

RGL Series

High Pulse Energy and High Repetition Rate Picosecond Laser



Features

- Variable repetition rate: single shot to 5kHz
- Excellent beam quality ($M2 < 1.3$)
- Small form factor, compact
- Industrial grade
- Diode pumped technology
- Wide range of powers and harmonic options available
- All-in-one single box design

Applications

- Process difficult materials
- Metal welding, cutting and deburring
- Improved micro and meso-machining quality with less dross
- Cold ablation of materials with less "heat affected zone" than conventional nanosecond DPSS
- Improve cut quality and throughput for medical applications (i.e. heart stents)
- Stereo lithography
- LIDAR
- Satellite Laser Ranging (SLR)

System Specifications

Model Number	RGL-1064-2	RGL-1064-4
Wavelength (nm)	1064	
Pulse Energy (@1 kHz)	2 mJ	4 mJ
Average Power (@ 1 kHz)	2 W	4 W
Beam Divergence	<1 mrad	
Pulse Width*	<25 ps	50 ps (nominal)
Repetition Rate	Single Shot to 5 kHz	
Spatial Mode	TEM ₀₀ M ² <1.3	
Long Term Stability (8h±3 °C)	< ±2%	
Pulse to Pulse Stability	< 2% rms	
Output Beam Diameter	1.7 mm (nominal)	
Beam Ellipticity	< 10%	
Beam Point Stability	< 50 urad	
Ambient Temperature	15 to 30°C(59 to 86 °F) Operating Range	
Relative Humidity	Non-condensing, 90% Max	
Cooling	Closed Loop Chiller	
Dimensions (W x H x L)†	10" x 3.75" x 33.5"	
Interface	Ethernet / RS 232 / GUI / External TTL Triggering	

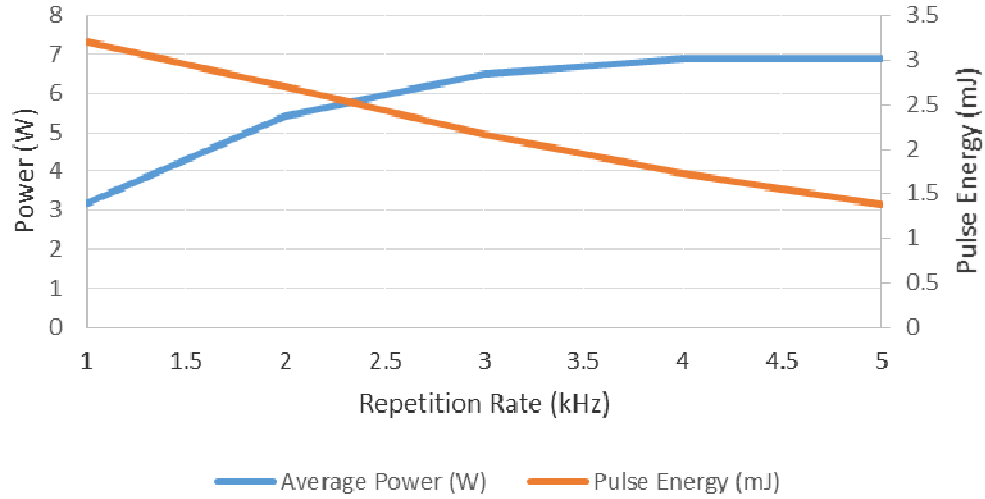
Model Number	RGL-532-1.5	RGL-532-2.5
Wavelength (nm)	532	
Pulse Energy (@1 kHz)	1.5 mJ	2.5 mJ
Average Power (@ 1 kHz)	1.5 W	2.5 W
Beam Divergence	<1 mrad	
Pulse Width*	<25 ps	50 ps (nominal)
Repetition Rate	Single Shot to 5 kHz	
Spatial Mode	TEM ₀₀ M ² <1.3	
Long Term Stability (8h±3 °C)	< ±2%	
Pulse to Pulse Stability	< 2% rms	
Output Beam Diameter	1.7 mm (nominal)	
Beam Ellipticity	< 10%	
Beam Point Stability	< 50 urad	
Ambient Temperature	15 to 30°C(59 to 86 °F) Operating Range	
Relative Humidity	Non-condensing, 90% Max	
Cooling	Closed Loop Chiller	
Dimensions (W x H x L)†	10" x 3.75" x 33.5"	
Interface	Ethernet / RS 232 / GUI / External TTL Triggering	

* Longer pulse width available upon request.

† Exclude height of desiccant (0.3 in)

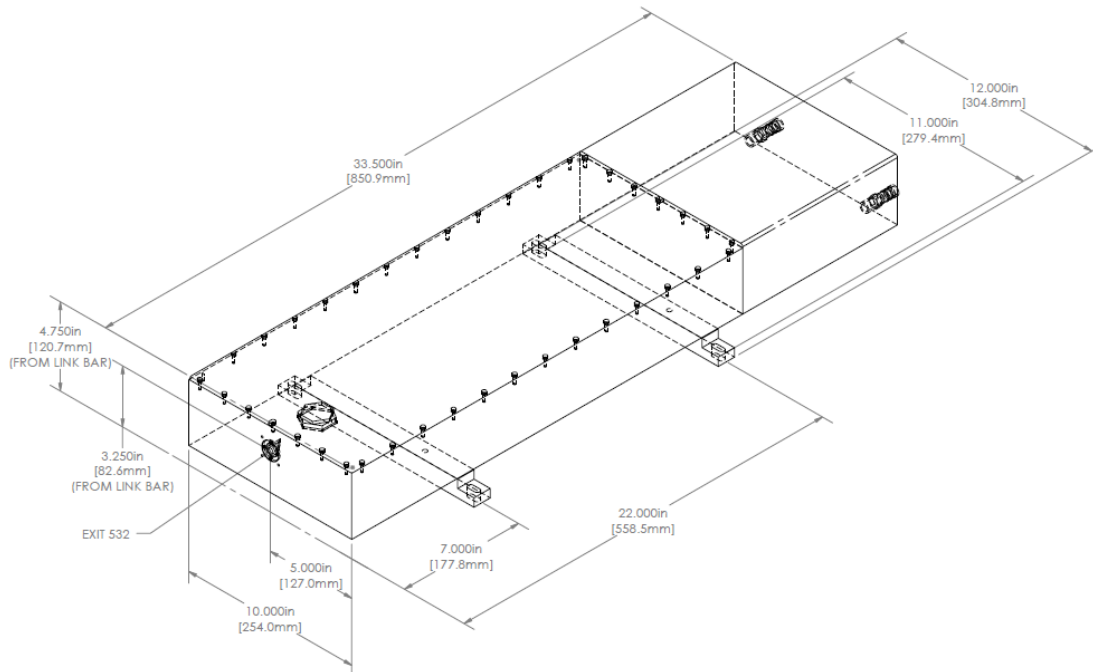
Performance Curve

RGL-532-2.5



Dimensional Drawing

RGL AIO Laser



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Due to Photonics Industries' commitment to continuous product improvement, specifications and drawings are subject to change without notice.

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