

RGL Series

High Pulse Energy and High Repetition Rate Picosecond Lasers



Features

- Variable Repetition Rate: Single Shot to 5 kHz/1 kHz
- Excellent Beam Quality (M^2 typically <1.3)
- Small Form Factor, Compact Laser Head
- Industrial Grade
- Diode Pumped Technology
- Wide Range of Powers and Harmonic Options Available

Applications

- Process Difficult Materials
 - Quartz, other glasses
 - Ceramics
 - CIGS
- 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 (e.g. heart stents)
- Stereo Lithography
- LIDAR
- Satellite Laser Ranging (SLR)



Photonic Industries
International, Inc.

The Pioneer of Intra-Cavity Solid-State Harmonic Lasers

RGL Specifications

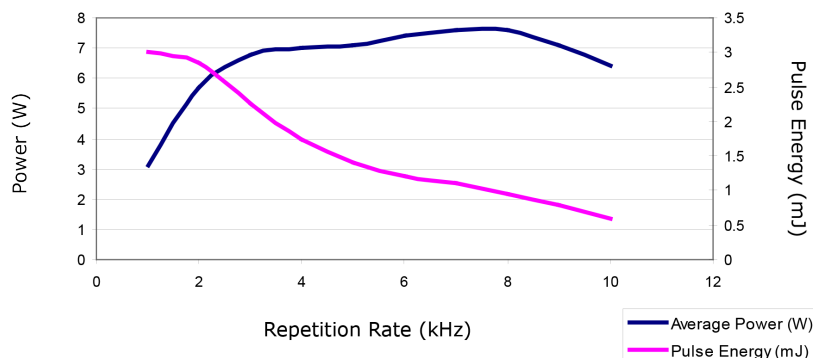
Wavelength (nm)	1064nm		
Model Number	RGL-1064-1.5	RGL-1064-4	RGL-1064-6
Pulse Energy (@ 1 kHz)	1.5 mJ	4 mJ	6 mJ
Average Power (@ 5 kHz)	5 W	10 W	6 W @ 1 kHz
Beam Divergence	<3 mrad		
Wavelength (nm)	532nm		
Model Number	RGL-532-1	RGL-532-2.5	RGL-532-3.5
Pulse Energy (@1 kHz)	1 mJ	2.5 mJ	3.5 mJ
Average Power (@ 5 kHz)	3 W	5 W	3.5 W @ 1 kHz
Beam Divergence	<1 mrad		
Wavelength (nm)	355nm		
Model Number	RGL-355-0.5	RGL-355-1	RGL-355-1.5
Pulse Energy (@ 1 kHz)	0.5 mJ	1 mJ	1.5 mJ
Average Power (@ 5 kHz)	1.5 W	3 W	1.5 W @ 1 kHz
Beam Divergence	<1 mrad		

Common Specifications

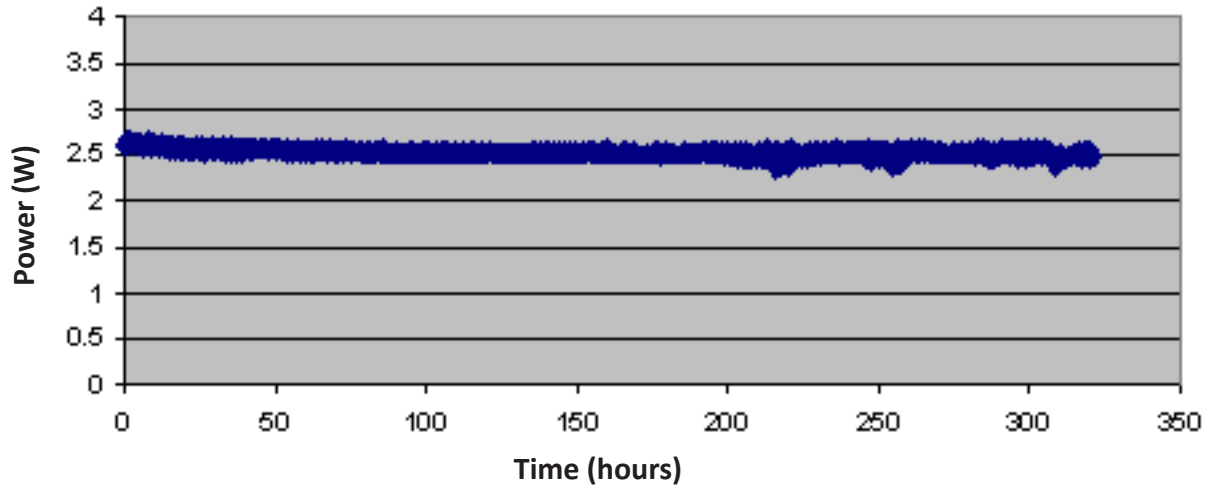
Pulse Width	<25 ps	50 ps (nominal)	<25 ps
Repetition Rate	Single Shot to 5 kHz		1 kHz
Spatial Mode Profile	TEM00		
M2	<1.3		<1.5
Long Term Instability (8h±3 °C)			<±2%
Pulse to Pulse Stability			<2% rms
Output Beam Diameter	1.7 mm (nominal)		
Beam Ellipticity			<10%
Beam Point Instability			<50 urad
Ambient Temperature	15 to 30 °C (59 to 86 °F) Operating Range		
Relative Humidity	Non-condensing, 90% Max		
Cooling	Closed Loop Chiller		
Laser Head Dimensions*	10"(W) x 3.75"(H) x 32"(L)		12"(W) x 4.5"(H) x 33"(L)
Controller Dimensions*	19"(W) x 5.25"(H) x 13.5"(D)		

* For dimensional drawings, please contact the factory or visit our website.

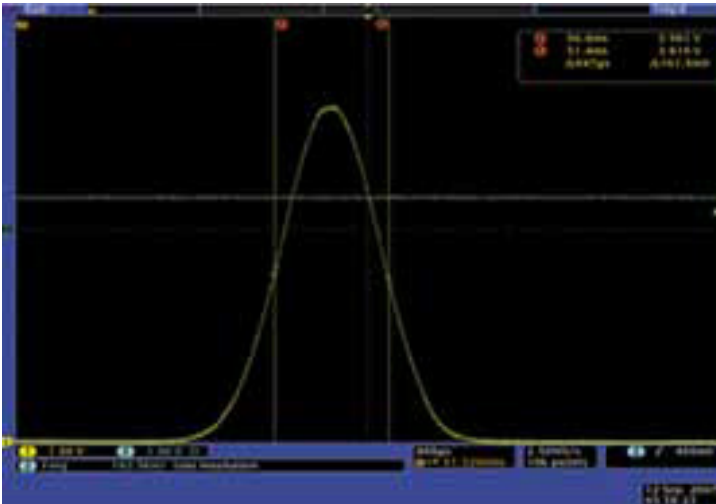
RGL-532-2.5 Typical performance Curve



RG Series Long Term Stability <2% rms

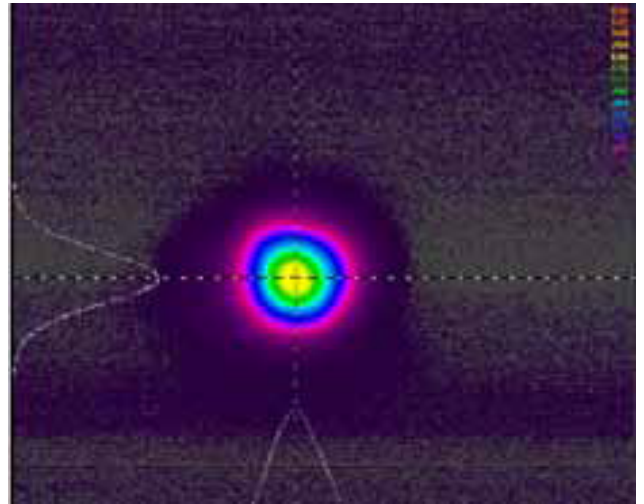


RG Series Pulse Width ~20ps



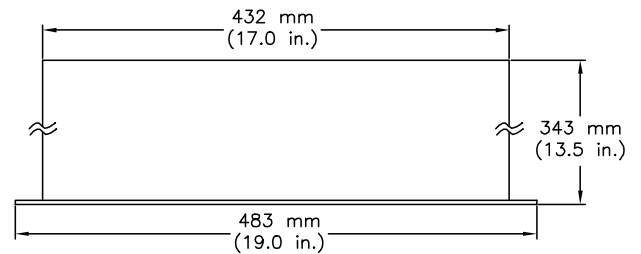
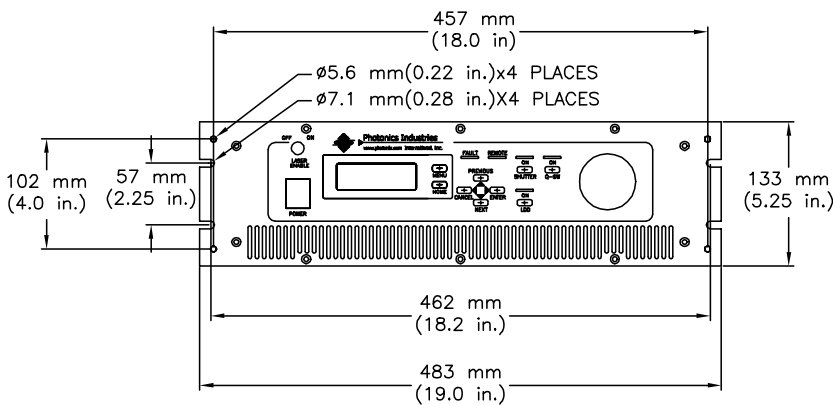
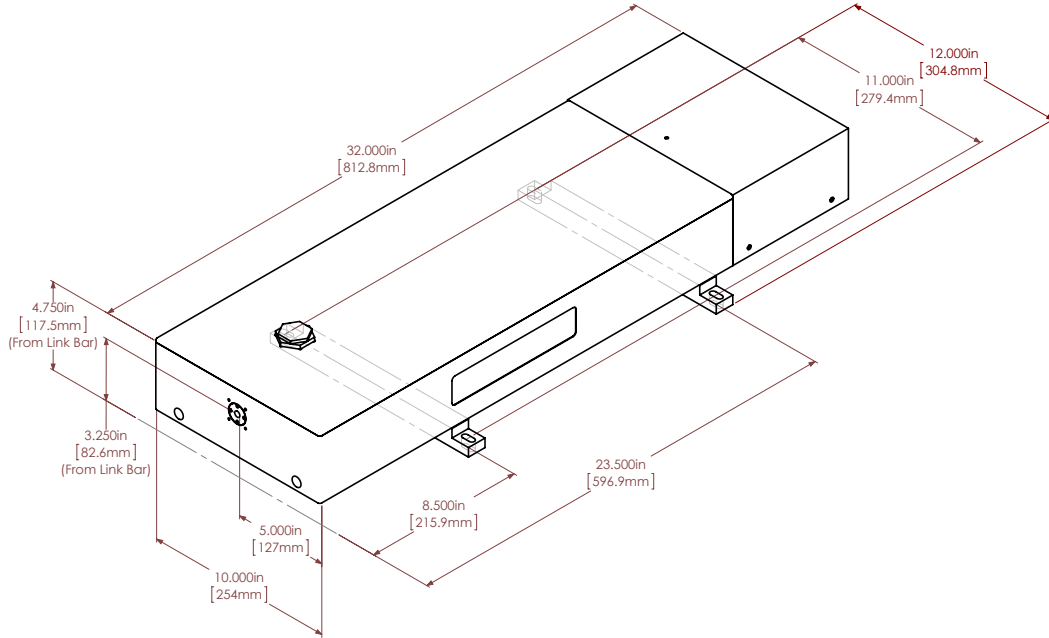
Measured with: Femtochrome Research, Inc. FR-103XL Autocorrelator

RG Series Beam Profile $M^2 < 1.2$



In order to continuously improve our product catalog, we reserve the right to change all specifications without prior notice. Please contact the factory for the most recent specifications.

Dimensional Drawings



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Photronics Industries conforms to provisions of US 21 CFR 1040.10 & 1040.11 and is made under one or more US patents listed below:
 7,346,092; 7,082,149; 7,079,557; 6,999,483; 6,980,574; 6,961,355; 6,842,293; 6,762,405; 6,690,692; 6,587,487; 6,584,487; 6,366,596;
 6,327,281; 6,356,578; 6,246,707; 6,229,839; 6,108,356; 6,061,370; 6,028,620; 5,936,938; 5,898,717 and Pending Patents

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