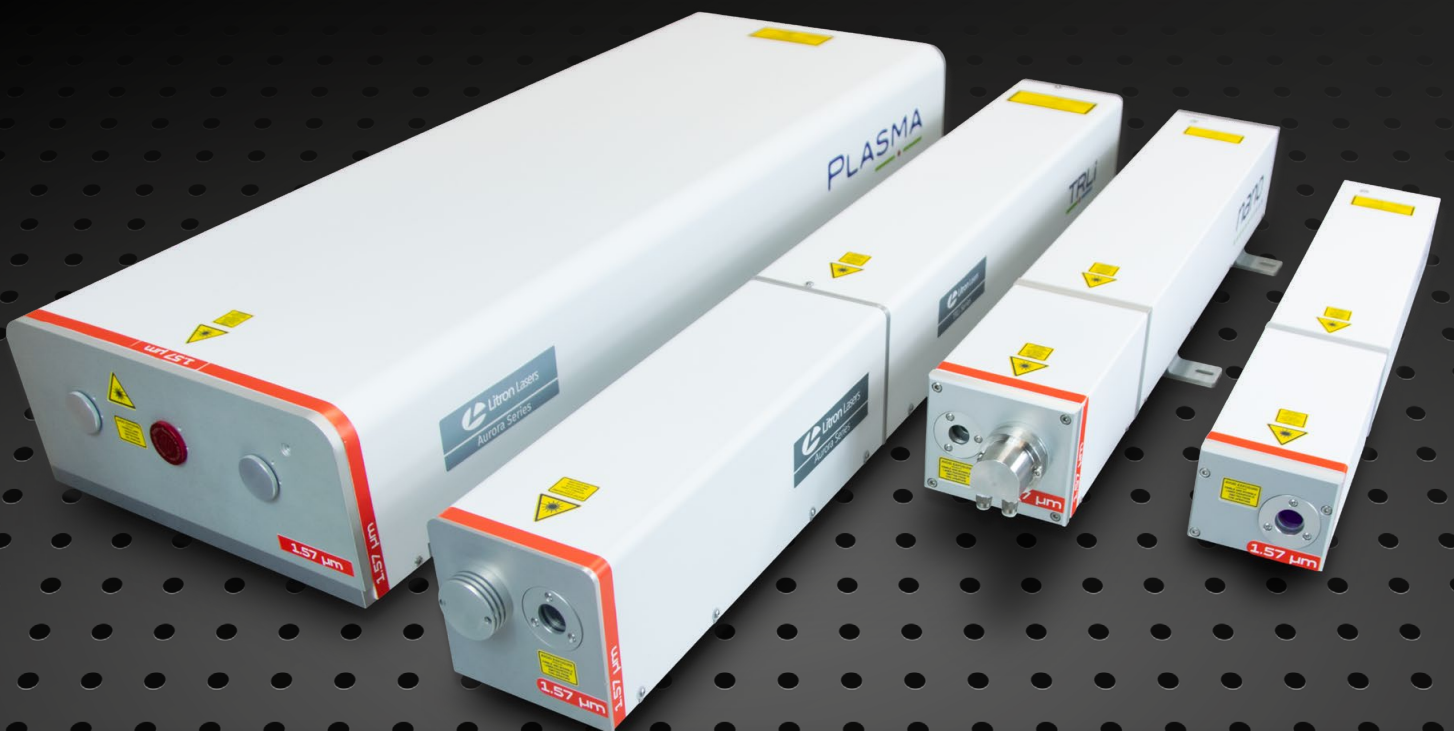




1.57 μ m Series

Pulsed Nd:YAG Lasers and Fixed Wavelength OPOs

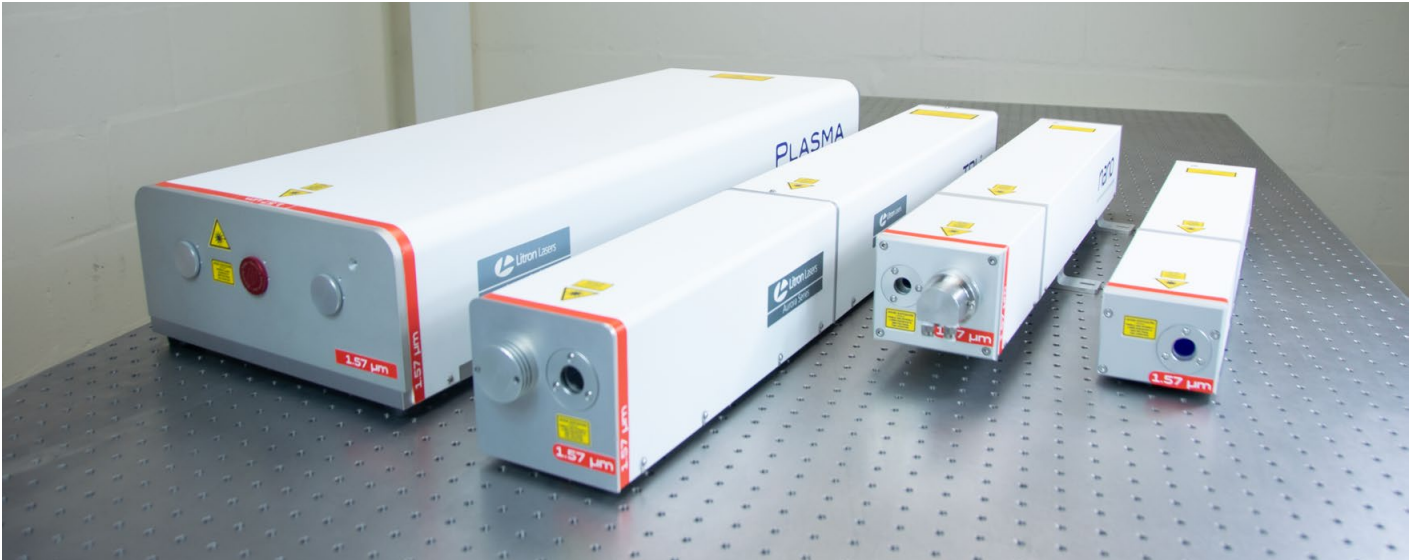


1.57 μ m

 Litron Lasers

1.57 μ m Series

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



1.57 μ 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 μ 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 μ 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 μ 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 μ 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
LASER HEAD/OPO Repetition Rate (Hz)	200	100	100	100
OPO PARAMETERS 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) ⁽¹⁾	<10	<10	<7	<7
Beam Divergence (mrad) ⁽²⁾	<10	<8	<8	<8
Pulse Width (ns) ⁽³⁾	<10	<10	<10	<10
Timing Jitter (ns) ⁽⁴⁾	<0.5	<0.5	<0.5	<0.5
Polarisation	Horizontal	Horizontal	Horizontal	Horizontal
Diode Warranty (pulses) ⁽⁵⁾	4x10 ⁹	4x10 ⁹	4x10 ⁹	4x10 ⁹

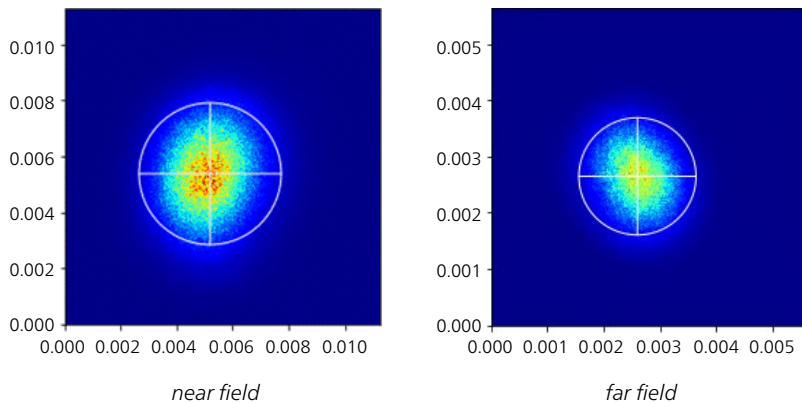
- (1) 95% beam diameter at beam exit port.
- (2) Full angle at specified beam diameter, geometric mean. Lower divergence possible by reducing power.
- (3) FWHM.
- (4) With respect to Q-switch trigger input.
- (5) 4 billion shots or 2 years (whichever is sooner).
- (6) Full software suite and programming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

TECHNICAL DATA Lamp-pumped

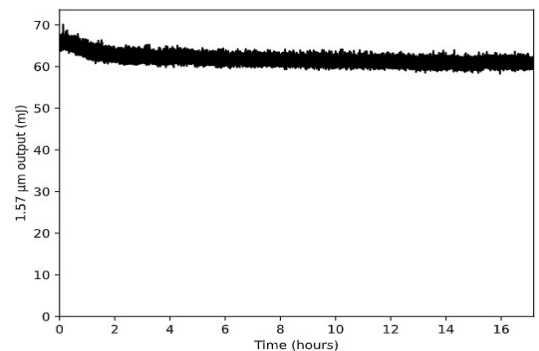
Model	TRLi 1.57-90-10	TRLi 1.57-80-20	Nano 1.57-70-10	Nano 1.57-40-20
LASER HEAD/OPO Repetition Rate (Hz)	10	20	10	20
OPO PARAMETERS Wavelength (um)	1.57	1.57	1.57	1.57
Pulse Energy (mJ)	90	80	70	40
Pulse Stability (rms %)	4	4	4	4
Beam Diameter (mm) ⁽¹⁾	<7	<7	<7	<7
Beam Divergence (mrad) ⁽²⁾	<6	<6	<6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

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

Beam Profiles: Plasma at 100Hz



Long term stability: Plasma at 200Hz



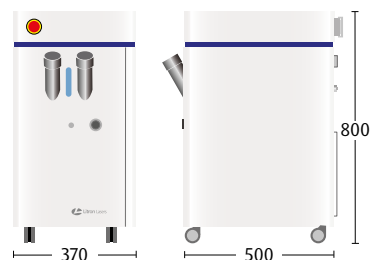
MECHANICAL DATA

All dimensions shown in mm

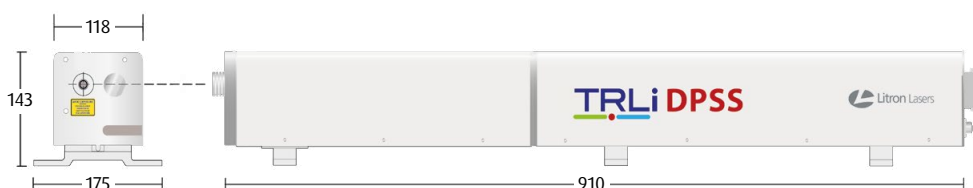
Plasma diode-pumped models



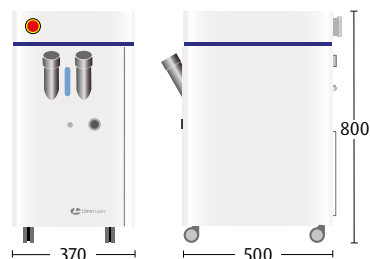
Free standing PSU and chiller



TRLi diode-pumped models



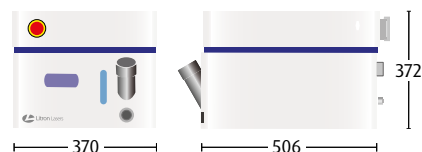
Free standing PSU and chiller



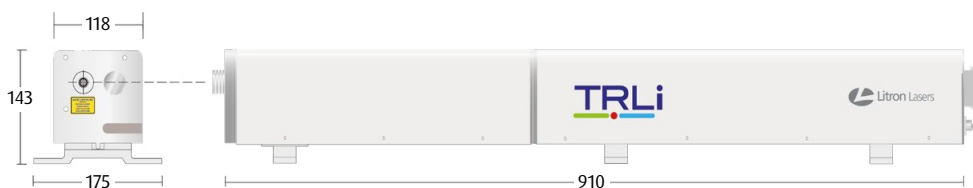
Nano diode-pumped models



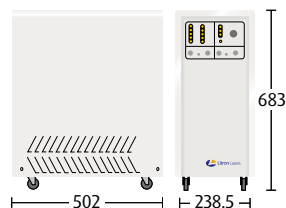
Free standing mini PSU and chiller



TRLi lamp-pumped models



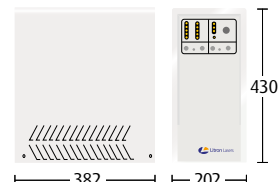
LPU1000 PSU



Nano lamp-pumped models



LPU350 PSU



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