

AL50-S-WCCL

Access Laser's AL50-S is the stabilized version of our 50W product offerings with a guaranteed power stability starting at $\pm 2\%$. This RF excited sealed tube CO2 laser is well suited for various high performance applications such as optical damage threshold testing. Providing a reliable and cost effective platform for OEM's and researchers alike.



Dimensions & Weight

Laser Weight	32 lbs
Dimensions (L x W x H, inch)	28.84 x 3.94 x 5.55
RF Driver Weight	12 lbs

Specifications

Laser Power

Wavelength (μm)	10.5 to 10.7	Supply Voltage	28VDC
CW Power (W)	50	Electronic PWM Parameters	Frequency up to 100KHz, Duty Cycle 0-100%
² Peak Power (W)	50		
¹ Power Stability ($\pm\%$)	2		

DC Power Requirements

Beam Characteristics

Beam Waist Diameter (mm)	2.4	Heat Dissipation	< 600W
Waist Location	Output Coupler	Cooling Requirement	Water Cooled
² Mode Quality (M^2)	<1.2	Working Temperature ($^{\circ}\text{C}$)	5 to 40
Full Div. Angle (mrad)	5.5		

Heat & Cooling

Optical Parameters

Polarization	>20:1 Fixed Linear Horizontal
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Notes	Water Cooling	Options Available
¹ Power Stability calculated in CW at thermal equilibrium $\pm \frac{(P_{max} - P_{min})}{(P_{max} + P_{min})}$	Min Flow Rate: 3.8 lpm (1 gpm)	Real Time Power Monitoring
² Beam specifications measured at $\frac{1}{e^2}$	Recommended Flow Rate: 9.5 lpm (2.5 gpm)	Stabilization to $\pm 1\%$ with Line Tracker
	Max Pressure: 10 bar (150 psi)	¹³ CO ₂ & C ¹⁸ O ₂ Isotope Gas Fills
	Required Chiller Stability of $\pm 0.1^{\circ}\text{C}$	Selective 10.3 μm , 9.6 μm and 9.3 μm optics
	Storage Temperature Range: 5-50 $^{\circ}\text{C}$	Water Cooling options available
Average power may exceed listed value.		
All measured specs are at the strongest line.		

All are specifications are subject to change without notice.