

LDLS™

Laser-Driven Light Sources EQ-99FC

**Compact, Long-Life, High Brightness,
Broadband Light Source with
Fiber-Coupled Output**

Researchers using light for imaging and analytical spectroscopy in the life sciences and materials sciences need light sources capable of providing extremely high brightness across a broad wavelength range. Traditionally, multiple lamps (Tungsten/Halogen, Xenon-arc, Deuterium) have been used to cover this broad spectral range. However, combining multiple lamps is costly and optically inefficient, and the use of electrodes within these lamps limits their ability to achieve the high brightness or power needed for the most demanding applications. Furthermore, traditional electrode-driven light sources have short life, need to be changed frequently, and during their life the lamp output declines constantly. To address this problem, Energetiq has developed a revolutionary single-light source technology called the LDLS™ Laser-Driven Light Source that enables extreme high brightness over a broad spectral range, from 170nm through visible and beyond, combined with lifetimes an order of magnitude longer than traditional lamps.

The LDLS EQ-99FC has integrated collection optics that allow greater ease of use for those needing a fiber connection. The high performance ellipsoidal collector ensures that the ultra-high brightness light and power stability are maintained across the broad spectrum, from 170nm to 2100nm, and efficiently coupled into small diameter optical fibers. Electrodeless in operation, Energetiq's patented* laser-driven light source technology makes the EQ-99FC ideal for applications requiring ultra-long lamp life.

* United States Patent No. US 7,435,982



Features & Benefits

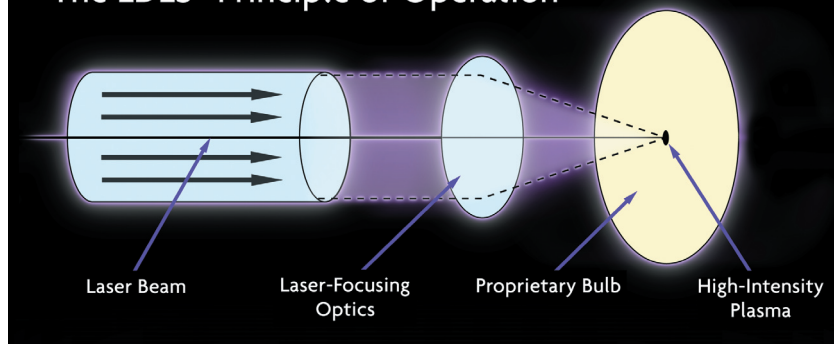
- SMA fiber-coupled output for ease of use
- Efficient, high performance ellipsoidal collection optics
- Very high brightness across complete spectrum
 - UV-Vis-NIR (170nm – 2100nm)
- Eliminates need for multiple lamps (replaces D2/Tungsten/Xenon Arc)
 - Simplified optical system
- Superior short and long term power stability
 - Repeatable measurements
- Electrodeless operation for long life
 - Reduced consumable costs
 - Minimal recalibration of instrument

Applications

- UV-Vis Spectroscopy
- Fiber Optics Testing
- High Performance Spectroscopy
- Advanced Imaging
- HPLC
- Microscope Illuminators
- Environmental Analysis & Monitoring
- Materials Characterization & Testing
- Gas Phase Measurements
- Process Quality Monitoring
- Applications requiring long lamp life

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The LDLS™ Principle of Operation



Specifications

Overview

- Spectral Output from 170nm to 2100nm
- Typical bulb life > 5,000 hrs.
- Broadband optical output via SMA connector, NA=0.22
- DUV compatible fibers available from Energetiq, call for details

Physical Specifications

- Lamp
- Power Supply

System Dimensions (H x W x D)

82.3 x 85.7 x 76.2 mm (3.2 x 3.4 x 3.0 in)
139.8 x 107.8 x 254.0 mm (5.5 x 4.2 x 10.0 in)

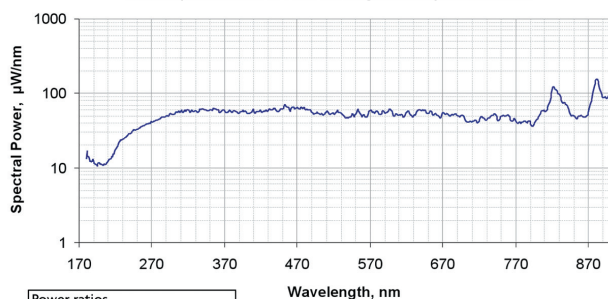
Weight

0.7 kg (1.5 lbs)
2.2 kg (5.0 lbs)

Utility Requirements

- Electrical: 100-240v, 50/60Hz, 2.5A
- Cooling: Ambient air, no auxiliary cooling necessary
- Nitrogen: Optional purging for DUV operation, Grade 6
- Compliance: CE Mark; Class 1 Laser Product.

EQ-99FC Typical Performance:
with 230µm diameter, 0.22NA, 1m long, Ocean Optics XSR fiber



Power ratios	
Fiber (µm)	Estimated Multiplier
230	1
450	2.02
600	2.26

*Ocean Optics and XSR are trademarks of Ocean Optics, Inc.

About Energetiq

Energetiq Technology, Inc. is a developer and manufacturer of advanced light sources that enable the analysis and manufacture nano-scale structures and products. The Energetiq team combines its deep understanding of the high power plasma physics needed for high-brightness light generation with its long experience in building rugged industrial and scientific products. The result is that users can expect the highest levels of performance combined with the highest reliability.

ENERGETIQ

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Specifications are subject to
change without notice.
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