

35 WATT TUNABLE SPECTRALLY NARROWED LASER AT 795 nm

Spin-Exchange Optical Pumping (SEOP) requires high power within the narrow absorption resonance of a Rubidium vapor. This complete SEOP laser system consists of a 35 W laser head, a laser driver and chiller, as well as an intuitive software interface. Optical fiber delivery is optional.

PRODUCT SPECIFICATIONS

	Unit	Value			Note
Optical Specifications		min	typical	max	
Output Power	W	32	35	38	
Center Wavelength	nm	794.7	794.77	794.8	In Air
Spectral Stability	GHz		<2.5		
Spectral Line Width	GHz	20	25	30	20 GHz \approx 50 pm
Polarization			Unpolarized		Polarized Before Fiber
Tuning Range	GHz		150		
Spectral Contrast	dB		>25		
Amplitude Stability	%		0.075		
Beam Parameters (Spot Size/Divergence)	(mm/mrad)		(10x2/<12.5)		
Output Fiber (Core Diameter/NA)	(μ m/unit)		1000/0.22		Fiber Coupling Optional
Environmental					
Operating Temperature *	$^{\circ}$ C		15-35		
Mechanical					
Size	mm		165 x 67 x 45		
Weight	kg		1.1		
Size of 19 "Electronics Rack	mm		TBD		
Weight of 19 " Electronics Rack	kg		TBD		
Electrical					
Maximum Power Consumption	W		415		Incl. Chiller**
Chiller Input Voltage AC	V		100-230		
Chiller Power Consumption	W		165		
TEC Driver Input Voltage	VAC		85-264		
TEC Driver Power Consumption	W		<75		
Laser Diode Driver Input Voltage	VAC		85-265		
Laser Diode Driver Power Consumption	W		<175		
Computer Interface					USB (RS485 Protocol)

* Laser Head Mounted on Cold Plate at 15-20 $^{\circ}$ C Temperature

** Chiller Can Be Provided by OptiGrate. Any Chiller Capable of Dissipating at Least 125 W at No More Than 60 psi of Pressure Is Suitable

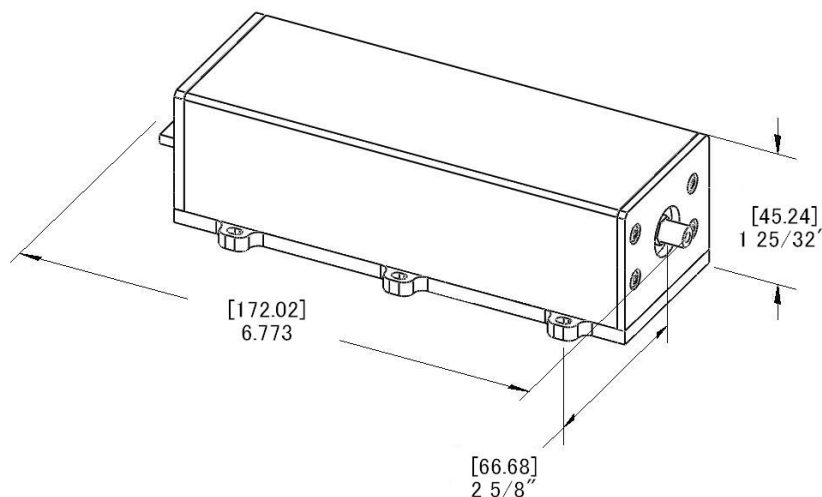
Specifications are subject to change without notice.

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ELECTRICAL COMPONENT REQUIREMENTS

Specification	Unit	Value	Comments
Laser Diode Driver Voltage	V	1.7-2	
Laser Diode Driver Current	A	30-55	Safe Start Feature Required
Laser Diode Driver Accuracy	%	0.03	
Laser Diode Driver Ripple rms	mV	8	5 Hz-1MHz
TEC Temperature Controller for Laser Diode Voltage	V	-18 to +18	
TEC Temperature Controller for Laser Diode Current	A	-8 to +8	
TEC Temperature Controller for Spectral Stabilization Voltage	V	-4 to +4	
TEC Temperature Controller for Spectral Stabilization Current	A	-1 to +1	
Thermistor Resistance	Ω	10,000	@ 25 °C

MECHANICAL OUTLINE



ORDERING OPTIONS

- Stand-Alone 35 W Laser Head
- Laser Driver Incl. Complete Temperature Control
- Fiber Coupling
- Cold Plate for up to 2 Laser Heads
(6 x 7 ", Push-to-Connect Tube Fittings, 1/4" OD Tubes)
- Chiller

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