



Opolette HE 2940

PULSED LASER

The Opolette HE 2940 pulsed laser is tuned to the maximum wavelength absorption of water and other molecules with -OH and -NH functional groups. At 2940 nm, biomolecules relevant to life sciences can be ablated or desorbed intact for capture, ionization or other manipulations on the sub-millimeter cross-section scale.

SYSTEM FEATURES

- Intergrated pump laser with quick connect cables
- Flashlamp based pump laser with minimal maintenance
- End user replaceable flashlamp (50 million shot lifetime) and DI cartridge
- Flashlamp and/or Q-Switch external triggering
- No factory installation required
- Alignment verification
- Control software and software development kit (SDK)
- Access to residual pump laser wavelength (1064nm)

AVAILABLE OPTIONS AND ACCESSORIES

External Motorized Variable Attenuator (eMVA): Externally mounted, motorized and computer-controlled rutile Glan Laser polarizer that allows continuously attenuation from 100% down to 1% while maintaining maximum pulse to pulse stability. End user removable/installable. Reduces max pulse energy by 10-15% when installed.

Fiber Delivery Kit: Optimized for mid-infrared (MIR) wavelengths. Fiber coupler is mounted directly to the Opolette. Includes mounts, coupling lens and fiber. Requires Nitrogen (1-2 PSI). Fiber specifications: 2.0 m long, 450 μm diameter core, NA = 0.22, protective cabling, high-power SMA connectors on both ends.

Harmonic Access: Addition of Second and Third Harmonic Generators to convert residual 1064 nm into 355 nm. The 355 nm pulse energy is between 5 to 10 mJ. Phase matching is manually set by the end-user.

Opolette HE 2940

OPO SPECIFICATIONS

Wavelength Range (nm)	2940
Max OPO Energy (mJ)	6.0
Pulse to Pulse Stability (%) ¹	< 2
Pump Laser Residual Energy (mJ)	50 at 1064 nm
Linewidth (cm ⁻¹)	4
Pulse Duration (ns)	6
Beam Diameter (mm) ²	4
Beam Divergence (mrad) ³	< 5 (vertical); < 10 (horizontal)
Polarization	Vertical

PUMP LASER SPECIFICATIONS

OPO Pump Wavelength (nm)	1064
OPO Pump Energy (mJ)	100
Pulse Duration (ns)	7
Beam Divergence (mrad)	< 3
Pulse to Pulse Stability (%) ⁴	< 2
Pulse Repetition Rate (Hz)	20

¹ RMS, 99% of shots

³ Full angle, at 1/e² of the peak; at peak wavelength wavelengths

² at output of the laser

⁴ RMS, 99% of shots

OPERATING REQUIREMENTS (all systems)

Cooling System Integrated air-water heat exchanger (included)

Coolant Distilled water

Temperature 64-82°F / 18-28 °C

Power 100-240 VAC, 50/60 Hz, single phase 1000VAC

DIMENSIONS (all systems)

Laser Head (L x W x H; inches [cm]) 9.60 x 4.60 x 7.60 [24.1 x 11.7 x 19.3]

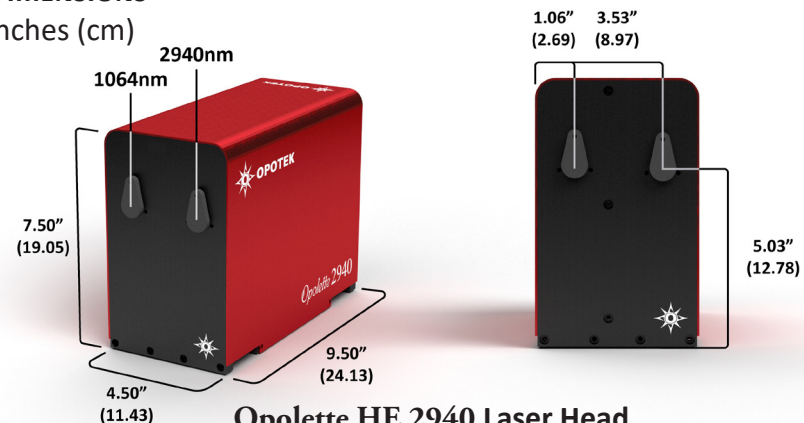
Power Supply (L x W x H; inches [cm]) 14.20 x 5.30 x 17.20 [36.00 x 13.30 x 43.50]

Laser Head Weight (lbs [kg]) 10.00 [4.5]

Power Supply Weight (lbs [kg]) 31 [14.09]

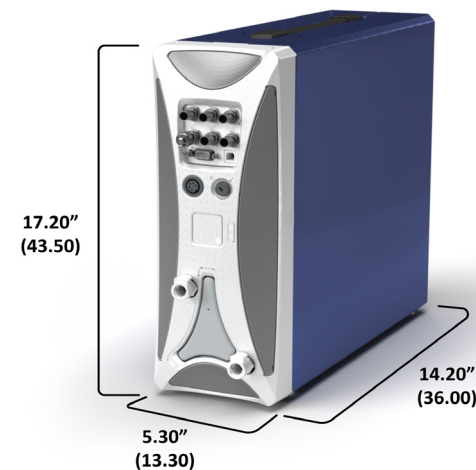
DIMENSIONS

inches (cm)



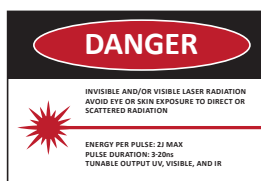
Opolette HE 2940 Laser Head

10.00 lbs / 4.50 kg



Power Supply

31.00 lbs / 14.09 kg



VERSION 1.01

Due to ongoing product improvements, all specifications are subject to change without notice.

All tuning curves represent nominal values.

All dimensions approximate in inches (centimeters).