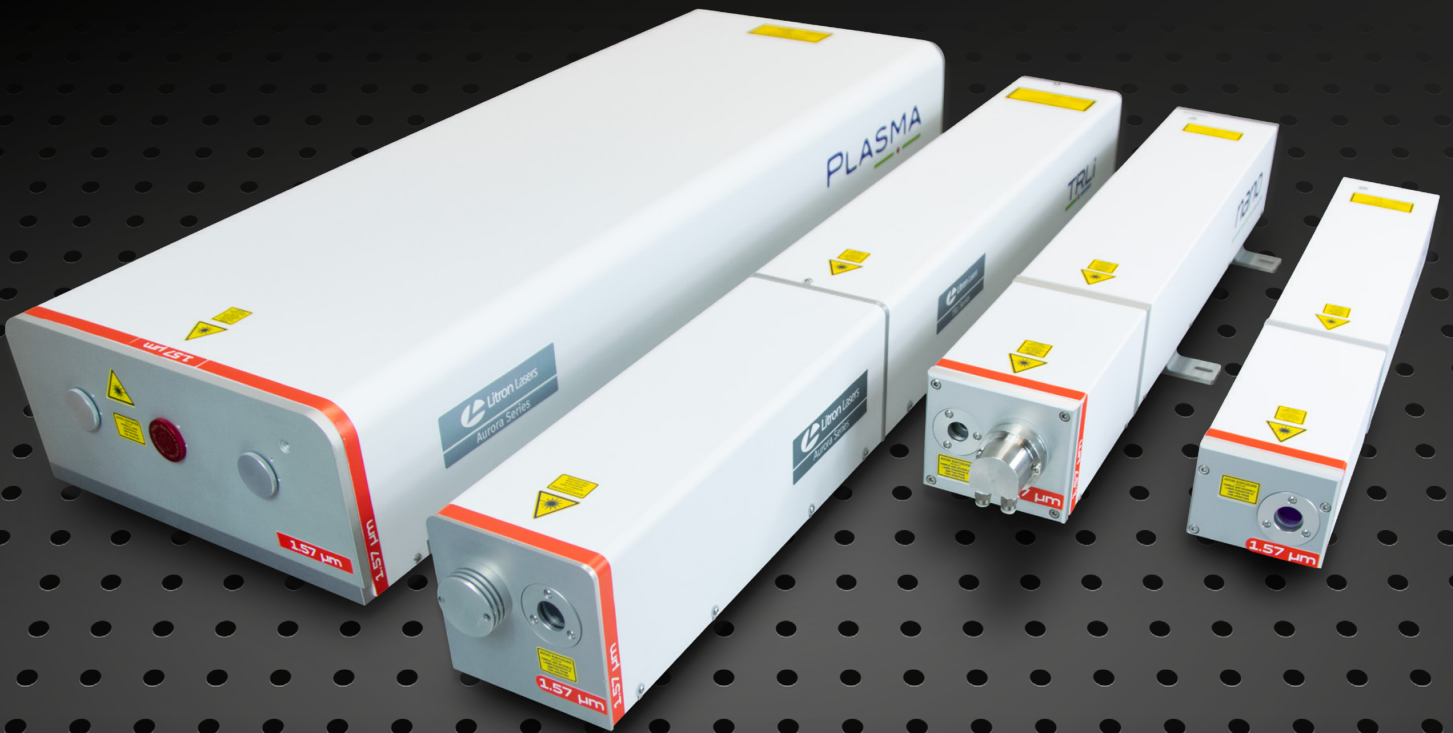




## 1.57 $\mu$ m Series

Pulsed Nd:YAG Lasers and Fixed Wavelength OPOs

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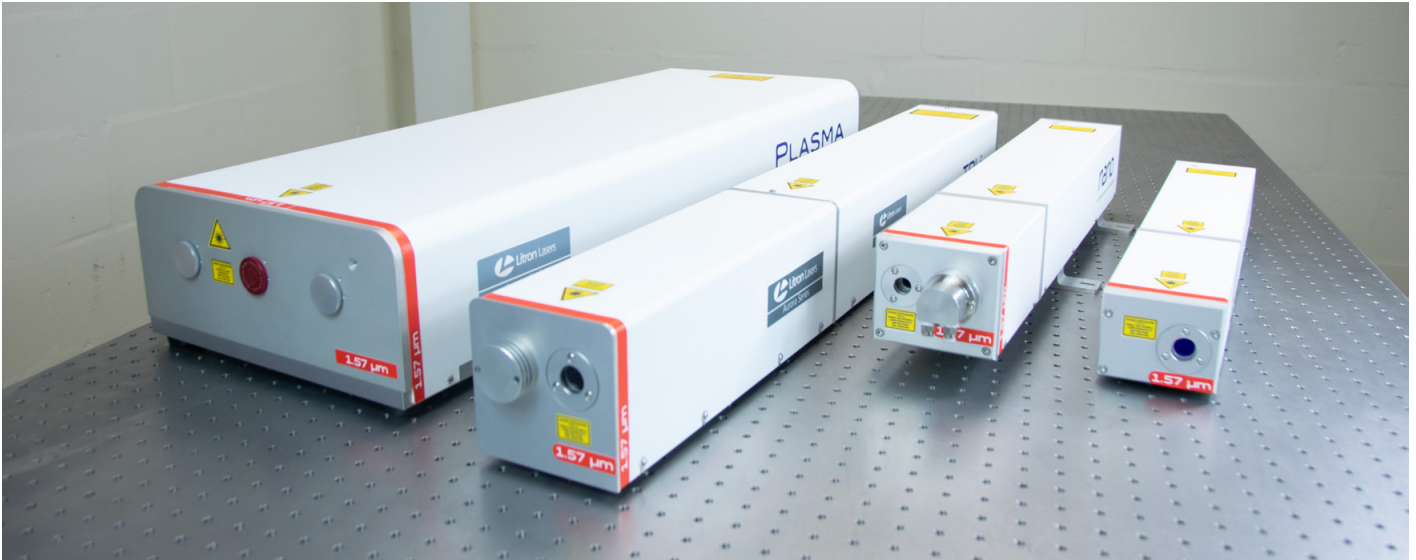


1.57 $\mu$ m

 Litron Lasers

# 1.57 $\mu$ m Series

Fixed wavelength OPO with Pulsed DPSS or Flashlamp-pumped Nd:YAG Laser



## 1.57 $\mu$ m

### KEY FEATURES

- Energy up to 50mJ at 200Hz
- Energy up to 60mJ at 100Hz
- <10ns pulse duration
- Variable repetition rates from 10 to 200Hz
- Ultra compact PSU and chiller
- Intuitive operation using the LUCi touch screen control interface

### SYSTEM BENEFITS INCLUDE

- Diode-pumped or lamp-pumped
- Long life diode modules
- Motorised attenuator for precise energy control
- Optional visible pointing diode
- Worldwide service

The new 1.57 $\mu$ m Series combines Litron's high repetition rate fully diode-pumped Nd:YAG laser systems with integrated or modular type II fixed wavelength OPOs designed specifically for remote sensing and military/defence type applications.

Pulsed diode-pumping, ultra-stable mechanics, damage resistant optics and innovative design make the 1.57 $\mu$ m systems highly reliable. Energy outputs of 60mJ per pulse up to 100Hz, or 50mJ at 200Hz with a pulse length of less than 10ns are available with a circular beam with good beam quality. With no services except the mains electrical input, the 1.57 $\mu$ m Series is a stand-alone turnkey system.

Compact lower repetition rate lamp-pumped versions are also available with an output of up to 90mJ at 1.57 $\mu$ m at 10Hz.

### APPLICATIONS

- LIDAR
- Remote Sensing
- Military/Defence
- Spectroscopy
- LIBS



LUCi Controller

## TECHNICAL DATA Diode-pumped

Model	Plasma 1.57-50-200	Plasma 1.57-60-100	TRLi DPSS 1.57-30-100	Nano DPSS 1.57-15-100
<b>LASER HEAD/OPO</b> Repetition Rate (Hz)	200	100	100	100
<b>OPO PARAMETERS</b>				
Wavelength (um)	1.57	1.57	1.57	1.57
Pulse Energy (mJ)	50	60	35	15
Pulse Stability (rms %)	1.5	1.5	1.5	1.5
Beam Diameter (mm) <sup>(1)</sup>	<10	<10	<7	<7
Beam Divergence (mrad) <sup>(2)</sup>	<10	<8	<8	<8
Pulse Width (ns) <sup>(3)</sup>	<10	<10	<10	<10
Timing Jitter (ns) <sup>(4)</sup>	<0.5	<0.5	<0.5	<0.5
Polarisation	Horizontal	Horizontal	Horizontal	Horizontal
Diode Warranty (pulses) <sup>(5)</sup>	4x10 <sup>9</sup>	4x10 <sup>9</sup>	4x10 <sup>9</sup>	4x10 <sup>9</sup>

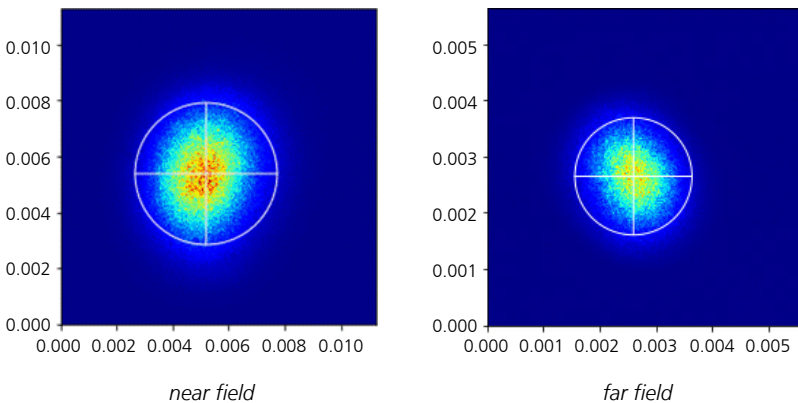
- (1) 95% beam diameter at beam exit port.
- (2) Full angle at specified beam diameter, geometric mean. Lower divergence possible by reducing power.
- (3) FWHM.
- (4) With respect to Q-switch trigger input.
- (5) 4 billion shots or 2 years (whichever is sooner).
- (6) Full software suite and programming tools supplied.
- (7) 0-80% non condensing atmosphere, laser head only.

## TECHNICAL DATA Lamp-pumped

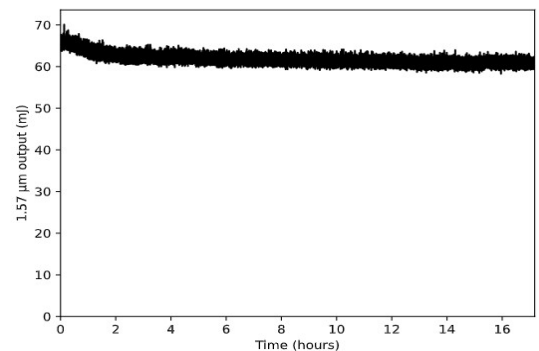
Model	TRLi 1.57-90-10	TRLi 1.57-80-20	Nano 1.57-70-10	Nano 1.57-40-20
<b>LASER HEAD/OPO</b> Repetition Rate (Hz)	10	20	10	20
<b>OPO PARAMETERS</b>				
Wavelength (um)	1.57	1.57	1.57	1.57
Pulse Energy (mJ)	90	80	70	40
Pulse Stability (rms %)	4	4	4	4
Beam Diameter (mm) <sup>(1)</sup>	<7	<7	<7	<7
Beam Divergence (mrad) <sup>(2)</sup>	<6	<6	<6	<6
Pulse Width (ns) <sup>(3)</sup>	<10	<10	<10	<10
Timing Jitter (ns) <sup>(4)</sup>	<0.5	<0.5	<0.5	<0.5
Polarisation	Horizontal	Horizontal	Horizontal	Horizontal
Lamp Life (pulses)	5x10 <sup>7</sup>	5x10 <sup>7</sup>	5x10 <sup>7</sup>	5x10 <sup>7</sup>

Operation and Services	Diode-pumped models	TRLi Lamp-pumped models	Nano Lamp-pumped models
<b>Operation</b>			
Control <sup>(6)</sup>	LUCi/RS232	LUCi/RS232	LUCi/RS232
Q-switch Trigger and Sync	TTL	TTL	TTL
<b>Services</b>			
Voltage (VAC)	200-250	220-250	90-250
Frequency (Hz)	50 or 60	50 or 60	47-63
Power	Single Phase	Single Phase	Single Phase
Ambient (°C) <sup>(7)</sup>	5-35	5-35	5-35
External Cooling	Air	Air	Air

Beam Profiles: Plasma at 100Hz



Long term stability: Plasma at 200Hz



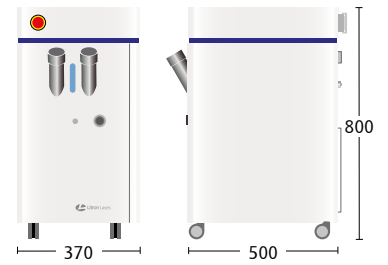
## MECHANICAL DATA

All dimensions shown in mm

### Plasma diode-pumped models



### Free standing PSU and chiller



### TRLi diode-pumped models



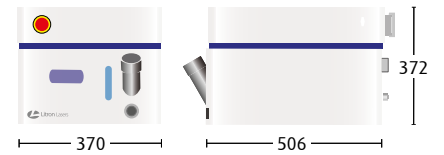
### Free standing PSU and chiller



### Nano diode-pumped models



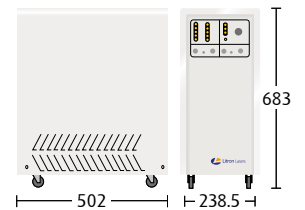
### Free standing mini PSU and chiller



### TRLi lamp-pumped models



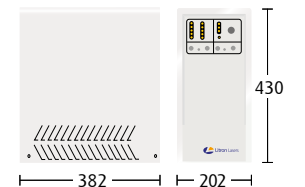
### LPU1000 PSU



### Nano lamp-pumped models



### LPU350 PSU



Our policy is to improve the design and specification of our products. The details given in this document are not to be regarded as binding.



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