



Technical data sealed CO₂ lasers – specification

	SR 25i (PP) 9.3µm	
Laser beam data		
Wavelength ⁽¹⁾	9.3µm	
Excitation	RF	
Output power		
Power range (rated) ⁽²⁾	10 – 185W	
Typical stability (long term) ⁽³⁾	± 4% without power feedback, ± 1% with power feedback	
Peak power ⁽⁴⁾	475W	
Minimum shipment power ⁽²⁾	222W	
Laser beam quality		
Diameter @ (1/e ²) (at laser o/p optic)	6.3 ± 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⁾	96A	
Maximum peak DC input current	160A	
Maximum average power consumption ⁽⁶⁾	4.8kW	
Pulsed mode		
Frequency	0 – 130kHz	
Pulse width	2 – 400µs	
Energy	8 - 150mJ	
Optical pulse rise/fall	< 60µs	
Duty cycle (max)	60%	
Dimensions and weights		
Laser head/RF	(LxWxH) 941x198x222 (mm) 34kg	
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

Minimum flow rate	≥ 5L/min
Recommended flow rate	≥ 6L/min
Refrigeration capacity	> 5.25kW
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 – 9.4μm.

² Mean average power at maximum duty cycle.

³ Guaranteed stability (long-term) is ± 6% without power feedback and ± 2% of rated power with power feedback.

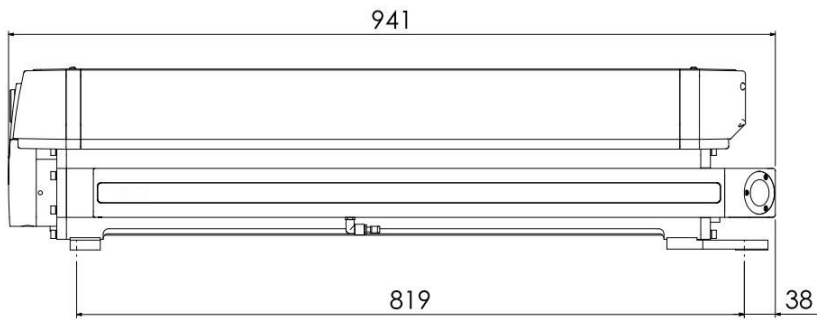
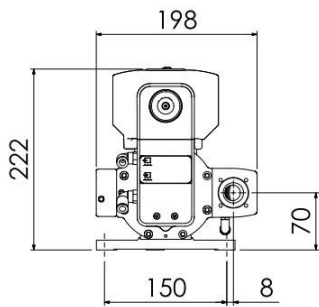
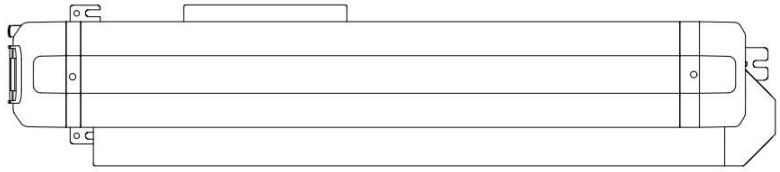
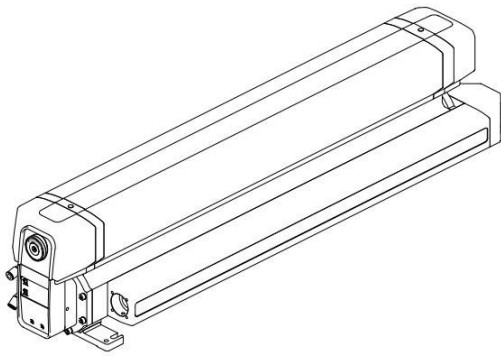
⁴ Depending on frequency.

⁵ 400μs pulse width @ 60% Duty.

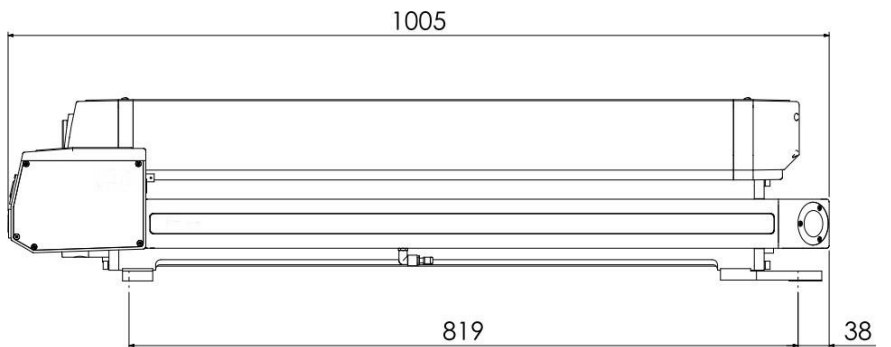
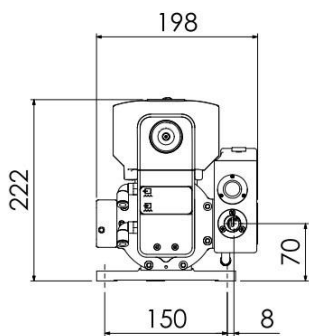
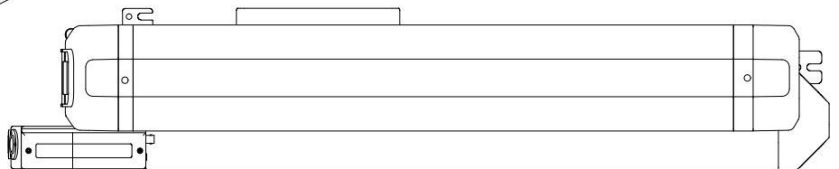
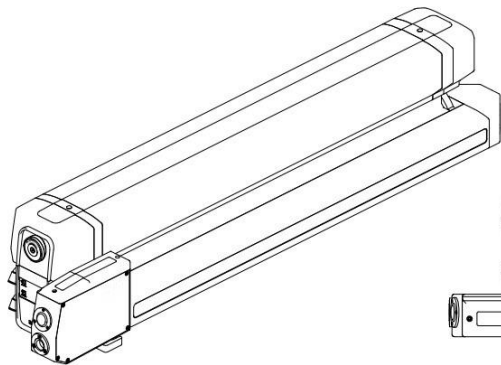
⁶ We recommend using a DC PSU with at least 20% head room on the maximum average power rating.

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

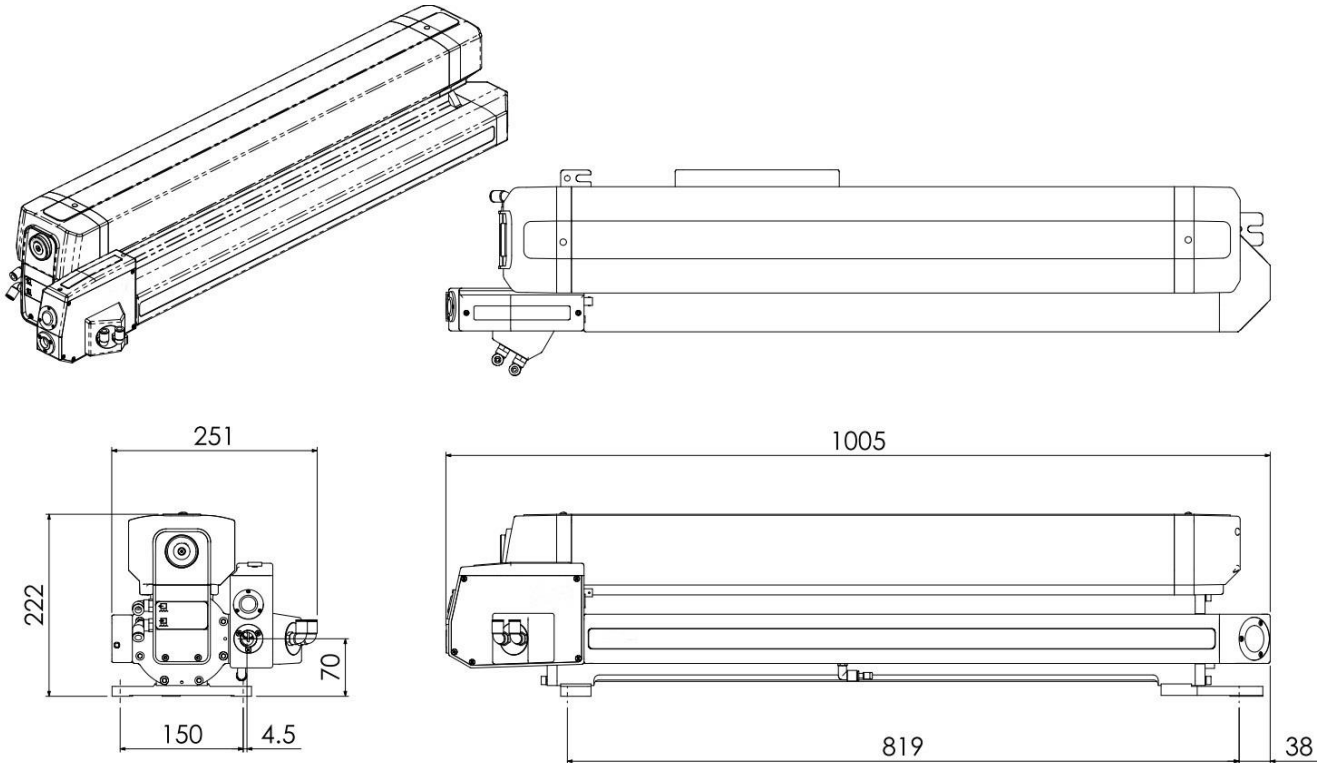
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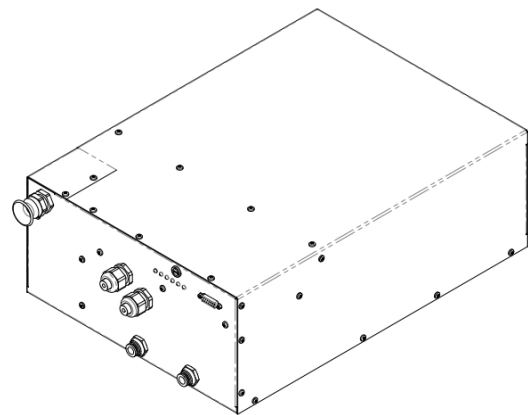
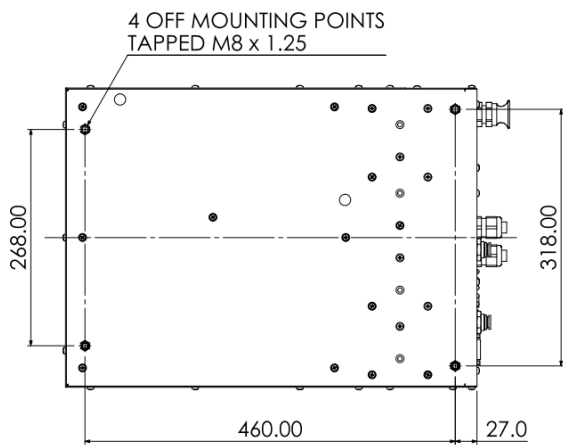
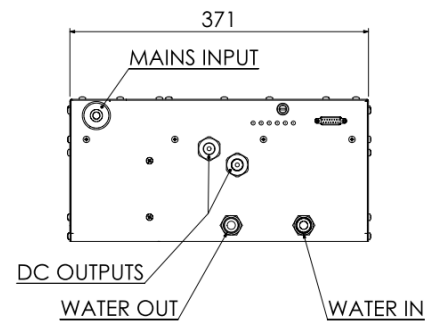
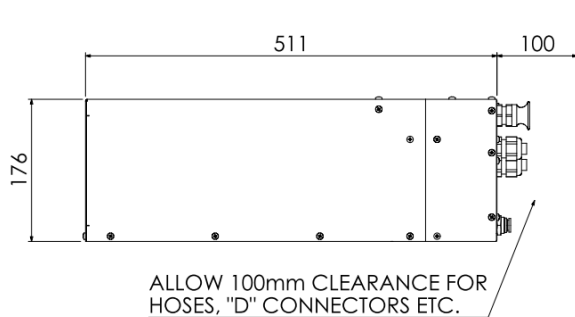
SR 25i



SR 25i – with shutter and diode assembly - optional



SR 25i – with shutter, diode and power feedback assembly – optional



DC power supply – water cooled - 50V - optional