

Technical data sealed CO₂ lasers – specification

	OEM100 iX (PP) 10.6µm
Laser beam data	
Wavelength ⁽¹⁾	10.6µm
Excitation	RF
Output power	
Power range (rated) ⁽²⁾	50 – 1000W
Typical stability (long term) ⁽³⁾	± 3% without power feedback, ± 1% with power feedback
Peak power ⁽⁴⁾	2520W
Typical shipment power ^{(2), (5)}	1330W
Laser beam quality	
Diameter @ (1/e ²) (at laser o/p optic)	11.2 ± 1mm
Beam quality factor	M ² < 1.15 (K > 0.87)
Divergence (full angle far field, to 10m)	< 1.75mrad
Pointing stability (half angle)	< 0.25mrad
Polarisation	Linear (perpendicular to base)
Ellipticity	< 1.1 : 1
Pulsed mode	
Frequency	0 – 130kHz
Pulse width	2 – 400µs
Energy	40 – 800mJ
Optical pulse rise/fall	< 60µs
Duty cycle (max)	60%
Dimensions and weights	
Laser head/RF ⁽⁶⁾	(LxWxH) 1488x505x442 (mm) 200kg
External control facilities	
Laser head	External interfaces to allow control of the laser by a PC or a PLC based control system. A hand-held control module and on-board diagnostics with output signals for continuous monitoring of laser power and stability, coolant flow, power supply operation, external interlocks etc.
DC Electrical ratings (016-0028-00)	
Input voltage range	400-480VAC ± 10% 3 phase 50/60Hz
External fusing requirement	3 x 63A
Output voltage	50V
Maximum output power ⁽⁷⁾	32kW
Earth leakage current	<16mA
DC Electrical ratings (016-0038-00)	
Input voltage range	380-480VAC ± 10% 3 phase 50/60Hz
External fusing requirement	3 x 63A
Output voltage	50V
Maximum output power ⁽⁷⁾	33kW
Earth leakage current	<24mA

Cooling

Minimum flow rate	≥ 20L/min
Recommended flow rate	≥ 25L/min
Refrigeration capacity	> 27.5kW
Temperature	19°C/66°F to 30°C/86°F ± 1°C (above dew point)

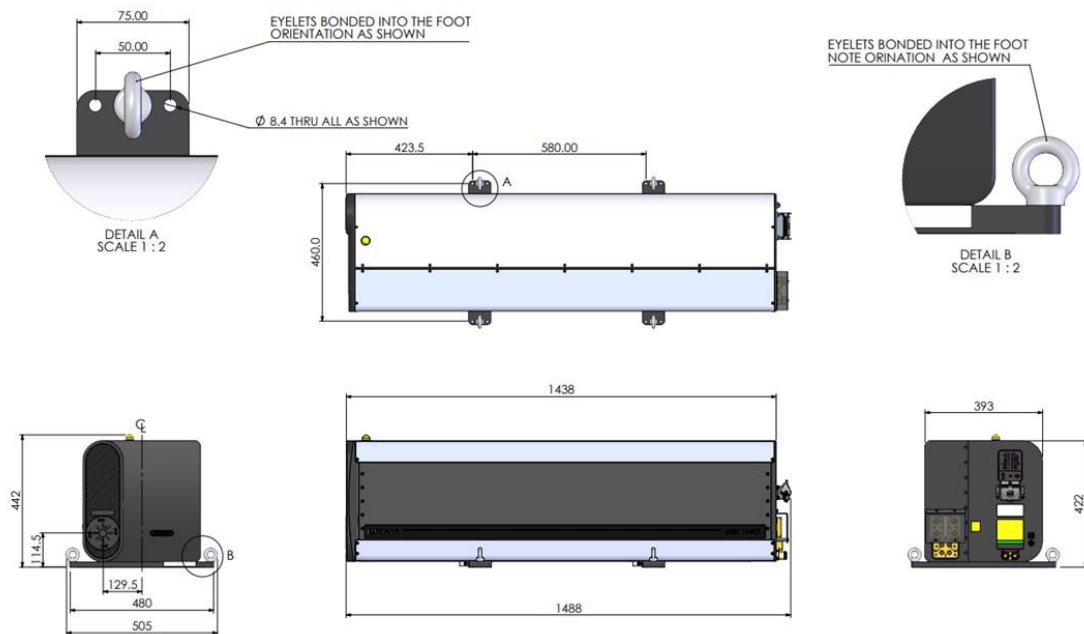
Environmental requirements

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

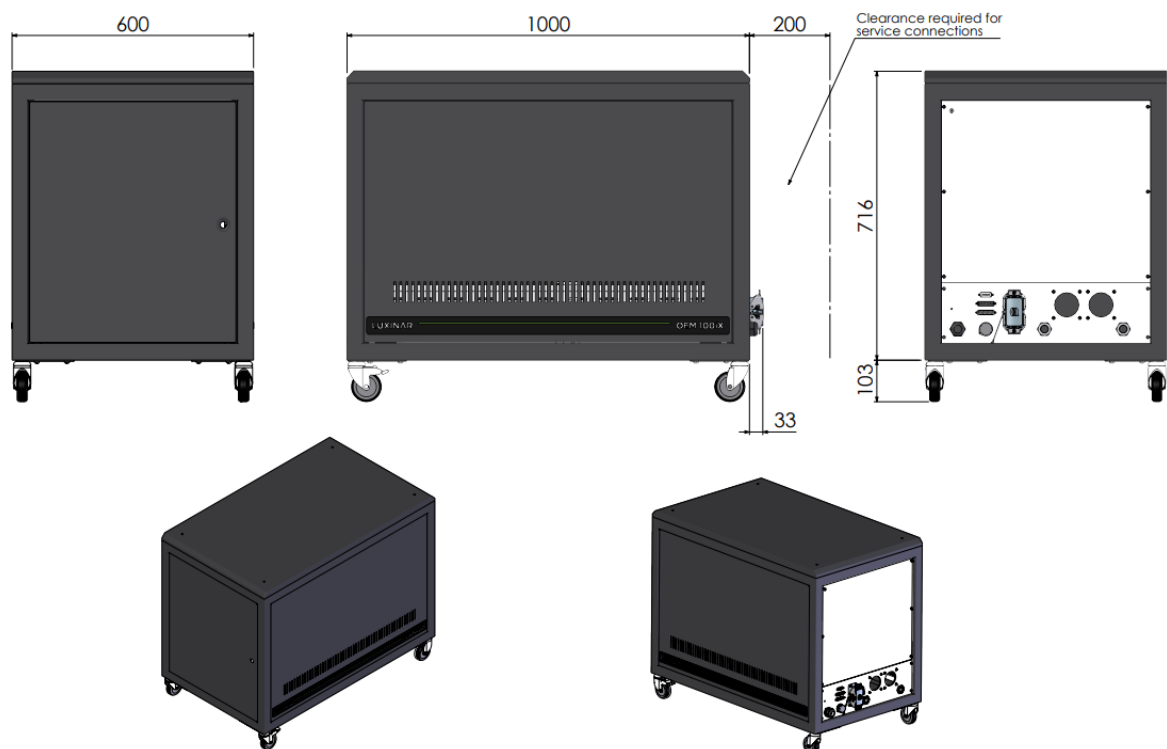
Notes:

- ¹10.6µm is the predominant wavelength. This can typically vary in the range 10.45µm – 10.7µm.
- ² Mean average power at 50us pulse width and maximum duty cycle.
- ³ Guaranteed stability (long-term) ± 5% without power feedback and ± 2% of rated power with power feedback.
- ⁴ Depending on frequency.
- ⁵ Guaranteed minimum shipment power is 1200W.
- ⁶ System weight subject to change.
- ⁷ 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



OEM 100 ix – system



OEM 100 ix – DC (016-0028-00 and 016-0038-00)