

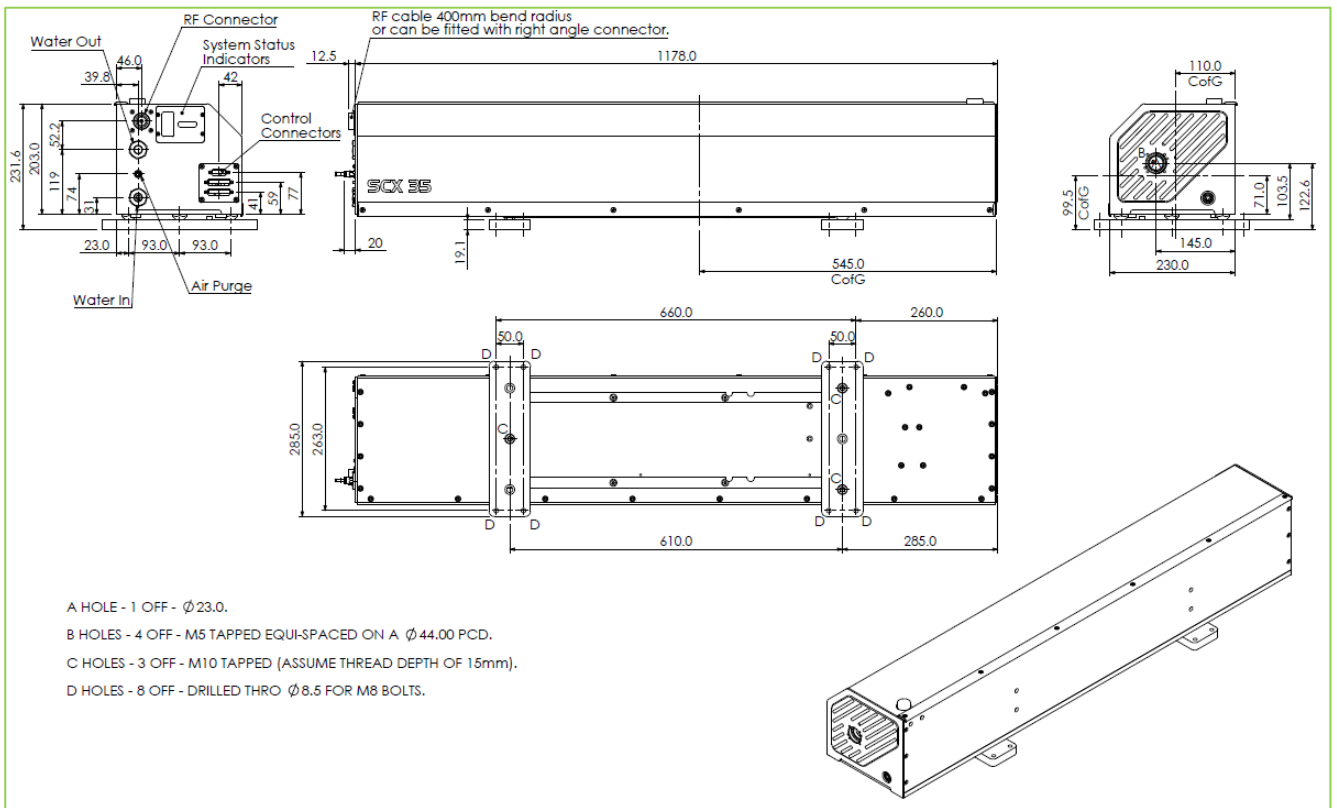
Technical data sealed CO₂ lasers – specification

Laser beam data	SCX 35
Wavelength ⁽¹⁾	10.25µm
Excitation	RF
Output power	
Power range (Typical rated)	15 – 315 W ⁽⁶⁾
Typical power stability	± 5.00%
Typical power stability with power feedback	± 1%
Guaranteed power stability	± 7% (± 2% ⁽⁵⁾)
Peak power	800 W
Minimum shipment power ⁽⁴⁾	380 W
Typical shipment power	420 W
Laser beam quality	
Diameter @ (1/e ²)	7.0 ± 0.5mm
Beam quality factor M ² (K)	M ² <1.2, K > 0.8
Divergence (full angle)	< 2 mrad (1 to 10 m)
Pointing stability (half angle) ⁽³⁾	< 0.25 mrad
Polarisation	Linear (45° base)
Ellipticity	< 1.2 : 1
Pulsed mode ⁽²⁾	
Frequency	0 – 130kHz
Width	2 – 400µSecs
Energy	13 – 255mJ
Optical pulse rise/fall ⁽⁷⁾	< 60µsec
Duty cycle (max)	60%
Dimensions and weights	
Laser head	(LxWxH) 1178 x 263 x 232.5 mm Approx. 63kg
Combined RF/DC unit	(LxWxH) 613 x 487 x 259 mm Approx. 65kg
RF	(LxWxH) 490 x371 x 80 mm
External control facilities	
Laser head	Commands from external controller Status signal to external controller PWM Control ⁽⁵⁾ NC Control (0 – 10V) ⁽⁵⁾
DC electrical ratings – 3 phase water cooled	
Input Voltage Range	400V AC ± 10% 3 phase 50/60 Hz (three phase – no neutral)
Maximum output current	150 A
Maximum output power	7.5 kW
External fusing requirement	20A fuse per phase
Earth leakage current	<6mA
Cooling	
Flow rate	≥ 360 l/hr (laser head)
Refrigeration capacity	≥ 8.0 kW
Temperature	19°C/66°F to 25°C/77°F ±1K (Above dew point)

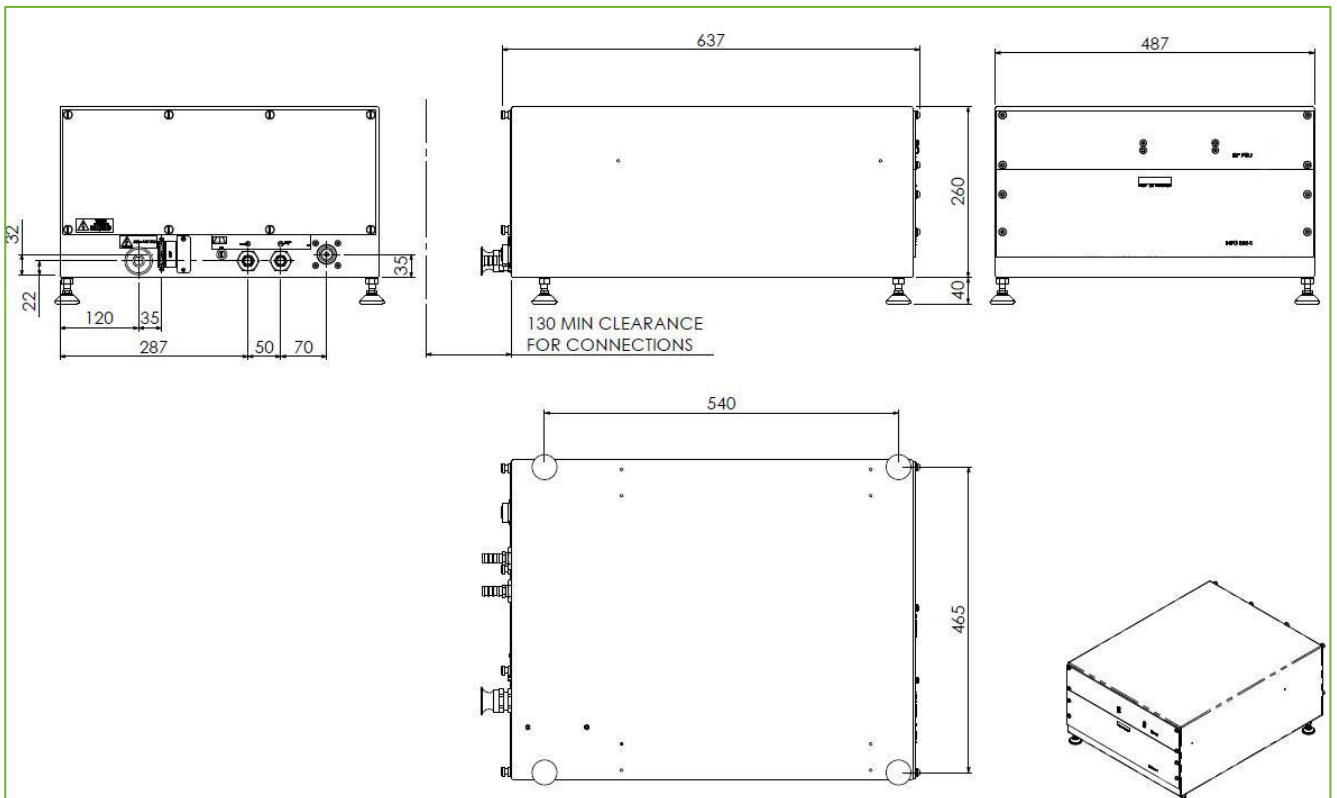
Notes :

1. 10.25µm is the predominant wavelength. This can typically vary in the range 10.17µm – 10.33µm.
2. Minimum and maximum optical modulation depths are frequency and duty cycle dependent – minimum depth occurs at short pulse widths and high frequency. For the SCX 35 the following optical modulation depths are typical : a) 10kHz – 44 to 100%, b) 30kHz – 17 to 100%, c) 60kHz – 11 to 71%.
3. The pointing stability stated is based upon the full range of available pulse widths. At a fixed pulse width stability will be significantly better.
4. Mean average power at maximum duty cycle.
5. When supplied with power feedback assembly. (Turn on response is typically 300 to 500 milliseconds)
6. Minimum power with power feedback is 25 watts.
7. Quoted from 10-90% level.

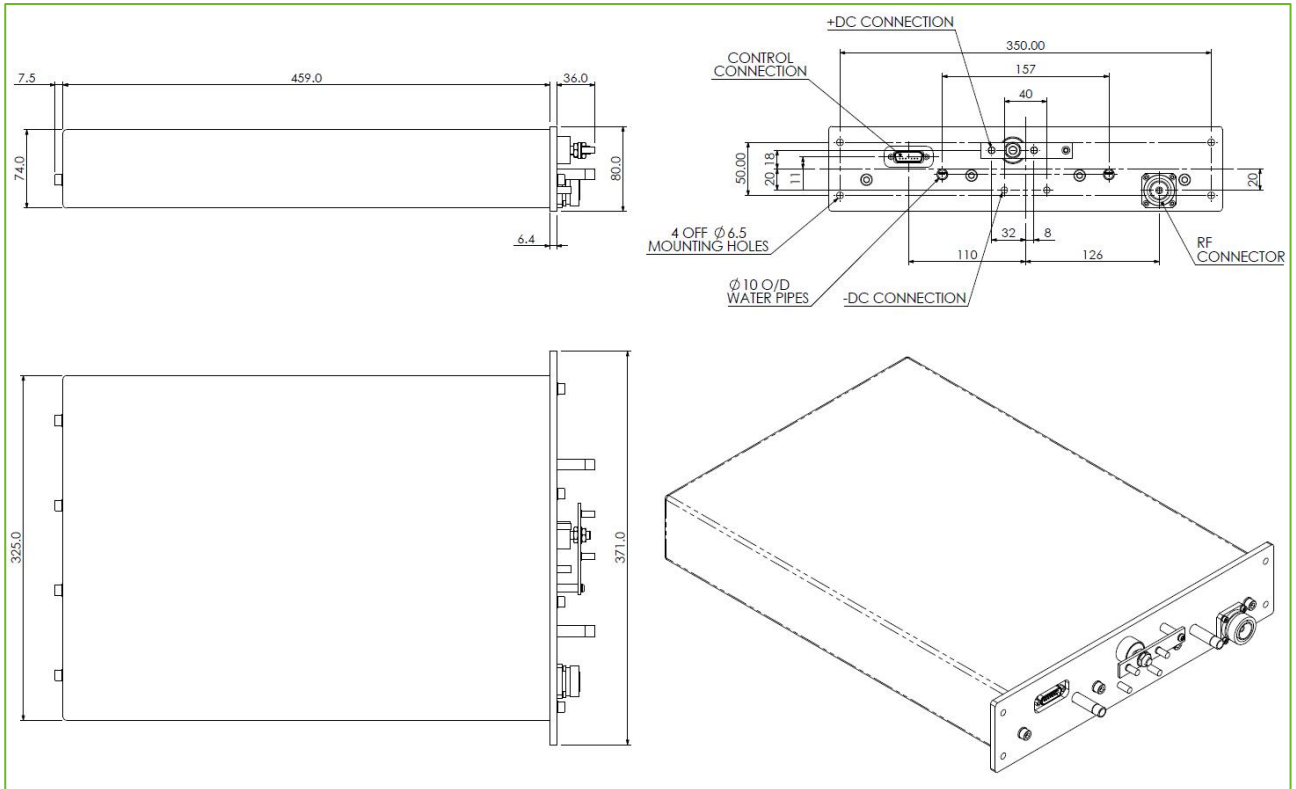
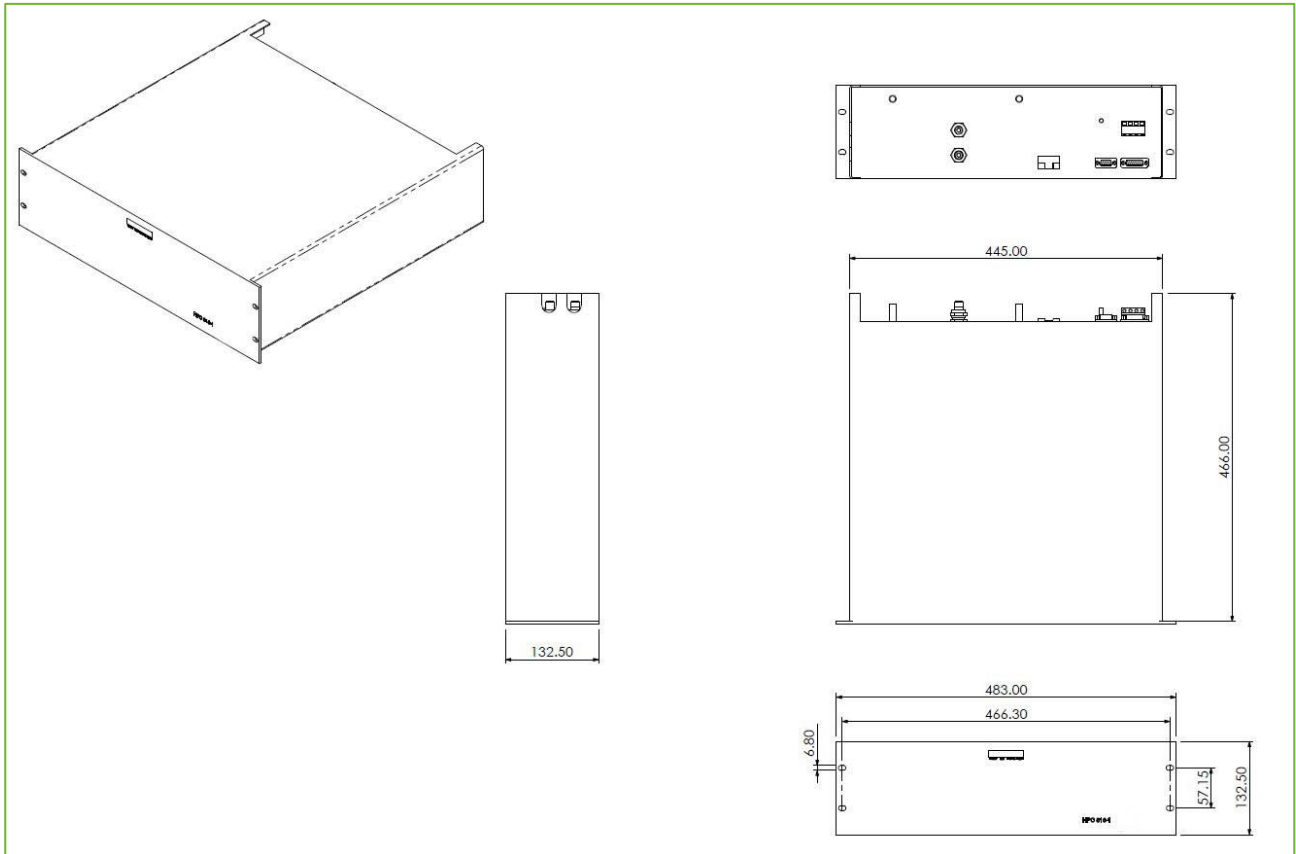
Please note that while every effort has been made to ensure that the data given in this document is accurate, the information, figures, illustrations, tables, specification and schematics contained herein are subject to change without notice.



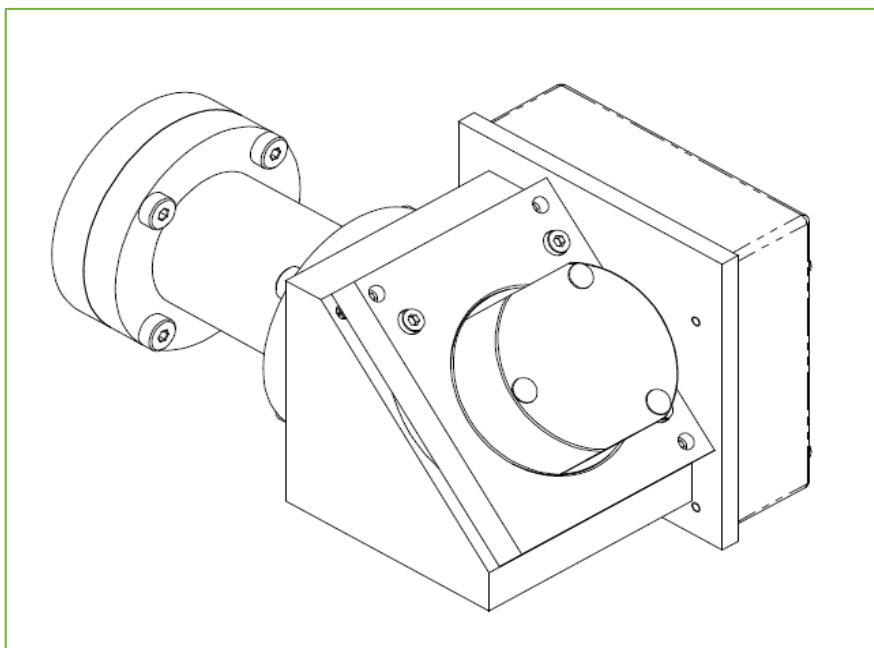
SCX 35 & SCX 35 laser assembly



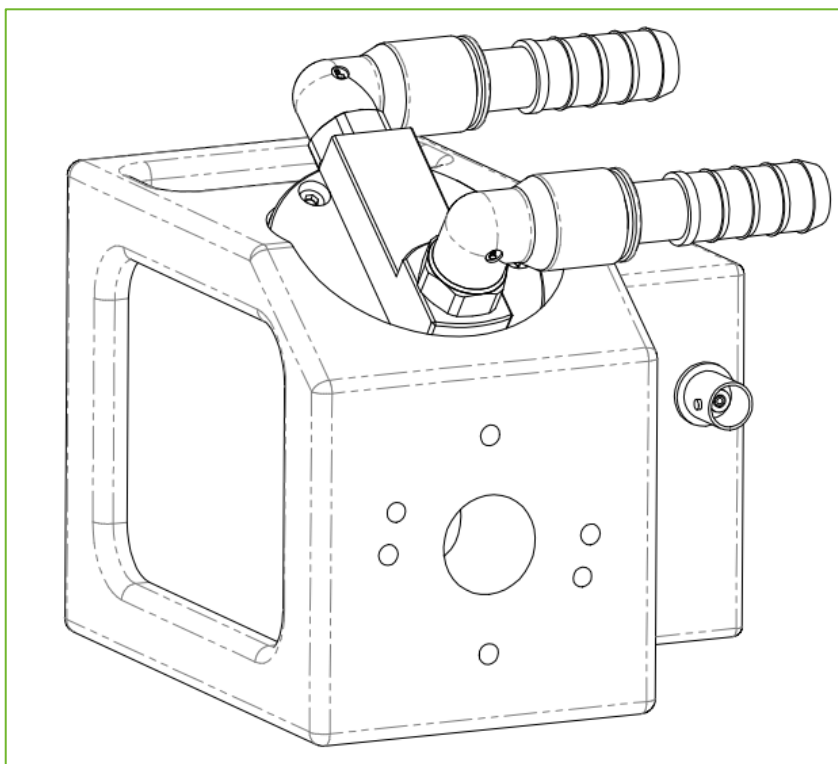
Combined water-cooled 3 phase DC power supply with 3kw RF power supply – standard configuration



SCX 35 & PMB DC power supply



SCX 35 power feedback assembly (optional)



SCX 35 power feedback assembly Mk II (optional)