Panel Capacity 100 x 300 mm (4 x 12 in) 75 x 150 mm (3 x 6 in)	128 (8 panel racks x 16 slots ea) 160 (10 panel racks x 16 slots ea)		200 (10 panel racks x 20 slots ea) 240 (12 panel racks x 20 slots ea)		
Specimen Load Capacity Each panel rack Each hanging rod Total chamber (distributed)	113 kg (250 lbs) max 45 kg (100 lbs) max 544 kg (1200 lbs) max		113 kg (250 lbs) max 45 kg (100 lbs) max 544 kg (1200 lbs) max		
Inlet Water Purity³	>200 kΩ-cm; <5 μS/cm <2.5 ppm TDS	>5 MΩ-cm; <0.2 μS/cm <0.1 ppm TDS, Silica	>200 kΩ-cm; <5 μS/cm <2.5 ppm TDS	>5 MΩ-cm; <0.2 μS/cm <0.1 ppm TDS, Silica	
Inlet Water Pressure⁴	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)	
Water Consumption⁵	2 liters/hr max	5 liters/hr max	2 liters/hr max	5 liters/hr max	
Drain⁶	32 mm (1-1/4 in) tubing with trap				
Air Vent⁶	102 mm (4 in) inner diameter min				
Compressed Air	1.7 lps (3.5 cfm) max 3-8 bar (40-120 psi)	1.7 lps (3.5 cfm) max 4-10 bar (60-150 psi)	1.7 lps (3.5 cfm) max 3-8 bar (40-120 psi)	1.7 lps (3.5 cfm) max 4-10 bar (60-150 psi)	
Chamber Internal Dimensions w x d x h (excluding lid) w x d x h (including lid)	109x66x46 cm (43x26x18 in) 109x66x72 cm (43x26x29 in)		146x82x46 cm (57x32x18 in) 146x82x78 cm (57x32x31 in)		
External Dimensions⁷ w x d x h (lid closed)	188x102x122 cm (74x40x48 in)	275x102x122 cm (108x40x48 in)	225x119x127 cm (88x47x50 in)	311x119x127 cm (122x47x50 in)	
Weight (dry)	224 kg (494 lbs)	333 kg (734 lbs)	269 kg (594 lbs)	378 kg (834 lbs)	
Electrical Requirements⁸	208V (230V)	1-Φ @ 16A (14A)	1-Φ @ 32A (32A) 3-Φ @ 28A (25A)	1-Φ @ 20A (18A)	1-Φ @ 38A (38A) 3-Φ @ 44A (39A)
	400 V	—	3-Φ @ 15A	—	3-Φ @ 24A

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.



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