

## Technical data sealed CO<sub>2</sub> lasers – specification

	SR 10e 9.3μm
<b>Laser beam data</b>	
Wavelength <sup>(1)</sup>	9.3μm
Excitation	RF
<b>Output power</b>	
Power range (rated) <sup>(2)</sup>	5 – 115W
Typical stability (long term) <sup>(3)</sup>	± 3%
Peak power <sup>(4)</sup>	330W
Minimum shipment power <sup>(2)</sup>	>138W
<b>Laser beam quality</b>	
Diameter @ (1/e <sup>2</sup> ) (at laser o/p optic)	6.0 ± 0.5mm
Beam quality factor	M <sup>2</sup> < 1.2 (K > 0.83)
Divergence (full angle far field)	< 2mrad
Pointing stability (half angle)	< 0.25mrad
Polarisation	Linear (parallel to base)
Ellipticity	< 1.2 : 1
<b>RF input requirements</b>	
DC input voltage	50VDC ± 1%
Maximum average DC input current <sup>(5)</sup>	60A
Maximum peak DC input current	120A
Maximum average power consumption <sup>(6)</sup>	3kW
<b>Pulsed mode</b>	
Frequency	0 – 130kHz
Pulse width	2 – 400μs
Energy	6 – 110mJ
Optical pulse rise/fall	< 60μs
Duty cycle (max)	50%
<b>Dimensions and weights</b>	
Laser head/RF	(LxWxH) 879x198x222 (mm) 32kg
<b>External control facilities</b>	
Laser head	Commands from external controller Status signal to external controller
<b>DC Electrical ratings</b>	
Input voltage range	230VAC ± 10% 50/60Hz. Single or bi-phase
Input current (max)	15A @ 230V
External fusing requirement	20A @ 230V
Output voltage	50V
Maximum output current	60A
Maximum output power <sup>(6)</sup>	3kW
Earth leakage current	< 3mA

## Cooling

Minimum flow rate	≥ 5L/min
Recommended flow rate	≥ 6L/min
Maximum pressure	6 bar
Refrigeration capacity	> 3.3kW
Temperature	19°C/66°F to 25°C/77°F ± 1°C (Above dew point)

## Environmental requirements

Ambient temperature range	5 – 40°C
Relative humidity range	10 – 85% (non-condensing)
Operational altitude	< 2000m

### Notes:

<sup>1</sup>9.27μm is the predominant wavelength. This can typically vary in the range 9.2μm – 9.4μm.

<sup>2</sup>Mean average power at maximum duty cycle.

<sup>3</sup>Guaranteed stability (long-term) is ± 6%.

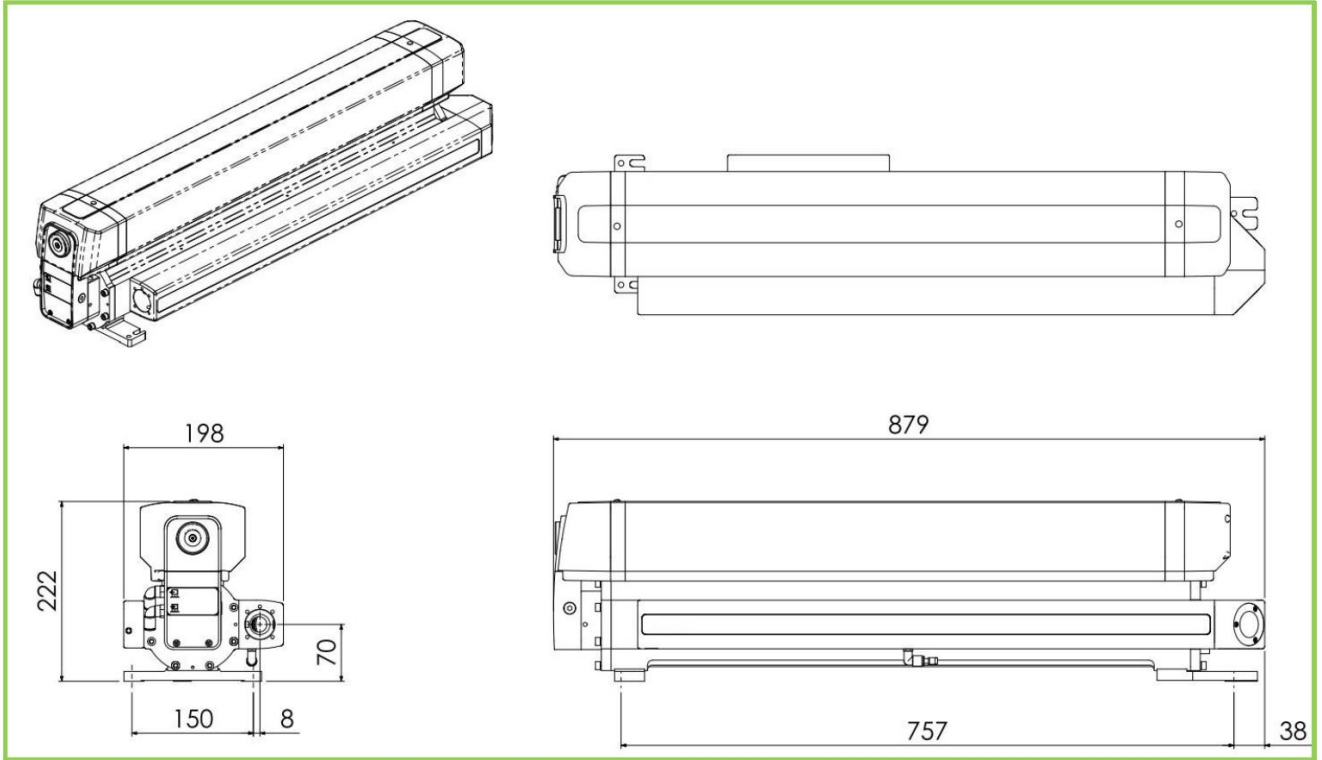
<sup>4</sup>Depending on frequency.

<sup>5</sup>400μs pulse width @ 50% Duty.

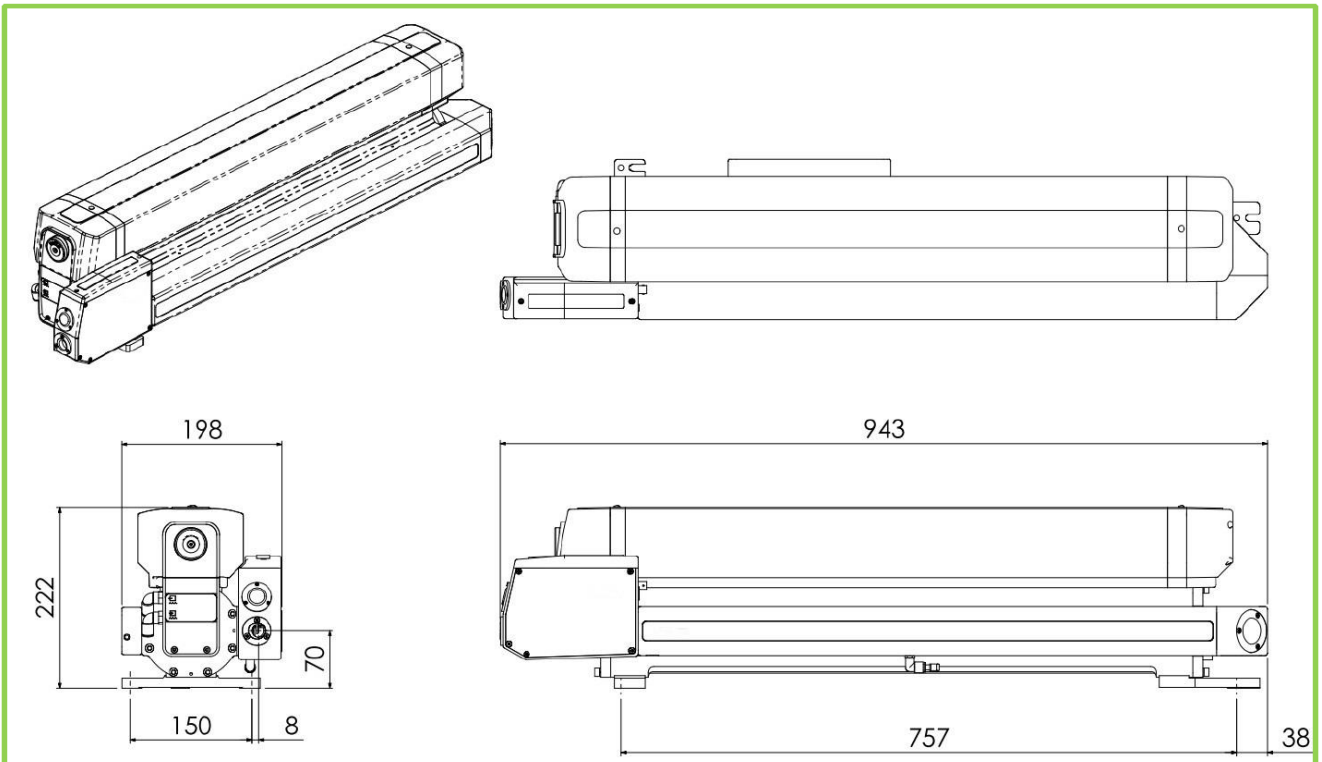
<sup>6</sup>We recommend using a DC PSU with at least 20% head room on the maximum average power rating.

i.e. DC PSU power= maximum o/p\*1.2

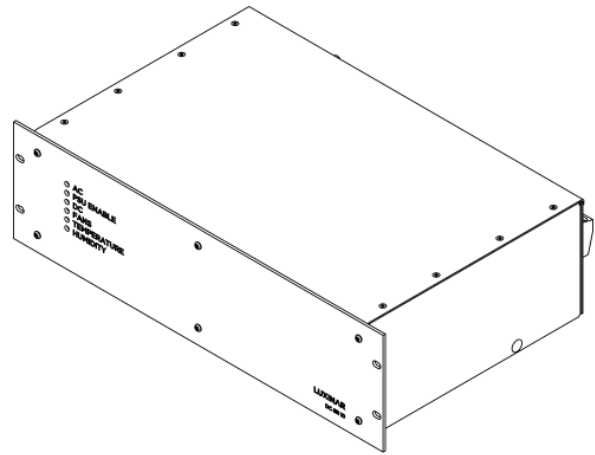
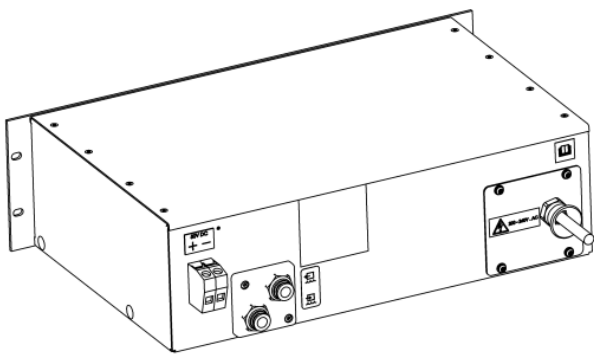
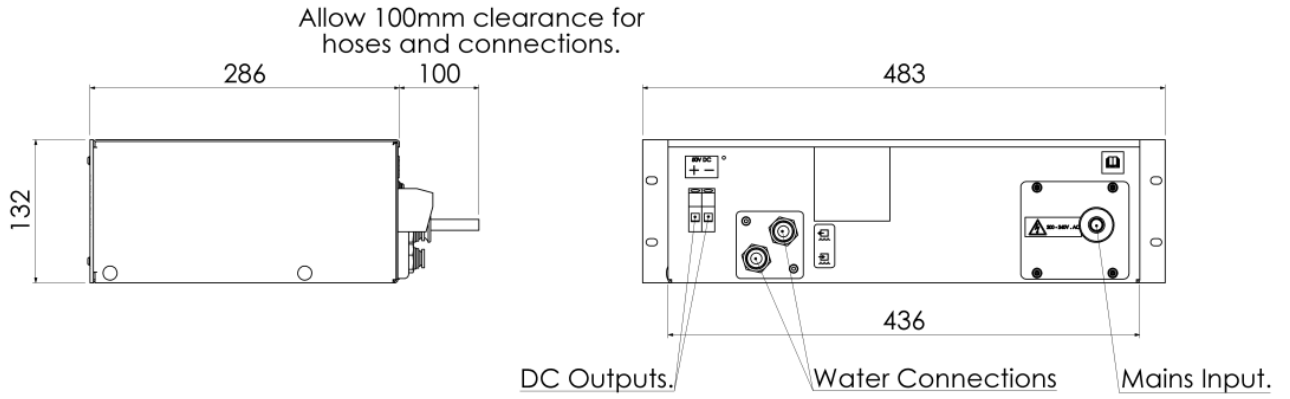
Please note that while every effort has been made to ensure that the data given in this document is accurate, the information, figures, illustrations, tables, specification and schematics contained herein are subject to change without notice



SR 10e



SR 10e – with shutter and diode assembly - optional



DC power supply – single phase, water cooled - 50V – optional