



# Q-SUN Xe-8 Xenon Arc Weathering Test Chamber

## Overview and Features

The Q-SUN Xe-8 is a large capacity, rotating rack xenon arc weathering tester. It has the lowest testing cost per specimen of any commercially-available chamber. It uses 100% air cooling to minimize operating and maintenance costs, and maximize reliability and uptime. The Xe-8 features dual uninsulated and dual insulated black panels, and three user-selectable control points, all standard. With its proprietary LIGHT/YEAR lamp technology, Xe-8 lamps last about a year. Also, and with proper maintenance, Xe-8 optical filters can last for the life of the tester, unlike competitive water-cooled xenon arc chambers.

Chamber Type	Rotating Rack
Specimen Capacity (41 holders × 4 specimens per holder) 51 × 102 mm (2.0 × 4.0") Q-Lab® size	164
Specimen Capacity (32 holders × 3 specimens per holder) 67 × 145 mm (2.6 × 5.7") Atlas® size	96
Specimen Orientation (measured from horizontal)	90°
Full Spectrum, Ozone-Free LIGHT/YEAR® Xenon Arc Lamps - 4200 W (replace ~once/year)	4
SOLAR EYE® Irradiance Control with integrated 340 nm, 420 nm, and TUV onboard sensors	●
Dual Uninsulated and Insulated Black Panels for precise control of temperature uniformity	●
Meets all common industry weathering standards including ISO, ASTM, SAE, JIS, and more	●
Full Chamber Air and Relative Humidity control	●
Water Spray (Front and Back)	●
AUTOCAL UC80 Ride-Around Universal Calibrator System	●
Dual, color touchscreens & Gen 4 controller with free USB software updates and 17 languages	●
All maintenance, calibration, and operation performed from front and top (side access not required)	●

## Optical Filters, Irradiance, and Control Points

Q-SUN Xe-8 optical filter lanterns consist of an inner quartz cylinder and 12 outer filters. The filters are highly durable and maintain the required spectrum indefinitely, lasting for years under normal use with proper maintenance. The application or test standard dictates which optical filter and control point to use.

	Xe-8 Irradiance Values by Control Point - Typical (& Maximum)		
	W/m²/nm @340 nm	W/m²/nm @420 nm	W/m² @TUV (300-400 nm)
Daylight-F	0.80 (1.30)	1.50 (2.40)	75 (125)
Daylight Q	0.68 (1.10)		
Extended UV (-Q/B, -Quartz)			
Daylight-B/B			
Window (-Q, -B/SL)	0.55 (0.85)		70 (108)
Window (-SF5, -IR)	-		42 (68)

### Notes:

- 1) Minimum irradiance 0.25 W/m<sup>2</sup>/nm @340 nm, 0.45 W/m<sup>2</sup>/nm @420 nm, and 20 W/m<sup>2</sup> @TUV.
- 2) Typical irradiance using the X-4200 lamp provides a lamp life of 8,000 hours; maximum provides ~1,000 hours. For important warranty information, visit [Q-Lab.com/Warranty](http://Q-Lab.com/Warranty).
- 3) Daylight-F and Daylight-Q filters meet the requirements of Type I Daylight filters defined in ISO 4892-2 and ASTM G155. Daylight-B/B filters meet the requirements of Type II Daylight filters.
- 4) Window-IR optical filters last 8,000 hours before requiring replacement.

## Calibration, Temperature, and Humidity Control

Q-SUN Xe-8 testers simultaneously control chamber air temperature (CAT) and black panel (uninsulated/BP) or black standard (insulated/IBP/BST) temperature. A disposable electronic relative humidity and CAT sensor provides precise control of relative humidity and should be replaced annually. All Q-SUN testers can be calibrated quickly and easily using Q-Lab's Universal Calibrator system, featuring the patented AUTOCAL® system.



## Operating Specifications

Model Designation <sup>1</sup>	Xe-8-HBSX	
<b>Black Panel Temp<sup>2</sup> (°C)</b> Light Dark	<b>BP</b> 39-100 25-45	<b>IBP</b> 39-110 25-45
<b>Chamber Air Temp<sup>2</sup> (°C)</b> Light (any filter) Dark	<b>CAT</b> 35-65 25-45	
<b>Relative Humidity<sup>2</sup></b>	20-95%	
<b>Specimen Area (h × dia = Rack Area)</b>	77.5 × 47.5 cm = 11,560 cm <sup>2</sup> (30.5 × 18.7 in = 1,792 in <sup>2</sup> )	
<b>Specimen Capacity<sup>3</sup> (qty @ size)</b>	164 @ 51 × 102 mm (2.0 × 4.0 in) Q-Lab size 96 @ 67 × 145 mm (2.6 × 5.7 in) Atlas size	
<b>Maximum Specimen Weight (distributed evenly)</b>	68 kg (150 lbs)	
<b>Inlet Water Pressure and Purity<sup>4</sup></b>	2.1-6.2 bar (30-80 psi); > 5 MΩ·cm; < 0.2 μS /cm; < 0.1 ppm TDS; < 0.1 ppm colloidal silica	
<b>Water Consumed with Spray On<sup>5</sup></b>	1.0 L/min (front) 1.5 L/min (front & back)	
<b>Water Consumed with Humidifier On<sup>5</sup></b>	0.4 L/min at 100% duty cycle ISO 4892-2 Cycle 2: (30% duty cycle) = 173 L/day	
<b>External Dimensions (w × h × d)</b>	173 × 204 × 104 cm (68 × 80 × 41 in)	
<b>Weight<sup>6</sup></b>	518 kg (1142 lbs)	
<b>Electrical Requirements<sup>7</sup></b>	3-Φ: 208/230 V (80 A) or 400 V (50A)	
<b>Compressed Air Requirements</b>	85-115 psi (5.9-7.9 bar)	
<b>Lab Recommendations<sup>8</sup></b> Temperature (°C) Relative Humidity (%)	23 ± 5 °C 50 ± 25%	

### Notes:

- 1) Nomenclature designations: humidity control (H), back spray (B), and front spray (S). Model (E) Q-SUN testers feature dual touchscreen displays and improved irradiance/lamp efficiency.
- 2) Achievable test conditions, including maximum and minimum setpoints and transitions between steps, are influenced by laboratory ambient conditions and interdependencies between test parameters.
- 3) Xe-8 specimen capacity is shown with specimen holders.
- 4) Maintain pH 6-8. For best performance, use a reverse osmosis/deionization (RO/DI) system.
- 5) Water consumption values are greatly dependent upon test and lab conditions, and software settings. Values shown are typical for many common standards.
- 6) Actual shipping weights will be higher, depending upon model and whether the shipment is domestic, ocean or air.
- 7) Voltages shown are +/-10% and 50/60 Hz.
- 8) Operating outside these conditions can result in temperature, humidity, or other faults. Never operate in laboratory ambient conditions >36 °C or >80% RH.

## Warranty

For important warranty information, visit [Q-Lab.com/Warranty](https://www.q-lab.com/Warranty).



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