

100 Hz HIGH PULSE ENERGY Nd:YAG LASER

LQ629

The LQ629 laser demonstrates an unattainable for most of the models combination of high pulse energy, high pulse repetition rate and perfect beam quality.



The specific feature of the LQ629 is that the active elements of the master oscillator and amplifier are installed in one pump chamber and are pumped by a single flash lamp. The master oscillator is based on the time-proven ring cavity design ensuring excellent beam quality while the classical single-pass amplifier is supplemented with the optics compensating thermo-optical aberrations.

The optical design applied ensures almost ideal flat-top laser beam profile. Particularly, such a profile providing homogeneous exposure over the whole laser beam field is much-in-demand for most of applications starting from ablation and finishing with optical pumping.

Innovative and thoroughly verified optical configuration of the LQ629 laser is arranged in one compact vibration- and dustproof housing which ideally suits for the roughest operating conditions.

Technical solutions developed specially for this laser provide not only excellent combination of output parameters in a cost-effective design but also minimise your expenses on servicing this first-class device. Low maintenance costs are ensured by utilisation of one flashlamp with an increased (more than 100 million pulses) lifetime as well as its easy and quick replacement without access to the laser head optical cavity.

FEATURES

- 200 mJ output at 100 Hz
- Homogeneous flat-top beam profile
- Built-in VIS and UV harmonic generators
- Flash lamp lifetime of $> 10^8$ pulses
- Dustproof & rugged design
- Small footprint
- Turn-key operation

APPLICATIONS

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

SPECIFICATIONS *

Model	LQ629
Max pulse repetition rate ¹⁾ , Hz	100
Pulsed energy, mJ	
at 1064 nm	200
at 532 nm	100
at 355 nm	50
at 266 nm	25
at 213 nm ²⁾	5
Pulsewidth (FWHM) ³⁾ , ns	12
Beam diameter, mm	< 5
Divergence ³⁾ , mrad	≤ 1.5
Pulse energy stability (StdDev) ³⁾ , %	< 1.5
Jitter (StdDev) ⁴⁾ , ns	< 1
Cooling	Air-water
Electrical service	200...240 V, 50/60 Hz, ≤ 2000 W
Dimensions, mm:	
Laser Head (LxWxH)	715 x 180 x 125
Power Supply (HxWxD)	670 x 330 x 620

* Specifications are subject to change without notice.

¹⁾ You can choose any PRR from 1 Hz to 100 Hz when placing an order. All the parameters are specified for 100 Hz.

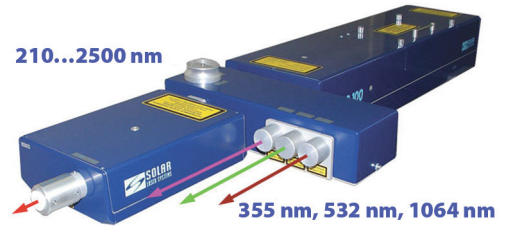
²⁾ With external LG105 unit.

³⁾ Specified at 1064 nm.

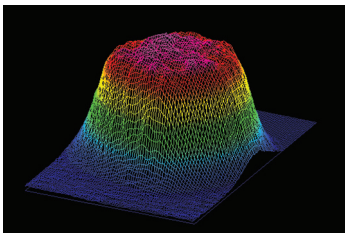
⁴⁾ With respect to QSW IN pulse.

OPTIONS

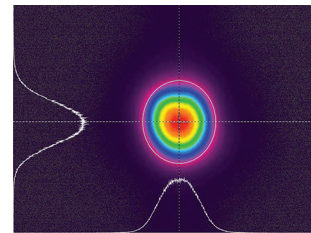
- TEM₀₀ mode
- External attenuators



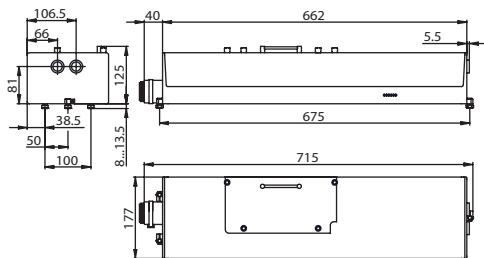
LQ629 Nd:YAG laser with LP603 OPO and beam splitting module.



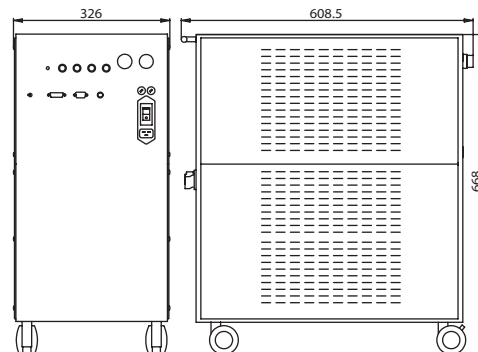
LQ629 laser typical near field beam profile.



LQ629 laser typical far field beam profile.



LQ629 laser head outline drawing.



LQ629 laser power supply outline drawing.