

ULTRA

Ultra compact pulsed Nd:YAG laser



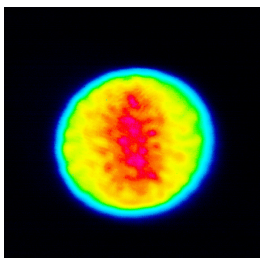
MAIN FEATURES

- 1062, 532, 355, 266, 213 nm and 1.57 μm available
- Compact and portable, with quick umbilical disconnects
- Choice of resonators available to meet the need of demanding applications
- Integrated motorized variable attenuator and harmonics options
- Fiber coupling available at 1064 nm and 532 nm
- MIL-STD-810 tested to withstand harsh environments

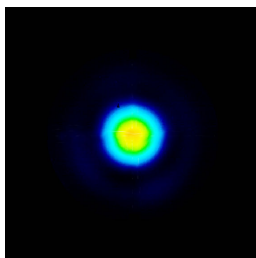
MAIN APPLICATIONS

- LIBS
- PUMPING
- FPD REPAIR
- LIDAR
- ABLATION
- PULSED LASER DEPOSITION
- PHOTOACOUSTIC IMAGING

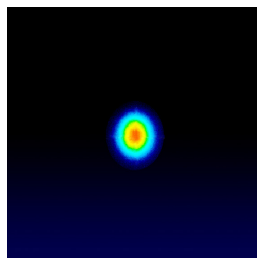
Typical beam profiles



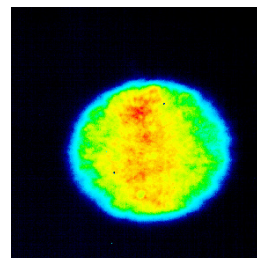
Ultra 50, Stable
Near field @ 1064 nm



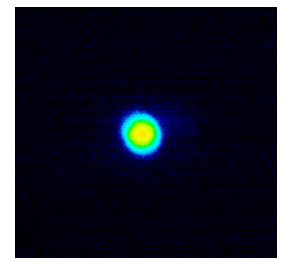
Ultra 50, GRM
Far field @ 532 nm



Ultra 20, TEM₀₀
Far field @ 355 nm



Ultra 50, Stable
Near field @ 266 nm



Ultra 100, GRM
Far field @ 213 nm

04/21 REV B - Lumibird reserves the right to modify the specifications without prior notice.

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

		ULTRA 20		ULTRA 50		ULTRA 100	
Resonator type		TEM00	Stable	Stable	GRM	Stable	GRM
Repetition rate (Hz)		1 to 20	1 to 50	1 to 20	20	1 to 20	20
Energy per pulse (mJ)	1064 nm	10	20	50		100	
	532 nm	6	12	30		55	
	355 nm	2	4	12		30	
	266 nm	1	4	10		25	15
	213 nm	-	-	-	-	4	On request
	1.57 μm	-	-	8	-	25	-
Pulse duration (ns) ⁽¹⁾	1064 nm	<11	<13	<10	<9	<10.5	<9
	532 nm	<10	<12	<9	<9	<8	<8.5
	355 nm	<9	<11	<8	<8	<8	<7.5
	266 nm	<9	<11	<8	<8	<8	<8
	213 nm	-	-	-	-	<7	-
	1.57 μm	-	-	<10	-	<9	-
Beam diameter (mm) ⁽²⁾	1064 nm	1.3	2.5	3		4	
Beam divergence (mrad) ⁽³⁾	1064 nm	<2.5	<6	<7	<1.5	<8	<1.5
	532 nm	<1.5	<5	<6	<1.5	<7	<1
	355 nm	<1	<4	<5	<1.2	<5	<1.5
	266 nm	<1	<4	<7	<1.5	<4	<1.5
	213 nm	-	-	-	-	<3	-
	1.57 μm	-	-	<12	-	<12	-
Polarization ratio (%) ⁽⁴⁾	1064 nm	>99	>99	>98	>98	>98	>98
Pulse to pulse energy stability (%) ⁽⁵⁾	1064 nm	<2	<2.5	<2	<4	<2	<2
	532 nm	<3.5	<4	<2.5	<5	<2.5	<2.5
	355 nm	<4	<3	<3	<6	<2	<3
	266 nm	<5	<3	<3	<6	<2	<3
	213 nm	-	-	-	-	<2	-
	1.57 μm	-	-	<2	-	<2	-

Power drift (%) ⁽¹⁾	1064 nm	± 5
Pointing stability (μrad) ⁽²⁾	All wavelengths	< 50
Jitter (ns) ⁽³⁾	All wavelengths	< ± 2
Linewidth (cm-1) ⁽⁴⁾	1064 nm	1

(1) Over 8 hours, 18 °C < T < 28 °C, for ΔT < ± 5 °C

(2) Full angle, 99 % of shots

(3) With respect to Q-Switch trigger

(4) Measured at FWHM

OTHER INFORMATION		
Power requirements	100-240 VAC, 50/60 Hz, single phase, 850 VA	
Cooling	Water to air	
Temperatures	Standard	Ethylene glycol option (EGW)
	Operating	+ 10 °C to + 40 °C
Storage	+ 5 °C to + 70 °C	- 30 °C to + 70 °C
	Laser head sealing	IP 66
Vibration and shocks	Complies with MIL-STD-810	
Max. altitude (m)	3000	
Cable length (m)	3 ⁽¹⁾	
Flashlamps warranty	50 million shots ⁽²⁾	
Weight (kg)	Laser head	0.9
	Harmonic modules	0.5
Integrated cooling & electronics	14 (standard)	14.5 (optional rack)

(1) Other lengths up to 15 m on request

(2) 80 % of energy, or 1 year, whichever comes first

Laser head



Remote Box



Integrated cooling & electronics



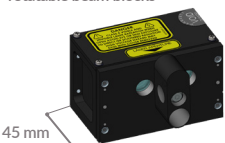
OPTIONS

19" rack integrated cooling & electronics



Wavelength separation

One (WS1) or two (WS2) apertures with rotatable beam blocks



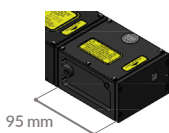
Motorized variable attenuator at 1064 nm



Harmonic generators (2ω, 2ω/3ω, 2ω/4ω)

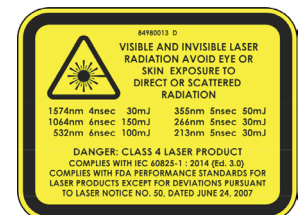
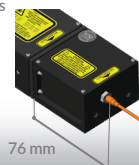


1.57 μm OPO option



Fiber optic launch adaptor

Dimensions for 1064 and 532 nm versions
Up to 10 % loss



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