

Compact Semiconductor Deep UV Laser

AIMPICO compact DPSS laser systems deliver narrow-linewidth, diffraction-limited output across visible and near-infrared wavelengths — engineered for laboratory, clinical, and OEM environments where beam quality, coherence, and long-term power stability are essential.

Built on diode-pumped solid-state technology, AIMPICO DPSS deep UV lasers produce a near TEM₀₀ beam with polarisation ratios exceeding 100:1. The all-solid-state architecture requires no gas handling, no electrode replacement, and no periodic realignment, delivering a maintenance-free platform rated for over 10,000 hours of continuous operation. Active closed-loop power stabilisation maintains output within $\pm 1\%$ RMS across the full operating temperature range, with the laser source, drive electronics, and thermal management integrated into a single compact enclosure.



Applications

- Flow cytometry
- Fluorescence microscopy
- Cell sorting
- OEM instrument
- Advanced research
- Semiconductor inspection
- Spectroscopy

Key Feature Highlights

• High Polarization	Defined polarization state for spectroscopy and advanced research applications.
• Stable Output ($\pm 1\%$ RMS)	Active closed-loop control ensures consistent power across the full operating range
• All Solid-State, Maintenance-Free Design	No gas handling, no electrode replacement, no realignment — > 10,000-hour operational lifetime
• Compact, Integration-Ready Platform	Laser source and drive electronics in a single enclosure with TTL and analogue modulation
• Long Operational Lifetime	Semiconductor gain medium with no consumables, no gas fill, and no electrodes — operate without scheduled maintenance interventions

Technical Specification

OPTICAL PARAMETERS

Center Wavelength	266 nm \pm 1 nm
Operating Mode	Continuous Wave
Output Power	1 – 500 mW
Power Stability (rms, 4 hours \pm 3°C)	< 1%
Transverse Mode	Near TEM ₀₀
Beam Divergence (full angle)	< 3.0 mrad
Beam Diameter at the aperture (1/e ²)	< 3.0 mm
Polarization Ratio	> 50:1 (100:1 optional), vertical (horizontal optional)

ELECTRICAL PARAMETERS

Operating Voltage	12 V / 25 A
Modulation Options	DC-1kHz, TTL/Analog optional

MECHANICAL PARAMETERS

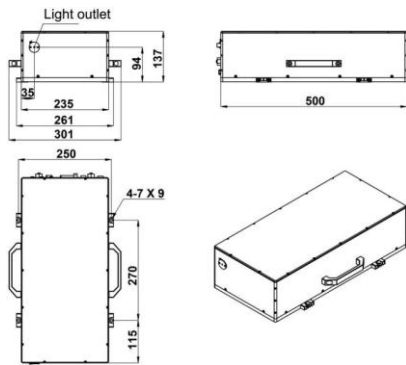
Dimensions	500.0(L) \times 101.0(W) \times 137.0(H) mm ³
Weight	35.0 kg
Beam Height from Base Plate	94.0 mm

ENVIRONMENTAL

Operating Temperature	10 – 35 °C
Cooling Method	Water Cooled; WC-I
Warm Up Time	< 10 min
Expected Lifetime	> 10,000 hours

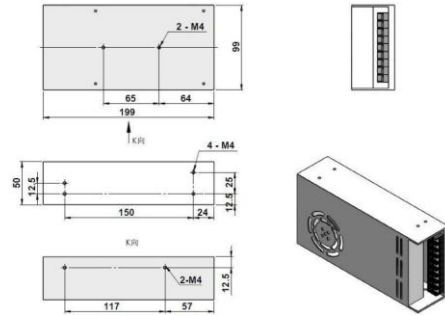
Mechanical Drawings

Laser Head (Driver integrated)



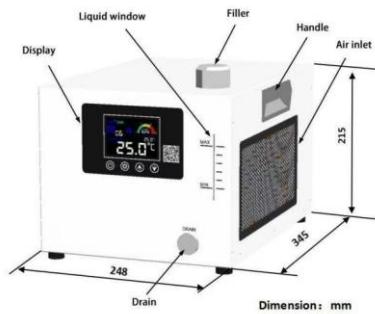
500(L) × 301(W) × 137(H) mm³, 35.0kg

Compatible Power Supply (100 – 240VAC¹)



199(L) × 99(W) × 50(H) mm³, 1.0kg

Water Chiller (WC-I²)



345(L) × 248(W) × 215(H) mm³, 10.5kg

Product Certifications



¹: Optional; sold separately.

²: Sold separately.

