



Q-SUN Xenon Test Chambers

Overview

Q-SUN® xenon arc chambers reproduce the damage caused by full-spectrum sunlight and rain. In a few days or weeks, Q-SUN testers can reproduce the damage that occurs over months or years outdoors.

Features

Q-SUN xenon arc chambers are available in three different models: the tabletop Xe-1, and full-sized Xe-2 and Xe-3. Each air-cooled tester features Q-Lab's renowned reliability and ease of maintenance. All testers have standard datalogging via ethernet, a variety of standard sample holders and a remarkably simple user interface available in five languages.

	Xe-1	Xe-2	Xe-3
Chamber Type	Flat Array	Rotating Rack	Flat Array
Specimen Capacity	15	31	51
Specimen Orientation (measured from horizontal)	10°	90°	10°
Full Spectrum Xenon Arc Lamps - 1800 W	1	1	3
Optional Water Spray	●	●	●
SOLAR EYE® Irradiance Control (340 nm, 420 nm or TUV)	●	●	●
Relative Humidity Control	—	●	●

Optical Filters

Q-SUN optical filters are very durable and maintain the required spectrum indefinitely, lasting for years under normal use. The application or test standard dictates which filter to use. Xe-1 and Xe-3 filters are flat, while the Xe-2 filter lantern consists of an outer borosilicate or quartz cylinder and fourteen inner filters.

	Xe-1	Xe-2	Xe-3	Irradiance @340 nm (W/m ²)	Irradiance @420 nm (W/m ²)	Irradiance @TUV (W/m ²)
Daylight - Q, Daylight - B/B	●	●	●	0.25 - 0.68	0.45 - 1.50	20 - 70
Daylight - F	●	—	●	0.25 - 0.80	0.45 - 1.50	20 - 70
Window - Q, Window - B/SL	●	●	●	0.25 - 0.55	0.45 - 1.50	20 - 70
Window - IR	●	●	●	—	0.45 - 1.50	20 - 42
Window - SF5	●	—	●	—	0.45 - 1.50	20 - 70
Window - B04	—	●	—	—	0.45 - 1.50	20 - 42
Extended UV - Quartz	●	—	●	0.25 - 0.68	0.45 - 1.50	20 - 70
Extended UV - Q/B	●	●	●	0.25 - 0.68	0.45 - 1.50	20 - 70

Calibration, Temperature and Humidity Control

Q-SUN Xe-2 and Xe-3 testers simultaneously control chamber air and black panel (uninsulated/BP) or black standard (insulated/IBP/BST) temperature; the Xe-1 controls either, but not both. An electronic humidity sensor provides precise control of relative humidity of the Xe-2 and Xe-3. All Q-SUN testers feature Q-Lab's patented AUTOCAL® system allowing quick and easy calibration. All calibrations are NIST traceable for ISO compliance.

	Xe-1	Xe-2	Xe-3
AUTOCAL CR20 Irradiance Control¹	●	●	●
CT202 Black Panel Thermometer¹	●	●	●
Disposable Chamber Air Temp Sensor²	3	●	●
Disposable RH Sensor²	—	●	●



1 Calibrate annually

2 Replace annually

3 Optional non-disposable sensor



Operating Specifications



Models ¹	Xe-1-B Xe-1-S		Xe-1-BC Xe-1-SC		Xe-2-H Xe-2-HS		Xe-3-H Xe-3-HS	Xe-3-HDS ² Xe-3-HBS	Xe-3-HC Xe-3-HSC	
	BP	IBP/BST	BP	IBP/BST	BP	IBP/BST	BP	IBP/BST	BP	IBP/BST
Black Panel Temp³ (°C)										
Light Cycle	45 - 90	50 - 100	25 - 90	25 - 100	50 - 100	55 - 105	45 - 110	50 - 120	35 - 110	36 - 120
Light Cycle w/IR Filter	40 - 70	45 - 80	20 - 70	20 - 80	35 - 85	40 - 90	40 - 90	45 - 100	30 - 90	31 - 100
Dark Cycle	25 - 50	25 - 50	10 - 50	10 - 50	25 - 45	25 - 45	25 - 50	25 - 50	15 - 50	16 - 50
Chamber Air Temp³ (°C)	N/A		15 - 50		35 - 65		35 - 65		25 - 65	
Light Cycle	N/A		15 - 50		35 - 65		35 - 65		25 - 65	
Light Cycle w/IR Filter	N/A		15 - 50		35 - 65		35 - 65		25 - 65	
Dark Cycle	N/A		10 - 40		25 - 45		25 - 50		16 - 50	
Relative Humidity³	N/A				95% - 20%					
Specimen Area	9.88" d x 18.00" w (25 x 46 cm)		9.88" d x 18.00" w (25 x 46 cm)		11.9" h x 9.8" ø (30 x 25 cm)		17.75" d x 28.25" w (45 x 72 cm)		17.75" d x 28.25" w (45 x 72 cm)	
Specimen Capacity and Size	15 specimens @ 2" x 4" (51 x 102 mm)		15 specimens @ 2" x 4" (51 x 102 mm)		31 specimens @ 1.8" x 4.8" (46 x 122 mm)		51 specimens @ 2" x 4" (51 x 102 mm)		51 specimens @ 2" x 4" (51 x 102 mm)	
Inlet Water Pressure	H Models: 10-90 psi (69-620 kPa); S Models: 30-90 psi (207-620 kPa)									
Inlet Water Purity	H Models: <20 ppm total dissolved solids; S Models: <1 ppm total dissolved solids and <0.1 ppm silica									
Water Consumption	0.1 L/min (spray)		0.1 L/min (spray)		0.5 L/min (spray) 24 L/day (humidifier)		0.1 L/min (spray) 0.4 L/min (front & back spray) 44 L/day (humidifier)		0.1 L/min (spray) 44 L/day (humidifier)	
External Dimensions⁴ (w x h x d)	30.5" x 20.5" x 25.5" (78 x 52 x 65 cm)		30.5" x 54.5" x 31" (78 x 138 x 79 cm) <i>Xe-1 & Chiller</i>		36" x 65.5" x 27" (91 x 166 x 69 cm)		36" x 72" x 39" (91 x 183 x 99 cm)		30.5" x 37" x 37" (78 x 94 x 94 cm) <i>Chiller Only</i>	
Weight (actual)	110 lbs (50 kg)		272 lbs (124 kg)		379 lbs (172 kg)		420-512 lbs (190-233 kg)		186 lbs (85 kg) <i>Chiller Only</i>	
Weight (shipping⁵)	230-320 lbs (105-145 kg)		454-545 lbs (205 -248 kg)		520 lbs (236 kg)		675-750 lbs (305-340 kg)		227 lbs (104 kg) <i>Chiller Only</i>	
Electrical Requirements	208V ± 10% 1-Φ, 50/60 Hz, 12A 230V ± 10% 1-Φ, 50/60 Hz, 11A		208V ± 10% 1-Φ, 50/60 Hz, 19A; 230V ± 10% 1-Φ, 50/60 Hz, 16A		208V ± 10% 1-Φ, 50/60 Hz, 24A 230V ± 10% 1-Φ, 50/60 Hz, 23A		208/230V ± 10% 3-Φ, 50/60 Hz, 39A 400V ± 10% 3-Φ, 50/60 Hz, 26A		208/230V ± 10% 3-Φ, 50/60 Hz, 44A; or 400V ± 10% 3-Φ, 50/60 Hz, 26A	

1 Nomenclature Designations: basic (B), spray (S), humidity (H), dual spray (D), chiller (C), back spray (BS)

2 Model Xe-3-HDS has a separate water reservoir that requires additional floor space (not shown in picture).

3 Min and max black panel (BP), insulated black panel (IBP/BST) and chamber air temperatures and relative humidity capabilities are dependent on ambient lab conditions. Interdependencies between these parameters limit achievable operating conditions in the tester.

4 Vent duct on back of Xe-3 is easily removed to reduce the depth from 39" (99 cm) to 34.5" (88 cm) to fit through small doors.

5 Actual shipping weights will vary depending upon model and whether the shipment is domestic, ocean or air.

Warranty

The Q-SUN Xenon Test Chamber is 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 prepaid. Liability in all events is limited to the purchase price paid. Damage due to accident or abuse is not covered.

Labor cost is 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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