

Prometheus

Ultra-Narrow Linewidth CW DPSS Green Laser



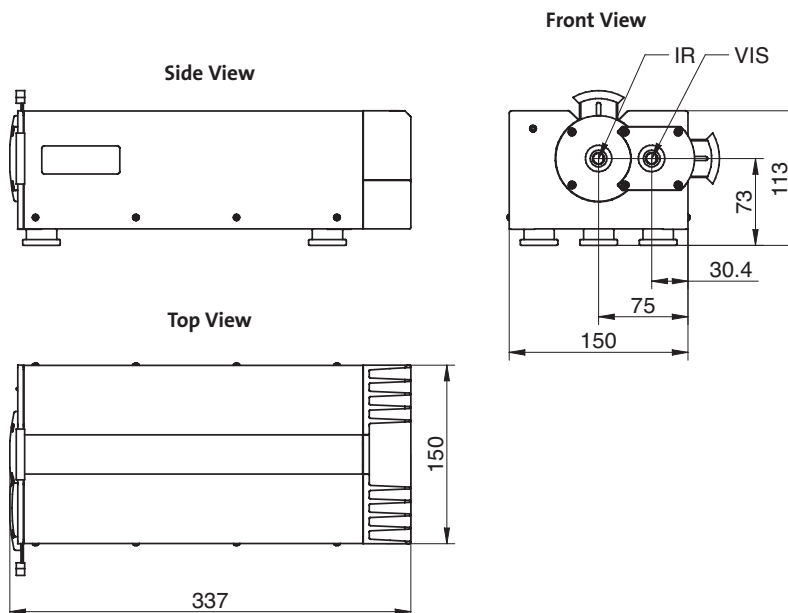
Features

- Monolithic non-planar ring oscillator (NPRO) technology for ultra-stable and narrow linewidth
- Fundamental and doubled wavelengths available simultaneously
- Efficient and stable extra-cavity doubling stage
- Extremely long coherence length
- Active intensity noise reduction (Noise Eater)
- User-installed, turn-key operation
- Low noise control electronics

Applications

- Optical length and frequency standards (Iodine frequency stabilization)
- Quantum optics (optical trapping, optical lattice, squeezing)
- Nonlinear optics pump source (SHG, DFG, OPO)
- Laser-based metrology
- Gravitational wave studies

Mechanical Specifications (all dimensions in mm)



Superior Reliability & Performance

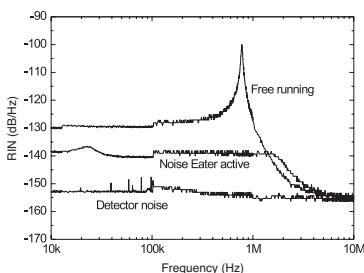
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Specifications

Specifications	Prometheus
Laser Power (mW)	20 ¹ , 50 ¹ , 100 ¹
532 nm	500, 1000, 1500
1064 nm	
Laser Control Electronics	Analog, stand-alone
Operational Mode	Continuous wave
Spatial Mode	TEM ₀₀ (M ² <1.2)
Beam Roundness (at exit)	<1.3
Thermal Tuning Coefficient (GHz/K)	-6 ²
Thermal Tuning Range (GHz/K)	60 ²
Thermal Response Bandwidth (Hz)	1
PZT Tuning Coefficient (MHz/V)	≅2 ²
PZT Tuning Range (MHz)	±65 and ±130 ²
PZT Response Bandwidth (kHz)	100
Emission Spectrum	Single-frequency
Spectral Linewidth (over 100 ms)(kHz)	≅1
Coherence Length (km)	>1
Frequency Stability ³ (MHz/min.)	≅2 ²
Relative Intensity Noise (RIN), f > 10 kHz (dB/Hz)	<-90
RIN with Noise Eater (NE) option, f > 10 kHz (dB/Hz)	<-135
Intensity Noise without NE, 10 Hz to 2 MHz (% rms)	<0.1
Intensity Noise with NE, 10 Hz to 2 MHz (% rms)	<0.06
Type of Second Harmonic Generation	Single-path
Laser Head Size (W x H x L)	150 x 113 x 337 mm (5.9 x 4.4 x 13.3 in.)
Laser Head Weight (kg)	6.8 kg (15 lbs.)
Laser Controller Size (W x H x L)	340 x 345 x 135 mm (13.4 x 13.6 x 5.3 in.)
Laser Controller Weight	9.2 kg (20.3 lbs.)
Options	Noise Eater

Relative Intensity Noise

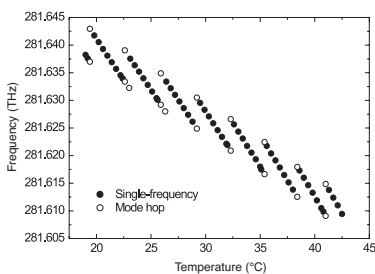


¹ Optional noise eater (NE) available at time of order.

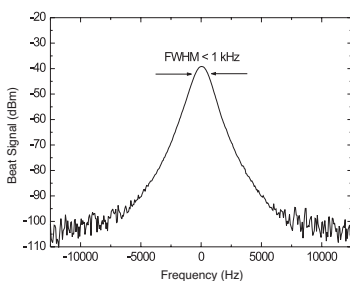
² At 532 nm.

³ Measured at constant room temperature.

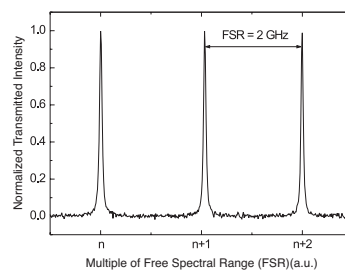
Thermal Frequency Tuning



Spectral Linewidth



Fabry-Perot Spectrum



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 Prometheus Lasers. 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.



www.Coherent.com

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