

Verdi C-Series

Compact 532 nm CW High-Power Laser

The Verdi C is a high performance CW laser providing up to 18 W at 532 nm, ideal for demanding applications including semiconductor inspection and annealing, photovoltaic manufacturing, and pumping Ti:Sapphire lasers and amplifiers.

Based on the unique Coherent Optically Pumped Semiconductor Laser (OPSL) technology, the Verdi C produces a diffraction limited, power-invariant beam with extremely low noise and high stability.

The laser head, power supply, and controller are integrated into a single compact package for ease of integration in both research and industrial applications.

Features and Benefits

- Up to 18 W output power at 532 nm
- Superior mode quality at all power levels
- Industry-leading noise

Applications

- Ti:Sapphire Pumping
- Semiconductor Inspection
- Semiconductor Annealing
- Photovoltaic Manufacturing
- Particle Image Velocimetry



SPECIFICATIONS

Verdi	C-Series
Wavelength (nm)	532 ±2
Linewidth (GHz)	<60
Spectral Purity (%)	>99
Output Power (W)	12, 15, 18
Minimum Set Power (mW)	100
Spatial Mode	TEM ₀₀
M ²	<1.1
Beam Circularity	1.0 ±0.1
Beam Diameter (mm)	2.25 ±10%
Beam Divergence (mrad)	<0.4
Beam Waist Location	At output aperture, ±2.5 m
Beam Pointing Tolerance (mrad)	<5
Horizontal Beam Position Tolerance (mm)	±1
Vertical Beam Position Tolerance (mm)	±1
Beam Pointing Stability (μrad/°C)	<5 ¹
Polarization	Vertical, >100:1, ±5°
Noise RMS (10 Hz to 100 MHz)	18 W and 15 W: <0.02%; 12 W: <0.025% ²
Power Stability (%)	+/-1% pk-to-pk
Warm-Up Time (minutes)	5 ¹

¹ Beam pointing stability specification applies after 1- hour warm up.

² Noise specification applies at full- rated power. Noise varies roughly inversely proportionally to the output power.

SPECIFICATIONS

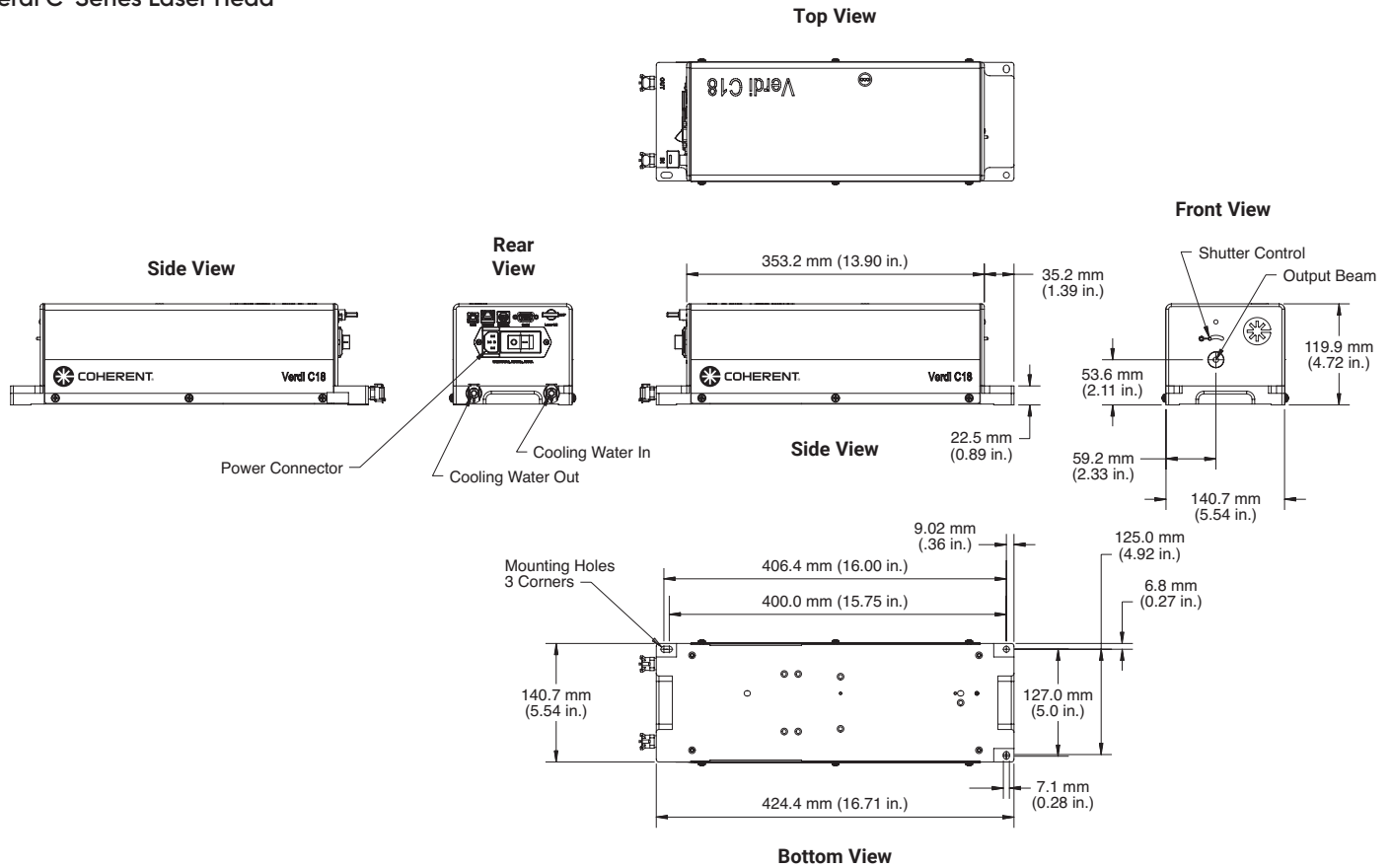
Verdi C-Series	
Computer/Device Requirements for GUI ¹	The Coherent GUI requires the use of a Windows device (not including Windows RT), 4 GB RAM, 2.5 GHz CPU, preferably Windows 7 or higher.
Electrical	
Operating Voltage (VAC)	100 to 240
Power Consumption ² (W)	180
Max Power Consumption (W)	360
CE Mark	EN 55011 EN 61326 EN 60825 EN 61010
Dimensions	
Laser Head (L x W x H)	424 x 141 x 120 mm (16.7 x 5.6 x 4.7 in.)
Weights	
Laser Head	8.3 kg (18.35 lbs.)
Environmental Specifications	
Ambient Temperature	
Operating (with chiller model HE CR-0008-A)	10 to 40 °C (50 to 104 °F)
Operating (with chiller model HE CR-006-A)	10 to 33 °C (50 to 91 °F)
Non-Operating	-10 to 60 °C (5 to 140 °F)
Cooling Requirements	
Coolant	Coolflow DTX 28%
Temperature	20 °C (± 0.5 °C)
Flow Rate	2 liter/min. minimum
Pressure Drop at 2 liter/min.	2.5 psi (0.17 bar)
Chiller Heat Capacity (W)	Chiller should be capable of removing 360 W at water temperature of 20°C and maximum desired ambient temperature
Relative Humidity (%) (non-condensing)	5 to 95
Altitude	Sea level to 3048 m (10,000 ft.)

¹ Operation of the Verdi C requires the use of serial commands or the Coherent graphical user interface (GUI), running from a user-provided computer or device. The Coherent GUI requires the use of a Windows device (not including Windows RT), 4 GB RAM, 2.5 GHz CPU, preferably Windows 7 or higher.

² Typical values, after 2-hour warm up in lab environment. Power listed does not include power consumed by the chiller.

MECHANICAL SPECIFICATIONS

Verdi C-Series Laser Head



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Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice. Coherent's scientific and industrial lasers are certified to comply with the Federal Regulations (21 CFR Subchapter J) as administered by the Center for Devices and Radiological Health on all systems ordered for shipment after August 2, 1976.

Coherent offers a limited warranty for all Verdi systems. For full details of this warranty coverage, please refer to the Service section at www.Coherent.com or contact your local Sales or Service Representative.

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