



Q-FOG Cyclic Corrosion Tester

Q-FOG Overview

Q-FOG® cyclic corrosion chambers from Q-Lab can run continuous salt spray, Prohesion, and nearly all cyclic automotive corrosion tests. Q-FOG chambers are available in two sizes to fulfill a wide range of testing requirements. Q-FOG cyclic corrosion testers are the simplest, most reliable, and easiest-to-use corrosion testers available.

Features

Q-FOG corrosion test chambers deliver the precise volume and uniformity of fog called for in major corrosion test standards. Variable relative humidity control is also available as an options, as is shower capability. Q-FOG testers can be configured with optional features like the Rapid Ramp Heater, Overhead Swaying Shower Bar, and Wall Wash to meet almost any testing need. Q-FOG internal chambers are constructed of reinforced fiberglass to avoid internal corrosion. Dual, full-color touchscreen displays allow for easy user programming and operation, available in 17 languages. The Q-FOG Gen 4 system includes complete self-diagnostics, including warning messages, routine service reminders, and safety shut down.

	SSP	CCT	CRH
Two sizes available (600 and 1100 liter)	●	●	●
Dual Full-Color Touch-Screen Displays	●	●	●
Internal 120 liter salt solution reservoir	●	●	●
Monitoring window & internal viewing light	●	●	●
Internal chamber heaters for fast temperature cycling	●	●	●
Salt Fog Function (atomizing mist)	●	●	●
Dry Function (< 30% relative humidity)	●	●	●
Humid Function (95-100% relative humidity)	—	●	●
RH Function (relative humidity control via air pre-conditioner)	—	—	●
Wall Wash Kit (for compliance with Renault ECC1)	—	—	◐
Fixed Shower (with self-cleaning spray nozzles)	—	—	◐ ¹
Overhead Swaying Shower (with self-cleaning spray nozzles)	—	—	◐ ²
Rapid Ramp Heaters (for fast temperature/RH transitions)	—	—	◐ ³
Access Port (100 mm diameter for wiring access in chamber)	◐	◐	◐
External Fog Collection Cylinders	◐	◐	◐

● Standard Feature ◐ Optional Feature 1: -S models only 2: -T models only 3: -R models only

Model SSP for Prohesion or Conventional Salt Spray Tests

The Q-FOG SSP corrosion tester can perform numerous accelerated corrosion tests, including continuous salt spray (ASTM B117 and ISO 9227) and Prohesion (ASTM G85 Annex 5). The Prohesion test uses fast cycling, rapid temperature changes, a low humidity dry-off cycle, and a different corrosive solution to provide a realistic test.

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. The Q-FOG CCT model can meet many automotive corrosion test methods that require 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 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, Ford L-467, SAE J2334, Renault ECC1, and others from ISO, VW, Volvo, Chrysler, and others. It allows for full variable relative humidity control through the use of an innovative air preconditioner. In addition to salt fog, CRH models feature fully-programmable fixed or overhead swaying shower features that can 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.

Operating Specifications:

Models ¹		SSP600, CCT600	CRH600 (-HSC)	CRH600 (-HSCR)	SSP1100, CCT1100	CRH1100 (-HSC, -HTC)	CRH1100 (-HSCR, -HTCR)
Chamber Size Volume (excluding lid) Volume (including lid) Built-in salt solution reservoir		511 liters (18.0 ft³) 640 liters (22.6 ft³) 120 liters (31.6 gal)			857 liters (30.2 ft³) 1103 liters (38.9 ft³) 120 liters (31.6 gal)		
Chamber Temp Range² Fog or Dwell ³ Dry-Off ³ Humid/RH ³ 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 100×300 mm (4×12 in) 75×150 mm (3×6 in)		128 @ 8 racks 160 @ 10 racks			200 (190 for -T models) @ 10 racks 240 (228 for -T models) @ 12 racks		
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 Purity⁴		>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 Pressure^{4,5}		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 Consumption⁶		2 lph max	5 lph max		2 lph max	5 lph max	
Drain⁷		32 mm (1-1/4 in) tubing with trap					
Air Vent⁷		102 mm (4 in) inner diameter min					
Compressed Air Maximum volume Pressure		1.7 lps (3.5 cfm) 3-10 bar (40-150 psi)	1.7 lps (3.5 cfm) 4-10 bar (60-150 psi)		1.7 lps (3.5 cfm) 3-10 bar (40-150 psi)	1.7 lps (3.5 cfm) 4-10 bar (60-150 psi)	
Chamber Internal Dims w × d × h (excluding lid) w × d × h (including lid)		108×65×46 cm (43×25×18 in) 108×65×74 cm (43×25×29 in)			144×80×46 cm (57×32×18 in) 144×80×74 cm (57×32×29 in)		
External Dimensions⁸ w × d × h (lid closed)		189×113×122 cm (74×44×48 in)	328×107×126 cm (129×42×50 in)		225×129×127 cm (88×51×50 in)	365×125×131 cm (144×50×52 in)	
Weight (dry)		224 kg (494 lbs)	333 kg (734 lbs)		269 kg (594 lbs)	378 kg (834 lbs)	
Electrical⁹ Require- ments	208V	1-Φ @ 16A	1-Φ @ 32A	3-Φ @ 28A	1-Φ @ 20A	1-Φ @ 38A	3-Φ @ 44A
	230V	1-Φ @ 14A	1-Φ @ 32A	3-Φ @ 25A	1-Φ @ 18A	1-Φ @ 38A	3-Φ @ 39A
	400V	—	—	3-Φ @ 15A	—	—	3-Φ @ 24A

1 Nomenclature designations for CRH chambers: relative humidity control (H), fixed shower (S), overhead swaying shower (T), air-preconditioner (C), rapid ramp heaters (R).

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

3 In CRH models, relative humidity (RH) control feature replaces the Dwell, Humid, and Dry-Off functions. Model CCT features a 95-100% RH function; model SSP does not have high RH capability. See technical manual for more detailed information, including RH performance versus lab conditions.

4 Water purity requirements can be met by most reverse osmosis, deionization, or distillation systems. Ensure pH is 6-8. Model CRH requires higher-purity water because of the wet bulb wick. (for RH measurement/control) Lower-purity water may be used, but will require more frequent wick changes and the potential for erroneous RH readings.

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

6 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 l/min.

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

8 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 or elsewhere with an optional kit. Air pre-conditioner dimensions (w × d × h) are 82×93×101 cm (32×37×39 in); weight is 91 kg (200 lb).

9 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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