

# Q-SUN

# Xenon Test Chambers



## Q-Sun Overview

**All testers include:** All models of the Q-Sun are equipped with: full-spectrum xenon arc lamps; the patented Solar Eye Irradiance Control System; a choice of irradiance set points (340 nm or 420 nm); a choice of filters (see below); chamber air temperature control; black panel temperature control; the patented AutoCal system that allows quick and easy calibration; and a large specimen capacity to accommodate 3D parts.

**All testers having the following options available:** Strip Chart Recorder, RS232 Computer Interface, Textile/Thin Film Specimen Holders, and Textile Masks.

**Recognition:** The Q-Sun meets most test methods, including: ASTM, ISO, DIN, SAE, BS, ANSI, and AATCC. For a full list of Q-Sun test methods ask for Bulletin LX-5054.

LX-5050

## Xenon Arc Lamps:

The Q-Sun uses air-cooled, full-spectrum, 1800W xenon arc lamps. The Xe-3 requires 3 lamps, the Xe-1 requires 1 lamp. Q-Panel recommends replacing lamps every 1500 testing hours.

## Optical Filters:

The exposure application or test protocol dictates which filter should be used. The filters do not need to be replaced unless they are physically broken.

- Daylight: Q
- Daylight: B/B
- Window: Q
- Window: B/SL
- Extended UV: Q/B
- IR: (Infrared Exclusion)
- Quartz

## Temperature Control:

Simultaneous Chamber Air and Black Panel Temperature Control is possible in models: Xe-3-H, HS, HC, HSC, and HDS.

## Irradiance Control:

The Q-Sun is equipped with the Solar Eye Irradiance Control System. Solar Eye automatically compensates for lamp aging and any other variability. Depending upon the model, you can control the light intensity at either 340nm or 420nm.

**Choice of one (1) control point: 340nm or 420nm**

- 0.25 – 0.68 W/m<sup>2</sup> @ 340 nm with Daylight: Q, Daylight: B/B, Extended UV: Q/B, Quartz
  - 0.25 – 0.55 W/m<sup>2</sup> @ 340 nm with Window: Q, Window: B/SL
  - 0.45 - 1.50 W/m<sup>2</sup> @ 420 nm with Daylight: Q, Daylight: B/B, Window: Q, Window: B/SL, Extended UV: Q/B, Quartz or IR Filter
- ① Higher irradiance values are possible, but lamp life is reduced.

## Calibration:

- Irradiance Calibration (Auto Cal) use CR20 Radiometer.
- Relative Humidity Calibration use CH200 RH Calibration Kit.
- Temperature Calibration use CT202 Thermometer.

① All calibrations are NIST traceable for ISO compliance.

① Radiometers must be sent back to Q-Panel for recalibration every year.



SPECIFICATIONS



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# Q-SUN Xenon Test Chambers

## Q-Sun Model Operating Specifications:

① Simultaneous Chamber Air and Black Panel Temperature Control is possible in models: Xe-3-H, HS, HC, HSC, & HDS.

### Nomenclature Designations

- basic (B)
- spray (S)
- humidity (H)
- dual spray (D)
- chiller (C)



Models	Xe-3-B Xe-3-H	Xe-3-S Xe-3-HS Xe-3-HDS <sup>1</sup>	Xe-3-HC, Xe-3-HSC	Xe-1-B Xe-1-S	Xe-1-BC Xe-1SC
<b>Black Panel (standard) Temperature* Ranges:</b>					
Light Cycle	45°C - 100°C		32°C - 56°C	45°C - 90°C	25°C - 75°C
Light Cycle w/IR Filter	40°C - 80°C		27°C - 46°C	40°C - 80°C	20°C - 65°C
Dark Cycle	25°C - 50°C		16°C - 28°C	25°C - 50°C	10°C - 26°C
<b>Insulated Black Panel Temperature* Ranges:</b>					
Light Cycle	50°C - 120°C		36°C - 60°C	50°C - 100°C	25°C - 85°C
Light Cycle w/IR Filter	45°C - 90°C		31°C - 50°C	45°C - 90°C	20°C - 75°C
Dark Cycle	25°C - 50°C		16°C - 28°C	25°C - 50°C	10°C - 26°C
<b>Chamber Air Temperature* Ranges:</b>					
Light Cycle	35°C - 65°C		20°C - 35°C	35°C - 65°C	15°C - 40°C
Light Cycle w/IR Filter	35°C - 65°C		20°C - 35°C	35°C - 65°C	15°C - 40°C
Dark Cycle	25°C - 50°C		16°C - 28°C	25°C - 50°C	10°C - 26°C
<b>Specimen Tray Size:</b>	17.75" x 28.25" (451 x 718 mm)		9.88" x 18.00" (251 x 457 mm)		
<b>Specimen Capacity:</b>	55 Specimens (2" x 4" for example)		17 Specimens (2" x 4" for example)		
<b>Water:</b>	Spray Models use RO/DI Water, depending upon application				
<b>External Dimensions</b>	36.5" x 70.5" x 37" <sup>2</sup> (914 x 1791 x 940 mm)	30.5" 37" x 37" (775 x 940 x 940 mm) <i>just the chiller</i>	30.5" x 20.5" x 25.5" (775 x 521 x 648 mm)	30.5" x 54.5" x 31" (775 x 1384 x 787.4 mm) <i>both Xe-1 &amp; chiller</i>	
<b>Weight (actual):</b>	420-512 lbs (190-233 kg)	186 lbs (85 kg) <i>just the chiller</i>	110 lbs (50kg)	272 lbs (124 kg)	
<b>Weight (shipping): <sup>3</sup></b>	675-750 lbs (305-340 kg)	227 lbs (104 kg) <i>just the chiller</i>	230-320 lbs (105-145 kg)	454-545 lbs (205 -248 kg)	

<sup>1</sup> Model Xe-3-HDS has a separate water reservoir that requires additional floor space (not shown in picture).

<sup>2</sup> Xe-3-B/S: 3" (76 mm) exhaust deflectors installed by the customer; total depth is 37" (940 mm). Xe-3-H/HS/HDS: 4.5" (114 mm) exhaust deflectors installed at customer; total depth is 38.5" (978 mm)

<sup>3</sup> Actual shipping weights will vary depending upon model and whether the shipment is domestic, ocean or air.

\* Temperature ranges may require specific room conditions and/or test conditions.

## Warranty:

The Q-Sun 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-Panel Lab Products makes no other warranties, including implied warranties of merchantability or fitness for a particular purpose, except as may be expressly provided by Q-Panel Lab Products in writing. Q-Panel Lab Products shall not be liable for any incidental, consequential, special, or contingent damages arising out of the sale or use of any product.

The contents of this sheet are accurate as of April 2005. All information is subject to change.

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