

DIAMOND C-30 & C-30+ Series

Low Power CO₂ OEM Lasers for Marking and Engraving Applications

The Coherent C-30 CO₂ laser provides 30 Watts of power with best-in-class reliability and package size, making it the OEM laser of choice for high performance laser marking and engraving systems. This production-ready, easy-to-integrate laser system enables high quality laser marking with low maintenance and operating costs. The C-30 is ideal for laser processing of many materials, including paper, plastics, wood, rubber, leather, cloth and more.

The C-30 is part of the Coherent C-Series family of products which offer a full range of power levels – from 20 W to 70 W. Based on a sealed waveguide and integrated RF power supply design, the C-30 boasts outstanding production-proven reliability (lifetime >50,000 hours), while delivering superior beam quality and power stability in a compact, flexible and integrated package. The modular platform design provides cost-effective optimization of operating wavelength (from 9.3 to 10.6 μm) and cooling configuration (air/liquid), enabling rapid adapt-ability to changing applications and market needs.



FEATURES & BENEFITS

- Superior beam quality, power stability and rugged reliability
- Industry leading compact size with integrated RF power supply
- High performance at multiple wavelengths - 9.3 μm , 10.2 μm , and 10.6 μm
- Wide power range with constant wave (CW) or pulse width modulation (PWM) control
- Air and liquid cooled configurations available
- High quality laser processing on a wide range of materials

APPLICATIONS

- Marking
- Engraving
- Cutting

SPECIFICATIONS	DIAMOND C-30 (9.3 μm)	DIAMOND C-30 (10.2 μm)	DIAMOND C-30	DIAMOND C-30+ (9.3 μm)	DIAMOND C-30+ (10.2 μm)	DIAMOND C-30+
Wavelength (μm)	9.24 to 9.35	10.11 to 10.31	10.55 to 10.63	9.24 to 9.35	10.11 to 10.31	10.55 to 10.63
Optical Output Power ¹ (W)	17	30	30	17	30	30
Power Stability ² (%)	±5	±5	±5	±4	±4	±4
Mode Quality (M ²)	<1.2					
Beam Size (mm)	1.8 ±0.2					
Beam Divergence (mrad, full angle)	<7.5	<8.0		<7.5	<8.0	
Polarization	>100 to 1 (fixed linear, parallel to width)					
Operating Frequency and Duty Cycle	0 to 200 kHz, 0 to 100% DC					
Ingress Protection Rating (IP)	NA	NA	NA	IP 65	IP 65	IP 65
CONFIGURATION & FACILITY REQUIREMENTS						
Weight	6.6 kg (14.5 lbs)					
Dimensions	395 x 93 x 155 mm (15.5 x 3.7 x 6.1 in.)			475 x 93 x 155 mm (18.7 x 3.7 x 6.1 in.)		
Input Power ³	48 VDC, 11.5 A					
Cooling	Liquid Available Upon Request					
Heat Dissipation (W)	<575					
Maximum Case Temperature	<60°C (140°F)					
Operating Environment	5 to 40°C (41 to 104°F) 5 to 45°C (41 to 113°F)					
Temperature	5 to 40°C (41 to 104°F) 5 to 45°C (41 to 113°F)					
Altitude	<2000 m (6500 ft.)					
Humidity	Non-Condensing					
Shipping/Storage Environment	-10 to 60°C (14 to 140°F), Non-Condensing					

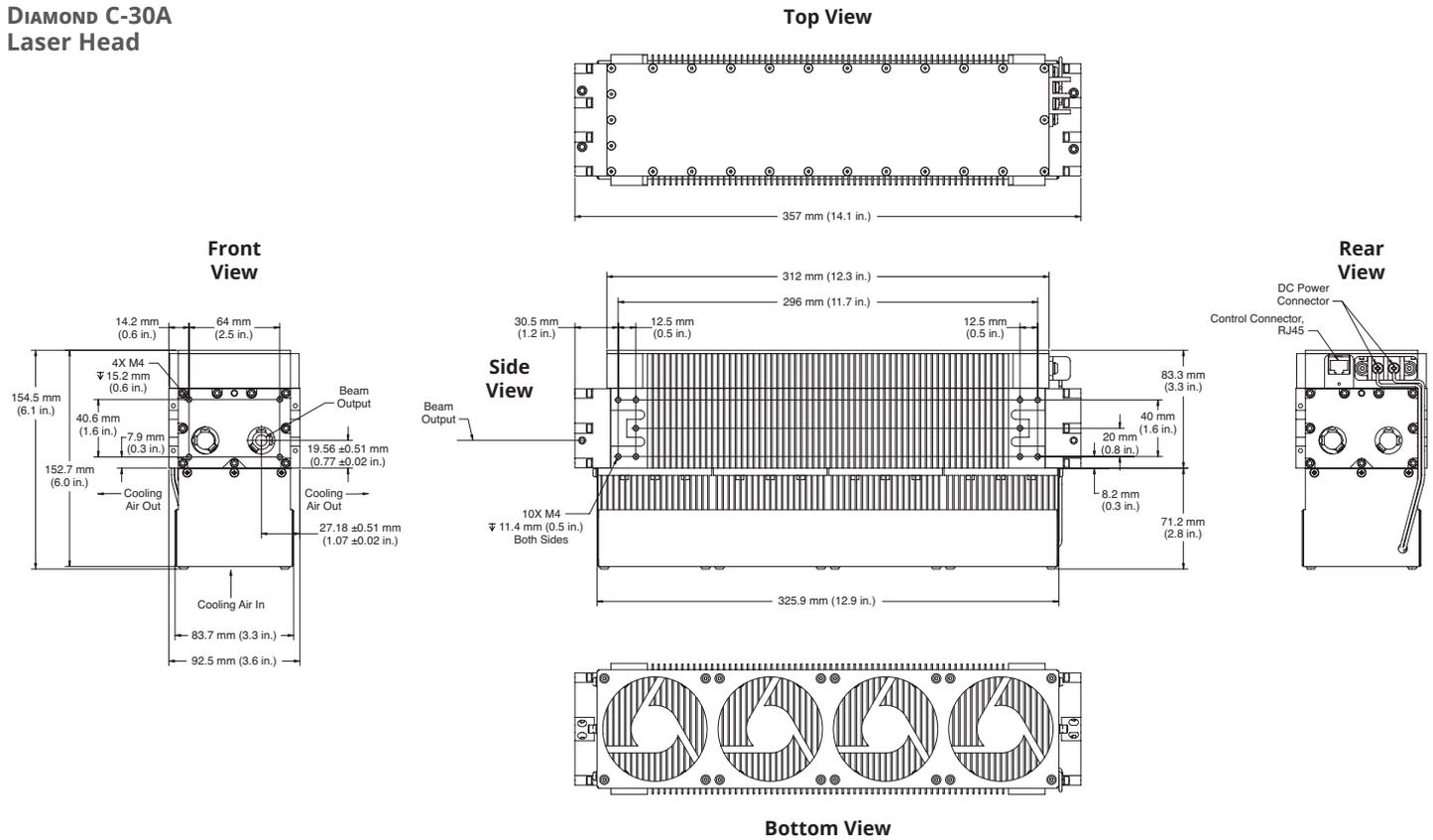
¹ Power measured at 25°C and derated by 1%/C for higher laser head temperatures.

² Power stability based on $\pm(P_{max} - P_{min})/(2 \cdot P_{max})$ average power measurement at constant duty cycle after 10-minute warm-up at operating condition.

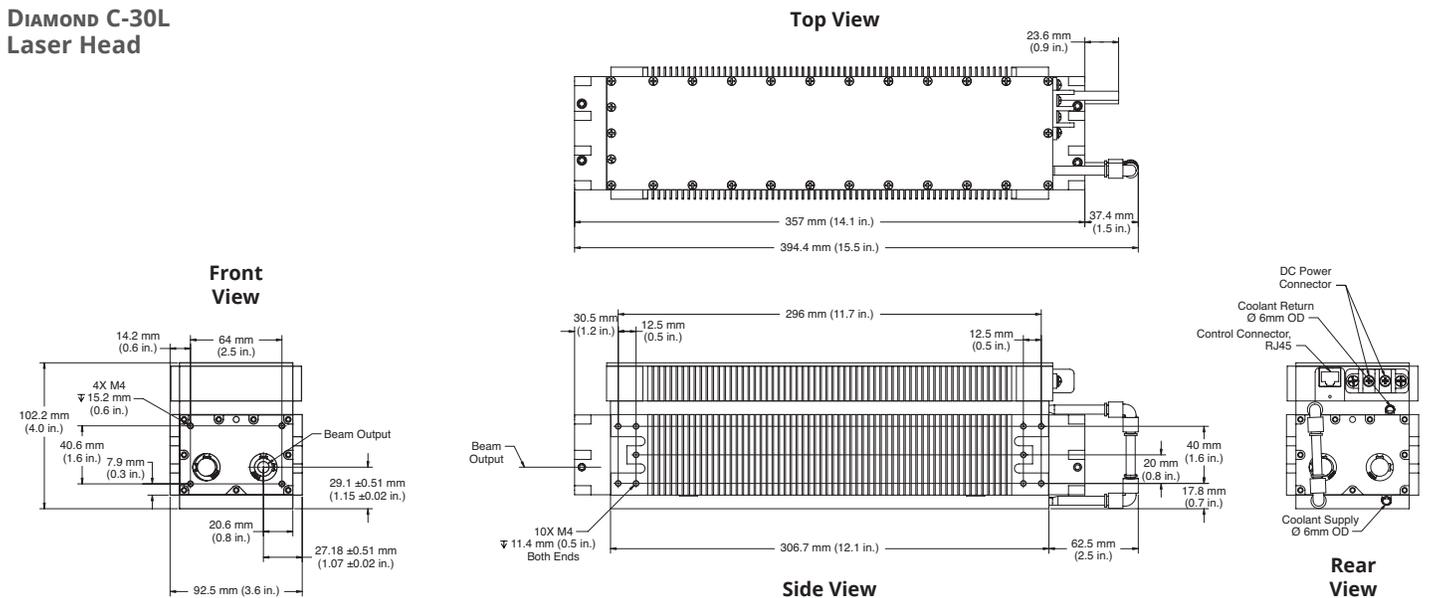
³ Optional fans add 1A.

MECHANICAL SPECIFICATIONS

DIAMOND C-30A
Laser Head

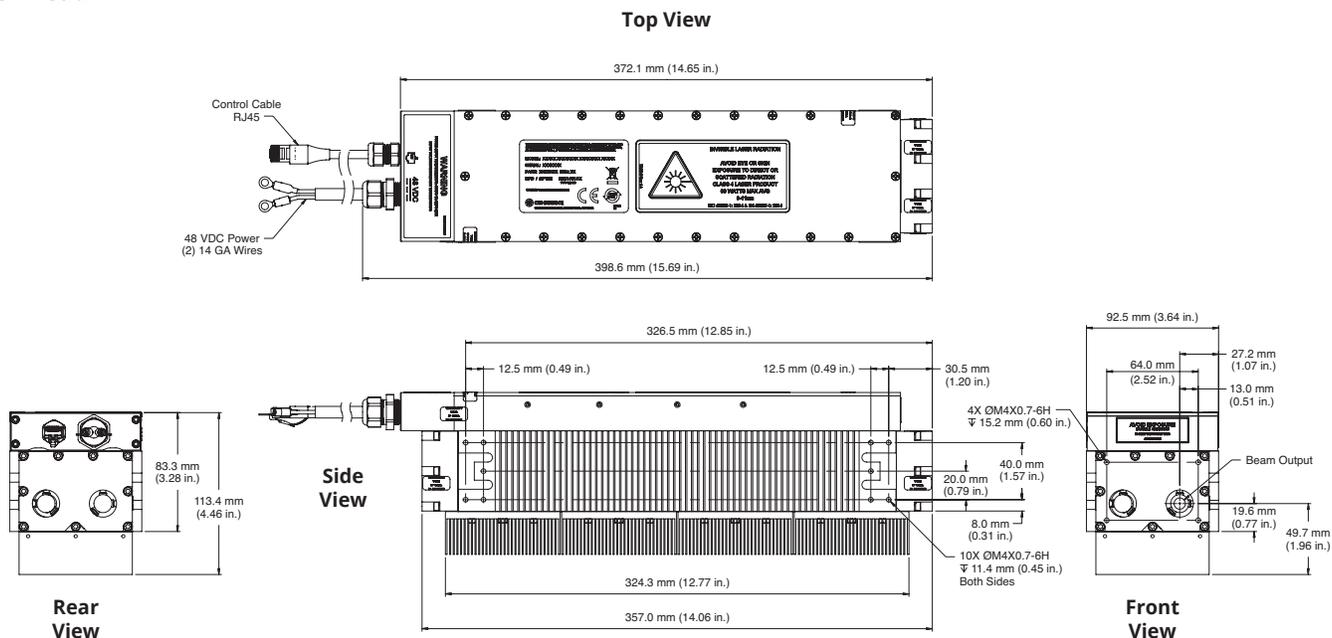


DIAMOND C-30L
Laser Head

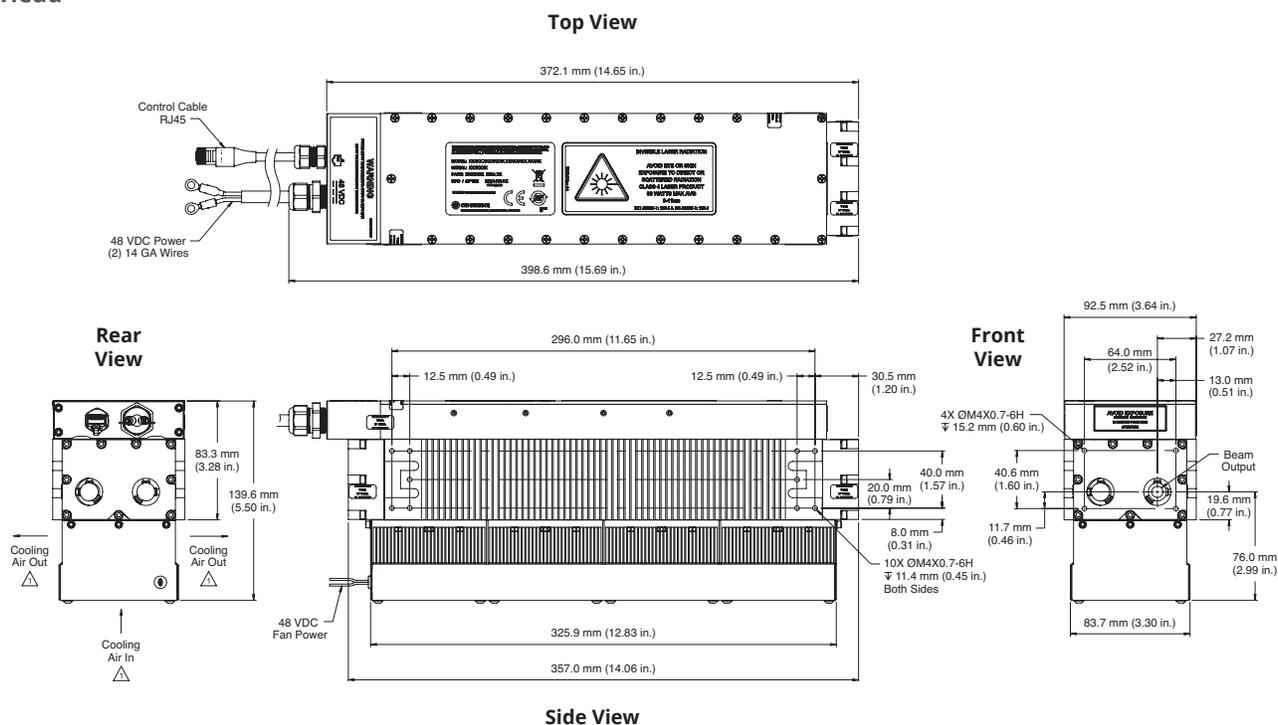


MECHANICAL SPECIFICATIONS

DIAMOND C-30+ Air-Cooled Laser Head



DIAMOND C-30+ Air-Cooled with Fans Laser Head



MECHANICAL SPECIFICATIONS

DIAMOND C-30+ Air-Cooled, Axial Flow Laser Head

