



# Opolette UX

## TUNABLE LASER



OPOTEK continues its tradition of offering the smallest form factor tunable lasers with the Opolette UX. Built to accommodate the diverse needs of our customers, the Opolette UX fits the tight constraints of the modern laboratory while continuing to offer wide tunable ranges from the UV to MIR.

## Opolette UX TUNABLE LASER

### 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
- Computer controlled via a single USB connection
- Control software and software development kit (SDK)
- No factory installation required
- End user accessible alignment verification
- Temperature controlled, motorized harmonic(s)
- All tunable wavelengths output from the same port
- Access to pump laser wavelengths (1064nm, 532nm, and/or 355nm)
- All tunable wavelengths accessible without any manual configuration changes

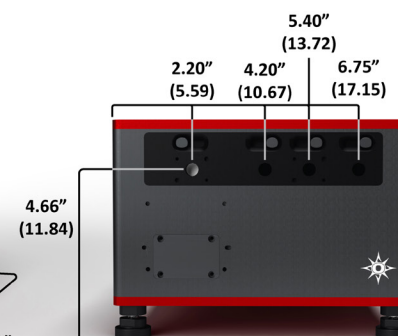
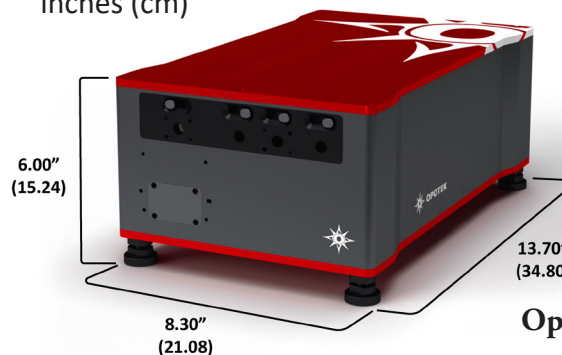
### AVAILABLE OPTIONS AND ACCESSORIES

**Motorized Variable Attenuator (MVA):** Externally mounted, motorized and computer-controlled 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. Wavelength ranges from 400 to 3450 nm supported.

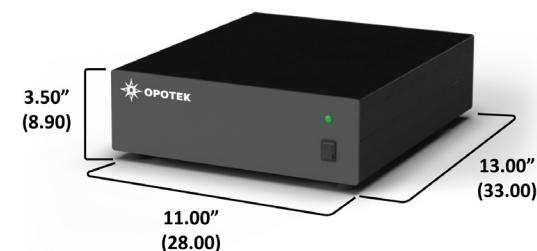
**Fiber Delivery Kit (FD):** Externally mounted fiber delivery kit includes mounts, coupling lens and fiber. Fiber specifications: 2.0 m long, 0.5 to 1 mm diameter cores, NA = 0.22. Fiber is terminated with a high-power SMA connectors on both ends. Wavelength ranges from 250 to 3450 nm supported.

**Wavemeter (WM):** Integrated Wavemeter for real-time monitoring of tunable wavelengths (some ranges through interpolation) and enabling harmonic auto optimization from near peak energies. Patch fiber and optics included to connect laserhead to Wavemeter. Available for models QX10220, QX10230 and QX10230U.

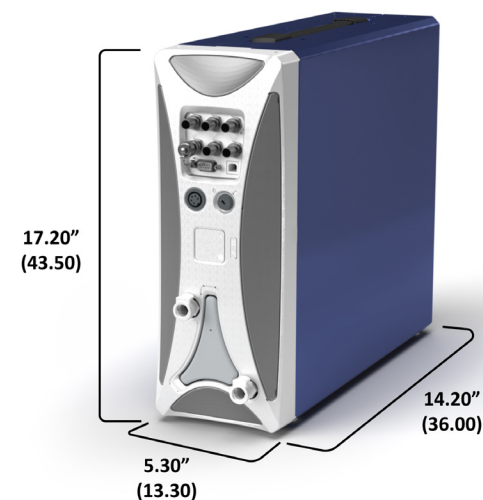
### DIMENSIONS inches (cm)



Opolette UX Laser Head

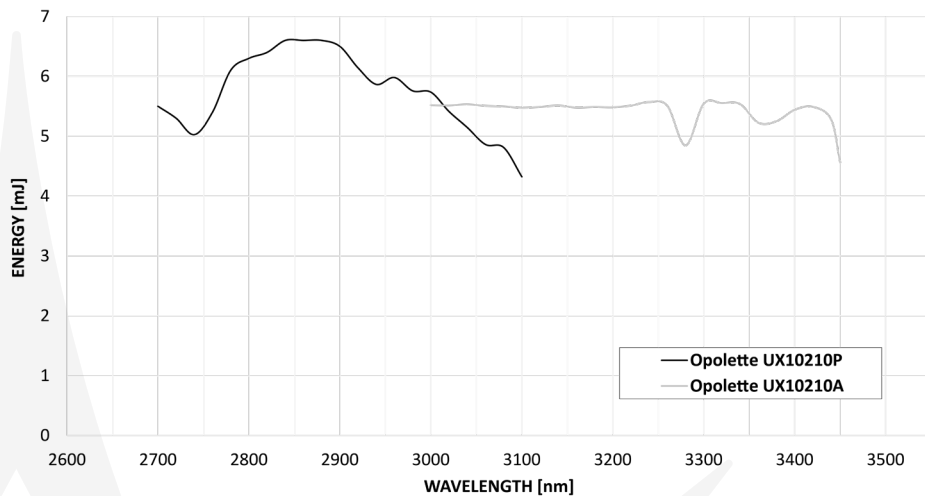


Electronics Box

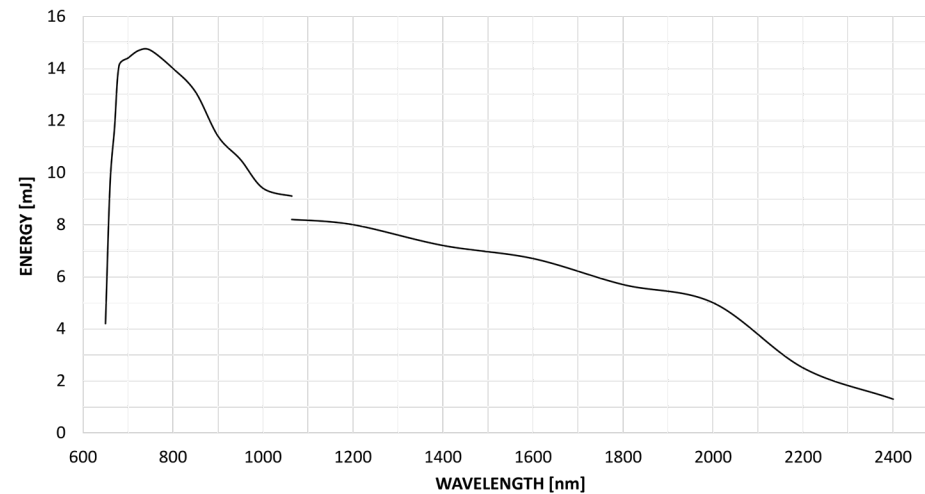


Power Supply

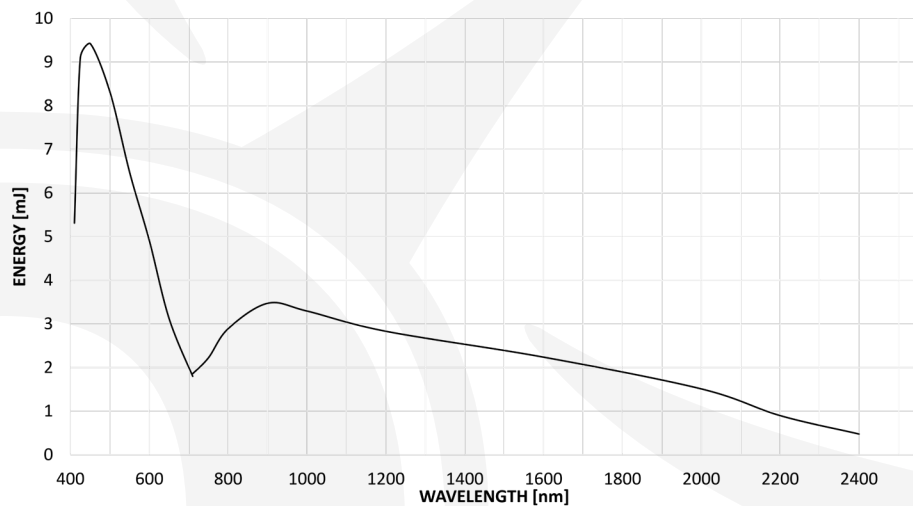
**Opolette UX10210**  
MIR TUNING RANGE



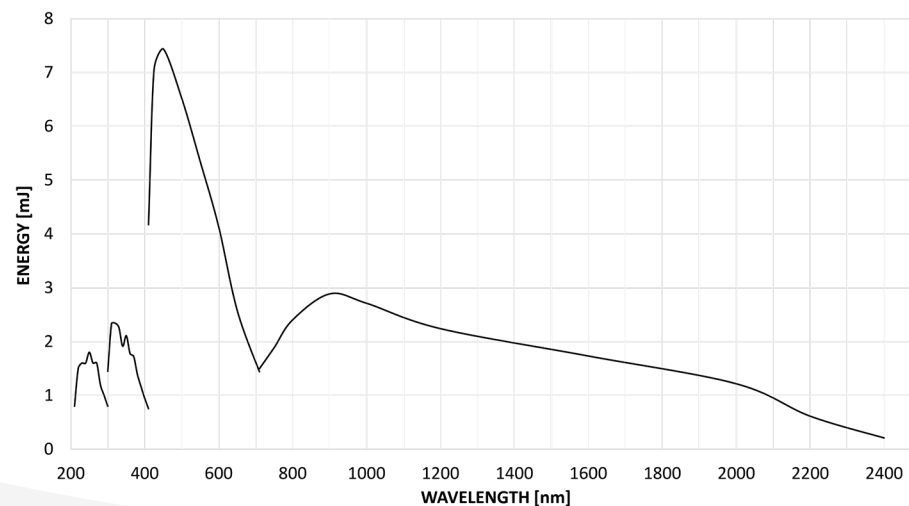
**Opolette UX10220**  
NIR TUNING RANGE



**Opolette UX10230**  
VIS/NIR TUNING RANGE



**Opolette UX10230U**  
UV/VIS/NIR TUNING RANGE



NOTE: All tuning curves represent nominal values.

**Opolette UX10210**
**Opolette UX10220**
**Opolette UX10230**

OPO SPECIFICATIONS	Opolette UX10210A	Opolette UX10210AP	Opolette UX10220	Opolette UX10230	Opolette UX10230U
<b>Wavelength Range (nm)</b>	3000-3450	2700-3100	650-2400	410-2400	210-2400
<b>Peak (Max) OPO Energy (mJ)</b>	5.5	6.6	15	9.5	7.5
<b>Max UV Energy (mJ)</b>	--	--	--	---	2.3
<b>Pulse to Pulse Stability (%)<sup>1</sup></b>	< 2	< 2	< 2	< 2	< 2
<b>Pump Laser Residual Energy (mJ)</b>	60 at 1064 nm	60 at 1064 nm	18-22 at 532 nm	15-20 at 355 nm	15-20 at 355 nm
<b>Linewidth (cm<sup>-1</sup>)</b>	4 - 7	4 - 7	10 - 15	4 - 7	4 - 7
<b>Tuning Resolution (nm)</b>	< 1	< 1	< 1	< 1	< 1
<b>Pulse Duration (ns)</b>	6	6	6	6	6
<b>Beam Diameter (mm)<sup>2</sup></b>	4	4	4	4	4
<b>Beam Divergence (mrad)<sup>3</sup></b>	< 5 (vertical); < 10 (horizontal)	< 5 (vertical); < 10 (horizontal)	< 2 (Both Axis)	< 1.5 (Both Axis)	< 1.5 (Both Axis)
<b>Polarization</b>	Vertical	Vertical	Horizontal (650 - 1064 nm) Vertical (1064 - 2400 nm)	Vertical (210 - 410 nm) Horizontal (410 - 710 nm) Vertical (710 - 2400 nm)	Vertical (210 - 410 nm) Horizontal (410 - 710 nm) Vertical (710 - 2400 nm)

**PUMP LASER SPECIFICATIONS**

<b>OPO Pump Wavelength (nm)</b>	1064	1064	532	355
<b>OPO Pump Energy (mJ)</b>	100	100	50	33
<b>Pulse Duration (ns)</b>	7	7	7	7
<b>Beam Divergence (mrad)</b>	< 3	< 3	< 3	< 3
<b>Pulse to Pulse Stability (%)<sup>4</sup></b>	< 2	< 2	< 2	< 2
<b>Pulse Repetition Rate (Hz)</b>	20	20	20	20

<sup>1</sup> RMS @ peak OPO wavelength, 99% of shots

<sup>2</sup> at output of the laser

<sup>3</sup> Full angle, at 1/e<sup>2</sup> of the peak

<sup>4</sup> RMS, 99% of shots

**DIMENSIONS (all systems)**

<b>Laser Head (L x W x H; inches [cm])</b>	13.70 x 8.30.0 x 6.00 [34.80 x 21.08 x 15.24]
<b>Electronics Box (L x W x H; inches [cm])</b>	13.00 x 11.00 x 3.50 [33.00 x 28.00 x 8.90]
<b>Power Supply (L x W x H; inches [cm])</b>	14.20 x 5.30 x 17.20 [36.00 x 13.30 x 43.50]
<b>Laser Head Weight (lbs [kg])</b>	30.00 [13.63]
<b>Electronics Box Weight (lbs [kg])</b>	5.00 [2.30]
<b>Power Supply Weight (lbs [kg])</b>	31 [14.09]

**OPERATING REQUIREMENTS (all systems)**

<b>Cooling System</b>	Integrated air-water heat exchanger (included)
<b>Coolant</b>	Distilled water
<b>Temperature</b>	64-82°F / 18-28 °C
<b>Power</b>	100-240 VAC, 50/60 Hz, single phase 1000VAC



VERSION 1.02

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).

 All standard Opolette UX Tunable Lasers are Class 4 Laser Products  
 Opolette UX Tunable Laser without access to residual output are Class 3B Laser Products
