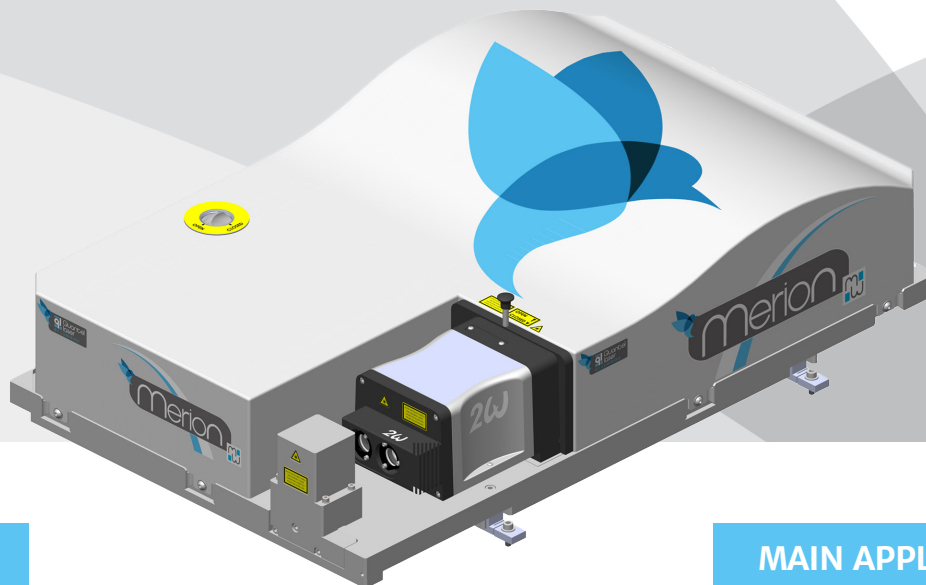


Merion MW HP

High Power Modular Wavelengths
diode-pumped pulsed Nd:YAG laser



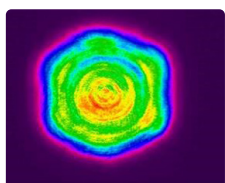
MAIN FEATURES

- Power up to 100 W @ 1064 nm
- Lightweight and compact design
- Repetition rate up to 200 Hz
- Plug & play harmonics with automatic phase-matching
- Excellent beam quality and pointing stability
- Quick connect cables and cooling lines
- Single Longitudinal Mode (SLM) option available
- Diode warranty: 5 billion shots

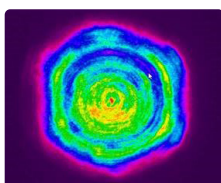
MAIN APPLICATIONS

- LiDAR
- MATERIAL PROCESSING
- ABLATION
- LASER PEENING
- LASER ULTRASOUND
- DYE, OPO AND Ti:Sa PUMPING
- LIF
- SPECTROSCOPY

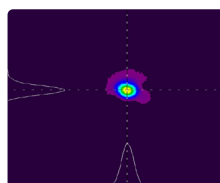
Typical beam profiles



Merion MW HP
Near field @ 1064 nm



Merion MW HP
Near field @ 532 nm



Merion MW HP
Far field @ 1064 nm

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.

Merion MW HP

High Power Modular Wavelengths diode-pumped pulsed Nd:YAG laser



SPECIFICATIONS

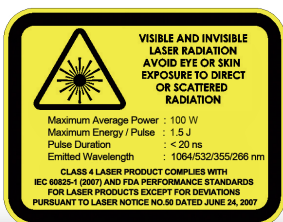
		MERION MW 400	MERION MW 1000	MERION MW 1500
Repetition rate (Hz)		200	100	50
Energy per pulse (mJ)	1064 nm	400	1000	1500
	532 nm	200	550	900
	355 nm	100	330	500
	266 nm	On request		
Pulse duration (ns) ⁽¹⁾	1064 nm	5 - 9		
	532 nm			
	355 nm			
	266 nm			
Beam diameter (mm) ⁽²⁾	1064 nm	~ 6.5	~ 9	
	532 nm			
	355 nm			
	266 nm			
Beam divergence (mrad) ⁽³⁾	1064 nm	< 0.7		
M ² ⁽⁴⁾	1064 nm	≤ 2.5		
Spatial profile @ 1064 nm ⁽⁵⁾ (fit to Gaussian)	Near field ⁽⁶⁾	> 0.7		
	Far field ⁽⁷⁾	> 0.9		
Polarization ratio (%) ⁽⁸⁾	1064 nm	> 90		

- (1) FWHM with fast photodiode and 1 GHz oscilloscope
- (2) At the output of the laser
- (3) Full angle, at 1/e² of the peak
- (4) At 1/e² of the peak, by Spricon LBA FWB
- (5) Least square fit to Gaussian (perfect fit = 1)
- (6) At 1 m from laser output
- (7) At focal plane of a 2 m focus lens
- (8) Polarization is horizontal @ 1064, 355 & 266 nm and vertical @ 532 nm

OTHER INFORMATION

Power requirements	Power supply	2 x 200-240 VAC, 50/60 Hz, 2 x 1600 VA
	Cooling group	200-240 VAC, 50/60 Hz, 2200 VA
Cooling ⁽¹⁵⁾	Water to water	
Operating temperature	+ 18 °C to + 28 °C	
Storage temperature ⁽¹⁶⁾	- 10 °C to - 50 °C	
Cable length ⁽¹⁷⁾	3 m	
Diodes warranty ⁽¹⁸⁾	5 billion shots	
Weight (kg)	Laser head	45
	Harmonic modules	2.1
	Integrated cooling & electronics	70

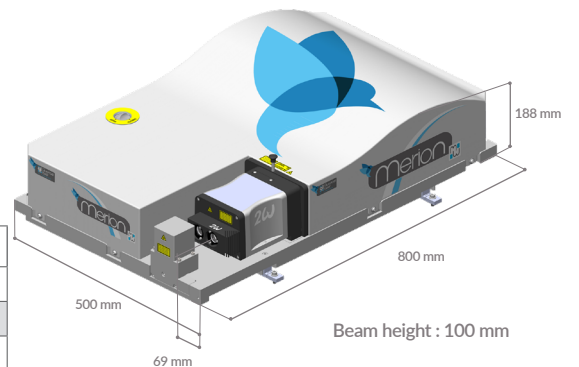
- (15) Chiller as an option (stand alone or 19" rack)
- (16) System rinsed and drained with ethylene glycol/water mixture
- (17) Other lengths up to 10 m on request. Some losses are to be expected
- (18) 80% of energy, or 1 year, whichever comes first



Pulse to pulse energy stability (%) ⁽⁹⁾	1064 nm	± 2 (0.6)
	532 nm	± 4 (1.3)
	355 nm	± 6 (2)
	266 nm	On request
Power drift (%) ⁽¹⁰⁾	1064 nm	± 3
	532 nm	± 5
	355 nm	± 5
Pointing stability (µrad) ⁽¹¹⁾	1064 nm	< 40
	Standard	± 0.5
Jitter @ 1064 nm (ns) ⁽¹²⁾	SLM	± 1
	Standard	≤ 0.7 ⁽¹³⁾
Linewidth @ 1064 nm (cm ⁻¹)	SLM	≤ 0.005 ⁽¹⁴⁾
	Standard	≤ 0.7 ⁽¹³⁾

- (9) Peak to peak, 100% of the shots (RMS)
- (10) Over 8 hours, without readjustment of phase-matching, 18° < T < 28°C
- (11) Measured by Spricon LBA FWB RMS, on 200 pulses at the focal plane of a 2 m focus lens
- (12) With respect to Q-Switch trigger, measured at half width of 500 accumulated shots for 99 % of the shots
- (13) Measured at FWHM with a grating spectrometer with 0.045 cm⁻¹ resolution
- (14) Measured at FWHM with a slow scan Fabry-Perot etalon

Laser head



Integrated cooling & electronics



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.