

EQ-77 LDLS[®]

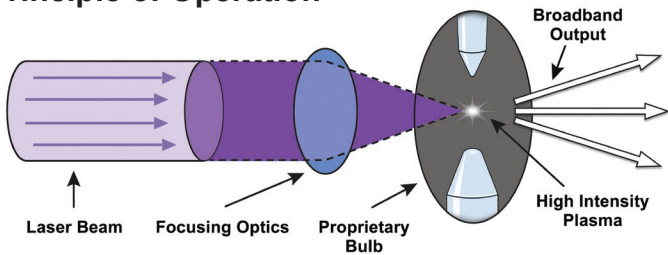
Laser-Driven Light Source



Overview

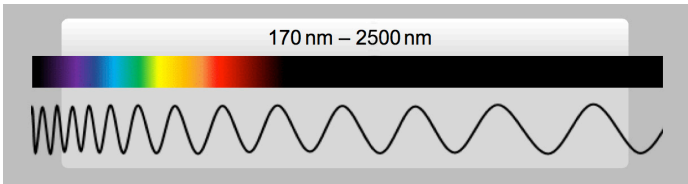
Energetiq's EQ-77 LDLS is a high brightness source with a broad wavelength range from UV to Visible and into the NIR region. The unique principle of operation provides extremely bright, spatially and spectrally stable broadband radiation from 170 nm – 2500 nm with a lifetime greater than 10,000 hours.

Principle of Operation



LDLS technology utilizes a laser to create an extremely small, high brightness plasma with a broad spectral range.

Wavelength Range



Properties

Wavelength Range	170 nm – 2500 nm
Plasma Size (FWHM) ¹	125 µm X 320 µm
Numerical Aperture	0.5 NA
Bulb Lifetime	10,000 hours
Distance of Plasma from Output Window ²	13.7 mm
Laser Class	Class 1 (IEC 60825-1: 2014)

¹ Average plasma size

² Approximate distance measured with quartz output window

Typical Performance

Spectral Radiance at 500 nm	75 mW/mm ² .sr.nm
Broadband Optical Power ³	2.75 W

³ Measured with thermopile

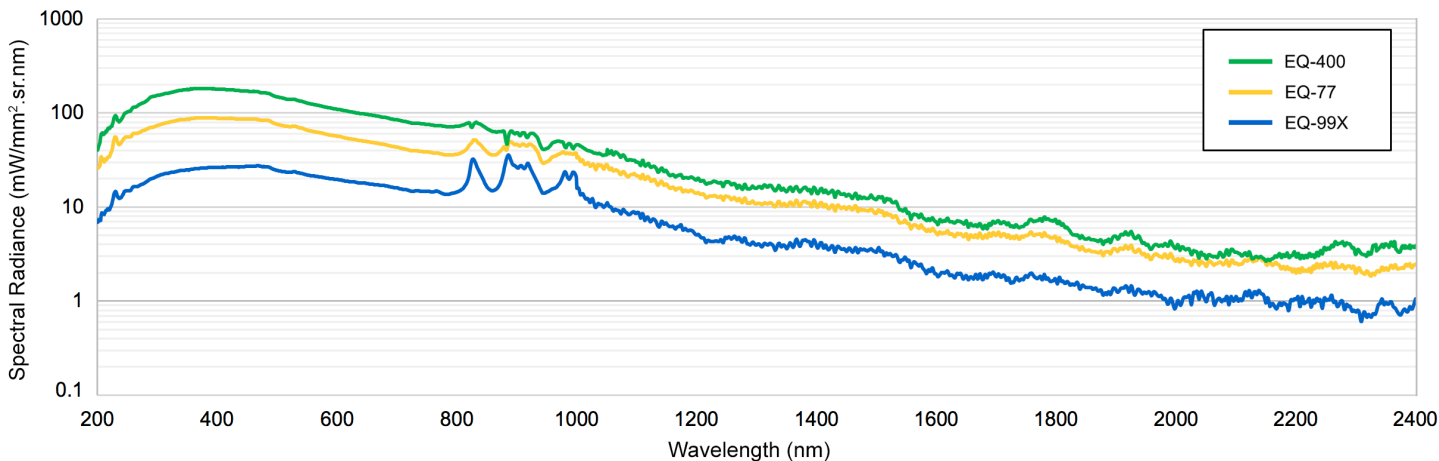
Models

LDLS are sold as systems. Each EQ-77 system includes a lamp head, controller, remote control, and necessary cables.

Part Number	Description	Wavelength Range
EQ-77-QZ-S	EQ-77 with Quartz Window	170 nm – 2500 nm
EQ-77-MGF-S	EQ-77 with MGF Window	170 nm – 2500 nm
EQ-77-YAG-S	EQ-77 with YAG Window	190 nm – 2500 nm
EQ-77-BK7-S	EQ-77 with BK7 Window	350 nm – 2500 nm

Spectral Radiance Comparison

Average radiance, measured with quartz output windows. For reference only.



Consumable Components

The recommended service interval is 10,000 hours.

Part Number	Description	Wavelength Range
EQ-77-BKIT-R	Bulb Replacement Kit (Not Field Replaceable)	170 nm – 2500 nm
EQ-77-RW-QTZ	EQ-77 Replacement Window, Quartz (Field Replaceable)	170 nm – 2500 nm
EQ-77-RW-MGF	EQ-77 Replacement Window, MGF (Field Replaceable)	170 nm – 2500 nm
EQ-77-RW-YAG	EQ-77 Replacement Window, YAG (Field Replaceable)	190 nm – 2500 nm
EQ-77-RW-BK7	EQ-77 Replacement Window, BK7 (Field Replaceable)	350 nm – 2500 nm

Optional Accessories

Part Number	Description
EQ-77-OAP-EFL-4-FC	Off-Axis-Parabolic Assembly - 4" EFL with FC Fiber Output
EQ-77-OAP-EFL-4	Off-Axis-Parabolic Assembly - 4" EFL with Tube Extension
EQ-77-OAP-EFL-6-FC	Off-Axis-Parabolic Assembly - 6" EFL with FC Fiber Output
EQ-77-OAP-EFL-6	Off-Axis-Parabolic Assembly - 6" EFL with Tube Extension
EQ-77-OAP-EFL-8	Off-Axis-Parabolic Assembly - 8" EFL with Tube Extension
EQ-77-EWP	12 Month Extended Warranty Protection for EQ-77
EQ-77-CHILLER-KIT	Chiller with Tubing for EQ-77

Facility Requirements

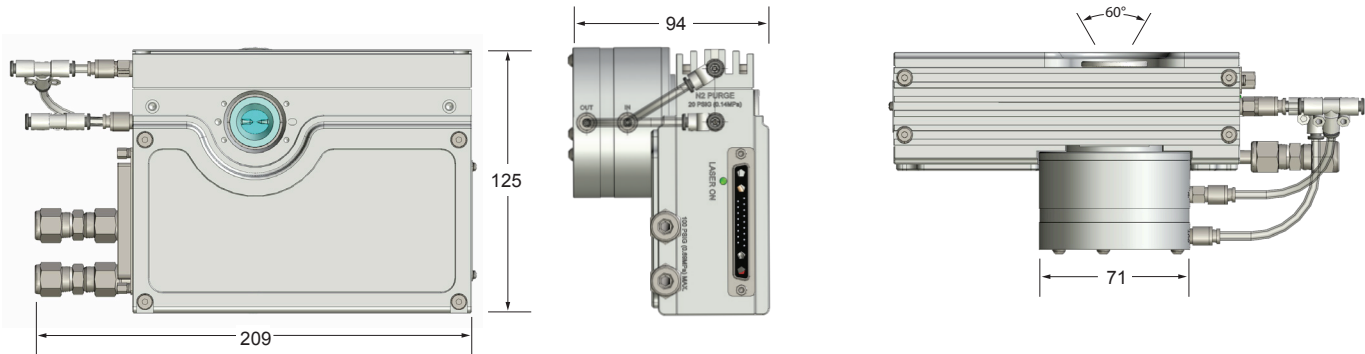
Electrical	100-240 V~ 50/60 Hz, 350 W
Cooling (Lamp Head)	≥ 0.5 liter/minute, 18 – 30 °C, 100 psig (0.69 MPa) max. inlet pressure
Cooling (Controller)	No auxiliary cooling required
Nitrogen Purge	Recommended. Grade 4.8 or higher, filtered to 5 µm. 20 psig ±2
Ambient Temperature	15-35 °C

Physical Specifications

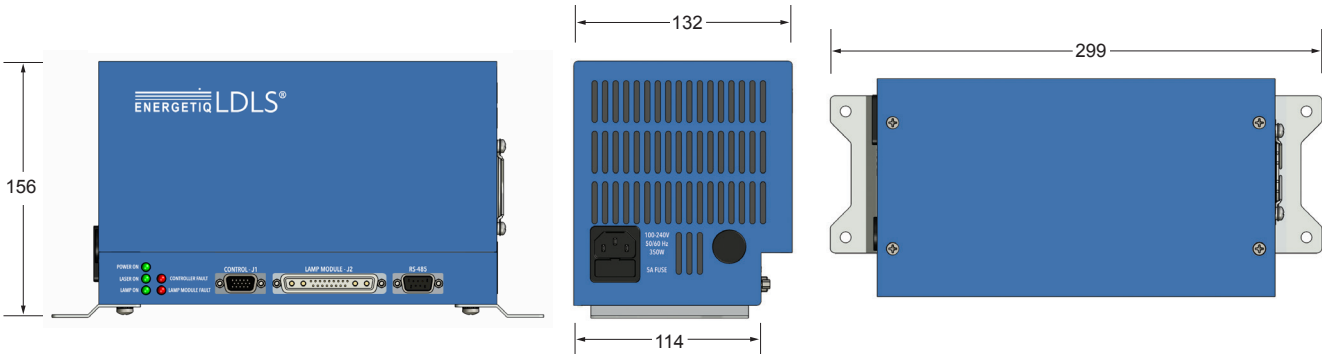
Lamp Head Dimensions (H x W x D)	125 x 209 x 94 mm
Lamp Head Weight	2.2 kg
Controller Dimensions (H x W x D)	156 x 299 x 132 mm
Controller Weight	2.9 kg

Lamp Head Dimensions (Unit: mm)

Drawings are for reference only and are not to scale. STEP-File available.



Controller Dimensions (Unit: mm)



www.energetiq.com/patents

