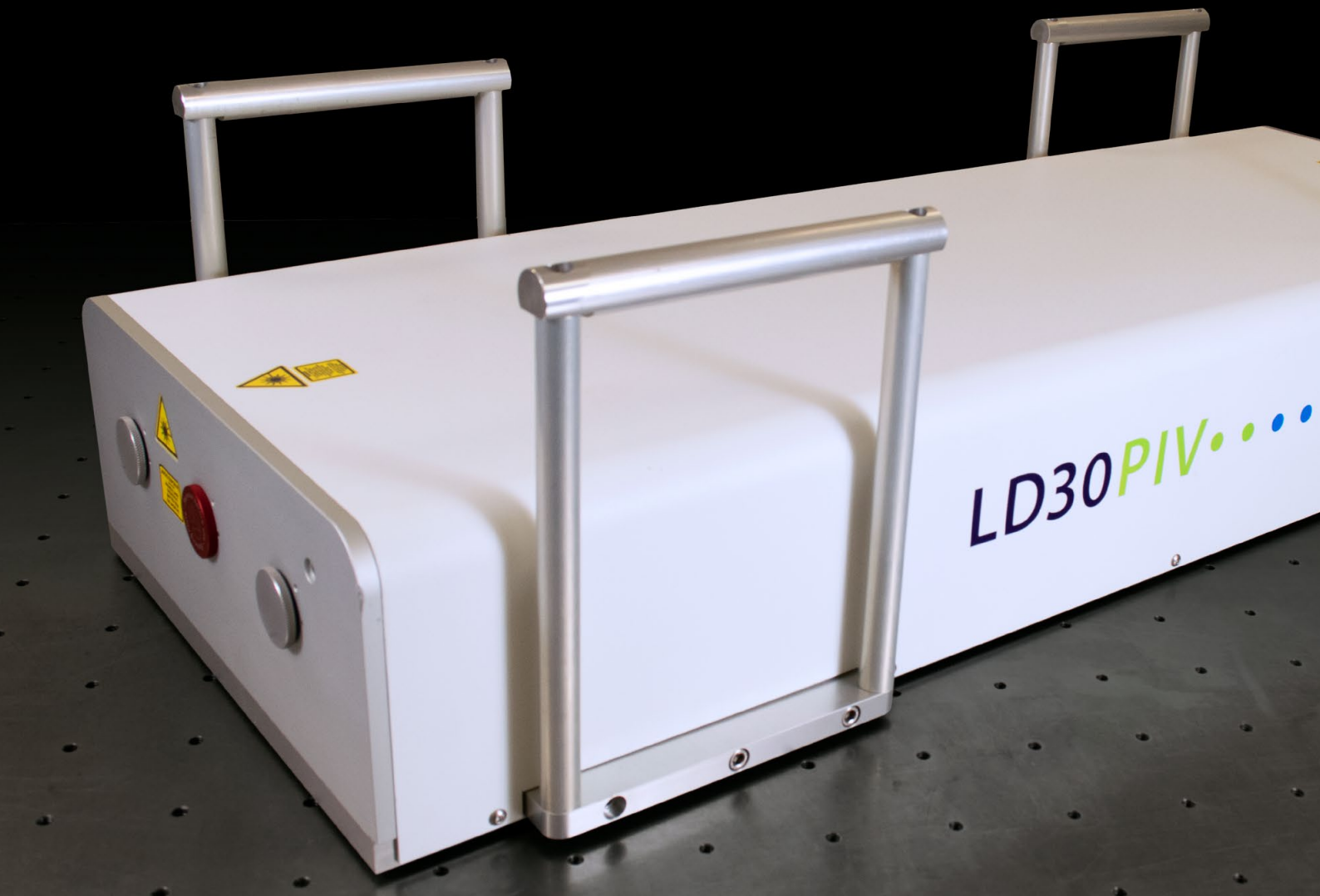
LD-527 PIV SERIES

High Repetition Rate Nd:YLF Lasers for
Time-Resolved PIV Applications



LD•PIV

Litron Lasers

LD-527 PIV Series

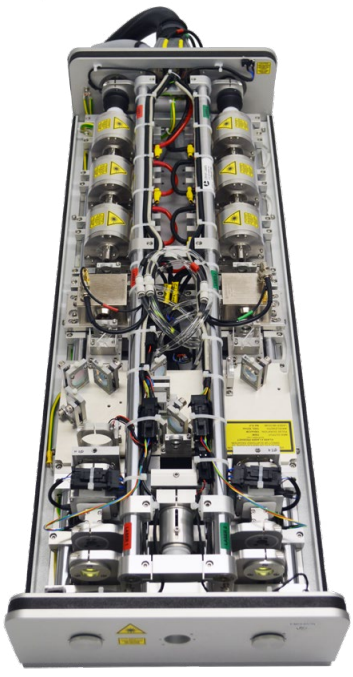
527nm Nd:YLF Lasers for High Speed Imaging Applications

FEATURES

- ***Improved beam quality for brighter light sheets***
- ***Short pulse width***
- ***Independent motorised attenuators to balance pulse energies easily***
- ***Small footprint***
- ***Efficient Q-switching***
- ***Lightweight conduit***

APPLICATIONS

- ***PIV & Time-Resolved PIV***
- ***Particle Sizing***
- ***Flow Visualisation***

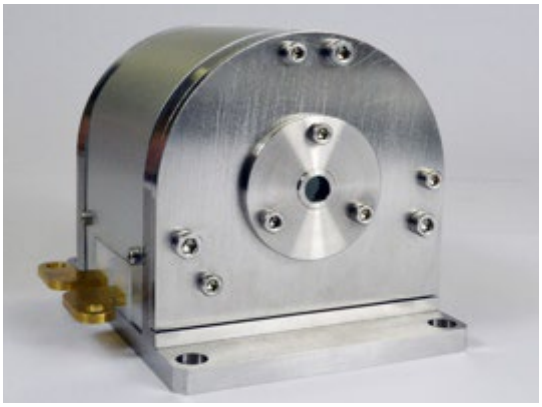


The **LD-527 PIV** series lasers are diode pumped, intra-cavity doubled, dual-cavity, Nd:YLF laser systems ideally suited to imaging applications such as PIV and pump applications. Output energies of up to 30mJ, 527nm per cavity at 1kHz are available.

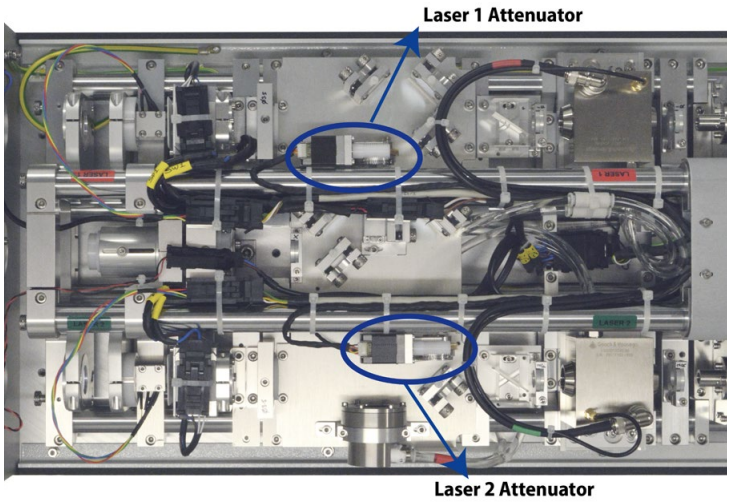
The lasers are built around a rugged self-supporting Invar rail that bestows excellent mechanical and optical stability. This, coupled with the proprietary resonator design, leads to excellent output beams that are spatially and temporally extremely smooth and stable, giving rise to light sheets that offer almost identical shot-to-shot illumination.

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.

The LD-527 PIV lasers incorporate Litron's established and field-proven diode pump module. This state-of-the-art module gives high homogeneity rod pumping, which, in turn, leads to a highly stable, uniform output.



Motorised Optical Attenuators are fitted to both lasers. Each attenuator is controlled independently allowing complete pulse energy control. As the attenuators act on the output of the laser (using a half-wave plate and a polariser), beam parameters such as the spatial and temporal profiles, the M^2 and the pulse width are unchanged.

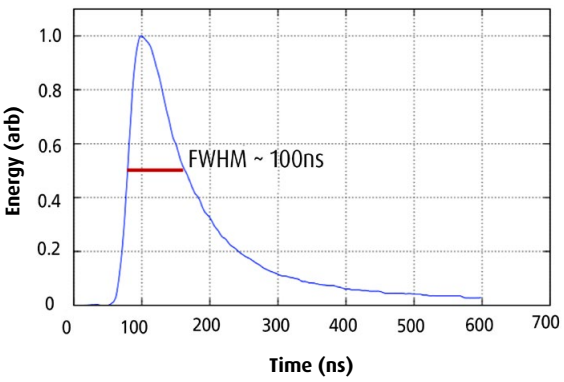


Litron Lasers provides a complete solution, manufacturing both power supply units and chiller for all LD-527 PIV lasers.

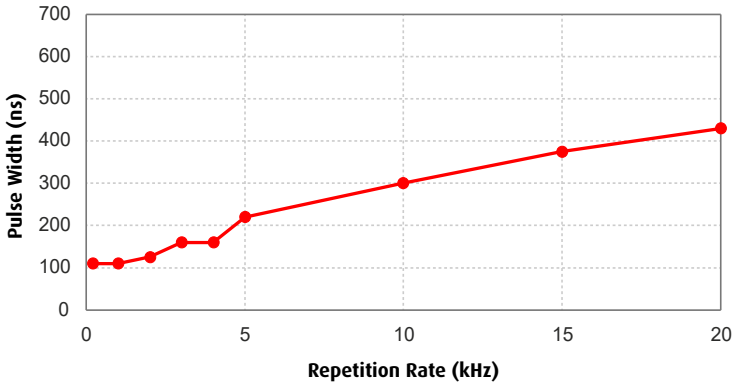
All systems have a detachable umbilical and carrying handles for added portability.

PERFORMANCE DATA

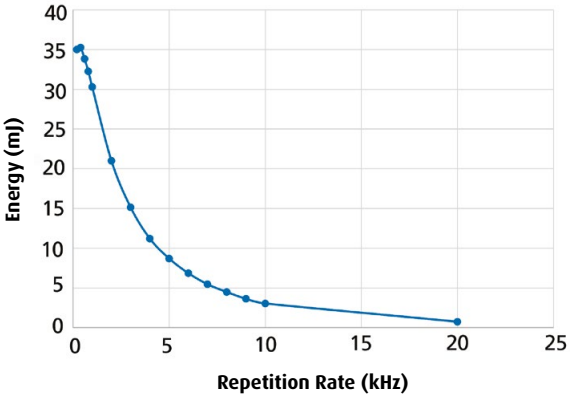
LD30-527 PIV Typical Pulse Shape

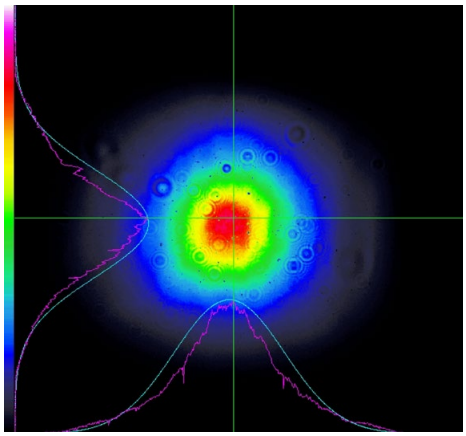


LD30-527 PIV Pulse Width



LD30-527 PIV Output Energy vs. Repetition Rate at 527nm





Near field beam profile 30mJ 527nm 1kHz

The LD-527 PIV Series

Dual Cavity Diode Pumped Q-switched Nd:YLF Lasers

TECHNICAL DATA

Model	LD10-527 PIV	LD15-527 PIV	LD20-527 PIV	LD25-527 PIV	LD30-527 PIV
Repetition Rate	200Hz to 20kHz				
Output Energy at 1kHz at 527nm per laser head per pulse (mJ)	10	15	20	25	30
Pulse – pulse stability (±%)	1	1	1	1	1
Beam diameter (mm) (1)	5	5	5	5	5
Beam divergence (mrad) (2)	<2.5	<2.5	<2.5	<2.5	<2.5
Pulse width @ 1kHz (ns)	<210	<160	<180	<140	<120
M^2	<12	<12	<12	<12	<12
Pointing Stability (µrad) (3)	<25	<25	<25	<25	<25
Weights					
Head (kg)	60	60	66	66	66
PSU (kg)	150	150	150	150	150

All data provided for each laser head, unless otherwise stated.

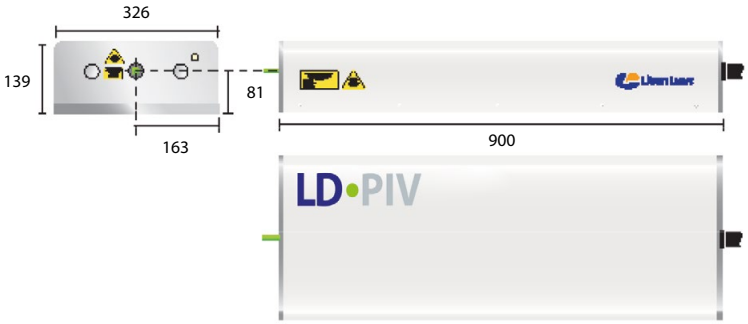
(1) Beam diameter is achieved with output telescope.
(2) At specified beam diameter.
(3) Half angle.
(4) 110VAC option requires autotransformer to be specified on order.
(5) 50 or 60Hz to be specified on order.
(6) 0 to 80% non-condensing atmosphere.

Services	
Voltage (VAC) (4)	220-250
Frequency (Hz) (5)	50 or 60
Power	Single Phase
Ambient (°C) (6)	5-35
Power Supply	Freestanding

MECHANICAL DATA

All dimensions in mm unless stated

PIV Laser Head



Freestanding 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.

Litron Lasers Ltd
8 Consul Road, Rugby,
Warwickshire CV21 1PB England.

T +44 (0)1788 574444
F +44 (0)1788 574888
E sales@litron.co.uk

Litron Lasers

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