

# LDY310

## Diode Pumped Q-switched Nd:YLF Lasers

High Frequency Lasers for Industrial Applications

### Features

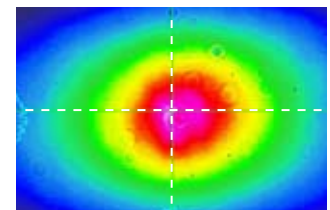
- High Energy at 1053nm
- Rugged industrial design
- 0-20kHz continuously variable
- RS232 control with full software support

### Applications

- Non-Linear Materials Research
- Plasma and Ionisation Research
- Materials Processing

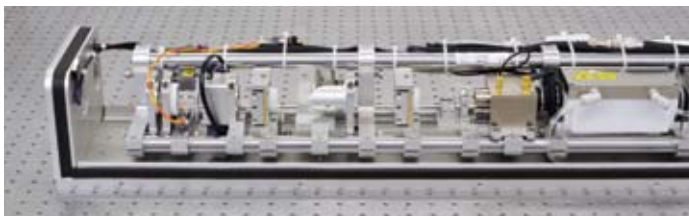
The **LDY310** series is a range of Diode Pumped Solid State (DPSS) Nd:YLF laser systems with 1053nm output. They are principally used as pump sources in nonlinear materials research and surface modification applications requiring very high pulse energy in the 1kHz to 5kHz pulse frequency range.

At 1053nm output energies of up to 30mJ at 1kHz are available in a plane polarised multimode output.



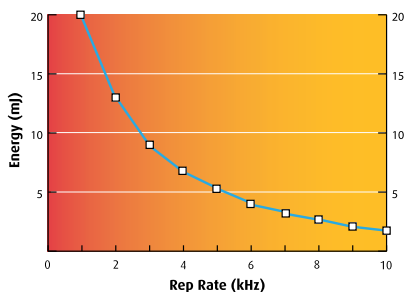
**LDY312**  
Typical beam profile at 1kHz

The lasers are built around a rugged self-supporting Invar rail that bestows excellent mechanical and optical stability, ensuring excellent short and long term pulse-to-pulse stability.



The robust design of these lasers makes them ideally suited to the harshest of industrial and research applications alike.

The power supply and closed-circuit chiller are all housed in a compact 19" rack. The system can be controlled either by the in-built LCD interface or via RS232 with the supplied software suite or dll. External triggering of the lasers is accessible via a TTL interface.



**LDY313**  
Output energy v. frequency at 1053nm

## TECHNICAL DATA

Model	LDY311	LDY312	LDY313	LDY314
<b>Repetition rate</b> (kHz)	0-20	0-20	0-20	0-20
<b>Output Energy at 1kHz at 1053nm</b> (mJ)	10	15	20	30
<b>Output Power Max.</b> (W)	15	25	40	50
<b>Parameter</b>				
Pulse - pulse stability ( $\pm\%$ )	1	1	1	1
Beam diameter (mm) <sup>(4)</sup>	5	5	5	5
Beam divergence (mrad) <sup>(5)</sup>	<3	<3	<3	<3
Pulse width @ 1kHz (ns)	~150	~150	~150	~150
M <sup>2</sup> x, M <sup>2</sup> y	12, 7	12, 7	12, 7	12, 8
<b>Services</b>				
Voltage <sup>(1)</sup> (VAC)	220-250	220-250	220-250	220-250
Frequency <sup>(2)</sup> (Hz)	50 or 60	50 or 60	50 or 60	50 or 60
Power	Single Phase	Single Phase	Single Phase	Single Phase
Consumption (W)	<2000	<2000	<2000	<2000
Power Supply	19" 10U Rack	19" 10U Rack	19" 10U Rack	19" 10U Rack

- (1) 110VAC option requires autotransformer to be specified on order.
- (2) 50 or 60Hz to be specified on order.
- (3) 0-80% non condensing atmosphere
- (4) Beam diameter is achieved with output telescope. Standard diameters quoted. Other diameters are available on request. In all cases M<sup>2</sup> is unchanged.
- (5) At specified beam diameter.
- (6) M<sup>2</sup> values differ in the x and y directions.

### Ambient Requirements

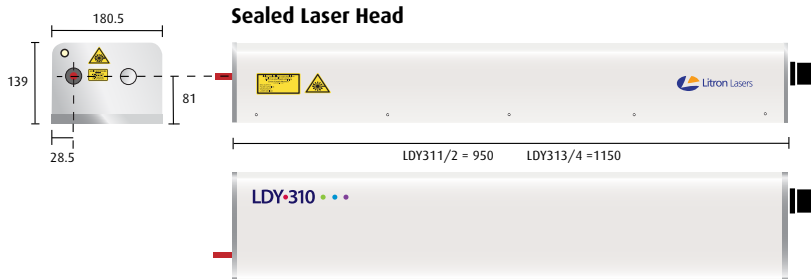
Max. air temp (°C)	35
Min. air temp (°C)	5
Humidity % (non condensing)	0-80
Ambient heating (kW)	<2.5

### System Dimensions

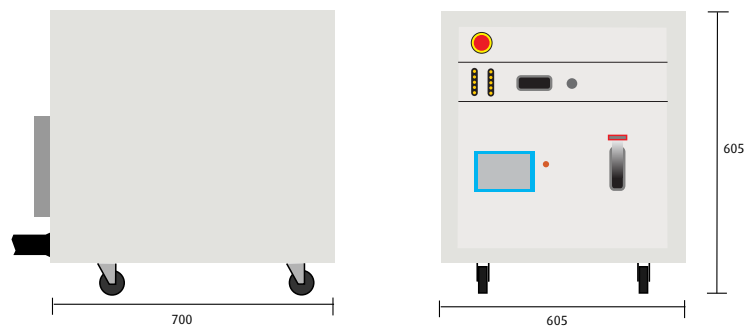
<b>Laser Head</b>	
mm	180.5 (W) x 139(H) x 950-1150 (L)
Inches	7.1 (W) x 5.5 (H) x 37.4-45.2 (L)
<b>PSU</b>	
mm	605 (W) x 700 (D) x 605 (H)
Inches	23.8 (W) x 27.6 (H) x 23.8 (L)

## MECHANICAL DATA

All dimensions shown in mm unless stated.



### Rack-mount PSU



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