## Vanguard<sup>™</sup> One<sup>™</sup>

**Mode-Locked Quasi-CW Lasers** 

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The Spectra-Physics Vanguard One UV125 is a compact, all-in-one, quasi-CW laser delivering >125 mW of UV power. The new laser operates air-cooled with low noise of <1% rms and delivers a long-operating life and low cost of ownership. Vanguard One is ideal for applications in bio-instrumentation, including flow cytometry, microscopy, cell sorting, and semiconductor wafer inspection.

Based on the highly successful Vanguard laser family, Vanguard One UV125 is an all-in-one laser, combining electronics, laser cavity, and cooling in a single housing for easy integration and bench-top tools. The quasi-CW operation ensures high fluorescence signal-to-noise ratio while preventing cell damage in bio-instrumentation. The laser firmware enables closed-loop power control, ensuring long-term stability with less than 2% power variation for consistent measurement results. Vanguard One lasers pass extensive environmental qualification testing to deliver high reliability and low cost-of-ownership needed for bio-instrumentation and demanding industrial applications.

#### The Vanguard One Advantage

- Low noise quasi-cw output of <1% rms</li>
- Air-cooled design with <100 W heat dissipation
- Excellent beam quality M<sup>2</sup> <1.2
- Durable, reliable, and rugged
- Compact all-in-one design
- Closed-loop power control



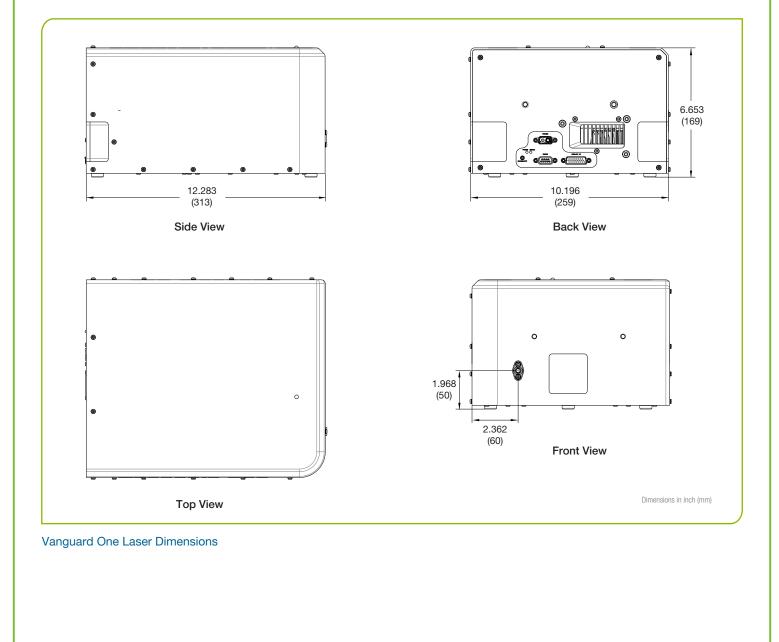
## Vanguard One Specifications<sup>1, 2</sup>

	Vanguard One UV125			
Output Characteristics				
Wavelength	355 ± 1 nm			
Power	125 mW			
Repetition Rate	80 ± 2 MHz			
Average Power Stability	<2%			
Pulse Energy Noise	<1% rms			
Beam Pointing Stability	<25 µrad/°C			
Polarization Ratio	>100:1			
Beam Parameter				
Beam Quality (M²)	<1.2 TEM <sub>00</sub>			
Circularity	0.8-1.2			
Beam Diameter (1/e²)	1 ± 0.2 mm			
Beam Divergence	<1 mrad			
Dimensions				
Laser Head (L x W x H)	313 x 259 x 169 mm			
Cooling				
Ambient Temperature	20-27°C			
Cooling	Air			
Heat Dissipation Maximum	160 W (typical 100 W)			

1. Due to our continuous product improvement program, specifications may change without notice. 2. Vanguard One is a Class IV - High-Power Laser, whose beam is, by definition, a safety and fire hazard. Take precautions to prevent exposure to the direct and reflected beams. Diffuse as well as specular reflections can cause severe skin or eye damage.

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### Vanguard One Dimensional Drawing





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www.spectra-physics.com

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