

Technical data ultrashort pulse lasers – specification

	LXR® 50-1030
Laser beam overview	
Wavelength ⁽¹⁾	1030nm
Pulse duration	800 ± 150fs
Output power	
Rated output power ⁽²⁾	50W
Pulse parameters	
Pulse repetition frequency	Single shot – 40MHz
Rated pulse energy ⁽³⁾	100µJ
Pulse on demand	With individual pulse energy control
Fast burst mode	
Period between pulses in a burst	25ns
Number of pulses per burst ⁽⁴⁾	2-10
Maximum rated burst energy	250µJ
Laser beam parameters	
Diameter (1/e ²) at laser output aperture	3.0 ± 0.5mm
Typical beam quality	M ² < 1.2
Divergence (full angle, far-field)	< 600µrad
Pointing stability	< ± 50µrad
Polarisation	Linear (perpendicular to base), purity > 100:1
Ellipticity	< 1.2:1
Dimension and weights	
Laser head	(L×W×H) 929mm×500mm×330mm 120kg
Drive unit ⁽⁵⁾ (DC PSU, controller DC PSU)	(L×W×H) 725mm×550mm×351mm 35kg
Electrical ratings	
Input voltage range	230V AC ± 10%, single phase 50/60Hz
Maximum input power	1.2kW
Input water specification	
Flow rate through laser head	14-16 L/min
Chiller cooling capacity	> 1.2kW

Notes:

- ¹ A frequency doubled option at 515nm is available. Contact your local Luxinar representative for more details.
- ² See fig 1 for the range of output powers available.
- ³ See fig 2 for the range of pulse energies available.
- ⁴ Fast burst mode available at 0.2-8MHz. Number of pulses available in a burst depends on the selected pulse repetition frequency.
- ⁵ Rack unit with integrated chiller available on request. Contact your local Luxinar representative for more details.
- ⁶ Laser head to be mounted in the specified orientation only.

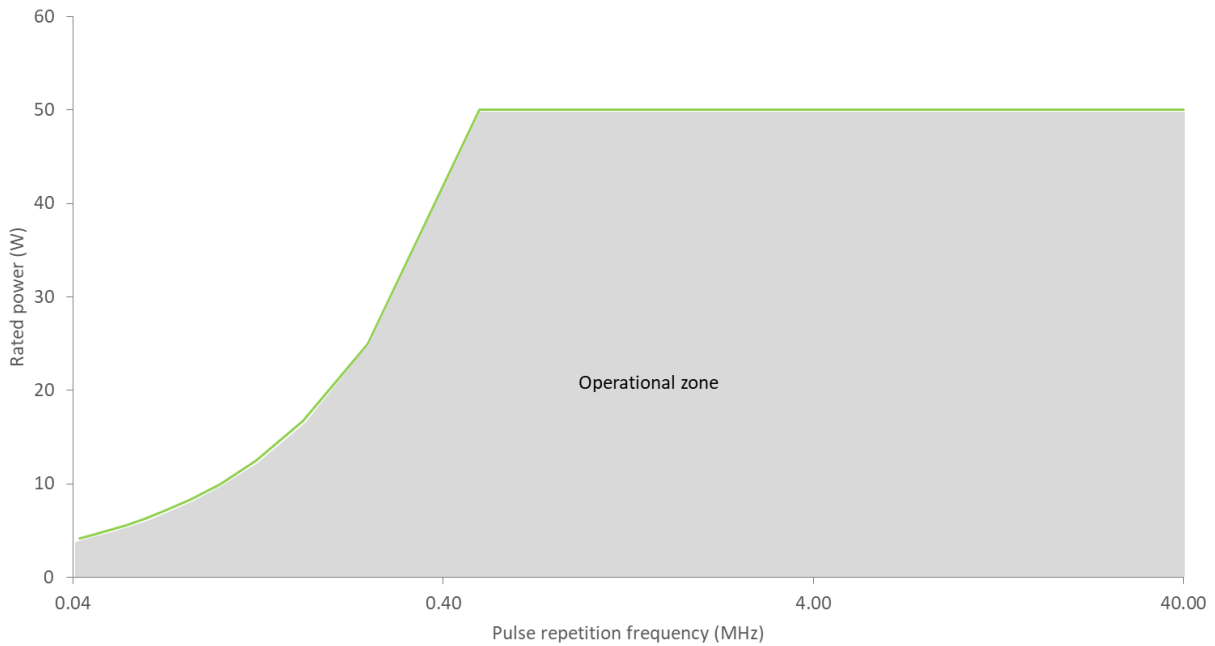


Fig 1 Range of available output powers

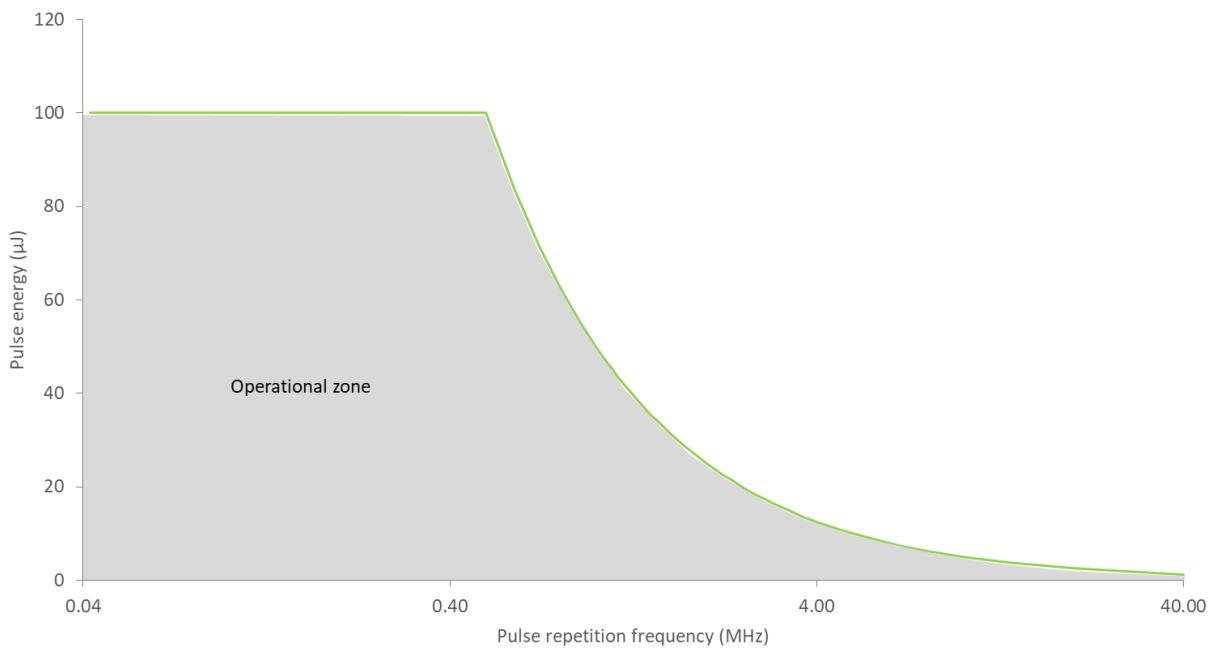


Fig 2 Range of available pulse energies

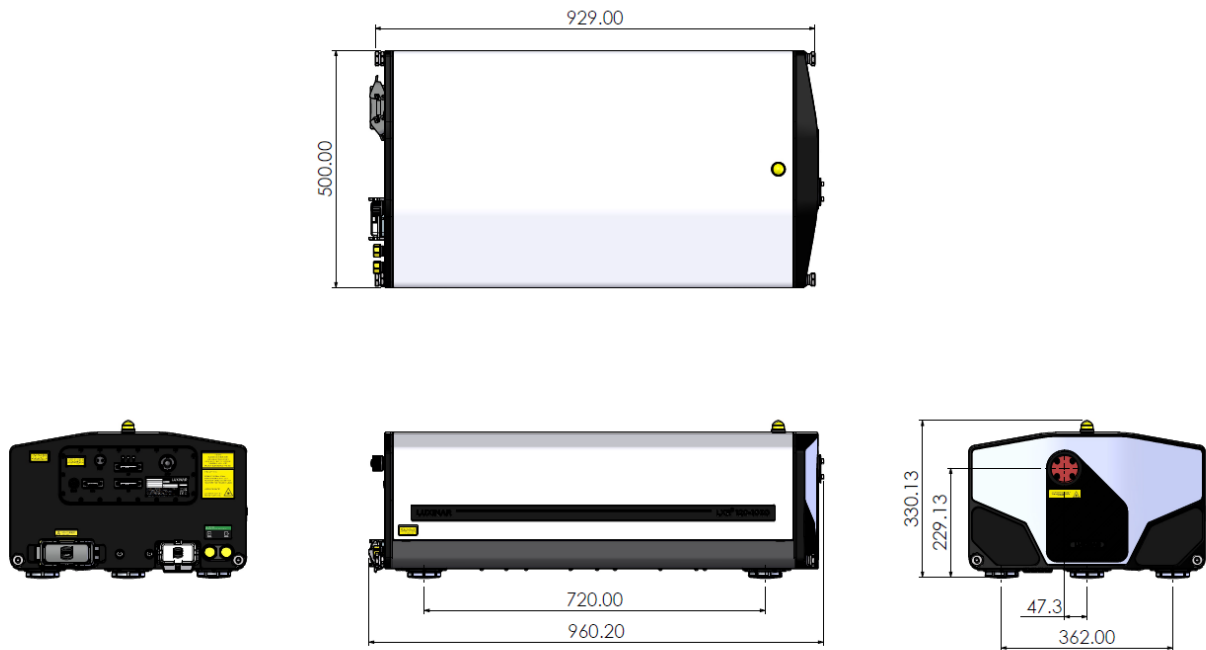


Fig 3 LXR® 120-1030 Laser head

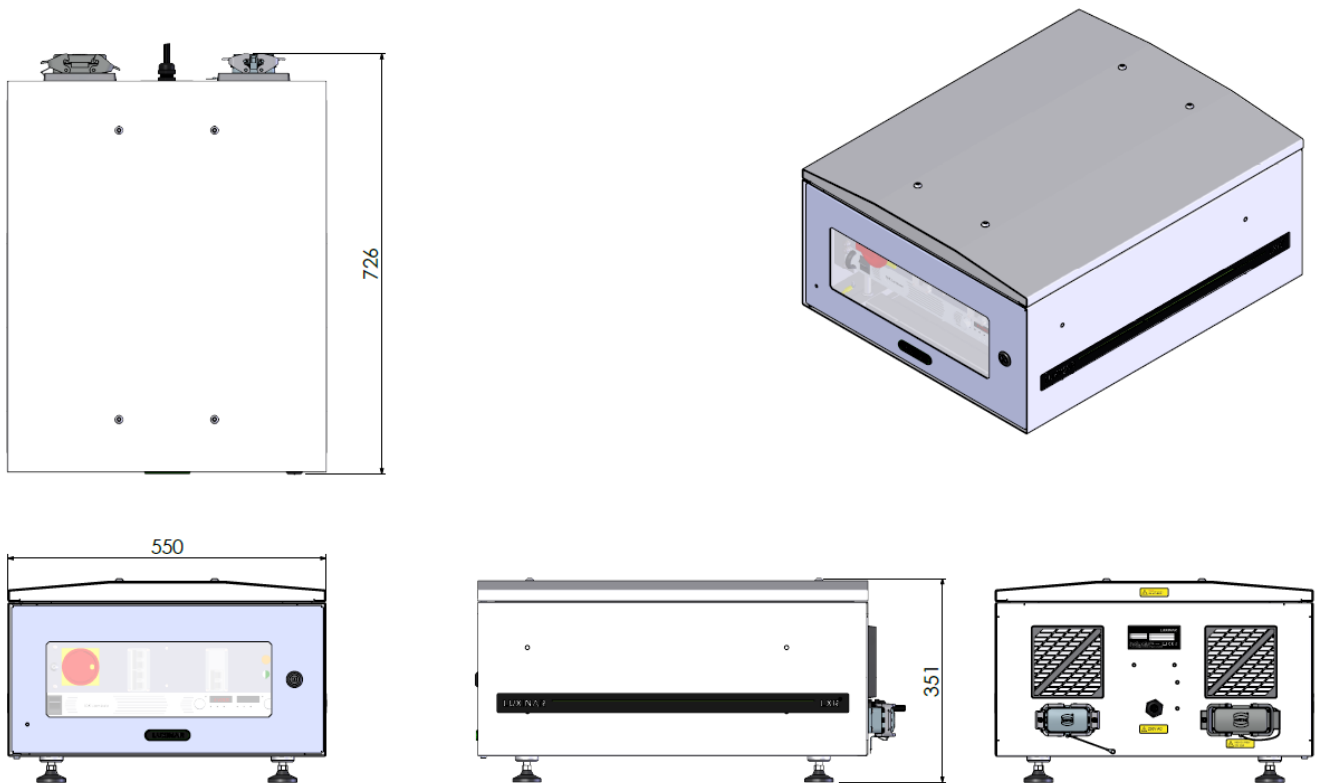


Fig 4 Drive unit

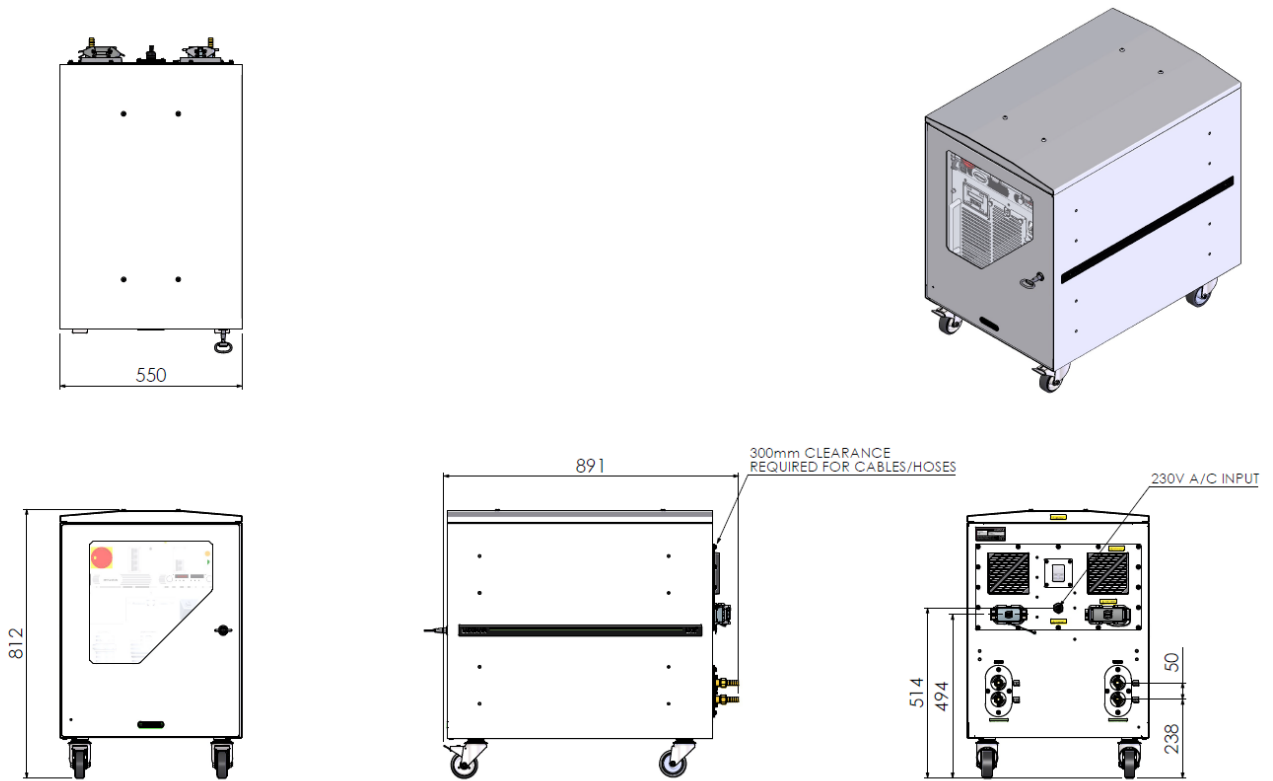


Fig 5 Optional rack with water-water chiller

If the rack with chiller option is chosen, the electrical input required increases. Please see table below.

Dimensions and weight of rack unit

(DC PSU, controller DC PSU, water-water chiller)

(L×W×H) 891mm×550mm×812mm

150kg

Electrical ratings

Input voltage range

230V AC ± 10%, single phase 50/60Hz

Maximum input power

3.5kW

Input water specification

Flow rate

5-10 L/min

Coolant water temperature

18°C to 25°C (above dew point)

Please note that while every effort has been made to ensure that the data given in this document is accurate, the information, figures, illustrations, tables, specification and schematics contained herein are subject to change without notice.