OPOTEK

Opolucis™ C
Tunable Laser

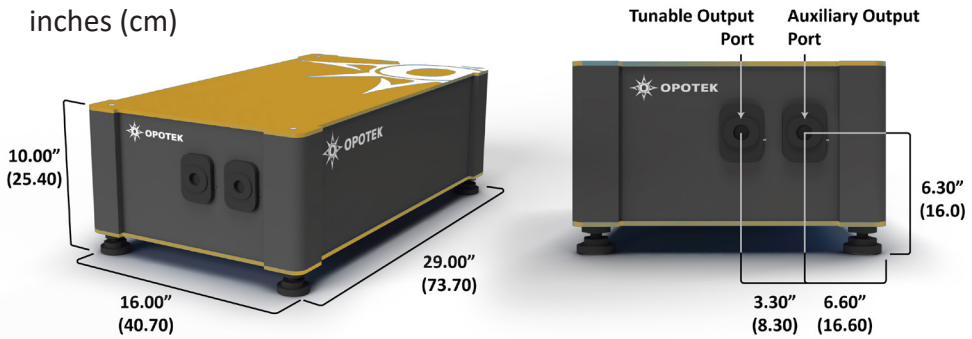
Introducing OPOTEK's third generation high energy, tunable lasers based on OPO technology. With a new advanced tuning mechanism and diode-pumped solid state (DPSS) pump laser, take your application to the next level with up to ten times higher repetition rates and wide tunability from the deep UV to near infrared. Acquiring more data points per second improves signal averaging, allows the detection of experimental events in real time and increases imaging frame rates.

SYSTEM FEATURES

- Fully integrated optical layout
- New more advanced wavelength tuning mechanism
- DPSS based pump laser with minimal maintenance
- Diode and/or Q-Switch triggering
- Computer controlled via a single USB connection
- Control software and software development kit (SDK)
- Programmable scans
- No factory installation required
- End user accessible alignment verification
- Temperature controlled, motorized Harmonics
- All tunable wavelengths output from a single port and accessible without any manual configuration changes
- Access to fundamental and pump beams (1064nm, 532nm, and/or 355nm)
- Fiber bundle compatible output ports

DIMENSIONS

inches (cm)



AVAILABLE OPTIONS AND ACCESSORIES

Extended Tuning Range: Extends the tuning range to 210-2400 nm (C3030U) or 330-2400 nm (C3020D).

Motorized Variable Attenuator (MVA): 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. Can only be used with visible and near-infrared wavelengths and should be removed when operating below 400 nm if applicable.

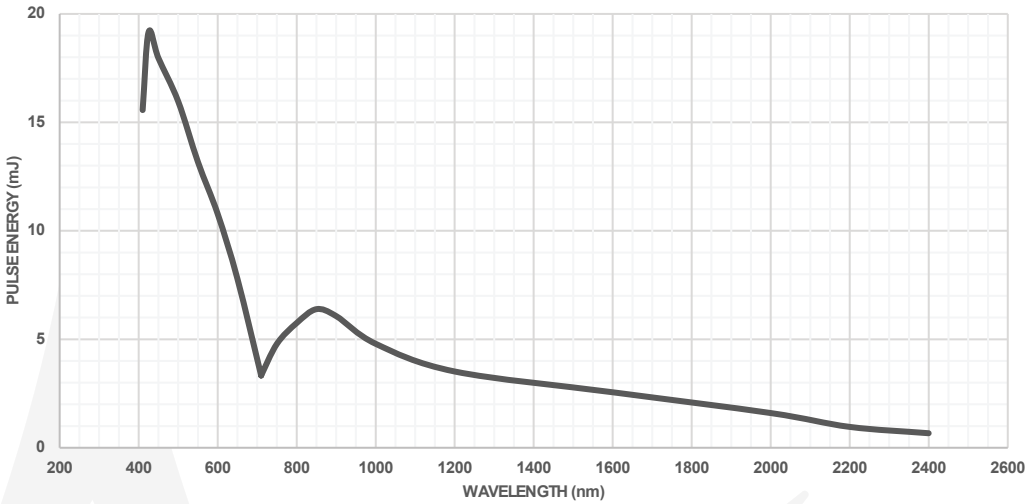
Integrated Fiber Bundle (FB): Fiber bundle is installed directly into the auto-locking OPO output port. For optimal performance, an internal lens is installed inside the system. The lens can be removed by the end user for free space access. Typical transmission is 60-70% at shorter wavelengths and 40-60% at longer wavelengths.
Fiber bundles are 2.0 m long with 3.0-5.0 mm input/output diameters and numerical aperture of 0.37. Can only be used with visible and near-infrared wavelengths and should be removed when operating below 400 nm if applicable.

Wavemeter (WM): Integrated Wavemeter for real-time monitoring of wavelengths (some wavelengths through interpolation) and enabling harmonic auto optimization from near peak energies. Patch fiber and optics included to connect laserhead to Wavemeter.

Fast Tuning (FT): Change tuning speed from seconds to < 50 ms between any wavelength in the Signal or Idler.

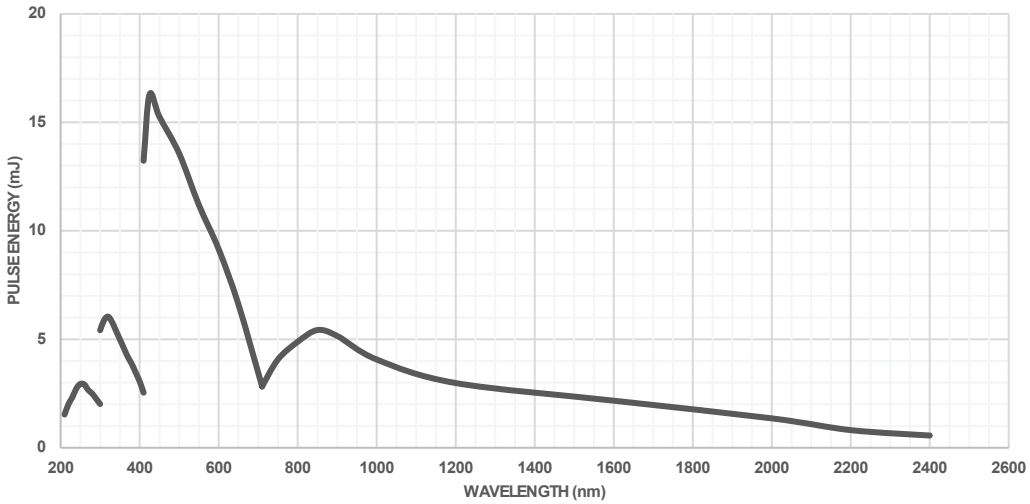
C3030

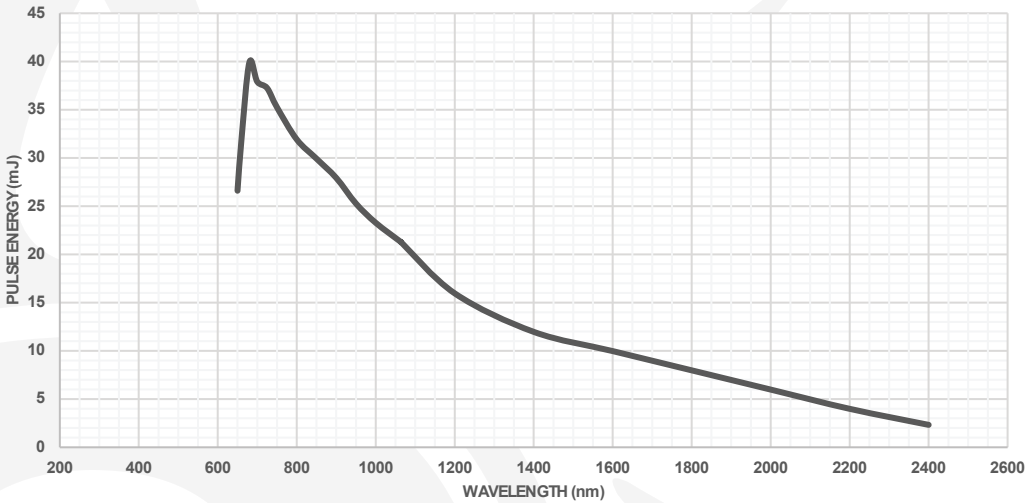
VIS-NIR Tuning Range



C3030U

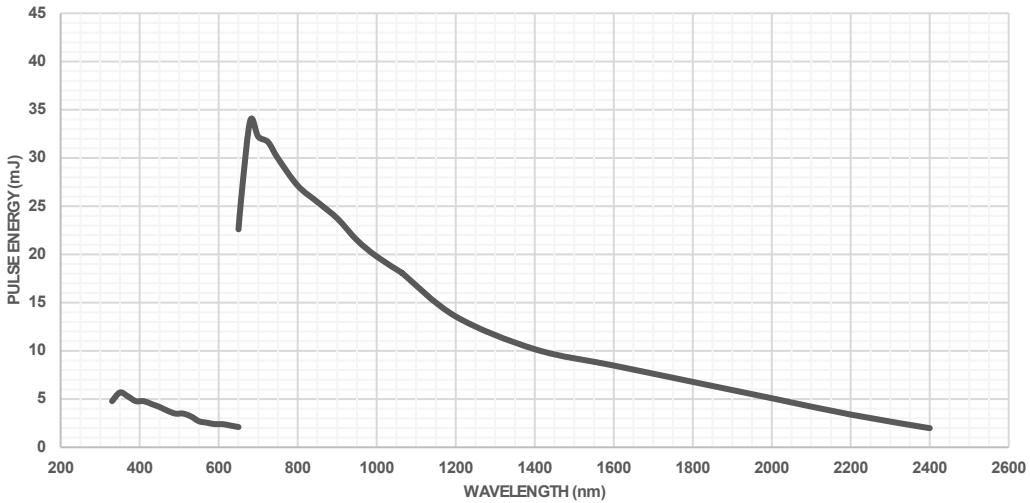
UV-VIS-NIR Tuning Range





C3020

NIR Tuning Range



C3020D

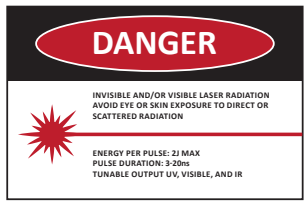
UV-VIS-NIR Tuning Range

OPO SPECIFICATIONS	C3020	C3020D	C3030	C3030U
WAVELENGTH RANGE (nm)	650-2400	330-2400	410-2400	210-2400
Peak (Max) OPO Energy (mJ)	40	35	20	16
Peak UV Energy (mJ)	--	6	--	6
Pulse to Pulse Stability (%) [1]	< 2		< 2	
OPO Pump Laser Residual Energy (mJ)	50		33	
Linewidth (cm^{-1})	10 - 15		4 - 7	
Tuning Resolution (nm)				
Signal	< 0.1		< 0.1	
Idler	< 1		< 1	
Pulse Duration (ns)	10		10	
Beam Diameter (mm) [2]	6		6	
Beam Divergence (mrad) [3]	< 2 (Both Axis)		< 2 (Both Axis)	
Signal Polarization	Horizontal		Horizontal	
Idler/UV Polarization	Vertical		Vertical	

PUMP LASER SPECIFICATIONS		
OPO Pump Wavelength (nm)	532	355
OPO Pump Energy (mJ)	150	100
Pulse Duration (ns)	10	10
Beam Divergence (mrad)	< 4	< 4
Pulse to Pulse Stability (%) [4]	< 2	< 2
Pulse Repetition Rate (Hz)	100	100

[1] *RMS @ peak (max) OPO, 99% of shots*
[2] *at output of the laser*
[3] *Full angle at $1/e^2$ of the peak (max) OPO*
[4] *RMS, 99% of shots*

COMPONENT SPECIFICATIONS	Laserhead	Controller	Diode Driver	Chiller
Dimensions (in [cm])	29.0 x 16.0 x 10.0 [73.7 x 40.7 x 25.4]	11.5 x 10.3 x 3.80 [29.2 x 26.2 x 9.65]	18.9 x 16.9 x 5.24 [48.0 x 43.0 x 13.3]	27.6 x 11.8 x 19.7 [70.0 x 30.0 x 50.0]
Weight (lb [kg])	100 [45.4]	5.10 [2.31]	33.1 [15.0 kg]	66.1 [30.0]
Electrical	--	100-240 VAC, 50/60 Hz	100-240 VAC, 50/60 Hz	230 VAC, 50/60 Hz



VERSION 1.00
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).
OPOTEK LLC is certified to ISO 9001:2015.