



The **ALX100-AO-9.6** CO₂ laser is engineered for high-throughput processing of thin films and other delicate materials. With industry-leading, long-term power stability of $\pm 2\%$, it ensures consistent performance for demanding applications. An integrated acousto-optic modulator (AOM) provides fast pulse rise and fall times, along with modulation capabilities up to 1 MHz. These advanced features, combined with customizable performance options, make the ALX100-AO-9.6 a precise and reliable solution for high-volume production environments.

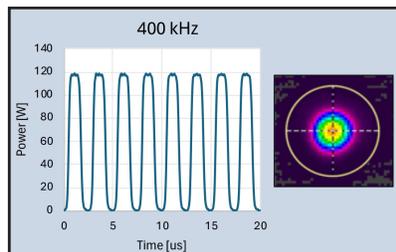
Stability

Industry-leading **power stability ($\pm 2\%$)** maintained over many hours of operation minimizes the heat-affected zone on sensitive materials and improves process yields.



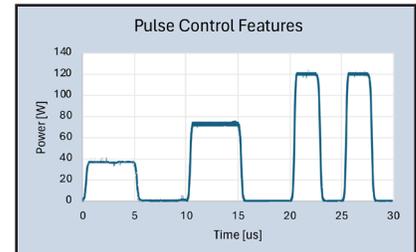
Precision

Consistent pulse performance with **excellent beam quality** at high modulation frequencies expands process optimization capabilities.



Productivity

Over **100 W peak power** plus the ability to control pulse frequency, duty cycle, and amplitude maximizes productivity and job flexibility.



SPECIFICATIONS

Performance Specifications	
Wavelength	9.55 ± 0.05 µm
Peak/CW Power	>100 W
Power Stability ¹	± 2%
Beam Quality (M ²)	<1.2
Beam Diameter ²	5.5 ± 1.0 mm
Divergence	2.7 ± 0.3 mrad, full angle
Ellipticity	< 1.2
Pointing Stability	< 400 µrad
Polarization	Linear, Vertical
Rise/Fall Time	<400 ns
Pulse Frequency ³	0-1 MHz
Pulse Duty Cycle	0-100%
Pulse Amplitude Range	0-100%
Electrical Requirements	
Voltage	48 ± 1.0 VDC
Current Draw	< 50 A
Heat Load	< 2.8 kW
Cooling Requirements	
Coolant Type	Distilled Water + Corrosion Inhibitor
Min Flow Rate	9.8 L/min
Max Pressure	5.5 bar
Max Differential Pressure	1.2 bar at 9.8 L/min
Coolant Temperature	20 ± 1.0 C
Dimensional	
Dimensions (L x W x H) ⁴	855 x 260 x 205 mm
Weight	48 kg

All specs measured at 200 kHz, 50% duty cycle

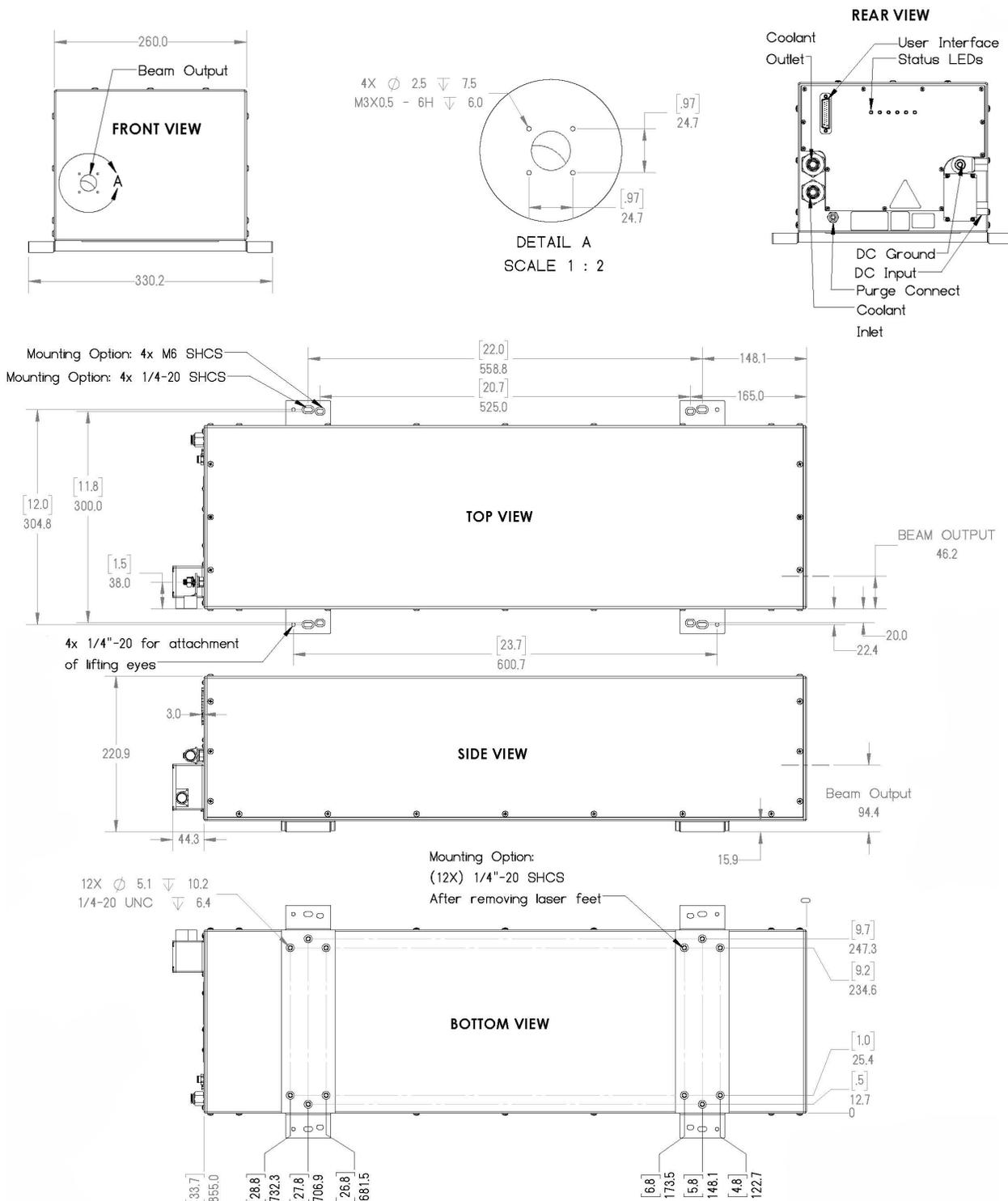
¹ Power stability measured after 10-minute warm-up. Coolant temperature stability ± 0.1 °C.

² Beam diameter measured at a distance of 20 cm from the face plate of the laser

³ Specifications not guaranteed across entire frequency range

⁴ Not including mounting feet or DC terminals

TECHNICAL DETAILS



ALX100_AO.9.6_US_122025