Q-SUN Xenon Test Chambers

Q-Sun Overiew

All testers include: full-spectrum xenon arc lamps; the Solar Eye Irradiance Control System; a choice of irradiance set points (340 nm, 420 nm or TUV); a choice of filters (see below); 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: Datalogging via Ethernet Interface, and a variety of sample holders.

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

SPECIFICATIONS

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-Lab recommends replacing lamps every 1500 light 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. *(See Technical Bulletin LX-5060 for a discussion of filters and applications)*

- Daylight - Q
- Daylight - B/B
- Window - Q
- Window - B/SL
- Window - IR
- Extended UV - Q/B
- Extended UV - Quartz

Temperature Control:

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

Irradiance Control:

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

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

- 0.25 – 0.68 W/m^2 @ 340 nm with Daylight - Q, Daylight - B/B, Extended UV - Q/B, Extended UV - Quartz
- 0.25 – 0.55 W/m^2 @ 340 nm with Window - Q, Window - B/SL
- 0.45 - 1.50 W/m^2 @ 420 nm with Daylight - Q, Daylight - B/B, Window - Q, Window - B/SL, Window - IR, Extended UV - Q/B, Extended UV - Quartz

ⓘ *Higher irradiance values are posssible, but lamp life is reduced.*

Calibration:

- Irradiance Calibration (Auto Cal) use CR20 Radiometer
- Temperature Calibration use CT202 Thermometer and disposable chamber air temperature sensor (replace annually)
- Relative Humidity Calibration use disposable relative humidity sensor (replace annually)

ⓘ *All calibrations are NIST traceable for ISO compliance.*

ⓘ *Radiometers must be sent back to Q-Lab for recalibration every year.*

Q-LAB

The Most Trusted Name in Weathering

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Q-Sun Model Operating Specifications:

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

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




Models	Xe-3-B Xe-3-S Xe-3-H Xe-3-HS Xe-3-HDS[1] Xe-3-HBS	Xe-3-HC, Xe-3-HSC	Xe-1-B Xe-1-S	Xe-1-BC Xe-1-SC
Black Panel (standard) Temperature* Ranges:				
Light Cycle	45°C - 110°C	35°C - 110°C	45°C - 90°C	25°C - 90°C
Light Cycle w/IR Filter	40°C - 90°C	30°C - 90°C	40°C - 70°C	20°C - 70°C
Dark Cycle	25°C - 50°C	15°C - 50°C	25°C - 50°C	10°C - 50°C
Insulated Black Panel Temperature* Ranges:				
Light Cycle	50°C - 120°C	36°C - 120°C	50°C - 100°C	25°C - 100°C
Light Cycle w/IR Filter	45°C - 100°C	31°C - 100°C	45°C - 80°C	20°C - 80°C
Dark Cycle	25°C - 50°C	16°C - 50°C	25°C - 50°C	10°C - 50°C
Chamber Air Temperature* Ranges:				
Light Cycle	35°C - 65°C	20°C - 65°C		15°C - 50°C
Light Cycle w/IR Filter	35°C - 65°C	20°C - 65°C		15°C - 50°C
Dark Cycle	25°C - 50°C	16°C - 50°C		10°C - 40°C
Specimen Tray Size:	17.75" x 28.25" (451 x 718 mm)		9.88" x 18.00" (251 x 457 mm)	
Specimen Capacity:	51 Specimens, plus black panel (2" x 4" for example)		17 Specimens (2" x 4" for example)	
Water:	**Spray and Humidity Models use RO/DI Water, depending upon application**			
External Dimensions:	36" x 72"x 39" [2] (914 x 1829 x 940 mm)	30.5" x 37" x 37" (775 x 940 x 940 mm) *just the chiller*	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) *both Xe-1 & chiller*
Weight (actual):	420-512 lbs (190-233 kg)	186 lbs (85 kg) *just the chiller*	110 lbs (50kg)	272 lbs (124 kg)
Weight (shipping): [3]	675-750 lbs (305-340 kg)	227 lbs (104 kg) *just the chiller*	230-320 lbs (105-145 kg)	454-545 lbs (205 -248 kg)

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

2 Vent duct on back of machine is easily removed to reduce the depth from 39" (991 mm) to 34.5" (876 mm) to fit through small doors.

3 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-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.

The contents of this sheet are accurate as of April 2007. All information is subject to change.

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