

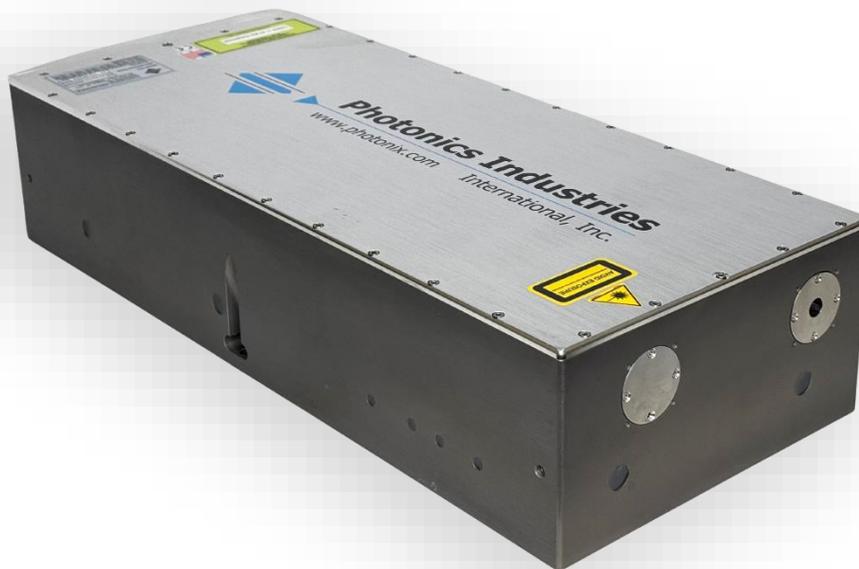
RX GRN “HE” Series

RX Picosecond Lasers

TEM₀₀, Green, High Pulse Energy, Picosecond Lasers

With 20+ years of expertise in developing and refining picosecond laser features, performance, reliability, after delivering thousands of RX series lasers, RX Series picosecond lasers deliver exceptional performance, precision, and durability, making them ideal for advanced industrial and scientific applications. Our RX series excels in precision manufacturing, scientific research, aerospace, and ultrafast laser processing. While maintaining consistent reliability and accuracy.

Photronics Industries has earned a reputation as a global leader in ultrafast laser technology. Each laser is built to rigorous quality standards, reflecting our commitment to innovation and customer satisfaction. Our proven track record demonstrates our ability to address complex challenges and deliver solutions that empower cutting-edge industries and research.



APPLICATIONS

- Marking & Scribing
- Medical Device Laser Micro processing
- Thin Film Removal and Processing
- PCB & Polymer Cutting & Drilling
- Selective Annealing and Doping
- Solar Cell Manufacturing
- Semiconductor Processing
- Micromachining Transparent Materials
- LIDAR and laser ranging

FEATURES

- Up to >500 μ J Pulse Energy at 100kHz
- True TEM₀₀ Output, $M^2 < 1.3$
- Exceptional point stability (<25 μ rad)
- Ultra-Short Pulse Widths (<10ps @532nm)
- Burst Mode for Pulse Control
- Robust & Compact Form Factor
- Dynamic **Pulse Energy Control - PEC**
- **Position Synchronized Output – PSO** (~30ns timing jitter)
- Power Monitoring and Self-Calibration

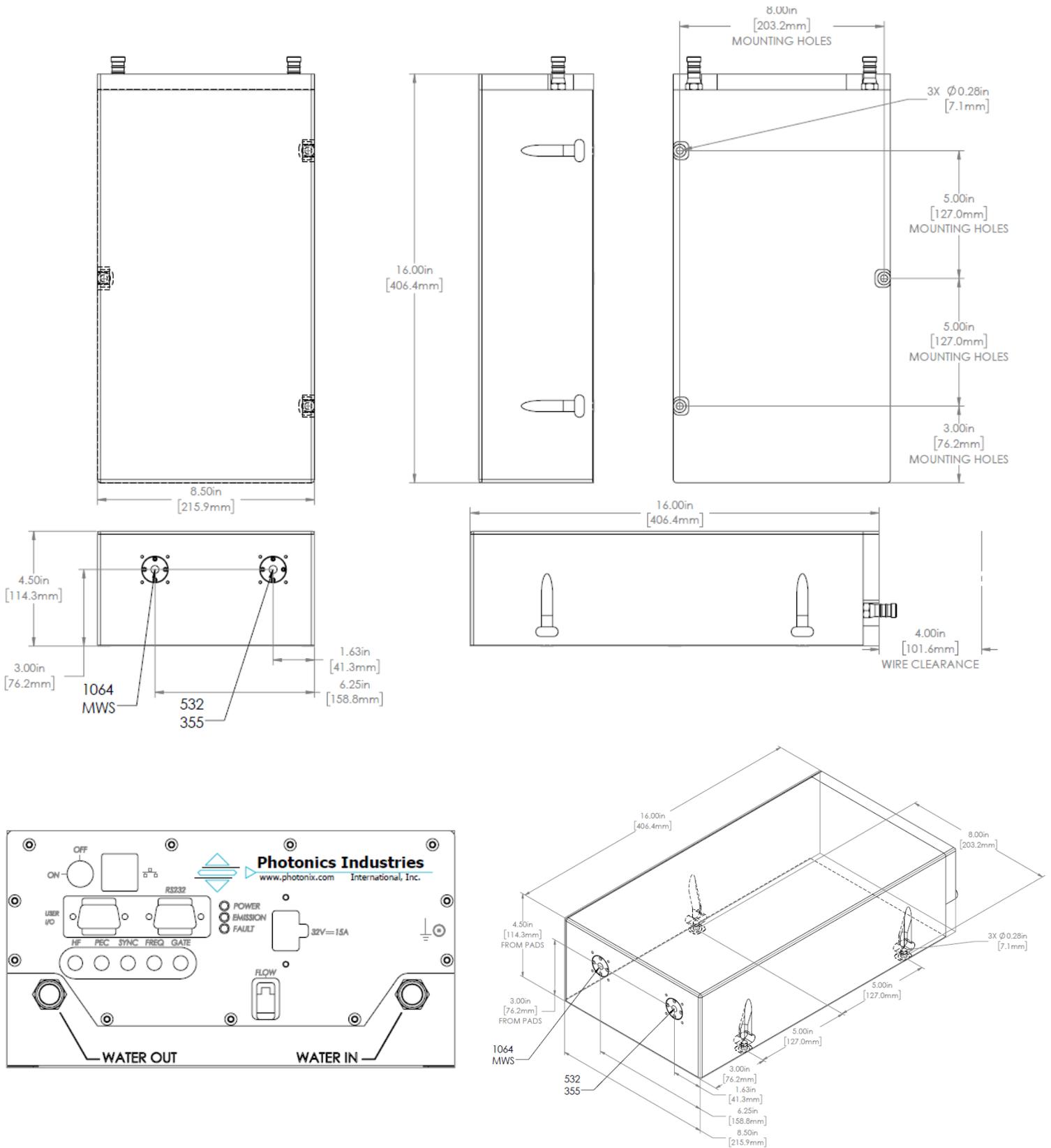
Specifications – RX-HE Series ^{1,2,3,4}				
	RX-532-20-HE	RX-532-70-HE	RX-532-100-HE	RX-532-150-HE
Wavelength Output (nm)	532			
Average Power @ 100kHz (W)	>20	>40	>50	>60
Max Pulse Energy (μ J) ⁵	200	400	500	600
Specification PRF (kHz)	100			
Pulse Width (ps)	<10ps			
Pulse repetition rate (kHz) ⁶	Single Shot to 2000			
Pulse-to-pulse stability (RMS %)	<1			
Long-term power stability (RMS %) ⁷	≤ 1			
Beam spatial mode & M^2 ⁸	TEM ₀₀ - $M^2 < 1.35$			
Beam Diameter (mm) ⁵	1.0 \pm 0.5			Contact us
Beam Divergence (nominal) (mrad) ⁵	<1.5			
Beam Circularity (%)	>90			
Beam Pointing Stability (μ rad)	<25			
Beam Bore Sight Accuracy	≤ 1 mm lateral (to specified exit location), ≤ 5 mrad angular (to specified exit direction)			
Polarization ratio	Horizontal; >100:1			
Burst Mode				
MegaHz Burst Mode (kHz)	Single Shot to 2000			
Max Sub-pulses in Burst ¹⁰	20			
Operational Specifications and Characteristics				
Interface	RS232, Ethernet, Software GUI, External TTL Triggering			
Warm-up time	< 5 minutes from standby, <15 minutes from cold start			
Electrical requirement	100-240 V AC		200-240 V AC	
Line frequency (Hz)	50-60			
Power consumption (W)	<500	<900	<1300	<1800
Dimensions	16 x 8.5 x 4.5 in. [406.4 x 215.9 x 114.3mm]	20 x 8.5 x 4.5 in. [508 x 215.9 x 114.3mm]	20 x 10 x 4.5 in. [508 x 254 x 114.3mm]	23 x 12 x 4.5in [584.2 x 304.8 x 114.3mm]
Weight	~38lbs [17.2kg]	~47lbs [21.3kg]	~57lbs [25.9kg]	~65lbs
Environmental Requirements				
Ambient temperature ²	Ambient 15°C to 30°C (59°F to 86°F) Operating Range			
	Relative humidity 0% to 80% max, non-condensing			
Storage conditions	-10°C to 40°C; sea level to 12000 m			
	0% to 80% relative Humidity, non-condensing			
Cooling system	Water-Cooled [20-22°C \pm 0.1°C]			

Notes:

- [1] After warm-up time, steady state chiller temperature
 [2] Steady-state operation (no pulse gating or constant no gating or PRF change).
 [3] Single pulse operation [Burst = 1]
 [4] Maximum power with PEC = 100.
 [5] "HE" model optimized at 100 kHz.

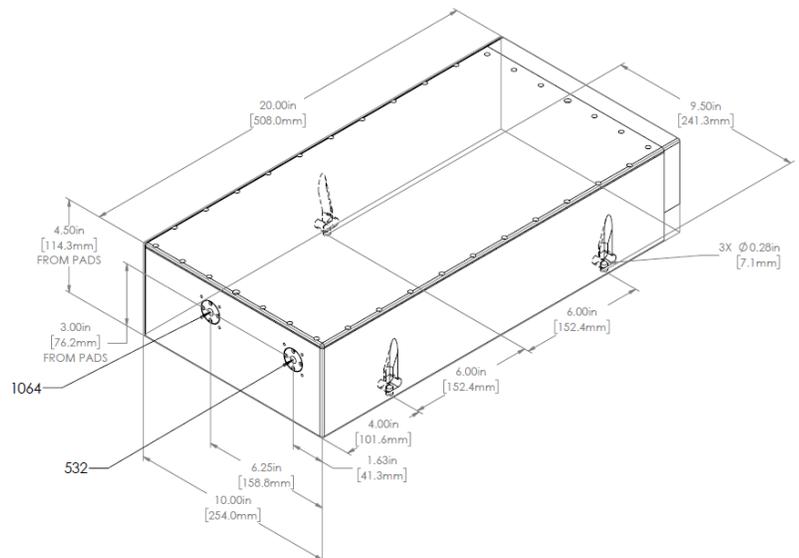
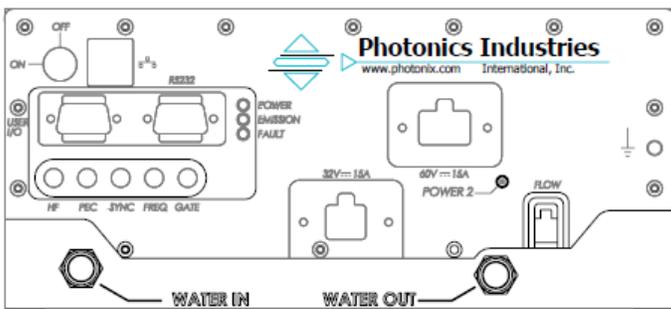
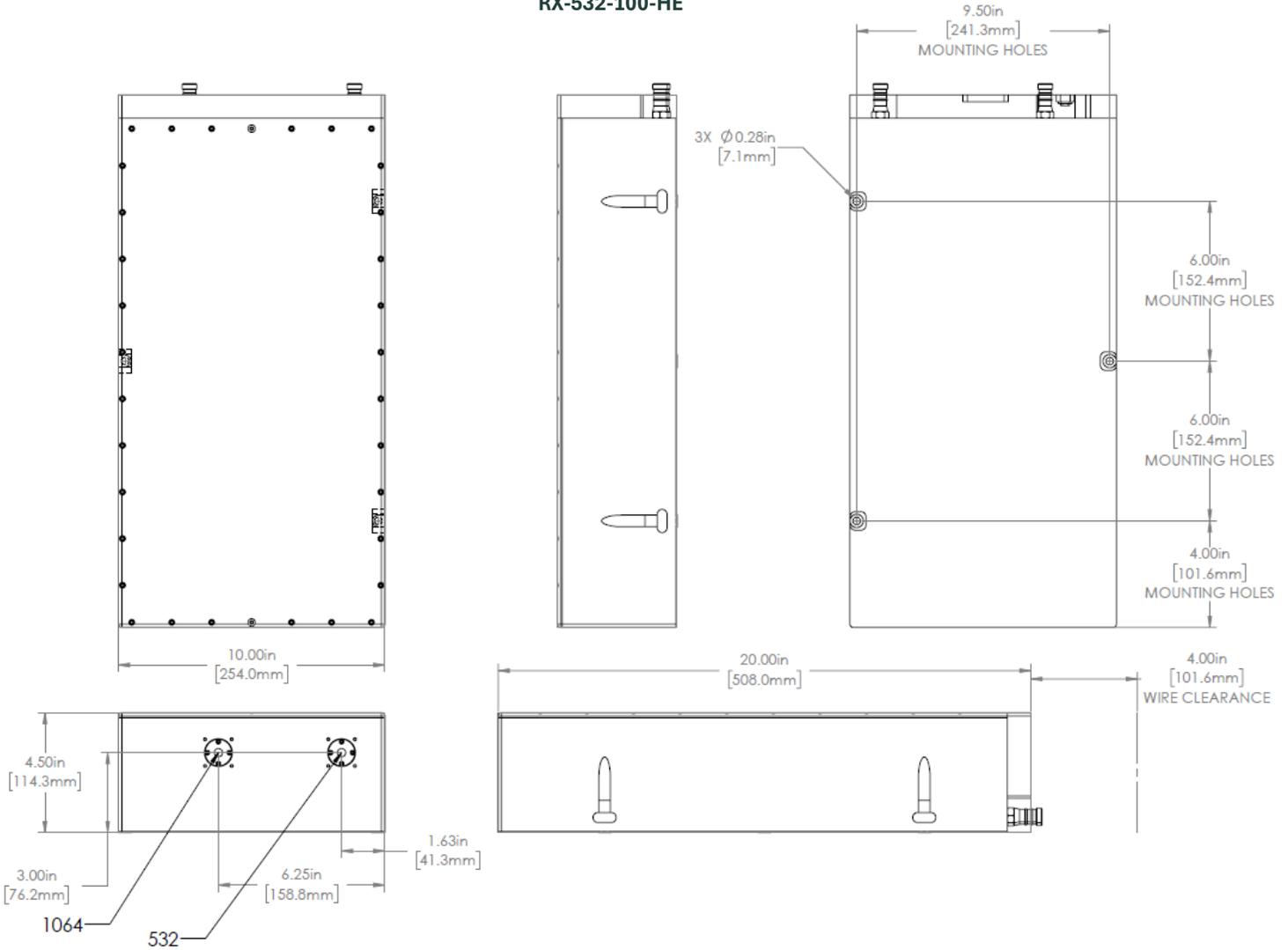
- [6] Option up to 15 MHz
 [7] Measured over 8 hours \pm 1°C, for operation of the laser outside of the specified temperature range, contact PI.
 [8] ALL beam parameters and stability are at specification repetition rate.
 [9] Pulse repetition rate x number of burst cannot exceed 15 MHz

Dimensional Drawings
RX-532-20-HE

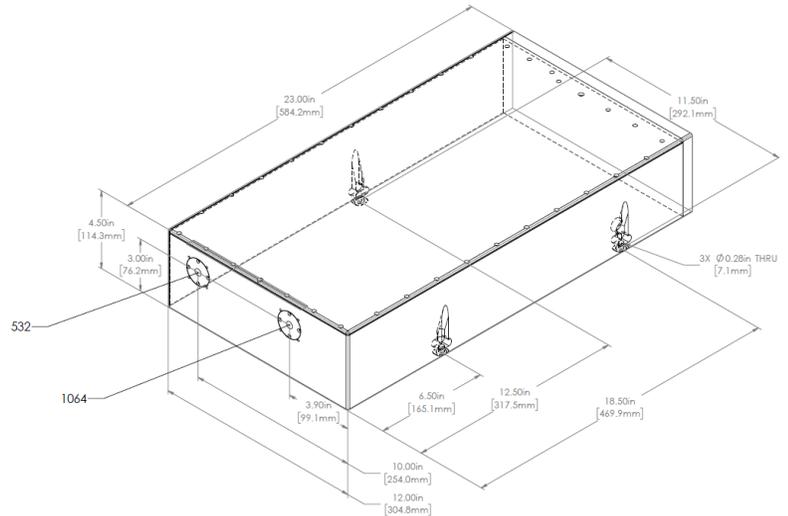
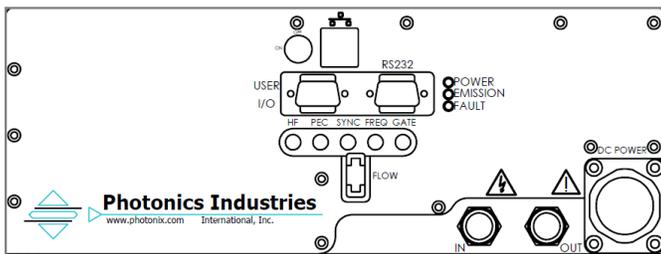
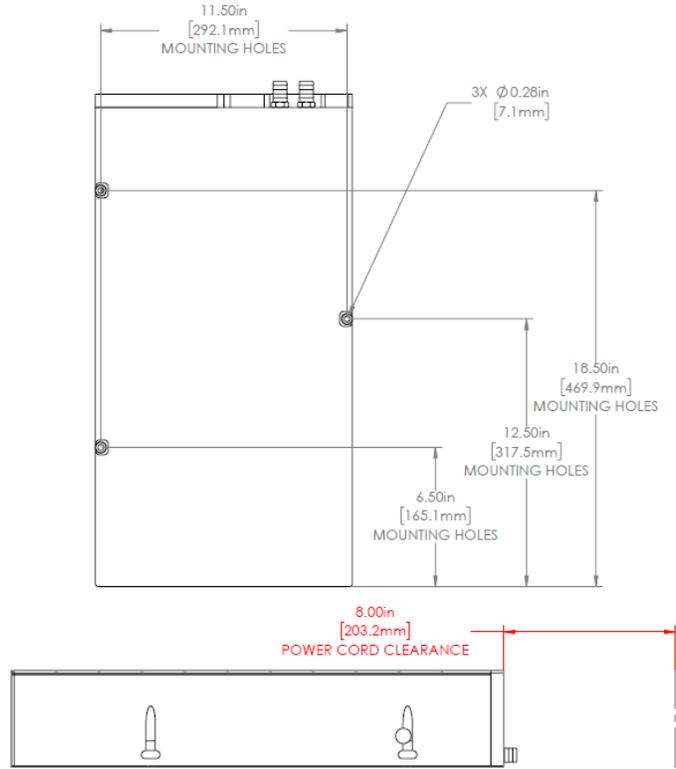
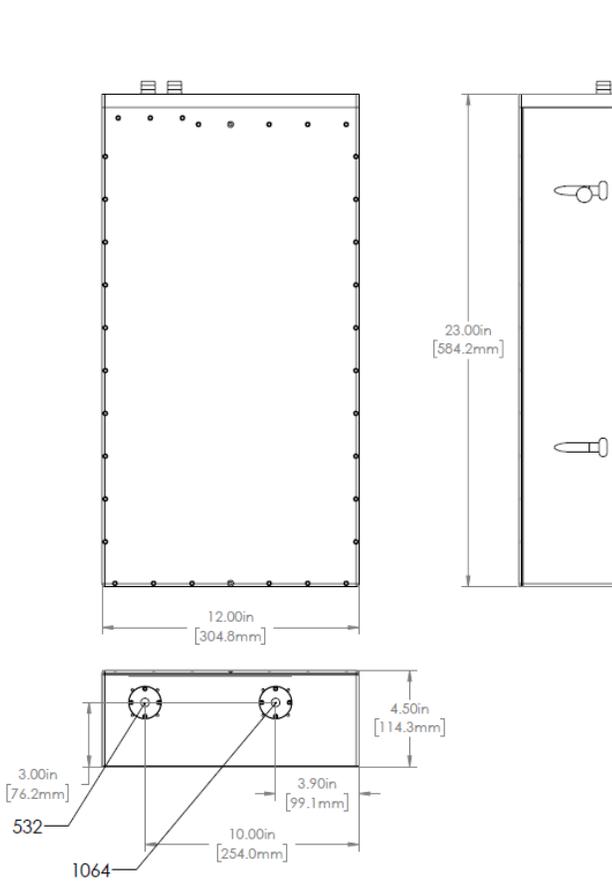


Dimensional Drawings

RX-532-100-HE



Dimensional Drawings
RX-532-150-HE



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Photonics Industries International Inc. is the pioneer of intracavity harmonic lasers and is at the forefront of developing, manufacturing, and marketing a wide range of nanosecond, sub-nanosecond, picosecond, and femtosecond lasers for the industrial, scientific, defense and medical industries.

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Our ongoing policy is to improve the design and specification of our products. The information provided is non-binding.

