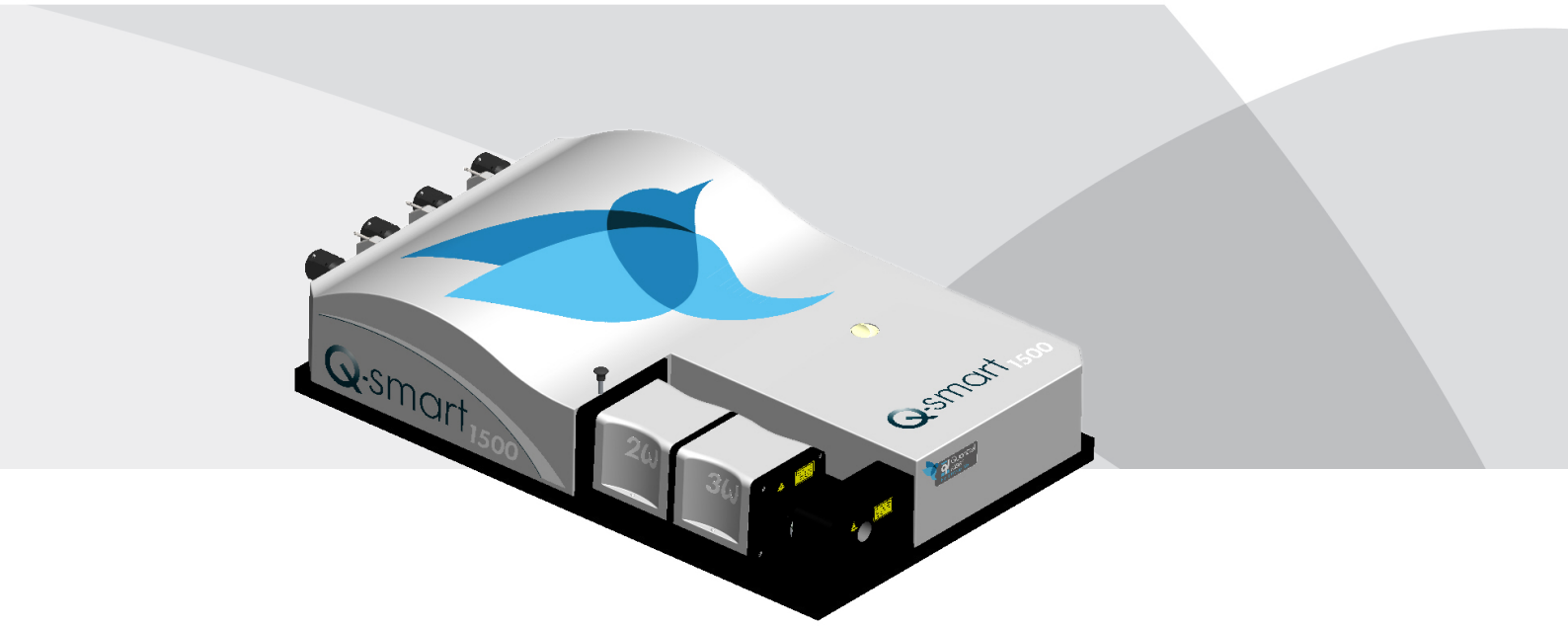
Q-SMART 1200 & 1500

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

Quantel laser BY LUMIBIRD



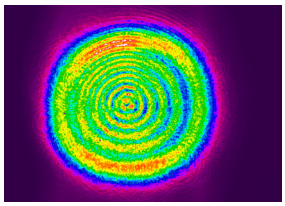
MAIN FEATURES

- Up to 1.5 J @ 1064 nm
- Robust and field proven technology
- Design to last thanks to ceramic reflectors and 100 million shots flashlamp lifetime warranty
- Plug & play harmonic modules with automatic phase-matching
- Cables and cooling lines fully disconnectable
- Easy to use and maintain
- No need for external water
- Universal voltage
- Intuitive GUI interface
- SLM option (Single Longitudinal Mode)

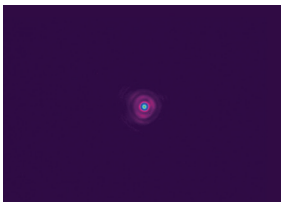
MAIN APPLICATIONS

- LiDAR
- INSTRUMENTATION
- PLD
- DYE, OPO AND TI:SA PUMPING
- SPECTROSCOPY
- LIF AND COMBUSTION
- ...

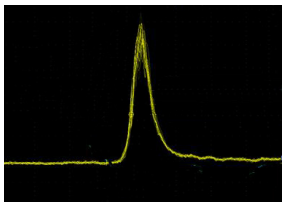
Typical beam profiles



Near Fied 1.5 J @ 1064 nm, 10 Hz



Far Field 1.5 J 1064 nm, 10 Hz



Temporal Profile @ 1064 nm (1 GHz scope)

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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

		Q-smart 1200	Q-smart 1500
Repetition rate (1) (Hz)		10	10
Energy per pulse (mJ)	1064 nm	1200	1500
	532 nm(2)	600	820
	355 nm(2)	280	490
	266 nm	130	150
Pulse duration(3) (ns)	1064 nm	5-10	
Beam diameter (mm)	1064 nm	≤ 10	
Divergence(4) (mrad)	1064 nm	≤ 0.5	
Polarization(5) ratio (%)	1064 nm	≥ 80	
Spatial profile	Near field(6) (fit to Gaussian)	≥ 0.7	
	Far field(7) (fit to Gaussian)	≥ 0.9	

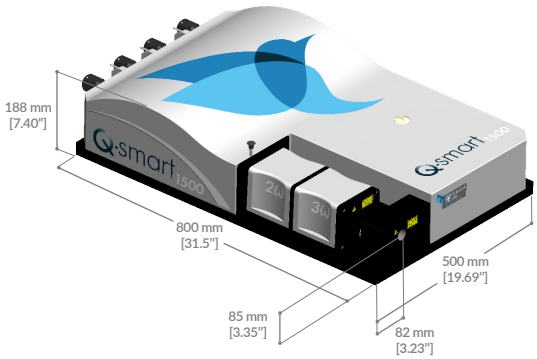
(1) Other repetition rates on request
(2) HE: High Energy option on request
(3) Measured at FWHM with fast photodiode and 1 GHz scope
(4) Full angle at 1/e² of peak
(5) Horizontal @ 1064 nm – Vertical @ 532 nm – Horizontal @ 355 nm and @ 266 nm
(6) Measured at 1 m from laser output
(7) Measured at focal plane of a 2 m focus lens, least square fit to Gaussian (perfect fit = 1)

Power drift(1) (%)	1064 nm	± 3
	532 nm	± 5
	355 nm	± 5
	266 nm	± 10
Energy stability(2) (%)	1064 nm	± 2 (0.6)
	532 nm	± 4 (1.3)
	355 nm	± 6 (2)
	266 nm	± 8 (2.6)
Pointing stability(3) (µrad)	1064 nm	< 40
Jitter(4) (ns)	Standard	± 0.5
	SLM option	± 1
M², focusability (times diffraction limit)	1064 nm	≤ 2
Linewidth (cm⁻¹)	Standard(5)	≤ 0.7
	SLM(6) option	≤ 0.005
Temperature range	18-28°C	

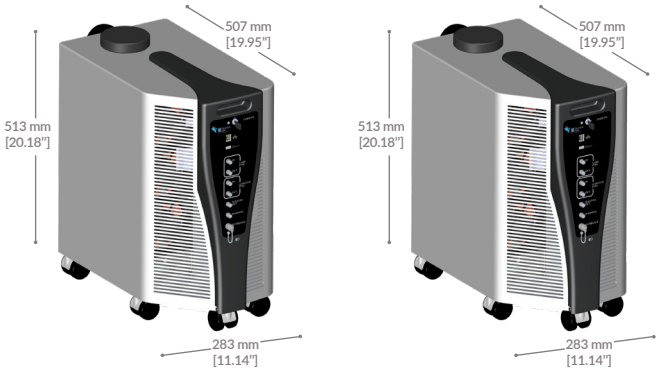
(1) Over 8 hours for ΔT° ≤ ± 3°C
(2) Peak-to-peak (RMS), 99% of shots
(3) Measured with Spiricon LBA-100, rms, on 200 pulses at the focal plane of a 1 m focus lens
(4) With respect to Q-Switch trigger, at half-width of 500 accumulated shots for 99% of shots
(5) Measured at FWHM with a grating spectrometer with 0.045 cm-1 resolution
(6) Measured with a slow scan Fabry-Perot Etalon, ≤ 20% energy reduction @ 1064 nm

Service requirements	
Power	2 x 100-240 VAC 50-60 Hz Single phase
Cooling group	Air to water

Laser head



Electronics



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