Millennia® eV™

Highest Power CW 532 nm DPSS Lasers

mks | Spectra-Physics®

The Millennia eV from Spectra-Physics is the next generation Millennia, extending the highly successful product family of CW DPSS green lasers to unprecedented power levels and versatility. Millennia eV models are now available with 5 W, 10 W, 15 W, 20 W, and 25 W of CW power at 532 nm. All Millennia eV feature ultra-low optical noise, TEM_{00} beam quality and best-in-class power stability.

The Millennia platform is based on Spectra-Physics' *It's in the Box*™ design, where the laser optical cavity, diode and control electronics are all integrated in a single, compact package, eliminating the need for an external power supply.

Millennia eV benefits from Spectra-Physics' extensive experience in the design of rugged industrial lasers. Millennia eV lasers utilize long life, highly reliable laser diodes. The result is a highly reliable laser, ensuring dependable, easy turnkey operation with exceptional value.

With its industry leading scalability from 5 W to 25 W average power and high reliability, Millennia eV is the next generation laser of choice for demanding scientific applications such as the pumping of high power ultrafast and CW Ti:Sapphire lasers and high power, high throughput industrial applications.

The Millennia eV Advantage

- Industry leading power scalability from 5 W to 25 W
- Exceptional value and low cost of ownership
- Integrated laser head and power supply
- Best-in-class power stability and beam quality
- Low optical noise
- High reliability for turn-key operation

Applications

Scientific Applications

- Pumping CW and mode-locked Ti:Sapphire lasers
- Pumping solid state and dye lasers
- Spectroscopy

Industrial Applications

- Laser doping of solar cells
- Materials processing

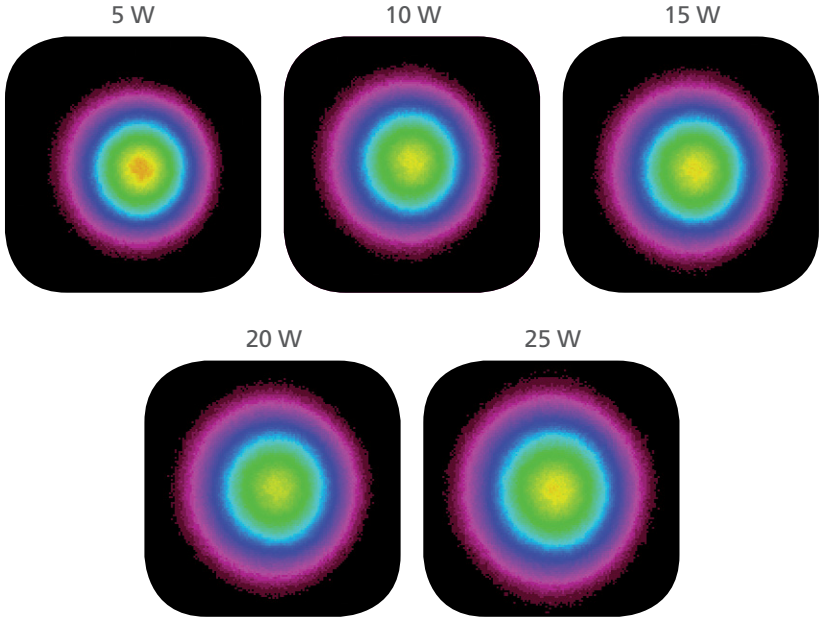
It's in the Box™

Millennia eV Specifications[8]

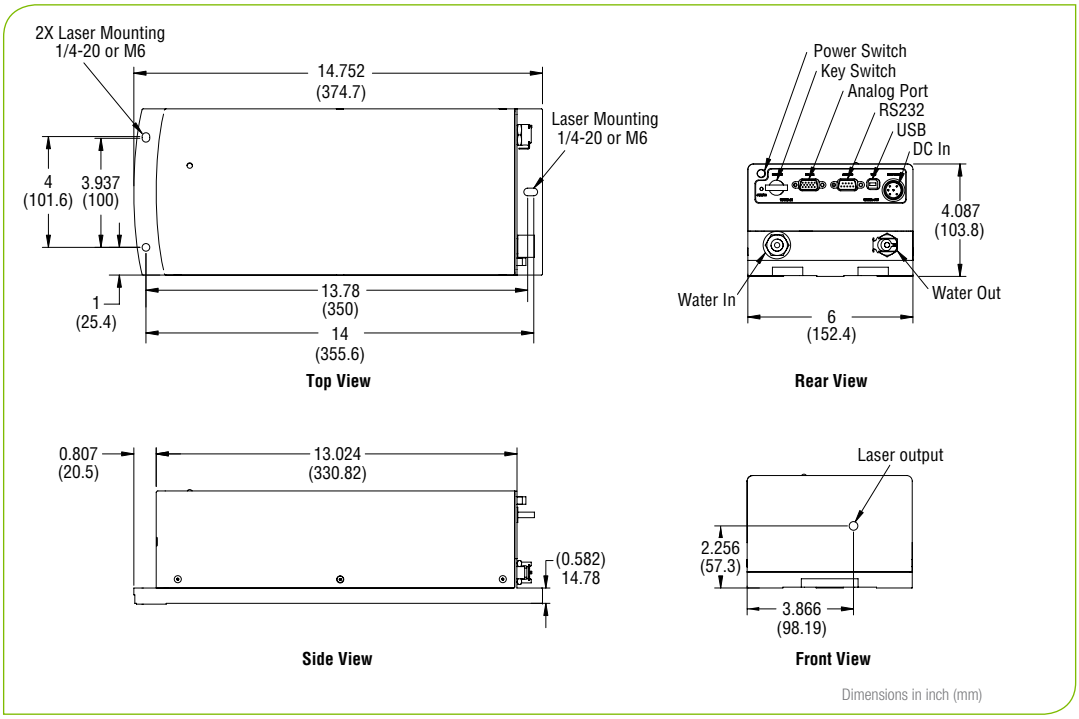
Output Characteristics[1, 2]		
Output Power	5 W, 10 W, 15 W	20 W, 25 W
Wavelength	532 nm	
Spatial Mode[3]	TEM_{00}	
Beam Quality (M^2)	<1.1	
Beam Diameter ($1/e^2$)	2.3 mm ±10%	
Beam Divergence	<0.5 mrad	
Polarization[4]	>100:1 vertical	
Power Stability[5]	±1%	
Beam Pointing Stability[6]	2 µrad/°C	
Noise[7]	<0.04% rms	
Power Requirements		
Operating Voltage	100–240 VAC, 50/60 Hz	
Power Consumption	<250 W (max)	<350 W (max)
Environmental Specifications		
Operating Temperature	64–95°F (18–35°C)	
Relative Humidity	8–85%, non-condensing	
Cooling Requirements	Closed-loop chiller	
Physical Characteristics		
Dimensions (L × W × H)	14.75 x 6.00 x 4.08 in (374.7 x 152.4 x 103.8 mm)	23.0 x 6.0 x 4.5 in (584.2 x 152.4 x 114.3 mm)
Weight	<15 lbs (<7 kg)	<26 lbs (<12 kg)

1. All performance characteristics guaranteed at specified output power.
2. Due to our continuous product improvement program, specifications are subject to change without notice.
3. Beam ellipticity <10%.
4. Vertical polarization standard; horizontal polarization option available.
5. Measured over 2-hour period, after a 30 minute warm-up.
6. Measured at farfield x and y position, after a 30 minute warm-up.
7. Measured over a 10 Hz to 0.1 GHz bandwidth at the specified output power.
8. **The Millennia eV is a Class IV – High-Power Laser, whose beam is, by definition, a safety and fire hazard. Take precautions to prevent exposure to direct and reflected beams. Diffuse as well as specular reflections can cause severe skin or eye damage.**

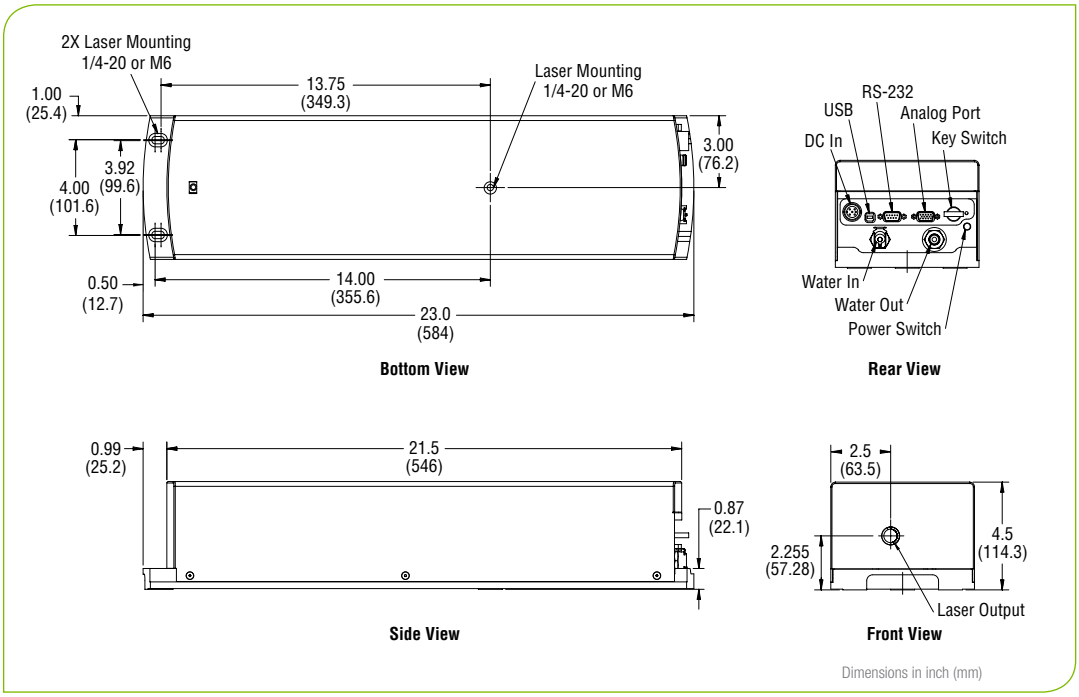
Power Scalability and Exceptional Beam Quality



Millennia eV



Millennia eV (5–15 W) Dimensions



Millennia eV (20–25 W) Dimensions

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www.spectra-physics.com

1565 Barber Lane, Milpitas, CA 95035 USA
PHONE: 1-800-775-5273 1-408-980-4300 FAX: 1-408-980-6921 EMAIL: sales@spectra-physics.com

Belgium	+32-(0)0800-11 257	belgium@newport.com	Korea	+82-31-8021-1600	korea@spectra-physics.com
China	+86-10-6267-0065	info@spectra-physics.com.cn	Netherlands	+31-(0)30 6592111	netherlands@newport.com
France	+33-(0)1-60-91-68-68	france@newport.com	Singapore	+65-6664-0040	sales.sg@newport.com
Germany / Austria / Switzerland	+49-(0)6151-708-0	germany@newport.com	Taiwan	+886-3-575-3040	sales@newport.com.tw
Japan	+81-3-3556-2705	spectra-physics.jp@mksinst.com	United Kingdom	+44-1235-432-710	uk@newport.com