POWERLITE 8000

High-Energy pulsed Nd:YAG lasers with excellent beam quality and versatility

Continuum
BY LUMIBIRD

MAIN FEATURES

- Up to 1.65 J @ 1064 nm
- Robust and field-proven technology
- Barium sulfate diffuser for improved beam uniformity and pump efficiency
- Flashlamp warranty up to 50 million shots for operation without downtime
- User-configurable harmonic modules for user-friendly wavelength switch
- Cables and cooling lines disconnectable for easy integration
- Intuitive GUI interface, laptop included
- SLM option (Single Longitudinal Mode) for long coherence length
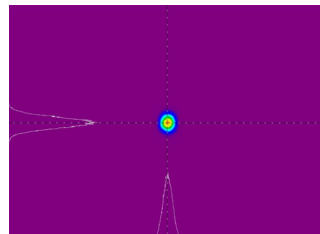- Optional chiller for use in any environment

MAIN APPLICATIONS

- **LiDAR**
- **INSTRUMENTATION**
- **PLD**
- **DYE, OPO & Ti:Sa PUMPING**
- **SPECTROSCOPY**
- **LIF**
- **COMBUSTION**

Typical beam profiles
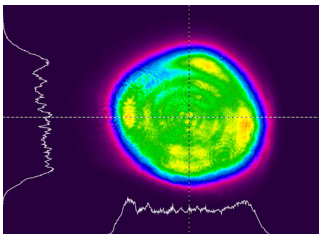
Near field, 1.65 J @ 1064 nm, 10 Hz

Far field, 1.65 J @ 1064 nm, 10 Hz

www.quantel-laser.com

Many options and configurations are available. Please contact Lumibird to find the best match for your needs and compatibility between options.

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SPECIFICATIONS

		8000	8010	8020	8030	8050
Repetition rate (Hz)		10		20	30	50
Energy per pulse (mJ)	1064 nm	1200	1650	1200	650	550
	532 nm	600 (1)/800	800 (1)/1100	550 (1)/780	300 (1)/420	210
	355 nm (2)	310	450	300	150	95
	266 nm	120	150	80	50	30
Pulse duration (ns) (3)	1064 nm	6 -8			7 - 9	
	532 nm	5 - 7			6 - 8	
	355 nm	5 - 7			6 - 8	
	266 nm	5 - 7			6 - 8	
Beam diameter (4) (mm)	1064 nm	9			7	
Beam divergence (5) (mrad)	1064 nm	0.45			0.5	
Spatial profile @ 1064 nm (6)	Horizontal near field (7)	0.7				
	Far field (8)	0.95				
Max deviation from fitted Gaussian (9) (± %)	Near field	40				
Polarization	1064 nm	Horizontal				
	532 nm	Vertical				
	355 nm	Horizontal				
	266 nm	Horizontal				

(1) Using type II doubler
(2) Using type I doubler
(3) Measured at FWHM with fast photodiode and 1 GHz oscilloscope
(4) At the output of the laser
(5) Full angle, at $1/e^2$ of the peak
(6) Least square fit to Gaussian (perfect fit = 1)
(7) Measured at 1 m from laser output
(8) At focal plane of a 2 m focus lens
(9) Within FWHM points near field at 1 meter

Pulse to pulse energy stability (%) (10)	1064 nm	± 2.5 (0.8)			± 3 (1)	
	532 nm	± 3.5 (1.2)			± 4.5 (1.5)	
	355 nm	± 4 (1.3)			± 5 (1.7)	
	266 nm	± 10 (3.3)				
Power drift (%) (11)	1064 nm	± 3			± 5	
	532 nm	± 5			± 6	± 7
	355 nm	± 5			± 6	± 8
	266 nm	± 8			± 8	
Pointing stability (μrad) (12)	All wavelengths	± 30				
Jitter @ 1064 nm (ns) (13)	Standard	± 0.5				
	SLM	± 1				
Linewidth @ 1064 nm (cm⁻¹)	Standard	1 (14)				
	SLM	0.003 (15)				

(10) Peak to peak, 99% of the shots (RMS), on 200 consecutive shots
(11) Over 8 hours for $\Delta T° \leq ± 3°C$
(12) 99.9% shots will be < ± 30 μrad with ΔT room < ± 3°C
(13) With respect to external trigger
(14) Measured at FWHM with a grating spectrometer with 0.045 cm-1 resolution
(15) Measured at FWHM with a slow scan Fabry-Perot etalon

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SPECIFICATIONS

OTHER INFORMATION

|		200 - 240 VAC, single phase, 50/60 Hz				
		8000	8010	8020	8030	8050
Power requirements		10 A	11 A	16 A		17 A
Cooling (water to water)	GPM (gallons/minute) [16]	1 - 2				
	Temperature [17]	< 22° C / 70° F				
Operating temperature		18 to 30° C / 65 to 87° F				
Cable length		5 m (16.4 ft)				
Flashlamp warranty		50 million shots [18]				

(16) at 10 - 40 PSI pressure drop
(17) higher flow rate for higher temperature
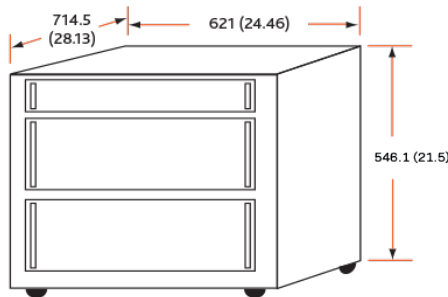(18) 80% of energy, or 1 year, whatever comes first

Laser head

Dimensions in mm (inches)
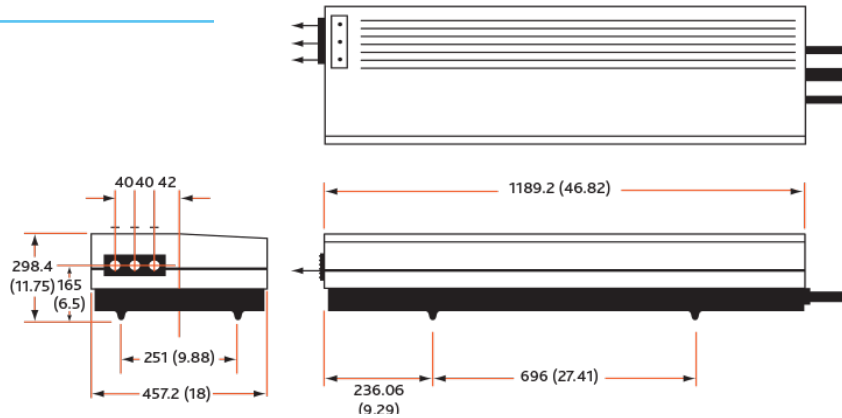
Integrated cooling & electronics

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11/2024 - Lumibird reserves the right to modify the specifications without prior notice.

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