

# COMPACT HIGH PULSE ENERGY Nd:YAG LASERS

## LQ529, LQ929

More than 700 lasers built on the basis of the LQ529 platform successfully operate not only in scientific centres all over the world but also at the US and European aerospace industry enterprises being the best recommendation for this device.



Time-proven original ring cavity design developed by our engineers ensures excellent beam quality with output energy up to 0.5 J without using unstable telescopic cavities and Gaussian mirrors.

Supplementing the laser with a simple and reliable amplifying stage allows to provide high quality 1.5 J output.

High laser pulse energy in combination with the excellent beam quality and spatial beam profile stability arranged in a compact design are a distinctive feature of these models giving them an obvious advantage over "classmates".

Short warm-up time and excellent long-term output radiation stability are ensured by fine thermal stabilisation of all the critical laser components.

The LQ529 cavity fixed inside the laser head housing on special floating support allows you to operate the laser at an increased vibration level and to promptly move/mount it without additional alignments.

By supplementing these first-class lasers with various non-linear modules by SOLAR LS you will be able to obtain high-power laser radiation in a wide spectral region from 0.2 to 20  $\mu\text{m}$ .

## FEATURES

- Output energy up to 1.5 J
- Pulse repetition rate up to 50 Hz
- Homogeneous flat-top beam profile
- Built-in VIS and UV harmonic generators
- Rugged and small footprint design
- Turn-key operation

## APPLICATIONS

- OPO, Ti:Sapphire and Dye laser pumping
- Laser spectroscopy
- Nonlinear optics
- Plasma generation and LIBS
- Laser marking and materials processing
- LIDAR

## SPECIFICATIONS \*

Model	LQ529C			LQ529B		LQ529A		LQ929B		LQ929A	
Pulse repetition rate, Hz	50	10	20	5	10	5	10	5	10	5	10
Pulse energy, mJ											
at 1064 nm	150	350	350	500	500	1000	1000	1400	1400	1400	1400
at 532 nm	80	190	190	280	280	600	600	800	800	800	800
at 355 nm	40	100	100	130	130	300	300	420	420	420	420
at 266 nm	20	60	40	85	70	200	180	210	190	190	190
at 213 nm <sup>1)</sup>	4,5	18	15	25	20	45	40	45	40	45	40
Beam diameter <sup>2)</sup> , mm	< 5	< 6		< 8		< 10		< 11		< 11	
Pulsewidth (FWHM) <sup>2)</sup> , ns	11										
Divergence <sup>2)</sup> , mrad	≤ 1.5										
Pulse energy stability (StdDev) <sup>2)</sup> , %	< 1										
Jitter (Std.Dev.) <sup>3)</sup> , ns	< 1										
Cooling	Air-water										
Electrical service	200...240V, 50/60 Hz, <1000W						200...240V, 50/60 Hz, <1200W				
Dimensions, mm:											
Laser Head (LxWxH)	615 x 180 x 120						665 x 220 x 125				
Power Supply (HxWxD)	670 x 330 x 620						695 x 367 x 700				

\* Specifications are subject to change without notice.

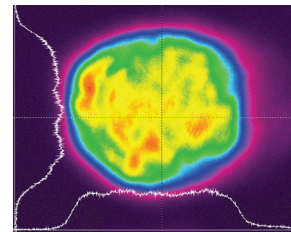
1) With external LG105 unit.

2) Specified at 1064 nm.

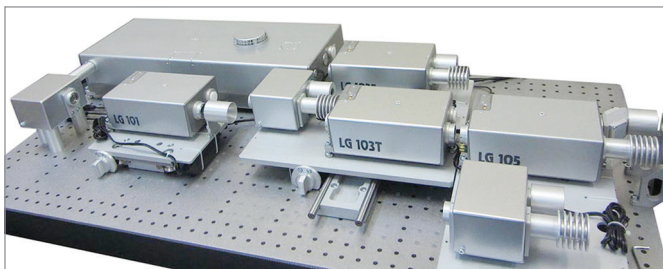
3) With respect to QSW IN pulse.

## OPTIONS

- TEM<sub>00</sub> mode
- External attenuators



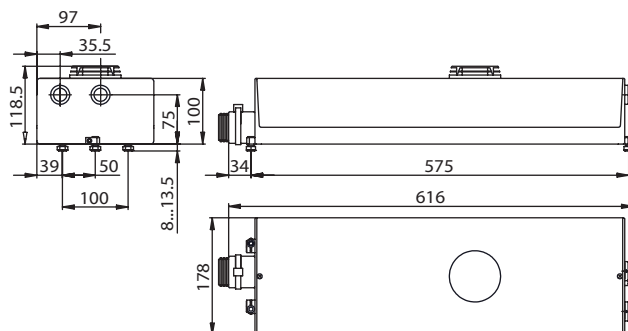
LQ929 laser typical near field beam profile.



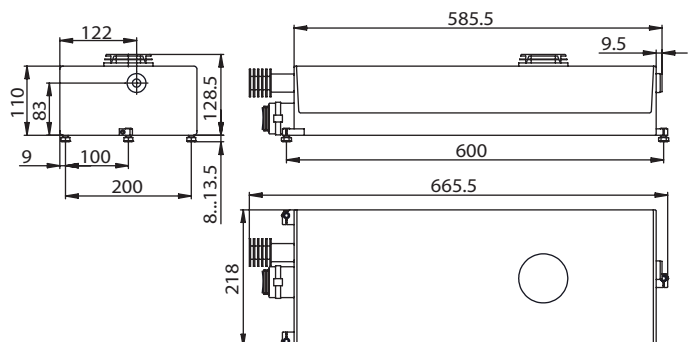
LQ529 or LQ929 Nd:YAG laser can be supplemented with the VIS / UV harmonic generator units.



External harmonic generator units LG100 series for high pulse energy Nd:YAG lasers.



LQ529 laser head outline drawing.



LQ929 laser head outline drawing.