

Technical data sealed CO₂ lasers – specification

	SR 25 AOM 9.3µm	
Laser beam data		
Wavelength ⁽¹⁾	9.3µm	
Excitation	RF	
Output power		
Power range (rated) ⁽²⁾	0 – 150W	
Typical stability (long term) ⁽³⁾	± 2%	
Peak power ⁽⁴⁾	150W	
Minimum shipment power ⁽²⁾	>150W	
Laser beam quality		
Diameter @ (1/e ²) (at laser o/p optic)	7.7 ± 0.5mm	
Beam quality factor	M ² < 1.2 (K > 0.83)	
Divergence (full angle far field)	< 2mrad	
Pointing stability (half angle)	< 0.3mrad	
Polarisation	Linear (perpendicular to base)	
Ellipticity	< 1.2 : 1	
System input requirements		
DC input voltage	50VDC ± 1%	
Maximum average DC input current ⁽⁴⁾	106A	
Maximum peak DC input current	170A	
Maximum average power consumption ⁽⁴⁾	5.3kW	
AOM Pulsed mode		
Frequency	0 – 240kHz	
Pulse width	>2µs	
Energy	>0.3mJ	
Optical pulse rise/fall	< 1µs	
Duty cycle (max)	100%	
Dimensions and weights		
Laser head/RF	(LxWxH) 940x266x226 (mm) 50kg	
External control facilities		
Laser head	Commands from external controller Status signal to external controller	
DC Electrical ratings		
Input voltage range	230VAC ± 10% 50/60Hz. Single or bi-phase	415VAC ± 10% 50/60Hz. Three phase
Input current (max)	29A @ 230V	11A@415V
External fusing requirement	40A @ 230V	Three x 16A@415V
Output voltage	50V	50V
Maximum output current	120A	150A
Maximum output power ⁽⁶⁾	6kW	7.5kW
Earth leakage current	<4mA	<30mA

Cooling (Laser + RF + DC PSU)

Minimum flow rate	≥ 5L/min
Recommended flow rate	≥ 6L/min
Refrigeration capacity	> 5kW
Temperature	18°C/64°F to 20°C/68°F ± 1°C (Above dew point)

Cooling (AOM)

Minimum flow rate	≥ 2L/min
Recommended flow rate	≥ 3L/min
Maximum pressure	3 bar
Refrigeration capacity	> 0.5kW
Temperature	18°C/64°F to 20°C/68°F ± 1°C (above dew point)

Environmental requirements

Ambient temperature range	5 – 30°C
Relative humidity range	10 – 85% (non-condensing)
Operational altitude	< 2000m

Notes:

¹ 19.27µm is the predominant wavelength. This can typically vary in the range 9.2µm – 9.4µm.

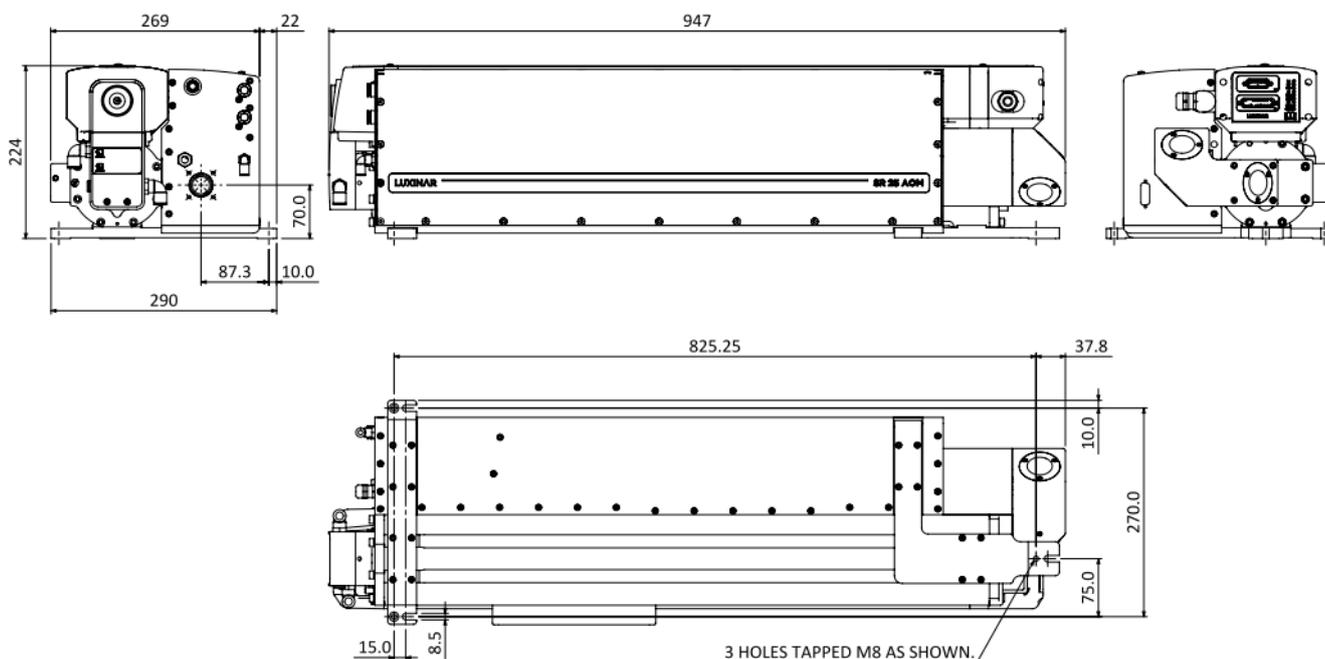
² Mean average power at 100% AOM duty cycle. The mean average power is proportional to AOM duty cycle.

³ Guaranteed stability (long-term) is ± 3%.

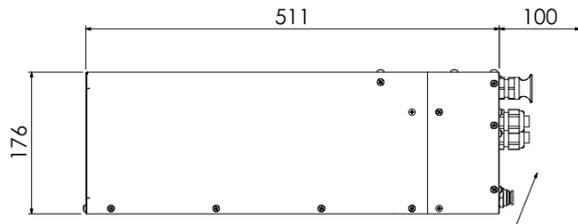
⁴ We recommend using a DC PSU with at least 20% head room on the maximum average power rating.

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

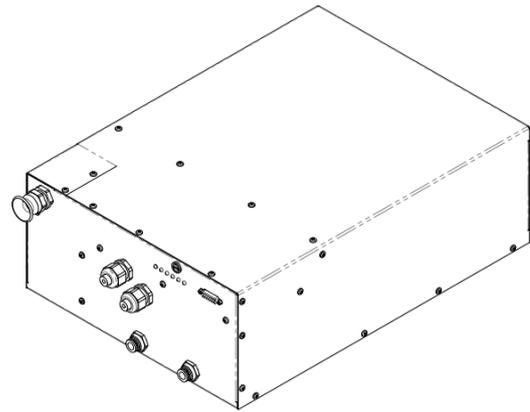
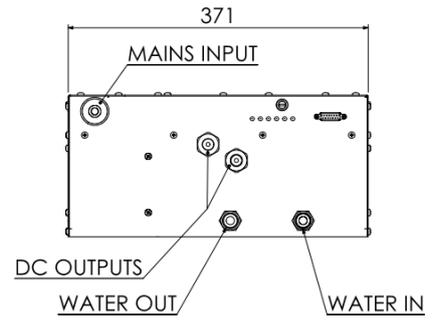
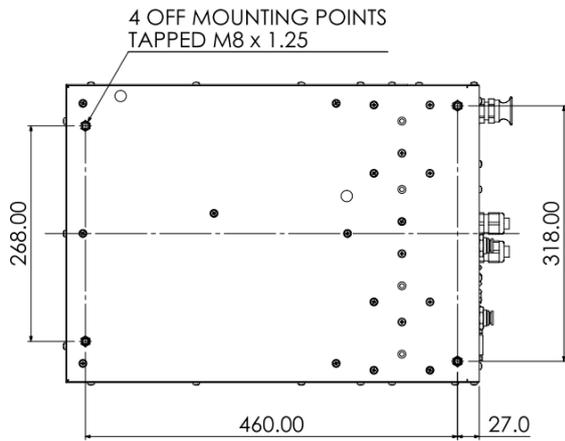
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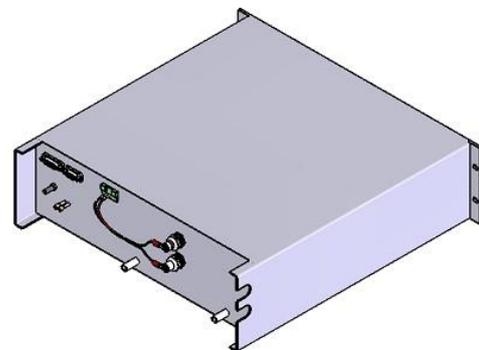
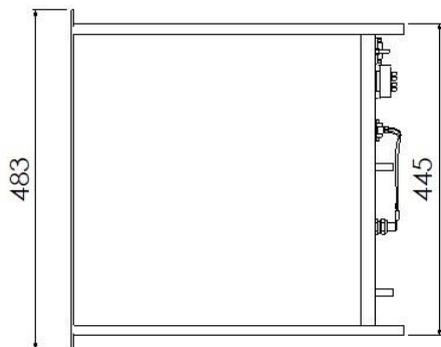
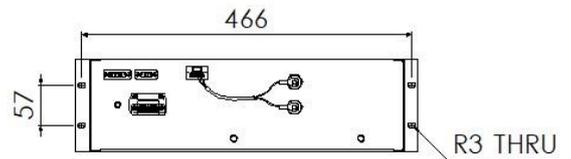
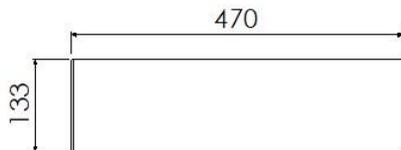
SR 25 AOM



ALLOW 100mm CLEARANCE FOR HOSES, "D" CONNECTORS ETC.



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



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