



## Q-smart 850

### Compact Q-Switched Nd:YAG Laser

- 850 mJ at 1064 nm, 10 Hz
- Light and compact laser with quick connect cables
- Easy-to-change wavelengths from 1064 nm to 213 nm
- Intelligent autotuning of harmonics
- Single doubler for highest energy at 532 nm & 355 nm
- Single Longitudinal Mode option (SLM) **NEW**
- Intuitive touch screen interface
- 100 million shot lamp lifetime guarantee



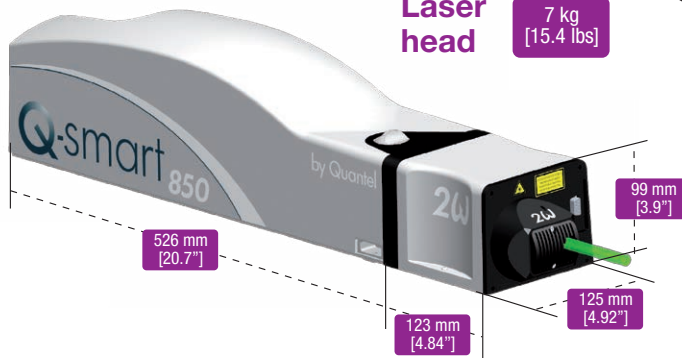
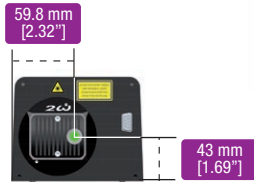
**Q-touch**  
Intuitive touch screen interface

**Power supply**  
27 kg [59.5 lbs]



**Only by Quantel**

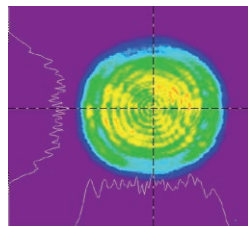
**Laser head**  
7 kg [15.4 lbs]



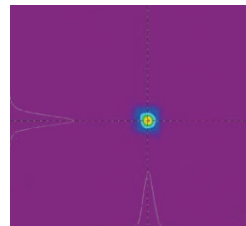
- Universal voltage
- Air-cooled
- Interchangeable
- Ethernet control

# Q-smart

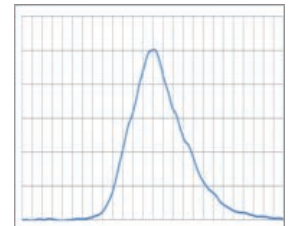
Near field @1064 nm




Far field @1064 nm





Temporal profile @1064 nm



# Q-smart 850 Specifications

 Only by Quantel

<b>REPETITION RATE (Hz)</b>		10	10-SLM <sup>1</sup>	<sup>1</sup> SLM : Single Longitudinal Mode <b>upgradable on site</b>		
<b>ENERGY PER PULSE (mJ)</b>	1064 nm	850	700	Measured with a calibrated wattmeter <b>Highest Energy at 532 &amp; 355 nm with a single doubling crystal</b>		
	532 nm	430	290			
	355 nm HE	230	135			
	266 nm	100	60			
	213 nm	20	On request			
<b>ENERGY STABILITY (%)</b>	1064 nm	± 2 (0.6)		Peak to peak, 100 % of the shots (RMS)		
	532 nm	± 4 (1.3)				
	355 nm	± 6 (2)				
	266 nm	± 8 (2.6)				
	213 nm	± 12 (4)				
<b>POWER DRIFT (%)</b>	1064 nm	± 3		Over 8 hours, without readjustment of phase-matching, 18°C<T<28°C		
	532 nm	± 5				
	355 nm	± 5				
	266 nm	± 10				
	213 nm	± 14				
<b>PULSE DURATION (ns)</b>	1064 nm	~ 6		FWHM, fast photodiode and 1 GHz scope		
	532 nm	~ 5				
	355 nm	~ 5				
	266 nm	~ 5				
	213 nm	~ 5				
<b>POINTING STABILITY (μrad)</b>	All wavelengths	< 40		Measured by Spiricon LBA FWB, RMS, on 200 pulses at the focal plane of a 2 m focus lens		
<b>JITTER (ns)</b>	1064 nm	± 0.5	± 1	With respect to Q-switch trigger IN, measured at half width of 500 accumulated shots for 99 % of shots		
<b>FOCUSABILITY (Times Diffraction Limit)</b>	1064 nm	≤ 2		At 1/e <sup>2</sup> of the peak, by Spiricon LBA FWB		
<b>LINewidth (cm<sup>-1</sup>)</b>	1064 nm	≤ 0.7	≤ 0.005	FWHM measured by a grating spectrometer with a 0.045 cm <sup>-1</sup> resolution		
<b>DIVERGENCE (mrad)</b>	1064 nm	< 0.5		Full angle, at 1/e <sup>2</sup> of the peak, 85 % of total energy		
<b>POLARIZATION RATIO (%)</b>	1064 nm	> 80	> 70			
<b>BEAM DIAMETER (mm)</b>	1064 nm	9		At the output of the laser		
<b>SPATIAL PROFILE (fit to gaussian)</b>	<b>NEAR FIELD<sup>2</sup></b>	1064 nm	> 0.70		Least square fit to Gaussian (perfect fit = 1) <sup>2</sup> At 1 m from laser output <sup>3</sup> At focal plane of a 2 m focus lens	
	<b>FAR FIELD<sup>3</sup></b>	1064 nm	> 0.90			

<b>POLARIZATION</b>	<b>1064 nm</b>	Horizontal
	<b>532 nm</b>	Vertical
	<b>355 nm</b>	Horizontal
	<b>266 nm</b>	Horizontal
	<b>213 nm</b>	Vertical
<b>TEMPERATURE RANGE</b>	<b>OPERATING</b>	18/28°C
	<b>STORAGE<sup>4</sup></b>	-10/50°C
<b>FLASHLAMPS LIFETIME</b>	>100 million shots	
<b>SERVICE REQUIREMENTS</b>	100-240 VAC	
	50-60 Hz Single phase	
<b>CABLE LENGTH</b>	3 m (10 feet)	

<sup>4</sup>System drained and flushed with ethylene glycol water mix (EGW)

For more information, please visit [www.quantel-laser.com](http://www.quantel-laser.com)



**Quantel - France**  
2 bis, avenue du Pacifique  
Z.A. de Courtaboeuf - BP 23  
91941 Les Ulis Cedex - France  
Tel. +33 (0)1 69 29 17 00

**Quantel - USA**  
601 Haggerty Lane  
Bozeman, MT 59715 - USA  
Tel. +1 406 586 0131 / 1 877 QUANTEL

**Quantel - GmbH**  
Worringer Str. 30  
50668 Köln - Germany  
Tel. +49 (0) 221 / 677856750

E-mail: [quantel@quantel-laser.com](mailto:quantel@quantel-laser.com)

[www.quantel-laser.com](http://www.quantel-laser.com)

