

Markets and Applications

- Large Format Film Projection
- High-Power Area Searchlight
- High-Power Flood Lighting
- Space and Solar Simulators

Technical Highlights

- 12,000 to 32,000 Watt Power Levels
- Durable Construction for Long Life
- Most Efficient Internal Electrode Cooling Passages
- Keyed Anode & Cathode Mounting Plates
- Brass End-Flanges for Maximum Electrical Contact
- Available Adapter Flanges for different mounting configurations
- Made in USA



**SUPERIOR QUARTZ PRODUCTS -
LIGHT YEARS AHEAD**



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HIGH POWER LIQUID-COOLED XENON LAMPS

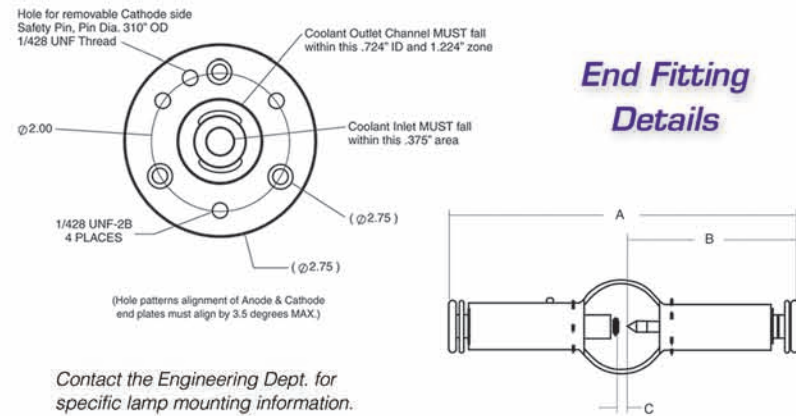


Lamp Descriptions and Technical Specifications

Liquid-Cooled Xenon Lamps are the biggest and most powerful lamps in the Xenon Lamp family. These large and ultra-high powered lamps were developed for highly specialized applications, such as Solar Simulators, Large-Format Big Screen Projection and High-Powered Flood Lighting. Their extremely high power levels require specialized construction techniques, as well as unique cooling measures. Cooling is accomplished via coolant passages within the Anode & Cathode structure, and special end fittings keep the coolant safely transferred to an external cooling unit.

This technical guide will provide basic lamp specifications of the SUPERIOR QUARTZ line of Liquid-Cooled Short-Arc High-Power Xenon Lamps.

Superior Quartz lamps have longer life and stability due to cooling inlets that allow the greatest coolant flow available.



Electrical & Photometric Data

SPECIFICATION:	SX120001	SX150001	SX20000D	SX32000D
Lamp Electrical Data:				
Lamp Power Size (Watts)	12,000	15,000	20,000	32,000
Arc Voltage Range (Vdc)	31-36	32-38	36-43	43-49
Lamp Current Range (Min-Max)(Amps)	275-375	275-400	275-525	325-700
Lamp Warranty (hours/starts) at rated power				
	1200 / 300	1200 / 300	500/250 @ 18-20kW	200* / 100
			400/200 @ 20.1-22kW	When Operated as follows:
(Starting & stand-by Current for 12 & 15K)	(220-270 Amps)	(220-270 amps)	350/175 @ 22.1-23kW	0-67 hours @ 600 Amps
			300/150 @ 23.1-24kW	68-135 hours @ 650 Amps
			250/125 @ 24.1-25kW	136-200 hours @ 700 amps
			(which ever occurs first)	
PHOTOMETRIC BRIGHTNESS - Cd/sq mm				
	375 Amps	400 Amps	525 Amps	700 Amps
25mm circular area at Cathode tip	7400	8300	11,000	14,000
2.0 mm circular area at Cathode tip	3900	4200	7000	8000
3.0mm H x 6.0mm L rectangle at Cathode tip	1700	1850	3000	4000

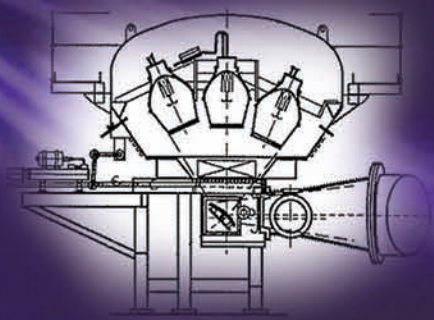
Coolant Specifications

SPECIFICATION:	SX120001	SX150001	SX20000D	SX32000D
FLOW RATES Min / Max (Gallons / Minute)				
Anode and Cathode in Series:	4.0 / 6.0	4.0 / 6.0	5.0 / 6.0	5.0 / 6.0
Anode:	4.0 / 6.0	4.0 / 6.0	5.0 / 6.0	5.0 / 6.0
Cathode:	3.5 / 6.0	3.5 / 6.0	3.5 / 6.0	3.5 / 6.0
COOLANT PRESSURE (PSIG)				
Max Lamp & System Pressure	250	250	250	250
Anode & Cathode in Series:				
Min Pressure Drop Across Lamp:	70	70	90	90
Nominal Anode Input Pressure	120	120	140	140
Nominal Cathode Output Pressure	25	25	30	30
Minimum Cathode Output Pressure	20	20	25	25
Anode & Cathode Cooled Separately:				
Minimum Pressure Drop Across Lamp	35	35	40	40
Nominal Anode Input Pressure	120	120	140	140
Nominal Cathode Input Pressure	70	70	90	90
Nominal Cathode Output Pressure	25	25	30	30
Minimum Cathode Output Pressure	20	20	25	25

Coolant: Deionized or distilled water with a maintained specific conductance of 50 micromhos per cm. maximum. Outdoor searchlight lamp - a mixture of ethylene glycol and deionized or distilled water may be used. Filter: 10 microns at anode inlet for deionized or distilled water. 25 microns for ethylene glycol and deionized or distilled water mixture.



Liquid-Cooled Lamp in IMAX Projection System



Space/Solar Simulator Lamp Assembly

Mechanical Data

SPECIFICATION:	SX120001	SX150001	SX20000D	SX32000D*
DIMENSIONS:				
Overall Lamp Length A: (+-.156" / 4mm)	18.86" / 479mm	18.86" / 479mm	19.00" / 483mm	19.00" / 483mm
Negative End to Cathode Tip B:	9.26" / 235mm	9.26" / 235mm	9.26" / 235mm	9.26" / 235mm
Arc Gap - Cold C:	.384" (10mm) (+-.01")	.432" (11mm) (+-.01")	.511" (13mm) (+-.03)	.511" (13mm) (+-.03)
Vessel Diameter	4.50" (114mm) O.D.	4.50" (114mm) O.D.	5.375" (136.5mm) O.D.	5.375" (136.5mm) O.D.
Lamp Weight:	11 lbs. (5 kG)	11 lbs (5 kG)	12 lbs. (5.5 kG)	12 lbs. (5.5 kG)