



Technical data sealed CO₂ lasers – specification

	SR 10i (PP) 9.3μm
Laser beam data	
Wavelength ⁽¹⁾	9.3μm
Excitation	RF
Output power	
Power range (rated) ⁽²⁾	5 – 95W
Typical stability (long term) ⁽³⁾	± 5% without power feedback, ± 1% with power feedback
Peak power ⁽⁴⁾	240W
Minimum shipment power ⁽²⁾	114W
Laser beam quality	
Diameter @ (1/e ²) (at laser o/p optic)	6.0 ± 0.5mm
Beam quality factor	M ² < 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
RF input requirements	
DC input voltage	50VDC ± 1%
Maximum average DC input current ⁽⁵⁾	48A
Maximum peak DC input current	80A
Maximum average power consumption ⁽⁶⁾	2.4kW
Pulsed mode	
Frequency	0 – 130kHz
Pulse width	2 – 400μs
Energy	4 – 75mJ
Optical pulse rise/fall	< 60μs
Duty cycle (max)	60%
Dimensions and weights	
Laser head/RF	(LxWxH) 659x198x222 (mm) 22kg
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
Input current (max)	12A @ 230V
External fusing requirement	16A @ 230V
Output voltage	50V
Maximum output current	48A
Maximum output power ⁽⁶⁾	2.4kW
Earth leakage current	<2mA

Cooling

Minimum flow rate	≥ 4L/min
Recommended flow rate	≥ 5L/min
Refrigeration capacity	> 2.6kW
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:

¹9.27µm is the predominant wavelength. This can typically vary in the range 9.2µm – 9.35µm.

² Mean average power at maximum duty cycle.

³ Guaranteed stability (long-term) ± 8% without power feedback and ± 2% of rated power with power feedback.

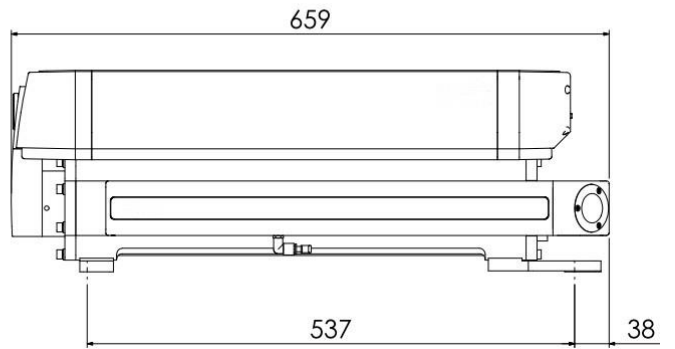
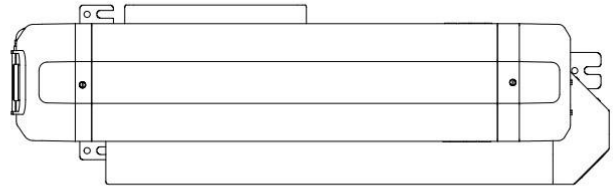
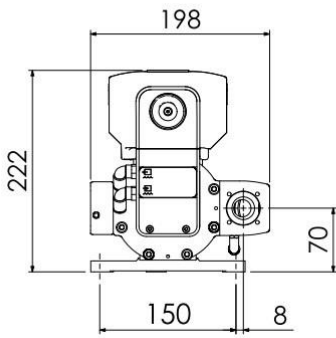
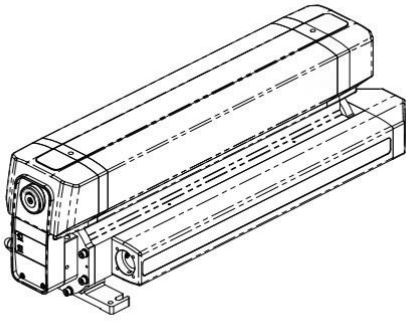
⁴ Depending on frequency.

⁵ 400µs pulse width @ 60% Duty.

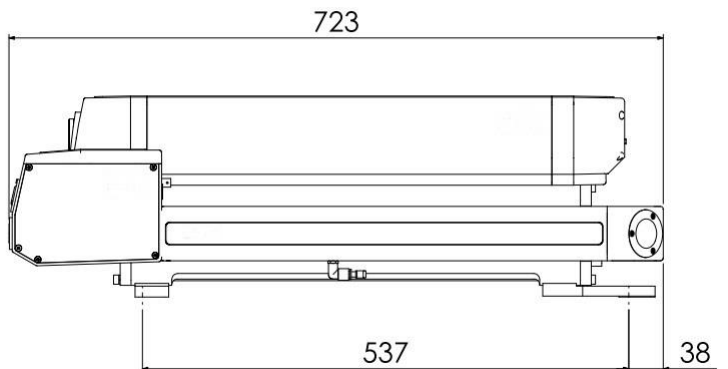
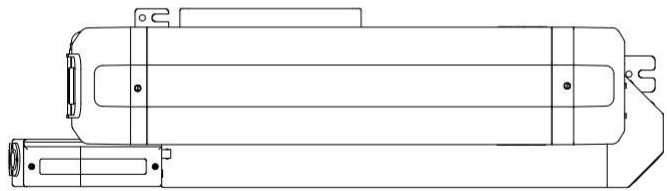
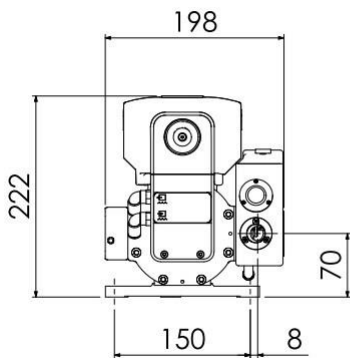
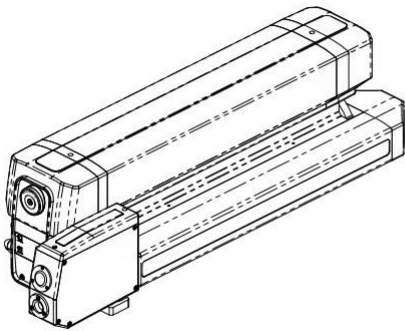
⁶ We recommend using a DC PSU with at least 20% head room on the maximum average power rating.

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

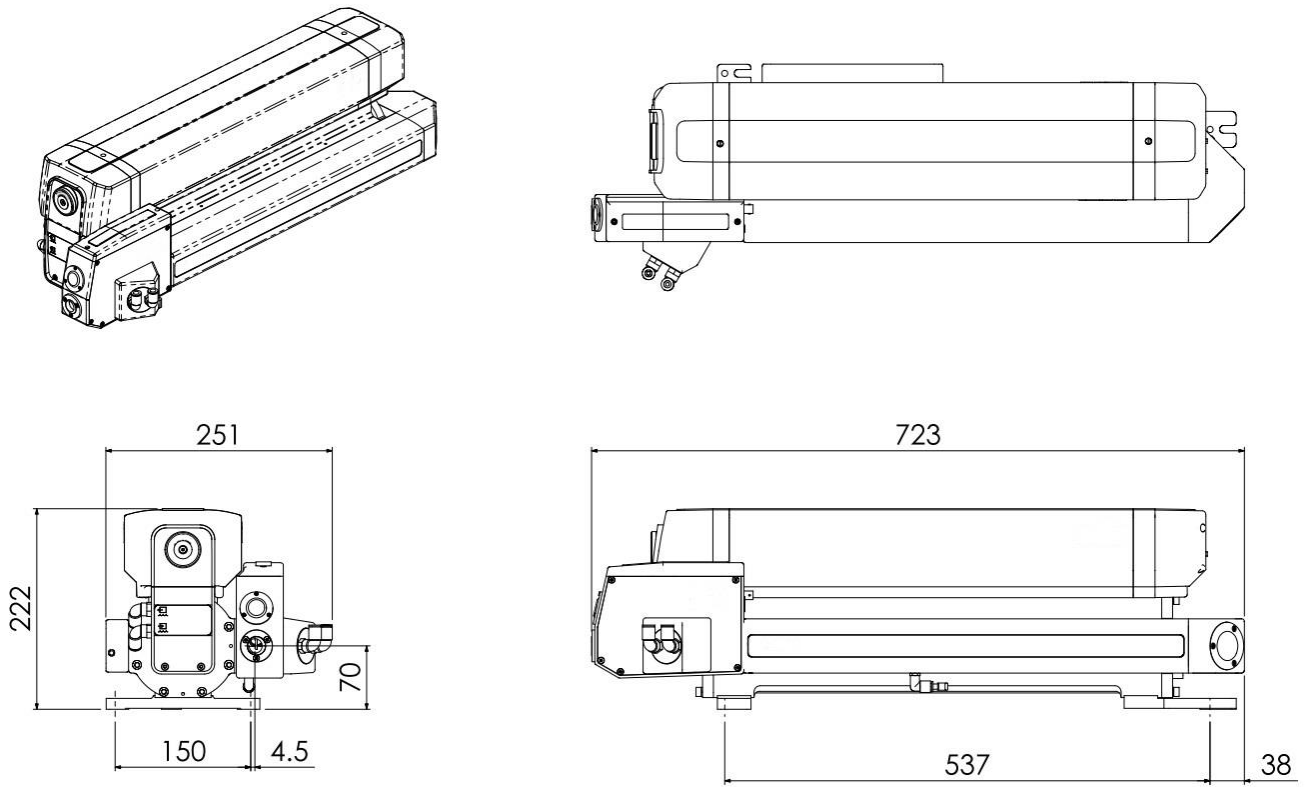
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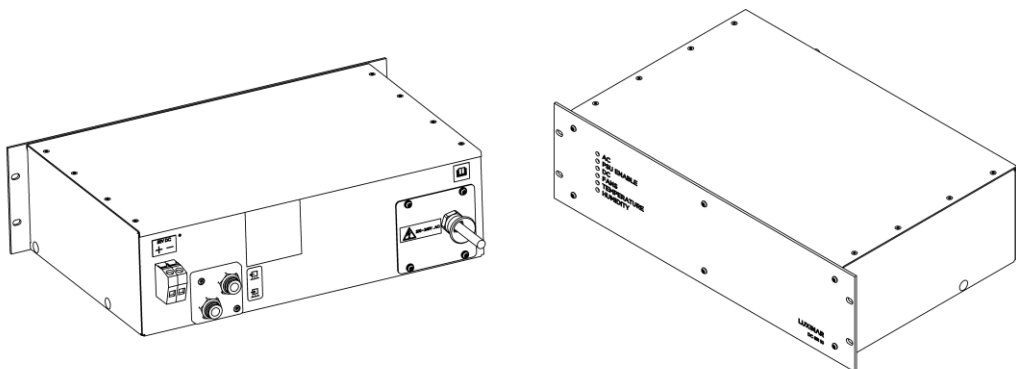
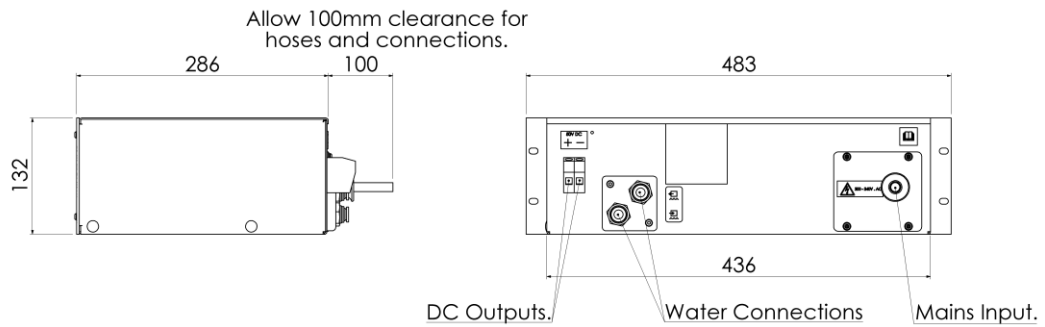
SR 10i



SR 10i – with shutter and diode assembly - optional



SR 10i – with shutter, diode and power feedback assembly – optional



DC power supply – water cooled - 50V - optional