



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

	OEM100 iX (PP) 10.6µm
<b>Laser beam data</b>	
Wavelength <sup>(1)</sup>	10.6µm
Excitation	RF
<b>Output power</b>	
Power range (rated) <sup>(2)</sup>	50 – 1000W
Typical stability (long term) <sup>(3)</sup>	± 3% without power feedback, ± 1% with power feedback
Peak power <sup>(4)</sup>	2520W
Typical shipment power <sup>(2), (5)</sup>	1330W
<b>Laser beam quality</b>	
Diameter @ (1/e <sup>2</sup> ) (at laser o/p optic)	11.2 ± 1mm
Beam quality factor	M <sup>2</sup> < 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
<b>Pulsed mode</b>	
Frequency	0 – 130kHz
Pulse width	2 – 400µs
Energy	40 – 800mJ
Optical pulse rise/fall	< 60µs
Duty cycle (max)	60%
<b>Dimensions and weights</b>	
Laser head/RF <sup>(6)</sup>	(LxWxH) 1488x480x442 (mm) 200kg
<b>External control facilities</b>	
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.
<b>DC Electrical ratings</b>	
Input voltage range	400VAC ± 10% 3 phase 50/60Hz
External fusing requirement	2 x 3 x 32A
Output voltage	50V
Maximum output current	500A
Maximum output power <sup>(7)</sup>	25kW
Earth leakage current	<30mA

## 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:

<sup>1</sup>10.6µm is the predominant wavelength. This can typically vary in the range 10.45µm – 10.7µm.

<sup>2</sup> Mean average power at 50us pulse width and maximum duty cycle.

<sup>3</sup> Guaranteed stability (long-term) ± 5% without power feedback and ± 2% of rated power with power feedback.

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

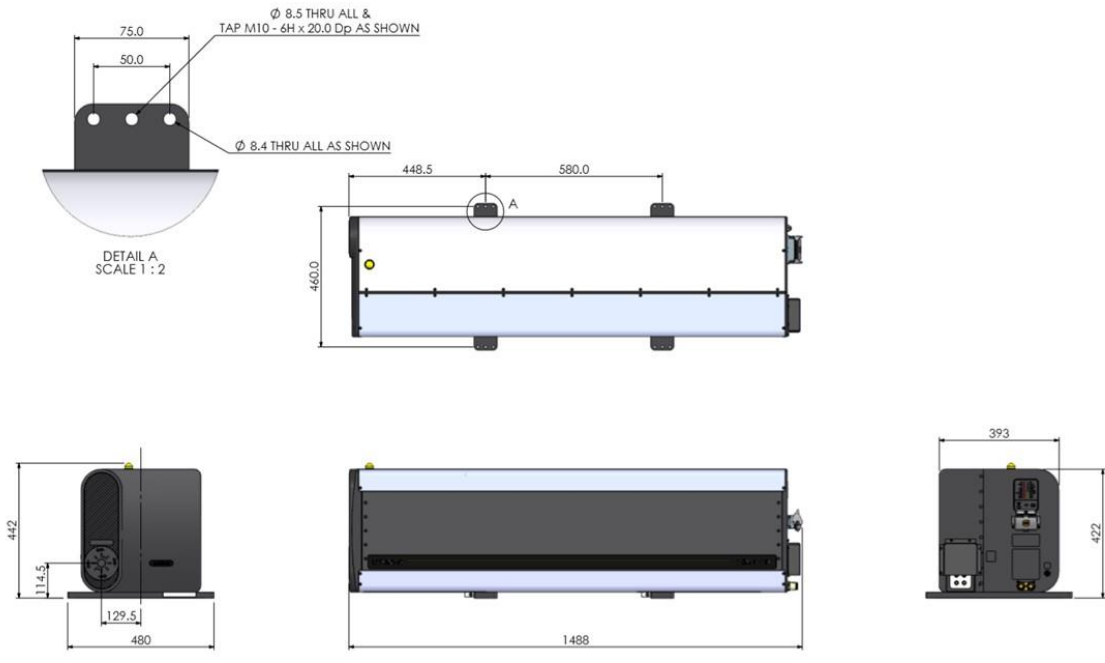
<sup>5</sup> Guaranteed minimum shipment power is 1200W.

<sup>6</sup> System weight subject to change.

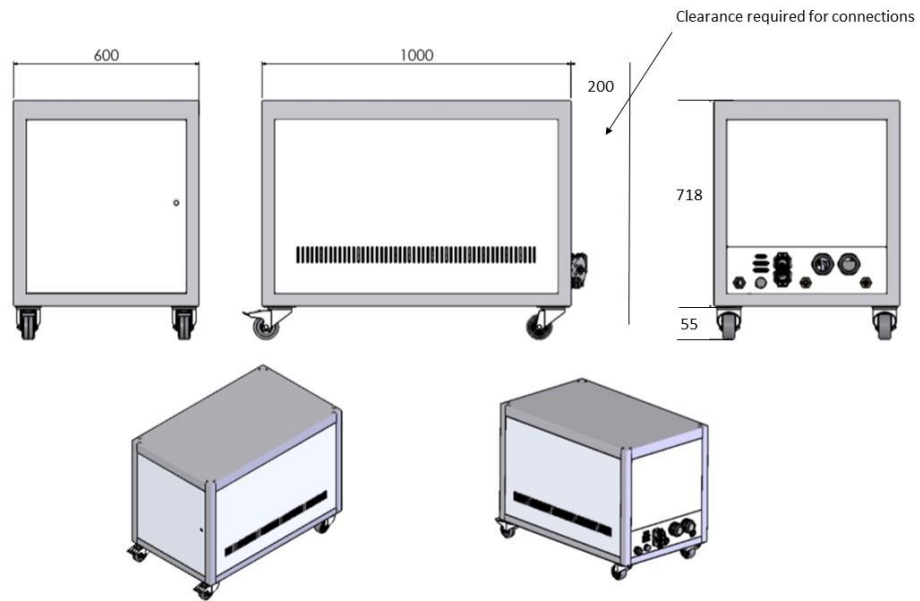
<sup>7</sup> We recommend using a DC PSU with at least 20% head room on the maximum average power rating.

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



## OEM 100 iX – system



## OEM 100 iX – DC